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Documentation of the GLAS Fourth Order General Circulation Model

Volume III: Vectorized Code for the Cyber 205

E. Kalnay, R. Balgovind, W. Chao, D. Edlmann,
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DOCUMENTATION OF THE GLAS FOURTH ORDER GENERAL CIRCULATION MODEL

VOLUME III: VECTORIZED CODE FOR THE CYBER 205

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TABLE OF CONTENTS

Affiliations	ii
Acknowledgments	iii
I. Introduction	1
II. Variable Name Dictionary for the Scalar Code	3
III. Code Listing	27

CHAPTER I

INTRODUCTION

I. INTRODUCTION

Volume III of the documentation of the GLAS fourth order general circulation model contains compiler listings of the full precision, vectorized version of the model for the CYBER 205 computer system. At the time of this work the FORTRAN compiler in use at the NASA High Speed Computing Facility was Version 2.0 Cycle VK2G.

The FORTRAN language for the CYBER 200 series contains both Control Data Corporation and unique CYBER 200 extensions to the standard FORTRAN (American National Standards X3.9-1966). These extensions allow the FORTRAN user to take full advantage of the vector processing architecture of the computer and are therefore used extensively throughout the program. Because of the overriding advantage of speed - the CPU time for a twenty four hour simulation with the four degree latitude by five degree longitude, nine layer resolution, is approximately three minutes - this optimized model is used for extended objective analysis and forecast experiments.

As noted elsewhere, the vectorized code presented here and the scalar code presented in Volume II are identical in the sense that zero differences are obtained on all prognostic and diagnostic quantities after three simulated hours of integration.

Chapter II contains the dictionary of the FORTRAN variables used in the scalar version of the model. An equivalent dictionary for the vectorized code has been purposely omitted because the same variables are used here as in the scalar code (Volume II) and because new terms defined in the vector code refer only to temporary space. These temporary work areas are documented internally.

Chapter III contains the listings of the FORTRAN code compiled with the "C" option. As a result, cross reference maps of local variables are included for each subroutine.

CHAPTER II

VARIABLE NAME DICTIONARY FOR THE SCALAR CODE

VARIABLE LIST OF THE GLAS 4TH-ORDER MODEL

VARIABLE	COMMON	SUBRTN	VARIABLE DESCRIPTION
A		FILFFT	ARRAY TO FILTER.
AAA		COMP3	LOCAL TEMPORARY VARIABLE.
ACLEAR	DSOLAR	SOLAR1	INCIDENT SOLAR RADIATION MULTIPLIED BY FRACTIONAL CLEAR AREA.
ACLOUD	DSOLAR	SOLAR1	INCIDENT SOLAR RADIATION MULTIPLIED BY FRACTIONAL CLOUDY AREA.
ADATE		CUTCHK	CONTAINS MM/DD/YY.
ADATE	CCNTRL	GWSGCM	MM/DD/YY FOR CURRENT RUN.
ADLOP	RDPARM	COMP2	SPHERICAL COORDINATE SCALING FACTOR.
ADLDP3		DEPEND	
AG		COMP2	SPHERICAL COORDINATE SCALING FACTOR.
AL		LINKHO	TEMPORARY VARIABLE USED IN FLUX QUADRATURE.
AL		O3INT	LOCAL TEMPORARY VARIABLE.
AL	RADCOM	SOLAR1	USED IN THE CALCULATION OF ABSORBED SOLAR RADIATION IN CLEAR AND CLOUDY SKIES.
ALBDO1	MNTHLY	CLOUDS	MONTHLY DATA FIELD.
ALBDO2	MNTHLY	DAILY	MONTHLY DATA FIELD.
ALBEDO	QANDQT	DAILY	MODEL ALBEDO FIELD.
AOZONE	STAT FUNC	RADIO	
APHEL	RCNTRL	SOLAR1	FUNCTION USED TO OBTAIN ABSORPTION OF SOLAR RADIATION DUE TO OZONE.
APRI		DAILY	DAY OF YEAR OF EARTH'S APOGEE.
AS	RADCOM	LINKHO	TEMPERATURE CORRECTION TO THE OPTICAL DEPTH OF WATER VAPOR.
ASGL		COMP3	ABSORBED SOLAR RADIATION.
ASGLM1		RADIO	
ATIME		SOLAR1	
ATIME	CCNTRL	COMP3	1./DSIG(L)
AV		COMP3	1./DSIG(LM1)
AV1		COMP3	HH/MM/SS
AWATER	STAT FUNC	CUTCHK	HH/MM/SS FOR CURRENT RUN.
BB		GWSGCM	TEMPORARY VARIABLE USED FOR VARIOUS THINGS.
BBB		LINKHO	TEMPORARY VARIABLE USED FOR VARIOUS THINGS.
BB1		LINKHO	FUNCTION USED TO OBTAIN ABSORPTION OF SOLAR RADIATION DUE TO WATER VAPOR.
BETA	RCNTRL	SOLAR1	PLANCK FUNCTION EVALUATED AT A GIVEN RADIATION MODEL LEVEL.
BG		CLOUDS	LOCAL TEMPORARY VARIABLE.
BLANK		LINKHO	PLANCK FUNCTION EVALUATED AT 1 MB LEVEL.
BPRI		SMSHAP	MOIST ADIABATIC LAPSE RATE.
C		LINKHO	PLANCK FUNCTION EVALUTATED AT THE GROUND.
CA	COMMON	DEFALT	CHARACTER ARRAY CONTAINING BLANKS.
CAP		LINKHO	TEMPERATURE CORRECTION TO THE OPTICAL DEPTH OF WATER VAPOR.
CAPPSI		LINKHO	CONSTANTS USED IN CURTIS-GOODSON APPROXIMATION.
CAP1		CONHTR	CHARACTER ARRAY FOR HISTORY HEADER.
CAP2	COMMON	LINKHO	CORRECTED SPECIFIC HUMIDITY.
CARD	COMMON	LINKHO	COEFFICIENT USED TO GET CORRECTED SPECIFIC HUMIDITY.
CATA	COMMON	INPUT	INTERPOLATION COEFFICIENT
CC	CCNTRL	AVRX	INTERPOLATION COEFFICIENT
CCC		SMSHAP	WORK SPACE TO READ INPUTZ NAMELIST.
CD	DCOMP3	CONHTR	TEMPORARY USED TO COMPUTE SEA LEVEL PRESSURE.
		IOO	
		COMP3	ARRAY OF CHARACTER VARIABLES ON MODEL HISTORY RECORD.
		COMP3	LOCAL TEMPORARY VARIABLE.
		COMP3	SURFACE DRAG COEFFICIENT.

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CDATE	RADCOM	OZONE2	CALENDAR DAY ASSOCIATED WITH THE FOUR SEASONS.
CDATEI		OZONE2	CALENDAR DAY LIMIT USED IN INTERPOLATION.
CDATEJ		OZONE2	CALENDAR DAY LIMIT USED IN INTERPOLATION.
CDAY		OZONE2	CALENDAR DAY.
CDC		CONHTR	STRING REPRESENTING CDC READABLE RECORDS.
CDFR	CNTRLP	COMP3	FRICTIONAL WIND SHEAR ADJUSTMENT PARAMETER.
CDXL	CNTRLP	CONSTA	
CDXO	CNTRLP	COMP3	DRAG COEFFICIENT ADJUSTMENT PARAMETER OVER LAND.
CG		CONSTA	
CLEAR	DSOLAR	COMP3	DRAG COEFFICIENT ADJUSTMENT PARAMETER OVER OCEANS.
CLH	CNTRLP	CONSTA	
CLOUD	RADCOM	LINKHO	
CLOUDY	DSOLAR	SOLAR1	LOGICAL VARIABLE WHICH IS TRUE IF NO CLOUDS ARE PRESENT.
CM		CLOUDS	ARE PRESENT.
CMASS		COMP3	RATIO OF LATENT TO SPECIFIC HEAT.
CMI		CONSTA	
CMI1		CUMULO	
CNUCUB		COMP3	VARIABLE REPRESENTING EXISTING CLOUD TYPES.
COE	CNTRLP	CUMULO	
COEF	CNTRLP	LINKHO	
COEFS	CNTRLP	SOLAR1	LOGICAL VARIABLE WHICH IS TRUE IF CLOUDS ARE PRESENT.
COLMR	DCOMP3	LINKHO	USED IN CALCULATION OF THE OPTICAL DEPTH OF WATER DIMER.
CONT		CONSTA	10 X MASS OF A COLUMN OF AIR EXTENDING TO SEA LEVEL PRESSURE.
CONT1		LINKHO	SAME AS CM.
CONT2		LINKHO	SAME AS CM.
CONV	QMSAVE	LINKHO	PARAMETER USED IN PLANCK'S FUNCTION.
CON1	RDPARM	COMP3	TEMPERATURE CHANGE RESULTING FROM AN INPUT OF ONE CALORIE TO A GIVEN LAYER L OF A UNIT COLUMN OF AIR.
CON2	RDPARM	CONSTA	TEMPERATURE CHANGE RESULTING FROM IN INPUT OF ONE CALORIE TO A UNIT COLUMN OF AIR.
CON3	RDPARM	COMP3	PARAMETERIZED CONSTANT.
CON4	RDPARM	CONSTA	
CON1DT	RDPARM	COMP3	COLUMN MASS RATIO.
CON2DT	RDPARM	CONSTA	USED IN WATER DIMER CALCULATION.
CON3DT	RDPARM	COMP3	USED IN WATER DIMER CALCULATION.
CON4DT	RDPARM	CONSTA	USED IN WATER DIMER CALCULATION.
CON5	RDPARM	COMP1	MASS CONVERGENCE AT A GIVEN LEVEL.
COSD	RCNTRL	VERT	
COSJ		COMP0	CONSTANT USED IN POLE EQUATIONS.
		COMP1	
		DEPEND	
		VERT	
		COMP0	CONSTANT USED IN POLE EQUATIONS.
		COMP1	
		DEPEND	
		VERT	
		COMP0	CONSTANT USED IN POLE EQUATIONS.
		DEPEND	
		COMP0	CONSTANT USED IN POLE EQUATIONS.
		DEPEND	
		COMP0	CON1 * DT.
		COMP1	
		COMP0	CON2 * DT.
		COMP1	
		COMP0	CON3 * DT.
		COMP2	
		COMP0	CON4 * DT.
		COMP2	
		COMP2	SCALING CONSTANT.
		DEPEND	
		VERT	
		COMP3	COSINE OF SOLAR DECLINATION.
		DAILY	
		DEFAULT	USED IN COMPUTING WEIGHT FUNCTION FOR GLOBAL AVERAGES.
		PMEAN	

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COSL	RDPARM	DEPEND	COSINE OF LATITUDE.
COSLON	RDPARM	SOLAR1 COMP1 COMP2 DEPEND POLINP SMSHAP SOLAR1 VERT	COSINE OF LONGITUDE.
COSMAG	DSOLAR	SOLAR1	MAGNIFICATION FACTOR FOR SLANT PATH AND REFRACTION OF SOLAR RADIATION.
COSROT	CNTRLP	CLOUDS CONSTA	COSINE OF EARTH'S ROTATION.
COSZ	RADCOM	SOLAR1	COSINE OF SOLAR ZENITH ANGLE.
CP	RCNTRL	DEPEND	SPECIFIC HEAT AT CONSTANT PRESSURE.
CPD2	RDPARM	GEOHT DEPEND	CP / 2.
CPP	CNTRLP	GEOHT COMP3 CONSTA	SPECIFIC HEAT AT CONSTANT PRESSURE.
CQ1P		CUMULO	SPECIFIC HUMIDITY CHANGE AT PRIMED LEVEL 1 FROM CUMULUS PARAMETERIZATION.
CQ3P		CUMULO	SAME AS CQ1P BUT FOR PRIMED LEVEL 3.
CQ5P		CUMULO	SAME AS CQ1P BUT FOR PRIMED LEVEL 5.
CT1D	CNTRLP	COMP3 CONSTA	THERMAL CONDUCTIVITY OF ICE.
CTIN		LINKHO	TRANSMISSION FUNCTION OF CARBON DIOXIDE BETWEEN 1 MB AND A GIVEN MODEL RADIATION LEVEL.
CTINF		LINKHO	SAME AS CTIN BUT FOR 5 MB.
CTRANS		LINKHO	TRANSMISSION FUNCTION OF CARBON DIOXIDE BETWEEN TWO MODEL RADIATION LEVELS.
CT1P		CUMULO	TEMPERATURE CHANGE AT PRIMED LEVEL 1 FROM CUMULUS PARAMETERIZATION.
CT3P		CUMULO	SAME AS CT1P BUT FOR PRIMED LEVEL 3.
CT5P		CUMULO	SAME AS CT1P BUT FOR PRIMED LEVEL 5.
CUMDAY	CNTRLP	COMP3 CONSTA	THE NUMBER OF HISTORY WRITES PER DAY.
CUMRAT	CNTRLP	COMP3 CONSTA RADIO	INVERSE OF THE NUMBER OF PHYSICS CALLS BETWEEN HISTORY WRITES.
CUTOFF		RADIO CUTCHK	DD/HH/MM
CVQ	RADCOM	GWSGCM COMP3	TOTAL SPECIFIC HUMIDITY CHANGE DUE TO CUMULUS CONVECTION.
CVQ1P	DCUMU	CUMULO	TOTAL SPECIFIC HUMIDITY CHANGE AT PRIMED LEVEL 1 FROM CUMULUS PARAMETERIZATION.
CVQ3P	DCUMU	CUMULO	SAME AS CVQ1P BUT FOR PRIMED LEVEL 3.
CVQ5P	DCUMU	CUMULO	SAME AS CVQ1P BUT FOR PRIMED LEVEL 5.
CVT	RADCOM	COMP3	TOTAL TEMPERATURE CHANGE DUE TO CUMULUS CONVECTION.
CVT1P	DCUMU	CUMULO	TOTAL TEMPERATURE CHANGE AT PRIMED LEVEL 1 FROM CUMULUS PARAMETERIZATION.
CVT3P	DCUMU	CUMULO	SAME AS CVT1P BUT FOR PRIMED LEVEL 3.
CVT5P	DCUMU	CUMULO	SAME AS CVT1P BUT FOR PRIMED LEVEL 5.
CX		SMSHAP	WEIGHTED FACTOR FOR SHAPIRO FILTER - X DIRECTION.
CXD		CUMULO	TOTAL MASS FLUX INTO CLOUD FOR MIDDLE AND PENETRATING CONVECTION.
CXL	RADCOM	CUMULO	TOTAL MASS FLUX INTO CLOUD FOR LOW-LEVEL CONVECTION.
CY		SMSHAP	WEIGHTED FACTOR FOR SHAPIRO FILTER - Y DIRECTION.
CZFAC		COMP35	TOTAL HEAT CAPACITY OVER LAND OR FROST.
CZH	RADCOM	COMP3	TOTAL HEAT CAPACITY.
C10	CNTRLP	COMP3	NUMERICAL CONSTANT.
C100	CNTRLP	COMP3	NUMERICAL CONSTANT.
C40	CNTRLP	COMP3	NUMERICAL CONSTANT.
D		DEFAULT PMEAN CLOUDS	LOCAL TEMPORARY VARIABLE.

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DA		CLOUDS	ABSORBED SOLAR RADIATION ABOVE CLOUDS.
DARK	DSOLAR	OZONE2	LOGICAL FLAG FOR DARKNESS.
		SOLAR1	
		CLOUDS	
DATA	COMMON	AVRX	HIGH LATITUDE FILTER COEFFICIENTS.
		PRDIAG	CONTAINS WAVE-NUMBERS OF SEA LEVEL PRESSURE.
		DEFAULT	
		SMSHAP	
DAYSFY	RCNTRL	DAILY	NUMBER OF DAYS IN A YEAR.
DB		CLOUDS	ABSORBED SOLAR RADIATION BELOW CLOUDS.
DDSIG		COMP3	RATIO OF TWO ADJACENT THICKNESSES.
DEC	RCNTRL	DAILY	SUN DECLINATION.
DECMAX	RCNTRL	DAILY	MAXIMUM SUN DECLINATION.
		DEPEND	
DELNU		LINKHO	FREQUENCY WIDTH OF SPECTRAL INTERVAL.
DELTA	CNTRLP	SOLAR1	NUMERICAL CONSTANT.
DELTA P		DAILY	CORRECTION FOR ATMOSPHERIC MASS LOSS.
DENOM		COMP3	LOCAL TEMPORARY VARIABLE.
		CLOUDS	
DIABAT	QANDQT	COMP3	TOTAL DIABATIC HEATING.
		DEPEND	
		INITSD	
DIST	RCNTRL	DAILY	FRACTION OF A YEAR ELAPSED SINCE EARTH'S APHELION.
DL		DEFAULT	LATITUDINAL GRID LENGTH.
		PMEAN	
DLAT		OZONE2	ABSOLUTE VALUE OF LATITUDE.
DLATI		OZONE2	INTERPOLATED LATITUDE.
DLATJ		OZONE2	INTERPOLATED LATITUDE.
DLONG	RCNTRL	DEPEND	LONGITUDINAL GRID LENGTH.
DNORM		DEFAULT	LONGITUDINAL GRID LENGTH.
		DEFAULT	RATIO OF LONGITUDINAL TO LATITUDINAL GRID LENGTH.
DP		LINKHO	PRESSURE DIFFERENCE BETWEEN TWO ADJACENT MODEL RADIATION LEVELS.
DPI		DEFAULT	PI.
DP1		LINKHO	PRESSURE DIFFERENCE BETWEEN 1 MB AND 5 MB LEVELS.
DP2		LINKHO	PRESSURE DIFFERENCE BETWEEN 5 MB LEVEL AND THE FIRST MODEL RADIATION LEVEL.
DRAD		COMP3	CHANGE IN UPWARD FLUX OF LONGWAVE RADIATION WITH RESPECT TO GROUND TEMPERATURE.
DRAW	DCOMP3	COMP3	AIR/SURFACE INTERACTION COEFFICIENT.
DSHS	DCOMP3	COMP3	DIFFERENCE BETWEEN SATURATED AND UNSATURATED SPECIFIC HUMIDITY AT THE GROUND.
DSIG	RDPARM		SIGMA LEVEL THICKNESS, USED IN MOST SUBROUTINES.
DSQG		COMP3	CHANGE IN UPWARD FLUX OF LATENT HEAT WITH REPECT TO GROUND TEMPERATURE.
DS1P		CUMULO	VERTICAL GRID INCREMENT AT PRIMED LEVEL 1 USED IN CUMULUS PARAMETERIZATION.
DS3P		CUMULO	SAME AS DS1P BUT FOR PRIMED LEVEL 3.
DS5P		CUMULO	SAME AS DS1P BUT FOR PRIMED LEVEL 5.
DT	RCNTRL	COMP0	MODEL TIME-STEP IN SECONDS.
		COMP1	
		COMP2	
		GWSSGCM	
DTC3	CNTRLP	COMP3	PHYSICS TIME-STEP IN SECONDS.
		GONSTA	
DTL		COMP3	TOTAL DIABATIC HEATING.
DTOUT	CNTRLP	GONSTA	TIME BETWEEN HISTORY WRITES.
DTS	DCOMP3	COMP3	TEMPERATURE DIFFERENCE BETWEEN THE GROUND AND THE TOP OF THE PBL.
DU		COMP3	ZONAL WIND DIFFERENCE BETWEEN SURFACE AND LEVEL NLAY.
DUDVS		COMP3	SQUARE OF WIND DIFFERENCES.
DUMMY		CLOCKS	LOCAL TEMPORARY VARIABLE.
DV		COMP3	MERIDIONAL WIND DIFFERENCE BETWEEN SURFACE AND LEVEL NLAY.
DXDATE		OZONE2	INTERPOLATED DATE.
DXDLAT		OZONE2	INTERPOLATED LATITUDINAL GRID DISTANCE.

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DXOCM		OZONE2	INTERPOLATED OZONE INCREMENT.
DXP	RDPARM	COMP1 COMP2 DEPEND VERT	LONGITUDINAL GRID DISTANCE.
DXPRO		OZONE2	SCALING FACTOR USED IN VERTICAL OZONE INTERPOLATION.
DXYP	RDPARM	COMP1 COMP2 DEPEND SCALEQ VERT	AREA OF LONGITUDE-LATITUDE GRID ELEMENT.
DYP	RDPARM	COMP1 COMP2 DEPEND VERT	MERIDIONAL GRID DISTANCE.
ECCN	RCNTRL	DAILY	ECCENTRICITY OF EARTH'S ORBIT.
ED	CNTRLP	COMP3 CONSTA	COEFFICIENT USED IN AIR/SURFACE INTERACTION.
EDLE		COMP3	COEFFICIENT OF VERTICAL DIFFUSION.
EDNM	CNTRLP	COMP3	MINIMUM ALLOWABLE DIFFUSIVITY COEFFICIENT.
EDNS		COMP3	EDDY DIFFUSIVITY COEFFICIENT.
EDV	DCOMP3	COMP3	EDDY DIFFUSIVITY COEFFICIENT DIVIDED BY PBL THICKNESS.
EFLUX	QANDQT	COMP3	UPWARD LATENT HEAT FLUX.
ETP		INITSD	LOCAL TEMPORARY VARIABLE.
EVACO	DCOMP3	CLOUDS	EVAPORATION COEFFICIENT.
EVAL		COMP3	LATENT HEAT OF EVAPORATION.
EVAPOS		CUMULO	EVAPORATED MOISTURE AT PRIMED LEVEL 3 FOR LOW-LEVEL CUMULUS CLOUDS.
EVAPOS		CUMULO	SAME AS EVAPO3 BUT FOR PRIMED LEVEL 5.
EVE	DCOMP3	COMP3	SOIL EVAPOTRANSPIRATION COEFFICIENT.
EX		COMP3	LOCAL VARIABLE USED IN CONVECTIVE STABILITY TESTS.
EXL		CUMULO	LOCAL VARIABLE USED IN SUPERSATURATED CLOUDS
EXPBYK	FUNCTION	COMP3 COMP1 COMP3 DEPEND EXPBYK GEOHT SMESHAP	FUNCTION WHICH COMPUTES P RAISED TO THE POWER ROCP.
EXPNO		GWSGCM	EXPERIMENT NUMBER.
F		FILFFT	CONTAINS WAVE-NUMBER FILTERS.
FC		SOLAR1	FRACTIONAL CLOUDY AREA.
FCLD	DSOLAR	SOLAR1	LOGICAL FLAG FOR FRACTIONAL CLOUDINESS.
FCLD		CLOUDS	
FCLD	DSOLAR	SOLAR1	FRACTIONAL AREA OF CLEAR SKY.
FCLD	DSOLAR	SOLAR1	FRACTIONAL AREA OF CLOUDY SKY.
FCOEF	CNTRLP	COMP3	COEFFICIENT FOR INTERNAL FRICTION DUE TO VERTICAL WIND SHEAR.
FCOEF1	DCOMP3	CONSTA	INTERNAL WIND SHEAR COEFFICIENT.
FCORLS	RDPARM	COMP3 COMP2	CORIOLIS PARAMETER.
FDAT1		DEPEND DAILY	WEIGHT FOR TIME INTERPOLATION FROM MONTHLY AVERAGES.
FDAT2		DAILY	WEIGHT FOR TIME INTERPOLATION FROM MONTHLY AVERAGES.
FDAY		DAILY	REAL VALUE OF CURRENT JULIAN DAY.
FDXYP		COMP2	SCALED CORIOLIS PARAMETER.
FILTER	LDPARM	COMP0 DEPEND INPUT	LOGICAL FLAG FOR FOURIER FILTERS.
FJEO		DEPEND	EQUATOR GRID POINT INDEX.
FK	RADCOM	CLOUDS	FREQUENCY PROBABILITY DISTRIBUTION FUNCTION.
FKK		CLOUDS	LOCAL TEMPORARY VARIABLE.
FLD	COMMON	SMESHAP	TEMPORARY ARRAY TO HOLD THE FIELD BEING FILTERED.
FLUX1		COMP1	LOCAL TEMPORARY VARIABLE.
FLUX2		COMP1	LOCAL TEMPORARY VARIABLE.
FMU	CNTRLP	COMP3	COEFFICIENT OF INTER-LAYER FRICTION.

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FRAC1		CONSTA	
FRAC2		CUMULO	SPECIFIC HUMIDITY STRAPPING PARAMETER.
FROST	RADCOM	CUMULO	SPECIFIC HUMIDITY STRAPPING PARAMETER.
		COMP3	LOGICAL FROST INDICATOR.
FSCAT	DSOLAR	COMP35	
		SOLAR1	FRACTION OF INCIDENT SOLAR RADIATION AFTER SCATTERING.
FSURF		COMP3	EFFECTIVE SURFACE FRICTION COEFFICIENT.
FUSION	QANDQT	COMP3	HEATING DUE TO CONDUCTION THROUGH SEA ICE.
FWET	CNTRLP	INITSD	
		COMP3	LIMITING GROUND WETNESS FOR POTENTIAL
FX		CONSTA	EVAPOTRANSPIRATION RATE.
F1DT	RDPARM	COMP2	MOMENTUM TENDING DUE TO CORIOLIS FORCE.
		COMP0	B * DT.
F2DT	RDPARM	COMP2	
		COMP0	- DT.
G		COMP2	
GAM	RADCOM	LINKHO	WATER DIMER DATA.
		COMP3	LATENT HEATING PARAMETER.
GAMC		CUMULO	
		COMP3	TEMPERATURE DIFFERENCE RELATING TO MOIST
GAMFAC	CNTRLP	COMP3	AND DRY ADIABATIC LAPSE RATES.
		CONSTA	LATENT HEATING PARAMETER.
		CUMULO	
GAMS		COMP3	LATENT HEATING PARAMETER AT THE SURFACE.
GAM1P	DCUMU	CUMULO	LATENT HEATING PARAMETER AT PRIMED LEVEL 1.
GAM3P	DCUMU	CUMULO	LATENT HEATING PARAMETER AT PRIMED LEVEL 3.
GNU1	RCNTRL	DEPEND	CENTER TIME AVERAGING TERM.
		TIMAVG	
GNU2	RCNTRL	COMP0	OUTER TIME AVERAGING TERM.
		DEPEND	
		DEFALT	
		TIMAVG	
GRAV	RCNTRL	COMP3	GRAVITATIONAL ACCELERATION.
		CONSTA	
		CUMULO	
GRNDP		SMSHAP	
GSTAR		LINKHO	GROUND PRESSURE.
GT	QANDQT	SOLAR1	SCALED WATER VAPOR COEFFICIENT.
		COMP3	GROUND TEMPERATURE.
		COMP35	
		CONSTA	
		DAILY	
		SMSHAP	
GTOPO	CNTRLP	SOLAR1	SCALED WATER VAPOR COEFFICIENT.
GW	QANDQT	COMP3	GROUND WETNESS.
		COMP35	
		DAILY	
GW1	MNTHLY	DAILY	HOLDS CLIMATOLOGY OF GROUND WETNESS
			FOR ONE MONTH.
GW2	MNTHLY	DAILY	HOLDS CLIMATOLOGY OF GROUND WETNESS
			FOR ONE MONTH.
HACOS		SOLAR1	SOLAR ZENITH ANGLE COEFFICIENT.
HFLUX	QANDQT	COMP3	UPWARD FLUX OF SENSIBLE HEAT.
		INITSD	
HH	RADCOM	COMP3	MOIST STATIC ENERGY AT MID-LEVELS.
		CUMULO	
HHE	RADCOM	COMP3	MOIST STATIC ENERGY AT EDGE-LEVELS.
		CUMULO	
HHS	RADCOM	COMP3	SATURATION MOIST STATIC ENERGY.
		CUMULO	
HH2P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 2.
HH3P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 3.
HH4P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 4.
HH5P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 5.
HH1SP	DCUMU	CUMULO	SATURATION MOIST STATIC ENERGY AT PRIMED
			LEVEL 1.
HH3SP	DCUMU	CUMULO	SATURATION MOIST STATIC ENERGY AT PRIMED
			LEVEL 3.
HIC	ICNTRL	CONHTR	HALF PRECISION VARIABLE EQUIVALENCED TO IC.

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HICE	CNTRLP	COMP3	EFFECTIVE OCEAN-ICE THICKNESS.
HKSS		CONHTR	KS TO USE ON HISTORY TAPE.
HKUS		CONHTR	KU TO USE ON HISTORY TAPE.
HWORK	COMMON	CONHTR	HALF PRECISION WORK ARRAY.
H1DT	RDPARM	COMPO	4 X DT.
H2DT	RDPARM	COMP1	- 0.5 X DT.
		COMPO	
		COMP1	
I			LONGITUDINAL INDEX USED IN MOST SUBROUTINES.
IA	COMMON	CONHTR	INTEGER ARRAY FOR HISTORY TAPE HEADER
IBB		LINKHO	LONGITUDINAL INDEX.
IBM		CONHTR	STRING REPRESENTING IBM READABLE RECORDS.
IC	ICNTRL	IOQ	INTEGER MODEL PARAMETERS ON HISTORY RECORDS.
IC		QSAT	LOCAL TEMPORARY VARIABLE.
ICE	RADCOM	COMP3	LOGICAL FLAG FOR ICE.
		COMP35	
ICLK		CUTCHK	INTEGER WITH CURRENT CLOCK READING.
ICKCK		CUTCHK	CHARACTER ARRAY EQUIVALENCED TO ICHK.
ICLOUD	QANDQT	COMP3	CONVECTIVE AND SUPERSATURATION CLOUDS.
		CUMULO	
		INITSD	
ICUT		CUTCHK	INTEGER WITH CUT-OFF TIME.
ICUTC		CUTCHK	CHARACTER ARRAY EQUIVALENCED TO ICUT.
IDAY		LINKHO	CURRENT JULIAN DAY.
IDAYH		STRATM	CURRENT JULIAN DAY.
IERR		CONHTR	ERROR FLAG.
IFALSE		CONHTR	HALF PRECISION ARRAY CONTAINING ZEROS.
II		COMP35	LOCAL TEMPORARY VARIABLE.
		CONSTA	
III		LINKHO	LOCAL TEMPORARY VARIABLE.
IJ		LINKHO	LOCAL TEMPORARY VARIABLE.
IJTEST		LINKHO	LOCAL TEST VALUE FOR DETERMINING
			INTERPOLATION FORMULA.
IJUMP	IDPARM	COMPO	ARRAY USED TO CHANGE LONGITUDINAL INDEX
		DAILY	INCREMENT, INC. TO IM AT THE POLES.
		DEPEND	
ILAT		STRATM	A MEASURE OF LATITUDE.
ILATH		STRATM	LATITUDE.
IM	ICNTRL		NUMBER OF GRID POINTS PER LATITUDE CIRCLE.
IMD2	ICNTRL	AVRX	USED IN MOST SUBROUTINES
		DEPEND	IM / 2.
		INPUT	
		PRDIAG	
IMD2P1	ICNTRL	DEPEND	IMD2 + 1.
IMNLAY		CONHTR	IM * NLAY.
INC		COMPO	LONGITUDINAL INDEX INCREMENT.
		DAILY	
INCHMS	FUNCTION	GWSGCM	PERFORMS HOUR-MINUTE-SECOND ARITHMETIC.
INCYMD	FUNCTION	DAILY	INCREMENTS YR-MNTH-DAY BY ONE DAY
INDEX	IDPARM	COMP2	ARRAY WITH LONGITUDINAL INDICES ASSOCIATED
		DEPEND	WITH I + IMD2.
		VERT	
INPHYS		CONSTA	NAME FOR PHYSICS INPUT NAMELIST.
INPUTZ		INPUT	INPUT MODEL PARAMETER NAMELIST.
IOFLAG		INPUT	CODE OF OPERATION TO PERFORM.
IOLD		STRATM	
		TWRITE	
IP1		COMP1	LONGITUDINAL INDEX PLUS 1.
		COMP2	
		VERT	
IP2		SMSHAP	
		COMP1	LONGITUDINAL INDEX PLUS 2.
		COMP2	
		VERT	
IRECS		IOQ	IM * KS.
IRECU		IOQ	IM * NLAY * KU.
IROD	IDPARM	INPUT	COUNTER.
		TWRITE	
ISS		GWSGCM	SENSE SWITCH SETTING FOR AMDAHL RUNS.

IS1		COMP1 COMP2 VERT SMSSHAP	LONGITUDINAL INDEX MINUS 1.
IS2		COMP1 COMP2 VERT	LONGITUDINAL INDEX MINUS 2.
ITM		GWSGCM	TIME REMAINING UNTIL END OF JOB.
ITRUE		CONHTR	HALF PRECISION ARRAY CONTAINING '1'.
IUP		LINKHO	CLOUD INDEX.
IW		PRDIAG	WAVE NUMBER FOR PRINT.
IWAVE		DEFAULT	TOTAL NUMBER OF RESOLVABLE WAVES.
IX		PRDIAG	LONGITUDINAL POINT OF PRESSURE DIAGNOSTIC.
		SMSSHAP	I + IMD2.
IXM1		PRDIAG	IX - 1.
IXP		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
IXP1		PRDIAG	IX + 1.
IXS		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
I1		STRATM	
J			LATITUDINAL INDEX USED IN MOST SUBROUTINES
JAL		O3INT	JALB, JNP -JALB + 1.
JALB	RADCOM	LINKHO	LATITUDINAL GRID LOCATION.
		O3INT	
		RADIO	
		CLOUDS	
JC	IDPARM	COMP1	MOD(J-1, MSM) + 1
		COMP2	
		DEPEND	
		GEOHT	
		RESTQM	
		SAVEOM	
		TIMAVG	
		VERT	
JDAYH		STRATM	LOCAL TEMPORARY VARIABLE USED FOR TIME INTERPOLATION.
JC	IDPARM	COMP1	INDICIES OF SOUTH AND NORHT POLE.
		COMP2	
		DEPEND	
		POLINP	
		VERT	
JEND		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
JIC	CCNTRL	DEFAULT	EXPERIMENT IDENTIFIER.
JJ		CONSTA	LOCAL TEMPORARY VARIABLE.
		IOO	
		LINKHO	
JJJ		LINKHO	LOCAL TEMPORARY VARIABLE.
JL1		SMSSHAP	LOCAL TEMPORARY VARIABLE.
JL2		SMSSHAP	LOCAL TEMPORARY VARIABLE.
JM	ICNTRL		NUMBER OF LATITUDE BANDS IN GRID, USED IN MOST SUBROUTINES.
JMD2	ICNTRL	DEPEND	(JM + 1) / 2
		SMSSHAP	
JMP1		INPUT	JM + 1.
		IOQ	
JMT2	ICNTRL	DEPEND	JM + 2.
		SMSSHAP	
JM1		LINKHO	LOCAL TEMPORARY VARIABLE.
		OZONE2	
JNP	ICNTRL		NORTH POLE INDEX, USED IN MOST SUBROUTINES.
JOB	CCNTRL	DEFAULT	EXPERIMENT IDENTIFIER.
		GWSGCM	
		TWRITE	
JP	IDPARM	COMP1	INDEX ARRAY USED FOR POLE COMPUTATIONS.
		COMP2	
		DEPEND	
		VERT	
JP1		COMPO	LATITUDINAL INDEX PLUS 1.
		COMP1	

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JP2		COMP2 SMSHAP VERT COMPO COMP1 COMP2 VERT	LATITUDINAL INDEX PLUS 2.
JSP JS1	ICNTRL	COMP0 COMP2 SMSHAP VERT COMPO COMP2 VERT	SOUTH POLE INDEX, USED IN MOST SUBROUTINES. LATITUDINAL INDEX MINUS 1.
JS2		COMP0 COMP2 VERT	LATITUDINAL INDEX MINUS 2.
JX JXM1 JXP1 K KE		PRDIAG PRDIAG PRDIAG COMP2 VERT	LATITUDINAL POINT OF PRESSURE DIAGNOSTIC. JX - 1. JX + 1. COMMONLY USED VERTICAL INDEX. LOCAL TEMPORARY VARIABLE.
KEB		CONHTR	LOCAL TEMPORARY VARIABLE.
KF		SMSHAP	LOCAL TEMPORARY VARIABLE.
KFSGN		SMSHAP	LOCAL TEMPORARY VARIABLE.
KI		CONHTR	LOCAL TEMPORARY VARIABLE.
KJ		LINKHO	LOCAL TEMPORARY VARIABLE.
KK		LINKHO	LOCAL TEMPORARY VARIABLE.
KKB		CONHTR	LOCAL TEMPORARY VARIABLE.
KKK		LINKHO	LOCAL TEMPORARY VARIABLE.
KKQS		CONHTR	LOCAL TEMPORARY VARIABLE.
KKQSINC		CONHTR	JNP * IM.
KKOSST		CONHTR	LOCAL TEMPORARY VARIABLE.
KKQU		CONHTR	LOCAL TEMPORARY VARIABLE.
KKQUINC		CONHTR	IMNLAY * JNP.
KKQUST		CONHTR	LOCAL TEMPORARY VARIABLE.
KLIALB	ICNTRL	DAILY	ALBEDO CLIMATOLOGY FLAG.
KLIGW	ICNTRL	DEFAULT DAILY	GROUND WETNESS CLIMATOLOGY FLAG.
KLISST	ICNTRL	DEFAULT DAILY	SEA SURFACE TEMPERATURE CLIMATOLOGY FLAG.
KMAXB		CONHTR	LOCAL TEMPORARY VARIABLE.
KNTQS		CONHTR	IM * KS.
KNTQU		CONHTR	IM * NLAY * KU.
KOP		IOQ	CODE OF OPERATION TO PERFORM.
KOP1		IOQ	KOP + 1.
KP1		COMP1 VERT	VERTICAL INDEX PLUS 1.
KP2		COMP1 VERT	VERTICAL INDEX PLUS 2.
KQ		CONHTR	A LOOP INDEX FOR UPPER AIR FIELDS.
KRS		TWRITE	(LU - 12) / 2 + 1.
KS	ICNTRL	CONHTR INPUT IOQ	TOTAL NUMBER OF SURFACE FIELDS.
KSB		CONHTR	LOCAL TEMPORARY VARIABLE.
KSC		SCALEQ	SCALING EXPONENT.
KSS		CONHTR	COUNTER.
KSTEP	IDPARM	COMP0 GWSGCM	FLAG FOR MATSUNO PREDICTOR.
KU	ICNTRL	CONHTR INPUT IOQ	TOTAL NUMBER OF UPPER AIR FIELDS.
KURT		LINKHO	LOCAL TEMPORARY VARIABLE.
KUS		CONHTR	COUNTER.
L			VERTICAL INDEX, USED IN MOST SUBROUTINES.
LA	COMMON	CONHTR	LOGICAL ARRAY FOR HISTORY HEADER.
LAND	RADCOM	LINKHO	LOCAL TEMPORARY VARIABLE.
LAY		COMP3	LOGICAL FLAG FOR LAND.
LC	LCNTRL	LINKHO CONHTR	LOCAL TEMPORARY VARIABLE. LOGICAL FLAG: TRUE IF NEXT RECORD IS VBRSTR.

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LCL1		IOO	
LCL2		CUMULO	LEVEL LIMIT FOR PENETRATING CONVECTION.
LEAP	STAT FUNC	CUMULO	LEVEL LIMIT FOR PENETRATING CONVECTION.
LFLAG		INCYMD	STAT FUNC USED AS FLAG FOR LEAP YEARS.
LL		TWRITE	REGORD TYPE FLAG.
LLAY		LINKHO	LOCAL TEMPORARY VARIABLE.
LLLAY		SMSHAP	
LM		LINKHO	NUMBER OF MODEL LAYERS.
LM1		LINKHO	LOCAL TEMPORARY VARIABLE.
		SMSHAP	LOCAL TEMPORARY VARIABLE.
		COMP3	VERTICAL INDEX MINUS 1.
		SHCORN	
		SOLAR1	
LNB		COMP1	VERTICAL INDEX ASSOCIATED WITH CURRENT
		COMP2	TIME STEP.
		VERT	
LND		COMP1	VERTICAL INDEX ASSOCIATED WITH PREVIOUS
		COMP2	TIME STEP.
		VERT	
LOGBR	ICNTRL	INPUT	RECORD FLAG: RESTART, HISTORY OR VBMAND.
		TWRITE	
LP1		COMP1	VERTICAL INDEX PLUS 1.
		GEOHT	
		SOLAR1	
LP1NB		COMP1	LNB + 1.
LP1ND		COMP1	LND + 1.
LTM		GWGCM	LAST CPU CLOCK TIME.
LU		DAILY	LOGICAL UNIT ON WHICH TO DO INPUT/OUTPUT.
		INPUT	
		IOO	
		TWRITE	
LUALB		DAILY	UNIT NUMBER FOR READING MONTHLY ALBEDO.
LUGW		DAILY	UNIT NUMBER FOR READING MONTHLY GR. WETNESS.
LUNEXT		TWRITE	UNIT NUMBER FOR MODEL HISTORY RECORDS.
LUSST		DAILY	UNIT NUMBER FOR READING MONTHLY TOPOGRAPHY.
LUU		TWRITE	UNIT NUMBER FOR MODEL HISTORY RECORDS(8).
LWE		VERT	LNB + 1.
LX		COMP3	LOCAL TEMPORARY VARIABLE.
		GEOHT	
L1		CLOUDS	LOCAL TEMPORARY VARIABLE.
L2		LINKHO	LOCAL TEMPORARY VARIABLE.
		O3INT	
L3		LINKHO	LOCAL TEMPORARY VARIABLE.
M		LINKHO	LOCAL TEMPORARY VARIABLE, USED IN MOST
			SUBROUTINES.
MACHID		INPUT	MACHINE IDENTIFIER.
MATIN	ICNTRL	DEFALT	MATSUNO STEPS TO INTEGRATE BEFORE CYCLE.
		GWGCM	
MATSNX	ICNTRL	DEFALT	NEXT TIME-STEP SCHEME(0=LEAPFROG,1=MATSUNO).
		GWGCM	
MATSUN	ICNTRL	COMP0	CURR. TIME-STEP SCHEME(0=LEAPFROG,1=MATSUNO)
		DEFALT	
		GWGCM	
MHMS		INCHMS	INCREMENT TIME IN HHMMSS FORMAT.
MJ	IDPARM		POLE GRID POINT INDICATOR, USED IN MOST
			SUBROUTINES.
MLF	ICNTRL	DEFALT	TIME-STEP FLAGS FOR A COMPLETE SEQUENCE.
		GWGCM	
MODHMS	ENTRY	CONSTA	ENDING POINT IN FUNCTION INCHMS.
		GWGCM	ENDING POINT IN FUNCTION INCYMD.
MODYMD	ENTRY	DEPEND	
		GWGCM	
MONALB		DAILY	CURRENT MONTH OF ALBEDO.
MONGW		DAILY	CURRENT MONTH OF GROUND WETNESS.
MONSST		DAILY	CURRENT MONTH OF TOPOGRAPHY.
MO1		DAILY	MONTH INDEX FOR CLIMATOLOGY.
MO2		DAILY	MONTH INDEX FOR CLIMATOLOGY.
MPER	STAT FUNC	GWGCM	HHMMSS TIMESTEP COUNTER.
MROD	ICNTRL	DEFALT	MAXIMUM NUMBER OF RECORDS TO WRITE.
		TWRITE	
MSEC		INCHMS	HHMMSS IN SECONDS.

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MSM N	ICNTRL	DEPEND	NUMBER OF BANDS TO KEEP IN LOCAL STORAGE. LOCAL TEMPORARY VARIABLE, USED IN MOST SUBROUTINES.
NAB NAC NBC	ICNTRL	SOLAR1 SOLAR1	LOW-LEVEL CONVECTION CLOUD PARAMETER. PENETRATING CONVECTION CLOUD PARAMETER. TIME INDEX OF CURRENT STEP, USED IN MOST SUBROUTINES.
NBC NCALL NCL NCLEAR NCLR1 ND	ICNTRL	SOLAR1 CLOUDS CUMULO COUNTER. CLOUDS CLOUDS	MID-LEVEL CONVECTION CLOUD PARAMETER. COUNTER. NUMBER OF LEVELS ABOVE HIGHEST CLOUD LAYER. NCLEAR + 1. TIME INDEX OF PREVIOUS STEP, USED IN MOST SUBROUTINES.
NDALT	ICNTRL	DEFAULT GWSGCM	TIME INCREMENT TO INVOKE ANALYSIS.
NDARK		SOLAR1	NUMBER OF NIGHT-TIME LONGITUDINAL GRID POINTS.
NDAT NDAY	ICNTRL	DAILY CONSTA DAILY DEPEND RADIO	CURRENT DATE IN THE MODEL. CURRENT JULIAN DAY.
NDHOG	ICNTRL	CONSTA	TIME INCREMENT BETWEEN CALLS TO THE LONGWAVE RADIATION.
NDOUT	ICNTRL	CONSTA DEFAULT GWSGCM	TIME INCREMENT TO WRITE HISTORY RECORDS.
NDPHY	ICNTRL	CONSTA DEFAULT GWSGCM	TIME INCREMENT TO INVOKE PHYSICS.
NDPM NDRSW	ICNTRL	INCYMD DEFAULT GWSGCM	THE NUMBER OF DAYS IN EACH MONTH. TIME INCREMENT FOR RESTART WRITE.
NDSHF	ICNTRL	DEFAULT GWSGCM	TIME INCREMENT TO INVOKE SHAPIRO FILTER.
NDT	ICNTRL	DEFAULT GWSGCM	MODEL TIME STEP.
NDTC3 NF NFF NFK	CNTRLP RADCOM	CONSTA LINKHO LINKHO CLOUDS	NUMBER OF SECONDS BETWEEN CALLS TO PHYSICS. LOCAL TEMPORARY VARIABLE. LOCAL TEMPORARY VARIABLE. NUMBER OF FREQUENCY BANDS FOR SOLAR RADIATION ABSORPTION.
NFL NFLW	CNTRLP	LINKHO CONSTA LINKHO	LOCAL TEMPORARY VARIABLE. NUMBER OF FREQUENCY BANDS USED IN THE LONGWAVE RADIATION ROUTINE.
NHMS	ICNTRL	RADIO CONSTA DAILY DEPEND GWSGCM INCHMS INPUT TWRITE	CURRENT MODEL TIME.
NHMSE	ICNTRL	DEFAULT GWSGCM	ENDING TIME.
NHMSF NHMSO NHMS1	STAT FUNC ICNTRL IDPARM	INCHMS DEFAULT DEPEND DEFAULT INPUT LINKHO	CONVERTS SECONDS TO HHMMSS FORMAT. BEGINNING TIME. TIME AT START OF EXPERIMENT.
NK NKRSH	ICNTRL	DEFAULT GWSGCM	FLAG FOR RESTART RECORD WRITE TO HISTORY.
NLAY	ICNTRL		NUMBER OF VERTICAL LAYERS IN MODEL, USED IN MOST SUBROUTINES.
NLAYM1 NLAYN NLAYNB	ICNTRL	GEOHT COMP1 COMP2 VERT	NLAY - 1, USED IN MOST SUBROUTINES. LOCAL TEMPORARY VARIABLE. NLAY * (NB - 1).

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NLAYND		COMP1 COMP2 VERT	NLAY * (NB - 1).
NLAYOZ	RADCOM	SOLAR1	NUMBER OF LEVELS USED IN OZONE ABSORPTION OF SHORTWAVE RADIATION.
NLAYO1		OZONE2 SOLAR1	NLAYOZ + 1.
NLAYP1	ICNTRL	SOLAR1	NLAY + 1, USED IN MOST SUBROUTINES.
NLAYP2		SOLAR1	NLAY + 2.
NLAYP3		SOLAR1	NLAY + 3.
NLE		LINKHO	LOCAL TEMPORARY VARIABLE.
NLEV		LINKHO	LOCAL TEMPORARY VARIABLE.
NM		INCYMD	LOCAL TEMPORARY VARIABLE.
NMON		CLOUDS	CLOUDS
NMON1		DAILY	CURRENT MONTH.
NMON2		DAILY	LOCAL TEMPORARY VARIABLE.
NN		DAILY	LOCAL TEMPORARY VARIABLE.
NOZ	RADCOM	LINKHO	LOCAL TEMPORARY VARIABLE.
NP		CLOUDS	CLOUDS
NSDAY	ICNTRL	OZONE2	NUMBER OF PRESSURE LEVELS USED IN OZONE VERTICAL INTERPOLATION.
NSEC		CONSTA	LOCAL TEMPORARY VARIABLE.
NSECF	STAT FUNC	GWGCM	CURRENT TIME OF MODEL DAY IN SECONDS.
NSEQ	ICNTRL	INCHMS	INCREMENT TIME IN SECONDS.
NSM		INCHMS	CONVERTS HHMMSS FORMAT TO SECONDS.
NSTEP	ICNTRL	DEFAULT	NUMBER OF STEPS IN COMPLETE TIME-SCHEME SEQUENCE.
NTH		GWGCM	VARIABLE FOR LONGITUDINAL SMOOTHING.
NTM		SMSHAP	TIME STEPS SINCE INITIAL START.
NTOP	DSOLAR	DEFAULT	INDEX FOR NEXT TIME-STEP TYPE IN MLF.
NTOPF	DSOLAR	GWGCM	CURRENT CPU USAGE FROM CLOCKS.
NTOPT	DSOLAR	SOLAR1	CLOUD TOP LEVEL.
NXTMOD	STAT FUNC	CLOUDS	CLOUD TOP LEVEL FOR FRACTIONAL CLOUDINESS.
NY		SOLAR1	CLOUD TOP LEVEL FOR TOTAL CLOUDINESS.
NYMD	ICNTRL	SOLAR1	ADDS ONE TO THE MOD FUNCTION.
		GWGCM	YEAR CONVERTED TO INTEGER.
		INCYMD	CURRENT MODEL DATE IN YYMMDD FORMAT.
		DAILY	
		DEPEND	
		GWGCM	
		INCYMD	
		INPUT	
		TWRITE	
NYMDE	ICNTRL	DEFAULT	ENDING DATE IN YYMMDD FORMAT.
NYMD0	ICNTRL	GWGCM	
NYMD1	IDPARM	DEFAULT	BEGINNING DATE IN YYMMDD FORMAT.
		DEPEND	EQUAL TO NYMD
		DEFAULT	
		INPUT	
NY00		INCYMD	INTEGER CONTAINING "1900".
NO		CLOUDS	LOCAL TEMPORARY VARIABLE.
N1		ADDQ	TIME STEP POINTER OF VALUES TO WHICH TO ADD.
		COPYQ	TIME STEP POINTER TO WHICH TO COPY VALUES.
		DIFFQ	TIME STEP POINTER FROM WHICH TO SUBTRACT.
N2		CLOUDS	LOCAL TEMPORARY VARIABLE.
		ADDQ	TIME STEP POINTER OF VALUES TO ADD.
		COPYQ	TIME STEP POINTER FROM WHICH TO COPY VALUES.
		DIFFQ	TIME STEP PTR. OF VALUES WHICH TO SUBTRACT.
OCEAN	RADCOM	COMP3	LOGICAL FLAG FOR OCEANS.
OCMXX	RADCOM	OZONE2	INTERPOLATED VERTICAL PROFILE FOR AN ARBITRARY TOTAL OZONE AMOUNT.
OCM22	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .22 CM.
OCM30	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .30 CM.
OCM38	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .38 CM.
OCM46	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .46 CM.
OD1		OZONE2	INTERPOLATED OZONE AMOUNT CORRESPONDING TO AN ARBITRARY LATITUDE AND DAY.
OD2		OZONE2	SAME AS OD1.
OLAPR	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN APRIL.

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OLJAN	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN JANUARY.
OLJUL	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN JULY.
OLOCT	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN OCTOBER.
OMEGA	QANDQT	INITSD	VERTICAL VELOCITY.
OMEGA2	RCNTRL	VERT	
OZALE	RADCOM	DEPEND	TWICE THE ANGULAR VELOCITY OF THE EARTH.
P	QANDQT	OZONE2	OZONE AMOUNT IN A GIVEN LAYER.
PAREA		SOLAR1	
PCLOW	PCON	PMEAN	REFERENCE PRESSURE, USED IN MOST SUBROUTINES.
PCMID	PCON	COMP3	AREA OF POLAR CAP.
PCPEN	PCON	CUMULO	PRECIPITATION DUE TO LOW-LEVEL CONVECTION.
PD		COMP3	PRECIPITATION DUE TO MID-LEVEL CONVECTION.
PDG		CUMULO	PRECIPITATION DUE TO PENETRATING CONVECTION.
PDOT		LINKHO	OPTICAL DEPTH OF WATER VAPOR AND WATER DIMER.
PDP		LINKHO	MEASURE OF THE RATIO OF PRESSURE TO GROUND PRESSURE.
PDQ		COMP2	LOCAL TEMPORARY VARIABLE.
PDT		VERT	
PH		LINKHO	MEASURE OF THE RATIO OF TWO ADJACENT PRESSURE LEVELS.
PHI	QANDQT	LINKHO	RATIO OF SPECIFIC HUMIDITIES.
PHIBAR		LINKHO	POTENTIAL TEMPERATURE DIFFERENCE.
PHII		LINKHO	LOCAL TEMPORARY VARIABLE.
PHIL		LINKHO	LOCAL TEMPORARY VARIABLE.
PHIP	QPOLES	GEOHT	GEOPOTENTIAL HEIGHT AT A GIVEN LEVEL.
PHIS	QANDQT	GEOHT	GEOPOTENTIAL HEIGHT AT THE POLES.
PHIX1		COMP3	SURFACE GEOPOTENTIAL HEIGHT.
PHIX2		GEOHT	
PHIY1		LINKHO	
PHIY2		GEOHT	
PHI1		COMP2	ZONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHI2		COMP2	ZONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHI1CS		COMP2	MERIDIONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHI1SS		COMP2	MERIDIONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHI2CS		COMP2	TEMPORARY VARIABLE USED BY PRESSURE GRADIENT AT THE POLES.
PHI2SS		COMP2	SAME AS PHI1.
PI	RCNTRL	CONSTA	SAME AS PHI1.
PIM	CNTRLP	DAILY	SAME AS PHI1.
PIMEAN	RCNTRL	DEPEND	SAME AS PHI1.
PIT	OMSAVE	COMP3	PI CONSTANT.
PIO		CONSTA	
PI180	RCNTRL	DAILY	STANDARD MODEL ATMOSPHERE PRESSURE DEPTH.
PI2	RCNTRL	DEFAULT	GLOBAL MEAN PRESSURE.
PK	COMMON	COMP1	NET COLUMN MASS CONVERGENCE.
PK1		COMP2	
PK2		VERT	
		CLOUDS	SINGLE SCATTERING ALBEDO.
		CONSTA	CONVERSION FACTOR PI/180.0.
		DEPEND	
		COMP3	CONSTANT 2.0 X PI.
		CONSTA	
		DEPEND	
		GEOHT	TEMPORARY VARIABLE USED TO COMPUTE PRESSURE GRADIENT.
		COMP1	SAME AS PK.
		GEOHT	
		COMP1	SAME AS PK.
		GEOHT	

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PKD1		GEOHT	SAME AS PK.
PKD2		GEOHT	SAME AS PK.
PKSTD	RDPARM	DEPEND	PSTD RAISED TO THE POWER ROCP.
PKTOP	RDPARM	GEOHT	
PL	RADCOM	DEPEND	PTOP RAISED TO THE POWER ROCPPI.
		COMP3	REFERENCE PRESSURE AT MID-LEVELS.
		CUMULO	
PLE	RADCOM	LINKHO	
		COMP3	REFERENCE PRESSURE AT EDGE-LEVELS.
		LINKHO	
		OZONE2	
		SOLAR1	
PLEN		OZONE2	REFERENCE PRESSURE AT A GIVEN LEVEL.
PLK	RADCOM	COMP3	REFERENCE PRESSURE RAISED TO THE POWER ROCP.
PL2		GEOHT	PRESSURE AT EDGE OF LAYER.
PM	QMSAVE	LINKHO	SAVED BASE FIELD P.
		RESTQM	
		SAVEQM	
		TIMAVG	
PMEAN	FUNCTION	DAILY	CALCULATES GLOBAL MEAN SURFACE PRESSURE.
		DEFAULT	
PP	QPOLES		REFERENCE PRESSURE AT THE POLES, USED IN MOST SUBROUTINES.
PREACC	QANDQT	COMP3	TOTAL ACCUMULATED PRECIPITATION.
		INITSD	
PRECIP		COMP3	LARGE SCALE PRECIPITATION.
PRECON	QANDQT	COMP3	TOTAL CONVECTIVE PRECIPITATION.
		INITSD	
PREP	RADCOM	COMP3	TOTAL PRECIPITATION.
PROCM	RADCOM	OZONE2	ATMOSPHERIC MODEL PRESSURES AT MID-LEVELS.
PROCM1		OZONE2	PRESS. LIMIT USED IN PRESSURE INTERPOLATION.
PROCMJ		OZONE2	PRESS. LIMIT USED IN PRESSURE INTERPOLATION.
PRTSH		PRDIAG	FIELD AND GRID POINT LABEL.
PRTT		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU1		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU2		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU3		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU4		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU5		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU6		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU7		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU8		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU9		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV1		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV2		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV3		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV4		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV5		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV6		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV7		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV8		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV9		PRDIAG	FIELD AND GRID POINT LABEL.
PS		COMPO	SURFACE PRESSURE.
		COMP3	
PSK		COMP3	SURFACE PRESSURE RAISED TO THE POWER ROCP.
PSMAX	RCNTRL	COMPO	MAXIMUM ALLOWABLE REFERENCE PRESSURE.
		DEFAULT	
PSMIN	RCNTRL	COMPO	MINIMUM ALLOWABLE REFERENCE PRESSURE.
		DEFAULT	
PSTD	RCNTRL	CONSTA	REFERENCE PRESSURE FOR NORMALIZATION.
		DEFAULT	
PTOP	RCNTRL		CONSTANT PRESSURE AT THE TOP OF THE ATMOSPHERE, USED IN MOST SUBROUTINES.
PU	COMMON	COMP1	ZONAL MASS FLUX.
		VERT	
PU1	COMMON	COMP1	AVERAGED ZONAL MASS FLUX.
		VERT	
PU2	COMMON	COMP1	AVERAGED ZONAL MASS FLUX.
		VERT	
PV	QMSAVE	COMP1	MERIDIONAL MASS FLUX.
		VERT	

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PV1		COMP1	AVERAGED MERIDIONAL MASS FLUX.
		VERT	
PV2		COMP1	AVERAGED MERIDIONAL MASS FLUX.
		VERT	
PV1S		COMP1	MERIDIONAL MASS FLUX AT THE POLES.
		VERT	
PV2S		COMP1	MERIDIONAL MASS FLUX AT THE POLES.
		VERT	
PVDS		COMP2	NET MASS CONVERGENCE AT THE POLES.
		VERT	
PVH1S		COMP1	SPECIFIC HUMIDITY MASS FLUX AT THE POLES.
PVH2S		COMP1	SPECIFIC HUMIDITY MASS FLUX AT THE POLES.
PVT1S		COMP1	TEMPERATURE MASS FLUX AT THE POLES.
PVT2S		COMP1	TEMPERATURE MASS FLUX AT THE POLES.
PVU1S		COMP1	ZONAL WIND MASS FLUX AT THE POLES.
PVU2S		COMP1	ZONAL WIND MASS FLUX AT THE POLES.
PVV1S		COMP1	MERIDIONAL WIND MASS FLUX AT THE POLES.
PVV2S		COMP1	MERIDIONAL WIND MASS FLUX AT THE POLES.
PX1		COMP2	ZONALLY AVERAGED PRESSURE.
		VERT	
PX2		COMP2	ZONALLY AVERAGED PRESSURE.
		VERT	
PY1		COMP2	MERIDIONALLY AVERAGED PRESSURE.
		VERT	
PY2		COMP2	MERIDIONALLY AVERAGED PRESSURE.
		VERT	
P1		LINKHO	PRESSURE AT ONE OF THE STRATOSPHERIC LEVELS.
P2		LINKHO	PRESSURE AT ONE OF THE STRATOSPHERIC LEVELS.
Q		LINKHO	SPECIFIC HUMIDITY.
QALT	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS ANALYSIS STEP.
QBEG	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS INITIAL STEP.
QDAY	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS THE FIRST STEP.
		INITSD	
QEND	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS THE LAST STEP.
QFLUX		COMP1	LOCAL TEMPORARY VARIABLE.
QFLUX1		COMP1	LOCAL TEMPORARY VARIABLE.
QFLUX2		COMP1	LOCAL TEMPORARY VARIABLE.
QHOG	CNTRLP	CONSTA	LOGICAL FLAG TO INVOKE LONGWAVE RADIATION ROUTINE.
		RADIO	
QOUT	LCNTRL	COMP3	LOGICAL FLAG TO WRITE HISTORY FILE.
		CUMULO	
		GWSGCM	
		TWRITE	
QPHY	LCNTRL	GWSGCM	LOGICAL FLAG TO DO PHYSICS STEP.
QRSH	LCNTRL	CONHTR	LOGICAL FLAG TO WRITE RESTART TO HISTORY.
		GWSGCM	
		TWRITE	
QRSW	LCNTRL	GWSGCM	LOGICAL FLAG TO WRITE RESTART FILE.
		TWRITE	
QS	QANDQT	IOQ	MODEL ARRAY CONTAINING SURFACE AND DIAGNOSTIC FIELDS.
QSA	COMMON	CONHTR	WORK SPACE FOR HISTORY RECORD.
OSAT	FUNCTION	COMP3	STATEMENT FUNCTION USED TO COMPUTE SATURATION SPECIFIC HUMIDITY.
		CUMULO	
QSH	AMAM	CONHTR	
		GWSGCM	
QSHF	LCNTRL	GWSGCM	LOGICAL FLAG TO DO SHAPIRO FILTER.
QST1P	DCUMU	CUMULO	SATURATION SPECIFIC HUMIDITY AT PRIMED LEVEL 1.
QUA	COMMON	CONHTR	WORK SPACE FOR HISTORY RECORD.
QUH	AMAM	CONHTR	HISTORY RECORD - UPPER AIR FIELDS.
QUITE		PMEAN	SWITCH TO CONTROL ONE TIME COMPUTATION OF CONSTANTS.
Q1		LINKHO	SPECIFIC HUMIDITY AT THE 1 MB LEVEL.
Q2		LINKHO	SPECIFIC HUMIDITY AT THE 5 MB LEVEL.
Q2P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 2.
Q3P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 3.
Q4P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 4.
Q5P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 5.
R		LINKHO	TOTAL TRANSMISSION FUNCTION.
RA	COMMON	CONHTR	REAL ARRAY FOR HISTORY HEADER.

ORIGINAL PAGE IS
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RADE	RCNTRL	DEPEND	PLANETARY RADIUS.
RADIM3		DEPEND	LOCAL TEMPORARY VARIABLE.
RADLW	QANDQT	RADIO	LONGWAVE RADIATION DIAGNOSTIC.
RADLWG	QANDQT	RADIO	LONGWAVE RADIATION AT THE GROUND.
RADSW	QANDQT	INITSD	SHORTWAVE RADIATION DIAGNOSTIC.
		RADIO	
RADSWG	QANDQT	INITSD	SHORTWAVE RADIATION AT THE GROUND.
		RADIO	
RADTRM	RADCOM	COMP3	NET RADIATION AT THE GROUND.
		RADIO	
RBRAY		SOLAR1	ATMOSPHERIC ALBEDO DUE TO RAYLEIGH SCATTERING.
RBROZ		SOLAR1	RAYLEIGH SCATTERING FOR OZONE.
RC	RCNTRL	CONHTR	CONTAINS REAL PARAMETERS ON HISTORY RECORD.
		IOQ	
RCLEAR	DSOLAR	SOLAR1	COMBINATION OF RAYLEIGH AND GROUND ALBEDO.
RGLOUD	RADCOM	SOLAR1	CLOUD ALBEDO IN THE VISIBLE.
		CLOUDS	
RE	RADCOM	COMP3	UPWARD FLUX OF LONGWAVE RADIATION.
		LINKHO	
		RADIO	
RETA		CUMULO	INVERSE OF THE CLOUD ENTRAINMENT.
RF		SOLAR1	REFLECTED SOLAR RADIATION AT THE SURFACE.
RGAS	RCNTRL	COMP3	GAS CONSTANT FOR DRY AIR.
		CONSTA	
		DEPEND	
		GEOHT	
RH	RADCOM	COMP3	RELATIVE HUMIDITY.
		CUMULO	
RHOS	DCOMP3	COMP3	ATMOSPHERIC DENSITY AT THE SURFACE.
RHPWET		COMP3	RELATIVE HUMIDITY AT LEVEL NLAY PLUS GROUND WETNESS.
		COMP3	RELATIVE HUMIDITY AT THE SURFACE.
RHS		COMP3	BULK RICHARDSON NUMBER.
RICH		COMP3	RATIO OF PRESSURES FROM TWO ADJACENT LEVELS.
RKDN		COMP3	INVERSE OF RKDN.
RKUP		COMP3	LATITUDE IN RADIAN.
RLAT	RDPARM	DEPEND	LATITUDE IN DEGREES.
		DEPEND	
RLATD	RDPARM	INPUT	
		RADIO	
RMEAN	DSOLAR	SOLAR1	ALBEDO OF LOWER ATMOSPHERE AND GROUND FOR OZONE.
		CLOUDS	INDIVIDUAL CLOUD LAYER REFLECTIVITY.
RN	RADCOM	CLOUDS	TOTAL CLOUD REFLECTANCE.
RNK		CLOUDS	REFLECTANCE FOR A CLOUD LAYER.
RNN	RCNTRL	COMP3	RGAS / CP.
ROCP		DEPEND	
ROCPP1	RDPARM	DEPEND	ROCP + 1.
		GEOHT	
ROT		CONSTA	CURRENT ANGLE OF EARTH'S ROTATION.
RSDIS	RCNTRL	CONSTA	SQUARE OF DISTANCE FROM SUN.
		DAILY	
RSURF	RADCOM	LINKHO	SURFACE REFLECTANCE.
		RADIO	
		SOLAR1	
		CLOUDS	
RTOP	STAT FUNC	CLOUDS	CLOUD REFLECTIVITY FUNCTION.
S		LINKHO	RADIATION FLUX AT TOP OF A GIVEN MODEL LAYER.
SAREA		PMEAN	TOTAL GLOBAL AREA.
SB		CLOUDS	AVERAGED CLOUDY SKY ABSORPTANCE, SK, OVER ALL ANGLES.
SCOSZ	DSOLAR	SOLAR1	SOLAR CONSTANT MODIFIED BY SOLAR ZENITH ANGLE.
		COMP1	NET MASS CONVERGENCE.
SD	QMSAVE	COMP3	NUMBER OF SECONDS PER DAY.
SDAY	RCNTRL	CONSTA	
		DEPEND	
SD1		COMP1	LOCAL TEMPORARY VARIABLE.
SD2		VERT	LOCAL TEMPORARY VARIABLE.

ORIGINAL PAGE IS
OF POOR QUALITY

SEASON	RCNTRL	DAILY	FRACTION OF A YEAR ELAPSED SINCE SUMMER SOLSTICE.
SFPOL		SMSHAP	LOCAL TEMPORARY VARIABLE.
SG	RADCOM	RADIO	ABSORBED SOLAR RADIATION AT THE GROUND.
SGNP	RDPARM	SOLAR1	
		COMP1	SIGN COEFFICIENT USED IN POLE EQUATIONS.
		COMP2	
		DEPEND	
		POLINP	
		SMSHAP	
		VERT	
SH	QANDQT		SPECIFIC HUMIDITY, USED IN MOST SUBROUTINES.
SHG	RADCOM	COMP3	SPECIFIC HUMIDITY AT THE GROUND.
SHL	RADCOM	LINKHO	
		COMP3	SPECIFIC HUMIDITY USED IN PHYSICS.
		CUMULO	
		LINKHO	
		SOLAR1	
SHLE	RADCOM	COMP1	SPECIFIC HUMIDITY AT EDGE LEVELS.
		COMP3	
		CUMULO	
		RADIO	
SHLTOP	CNTRLP	SOLAR1	SPECIFIC HUMIDITY AT THE MODEL TOP.
SHM	QMSAVE	RESTQM	SAVED BASE FIELD SH.
		SAVEQM	
		TIMAVG	
SHP	QPOLES		SPECIFIC HUMIDITY AT THE POLES, USED IN MOST SUBROUTINES.
SHS	QANDQT	RADIO	SURFACE SPECIFIC HUMIDITY.
SHSAT	RADCOM	COMP3	SATURATION SPECIFIC HUMIDITY.
		CUMULO	
SHSATS		COMP3	
SIG	RDPARM	COMP1	SATURATION SPECIFIC HUMIDITY AT THE SURFACE.
		COMP3	VERTICAL SIGMA COORDINATE.
		CONSTA	
		DEPEND	
		GEOHT	
		SMSHAP	
SIGE	RCNTRL	COMP3	LAYER INTERFACE SIGMA VALUES.
		CONSTA	
		DEPEND	
		DEFAULT	
		GEOHT	
		VERT	
SIND	RCNTRL	DAILY	SINE OF SOLAR DECLINATION.
SINL	RDPARM	SOLAR1	
		COMP2	SINE OF LATITUDE.
		DEPEND	
SINLON	RDPARM	SOLAR1	
		COMP1	SINE OF LONGITUDE.
		COMP2	
		DEPEND	
		POLINP	
		SMSHAP	
		SOLAR1	
		VERT	
SINROT	CNTRLP	CONSTA	SINE OF EARTH'S ROTATION.
SK		SOLAR1	
SLEXP	STAT FUNC	CLOUDS	ABSORPTANCE OF CLOUDY SKIES.
		AVRX	SURFACE TO SEA LEVEL PRESSURE FUNCTION.
		PRDIAG	
		SMSHAP	
SMASS		PMEAN	TOTAL AREA-WEIGHTED PRESSURE.
SMTH	QANDQT	AVRX	HIGH LATITUDE FOURIER FILTER COEFFICIENTS.
		DEPEND	
		DEFAULT	
		INPUT	
SNODEC		CONSTA	LATITUDE OF SNOW LINE.
SNOW	RADCOM	COMP3	LOGICAL FLAG FOR SNOW.
SNOWN	CNTRLP	COMP35	
		COMP3	SNOW LINE IN NORTHERN HEMISPHERE.

ORIGINAL PAGE 19
OF POOR QUALITY

SNOWS	CNTRLP	CONSTA COMP3	SNOW LINE IN SOUTHERN HEMISPHERE.
SN2FLG	LCNTRL	CONSTA DEPEND	LOGICAL FLAG FOR SINE SIGMA PBL PROFILE.
SOLS	RCNTRL	DEFAULT	JULIAN DAY OF SUMMER SOLSTICE.
SP	RADCOM	COMP3	REFERENCE PRESSURE.
SPRESS		CUMULO	ZONAL SUM OF PRESSURES.
SRNN		PMEAN	REFLECTANCE BY ADDING TWO LAYERS (WITH ILLUMINATION FROM ABOVE).
SRS	RADCOM	CLOUDS	REFLECTANCE BY ADDING TWO LAYERS.
SRSN		CLOUDS	REFLECTANCE BY ADDING TWO LAYERS (WITH ILLUMINATION FROM BELOW).
SS		LINKHO	DERIVATIVE OF PLANCK'S FUNCTION.
SSB		LINKHO	SMOOTHED DERIVATIVE OF PLANCK'S FUNCTION.
SSD		LINKHO	SMOOTHED DERIVATIVE OF PLANCK'S FUNCTION.
SSS	RADCOM	COMP3	DRY STATIC ENERGY.
SSSE	RADCOM	CUMULO COMP3	DRY STATIC ENERGY AT EDGE LEVELS.
SS1		CUMULO LINKHO	DERIVATIVE OF PLANCK'S FUNCTION AT 1 MB LEVEL.
SS1P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 1.
SS2P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 2.
SS3P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 3.
SS4P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 4.
SS5P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 5.
STBO	CNTRLP	COMP3	STEFAN-BOLTZMAN CONSTANT.
STERP1	CNTRLP	COMP3	SURFACE WIND INTERPOLATION COEFFICIENT.
STERP2	CNTRLP	CONSTA COMP3	SURFACE WIND INTERPOLATION COEFFICIENT.
STM		CONSTA GWSSGM	CPU TIME USED FOR ONE TIME STEP.
STN	RADCOM	CLOUDS	TRANSMISSION BY ADDING TWO LAYERS.
STNN		CLOUDS	TRANSMISSION BY ADDING TWO LAYERS (WITH ILLUMINATION FROM ABOVE).
STSN		CLOUDS	TRANSMISSION BY ADDING TWO LAYERS (WITH ILLUMINATION FROM BELOW).
SUM		LINKHO	SUMMATION OF S.
SUP		SMSHAP	FLUX AT THE TOP OF A MODEL LAYER DUE TO RADIATION FROM THE SURFACE LAYER.
SURFL		LINKHO	FLUX AT THE TOP OF A MODEL LAYER DUE TO RADIATION FROM THE LAYER BETWEEN 5 MB AND 1 MB.
SURFU		LINKHO	FLUX AT THE TOP OF A MODEL LAYER DUE TO RADIATION FROM THE LAYER BETWEEN 5 MB AND 1 MB.
SVP		SMSHAP	AMOUNT OF WATER VAPOR ABOVE A GIVEN LEVEL.
SWALE	RADCOM	SOLAR1 CLOUDS	AMOUNT OF WATER VAPOR ABOVE A GIVEN LEVEL.
SWIL	RADCOM	SOLAR1 CLOUDS	AMOUNT OF WATER VAPOR BETWEEN TWO ADJACENT LEVELS.
SO	RADCOM	CONSTA SOLAR1	SOLAR CONSTANT.
T	QANDQT		PROGNOSTIC TEMPERATURE FIELD. USED IN MOST SUBROUTINES.
TAPR		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR APRIL.
TAUAB		CLOUDS	OPTICAL THICKNESS OF CLOUDS DUE TO ABSORPTION.
TAUL	RADCOM	SOLAR1 CLOUDS	OPTICAL THICKNESS DUE TO CLOUD PARTICLES IN A GIVEN LAYER.
TAUP		CLOUDS	LOCAL TEMPORARY VARIABLE.
TAUSC		CLOUDS	OPTICAL THICKNESS OF CLOUDS DUE TO SCATTERING.
TCOND	RADCOM	SOLAR1	OPTICAL THICKNESS OF SUPER-SATURATION CLOUDS.
TDAY		STRATM	TEMPERATURE AT A STRATOSPHERIC LEVEL.
TDML		COMP3	TEMPERATURE DIFFERENCE IN MIXED LAYER.
TDN	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
TEM		COMP3	CHANGE IN CONDUCTION OF HEAT THROUGH SEA ICE WITH RESPECT TO GROUND TEMPERATURE.

ORIGINAL PAGE IS
OF POOR QUALITY

TEMP		COMP3	LOCAL TEMPORARY VARIABLE.
		CUMULO	
		OSAT	
TEMPU		COMP3	LOCAL TEMPORARY VARIABLE.
TEMPV		COMP3	LOCAL TEMPORARY VARIABLE.
TEMP1	DSOLAR	SOLAR1	LOCAL TEMPORARY VARIABLE.
TEMP1D		EXPBYK	LOCAL TEMPORARY VARIABLE.
TERM		GEOHT	LOCAL TEMPORARY VARIABLE.
		LINKHO	
TERMT	QMSAVE	COMP2	TERM PASSED FROM GEOHT TO COMP2.
		GEOHT	
TERMW	QMSAVE	COMP2	TERM PASSED FROM GEOHT TO COMP2.
		GEOHT	
TERM1		LINKHO	LOCAL TEMPORARY VARIABLE.
TERM2		COMP3	SENSIBLE HEAT FLUX.
		LINKHO	LOCAL TEMPORARY VARIABLE.
TERM3		COMP3	LATENT HEAT FLUX.
TERM4		COMP3	HEATING DUE TO CONDUCTION.
TFK		CLOUDS	LOCAL TEMPORARY VARIABLE.
TG	RADCOM	COMP3	GROUND TEMPERATURE.
		COMP35	
		LINKHO	
TGR		COMP35	GROUND TEMPERATURE.
TGSQ		COMP3	GROUND TEMPERATURE SQUARED.
TH	RADCOM	COMP3	POTENTIAL TEMPERATURE.
		LINKHO	
	COMMON	GEOHT	
THETA		COMP3	MEAN POTENTIAL TEMPERATURE.
THG		COMP3	LOCAL TEMPORARY VARIABLE.
THSTD	RDPARM	DEPEND	
		GEOHT	
THSTD2	RDPARM	DEPEND	
		GEOHT	
THT9		COMP3	POTENTIAL TEMPERATURE WITH SURFACE PRESSURE AS A REFERENCE.
TICE	CNTRLP	COMP3	TEMPERATURE AT WHICH ICE MELTS.
		COMP35	
		CONSTA	
TINF		LINKHO	TOTAL TRANSMISSION FUNCTION.
TII		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TI2		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TJAN		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR JANUARY.
TJUL		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR JULY.
TL	RADCOM	COMP3	TEMPERATURE USED IN PHYSICS.
		CUMULO	
		LINKHO	
		SOLAR1	
TLE	RADCOM	COMP3	TEMPERATURE AT EDGE LEVELS.
		LINKHO	
TLOWL	RADCOM	SOLAR1	OPTICAL THICKNESS OF LOW-LEVEL CLOUDS.
TLTOP	CNTRLP	SOLAR1	TEMPERATURE AT ATMOSPHERIC MODEL TOP.
TM	QMSAVE	RESTQM	
		SAVEQM	
		TIMAVG	
TMAX	QANDQT	COMP3	MAXIMUM DAILY SURFACE TEMPERATURE.
		INITSD	
TMIDL	RADCOM	SOLAR1	OPTICAL THICKNESS OF MIDDLE LEVEL CLOUDS.
TMIN	QANDQT	COMP3	MINIMUM DAILY SURFACE TEMPERATURE.
		INITSD	
TN	RADCOM	CLOUDS	INDIVIDUAL CLOUD LAYER TRANSMISSIVITY.
TNK		CLOUDS	TOTAL CLOUD TRANSMITTANCE.
TNN		CLOUDS	TRANSMITTANCE OF A CLOUD LAYER.
TOCT		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR OCTOBER.
TOPABS	RADCOM	SOLAR1	ABSORPTION ABOVE LEVEL 1.
		CLOUDS	
TOPOG1	MNTHLY	DAILY	

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TOPOG2	MNTHLY	GWSGCM	
TOTABS	DSOLAR	DAILY	
TOTOCM		SOLAR1	TOTAL ABSORPTION OF SOLAR RADIATION.
		OZONE2	TIME INTERPOLATED TOTAL VERTICAL AMOUNT
			OF OZONE.
TOTOZ	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNTS.
TOTOZI		OZONE2	LIMIT USED IN VERTICAL INTERPOLATION OF
			OZONE.
TOTOZJ		OZONE2	SAME AS TOTOZI.
TO1		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TO2		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TO3		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TP	OPOLES		TEMPERATURE AT THE POLES, USED IN MOST
			SUBROUTINES.
TPENE	RADCOM	SOLAR1	OPTICAL THICKNESS OF PENETRATING CLOUDS.
TRAD		LINKHO	TEMPERATURE AT A GIVEN MODEL RADIATION
			LEVEL.
TRAD1		LINKHO	TEMPERATURE AT THE 1 MB LEVEL.
TRANS		SOLAR1	
TRB		LINKHO	
TRD		LINKHO	
TRO3		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TS	QANDQT	COMP3	TEMPERATURE OF THE AIR ABOVE THE SURFACE.
TS		LINKHO	TEMPERATURE AT THE TOP OF THE SURFACE
			LAYER.
TSTAR		QSAT	LOCAL TEMPORARY VARIABLE.
TSTD	RCNTRL	DEPEND	STANDARD TEMPERATURE FOR NORMALIZATION.
		DEFAULT	
TSURF		SMSHAP	
TT		LINKHO	SCALED TEMPERATURE AT A MODEL RADIATION
			LEVEL.
TTM		GWSGCM	
TTOP	STAT FUNC	CLOUDS	CLOUD TRANSMITTANCE FUNCTION.
TTT		LINKHO	TT * TT
TUP	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
TI		LINKHO	TEMPERATURE AT THE 1 MB LEVEL.
		STRATM	
T2		LINKHO	TEMPERATURE AT THE 5 MB LEVEL.
		STRATM	
U	QANDQT		ZONAL WIND COMPONENT, USED IN MOST
			SUBROUTINES.
UDN	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
UM	QMSAVE	RESTQM	
		SAVEQM	
		TIMAVG	
UP	OPOLES		ZONAL WIND COMPONENT AT THE POLES, USED IN
			MOST SUBROUTINES.
US	DCOMP3	COMP3	ZONAL SURFACE WIND COMPONENT.
UUP	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
V	QANDQT		MERIDIONAL WIND COMPONENT, USED IN MOST
			SUBROUTINES.
VAR		LINKHO	INTEGRAL QUANTITY USED IN OPTICAL DEPTH
			CALCULATION.
VDN	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
VER	CCNTRL	INPUT	MODEL VERSION IDENTIFICATION.
VERSAVE		INPUT	EQUAL TO VER.
VM	QMSAVE	RESTQM	
		SAVEQM	
		TIMAVG	
VP	OPOLES		MERIDIONAL WIND COMPONENT AT THE POLES, USED
			IN MOST SUBROUTINES.
VS	DCOMP3	COMP3	MERIDIONAL SURFACE WIND COMPONENT.
VUP	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
W	DSOLAR	SOLAR1	SCALED WATER VAPOR AMOUNT IN A SLANT PATH.
		CLOUDS	
WAVAMP		PRDIAG	WAVE AMPLITUDE.
WAVLEN		PRDIAG	WAVE LENGTH.

ORIGINAL PAGE IS
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WAVPCT		PRDIAG	
WAVPER		PRDIAG	
WET	RADCOM	COMP3	GROUND WETNESS.
		COMP35	
WK		CLOUDS	
WMAG	DCOMP3	COMP3	WIND SPEED AT GROUND.
WMAGC	DCOMP3	COMP3	WIND SPEED AT GROUND CUBED.
WMAGS	DCOMP3	COMP3	WIND SPEED AT GROUND SQUARED.
WORK1	COMMON	GWSCGM	
WSAVE	RDPARM	AVRX	WORK SPACE.
		DEPEND	
WTRINF		PRDIAG	
WW	DSOLAR	LINKHO	TOTAL TRANSMISSION FUNCTION.
		SOLAR1	SCALED MOISTURE AMOUNT FOR REFLECTED RADIATION.
X		LINKHO	DATA USED IN PLANCK'S FUNCTION.
		OSINT	
XD		EXPBYK	LOCAL TEMPORARY VARIABLE.
XDAY	CNTRLP	CONSTA	SOLAR DAY OF THE YEAR.
		OZONE2	
XK	RADCOM	SOLAR1	ABSORPTION COEFFICIENT OF CLOUDS.
XKK		CLOUDS	
XLABEL	CNTRL	DEFAULT	EXPERIMENT DESCRIPTION LABEL.
XLAT		OZONE2	LATITUDE.
		RADIO	
XORDS	CORDER	SOLAR1	CHARACTERS FOR SURFACE VARIABLES.
		CONHTR	
		DEFAULT	
		IOQ	
XORDU	CORDER	CONHTR	CHARACTERS FOR UPPER AIR VARIABLES.
		DEFAULT	
		IOQ	
XSA	COMMON	CONHTR	
XUA	COMMON	CONHTR	
XX		LINKHO	LOCAL TEMPORARY VARIABLE.
		SOLAR1	
XV		LINKHO	LOCAL TEMPORARY VARIABLE.
YY		LINKHO	LOCAL TEMPORARY VARIABLE.
Z	DCOMP3	COMP3	TOPOGRAPHICAL HEIGHT.
ZLN		COMP3	THICKNESS OF PBL.
ZLNCO	CNTRLP	COMP3	PBL THICKNESS COEFFICIENT.
		CONSTA	

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CHAPTER III

CODE LISTING

00001

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PROGRAM GWSGCM (INPUT,OUTPUT,          VVWSGCM  2
      UNIT3=OUTPUT,          UNIT5=EXXXNL,  UNIT6=OUTPUT,  VVWSGCM  3
      UNIT8=EXXXHTS,        UNIT11=TEMPNL, UNIT12=EXXXRS1, VVWSGCM  4
      UNIT14=EXXXRS2,       UNIT41=TOPOG,  UNIT42=GRWET,  VVWSGCM  5
      UNIT43=ALBEDO,        UNIT55=WUDATA,  UNIT56=KRDATA, VVWSGCM  6
      UNIT15=RSRPROC,       UNIT31=USER01,  UNIT32=USER02, VVWSGCM  7
      UNIT33=USER03,       UNIT34=USER04,  UNIT60=EPNUM,  VVWSGCM  8
      .....
      GODDARD MODELING AND SIMULATION FACILITY .....VVWSGCM  9
      FOURTH-ORDER GENERAL CIRCULATION MODEL .....VVWSGCM 10
      .....VVWSGCM 11
      M / A - C O M S I G M A D A T A I N C .   N A S A   -   G S F C .....VVWSGCM 12
      .....VVWSGCM 13
      .....VVWSGCM 14
      .....VVWSGCM 15
      .....VVWSGCM 16
      MOST ROUTINES OPERATE ON ONE LATITUDE BAND AT A TIME .....VVWSGCM 17
      SEE MODEL TECHNICAL DOCUMENTATION FOR EXTENSIVE DETAILS .....VVWSGCM 18
      .....VVWSGCM 19
      .....VVWSGCM 20
      NAMELIST DECKS .....VCNTCOM  2
      =====VCNTCOM  3
      INPUTZ   - INPUTVCNTCOM  4
      INPHYS  - CONSTAVCNTCOM  5
      .....VCNTCOM  6
      .....VCNTCOM  7
      .....VCNTCOM  8
      STATEMENT FUNCTION DECKS .....VCNTCOM  9
      =====VCNTCOM 10
      SLEXP   - PRDIAG,SMSHAPVCNTCOM 11
      .....VCNTCOM 12
      .....VCNTCOM 13
      DATASET REQUIREMENTS .....VCNTCOM 14
      =====VCNTCOM 15
      DSRN 3  PRIMARY MODEL PRINTOUTVCNTCOM 16
      DSRN 5  INPUT CONTROL NAMELISTSVCNTCOM 17
      DSRN 6  DEBUG AND ERROR PRINTOUTVCNTCOM 18
      DSRN 8  OUTPUT MODEL HISTORY FILE SEGMENTVCNTCOM 19
      DSRN 11 TEMPORARY READ/WRITE FILE FOR NAMELISTS COPYVCNTCOM 20
      DSRN 12 RESTART FILE (HAS INITIAL CONDITIONS FOR THE RUN)VCNTCOM 21
      DSRN 14 RESTART FILEVCNTCOM 22
      DSRN 15 FILE WITH PROC TO SEND PROPER RESTART TO FRONT ENDVCNTCOM 23
      DSRN 41 INPUT CLIMATOLOGICAL TOPOGRAPHYVCNTCOM 24
      DSRN 42 INPUT CLIMATOLOGICAL GROUND WETNESSVCNTCOM 25
      DSRN 43 INPUT CLIMATOLOGICAL ALBEDOVCNTCOM 26
      DSRN 55 INPUT WU RADIATION DATAVCNTCOM 27
      DSRN 56 INPUT KRISHNAMURTHY RADIATION DATAVCNTCOM 28
      DSRN 50 INPUT CARD IMAGE WITH COMPUTATION CUT-OFF TIMEVCNTCOM 29
      .....VCNTCOM 30
      .....VCNTCOM 31
      .....VCNTCOM 32
      EXIT ERROR CONDITIONS .....VCNTCOM 33
      =====VCNTCOM 34
      00      REQUESTED END TIME REACHEDVCNTCOM 34
      01      MAXIMUM RECORDS ON DISK REACHEDVCNTCOM 35
      06      COMPUTATION CUT-OFF TIME EXCEEDEDVCNTCOM 36
      08      I/O ERROR OR REQUESTED START TIME NOT FOUNDVCNTCOM 37
      12      MODEL DIAGNOSTICVCNTCOM 38
      15      TERMINATION VIA FORTRAN EXTENDED ERROR FACILITYVCNTCOM 39
      .....VCNTCOM 40
      .....VCNTCOM 41
      EXTERNAL REFERENCES AND COMMON USAGE .....VCNTCOM 42
      =====VCNTCOM 43
      .....VCNTCOM 44
      .....VCNTCOM 45
      .....VCNTCOM 46
      .....VCNTCOM 47
      .....VCNTCOM 48
      .....VCNTCOM 49
      .....VCNTCOM 50
      .....VCNTCOM 51
      .....VCNTCOM 52
      .....VCNTCOM 53

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ORIGINAL PAGE IS
OF POOR QUALITY

CC(10)-			VCNTCOM125
CC(19)-	KLABEL	EXPERIMENT DESCRIPTION	VCNTCOM126
CC(20)-			VCNTCOM127
CC(200)		SPARES	VCNTCOM128
			VCNTCOM129
			VCNTCOM130
			VCNTCOM131
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			VCNTCOM194
			VCNTCOM195

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OF POOR QUALITY

IC(52)	NSEQ	NUMBER OF STEPS IN A COMPLETE TIME-STEP SEQUENCE	VCNTCOM196
IC(53)	SPARE		VCNTCOM197
IC(54)	NSTEP	TIME STEPS SINCE INITIAL START	VCNTCOM198
IC(55)	IBLKSIZE	RECORD SIZE FOR DATA SET (IM, 4096 OR IM*JNP)	VCNTCOM199
IC(56)	NYMD	CURRENT MODEL DATE IN YYMMDD FORM	VCNTCOM200
IC(57)	NYMDE	ENDING DATE IN YYMMDD FORM	VCNTCOM201
IC(58)	NYMDO	BEGINNING DATE IN YYMMDD FORM	VCNTCOM202
IC(59)	NZINIT	GRAVITY WAVE INITIALIZATION FLAG: 0 - NO INITIALIZATION WAS DONE	VCNTCOM203
IC(60)	NMLEV	NUMBER OF MANDATORY PRESSURE LEVELS	VCNTCOM204
IC(61)	NDHOG	INCREMENT BETWEEN CALLS TO LONG WAVE RADIATION IN HHMMSS FORM	VCNTCOM205
IC(62)-			VCNTCOM206
IC(200)			VCNTCOM207
	SPARES		VCNTCOM208
			VCNTCOM209
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			VCNTCOM265
			VCNTCOM266

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C	RC(32)-				
C	RC(56)	SIGE	LAYER INTERFACE SIGMA VALUES		VCNTCOM267
C	RC(57)	SIND	SINE OF SOLAR DECLINATION		VCNTCOM268
C	RC(58)	SOLS	DAY OF THE YEAR OF MAXIMAL DECLINATION		VCNTCOM269
C	RC(59)	TEAR	STANDARD TEMPERATURE FOR NORMALIZATION		VCNTCOM270
C	RC(60)-				VCNTCOM271
C	RC(84)	DSIG	THICKNESS OF VERTICAL LAYERS		VCNTCOM272
C	RC(85)				VCNTCOM273
C	RC(109)	SIG	MID LAYER SIGMA VALUES		VCNTCOM274
C	RC(110)-				VCNTCOM275
C	RC(134)	PLEVS	ARRAY OF NMLEV MANDATORY PRESSURE LEVELS		VCNTCOM276
C	RC(135)-				VCNTCOM277
C	RC(200)		SPARES		VCNTCOM278
C					VCNTCOM279
C					VCNTCOM280

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002	COMMON /CCNTRL/	CC0		VCNTRL	2
00003	COMMON /CCNTRL/	ADATE		VCNTRL	3
00004	COMMON /CCNTRL/	ATIME		VCNTRL	4
00005	COMMON /CCNTRL/	JIC		VCNTRL	5
00006	COMMON /CCNTRL/	JOB		VCNTRL	6
00007	COMMON /CCNTRL/	CCSP06		VCNTRL	7
00008	COMMON /CCNTRL/	CCSP07		VCNTRL	8
00009	COMMON /CCNTRL/	CCSP08		VCNTRL	9
00010	COMMON /CCNTRL/	VER		VCNTRL	10
00011	COMMON /CCNTRL/	XLABEL (10)		VCNTRL	11
00012	COMMON /CCNTRL/	CQS (30)		VCNTRL	12
00013	COMMON /CCNTRL/	COU (10)		VCNTRL	13

C

00014	EQUIVALENCE	(CC0,CC(1))		VCNTRL	14
00015	CHARACTER*8	CC0, CC(200)		VCNTRL	15
00016	CHARACTER*8	ADATE		VCNTRL	16
00017	CHARACTER*8	ATIME		VCNTRL	17
00018	CHARACTER*8	JIC		VCNTRL	18
00019	CHARACTER*8	JOB		VCNTRL	19
00020	CHARACTER*8	CCSP06		VCNTRL	20
00021	CHARACTER*8	CCSP07		VCNTRL	21
00022	CHARACTER*8	CCSP08		VCNTRL	22
00023	CHARACTER*8	VER		VCNTRL	23
00024	CHARACTER*8	XLABEL		VCNTRL	24
00025	CHARACTER*8	CQS		VCNTRL	25
00026	CHARACTER*8	COU		VCNTRL	26

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

00027	COMMON /ICNTRL/	IC0		VCNTRL	27
00028	COMMON /ICNTRL/	IM		VCNTRL	28
00029	COMMON /ICNTRL/	IMD2		VCNTRL	29
00030	COMMON /ICNTRL/	IMD2P1		VCNTRL	30
00031	COMMON /ICNTRL/	NDRSW		VCNTRL	31
00032	COMMON /ICNTRL/	JM		VCNTRL	32
00033	COMMON /ICNTRL/	JMD2		VCNTRL	33
00034	COMMON /ICNTRL/	JMT2		VCNTRL	34
00035	COMMON /ICNTRL/	JNP		VCNTRL	35
00036	COMMON /ICNTRL/	JO4		VCNTRL	36
00037	COMMON /ICNTRL/	JOB		VCNTRL	37
00038	COMMON /ICNTRL/	JSP		VCNTRL	38
00039	COMMON /ICNTRL/	KLIALB		VCNTRL	39
00040	COMMON /ICNTRL/	KLIGW		VCNTRL	40
00041	COMMON /ICNTRL/	KLISST		VCNTRL	41
00042	COMMON /ICNTRL/	KS		VCNTRL	42
00043	COMMON /ICNTRL/	KU		VCNTRL	43
00044	COMMON /ICNTRL/	LOGBR		VCNTRL	44
00045	COMMON /ICNTRL/	MATIN		VCNTRL	45
00046	COMMON /ICNTRL/	MATSNX		VCNTRL	46
00047	COMMON /ICNTRL/	MATSUN		VCNTRL	47
00048	COMMON /ICNTRL/	MLF (12)		VCNTRL	48
00049	COMMON /ICNTRL/	MROD		VCNTRL	49
00050	COMMON /ICNTRL/	NKRSH		VCNTRL	50
00051	COMMON /ICNTRL/	MSM		VCNTRL	51

ORIGINAL PAGE IS
OF POOR QUALITY

00052	COMMON /ICNTRL/ NB	VCNTRL 59
00053	COMMON /ICNTRL/ ND	VCNTRL 60
00054	COMMON /ICNTRL/ NDALT	VCNTRL 61
00055	COMMON /ICNTRL/ NDAY	VCNTRL 62
00056	COMMON /ICNTRL/ NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IOU (10)	VCNTRL 85
C		
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 86
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 87
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 88
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 89
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 90
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 91
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 92
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 93
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 94
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 95
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 96
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 97
C		
00091	EQUIVALENCE (IOMEGA .IOU(1))	VCNTRL 98
00092	EQUIVALENCE (IDIABAT .IOU(2))	VCNTRL 99
00093	EQUIVALENCE (IRADSW .IOU(3))	VCNTRL 100
00094	EQUIVALENCE (IRADLW .IOU(4))	VCNTRL 101
C		
00095	EQUIVALENCE (IC0, IC(1))	VCNTRL 102
00096	INTEGER IC0, IC(200)	VCNTRL 103
C		
LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
=====		
C		
00097	COMMON /LCNTRL/ LCO	VCNTRL 104
00098	COMMON /LCNTRL/ OALT	VCNTRL 105
00099	COMMON /LCNTRL/ OBEG	VCNTRL 106
00100	COMMON /LCNTRL/ ODAY	VCNTRL 107
00101	COMMON /LCNTRL/ QEND	VCNTRL 108
00102	COMMON /LCNTRL/ QOUT	VCNTRL 109
00103	COMMON /LCNTRL/ QPHY	VCNTRL 110
00104	COMMON /LCNTRL/ QSHF	VCNTRL 111
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 112
00106	COMMON /LCNTRL/ QRSW	VCNTRL 113
00107	COMMON /LCNTRL/ ORSH	VCNTRL 114
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 115
00109	COMMON /LCNTRL/ LOU(10)	VCNTRL 116
C		
00110	EQUIVALENCE (LTMIN .LOS(1))	VCNTRL 117
00111	EQUIVALENCE (LTMAX .LOS(2))	VCNTRL 118
00112	EQUIVALENCE (LPREACC .LOS(3))	VCNTRL 119
00113	EQUIVALENCE (LPRECON .LOS(4))	VCNTRL 120
00114	EQUIVALENCE (LHFLUX .LOS(5))	VCNTRL 121
00115	EQUIVALENCE (LEFLUX .LOS(6))	VCNTRL 122
		VCNTRL 123
		VCNTRL 124
		VCNTRL 125
		VCNTRL 126
		VCNTRL 127
		VCNTRL 128
		VCNTRL 129

00116		EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 130
00117		EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 131
00118		EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 132
00119		EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL 133
00120		EQUIVALENCE	(LUFUX .LQS(11))	VCNTRL 134
00121		EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 135
	C			VCNTRL 136
00122		EQUIVALENCE	(LOMEGA .LOU(1))	VCNTRL 137
00123		EQUIVALENCE	(LDIABAT .LOU(2))	VCNTRL 138
00124		EQUIVALENCE	(LRADSW .LOU(3))	VCNTRL 139
00125		EQUIVALENCE	(LRADLW .LOU(4))	VCNTRL 140
	C			VCNTRL 141
00126		LOGICAL	QALT	VCNTRL 142
00127		LOGICAL	QBEG	VCNTRL 143
00128		LOGICAL	QDAY	VCNTRL 144
00129		LOGICAL	QEND	VCNTRL 145
00130		LOGICAL	QOUT	VCNTRL 146
00131		LOGICAL	QPHY	VCNTRL 147
00132		LOGICAL	QSHF	VCNTRL 148
00133		LOGICAL	SN2FLG	VCNTRL 149
00134		LOGICAL	QRSW	VCNTRL 150
00135		LOGICAL	QRSH	VCNTRL 151
	C			VCNTRL 152
00136		LOGICAL	LQS	VCNTRL 153
00137		LOGICAL	LQU	VCNTRL 154
00138		LOGICAL	LTMIN	VCNTRL 155
00139		LOGICAL	LTMAX	VCNTRL 156
00140		LOGICAL	LPREACC	VCNTRL 157
00141		LOGICAL	LPRECON	VCNTRL 158
00142		LOGICAL	LHFLUX	VCNTRL 159
00143		LOGICAL	LEFLUX	VCNTRL 160
00144		LOGICAL	LFUSION	VCNTRL 161
00145		LOGICAL	LRADSWG	VCNTRL 162
00146		LOGICAL	LRADLWG	VCNTRL 163
00147		LOGICAL	LICLOUD	VCNTRL 164
00148		LOGICAL	LUFUX	VCNTRL 165
00149		LOGICAL	LVFLUX	VCNTRL 166
	C			VCNTRL 167
00150		LOGICAL	LOMEGA	VCNTRL 168
00151		LOGICAL	LDIABAT	VCNTRL 169
00152		LOGICAL	LRADSW	VCNTRL 170
00153		LOGICAL	LRADLW	VCNTRL 171
	C			VCNTRL 172
00154		EQUIVALENCE	(LCO.LC(1))	VCNTRL 173
00155		LOGICAL	LCO, LC(200)	VCNTRL 174
	C			VCNTRL 175
	C			VCNTRL 176
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	C			VCNTRL 200

REAL MODEL PARAMETERS SAVED ON HISTORY RECORD

00156	COMMON	/RCNTRL/	RCO	VCNTRL 177
00157	COMMON	/RCNTRL/	APHEL	VCNTRL 178
00158	COMMON	/RCNTRL/	BETA	VCNTRL 179
00159	COMMON	/RCNTRL/	COSD	VCNTRL 180
00160	COMMON	/RCNTRL/	CP	VCNTRL 181
00161	COMMON	/RCNTRL/	DAYSPY	VCNTRL 182
00162	COMMON	/RCNTRL/	DEC	VCNTRL 183
00163	COMMON	/RCNTRL/	DECMAX	VCNTRL 184
00164	COMMON	/RCNTRL/	DIST	VCNTRL 185
00165	COMMON	/RCNTRL/	DLAT	VCNTRL 186
00166	COMMON	/RCNTRL/	DLON	VCNTRL 187
00167	COMMON	/RCNTRL/	DT	VCNTRL 188
00168	COMMON	/RCNTRL/	ECCN	VCNTRL 189
00169	COMMON	/RCNTRL/	GNU1	VCNTRL 190
00170	COMMON	/RCNTRL/	GNU2	VCNTRL 191
00171	COMMON	/RCNTRL/	GRAV	VCNTRL 192
00172	COMMON	/RCNTRL/	OMEGA2	VCNTRL 193
00173	COMMON	/RCNTRL/	PI	VCNTRL 194
00174	COMMON	/RCNTRL/	PI180	VCNTRL 195
00175	COMMON	/RCNTRL/	PI2	VCNTRL 196
00176	COMMON	/RCNTRL/	PSTD	VCNTRL 197
00177	COMMON	/RCNTRL/	PMEAN	VCNTRL 198
00178	COMMON	/RCNTRL/	PSMAX	VCNTRL 199

ORIGINAL PAGE IS
OF POOR QUALITY

00179	COMMON /RCNTRL/ PSMIN	VCNTRL 201
00180	COMMON /RCNTRL/ PTOP	VCNTRL 202
00181	COMMON /RCNTRL/ RADE	VCNTRL 203
00182	COMMON /RCNTRL/ RGAS	VCNTRL 204
00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
00198	C EQUIVALENCE (RCO, RC(1))	VCNTRL 220
00199	REAL RCO, RC(200)	VCNTRL 221
	C	VCNTRL 222
	C INTEGER MODEL CONSTANTS	VCNTRL 223
	C =====	VCNTRL 224
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 225
00201	COMMON /IDPARM/ IDSP02	VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 227
00203	COMMON /IDPARM/ IROD	VCNTRL 228
00204	COMMON /IDPARM/ JC (46)	VCNTRL 229
00205	COMMON /IDPARM/ JE (2)	VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 231
00207	COMMON /IDPARM/ KSTEP	VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 233
00209	COMMON /IDPARM/ NHMS1	VCNTRL 234
00210	COMMON /IDPARM/ NYMD1	VCNTRL 235
	C	VCNTRL 236
	C LOGICAL MODEL CONSTANTS	VCNTRL 237
	C =====	VCNTRL 238
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 239
00212	COMMON /LDPARM/ ITAPE	VCNTRL 240
00213	COMMON /LDPARM/ START	VCNTRL 241
	C	VCNTRL 242
00214	LOGICAL FILTER	VCNTRL 243
00215	LOGICAL ITAPE	VCNTRL 244
00216	LOGICAL START	VCNTRL 245
	C	VCNTRL 246
	C REAL MODEL CONSTANTS	VCNTRL 247
	C =====	VCNTRL 248
00217	COMMON /RDPARM/ ADLDP	VCNTRL 249
00218	COMMON /RDPARM/ CON1	VCNTRL 250
00219	COMMON /RDPARM/ CON1DT	VCNTRL 251
00220	COMMON /RDPARM/ CON2	VCNTRL 252
00221	COMMON /RDPARM/ CON2DT	VCNTRL 253
00222	COMMON /RDPARM/ CON3	VCNTRL 254
00223	COMMON /RDPARM/ CON3DT	VCNTRL 255
00224	COMMON /RDPARM/ CON4	VCNTRL 256
00225	COMMON /RDPARM/ CON4DT	VCNTRL 257
00226	COMMON /RDPARM/ CON5	VCNTRL 258
00227	COMMON /RDPARM/ COSL (46)	VCNTRL 259
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 260
00229	COMMON /RDPARM/ CPD2	VCNTRL 261
00230	COMMON /RDPARM/ DXP (46)	VCNTRL 262
00231	COMMON /RDPARM/ DXYP (46)	VCNTRL 263
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 264
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 265
00234	COMMON /RDPARM/ F1DT	VCNTRL 266
00235	COMMON /RDPARM/ F2DT	VCNTRL 267
00236	COMMON /RDPARM/ H1DT	VCNTRL 268
00237	COMMON /RDPARM/ H2DT	VCNTRL 269
00238	COMMON /RDPARM/ PKSTD	VCNTRL 270
		VCNTRL 271

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00239	COMMON /RDPARM/ PKTOP			VCNTRL 272
00240	COMMON /RDPARM/ RLAT (46)			VCNTRL 273
00241	COMMON /RDPARM/ RLATD (46)			VCNTRL 274
00242	COMMON /RDPARM/ ROCPDT			VCNTRL 275
00243	COMMON /RDPARM/ ROCPP1			VCNTRL 276
00244	COMMON /RDPARM/ SGNP (2)			VCNTRL 277
00245	COMMON /RDPARM/ SINL (46)			VCNTRL 278
00246	COMMON /RDPARM/ SINLON (72)			VCNTRL 279
00247	COMMON /RDPARM/ THSTD			VCNTRL 280
00248	COMMON /RDPARM/ THSTD2			VCNTRL 281
00249	COMMON /RDPARM/ WSAVE (159)			VCNTRL 282
00250	COMMON /RDPARM/ DSIG (9)			VCNTRL 283
00251	COMMON /RDPARM/ SIG (9)			VCNTRL 284
00252	COMMON /RDPARM/ DSIGINV (9)			VCNTRL 285
				VCNTRL 286
	COMDECK VOANDQT RESOLUTION VALUES			VOANDQT 2
	=====			VOANDQT 3
	IM =72			VOANDQT 4
	NLAY =9			VOANDQT 5
	JM*1 =46			VOANDQT 6
	NLAY*11 =99			VOANDQT 7
	IM*NLAY*11 =7128			VOANDQT 8
	JM*2*1 =23			VOANDQT 9
				VOANDQT 10
	GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)			VOANDQT 11
	=====			VOANDQT 12
00253	COMMON /QANDQT/ QPROG(72,9,11,46)			VOANDQT 13
				VOANDQT 14
				VOANDQT 15
				VOANDQT 16
00254	DIMENSION PHIS (7128,1)			VOANDQT 17
00255	DIMENSION SMTH (7128,23)			VOANDQT 18
00256	DIMENSION ALBEDO (7128,1)			VOANDQT 19
00257	DIMENSION GT (7128,1)			VOANDQT 20
00258	DIMENSION GW (7128,1)			VOANDQT 21
00259	DIMENSION TS (7128,1)			VOANDQT 22
00260	DIMENSION SHS (7128,1)			VOANDQT 23
00261	DIMENSION P (72,99,1)			VOANDQT 24
				VOANDQT 25
00262	DIMENSION U (72,9,11,1)			VOANDQT 26
00263	DIMENSION V (72,9,11,1)			VOANDQT 27
00264	DIMENSION T (72,9,11,1)			VOANDQT 28
00265	DIMENSION SH (72,9,11,1)			VOANDQT 29
00266	DIMENSION PHI (72,9,11,1)			VOANDQT 30
				VOANDQT 31
00267	EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))			VOANDQT 32
00268	EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))			VOANDQT 33
00269	EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO (1,1))			VOANDQT 34
00270	EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))			VOANDQT 35
00271	EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))			VOANDQT 36
00272	EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))			VOANDQT 37
00273	EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))			VOANDQT 38
00274	EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))			VOANDQT 39
				VOANDQT 40
00275	EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))			VOANDQT 41
00276	EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))			VOANDQT 42
00277	EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))			VOANDQT 43
00278	EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))			VOANDQT 44
00279	EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))			VOANDQT 45
				VOANDQT 46
	SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)			VOANDQT 47
	=====			VOANDQT 48
00280	COMMON /QANDQT/ QSDIAG(72, 15,46)			VOANDQT 49
00281	DIMENSION IQSDIAG(72, 15,46)			VOANDQT 50
00282	EQUIVALENCE (QSDIAG,IQSDIAG)			VOANDQT 51
				VOANDQT 52
00283	COMMON /QANDQT/ QUDIAG(72,9, 5,46)			VOANDQT 53
				VOANDQT 54
				VOANDQT 55
	PHYSICS PARAMETERS AND CONSTANTS			VCNTRLP 2
				VCNTRLP 3


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00337 COMMON /SPACE/ IA(200)
00338 HALF PRECISION IA
00339 COMMON /SPACE/ LA(200)
00340 HALF PRECISION LA
00341 COMMON /SPACE/ RA(200)
00342 HALF PRECISION RA
00343 COMMON /SPACE/ HWORK(648)
00344 HALF PRECISION HWORK
00345 REAL SPAXX(512,128,7)
00346 EQUIVALENCE (QSH,SPAXX)

C
C
C RADIATION AND SOURCE TERM FIELDS
00347 COMMON /RADCOM/ AS(72,9), RE(72,10)
00348 COMMON /RADCOM/ PL(72,9), PLE(72,10)
00349 COMMON /RADCOM/ PLK(72,9), PLKE(10)
00350 COMMON /RADCOM/ TL(72,9), TLE(72,10)
00351 COMMON /RADCOM/ TG(72), TH(72,9)
00352 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00353 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00354 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00355 COMMON /RADCOM/ RH(72,9)
00356 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00357 COMMON /RADCOM/ HH(72,9), HHE(72,10)
00358 COMMON /RADCOM/ HHS(72,9)
00359 COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00360 COMMON /RADCOM/ CXDE(9)
00361 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00362 COMMON /RADCOM/ AL(72,10)
00363 COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
00364 COMMON /RADCOM/ TOPABS(72)
00365 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00366 COMMON /RADCOM/ TCOND(9), TPENE(9)
00367 COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
00368 COMMON /RADCOM/ FK(5), XK(5), NFK
00369 COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
00370 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00371 COMMON /RADCOM/ PROCM(23), OCMX(23), NOZ, TOTOZ(4), CDATE(6)
00372 COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)
00373 COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL
00374 COMMON /RADCOM/ SG(72), SP(72)
00375 COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB
00376 COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)
00377 COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)
00378 LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST

C
00379 COMMON WORK(512,128,2)

C
00380 CHARACTER*8 CUTOFF
00381 LOGICAL QTIMER

C
C MODULO ARITHMETIC COUNTER
C =====
00382 NEXTMOD(N,M) = MOD(N,M) + 1
C
C HHMMSS EVENT TIMESTEP COUNTER
C =====
00383 MPERIN = MODHMS(NHMS,N)/NDT
C
C .....
C
C DEBUG
00384 10000 CONTINUE
C .... CYBER VECTOR VERSION 00.001 INPUT IOO
C .... CYBER VECTOR VERSION 00
C =====
C MAP COMMON BLOCKS TO EXTERNAL FILES
C =====
00385 CALL QOPEN ('LFN=', 'QSAVE', 'IMP')
00386 CALL QMAPIN ('LFN=', 'QSAVE', 'VBA=', 'IJUMP', 'LEN=', '1152', 'LPAGE')

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VAMAM 19
VAMAM 20
VAMAM 21
VAMAM 22
VAMAM 23
VAMAM 24
VAMAM 25
VAMAM 26
VAMAM 27
VAMAM 28
VAMAM 29
VRADCOM 2
VRADCOM 3
VRADCOM 4
VRADCOM 5
VRADCOM 6
VRADCOM 7
VRADCOM 8
VRADCOM 9
VRADCOM 10
VRADCOM 11
VRADCOM 12
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VRADCOM 38
VRADCOM 39
VRADCOM 40
VRADCOM 41
VRADCOM 42
VBEGDEB 2
VBEGDEB 3
VBEGDEB 4
VBEGDEB 5
VBEGDEB 6
VGWSGCM 44
VGWSGCM 45
VGWSGCM 46
VGWSGCM 47
VGWSGCM 48

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00387 CALL Q5OPEN ('LFN=' 'MNTHLV' 'IMP') VGWSGCM 49
00388 CALL Q5MAPIN ('LFN=' 'MNTHLV' 'VBA=' 'TOPOGI' 'LEN=' '128' 'LPAGE') VGWSGCM 50
00389 CALL Q5OPEN ('LFN=' 'QWORK' 'IMP') VGWSGCM 51
00390 CALL Q5MAPIN ('LFN=' 'QWORK' 'VBA=' 'WORK1' 'LEN=' '256' 'LPAGE') VGWSGCM 52
00391 CALL Q5OPEN ('LFN=' 'SPACE' 'IMP') VGWSGCM 53
00392 CALL Q5MAPIN ('LFN=' 'SPACE' 'VBA=' 'SPAXXX' 'LEN=' '896' 'LPAGE') VGWSGCM 54
00393 CALL Q5OPEN ('LFN=' 'XCNTR' 'IMP') VGWSGCM 55
00394 CALL Q5MAPIN ('LFN=' 'XCNTR' 'VBA=' 'AS' 'LEN=' '128' 'LPAGE') VGWSGCM 56
C GET INITIAL/RESTART CONDITIONS AND SET CONSTANTS VGWSGCM 57
C ===== VGWSGCM 58
00395 QTIMER = .TRUE. VGWSGCM 59
00396 CALL ZEITBEG(8HGWGCM) VGWSGCM 60
00397 CALL CLOCKS (ITM) VGWSGCM 61
00398 LTM = ITM VGWSGCM 62
00399 CALL ZEITBEG(8HINPUT) VGWSGCM 63
00400 CALL INPUT (8908) VGWSGCM 64
00401 CALL ZEITEND VGWSGCM 65
00402 CALL DATE (ADATE) VGWSGCM 66
00403 CALL TIME (ATIME) VGWSGCM 67
00404 WRITE (3.6908) ATIME,ADATE VGWSGCM 68
C C VGWSGCM 69
C C READ CUT-OFF TIME FROM UNIT 60 VGWSGCM 70
C C ===== VGWSGCM 71
00405 READ(60.6905) EXPNO,CUTOFF VGWSGCM 72
00406 WRITE(3.6907) CUTOFF VGWSGCM 73
C C VGWSGCM 74
C C FOR INITIAL START EXECUTE STEPS IN MAIN LOOP IN THE FOLLOWING ORDER VGWSGCM 75
C C ===== VGWSGCM 76
C C 1. GMP AND CLIMATE INITIALIZATION VGWSGCM 77
C C 2. ANALYSIS CYCLE IF NECESSARY VGWSGCM 78
C C 3. HISTORY/RESTART RECORD WRITE VGWSGCM 79
C C 4. TIMINGS AND CUT-OFF CHECK VGWSGCM 80
C C 5. PHYSICS TERMS VGWSGCM 81
C C VGWSGCM 82
00407 IF (NSTEP.LT.MATIN .OR. VGWSGCM 83
& (NDALT.NE.0 .AND. MPER(NDALT).LT.MATIN)) MATSNX = 1 VGWSGCM 84
00408 QBEG = NSTEP.EQ.0 VGWSGCM 85
00409 QPHY = NDPHY.NE.0 .AND. MPER(NDPHY).EQ.0 VGWSGCM 86
00410 QSHF = NDSHF.NE.0 .AND. MATSUN+MPER(NDSHF).LE.1 VGWSGCM 87
00411 QALT = NDALT.NE.0 .AND. MPER(NDALT).EQ.0 VGWSGCM 88
00412 QOUT = NDOUT.NE.0 .AND. MPER(NDOUT).EQ.0 VGWSGCM 89
00413 NSDAY = MODHMS(NHMS,240000) VGWSGCM 90
03414 QDAY = NSDAY/NDT.EQ.0 VGWSGCM 91
00415 IF (QBEG) GO TO 40 VGWSGCM 92
C C ..... VGWSGCM 93
C C ..... VGWSGCM 94
C C ..... VGWSGCM 95
C C ..... VGWSGCM 96
C C ..... VGWSGCM 97
C C ..... VGWSGCM 98
C C ..... VGWSGCM 99
C C ..... VGWSGCM 100
C C ..... VGWSGCM 101
C C ..... VGWSGCM 102
C C ..... VGWSGCM 103
C C ..... VGWSGCM 104
C C ..... VGWSGCM 105
C C ..... VGWSGCM 106
C C ..... VGWSGCM 107
00416 10 CONTINUE VGWSGCM 108
00417 NSTEP = NSTEP + 1 VGWSGCM 109
00418 NHMS = INCHMS(NHMS,NDT) VGWSGCM 110
C DETERMINE TYPE OF TIME-STEP VGWSGCM 111
C MATSUN=0 FOR LEAPFROG STEP VGWSGCM 112
C MATSUN=1 FOR MATSUN0 STEP VGWSGCM 113
00419 NTH = NXTMOD(NSTEP,NSEQ) VGWSGCM 114
00420 MATSUN = MATSNX VGWSGCM 115
00421 MATSNX = MLF(NTH) VGWSGCM 116
00422 IF (NSTEP.LT.MATIN .OR. VGWSGCM 117
& (NDALT.NE.0 .AND. MPER(NDALT).LT.MATIN)) MATSNX = 1 VGWSGCM 118
00423 QBEG = NSTEP.EQ.0 VGWSGCM 119

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00424 QPHY = NDPHY.NE.0 .AND. MPER(NDPHY).EQ.0
00425 QSHF = NDSHF.NE.0 .AND. MATSUN.MPER(NDSHF).LE.1
00426 QALT = NDALT.NE.0 .AND. MPER(NDALT).EQ.0
00427 QOUT = NDOUT.NE.0 .AND. MPER(NDOUT).EQ.0
00428 NSDAY = MODHMS(NHMS,240000)
00429 QDAY = NSDAY/NDT.EQ.0
00430 DT = 2*NDT
00431 IF (MATSUN.EQ.0) GO TO 15
C MATSUNO PREDICTOR STEP ONLY
C =====
00432 DT = NDT
00433 NB = NXTMOD(NB,2)
00434 ND = NXTMOD(ND,2)
00435 KSTEP = 0
00436 CALL ZEITBEG(BHCOMP0 )
00437 CALL COMPO (8912)
00438 CALL ZEITEND
C MATSUNO CORRECTOR STEP OR LEAPFROG STEP
C =====
00439 15 CONTINUE
00440 NB = NXTMOD(NB,2)
00441 ND = NXTMOD(ND,2)
00442 KSTEP = 1 + MATSNX
00443 CALL ZEITBEG(BHCOMP0 )
00444 CALL COMPO (8912)
00445 CALL ZEITEND
C
C C PHYSICS
C =====
00446 20 CONTINUE
00447 IF (.NOT.QPHY) GO TO 30
C ADD PHYSICS TERMS TO BOTH FIELDS IF NEXT STEP IS LEAPFROG
00448 CALL ZEITBEG(BHCONSTA )
00449 CALL CONSTA
00450 CALL ZEITEND
00451 DO 25 J=JSP,JNP
00452 IF (MATSNX.NE.0) GO TO 21
00453 CALL ZEITBEG(BHDIFF0 )
00454 CALL DIFF0(ND,NB,J)
00455 CALL ZEITEND
00456 21 IF (MJ(J).EQ.0) GO TO 22
00457 CALL ZEITBEG(BHPOLOUT )
00458 CALL POLOUT(NB,MJ(J))
00459 CALL ZEITEND
00460 22 CONTINUE
00461 CALL ZEITBEG(BHCOMP3 )
00462 CALL COMP3 (J)
00463 CALL ZEITEND
00464 IF (MJ(J).EQ.0) GO TO 23
00465 CALL ZEITBEG(BHPOLINP )
00466 CALL POLINP(NB,MJ(J))
00467 CALL ZEITEND
00468 23 IF (MATSNX.NE.0) GO TO 25
00469 CALL ZEITBEG(BHADDO )
00470 CALL ADDO(ND,NB,J)
00471 CALL ZEITEND
00472 25 CONTINUE
00473 IF (QBEG) CALL INITSD
C
C C SHAPIRO FILTER
C =====
00474 30 CONTINUE
00475 IF (QBEG) GO TO 10
C FILTER ONCE FOR MATSUNO
C FILTER TWICE FOR LEAPFROG
00476 IF (.NOT.QSHF) GO TO 35
00477 CALL ZEITBEG(BHSMESHAP )
00478 CALL SMESHAP
00479 CALL ZEITEND
00480 35 CONTINUE

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VGWSGCM120
VGWSGCM121
VGWSGCM122
VGWSGCM123
VGWSGCM124
VGWSGCM125
VGWSGCM126
VGWSGCM127
VGWSGCM128
VGWSGCM129
VGWSGCM130
VGWSGCM131
VGWSGCM132
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VGWSGCM189
VGWSGCM190

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C GMP AND CLIMATE TERMS
C =====
00481 40 CONTINUE VGWSGCM191
00482 IF (QBEG .OR. ODAY) CALL DAILY (&908) VGWSGCM192
00483 QEND = NYMD.GT.NYMDE .OR. (NYMD.EQ.NYMDE .AND. NHMS.GE.NHMSE) VGWSGCM193
00484 QRSW = NDRSW.NE.0 .AND. MPER(NDRSW).EQ.0 VGWSGCM194
00485 QRSW = .FALSE. VGWSGCM195
00486 IF(NKRSH.EQ.0) GO TO 41 VGWSGCM196
00487 QRSW = (NKRSH.NE.0 .AND. (QBEG.OR.QEND)) .OR. VGWSGCM197
1 (NKRSH.GT.0 .AND. (ODAY .AND. MOD(MODYMD(NYMD), NKRSH).EQ.0)) VGWSGCM198
00488 41 QRSW = QRSW .AND. QOUT VGWSGCM199
C ===== VGWSGCM200
C ANALYSIS CYCLE VGWSGCM201
C ===== VGWSGCM202
00489 50 CONTINUE VGWSGCM203
00490 IF (.NOT.QALT) GO TO 60 VGWSGCM204
00491 IF(QBEG) CALL INITSD VGWSGCM205
00492 CALL ZEITBEG(8HALTER2 ) VGWSGCM206
00493 CALL ALTER2 VGWSGCM207
00494 CALL ZEITEND VGWSGCM208
00495 IF (MATIN.LT.1) GO TO 60 VGWSGCM209
00496 DO 55 J=JSP,JNP VGWSGCM210
00497 CALL ZEITBEG(8HCOPYQ ) VGWSGCM211
00498 CALL COPYQ (ND,NB,J) VGWSGCM212
00499 CALL ZEITEND VGWSGCM213
00500 55 CONTINUE VGWSGCM214
C ===== VGWSGCM215
C LOGS AND/OR RESTART RECORD WRITE VGWSGCM216
C ===== VGWSGCM217
00501 60 CONTINUE VGWSGCM218
00502 IF (.NOT.(QRSW .OR. QOUT .OR. QRSW)) GO TO 70 VGWSGCM219
00503 IF(QOUT .AND. LOMEGA) CALL ZEITBEG(8HVERT ) VGWSGCM220
00504 IF(QOUT .AND. LOMEGA) CALL VERT VGWSGCM221
00505 IF(QOUT .AND. LOMEGA) CALL ZEITEND VGWSGCM222
00506 CALL ZEITBEG(8HTWRITE ) VGWSGCM223
00507 IF(QBEG) CALL INITSD VGWSGCM224
00508 CALL TWRITE (0,&901,&908) VGWSGCM225
00509 CALL ZEITEND VGWSGCM226
00510 IF(QTIMER .AND. QDAY) CALL ZEITEND VGWSGCM227
00511 IF(QTIMER .AND. QDAY) CALL ZEITPRI(3) VGWSGCM228
00512 IF(QTIMER .AND. QDAY) CALL ZEITBEG(8HGWSGCM ) VGWSGCM229
00513 IF(QOUT .OR. QEND) CALL INITSD VGWSGCM230
C ===== VGWSGCM231
C PRINT TIMINGS AND CHECK SENSE SWITCHES VGWSGCM232
C ===== VGWSGCM233
00514 70 CONTINUE VGWSGCM234
00515 CALL CLOCKS (NTM) VGWSGCM235
00516 TTM = .01*(ITM-NTM) VGWSGCM236
00517 STM = .01*(LTM-NTM) VGWSGCM237
00518 LTM = NTM VGWSGCM238
00519 WRITE (3,6070) JOB, NSTEP, MATSUN, NYMD, NHMS, STM, TTM VGWSGCM239
00520 IF (QEND) GO TO 900 VGWSGCM240
00521 CALL CUTCHK(CUTOFF,&906) VGWSGCM241
00522 IF (QBEG) GO TO 20 VGWSGCM242
C ===== VGWSGCM243
00523 GO TO 10 VGWSGCM244
C ===== VGWSGCM245
C END OF MAIN LOOP VGWSGCM246
C ===== VGWSGCM247
C ===== VGWSGCM248
C ===== VGWSGCM249
C ===== VGWSGCM250
C ===== VGWSGCM251
C END TIME REACHED VGWSGCM252
C ===== VGWSGCM253
00524 900 CONTINUE VGWSGCM254
00525 CALL ZEITEND VGWSGCM255
00526 CALL ZEITPRI(3) VGWSGCM256
00527 WRITE (3,6900) NSTEP, NYMD, NHMS VGWSGCM257
00528 STOP 0 VGWSGCM258
C ===== VGWSGCM259
C ALLOTTED OUTPUT RECORDS REACHED VGWSGCM260
C ===== VGWSGCM261

```

```

00529      901      CONTINUE
00530      CALL ZEITEND
00531      CALL ZEITEND
00532      CALL ZEITPRI(3)
00533      WRITE (3,6900) NSTEP, NYMD, NHMS
00534      STOP 1

```

```

C
C CUT-OFF TIME EXCEEDED
C =====

```

```

00535      906      CONTINUE
00536      WRITE (3,6906)
00537      CALL ZEITBEG(8HTWRITE )
00538      IF (QOUT.AND.LOMEGA) CALL VERT
00539      CALL TWRITE (6,8901,8908)
00540      CALL ZEITEND
00541      CALL ZEITEND
00542      CALL ZEITPRI(3)
00543      WRITE (3,6900) NSTEP, NYMD, NHMS
00544      STOP 6

```

```

C
C INPUT/OUTPUT ERROR
C =====

```

```

00545      908      CONTINUE
00546      CALL ZEITEND
00547      CALL ZEITEND
00548      CALL ZEITPRI(3)
00549      WRITE (3,6900) NSTEP, NYMD, NHMS
00550      STOP 8

```

```

C
C MODEL DIAGNOSTIC
C =====

```

```

00551      912      CONTINUE
00552      CALL ZEITEND
00553      CALL ZEITEND
00554      CALL ZEITPRI(3)
00555      WRITE (3,6900) NSTEP, NYMD, NHMS
00556      STOP 12

```

```

C

```

```

00557      6070 FORMAT(' JOB      .A8,BX,
&          STEP    .18,(' .11,')'.BX,
&          TIME    .16,2X,16.8X,
&          CPU     .2F8.2)
00558      6900 FORMAT(' OTERMINATION OF RUN AT STEP '.18,4X,' TIME '.16,2X,16)
00559      6905 FORMAT(4X,A4/2X,A6)
00560      6906 FORMAT(' OSENSE SWITCH 6 ON')
00561      6907 FORMAT(' OCUT-OFF TIME FOR COMPUTATION IS: '.A6)
00562      6908 FORMAT(' OSTARTING COMPUTATION AT '.A8,' ON '.A8)
00563      E N D

```

```

VGWSGCM262
VGWSGCM263
VGWSGCM264
VGWSGCM265
VGWSGCM266
VGWSGCM267
VGWSGCM268
VGWSGCM269
VGWSGCM270
VGWSGCM271
VGWSGCM272
VGWSGCM273
VGWSGCM274
VGWSGCM275
VGWSGCM276
VGWSGCM277
VGWSGCM278
VGWSGCM279
VGWSGCM280
VGWSGCM281
VGWSGCM282
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VGWSGCM297
VGWSGCM298
VGWSGCM299
VGWSGCM300
VGWSGCM301
VGWSGCM302
VGWSGCM303
VGWSGCM304
VGWSGCM305
VGWSGCM306
VGWSGCM307
VGWSGCM308
VGWSGCM309
VGWSGCM310

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	416	475	523				
10000	384						
15	439	431					
20	446	522					
21	456	452					
22	460	456					
23	468	464					
25	472	451	468				
30	474	447					
35	480	476					
40	481	415					
41	488	485					
50	489						
55	500	496					
60	501	490	495				
6070	557	519					
6900	558	527	533	543	549	555	
6905	559	405					

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6906	560	536
6907	561	405
6908	552	404
70	514	502
900	524	520
901	529	
906	535	
908	545	
912	551	

VARIABLE MAP
NAME

-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16	402	404	W												
ADLDP	RDPARM	REAL	SIMPLE	217																
AL	RADCOM	REAL	ARRAY	362																
ALBDO1	MNTHLY	REAL	ARRAY	327	330															
ALBDO2	MNTHLY	REAL	ARRAY	326	330															
ALBEDO	QANDQT	REAL	ARRAY	256	269															
APHEL	RCNTRL	REAL	SIMPLE	157																
AS	RADCOM	REAL	ARRAY	347	394															
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17	403	404	W												
BETA	RCNTRL	REAL	SIMPLE	158																
C10	CNTRLP	REAL	SIMPLE	296																
C100	CNTRLP	REAL	SIMPLE	297																
C40	CNTRLP	REAL	SIMPLE	298																
CA	SPACE	CHAR*8	ARRAY	335	336															
CALTOJ	RCNTRL	REAL	SIMPLE	196																
CC	CCNTRL	CHAR*8	ARRAY	14	15															
CC0	CCNTRL	CHAR*8	SIMPLE	2	14	15														
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12						
				13																
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20															
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21															
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22															
CDATE	RADCOM	REAL	ARRAY	371																
CDFR	CNTRLP	REAL	SIMPLE	284																
CDXL	CNTRLP	REAL	SIMPLE	285																
CDXO	CNTRLP	REAL	SIMPLE	286																
CLH	CNTRLP	REAL	SIMPLE	287																
CLOUD	RADCOM	REAL	ARRAY	353																
CNTRLP	CNTRLP	REAL	UNKNOWN	284	285	286	287	288	289	290	291	292	293	294						
				295	296	297	298	299	300	301	302	303	304	305						
				306	307	308	309	310	311	312	313	314	315	316						
				317	318	319	320	321	322	323	324									
COE	CNTRLP	REAL	ARRAY	288																
COEF	CNTRLP	REAL	SIMPLE	289																
COEFS	CNTRLP	REAL	SIMPLE	290																
CON1	RDPARM	REAL	SIMPLE	218																
CON1DT	RDPARM	REAL	SIMPLE	219																
CON2	RDPARM	REAL	SIMPLE	220																
CON2DT	RDPARM	REAL	SIMPLE	221																
CON3	RDPARM	REAL	SIMPLE	222																
CON3DT	RDPARM	REAL	SIMPLE	223																
CON4	RDPARM	REAL	SIMPLE	224																
CON4DT	RDPARM	REAL	SIMPLE	225																
CONS	RDPARM	REAL	SIMPLE	226																
COSD	CCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228																
COSROT	CNTRLP	REAL	SIMPLE	291																
COSZ	RADCOM	REAL	ARRAY	373																
CP	CNTRLP	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CPP	CNTRLP	REAL	SIMPLE	292																
CQS	CCNTRL	CHAR*8	ARRAY	12	25															
CQU	CCNTRL	CHAR*8	ARRAY	13	26															
CTID	CNTRLP	REAL	SIMPLE	293																
CUMDAY	CNTRLP	REAL	SIMPLE	294																
CUMRAT	CNTRLP	REAL	SIMPLE	295																

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SH	QANDQT	REAL	ARRAY	265							
SHG	RADCOM	REAL	ARRAY	353	278						
SHL	RADCOM	REAL	ARRAY	352							
SHLE	RADCOM	REAL	ARRAY	352							
SHLTOP	CNTRLP	REAL	SIMPLE	314							
SHS	QANDQT	REAL	ARRAY	260	273						
SHSAT	RADCOM	REAL	ARRAY	354							
SIG	RDPARM	REAL	ARRAY	251							
SIGE	RCNTRL	REAL	ARRAY	187							
SIND	RCNTRL	REAL	SIMPLE	188							
SINL	RDPARM	REAL	ARRAY	245							
SINLON	RDPARM	REAL	ARRAY	246							
SINROT	CNTRLP	REAL	SIMPLE	315							
SMTH	QANDQT	REAL	ARRAY	255	268						
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133						
SNOW	RADCOM	LOGICAL	ARRAY	377	378						
SNOWN	CNTRLP	REAL	SIMPLE	316							
SNOWS	CNTRLP	REAL	SIMPLE	317							
SOLS	RCNTRL	REAL	SIMPLE	189							
SP	RADCOM	REAL	ARRAY	374							
SPACE		REAL	UNKNOWN	331							
SPAXXX	SPACE	REAL	ARRAY	345	333						
SRS	RADCOM	REAL	ARRAY	345	346	335	337	339	341	343	
SSS	RADCOM	REAL	ARRAY	355							
SSSE	RADCOM	REAL	ARRAY	356							
START	LDPARM	LOGICAL	ARRAY	356							
STBO	CNTRLP	REAL	SIMPLE	213	216						
STERP1	CNTRLP	REAL	SIMPLE	318							
STERP2	CNTRLP	REAL	SIMPLE	319							
STM		REAL	SIMPLE	320							
STN		REAL	SIMPLE	517/S	519/W						
SWALE	RADCOM	REAL	ARRAY	365							
SWIL	RADCOM	REAL	ARRAY	361							
T	RADCOM	REAL	ARRAY	361							
TAUL	QANDQT	REAL	ARRAY	264	277						
TCOND	RADCOM	REAL	ARRAY	363							
TG	RADCOM	REAL	ARRAY	366							
TH	RADCOM	REAL	ARRAY	351							
THSTD	RADCOM	REAL	ARRAY	351							
THSTD2	RDPARM	REAL	SIMPLE	247							
TICE	RDPARM	REAL	SIMPLE	248							
TL	CNTRLP	REAL	SIMPLE	321							
TL	RADCOM	REAL	ARRAY	350							
TLE	RADCOM	REAL	ARRAY	350							
TLOWL	RADCOM	REAL	ARRAY	367							
TLTOP	CNTRLP	REAL	SIMPLE	322							
TMIDL	RADCOM	REAL	SIMPLE	367							
TN	RADCOM	REAL	ARRAY	365							
TOPABS	RADCOM	REAL	ARRAY	364							
TOPOG1	MNTHLY	REAL	ARRAY	327	328	388					
TOPOG2	MNTHLY	REAL	ARRAY	326	328						
TOTOZ	RADCOM	REAL	ARRAY	371							
TPENE	RADCOM	REAL	ARRAY	366							
TS	QANDQT	REAL	ARRAY	259	272						
TSTD	RCNTRL	REAL	ARRAY	190							
TTM		REAL	SIMPLE	516/S	519/W						
U	QANDQT	REAL	ARRAY	262	275						
V	QANDQT	REAL	ARRAY	263	276						
VER	CNTRLP	REAL	SIMPLE	10	23						
WET	RADCOM	REAL	ARRAY	372							
WI	RADCOM	REAL	ARRAY	372							
WORK1	//	REAL	ARRAY	379	390						
WSAVE	RDPARM	REAL	ARRAY	249							
XDAY	CNTRLP	REAL	SIMPLE	323							
XK	RADCOM	REAL	ARRAY	368							
XLABEL	CNTRLP	REAL	ARRAY	11	24						
ZLNCO	CNTRLP	REAL	SIMPLE	324							

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES

D=STMT FN DEF. A=ARGLIST

ORIGINAL COPY
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ADDO		SUBROUTINE	470																				
ALTER2		SUBROUTINE	493																				
CLOCKS		SUBROUTINE	397	515																			
COMPO		SUBROUTINE	437	444																			
COMP3		SUBROUTINE	462																				
CONSTA		SUBROUTINE	449																				
COPYQ		SUBROUTINE	498																				
CUTCHK		SUBROUTINE	521																				
DAILY		SUBROUTINE	482																				
DATE		SUBROUTINE	402																				
DIFFQ		SUBROUTINE	454																				
INCHMS	INTEGER	FUNCTION	418																				
INITSD		SUBROUTINE	473	491	507	513																	
INPUT		SUBROUTINE	400																				
MOD	INTEGER	INTRINSIC	382	487																			
MODHMS	INTEGER	FUNCTION	383	413	428																		
MODYMD	INTEGER	FUNCTION	487																				
MPER	INTEGER	STAT FUNC	383/S	407	408	410	411	412	422	424	425	426	427										
			484																				
NXTMOD	INTEGER	STAT FUNC	382/S	419	433	434	440	441															
POLINP		SUBROUTINE	456																				
POLOUT		SUBROUTINE	458																				
Q5MAPIN		SUBROUTINE	386	388	390	392	394																
Q5OPEN		SUBROUTINE	385	387	389	391	393																
SMSHAP		SUBROUTINE	478																				
TIME		SUBROUTINE	403																				
TWRITE		SUBROUTINE	508	539																			
VERT		SUBROUTINE	504	538																			
ZEITBEG		SUBROUTINE	395	399	436	443	448	453	457	461	465	469	477										
			492	497	503	506	512	517															
ZEITEND		SUBROUTINE	401	438	445	450	455	459	463	467	471	479	494										
			499	505	509	510	525	530															
			552	553																			
ZEITPRI		SUBROUTINE	511	526	532	542	548	554															

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ORIGINAL PAGE IS
OF POOR QUALITY

```
00001      SUBROUTINE ADDQ (N1, N2, J)
C          UTILITY SUBROUTINE TO ADD 4TH-ORDER MODEL VALUES
C          ARGUMENTS  DESCRIPTION
C          N1         TIME STEP POINTER OF VALUES TO WHICH TO ADD
C          N2         TIME STEP POINTER OF VALUES TO ADD
C          J          LATITUDE GRID BAND
C          CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C          =====
00002      COMMON /CCNTRL/  CCO
00003      COMMON /CCNTRL/  ADATE
00004      COMMON /CCNTRL/  ATIME
00005      COMMON /CCNTRL/  JIC
00006      COMMON /CCNTRL/  JOB
00007      COMMON /CCNTRL/  CCSP06
00008      COMMON /CCNTRL/  CCSP07
00009      COMMON /CCNTRL/  CCSP08
00010      COMMON /CCNTRL/  VER
00011      COMMON /CCNTRL/  KLABEL (10)
00012      COMMON /CCNTRL/  CQS (30)
00013      COMMON /CCNTRL/  CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CCO, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      KLABEL
00025      CHARACTER*8      CQS
00026      CHARACTER*8      CQU
C
C          INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C          =====
00027      COMMON /ICNTRL/  ICO
00028      COMMON /ICNTRL/  IM
00029      COMMON /ICNTRL/  IMD2
00030      COMMON /ICNTRL/  IMD2P1
00031      COMMON /ICNTRL/  NDRSW
00032      COMMON /ICNTRL/  JM
00033      COMMON /ICNTRL/  JMD2
00034      COMMON /ICNTRL/  JMT2
00035      COMMON /ICNTRL/  JNP
00036      COMMON /ICNTRL/  JO4
00037      COMMON /ICNTRL/  JOB
00038      COMMON /ICNTRL/  JSP
00039      COMMON /ICNTRL/  KLIALB
00040      COMMON /ICNTRL/  KLIW
00041      COMMON /ICNTRL/  KLISST
00042      COMMON /ICNTRL/  KS
00043      COMMON /ICNTRL/  KU
00044      COMMON /ICNTRL/  LOGBR
00045      COMMON /ICNTRL/  MATIN
00046      COMMON /ICNTRL/  MATSNX
00047      COMMON /ICNTRL/  MATSUN
00048      COMMON /ICNTRL/  MLF      (12)
00049      COMMON /ICNTRL/  MROD
00050      COMMON /ICNTRL/  NKRSH
00051      COMMON /ICNTRL/  MSM
00052      COMMON /ICNTRL/  NB
00053      COMMON /ICNTRL/  ND
00054      COMMON /ICNTRL/  NDALT
00055      COMMON /ICNTRL/  NDAY
00056      COMMON /ICNTRL/  NDOUT
C          VADDQ      2
C          VADDQ      3
C          VADDQ      4
C          VADDQ      5
C          VADDQ      6
C          VADDQ      7
C          VADDQ      8
C          VADDQ      9
C          VADDQ     10
C          VCNTRL     2
C          VCNTRL     3
C          VCNTRL     4
C          VCNTRL     5
C          VCNTRL     6
C          VCNTRL     7
C          VCNTRL     8
C          VCNTRL     9
C          VCNTRL    10
C          VCNTRL    11
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C          VCNTRL    13
C          VCNTRL    14
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C          VCNTRL    59
C          VCNTRL    60
C          VCNTRL    61
C          VCNTRL    62
C          VCNTRL    63
```

00057	COMMON /ICNTRL/	NOPHY		VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF		VCNTRL	65
00059	COMMON /ICNTRL/	NDT		VCNTRL	66
00060	COMMON /ICNTRL/	NHMS		VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE		VCNTRL	68
00062	COMMON /ICNTRL/	NHMS0		VCNTRL	69
00063	COMMON /ICNTRL/	NLAY		VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1		VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1		VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY		VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ		VCNTRL	74
00068	COMMON /ICNTRL/	IGSP53		VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP		VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSIZ		VCNTRL	77
00071	COMMON /ICNTRL/	NYMD		VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE		VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO		VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT		VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV		VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG		VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)		VCNTRL	84
00078	COMMON /ICNTRL/	IOU (10)		VCNTRL	85
	C			VCNTRL	86
00079	EQUIVALENCE	(ITMIN	.IQS(1))	VCNTRL	87
00080	EQUIVALENCE	(ITMAX	.IQS(2))	VCNTRL	88
00081	EQUIVALENCE	(IPREACC	.IQS(3))	VCNTRL	89
00082	EQUIVALENCE	(IPRECON	.IQS(4))	VCNTRL	90
00083	EQUIVALENCE	(IHFLUX	.IQS(5))	VCNTRL	91
00084	EQUIVALENCE	(IEFLUX	.IQS(6))	VCNTRL	92
00085	EQUIVALENCE	(IFUSION	.IQS(7))	VCNTRL	93
00086	EQUIVALENCE	(IRADSWG	.IQS(8))	VCNTRL	94
00087	EQUIVALENCE	(IRADLWG	.IQS(9))	VCNTRL	95
00088	EQUIVALENCE	(IICLOUD	.IQS(10))	VCNTRL	96
00089	EQUIVALENCE	(IUFLUX	.IQS(11))	VCNTRL	97
00090	EQUIVALENCE	(IVFLUX	.IQS(12))	VCNTRL	98
	C			VCNTRL	99
00091	EQUIVALENCE	(IOMEGA	.IOU(1))	VCNTRL	100
00092	EQUIVALENCE	(IDIABAT	.IOU(2))	VCNTRL	101
00093	EQUIVALENCE	(IRADSW	.IOU(3))	VCNTRL	102
00094	EQUIVALENCE	(IRADLW	.IOU(4))	VCNTRL	103
	C			VCNTRL	104
00095	EQUIVALENCE	(ICO, IC(1))		VCNTRL	105
00096	INTEGER	ICO, IC(200)		VCNTRL	106
	C			VCNTRL	107
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL	108
	C	=====		VCNTRL	109
00097	COMMON /LCNTRL/	LC0		VCNTRL	110
00098	COMMON /LCNTRL/	QALT		VCNTRL	111
00099	COMMON /LCNTRL/	QBEG		VCNTRL	112
00100	COMMON /LCNTRL/	QDAY		VCNTRL	113
00101	COMMON /LCNTRL/	QEND		VCNTRL	114
00102	COMMON /LCNTRL/	QOUT		VCNTRL	115
00103	COMMON /LCNTRL/	QPHY		VCNTRL	116
00104	COMMON /LCNTRL/	QSHF		VCNTRL	117
00105	COMMON /LCNTRL/	SN2FLG		VCNTRL	118
00106	COMMON /LCNTRL/	QRSW		VCNTRL	119
00107	COMMON /LCNTRL/	QRSH		VCNTRL	120
00108	COMMON /LCNTRL/	LQS(30)		VCNTRL	121
00109	COMMON /LCNTRL/	LOU(10)		VCNTRL	122
	C			VCNTRL	123
00110	EQUIVALENCE	(LTMIN	.LOS(1))	VCNTRL	124
00111	EQUIVALENCE	(LTMAX	.LOS(2))	VCNTRL	125
00112	EQUIVALENCE	(LPREACC	.LOS(3))	VCNTRL	126
00113	EQUIVALENCE	(LPRECON	.LOS(4))	VCNTRL	127
00114	EQUIVALENCE	(LHFLUX	.LOS(5))	VCNTRL	128
00115	EQUIVALENCE	(LEFLUX	.LOS(6))	VCNTRL	129
00116	EQUIVALENCE	(LFUSION	.LOS(7))	VCNTRL	130
00117	EQUIVALENCE	(LRADSWG	.LOS(8))	VCNTRL	131
00118	EQUIVALENCE	(LRADLWG	.LOS(9))	VCNTRL	132
00119	EQUIVALENCE	(LICLOUD	.LOS(10))	VCNTRL	133
00120	EQUIVALENCE	(LUFLUX	.LOS(11))	VCNTRL	134

ORIGINAL PAGE IS
OF POOR QUALITY

00121		EQUIVALENCE	(LVFLUX .LOS(12))	VCNTRL 135
00122	C	EQUIVALENCE	(LOMEGA .LOU(1))	VCNTRL 136
00123		EQUIVALENCE	(LDIABAT .LOU(2))	VCNTRL 137
00124		EQUIVALENCE	(LRADSW .LOU(3))	VCNTRL 138
00125		EQUIVALENCE	(LRADLW .LOU(4))	VCNTRL 139
00126	C	LOGICAL	QALT	VCNTRL 140
00127		LOGICAL	QBEG	VCNTRL 141
00128		LOGICAL	QDAY	VCNTRL 142
00129		LOGICAL	QEND	VCNTRL 143
00130		LOGICAL	QOUT	VCNTRL 144
00131		LOGICAL	QPHY	VCNTRL 145
00132		LOGICAL	QSHF	VCNTRL 146
00133		LOGICAL	SN2FLG	VCNTRL 147
00134		LOGICAL	QRSW	VCNTRL 148
00135		LOGICAL	QRSH	VCNTRL 149
00136	C	LOGICAL	LOS	VCNTRL 150
00137		LOGICAL	LOU	VCNTRL 151
00138		LOGICAL	LTMIN	VCNTRL 152
00139		LOGICAL	LTMAX	VCNTRL 153
00140		LOGICAL	LPREACC	VCNTRL 154
00141		LOGICAL	LPRECON	VCNTRL 155
00142		LOGICAL	LHFLUX	VCNTRL 156
00143		LOGICAL	LEFLUX	VCNTRL 157
00144		LOGICAL	LFUSION	VCNTRL 158
00145		LOGICAL	LRADSWG	VCNTRL 159
00146		LOGICAL	LRADLWG	VCNTRL 160
00147		LOGICAL	LICLOUD	VCNTRL 161
00148		LOGICAL	LUFLEX	VCNTRL 162
00149		LOGICAL	LVFLUX	VCNTRL 163
00150	C	LOGICAL	LOMEGA	VCNTRL 164
00151		LOGICAL	LDIABAT	VCNTRL 165
00152		LOGICAL	LRADSW	VCNTRL 166
00153		LOGICAL	LRADLW	VCNTRL 167
00154	C	EQUIVALENCE	(LCO,LC(1))	VCNTRL 168
00155		LOGICAL	LCO, LC(200)	VCNTRL 169
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
	CC	-----		
00156		COMMON	/RCNTRL/ RCO	VCNTRL 170
00157		COMMON	/RCNTRL/ APHEL	VCNTRL 171
00158		COMMON	/RCNTRL/ BETA	VCNTRL 172
00159		COMMON	/RCNTRL/ COSD	VCNTRL 173
00160		COMMON	/RCNTRL/ CP	VCNTRL 174
00161		COMMON	/RCNTRL/ DAYSPY	VCNTRL 175
00162		COMMON	/RCNTRL/ DEC	VCNTRL 176
00163		COMMON	/RCNTRL/ DECMAX	VCNTRL 177
00164		COMMON	/RCNTRL/ DIST	VCNTRL 178
00165		COMMON	/RCNTRL/ DLAT	VCNTRL 179
00166		COMMON	/RCNTRL/ DLON	VCNTRL 180
00167		COMMON	/RCNTRL/ DT	VCNTRL 181
00168		COMMON	/RCNTRL/ ECCN	VCNTRL 182
00169		COMMON	/RCNTRL/ GNU1	VCNTRL 183
00170		COMMON	/RCNTRL/ GNU2	VCNTRL 184
00171		COMMON	/RCNTRL/ GRAV	VCNTRL 185
00172		COMMON	/RCNTRL/ OMEGA2	VCNTRL 186
00173		COMMON	/RCNTRL/ PI	VCNTRL 187
00174		COMMON	/RCNTRL/ PI180	VCNTRL 188
00175		COMMON	/RCNTRL/ PI2	VCNTRL 189
00176		COMMON	/RCNTRL/ PSTD	VCNTRL 190
00177		COMMON	/RCNTRL/ PIMEAN	VCNTRL 191
00178		COMMON	/RCNTRL/ PSMAX	VCNTRL 192
00179		COMMON	/RCNTRL/ PSMIN	VCNTRL 193
00180		COMMON	/RCNTRL/ PTOP	VCNTRL 194
00181		COMMON	/RCNTRL/ RADE	VCNTRL 195
00182		COMMON	/RCNTRL/ RGAS	VCNTRL 196
00183		COMMON	/RCNTRL/ ROCP	VCNTRL 197
				VCNTRL 205

ORIGINAL PART #
OF POOR QUALITY

00184	COMMON /RCNTRL/	RSDIST		VCNTRL 205
00185	COMMON /RCNTRL/	SDAY		VCNTRL 207
00186	COMMON /RCNTRL/	SEASON		VCNTRL 208
00187	COMMON /RCNTRL/	SIGE	(25)	VCNTRL 209
00188	COMMON /RCNTRL/	SIND		VCNTRL 210
00189	COMMON /RCNTRL/	SOLS		VCNTRL 211
00190	COMMON /RCNTRL/	TSTD		VCNTRL 212
00191	COMMON /RCNTRL/	PLEVS	(25)	VCNTRL 213
00192	COMMON /RCNTRL/	HEATW		VCNTRL 214
00193	COMMON /RCNTRL/	HEATI		VCNTRL 215
00194	COMMON /RCNTRL/	EPS		VCNTRL 216
00195	COMMON /RCNTRL/	EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/	CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/	PZERO		VCNTRL 219
	C			VCNTRL 220
00198	EQUIVALENCE	(RC0,RC(1))		VCNTRL 221
00199	REAL	RC0, RC(200)		VCNTRL 222
	C			VCNTRL 223
	C	INTEGER MODEL CONSTANTS		VCNTRL 224
	C	=====		VCNTRL 225
00200	COMMON /IDPARM/	IJUMP	(46)	VCNTRL 226
00201	COMMON /IDPARM/	IDSP02		VCNTRL 227
00202	COMMON /IDPARM/	INDEX	(72)	VCNTRL 228
00203	COMMON /IDPARM/	IROD		VCNTRL 229
00204	COMMON /IDPARM/	JC	(46)	VCNTRL 230
00205	COMMON /IDPARM/	JE	(2)	VCNTRL 231
00206	COMMON /IDPARM/	JP	(2.2)	VCNTRL 232
00207	COMMON /IDPARM/	KSTEP		VCNTRL 233
00208	COMMON /IDPARM/	MJ	(46)	VCNTRL 234
00209	COMMON /IDPARM/	NHMS1		VCNTRL 235
00210	COMMON /IDPARM/	NYMD1		VCNTRL 236
	C			VCNTRL 237
	C	LOGICAL MODEL CONSTANTS		VCNTRL 238
	C	=====		VCNTRL 239
00211	COMMON /LDPARM/	FILTER	(46)	VCNTRL 240
00212	COMMON /LDPARM/	ITAPE		VCNTRL 241
00213	COMMON /LDPARM/	START		VCNTRL 242
	C			VCNTRL 243
00214	LOGICAL	FILTER		VCNTRL 244
00215	LOGICAL	ITAPE		VCNTRL 245
00216	LOGICAL	START		VCNTRL 246
	C			VCNTRL 247
	C	REAL MODEL CONSTANTS		VCNTRL 248
	C	=====		VCNTRL 249
00217	COMMON /RDPARM/	ADLDP		VCNTRL 250
00218	COMMON /RDPARM/	CON1		VCNTRL 251
00219	COMMON /RDPARM/	CON1DT		VCNTRL 252
00220	COMMON /RDPARM/	CON2		VCNTRL 253
00221	COMMON /RDPARM/	CON2DT		VCNTRL 254
00222	COMMON /RDPARM/	CON3		VCNTRL 255
00223	COMMON /RDPARM/	CON3DT		VCNTRL 256
00224	COMMON /RDPARM/	CON4		VCNTRL 257
00225	COMMON /RDPARM/	CON4DT		VCNTRL 258
00226	COMMON /RDPARM/	CON5		VCNTRL 259
00227	COMMON /RDPARM/	COSL	(46)	VCNTRL 260
00228	COMMON /RDPARM/	COSLON	(72)	VCNTRL 261
00229	COMMON /RDPARM/	CPD2		VCNTRL 262
00230	COMMON /RDPARM/	DXP	(46)	VCNTRL 263
00231	COMMON /RDPARM/	DXYP	(46)	VCNTRL 264
00232	COMMON /RDPARM/	DYP	(46)	VCNTRL 265
00233	COMMON /RDPARM/	FCORLS	(46)	VCNTRL 266
00234	COMMON /RDPARM/	F1DT		VCNTRL 267
00235	COMMON /RDPARM/	F2DT		VCNTRL 268
00236	COMMON /RDPARM/	H1DT		VCNTRL 269
00237	COMMON /RDPARM/	H2DT		VCNTRL 270
00238	COMMON /RDPARM/	PKSTD		VCNTRL 271
00239	COMMON /RDPARM/	PKTOP		VCNTRL 272
00240	COMMON /RDPARM/	RLAT	(46)	VCNTRL 273
00241	COMMON /RDPARM/	RLATD	(46)	VCNTRL 274
00242	COMMON /RDPARM/	ROC PDT		VCNTRL 275
00243	COMMON /RDPARM/	ROC PP1		VCNTRL 276

ORIGINAL PAGE IS
OF POOR QUALITY

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00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM-1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====
00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8,1,1),P ((1,1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1, 2,1),U ((1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4,1),V ((1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 6,1),T ((1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8,1),SH ((1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1,10,1),PHI((1,1,1,1))
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====
00280 COMMON /QANDQT/ QSDIAG(72, 15,46)
00281 DIMENSION IQSDIAG(72, 15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C
C
C POLAR MODEL PROGNOSTIC FIELDS
00284 COMMON /QPOLES/ PP(2,2)
00285 COMMON /QPOLES/ UP(9,2,2)
00286 COMMON /QPOLES/ VP(9,2,2)
00287 COMMON /QPOLES/ TP(9,2,2)
00288 COMMON /QPOLES/ SHP(9,2,2)

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VCNTRL 277
VCNTRL 278
VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
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VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VQPOLES 2
VQPOLES 3
VQPOLES 4
VQPOLES 5
VQPOLES 6
VQPOLES 6
VQPOLES 7
VQPOLES 8

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ORIGINAL PAGE IS
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ORIGINAL PAGE IS
OF POOR QUALITY

CQNS	RDFARM	REAL	SIMPLE	226																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RCNTRL	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*8	ARRAY	12	25															
COU	CCNTRL	CHAR*8	ARRAY	13	26															
DAYSPLY	RCNTRL	REAL	SIMPLE	161																
DEC	RCNTRL	REAL	SIMPLE	162																
DECMAX	RCNTRL	REAL	SIMPLE	163																
DIST	RCNTRL	REAL	SIMPLE	164																
DLAT	RCNTRL	REAL	SIMPLE	165																
DLOH	RCNTRL	REAL	SIMPLE	166																
DSIG	RDPARM	REAL	ARRAY	250																
DSIGINV	RDPARM	REAL	ARRAY	252																
DT	RCNTRL	REAL	SIMPLE	167																
DXP	RDPARM	REAL	ARRAY	230																
DYYP	RDPARM	REAL	ARRAY	231																
DYP	RDPARM	REAL	ARRAY	232																
ECCN	RCNTRL	REAL	SIMPLE	168																
EPS	RCNTRL	REAL	SIMPLE	194																
EPSFAC	RCNTRL	REAL	SIMPLE	195																
F1DT	RDPARM	REAL	SIMPLE	234																
F2DT	RDPARM	REAL	SIMPLE	235																
FCORLS	RDPARM	REAL	ARRAY	233																
FILTER	LDPARM	LOGICAL	ARRAY	211	214															
GNU1	RCNTRL	REAL	SIMPLE	169																
GNU2	RCNTRL	REAL	SIMPLE	170																
GRAV	RCNTRL	REAL	SIMPLE	171																
GT	QANDQT	REAL	ARRAY	257	270															
GW	QANDQT	REAL	ARRAY	258	271															
H1DT	RDPARM	REAL	SIMPLE	236																
H2DT	RDPARM	REAL	SIMPLE	237																
HEATI	RCNTRL	REAL	SIMPLE	193																
HEATW	RCNTRL	REAL	SIMPLE	192																
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																
IC	ICNTRL	INTEGER	ARRAY	95	96															
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96														
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	95	29	30	31	32	33	34	35	36	37						
				38	39	40	41	42	43	44	45	46	47	48						
				49	50	51	52	53	54	55	56	57	58	59						
				60	61	62	63	64	65	66	67	68	69	70						
				71	72	73	74	75	76	77	78									
				68																
ICSP53	ICNTRL	INTEGER	SIMPLE	92																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210						
IDPARM	ICNTRL	INTEGER	UNKNOWN	201																
IDSP02	IDPARM	INTEGER	SIMPLE	84																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	85																
IFUSION	ICNTRL	INTEGER	UNKNOWN	83																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	88																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	200																
IJUMP	IDPARM	INTEGER	ARRAY	28	302	302	302													
IM	ICNTRL	INTEGER	SIMPLE	29																
IMD2	ICNTRL	INTEGER	SIMPLE	290																
IMD2M1	IMJM	INTEGER	SIMPLE	30																
IMD2P1	ICNTRL	INTEGER	SIMPLE	290																
IMJM	ICNTRL	INTEGER	UNKNOWN	290																
IMM1	IMJM	INTEGER	SIMPLE	290																
IMM2	IMJM	INTEGER	SIMPLE	290																
IMM3	IMJM	INTEGER	SIMPLE	290																
IMM4	IMJM	INTEGER	SIMPLE	290																
IMM5	IMJM	INTEGER	SIMPLE	290																
IMNLAY	IMJM	INTEGER	SIMPLE	290	303	303	303	304	304	304	305	305	305	306						
				305	306															
IMNLAY1	IMJM	INTEGER	SIMPLE	290																
IMNLAY2	IMJM	INTEGER	SIMPLE	290																
IMNLAY3	IMJM	INTEGER	SIMPLE	290																
IMNLAY4	IMJM	INTEGER	SIMPLE	290																
IMNLAY5	IMJM	INTEGER	SIMPLE	290																

QRSH	LCNTRL	LOGICAL	SIMPLE	277	278	279													
QRSW	LCNTRL	LOGICAL	SIMPLE	107	135														
QSDIAG	QANDQT	REAL	ARRAY	106	134														
QSHF	LCNTRL	LOGICAL	SIMPLE	280	282														
QUDIAG	QANDQT	REAL	ARRAY	104	132														
RADE	RCNTRL	REAL	SIMPLE	283															
RC	RCNTRL	REAL	ARRAY	181															
RCO	RCNTRL	REAL	SIMPLE	198	199														
RCNTRL	RCNTRL	REAL	SIMPLE	156	192	199													
		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186	187	188					
				189	190	191	192	193	194	195	196	197							
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240	241	242	243	244	245	246	247	248	249					
				250	251	252													
RGAS	RCNTRL	REAL	SIMPLE	182															
RLAT	RDPARM	REAL	ARRAY	240															
RLATD	RDPARM	REAL	ARRAY	241															
ROCP	RCNTRL	REAL	SIMPLE	183															
ROCPDT	RDPARM	REAL	SIMPLE	242															
ROCPPI	RDPARM	REAL	SIMPLE	243															
RSDIST	RCNTRL	REAL	SIMPLE	184															
SDAY	RCNTRL	REAL	SIMPLE	185															
SEASON	RCNTRL	REAL	SIMPLE	185															
SGNP	RDPARM	REAL	ARRAY	244															
SH	QANDQT	REAL	ARRAY	265	278	306/S	306	306											
SHP	QPOLES	REAL	ARRAY	288	299/S	299	299												
SHS	QANDQT	REAL	ARRAY	260	273														
SIG	RDPARM	REAL	ARRAY	251															
SIGE	RCNTRL	REAL	ARRAY	187															
SIND	RCNTRL	REAL	SIMPLE	188															
SINL	RDPARM	REAL	ARRAY	245															
SINLON	RDPARM	REAL	ARRAY	246															
SMTH	QANDQT	REAL	ARRAY	255	268														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133														
SOLS	RCNTRL	REAL	SIMPLE	189															
START	LDPARM	LOGICAL	SIMPLE	213	216														
T	QANDQT	REAL	ARRAY	264	277	305/S	305	305											
THSTD	RDPARM	REAL	SIMPLE	247															
THSTD2	RDPARM	REAL	SIMPLE	248															
TP	QPOLES	REAL	ARRAY	287	298/S	298	298												
TS	QANDQT	REAL	ARRAY	259	272														
TSTD	RCNTRL	REAL	SIMPLE	190															
U	QANDQT	REAL	ARRAY	262	275	303/S	303	303											
UP	QPOLES	REAL	ARRAY	285	296/S	296	296	303											
V	QANDQT	REAL	ARRAY	263	276	304/S	304	304											
VER	CCNTRL	CHAR*B	SIMPLE	10	23														
VP	QPOLES	REAL	ARRAY	286	297/S	297	297												
WSAVE	RDPARM	REAL	ARRAY	249															
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24														

ORIGINAL PAGE IS
OF POOR QUALITY

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00001  CDECK VAVRX                                $VA00010
        SUBROUTINE AVRX (J)                   $VA00020
C*****                                     $VA00030
C  PURPOSE                                     $VA00040
C  FOURIER FILTER BASE FIELDS NEAR THE POLES IN THE X-DIRECTION. $VA00050
C  MODEL QUANTITIES FILTERED ARE U, V, SK, AND SLP. AND T MODIFIED $VA00060
C  TO A CONSTANT PRESSURE SURFACE           $VA00070
C  USAGE                                       $VA00080
C  CALLED BY COMPO ONLY                       $VA00090
C  ARGUMENTS  DESCRIPTION                     $VA00100
C  J          LATITUDE BAND NUMBER           $VA00110
C  SUBPROGRAMS NEEDED                         $VA00120
C  FFT77     FAST FOURIER TRANSFORM (CYGWSLIB) $VA00130
C  LAPSE     LAPSE RATE CALCULATION          $VA00140
C  RECORD OF MODIFICATIONS                   $VA00150
C  BASED ON OLD VERSION 8.                   $VA00160
C  08/12/83/RCB THIS PART, COMMENTS AND & FOR $VA00170
C  11/11/83/RCB DUAL PRECISION.             $VA00180
C  26/01/84/JWP COMMENTS AND ALLIGN (DIRECT ON NEW MASTER) $VA00190
C  28/02/84/LLT ISOBARIC TEMPERATURE FILTER $VA00200
C  REMARKS:                                   $VA00210
C*****                                     $VA00220
C*  M / A - C O M S I G M A D A T A I N C .   N A S A - G S F C * $VA00230
C*****                                     $VA00240
C  CCOMDECK VREAL                             $VA00250
C  HALF/FULL PRECISION                       $VA00270
C  =====                                     $VA00280
00002  IMPLICIT REAL (A-H,O-Z)                $VA00290
C  CCOMDECK VRSLV                             $VA00300
C  CCOMDECK VRSLV                             $VA00310
C  C  PARAMETER STATEMENTS FOR DIMENSIONING RESOLUTION $VA00320
C  C  =====                                     $VA00330
C  C  =====                                     $VA00340
C  C  =====                                     $VA00350
C  C  =====                                     $VA00360
C  CCOMDECK VCNTRL                             $VA00370
C  CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD $VA00380
C  C  =====                                     $VA00390
00003  COMMON /CCNTRL/ CCO                      $VA00400
00004  COMMON /CCNTRL/ ADATE                    $VA00410
00005  COMMON /CCNTRL/ ATIME                    $VA00420
00006  COMMON /CCNTRL/ JIC                     $VA00430
00007  COMMON /CCNTRL/ JOB                     $VA00440
00008  COMMON /CCNTRL/ CCSP06                  $VA00450
00009  COMMON /CCNTRL/ CCSP07                  $VA00460
00010  COMMON /CCNTRL/ CCSP08                  $VA00470
00011  COMMON /CCNTRL/ VER                     $VA00480
00012  COMMON /CCNTRL/ XLABEL (10)             $VA00490
00013  COMMON /CCNTRL/ CQS (30)                $VA00500
00014  COMMON /CCNTRL/ CQU (10)                $VA00510
C  C  =====                                     $VA00520
00015  EQUIVALENCE (CCO,CC(1))                 $VA00530
00016  CHARACTER*8 CCO, CC(200)                $VA00540
00017  CHARACTER*8 ADATE                       $VA00550
00018  CHARACTER*8 ATIME                       $VA00560
00019  CHARACTER*8 JIC                        $VA00570
00020  CHARACTER*8 JOB                        $VA00580
00021  CHARACTER*8 CCSP06                     $VA00590
00022  CHARACTER*8 CCSP07                     $VA00600
00023  CHARACTER*8 CCSP08                     $VA00610
00024  CHARACTER*8 VER                        $VA00620
00025  CHARACTER*8 XLABEL                     $VA00630
00026  CHARACTER*8 CQS                        $VA00640
00027  CHARACTER*8 CQU                        $VA00650
C  C  =====                                     $VA00660
C  C  INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD $VA00670
C  C  =====                                     $VA00680
00028  COMMON /ICNTRL/ IC0                     $VA00690
00029  COMMON /ICNTRL/ IM                      $VA00700
00030  COMMON /ICNTRL/ IMD2                    $VA00710

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ORIGINAL PAGE IS
OF POOR QUALITY

00031	COMMON /ICNTRL/	IMD2P1		\$VA00720
00032	COMMON /ICNTRL/	NDRSW		\$VA00730
00033	COMMON /ICNTRL/	JM		\$VA00740
00034	COMMON /ICNTRL/	JMD2		\$VA00750
00035	COMMON /ICNTRL/	JMT2		\$VA00760
00036	COMMON /ICNTRL/	JNP		\$VA00770
00037	COMMON /ICNTRL/	JO4		\$VA00780
00038	COMMON /ICNTRL/	JOB		\$VA00790
00039	COMMON /ICNTRL/	JSP		\$VA00800
00040	COMMON /ICNTRL/	KLIALB		\$VA00810
00041	COMMON /ICNTRL/	KLIGW		\$VA00820
00042	COMMON /ICNTRL/	KLISST		\$VA00830
00043	COMMON /ICNTRL/	KS		\$VA00840
00044	COMMON /ICNTRL/	KU		\$VA00850
00045	COMMON /ICNTRL/	LOG8R		\$VA00860
00046	COMMON /ICNTRL/	MATIN		\$VA00870
00047	COMMON /ICNTRL/	MATSNX		\$VA00880
00048	COMMON /ICNTRL/	MATSUN		\$VA00890
00049	COMMON /ICNTRL/	MLF	(12)	\$VA00900
00050	COMMON /ICNTRL/	MROD		\$VA00910
00051	COMMON /ICNTRL/	NKRSH		\$VA00920
00052	COMMON /ICNTRL/	MSM		\$VA00930
00053	COMMON /ICNTRL/	NB		\$VA00940
00054	COMMON /ICNTRL/	ND		\$VA00950
00055	COMMON /ICNTRL/	NDALT		\$VA00960
00056	COMMON /ICNTRL/	NDAY		\$VA00970
00057	COMMON /ICNTRL/	NDOUT		\$VA00980
00058	COMMON /ICNTRL/	NDPHY		\$VA00990
00059	COMMON /ICNTRL/	NDSHF		\$VA01000
00060	COMMON /ICNTRL/	NDT		\$VA01010
00061	COMMON /ICNTRL/	NHMS		\$VA01020
00062	COMMON /ICNTRL/	NHMSE		\$VA01030
00063	COMMON /ICNTRL/	NHMSO		\$VA01040
00064	COMMON /ICNTRL/	NLAY		\$VA01050
00065	COMMON /ICNTRL/	NLAYM1		\$VA01060
00066	COMMON /ICNTRL/	NLAYP1		\$VA01070
00067	COMMON /ICNTRL/	NSDAY		\$VA01080
00068	COMMON /ICNTRL/	NSEQ		\$VA01090
00069	COMMON /ICNTRL/	ICSP53		\$VA01100
00070	COMMON /ICNTRL/	NSTEP		\$VA01110
00071	COMMON /ICNTRL/	IBLKSIZ		\$VA01120
00072	COMMON /ICNTRL/	NYMD		\$VA01130
00073	COMMON /ICNTRL/	NYMDE		\$VA01140
00074	COMMON /ICNTRL/	NYMDO		\$VA01150
00075	COMMON /ICNTRL/	NZINIT		\$VA01160
00076	COMMON /ICNTRL/	NMLEV		\$VA01170
00077	COMMON /ICNTRL/	NDHOG		\$VA01180
00078	COMMON /ICNTRL/	IQS (30)		\$VA01190
00079	COMMON /ICNTRL/	IQU (10)		\$VA01200
	C			\$VA01210
00080	EQUIVALENCE	(ITMIN .IQS(1))		\$VA01220
00081	EQUIVALENCE	(ITMAX .IQS(2))		\$VA01230
00082	EQUIVALENCE	(IPREACC .IQS(3))		\$VA01240
00083	EQUIVALENCE	(IPRECON .IQS(4))		\$VA01250
00084	EQUIVALENCE	(IHFLUX .IQS(5))		\$VA01260
00085	EQUIVALENCE	(IEFLUX .IQS(6))		\$VA01270
00086	EQUIVALENCE	(IFUSION .IQS(7))		\$VA01280
00087	EQUIVALENCE	(IRADSWG .IQS(8))		\$VA01290
00088	EQUIVALENCE	(IRADLWG .IQS(9))		\$VA01300
00089	EQUIVALENCE	(ICLOUD .IQS(10))		\$VA01310
00090	EQUIVALENCE	(IUFLUX .IQS(11))		\$VA01320
00091	EQUIVALENCE	(IVFLUX .IQS(12))		\$VA01330
	C			\$VA01340
00092	EQUIVALENCE	(IOMEGA .IQU(1))		\$VA01350
00093	EQUIVALENCE	(IDIABAT .IQU(2))		\$VA01360
00094	EQUIVALENCE	(IRADSW .IQU(3))		\$VA01370
00095	EQUIVALENCE	(IRADLW .IQU(4))		\$VA01380
00096	EQUIVALENCE	(ISENSBL .IQU(5))		\$VA01390
00097	EQUIVALENCE	(ILATENT .IQU(6))		\$VA01400
	C			\$VA01410
00098	EQUIVALENCE	(IC0.IC(1))		\$VA01420

ORIGINAL PAGE IS
OF POOR QUALITY

00099	INTEGER	IC0, IC(200)	SVA01430
C			SVA01440
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SVA01450
C	-----		SVA01460
00100	COMMON /LCNTRL/	LC0	SVA01470
00101	COMMON /LCNTRL/	QALT	SVA01480
00102	COMMON /LCNTRL/	QBEG	SVA01490
00103	COMMON /LCNTRL/	QDAY	SVA01500
00104	COMMON /LCNTRL/	QEND	SVA01510
00105	COMMON /LCNTRL/	QOUT	SVA01520
00106	COMMON /LCNTRL/	QPHY	SVA01530
00107	COMMON /LCNTRL/	QSHF	SVA01540
00108	COMMON /LCNTRL/	SN2FLG	SVA01550
00109	COMMON /LCNTRL/	QRSW	SVA01560
00110	COMMON /LCNTRL/	QRSH	SVA01570
00111	COMMON /LCNTRL/	LQS(30)	SVA01580
00112	COMMON /LCNTRL/	LQU(10)	SVA01590
C			SVA01600
00113	EQUIVALENCE	(LTMIN .LQS(1))	SVA01610
00114	EQUIVALENCE	(LTMAX .LQS(2))	SVA01620
00115	EQUIVALENCE	(LPREACC .LQS(3))	SVA01630
00116	EQUIVALENCE	(LPRECON .LQS(4))	SVA01640
00117	EQUIVALENCE	(LHFLUX .LQS(5))	SVA01650
00118	EQUIVALENCE	(LEFLUX .LQS(6))	SVA01660
00119	EQUIVALENCE	(LFUSION .LQS(7))	SVA01670
00120	EQUIVALENCE	(LRADSWG .LQS(8))	SVA01680
00121	EQUIVALENCE	(LRADLWG .LQS(9))	SVA01690
00122	EQUIVALENCE	(LICLOUD .LQS(10))	SVA01700
00123	EQUIVALENCE	(LUFLUX .LQS(11))	SVA01710
00124	EQUIVALENCE	(LVFLUX .LQS(12))	SVA01720
C			SVA01730
00125	EQUIVALENCE	(LOMEGA .LQU(1))	SVA01740
00126	EQUIVALENCE	(LDIABAT .LQU(2))	SVA01750
00127	EQUIVALENCE	(LRADSW .LQU(3))	SVA01760
00128	EQUIVALENCE	(LRADLW .LQU(4))	SVA01770
00129	EQUIVALENCE	(LSENSBL .LQU(5))	SVA01780
00130	EQUIVALENCE	(LLATENT .LQU(6))	SVA01790
C			SVA01800
00131	LOGICAL	QALT	SVA01810
00132	LOGICAL	QBEG	SVA01820
00133	LOGICAL	QDAY	SVA01830
00134	LOGICAL	QEND	SVA01840
00135	LOGICAL	QOUT	SVA01850
00136	LOGICAL	QPHY	SVA01860
00137	LOGICAL	QSHF	SVA01870
00138	LOGICAL	SN2FLG	SVA01880
00139	LOGICAL	QRSW	SVA01890
00140	LOGICAL	QRSH	SVA01900
C			SVA01910
00141	LOGICAL	LQS	SVA01920
00142	LOGICAL	LQU	SVA01930
00143	LOGICAL	LTMIN	SVA01940
00144	LOGICAL	LTMAX	SVA01950
00145	LOGICAL	LPREACC	SVA01960
00146	LOGICAL	LPRECON	SVA01970
00147	LOGICAL	LHFLUX	SVA01980
00148	LOGICAL	LEFLUX	SVA01990
00149	LOGICAL	LFUSION	SVA02000
00150	LOGICAL	LRADSWG	SVA02010
00151	LOGICAL	LRADLWG	SVA02020
00152	LOGICAL	LICLOUD	SVA02030
00153	LOGICAL	LUFLUX	SVA02040
00154	LOGICAL	LVFLUX	SVA02050
C			SVA02060
00155	LOGICAL	LOMEGA	SVA02070
00156	LOGICAL	LDIABAT	SVA02080
00157	LOGICAL	LRADSW	SVA02090
00158	LOGICAL	LRADLW	SVA02100
00159	LOGICAL	LSENSBL	SVA02110
00160	LOGICAL	LLATENT	SVA02120
C			SVA02130

ORIGINAL PAGE IS
OF POOR QUALITY

00219	COMMON /LDPARM/ ITAPE		\$VA02850
00220	COMMON /LDPARM/ START		\$VA02860
	C		\$VA02870
00221	LOGICAL FILTER		\$VA02880
00222	LOGICAL ITAPE		\$VA02890
00223	LOGICAL START		\$VA02900
	C		\$VA02910
	C		\$VA02920
	C		\$VA02930
	C		\$VA02940
	C		\$VA02950
	C		\$VA02960
	C		\$VA02970
	C		\$VA02980
	C		\$VA02990
	C		\$VA03000
	C		\$VA03010
	C		\$VA03020
	C		\$VA03030
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	C		\$VA03090
	C		\$VA03100
	C		\$VA03110
	C		\$VA03120
	C		\$VA03130
	C		\$VA03140
	C		\$VA03150
	C		\$VA03160
	C		\$VA03170
	C		\$VA03180
	C		\$VA03190
	C		\$VA03200
	C		\$VA03210
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	C		\$VA03250
	C		\$VA03260
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	C		\$VA03280
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	C		\$VA03300
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	C		\$VA03500
	C		\$VA03510
	C		\$VA03520
	C		\$VA03530
	C		\$VA03540
	C		\$VA03550
00219	COMMON /LDPARM/ ITAPE		\$VA02850
00220	COMMON /LDPARM/ START		\$VA02860
	C		\$VA02870
00221	LOGICAL FILTER		\$VA02880
00222	LOGICAL ITAPE		\$VA02890
00223	LOGICAL START		\$VA02900
	C		\$VA02910
	C		\$VA02920
	C		\$VA02930
	C		\$VA02940
	C		\$VA02950
	C		\$VA02960
	C		\$VA02970
	C		\$VA02980
	C		\$VA02990
	C		\$VA03000
	C		\$VA03010
	C		\$VA03020
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	C		\$VA03480
	C		\$VA03490
	C		\$VA03500
	C		\$VA03510
	C		\$VA03520
	C		\$VA03530
	C		\$VA03540
	C		\$VA03550
00260	COMMON /QANDQT/ QPROG(72,9,11,46)		\$VA03450
	C		\$VA03460
	C		\$VA03470
	C		\$VA03480
	C		\$VA03490
	C		\$VA03500
	C		\$VA03510
	C		\$VA03520
	C		\$VA03530
	C		\$VA03540
	C		\$VA03550
00261	DIMENSION PHIS (7128,1)		\$VA03470
00262	DIMENSION SMTH (7128,23)		\$VA03480
00263	DIMENSION ALBEDO (7128,1)		\$VA03490
00264	DIMENSION GT (7128,1)		\$VA03500
00265	DIMENSION GW (7128,1)		\$VA03510
00266	DIMENSION TS (7128,1)		\$VA03520
00267	DIMENSION SHS (7128,1)		\$VA03530
00268	DIMENSION P (72,99,1)		\$VA03540
	C		\$VA03550

ORIGINAL PAGE IS
OF POOR QUALITY


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00269 DIMENSION U (72.9,11,1) $VA03560
00270 DIMENSION V (72.9,11,1) $VA03570
00271 DIMENSION T (72.9,11,1) $VA03580
00272 DIMENSION SH (72.9,11,1) $VA03590
00273 DIMENSION PHI (72.9,11,1) $VA03600
C $VA03610
00274 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1)) $VA03620
00275 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1)) $VA03630
00276 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1)) $VA03640
00277 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1)) $VA03650
00278 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1)) $VA03660
00279 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1)) $VA03670
00280 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1)) $VA03680
00281 EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1)) $VA03690
C $VA03700
00282 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1)) $VA03710
00283 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1)) $VA03720
00284 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1)) $VA03730
00285 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1)) $VA03740
00286 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1)) $VA03750
C $VA03760
C $VA03770
C $VA03780
C $VA03780
00287 COMMON /QANDQT/ QSDIAG(72, ,15,46) $VA03790
00288 BIT BQSDIAG(64, 72,15,46) $VA03800
00289 EQUIVALENCE (QSDIAG,BQSDIAG) $VA03810
C $VA03820
00290 COMMON /QANDQT/ QUDIAG(72,9, 5,46) $VA03830
C $VA03840
CCOMDECK VWORKID $VA03850
C $VA03860
C ONE-DIMENSIONAL WORK AREAS $VA03870
C $VA03880
00291 COMMON CARD (10) $VA03890
00292 CHARACTER*8 CARD $VA03900
00293 COMMON DATA (144) $VA03910
00294 COMMON CATA (144) $VA03920
C $VA03930
CCOMDECK VAVRXWK $VA03940
00295 COMMON PQ(37,72), QP(37,72) $VA03950
00296 COMMON PK(72,9), PT(72,9) $VA03960
00297 COMMON GAM(9) $VA03970
CCOMDECK VIMJM $VA03980
C $VA03990
C DIMENSIONING PARAMETERS $VA04000
C $VA04010
00298 COMMON /IMJM/ IMM1, IMM2, IMM3, IMM4, IMM5, $VA04020
IMNLAY, IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5, $VA04030
IMD2M1, $VA04040
NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7 $VA04050
C $VA04060
CCOMDECK VIFAX $VA04070
C $VA04080
C FACTORS FOR FFT $VA04090
C $VA04100
00299 COMMON /IFAX/ IFAX (10) $VA04110
00300 COMMON /IFAX/ TRIGS (72) $VA04120
00301 REAL TRIGS $VA04130
00302 COMMON /IFAX/ NLAYT4P1 $VA04140
00303 COMMON /IFAX/ NLAYT8P2 $VA04150
C $VA04160
C $VA04170
C $VA04180
C $VA04190
C $VA04200
C $VA04210
C $VA04220
C $VA04230
00304 CALL ZEITBEG(8H LAPSE ) $VA04240
00305 CALL LAPSE (J,GAM) $VA04250
00306 CALL ZEITEND $VA04260

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ORIGINAL PAGE 13
OF FOUR QUALITY

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00307      DO 10 L=1,NLAY          $VA04270
00308      PT(1,L;IM) = T(1,L,NB,J;IM) + SIG(L)*GAM(L)*PHIS(1,J;IM) $VA04280
00309      10 CONTINUE              $VA04290
C          $VA04300
C ***** $VA04310
C ***** SURFACE TO SEA-LEVEL PRESSURE EXPONENT FUNCTION ***** $VA04320
C ***** SLEXP(TS,PHIS) = EXP(PHIS/(RGAS*(TS*.5*BETA*PHIS/GRAV))) ***** $VA04330
C ***** GIVEN BY NEXT 5 LINES ***** $VA04340
C ***** $VA04350
C          $VA04360
00310      BETAG5 = .5E0*BETA/GRAV $VA04370
00311      CATA(1;IM) = TS(1,J;IM) + BETAG5*PHIS(1,J;IM) $VA04380
00312      CATA(1;IM) = RGAS*CATA(1;IM) $VA04390
00313      CATA(1;IM) = PHIS(1,J;IM)/CATA(1;IM) $VA04400
00314      CATA(1;IM) = VEXP(CATA(1;IM);CATA(1;IM)) $VA04410
00315      P(1,NB,J;IM) = (P(1,NB,J;IM) + PTOP)*CATA(1;IM) $VA04420
C          $VA04430
C ***** $VA04440
C ***** FILTER QUANTITIES: U, V, PT, SH, SLP ***** $VA04450
C ***** $VA04460
C          $VA04470
00316      DO 20 L=1,NLAY          $VA04480
C          $VA04490
C CHANGE TO HALF DELETE 8 $VA04500
00317      PQ(L,1;IM) = $VA04510
$ QBVSCATP(U(1,L,NB,J;IM),NLAYT4P1,IM;PQ(L,1;IM)) $VA04520
00318      PQ(NLAY +L,1;IM) = $VA04530
$ QBVSCATP(V(1,L,NB,J;IM),NLAYT4P1,IM;PQ(NLAY +L,1;IM)) $VA04540
00319      PQ(NLAYT2+L,1;IM) = $VA04550
$ QBVSCATP(PT(1,L;IM),NLAYT4P1,IM;PQ(NLAYT2+L,1;IM)) $VA04560
00320      PQ(NLAYT3+L,1;IM) = $VA04570
$ QBVSCATP(SH(1,L,NB,J;IM),NLAYT4P1,IM;PQ(NLAYT3+L,1;IM)) $VA04580
C          $VA04590
C ***** $VA04600
C ***** THE FOLLOWING CODE IN COMMENTS IS HALF ***** $VA04610
C ***** PRECISION VERSION OF THE ABOVE 4 STATEMENTS. ***** $VA04620
C ***** $VA04630
C ***** $VA04640
C ***** $VA04650
C CHANGE TO HALF COMMENT 4 $VA04660
C CALL HSCATRP(U(1,L,NB,J;IM),NLAYT4P1,IM,PQ(L,1;IM)) $VA04670
C CALL HSCATRP(V(1,L,NB,J;IM),NLAYT4P1,IM,PQ(NLAY +L,1;IM)) $VA04680
C CALL HSCATRP(PT(1,L, :IM),NLAYT4P1,IM,PQ(NLAYT2+L,1;IM)) $VA04690
C CALL HSCATRP(SH(1,L,NB,J;IM),NLAYT4P1,IM,PQ(NLAYT3+L,1;IM)) $VA04700
00321      20 CONTINUE              $VA04710
C          $VA04720
C CHANGE TO HALF DELETE 2 $VA04730
00322      PQ(NLAYT4+1,1;IM) = $VA04740
$ QBVSCATP(P(1,NB,J;IM),NLAYT4P1,IM;PQ(NLAYT4+1,1;IM)) $VA04750
C          $VA04760
C CHANGE TO HALF COMMENT 1 $VA04770
C CALL HSCATRP(P(1,NB,J;IM),NLAYT4P1,IM,PQ(NLAYT4+1,1;IM)) $VA04780
C          $VA04790
C ***** $VA04800
C ***** FORWARD AND BACKWARD TRANSFORMS ***** $VA04810
C ***** WITH COEFFICIENT DAMPENING ***** $VA04820
C ***** $VA04830
C ***** $VA04840
00323      CALL FFT77(PQ,QP,TRIGS,IFAX,IM,NLAYT4P1,-1) $VA04850
00324      DO 40 I=1,IMD2M1 $VA04860
00325      40 QP(1,I+2;NLAYTBP2) = QP(1,I+2;NLAYTBP2)+SMTH(I, J) $VA04870
00326      QP(1,IM ;NLAYT4P1) = QP(1,IM ;NLAYT4P1)+SMTH(IMD2,J) $VA04880
C          $VA04890
00327      CALL FFT77(QP,PQ,TRIGS,IFAX,IM,NLAYT4P1, 1) $VA04900
C          $VA04910
C ***** $VA04920
C ***** RECOMPUTE U, V, SH, PT, SLP ***** $VA04930
C ***** $VA04940
C ***** $VA04950
00328      DO 30 L=1,NLAY          $VA04960
C          $VA04970

```

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00329 CHANGE TO HALF DELETE 8
      U(1,L,NB,J;IM) = QBVGATHP(PQ(
      $                   L,1;NLAYT4P1+IM),
00330      $                   NLAYT4P1,IM; U(1,L,NB,J;IM))
      V(1,L,NB,J;IM) = QBVGATHP(PQ(NLAY
      $                   +L,1;NLAYT4P1+IM),
00331      $                   NLAYT4P1,IM; V(1,L,NB,J;IM))
      PT(1,L;IM) = QBVGATHP(PQ(NLAYT2+L,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; PT(1,L;IM))
00332      SH(1,L,NB,J;IM) = QBVGATHP(PQ(NLAYT3+L,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; SH(1,L,NB,J;IM))
C
C *****
C THE FOLLOWING CODE IN COMMENTS IS HALF
C PRECISION VERSION OF THE ABOVE 4 STATEMENT.
C *****
C
C CHANGE TO HALF COMMENT 8
C CALL HGATHRP(PQ(
      $                   L,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; U(1,L,NB,J;IM))
C CALL HGATHRP(PQ(NLAY
      $                   +L,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; V(1,L,NB,J;IM))
C CALL HGATHRP(PQ(NLAYT2+L,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; PT(1,L
      $                   ;IM))
C CALL HGATHRP(PQ(NLAYT3+L,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; SH(1,L,NB,J;IM))
00333      30 CONTINUE
C
C CHANGE TO HALF DELETE 2
00334      P(1,NB,J;IM) = QBVGATHP(PQ(NLAYT4+1,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; P(1,NB,J;IM))
C
C CHANGE TO HALF COMMENT 2
C CALL HGATHRP(PQ(NLAYT4+1,1;NLAYT4P1+IM),
      $                   NLAYT4P1,IM; P(1,NB,J;IM))
C *****
C ***** CALCULATE PI-PRESSURE AND TEMPERATURE FROM *****
C ***** FILTERED SEA-LEVEL PRESSURE AND *****
C ***** MODIFIED TEMPERATURE *****
C *****
00335      P(1,NB,J;IM) = P(1,NB,J;IM)/CATA(1;IM) - PTOP
C
00336      DO 50 L=1,NLAY
00337      T(1,L,NB,J;IM) = PT(1,L;IM) - SIG(L)*GAM(L)*PHIS(1,J;IM)
00338      50 CONTINUE
C
00339      RETURN
00340      END

```

\$VA04980
\$VA04990
\$VA05000
\$VA05010
\$VA05020
\$VA05030
\$VA05040
\$VA05050
\$VA05060
\$VA05070
\$VA05080
\$VA05090
\$VA05100
\$VA05110
\$VA05120
\$VA05130
\$VA05140
\$VA05150
\$VA05160
\$VA05170
\$VA05180
\$VA05190
\$VA05200
\$VA05210
\$VACS220
\$VA05230
\$VA05240
\$VA05250
\$VA05260
\$VA05270
\$VA05280
\$VA05290
\$VA05300
\$VA05310
\$VA05320
\$VA05330
\$VA05340
\$VA05350
\$VA05360
\$VA05370
\$VA05380
\$VA05390
\$VACS400
\$VA05410
\$VA05420
\$VA05430
\$VA05440
\$VA05450

STATEMENT LABEL MAP
--LABEL--DEFINED--REFERENCES

10	309	307
20	321	316
30	333	328
40	325	324
50	338	336

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	
ADATE	CONTRL	CHAR*8	SIMPLE	4	17
ADLDP	RDPARM	REAL	SIMPLE	224	
ALBEDO	QANDQT	REAL	ARRAY	263	276
APHEL	RCNTRL	REAL	SIMPLE	164	
ATIME	CONTRL	CHAR*8	SIMPLE	5	18
AVRX			SUBROUTINE	1	
BETA	RCNTRL	REAL	SIMPLE	165	310
BETAG5		REAL	SIMPLE	310/S	311
BQSDIAG	QANDQT	BIT	ARRAY	288	289
CALTOJ	RCNTRL	REAL	SIMPLE	203	

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

CARD	//	CHAR*8	ARRAY	291	292																	
CATA	//	REAL	ARRAY	294	311/S	312/S	317	313/S	313	314/S	314	314	315	335								
CC	CCNTRL	CHAR*8	ARRAY	15	16																	
CC0	CCNTRL	CHAR*8	SIMPLE	3	15	16																
CCNTRL		REAL	UNKNOWN	3	4	5	6	7	8	9	10	11	12	13								
				14																		
CCSP06	CCNTRL	CHAR*8	SIMPLE		21																	
CCSP07	CCNTRL	CHAR*8	SIMPLE		8																	
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22																	
CON1	RDPARM	REAL	SIMPLE	10	23																	
CON1DT	RDPARM	REAL	SIMPLE	225																		
CON2	RDPARM	REAL	SIMPLE	226																		
CON2DT	RDPARM	REAL	SIMPLE	227																		
CON3	RDPARM	REAL	SIMPLE	228																		
CON3DT	RDPARM	REAL	SIMPLE	229																		
CON4	RDPARM	REAL	SIMPLE	230																		
CON4DT	RDPARM	REAL	SIMPLE	231																		
CON5	RDPARM	REAL	SIMPLE	232																		
COSD	RCNTRL	REAL	SIMPLE	233																		
COSL	RDPARM	REAL	ARRAY	166																		
COSLON	RDPARM	REAL	ARRAY	234																		
CP	RCNTRL	REAL	ARRAY	235																		
CPD2	RDPARM	REAL	SIMPLE	167																		
CQS	CCNTRL	CHAR*8	ARRAY	236																		
CQU	CCNTRL	CHAR*8	ARRAY	13	26																	
DATA	//	REAL	ARRAY	14	27																	
DAYSPLY	RCNTRL	REAL	ARRAY	293																		
DEC	RCNTRL	REAL	SIMPLE	168																		
DECMAX	RCNTRL	REAL	SIMPLE	169																		
DIST	RCNTRL	REAL	SIMPLE	170																		
DLAT	RCNTRL	REAL	SIMPLE	171																		
DLON	RCNTRL	REAL	SIMPLE	172																		
DSIG	RDPARM	REAL	SIMPLE	173																		
DSIGINV	RDPARM	REAL	ARRAY	257																		
DT	RCNTRL	REAL	ARRAY	259																		
DXP	RDPARM	REAL	SIMPLE	174																		
			ARRAY	237																		
DXYP	RDPARM	REAL	ARRAY	238																		
DYP	RDPARM	REAL	ARRAY	239																		
ECCN	RCNTRL	REAL	ARRAY	175																		
EPS	RCNTRL	REAL	SIMPLE	201																		
EPSFAC	RCNTRL	REAL	SIMPLE	202																		
F1DT	RDPARM	REAL	SIMPLE	241																		
F2DT	RDPARM	REAL	SIMPLE	242																		
FCORLS	RDPARM	REAL	ARRAY	240																		
FILTER	LDARM	LOGICAL	ARRAY	218	221																	
GAM	//	REAL	ARRAY	297	305	308	337															
GNU1	RCNTRL	REAL	SIMPLE	176																		
GNU2	RCNTRL	REAL	SIMPLE	177																		
GRAV	RCNTRL	REAL	SIMPLE	178	310																	
GT	QANDQT	REAL	ARRAY	254	277																	
GW	QANDQT	REAL	ARRAY	265	278																	
H1DT	RDPARM	REAL	ARRAY	243																		
H2DT	RDPARM	REAL	SIMPLE	244																		
HEATI	RCNTRL	REAL	SIMPLE	200																		
HEATW	RCNTRL	REAL	SIMPLE	199																		
I		INTEGER	SIMPLE	324/C	325	325	325															
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	71																		
IC	ICNTRL	INTEGER	ARRAY	98	99																	
ICO	ICNTRL	INTEGER	ARRAY	28	98	99																
ICNTRL		INTEGER	UNKNOWN	28	29	30	31	32	33	34	35	36	37	38								
				39	40	41	42	43	44	45	46	47	48	49								
				50	51	52	53	54	55	56	57	58	59	60								
				61	62	63	64	65	66	67	68	69	70	71								
				72	73	74	75	76	77	78	79											
				69																		
ICSP53	ICNTRL	INTEGER	SIMPLE	93																		
IDIABAT	ICNTRL	INTEGER	UNKNOWN	207	208	209	210	211	212	213	214	215	216	217								
IDPARM		INTEGER	UNKNOWN	208																		
IDSP02	IDPARM	INTEGER	SIMPLE	207																		
IEFLUX	ICNTRL	INTEGER	UNKNOWN	208																		
IFAX	IFAX	INTEGER	ARRAY	85																		
				299	299	300	302	303	323	327												

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IFUSION	ICNTRL	INTEGER	UNKNOWN	86																	
IHFLUX	ICNTRL	INTEGER	UNKNOWN	84																	
IICLOUD	ICNTRL	INTEGER	UNKNOWN	89																	
IJUMP	IDPARM	INTEGER	ARRAY	207																	
ILATENT	ICNTRL	INTEGER	UNKNOWN	97																	
IM	ICNTRL	INTEGER	SIMPLE	29	308	308	308	311	311	311	312	312	313	313							
				313	314	314	314	315	315	315	317	317	317	317							
				318	318	318	318	319	319	319	319	320	320	320							
				320	322	322	322	322	323	323	326	326	327	329							
				329	329	330	330	330	330	330	331	331	331	331							
				332	332	332	334	334	334	334	335	335	335	335							
				337	337																
IMD2	ICNTRL	INTEGER	SIMPLE	30	326																
IMD2M1	IMJM	INTEGER	SIMPLE	298	324																
IMD2P1	ICNTRL	INTEGER	SIMPLE	31																	
IMJM		INTEGER	UNKNOWN	298																	
IMM1	IMJM	INTEGER	SIMPLE	298																	
IMM2	IMJM	INTEGER	SIMPLE	298																	
IMM3	IMJM	INTEGER	SIMPLE	298																	
IMM4	IMJM	INTEGER	SIMPLE	298																	
IMM5	IMJM	INTEGER	SIMPLE	298																	
IMNLAY	IMJM	INTEGER	SIMPLE	298																	
IMNLAY1	IMJM	INTEGER	SIMPLE	298																	
IMNLAY2	IMJM	INTEGER	SIMPLE	298																	
IMNLAY3	IMJM	INTEGER	SIMPLE	298																	
IMNLAY4	IMJM	INTEGER	SIMPLE	298																	
IMNLAY5	IMJM	INTEGER	SIMPLE	298																	
IMT2	IMJM	INTEGER	SIMPLE	298																	
IMT4	IMJM	INTEGER	SIMPLE	298																	
INDEX	IDPARM	INTEGER	ARRAY	209																	
IOMEGA	ICNTRL	INTEGER	UNKNOWN	92																	
IPREACC	ICNTRL	INTEGER	UNKNOWN	82																	
IPRECON	ICNTRL	INTEGER	UNKNOWN	83																	
IQS	ICNTRL	INTEGER	ARRAY	78	80	81	82	83	84	85	86	87	88	89							
				90	91																
IQU	ICNTRL	INTEGER	ARRAY	79	92	93	94	95	96	97											
IRADLW	ICNTRL	INTEGER	UNKNOWN	95																	
IRADLWG	ICNTRL	INTEGER	UNKNOWN	88																	
IRADSW	ICNTRL	INTEGER	UNKNOWN	94																	
IRADSWG	ICNTRL	INTEGER	UNKNOWN	87																	
IROD	IDPARM	INTEGER	SIMPLE	210																	
ISENSBL	ICNTRL	INTEGER	UNKNOWN	96																	
ITAPE	LDPARM	LOGICAL	SIMPLE	219	222																
ITMAX	ICNTRL	INTEGER	UNKNOWN	81																	
ITMIN	ICNTRL	INTEGER	UNKNOWN	80																	
IUFLUX	ICNTRL	INTEGER	UNKNOWN	90																	
IVFLUX	ICNTRL	INTEGER	UNKNOWN	91																	
J		INTEGER	SIMPLE	1	305	308	308	311	311	313	315	315	317	318							
				320	322	325	326	329	329	330	330	332	332	334							
				334	335	335	337	337													
JC	IDPARM	INTEGER	ARRAY	211																	
JE	IDPARM	INTEGER	ARRAY	212																	
JIC	CCNTRL	CHAR*8	SIMPLE	6	19																
JM	ICNTRL	INTEGER	SIMPLE	33																	
JMD2	ICNTRL	INTEGER	SIMPLE	34																	
JMT2	ICNTRL	INTEGER	SIMPLE	35																	
JNP	ICNTRL	INTEGER	SIMPLE	36																	
JO4	ICNTRL	INTEGER	SIMPLE	37																	
JOB	ICNTRL	INTEGER	SIMPLE	38																	
JOB	CCNTRL	CHAR*8	SIMPLE	7	20																
JP	IDPARM	INTEGER	ARRAY	213																	
JSP	ICNTRL	INTEGER	SIMPLE	39																	
KLIALB	ICNTRL	INTEGER	SIMPLE	40																	
KLIGW	ICNTRL	INTEGER	SIMPLE	41																	
KLISST	ICNTRL	INTEGER	SIMPLE	42																	
KS	ICNTRL	INTEGER	SIMPLE	43																	
KSTEP	IDPARM	INTEGER	SIMPLE	214																	
KU	ICNTRL	INTEGER	SIMPLE	44																	
L		INTEGER	SIMPLE	307/C	308	308	308	308	316/C	317	317	317	318	318							
				318	319	319	319	320	320	320	328/C	329	329	329							

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				330	330	330	331	331	331	332	332	332	336/C	337
				337	337	337								
LC	LCNTRL	LOGICAL	ARRAY	161	161									
LC0	LCNTRL	LOGICAL	SIMPLE	100	161	162								
LCNTRL		INTEGER	UNKNOWN	100	101	102	103	104	105	106	107	108	109	110
				111	112									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	126	156									
LDPARM		INTEGER	UNKNOWN	218	219	220								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	118	148									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	119	149									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	117	147									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	122	152									
LLATENT	LCNTRL	LOGICAL	UNKNOWN	130	160									
LOGBR	ICNTRL	INTEGER	SIMPLE	45										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	125	155									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	115	145									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	116	146									
LQS	LCNTRL	LOGICAL	ARRAY	111	113	114	115	116	117	118	119	120	121	122
				123	124	141								
LQU	LCNTRL	LOGICAL	ARRAY	112	125	126	127	128	129	130	142			
LRADLW	LCNTRL	LOGICAL	UNKNOWN	128	158									
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	121	151									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	127	157									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	120	150									
LSENSBL	LCNTRL	LOGICAL	UNKNOWN	129	159									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	114	144									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	113	143									
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	123	153									
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	124	154									
MATIN	ICNTRL	INTEGER	SIMPLE	46										
MATSNX	ICNTRL	INTEGER	SIMPLE	47										
MATSUN	ICNTRL	INTEGER	SIMPLE	48										
MJ	IDPARM	INTEGER	ARRAY	215										
MLF	ICNTRL	INTEGER	ARRAY	49										
MROD	ICNTRL	INTEGER	SIMPLE	50										
MSM	ICNTRL	INTEGER	SIMPLE	52										
NB	ICNTRL	INTEGER	SIMPLE	53	308	315	315	317	318	320	322	329	329	330
				330	332	332	334	334	335	335	337			
ND	ICNTRL	INTEGER	SIMPLE	54										
NDALT	ICNTRL	INTEGER	SIMPLE	55										
NDAY	ICNTRL	INTEGER	SIMPLE	56										
NDHOG	ICNTRL	INTEGER	SIMPLE	77										
NDOUT	ICNTRL	INTEGER	SIMPLE	57										
NDPHY	ICNTRL	INTEGER	SIMPLE	58										
NDRSW	ICNTRL	INTEGER	SIMPLE	32										
NDSHF	ICNTRL	INTEGER	SIMPLE	59										
NDT	ICNTRL	INTEGER	SIMPLE	60										
NHMS	ICNTRL	INTEGER	SIMPLE	61										
NHMS0	ICNTRL	INTEGER	SIMPLE	63										
NHMS1	IDPARM	INTEGER	SIMPLE	216										
NHMSE	ICNTRL	INTEGER	SIMPLE	62										
NKRSH	ICNTRL	INTEGER	SIMPLE	51										
NLAY	ICNTRL	INTEGER	SIMPLE	64	307	316	318	318	328	330	336			
NLAYM1	ICNTRL	INTEGER	SIMPLE	65										
NLAYP1	ICNTRL	INTEGER	SIMPLE	66										
NLAYT2	IMJM	INTEGER	SIMPLE	298	319	319	331							
NLAYT3	IMJM	INTEGER	SIMPLE	298	320	320	332							
NLAYT4	IMJM	INTEGER	SIMPLE	298	322	322	334							
NLAYT4P1	IFAX	INTEGER	SIMPLE	302	317	318	319	320	322	323	326	326	327	329
				329	330	330	331	331	332	332	334	334		
NLAYT5	IMJM	INTEGER	SIMPLE	298										
NLAYT6	IMJM	INTEGER	SIMPLE	298										
NLAYT7	IMJM	INTEGER	SIMPLE	298										
NLAYTBP2	IFAX	INTEGER	SIMPLE	303	325	325								
NMLEV	ICNTRL	INTEGER	SIMPLE	76										
NSDAY	ICNTRL	INTEGER	SIMPLE	67										
NSEQ	ICNTRL	INTEGER	SIMPLE	68										
NSTEP	ICNTRL	INTEGER	SIMPLE	70										
NYMD	ICNTRL	INTEGER	SIMPLE	72										
NYMDO	ICNTRL	INTEGER	SIMPLE	74										

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NYMD1	IDPARM	INTEGER	SIMPLE	217																
NYMDE	ICNTRL	INTEGER	SIMPLE	73																
NZINIT	ICNTRL	INTEGER	SIMPLE	75																
OMEGA2	RCNTRL	REAL	SIMPLE	179																
P	QANDQT	REAL	ARRAY	268																
PHI	QANDQT	REAL	ARRAY	273	281	315/S	315	322	334/S	334	335/S	335								
PHIS	QANDQT	REAL	ARRAY	261	286															
PI	RCNTRL	REAL	ARRAY	180	274	308	311	313	337											
PI180	RCNTRL	REAL	SIMPLE	181																
PI2	RCNTRL	REAL	SIMPLE	182																
PIMEAN	RCNTRL	REAL	SIMPLE	184																
PK	//	REAL	ARRAY	296																
PKSTD	RDPARM	REAL	SIMPLE	245																
PKTOP	RDPARM	REAL	SIMPLE	246																
PLEVS	RCNTRL	REAL	ARRAY	198																
PQ	//	REAL	ARRAY	295	317/S	317	318/S	318	319/S	319	320/S	320	322/S	322						
PSMAX	RCNTRL	REAL	SIMPLE	323	327	329	330	331	332	334										
PSMIN	RCNTRL	REAL	SIMPLE	185																
PSTD	RCNTRL	REAL	SIMPLE	186																
PT	//	REAL	ARRAY	183																
PTOP	RCNTRL	REAL	SIMPLE	296	308/S	319	331/S	331	337											
PZERO	RCNTRL	REAL	SIMPLE	187	315	335														
QALT	LCNTRL	LOGICAL	SIMPLE	204																
QANDQT	LCNTRL	LOGICAL	SIMPLE	101	131															
QBEG	LCNTRL	LOGICAL	UNKNOWN	260	287	290														
QDAY	LCNTRL	LOGICAL	SIMPLE	102	132															
QEND	LCNTRL	LOGICAL	SIMPLE	103	133															
QOUT	LCNTRL	LOGICAL	SIMPLE	104	134															
QP	//	REAL	ARRAY	105	135															
QPHY	LCNTRL	LOGICAL	SIMPLE	295	323	325/S	325	326/S	326	327										
QPROG	QANDQT	REAL	ARRAY	106	136															
QRSH	LCNTRL	LOGICAL	SIMPLE	260	274	275	276	277	278	279	280	281	282	283						
QRSW	LCNTRL	LOGICAL	SIMPLE	284	285	286														
QSDIAG	QANDQT	REAL	ARRAY	110	140															
QSHF	LCNTRL	LOGICAL	SIMPLE	109	139															
QUDIAG	QANDQT	REAL	ARRAY	287	289															
RADE	RCNTRL	REAL	ARRAY	107	137															
RC	RCNTRL	REAL	SIMPLE	290																
RCO	RCNTRL	REAL	ARRAY	188																
RCNTRL	RCNTRL	REAL	SIMPLE	205	206															
		REAL	UNKNOWN	163	205	206														
				163	164	165	166	167	168	169	170	171	172	173						
				174	175	176	177	178	179	180	181	182	183	184						
				185	186	187	188	189	190	191	192	193	194	195						
				196	197	198	199	200	201	202	203	204	205							
RDPARM		REAL	UNKNOWN	224	225	226	227	228	229	230	231	232	233	234						
				235	236	237	238	239	240	241	242	243	244	245						
				246	247	248	249	250	251	252	253	254	255	256						
				257	258	259														
RGAS	RCNTRL	REAL	SIMPLE	189																
RLAT	RDPARM	REAL	ARRAY	247	312															
RLATD	RDPARM	REAL	ARRAY	248																
ROCP	RCNTRL	REAL	SIMPLE	190																
ROCPDT	RDPARM	REAL	SIMPLE	249																
ROCPP1	RDPARM	REAL	SIMPLE	250																
RSDIST	RCNTRL	REAL	SIMPLE	191																
SDAY	RCNTRL	REAL	SIMPLE	192																
SEASON	RCNTRL	REAL	SIMPLE	193																
SGNP	RDPARM	REAL	ARRAY	251																
SH	QANDQT	REAL	ARRAY	272	285	320	332/S	332												
SHS	QANDQT	REAL	ARRAY	267	280															
SIG	RDPARM	REAL	ARRAY	258	308	337														
SIGE	RCNTRL	REAL	ARRAY	194																
SIND	RCNTRL	REAL	SIMPLE	195																
SINL	RDPARM	REAL	ARRAY	252																
SINLON	RDPARM	REAL	ARRAY	253																
SMTH	QANDQT	REAL	ARRAY	262	275	325	326													
SN2FLG	LCNTRL	LOGICAL	SIMPLE	108	138															
SOLS	RCNTRL	REAL	SIMPLE	196																

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START	LDPARAM	LOGICAL	SIMPLE	220	223				
T	QANDQT	REAL	ARRAY	271	284	308	337/S		
THSTD	RDPARM	REAL	SIMPLE	254					
THSTD2	RDPARM	REAL	SIMPLE	255					
TRIGS	IFAX	REAL	ARRAY	300	301	323	327		
TS	QANDQT	REAL	ARRAY	266	279	311			
TSTD	RCNTRL	REAL	SIMPLE	197					
U	QANDQT	REAL	ARRAY	269	282	317	329/S	329	
V	QANDQT	REAL	ARRAY	270	283	318	330/S	330	
VER	CCNTRL	CHAR*8	SIMPLE	11	24				
WSAVE	RDPARM	REAL	ARRAY	250					
XLABEL	CCNTRL	CHAR*8	ARRAY	12	25				

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
FFT77		SUBROUTINE	323				327
LAPSE		SUBROUTINE	305				
QBVGATHP	REAL	INTRINSIC	329	330	331	332	334
QBVSCATP	REAL	INTRINSIC	317	318	319	320	322
VEXP	REAL	INTRINSIC	314				
ZEITBEG		SUBROUTINE	304				
ZEITEND		SUBROUTINE	306				

ORIGINAL PAGE IS
OF POOR QUALITY


```

00001      SUBROUTINE BTOLOG (QBIT,QLOG,IM,M)
00002      INTEGER ONE(100)
00003      LOGICAL QLOG(IM)
00004      BIT      QBIT(IM)
00005      IF IM .EQ. -1) GOTO 2000
00006          ONE(1:IM) = 0
00007      WHERE( QBIT(1:IM) ) ONE(1:IM) = 1
00008      DO 100 I=1,IM
00009      100 QLOG(I) = ONE(I) .EQ. 1
00010      RETURN
00011      2000 CONTINUE
00012          ONE(1:IM) = 0
00013      WHERE( QBIT(1:IM) ) ONE(1:IM) = 1
00014      DO 200 I=1,IM
00015      200 QLOG(I) = ONE(I) .EQ. 0
00016      RETURN
00017      END

```

```

VBTOLOG 2
VBTOLOG 3
VBTOLOG 4
VBTOLOG 5
VBTOLOG 6
VBTOLOG 7
VBTOLOG 8
VBTOLOG 9
VBTOLOG 10
VBTOLOG 11
VBTOLOG 12
VBTOLOG 13
VBTOLOG 14
VBTOLOG 15
VBTOLOG 16
VBTOLOG 17
VBTOLOG 18

```

STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

100	9	8
200	15	14
2000	11	5

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
BTOLOG		SUBROUTINE		1						
I		INTEGER	SIMPLE	8	9	9	14	15	15	
IM		INTEGER	SIMPLE	1	3	4	6	7	7	8
M		INTEGER	SIMPLE	1	5					12
ONE		INTEGER	ARRAY	2	6/S	7/S	9	12/S	13/S	13
QBIT		BIT	ARRAY	1	4	7	13			14
QLOG		LOGICAL	ARRAY	1	3	9/S	15/S			

ORIGINAL PAGE 19
 OF POOR QUALITY

```

00001      SUBROUTINE CLOCKS(N)
00002      COMMON /CPUT/ KSUMCPU,KSUMCLK
00003      N = -1.0E-04 * KSUMCPU
          C  N = -100. * SECOND(DUMMY)
00004      RETURN
00005      END

```

```

VCLOCKS 2
VCLOCKS 3
VCLOCKS 4
VCLOCKS 5
VCLOCKS 6
VCLOCKS 7

```

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES
CLOCKS			SUBROUTINE	1
CPUT		REAL	UNKNOWN	2
KSUMCLK	CPUT	INTEGER	SIMPLE	2
KSUMCPU	CPUT	INTEGER	SIMPLE	2
N		INTEGER	SIMPLE	1

3
3/S

ORIGINAL PAGE IS
OF POOR QUALITY

00001 SUBROUTINE CLOUDS (IM,NLAY,NCALL)

000

PHYSICS PARAMETERS AND CONSTANTS

00002 COMMON /CNTRLP/ CDFR
 00003 COMMON /CNTRLP/ CDXL
 00004 COMMON /CNTRLP/ CDXD
 00005 COMMON /CNTRLP/ CLH
 00006 COMMON /CNTRLP/ COE (9)
 00007 COMMON /CNTRLP/ COEF
 00008 COMMON /CNTRLP/ COEFS
 00009 COMMON /CNTRLP/ COSROT
 00010 COMMON /CNTRLP/ GPP
 00011 COMMON /CNTRLP/ CTID
 00012 COMMON /CNTRLP/ CUMDAY
 00013 COMMON /CNTRLP/ CUMRAT
 00014 COMMON /CNTRLP/ C10
 00015 COMMON /CNTRLP/ C100
 00016 COMMON /CNTRLP/ C40
 00017 COMMON /CNTRLP/ DELTA
 00018 COMMON /CNTRLP/ DTC3
 00019 COMMON /CNTRLP/ DTOUT
 00020 COMMON /CNTRLP/ ED
 00021 COMMON /CNTRLP/ EDNM
 00022 COMMON /CNTRLP/ FCOEF
 00023 COMMON /CNTRLP/ FMU
 00024 COMMON /CNTRLP/ FWET
 00025 COMMON /CNTRLP/ GAMFAC
 00026 COMMON /CNTRLP/ GTOPO
 00027 COMMON /CNTRLP/ HICE
 00028 COMMON /CNTRLP/ NDTC3
 00029 COMMON /CNTRLP/ NFLW
 00030 COMMON /CNTRLP/ PIM
 00031 COMMON /CNTRLP/ QHOG
 00032 COMMON /CNTRLP/ SHLTOP
 00033 COMMON /CNTRLP/ SINROT
 00034 COMMON /CNTRLP/ SNOWN
 00035 COMMON /CNTRLP/ SNOWS
 00036 COMMON /CNTRLP/ STBO
 00037 COMMON /CNTRLP/ STERP1
 00038 COMMON /CNTRLP/ STERP2
 00039 COMMON /CNTRLP/ TICE
 00040 COMMON /CNTRLP/ TLTOP
 00041 COMMON /CNTRLP/ XDAY
 00042 COMMON /CNTRLP/ ZLNCO
 00043 LOGICAL QHOG

000

RADIATION AND SOURCE TERM FIELDS

00044 COMMON /RADCOM/ AS(72,9), RE(72,10)
 00045 COMMON /RADCOM/ PL(72,9), PLE(72,10)
 00046 COMMON /RADCOM/ PLK(72,9), PLKE(10)
 00047 COMMON /RADCOM/ TL(72,9), TLE(72,10)
 00048 COMMON /RADCOM/ TG(72), TH(72,9)
 00049 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
 00050 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
 00051 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
 00052 COMMON /RADCOM/ RH(72,9)
 00053 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
 00054 COMMON /RADCOM/ HH(72,9), HHE(72,10)
 00055 COMMON /RADCOM/ HHS(72,9)
 00056 COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
 00057 COMMON /RADCOM/ CXDE(9)
 00058 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
 00059 COMMON /RADCOM/ AL(72,10)
 00060 COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
 00061 COMMON /RADCOM/ TOPABS(72)
 00062 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
 00063 COMMON /RADCOM/ TCOND(9), TPENE(9)
 00064 COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
 00065 COMMON /RADCOM/ FK(5), XK(5), NFK

V CLOUDS 2
 V CLOUDS 3
 VCNTRLP 2
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 VCNTRLP 6
 VCNTRLP 7
 VCNTRLP 8
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 VRADCOM 2
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 VRADCOM 24
 VRADCOM 25

ORIGINAL PAGE IS
OF POOR QUALITY

CLOUDS 1


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00114      AL(I,L) = DA - DB
00115      DB = DA
00116      110 CONTINUE
C
00117      LI = NTOP(I)
00118      DO 120 L=L1,NLAYP1
00119      AL(I,L) = 0.0
00120      120 CONTINUE
C
C.....
C.....
C..... REFLECTIVITY OF CLOUDY ATMOSPHERE FOR VISUAL LIGHT .....
C.....
C.....
00121      TAU = 0.0
C
00122      DO 130 L=1,NLAY
00123      TAU = TAU + TAUL(I,L)
00124      130 CONTINUE
C
00125      PIO = .99999
00126      TAUP = .212132E-04*TAU
00127      ETP = EXP(TAUP)
00128      D = .1500245E+09*ETP - .1499755E+09/ETP
00129      RNN = .1500E+09*(ETP - 1./ETP)/D
00130      SRNN = (1. - RNN)*RSURF(I)/(1. - RNN*RSURF(I))
00131      RNN = RNN+RTOP(TAU,PIO,COSZ(I))
C
00132      RCLCUD(I) = RNN + (1.0 - RNN)*SRNN
00133      IF (DB.GT.0.999) GOTO 810
C
C.....
C.....
C..... ABSORPTION IN CLOUDS .....
C..... WITH MULTIPLE REFLECTIONS FOR K-DISTRIBUTION .....
C.....
C.....
00134      DO 250 K=1,NFK
00135      FKK = FK(K)
00136      XKK = XK(K)
00137      WK = W(I)*XKK
C
00138      IF (WK.GT.7.0) GOTO 810
C
00139      SK = EXP(-WK)
00140      SB = EXP(-1.66*WK)
00141      NCLR1 = NCLEAR + 1
C
00142      DO 180 L=NCLR1,NLAY
00143      TAUSC = TAUL(I,L)
00144      TAUAB = AMIN1(SWIL(I,L)*XKK,20.)
00145      IF (TAUSC.LT.0.01) GO TO 150
00146      TAU = TAUSC + TAUAB
00147      PIO = AMIN1(TAUSC/TAU,.9999)
C
C.....
C.....
C..... INDIVIDUAL CLOUD LAYER REFLECTIVITY .....
C..... AND TRANSMISSIVITY .....
C.....
C.....
00148      U = SORT((1. - 0.850*PIO)/(1. - PIO))
00149      TAUP = 1.732051*U*(1.0 - PIO)*TAU
00150      ETP = EXP(TAUP)
00151      D = (U + 1.)*2*ETP - (U - 1.)*2/ETP
00152      RNN = (U+2 - 1.)*(ETP - 1./ETP)/D
00153      TNN = 4.*U/D

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V CLOUDS 37
V CLOUDS 38
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V CLOUDS 106
V CLOUDS 107

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ORIGINAL PAGE IS
OF POOR QUALITY

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00154      RN(L) = RNN
00155      TN(L) = TNN
00156      C      IF (L.EQ.NTOP(I)) GO TO 150
00157      C      .....
00158      C      SUM REFLECTIVITY AND TRANSMISSIVITY
00159      C      FOR TOP,BOTTOM ILLUMINATION
00160      C      .....
00161      DENOM = 1.0 - SRSN*RNN
00162      SRNN = SRNN + STNN*RNN*STSN/DENOM
00163      STNN = STNN*TNN/DENOM
00164      SRSN = RNN + TNN**2*SRSN/DENOM
00165      STSN = TNN*STSN/DENOM
00166      TFK = FKK*STNN
00167      C      GO TO 170
00168      C      .....
00169      C      TOP CLOUD ZENITH ANGLE DEPENDENT REFLECTIVITY
00170      C      AND TRANSMISSIVITY
00171      C      .....
00172      150      CONTINUE
00173      RNK = RNN*RTOP(TAU,PI0,COSZ(I))
00174      TNK = TNN*TTOP(TAU,PI0,COSZ(I))
00175      SRNN = SK*RNK*SB
00176      STNN = SK*TNK
00177      SRSN = RNN
00178      STSN = TNN*SB
00179      TFK = FKK*STNN
00180      C      GO TO 170
00181      C      .....
00182      C      CLEAR LAYER DIFFUSE TRANSMISSION
00183      C      .....
00184      160      CONTINUE
00185      SB = EXP(-1.66*TAUAB)
00186      STNN = STNN*SB
00187      SRSN = SRSN*SB**2
00188      STSN = STSN*SB
00189      RN(L) = 0.
00190      TN(L) = SB
00191      TFK = FKK*STNN
00192      C      170      CONTINUE
00193      C      IF (TFK.LT..001) GO TO 190
00194      STN(L) = STNN
00195      SRS(L) = SRSN
00196      C      180      CONTINUE
00197      C      .....
00198      C      ABSORPTION AT GROUND
00199      C      .....
00200      L = NLAYP1
00201      RNN = RSURF(I)
00202      DENOM = 1. - SRSN*RNN
VLOUDS108
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VLOUDS178

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COSMAG	DSOLAR	REAL	ARRAY	78	108	112													
COSROT	CNTRLP	REAL	SIMPLE	9															
COSZ	RADCOM	REAL	ARRAY	70	100	100	101	101	131	165	166								
CPP	CNTRLP	REAL	SIMPLE	10															
CTID	CNTRLP	REAL	SIMPLE	11															
CUMDAY	CNTRLP	REAL	SIMPLE	12															
CUMRAT	CNTRLP	REAL	SIMPLE	13															
CV4	RADCOM	REAL	ARRAY	56															
CVT	RADCOM	REAL	ARRAY	56															
CXDE	RADCOM	REAL	ARRAY	57															
CXL	RADCOM	REAL	SIMPLE	70															
CZH	RADCOM	REAL	ARRAY	69															
D		REAL	SIMPLE	128/S	129	151/S	152	153											
DA		REAL	SIMPLE	113/S	114	115	189/S	190	191	199/S	200	201	216/S	217					
DARK	DSOLAR	LOGICAL	ARRAY	218	227/S	228	229	232/S	233	243/S	244	245	216/S	217					
DB		REAL	SIMPLE	92	98	105													
DELTA	CNTRLP	REAL	SIMPLE	108/S	110	114	115/S	133	191/S	201/S	217	218/S	228	229					
DENOM		REAL	SIMPLE	238/S	244	245/S													
DSOLAR		REAL	UNKNOWN	17															
DTG3	CNTRLP	REAL	SIMPLE	157/S	158	159	160	161	188/S	189	198/S	199	207/S	212					
DTOUT	CNTRLP	REAL	SIMPLE	215/S	216	223/S	226												
ED	CNTRLP	REAL	SIMPLE	76	77	78	79	80	81	82	83	84	85	86					
EDNM	CNTRLP	REAL	SIMPLE	87	88	89	90	91	92	93	94	95	96	97					
ETP		REAL	SIMPLE	18															
EVAP	RADCOM	REAL	SIMPLE	19															
FCLD	DSOLAR	LOGICAL	ARRAY	20															
FCLD	DSOLAR	REAL	ARRAY	21															
FCLD	DSOLAR	REAL	ARRAY	127/S	128	128	129	129	150/S	151	151	152	152						
FCLD	DSOLAR	REAL	ARRAY	69															
FCLD	DSOLAR	REAL	ARRAY	95	95	106													
FCLD	DSOLAR	REAL	ARRAY	84															
FCLD	DSOLAR	REAL	ARRAY	83															
FCLD	CNTRLP	REAL	SIMPLE	22															
FK	RADCOM	REAL	ARRAY	65	135														
FKK		REAL	SIMPLE	135/S	162	171	180	189	199	216	227	232	236/S	236					
FMU	CNTRLP	REAL	SIMPLE	237	243														
FROST	RADCOM	LOGICAL	ARRAY	23															
FSCAT	DSOLAR	REAL	ARRAY	74	75														
FWET	CNTRLP	REAL	ARRAY	80															
GAM	RADCOM	REAL	SIMPLE	24															
GAMFAC	CNTRLP	REAL	ARRAY	51															
GTOPO	CNTRLP	REAL	SIMPLE	25															
HH	RADCOM	REAL	ARRAY	26															
HHE	RADCOM	REAL	ARRAY	54															
HHS	RADCOM	REAL	ARRAY	54															
HICE	RADCOM	REAL	ARRAY	55															
I	CNTRLP	REAL	SIMPLE	27															
		INTEGER	SIMPLE	104/C	105	105	105	107	108	108	108	109	110	112					
				112	112	113	114	117	119	123	130	130	131	132					
				137	143	144	156	165	166	187	191	190	195	200					
				200	208	210	217	217	228	228	233	239	241						
				242	242	244	244												
ICE	RADCOM	LOGICAL	ARRAY	73	75														
IM		INTEGER	SIMPLE	1	104														
JALB	RADCOM	INTEGER	SIMPLE	72															
K		INTEGER	SIMPLE	134/C	135	136													
L		INTEGER	SIMPLE	111/C	112	114	118/C	118	122/C	123	142/C	143	144	154					
				155	156	178	179	183	184	186/S	190	190	194	200					
				200	203/S	203	204	205	206	217	217	219/S	219	220					
				221	222	228	228	233	233	241/S	242	244	244						
L1		INTEGER	SIMPLE	117/S	118														
LAND	RADCOM	LOGICAL	ARRAY	73	75														
M		INTEGER	SIMPLE	194/S	195	196	197	204/S	208	209	213	214	220/S						
MI XWI	RADCOM	LOGICAL	ARRAY	74	75														
NO		INTEGER	SIMPLE	210/S	211														
NI		INTEGER	SIMPLE	209/S	211														
NCALL		INTEGER	SIMPLE	1	106														
NCLEAR		INTEGER	SIMPLE	107/S	111	141													
NCLR1		INTEGER	SIMPLE	141/S	142														

ORIGINAL PAGE IS
OF POOR QUALITY

NDTC3	CNTRLP	INTEGER	SIMPLE	28																		
NFK	RADCOM	INTEGER	SIMPLE	65	134																	
NFLW	CNTRLP	INTEGER	SIMPLE	29																		
NLAY		INTEGER	SIMPLE	1	103	122	142															
NLAYOZ	RADCOM	INTEGER	SIMPLE	64																		
NLAYP1		INTEGER	SIMPLE	103/S	118	186																
NM		INTEGER	SIMPLE	239/S	240																	
NN		INTEGER	SIMPLE	211/C	240/C	241																
NOZ	RADCOM	INTEGER	SIMPLE	68																		
NTOP	DSOLAR	INTEGER	ARRAY	91	107	117	156	195	208	210	239	241										
NTOPF	DSOLAR	INTEGER	ARRAY	90																		
NTOPT	DSOLAR	INTEGER	ARRAY	89																		
OCEAN	RADCOM	LOGICAL		73	75																	
OCM22	RADCOM	REAL	ARRAY	67																		
OCM30	RADCOM	REAL	ARRAY	67																		
OCM38	RADCOM	REAL	ARRAY	67																		
OCM46	RADCOM	REAL	ARRAY	68																		
OCMXX	RADCOM	REAL	ARRAY	66																		
QLAPR	RADCOM	REAL	ARRAY	66																		
QLJAN	RADCOM	REAL	ARRAY	66																		
QLJUL	RADCOM	REAL	ARRAY	66																		
QLOCT	RADCOM	REAL	ARRAY	69																		
OZALE	RADCOM	REAL	ARRAY	100	100	101	101	125/S	131	147/S	148	148	149	165								
PIO		REAL	SIMPLE	166																		
PIM	CNTRLP	REAL	SIMPLE	30																		
PL	RADCOM	REAL	ARRAY	45																		
PLE	RADCOM	REAL	ARRAY	45																		
PLK	RADCOM	REAL	ARRAY	46																		
PLKE	RADCOM	REAL	ARRAY	46																		
PREP	RADCOM	REAL	ARRAY	69																		
PROGM	RADCOM	REAL	ARRAY	68																		
QHGG	CNTRLP	LOGICAL	SIMPLE	31	43																	
RADCOM		REAL	UNKNOWN	44	45	46	47	48	49	50	51	52	53	54								
				55	56	57	58	59	60	61	62	63	64	65								
				66	67	68	69	70	71	72	73	74										
RADTRM	RADCOM	REAL	ARRAY	70																		
RCLEAR	DSOLAR	REAL	ARRAY	81																		
RCLLOUD	RADCOM	REAL	ARRAY	72	132/S																	
RE	RADCOM	REAL	ARRAY	44																		
RF	DSOLAR	REAL	ARRAY	97																		
RH	RADCOM	REAL	ARRAY	52																		
RMEAN	DSOLAR	REAL	ARRAY	76																		
RN	RADCOM	REAL	ARRAY	62	154/S	178/S	205	221														
RNK		REAL	SIMPLE	165/S	167	226	232	234														
RNN		REAL	SIMPLE	129/S	130	130	131/S	131	132	132	152/S	154	157	158								
				160	165	169	187/S	188	189	198	199	207	212/S	212								
				215	216	223	226/S	226	227	234/S	236											
				72	130	130	187															
RSURF	RADCOM	REAL	ARRAY	70																		
S0	RADCOM	REAL	SIMPLE	140/S	167	170	174/S	175	176	177	179											
SB		REAL	SIMPLE	79																		
SCOSZ	DSOLAR	REAL	ARRAY	71																		
SG	RADCOM	REAL	ARRAY	50																		
SHG	RADCOM	REAL	ARRAY	49																		
SHL	RADCOM	REAL	ARRAY	49																		
SHLE	RADCOM	REAL	ARRAY	32																		
SHLTOP	CNTRLP	REAL	SIMPLE	51																		
SHSAT	RADCOM	REAL	ARRAY	33																		
SINROT	CNTRLP	REAL	SIMPLE	139/S	167	168	227	232	236													
SK		REAL	SIMPLE	74	75																	
SNOW	RADCOM	LOGICAL	ARRAY	34																		
SNOWN	CNTRLP	REAL	SIMPLE	35																		
SNOWS	CNTRLP	REAL	SIMPLE	71																		
SP	RADCOM	REAL	ARRAY	130/S	132	158/S	158	167/S														
SRNN		REAL	SIMPLE	62	184/S	196	213															
SRS	RADCOM	REAL	ARRAY	157	160/S	160	169/S	176/S	176	184	188	195/S	198	205								
SRSN		REAL	SIMPLE	207	212	213/S	215	221/S	223													
SSS	RADCOM	REAL	ARRAY	53																		
SSSE	RADCOM	REAL	ARRAY	53																		

STBO	CNTRLP	REAL	SIMPLE	36																
STERP1	CNTRLP	REAL	SIMPLE	37																
STERP2	CNTRLP	REAL	SIMPLE	38																
STN	RADCOM	REAL	ARRAY	62	183/S	197	214													
STNN	RADCOM	REAL	SIMPLE	158	159/S	159	162	168/S	171	175/S	175	180	183	189						
				197/S	199	206/S	212	214/S	216	222/S	226									
STSN		REAL	ARRAY	58	161/S	161	170/S													
SWALE	RADCOM	REAL	ARRAY	58	108	112	242													
SWIL	RADCOM	REAL	ARRAY	58	144	100	101													
TAU		REAL	SIMPLE	100	149	165	166	121/S	123/S	123	126	131	146/S	147						
TAUAB		REAL	ARRAY	149	144/S	146	174													
TAUL	RADCOM	REAL	ARRAY	60	123	143														
TAUP		REAL	SIMPLE	126/S	127	149/S	150													
TAUSC		REAL	SIMPLE	143/S	145	146	147													
TCOND	RADCOM	REAL	ARRAY	63																
TEMP	DSOLAR	REAL	ARRAY	96																
TEMP1	DSOLAR	REAL	ARRAY	82																
TFK		REAL	SIMPLE	162/S	171/S	180/S	182													
TG	RADCOM	REAL	ARRAY	48																
TH	RADCOM	REAL	ARRAY	48																
TICE	CNTRLP	REAL	ARRAY	39																
TL	RADCOM	REAL	SIMPLE	47																
TLE	RADCOM	REAL	ARRAY	47																
TLOWL	RADCOM	REAL	ARRAY	64																
TLTOP	CNTRLP	REAL	SIMPLE	40																
TMIDL	RADCOM	REAL	SIMPLE	64																
TN	RADCOM	REAL	ARRAY	62																
TNK		REAL	SIMPLE	166/S	155/S	179/S	206	222												
TNN		REAL	SIMPLE	153/S	168	226														
TOPABS	RADCOM	REAL	ARRAY	61	110/S	159	160	161	166	170										
TOTABS	DSOLAR	REAL	ARRAY	77																
TOTOZ	RADCOM	REAL	ARRAY	68																
TPENE	RADCOM	REAL	ARRAY	63																
U		REAL	SIMPLE	148/S																
W	DSOLAR	REAL	ARRAY	85	149	151	151	152	153											
WET	RADCOM	REAL	ARRAY	69	108/S	109	112/S	113	137	242										
WI	RADCOM	REAL	ARRAY	69																
WK		REAL	ARRAY	69																
WW	DSOLAR	REAL	SIMPLE	137/S	138	139	140	242/S	242											
X		REAL	ARRAY	88																
XDAY	CNTRLP	REAL	SIMPLE	99	99	99	99													
XK	RADCOM	REAL	SIMPLE	136	136	144	242													
XKK	RADCOM	REAL	ARRAY	42																
ZLNCO	CNTRLP	REAL	SIMPLE	42																

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
AMINI	REAL	INTRINSIC	144 147
AWATER	REAL	STAT FUNC	99/S 109
EXP	REAL	INTRINSIC	127 139 113
RTOP	REAL	STAT FUNC	100/S 131 140 150 174 243
SQRT	REAL	INTRINSIC	148 165
TTOP	REAL	STAT FUNC	101/S 166

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

00040	COMMON /ICNTRL/	KLIGW		VCNTRL	47
00041	COMMON /ICNTRL/	KLISST		VCNTRL	48
00042	COMMON /ICNTRL/	KS		VCNTRL	49
00043	COMMON /ICNTRL/	KU		VCNTRL	50
00044	COMMON /ICNTRL/	LOGBR		VCNTRL	51
00045	COMMON /ICNTRL/	MATIN		VCNTRL	52
00046	COMMON /ICNTRL/	MATSNX		VCNTRL	53
00047	COMMON /ICNTRL/	MATSUN		VCNTRL	54
00048	COMMON /ICNTRL/	MLF	(12)	VCNTRL	55
00049	COMMON /ICNTRL/	MROD		VCNTRL	56
00050	COMMON /ICNTRL/	NKRSH		VCNTRL	57
00051	COMMON /ICNTRL/	MSM		VCNTRL	58
00052	COMMON /ICNTRL/	NB		VCNTRL	59
00053	COMMON /ICNTRL/	ND		VCNTRL	60
00054	COMMON /ICNTRL/	NDALT		VCNTRL	61
00055	COMMON /ICNTRL/	NDAY		VCNTRL	62
00056	COMMON /ICNTRL/	NDOUT		VCNTRL	63
00057	COMMON /ICNTRL/	NDPHY		VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF		VCNTRL	65
00059	COMMON /ICNTRL/	NDT		VCNTRL	66
00060	COMMON /ICNTRL/	NHMS		VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE		VCNTRL	68
00062	COMMON /ICNTRL/	NHMSE0		VCNTRL	69
00063	COMMON /ICNTRL/	NLAY		VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1		VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1		VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY		VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ		VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53		VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP		VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSIZ		VCNTRL	77
00071	COMMON /ICNTRL/	NYMD		VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE		VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO		VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT		VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV		VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG		VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)		VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)		VCNTRL	85
00079	C	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	86
00080		EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	87
00081		EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	88
00082		EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	89
00083		EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	90
00084		EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	91
00085		EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	92
00086		EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	93
00087		EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL	94
00088		EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL	95
00089		EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	96
00090		EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	97
00091	C	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL	98
00092		EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL	99
00093		EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL	100
00094		EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL	101
00095	C	EQUIVALENCE	(IC0.IC(1))	VCNTRL	102
00096		INTEGER	IC0, IC(200)	VCNTRL	103
	C			VCNTRL	104
	C			VCNTRL	105
	C			VCNTRL	106
	C			VCNTRL	107
	C			VCNTRL	108
	C			VCNTRL	109
	C			VCNTRL	110
00097	===== =====			VCNTRL	111
00097	COMMON /LCNTRL/	LCO		VCNTRL	112
00098	COMMON /LCNTRL/	QALT		VCNTRL	113
00099	COMMON /LCNTRL/	QBEG		VCNTRL	114
00100	COMMON /LCNTRL/	QDAY		VCNTRL	115
00101	COMMON /LCNTRL/	QEND		VCNTRL	116
00102	COMMON /LCNTRL/	QOUT		VCNTRL	117
00103	COMMON /LCNTRL/	QPHY		VCNTRL	118
00104	COMMON /LCNTRL/	QSHF		VCNTRL	119

00105	COMMON /LCNTRL/	SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/	QRSW	VCNTRL 119
00107	COMMON /LCNTRL/	QRSH	VCNTRL 120
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL 122
	C		VCNTRL 123
00110	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 131
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 135
	C		VCNTRL 136
00122	EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 140
	C		VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
	C		VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
	C		VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
	C		VCNTRL 172
00154	EQUIVALENCE	(LCO,LC(1))	VCNTRL 173
00155	LOGICAL	LC0, LC(200)	VCNTRL 174
	C		VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 176
	C	=====	VCNTRL 177
00156	COMMON /RCNTRL/	RCO	VCNTRL 178
00157	COMMON /RCNTRL/	APHEL	VCNTRL 179
00158	COMMON /RCNTRL/	BETA	VCNTRL 180
00159	COMMON /RCNTRL/	COSD	VCNTRL 181
00160	COMMON /RCNTRL/	CP	VCNTRL 182
00161	COMMON /RCNTRL/	DAYSPY	VCNTRL 183
00162	COMMON /RCNTRL/	DEC	VCNTRL 184
00163	COMMON /RCNTRL/	DECMAX	VCNTRL 185
00164	COMMON /RCNTRL/	DIST	VCNTRL 186
00165	COMMON /RCNTRL/	DLAT	VCNTRL 187
00166	COMMON /RCNTRL/	DLOD	VCNTRL 188

ORIGINAL PAGE 19
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

00167	COMMON /RCNTRL/ DT	VCNTRL 189
00168	COMMON /RCNTRL/ ECCN	VCNTRL 190
00169	COMMON /RCNTRL/ GNU1	VCNTRL 191
00170	COMMON /RCNTRL/ GNU2	VCNTRL 192
00171	COMMON /RCNTRL/ GRAV	VCNTRL 193
00172	COMMON /RCNTRL/ OMEGA2	VCNTRL 194
00173	COMMON /RCNTRL/ PI	VCNTRL 195
00174	COMMON /RCNTRL/ PI180	VCNTRL 196
00175	COMMON /RCNTRL/ PI2	VCNTRL 197
00176	COMMON /RCNTRL/ PSTD	VCNTRL 198
00177	COMMON /RCNTRL/ PIMEAN	VCNTRL 199
00178	COMMON /RCNTRL/ PSMAX	VCNTRL 200
00179	COMMON /RCNTRL/ PSMIN	VCNTRL 201
00180	COMMON /RCNTRL/ PTOP	VCNTRL 202
00181	COMMON /RCNTRL/ RADE	VCNTRL 203
00182	COMMON /RCNTRL/ RGAS	VCNTRL 204
00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
00198	C EQUIVALENCE (RC0,RC(1))	VCNTRL 220
00199	REAL RC0, RC(200)	VCNTRL 221
	C	VCNTRL 222
	C INTEGER MODEL CONSTANTS	VCNTRL 223
	C =====	VCNTRL 224
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 225
00201	COMMON /IDPARM/ IDSP02	VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 227
00203	COMMON /IDPARM/ IROD	VCNTRL 228
00204	COMMON /IDPARM/ JC (46)	VCNTRL 229
00205	COMMON /IDPARM/ JE (2)	VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 231
00207	COMMON /IDPARM/ KSTEP	VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 233
00209	COMMON /IDPARM/ NHMS1	VCNTRL 234
00210	COMMON /IDPARM/ NYMD1	VCNTRL 235
	C	VCNTRL 236
	C LOGICAL MODEL CONSTANTS	VCNTRL 237
	C =====	VCNTRL 238
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 239
00212	COMMON /LDPARM/ ITAPE	VCNTRL 240
00213	COMMON /LDPARM/ START	VCNTRL 241
	C	VCNTRL 242
00214	LOGICAL FILTER	VCNTRL 243
00215	LOGICAL ITAPE	VCNTRL 244
00216	LOGICAL START	VCNTRL 245
	C	VCNTRL 246
	C REAL MODEL CONSTANTS	VCNTRL 247
	C =====	VCNTRL 248
00217	COMMON /RDPARM/ ADLDP	VCNTRL 249
00218	COMMON /RDPARM/ CON1	VCNTRL 250
00219	COMMON /RDPARM/ CON1DT	VCNTRL 251
00220	COMMON /RDPARM/ CON2	VCNTRL 252
00221	COMMON /RDPARM/ CON2DT	VCNTRL 253
00222	COMMON /RDPARM/ CON3	VCNTRL 254
00223	COMMON /RDPARM/ CON3DT	VCNTRL 255
00224	COMMON /RDPARM/ CON4	VCNTRL 256
00225	COMMON /RDPARM/ CON4DT	VCNTRL 257
00226	COMMON /RDPARM/ CON5	VCNTRL 258
		VCNTRL 259

00227	COMMON /RDPARM/ COSL (46)	VCNTRL 260
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 261
00229	COMMON /RDPARM/ CPD2	VCNTRL 262
00230	COMMON /RDPARM/ DXP (46)	VCNTRL 263
00231	COMMON /RDPARM/ DXYP (46)	VCNTRL 264
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 265
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 266
00234	COMMON /RDPARM/ F1DT	VCNTRL 267
00235	COMMON /RDPARM/ F2DT	VCNTRL 268
00236	COMMON /RDPARM/ H1DT	VCNTRL 269
00237	COMMON /RDPARM/ H2DT	VCNTRL 270
00238	COMMON /RDPARM/ PKSTD	VCNTRL 271
00239	COMMON /RDPARM/ PKTOP	VCNTRL 272
00240	COMMON /RDPARM/ RLAT (46)	VCNTRL 273
00241	COMMON /RDPARM/ RLATD (46)	VCNTRL 274
00242	COMMON /RDPARM/ ROCPDT	VCNTRL 275
00243	COMMON /RDPARM/ ROCP1	VCNTRL 276
00244	COMMON /RDPARM/ SGNP (2)	VCNTRL 277
00245	COMMON /RDPARM/ SINL (46)	VCNTRL 278
00246	COMMON /RDPARM/ SINLON (72)	VCNTRL 279
00247	COMMON /RDPARM/ THSTD	VCNTRL 280
00248	COMMON /RDPARM/ THSTD2	VCNTRL 281
00249	COMMON /RDPARM/ WSAVE (159)	VCNTRL 282
00250	COMMON /RDPARM/ DSIG (9)	VCNTRL 283
00251	COMMON /RDPARM/ SIG (9)	VCNTRL 284
00252	COMMON /RDPARM/ DSIGINV (9)	VCNTRL 285
00253	C BIT BITTEMP(29808)	VCNTRL 286
	C	VBIT 2
	C COMDECK VQANDQT RESOLUTION VALUES	VQANDQT 2
	C =====	VQANDQT 3
	C IM =72	VQANDQT 4
	C NLAY =9	VQANDQT 5
	C JM*1 =46	VQANDQT 6
	C NLAY*11 =99	VQANDQT 7
	C IM*NLAY*11 =7128	VQANDQT 8
	C JM/2*1 =23	VQANDQT 9
	C	VQANDQT 10
	C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)	VQANDQT 11
	C =====	VQANDQT 12
	C	VQANDQT 13
00254	C COMMON /QANDQT/ QPROG(72,9,11,46)	VQANDQT 14
	C	VQANDQT 15
00255	DIMENSION PHIS (7128,1)	VQANDQT 16
00256	DIMENSION SMTH (7128,23)	VQANDQT 17
00257	DIMENSION ALBEDO (7128,1)	VQANDQT 18
00258	DIMENSION GT (7128,1)	VQANDQT 19
00259	DIMENSION GW (7128,1)	VQANDQT 20
00260	DIMENSION TS (7128,1)	VQANDQT 21
00261	DIMENSION SHS (7128,1)	VQANDQT 22
00262	DIMENSION P (72,99,1)	VQANDQT 23
	C	VQANDQT 24
00263	DIMENSION U (72,9,11,1)	VQANDQT 25
00264	DIMENSION V (72,9,11,1)	VQANDQT 26
00265	DIMENSION T (72,9,11,1)	VQANDQT 27
00266	DIMENSION SH (72,9,11,1)	VQANDQT 28
00267	DIMENSION PHI (72,9,11,1)	VQANDQT 29
	C	VQANDQT 30
00268	EQUIVALENCE (QPROG(1, 1, 1, 1), PHIS (1, 1))	VQANDQT 31
00269	EQUIVALENCE (QPROG(1, 2, 1, 1), SMTH (1, 1))	VQANDQT 32
00270	EQUIVALENCE (QPROG(1, 3, 1, 1), ALBEDO(1, 1))	VQANDQT 33
00271	EQUIVALENCE (QPROG(1, 4, 1, 1), GT (1, 1))	VQANDQT 34
00272	EQUIVALENCE (QPROG(1, 5, 1, 1), GW (1, 1))	VQANDQT 35
00273	EQUIVALENCE (QPROG(1, 6, 1, 1), TS (1, 1))	VQANDQT 36
00274	EQUIVALENCE (QPROG(1, 7, 1, 1), SHS (1, 1))	VQANDQT 37
00275	EQUIVALENCE (QPROG(1, 8, 1, 1), P (1, 1, 1))	VQANDQT 38
	C	VQANDQT 39
00276	EQUIVALENCE (QPROG(1, 1, 2, 1), U (1, 1, 1, 1))	VQANDQT 40
00277	EQUIVALENCE (QPROG(1, 1, 4, 1), V (1, 1, 1, 1))	VQANDQT 41
00278	EQUIVALENCE (QPROG(1, 1, 6, 1), T (1, 1, 1, 1))	VQANDQT 42
00279	EQUIVALENCE (QPROG(1, 1, 8, 1), SH (1, 1, 1, 1))	VQANDQT 43
		VQANDQT 44

ORIGINAL PAGE IS
OF POOR QUALITY

CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20															
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21															
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22															
COMP0			SUBROUTINE	1																
CON1	RDPARM	REAL	SIMPLE	218	286															
CON1DT	RDPARM	REAL	SIMPLE	219	286/S															
CON2	RDPARM	REAL	SIMPLE	220	287															
CON2DT	RDPARM	REAL	SIMPLE	221	287/S															
CON3	RDPARM	REAL	SIMPLE	222	288															
CCN3DT	RDPARM	REAL	SIMPLE	223	288/S															
CON4	RDPARM	REAL	SIMPLE	224	289															
CON4DT	RDPARM	REAL	SIMPLE	225	289/S															
CON5	RDPARM	REAL	SIMPLE	226																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*8	ARRAY	12	25															
COU	CCNTRL	CHAR*8	ARRAY	13	26															
DAYSPY	RCNTRL	REAL	SIMPLE	161																
DEC	RCNTRL	REAL	SIMPLE	162																
DECMAX	RCNTRL	REAL	SIMPLE	163																
DIST	RCNTRL	REAL	SIMPLE	164																
DLAT	RCNTRL	REAL	SIMPLE	165																
DLON	RCNTRL	REAL	SIMPLE	166																
DSIG	RDPARM	REAL	ARRAY	250																
DSIGINV	RDPARM	REAL	ARRAY	252																
DT	RCNTRL	REAL	SIMPLE	167	286	287	288	229	290	291										
DXP	RDPARM	REAL	ARRAY	230																
DXYP	RDPARM	REAL	ARRAY	231																
DYP	RDPARM	REAL	ARRAY	232																
ECCN	RCNTRL	REAL	SIMPLE	168																
EPS	RCNTRL	REAL	SIMPLE	194																
EPSFAC	RCNTRL	REAL	SIMPLE	195																
F1DT	RDPARM	REAL	SIMPLE	234	290/S	292														
F2DT	RDPARM	REAL	SIMPLE	235	291/S	293														
FCORLS	RDPARM	REAL	ARRAY	233																
FILTER	LDPARAM	LOGICAL	ARRAY	211	214	346														
GNU1	RCNTRL	REAL	SIMPLE	169																
GNU2	RCNTRL	REAL	SIMPLE	170	352															
GRAV	RCNTRL	REAL	SIMPLE	171																
GT	QANDOT	REAL	ARRAY	258	271															
GW	QANDOT	REAL	ARRAY	259	272															
H1DT	RDPARM	REAL	SIMPLE	236	292/S															
H2DT	RDPARM	REAL	SIMPLE	237	293/S															
HEAT1	RCNTRL	REAL	SIMPLE	193																
HEATW	RCNTRL	REAL	SIMPLE	192																
I		INTEGER	SIMPLE	339																
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																
IC	ICNTRL	INTEGER	ARRAY	95	96															
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96														
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37						
				38	39	40	41	42	43	44	45	46	47	48						
				49	50	51	52	53	54	55	56	57	58	59						
				60	61	62	63	64	65	66	67	68	69	70						
				71	72	73	74	75	76	77	78									
ICSP53	ICNTRL	INTEGER	SIMPLE	68																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210						
IDSP02	IDPARM	INTEGER	SIMPLE	201																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																
IJUMP	IDPARM	INTEGER	ARRAY	200																
IM	ICNTRL	INTEGER	SIMPLE	28	336	336	336	337	337											
IMD2	ICNTRL	INTEGER	SIMPLE	29																
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																
INDEX	IDPARM	INTEGER	ARRAY	202																

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MATSUN	ICNTRL	INTEGER	SIMPLE	47	351																
MJ	IDPARM	INTEGER	ARRAY	208	363	365															
MLF	ICNTRL	INTEGER	ARRAY	48																	
MROD	ICNTRL	INTEGER	SIMPLE	49																	
MSM	ICNTRL	INTEGER	SIMPLE	51																	
NB	ICNTRL	INTEGER	SIMPLE	52	306	311	315	336	336	344	365										
ND	ICNTRL	INTEGER	SIMPLE	53	306	318	360														
NDALT	ICNTRL	INTEGER	SIMPLE	54																	
NDAY	ICNTRL	INTEGER	SIMPLE	55																	
NDHOG	ICNTRL	INTEGER	SIMPLE	56																	
NDOUT	ICNTRL	INTEGER	SIMPLE	56																	
NDPHY	ICNTRL	INTEGER	SIMPLE	57																	
NDRSW	ICNTRL	INTEGER	SIMPLE	57																	
NDSHF	ICNTRL	INTEGER	SIMPLE	31																	
NDT	ICNTRL	INTEGER	SIMPLE	58																	
NHMS	ICNTRL	INTEGER	SIMPLE	59																	
NHMS0	ICNTRL	INTEGER	SIMPLE	60																	
NHMS1	IDPARM	INTEGER	SIMPLE	62																	
NHMSE	ICNTRL	INTEGER	SIMPLE	209																	
NKRSH	ICNTRL	INTEGER	SIMPLE	61																	
NLAY	ICNTRL	INTEGER	SIMPLE	50																	
NLAYM1	ICNTRL	INTEGER	SIMPLE	63																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	64																	
NMLEV	ICNTRL	INTEGER	SIMPLE	64																	
NSDAY	ICNTRL	INTEGER	SIMPLE	65																	
NSEQ	ICNTRL	INTEGER	SIMPLE	75																	
NSTEP	ICNTRL	INTEGER	SIMPLE	66																	
NYMD	ICNTRL	INTEGER	SIMPLE	67																	
NYMDO	ICNTRL	INTEGER	SIMPLE	69																	
NYMD1	IDPARM	INTEGER	SIMPLE	71																	
NYMDE	ICNTRL	INTEGER	SIMPLE	73	210																
NZINIT	ICNTRL	INTEGER	SIMPLE	72																	
OMEGA2	ICNTRL	INTEGER	SIMPLE	74																	
P	RCNTRL	REAL	SIMPLE	74																	
PHI	QANDQT	REAL	ARRAY	172																	
PHIS	QANDQT	REAL	ARRAY	262	275	336	336														
PI	QANDQT	REAL	ARRAY	267	280																
PI180	QANDQT	REAL	ARRAY	268	268																
PI2	RCNTRL	REAL	SIMPLE	173																	
PIMEAN	RCNTRL	REAL	SIMPLE	174																	
PKSTD	RDPARM	REAL	SIMPLE	175																	
PKTOP	RDPARM	REAL	SIMPLE	177																	
PLEVS	RCNTRL	REAL	ARRAY	238																	
PSMAX	RCNTRL	REAL	SIMPLE	239																	
PSMIN	RCNTRL	REAL	SIMPLE	191																	
PSTD	RCNTRL	REAL	SIMPLE	178	336																
PTOP	RCNTRL	REAL	SIMPLE	179	336																
PZERO	RCNTRL	REAL	SIMPLE	176																	
QALT	RCNTRL	REAL	SIMPLE	180	336	336															
QANDQT	LCNTRL	LOGICAL	SIMPLE	197																	
QBEG	LCNTRL	LOGICAL	UNKNOWN	98	126																
QDAY	LCNTRL	LOGICAL	SIMPLE	254	281	284															
QEND	LCNTRL	LOGICAL	SIMPLE	99	127																
QOUT	LCNTRL	LOGICAL	SIMPLE	100	128																
OPHY	LCNTRL	LOGICAL	SIMPLE	101	129																
QPROG	QANDQT	REAL	ARRAY	102	130																
ORSH	LCNTRL	LOGICAL	SIMPLE	103	131																
QRSW	LCNTRL	LOGICAL	SIMPLE	254	268	269	270	271	272	273	274	275	276	277							
OSDIAG	QANDQT	REAL	ARRAY	278	279	280															
QSHF	LCNTRL	LOGICAL	SIMPLE	107	135																
QUDIAG	QANDQT	REAL	ARRAY	106	134																
RADE	RCNTRL	REAL	SIMPLE	281	283																
RC	RCNTRL	REAL	ARRAY	104	132																
RCO	RCNTRL	REAL	SIMPLE	284																	
RCNTRL		REAL	UNKNOWN	181																	
				198	199																
				156	198	199															
				156	157	158	159	160	161	162	163	164	165	166							
				167	168	169	170	171	172	173	174	175	176	177							
				178	179	180	181	182	183	184	185	186	187	188							
				189	190	191	192	193	194	195	196	197									

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RD Parm	REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227
			228	229	230	231	232	233	234	235	236	237	238
			239	240	241	242	243	244	245	246	247	248	249
			250	251	252								250
RGAS	RCNTRL	REAL	SIMPLE	182									
RLAT	RD Parm	REAL	ARRAY	240									
RLATD	RD Parm	REAL	ARRAY	241									
ROCP	RCNTRL	REAL	SIMPLE	183									
ROCPDT	RD Parm	REAL	SIMPLE	242									
ROCPP1	RD Parm	REAL	SIMPLE	243									
RSDIST	RCNTRL	REAL	SIMPLE	184									
SDAY	RCNTRL	REAL	SIMPLE	185									
SEASON	RCNTRL	REAL	SIMPLE	186									
SGNP	RD Parm	REAL	ARRAY	244									
SH	QANDQT	REAL	ARRAY	266	279								
SHS	QANDQT	REAL	ARRAY	261	274								
SIG	RD Parm	REAL	ARRAY	251									
SIGE	RCNTRL	REAL	ARRAY	187									
SIND	RCNTRL	REAL	SIMPLE	188									
SINL	RD Parm	REAL	ARRAY	245									
SINLON	RD Parm	REAL	ARRAY	246									
SMTH	QANDQT	REAL	ARRAY	256	269								
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133								
SOLS	RCNTRL	REAL	SIMPLE	189									
START	LD Parm	LOGICAL	SIMPLE	213	216								
T	QANDQT	REAL	ARRAY	265	278								
THSTD	RD Parm	REAL	SIMPLE	247									
THSTD2	RD Parm	REAL	SIMPLE	248									
TS	QANDQT	REAL	ARRAY	260	273								
TSTD	RCNTRL	REAL	SIMPLE	190									
U	QANDQT	REAL	ARRAY	263	276								
V	QANDQT	REAL	ARRAY	264	277								
VER	CCNTRL	CHAR*8	SIMPLE	10	23								
WSAVE	RD Parm	REAL	ARRAY	249									
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24								

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST						
AVRX		SUBROUTINE	348										
COMP1		SUBROUTINE	326										
COMP2		SUBROUTINE	329										
COPYQ		SUBROUTINE	306										
GEOHT		SUBROUTINE	318										
POLOUT		SUBROUTINE	365										
PRDIAG		SUBROUTINE	339										
QBSCNT	INTEGER	INTRINSIC	337										
RESTQM		SUBROUTINE	360										
SAVEQM		SUBROUTINE	311										
SCALEQ		SUBROUTINE	315	344									
SHCORN		SUBROUTINE	334										
TIMAVG		SUBROUTINE	354										
ZEITBEG		SUBROUTINE	305	310	314	317	325	328	333	338	343	347	353
ZEITEND		SUBROUTINE	359	364									
			307	312	316	319	327	330	335	340	345	349	355
			361	366									

C-2

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00001      SUBROUTINE COMP1 (J)
C          INTEGRATES HORIZONTAL AND VERTICAL ADVECTION
C          ARGUMENTS   DESCRIPTION
C          J           LATITUDE BAND NUMBER
C          CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C          =====
00002      COMMON /CCNTRL/ CCO
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
C
00014      EQUIVALENCE (CCO,CC(1))
00015      CHARACTER*8 CCO, CC(200)
00016      CHARACTER*8 ADATE
00017      CHARACTER*8 ATIME
00018      CHARACTER*8 JIC
00019      CHARACTER*8 JOB
00020      CHARACTER*8 CCSP06
00021      CHARACTER*8 CCSP07
00022      CHARACTER*8 CCSP08
00023      CHARACTER*8 VER
00024      CHARACTER*8 XLABEL
00025      CHARACTER*8 CQS
00026      CHARACTER*8 CQU
C
C          INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C          =====
00027      COMMON /ICNTRL/ ICO
00028      COMMON /ICNTRL/ IM
00029      COMMON /ICNTRL/ IMD2
00030      COMMON /ICNTRL/ IMD2P1
00031      COMMON /ICNTRL/ NDRSW
00032      COMMON /ICNTRL/ JM
00033      COMMON /ICNTRL/ JMD2
00034      COMMON /ICNTRL/ JMT2
00035      COMMON /ICNTRL/ JNP
00036      COMMON /ICNTRL/ JO4
00037      COMMON /ICNTRL/ JOB
00038      COMMON /ICNTRL/ JSP
00039      COMMON /ICNTRL/ KLIALB
00040      COMMON /ICNTRL/ KLIGW
00041      COMMON /ICNTRL/ KLISST
00042      COMMON /ICNTRL/ KS
00043      COMMON /ICNTRL/ KU
00044      COMMON /ICNTRL/ LOGSR
00045      COMMON /ICNTRL/ MATIN
00046      COMMON /ICNTRL/ MATSNX
00047      COMMON /ICNTRL/ MATSUN
00048      COMMON /ICNTRL/ MLF (12)
00049      COMMON /ICNTRL/ MROD
00050      COMMON /ICNTRL/ NKRSH
00051      COMMON /ICNTRL/ MSM
00052      COMMON /ICNTRL/ NB
00053      COMMON /ICNTRL/ ND
00054      COMMON /ICNTRL/ NDALT
00055      COMMON /ICNTRL/ NDAY
00056      COMMON /ICNTRL/ NDOUT
00057      COMMON /ICNTRL/ NDPHY
00058      COMMON /ICNTRL/ NDSHF
VCOMP1    2
VCOMP1    3
VCOMP1    4
VCOMP1    5
VCOMP1    6
VCOMP1    7
VCOMP1    8
VCNTRL    2
VCNTRL    3
VCNTRL    4
VCNTRL    5
VCNTRL    6
VCNTRL    7
VCNTRL    8
VCNTRL    9
VCNTRL   10
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VCNTRL   62
VCNTRL   63
VCNTRL   64
VCNTRL   65

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ORIGINAL PAGE IS
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00059	COMMON /ICNTRL/	NDT	VCNTRL 66
00060	COMMON /ICNTRL/	NHMS	VCNTRL 67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/	NHMS0	VCNTRL 69
00063	COMMON /ICNTRL/	NLAY	VCNTRL 70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/	NYMD	VCNTRL 78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/	NMHOG	VCNTRL 83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL 85
	C		VCNTRL 86
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL 98
	C		VCNTRL 99
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL 103
	C		VCNTRL 104
00095	EQUIVALENCE	(ICO,IC(1))	VCNTRL 105
00096	INTEGER	ICO, IC(200)	VCNTRL 106
	C		VCNTRL 107
	C		VCNTRL 108
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 109
	C	=====	VCNTRL 110
00097	COMMON /LCNTRL/	LCO	VCNTRL 111
00098	COMMON /LCNTRL/	QALT	VCNTRL 112
00099	COMMON /LCNTRL/	QBEG	VCNTRL 113
00100	COMMON /LCNTRL/	QDAY	VCNTRL 114
00101	COMMON /LCNTRL/	QEND	VCNTRL 115
00102	COMMON /LCNTRL/	QOUT	VCNTRL 116
00103	COMMON /LCNTRL/	QPHY	VCNTRL 117
00104	COMMON /LCNTRL/	QSHF	VCNTRL 118
00105	COMMON /LCNTRL/	SN2FLG	VCNTRL 119
00106	COMMON /LCNTRL/	QRSW	VCNTRL 120
00107	COMMON /LCNTRL/	QRSH	VCNTRL 121
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL 122
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL 123
	C		VCNTRL 124
00110	EQUIVALENCE	(LTMIN .LOS(1))	VCNTRL 125
00111	EQUIVALENCE	(LTMAX .LOS(2))	VCNTRL 126
00112	EQUIVALENCE	(LPREACC .LOS(3))	VCNTRL 127
00113	EQUIVALENCE	(LPRECON .LOS(4))	VCNTRL 128
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 129
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL 130
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 131
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 132
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 133
00119	EQUIVALENCE	(LIICLOUD .LOS(10))	VCNTRL 134
00120	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL 135
00121	EQUIVALENCE	(LVFLUX .LOS(12))	VCNTRL 136
	C		

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00122	EQUIVALENCE	(OMEGA .LOU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT .LOU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW .LOU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW .LOU(4))	VCNTRL 140
	C		VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
	C		VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
	C		VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
	C		VCNTRL 172
00154	EQUIVALENCE	(LCO,LC(1))	VCNTRL 173
00155	LOGICAL	LCO, LC(200)	VCNTRL 174
	C		VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 176
	C	-----	VCNTRL 177
	C		VCNTRL 178
00156	COMMON /RCNTRL/	RCO	VCNTRL 179
00157	COMMON /RCNTRL/	APHEL	VCNTRL 180
00158	COMMON /RCNTRL/	BETA	VCNTRL 181
00159	COMMON /RCNTRL/	COSD	VCNTRL 182
00160	COMMON /RCNTRL/	CP	VCNTRL 183
00161	COMMON /RCNTRL/	DAYSPY	VCNTRL 184
00162	COMMON /RCNTRL/	DEC	VCNTRL 185
00163	COMMON /RCNTRL/	DECMAX	VCNTRL 186
00164	COMMON /RCNTRL/	DIST	VCNTRL 187
00165	COMMON /RCNTRL/	DLAT	VCNTRL 188
00166	COMMON /RCNTRL/	DLDN	VCNTRL 189
00167	COMMON /RCNTRL/	DT	VCNTRL 190
00168	COMMON /RCNTRL/	ECCN	VCNTRL 191
00169	COMMON /RCNTRL/	GNU1	VCNTRL 192
00170	COMMON /RCNTRL/	GNU2	VCNTRL 193
00171	COMMON /RCNTRL/	GRAV	VCNTRL 194
00172	COMMON /RCNTRL/	OMEGA2	VCNTRL 195
00173	COMMON /RCNTRL/	PI	VCNTRL 196
00174	COMMON /RCNTRL/	PI180	VCNTRL 197
00175	COMMON /RCNTRL/	PI2	VCNTRL 198
00176	COMMON /RCNTRL/	PSTD	VCNTRL 199
00177	COMMON /RCNTRL/	PIMEAN	VCNTRL 200
00178	COMMON /RCNTRL/	PSMAX	VCNTRL 201
00179	COMMON /RCNTRL/	PSMIN	VCNTRL 202
00180	COMMON /RCNTRL/	PTOP	VCNTRL 203
00181	COMMON /RCNTRL/	RADE	VCNTRL 204
00182	COMMON /RCNTRL/	RGAS	VCNTRL 205
00183	COMMON /RCNTRL/	ROCP	VCNTRL 206
00184	COMMON /RCNTRL/	RSDIST	VCNTRL 207
00185	COMMON /RCNTRL/	SDAY	

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00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
	C		VCNTRL 220
00198	EQUIVALENCE (RC0, RC(11)		VCNTRL 221
00199	REAL RC0, RC(200)		VCNTRL 222
	C		VCNTRL 223
	C		VCNTRL 224
	C		VCNTRL 225
	C		VCNTRL 226
	C		VCNTRL 227
	C		VCNTRL 228
	C		VCNTRL 229
	C		VCNTRL 230
	C		VCNTRL 231
	C		VCNTRL 232
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	C		VCNTRL 295
	C		VCNTRL 296
	C		VCNTRL 297
	C		VCNTRL 298
	C		VCNTRL 299
	C		VCNTRL 300

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00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

```

COMDECK VQANDQT RESOLUTION VALUES

```

=====
IM =72
NLAY =9
JM+1 =46
NLAY*11 =99
IM*NLAY*11 =7128
JM/2+1 =23

```

GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)

```

=====
00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))

```

SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)

```

=====
00280 COMMON /QANDQT/ QSDIAG(72, 15,46)
00281 DIMENSION IQSDIAG(72, 15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)

```

POLAR MODEL PROGNOSTIC FIELDS

```

00284 COMMON /QPOLES/ PP(2,2)
00285 COMMON /QPOLES/ UP(9,2,2)
00286 COMMON /QPOLES/ VP(9,2,2)
00287 COMMON /QPOLES/ TP(9,2,2)
00288 COMMON /QPOLES/ SHP(9,2,2)
00289 COMMON /QPOLES/ PHIP(9,2,2)

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VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
VQANDQT 16
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VQANDQT 19
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VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VQPOLES 2
VQPOLES 3
VQPOLES 4
VQPOLES 5
VQPOLES 6
VQPOLES 7
VQPOLES 8
VQPOLES 9
VQPOLES 10

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C . . .
C GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP
00290 COMMON /QMSAVE/ PM(72,5)
00291 COMMON /QMSAVE/ UM(72,9,5)
00292 COMMON /QMSAVE/ VM(72,9,5)
00293 COMMON /QMSAVE/ TM(72,9,5)
00294 COMMON /QMSAVE/ SHM(72,9,5)
00295 COMMON /QMSAVE/ PHIM(72,9,5)
00296 COMMON /QMSAVE/ PV(72,9,5)
00297 COMMON /QMSAVE/ PIT(72,5)
00298 COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5)
00299 COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5)

C
00300 COMMON /IMJM/ IMM1, IMM2, IMM3, IMM4, IMM5,
IMNLAY, IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5,
IMD2M1,
NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7

C . . .
C WORK AREAS
00301 COMMON PJ(72,9),
PJP1(72,9),
PJP2(72,9),
PUSI(72,9),
PPU(72,9,2),
FFLUX1(72,9), FFLUX2(72,9),
GFLUX1(72,9), GFLUX2(72,9),
PV1(72,9), PV2(72,9),
PU(72,9),
PU1(72,9), PU2(72,9),
SD1(72), PK1(72), PK2(72)

*****
PJ ARRAY SHOULD BE THE FIRST BLANK COMMON
IT IS USED IN COMP2 WHERE IT IS CALLED PQ****

00302 DIMENSION BIT1(648),BIT2(648),BIT3(648),
BIT4(648),BIT5(648)
00303 BIT BIT1,BIT2,BIT3,BIT4,BIT5
00304 BIT BIT1D,BIT2D,BIT3D,BIT4D,BIT5D
00305 DESCRIPTOR BIT1D,BIT2D,BIT3D,BIT4D,BIT5D
00306 COMMON /BITCOMP1/ BIT1MM1(648),BIT1MM2(648)
00307 BIT BIT1MM1,BIT1MM2
00308 ASSIGN BIT1D,BIT1(1:648)
00309 ASSIGN BIT2D,BIT2(1:648)
00310 ASSIGN BIT3D,BIT3(1:648)
00311 ASSIGN BIT4D,BIT4(1:648)
00312 ASSIGN BIT5D,BIT5(1:648)

C . . .
00313 NLAYND = NLAY*(ND - 1)
00314 NLAYNB = NLAY*(NB - 1)
00315 JP1 = J + 1
00316 JP2 = J + 2
00317 K = JC(J)
00318 KP1 = JC(JP1)
00319 KP2 = JC(JP2)

C
00320 PJ(1,1:IM) = P(1,ND,J:IM)
PJ(1,2:IM) = PJ(1,1:IM)
PJ(1,3:IMT2) = PJ(1,1:IMT2)
PJ(1,5:IMT4) = PJ(1,1:IMT4)
PJ(1,9:IM) = PJ(1,1:IM)

THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING
DO LOOP.

```

- VQMSAVE 2
- VQMSAVE 3
- VQMSAVE 4
- VQMSAVE 5
- VQMSAVE 6
- VQMSAVE 7
- VQMSAVE 8
- VQMSAVE 9
- VQMSAVE 10
- VQMSAVE 11
- VQMSAVE 12
- VQMSAVE 13
- VQMSAVE 14
- VIMJM 2
- VIMJM 3
- VIMJM 4
- VIMJM 5
- VIMJM 6
- VWKCMP1 2
- VWKCMP1 3
- VWKCMP1 4
- VWKCMP1 5
- VWKCMP1 6
- VWKCMP1 7
- VWKCMP1 8
- VWKCMP1 9
- VWKCMP1 10
- VWKCMP1 11
- VWKCMP1 12
- VWKCMP1 13
- VWKCMP1 14
- VWKCMP1 15
- VWKCMP1 16
- VWKCMP1 17
- VWKCMP1 18
- VWKCMP1 19
- VWKCMP1 20
- VWKCMP1 21
- VWKCMP1 22
- VWKCMP1 23
- VBITCM1 2
- VBITCM1 3
- VBITCM1 4
- VBITCM1 5
- VBITCM1 6
- VBITCM1 7
- VBITCM1 8
- VBITCM1 9
- VBITCM1 10
- VBITCM1 11
- VBITCM1 12
- VBITCM1 13
- VBITCM1 14
- VCOMP1 16
- VCOMP1 17
- VCOMP1 18
- VCOMP1 19
- VCOMP1 20
- VCOMP1 21
- VCOMP1 22
- VCOMP1 23
- VCOMP1 24
- VCOMP1 25
- VCOMP1 26
- VCOMP1 27
- VCOMP1 28
- VCOMP1 29
- VCOMP1 30
- VCOMP1 31
- VCOMP1 32
- VCOMP1 33

00321	DO 5111 L=2,NLAY		VCOMP 1	34
00322	PJ(1,L;IM) = PJ(1,1;IM)		VCOMP 1	35
00323	5111 CONTINUE		VCOMP 1	36
	C		VCOMP 1	37
	C		VCOMP 1	38
00324	PJP1(1,1;IM) = P(1,ND,JP1;IM)		VCOMP 1	39
	PJP1(1,2;IM) = PJP1(1,1;IM)		VCOMP 1	40
	PJP1(1,3;IMT2) = PJP1(1,1;IMT2)		VCOMP 1	41
	PJP1(1,5;IMT4) = PJP1(1,1;IMT4)		VCOMP 1	42
	PJP1(1,9;IM) = PJP1(1,1;IM)		VCOMP 1	43
	THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING		VCOMP 1	44
	DO LOOP.		VCOMP 1	45
00325	DO 5112 L=2,NLAY		VCOMP 1	46
00326	PJP1(1,L;IM) = PJP1(1,1;IM)		VCOMP 1	47
00327	5112 CONTINUE		VCOMP 1	48
00328	PJP2(1,1;IM) = P(1,ND,JP2;IM)		VCOMP 1	49
	PJP2(1,2;IM) = PJP2(1,1;IM)		VCOMP 1	50
	PJP2(1,3;IMT2) = PJP2(1,1;IMT2)		VCOMP 1	51
	PJP2(1,5;IMT4) = PJP2(1,1;IMT4)		VCOMP 1	52
	PJP2(1,9;IM) = PJP2(1,1;IM)		VCOMP 1	53
	THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING		VCOMP 1	54
	DO LOOP.		VCOMP 1	55
00329	DO 5113 L=2,NLAY		VCOMP 1	56
00330	PJP2(1,L;IM) = PJP2(1,1;IM)		VCOMP 1	57
00331	5113 CONTINUE		VCOMP 1	58
00332	5001 CONTINUE		VCOMP 1	59
	C		VCOMP 1	60
	C		VCOMP 1	61
	C		VCOMP 1	62
	C		VCOMP 1	63
	C		VCOMP 1	64
	C		VCOMP 1	65
00333	COMBINE LAYER AND TIME INDICES		VCOMP 1	66
00334	PUISI(1,1;IMNLAY) = DYP(J)*PJ(1,1;IMNLAY)*U(1,1+NLAYND,1,J;IMNLAY)		VCOMP 1	67
00335	PPU(1,1,1;IMNLAY1) = PUISI(1,1;IMNLAY1) + PUISI(2,1;IMNLAY1)		VCOMP 1	68
	PPU(1,1,2;IMNLAY2) = PUISI(1,1;IMNLAY2) + PUISI(3,1;IMNLAY2)		VCOMP 1	69
00336	DO 5002 LL=1,NLAY		VCOMP 1	70
00337	PPU(IM,LL,1) = PUISI(IM,LL) + PUISI(1,LL)		VCOMP 1	71
00338	PPU(IMM1,LL,2) = PUISI(IMM1,LL) + PUISI(1,LL)		VCOMP 1	72
00339	PPU(IM,LL,2) = PUISI(IM,LL) + PUISI(2,LL)		VCOMP 1	73
00340	5002 CONTINUE		VCOMP 1	74
	C		VCOMP 1	75
	C		VCOMP 1	76
00341	IF (J.EQ.1) GO TO 20		VCOMP 1	77
	C		VCOMP 1	78
	C		VCOMP 1	79
	C		VCOMP 1	80
	C		VCOMP 1	81
	.....		VCOMP 1	82
	*****		VCOMP 1	83
	HORIZONTAL ADVECTION IN LONGITUDINAL DIRECTION		VCOMP 1	84
	CALCULATE PU		VCOMP 1	85
	*****		VCOMP 1	86
	.....		VCOMP 1	87
00342	FFLUX1(1,1;IMNLAY) = H1DT*PPU(1,1,1;IMNLAY)		VCOMP 1	88
00343	FFLUX2(1,1;IMNLAY) = H2DT*PPU(1,1,2;IMNLAY)		VCOMP 1	89
	C		VCOMP 1	90
	C		VCOMP 1	91
	C		VCOMP 1	92
	C		VCOMP 1	93
	C		VCOMP 1	94
	C		VCOMP 1	95
	C		VCOMP 1	96
	C		VCOMP 1	97
00344	GFLUX1(1,1;IMNLAY1) = U(1,1+NLAYND,1,J;IMNLAY1)		VCOMP 1	98
	S + U(2,1+NLAYND,1,J;IMNLAY1)		VCOMP 1	99
00345	GFLUX2(1,1;IMNLAY2) = U(1,1+NLAYND,1,J;IMNLAY2)		VCOMP 1	100
	S + U(3,1+NLAYND,1,J;IMNLAY2)		VCOMP 1	101
	C		VCOMP 1	102
00346	DO 5003 LL=1,NLAY		VCOMP 1	103
			VCOMP 1	104

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00347      GFLUX1(IM ,LL) = U(IM ,LL*NLAYND,1,J) + U(1,LL*NLAYND,1,J)      VCOMP 1 105
00348      GFLUX2(IM ,LL) = U(IM ,LL*NLAYND,1,J) + U(2,LL*NLAYND,1,J)      VCOMP 1 106
00349      GFLUX2(IMM1,LL) = U(IMM1,LL*NLAYND,1,J) + U(1,LL*NLAYND,1,J)      VCOMP 1 107
00350      5003 CONTINUE                                                    VCOMP 1 108
C                                                    VCOMP 1 109
00351      GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)+GFLUX1(1,1;IMNLAY)      VCOMP 1 110
00352      GFLUX2(1,1;IMNLAY) = FFLUX2(1,1;IMNLAY)+GFLUX2(1,1;IMNLAY)      VCOMP 1 111
C                                                    VCOMP 1 112
00353      WHERE(BITIMM2(1;IMNLAY2)) U(3,1+NLAYNB,1,J;IMNLAY2) =          VCOMP 1 113
S          U(3,1+NLAYNB,1,J;IMNLAY2) + GFLUX2(1,1;IMNLAY2)              VCOMP 1 114
C                                                    VCOMP 1 115
00354      WHERE(BITIMM1(1;IMNLAY1)) U(2,1+NLAYNB,1,J;IMNLAY1) =          VCOMP 1 116
S          U(2,1+NLAYNB,1,J;IMNLAY1) + GFLUX1(1,1;IMNLAY1)              VCOMP 1 117
C                                                    VCOMP 1 118
00355      U(1,1+NLAYNB,1,J;IMNLAY) =          U(1,1+NLAYNB,1,J;IMNLAY)      VCOMP 1 119
US          - GFLUX1(1,1;IMNLAY)                                          VCOMP 1 120
S          - GFLUX2(1,1;IMNLAY)                                          VCOMP 1 121
C                                                    VCOMP 1 122
00356      DO 5004 LL=1,NLAY                                              VCOMP 1 123
00357      U(1,LL*NLAYNB,1,J) = U(1,LL*NLAYNB,1,J) + GFLUX2(IMM1,LL)        VCOMP 1 124
00358      U(2,LL*NLAYNB,1,J) = U(2,LL*NLAYNB,1,J) + GFLUX2(IM ,LL)        VCOMP 1 125
00359      U(1,LL*NLAYNB,1,J) = U(1,LL*NLAYNB,1,J) + GFLUX1(IM ,LL)        VCOMP 1 126
00360      5004 CONTINUE                                                    VCOMP 1 127
C                                                    VCOMP 1 128
C          .....                                                    VCOMP 1 129
C          .....                                                    VCOMP 1 130
C          .....                                                    VCOMP 1 131
C          .....                                                    VCOMP 1 132
C          .....                                                    VCOMP 1 133
C          .....                                                    VCOMP 1 134
C          .....                                                    VCOMP 1 135
C          .....                                                    VCOMP 1 136
00361      GFLUX1(1,1;IMNLAY1) =          V(1,1+NLAYND,1,J;IMNLAY1)        VCOMP 1 137
S          + V(2,1+NLAYND,1,J;IMNLAY1)                                    VCOMP 1 138
00362      GFLUX2(1,1;IMNLAY2) =          V(1,1+NLAYND,1,J;IMNLAY2)        VCOMP 1 139
S          + V(3,1+NLAYND,1,J;IMNLAY2)                                    VCOMP 1 140
C                                                    VCOMP 1 141
00363      DO 5005 LL=1,NLAY                                              VCOMP 1 142
00364      GFLUX1(IM ,LL) = V(IM ,LL*NLAYND,1,J) + V(1,LL*NLAYND,1,J)      VCOMP 1 143
00365      GFLUX2(IM ,LL) = V(IM ,LL*NLAYND,1,J) + V(2,LL*NLAYND,1,J)      VCOMP 1 144
00366      GFLUX2(IMM1,LL) = V(IMM1,LL*NLAYND,1,J) + V(1,LL*NLAYND,1,J)    VCOMP 1 145
00367      5005 CONTINUE                                                    VCOMP 1 146
C                                                    VCOMP 1 147
00368      GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)+GFLUX1(1,1;IMNLAY)    VCOMP 1 148
00369      GFLUX2(1,1;IMNLAY) = FFLUX2(1,1;IMNLAY)+GFLUX2(1,1;IMNLAY)    VCOMP 1 149
C                                                    VCOMP 1 150
00370      WHERE(BITIMM2(1;IMNLAY2)) V(3,1+NLAYNB,1,J;IMNLAY2) =          VCOMP 1 151
S          V(3,1+NLAYNB,1,J;IMNLAY2) - GFLUX2(1,1;IMNLAY2)              VCOMP 1 152
C                                                    VCOMP 1 153
00371      WHERE(BITIMM1(1;IMNLAY1)) V(2,1+NLAYNB,1,J;IMNLAY1) =          VCOMP 1 154
S          V(2,1+NLAYNB,1,J;IMNLAY1) + GFLUX1(1,1;IMNLAY1)              VCOMP 1 155
C                                                    VCOMP 1 156
00372      V(1,1+NLAYNB,1,J;IMNLAY) =          V(1,1+NLAYNB,1,J;IMNLAY)    VCOMP 1 157
S          - GFLUX1(1,1;IMNLAY)                                          VCOMP 1 158
S          - GFLUX2(1,1;IMNLAY)                                          VCOMP 1 159
C                                                    VCOMP 1 160
00373      DO 5006 LL=1,NLAY                                              VCOMP 1 161
00374      V(1,LL*NLAYNB,1,J) = V(1,LL*NLAYNB,1,J) + GFLUX2(IMM1,LL)        VCOMP 1 162
00375      V(2,LL*NLAYNB,1,J) = V(2,LL*NLAYNB,1,J) + GFLUX2(IM ,LL)        VCOMP 1 163
00376      V(1,LL*NLAYNB,1,J) = V(1,LL*NLAYNB,1,J) + GFLUX1(IM ,LL)        VCOMP 1 164
00377      5006 CONTINUE                                                    VCOMP 1 165
C                                                    VCOMP 1 166
C          .....                                                    VCOMP 1 167
C          .....                                                    VCOMP 1 168
C          .....                                                    VCOMP 1 169
C          .....                                                    VCOMP 1 170
C          .....                                                    VCOMP 1 171
C          .....                                                    VCOMP 1 172
C          .....                                                    VCOMP 1 173
00378      GFLUX1(1,1;IMNLAY1) =          T(1,1+NLAYND,1,J;IMNLAY1)        VCOMP 1 174
S          + T(2,1+NLAYND,1,J;IMNLAY1)                                    VCOMP 1 175

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00379 GFLUX2(1,1;IMNLAY2) = T(1,1+NLAYND,1,J;IMNLAY2)
S + T(3,1+NLAYND,1,J;IMNLAY2) VCOMP 1 176
C VCOMP 1 177
00380 DO 5007 LL=1,NLAY VCOMP 1 178
00381 GFLUX1(IM,LL) = T(IM,LL+NLAYND,1,J) + T(1,LL+NLAYND,1,J) VCOMP 1 179
00382 GFLUX2(IM,LL) = T(IM,LL+NLAYND,1,J) + T(2,LL+NLAYND,1,J) VCOMP 1 180
00383 GFLUX2(IMM1,LL) = T(IMM1,LL+NLAYND,1,J) + T(1,LL+NLAYND,1,J) VCOMP 1 181
00384 5007 CONTINUE VCOMP 1 182
C VCOMP 1 183
00385 GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)*GFLUX1(1,1;IMNLAY) VCOMP 1 184
00386 GFLUX2(1,1;IMNLAY) = FFLUX2(1,1;IMNLAY)*GFLUX2(1,1;IMNLAY) VCOMP 1 185
C VCOMP 1 186
00387 WHERE(BITIMM2(1;IMNLAY2)) T(3,1+NLAYNB,1,J;IMNLAY2) = VCOMP 1 187
S T(3,1+NLAYNB,1,J;IMNLAY2) + GFLUX2(1,1;IMNLAY2) VCOMP 1 188
C VCOMP 1 189
00388 WHERE(BITIMM1(1;IMNLAY1)) T(2,1+NLAYNB,1,J;IMNLAY1) = VCOMP 1 190
S T(2,1+NLAYNB,1,J;IMNLAY1) + GFLUX1(1,1;IMNLAY1) VCOMP 1 191
C VCOMP 1 192
00389 T(1,1+NLAYNB,1,J;IMNLAY) = T(1,1+NLAYNB,1,J;IMNLAY) VCOMP 1 193
S - GFLUX1(1,1;IMNLAY) VCOMP 1 194
S - GFLUX2(1,1;IMNLAY) VCOMP 1 195
C VCOMP 1 196
00390 DO 5008 LL=1,NLAY VCOMP 1 197
00391 T(1,LL+NLAYNB,1,J) = T(1,LL+NLAYNB,1,J) + GFLUX2(IMM1,LL) VCOMP 1 198
00392 T(2,LL+NLAYNB,1,J) = T(2,LL+NLAYNB,1,J) + GFLUX2(IM,LL) VCOMP 1 199
00393 T(1,LL+NLAYNB,1,J) = T(1,LL+NLAYNB,1,J) + GFLUX1(IM,LL) VCOMP 1 200
00394 5008 CONTINUE VCOMP 1 201
C VCOMP 1 202
C VCOMP 1 203
C VCOMP 1 204
C VCOMP 1 205
C HUMIDITY ADVECTION VCOMP 1 206
C VCOMP 1 207
C VCOMP 1 208
C VCOMP 1 209
C VCOMP 1 210
C VCOMP 1 211
00395 GFLUX1(1,1;IMNLAY1) = SH(1,1+NLAYND,1,J;IMNLAY1) VCOMP 1 212
S + SH(2,1+NLAYND,1,J;IMNLAY1) VCOMP 1 213
00396 GFLUX2(1,1;IMNLAY2) = SH(1,1+NLAYND,1,J;IMNLAY2) VCOMP 1 214
S + SH(3,1+NLAYND,1,J;IMNLAY2) VCOMP 1 215
C VCOMP 1 216
00397 DO 5009 LL=1,NLAY VCOMP 1 217
00398 GFLUX1(IM,LL) = SH(IM,LL+NLAYND,1,J) + SH(1,LL+NLAYND,1,J) VCOMP 1 218
00399 GFLUX2(IM,LL) = SH(IM,LL+NLAYND,1,J) + SH(2,LL+NLAYND,1,J) VCOMP 1 219
00400 GFLUX2(IMM1,LL) = SH(IMM1,LL+NLAYND,1,J) + SH(1,LL+NLAYND,1,J) VCOMP 1 220
00401 5009 CONTINUE VCOMP 1 221
C VCOMP 1 222
00402 GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)*GFLUX1(1,1;IMNLAY) VCOMP 1 223
00403 GFLUX2(1,1;IMNLAY) = FFLUX2(1,1;IMNLAY)*GFLUX2(1,1;IMNLAY) VCOMP 1 224
C VCOMP 1 225
00404 BIT1D = SH(1,1+NLAYND,1,J;IMNLAY).LE.0. VCOMP 1 226
00405 BIT2D = GFLUX1(1,1;IMNLAY).LT.0. VCOMP 1 227
00406 BIT3D = GFLUX2(1,1;IMNLAY).LT.0. VCOMP 1 228
C VCOMP 1 229
00407 BIT4(1;IMNLAY1) = BIT1(2;IMNLAY1).AND.BIT2(1;IMNLAY1) VCOMP 1 230
00408 DO 5010 LL=IM,IMNLAY,IM VCOMP 1 231
00409 BIT4(LL) = BIT1(LL-IMM1).AND.BIT2(LL) VCOMP 1 232
00410 5010 CONTINUE VCOMP 1 233
C VCOMP 1 234
00411 BIT2D = BIT1D.AND..NOT.BIT2D VCOMP 1 235
00412 BIT4D = BIT4D.OR.BIT2D VCOMP 1 236
C VCOMP 1 237
00413 GFLUX1(1,1;IMNLAY) = QSVMASK(0.0,GFLUX1(1,1;IMNLAY).BIT4D; VCOMP 1 238
S GFLUX1(1,1;IMNLAY)) VCOMP 1 239
C VCOMP 1 240
C VCOMP 1 241
C VCOMP 1 242
00414 BIT4(1;IMNLAY2) = BIT1(3;IMNLAY2).AND.BIT3(1;IMNLAY2) VCOMP 1 243
00415 DO 5011 LL=IMM1,IMNLAY,IM VCOMP 1 244
00416 BIT4(LL) = BIT1(LL-IMM2).AND.BIT3(LL) VCOMP 1 245
00417 BIT4(LL+1) = BIT1(LL-IMM3).AND.BIT3(LL+1) VCOMP 1 246

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.....
CONTINUITY EQUATION
.....
00476 CONV(1,1,KP2;IMNLAY) = -PV2(1,1;IMNLAY)
00477 CONV(1,1,KP1;IMNLAY) = CONV(1,1,KP1;IMNLAY)
00478 & CONV(1,1,K;IMNLAY) = CONV(1,1,K;IMNLAY)
& - 8.*PV1(1,1;IMNLAY) + PV2(1,1;IMNLAY)
00479 FFLUX1(2,1;IMNLAY1) = 8.*(PPU(2,1,1;IMNLAY1) - PPU(1,1,1;IMNLAY1))
00480 FFLUX2(3,1;IMNLAY2) = 8.*(PPU(3,1,2;IMNLAY2) - PPU(1,1,2;IMNLAY2))
00481 DO 5015 LL=1,NLAY
00482 FFLUX1(1,LL) = 8.*(PPU(1,LL,1) - PPU(IM ,LL,1))
00483 FFLUX2(1,LL) = 8.*(PPU(1,LL,2) - PPU(IMM1,LL,2))
00484 FFLUX2(2,LL) = 8.*(PPU(2,LL,2) - PPU(IM ,LL,2))
00485 5015 CONTINUE
00486 CONV(1,1,K;IMNLAY) = CONV(1,1,K;IMNLAY)
S - FFLUX1(1,1;IMNLAY) + FFLUX2(1,1;IMNLAY)
00487 GO TO 70

.....
NORTH POLE CORRECTION
NO V WIND ADVECTION OVER POLE
.....
50 CONTINUE
CONV(1,1,K;IMNLAY) = CONV(1,1,K;IMNLAY) - 8.*PV(1,1,K;IMNLAY)
FFLUX1(2,1;IMNLAY1) = 8.*(PPU(2,1,1;IMNLAY1) - PPU(1,1,1;IMNLAY1))
FFLUX2(3,1;IMNLAY2) = 8.*(PPU(3,1,2;IMNLAY2) - PPU(1,1,2;IMNLAY2))
DO 5013 LL=1,NLAY
FFLUX1(1,LL) = 8.*(PPU(1,LL,1) - PPU(IM ,LL,1))
FFLUX2(1,LL) = 8.*(PPU(1,LL,2) - PPU(IMM1,LL,2))
FFLUX2(2,LL) = 8.*(PPU(2,LL,2) - PPU(IM ,LL,2))
5013 CONTINUE
CONV(1,1,K;IMNLAY) = CONV(1,1,K;IMNLAY)
S - FFLUX1(1,1;IMNLAY) + FFLUX2(1,1;IMNLAY)

.....
HORIZONTAL ADVECTION NEAR NORTH POLE
.....
00498 FFLUX1(1,1;IMNLAY) = H1DT*PV(1,1,K;IMNLAY)

.....
U WIND ADVECTION
.....
00499 GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)
S *(U(1,1+NLAYND,1,JM;IMNLAY) + U(1,1+NLAYND,1,JNP;IMNLAY))
00500 U(1,1+NLAYNB,1,JM;IMNLAY) =
S U(1,1+NLAYNB,1,JM;IMNLAY) - GFLUX1(1,1;IMNLAY)

.....
V WIND ADVECTION
.....
00501 GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)
S *(V(1,1+NLAYND,1,JM;IMNLAY) + V(1,1+NLAYND,1,JNP;IMNLAY))
00502 V(1,1+NLAYNB,1,JM;IMNLAY) =
S V(1,1+NLAYNB,1,JM;IMNLAY) - GFLUX1(1,1;IMNLAY)

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VCOMP1 389
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C .....
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C .....
00503   GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)
$       *(T(1,1+NLAYND,1,JM;IMNLAY) + T(1,1+NLAYND,1,JNP;IMNLAY))
00504   T(1,1+NLAYNB,1,JM;IMNLAY) =
$       T(1,1+NLAYNB,1,JM;IMNLAY) - GFLUX1(1,1;IMNLAY)
C .....
C .....
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C .....
C .....
00505   GFLUX1(1,1;IMNLAY) = FFLUX1(1,1;IMNLAY)
$       *(SH(1,1+NLAYND,1,JM;IMNLAY) + SH(1,1+NLAYND,1,JNP;IMNLAY))
C
00506   BIT1D = SH(1,1+NLAYND,1,JM;IMNLAY).LE.O.
00507   BIT2D = GFLUX1(1,1;IMNLAY).LT.O.
00508   BIT3D = BIT1D.AND.BIT2D
00509   BIT4D = SH(1,1+NLAYND,1,JNP;IMNLAY).LE.O.
00510   BIT5D = BIT4D.AND.BIT3D
00511   BIT5D = BIT5D.OR.BIT3D
C
00512   GFLUX1(1,1;IMNLAY) = QBVMASK(0.0,GFLUX1(1,1;IMNLAY).BIT5D;
$       GFLUX1(1,1;IMNLAY))
C
00513   SH(1,1+NLAYNB,1,JM;IMNLAY) =
$       SH(1,1+NLAYNB,1,JM;IMNLAY) - GFLUX1(1,1;IMNLAY)
C .....
C .....
C .....
C .....
C .....
00514   70   CONTINUE
00515   DO 5014 LL=1,NLAY
00516   CONV(1,LL,K;IM) = CONV(1,LL,K;IM)*DSIG(LL)
00517   5014 CONTINUE
$0     90   CONTINUE
C .....
C .....
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C .....
00518   IF (J.EQ.1) GO TO 130
00519   PIT(1,K;IM) = CONV(1,NLAY,K;IM)
00520   DO 100 L=1,NLAYM
00521   PIT(1,K;IM) = PIT(1,K;IM) + CONV(1,L,K;IM)
00522   100   CONTINUE
00523   TEMP = DT/DXYP(J)
00524   P(1,NB,J;IM) = P(1,NB,J;IM) + TEMP*PIT(1,K;IM)
00525   SD1(1;IM) = 0.
00526   PK1(1;IM) = SIG(1)*P(1,ND,J;IM)+PTOP
00527   PK1(1;IM) = VEXPBYK(PK1(1;IM),IM;PK1(1;IM))
00528   DO 110 L=1,NLAYM
00529   LND = L + NLAYND
00530   LNB = L + NLAYNB
00531   LP1 = L + 1
00532   LP1ND = LP1 + NLAYND
00533   LP1NB = LP1 + NLAYNB
00534   SD(1,L,K;IM) = SD1(1;IM) + CONV(1,L,K;IM) - DSIG(L)*PIT(1,K;IM)
00535   SD1(1;IM) = SD(1,L,K;IM)
C .....
C .....

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VCOMP 1 460
VCOMP 1 461
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.....
VERTICAL ADVECTION OF MOMENTUM
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00608 PK1(1) = EXPBYK(SIG(1))*PP(ND,M)*PTOP)
00609 DO 170 L=1,NLAYM1
00610 LP1 = L + 1
00611 QFLUX = H2DT*SD(1,L,K)*(UP(L,ND,M) + UP(LP1,ND,M))
00612 UP(LP1,NB,M) = UP(LP1,NB,M) - QFLUX*DSIGINV(LP1)
00613 UP(L,NB,M) = UP(L,NB,M) + QFLUX*DSIGINV(L)
00614 QFLUX = H2DT*SD(1,L,K)*(VP(L,ND,M) + VP(LP1,ND,M))
00615 VP(LP1,NB,M) = VP(LP1,NB,M) - QFLUX*DSIGINV(LP1)
00616 VP(L,NB,M) = VP(L,NB,M) + QFLUX*DSIGINV(L)

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.....
VERTICAL ADVECTION OF TEMPERATURE
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00617 PK2(1) = EXPBYK(SIG(LP1))*PP(ND,M)*PTOP)
00618 QFLUX = H2DT*SD(1,L,K)*(TP(L,ND,M)/PK1(1) + TP(LP1,ND,M)/PK2(1))
00619 TP(LP1,NB,M) = TP(LP1,NB,M) - PK2(1)*QFLUX*DSIGINV(LP1)
00620 TP(L,NB,M) = TP(L,NB,M) + PK1(1)*QFLUX*DSIGINV(L)
00621 PK1(1) = PK2(1)

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00000000
.....
VERTICAL ADVECTION OF MOISTURE AT THE POLES
INVERSE LINEAR INTERPOLATION OF SPECIFIC HUMIDITY
CODE MOVED FROM COMP3 03/24/81
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00622 SHLE = SHP(L,ND,M) + SHP(LP1,ND,M)
00623 IF (SHLE.NE.0.) SHLE = 4.*SHP(L,ND,M)*SHP(LP1,ND,M)/SHLE
00624 QFLUX = H2DT*SD(1,L,K)*SHLE
00625 IF (SHP(L,ND,M).LE.0.) QFLUX = AMAX1(QFLUX,0.)
00626 IF (SHP(LP1,ND,M).LE.0.) QFLUX = AMIN1(QFLUX,0.)
00627 SHP(LP1,NB,M) = SHP(LP1,NB,M) - QFLUX*DSIGINV(LP1)
00628 SHP(L,NB,M) = SHP(L,NB,M) + QFLUX*DSIGINV(L)
00629 170 CONTINUE
00630 RETURN
00631 END

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VCOMP1 673
VCOMP1 674
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VCOMP1 718
VCOMP1 719

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	522	520
110	565	528
120	564	
130	566	518
150	601	573
160	606	603
170	629	609
20	432	341
30	437	431
50	488	430
5001	332	
5002	340	336
5003	350	346
5004	360	356
5005	367	363
5006	377	373
5007	384	380
5008	394	390
5009	401	397
5010	410	408

5011	418	415
5012	429	425
5013	496	492
5014	517	515
5015	485	481
5111	323	321
5112	327	325
5113	331	329
70	514	487

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE																		
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16																		
ADLDP	RDPARM	REAL	SIMPLE	217																			
ALBEDO	QANDQT	REAL	ARRAY	256	269																		
APHEL	RCNTRL	REAL	SIMPLE	157																			
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																		
BETA	RCNTRL	REAL	SIMPLE	158																			
BIT1	BIT	BIT	ARRAY	302	303	308	407	409	414	416	417	551/S	552	554									
BIT1D	BIT	BIT	DESCRIPTOR	557/S	557	559/S	559	560															
BIT2	BIT	BIT	ARRAY	304	305	308	404 S	411	419	460/S	462	467/S	469	506									
BIT2D	BIT	BIT	DESCRIPTOR	508																			
BIT3	BIT	BIT	ARRAY	302	303	309	407	409	555/S	558/S	558	559											
BIT3D	BIT	BIT	DESCRIPTOR	304	305	309	405/S	411/S	411	412	461/S	462	464	468									
BIT4	BIT	BIT	ARRAY	469	470	507/S	508	510															
BIT4D	BIT	BIT	DESCRIPTOR	302	303	310	414	416	417	556/S	557	558											
BIT5	BIT	BIT	ARRAY	304	305	310	405 S	419/S	419	420	463/S	464	479	508									
BIT5D	BIT	BIT	DESCRIPTOR	511																			
BITCOMP1	REAL	REAL	UNKNOWN	302	303	311	407/S	409/S	414/S	416/S	417/S												
BITMM1	BITCOMP1	BIT	ARRAY	304	305	311	412 S	412	413	420/S	420	421	462/S	465									
BITMM2	BITCOMP1	BIT	ARRAY	465	466	469/S	471/S	471	472	509/S	510												
CALTOJ	RCNTRL	REAL	SIMPLE	302	303	312	454/S	465	470/S	471	510/S	511/S	511	512									
CC	CCNTRL	CHAR*8	ARRAY	306	307	354		371	388	423													
CC0	CCNTRL	CHAR*8	ARRAY	306	307	353		370	387	422													
CCNTRL	CCNTRL	CHAR*8	SIMPLE	196																			
CCSP06	CCNTRL	CHAR*8	ARRAY	14	15																		
CCSP07	CCNTRL	CHAR*8	ARRAY	2	14	15																	
CCSP08	CCNTRL	CHAR*8	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12									
COMP1	CCNTRL	CHAR*8	UNKNOWN	13																			
CON1	RDPARM	REAL	SIMPLE	7	20																		
CON1DT	RDPARM	REAL	SIMPLE	8	21																		
CON2	RDPARM	REAL	SIMPLE	9	22																		
CON2DT	RDPARM	REAL	SIMPLE	1																			
CON3	RDPARM	REAL	SIMPLE	218	599																		
CON3DT	RDPARM	REAL	SIMPLE	219	595	596	597	598															
CON4	RDPARM	REAL	SIMPLE	220	599																		
CON4DT	RDPARM	REAL	SIMPLE	221	595	596	597	598															
CON5	RDPARM	REAL	SIMPLE	222																			
CONV	QMSAVE	REAL	ARRAY	223																			
COSD	RCNTRL	REAL	SIMPLE	224																			
COSL	RDPARM	REAL	ARRAY	225																			
COSLON	RDPARM	REAL	ARRAY	226																			
CP	RCNTRL	REAL	SIMPLE	227	577	579	587	589															
CPD2	RDPARM	REAL	SIMPLE	160																			
CQS	CCNTRL	CHAR*8	ARRAY	229																			
CQU	CCNTRL	CHAR*8	ARRAY	12	25																		
DAYSPLY	RCNTRL	REAL	SIMPLE	13	26																		
DEC	RCNTRL	REAL	SIMPLE	161																			
DECMAX	RCNTRL	REAL	SIMPLE	162																			
DIST	RCNTRL	REAL	SIMPLE	163																			
DLAT	RCNTRL	REAL	SIMPLE	164																			
DLON	RCNTRL	REAL	SIMPLE	165																			
				166																			

DSIG	RDPARM	REAL	ARRAY	250	516	534	599	604						
DSIGINV	RDPARM	REAL	ARRAY	252	537	538	540	541	547	548	561	562	612	613
DT	RCNTRL	REAL	SIMPLE	157	523	619	620	627	628					
DXP	RDPARM	REAL	ARRAY	230	435	436	438							
DXYP	RDPARM	REAL	ARRAY	231	523									
DYP	RDPARM	REAL	ARRAY	232	333									
ECCN	RCNTRL	REAL	SIMPLE	168										
EPS	RCNTRL	REAL	SIMPLE	194										
EPSFAC	RCNTRL	REAL	SIMPLE	195										
F1DT	RDPARM	REAL	SIMPLE	234										
F2DT	RDPARM	REAL	SIMPLE	235										
FCORLS	RDPARM	REAL	ARRAY	233										
FFLUX1	//	REAL	ARRAY	301	342/S	351	368	385	402	441/S	443	448	453	458
				479/S	482/S	486	490/S	493/S	497	498/S	499	501	503	505
				536/S	537	538	539/S	540	541	544/S	545/S	545	546/S	546
				547	548	550/S	551	552/S	552	553	577/S	578	579/S	580
				581/S	582	583/S	584	587/S	588	589/S	590	591/S	592	593
				594										
FFLUX2	//	REAL	ARRAY	301	343/S	352	369	386	403	442/S	444	449	454	459
				480/S	483/S	484/S	485	491/S	494/S	495/S	497	553/S	556	560
				560	560	561	562							
				211	214									
				301	344/S	347/S	351/S	351	354	355	359	361/S	364/S	368
				368	371	372	376	378/S	381/S	385/S	385	388	389	393
				395/S	398/S	402/S	402	405	413/S	413	413	423	424	428
				443/S	446	447	448/S	451	452	453/S	456	457	458/S	461
				466/S	466	466	474	475	499/S	500	501/S	502	503/S	504
				505/S	507	512/S	512	512	513					
				301	345/S	348/S	349/S	352/S	352	353	355	357	358	362
				365/S	366/S	369/S	369	370	372	374	375	379/S	382/S	383
				386/S	386	387	389	391	392	396/S	399/S	400/S	403/S	409
				406	421/S	421	421	422	424	426	427	444/S	445	447
				449/S	450	452	454/S	455	457	459/S	468	472/S	472	472
				473	475									
GNU1	RCNTRL	REAL	SIMPLE	169										
GNU2	RCNTRL	REAL	SIMPLE	170										
GRAV	RCNTRL	REAL	SIMPLE	171										
GT	QANDQT	REAL	ARRAY	257	270									
GW	QANDQT	REAL	ARRAY	258	271									
H1DT	RDPARM	REAL	SIMPLE	236	342	441	498							
H2DT	RDPARM	REAL	SIMPLE	237	343	442	536	539	546	553	611	614	618	624
HEATI	RCNTRL	REAL	SIMPLE	193										
HEATW	RCNTRL	REAL	SIMPLE	192										
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70										
IC	ICNTRL	INTEGER	ARRAY	95	96									
IC0	ICNTRL	INTEGER	SIMPL.	27	95	96								
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37
				38	39	40	41	42	43	44	45	46	47	48
				49	50	51	52	53	54	55	56	57	58	59
				60	61	62	63	64	65	66	67	68	69	70
				71	72	73	74	75	76	77	78			
ICSP53	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92										
IDPARM	IDPARM	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	209	209	210
IDSPO2	IDPARM	INTEGER	UNKNOWN	201										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88										
IJUMP	IDPARM	INTEGER	ARRAY	200										
IM	ICNTRL	INTEGER	SIMPLE	28	320	320	322	322	324	324	326	326	328	328
				330	330	337	337	339	339	347	347	348	348	358
				359	364	364	365	365	375	376	381	381	382	382
				392	393	398	398	399	399	408	408	415	427	428
				482	484	493	495	516	516	519	519	521	521	521
				524	524	524	525	526	526	527	527	527	527	534
				534	534	534	535	535	536	536	536	536	537	537
				537	538	538	538	539	539	539	539	540	540	540
				541	541	541	542	542	543	543	543	543	544	544

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				544	545	545	545	545	545	546	546	546	547	547	547
				547	548	548	548	548	548	549	549	550	550	550	551
				551	552	552	552	552	552	553	553	553	553	554	554
				555	555	556	556	557	557	557	558	558	558	558	559
				559	559	560	560	560	560	561	561	561	561	562	562
				562	575	575	575	576	576	577	577	577	577	577	577
				573	579	579	579	579	579	579	579	580	581	581	581
				582	583	583	583	584	585	585	585	585	586	587	587
				587	587	587	587	588	588	589	589	589	589	589	589
				590	591	591	591	592	592	593	593	593	594		
IMD2	ICNTRL	INTEGER	SIMPLE	29											
IMD2M1	IMJM	INTEGER	SIMPLE	300											
IMD2P1	ICNTRL	INTEGER	SIMPLE	30											
IMJM		INTEGER	UNKNOWN	300											
IMM1	IMJM	INTEGER	SIMPLE	300	352	338	349	349	357	366	366	366	374	383	383
				391	400	400	409	415	426	483	483	494			
IMM2	IMJM	INTEGER	SIMPLE	300	416										
IMM3	IMJM	INTEGER	SIMPLE	300	417										
IMM4	IMJM	INTEGER	SIMPLE	300											
IMM5	IMJM	INTEGER	SIMPLE	300											
IMNLAY	IMJM	INTEGER	SIMPLE	300	333	333	333	342	342	343	343	343	351	351	351
				352	352	352	355	355	355	355	368	368	368	368	369
				369	369	372	372	372	372	385	385	385	385	386	386
				386	389	389	389	389	402	402	402	402	403	403	403
				404	405	406	408	413	413	413	413	415	421	421	421
				424	424	424	424	433	434	435	435	435	435	436	436
				436	438	438	438	439	439	439	439	440	440	440	441
				441	442	442	443	443	443	443	444	444	444	444	444
				445	445	445	446	446	446	447	447	447	447	447	448
				448	448	448	449	449	449	449	450	450	450	450	451
				451	451	452	452	452	452	453	453	453	453	453	454
				454	454	454	455	455	455	456	456	456	456	457	457
				457	457	458	458	458	458	459	459	459	459	459	460
				461	463	466	466	466	466	467	468	472	472	472	473
				473	473	474	474	474	475	475	475	475	476	476	476
				477	477	477	478	478	478	478	478	486	486	486	486
				489	489	489	497	497	497	497	498	498	498	499	499
				499	499	500	500	500	501	501	501	501	501	502	502
				502	503	503	503	503	504	504	504	504	505	505	505
				505	506	507	509	512	512	512	513	513	513	513	513
IMNLAY1	IMJM	INTEGER	SIMPLE	300	334	334	334	344	344	344	344	354	354	354	354
				361	361	361	371	371	371	371	371	378	378	378	388
				388	388	388	395	395	395	407	407	407	407	423	423
				423	423	479	479	479	490	490	490	490			
IMNLAY2	IMJM	INTEGER	SIMPLE	300	335	335	335	345	345	345	345	353	353	353	353
				362	362	362	370	370	370	370	370	379	379	379	387
				387	387	387	396	396	396	414	414	414	422	422	422
				422	422	480	480	480	491	491	491	491			
IMNLAY3	IMJM	INTEGER	SIMPLE	300											
IMNLAY4	IMJM	INTEGER	SIMPLE	300											
IMNLAY5	IMJM	INTEGER	SIMPLE	300											
IMT2	IMJM	INTEGER	SIMPLE	300											
IMT4	IMJM	INTEGER	SIMPLE	300											
INDEX	IDPARM	INTEGER	ARRAY	202											
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91											
IPREACC	ICNTRL	INTEGER	UNKNOWN	81											
IPRECON	ICNTRL	INTEGER	UNKNOWN	82											
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88	88
				89	90										
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282										
IOU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94							
IRADLW	ICNTRL	INTEGER	UNKNOWN	94											
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87											
IRADSW	ICNTRL	INTEGER	UNKNOWN	93											
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86											
IROD	IDPARM	INTEGER	SIMPLE	203											
ITAPE	IDPARM	LOGICAL	SIMPLE	212	215										
ITMAX	ICNTRL	INTEGER	UNKNOWN	80											
ITMIN	ICNTRL	INTEGER	UNKNOWN	79											
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89											

IVFLUX J	ICNTRL	INTEGER INTEGER	UNKNOWN SIMPLE	90 1	315	316	317	320	333	333	341	344	344	345
				345	347	347	348	348	349	349	353	354	354	354
				355	355	357	357	358	359	359	359	359	359	359
				362	364	364	365	365	366	366	370	370	371	371
				372	372	374	374	375	375	376	376	378	378	379
				379	381	381	382	382	383	383	387	387	388	388
				389	389	391	391	392	392	393	393	395	395	396
				396	398	398	399	399	400	400	404	422	422	423
				423	424	424	426	426	427	427	428	428	430	435
				435	443	444	447	447	448	449	452	452	453	454
				457	457	458	459	463	475	475	518	523	524	524
				526	536	536	537	537	538	538	539	539	540	540
				541	541	542	544	545	547	547	548	548	550	550
				552	552	554	555	561	561	562	562	565	568	568
JC	IDPARM	INTEGER	ARRAY	204	317	318	319	569	561	562	562	565	568	568
JE	IDPARM	INTEGER	ARRAY	205	569									
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	32	430	499	500	500	501	502	502	503	504	504
JMD2	ICNTRL	INTEGER	SIMPLE	505	506	513	513	565	568	502	502	503	504	504
JMT2	ICNTRL	INTEGER	SIMPLE	33										
JNP	ICNTRL	INTEGER	SIMPLE	34										
JO4	ICNTRL	INTEGER	SIMPLE	35	499	501	503	505	509					
JOB	ICNTRL	INTEGER	SIMPLE	36										
JOB	CCNTRL	CHAR*8	SIMPLE	37										
JP	IDPARM	INTEGER	ARRAY	6	19									
JP1		INTEGER	SIMPLE	206	571	572								
				315/S	318	324	436	436	443	446	446	448	451	451
				453	456	456	458	460	474	474	571/S	575	575	577
JP2		INTEGER	SIMPLE	577	579	579	581	583						
				316/S	319	328	438		444	445	445	449	450	450
				454	455	455	459	467	473	473	572/S	585	585	587
JSP	ICNTRL	INTEGER	SIMPLE	587	589	589	591	593						
K		INTEGER	SIMPLE	38										
				317/S	434	435	439	440	478	478	486	486	489	489
				489	497	497	498	516	516	519	486	486	489	489
				524	534	534	534	535	536	539	546	553	559/S	570
				599	600	600	600	604	604	604	605	607	611	614
				618	624									
KLIA16	ICNTRL	INTEGER	SIMPLE	39										
KLIGW	ICNTRL	INTEGER	SIMPLE	40										
KLISST	ICNTRL	INTEGER	SIMPLE	41										
KP1		INTEGER	SIMPLE	41										
KP2		INTEGER	SIMPLE	318/S	433	436	439	477	477					
KS	ICNTRL	INTEGER	SIMPLE	319/S	438	440	476							
KSTEP	IDPARM	INTEGER	SIMPLE	42										
KU	ICNTRL	INTEGER	SIMPLE	207										
L		INTEGER	SIMPLE	43										
				321/C	322	325/C	326	329/C	330	520/C	521	528/C	529	530
				531	534	534	534	535	536	538	539	541	546	548
				553	562	573/C	574	595	595	596	596	597	597	598
				598	599	599	600	603/C	604	604	604	605	609/C	610
				611	611	613	613	613	614	614	616	616	618	618
				618	620	620	620	622	623	624	625	628	628	628
LC	LCNTRL	LOGICAL	ARRAY	154	155									
LC0	LCNTRL	LOGICAL	SIMPLE	97	154									
LCNTRL		INTEGER	UNKNOWN	97	98	155								
				108	109	99	100	101	102	103	104	105	106	107
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151									
LDPARM		INTEGER	UNKNOWN	211	212	213								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147									
LL		INTEGER	SIMPLE	336/C	337	337	337	338	338	338	339	339	339	346
				347	347	347	348	348	348	349	349	349	356/C	357
				357	357	358	358	358	359	359	359	363/C	364	364
				364	365	365	365	366	366	366	373/C	374	374	374
				375	375	375	376	376	376	376	380/C	381	381	382
				382	382	383	383	383	390/C	391	391	391	392	392

				392	393	393	393	397/C	398	398	398	399	399	399
				400	400	400	408/C	409	409	409	415/C	416	416	416
				417	417	417	425/C	426	426	426	427	427	427	428
				428	428	481/C	482	482	482	483	483	483	484	484
				484	492/C	493	493	493	494	494	494	495	495	495
				515/C	516	516	516							
LNB		INTEGER	SIMPLE	530/S	538	538	541	541	548	548	562	562	562	577
LND		INTEGER	SIMPLE	529/S	536	539	544	550	552	554	574/S	575	575	577
				579	579	581	583	585	587	587	589	589	591	593
LOGBR	ICNTRL	INTEGER	SIMPLE	44										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150									
LP1		INTEGER	SIMPLE	531/S	532	533	537	540	542	547	561	610/S	611	612
				612	612	614	615	615	615	617	618	619	619	619
				622	623	626	627	627	627					
LP1NB		INTEGER	SIMPLE	533/S	537	537	540	540	547	547	561	561		
LP1ND		INTEGER	SIMPLE	532/S	536	539	545	550	552	555				
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141									
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119
				120	121	136								
LQU	LCNTRL	LOGICAL	ARRAY	109	122	123	124	125	137					
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153									
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138									
LUFLEX	LCNTRL	LOGICAL	UNKNOWN	120	148									
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149									
M		INTEGER	SIMPLE	567/S	568/S	569	571	572	577	579	587	589	595	595
				595	596	596	596	597	597	597	598	598	598	599
				607	607	608	611	611	612	612	613	613	614	614
				615	615	616	616	617	618	618	619	619	620	620
				622	622	623	623	625	626	627	627	628	628	
MATIN	ICNTRL	INTEGER	SIMPLE	45										
MATSNX	ICNTRL	INTEGER	SIMPLE	46										
MATSUM	ICNTRL	INTEGER	SIMPLE	47										
MJ	IDPARM	INTEGER	ARRAY	208										
MLF	ICNTRL	INTEGER	ARRAY	48										
MROD	ICNTRL	INTEGER	SIMPLE	49										
MSM	ICNTRL	INTEGER	SIMPLE	51										
NB	ICNTRL	INTEGER	SIMPLE	52	314	524	524	595	595	596	596	597	597	598
				598	607	607	612	612	613	613	615	615	616	616
				619	619	620	620	627	628	628	628	628	628	628
ND	ICNTRL	INTEGER	SIMPLE	53	313	320	324	328	526	542	575	595	608	611
				611	614	614	617	618	618	622	622	623	623	625
				626										
NDALT	ICNTRL	INTEGER	SIMPLE	54										
NDAY	ICNTRL	INTEGER	SIMPLE	55										
NDHOG	ICNTRL	INTEGER	SIMPLE	76										
NDOUT	ICNTRL	INTEGER	SIMPLE	56										
NDPHY	ICNTRL	INTEGER	SIMPLE	57										
NDRSW	ICNTRL	INTEGER	SIMPLE	31										
NDSHF	ICNTRL	INTEGER	SIMPLE	58										
NDT	ICNTRL	INTEGER	SIMPLE	59										
NHMS	ICNTRL	INTEGER	SIMPLE	60										
NHMS0	ICNTRL	INTEGER	SIMPLE	62										
NHMS1	IDPARM	INTEGER	SIMPLE	209										
NHMS2	ICNTRL	INTEGER	SIMPLE	61										
NKRSH	ICNTRL	INTEGER	SIMPLE	50										
NLAY	ICNTRL	INTEGER	SIMPLE	63	313	314	321	325	329	336	346	355	363	373
				380	390	397	425	481	492	515	519	573		
NLAYM1	ICNTRL	INTEGER	SIMPLE	64	520	528	603	609						
NLAYNB		INTEGER	SIMPLE	314/S	353	353	354	354	355	355	357	357	358	358
				359	359	370	370	371	371	372	372	374	374	375
				375	376	376	387	387	388	388	389	389	391	391
				392	392	393	393	422	422	423	423	424	424	426
				426	427	427	428	428	445	445	446	446	447	447
				450	450	451	451	452	452	455	455	455	456	457
				457	473	473	474	474	475	475	500	500	502	502

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PVU2S		REAL	SIMPLE	588/S	595																
PVV1S		REAL	SIMPLE	580/S	596																
PVV2S		REAL	SIMPLE	590/S	596																
PZERO	RCNTRL	REAL	SIMPLE	197																	
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																
QANDQT		REAL	UNKNOWN	253	280	283															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QFLUX		REAL	SIMPLE	611/S	612	613	614/S	615	616	618/S	619	620	624/S	625							
				625	626/S	626	627	628													
QMSAVE		REAL	UNKNOWN	290	291	292	293	294	295	296	297	298	299								
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289												
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282																
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QUDIAG	QANDQT	REAL	ARRAY	283																	
RADE	RCNTRL	REAL	SIMPLE	181																	
RC	RCNTRL	REAL	ARRAY	198	199																
RCO	RCNTRL	REAL	SIMPLE	156	198																
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166							
				167	168	169	170	171	172	173	174	175	176	177							
				178	179	180	181	182	183	184	185	186	187	188							
				189	190	191	192	193	194	195	196	197									
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227							
				228	229	230	231	232	233	234	235	236	237	238							
				239	240	241	242	243	244	245	246	247	248	249							
				250	251	252															
				182																	
RGAS	RCNTRL	REAL	SIMPLE	240																	
RLAT	RDPARM	REAL	ARRAY	241																	
RLATD	RDPARM	REAL	ARRAY	183																	
ROCP	RCNTRL	REAL	SIMPLE	242																	
ROCPDT	RDPARM	REAL	SIMPLE	243																	
ROCPP1	RDPARM	REAL	SIMPLE	184																	
RSDIST	RCNTRL	REAL	SIMPLE	184																	
SD	QMSAVE	REAL	ARRAY	298	534/S	535	536	539	546	553	604/S	605	611	614							
				618	624																
SD1	//	REAL	ARRAY	301	525/S	534	535/S	602/S	604	605/S											
SDAY	RCNTRL	REAL	SIMPLE	185																	
SEASON	RCNTRL	REAL	SIMPLE	186																	
SGNP	RDPARM	REAL	ARRAY	244	577	579	587	589	595	596	597	598	599								
SH	QANDQT	REAL	ARRAY	265	278	395	395	396	396	398	398	399	399	400							
				400	404	422/S	422	423/S	423	424/S	424	426/S	426	427							
				427	428/S	428	458	458	459	459	460	463	467	473							
				473	474/S	474	475/S	475	505	505	506	509	513/S	513							
				550	550	552	552	554	555	561/S	561	562/S	562	583							
				593																	
SHLE		REAL	SIMPLE	622/S	623	623/S	623	624													
SHM	QMSAVE	REAL	ARRAY	294																	
SHP	QPOLES	REAL	ARRAY	288	598/S	598	622	622	623	623	625	625	627/S	627							
				628/S	628																
				260	273																
SHS	QANDQT	REAL	ARRAY	251	526	542	608	617													
SIG	RDPARM	REAL	ARRAY	187																	
SIGE	RCNTRL	REAL	ARRAY	188																	
SIND	RCNTRL	REAL	SIMPLE	245																	
SINL	RDPARM	REAL	ARRAY	246	577	579	587	589													
SINLON	RDPARM	REAL	ARRAY	255	268																
SMTH	QANDQT	REAL	ARRAY	105	133																
SN2FLG	RCNTRL	LOGICAL	SIMPLE	189																	
SOLS	LCNTRL	REAL	SIMPLE	213	216																
START	LDPARM	LOGICAL	SIMPLE	264	277	378	378	379	379	381	381	382	382	383							
T	QANDQT	REAL	ARRAY	383	387/S	387	388/S	388	389/S	389	391/S	391	392/S	392							
				393/S	393	453	453	454	454	455/S	455	456/S	456	457							
				467	503	503	504/S	504	544	545	547/S	547	548/S	548							

TEMP		REAL	SIMPLE	581	591															
TERMT		REAL	ARRAY	523/S	524															
TERMW	QMSAVE	REAL	ARRAY	299																
THSTD	RDPARM	REAL	SIMPLE	299																
THSTD2	RDPARM	REAL	SIMPLE	247																
TM	QMSAVE	REAL	SIMPLE	248																
TP	QPOLES	REAL	ARRAY	293																
TS	QANDQT	REAL	ARRAY	287	597/S	597	618	618	619/S	619	620/S	620								
TSTD	RCNTRL	REAL	ARRAY	259	272															
U	QANDQT	REAL	ARRAY	190																
				262	275	333	344	344	345	345	347	347	348	348						
				349	349	353/S	353	354/S	354	355/S	355	357	357	358						
				358	359/S	359	443	443	444	444	445/S	445	446/S	446						
				447/S	447	499	499	500/S	500	536	536	537	537	538						
				538	577	579	587	589												
UM	QMSAVE	REAL	ARRAY	291																
UP	QPOLES	REAL	ARRAY	285	595/S	595	611	611	612/S	612	613/S	613								
V	QANDQT	REAL	ARRAY	263	276	361	361	362	362	364	364	365	365	366						
				366	370/S	370	371/S	371	372/S	372	374/S	374	375/S	375						
				376/S	376	435	435	438	448	448	449	449	450/S	450						
				451/S	451	452/S	452	501	501	502/S	502	539	539	540						
				540	541/S	541	575	577	579	585	587	589	589	540						
VER	CCNTRL	CHAR*8	SIMPLE	10	23															
VM	QMSAVE	REAL	ARRAY	292																
VP	QPOLES	REAL	ARRAY	286	596/S	596	614	614	615/S	615	616/S	616								
WSAVE	RDPARM	REAL	ARRAY	249																
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24															

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST													
AMAX1-	REAL	INTRINSIC	625																	
AMINI	REAL	INTRINSIC	626																	
EXPBYK	REAL	FUNCTION	608	617																
Q8SSUM	REAL	INTRINSIC	576	578	580	582	584	586	588	590	592	594								
QBVMASK	REAL	INTRINSIC	413	421	466	472	512	550												
VEXPBYK	REAL	FUNCTION	527	543																

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00001		SUBROUTINE COMP2 (J)	VCOMP2	2
	C		VCOMP2	3
		INTEGRATES CORIOLIS, THERMODYNAMICS, AND PRESSURE GRADIENT	VCOMP2	4
	C		VCOMP2	5
		ARGUMENTS DESCRIPTION	VCOMP2	6
	C	J LATITUDE BAND NUMBER	VCOMP2	7
			VCOMP2	8
	C		VCNTRL	2
		CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL	3
	C	-----	VCNTRL	4
00002		COMMON /CCNTR_/ CC0	VCNTRL	5
00003		COMMON /CCNTRL/ ADATE	VCNTRL	6
00004		COMMON /CCNTRL/ ATIME	VCNTRL	7
00005		COMMON /CCNTRL/ JIC	VCNTRL	8
00006		COMMON /CCNTRL/ JOB	VCNTRL	9
00007		COMMON /CCNTRL/ CCSP06	VCNTRL	10
00008		COMMON /CCNTRL/ CCSP07	VCNTRL	11
00009		COMMON /CCNTRL/ CCSP08	VCNTRL	12
00010		COMMON /CCNTRL/ VER	VCNTRL	13
00011		COMMON /CCNTRL/ XLABEL (10)	VCNTRL	14
00012		COMMON /CCNTRL/ CQS (30)	VCNTRL	15
00013		COMMON /CCNTRL/ CQU (10)	VCNTRL	16
	C		VCNTRL	17
00014		EQUIVALENCE (CC0,CC(1))	VCNTRL	18
00015		CHARACTER*8 CC0, CC(200)	VCNTRL	19
00016		CHARACTER*8 ADATE	VCNTRL	20
00017		CHARACTER*8 ATIME	VCNTRL	21
00018		CHARACTER*8 JIC	VCNTRL	22
00019		CHARACTER*8 JOB	VCNTRL	23
00020		CHARACTER*8 CCSP06	VCNTRL	24
00021		CHARACTER*8 CCSP07	VCNTRL	25
00022		CHARACTER*8 CCSP08	VCNTRL	26
00023		CHARACTER*8 VER	VCNTRL	27
00024		CHARACTER*8 XLABEL	VCNTRL	28
00025		CHARACTER*8 CQS	VCNTRL	29
00026		CHARACTER*8 CQU	VCNTRL	30
	C		VCNTRL	31
	C		VCNTRL	32
		INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL	33
	C	-----	VCNTRL	34
00027		COMMON /ICNTRL/ IC0	VCNTRL	35
00028		COMMON /ICNTRL/ IM	VCNTRL	36
00029		COMMON /ICNTRL/ IMD2	VCNTRL	37
00030		COMMON /ICNTRL/ IMD2P1	VCNTRL	38
00031		COMMON /ICNTRL/ NDRSW	VCNTRL	39
00032		COMMON /ICNTRL/ JM	VCNTRL	40
00033		COMMON /ICNTRL/ JMD2	VCNTRL	41
00034		COMMON /ICNTRL/ JMT2	VCNTRL	42
00035		COMMON /ICNTRL/ JNP	VCNTRL	43
00036		COMMON /ICNTRL/ JO4	VCNTRL	44
00037		COMMON /ICNTRL/ JO8	VCNTRL	45
00038		COMMON /ICNTRL/ JSP	VCNTRL	46
00039		COMMON /ICNTRL/ KLIALB	VCNTRL	47
00040		COMMON /ICNTRL/ KLIGW	VCNTRL	48
00041		COMMON /ICNTRL/ KLISST	VCNTRL	49
00042		COMMON /ICNTRL/ KS	VCNTRL	50
00043		COMMON /ICNTRL/ KU	VCNTRL	51
00044		COMMON /ICNTRL/ LOG8R	VCNTRL	52
00045		COMMON /ICNTRL/ MATIN	VCNTRL	53
00046		COMMON /ICNTRL/ MATSNX	VCNTRL	54
00047		COMMON /ICNTRL/ MATSUN	VCNTRL	55
00048		COMMON /ICNTRL/ MLF (12)	VCNTRL	56
00049		COMMON /ICNTRL/ MR0D	VCNTRL	57
00050		COMMON /ICNTRL/ NKRSR	VCNTRL	58
00051		COMMON /ICNTRL/ MSM	VCNTRL	59
00052		COMMON /ICNTRL/ NB	VCNTRL	60
00053		COMMON /ICNTRL/ ND	VCNTRL	61
00054		COMMON /ICNTRL/ NDALT	VCNTRL	62
00055		COMMON /ICNTRL/ NDAY	VCNTRL	63
00056		COMMON /ICNTRL/ NDOUT	VCNTRL	64
00057		COMMON /ICNTRL/ NDPHY	VCNTRL	65
00058		COMMON /ICNTRL/ NDSHF	VCNTRL	65

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00059	COMMON /ICNTRL/ ND		VCNTRL 66
00060	COMMON /ICNTRL/ NHMS		VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE		VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO		VCNTRL 69
00063	COMMON /ICNTRL/ NLAY		VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1		VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1		VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY		VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ		VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53		VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP		VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ		VCNTRL 77
00071	COMMON /ICNTRL/ NYMD		VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE		VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO		VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT		VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV		VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG		VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)		VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)		VCNTRL 85
C			VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))		VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))		VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))		VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))		VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))		VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))		VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))		VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))		VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))		VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))		VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))		VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))		VCNTRL 98
C			VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))		VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))		VCNTRL 101
00093	EQUIVALENCE (IRADSWG .IQU(3))		VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))		VCNTRL 103
C			VCNTRL 104
00095	EQUIVALENCE (ICO.IC(1))		VCNTRL 105
00096	INTEGER IC0. IC(200)		VCNTRL 106
C			VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 108
C	=====		VCNTRL 109
00097	COMMON /LCNTRL/ LCO		VCNTRL 110
00098	COMMON /LCNTRL/ QALT		VCNTRL 111
00099	COMMON /LCNTRL/ QBEG		VCNTRL 112
00100	COMMON /LCNTRL/ QDAY		VCNTRL 113
00101	COMMON /LCNTRL/ QEND		VCNTRL 114
00102	COMMON /LCNTRL/ QOUT		VCNTRL 115
00103	COMMON /LCNTRL/ QPHY		VCNTRL 116
00104	COMMON /LCNTRL/ QSHF		VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG		VCNTRL 118
00106	COMMON /LCNTRL/ QRSW		VCNTRL 119
00107	COMMON /LCNTRL/ QRSW		VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)		VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)		VCNTRL 122
C			VCNTRL 123
00110	EQUIVALENCE (LTMIN .LQS(1))		VCNTRL 124
00111	EQUIVALENCE (LTMAX .LQS(2))		VCNTRL 125
00112	EQUIVALENCE (LPREACC .LQS(3))		VCNTRL 126
00113	EQUIVALENCE (LPRECON .LQS(4))		VCNTRL 127
00114	EQUIVALENCE (LHFLUX .LQS(5))		VCNTRL 128
00115	EQUIVALENCE (LEFLUX .LQS(6))		VCNTRL 129
00116	EQUIVALENCE (LFUSION .LQS(7))		VCNTRL 130
00117	EQUIVALENCE (LRADSWG .LQS(8))		VCNTRL 131
00118	EQUIVALENCE (LRADLWG .LQS(9))		VCNTRL 132
00119	EQUIVALENCE (LIICLOUD .LQS(10))		VCNTRL 133
00120	EQUIVALENCE (LUFLUX .LQS(11))		VCNTRL 134
00121	EQUIVALENCE (LVFLUX .LQS(12))		VCNTRL 135
C			VCNTRL 136

00122	EQUIVALENCE	(LOMEGA	.LQU(1))
00123	EQUIVALENCE	(LDIABAT	.LQU(2))
00124	EQUIVALENCE	(LRADSW	.LQU(3))
00125	EQUIVALENCE	(LRADLW	.LQU(4))

00126	LOGICAL	QALT
00127	LOGICAL	QBEG
00128	LOGICAL	QDAY
00129	LOGICAL	QEND
00130	LOGICAL	QOUT
00131	LOGICAL	QPHY
00132	LOGICAL	QSHF
00133	LOGICAL	SN2FLG
00134	LOGICAL	QRSW
00135	LOGICAL	QRSH

00136	LOGICAL	LQS
00137	LOGICAL	LQU
00138	LOGICAL	LTMIN
00139	LOGICAL	LTMAX
00140	LOGICAL	LPREACC
00141	LOGICAL	LPRECON
00142	LOGICAL	LHFLUX
00143	LOGICAL	LEFLUX
00144	LOGICAL	LFUSION
00145	LOGICAL	LRADSWG
00146	LOGICAL	LRADLWG
00147	LOGICAL	LICLOUD
00148	LOGICAL	LVFLUX
00149	LOGICAL	LVFLUX

00150	LOGICAL	LOMEGA
00151	LOGICAL	LDIABAT
00152	LOGICAL	LRADSW
00153	LOGICAL	LRADLW

00154	EQUIVALENCE	(LCO,LC(1))
00155	LOGICAL	LCO, LC(200)

REAL MODEL PARAMETERS SAVED ON HISTORY RECORD

00156	COMMON /RCNTRL/	RCO
00157	COMMON /RCNTRL/	APHEL
00158	COMMON /RCNTRL/	BETA
00159	COMMON /RCNTRL/	COSD
00160	COMMON /RCNTRL/	CP
00161	COMMON /RCNTRL/	DAYSPLY
00162	COMMON /RCNTRL/	DEC
00163	COMMON /RCNTRL/	DECMAX
00164	COMMON /RCNTRL/	DIST
00165	COMMON /RCNTRL/	DLAT
00166	COMMON /RCNTRL/	DLON
00167	COMMON /RCNTRL/	DT
00168	COMMON /RCNTRL/	ECCN
00169	COMMON /RCNTRL/	GNU1
00170	COMMON /RCNTRL/	GNU2
00171	COMMON /RCNTRL/	GRAV
00172	COMMON /RCNTRL/	OMEGA2
00173	COMMON /RCNTRL/	PI
00174	COMMON /RCNTRL/	PI180
00175	COMMON /RCNTRL/	PI2
00176	COMMON /RCNTRL/	PSTD
00177	COMMON /RCNTRL/	PIMEAN
00178	COMMON /RCNTRL/	PSMAX
00179	COMMON /RCNTRL/	PSMIN
00180	COMMON /RCNTRL/	PTOP
00181	COMMON /RCNTRL/	RADE
00182	COMMON /RCNTRL/	RGAS
00183	COMMON /RCNTRL/	ROCP
00184	COMMON /RCNTRL/	RSDIST
00185	COMMON /RCNTRL/	SDAY

VCNTRL	137
VCNTRL	138
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VCNTRL	207

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00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
	C		VCNTRL 220
00198	EQUIVALENC (RCO,RC(1))		VCNTRL 221
00199	REAL RC0, RC(200)		VCNTRL 222
	C		VCNTRL 223
	C		VCNTRL 224
	C		VCNTRL 225
	INTEGER MODEL CONSTANTS		VCNTRL 226
	=====		VCNTRL 227
00200	COMMON /IDPARM/ IJUMP (46)		VCNTRL 228
00201	COMMON /IDPARM/ IDSP02		VCNTRL 229
00202	COMMON /IDPARM/ INDEX (72)		VCNTRL 230
00203	COMMON /IDPARM/ IROD		VCNTRL 231
00204	COMMON /IDPARM/ JC (46)		VCNTRL 232
00205	COMMON /IDPARM/ JE (2)		VCNTRL 233
00206	COMMON /IDPARM/ JP (2,2)		VCNTRL 234
00207	COMMON /IDPARM/ KSTEP		VCNTRL 235
00208	COMMON /IDPARM/ MJ (46)		VCNTRL 236
00209	COMMON /IDPARM/ NHMS1		VCNTRL 237
00210	COMMON /IDPARM/ NYMD1		VCNTRL 238
	C		VCNTRL 239
	C		VCNTRL 240
	C		VCNTRL 241
	LOGICAL MODEL CONSTANTS		VCNTRL 242
	=====		VCNTRL 243
00211	COMMON /LDPARM/ FILTER (46)		VCNTRL 244
00212	COMMON /LDPARM/ ITAPE		VCNTRL 245
00213	COMMON /LDPARM/ START		VCNTRL 246
	C		VCNTRL 247
00214	LOGICAL FILTER		VCNTRL 248
00215	LOGICAL ITAPE		VCNTRL 249
00216	LOGICAL START		VCNTRL 250
	C		VCNTRL 251
	C		VCNTRL 252
	C		VCNTRL 253
	REAL MODEL CONSTANTS		VCNTRL 254
	=====		VCNTRL 255
00217	COMMON /RDPARM/ ADLDP		VCNTRL 256
00218	COMMON /RDPARM/ CON1		VCNTRL 257
00219	COMMON /RDPARM/ CON1DT		VCNTRL 258
00220	COMMON /RDPARM/ CON2		VCNTRL 259
00221	COMMON /RDPARM/ CON2DT		VCNTRL 260
00222	COMMON /RDPARM/ CON3		VCNTRL 261
00223	COMMON /RDPARM/ CON3DT		VCNTRL 262
00224	COMMON /RDPARM/ CON4		VCNTRL 263
00225	COMMON /RDPARM/ CON4DT		VCNTRL 264
00226	COMMON /RDPARM/ CON5		VCNTRL 265
00227	COMMON /RDPARM/ COSL (46)		VCNTRL 266
00228	COMMON /RDPARM/ COSLON (72)		VCNTRL 267
00229	COMMON /RDPARM/ CPD2		VCNTRL 268
00230	COMMON /RDPARM/ DXP (46)		VCNTRL 269
00231	COMMON /RDPARM/ DXYP (46)		VCNTRL 270
00232	COMMON /RDPARM/ DYP (46)		VCNTRL 271
00233	COMMON /RDPARM/ FCORLS (46)		VCNTRL 272
00234	COMMON /RDPARM/ F1DT		VCNTRL 273
00235	COMMON /RDPARM/ F2DT		VCNTRL 274
00236	COMMON /RDPARM/ H1DT		VCNTRL 275
00237	COMMON /RDPARM/ H2DT		VCNTRL 276
00238	COMMON /RDPARM/ PKSTD		VCNTRL 277
00239	COMMON /RDPARM/ PKTOP		VCNTRL 278
00240	COMMON /RDPARM/ RLAT (46)		VCNTRL 279
00241	COMMON /RDPARM/ RLATD (46)		VCNTRL 280
00242	COMMON /RDPARM/ ROCPTD		VCNTRL 281
00243	COMMON /RDPARM/ ROCPP1		VCNTRL 282
00244	COMMON /RDPARM/ SGNP (2)		VCNTRL 283
00245	COMMON /RDPARM/ SINL (46)		VCNTRL 284

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00246      COMMON /RDPARM/ SINLON (72)
00247      COMMON /RDPARM/ THSTD
00248      COMMON /RDPARM/ THSTD2
00249      COMMON /RDPARM/ WSAVE (159)
00250      COMMON /RDPARM/ DSIG (9)
00251      COMMON /RDPARM/ SIG (9)
00252      COMMON /RDPARM/ DSIGINV (9)

C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY+11 =99
C JM+NLAY+11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====
00252      COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254      DIMENSION PHIS (7128,1)
00255      DIMENSION SMTH (7128,23)
00256      DIMENSION ALBEDO (7128,1)
00257      DIMENSION GT (7128,1)
00258      DIMENSION GW (7128,1)
00259      DIMENSION TS (7128,1)
00260      DIMENSION SHS (7128,1)
00261      DIMENSION P (72,99,1)
C
00262      DIMENSION U (72,9,11,1)
00263      DIMENSION V (72,9,11,1)
00264      DIMENSION T (72,9,11,1)
00265      DIMENSION SH (72,9,11,1)
00266      DIMENSION PHI (72,9,11,1)
C
00267      EQUIVALENCE (QPROG(1, 1, 1, 1),PHIS (1,1))
00268      EQUIVALENCE (QPROG(1, 2, 1, 1),SMTH (1,1))
00269      EQUIVALENCE (QPROG(1, 3, 1, 1),ALBEDO(1,1))
00270      EQUIVALENCE (QPROG(1, 4, 1, 1),GT (1,1))
00271      EQUIVALENCE (QPROG(1, 5, 1, 1),GW (1,1))
00272      EQUIVALENCE (QPROG(1, 6, 1, 1),TS (1,1))
00273      EQUIVALENCE (QPROG(1, 7, 1, 1),SHS (1,1))
00274      EQUIVALENCE (QPROG(1, 8, 1, 1),P (1,1,1))
C
00275      EQUIVALENCE (QPROG(1, 1, 2, 1),U (1,1,1,1))
00276      EQUIVALENCE (QPROG(1, 1, 4, 1),V (1,1,1,1))
00277      EQUIVALENCE (QPROG(1, 1, 6, 1),T (1,1,1,1))
00278      EQUIVALENCE (QPROG(1, 1, 8, 1),SH (1,1,1,1))
00279      EQUIVALENCE (QPROG(1, 1, 10, 1),PHI(1,1,1,1))
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====
00280      COMMON /QANDQT/ QSDIAG(72 ,15,46)
00281      DIMENSION IQSDIAG(72 ,15,46)
00282      EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283      COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C
C
C POLAR MODEL PROGNOSTIC FIELDS
00284      COMMON /QPOLES/ PP(2,2)
00285      COMMON /QPOLES/ UP(9,2,2)
00286      COMMON /QPOLES/ VP(9,2,2)
00287      COMMON /QPOLES/ TP(9,2,2)
00288      COMMON /QPOLES/ SHP(9,2,2)
00289      COMMON /QPOLES/ Phip(9,2,2)

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VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
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VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VQPOLES 2
VQPOLES 3
VQPOLES 4
VQPOLES 5
VQPOLES 6
VQPOLES 7
VQPOLES 8
VQPOLES 9
VQPOLES 10

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C * * *
00290 GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP
00291 COMMON /QMSAVE/ PM(72,5)
00292 COMMON /QMSAVE/ UM(72,9,5)
00293 COMMON /QMSAVE/ VM(72,9,5)
00294 COMMON /QMSAVE/ TM(72,9,5)
00295 COMMON /QMSAVE/ SHM(72,9,5)
00296 COMMON /QMSAVE/ PHIM(72,9,5)
00297 COMMON /QMSAVE/ PV(72,9,5)
00298 COMMON /QMSAVE/ PIT(72,5)
00299 COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5)
COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5)

C * * *
00300 COMMON
      PQ(72,9),
      PDOT(72,9),
      PX1(72,9),
      PX2(72,9),
      PY1(72,9),
      PY2(72,9),
      PHIX1(72,9),
      PHIX2(72,9),
      TEMP1(72,9),
      TEMP2(72,9),
      PHIY1(72,9),
      PHIY2(72,9),
      PVDS(72),
      PHI1(72),
      PHI2(72),
      PHI1CS(72),
      PHI1SS(72),
      PHI2CS(72),
      PHI2SS(72)

00301 COMMON /IMJM/ IMM1, IMM2, IMM3, IMM4, IMM5,
      IMT2, IMT4,
      IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5,
      IMD2M1,
      NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7
      NLAYND = NLAY*(ND - 1)
      NLAYNB = NLAY*(NB - 1)
      JS2 = J - 2
      IF (J.EQ.2) JS2 = J
      JS1 = J - 1
      JP1 = J + 1
      JP2 = J + 2
      IF (J.EQ.JM) JP2 = J
      FDYYP = FCORLS(J)*DXYP(J)
      ADLDP = ADLDP+SINL(J)
      K = JC(J)

C * * *
00313 IF (J.EQ.1) GO TO 20

C * * *
      .....
      THE FOLLOWING PO ARRAY IS SET UP READY IN COMP1
      IT IS USED IN COMP1 WHERE IT IS CALLED PJ
      COMP1 MUST BE CALLED JUST BEFORE COMP2
      .....
      PQ(1,1:IM ) = P(1,ND,J:IM)
      PQ(1,2:IM ) = PQ(1,1 :IM)
      PQ(1,3:IMT2) = PQ(1,1 :IMT2)
      PQ(1,5:IMT4) = PQ(1,1 :IMT4)
      PQ(1,9:IM ) = PQ(1,1 :IM)
      .....
      PX1(2,1:IMM2) = PQ(3,1:IMM2) - PQ(1,1 :IMM2)
      PX1(1,1) = PQ(2,1) - PQ(1M,1)

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VQMSAVE 2
VQMSAVE 3
VQMSAVE 4
VQMSAVE 5
VQMSAVE 6
VQMSAVE 7
VQMSAVE 8
VQMSAVE 9
VQMSAVE 10
VQMSAVE 11
VQMSAVE 12
VQMSAVE 13
VQMSAVE 14
VCOMP2 13
VCOMP2 2
VCOMP2WK 2
VCOMP2WK 3
VCOMP2WK 4
VCOMP2WK 5
VCOMP2WK 6
VCOMP2WK 7
VCOMP2WK 8
VCOMP2WK 9
VCOMP2WK 10
VCOMP2WK 11
VCOMP2WK 12
VCOMP2WK 13
VCOMP2WK 14
VCOMP2WK 15
VCOMP2WK 16
VCOMP2WK 17
VCOMP2WK 18
VCOMP2WK 19
VCOMP2WK 20
VIMJM 2
VIMJM 3
VIMJM 4
VIMJM 5
VIMJM 6
VCOMP2 16
VCOMP2 17
VCOMP2 18
VCOMP2 19
VCOMP2 20
VCOMP2 21
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VCOMP2 42
VCOMP2 43
VCOMP2 44
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VCOMP2 46
VCOMP2 47
VCOMP2 48

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00316      PX1(IM,1) = PQ(1,1) - PQ(IMM1,1)
C
C      PX1(1,2;IM ) = PX1(1,1 ;IM)
C      PX1(1,3;IMT2) = PX1(1,1 ;IMT2)
C      PX1(1,5;IMT4) = PX1(1,1 ;IMT4)
C      PX1(1,9;IM ) = PX1(1,1 ;IM)
C
C      THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING
C      DO LOOP
00317      DO 5111 L=2,NLAY
00318      PX1(1,L;IM ) = PX1(1,1 ;IM)
00319      5111 CONTINUE
C
00320      PHIX1(2,1;IMNLAY2) = PHI(3,NLAYND+1,1,J;IMNLAY2)
S      -PHI(1,NLAYND+1,1,J;IMNLAY2)
00321      DO 910 L=1,NLAY
00322      LND = NLAYND + L
00323      PHIX1(1,L) = PHI(2,LND,1,J) - PHI(IM ,LND,1,J)
00324      PHIX1(IM,L) = PHI(1,LND,1,J) - PHI(IMM1,LND,1,J)
00325      910 CONTINUE
C
00326      PX2(3,1;IMM4) = PQ(5,1;IMM4) - PQ(1 ,1;IMM4)
00327      PX2(2,1) = PQ(4,1) - PQ(IM ,1)
00328      PX2(1,1) = PQ(3,1) - PQ(IMM1,1)
00329      PX2(IM,1) = PQ(2,1) - PQ(IMM2,1)
00330      PX2(IMM1,1) = PQ(1,1) - PQ(IMM3,1)
C
C      PX2(1,2;IM ) = PX2(1,1;IM)
C      PX2(1,3;IMT2) = PX2(1,1;IMT2)
C      PX2(1,5;IMT4) = PX2(1,1;IMT4)
C      PX2(1,9;IM ) = PX2(1,1;IM)
C
C      THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING
C      DO LOOP.
00331      DO 5112 L=2,NLAY
00332      PX2(1,L;IM ) = PX2(1,1;IM)
00333      5112 CONTINUE
C
00334      PHIX2(3,1;IMNLAY4) = PHI(5,NLAYND+1,1,J;IMNLAY4)
S      -PHI(1,NLAYND+1,1,J;IMNLAY4)
00335      DO 920 L=1,NLAY
00336      LND = NLAYND + L
00337      PHIX2(2,L) = PHI(4,LND,1,J) - PHI(IM ,LND,1,J)
00338      PHIX2(1,L) = PHI(3,LND,1,J) - PHI(IMM1,LND,1,J)
00339      PHIX2(IM,L) = PHI(2,LND,1,J) - PHI(IMM2,LND,1,J)
00340      PHIX2(IMM1,L) = PHI(1,LND,1,J) - PHI(IMM3,LND,1,J)
00341      920 CONTINUE
C
00342      PHIV1(1,1;IMNLAY) = PHI(1,NLAYND+1,1,JP1;IMNLAY)
S      -PHI(1,NLAYND+1,1,JS1;IMNLAY)
00343      PY1(1,1;IM) = P(1,ND,JP1;IM) - P(1,ND,JS1;IM)
C
C      PY1(1,2;IM ) = PY1(1,1;IM)
C      PY1(1,3;IMT2) = PY1(1,1;IMT2)
C      PY1(1,5;IMT4) = PY1(1,1;IMT4)
C      PY1(1,9;IM ) = PY1(1,1;IM)
C
C      THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING
C      DO LOOP
00344      DO 5113 L=2,NLAY
00345      PY1(1,L;IM ) = PY1(1,1;IM)
00346      5113 CONTINUE
C
00347      IF (J.EQ.JM.OR.J.EQ.2) GOTO 1200
00348      PHIV2(1,1;IMNLAY) = PHI(1,NLAYND+1,1,JP2;IMNLAY)
S      -PHI(1,NLAYND+1,1,JS2;IMNLAY)
C
00349      PY2(1,1;IM) = P(1,ND,JP2;IM) - P(1,ND,JS2;IM)

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VCOMP2 49
VCOMP2 50
VCOMP2 51
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VCOMP2 112
VCOMP2 113
VCOMP2 114
VCOMP2 115
VCOMP2 116
VCOMP2 117
VCOMP2 118
VCOMP2 119

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IMD2	ICNTRL	INTEGER	SIMPLE	411	411	411	411	412	412	412	413	413	413	414
IMD2M1	IMJM	INTEGER	SIMPLE	414	414	415	415	415	416	416	416	417	417	417
IMD2P1	ICNTRL	INTEGER	SIMPLE	418	419	420	421	422						417
IMJM		INTEGER	UNKNOWN	29										
IMM1	IMJM	INTEGER	SIMPLE	301					330	338	340			
IMM2	IMJM	INTEGER	SIMPLE	30										
IMM3	IMJM	INTEGER	SIMPLE	301	316	324	328							
IMM4	IMJM	INTEGER	SIMPLE	301	314	314	314	329	339					
IMM5	IMJM	INTEGER	SIMPLE	301	330	340								
IMNLAY	IMJM	INTEGER	SIMPLE	301	326	326	326							
				301	342	342	342	348	348	348	375	375	376	376
				376	377	377	377	378	378	378	379	379	379	380
				380	380	385	385	385	385	385	385	385	385	385
				386	386	386	386	387	387	388	388	388	388	388
				389	390	390	390	391	391	391	392	392	392	392
				393	393	393	393	394	394	395	395	395	395	395
				396	397	397	397	398	398	398	398	398	398	398
IMNLAY1	IMJM	INTEGER	SIMPLE	301										
IMNLAY2	IMJM	INTEGER	SIMPLE	301	320	320	320							
IMNLAY3	IMJM	INTEGER	SIMPLE	301										
IMNLAY4	IMJM	INTEGER	SIMPLE	301										
IMNLAY5	IMJM	INTEGER	SIMPLE	301	334	334	334							
IMT2	IMJM	INTEGER	SIMPLE	301										
IMT4	IMJM	INTEGER	SIMPLE	301										
INDEX	IDPARM	INTEGER	ARRAY	202	358	360								
OMEGA	ICNTRL	INTEGER	UNKNOWN	91										
IP1		INTEGER	SIMPLE	355/S	368	369/S								
IP2		INTEGER	SIMPLE	355/C	369									
IPREACC	ICNTRL	INTEGER	UNKNOWN	81										
IPRECON	ICNTRL	INTEGER	UNKNOWN	82										
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88
				89	90									
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282									
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94						
IRADLW	ICNTRL	INTEGER	UNKNOWN	94										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87										
IRADSW	ICNTRL	INTEGER	UNKNOWN	93										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86										
IROD	IDPARM	INTEGER	SIMPLE	203										
IS1		INTEGER	SIMPLE	353/S	366	367/S								
IS2		INTEGER	SIMPLE	352/S	366/S									
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215									
ITMAX	ICNTRL	INTEGER	UNKNOWN	80										
ITMIN	ICNTRL	INTEGER	UNKNOWN	79										
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89										
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90										
IXP		INTEGER	SIMPLE	357/S	358/S	361	364							
IXS		INTEGER	SIMPLE	359/S	360/S	361	364							
J		INTEGER	SIMPLE	1	304	305	305	306	307	308	309	309	310	310
				311	312	313	320	320	323	323	324	324	324	324
				337	337	338	338	339	339	340	340	341	341	341
				360	375	377	378	379	379	380	380	380	380	380
				385	386	386	391	392	392	397	398	398	398	398
JC	IDPARM	INTEGER	ARRAY	204	312	404								
JE	IDPARM	INTEGER	ARRAY	205	403									
JEND		INTEGER	SIMPLE	403/S	404	405								
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	32	309	347	358	399	402					
JMD2	ICNTRL	INTEGER	SIMPLE	33										
JMT2	ICNTRL	INTEGER	SIMPLE	34										
JNP	ICNTRL	INTEGER	SIMPLE	35										
JO4	ICNTRL	INTEGER	SIMPLE	36										
JOB	ICNTRL	INTEGER	SIMPLE	37										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	206	411	411	412	412	413	413				
JP1		INTEGER	SIMPLE	307/S	342	343								
JP2		INTEGER	SIMPLE	308/S	309/S	348	349	361	364					
JS1		INTEGER	SIMPLE	306/S	342	343								

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JS2		INTEGER	SIMPLE	304/S	305/S	348	349	351	364										
JSP	ICNTRL	INTEGER	SIMPLE	38															
K		INTEGER	SIMPLE	312/S	381	386	387	389	393	395									
KE		INTEGER	SIMPLE	404/S	412	413	423	424											
KLIALB	ICNTRL	INTEGER	SIMPLE	39															
KLIGW	ICNTRL	INTEGER	SIMPLE	40															
KLISST	ICNTRL	INTEGER	SIMPLE	41															
KS	ICNTRL	INTEGER	SIMPLE	42															
KSTEP	IDPARM	INTEGER	SIMPLE	207															
KU	ICNTRL	INTEGER	SIMPLE	43															
L		INTEGER	SIMPLE	317/C	318	321/C	322	323	324	331/C	332	335/C	336	337					
				338	339	340	344/C	345	362/C	363	364	372/C	373	382					
				383	406/C	407	408	412	413	424									
LC	LCNTRL	LOGICAL	ARRAY	154															
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155													
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107					
				108	109														
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123															
LDPARM		INTEGER	UNKNOWN	211	212	213													
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142														
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147														
LNB		INTEGER	SIMPLE	407/S	409	409	410	410	424	424	425	425	426	426					
LND		INTEGER	SIMPLE	322/S	323	323	324	324	335/S	337	337	337	338	339					
				339	340	340	363/S	364	364	408/S	409	410	411	411					
				412	413														
				44															
LOGBR	ICNTRL	INTEGER	SIMPLE	122	150														
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	112	140														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	113	141														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	110	111	112	113	114	115	116	117	118	119					
LPS	LCNTRL	LOGICAL	ARRAY	120	121	123													
				109	122														
LQU	LCNTRL	LOGICAL	ARRAY	125	153														
LRADLW	LCNTRL	LOGICAL	UNKNOWN	118	146														
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	124	152														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	145														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	111	139														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	110	138														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	120	148														
LUFUX	LCNTRL	LOGICAL	UNKNOWN	121	149														
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	401/S	402/S	403	405	409	409	409	410	410	410	411					
M		INTEGER	SIMPLE	411	411	411	411	412	412	413	413	413	424	425					
				425	425	426	426	426	426										
				45															
MATIN	ICNTRL	INTEGER	SIMPLE	46															
MATSNX	ICNTRL	INTEGER	SIMPLE	47															
MATSUN	ICNTRL	INTEGER	SIMPLE	208															
MJ	IDPARM	INTEGER	ARRAY	48															
MLF	ICNTRL	INTEGER	ARRAY	49															
MROD	ICNTRL	INTEGER	SIMPLE	51															
MSM	ICNTRL	INTEGER	SIMPLE	52															
NB	ICNTRL	INTEGER	SIMPLE	53	303	343	343	349	349	361	361	405	411	411					
ND	ICNTRL	INTEGER	SIMPLE	412	413	425	426												
				54															
NDALT	ICNTRL	INTEGER	SIMPLE	55															
NDAY	ICNTRL	INTEGER	SIMPLE	76															
NDHOG	ICNTRL	INTEGER	SIMPLE	56															
NDOUT	ICNTRL	INTEGER	SIMPLE	57															
NDPHY	ICNTRL	INTEGER	SIMPLE	31															
NDRSW	ICNTRL	INTEGER	SIMPLE	58															
				59															
NDSHF	ICNTRL	INTEGER	SIMPLE	60															
NDT	ICNTRL	INTEGER	SIMPLE	62															
NHMS	ICNTRL	INTEGER	SIMPLE	209															
NHMS0	ICNTRL	INTEGER	SIMPLE	61															
NHMS1	IDPARM	INTEGER	SIMPLE	61															
NHMS2	ICNTRL	INTEGER	SIMPLE	50															
NHSE	ICNTRL	INTEGER	SIMPLE	63	302	303	317	321	331	335	344	352	372	382					
NKRSH	ICNTRL	INTEGER	SIMPLE																
NLAY	ICNTRL	INTEGER	SIMPLE																

NLAYM1	ICNTRL	INTEGER	SIMPLE	406										
NLAYNB		INTEGER	SIMPLE	64										
				303/S	379	379	380	380	386	386	392	392	398	398
NLAYND		INTEGER	SIMPLE	407										
				302/S	320	320	322	334	334	336	342	342	348	348
NLAYP1	ICNTRL	INTEGER	SIMPLE	363	375	377	378	385	385	408				
NLAYT2	IMJM	INTEGER	SIMPLE	65										
NLAYT3	IMJM	INTEGER	SIMPLE	301										
NLAYT4	IMJM	INTEGER	SIMPLE	301										
NLAYT5	IMJM	INTEGER	SIMPLE	301										
NLAYT6	IMJM	INTEGER	SIMPLE	301										
NLAYT7	IMJM	INTEGER	SIMPLE	301										
NMLEV	ICNTRL	INTEGER	SIMPLE	75										
NSDAY	ICNTRL	INTEGER	SIMPLE	66										
NSEQ	ICNTRL	INTEGER	SIMPLE	67										
NSTEP	ICNTRL	INTEGER	SIMPLE	69										
NYMD	ICNTRL	INTEGER	SIMPLE	71										
NYMDO	ICNTRL	INTEGER	SIMPLE	73										
NYMD1	ICNTRL	INTEGER	SIMPLE	210										
NYMDE	ICNTRL	INTEGER	SIMPLE	72										
NZINIT	ICNTRL	INTEGER	SIMPLE	74										
OMEGA2	ICNTRL	REAL	SIMPLE	172										
P	QANDQT	REAL	ARRAY	261	274	343	343	349	349	361	361	411	411	412
PDOT	//	REAL	ARRAY	413										
PDOTP		REAL	SIMPLE	300	381/S	383/S	383	385/S	385	386				
PHI	QANDQT	REAL	ARRAY	423/S	424									
				266	279	320	320							
				337	338	338	339	323	323	324	324	334	334	337
				364	364	412	413	339	340	340	342	342	348	348
PHI1	//	REAL	ARRAY	300	412/S	414	415							
PHI1CS	//	REAL	ARRAY	300	414/S	419/S	419	425						
PHI1SS	//	REAL	ARRAY	300	415/S	420/S	420	426						
PHI2	//	REAL	ARRAY	300	413/S	416	417							
PHI2CS	//	REAL	ARRAY	300	416/S	421/S	421	425						
PHI2SS	//	REAL	ARRAY	300	417/S	422/S	422	426						
PHIM	QMSAVE	REAL	ARRAY	295										
PHIP	QPOLES	REAL	ARRAY	289										
PHIS	QANDQT	REAL	ARRAY	254										
PHIX1	//	REAL	ARRAY	300	267									
PHIX2	//	REAL	ARRAY	300	320/S	323/S	324/S	388						
PHIY1	//	REAL	ARRAY	300	334/S	337/S	338/S	339/S	340/S	390				
PHIY2	//	REAL	ARRAY	300	342/S	394								
PI	RCNTRL	REAL	ARRAY	300	348/S	364/S	396							
PI180	RCNTRL	REAL	SIMPLE	173										
PI2	RCNTRL	REAL	SIMPLE	174										
PIMEAN	RCNTRL	REAL	SIMPLE	175										
PIT	QMSAVE	REAL	ARRAY	177										
PKSTD	RDPARM	REAL	ARRAY	297	381	423								
PKTOP	RDPARM	REAL	SIMPLE	238										
PLEVS	RCNTRL	REAL	SIMPLE	239										
				191										
PM	QMSAVE	REAL	ARRAY	290										
PP	QPOLES	REAL	ARRAY	284	405	425	426							
PQ	//	REAL	ARRAY	300	314	314	315	315	316	316	326	326	327	327
				328	328	329	329	330	330	376	392	398		
PSMAX	RCNTRL	REAL	SIMPLE	178										
PSMIN	RCNTRL	REAL	SIMPLE	179										
PSTD	RCNTRL	REAL	SIMPLE	176										
PTOP	RCNTRL	REAL	SIMPLE	180										
PV	QMSAVE	REAL	ARRAY	296										
PVDS	//	REAL	ARRAY	300										
PX1	//	REAL	ARRAY	300	411/S	418/S	418	423						
PX2	//	REAL	ARRAY	300	314/S	315/S	316/S	318/S	318	385	387			
PY1	//	REAL	ARRAY	300	326/S	327/S	328/S	329/S	330/S	332/S	332	385	389	
PY2	//	REAL	ARRAY	300	343/S	345/S	345	385						
PZERO	RCNTRL	REAL	SIMPLE	197	349/S	361/S	373/S	373	385	395				
QALT	LCNTRL	LOGICAL	SIMPLE	98	126									
QANDQT	LCNTRL	REAL	UNKNOWN	253	280	283								
QBEG	LCNTRL	LOGICAL	SIMPLE	99										
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128									

QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QMSAVE		REAL	UNKNOWN	290	291																
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130	292	293	294	295	296	297	298	299								
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289												
QPROG*	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282																
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QUDIAG	QANDQT	REAL	ARRAY	283																	
RADE	RCNTRL	REAL	SIMPLE	181																	
RC	RCNTRL	REAL	ARRAY	198	199																
RCO	RCNTRL	REAL	SIMPLE	156	198	199															
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166							
				167	168	169	170	171	172	173	174	175	176	177							
				178	179	180	181	182	183	184	185	186	187	188							
RDPARM		REAL	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199							
				217	218	219	220	221	222	223	224	225	226	227							
				228	229	230	231	232	233	234	235	236	237	238							
				239	240	241	242	243	244	245	246	247	248	249							
				250	251	252															
RGAS	RCNTRL	REAL	SIMPLE	182																	
RLAT	RDPMR	REAL	ARRAY	240																	
RLATD	RDPMR	REAL	ARRAY	241																	
ROCP	RCNTRL	REAL	ARRAY	183																	
ROCPDT	RDPMR	REAL	SIMPLE	242																	
ROCPP1	RDPMR	REAL	SIMPLE	243																	
RSDIST	RCNTRL	REAL	SIMPLE	184																	
SD	QMSAVE	REAL	ARRAY	298																	
SDAY	RCNTRL	REAL	SIMPLE	185																	
SEASON	RCNTRL	REAL	SIMPLE	186																	
SGNP	RDPMR	REAL	ARRAY	244	411	426															
SH	QANDQT	REAL	ARRAY	265	278																
SHM	QMSAVE	REAL	ARRAY	294																	
SHP	QPOLES	REAL	ARRAY	288																	
SHS	QANDQT	REAL	ARRAY	280	273																
SIG	RDPMR	REAL	ARRAY	251																	
SIGE	RCNTRL	REAL	ARRAY	187																	
SIND	RCNTRL	REAL	SIMPLE	188																	
SINL	RDPMR	REAL	ARRAY	245	311																
SINLON	RDPMR	REAL	ARRAY	246	411	415	417														
SMTH	QANDQT	REAL	ARRAY	255	268																
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133																
SOLS	RCNTRL	REAL	SIMPLE	189																	
START	LDPMR	LOGICAL	SIMPLE	213	216																
T	QANDQT	REAL	ARRAY	264	277	386/S	386														
TEMP1	//	REAL	ARRAY	300	377/S	379	387/S	388/S	388	391/S	391	392	393/S	394							
				394	397/S	397	398														
TEMP2	//	REAL	ARRAY	300	375/S	376/S	376	377	378/S	378	380	389/S	390/S	390							
				391	395/S	396/S	396	397													
TERMT	QMSAVE	REAL	ARRAY	299	386	424															
TERMW	QMSAVE	REAL	ARRAY	299	387	389	393	395	412	413											
THSTD	RDPMR	REAL	SIMPLE	247																	
THSTD2	RDPMR	REAL	SIMPLE	248																	
TM	QMSAVE	REAL	ARRAY	293																	
TP	QPOLES	REAL	ARRAY	287	424/S	424															
TS	QANDQT	REAL	ARRAY	259	272																
TSTD	RCNTRL	REAL	SIMPLE	190																	
U	QANDQT	REAL	ARRAY	262																	
UM	QMSAVE	REAL	ARRAY	291	275	375	378	379/S	379	385	392/S	392									
UP	QPOLES	REAL	ARRAY	285																	
V	QANDQT	REAL	ARRAY	263	409/S	409	410	411	425/S	425											
VER	CCNTRL	CHAR*B	SIMPLE	10	276	377	380/S	380	385	398/S	398										
VM	QMSAVE	REAL	ARRAY	292	23																
VP	QPOLES	REAL	ARRAY	286																	
WSAVE	RDPMR	REAL	ARRAY	249	409	410/S	410	411	426/S	426											
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24																

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PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
Q8SSUM	REAL	INTRINSIC	418 419	420 421 422

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CDECK VCOMP3
C*****
C SUBROUTINE COMP3
C PURPOSE
C MAIN DRIVER FOR THE MODEL PHYSICS
C USAGE
C CALLED FROM GWSGCM
C INPUT/OUTPUT FILES USED
C NONE
C DESCRIPTION OF PARAMETERS
C J - INDEX FOR LATITUDE BAND
C SUBPROGRAMS NEEDED
C BTOLG -
C ZEIT -
C CUMULO -
C RADIOO -
C COMP35 -
C RECORD OF MODIFICATIONS
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
C 22JUL83 JIM.PF ADDED DOCUMENTATION + CHOICE FOR DIAGNOSTICS
C 26JUL83 LARRY.T ADDED FACL + FACLM1 INSIDE 180 LOOP
C*****
C* M / A - C O M S I G M A D A T A I N C . N A S A - G S F C *
C*****
00001 C SUBROUTINE COMP3 (J)
C*****
C COMDECK VCNTRL
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002 COMMON /CNTRL/ CGO
00003 COMMON /CNTRL/ ADATE
00004 COMMON /CNTRL/ ATIME
00005 COMMON /CNTRL/ JIC
00006 COMMON /CNTRL/ JOB
00007 COMMON /CNTRL/ CGSP06
00008 COMMON /CNTRL/ CGSP07
00009 COMMON /CNTRL/ CGSP08
00010 COMMON /CNTRL/ VER
00011 COMMON /CNTRL/ XLABEL (10)
00012 COMMON /CNTRL/ CQS (30)
00013 COMMON /CNTRL/ CQU (10)
C
00014 EQUIVALENCE (CGO,CC(1))
00015 CHARACTER*8 CGO, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CGSP06
00021 CHARACTER*8 CGSP07
00022 CHARACTER*8 CGSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
00025 CHARACTER*8 CQS
00026 CHARACTER*8 CQU
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00027 COMMON /ICNTRL/ ICO

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SVC00010
SVC00020
SVC00030
SVC00040
SVC00050
SVC00060
SVC00070
SVC00080
SVC00090
SVC00100
SVC00110
SVC00120
SVC00130
SVC00140
SVC00150
SVC00160
SVC00170
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SVC00190
SVC00200
SVC00210
SVC00220
SVC00230
SVC00240
SVC00250
SVC00260
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SVC00660
SVC00670
SVC00680
SVC00690
SVC00700
SVC00710

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00028	COMMON /ICNTRL/ IM				\$VC00720
00029	COMMON /ICNTRL/ IMD2				\$VC00730
00030	COMMON /ICNTRL/ IMD2P1				\$VC00740
00031	COMMON /ICNTRL/ NDRSW				\$VC00750
00032	COMMON /ICNTRL/ JM				\$VC00760
00033	COMMON /ICNTRL/ JMD2				\$VC00770
00034	COMMON /ICNTRL/ JMT2				\$VC00780
00035	COMMON /ICNTRL/ JNP				\$VC00790
00036	COMMON /ICNTRL/ JO4				\$VC00800
00037	COMMON /ICNTRL/ JO8				\$VC00810
00038	COMMON /ICNTRL/ JSP				\$VC00820
00039	COMMON /ICNTRL/ KLIALB				\$VC00830
00040	COMMON /ICNTRL/ KLIGW				\$VC00840
00041	COMMON /ICNTRL/ KLISST				\$VC00850
00042	COMMON /ICNTRL/ KS				\$VC00860
00043	COMMON /ICNTRL/ KU				\$VC00870
00044	COMMON /ICNTRL/ LOG8R				\$VC00880
00045	COMMON /ICNTRL/ MATIN				\$VC00890
00046	COMMON /ICNTRL/ MATSNX				\$VC00900
00047	COMMON /ICNTRL/ MATSUN				\$VC00910
00048	COMMON /ICNTRL/ MLF	(12)			\$VC00920
00049	COMMON /ICNTRL/ MR0D				\$VC00930
00050	COMMON /ICNTRL/ NKRSH				\$VC00940
00051	COMMON /ICNTRL/ MSM				\$VC00950
00052	COMMON /ICNTRL/ NB				\$VC00960
00053	COMMON /ICNTRL/ ND				\$VC00970
00054	COMMON /ICNTRL/ NDALT				\$VC00980
00055	COMMON /ICNTRL/ NDAY				\$VC00990
00056	COMMON /ICNTRL/ NDCUT				\$VC01000
00057	COMMON /ICNTRL/ NDPHY				\$VC01010
00058	COMMON /ICNTRL/ NDSHF				\$VC01020
00059	COMMON /ICNTRL/ NDT				\$VC01030
00060	COMMON /ICNTRL/ NHMS				\$VC01040
00061	COMMON /ICNTRL/ NHMSE				\$VC01050
00062	COMMON /ICNTRL/ NHMS0				\$VC01060
00063	COMMON /ICNTRL/ NLAY				\$VC01070
00064	COMMON /ICNTRL/ NLAYM1				\$VC01080
00065	COMMON /ICNTRL/ NLAYP1				\$VC01090
00066	COMMON /ICNTRL/ NSDAY				\$VC01100
00067	COMMON /ICNTRL/ NSEQ				\$VC01110
00068	COMMON /ICNTRL/ ICSP53				\$VC01120
00069	COMMON /ICNTRL/ NSTEP				\$VC01130
00070	COMMON /ICNTRL/ IBLKSIZ				\$VC01140
00071	COMMON /ICNTRL/ NYMD				\$VC01150
00072	COMMON /ICNTRL/ NYMDE				\$VC01160
00073	COMMON /ICNTRL/ NYMDO				\$VC01170
00074	COMMON /ICNTRL/ NZINIT				\$VC01180
00075	COMMON /ICNTRL/ NMLEV				\$VC01190
00076	COMMON /ICNTRL/ NDHOG				\$VC01200
00077	COMMON /ICNTRL/ IQS (30)				\$VC01210
00078	COMMON /ICNTRL/ IQU (10)				\$VC01220
	C				\$VC01230
00079	EQUIVALENCE	(ITMIN	.IQS(1))		\$VC01240
00080	EQUIVALENCE	(ITMAX	.IQS(2))		\$VC01250
00081	EQUIVALENCE	(IPREACC	.IQS(3))		\$VC01260
00082	EQUIVALENCE	(IPRECON	.IQS(4))		\$VC01270
00083	EQUIVALENCE	(IHFLUX	.IQS(5))		\$VC01280
00084	EQUIVALENCE	(IEFLUX	.IQS(6))		\$VC01290
00085	EQUIVALENCE	(IFUSION	.IQS(7))		\$VC01300
00086	EQUIVALENCE	(IRADSWG	.IQS(8))		\$VC01310
00087	EQUIVALENCE	(IRADLWG	.IQS(9))		\$VC01320
00088	EQUIVALENCE	(IICLOUD	.IQS(10))		\$VC01330
	C				\$VC01340
00089	EQUIVALENCE	(IOMEGA	.IQU(1))		\$VC01350
00090	EQUIVALENCE	(IDIABAT	.IQU(2))		\$VC01360
00091	EQUIVALENCE	(IRADSW	.IQU(3))		\$VC01370
00092	EQUIVALENCE	(IRADLW	.IQU(4))		\$VC01380
	C				\$VC01390
00093	EQUIVALENCE	(IC0,IC(1))			\$VC01400
00094	INTEGER	IC0, IC(200)			\$VC01410
	C				\$VC01420

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	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SVC01430
	C	=====	
00095		COMMON /LCNTRL/ LQ0	SVC01440
00096		COMMON /LCNTRL/ QALT	SVC01450
00097		COMMON /LCNTRL/ QBEG	SVC01460
00098		COMMON /LCNTRL/ QDAY	SVC01470
00099		COMMON /LCNTRL/ QEND	SVC01480
00100		COMMON /LCNTRL/ QOUT	SVC01490
00101		COMMON /LCNTRL/ QPHY	SVC01500
00102		COMMON /LCNTRL/ QSHF	SVC01510
00103		COMMON /LCNTRL/ SN2FLG	SVC01520
00104		COMMON /LCNTRL/ QRSW	SVC01530
00105		COMMON /LCNTRL/ QRSH	SVC01540
00106		COMMON /LCNTRL/ LQS(30)	SVC01550
00107		COMMON /LCNTRL/ LQU(10)	SVC01560
	C		SVC01570
00108		EQUIVALENCE (LTMIN ,LQS(1))	SVC01580
00109		EQUIVALENCE (LTMAX ,LQS(2))	SVC01590
00110		EQUIVALENCE (LPREACC ,LQS(3))	SVC01600
00111		EQUIVALENCE (LPRECON ,LQS(4))	SVC01610
00112		EQUIVALENCE (LHFLUX ,LQS(5))	SVC01620
00113		EQUIVALENCE (LEFLUX ,LQS(6))	SVC01630
00114		EQUIVALENCE (LFUSION ,LQS(7))	SVC01640
00115		EQUIVALENCE (LRADSWG ,LQS(8))	SVC01650
00116		EQUIVALENCE (LRADLWG ,LQS(9))	SVC01660
00117		EQUIVALENCE (LICLOUD ,LQS(10))	SVC01670
	C		SVC01680
00118		EQUIVALENCE (LOMEGA ,LQU(1))	SVC01690
00119		EQUIVALENCE (LDIABAT ,LQU(2))	SVC01700
00120		EQUIVALENCE (LRADSW ,LQU(3))	SVC01710
00121		EQUIVALENCE (LRADLW ,LQU(4))	SVC01720
	C		SVC01730
00122		LOGICAL QALT	SVC01740
00123		LOGICAL QBEG	SVC01750
00124		LOGICAL QDAY	SVC01760
00125		LOGICAL QEND	SVC01770
00126		LOGICAL QOUT	SVC01780
00127		LOGICAL QPHY	SVC01790
00128		LOGICAL QSHF	SVC01800
00129		LOGICAL SN2FLG	SVC01810
00130		LOGICAL QRSW	SVC01820
00131		LOGICAL QRSH	SVC01830
	C		SVC01840
00132		LOGICAL LQS	SVC01850
00133		LOGICAL LQU	SVC01860
00134		LOGICAL LTMIN	SVC01870
00135		LOGICAL LTMAX	SVC01880
00136		LOGICAL LPREACC	SVC01890
00137		LOGICAL LPRECON	SVC01900
00138		LOGICAL LHFLUX	SVC01910
00139		LOGICAL LEFLUX	SVC01920
00140		LOGICAL LFUSION	SVC01930
00141		LOGICAL LRADSWG	SVC01940
00142		LOGICAL LRADLWG	SVC01950
00143		LOGICAL LICLOUD	SVC01960
	C		SVC01970
00144		LOGICAL LOMEGA	SVC01980
00145		LOGICAL LDIABAT	SVC01990
00146		LOGICAL LRADSW	SVC02000
00147		LOGICAL LRADLW	SVC02010
	C		SVC02020
00148		EQUIVALENCE (LC0,LC(1))	SVC02030
00149		LOGICAL LC0, LC(200)	SVC02040
	C		SVC02050
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SVC02060
	C	=====	
00150		COMMON /RCNTRL/ RCO	SVC02070
00151		COMMON /RCNTRL/ APHEL	SVC02080
00152		COMMON /RCNTRL/ BETA	SVC02090
00153		COMMON /RCNTRL/ COSD	SVC02100
00154		COMMON /RCNTRL/ CP	SVC02110
			SVC02120
			SVC02130

ORIGINAL PAGE IS
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00155	COMMON /RCNTRL/	DAYSPV		
00156	COMMON /RCNTRL/	DEC		\$VC02140
00157	COMMON /RCNTRL/	DEC		\$VC02150
00158	COMMON /RCNTRL/	DECMAX		\$VC02160
00159	COMMON /RCNTRL/	DIST		\$VC02170
00160	COMMON /RCNTRL/	DLAT		\$VC02180
00161	COMMON /RCNTRL/	DLON		\$VC02190
00162	COMMON /RCNTRL/	DT		\$VC02200
00163	COMMON /RCNTRL/	ECCN		\$VC02210
00164	COMMON /RCNTRL/	GNU1		\$VC02220
00165	COMMON /RCNTRL/	GNU2		\$VC02230
00166	COMMON /RCNTRL/	GRAV		\$VC02240
00167	COMMON /RCNTRL/	OMEGA2		\$VC02250
00168	COMMON /RCNTRL/	PI		\$VC02260
00169	COMMON /RCNTRL/	PI180		\$VC02270
00170	COMMON /RCNTRL/	PI2		\$VC02280
00171	COMMON /RCNTRL/	PSTD		\$VC02290
00172	COMMON /RCNTRL/	PIMEAN		\$VC02300
00173	COMMON /RCNTRL/	PSMAX		\$VC02310
00174	COMMON /RCNTRL/	PSMIN		\$VC02320
00175	COMMON /RCNTRL/	PTOP		\$VC02330
00176	COMMON /RCNTRL/	RADE		\$VC02340
00177	COMMON /RCNTRL/	RGAS		\$VC02350
00178	COMMON /RCNTRL/	ROCP		\$VC02360
00179	COMMON /RCNTRL/	RSDIST		\$VC02370
00180	COMMON /RCNTRL/	SDAY		\$VC02380
00181	COMMON /RCNTRL/	SEASON		\$VC02390
00182	COMMON /RCNTRL/	SIGE	(25)	\$VC02400
00183	COMMON /RCNTRL/	SIND		\$VC02410
00184	COMMON /RCNTRL/	SOLS		\$VC02420
00185	COMMON /RCNTRL/	TSTD		\$VC02430
00186	COMMON /RCNTRL/	PLEVS	(25)	\$VC02440
00187	COMMON /RCNTRL/	HEATW		\$VC02450
00188	COMMON /RCNTRL/	HEATI		\$VC02460
00189	COMMON /RCNTRL/	EPS		\$VC02470
00190	COMMON /RCNTRL/	EPSFAC		\$VC02480
00191	COMMON /RCNTRL/	CALTOJ		\$VC02490
	COMMON /RCNTRL/	PZERO		\$VC02500
00192	C	EQUIVALENCE	{RC0,RC(1)}	\$VC02510
00193	C	REAL	RC0, RC(200)	\$VC02520
	C	INTEGER MODEL CONSTANTS		\$VC02530
	C	=====		\$VC02540
00194	COMMON /IDPARM/	IJUMP	(46)	\$VC02550
00195	COMMON /IDPARM/	IDSP02		\$VC02560
00196	COMMON /IDPARM/	INDEX	(72)	\$VC02570
00197	COMMON /IDPARM/	IROD		\$VC02580
00198	COMMON /IDPARM/	JC	(46)	\$VC02590
00199	COMMON /IDPARM/	JE	(2)	\$VC02600
00200	COMMON /IDPARM/	JP	(2,2)	\$VC02610
00201	COMMON /IDPARM/	KSTEP		\$VC02620
00202	COMMON /IDPARM/	MJ	(46)	\$VC02630
00203	COMMON /IDPARM/	NHMS1		\$VC02640
00204	COMMON /IDPARM/	NYMD1		\$VC02650
	C	LOGICAL MODEL CONSTANTS		\$VC02660
	C	=====		\$VC02670
00205	COMMON /LDPARM/	FILTER	(46)	\$VC02680
00206	COMMON /LDPARM/	ITAPE		\$VC02690
00207	COMMON /LDPARM/	START		\$VC02700
	C	LOGICAL	FILTER	\$VC02710
00208	LOGICAL	ITAPE		\$VC02720
00209	LOGICAL	START		\$VC02730
00210	LOGICAL			\$VC02740
	C	REAL MODEL CONSTANTS		\$VC02750
	C	=====		\$VC02760
00211	COMMON /RDPARM/	ADLDP		\$VC02770
00212	COMMON /RDPARM/	CON1		\$VC02780
00213	COMMON /RDPARM/	CON1DT		\$VC02790
00214	COMMON /RDPARM/	CON2		\$VC02800
				\$VC02810
				\$VC02820
				\$VC02830
				\$VC02840

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00215	COMMON /RDPARM/ CON2DT		SVC02850
00216	COMMON /RDPARM/ CON3		SVC02860
00217	COMMON /RDPARM/ CON3DT		SVC02870
00218	COMMON /RDPARM/ CON4		SVC02880
00219	COMMON /RDPARM/ CON4DT		SVC02890
00220	COMMON /RDPARM/ CON5		SVC02900
00221	COMMON /RDPARM/ COSL (46)		SVC02910
00222	COMMON /RDPARM/ COSLON (72)		SVC02920
00223	COMMON /RDPARM/ CPD2		SVC02930
00224	COMMON /RDPARM/ DXP (46)		SVC02940
00225	COMMON /RDPARM/ DXP (46)		SVC02950
00226	COMMON /RDPARM/ DYP (46)		SVC02960
00227	COMMON /RDPARM/ FCORLS (46)		SVC02970
00228	COMMON /RDPARM/ F1DT		SVC02980
00229	COMMON /RDPARM/ F2DT		SVC02990
00230	COMMON /RDPARM/ H1DT		SVC03000
00231	COMMON /RDPARM/ H2DT		SVC03010
00232	COMMON /RDPARM/ PKSTD		SVC03020
00233	COMMON /RDPARM/ PKTOP		SVC03030
00234	COMMON /RDPARM/ RLAT (46)		SVC03040
00235	COMMON /RDPARM/ RLATD (46)		SVC03050
00236	COMMON /RDPARM/ ROCPDT		SVC03060
00237	COMMON /RDPARM/ ROCPP1		SVC03070
00238	COMMON /RDPARM/ SGNP (2)		SVC03080
00239	COMMON /RDPARM/ SINL (46)		SVC03090
00240	COMMON /RDPARM/ SINLON (72)		SVC03100
00241	COMMON /RDPARM/ THSTD		SVC03110
00242	COMMON /RDPARM/ THSTD2		SVC03120
00243	COMMON /RDPARM/ WSAVE (159)		SVC03130
00244	COMMON /RDPARM/ DSIG (9)		SVC03140
00245	COMMON /RDPARM/ SIG (9)		SVC03150
00246	COMMON /RDPARM/ DSIGINV (9)		SVC03160
C			SVC03170
C	CCOMDECK VQANDQT		SVC03180
C			SVC03190
C	COMDECK VQANDQT RESOLUTION VALUES		SVC03200
C	=====		SVC03210
C	IM =72		SVC03220
C	NLAY =9		SVC03230
C	JM+1 =46		SVC03240
C	NLAY*11 =99		SVC03250
C	IM*NLAY*11 =7128		SVC03260
C	JM/2+1 =23		SVC03270
C			SVC03280
C	GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)		SVC03290
C	=====		SVC03300
C			SVC03310
00247	COMMON /QANDQT/ QPROG(72,9,11,46)		SVC03320
C			SVC03330
00248	DIMENSION PHIS (7128,1)		SVC03340
00249	DIMENSION SMTH (7128,23)		SVC03350
00250	DIMENSION ALBEDO (7128,1)		SVC03360
00251	DIMENSION GT (7128,1)		SVC03370
00252	DIMENSION GW (7128,1)		SVC03380
00253	DIMENSION TS (7128,1)		SVC03390
00254	DIMENSION SHS (7128,1)		SVC03400
00255	DIMENSION P (72,99,1)		SVC03410
C			SVC03420
00256	DIMENSION U (72,9,11,1)		SVC03430
00257	DIMENSION V (72,9,11,1)		SVC03440
00258	DIMENSION T (72,9,11,1)		SVC03450
00259	DIMENSION SH (72,9,11,1)		SVC03460
00260	DIMENSION PHI (72,9,11,1)		SVC03470
C			SVC03480
00261	EQUIVALENCE (QPROG(1,1,1,1),PHIS (1,1))		SVC03490
00262	EQUIVALENCE (QPROG(1,2,1,1),SMTH (1,1))		SVC03500
00263	EQUIVALENCE (QPROG(1,3,1,1),ALBEDO(1,1))		SVC03510
00264	EQUIVALENCE (QPROG(1,4,1,1),GT (1,1))		SVC03520
00265	EQUIVALENCE (QPROG(1,5,1,1),GW (1,1))		SVC03530
00266	EQUIVALENCE (QPROG(1,6,1,1),TS (1,1))		SVC03540
00267	EQUIVALENCE (QPROG(1,7,1,1),SHS (1,1))		SVC03550

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00268      EQUIVALENCE      (QPROG(1, 8, 1, 1), P      (1, 1, 1))      SVC03560
C
00269      EQUIVALENCE      (QPROG(1, 1, 2, 1), U      (1, 1, 1, 1))      SVC03570
00270      EQUIVALENCE      (QPROG(1, 1, 4, 1), V      (1, 1, 1, 1))      SVC03580
00271      EQUIVALENCE      (QPROG(1, 1, 6, 1), T      (1, 1, 1, 1))      SVC03590
00272      EQUIVALENCE      (QPROG(1, 1, 8, 1), S      (1, 1, 1, 1))      SVC03600
00273      EQUIVALENCE      (QPROG(1, 1, 10, 1), PHI(1, 1, 1, 1))      SVC03610
C
C-----
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C-----
00274      COMMON          /QANDQT/ QSDIAG(72      , 15, 46)      SVC03620
00275      DIMENSION      IQSDIAG(72      , 15, 46)      SVC03630
00276      EQUIVALENCE      (QSDIAG, IQSDIAG)      , 15, 46)      SVC03640
C
00277      COMMON          /QANDQT/ QUDIAG(72, 9, 5, 46)      SVC03650
C
C-----
C COMDECK VCNTRLP
C PHYSICS PARAMETERS AND CONSTANTS
C-----
00278      COMMON /CNTRLP/ CDFR      SVC03660
00279      COMMON /CNTRLP/ CDXL      SVC03670
00280      COMMON /CNTRLP/ CDXD      SVC03680
00281      COMMON /CNTRLP/ CLH      SVC03690
00282      COMMON /CNTRLP/ COE      (9)      SVC03700
00283      COMMON /CNTRLP/ COEF      SVC03710
00284      COMMON /CNTRLP/ COEFS      SVC03720
00285      COMMON /CNTRLP/ COSROT      SVC03730
00286      COMMON /CNTRLP/ CPP      SVC03740
00287      COMMON /CNTRLP/ CTID      SVC03750
00288      COMMON /CNTRLP/ CUMDAY      SVC03760
00289      COMMON /CNTRLP/ CUMRAT      SVC03770
00290      COMMON /CNTRLP/ C10      SVC03780
00291      COMMON /CNTRLP/ C100      SVC03790
00292      COMMON /CNTRLP/ C40      SVC03800
00293      COMMON /CNTRLP/ DELTA      SVC03810
00294      COMMON /CNTRLP/ DTC3      SVC03820
00295      COMMON /CNTRLP/ DTOUT      SVC03830
00296      COMMON /CNTRLP/ ED      SVC03840
00297      COMMON /CNTRLP/ EDNM      SVC03850
00298      COMMON /CNTRLP/ FCDEF      SVC03860
00299      COMMON /CNTRLP/ FKU      SVC03870
00300      COMMON /CNTRLP/ FWET      SVC03880
00301      COMMON /CNTRLP/ GAMFAC      SVC03890
00302      COMMON /CNTRLP/ GTOPO      SVC03900
00303      COMMON /CNTRLP/ HICE      SVC03910
00304      COMMON /CNTRLP/ NDTG3      SVC03920
00305      COMMON /CNTRLP/ NFLW      SVC03930
00306      COMMON /CNTRLP/ PIM      SVC03940
00307      COMMON /CNTRLP/ QHOG      SVC03950
00308      COMMON /CNTRLP/ SHLTOP      SVC03960
00309      COMMON /CNTRLP/ SINROT      SVC03970
00310      COMMON /CNTRLP/ SNOWN      SVC03980
00311      COMMON /CNTRLP/ SNOWS      SVC03990
00312      COMMON /CNTRLP/ STBO      SVC04000
00313      COMMON /CNTRLP/ STERP1      SVC04010
00314      COMMON /CNTRLP/ STERP2      SVC04020
00315      COMMON /CNTRLP/ TICE      SVC04030
00316      COMMON /CNTRLP/ TLTOP      SVC04040
00317      COMMON /CNTRLP/ XDAY      SVC04050
00318      COMMON /CNTRLP/ ZLNCO      SVC04060
06319      LOGICAL          QHOG      SVC04070
C
C-----
C COMDECK VRADCOM
C * * *
C RADIATION AND SOURCE TERM FIELDS
00320      COMMON /RADCOM/ AS(72, 9), RE(72, 10)      SVC04080
00321      COMMON /RADCOM/ PL(72, 9), PLE(72, 10)      SVC04090
00322      COMMON /RADCOM/ PLK(72, 9), PLKE(10)      SVC04100
00323      COMMON /RADCOM/ TL(72, 9), TLE(72, 10)      SVC04110
00324      COMMON /RADCOM/ TG(72) , TH(72, 9)      SVC04120
SVC04130
SVC04140
SVC04150
SVC04160
SVC04170
SVC04180
SVC04190
SVC04200
SVC04210
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SVC04240
SVC04250
SVC04260

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00325	COMMON /RADCOM/ SHL(72,9), SHLE(72,10)	SVC04270
00326	COMMON /RADCOM/ SHG(72), CLOUD(72,12)	SVC04280
00327	COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)	SVC04290
00328	COMMON /RADCOM/ RH(72,9)	SVC04300
00329	COMMON /RADCOM/ SSS(72,9), SSSE(72,10)	SVC04310
00330	COMMON /RADCOM/ HH(72,9), HHE(72,10)	SVC04320
00331	COMMON /RADCOM/ HHS(72,9)	SVC04330
00332	COMMON /RADCOM/ CVT(72,9), CVQ(72,9)	SVC04340
00333	COMMON /RADCOM/ CXDE(9)	SVC04350
00334	COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)	SVC04360
00335	COMMON /RADCOM/ AL(72,10)	SVC04370
00336	COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)	SVC04380
00337	COMMON /RADCOM/ TOPABS(72)	SVC04390
00338	COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)	SVC04400
00339	COMMON /RADCOM/ TCOND(9), TPENE(9)	SVC04410
00340	COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ	SVC04420
00341	COMMON /RADCOM/ FK(5), XK(5), NFK	SVC04430
00342	COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)	SVC04440
00343	COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)	SVC04450
00344	COMMON /RADCOM/ PROCN(23), OCMXX(23), NOZ, TOTOZ(4), ODATE(6)	SVC04460
00345	COMMON /RADCOM/ OZH(72), WET(72), EVAP, PREP(72), WI(72)	SVC04470
00346	COMMON /RADCOM/ OOSZ(72), SO, RADTRM(72), CXL	SVC04480
00347	COMMON /RADCOM/ SG(72), SP(72)	SVC04490
00348	COMMON /RADCOM/ RSURF(72), RLOUD(72), JALB	SVC04500
00349	COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)	SVC04510
00350	COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)	SVC04520
00351	LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST	SVC04530
	C	SVC04540
	CCOMDECK VPCON	SVC04550
	C * * *	SVC04560
	C PRECIPITATION FIELDS FROM CUMULUS CONVECTION	SVC04570
00352	COMMON /PCON / PCMID(72)	SVC04580
00353	COMMON /PCON / PCPEN(72)	SVC04590
00354	COMMON /PCON / PCLOW(72)	SVC04600
00355	COMMON /PCON / PMOIST(72)	SVC04610
	C	SVC04620
	CCOMDECK VDCOMP3	SVC04630
	C * * *	SVC04640
	C DYNAMIC SPACE VARIABLES FOR COMP3 SUBROUTINE	SVC04650
00356	COMMON /DCOMP3/ COLMR(72)	SVC04660
00357	COMMON /DCOMP3/ Z(72)	SVC04670
00358	COMMON /DCOMP3/ US(72)	SVC04680
00359	COMMON /DCOMP3/ VS(72)	SVC04690
00360	COMMON /DCOMP3/ WMAGS(72)	SVC04700
00361	COMMON /DCOMP3/ WMAG(72)	SVC04710
00362	COMMON /DCOMP3/ CD(72)	SVC04720
00363	COMMON /DCOMP3/ DTS(72)	SVC04730
00364	COMMON /DCOMP3/ DRAW(72)	SVC04740
00365	COMMON /DCOMP3/ WMAGC(72)	SVC04750
00366	COMMON /DCOMP3/ EDV(72)	SVC04760
00367	COMMON /DCOMP3/ EVE(72)	SVC04770
00368	COMMON /DCOMP3/ EVACO(72)	SVC04780
00369	COMMON /DCOMP3/ RHOS(72)	SVC04790
00370	COMMON /DCOMP3/ DSHS(72)	SVC04800
00371	COMMON /DCOMP3/ FCOEF1(72)	SVC04810
00372	COMMON /DCOMP3/ UUP(72)	SVC04820
00373	COMMON /DCOMP3/ UDN(72)	SVC04830
00374	COMMON /DCOMP3/ VUP(72)	SVC04840
00375	COMMON /DCOMP3/ VDN(72)	SVC04850
00376	COMMON /DCOMP3/ TUP(72)	SVC04860
00377	COMMON /DCOMP3/ TDN(72)	SVC04870
00378	COMMON /DCOMP3/ PRECIP(72)	SVC04880
00379	COMMON /DCOMP3/ PS(72)	SVC04890
00380	COMMON /DCOMP3/ PSK(72)	SVC04900
00381	COMMON /DCOMP3/ SHSATS(72)	SVC04910
00382	COMMON /DCOMP3/ RHS(72)	SVC04920
00383	COMMON /DCOMP3/ THG(72)	SVC04930
00384	COMMON /DCOMP3/ GAMC(72)	SVC04940
00385	COMMON /DCOMP3/ THTS(72)	SVC04950
00386	COMMON /DCOMP3/ DU(72)	SVC04960
00387	COMMON /DCOMP3/ DV(72)	SVC04970

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00388 COMMON /DCOMP3/ DUDV(72)
00389 COMMON /DCOMP3/ AAA(72)
00390 COMMON /DCOMP3/ BBB(72)
00391 COMMON /DCOMP3/ CCC(72)
00392 COMMON /DCOMP3/ EVAL(72)
C
C *****
C *****
C *****
00393 BIT VARIABLES FOR COMP3 SUBROUTINE
00394 BIT WATER(72), SNOWY(72), ICY(72), FROSTY(72)
C
C *****
C *****
C *****
00395 CCOMDECK VBITS
00396 BIT BIT72(72), BITMAX(72)
C
C *****
C *****
C *****
C *****
C *****
00397 CCOMDECK VBEGDEB
C *****
C *****
C *****
C *****
C *****
C *****
00398 *****
00399 *****
00400 *****
00401 *****
C *****
C *****
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C *****
00402 IF( RLAT(J).GE.SNOWN .OR. RLAT(J).LE.SNOWS ) BIT72 = B'0'
00403 C BIT72 = B'1'
C *****
00404 ICY(1;IM) = GW(1,J;IM) .GE. 1.E6
00405 WATER(1;IM) = .NOT. ICY(1;IM) .AND. PHIS(1,J;IM).EQ.0.
00406 DIRT(1;IM) = .NOT.WATER(1;IM) .AND. .NOT.ICY(1;IM)
00407 SNOWY(1;IM) = DIRT(1;IM) .AND. BIT72(1;IM)
00408 DIRT(1;IM) = DIRT(1;IM) .AND. .NOT.SNOWY(1;IM)
00409 FROSTY(1;IM) = DIRT(1;IM) .AND. (GT(1,J;IM).LE.TICE)
C *****
00410 CALL BTOLOG (WATER ,OCEAN,IM,1)
00411 CALL BTOLOG (SNOWY ,SNOW ,IM,1)
00412 CALL BTOLOG (ICY ,ICE ,IM,1)
00413 CALL BTOLOG (FROSTY,FROST,IM,1)
00414 WHERE( .NOT.WATER(1;IM) ) Z(1;IM) = PHIS(1,J;IM)*AGRAV
00415 C *****
C *****
C *****
C *****
C *****
00416 SP(1;IM) = P(1,NB,J;IM)
00417 TL(1,1;IMNLAY) = T(1,1,NB,J;IMNLAY)
00418 SHL(1,1;IMNLAY) = SH(1,1,NB,J;IMNLAY)
00419 CLOUD(1,1;IMNP3) = 0.
C *****
C *****
C *****
C *****
C *****
C *****
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- SVC05680

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00420      DO 30 L=1,NLAY
00421      PL(1,L;IM) = SIG(L)*SP(1;IM) + PTOP
00422      PLE(1,L;IM) = SIGE(L)*SP(1;IM) + PTOP
00423      30 CONTINUE
00424      PLE(1,NLAYPI;IM) = SP(1;IM) + PTOP
C
C *****
C ***** COMPUTE P**K AT MID LEVELS *****
C *****
00425      PLK(1,1;IMNLAY) = VEXPBYK( PL(1,1;IMNLAY),IMNLAY;PLK(1,1;IMNLAY) )
C
C *****
C ***** COMPUTE SURFACE WINDS *****
C *****
00426      US(1;IM) = STERP1*U(1,NLAY,NB,J;IM)
00427      $ VS(1;IM) = STERP2*U(1,NLAYM1,NB,J;IM)
00428      $ WMAGS(1;IM) = US(1;IM)**2 + VS(1;IM)**2
C
C *****
C ***** GROUND TEMPERATURE AND WETNESS *****
C *****
00429      WET(1;IM) = 1.0
00430
00431      WHERE( BIT72(1;IM) ) = GW(1,J;IM) .LT. 1.E-40
C
00432      WHERE( BIT72(1;IM) ) = TICE .LT. GT(1,J;IM)
00433      WHERE( SNOWY(1;IM) .AND. BIT72(1;IM) ) GT(1,J;IM) = TICE
00434      WHERE( DIRT(1;IM) ) WET(1;IM) = GW(1,J;IM)
00435      TG(1;IM) = GT(1,J;IM)
C
C *****
C ***** COMPUTE DRY-CONVECTIVE ADJUSTMENT *****
C ***** VERTICAL MIXING OF: *****
C ***** TEMPERATURE *****
C ***** POTENTIAL TEMPERATURE *****
C ***** MOISTURE *****
C ***** MOMENTUM *****
C *****
00436      DO 40 N=1,3
00437      TH(1,1;IM) = TL(1,1;IM)/PLK(1,1;IM)
00438      DO 42 L = 2,NLAY
00439      LM1 = L-1
00440      TH(1,L;IM) = TL(1,L;IM) / PLK(1,L;IM)
00441      BIT72(1;IM) = TH(1,LM1;IM) .LT. TH(1,L;IM)
00442      IBIT = Q8SCNT( BIT72(1;IM) )
00443      IF( IBIT .EQ. 0 ) GOTO 42
C
00444      DSIGBR = 1./(DSIG(L) + DSIG(LM1) )
C
00445      WHERE( BIT72(1;IM) )
00446      $ TEMP(1,1;IM) = ( TL(1,LM1;IM)*DSIG(LM1) + TL(1,L;IM)*DSIG(L) )
00447      TH(1,LM1;IM) = TEMP(1,1;IM)
00448      TH(1,L;IM) = TEMP(1,1;IM)

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SVC05690
SVC05700
SVC05710
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00449 TL(1,LM1;IM) = TEMP(1,1;IM)*PLK(1,LM1;IM)
00450 TL(1,L ;IM) = TEMP(1,1;IM)*PLK(1,L ;IM)
C
00451 TEMP(1,1;IM) = SHL(1,L;IM)*DSIG(L) + SHL(1,LM1;IM)*DSIG(LM1)
00452 TEMP(1,1;IM) = TEMP(1,1;IM)*DSIGBR
00453 SHL(1, L ;IM) = TEMP(1,1;IM)
00454 SHL(1,LM1;IM) = TEMP(1,1;IM)
C
00455 TEMP(1,1;IM) = U(1, L ,NB,J;IM)*DSIG( L )
S
00456 TEMP(1,1;IM) + U(1,LM1,NB,J;IM)*DSIG(LM1)
00457 U(1, L ,NB,J;IM) = TEMP(1,1;IM)*DSIGBR
00458 U(1,LM1,NB,J;IM) = TEMP(1,1;IM)
C
00459 TEMP(1,1;IM) = V(1, L ,NB,J;IM)*DSIG( L )
S
00460 TEMP(1,1;IM) + V(1,LM1,NB,J;IM)*DSIG(LM1)
00461 V(1, L ,NB,J;IM) = TEMP(1,1;IM)*DSIGBR
00462 V(1,LM1,NB,J;IM) = TEMP(1,1;IM)
00463 ENDWHERE
C
00464 42 CONTINUE
C
00465 40 CONTINUE
C
C *****
C ****
C **** DRAG COEFICIENT ****
C ****
C *****
C
00466 TEMP(1,1;IM) = VSQRT( WMAGS(1;IM) ; TEMP(1,1;IM) )
00467 BIT72(1;IM) = TEMP(1,1;IM) .GE. 0.001
C
00468 WHERE( BIT72(1;IM) )
00469 WMAG(1;IM) = TEMP(1,1;IM)
00470 OTHERWISE
00471 WMAG(1;IM) = 0.001
00472 ENDWHERE
C
00473 TEMP(1,1;IM) = (1.0 + 0.07*WMAG(1;IM)) * 0.001
00474 BIT72(1;IM) = TEMP(1,1;IM) .LT. 0.0025
C
00475 WHERE( BIT72(1;IM) )
00476 CD(1;IM) = GDXO*TEMP(1,1;IM)
00477 OTHERWISE
00478 CD(1;IM) = GDXO*0.0025
00479 ENDWHERE
C
00480 WHERE( .NOT.WATER(1;IM) )
S
CD(1;IM) = CDXL * (1.002 + .006*.0002*Z(1;IM))
C
C *****
C ****
C **** VERTICAL DIFFUSION OF HEAT AND MOISTURE ****
C ****
C **** TEMP1: G/(SP*R)**2 * DEL(T) * K CONSTANT ****
C **** TEMP2: (P/T) AT LEVEL L-1/2 ****
C **** TEMP3: P**KAPPA AT LEVEL L-1/2 ****
C **** TEMP4: D(THETA)/DSIGMA ****
C **** TEMP5: D( SHL )/DSIGMA ****
C *****
C
00481 EDLE = .2*ED
00482 DO 80 L=2,NLAY
00483 LM1 = L-1
00484 ASGL = 1./ DSIG(L)
00485 ASGLM1 = 1./ DSIG(LM1)
00486 ASGPLS = 1./(DSIG(LM1) + DSIG(L))
C

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SVC06400
SVC06410
SVC06420
SVC06430
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SVC06690
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SVC06990
SVC07000
SVC07010
SVC07020
SVC07030
SVC07040
SVC07050
SVC07060
SVC07070
SVC07080
SVC07090
SVC07100

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00487      TEMP(1,1;IM) = ( GRAV/(SP(1;IM)*RGAS) )**2 + DTC3*EDLE      SVC07110
00488      TEMP(1,2;IM) = ( DSIG(L) *PL(1,LM1;IM)/TL(1,LM1;IM)      SVC07120
      + DSIG(LM1)*PL(1,L ;IM)/TL(1,L ;IM) ) *ASGPLS      SVC07130
00489      TEMP(1,3;IM) = ( DSIG(L) *PLK(1,LM1;IM)      SVC07140
      + DSIG(LM1)*PLK(1,L ;IM) ) *ASGPLS      SVC07150
C      TEMP(1,4;IM) = ( TH(1,L;IM) - TH(1,LM1;IM) ) / ( SIG(L) - SIG(LM1) )      SVC07160
00490      TEMP(1,5;IM) = ( SHL(1,L;IM) - SHL(1,LM1;IM) ) / ( SIG(L) - SIG(LM1) )      SVC07170
C      TEMP(1,2;IM) = TEMP(1,2;IM)**2      SVC07180
00491      TEMP(1,6;IM) = TEMP(1,1;IM)*TEMP(1,2;IM)      SVC07190
      * TEMP(1,3;IM)*TEMP(1,4;IM)      SVC07200
C      TL(1,LM1;IM) = TL(1,LM1;IM) + TEMP(1,6;IM)*ASGLM1      SVC07210
00494      TL(1,L ;IM) = TL(1,L ;IM) - TEMP(1,6;IM)*ASGL      SVC07220
00495      TH(1,LM1;IMT2) = TL(1,LM1;IMT2) / PLK(1,LM1;IMT2)      SVC07230
C      TEMP(1,6;IM) = TEMP(1,1;IM)*TEMP(1,2;IM)      SVC07240
      * TEMP(1,5;IM)      SVC07250
00497      SHL(1,LM1;IM) = SHL(1,LM1;IM) + TEMP(1,6;IM)*ASGLM1      SVC07260
00498      SHL(1,L ;IM) = SHL(1,L ;IM) - TEMP(1,6;IM)*ASGL      SVC07270
00499
C      BO CONTINUE      SVC07280
C      *****      SVC07290
C      *****      SVC07300
C      CALCULATE:      SVC07310
C      SATURATION SPECIFIC HUMIDITY      SVC07320
C      LATENT HEATING COEFFICIENT      SVC07330
C      RELATIVE HUMIDITY      SVC07340
C      *****      SVC07350
C      NOTE:      SVC07360
C      GAMFAC = L/CP * (E*L/R)      SVC07370
C      *****      SVC07380
00501      SHSAT(1,1;IMNLAY) = VQSAT( TL(1,1;IMNLAY),      SVC07390
      PL(1,1;IMNLAY),IMNLAY;      SVC07400
      SHSAT(1,1;IMNLAY) )      SVC07410
C      *****      SVC07420
00502      GAM(1,1;IMNLAY) = GAMFAC*SHSAT(1,1;IMNLAY)/TL(1,1;IMNLAY)**2      SVC07430
00503      RH(1,1;IMNLAY) = SHL(1,1;IMNLAY)/SHSAT(1,1;IMNLAY)      SVC07440
C      *****      SVC07450
C      *****      SVC07460
C      DETERMINATION OF SURFACE LAYER TEMPERATURE      TS(I,J) *****      SVC07470
C      SURFACE LAYER SPECIFIC HUMIDITY      SHS(I,J) *****      SVC07480
C      AND SURFACE DENSITY      RHOS(I) *****      SVC07490
C      *****      SVC07500
C      NOTE:      PS = SURFACE PRESSURE      *****      SVC07510
C      PSK = SURFACE PRESSURE**KAPA      *****      SVC07520
C      RHS = HARMONIC MEAN OF RELATIVE HUMIDITY      *****      SVC07530
C      ZLN = THICKNESS OF PLANETARY BOUNDARY LAYER      *****      SVC07540
C      GAMC = TEMPERATURE DIFFERENCE RELATED      *****      SVC07550
C      TO DIFFERENCES BETWEEN MOIST-      *****      SVC07560
C      AND DRY-ADIABATIC LAPSE RATES      *****      SVC07570
C      THT9 = POTENTIAL TEMPERATURE AT      *****      SVC07580
C      LEVEL 9 WITH SURFACE PRESSURE      *****      SVC07590
C      AS REFERENCE      *****      SVC07600
C      DTS = TEMPERATURE CHANGE BETWEEN      *****      SVC07610
C      GROUND AND TOP OF P.B.L WITH      *****      SVC07620
C      MOISTURE CORRECTION      *****      SVC07630
C      ( DTS<0 : STABLE P.B.L      *****      SVC07640
C      ( DTS>0 : UNSTABLE P.B.L )      *****      SVC07650
C      DRAW = AIR/SURFACE INTERACTION COEFFICIENT      *****      SVC07660
C      RICH = BULK RICHARDSON NUMBER      *****      SVC07670
C      EDNS = EDDY DIFFUSIVITY COEFFICIENT      *****      SVC07680
C      TDML = TEMPERATURE DIFFERENCE OF THE      *****      SVC07690
C      MIXED LAYER      *****      SVC07700
C      *****      SVC07710
C      EVE = SOIL EVAPOTRANSPIRATION COEFFICIENT      *****      SVC07720
C      *****      SVC07730
C      *****      SVC07740
C      *****      SVC07750
C      *****      SVC07760
C      *****      SVC07770
C      *****      SVC07780
C      *****      SVC07790
C      *****      SVC07800
C      *****      SVC07810
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C ****
C *****
00504 GRAVY = GRAV/RGAS*ROCP
00505 AROCP = 1./ROCP
C
00506 PS(1;IM) = PLE(1,NLAYP1;IM)
00507 *SK(1;IM) = VEXPBYK( PS(1;IM),IM;PSK(1;IM) )
C
00508 SHSATS(1;IM) = VQSAT( TS(1,J;IM),PS(1;IM),IM;SHSATS(1;IM) )
C
00509 TEMP(1,1;IM) = SHSATS(1;IM)/TS(1,J;IM)
C
00510 RHS(1;IM) = 0.
00511 TEMP(1,9;IM) = WET(1;IM) + RH(1,NLAY;IM)
00512 BIT72(1;IM) = TEMP(1,9;IM) .NE. 0.0
00513 WHERE( BIT72(1;IM) )
$ RHS(1;IM) = 2.*WET(1;IM)*RH(1,NLAY;IM)/TEMP(1,9;IM)
C
00514 TEMP(1,6;IM) = ZLNCO*TS(1,J;IM)*SP(1;IM)/PS(1;IM)
00515 THG(1;IM) = GAMFAC*TEMP(1,1;IM)/TS(1,J;IM)
00516 GAMC(1;IM) = TEMP(1,6;IM) * RHS(1;IM) * GRAVY *
$ (THG(1;IM)-CLH*TEMP(1,1;IM)*AROCP) / (1.+THG(1;IM))
00517 THT9(1;IM) = TH(1,NLAY;IM) * PSK(1;IM)
00518 DTS(1;IM) = TG(1;IM) - THT9(1;IM) + GAMC(1;IM)
C
00519 TEMP(1,3;IM) = DTS(1;IM)
00520 BIT72(1;IM) = TEMP(1,3;IM) .GE. 0.0
C
C *****
C ** UNSTABLE P.B.L **
C *****
00521 WHERE( WMAG(1;IM) .LT. 25.0 ) TEMP(1,1;IM) = 25.
00522 WHERE( BIT72(1;IM) ) TEMP(1,1;IM) = WMAG(1;IM)
00523 WHERE( BIT72(1;IM) )
00524 TEMP(1,2;IM) = VSQRT( CD(1;IM);TEMP(1,2;IM) )
00525 TEMP(1,1;IM) = 0.1382 * TEMP(1,2;IM) * TEMP(1,1;IM)
00526 TEMP(1,1;IM) = TEMP(1,1;IM) + 13.67 * CD(1;IM)
00527 TEMP(1,1;IM) = DTS(1;IM) * TEMP(1,1;IM)
00528 TEMP(1,5;IM) = -(1200./TEMP(1,6;IM))*TEMP(1,1;IM)
00529 ENDWHERE
00530 TEMP(1,5;IM) = VEXP( TEMP(1,5;IM);TEMP(1,5;IM) )
00531 WHERE( BIT72(1;IM) )
00532 TEMP(1,5;IM) = C10 + C100 * (1.0-TEMP(1,5;IM))
00533 TLE(1,NLAYP1;IM) = THT9(1;IM) + TEMP(1,1;IM) - GAMC(1;IM)
00534 DTS(1;IM) = TG(1;IM) - TLE(1,NLAYP1;IM)
00535 DRAW(1;IM) = VSQRT( DTS(1;IM);DRAW(1;IM) )
00536 DRAW(1;IM) = CD(1;IM) * (WMAG(1;IM) + DRAW(1;IM))
00537 ENDWHERE
C
C *****
C ** STABLE P.B.L **
C *****
00538 DU(1;IM) = U(1,NLAY,NB,J;IM) - US(1;IM)
00539 DV(1;IM) = V(1,NLAY,NB,J;IM) - VS(1;IM)
00540 DUDV(1;IM) = DU(1;IM)*DU(1;IM) + DV(1;IM)*DV(1;IM)
00541 WHERE( DUDV(1;IM) .LT. 0.1 ) DUDV(1;IM) = 0.1
00542 DUDV(1;IM) = 1./(DUDV(1;IM) * TG(1;IM))
C
00543 C4G = -C40*GRAV
C
00544 BIT72(1;IM) = TEMP(1,3;IM) .LT. 0.0

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SVC07820
SVC07830
SVC07840
SVC07850
SVC07860
SVC07870
SVC07880
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SVC08000
SVC08010
SVC08020
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SVC08100
SVC08110
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SVC08360
SVC08370
SVC08380
SVC08390
SVC08400
SVC08410
SVC08420
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SVC08440
SVC08450
SVC08460
SVC08470
SVC08480
SVC08490
SVC08500
SVC08510
SVC08520

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00545 WHERE( BIT72(1;IM) ) SVC08530
00546 WMAGC(1;IM) = WMAGS(1;IM)*WMAG(1;IM) SVC08540
00547 TEMP(1,7;IM) = 1./ (TEMP(1,6;IM)*CD(1;IM)*WMAG(1;IM)) SVC08550
00548 TEMP(1,8;IM) = C10*7.*TEMP(1,7;IM)/WMAGS(1;IM) SVC08560
00549 AAA(1;IM) = TEMP(1,6;IM)*DUDV(1;IM) SVC08570
00550 AAA(1;IM) = C4G*AAA(1;IM) + TEMP(1,8;IM) SVC08580
00551 BBB(1;IM) = 1. + C10*TEMP(1,7;IM) SVC08590
$ - C4G*TEMP(1,6;IM)*DTS(1;IM)*DUDV(1;IM) SVC08600
$ - TEMP(1,8;IM)*DTS(1;IM) SVC08610
00552 CCC(1;IM) = -DTS(1;IM) SVC08620
00553 ENDWHERE SVC08630
C TEMP(1,8;IM) = VABS( AAA(1;IM);TEMP(1,8;IM) ) SVC08640
C SVC08650
00555 WHERE( BIT72(1;IM) .AND. (TEMP(1,8;IM).GT.0.01) ) SVC08660
00556 TEMP(1,1;IM) = BBB(1;IM)*BBB(1;IM) - 4.*AAA(1;IM)*CCC(1;IM) SVC08670
00557 TEMP(1,1;IM) = VSQRT( TEMP(1,1;IM);TEMP(1,1;IM) ) SVC08680
00558 TEMP(1,1;IM) = ( -BBB(1;IM) + TEMP(1,1;IM) )/(2.*AAA(1;IM)) SVC08690
00559 ENDWHERE SVC08700
C SVC08710
C SVC08720
00560 WHERE( BIT72(1;IM) .AND. (TEMP(1,8;IM).LE.0.01) ) SVC08730
00561 TEMP(1,1;IM) = BBB(1;IM)*BBB(1;IM) SVC08740
00562 TEMP(1,1;IM) = 1.0 + AAA(1;IM)*CCC(1;IM)/TEMP(1,1;IM) SVC08750
00563 TEMP(1,1;IM) = - CCC(1;IM)/BBB(1;IM)*TEMP(1,1;IM) SVC08760
00564 ENDWHERE SVC08770
C SVC08780
C SVC08790
00565 TEMP(1,2;IM) = 1.0 - 7.*DTS(1;IM)/WMAGS(1;IM) SVC08800
00566 TEMP(1,2;IM) = 1.0 + EDNM * TEMP(1,7;IM) + TEMP(1,2;IM) SVC08810
00567 TEMP(1,2;IM) = DTS(1;IM) / TEMP(1,2;IM) SVC08820
C SVC08830
00568 WHERE( BIT72(1;IM) .AND. (TEMP(1,2;IM).GT.TEMP(1,1;IM)) ) SVC08840
$ TEMP(1,1;IM) = TEMP(1,2;IM) SVC08850
C SVC08860
C SVC08870
C SVC08880
00569 WHERE( BIT72(1;IM) ) SVC08890
00570 TLE(1,NLAYP1;IM) = THT9(1;IM) + TEMP(1,1;IM) - GAMC(1;IM) SVC08900
00571 DTS(1;IM) = TG(1;IM) - TLE(1,NLAYP1;IM) SVC08910
00572 DRAW(1;IM) = WMAGS(1;IM) - 7.*DTS(1;IM) SVC08920
00573 DRAW(1;IM) = CD(1;IM)*WMAGC(1;IM)/DRAW(1;IM) SVC08930
00574 TEMP(1,5;IM) = -GRAV*TEMP(1,6;IM)*TEMP(1,1;IM)*DUDV(1;IM) SVC08940
00575 TEMP(1,5;IM) = C10/(1. + C40*TEMP(1,5;IM)) SVC08950
00576 ENDWHERE SVC08960
C SVC08970
C SVC08980
C SVC08990
C ***** CALCULATION OF ***** SVC09000
C ***** SURFACE SPECIFIC HUMIDITY ***** SVC09010
C ***** SVC09020
C ***** SVC09030
C ***** SVC09040
00577 EDV(1;IM) = TEMP(1,5;IM)/TEMP(1,6;IM) SVC09050
00578 TEMP(1,7;IM) = WET(1;IM)/FWET SVC09060
00579 BIT72(1;IM) = TEMP(1,7;IM) .LT. 1.0 SVC09070
00580 SVC09080
00581 WHERE( BIT72(1;IM) ) SVC09090
00582 EVE(1;IM) = 1.0 SVC09100
00583 EVACO(1;IM) = EVE(1;IM)*DRAW(1;IM) SVC09110
00584 BIT72(1;IM) = 1.E-40 .GT. EVACO(1;IM) SVC09120
WHERE( BIT72(1;IM) ) EVACO(1;IM) = 1.E-40 SVC09130
C SVC09140
00585 SHG(1;IM) = VQSAT( TG(1;IM),PS(1;IM),IM;SHG(1;IM) ) SVC09150
C SVC09160
00586 SHLE(1,NLAYP1;IM) = (EVACO(1;IM)*SHG(1;IM) SVC09170
$ + EDV(1;IM)*SHL(1,NLAY;IM))/(EVACO(1;IM)+EDV(1;IM)) SVC09180
00587 SHSATS(1;IM) = VQSAT( TLE(1,NLAYP1;IM),PS(1;IM),IM;SHSATS(1;IM) ) SVC09190
C SVC09200
C ***** SVC09210
C ***** SVC09220
C ***** CHECK FOR SUPER-SATURATION ***** SVC09230
C ***** OF SURFACE SPECIFIC HUMIDITY *****

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C *****
C *****
C *****
00588 DO 120 I=1,IM
00589 IF (SHLE(I,NLAYP1).LE.SHSATS(I)) GO TO 120
00590 TEMP(1,2) = GAMFAC*SHSATS(I)/(TLE(I,NLAYP1)*TLE(I,NLAYP1))
00591 TEMP(1,1) = (SHLE(I,NLAYP1) - SHSATS(I))/(1. + TEMP(1,2))
00592 TLE(I,NLAYP1) = TLE(I,NLAYP1) + TEMP(1,1)*CLH
00593 SHLE(I,NLAYP1) = SHLE(I,NLAYP1) - TEMP(1,1)
00594 120 CONTINUE

C *****
C *****
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C *****
00595 RHOS(1;IM) = PS(1;IM)/(RGAS*TLE(1,NLAYP1;IM))
C *****
C *****
C *****
C *****
C *****
C *****
C *****
00596 DSHS(1;IM) = SHG(1;IM) - SHLE(1,NLAYP1;IM)
00597 TEMP(1,1;IM) = COEFS*RHOS(1;IM)*DRAW(1;IM)/SP(1;IM)
00598 TL(1,NLAY;IM) = TL(1,NLAY;IM) + TEMP(1,1;IM)*DTS(1;IM)
00599 TH(1,NLAY;IM) = TL(1,NLAY;IM) / PLK(1,NLAY;IM)
00600 SHL(1,NLAY;IM) = SHL(1,NLAY;IM)
          $ + TEMP(1,1;IM)*EVE(1;IM)*DSHS(1;IM)
C *****
C *****
C *****
C *****
C *****
00601 U(1,NLAY,NB,J;IM) = U(1,NLAY,NB,J;IM) - CDFR*TEMP(1,1;IM)*US(1;IM)
00602 V(1,NLAY,NB,J;IM) = V(1,NLAY,NB,J;IM) - CDFR*TEMP(1,1;IM)*VS(1;IM)
C *****
C *****
C *****
C *****
C *****
C *****
C *****
C *****
C *****
C *****
00603 ACLH = 1./CLH
C *****
00604 SSS(1,NLAY;IM) = 0.
00605 CVT(1,1;IMNLAY) = 0.
00606 CVQ(1,1;IMNLAY) = 0.

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SVC09240
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00607          DO 180 LX=2,NLAY
00608          L = NLAY + 2 - LX
00609          LM1 = L-1
00610          FACL = DSIG(L)/(DSIG(L)+DSIG(LM1))
00611          FACLM1 = DSIG(LM1)/(DSIG(L)+DSIG(LM1))
C
00612          TEMP(1,1;IM) = PLK(1,L;IM)/PLK(1,LM1;IM)
00613          TEMP(1,2;IM) = 1./TEMP(1,1;IM)
00614          TEMP(1,1;IM) = TL(1,LM1;IM)*TEMP(1,1;IM) - TL(1,L;IM)
00615          TEMP(1,2;IM) = TL(1,L;IM) - TL(1,LM1;IM)*TEMP(1,2;IM)
00616          SSSE(1,L;IM) = SSS(1,L;IM) + FACL*TEMP(1,1;IM)
00617          SSS(1,LM1;IM) = SSSE(1,L;IM) + FACLM1*TEMP(1,2;IM)
00618          SHLE(1,L;IM) = FACL*SHL(1,LM1;IM) + FACLM1*SHL(1,L;IM)
C
00619          BIT72(1;IM) = SHLE(1,L;IM) .NE. 0.0
00620          WHERE( BIT72(1;IM) )
00621          SHLE(1,L;IM) = SHL(1,LM1;IM)*SHL(1,L;IM)/SHLE(1,L;IM)
00622          ENDWHERE
C
00623          TEMP(1,1;IM) = SSS(1,LM1;IM) - SSSE(1,L;IM)
00624          TEMP(1,1;IM) = SHSAT(1,LM1;IM) + TEMP(1,1;IM)*ACLH
00625          BIT72(1;IM) = TEMP(1,1;IM) .LT. SHLE(1,L;IM)
00626          WHERE( BIT72(1;IM) ) SHLE(1,L;IM) = TEMP(1,1;IM)
C
00627          HH(1,L;IM) = SSS(1,L;IM) + CLH*SHL(1,L;IM)
00628          HHE(1,L;IM) = SSSE(1,L;IM) + CLH*SHLE(1,L;IM)
00629          HHS(1,L;IM) = SSS(1,L;IM) + CLH*SHSAT(1,L;IM)
C
00630          180 CONTINUE
C
00631          HHS(1,1;IM) = SSS(1,1;IM) + CLH*SHSAT(1,1;IM)
C
C *****
C *****
C ***** CONstrain SPECIFIC HUMIDITY BY ELIMINATING NEGATIVE VALUES *****
C *****
C *****
C *****
00632          DO 202 L=2,NLAY
00633          LM1 = L-1
00634          DDSIG = DSIG(LM1)/DSIG(L)
C
00635          BIT72(1;IM) = SHL(1,LM1;IM) .LT. 0.0
00636          IBIT = QBSCNT( BIT72(1;IM) )
00637          IF( IBIT .EQ. 0 ) GOTO 202
00638          WHERE( BIT72(1;IM) )
00639          SHL(1,L;IM) = SHL(1,L;IM) + SHL(1,LM1;IM)*DDSIG
00640          SHL(1,LM1;IM) = 0.
00641          ENDWHERE
C
00642          202 CONTINUE
C
00643          BIT72(1;IM) = SHL(1,NLAY;IM) .LT. 0.0
00644          WHERE( BIT72(1;IM) ) SHL(1,NLAY;IM)=0.
C
C *****
C *****
C ***** CUMULUS PARAMETERIZATION *****
C *****
C *****
C *****
00645          CALL ZEITBEG(8HCUMULO )
00646          CALL CUMULO (J)
00647          CALL ZEITEND
C
C *****
C *****
C ***** MOIST CONVECTIVE ADJUSTMENT *****
C *****
C *****
C *****

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SVC09950
SVC09960
SVC09970
SVC09980
SVC09990
SVC10000
SVC10010
SVC10020
SVC10030
SVC10040
SVC10050
SVC10060
SVC10070
SVC10080
SVC10090
SVC10100
SVC10110
SVC10120
SVC10130
SVC10140
SVC10150
SVC10160
SVC10170
SVC10180
SVC10190
SVC10200
SVC10210
SVC10220
SVC10230
SVC10240
SVC10250
SVC10260
SVC10270
SVC10280
SVC10290
SVC10300
SVC10310
SVC10320
SVC10330
SVC10340
SVC10350
SVC10360
SVC10370
SVC10380
SVC10390
SVC10400
SVC10410
SVC10420
SVC10430
SVC10440
SVC10450
SVC10460
SVC10470
SVC10480
SVC10490
SVC10500
SVC10510
SVC10520
SVC10530
SVC10540
SVC10550
SVC10560
SVC10570
SVC10580
SVC10590
SVC10600
SVC10610
SVC10620
SVC10630
SVC10640
SVC10650

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00648 CALL ZEITBEG(8HMOIST ) SVC10660
00649 CALL MOIST SVC10670
00650 CALL ZEITEND SVC10680
C ***** SVC10690
C **** LARGE SCALE PRECIPITATION **** SVC10700
C **** SVC10710
C **** PRECIP = PRECIPITATION DUE TO **** SVC10720
C **** LARGE-SCALE SUPERSATURATION **** SVC10730
C **** EXL = TOTAL SPECIFIC HUMIDITY CHANGE **** SVC10740
C **** FROM LEVEL L-1 **** SVC10750
C **** EX = TOTAL SPECIFIC HUMIDITY CHANGE **** SVC10760
C **** TO LEVEL L **** SVC10770
C **** SVC10780
C **** DIAGNOSTICS: **** SVC10790
C **** ICLOUD(I,J) **** SVC10800
C **** PREACC(I,J) = TOTAL ACCUMULATED PRECIP **** SVC10810
C **** FROM LARGE AND SMALL SCALE **** SVC10820
C **** (.1MM/DAY) **** SVC10830
C **** PRECON(I,J) = TOTAL ACCUMULATED PRECIP **** SVC10840
C **** FROM CUMULUS CONVECTION **** SVC10850
C **** (.1MM/DAY) **** SVC10860
C **** SVC10870
C **** SVC10880
C **** SVC10890
C ***** SVC10900
00651 DO 300 L=2,NLAY SVC10910
00652 LM1 = L-1 SVC10920
00653 DDSIG = DSIG(LM1)/DSIG(L) SVC10930
00654 DO 1120 I=1,IM SVC10940
00655 IF (SHL(I,LM1).LE.SHSAT(I,LM1)) GO TO 1120 SVC10950
00656 EXL = (SHL(I,LM1)-SHSAT(I,LM1)) / (1.+GAM(I,LM1)) SVC10960
00657 EX = EXL*DDSIG SVC10970
00658 CLOUD(I,LM1) = 1. SVC10980
00659 IF (QOUT.AND.LICLOUD) IQSDIAG(I,IIICLOUD,J) = SVC10990
S IQSDIAG(I,IIICLOUD,J) + 2**{LM1+5} SVC11000
00660 TL(I,LM1) = TL(I,LM1) + EXL*CLH SVC11010
00661 SHL(I,LM1) = SHL(I,LM1) - EXL SVC11020
00662 TL(I,L) = TL(I,L) - EX*CLH SVC11030
00663 SHL(I,L) = SHL(I,L) + EX SVC11040
00664 SHSAT(I,L) = QSAT(TL(I,L),PL(I,L)) SVC11050
00665 GAM(I,L) = GAMFAC*SHSAT(I,L)/(TL(I,L)*TL(I,L)) SVC11060
00666 1120 CONTINUE SVC11070
00667 300 CONTINUE SVC11080
C SVC11090
C PRECIP(I;IM) = 0. SVC11100
C SVC11110
00668 DO 1130 I=1,IM SVC11120
00669 EXL = 0. SVC11130
00670 IF (SHL(I,NLAY).LE.SHSAT(I,NLAY)) GO TO 320 SVC11140
00671 CLOUD(I,NLAY) = 1. SVC11150
00672 IF (QOUT.AND.LICLOUD) IQSDIAG(I,IIICLOUD,J) = SVC11160
00673 S IQSDIAG(I,IIICLOUD,J) + 2**{NLAY+5} SVC11170
00674 DO 310 N=1,3 SVC11180
00675 EX = (SHL(I,NLAY)-SHSAT(I,NLAY)) / (1.+GAM(I,NLAY)) SVC11190
00676 EXL = EXL + EX SVC11200
00677 TL(I,NLAY) = TL(I,NLAY) + CLH*EX SVC11210
00678 SHL(I,NLAY) = SHL(I,NLAY) - EX SVC11220
00679 SHSAT(I,NLAY) = QSAT(TL(I,NLAY),PL(I,NLAY)) SVC11230
00680 GAM(I,NLAY) = GAMFAC*SHSAT(I,NLAY)/(TL(I,NLAY)*TL(I,NLAY)) SVC11240
00681 310 CONTINUE SVC11250
00682 PRECIP(I) = PRECIP(I) + EXL*DSIG(NLAY)*.1*SP(I)*AGRAV SVC11260
00683 320 CONTINUE SVC11270
00684 1130 CONTINUE SVC11280
C SVC11290
C CUMIE4 = 1.E4*CUMDAY SVC11300
C SVC11310
00685 PREP(I;IM) = PRECIP(I;IM) + PCMID(I;IM) SVC11320
C SVC11330
C + PCLOW(I;IM) SVC11340
C + PCPEN(I;IM) SVC11350
00687 IF (LPREACC) QSDIAG(I,IPREACC,J;IM) = QSDIAG(I,IPREACC,J;IM) SVC11360

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00688      $ IF(LPRECON) QSDIAG(1,IPRECON,J;IM) = QSDIAG(1,IPRECON,J;IM) + CUM1E4* PREP(1;IM)          SVC11370
          $ IF(LPRECON) QSDIAG(1,IPRECON,J;IM) = QSDIAG(1,IPRECON,J;IM) + CUM1E4*(PREP(1;IM)-PRECIP(1;IM)) SVC11380
C          + CUM1E4*(PREP(1;IM)-PRECIP(1;IM))          SVC11390
C          *****          SVC11400
C          *****          SVC11410
C          *****          SVC11420
C          ELIMINATE NEGATIVE SPECIFIC HUMIDITY          SVC11430
C          *****          SVC11440
C          *****          SVC11450
00689      DO 410 L=2,NLAY          SVC11460
00690      LM1 = L-1          SVC11470
00691      DDSIG = DSIG(LM1)/DSIG(L)          SVC11480
C          *****          SVC11490
00692      BIT72(1;IM) = SHL(1,LM1;IM) .LT. 0.0          SVC11500
00693      IBIT = QBSCNT( BIT72(1;IM) )          SVC11510
00694      IF( IBIT .EQ. 0 ) GOTO 410          SVC11520
00695      WHERE( BIT72(1;IM) )          SVC11530
00696      SHL(1,L ;IM) = SHL(1,L;IM) + SHL(1,LM1;IM)*DDSIG          SVC11540
00697      SHL(1,LM1;IM) = 0.          SVC11550
00698      ENDWHERE          SVC11560
C          *****          SVC11570
00699      410 CONTINUE          SVC11580
C          *****          SVC11590
00700      WHERE( BIT72(1;IM) ) = SHL(1,NLAY ;IM) .LT. 0.0          SVC11600
00701      WHERE( BIT72(1;IM) ) = SHL(1,NLAY ;IM)=0.          SVC11610
00702      BIT72(1;IM) = SHLE(1,NLAYP1;IM) .LT. 0.0          SVC11620
00703      WHERE( BIT72(1;IM) ) = SHLE(1,NLAYP1;IM) .LT. 0.0          SVC11630
C          *****          SVC11640
C          *****          SVC11650
C          *****          SVC11660
C          RADIATION SUBROUTINES          SVC11670
C          *****          SVC11680
C          *****          SVC11690
C          *****          SVC11700
00704      CALL ZEITBEG(BHRADIO )          SVC11710
00705      CALL RADIO (J)          SVC11720
00706      CALL ZEITEND          SVC11730
C          *****          SVC11740
C          *****          SVC11750
C          *****          SVC11760
C          *****          SVC11770
C          *****          SVC11780
C          *****          SVC11790
C          *****          SVC11800
C          *****          SVC11810
C          *****          SVC11820
C          *****          SVC11830
C          *****          SVC11840
C          *****          SVC11850
C          *****          SVC11860
C          *****          SVC11870
C          *****          SVC11880
C          *****          SVC11890
C          *****          SVC11900
C          *****          SVC11910
C          *****          SVC11920
C          *****          SVC11930
C          *****          SVC11940
C          *****          SVC11950
C          *****          SVC11960
C          *****          SVC11970
C          *****          SVC11980
C          *****          SVC11990
C          *****          SVC12000
C          *****          SVC12010
C          *****          SVC12020
C          *****          SVC12030
C          *****          SVC12040
C          *****          SVC12050
C          *****          SVC12060
C          *****          SVC12070

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C ***** THEREFORE, THESE FLUXES MUST BE *****
C ***** SCALED BY: *****
C ***** F = F * 10 LANGLEY/DECA-LANGLEY *****
C ***** LE = LE * 10 LANGLEY/DECA-LANGLEY *****
C *****
C *****
00707 EVAL(1;IM) = HEATW
00708 CZH(1;IM) = 0.386 + 0.15 * WET(1;IM)
00709 CZH(1;IM) = CZH(1;IM) * (1.000 + WET(1;IM))
00710 CZH(1;IM) = CZH(1;IM) * 2.E-3*SDAY/PI2
00711 CZH(1;IM) = VSQRT( CZH(1;IM);CZH(1;IM) )

C
00712 WHERE( SNOWY(1;IM) )
00713 EVAL(1;IM) = HEATI
00714 CZH(1;IM) = 2.3
00715 ENDWHERE

C
00716 WHERE( ICY(1;IM) )
00717 EVAL(1;IM) = HEATI
00718 CZH(1;IM) = 5.1
00719 ENDWHERE

C
00720 WHERE( FROSTY(1;IM) )
00721 EVAL(1;IM) = HEATF
00722 CZH(1;IM) = 0.331 + 0.075 * WET(1;IM)
00723 CZH(1;IM) = CZH(1;IM) * (2.000 + 2.500 * WET(1;IM))
00724 CZH(1;IM) = CZH(1;IM) * 1.E-3*SDAY/PI2
00725 CZH(1;IM) = VSQRT( CZH(1;IM);CZH(1;IM) )
00726 ENDWHERE

C
00727 TEMP(1,1;IM) = 10.*DRAW(1;IM)*RHOS(1;IM)*SDAY
00728 TEMP(1,2;IM) = -CPP*TEMP(1,1;IM)*DTS(1;IM)
00729 TEMP(1,3;IM) = -EVAL(1;IM)*EVE(1;IM)*TEMP(1,1;IM)*DSHS(1;IM)
00730 IF(LHFLUX) QSDIAG(1,IHFLUX,J;IM) = QSDIAG(1,IHFLUX,J;IM)
$ IF(LHFLUX) QSDIAG(1,IEFLUX,J;IM) = CUMRAT*TEMP(1,2;IM)
$ IF(LHFLUX) QSDIAG(1,IEFLUX,J;IM) = QSDIAG(1,IEFLUX,J;IM)
$ SHS(1,J;IM) = SHLE(1,NLAYP1;IM)

C
00733 DO 1160 I=1,IM
00734 IF (OCEAN(I)) GO TO 1160
00735 TEM = 0.
00736 IF (ICE(I) .AND. Z(I).LT..1) TEM = CTID/HICE
00737 TGSQ = TG(I)**2
00738 DRAD = 4.*STBO*TGSQ*TG(I)
00739 DSQG = EPSFAC*SHG(I)/TGSQ
00740 TEMP(1,4) = TEM*(TICE - TG(I))
00741 TEMP(1,6) = SDAY*CZH(I)/DTC3 + DRAD - TEM
$ + TEMP(1,1)*EDV(I) * ( CPP / ( DRAW(I) + EDV(I))
$ + EVAL(I) *EVE(I) * DSQG / (EVACO(I) + EDV(I)) )

00742 1160 CONTINUE

C
00743 WHERE( .NOT.WATER(1;IM) )
00744 GT(1,J;IM) = TG(1;IM) + (RADTRM(1;IM)
$ + TEMP(1,2;IM)
$ + TEMP(1,3;IM)
$ + TEMP(1,4;IM) ) / TEMP(1,5;IM)

ENDWHERE
00745 IF(.NOT.LFUSION) GO TO 1161
00746 WHERE( .NOT.WATER(1;IM) )
00747 QSDIAG(1,IFUSION,J;IM) = QSDIAG(1,IFUSION,J;IM)
$ + CUMRAT*TEMP(1,4;IM)
00748 ENDWHERE
00749 1161 CONTINUE
00750

C *****
C ***** HEATING DUE TO ABSORBED RADIATION *****
C ***** AND TOTAL MOISTURE ADJUSTMENT *****
C *****

```

SVC12080
SVC12090
SVC12100
SVC12110
SVC12120
SVC12130
SVC12140
SVC12150
SVC12160
SVC12170
SVC12180
SVC12190
SVC12200
SVC12210
SVC12220
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SVC12600
SVC12610
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SVC12660
SVC12670
SVC12680
SVC12690
SVC12700
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SVC12720
SVC12730
SVC12740
SVC12750
SVC12760
SVC12770
SVC12780

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C *****
C ***** NOTE: *****
C ***** COE * COLMR = GRAV*DEL/(10*SP*CP*DSIG(L)) *****
C ***** WHERE: SP = PS-PTOP *****
C ***** DELT = COMP3 TIME INCREMENT *****
C ***** CP = SPECIFIC HEAT *****
C *****
C ***** DIAGNOSTICS: *****
C ***** DIABAT = TOTAL DIABATIC HEATING, INCLUDING *****
C ***** RADIATION, IN DECI-KELVIN/DAY *****
C ***** TS = AIR-SURFACE TEMPERATURE *****
C ***** TMIN = MINIMUM AIR-SURFACE TEMPERATURE *****
C ***** TMAX = MAXIMUM AIR-SURFACE TEMPERATURE *****
C *****
C *****
C *****
00751 CUMD10 = 1.E1*CUMDAY
00752 COLMR(1:IM) = PIM/SP(1:IM)
C
00753 TEMP(1,1;IMNLAY) = AS(1,1;IMNLAY)
      $      + RE(1,2;IMNLAY)
      $      - RE(1,1;IMNLAY)
C
00754 DO 520 L=1,NLAY
00755 TEMP(1,L;IM) = TEMP(1,L;IM) * COE(L) * COLMR(1;IM)
00756 520 CONTINUE
C
00757 TEMP(1,1;IMNLAY) = TL(1,1;IMNLAY) - T(1,1,NB,J;IMNLAY)
      $      + TEMP(1,1;IMNLAY)
C
00758 T(1,1,NB,J;IMNLAY) = T(1,1,NB,J;IMNLAY) + TEMP(1,1;IMNLAY)
00759 SH(1,1,NB,J;IMNLAY) = SHL(1,1;IMNLAY)
00760 IF(LDIABAT)
      $ QSDIAG(1,1,IDIABAT,J;IMNLAY) = QUDIAG(1,1,IDIABAT,J;IMNLAY)
      $      + CUMD10*TEMP(1,1;IMNLAY)
C
00761 TS(1,J;IM) = TLE(1,NLAYP1;IM)
C
00762 IF(LTMIN) BIT72(1;IM) = TS(1,J;IM) .LT. QSDIAG(1,ITMIN,J;IM)
00763 IF(LTMIN) WHERE( BIT72(1;IM) ) QSDIAG(1,ITMIN,J;IM) = TS(1,J;IM)
00764 IF(LTMAX) BIT72(1;IM) = TS(1,J;IM) .GT. QSDIAG(1,ITMAX,J;IM)
00765 IF(LTMAX) WHERE( BIT72(1;IM) ) QSDIAG(1,ITMAX,J;IM) = TS(1,J;IM)
C *****
C *****
00766 CALL ZEITBEG(8HCOMP35 )
00767 CALL COMP35 (J)
00768 CALL ZEITEND
C *****
C *****
00769 IF (FMU.LE.O.) GO TO 900
C *****
C ***** INTERNAL FRICTION *****
C ***** DUE TO VERTICAL SHEAR OF *****
C ***** HORIZONTAL WIND *****
C *****
C ***** NOTE: *****
C ***** FCOEF1 = MU/RGAS * (G/SP)**2 *****
C ***** MU = 0.00067 * TREF/PREF *****
C ***** TREF = 258 KELVIN *****
C ***** PREF = 500 MILLIBAR *****
C *****
C *****
00770 FCOEF1(1;IM) = FCOEF/SP(1;IM)**2
00771 UDN(1;IM) = U(1,1,NB,J;IM)
00772 VDN(1;IM) = V(1,1,NB,J;IM)
00773 TDN(1;IM) = T(1,1,NB,J;IM)

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SVC12790
SVC12800
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SVC13470
SVC13480
SVC13490

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C
00774 DO 860 L=2,NLAY $VC13500
00775 LM1 = L-1 $VC13510
00776 DSIGBR = 1./(DSIG(L) + DSIG(LM1)) $VC13520
00777 DELSIG = 1./(SIG(L) - SIG(LM1)) $VC13530
00778 ASGL = 1./DSIG(L) $VC13540
00779 ASGLM1 = 1./DSIG(LM1) $VC13550
C $VC13560
00780 UUP(1;IM) = UDN(1;IM) $VC13570
00781 VUP(1;IM) = VDN(1;IM) $VC13580
00782 TUP(1;IM) = TDN(1;IM) $VC13590
00783 UDN(1;IM) = U(1,L,NB,J;IM) $VC13600
00784 VDN(1;IM) = V(1,L,NB,J;IM) $VC13610
00785 TDN(1;IM) = T(1,L,NB,J;IM) $VC13620
C $VC13630
00786 TEMP(1,1;IM) = ( DSIG(L)*PL(1,LM1;IM)/TUP(1;IM) $VC13640
S + DSIG(LM1)*PL(1,L;IM)/TDN(1;IM) )*DSIGBR $VC13650
00787 TEMP(1,2;IM) = (UDN(1;IM)-UUP(1;IM))*DELSIG $VC13660
00788 TEMP(1,3;IM) = (VDN(1;IM)-VUP(1;IM))*DELSIG $VC13670
C $VC13680
00789 TEMP(1,1;IM) = FCOEF1(1;IM) * TEMP(1,1;IM)**2 $VC13690
00790 TEMP(1,2;IM) = TEMP(1,1;IM) * TEMP(1,2;IM) $VC13700
00791 TEMP(1,3;IM) = TEMP(1,1;IM) * TEMP(1,3;IM) $VC13710
C $VC13720
00792 U(1,LM1,NB,J;IM) = U(1,LM1,NB,J;IM) + TEMP(1,2;IM)*ASGLM1 $VC13730
00793 U(1,L,NB,J;IM) = U(1,L,NB,J;IM) - TEMP(1,2;IM)*ASGL $VC13740
00794 V(1,LM1,NB,J;IM) = V(1,LM1,NB,J;IM) + TEMP(1,3;IM)*ASGLM1 $VC13750
00795 V(1,L,NB,J;IM) = V(1,L,NB,J;IM) - TEMP(1,3;IM)*ASGL $VC13760
C $VC13770
00796 860 CONTINUE $VC13780
C $VC13790
00797 900 CONTINUE $VC13800
00798 RETURN $VC13810
00799 END $VC13820
$VC13830

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	397		
1120	666	654	655
1130	684	669	
1160	742	733	734
1161	750	746	
120	594	588	589
180	630	607	
202	642	632	637
30	423	420	
300	667	651	
310	681	674	
320	683	671	
40	465	436	
410	699	689	694
42	464	438	443
520	756	754	
80	500	482	
860	796	774	
900	797	769	

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE
AAA	DCOMP3	REAL	ARRAY	389	549/S	550/S	550	554	556	558 562
ACLH		REAL	SIMPLE	603/S	624					
ADATE	CCNTRL	CHAR*8	SIMPLE	3	1G					
ADLDP	RDPARM	REAL	SIMPLE	211						
AGRAV		REAL	SIMPLE	401/S	415	682				
AL	RADCOM	REAL	ARRAY	335						
ALBEDO	QANDQT	REAL	ARRAY	250	263					
APHEL	RCNTRL	REAL	SIMPLE	151						
AROCF		REAL	SIMPLE	505/S	516					
AS	RADCOM	REAL	ARRAY	320	753					

ASGL		REAL	SIMPLE	484/S	495	499	778/S	793	795													
ASGLM1		REAL	SIMPLE	485/S	494	498	779/S	792	794													
ASGPL5		REAL	SIMPLE	486/S	488	489																
ATIME	CNTRL	CHAR*8	SIMPLE	4																		
BBB	DCOMP3	REAL	ARRAY	390	551/S	556	556	558	561	561	563											
BETA	RCNTRL	REAL	SIMPLE	152																		
BIT72		BIT	ARRAY	395	402/S	403/S	407	430/S	431	432/S	433	441/S	442	445								
				467/S	468	474/S	475	512/S	513	520/S	523	531	544/S	545								
				555	560	568	569	579/S	581	583/S	584	619/S	620	625								
				625	635/S	636	638	643/S	644	692/S	693	695	700/S	701								
				702/S	703	762/S	763	764/S	765													
BITMAX		BIT	ARRAY	395																		
C10	CNTRL	REAL	SIMPLE	290	532	548	551	575														
C100	CNTRL	REAL	SIMPLE	291	532																	
C40	CNTRL	REAL	SIMPLE	292	543	575																
C4G		REAL	SIMPLE	543/S	550	551																
CALTOJ	RCNTRL	REAL	SIMPLE	190																		
CC	CNTRL	CHAR*8	ARRAY	14	15																	
CCO	CNTRL	CHAR*8	SIMPLE	2	14	15																
CCC	DCOMP3	REAL	ARRAY	391	552/S	556	562	563														
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12								
				13																		
CCSP06	CNTRL	CHAR*8	SIMPLE	7	20																	
CCSP07	CNTRL	CHAR*8	SIMPLE	8	21																	
CCSP08	CNTRL	CHAR*8	SIMPLE	9	22																	
CD	DCOMP3	REAL	ARRAY	362	476/S	478/S	480/S	524	526	536	547	573										
CDATE	RADCOM	REAL	ARRAY	344																		
GDFR	CNTRL	REAL	SIMPLE	278	601	602																
GDXL	CNTRL	REAL	SIMPLE	279	480																	
GDYO	CNTRL	REAL	SIMPLE	280	476	478																
CLH	CNTRL	REAL	SIMPLE	281	516	692	603	627	628	629	631	660	662	677								
CLOUD	RADCOM	REAL	ARRAY	326	419/S	658/S	672/S															
CNTRL		REAL	UNKNOWN	278	279	280	281	282	283	284	285	286	287	288								
				289	290	291	292	293	294	295	296	297	298	299								
				300	301	302	303	304	305	306	307	308	309	310								
				311	312	313	314	315	316	317	318											
COE	CNTRL	REAL	ARRAY	282	755																	
COEF	CNTRL	REAL	SIMPLE	283																		
COEFS	CNTRL	REAL	SIMPLE	284	697																	
COLMR	DCOMP3	REAL	ARRAY	356	752/S	755																
COMP3			SUBROUTINE	1																		
CON1	RDPARM	REAL	SIMPLE	212																		
CON1DT	RDPARM	REAL	SIMPLE	213																		
CON2	RDPARM	REAL	SIMPLE	214																		
CON2DT	RDPARM	REAL	SIMPLE	215																		
CON3	RDPARM	REAL	SIMPLE	216																		
CON3DT	RDPARM	REAL	SIMPLE	217																		
CON4	RDPARM	REAL	SIMPLE	218																		
CON4DT	RDPARM	REAL	SIMPLE	219																		
CON5	RDPARM	REAL	SIMPLE	220																		
COSD	RCNTRL	REAL	SIMPLE	153																		
COSL	RDPARM	REAL	ARRAY	221																		
COSLON	RDPARM	REAL	ARRAY	222																		
COSROT	CNTRL	REAL	SIMPLE	285																		
COSZ	RADCOM	REAL	ARRAY	346																		
CP	RCNTRL	REAL	SIMPLE	154																		
CPD2	RDPARM	REAL	SIMPLE	223																		
CPP	CNTRL	REAL	SIMPLE	286	728	741																
CQS	CNTRL	CHAR*8	ARRAY	12	25																	
CQU	CNTRL	CHAR*8	ARRAY	13	25																	
CTID	CNTRL	REAL	SIMPLE	287	736																	
QUM1E4		REAL	SIMPLE	685/S	687	688																
QUMD10		REAL	SIMPLE	751/S	760																	
QUMDAY		REAL	SIMPLE	288	685	751																
QUMRAT	CNTRL	REAL	SIMPLE	289	730	731	748															
CVQ	RADCOM	REAL	ARRAY	332	606/S																	
CVT	RADCOM	REAL	ARRAY	332	605/S																	
CXDE	RADCOM	REAL	ARRAY	333																		
CXL	RADCOM	REAL	SIMPLE	345																		
CZH	RADCOM	REAL	ARRAY	345	708/S	709/S	709	710/S	710	711/S	711	711	714/S	718								

ORIGINAL PAGE IS
OF POOR QUALITY

DAYSPY	RCNTRL	REAL	SIMPLE	722/S	723/S	723	724/S	724	725/S	725	725	741		
DCOMP3		REAL	UNKNOWN	155										
				366	357	358	359	360	351	362	363	364	365	366
				367	368	369	370	371	372	373	374	375	376	377
				378	379	380	381	382	383	384	385	386	387	388
				389	390	391	392							
DDSIG		REAL	SIMPLE	634/S	639	653/S	657	691/S	696					
DEC	RCNTRL	REAL	SIMPLE	156										
DECMAX	RCNTRL	REAL	SIMPLE	157										
DELSIG		REAL	SIMPLE	777/S	787	788								
DELTA	CNTRLP	REAL	SIMPLE	293										
DIRT		BIT	ARRAY	394	406/S	407	408/S	408	409	434				
DIST	RCNTRL	REAL	SIMPLE	158										
DLAT	RCNTRL	REAL	SIMPLE	159										
DLON	RCNTRL	REAL	SIMPLE	160										
DRAD		REAL	SIMPLE	738/S	741									
DRAW	DCOMP3	REAL	ARRAY	364	535/S	535	536/S	536	572/S	573/S	573	582	597	727
				741										
DSHS	DCOMP3	REAL	ARRAY	370	596/S	600	729							
DSIG	RDPARM	REAL	ARRAY	244	444	444	446	446	446	446	451	451	455	455
				459	459	484	485	486	486	488	488	489	489	489
				610	610	611	611	611	634	634	653	653	682	691
				691	776	776	778	779	786	786				
				444/S	452	456	460	776/S	786					
DSIGBR		REAL	SIMPLE	246										
DSIGINV	RDPARM	REAL	ARRAY	739/S	741									
DSQG		REAL	SIMPLE	161										
DT	RCNTRL	REAL	SIMPLE	294	487	741								
DTC3	CNTRLP	REAL	SIMPLE	295										
DTCOUT	CNTRLP	REAL	SIMPLE	363	518/S	519	527	534/S	535	551	551	552	565	567
DTS	DCOMP3	REAL	ARRAY	571/S	572	598	728							
				386	538/S	540	540							
DU	DCOMP3	REAL	ARRAY	388	540/S	541	541/S	542/S	542	549	551	574		
DUDV	DCOMP3	REAL	ARRAY	387	539/S	540	540							
DV	DCOMP3	REAL	ARRAY	224										
DXP	RDPARM	REAL	ARRAY	225										
DXYP	RDPARM	REAL	ARRAY	226										
DYP	RDPARM	REAL	ARRAY	162										
ECCN	RCNTRL	REAL	SIMPLE	296										
ED	CNTRLP	REAL	SIMPLE	481/S	481									
EDLE		REAL	SIMPLE	487	487									
EDNM		REAL	SIMPLE	297	566									
EDV	DCOMP3	REAL	ARRAY	366	577/S	586	586	741	741	741				
EPS	RCNTRL	REAL	SIMPLE	188										
EPSFAC	RCNTRL	REAL	SIMPLE	189	739									
EVACO	DCOMP3	REAL	ARRAY	368	582/S	583	584/S	586	586	741				
EVAL	DCOMP3	REAL	ARRAY	392	707/S	713/S	717/S	721/S	729	741				
EVAP	RADCOM	REAL	SIMPLE	345										
EVE	DCOMP3	REAL	ARRAY	367	580/S	581/S	582	600	729	741				
EX		REAL	SIMPLE	657/S	662	663	675/S	676	677	678				
EXL		REAL	SIMPLE	656/S	657	660	661	670/S	676/S	676	682			
F1DT	RDPARM	REAL	SIMPLE	228										
F2DT	RDPARM	REAL	SIMPLE	229										
FACL		REAL	SIMPLE	610/S	616	618								
FACLM1		REAL	SIMPLE	611/S	617	618								
FCOEF	CNTRLP	REAL	SIMPLE	298										
FCOEF1	DCOMP3	REAL	SIMPLE	371	770/S	789								
FOORLS	RDPARM	REAL	ARRAY	227										
FILTER	LDPARM	LOGICAL	ARRAY	205	208									
FK	RADCOM	REAL	ARRAY	341										
FMU	CNTRLP	REAL	SIMPLE	299	769									
FROST	RADCOM	LOGICAL	ARRAY	350	351	413								
FROSTY		BIT	ARRAY	393	409/S	413	720							
FWET	CNTRLP	REAL	SIMPLE	300	578									
GAM	RADCOM	REAL	ARRAY	327	502/S	656	665/S	675	680/S					
GAMC	DCOMP3	REAL	ARRAY	384	516/S	518	533	670						
GAMFAC	CNTRLP	REAL	ARRAY	301	502	515	590	665						
GNU1	RCNTRL	REAL	SIMPLE	163										
GNU2	RCNTRL	REAL	SIMPLE	164										
GRAV	RCNTRL	REAL	SIMPLE	165										
GRAVY		REAL	SIMPLE	504/S	401	487	504	543	574					
					516									

ORIGINAL PAGE IS
OF POOR QUALITY

GT	QANDQT	REAL	ARRAY	251	264	409	432	433/S	435	744/S												
QTOPO	CNTRL	REAL	SIMPLE	302																		
GW	QANDQT	REAL	ARRAY	262	265	404	430	431/S	434													
H1DT	RDPARM	REAL	SIMPLE	230																		
H2DT	RDPARM	REAL	SIMPLE	231																		
HEATI	CNTRL	REAL	SIMPLE	187	713	717	721															
HEATW	CNTRL	REAL	SIMPLE	186	707																	
HH	RADCOM	REAL	ARRAY	330	627/S																	
HHE	RADCOM	REAL	ARRAY	330	628/S																	
HHS	RADCOM	REAL	ARRAY	331	629/S	631/S																
HICE	CNTRL	REAL	SIMPLE	303	736																	
I		INTEGER	SIMPLE	588/C	589	589	690	590	590	590	590	591	591	591	591	591	591	591	591	591	591	
				592	592	592	593	593	593	593	593	654/C	655	655	655	655	655	655	655	655	655	
				656	658	659	659	660	660	660	660	661	661	662	662	662	662	662	662	662	662	
				663	664	664	664	665	665	665	665	665	665	665	665	665	665	665	665	665	665	
				672	673	673	675	675	675	675	675	677	677	678	678	678	678	678	678	678	678	
				679	679	680	680	680	680	680	680	682	682	682	682	682	682	682	682	682	682	
				736	736	737	738	739	740	740	740	741	741	741	741	741	741	741	741	741	741	
				741	741	741	741	741	741	741	741	741	741	741	741	741	741	741	741	741	741	
				442/S	443	636/S	637	693/S	694													
				70																		
IBIT		INTEGER	SIMPLE	93	94																	
IBLKSIZ	ICNTRL	INTEGER	ARRAY	27	93	94																
IC	ICNTRL	INTEGER	SIMPLE	349	351	412	736															
IC0	ICNTRL	INTEGER	ARRAY	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
ICE	RADCOM	LOGICAL	ARRAY	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	
ICNTRL		INTEGER	UNKNOWN	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	
				60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	
				68																		
ICSP53	ICNTRL	INTEGER	SIMPLE	393	404/S	405	406	412	716													
ICY		BIT	ARRAY	90	760	760																
IDIABAT	ICNTRL	INTEGER	SIMPLE	194	195	196	197	198	199	200	201	202	203	204								
IDPARM		INTEGER	UNKNOWN	195																		
IDSP02	IDPARM	INTEGER	SIMPLE	84	731	731																
IEFLUX	ICNTRL	INTEGER	SIMPLE	85	748	748																
IFUSION	ICNTRL	INTEGER	SIMPLE	83	730	730																
IHFLUX	ICNTRL	INTEGER	SIMPLE	88	759	759	673	673														
IICLOUD	ICNTRL	INTEGER	SIMPLE	194																		
IJUMP	IDPARM	INTEGER	ARRAY	28	398	399	400	404	404	404	405	405	405	406	406	406	406	406	406	406	406	
IM	ICNTRL	INTEGER	SIMPLE	406	407	407	407	408	408	408	408	409	409	410	410	410	410	410	410	410	410	
				411	412	413	415	415	415	415	416	416	416	421	421	421	421	421	421	421	421	
				422	424	424	426	426	426	426	427	427	427	428	428	428	428	428	428	428	428	
				428	429	430	430	431	431	431	432	432	433	433	433	433	433	433	433	433	433	
				434	434	434	435	435	435	435	437	437	440	440	440	440	440	440	440	440	440	
				441	441	441	442	445	445	445	446	446	446	446	446	446	446	446	446	446	446	
				447	448	448	449	449	449	449	450	450	450	451	451	451	451	451	451	451	451	
				451	452	452	453	453	453	454	454	455	455	455	455	455	455	455	455	455	455	
				456	457	457	458	458	458	459	459	459	460	460	460	460	460	460	460	460	460	
				461	462	462	466	466	466	466	467	467	468	468	468	468	468	468	468	468	468	
				471	473	473	474	474	474	475	476	476	478	478	478	478	478	478	478	478	478	
				480	487	487	488	488	488	488	488	488	489	489	489	489	489	489	489	489	489	
				490	490	490	491	491	491	491	492	492	493	493	493	493	493	493	493	493	493	
				493	493	494	494	494	494	495	495	495	497	497	497	497	497	497	497	497	497	
				497	498	498	498	499	499	499	499	506	506	506	506	506	506	506	506	506	506	
				507	507	508	508	508	508	508	508	509	509	509	509	509	509	509	509	509	509	
				511	511	512	512	512	512	513	513	513	513	513	513	513	513	513	513	513	513	
				514	514	514	515	515	515	515	516	516	516	516	516	516	516	516	516	516	516	
				516	517	517	517	517	517	518	518	518	518	518	518	518	518	518	518	518	518	
				520	521	522	522	522	522	522	523	524	524	524	524	524	524	524	524	524	524	
				525	526	526	526	527	527	527	527	528	528	528	528	528	528	528	528	528	528	
				530	530	531	532	532	532	533	533	533	533	533	533	533	533	533	533	533	533	
				534	535	535	535	536	536	536	536	536	536	536	536	536	536	536	536	536	536	
				539	539	539	540	540	540	540	540	540	540	540	540	540	540	540	540	540	540	
				542	542	544	544	545	545	545	546	546	546	546	546	546	546	546	546	546	546	
				547	548	548	548	549	549	549	549	549	549	549	549	549	549	549	549	549	549	
				551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	551	
				555	555	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	
				558	558	558	560	560	560	560	561	561	561	561	561	561	561	561	561	561	561	

ORIGINAL PAGE IS
OF POOR QUALITY

NDAY	ICNTRL	INTEGER	SIMPLE	55																							
NDHOG	ICNTRL	INTEGER	SIMPLE	76																							
NDOUT	ICNTRL	INTEGER	SIMPLE	56																							
NDPHY	ICNTRL	INTEGER	SIMPLE	57																							
NDRSW	ICNTRL	INTEGER	SIMPLE	31																							
NDSHF	ICNTRL	INTEGER	SIMPLE	68																							
NDT	ICNTRL	INTEGER	SIMPLE	69																							
NDTC3	CNTRLP	INTEGER	SIMPLE	304																							
NFK	RADCOM	INTEGER	SIMPLE	341																							
NFLW	CNTRLP	INTEGER	SIMPLE	305																							
NHMS	ICNTRL	INTEGER	SIMPLE	60																							
NHMS0	ICNTRL	INTEGER	SIMPLE	62																							
NHMS1	IDPARM	INTEGER	SIMPLE	203																							
NHMS2	ICNTRL	INTEGER	SIMPLE	61																							
NHMS3	ICNTRL	INTEGER	SIMPLE	50																							
NLAY	ICNTRL	INTEGER	SIMPLE	63	399	400	420	426	427	438	482	511	513	517													
				538	539	586	598	598	599	599	599	600	600	601													
				601	602	602	604	607	608	632	643	644	651	671													
				671	672	673	675	675	675	677	677	678	678	679													
				679	679	680	680	680	680	682	689	700	701	754													
				774																							
NLAYM1	ICNTRL	INTEGER	SIMPLE	64	426	427																					
NLAYOZ	RADCOM	INTEGER	SIMPLE	340																							
NLAYP1	ICNTRL	INTEGER	SIMPLE	65	424	506	533	534	570	571	586	587	589	590													
				590	591	592	592	593	593	595	596	702	703	732													
				761																							
				75																							
NMLEV	ICNTRL	INTEGER	SIMPLE	75																							
NOZ	RADCOM	INTEGER	SIMPLE	344																							
NSDAY	ICNTRL	INTEGER	SIMPLE	66																							
NSEQ	ICNTRL	INTEGER	SIMPLE	67																							
NSTEP	ICNTRL	INTEGER	SIMPLE	69																							
NYMD	ICNTRL	INTEGER	SIMPLE	71																							
NYMD0	ICNTRL	INTEGER	SIMPLE	73																							
NYMD1	IDPARM	INTEGER	SIMPLE	204																							
NYMDE	ICNTRL	INTEGER	SIMPLE	72																							
NZINIT	ICNTRL	INTEGER	SIMPLE	74																							
OCEAN	RADCOM	LOGICAL	ARRAY	349	351	410	734																				
OCM22	RADCOM	REAL	ARRAY	343																							
OCM30	RADCOM	REAL	ARRAY	343																							
OCM38	RADCOM	REAL	ARRAY	343																							
OCM46	RADCOM	REAL	ARRAY	343																							
OCMXX	RADCOM	REAL	ARRAY	344																							
OLAPR	RADCOM	REAL	ARRAY	342																							
OLJAN	RADCOM	REAL	ARRAY	342																							
OLJUL	RADCOM	REAL	ARRAY	342																							
OLOCT	RADCOM	REAL	ARRAY	342																							
OMEGA2	ICNTRL	REAL	SIMPLE	166																							
OZALE	RADCOM	REAL	ARRAY	336																							
P	QANDQT	REAL	ARRAY	255	268	416																					
PCLOW	PCON	REAL	ARRAY	354	686																						
PCMID	PCON	REAL	ARRAY	352	686																						
PCON	PCON	REAL	UNKNOWN	352	353	354	355																				
PCPEN	PCON	REAL	ARRAY	353	686																						
PHI	QANDQT	REAL	ARRAY	260	273																						
PHIS	QANDQT	REAL	ARRAY	248	261	405	415																				
PI	ICNTRL	REAL	SIMPLE	167																							
PI180	ICNTRL	REAL	SIMPLE	168																							
PI2	ICNTRL	REAL	SIMPLE	169	710	724																					
PIM	CNTRLP	REAL	SIMPLE	306	752																						
PIMEAN	ICNTRL	REAL	SIMPLE	171																							
PKSTD	RDPARM	REAL	SIMPLE	232																							
PKTOP	RDPARM	REAL	SIMPLE	233																							
PL	RADCOM	REAL	ARRAY	321	421/S	425	488	488	501	664	679	786	786														
PLE	RADCOM	REAL	ARRAY	321	422/S	424/S	506																				
PLEVS	ICNTRL	REAL	ARRAY	185																							
PLK	RADCOM	REAL	ARRAY	322	425/S	425	437	440	446	446	449	450	489	489													
				496	599	612	612																				
PLKE	RADCOM	REAL	ARRAY	322																							
PMOIST	PCON	REAL	ARRAY	355																							
PRECIP	DCOMP3	REAL	ARRAY	378	668/S	682/S	682	686	688																		

PREP	RADCOM	REAL	ARRAY	345	686/S	687	688														
PROGM	RADCOM	REAL	ARRAY	344																	
PS	DCOMP3	REAL	ARRAY	379	506/S	507	508	514	585	587	595										
PSK	DCOMP3	REAL	ARRAY	380	507/S	507	517														
PSMAX	RCNTRL	REAL	SIMPLE	172																	
PSMIN	RCNTRL	REAL	SIMPLE	173																	
PSTD	RCNTRL	REAL	SIMPLE	170																	
PTOP	RCNTRL	REAL	SIMPLE	174	421	422	424														
PZERO	RCNTRL	REAL	SIMPLE	191																	
QALT	RCNTRL	LOGICAL	SIMPLE	96	122																
QANDQT		REAL	UNKNOWN	247	274	277															
QBEG	LCNTRL	LOGICAL	SIMPLE	97	123																
QDAY	LCNTRL	LOGICAL	SIMPLE	98	124																
QEND	LCNTRL	LOGICAL	SIMPLE	99	125																
QHOG	CNTRLP	LOGICAL	SIMPLE	307	319																
QOUT	LCNTRL	LOGICAL	SIMPLE	100	126	659	673														
QPHY	LCNTRL	LOGICAL	SIMPLE	101	127																
QPROG	QANDQT	REAL	ARRAY	247	261	262	263	264	265	266	267	268	269	270							
QRSH	LCNTRL	LOGICAL	SIMPLE	271	272	273															
QRSW	LCNTRL	LOGICAL	SIMPLE	105	131																
QSDIAG	QANDQT	REAL	ARRAY	104	130																
QSHF	LCNTRL	LOGICAL	SIMPLE	274	276	687/S	687	688/S	688	730/S	730	731/S	731	748							
QUDIAG	QANDQT	REAL	ARRAY	748	762	763/S	764	765/S													
RADCOM		REAL	UNKNOWN	102	128																
				277	760/S	760															
				320	321	322	323	324	325	326	327	328	329	330							
				331	332	333	334	335	336	337	338	339	340	341							
				342	343	344	345	346	347	348	349	350									
RADE	RCNTRL	REAL	SIMPLE	175																	
RADTRM	RADCOM	REAL	ARRAY	346	744																
RC	RCNTRL	REAL	ARRAY	192	193																
RCO	RCNTRL	REAL	SIMPLE	150	192	193															
RCLLOUD	RADCOM	REAL	ARRAY	348																	
RCNTRL		REAL	UNKNOWN	150	151	152	153	154	155	156	157	158	159	160							
				161	162	163	164	165	166	167	168	169	170	171							
				172	173	174	175	176	177	178	179	180	181	182							
RDPARM		REAL	UNKNOWN	183	184	185	186	187	188	189	190	191	192								
				211	212	213	214	215	216	217	218	219	220	221							
				222	223	224	225	226	227	228	229	230	231	232							
				233	234	235	236	237	238	239	240	241	242	243							
				244	245	246															
RE	RADCOM	REAL	ARRAY	320	753	753															
RGAS	RCNTRL	REAL	SIMPLE	176	487	504	595														
RH	RADCOM	REAL	ARRAY	328	503/S	511	513														
RHOS	DCOMP3	REAL	ARRAY	359	595/S	597	727														
RHS	DCOMP3	REAL	ARRAY	382	510/S	513/S	516														
RLAT	RDPARM	REAL	ARRAY	234	403	403															
RLATD	RDPARM	REAL	ARRAY	235																	
RN	RADCOM	REAL	ARRAY	338																	
ROCP	RCNTRL	REAL	SIMPLE	177	504	505															
ROCPDT	RDPARM	REAL	SIMPLE	236																	
ROCPF1	RDPARM	REAL	SIMPLE	237																	
RSDIST	RCNTRL	REAL	SIMPLE	178																	
RSURF	RADCOM	REAL	ARRAY	348																	
SO	RADCOM	REAL	SIMPLE	346																	
SDAY	RCNTRL	REAL	SIMPLE	179	710	724	727	741													
SEASON	RCNTRL	REAL	SIMPLE	180																	
SG	RADCOM	REAL	ARRAY	347																	
SGNP	RDPARM	REAL	ARRAY	238																	
SH	QANDQT	REAL	ARRAY	259	272	418	759/S														
SHG	RADCOM	REAL	ARRAY	326	585/S	585	586	596	739												
SHL	RADCOM	REAL	ARRAY	325	418/S	451	451	453/S	454/S	491	491	498/S	498	499							
				499	503	586	586	600/S	600	618	621	621	627	635							
				639/S	639	639	640/S	643	644/S	655	656	661/S	661	663							
				663	671	675	678/S	678	692	696/S	696	696	697/S	700							
				701/S	759																
SHLE	RADCOM	REAL	ARRAY	325	586/S	589	591	593/S	593	596	618/S	619	621/S	621							
SHLTOP	CNTRLP	REAL	SIMPLE	625	626/S	628	702	703/S	732												
SHS	QANDQT	REAL	ARRAY	308																	
				254	267	732/S															

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TOTOZ	RADCOM	REAL	ARRAY	344										
TPENE	RADCOM	REAL	ARRAY	339										
TS	QANDQT	REAL	ARRAY	253	266	508	509	514	515	761/S	762	762	764	765
TSTD	RCNTRL	REAL	SIMPLE	184										
TUP	DCOMP3	REAL	ARRAY	376	782/S	786								
U	QANDQT	REAL	ARRAY	256	269	426	426	455	455	457/S	458/S	53P	601/S	601
				771	783	792/S	792	793/S	793					
UDN	DCOMP3	REAL	ARRAY	373	771/S	780	783/S	787						
US	DCOMP3	REAL	ARRAY	358	426/S	428	338	601						
UUP	DCOMP3	REAL	ARRAY	372	780/S	787								
V	QANDQT	REAL	ARRAY	257	270	427	427	459	459	461/S	462/S	539	602/S	602
				772	784	794/S	784	795/S	795					
VDN	DCOMP3	REAL	ARRAY	375	772/S	781	784/S	788						
VER	CCNTRL	CHAR*8	SIMPLE	10	23									
VS	DCOMP3	REAL	ARRAY	359	427/S	428	539	602						
VUP	DCOMP3	REAL	ARRAY	374	781/S	788								
WATER		BIT	ARRAY	393	405/S	406	410	415	480	743	747			
WET	RADCOM	REAL	ARRAY	345	429/S	434/S	511	513	578	708	709	722	723	
WI	RADCOM	REAL	ARRAY	345										
WMAG	DCOMP3	REAL	ARRAY	361	469/S	471/S	473	522	522	536	546	547		
WMAGC	DCOMP3	REAL	ARRAY	365	546/S	573								
WMAGS	DCOMP3	REAL	ARRAY	360	428/S	466	546	548	565	572				
WSAVE	RDPARM	REAL	ARRAY	243										
XDAY	CNTRLP	REAL	SIMPLE	317										
XK	RADCOM	REAL	ARRAY	341										
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24									
Z	DCOMP3	REAL	ARRAY	357	415/S	480	736							
ZLNCO	CNTRLP	REAL	SIMPLE	318	514									

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST							
BTOLOG		SUBROUTINE	410	411	412	413								
COMP35		SUBROUTINE	767											
CUMULO		SUBROUTINE	646											
MOIST		SUBROUTINE	649											
QSSONT	INTEGER	INTRINSIC	442	636	693									
QSAT	REAL	FUNCTION	664	679										
RADIO		SUBROUTINE	705											
VABS	REAL	INTRINSIC	554											
VEXP	REAL	INTRINSIC	530											
VEXPBYK	REAL	FUNCTION	425	507										
VQSAT	REAL	FUNCTION	501	508	585	587								
VSQRT	REAL	INTRINSIC	466	624	535	557	711	725						
ZEITBEG		SUBROUTINE	645	648	704	766								
ZEITEND		SUBROUTINE	647	650	706	768								

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00001		SUBROUTINE COMP35 (J)	VCOMP35	2
	C		VCNTRL	2
	C	CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL	3
	C	-----	VCNTRL	4
00002		COMMON /CCNTRL/ CCO	VCNTRL	5
00003		COMMON /CCNTRL/ ADATE	VCNTRL	6
00004		COMMON /CCNTRL/ ATIME	VCNTRL	7
00005		COMMON /CCNTRL/ JIC	VCNTRL	8
00006		COMMON /CCNTRL/ JOB	VCNTRL	9
00007		COMMON /CCNTRL/ CCSP06	VCNTRL	10
00008		COMMON /CCNTRL/ CCSP07	VCNTRL	11
00009		COMMON /CCNTRL/ CCSP08	VCNTRL	12
00010		COMMON /CCNTRL/ VER	VCNTRL	13
00011		COMMON /CCNTRL/ XLABEL (10)	VCNTRL	14
00012		COMMON /CCNTRL/ CQS (30)	VCNTRL	15
00013		COMMON /CCNTRL/ CQU (10)	VCNTRL	16
	C		VCNTRL	17
00014		EQUIVALENCE (CCO,CC(1))	VCNTRL	18
00015		CHARACTER*B CCO, CC(200)	VCNTRL	19
00016		CHARACTER*B ADATE	VCNTRL	20
00017		CHARACTER*B ATIME	VCNTRL	21
00018		CHARACTER*B JIC	VCNTRL	22
00019		CHARACTER*B JOB	VCNTRL	23
00020		CHARACTER*B CCSP06	VCNTRL	24
00021		CHARACTER*B CCSP07	VCNTRL	25
00022		CHARACTER*B CCSP08	VCNTRL	26
00023		CHARACTER*B VER	VCNTRL	27
00024		CHARACTER*B XLABEL	VCNTRL	28
00025		CHARACTER*B CQS	VCNTRL	29
00026		CHARACTER*B CQU	VCNTRL	30
	C		VCNTRL	31
	C	INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL	32
	C	-----	VCNTRL	33
00027		COMMON /ICNTRL/ IC0	VCNTRL	34
00028		COMMON /ICNTRL/ IM	VCNTRL	35
00029		COMMON /ICNTRL/ IMD2	VCNTRL	36
00030		COMMON /ICNTRL/ IMD2P1	VCNTRL	37
00031		COMMON /ICNTRL/ NDRSW	VCNTRL	38
00032		COMMON /ICNTRL/ JM	VCNTRL	39
00033		COMMON /ICNTRL/ JMD2	VCNTRL	40
00034		COMMON /ICNTRL/ JMT2	VCNTRL	41
00035		COMMON /ICNTRL/ JNP	VCNTRL	42
00036		COMMON /ICNTRL/ JO4	VCNTRL	43
00037		COMMON /ICNTRL/ JO8	VCNTRL	44
00038		COMMON /ICNTRL/ JSP	VCNTRL	45
00039		COMMON /ICNTRL/ KLIALB	VCNTRL	46
00040		COMMON /ICNTRL/ KLIGW	VCNTRL	47
00041		COMMON /ICNTRL/ KLISST	VCNTRL	48
00042		COMMON /ICNTRL/ KS	VCNTRL	49
00043		COMMON /ICNTRL/ KU	VCNTRL	50
00044		COMMON /ICNTRL/ LOG8R	VCNTRL	51
00045		COMMON /ICNTRL/ MATIN	VCNTRL	52
00046		COMMON /ICNTRL/ MATSNX	VCNTRL	53
00047		COMMON /ICNTRL/ MATSUN	VCNTRL	54
00048		COMMON /ICNTRL/ MLF (12)	VCNTRL	55
00049		COMMON /ICNTRL/ MPROD	VCNTRL	56
00050		COMMON /ICNTRL/ NKRSR	VCNTRL	57
00051		COMMON /ICNTRL/ MSM	VCNTRL	58
00052		COMMON /ICNTRL/ NB	VCNTRL	59
00053		COMMON /ICNTRL/ ND	VCNTRL	60
00054		COMMON /ICNTRL/ NDALT	VCNTRL	61
00055		COMMON /ICNTRL/ NDAY	VCNTRL	62
00056		COMMON /ICNTRL/ NDOUT	VCNTRL	63
00057		COMMON /ICNTRL/ NDPHY	VCNTRL	64
00058		COMMON /ICNTRL/ NDSHF	VCNTRL	65
00059		COMMON /ICNTRL/ NDT	VCNTRL	66
00060		COMMON /ICNTRL/ NHMS	VCNTRL	67
00061		COMMON /ICNTRL/ NHMSE	VCNTRL	68
00062		COMMON /ICNTRL/ NHMSO	VCNTRL	69
00063		COMMON /ICNTRL/ NLAY	VCNTRL	70
00064		COMMON /ICNTRL/ NLAYM1	VCNTRL	71

ORIGINAL PAGE IS
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00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHCA	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (ICO, IC(1))	VCNTRL 105
00096	INTEGER ICO, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C	VCNTRL 108
	C	VCNTRL 109
	C	VCNTRL 110
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	C	VCNTRL 142
00097	COMMON /LCNTRL/ LCO	VCNTRL 109
00098	COMMON /LCNTRL/ QALT	VCNTRL 110
00099	COMMON /LCNTRL/ QBEG	VCNTRL 111
00100	COMMON /LCNTRL/ QDAY	VCNTRL 112
00101	COMMON /LCNTRL/ QEND	VCNTRL 113
00102	COMMON /LCNTRL/ QOUT	VCNTRL 114
00103	COMMON /LCNTRL/ QPHY	VCNTRL 115
00104	COMMON /LCNTRL/ QSHF	VCNTRL 116
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 117
00106	COMMON /LCNTRL/ QRSW	VCNTRL 118
00107	COMMON /LCNTRL/ QRSW	VCNTRL 119
00108	COMMON /LCNTRL/ QRSW	VCNTRL 120
00109	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
	C	VCNTRL 122
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	C	VCNTRL 141
	C	VCNTRL 142
00110	EQUIVALENCE (LTMIN .LQS(1))	VCNTRL 123
00111	EQUIVALENCE (LTMAX .LQS(2))	VCNTRL 124
00112	EQUIVALENCE (LPREACC .LQS(3))	VCNTRL 125
00113	EQUIVALENCE (LPRECON .LQS(4))	VCNTRL 126
00114	EQUIVALENCE (LHFLUX .LQS(5))	VCNTRL 127
00115	EQUIVALENCE (LEFLUX .LQS(6))	VCNTRL 128
00116	EQUIVALENCE (LFUSION .LQS(7))	VCNTRL 129
00117	EQUIVALENCE (LRADSWG .LQS(8))	VCNTRL 130
00118	EQUIVALENCE (LRADLWG .LQS(9))	VCNTRL 131
00119	EQUIVALENCE (LIICLOUD .LQS(10))	VCNTRL 132
00120	EQUIVALENCE (LUFLUX .LQS(11))	VCNTRL 133
00121	EQUIVALENCE (LVFLUX .LQS(12))	VCNTRL 134
	C	VCNTRL 135
	C	VCNTRL 136
	C	VCNTRL 137
	C	VCNTRL 138
	C	VCNTRL 139
	C	VCNTRL 140
	C	VCNTRL 141
	C	VCNTRL 142
00122	EQUIVALENCE (LOMEGA .LQU(1))	VCNTRL 136
00123	EQUIVALENCE (LDIABAT .LQU(2))	VCNTRL 137
00124	EQUIVALENCE (LRADSW .LQU(3))	VCNTRL 138
00125	EQUIVALENCE (LRADLW .LQU(4))	VCNTRL 139
	C	VCNTRL 140
	C	VCNTRL 141
	C	VCNTRL 142
00126	LOGICAL QALT	VCNTRL 142

ORIGINAL PAGE IS
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00127	LOGICAL	QBEG
00128	LOGICAL	QDAY
00129	LOGICAL	QEND
00130	LOGICAL	QOUT
00131	LOGICAL	QPHY
00132	LOGICAL	QSHF
00133	LOGICAL	SN2FLG
00134	LOGICAL	QRSW
00135	LOGICAL	QRSH
C		
00136	LOGICAL	LQS
00137	LOGICAL	LQU
00138	LOGICAL	LTMIN
00139	LOGICAL	LTMAX
00140	LOGICAL	LPREACC
00141	LOGICAL	LPRECON
00142	LOGICAL	LHFLUX
00143	LOGICAL	LEFLUX
00144	LOGICAL	LFUSION
00145	LOGICAL	LRADSWG
00146	LOGICAL	LRADLWG
00147	LOGICAL	LICLOUD
00148	LOGICAL	LUFLUX
00149	LOGICAL	LVFLUX
C		
00150	LOGICAL	LOMEGA
00151	LOGICAL	LDIABAT
00152	LOGICAL	LRADSW
00153	LOGICAL	LRADLW
C		
00154	EQUIVALENCE	(LC0,LC(1))
00155	LOGICAL	LC0, LC(200)
C		
REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
C -----		
C		
00156	COMMON /RCNTRL/	RCO
00157	COMMON /RCNTRL/	APHEL
00158	COMMON /RCNTRL/	BETA
00159	COMMON /RCNTRL/	COSD
00160	COMMON /RCNTRL/	CP
00161	COMMON /RCNTRL/	DAYSPY
00162	COMMON /RCNTRL/	DEC
00163	COMMON /RCNTRL/	DECMAX
00164	COMMON /RCNTRL/	DIST
00165	COMMON /RCNTRL/	DLAT
00166	COMMON /RCNTRL/	DLOX
00167	COMMON /RCNTRL/	DT
00168	COMMON /RCNTRL/	ECCN
00169	COMMON /RCNTRL/	GNU1
00170	COMMON /RCNTRL/	GNU2
00171	COMMON /RCNTRL/	GRAV
00172	COMMON /RCNTRL/	OMEGA2
00173	COMMON /RCNTRL/	PI
00174	COMMON /RCNTRL/	PI180
00175	COMMON /RCNTRL/	PI2
00176	COMMON /RCNTRL/	PSTD
00177	COMMON /RCNTRL/	PIMEAN
00178	COMMON /RCNTRL/	PSMAX
00179	COMMON /RCNTRL/	PSMIN
00180	COMMON /RCNTRL/	PTOP
00181	COMMON /RCNTRL/	RADE
00182	COMMON /RCNTRL/	RGAS
00183	COMMON /RCNTRL/	ROCP
00184	COMMON /RCNTRL/	RSDIST
00185	COMMON /RCNTRL/	SDAY
00186	COMMON /RCNTRL/	SEASON
00187	COMMON /RCNTRL/	SIGE (25)
00188	COMMON /RCNTRL/	SIND
00189	COMMON /RCNTRL/	SOLS
00190	COMMON /RCNTRL/	TSTD
00191	COMMON /RCNTRL/	PLEVS (25)

VCNTRL	143
VCNTRL	144
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00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
00198	C EQUIVALENCE (RC0,RC(1))	VCNTRL 220
00199	REAL RC0, RC(200)	VCNTRL 221
	C INTEGER MODEL CONSTANTS	VCNTRL 222
	C =====	VCNTRL 223
	C	VCNTRL 224
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 225
00201	COMMON /IDPARM/ IDSP02	VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 227
00203	COMMON /IDPARM/ IROD	VCNTRL 228
00204	COMMON /IDPARM/ JC (46)	VCNTRL 229
00205	COMMON /IDPARM/ JE (2)	VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 231
00207	COMMON /IDPARM/ KSTEP	VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 233
00209	COMMON /IDPARM/ NHMS1	VCNTRL 234
00210	COMMON /IDPARM/ NYMD1	VCNTRL 235
	C LOGICAL MODEL CONSTANTS	VCNTRL 236
	C =====	VCNTRL 237
	C	VCNTRL 238
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 239
00212	COMMON /LDPARM/ ITAPE	VCNTRL 240
00213	COMMON /LDPARM/ START	VCNTRL 241
	C LOGICAL FILTER	VCNTRL 242
00214	LOGICAL ITAPE	VCNTRL 243
00215	LOGICAL START	VCNTRL 244
00216		VCNTRL 245
	C REAL MODEL CONSTANTS	VCNTRL 246
	C =====	VCNTRL 247
	C	VCNTRL 248
00217	COMMON /RDPARM/ ADLDP	VCNTRL 249
00218	COMMON /RDPARM/ CON1	VCNTRL 250
00219	COMMON /RDPARM/ CON1DT	VCNTRL 251
00220	COMMON /RDPARM/ CON2	VCNTRL 252
00221	COMMON /RDPARM/ CON2DT	VCNTRL 253
00222	COMMON /RDPARM/ CON3	VCNTRL 254
00223	COMMON /RDPARM/ CON3DT	VCNTRL 255
00224	COMMON /RDPARM/ CON4	VCNTRL 256
00225	COMMON /RDPARM/ CON4DT	VCNTRL 257
00226	COMMON /RDPARM/ CONS	VCNTRL 258
00227	COMMON /RDPARM/ COSL (46)	VCNTRL 259
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 260
00229	COMMON /RDPARM/ CPD2	VCNTRL 261
00230	COMMON /RDPARM/ DXP (46)	VCNTRL 262
00231	COMMON /RDPARM/ DXP (46)	VCNTRL 263
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 264
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 265
00234	COMMON /RDPARM/ F1DT	VCNTRL 266
00235	COMMON /RDPARM/ F2DT	VCNTRL 267
00236	COMMON /RDPARM/ H1DT	VCNTRL 268
00237	COMMON /RDPARM/ H2DT	VCNTRL 269
00238	COMMON /RDPARM/ PKSTD	VCNTRL 270
00239	COMMON /RDPARM/ PKTOP	VCNTRL 271
00240	COMMON /RDPARM/ RLAT (46)	VCNTRL 272
00241	COMMON /RDPARM/ RLAT (46)	VCNTRL 273
00242	COMMON /RDPARM/ RCPDT	VCNTRL 274
00243	COMMON /RDPARM/ RCPP1	VCNTRL 275
00244	COMMON /RDPARM/ SGNP (2)	VCNTRL 276
00245	COMMON /RDPARM/ SINL (46)	VCNTRL 277
00246	COMMON /RDPARM/ SINLON (72)	VCNTRL 278
00247	COMMON /RDPARM/ THSTD	VCNTRL 279
00248	COMMON /RDPARM/ THSTD2	VCNTRL 280
00249	COMMON /RDPARM/ WSAVE (159)	VCNTRL 281
00250	COMMON /RDPARM/ DSIG (9)	VCNTRL 282
00251	COMMON /RDPARM/ SIG (9)	VCNTRL 283
		VCNTRL 284

00252

COMMON /RDPARM/ DSIGINV (9)

COMDECK VQANDQT RESOLUTION VALUES

IM =72
NLAY =9
JM+1 =46
NLAY+11 =99
IM*NLAY+11 =7128
JM/2+1 =23

GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)

00253

COMMON /QANDQT/ QPROG(72,9,11,46)

00254
00255
00256
00257
00258
00259
00260
00261

DIMENSION PHIS (7128,1)
DIMENSION SMTH (7128,23)
DIMENSION ALBEDO (7128,1)
DIMENSION GT (7128,1)
DIMENSION GW (7128,1)
DIMENSION TS (7128,1)
DIMENSION SHS (7128,1)
DIMENSION P (72,99,1)

00262
00263
00264
00265
00266

DIMENSION U (72,9,11,1)
DIMENSION V (72,9,11,1)
DIMENSION T (72,9,11,1)
DIMENSION SH (72,9,11,1)
DIMENSION PHI (72,9,11,1)

00267
00268
00269
00270
00271
00272
00273
00274

EQUIVALENCE (QPROG(1,1,1,1),PHIS (1,1))
EQUIVALENCE (QPROG(1,2,1,1),SMTH (1,1))
EQUIVALENCE (QPROG(1,3,1,1),ALBEDO (1,1))
EQUIVALENCE (QPROG(1,4,1,1),GT (1,1))
EQUIVALENCE (QPROG(1,5,1,1),GW (1,1))
EQUIVALENCE (QPROG(1,6,1,1),TS (1,1))
EQUIVALENCE (QPROG(1,7,1,1),SHS (1,1))
EQUIVALENCE (QPROG(1,8,1,1),P (1,1,1))

00275
00276
00277
00278
00279

EQUIVALENCE (QPROG(1,1,2,1),U (1,1,1,1))
EQUIVALENCE (QPROG(1,1,4,1),V (1,1,1,1))
EQUIVALENCE (QPROG(1,1,6,1),T (1,1,1,1))
EQUIVALENCE (QPROG(1,1,8,1),SH (1,1,1,1))
EQUIVALENCE (QPROG(1,1,10,1),PHI (1,1,1,1))

SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)

00280
00281
00282

COMMON /QANDQT/ QSDIAG(72,15,46)
DIMENSION IQSDIAG(72,15,46)
EQUIVALENCE (QSDIAG,IQSDIAG)

00283

COMMON /QANDQT/ QUDIAG(72,9,5,46)

00284
00285
00286
00287
00288
00289
00290
00291
00292
00293
00294
00295
00296

PHYSICS PARAMETERS AND CONSTANTS

COMMON /CNTRLP/ CDFR
COMMON /CNTRLP/ CDXL
COMMON /CNTRLP/ CDXO
COMMON /CNTRLP/ CLH
COMMON /CNTRLP/ COE (9)
COMMON /CNTRLP/ COEF
COMMON /CNTRLP/ CGEFS
COMMON /CNTRLP/ COSROT
COMMON /CNTRLP/ CPP
COMMON /CNTRLP/ CTID
COMMON /CNTRLP/ CUMDAY
COMMON /CNTRLP/ CUMRAT
COMMON /CNTRLP/ C10

VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
VQANDQT 16
VQANDQT 17
VQANDQT 18
VQANDQT 19
VQANDQT 20
VQANDQT 21
VQANDQT 22
VQANDQT 23
VQANDQT 24
VQANDQT 25
VQANDQT 26
VQANDQT 27
VQANDQT 28
VQANDQT 29
VQANDQT 30
VQANDQT 31
VQANDQT 32
VQANDQT 33
VQANDQT 34
VQANDQT 35
VQANDQT 36
VQANDQT 37
VQANDQT 38
VQANDQT 39
VQANDQT 40
VQANDQT 41
VQANDQT 42
VQANDQT 43
VQANDQT 44
VQANDQT 45
VQANDQT 46
VQANDQT 47
VQANDQT 48
VQANDQT 49
VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VCNTRLP 2
VCNTRLP 3
VCNTRLP 4
VCNTRLP 5
VCNTRLP 6
VCNTRLP 7
VCNTRLP 8
VCNTRLP 9
VCNTRLP 10
VCNTRLP 11
VCNTRLP 12
VCNTRLP 13
VCNTRLP 14
VCNTRLP 15
VCNTRLP 16

ORIGINAL PAGE 19
OF POOR QUALITY

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OF POOR QUALITY

00297	COMMON /CNTRLP/ C100	VCNTRLP 17
00298	COMMON /CNTRLP/ C40	VCNTRLP 18
00299	COMMON /CNTRLP/ DELTA	VCNTRLP 19
00300	COMMON /CNTRLP/ DTC3	VCNTRLP 20
00301	COMMON /CNTRLP/ DTOUT	VCNTRLP 21
00302	COMMON /CNTRLP/ ED	VCNTRLP 22
00303	COMMON /CNTRLP/ EDNM	VCNTRLP 23
00304	COMMON /CNTRLP/ FCOEF	VCNTRLP 24
00305	COMMON /CNTRLP/ FMU	VCNTRLP 25
00306	COMMON /CNTRLP/ FWET	VCNTRLP 26
00307	COMMON /CNTRLP/ GAMFAC	VCNTRLP 27
00308	COMMON /CNTRLP/ GTOPO	VCNTRLP 28
00309	COMMON /CNTRLP/ HICE	VCNTRLP 29
00310	COMMON /CNTRLP/ NDTC3	VCNTRLP 30
00311	COMMON /CNTRLP/ NFLW	VCNTRLP 31
00312	COMMON /CNTRLP/ PIM	VCNTRLP 32
00313	COMMON /CNTRLP/ QHOG	VCNTRLP 33
00314	COMMON /CNTRLP/ SHLTOP	VCNTRLP 34
00315	COMMON /CNTRLP/ SINROT	VCNTRLP 35
00316	COMMON /CNTRLP/ SNOWN	VCNTRLP 36
00317	COMMON /CNTRLP/ SNOWS	VCNTRLP 37
00318	COMMON /CNTRLP/ STBO	VCNTRLP 38
00319	COMMON /CNTRLP/ STERP1	VCNTRLP 39
00320	COMMON /CNTRLP/ STERP2	VCNTRLP 40
00321	COMMON /CNTRLP/ TICE	VCNTRLP 41
00322	COMMON /CNTRLP/ TLTOP	VCNTRLP 42
00323	COMMON /CNTRLP/ XDAY	VCNTRLP 43
00324	COMMON /CNTRLP/ ZLNCO	VCNTRLP 44
00325	LOGICAL QHOG	VCNTRLP 45
		VCNTRLP 46
		VDCOM35 2
		VDCOM35 3
		VDCOM35 4
		VDCOM35 5
		VDCOM35 6
		VRADCOM 2
		VRADCOM 3
		VRADCOM 4
		VRADCOM 5
		VRADCOM 6
		VRADCOM 7
		VRADCOM 8
		VRADCOM 9
		VRADCOM 10
		VRADCOM 11
		VRADCOM 12
		VRADCOM 13
		VRADCOM 14
		VRADCOM 15
		VRADCOM 16
		VRADCOM 17
		VRADCOM 18
		VRADCOM 19
		VRADCOM 20
		VRADCOM 21
		VRADCOM 22
		VRADCOM 23
		VRADCOM 24
		VRADCOM 25
		VRADCOM 26
		VRADCOM 27
		VRADCOM 28
		VRADCOM 29
		VRADCOM 30
		VRADCOM 31
		VRADCOM 32
		VRADCOM 33
		VRADCOM 34
		VRADCOM 35
		VRADCOM 36
		VCOMP35 8

00326	COMMON /DCOMP35/ TGR(72)	
00327	COMMON /DCOMP35/ GZFAC(72)	

00328	COMMON /RADCOM/ AS(72,9), RE(72,10)	
00329	COMMON /RADCOM/ PL(72,9), PLE(72,10)	
00330	COMMON /RADCOM/ PLK(72,9), PLKE(10)	
00331	COMMON /RADCOM/ TL(72,9), TLE(72,10)	
00332	COMMON /RADCOM/ TG(72), TH(72,9)	
00333	COMMON /RADCOM/ SHL(72,9), SHLE(72,10)	
00334	COMMON /RADCOM/ SHG(72), CLOUD(72,12)	
00335	COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)	
00336	COMMON /RADCOM/ RH(72,9)	
00337	COMMON /RADCOM/ SSS(72,9), SSSE(72,10)	
00338	COMMON /RADCOM/ HH(72,9), HHE(72,10)	
00339	COMMON /RADCOM/ HHS(72,9)	
00340	COMMON /RADCOM/ CVT(72,9), CVQ(72,9)	
00341	COMMON /RADCOM/ CXDE(9)	
00342	COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)	
00343	COMMON /RADCOM/ AL(72,10)	
00344	COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)	
00345	COMMON /RADCOM/ TOPABS(72)	
00346	COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)	
00347	COMMON /RADCOM/ TCOND(9), TPENE(9)	
00348	COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ	
00349	COMMON /RADCOM/ FK(5), XK(5), NFK	
00350	COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)	
00351	COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)	
00352	COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)	
00353	COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)	
00354	COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL	
00355	COMMON /RADCOM/ SG(72), SP(72)	
00356	COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB	
00357	COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)	
00358	COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)	
00359	LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST	

```

00360  C  DEBUG                                         V2EGDEB  2
      10000 CONTINUE                                  VBEGDEB  3
      C  **** CYBER VECTOR VERSION 00.001 INPUT 100  VBEGDEB  4
      C  **** CYBER VECTOR VERSION 00                VBEGDEB  5
      C  CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC VBEGDEB  6
      C  C                                             VCOMP35 10
      C  C                                             VCOMP35 11
00361  C      TGR(I;IM) = GT(1,J;IM)                  VCOMP35 12
      C  C                                             VCOMP35 13
      C  DO 810 I=1,IM                                 VCOMP35 14
00362  C      IF(TGR(I).LT.TICE)                       VCOMP35 15
00363  C          IF(TGR(I).LT.TICE)                   VCOMP35 16
00364  C          IF(.NOT.(ICE(I).OR.SNOW(I))) GO TO 100 VCOMP35 17
00365  C          GT(I,J) = TICE                       VCOMP35 18
00366  C                                             VCOMP35 19
      C  GO TO 810                                    VCOMP35 20
      C  C                                             VCOMP35 21
00367  C 100 IF(.NOT.FROST(I))                        VCOMP35 22
      C      GO TO 810                               VCOMP35 23
      C  C                                             VCOMP35 24
      C  CZFAC(I) = (.331+.075*WET(I))*(1.+1.25*WET(I)) VCOMP35 25
      C  S /((.386+.150*WET(I))*(1.+ WET(I)))       VCOMP35 26
00368  C  CZFAC(I) = SQRT(CZFAC(I))                  VCOMP35 27
      C  C                                             VCOMP35 28
      C  GT(I,J) = TICE + CZFAC(I) * (TGR(I)-TICE) VCOMP35 29
00370  C                                             VCOMP35 30
00371  C          GO TO 810                           VCOMP35 31
00372  C 200 IF(TG(I).LE.TICE)                       VCOMP35 32
      C      GO TO 810                               VCOMP35 33
      C  C                                             VCOMP35 34
      C  CZFAC(I) = (.386+.150*WET(I))*(1.+ WET(I)) VCOMP35 35
00373  C  S /((.331+.075*WET(I))*(1.+1.25*WET(I))) VCOMP35 36
00374  C  CZFAC(I) = SQRT(CZFAC(I))                  VCOMP35 37
      C  C                                             VCOMP35 38
      C  GT(I,J) = TICE + CZFAC(I) * (TGR(I)-TICE) VCOMP35 39
00375  C                                             VCOMP35 40
      C 810 CONTINUE                                  VCOMP35 41
      C  C                                             VCOMP35 42
00377  C  IF(J.NE.1 .AND. J.NE.JNP) RETURN          VCOMP35 43
      C  C                                             VCOMP35 44
00378  C  GW(1,J;IM) = GW(1,J)
00379  C  GT(1,J;IM) = GT(1,J)
      C  C
00380  C  RETURN
00381  C  END

```

STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

100	367	364				
10000	360					
200	372	363				
810	376	362	366	367	371	372

VARIABLE MAP
 --NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
ADATE	CCNTRL	CHAR*8	SIMPLE	3																										
ADLDP	RDPARM	REAL	SIMPLE	217																										
AL	RADCOM	REAL	ARRAY	343																										
ALBEDO	QANDQT	REAL	ARRAY	256					269																					
APHEL	RCNTRL	REAL	SIMPLE	157																										
AS	RADCOM	REAL	ARRAY	328																										
ATIME	CCNTRL	CHAR*8	SIMPLE	4					17																					
BETA	RCNTRL	REAL	SIMPLE	158																										
C10	CNTRLP	REAL	SIMPLE	295																										
C100	CNTRLP	REAL	SIMPLE	297																										
C40	CNTRLP	REAL	SIMPLE	258																										
CALTOJ	RCNTRL	REAL	SIMPLE	196																										
CC	CCNTRL	CHAR*8	ARRAY	14					15																					
CCO	CCNTRL	CHAR*8	SIMPLE	2					14																					
CCNTRL	REAL	UNKNOWN		2				3	15	4	5	6	7	8	9	10	11	12												
				13																										
CCSP06	CCNTRL	CHAR*8	SIMPLE	7					20																					
CCSP07	CCNTRL	CHAR*8	SIMPLE	8					21																					
CCSP08	CCNTRL	CHAR*8	SIMPLE	9					22																					

CDATE	RADCOM	REAL	ARRAY	352										
CDFR	CNTRLP	REAL	SIMPLE	284										
CDXL	CNTRLP	REAL	SIMPLE	285										
CDXO	CNTRLP	REAL	SIMPLE	286										
CLH	CNTRLP	REAL	SIMPLE	287										
CLOUD	RADCOM	REAL	ARRAY	334										
CNTRLP		REAL	UNKNOWN	284	285	286	287	288	289	290	291	292	293	294
				295	296	297	298	299	300	301	302	303	304	305
				306	307	308	309	310	311	312	313	314	315	316
				317	318	319	320	321	322	323	324			
COE	CNTRLP	REAL	ARRAY	288										
COEF	CNTRLP	REAL	SIMPLE	289										
COEFS	CNTRLP	REAL	SIMPLE	290										
COMP35			SUBROUTINE	1										
CON1	RDPARM	REAL	SIMPLE	218										
CON1DT	RDPARM	REAL	SIMPLE	219										
CON2	RDPARM	REAL	SIMPLE	220										
CON2DT	RDPARM	REAL	SIMPLE	221										
CON3	RDPARM	REAL	SIMPLE	222										
CON3DT	RDPARM	REAL	SIMPLE	223										
CON4	RDPARM	REAL	SIMPLE	224										
CON4DT	RDPARM	REAL	SIMPLE	225										
CON5	RDPARM	REAL	SIMPLE	226										
COSD	RCNTRL	REAL	SIMPLE	159										
COSL	RDPARM	REAL	ARRAY	227										
COSLON	RDPARM	REAL	ARRAY	228										
COSROT	CNTRLP	REAL	SIMPLE	291										
COSZ	RADCOM	REAL	ARRAY	354										
CP	RCNTRL	REAL	SIMPLE	160										
CPD2	RDPARM	REAL	SIMPLE	229										
CPP	CNTRLP	REAL	SIMPLE	292										
CQS	CCNTRL	CHAR*8	ARRAY	12	25									
CQU	CCNTRL	CHAR*8	ARRAY	13	26									
CTID	CNTRLP	REAL	SIMPLE	293										
CUMDAY	CNTRLP	REAL	SIMPLE	294										
CUMRAT	CNTRLP	REAL	SIMPLE	295										
CVQ	RADCOM	REAL	ARRAY	340										
CVT	RADCOM	REAL	ARRAY	340										
CXDE	RADCOM	REAL	ARRAY	341										
CXL	RADCOM	REAL	SIMPLE	354										
CZFAC	DCOMP35	REAL	ARRAY	327	368/S	369/S	369	370	373/S	374/S	374	375		
CZH	RADCOM	REAL	ARRAY	353										
DAYSPLY	RCNTRL	REAL	SIMPLE	161										
DCOMP35		REAL	UNKNOWN	326	327									
DEC	RCNTRL	REAL	SIMPLE	162										
DECMAX	RCNTRL	REAL	SIMPLE	163										
DELTA	CNTRLP	REAL	SIMPLE	299										
DIST	RCNTRL	REAL	SIMPLE	164										
DLAT	RCNTRL	REAL	SIMPLE	165										
DLON	RCNTRL	REAL	SIMPLE	166										
DSIG	RDPARM	REAL	ARRAY	250										
DSIGINV	RDPARM	REAL	ARRAY	252										
DT	RCNTRL	REAL	SIMPLE	167										
DTG3	CNTRLP	REAL	SIMPLE	300										
DTOUT	CNTRLP	REAL	SIMPLE	301										
DXP	RDPARM	REAL	ARRAY	230										
DXYP	RDPARM	REAL	ARRAY	231										
DYP	RDPARM	REAL	ARRAY	232										
ECCN	RCNTRL	REAL	SIMPLE	168										
ED	CNTRLP	REAL	SIMPLE	302										
EDNM	CNTRLP	REAL	SIMPLE	303										
EPS	RCNTRL	REAL	SIMPLE	194										
EPSFAC	RCNTRL	REAL	SIMPLE	195										
EVAP	RADCOM	REAL	SIMPLE	353										
F1DT	RDPARM	REAL	SIMPLE	234										
F2DT	RDPARM	REAL	SIMPLE	235										
FCOEF	CNTRLP	REAL	SIMPLE	304										
FCORLS	RDPARM	REAL	ARRAY	233										
FILTER	LDPARM	LOGICAL	ARRAY	211	214									
FK	RADCOM	REAL	ARRAY	349										

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FMU	CNTRLP	REAL	SIMPLE	305																	
FROST	RADCOM	LOGICAL	ARRAY	358	359	367															
FWET	CNTRLP	REAL	SIMPLE	306																	
GAM	RADCOM	REAL	ARRAY	335																	
GAMFAC	CNTRLP	REAL	SIMPLE	307																	
GNU1	RCNTRL	REAL	SIMPLE	169																	
GNU2	CNTRL	REAL	SIMPLE	170																	
GRAV	RCNTRL	REAL	SIMPLE	171																	
GT	QANDOT	REAL	ARRAY	257	270	361	365/S	370/S	375/S	379/S	379										
GTOPO	CNTRLP	REAL	SIMPLE	308																	
GW	QANDOT	REAL	ARRAY	258	271	378/S	378														
H1DT	RDPARM	REAL	SIMPLE	236																	
H2DT	RDPARM	REAL	SIMPLE	237																	
HEATI	CNTRL	REAL	SIMPLE	193																	
HEATW	RCNTRL	REAL	SIMPLE	192																	
HH	RADCOM	REAL	ARRAY	338																	
HHE	RADCOM	REAL	ARRAY	338																	
HHS	RADCOM	REAL	ARRAY	339																	
HICE	CNTRLP	REAL	SIMPLE	309																	
I		INTEGER	SIMPLE	362/C	363	364	364	365	367	368	368	368	368	368	368	368	368	368	368	368	
				369	369	370	370	370	372	373	373	373	373	373	373	373	373	373	373	373	
				374	374	375	375	375													
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																	
IC	CNTRL	INTEGER	ARRAY	95	96																
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96															
ICE	RADCOM	LOGICAL	ARRAY	357	359	364															
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37							
				38	39	40	41	42	43	44	45	46	47	48							
				49	50	51	52	53	54	55	56	57	58	59							
				60	61	62	63	64	65	66	67	68	69	70							
				71	72	73	74	75	76	77	78										
ICSP53	ICNTRL	INTEGER	SIMPLE	68																	
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																	
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210							
IDSP02	IDPARM	INTEGER	SIMPLE	201																	
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																	
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																	
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																	
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																	
IJUMP	IDPARM	INTEGER	ARRAY	200																	
IM	ICNTRL	INTEGER	SIMPLE	28	361	361	362	378	379												
IMD2	ICNTRL	INTEGER	SIMPLE	29																	
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																	
INDEX	IDPARM	INTEGER	ARRAY	202																	
IONEGA	ICNTRL	INTEGER	UNKNOWN	91																	
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																	
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																	
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88							
				89	90																
IQSDIAG	QANDOT	INTEGER	ARRAY	281	282																
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94													
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																	
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																	
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																	
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																	
IROD	IDPARM	INTEGER	SIMPLE	203																	
ITAPE	IDPARM	LOGICAL	SIMPLE	212	215																
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																	
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																	
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																	
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90																	
J		INTEGER	SIMPLE	1	361	365	370	375	377	377	378	378	379	379							
JALB	RADCOM	INTEGER	SIMPLE	356																	
JC	IDPARM	INTEGER	ARRAY	204																	
JE	IDPARM	INTEGER	ARRAY	205																	
JIC	ICNTRL	CHAR*8	SIMPLE	5	18																
JM	ICNTRL	INTEGER	SIMPLE	32																	
JMD2	ICNTRL	INTEGER	SIMPLE	33																	
JMT2	ICNTRL	INTEGER	SIMPLE	34																	
JNP	ICNTRL	INTEGER	SIMPLE	35	377																

JO4	ICNTRL	INTEGER	SIMPLE	36																		
JOB	ICNTRL	INTEGER	SIMPLE	37																		
JOB	CCNTRL	CHAR*8	SIMPLE	6	19																	
JP	IDPARM	INTEGER	ARRAY	206																		
JSP	ICNTRL	INTEGER	SIMPLE	38																		
KLIALB	ICNTRL	INTEGER	SIMPLE	39																		
KLIGW	ICNTRL	INTEGER	SIMPLE	40																		
KLISST	ICNTRL	INTEGER	SIMPLE	41																		
KS	ICNTRL	INTEGER	SIMPLE	42																		
KSTEP	IDPARM	INTEGER	SIMPLE	207																		
KU	ICNTRL	INTEGER	SIMPLE	43																		
LAND	RADCOM	LOGICAL	ARRAY	357	359																	
LC	LCNTRL	LOGICAL	ARRAY	154	155																	
LCO	LCNTRL	LOGICAL	SIMPLE	97	154	155																
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107								
				108	109																	
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151																	
LDPARM		INTEGER	UNKNOWN	211	212	213																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143																	
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144																	
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142																	
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147																	
LOGBR	ICNTRL	INTEGER	SIMPLE	44																		
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150																	
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140																	
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141																	
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119								
				120	121	136																
LQU	LCNTRL	LOGICAL	ARRAY	109	122	123	124	125	137													
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153																	
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146																	
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152																	
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145																	
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139																	
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138																	
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148																	
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149																	
MATIN	ICNTRL	INTEGER	SIMPLE	45																		
MATSNX	ICNTRL	INTEGER	SIMPLE	46																		
MATSUN	ICNTRL	INTEGER	SIMPLE	47																		
MIXWI	RADCOM	LOGICAL	ARRAY	358	359																	
MJ	IDPARM	INTEGER	ARRAY	208																		
MLF	ICNTRL	INTEGER	ARRAY	48																		
MROD	ICNTRL	INTEGER	SIMPLE	49																		
MSM	ICNTRL	INTEGER	SIMPLE	51																		
NB	ICNTRL	INTEGER	SIMPLE	52																		
ND	ICNTRL	INTEGER	SIMPLE	53																		
NDALT	ICNTRL	INTEGER	SIMPLE	54																		
NDAY	ICNTRL	INTEGER	SIMPLE	55																		
NDHOG	ICNTRL	INTEGER	SIMPLE	76																		
NDOUT	ICNTRL	INTEGER	SIMPLE	56																		
NDPHY	ICNTRL	INTEGER	SIMPLE	57																		
NDRSW	ICNTRL	INTEGER	SIMPLE	31																		
NDSHF	ICNTRL	INTEGER	SIMPLE	58																		
NDT	ICNTRL	INTEGER	SIMPLE	59																		
NDTC3	CNTRLP	INTEGER	SIMPLE	310																		
NFK	RADCOM	INTEGER	SIMPLE	349																		
NFLW	CNTRLP	INTEGER	SIMPLE	311																		
NHMS	ICNTRL	INTEGER	SIMPLE	60																		
NHMSO	ICNTRL	INTEGER	SIMPLE	62																		
NHMS1	IDPARM	INTEGER	SIMPLE	209																		
NHMSE	ICNTRL	INTEGER	SIMPLE	61																		
NKRSH	ICNTRL	INTEGER	SIMPLE	50																		
NLAY	ICNTRL	INTEGER	SIMPLE	63																		
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																		
NLAYOZ	RADCOM	INTEGER	SIMPLE	348																		
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																		
NMLEV	ICNTRL	INTEGER	SIMPLE	75																		
NOZ	RADCOM	INTEGER	SIMPLE	352																		

ORIGINAL PAGE IS
OF POOR QUALITY

NSDAY	ICNTRL	INTEGER	SIMPLE	66													
NSEQ	ICNTRL	INTEGER	SIMPLE	67													
NSTEP	ICNTRL	INTEGER	SIMPLE	69													
NYMD	ICNTRL	INTEGER	SIMPLE	71													
NYMDO	ICNTRL	INTEGER	SIMPLE	73													
NYMD1	IDPARM	INTEGER	SIMPLE	210													
NYMDE	ICNTRL	INTEGER	SIMPLE	72													
NZINIT	ICNTRL	INTEGER	SIMPLE	74													
OCEAN	RADCOM	LOGICAL	ARRAY	357	359												
OCM22	RADCOM	REAL	ARRAY	351													
OCM30	RADCOM	REAL	ARRAY	351													
OCM38	RADCOM	REAL	ARRAY	351													
OCM46	RADCOM	REAL	ARRAY	351													
OCMXX	RADCOM	REAL	ARRAY	352													
OLAPX	RADCOM	REAL	ARRAY	350													
OLJAN	RADCOM	REAL	ARRAY	350													
OLJUL	RADCOM	REAL	ARRAY	350													
OLOCT	RADCOM	REAL	ARRAY	350													
OMEGA2	RCNTRL	REAL	SIMPLE	172													
OZALE	RADCOM	REAL	ARRAY	344													
P	QANDQT	REAL	ARRAY	261	274												
PHI	QANDQT	REAL	ARRAY	266	279												
PHIS	QANDQT	REAL	ARRAY	254	267												
PI	RCNTRL	REAL	SIMPLE	173													
PI 180	RCNTRL	REAL	SIMPLE	174													
PI2	RCNTRL	REAL	SIMPLE	175													
PIM	CNTRL	REAL	SIMPLE	312													
PIMEAN	RCNTRL	REAL	SIMPLE	177													
PKSTD	RDPARM	REAL	SIMPLE	238													
PKTOP	RDPARM	REAL	SIMPLE	239													
PL	RADCOM	REAL	ARRAY	329													
PLE	RADCOM	REAL	ARRAY	329													
PLEVS	RCNTRL	REAL	ARRAY	191													
PLK	RADCOM	REAL	ARRAY	330													
PLKE	RADCOM	REAL	ARRAY	330													
PREP	RADCOM	REAL	ARRAY	353													
PROCM	RADCOM	REAL	ARRAY	352													
PSMAX	RCNTRL	REAL	SIMPLE	178													
PSMIN	RCNTRL	REAL	SIMPLE	179													
PSTD	RCNTRL	REAL	SIMPLE	176													
PTOP	RCNTRL	REAL	SIMPLE	180													
PZERO	RCNTRL	REAL	SIMPLE	197													
QALT	LCNTRL	LOGICAL	SIMPLE	98	126												
QANDQT	LCNTRL	REAL	UNKNOWN	253	280	283											
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127												
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128												
QEND	LCNTRL	LOGICAL	SIMPLE	101	129												
QHOG	CNTRL	LOGICAL	SIMPLE	313	325												
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130												
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131												
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276			
				277	278	279											
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135												
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134												
QSDIAG	QANDQT	REAL	ARRAY	280	282												
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132												
QUDIAG	QANDQT	REAL	ARRAY	283													
RADCOM		REAL	UNKNOWN	328	329	330	331	332	333	334	335	336	337	338			
				329	340	341	342	343	344	345	346	347	348	349			
				350	351	352	353	354	355	356	357	358					
RADE	RCNTRL	REAL	SIMPLE	181													
RADTRM	RADCOM	REAL	ARRAY	354													
RC	RCNTRL	REAL	ARRAY	198	199												
RCO	RCNTRL	REAL	SIMPLE	156	198	199											
RCLD	RADCOM	REAL	ARRAY	356													
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166			
				167	168	169	170	171	172	173	174	175	176	177			
				178	179	180	181	182	183	184	185	186	187	188			
				189	190	191	192	193	194	195	196	197					
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227			

ORIGINAL PAGE IS OF POOR QUALITY

				228	229	230	231	232	233	234	235	236	237	238
RE	RADCOM	REAL	ARRAY	250	240	241	242	243	244	245	246	247	248	249
RGAS	RCNTRL	REAL	SIMPLE	328	251	252								
RH	RADCOM	REAL	ARRAY	182										
RLAT	RDPARM	REAL	ARRAY	336										
RLATD	RDPARM	REAL	ARRAY	240										
RN	RADCOM	REAL	ARRAY	241										
ROCP	RCNTRL	REAL	SIMPLE	346										
ROCPDT	RDPARM	REAL	SIMPLE	183										
ROCPPI	RDPARM	REAL	SIMPLE	242										
RSDIST	RCNTRL	REAL	SIMPLE	243										
RSURF	RADCOM	REAL	SIMPLE	184										
SO	RADCOM	REAL	ARRAY	356										
SDAY	RCNTRL	REAL	SIMPLE	354										
SEASON	RCNTRL	REAL	SIMPLE	185										
SG	RADCOM	REAL	SIMPLE	186										
SGNP	RDPARM	REAL	ARRAY	355										
SH	QANDQT	REAL	ARRAY	244										
SHG	RADCOM	REAL	ARRAY	265	278									
SHL	RADCOM	REAL	ARRAY	334										
SHLE	RADCOM	REAL	ARRAY	333										
SHLTOP	RCNTRL	REAL	ARRAY	333										
SHS	QANDQT	REAL	SIMPLE	314										
SHSAT	RADCOM	REAL	ARRAY	260	273									
SIG	RDPARM	REAL	ARRAY	335										
SIGE	RCNTRL	REAL	ARRAY	251										
SIND	RCNTRL	REAL	ARRAY	187										
SINL	RDPARM	REAL	SIMPLE	188										
SINLON	RDPARM	REAL	ARRAY	245										
SINROT	RCNTRL	REAL	ARRAY	240										
SMTH	RCNTRL	REAL	SIMPLE	240										
SN2FLG	QANDQT	REAL	SIMPLE	315										
SNOW	LCNTRL	LOGICAL	ARRAY	255	268									
SNOWN	RADCOM	LOGICAL	SIMPLE	105	133									
SNOWS	CNTRLP	REAL	ARRAY	358	359	364								
SOLS	CNTRLP	REAL	SIMPLE	316										
SP	CNTRLP	REAL	SIMPLE	317										
SRS	RADCOM	REAL	SIMPLE	189										
SSS	RADCOM	REAL	ARRAY	355										
SSSE	RADCOM	REAL	ARRAY	346										
START	RADCOM	REAL	ARRAY	337										
STBO	LDPARM	LOGICAL	ARRAY	337										
	CNTRLP	REAL	SIMPLE	213	216									
	CNTRLP	REAL	SIMPLE	318										
STERP1	CNTRLP	REAL	SIMPLE	319										
STERP2	CNTRLP	REAL	SIMPLE	320										
STN	RADCOM	REAL	SIMPLE	320										
SWALE	RADCOM	REAL	ARRAY	346										
SWIL	RADCOM	REAL	ARRAY	342										
T	RADCOM	REAL	ARRAY	342										
TAUL	QANDQT	REAL	ARRAY	264	277									
TCOND	RADCOM	REAL	ARRAY	344										
TG	RADCOM	REAL	ARRAY	347										
TGR	RADCOM	REAL	ARRAY	332										
TH	DCOMP35	REAL	ARRAY	332	372									
THSTD	RADCOM	REAL	ARRAY	326	361/S	363	370	375						
THSTD2	RDPARM	REAL	ARRAY	332										
TICE	RDPARM	REAL	SIMPLE	247										
TL	CNTRLP	REAL	SIMPLE	248										
TLE	RADCOM	REAL	SIMPLE	321	363	365	370	370	372	375	375			
TLOWL	RADCOM	REAL	ARRAY	331										
TLTOP	RADCOM	REAL	ARRAY	331										
TMIDL	CNTRLP	REAL	SIMPLE	348										
TN	RADCOM	REAL	SIMPLE	322										
TOPABS	RADCOM	REAL	SIMPLE	348										
TOTOZ	RADCOM	REAL	ARRAY	346										
TPENE	RADCOM	REAL	ARRAY	346										
TS	RADCOM	REAL	ARRAY	345										
TSTD	QANDQT	REAL	ARRAY	352										
	RCNTRL	REAL	ARRAY	347										
U	RCNTRL	REAL	ARRAY	259	272									
	QANDQT	REAL	SIMPLE	190										
	QANDQT	REAL	ARRAY	262	275									

ORIGINAL PROGRAM
OF POOR QUALITY

V	QANDQT	REAL	ARRAY	263	276							
VER	CCNTRL	CHAR*8	SIMPLE	10	23							
WET	RADCOM	REAL	ARRAY	353	368	368	368	368	373	373	373	
WI	RADCOM	REAL	ARRAY	353								
WSAVE	RDPARM	REAL	ARRAY	249								
XDAY	CNTRLP	REAL	SIMPLE	323								
XK	RADCOM	REAL	ARRAY	349								
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24							
ZLNCO	CNTRLP	REAL	SIMPLE	324								

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF. A=ARGLIST
SQRT	REAL	INTRINSIC	369 374	

ORIGINAL PAGE IS
OF POOR QUALITY

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.....VCONHTR 2
SUBROUTINE CONHTR (CONVERT HISTORY TAPE RECORD) VCONHTR 3
VCONHTR 4
PURPOSE VCONHTR 5
CONVERSION FROM /QANDQT/ TO VBSIGM FORMAT AND OUTPUT TO HISTORY VCONHTR 6
VCONHTR 7
USAGE VCONHTR 8
CALLED BY TWRITE VCONHTR 9
VCONHTR 10
INPUT/OUTPUT FILES USED VCONHTR 11
UNIT08 VBSIGM FORMAT OUTPUT FILE VCONHTR 12
UNIT03 PRINTED OUTPUT VCONHTR 13
VCONHTR 14
DESCRIPTION OF PARAMETERS VCONHTR 15
NO ARGUEMENTS VCONHTR 16
VCONHTR 17
SUBPROGRAMS NEEDED VCONHTR 18
ATOE, QSCI32 VCONHTR 19
VCONHTR 20
RECORD OF MODIFICATIONS VCONHTR 21
?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VCONHTR 22
10JUN83 JIM PF. ADDED DOCUMENTATION VCONHTR 23
21JUL83 JIM PF. ADDING CHOICE FOR DIAGNOSTICS VCONHTR 24
VCONHTR 25
REMARKS: VCONHTR 26
( 1 ) VCONHTR 27
VCONHTR 28
VCONHTR 29
.....VCONHTR 30
M / A - C O M S I G M A D A T A I N G   N A S A - G S F C VCONHTR 31
VCONHTR 32
00001 SUBROUTINE CONHTR VCONHTR 33
VCONHTR 34
.....VCONHTR 35
VCONHTR 36
VCONHTR 37
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 2
===== VCNTRL 3
00002 COMMON /CCNTRL/ CCO VCNTRL 4
00003 COMMON /CCNTRL/ ADATE VCNTRL 5
00004 COMMON /CCNTRL/ ATIME VCNTRL 6
00005 COMMON /CCNTRL/ JIC VCNTRL 7
00006 COMMON /CCNTRL/ JOB VCNTRL 8
00007 COMMON /CCNTRL/ CCSP06 VCNTRL 9
00008 COMMON /CCNTRL/ CCSP07 VCNTRL 10
00009 COMMON /CCNTRL/ CCSP08 VCNTRL 11
00010 COMMON /CCNTRL/ VER VCNTRL 12
00011 COMMON /CCNTRL/ XLABEL (10) VCNTRL 13
00012 COMMON /CCNTRL/ CQS (30) VCNTRL 14
00013 COMMON /CCNTRL/ CQU (10) VCNTRL 15
C VCNTRL 16
00014 EQUIVALENCE (CC0,CC(1)) VCNTRL 17
00015 CHARACTER*8 CCO, CC(200) VCNTRL 18
00016 CHARACTER*8 ADATE VCNTRL 19
00017 CHARACTER*8 ATIME VCNTRL 20
00018 CHARACTER*8 JIC VCNTRL 21
00019 CHARACTER*8 JOB VCNTRL 22
00020 CHARACTER*8 CCSP06 VCNTRL 23
00021 CHARACTER*8 CCSP07 VCNTRL 24
00022 CHARACTER*8 CCSP08 VCNTRL 25
00023 CHARACTER*8 VER VCNTRL 26
00024 CHARACTER*8 XLABEL VCNTRL 27
00025 CHARACTER*8 CQS VCNTRL 28
00026 CHARACTER*8 CQU VCNTRL 29
C VCNTRL 30
C VCNTRL 31
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 32
===== VCNTRL 33
00027 COMMON /ICNTRL/ ICO VCNTRL 34
00028 COMMON /ICNTRL/ IM VCNTRL 35
00029 COMMON /ICNTRL/ IMD2 VCNTRL 36

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ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

00030	COMMON /ICNTRL/	IMD2P1	VCNTRL	37
00031	COMMON /ICNTRL/	NDRSW	VCNTRL	38
00032	COMMON /ICNTRL/	JM	VCNTRL	39
00033	COMMON /ICNTRL/	JMD2	VCNTRL	40
00034	COMMON /ICNTRL/	JMT2	VCNTRL	41
00035	COMMON /ICNTRL/	JNP	VCNTRL	42
00036	COMMON /ICNTRL/	JO4	VCNTRL	43
00037	COMMON /ICNTRL/	JOB	VCNTRL	44
00038	COMMON /ICNTRL/	JSP	VCNTRL	45
00039	COMMON /ICNTRL/	KLIAIB	VCNTRL	46
00040	COMMON /ICNTRL/	KLIGW	VCNTRL	47
00041	COMMON /ICNTRL/	KLISST	VCNTRL	48
00042	COMMON /ICNTRL/	KS	VCNTRL	49
00043	COMMON /ICNTRL/	KU	VCNTRL	50
00044	COMMON /ICNTRL/	LOGBR	VCNTRL	51
00045	COMMON /ICNTRL/	MATIN	VCNTRL	52
00046	COMMON /ICNTRL/	MATSNX	VCNTRL	53
00047	COMMON /ICNTRL/	MATSUN	VCNTRL	54
00048	COMMON /ICNTRL/	MLF (12)	VCNTRL	55
00049	COMMON /ICNTRL/	MROD	VCNTRL	56
00050	COMMON /ICNTRL/	NKRSH	VCNTRL	57
00051	COMMON /ICNTRL/	MSM	VCNTRL	58
00052	COMMON /ICNTRL/	NB	VCNTRL	59
00053	COMMON /ICNTRL/	ND	VCNTRL	60
00054	COMMON /ICNTRL/	NDALT	VCNTRL	61
00055	COMMON /ICNTRL/	NDAY	VCNTRL	62
00056	COMMON /ICNTRL/	NDOUT	VCNTRL	63
00057	COMMON /ICNTRL/	NDPHY	VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL	65
00059	COMMON /ICNTRL/	NDT	VCNTRL	66
00060	COMMON /ICNTRL/	NHMS	VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL	68
00062	COMMON /ICNTRL/	NHMSO	VCNTRL	69
00063	COMMON /ICNTRL/	NLAY	VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL	77
00071	COMMON /ICNTRL/	NYMD	VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL	85
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	86
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	87
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	88
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	89
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	90
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	91
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	92
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	93
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL	94
00088	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL	95
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	96
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	97
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL	98
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL	99
00093	EQUIVALENCE	(IRADSWG .IQU(3))	VCNTRL	100
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL	101
00095	EQUIVALENCE	(ICO.IC(1))	VCNTRL	102
00096	INTEGER	ICO.IC(200)	VCNTRL	103
			VCNTRL	104
			VCNTRL	105
			VCNTRL	106
			VCNTRL	107

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C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C -----
00097 COMMON /LCNTRL/ LCO VCNTRL 108
00098 COMMON /LCNTRL/ QALT VCNTRL 109
00099 COMMON /LCNTRL/ QBEG VCNTRL 110
00100 COMMON /LCNTRL/ QDAY VCNTRL 111
00101 COMMON /LCNTRL/ QEND VCNTRL 112
00102 COMMON /LCNTRL/ QOUT VCNTRL 113
00103 COMMON /LCNTRL/ QPHY VCNTRL 114
00104 COMMON /LCNTRL/ QSHF VCNTRL 115
00105 COMMON /LCNTRL/ SN2FLG VCNTRL 116
00106 COMMON /LCNTRL/ QRSW VCNTRL 117
00107 COMMON /LCNTRL/ QRSW VCNTRL 118
00108 COMMON /LCNTRL/ QRSW VCNTRL 119
00108 COMMON /LCNTRL/ LQS(30) VCNTRL 120
00109 COMMON /LCNTRL/ LQU(10) VCNTRL 121
C VCNTRL 122
00110 EQUIVALENCE (LTMIN .LQS( 1)) VCNTRL 123
00111 EQUIVALENCE (LTMAX .LQS( 2)) VCNTRL 124
00112 EQUIVALENCE (LPREACC .LQS( 3)) VCNTRL 125
00113 EQUIVALENCE (LPRECON .LQS( 4)) VCNTRL 126
00114 EQUIVALENCE (LHFLUX .LQS( 5)) VCNTRL 127
00115 EQUIVALENCE (LEFLUX .LQS( 6)) VCNTRL 128
00116 EQUIVALENCE (LFUSION .LQS( 7)) VCNTRL 129
00117 EQUIVALENCE (LRADSWG .LQS( 8)) VCNTRL 130
00118 EQUIVALENCE (LRADLWG .LQS( 9)) VCNTRL 131
00119 EQUIVALENCE (LICLOUD .LQS(10)) VCNTRL 132
00120 EQUIVALENCE (LUFLUX .LQS(11)) VCNTRL 133
00121 EQUIVALENCE (LVFLUX .LQS(12)) VCNTRL 134
C VCNTRL 135
00122 EQUIVALENCE (LOMEGA .LQU( 1)) VCNTRL 136
00123 EQUIVALENCE (LDIABAT .LQU( 2)) VCNTRL 137
00124 EQUIVALENCE (LRADSW .LQU( 3)) VCNTRL 138
00125 EQUIVALENCE (LRADLW .LQU( 4)) VCNTRL 139
C VCNTRL 140
00126 LOGICAL QALT VCNTRL 141
00127 LOGICAL QBEG VCNTRL 142
00128 LOGICAL QDAY VCNTRL 143
00129 LOGICAL QEND VCNTRL 144
00130 LOGICAL QOUT VCNTRL 145
00131 LOGICAL QPHY VCNTRL 146
00132 LOGICAL QSHF VCNTRL 147
00133 LOGICAL SN2FLG VCNTRL 148
00134 LOGICAL QRSW VCNTRL 149
00135 LOGICAL QRSW VCNTRL 150
C VCNTRL 151
00136 LOGICAL LQS VCNTRL 152
00137 LOGICAL LQU VCNTRL 153
00138 LOGICAL LTMIN VCNTRL 154
00139 LOGICAL LTMAX VCNTRL 155
00140 LOGICAL LPREACC VCNTRL 156
00141 LOGICAL LPRECON VCNTRL 157
00142 LOGICAL LHFLUX VCNTRL 158
00143 LOGICAL LEFLUX VCNTRL 159
00144 LOGICAL LFUSION VCNTRL 160
00145 LOGICAL LRADSWG VCNTRL 161
00146 LOGICAL LRADLWG VCNTRL 162
00147 LOGICAL LICLOUD VCNTRL 163
00148 LOGICAL LUFLUX VCNTRL 164
00149 LOGICAL LVFLUX VCNTRL 165
C VCNTRL 166
00150 LOGICAL LOMEGA VCNTRL 167
00151 LOGICAL LDIABAT VCNTRL 168
00152 LOGICAL LRADSW VCNTRL 169
00153 LOGICAL LRADLW VCNTRL 170
C VCNTRL 171
00154 EQUIVALENCE (LCO,LC(1)) VCNTRL 172
00155 LOGICAL LCO, LC(200) VCNTRL 173
C VCNTRL 174
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C -----
00156 COMMON /RCNTRL/ RCO VCNTRL 175
VCNTRL 176
VCNTRL 177
VCNTRL 178

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00157	COMMON /RCNTRL/ APHEL	VCNTRL 179
00158	COMMON /RCNTRL/ BETA	VCNTRL 180
00159	COMMON /RCNTRL/ COSD	VCNTRL 181
00160	COMMON /RCNTRL/ CP	VCNTRL 182
00161	COMMON /RCNTRL/ DAYSPV	VCNTRL 183
00162	COMMON /RCNTRL/ DEC	VCNTRL 184
00163	COMMON /RCNTRL/ DECMAK	VCNTRL 185
00164	COMMON /RCNTRL/ DIST	VCNTRL 186
00165	COMMON /RCNTRL/ DLAT	VCNTRL 187
00166	COMMON /RCNTRL/ DLON	VCNTRL 188
00167	COMMON /RCNTRL/ DT	VCNTRL 189
00168	COMMON /RCNTRL/ ECCN	VCNTRL 190
00169	COMMON /RCNTRL/ GNU1	VCNTRL 191
00170	COMMON /RCNTRL/ GNU2	VCNTRL 192
00171	COMMON /RCNTRL/ GRAV	VCNTRL 193
00172	COMMON /RCNTRL/ OMEGA2	VCNTRL 194
00173	COMMON /RCNTRL/ P1	VCNTRL 195
00174	COMMON /RCNTRL/ P180	VCNTRL 196
00175	COMMON /RCNTRL/ P12	VCNTRL 197
00176	COMMON /RCNTRL/ PSTD	VCNTRL 198
00177	COMMON /RCNTRL/ PIMEAN	VCNTRL 199
00178	COMMON /RCNTRL/ PSMAX	VCNTRL 200
00179	COMMON /RCNTRL/ PSMIN	VCNTRL 201
00180	COMMON /RCNTRL/ PTOP	VCNTRL 202
00181	COMMON /RCNTRL/ RADE	VCNTRL 203
00182	COMMON /RCNTRL/ RGAS	VCNTRL 204
00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
00198	C EQUIVALENC (RC0, RC(1))	VCNTRL 220
00199	REAL RC0, RC(200)	VCNTRL 221
	C	VCNTRL 222
	C INTEGER MODEL CONSTANTS	VCNTRL 223
	C =====	VCNTRL 224
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 225
00201	COMMON /IDPARM/ IDSP02	VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 227
00203	COMMON /IDPARM/ IROD	VCNTRL 228
00204	COMMON /IDPARM/ JC (46)	VCNTRL 229
00205	COMMON /IDPARM/ JE (2)	VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 231
00207	COMMON /IDPARM/ KSTEP	VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 233
00209	COMMON /IDPARM/ NHMS1	VCNTRL 234
00210	COMMON /IDPARM/ NYMD1	VCNTRL 235
	C	VCNTRL 236
	C LOGICAL MODEL CONSTANTS	VCNTRL 237
	C =====	VCNTRL 238
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 239
00212	COMMON /LDPARM/ ITAPE	VCNTRL 240
00213	COMMON /LDPARM/ START	VCNTRL 241
	C	VCNTRL 242
00214	LOGICAL FILTER	VCNTRL 243
00215	LOGICAL ITAPE	VCNTRL 244
00216	LOGICAL START	VCNTRL 245
	C	VCNTRL 246
	C REAL MODEL CONSTANTS	VCNTRL 247
	C =====	VCNTRL 248
		VCNTRL 249

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00217 COMMON /RDPARM/ ADLDP
00218 COMMON /RDPARM/ CON1
00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CON5
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLON (72)
00229 COMMON /RDPARM/ CPD2
00230 COMMON /RDPARM/ DXP (46)
00231 COMMON /RDPARM/ DXYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPDT
00243 COMMON /RDPARM/ ROCPPI
00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

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COMDECK VQANDQT RESOLUTION VALUES

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=====
IM =72
NLAY =9
JM+1 =46
NLAY+11 =99
IM*NLAY+11 =7128
JM/2+1 =23

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GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)

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00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1, 1, 1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2, 1, 1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3, 1, 1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4, 1, 1),GT (1,1))

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VCNTRL 250
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VQANDQT 33
VQANDQT 34
VQANDQT 35

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00271 EQUIVALENCE (QPROG(1. 5.1.1).GW (1.1)) VQANDQT 36
00272 EQUIVALENCE (QPROG(1. 6.1.1).TS (1.1)) VQANDQT 37
00273 EQUIVALENCE (QPROG(1. 7.1.1).SHS (1.1)) VQANDQT 38
00274 EQUIVALENCE (QPROG(1. 8.1.1).P (1.1.1)) VQANDQT 39
C VQANDQT 40
00275 EQUIVALENCE (OPROG(1.1. 2.1).U (1.1.1.1)) VQANDQT 41
00276 EQUIVALENCE (QPROG(1.1. 4.1).V (1.1.1.1)) VQANDQT 42
00277 EQUIVALENCE (QPROG(1.1. 6.1).T (1.1.1.1)) VQANDQT 43
00278 EQUIVALENCE (QPROG(1.1. 8.1).SH (1.1.1.1)) VQANDQT 44
00279 EQUIVALENCE (QPROG(1.1.10.1).PHI(1.1.1.1)) VQANDQT 45
C VQANDQT 46
C VQANDQT 46
C VQANDQT 47
C VQANDQT 48
C VQANDQT 49
C VQANDQT 50
C VQANDQT 51
C VQANDQT 52
C VQANDQT 53
C VQANDQT 54
C VQANDQT 55
00280 COMMON /QANDQT/ QSDIAG(72 ,15.46) VCONHTR 40
00281 DIMENSION IQSDIAG(72 ,15.46) VCONHTR 41
00282 EQUIVALENCE (QSDIAG,IQSDIAG) VCONHTR 41
C VCONHTR 41
00283 COMMON /QANDQT/ QUDIAG(72.9. 5.46) VCONHTR 41
C VCONHTR 41
00284 HALF PRECISION QSHEQ(2.1) VCONHTR 41
00285 EQUIVALENCE (QSDIAG.QSHEQ) VCONHTR 41
C VCONHTR 41
C IDENTIFYING LABELS OF MODEL RESTART RECORD QUANTITIES
C VCONHTR 41
C VCONHTR 41
C VCONHTR 41
00286 COMMON /CORDER/ XORDS(24),XORDU(15) VCONHTR 41
00287 CHARACTER*8 XORDS ,XORDU VCONHTR 41
C VCONHTR 41
C IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES
C VCONHTR 41
C VCONHTR 41
C VCONHTR 41
00288 COMMON /CORDER/ XSA (23),XUA (10) VCONHTR 41
00289 CHARACTER*8 XSA ,XUA VCONHTR 41
C VCONHTR 41
C COMDECK VAMAM RESOLUTION VALUES
C VAMAM 2
C VAMAM 3
C VAMAM 4
C VAMAM 5
C VAMAM 6
C VAMAM 7
C VAMAM 8
C VAMAM 9
C VAMAM 10
C VAMAM 11
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C VAMAM 29
C VCONHTR 44
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C VCONHTR 53
00290 COMMON /SPACE/ QSH(72.46,23) VCONHTR 53
00291 HALF PRECISION QSH VCONHTR 53
00292 COMMON /SPACE/ QUH(72.9.46.10) VCONHTR 53
00293 HALF PRECISION QUH VCONHTR 53
00294 COMMON /SPACE/ CA(200) VCONHTR 53
00295 CHARACTER*8 CA VCONHTR 53
00296 COMMON /SPACE/ IA(200) VCONHTR 53
00297 HALF PRECISION IA VCONHTR 53
00298 COMMON /SPACE/ LA(200) VCONHTR 53
00299 HALF PRECISION LA VCONHTR 53
00300 COMMON /SPACE/ RA(200) VCONHTR 53
00301 HALF PRECISION RA VCONHTR 53
00302 COMMON /SPACE/ HWORK(648) VCONHTR 53
00303 HALF PRECISION HWORK VCONHTR 53
00304 REAL SPAXXX(512,128.7) VCONHTR 53
00305 EQUIVALENCE (QSH,SPAXXX) VCONHTR 53
C VCONHTR 53
00306 HALF PRECISION ITRUE,IFALSE,HIC(2,200),HKSS(2),HKUS(2) VCONHTR 53
00307 EQUIVALENCE (IC,HIC),(KSS,HKSS),(KUS,HKUS) VCONHTR 53
00308 CHARACTER*8 IBM,MACHID,ICLDDD,IXSA(24),TXUA(15) VCONHTR 53
00309 CHARACTER*1 XORDSCH(8,1),XORDUCH(8,1),ONE,TWO,NBCHAR,TESTCH VCONHTR 53
00310 EQUIVALENCE (XORDS,XORDSCH),(XORDU,XORDUCH) VCONHTR 53
C VCONHTR 53
00311 DATA ITRUE /X'00000001'/ VCONHTR 53
00312 DATA IFALSE /X'00000000'/ VCONHTR 53
00313 DATA IBM /SHIBM / VCONHTR 53
00314 DATA ICLDDD /SHICLOUD / VCONHTR 53

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C
C UPPER AIR
C =====
00367 DO 120 K = 2,11
00368 TESTCH = XORDUCH(8,K-1)
00369 IF((TESTCH.NE.ONE).AND.(TESTCH.NE.TWO)) GO TO 115
00370 IF( TESTCH.NE.NBCHAR ) GO TO 120
00371 115 KKUA = KKUA + 1
00372 HWORK(1;IM*NLAY) = QPROG(1,1,K,J;IM*NLAY)
00373 CALL QSCI32(HWORK,QUH(1,1,J,KKUA),IM*NLAY,IERR)
00374 120 CONTINUE
C
00375 130 CONTINUE
C
C LOOP OVER LATITUDES FOR THE SURFACE DIAGNOSTICS
C =====
00376 IF(KSS.EQ.KKSA) GO TO 160
00377 KKSAVE = KKSA
00378 DO 150 J = 1,JNP
00379 KKSA = KKSAVE
00380 DO 145 K = 10,KS
00381 KKSA = KKSA + 1
00382 IF(XORDS(K).NE.ICLDDD) GO TO 140
C SPECIAL CASE FOR ICLCLOUD FIELD
C =====
00383 ICLBASE = IM * (15 * (J-1) + IICLOUD - 1)
00384 DO 135 I = 1,IM
00385 135 HWORK(I) = QSHEQ(2,I+ICLBASE)
00386 QSH(1,J,KKSA;IM) = HWORK(I;IM)
00387 GO TO 145
C NORMAL FLOATING POINT CASE
C =====
00388 140 HWORK(1;IM) = QSDIAG(1,K-9,J;IM)
00389 CALL QSCI32(HWORK,QSH(1,J,KKSA),IM,IERR)
C
00390 145 CONTINUE
00391 150 CONTINUE
C
C LOOP OVER LATITUDES FOR THE UPPER AIR DIAGNOSTICS
C =====
00392 160 IF(KKUA.EQ.KUS) GO TO 200
00393 KKUASAVE = KKUA
00394 DO 190 J = 1,JNP
00395 KKUA = KKUASAVE
00396 DO 180 K = 11,KU
00397 KKUA = KKUA + 1
00398 HWORK(1;IM*NLAY) = QUDIAG(1,1,K-10,J;IM*NLAY)
00399 CALL QSCI32(HWORK,QUH(1,1,J,KKUA),IM*NLAY,IERR)
C
00400 180 CONTINUE
00401 190 CONTINUE
C
00402 200 CONTINUE
C
C WRITE THE FIELDS TO HISTORY
C =====
00403 KMAXB = KSS * JNP * IM
00404 KEB = 0
00405 DO 220 KKB = 1,KMAXB,4096
00406 KS = KEB + 1
00407 KEB = MINO(KEB + 4096, KMAXB)
00408 220 WRITL(8) (QSH(K,1,1),K=1:5B,KEB)
00409 KMAXB = JNP * NLAY * IM
00410 DO 230 KQ = 1,KUS
00411 KEB = 0
00412 DO 230 KKB = 1,KMAXB,4096
00413 KSB = KEB + 1
00414 KEB = MINO(KEB + 4096, KMAXB)
00415 230 WRITE(8) (QUH(K,1,1,KQ),K=KSB,KEB)
C
00416 R E T U R N

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VCONHTR121
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VCONHTR191

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STATEMENT LABEL MAP

--LABEL---DEFINED---REFERENCES

10	334	330
10000	317	
105	363	361
110	366	359
115	371	369
120	374	367
130	375	366
135	385	384
14	340	338
140	388	382
145	390	380
15	342	336
150	391	378
160	392	376
180	400	396
19	348	346
190	401	394
20	350	344
200	402	392
220	408	405
230	415	410
900	329	328

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W								
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16													
ADLDP	RDPARM	REAL	SIMPLE	217														
ALBEDO	QANDQT	REAL	ARRAY	256	269													
APHEL	RCNTRL	REAL	SIMPLE	157														
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17													
BETA	RCNTRL	REAL	SIMPLE	158														
CA	SPACE	CHAR*8	ARRAY	294	295	322			355/W									
CALTOJ	RCNTRL	REAL	SIMPLE	196														
CC	CCNTRL	CHAR*8	ARRAY	14	15	320			321/S	322	323/S							
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15												
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12				
CCSP06	CCNTRL	CHAR*8	SIMPLE	13	7													
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	20													
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	21													
CON1	RDPARM	REAL	SIMPLE	218	22													
CON1DT	RDPARM	REAL	SIMPLE	219														
CON2	RDPARM	REAL	SIMPLE	220														
CON2DT	RDPARM	REAL	SIMPLE	221														
CON3	RDPARM	REAL	SIMPLE	222														
CON3DT	RDPARM	REAL	SIMPLE	223														
CON4	RDPARM	REAL	SIMPLE	224														
CON4DT	RDPARM	REAL	SIMPLE	225														
CONS	RDPARM	REAL	SIMPLE	226														
CONHTR			SUBROUTINE	1														
CORDER		REAL	UNKNOWN	286	288													
COSD	RCNTRL	REAL	SIMPLE	159														
COSL	RDPARM	REAL	ARRAY	227														
COSLON	RDPARM	REAL	ARRAY	228														
CP	RCNTRL	REAL	SIMPLE	160														
CPD2	RDPARM	REAL	SIMPLE	229														
CQS	CCNTRL	CHAR*8	ARRAY	12	25													
CQU	CCNTRL	CHAR*8	ARRAY	13	26													
DAYSPY	RCNTRL	REAL	SIMPLE	161														
DEC	RCNTRL	REAL	SIMPLE	162														
DECMAX	RCNTRL	REAL	SIMPLE	163														
DIST	RCNTRL	REAL	SIMPLE	164														
DLAT	RCNTRL	REAL	SIMPLE	165														
DLON	RCNTRL	REAL	SIMPLE	166														

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ITMIN	ICNTRL	INTEGER	UNKNOWN	79										
ITRUE		HALF	SIMPLE	306	311/I	333	354							
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89										
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90										
J		INTEGER	SIMPLE	356/C	364	365	372	373	378/C	383	386	388	389	394
JC	IDPARM	INTEGER	ARRAY	398	399									
JE	IDPARM	INTEGER	ARRAY	204										
JIC	CCNTRL	CHAR*8	SIMPLE	205										
JM	ICNTRL	INTEGER	SIMPLE	5	18									
JMD2	ICNTRL	INTEGER	SIMPLE	32										
JMT2	ICNTRL	INTEGER	SIMPLE	33										
JNP	ICNTRL	INTEGER	SIMPLE	34										
JO4	ICNTRL	INTEGER	SIMPLE	35	356	378	394	403	409					
JOB	ICNTRL	INTEGER	SIMPLE	36										
JOB	CCNTRL	INTEGER	SIMPLE	37										
JP	IDPARM	CHAR*8	SIMPLE	6	19									
JSP	ICNTRL	INTEGER	SIMPLE	206										
K		INTEGER	SIMPLE	38										
				330/C	331	331	332	333	333	336/C	337	341	344/C	345
				349	355	355/C	355-C	359/C	360	364	367/C	368	372	380
				382	388	396/C	398	408	408/C	415	415/C			
KEB		INTEGER	SIMPLE	404/S	406	407/S	407	408	411/S	413	414/S	414	415	
KKB		INTEGER	SIMPLE	405/C	412/C									
KKSA		INTEGER	SIMPLE	357/S	363/S	363	365	376	377	379/S	381/S	381	386	389
KKSAVE		INTEGER	SIMPLE	377/S	379									
KKUA		INTEGER	SIMPLE	358/S	371/S	371	373	392	393	395/S	397/S	397	399	
KKUASAVE		INTEGER	SIMPLE	393/S	395									
KLIALB	ICNTRL	INTEGER	SIMPLE	39										
KLISW	ICNTRL	INTEGER	SIMPLE	40										
KLISST	ICNTRL	INTEGER	SIMPLE	41										
KMAXB		INTEGER	SIMPLE	403/S	405	407	409/S	412	414					
KQ		INTEGER	SIMPLE	410/C	415									
KS	ICNTRL	INTEGER	SIMPLE	42	324	336	380							
KSB		INTEGER	SIMPLE	406/S	408	413/S	415							
KSS		INTEGER	SIMPLE	307	335/S	340/S	340	341	376	403				
KSTEP	IDPARM	INTEGER	SIMPLE	207										
KU	ICNTRL	INTEGER	SIMPLE	43	325	344	396							
KUS		INTEGER	SIMPLE	307	343/S	348/S	348	349	355	392	410			
LA	SPACE	HALF	ARRAY	298	299	332/S	333/S	353/S	354/S	355/W				
LC	LCNTRL	LOGICAL	ARRAY	154	155	333								
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155								
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109									
LDPARM		INTEGER	UNKNOWN	123	151									
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213								
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142									
LOGBR	ICNTRL	LOGICAL	UNKNOWN	119	147									
LOMEGA	ICNTRL	INTEGER	SIMPLE	44										
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140									
LQS	LCNTRL	LOGICAL	UNKNOWN	113	141									
			ARRAY	108	110	111	112	113	114	115	116	117	118	119
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136								
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137					
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	125	153									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	124	152									
LTMX	LCNTRL	LOGICAL	UNKNOWN	117	145									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	111	139									
LUFUX	LCNTRL	LOGICAL	UNKNOWN	110	138									
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148									
MACHID	LCNTRL	LOGICAL	UNKNOWN	121	149									
MATIN		CHAR*8	SIMPLE	308	320/S	323								
MATSNX	ICNTRL	INTEGER	SIMPLE	45										
MATSUN	ICNTRL	INTEGER	SIMPLE	46										
MJ	ICNTRL	INTEGER	SIMPLE	47										
MLF	IDPARM	INTEGER	ARRAY	208										
	ICNTRL	INTEGER	ARRAY	48										

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MROD	ICNTRL	INTEGER	SIMPLE	49																
MSM	ICNTRL	INTEGER	SIMPLE	51																
NB	ICNTRL	INTEGER	SIMPLE	52	319															
NBCHAR		CHARACTER	SIMPLE	309	318/S	319/S	339	347	362	370										
ND	ICNTRL	INTEGER	SIMPLE	53																
NDALT	ICNTRL	INTEGER	SIMPLE	54																
NDAY	ICNTRL	INTEGER	SIMPLE	55																
NDHOG	ICNTRL	INTEGER	SIMPLE	76																
NDOUT	ICNTRL	INTEGER	SIMPLE	56																
NDPHY	ICNTRL	INTEGER	SIMPLE	57																
NDRSW	ICNTRL	INTEGER	SIMPLE	57																
NDSHF	ICNTRL	INTEGER	SIMPLE	31																
NOT	ICNTRL	INTEGER	SIMPLE	58																
NHMS	ICNTRL	INTEGER	SIMPLE	59																
NHMS0	ICNTRL	INTEGER	SIMPLE	60																
NHMS1	ICNTRL	INTEGER	SIMPLE	62																
NHMSE	IDPARM	INTEGER	SIMPLE	209																
NHRSH	ICNTRL	INTEGER	SIMPLE	61																
NKRRSH	ICNTRL	INTEGER	SIMPLE	50																
NLAY	ICNTRL	INTEGER	SIMPLE	63	372	372	373	398	398	399	409									
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																
NMLEV	ICNTRL	INTEGER	SIMPLE	75																
NSDAY	ICNTRL	INTEGER	SIMPLE	66																
NSEQ	ICNTRL	INTEGER	SIMPLE	67																
NSTEP	ICNTRL	INTEGER	SIMPLE	69																
NYMD	ICNTRL	INTEGER	SIMPLE	71																
NYMD0	ICNTRL	INTEGER	SIMPLE	73																
NYMD1	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																
OMEGA2	ICNTRL	REAL	SIMPLE	172																
ONE		CHARACTER	SIMPLE	309	315/I	318	338	346	361	369										
P	QANDQT	REAL	ARRAY	261	274															
PHI	QANDQT	REAL	ARRAY	266	279															
PHIS	QANDQT	REAL	ARRAY	254	267															
PI	RCNTRL	REAL	SIMPLE	173																
PI180	RCNTRL	REAL	SIMPLE	174																
PI2	RCNTRL	REAL	SIMPLE	175																
PIMEAN	RCNTRL	REAL	SIMPLE	177																
PKSTD	RDPARM	REAL	SIMPLE	238																
PKTOP	RDPARM	REAL	SIMPLE	239																
PLEVS	RCNTRL	REAL	ARRAY	191																
PSMAX	RCNTRL	REAL	SIMPLE	178																
PSTD	RCNTRL	REAL	SIMPLE	179																
PSTOP	RCNTRL	REAL	SIMPLE	176																
PZERO	RCNTRL	REAL	SIMPLE	180																
QALT	RCNTRL	REAL	SIMPLE	197																
QANDQT	LCNTRL	LOGICAL	SIMPLE	98	126															
QBEG	LCNTRL	LOGICAL	UNKNOWN	253	280															
QDAY	LCNTRL	LOGICAL	SIMPLE	99	127	283														
QEND	LCNTRL	LOGICAL	SIMPLE	100	128															
QOUT	LCNTRL	LOGICAL	SIMPLE	101	129															
QPHY	LCNTRL	LOGICAL	SIMPLE	102	130															
OPHY	LCNTRL	LOGICAL	SIMPLE	103	131															
QANDQT	QANDQT	REAL	ARRAY	253	257	268	269	270	271	272	273	274	275	276						
QRSH	LCNTRL	LOGICAL	SIMPLE	277	278	279	354	372												
QRSW	LCNTRL	LOGICAL	SIMPLE	107	135	354														
QSDIAG	QANDQT	REAL	ARRAY	106	134															
QSH	SPACE	HALF	ARRAY	280	282	285	388													
QSHEQ	QANDQT	HALF	ARRAY	290	291	305	365	386/S	389	408/W										
QSHF	LCNTRL	LOGICAL	SIMPLE	284	285	385														
QUDIAG	QANDQT	REAL	ARRAY	104	132															
QUH	SPACE	HALF	ARRAY	283	398															
RA	SPACE	HALF	ARRAY	292	293	373	399	415/W												
RADE	RCNTRL	REAL	ARRAY	300	301	327	355/W													
RC	RCNTRL	REAL	SIMPLE	181																
RCO	RCNTRL	REAL	ARRAY	198	199	326														
RCNTRL	RCNTRL	REAL	SIMPLE	156	198	199														
		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						

				178	179	180	181	182	183	184	185	186	187	188
				189	190	191	192	193	194	195	196	197		
RDPARM	REAL	UNKNOWN		217	218	219	220	221	222	223	224	225	226	227
				228	229	230	231	232	233	234	235	236	237	238
				239	240	241	242	243	244	245	246	247	248	249
				250	251	252								
RGAS	RCNTRL	REAL	SIMPLE	182										
RLAT	RDPARM	REAL	ARRAY	240										
RLATD	RDPARM	REAL	ARRAY	241										
ROCP	RCNTRL	REAL	SIMPLE	183										
ROCPDT	RDPARM	REAL	SIMPLE	242										
ROCPP1	RDPARM	REAL	SIMPLE	243										
RSDIST	RCNTRL	REAL	SIMPLE	184										
SDAY	RCNTRL	REAL	SIMPLE	185										
SEASON	RCNTRL	REAL	SIMPLE	186										
SGNP	RDPARM	REAL	ARRAY	244										
SH	QANDQT	REAL	ARRAY	265	278									
SHS	QANDQT	REAL	ARRAY	260	273									
SIG	RDPARM	REAL	ARRAY	251										
SIGE	RCNTRL	REAL	ARRAY	187										
SIND	RCNTRL	REAL	SIMPLE	188										
SINL	RDPARM	REAL	ARRAY	245										
SINLON	RDPARM	REAL	ARRAY	246										
SMTH	QANDQT	REAL	ARRAY	255	268									
SN2FLG	RCNTRL	LOGICAL	SIMPLE	105	133									
SOLS	RCNTRL	REAL	SIMPLE	189										
SPACE		REAL	UNKNOWN	290	292	294	296	298	300	302				
SPAXXX	SPACE	REAL	ARRAY	304	305									
START	LDPARM	LOGICAL	SIMPLE	213	216									
T	QANDQT	REAL	ARRAY	264	277									
TESTCH		CHARACTER	SIMPLE	309	337/S	338	338	339	345/S	346	346	347	360/S	361
				361	362	368/S	369	369	370					
THSTD	RDPARM	REAL	SIMPLE	247										
THSTD2	RDPARM	REAL	SIMPLE	248										
TS	QANDQT	REAL	ARRAY	259	272									
TSTD	RCNTRL	REAL	SIMPLE	190										
TWO		CHARACTER	SIMPLE	309	316/I	319	338	345	361	369				
TXSA		CHAR+8	ARRAY	308	324	341								
TXUA		CHAR+8	ARRAY	308	325	349								
U	QANDQT	REAL	ARRAY	262	275									
V	QANDQT	REAL	ARRAY	263	276									
VER	CCNTRL	CHAR+8	SIMPLE	10	23									
WSAVE	RDPARM	REAL	ARRAY	249										
XLABEL	CCNTRL	CHAR+8	ARRAY	11	24									
XORDS	CORDER	CHAR+8	ARRAY	286	287	310	324	322						
XORDSCH	CORDER	CHARACTER	ARRAY	309	310	337	360							
XORDU	CORDER	CHAR+8	ARRAY	286	287	310	325							
XORDUCH	CORDER	CHARACTER	ARRAY	309	310	345	368							
XSA	CORDER	CHAR+8	ARRAY	288	289	341/S	355/W							
XUA	CORDER	CHAR+8	ARRAY	288	289	349/S	355/W							

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST
ATOE		SUBROUTINE	322	324	325		
MINO	INTEGER	INTRINSIC	407	414			
Q9CI32		SUBROUTINE	327	365	373	389	399

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C .....
C SUBROUTINE CONSTA                                VCONSTA  2
C .....                                          VCONSTA  3
C PURPOSE                                         VCONSTA  4
C   SETS CONSTANTS AND PARAMETERS FOR THE MODEL PHYSICS WHICH DEPEND      VCONSTA  5
C   ON THE CURRENT MODEL TIME                                                    VCONSTA  6
C .....                                          VCONSTA  7
C USAGE                                           VCONSTA  8
C   CALLED FROM GWSGCM BEFORE EVERY CALL TO COMP3                               VCONSTA  9
C .....                                          VCONSTA 10
C DESCRIPTION OF PARAMETERS                       VCONSTA 11
C   NONE                                         VCONSTA 12
C .....                                          VCONSTA 13
C SUBPROGRAMS NEEDED                             VCONSTA 14
C   MODHMS                                       VCONSTA 15
C .....                                          VCONSTA 16
C RECORD OF MODIFICATIONS                        VCONSTA 17
C   ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?                       VCONSTA 18
C   08JUL83 JIM.PF          REORGANIZATION AND DOCUMENTATION                 VCONSTA 19
C .....                                          VCONSTA 20
C M / A - C O M S I G M A D A T A I N C .   N A S A   -   G S F C             VCONSTA 21
C .....                                          VCONSTA 22
C .....                                          VCONSTA 23
00001 SUBROUTINE CONSTA                                VCONSTA 24
C .....                                          VCONSTA 25
C .....                                          VCONSTA 26
C .....                                          VCONSTA 27
C .....                                          VCONSTA 28
C .....                                          VCONSTA 29
C .....                                          VCONSTA 30
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002 COMMON /CCNTRL/  CCO                                VCNTRL  2
00003 COMMON /CCNTRL/  ADATE                             VCNTRL  3
00004 COMMON /CCNTRL/  ATIME                             VCNTRL  4
00005 COMMON /CCNTRL/  JIC                               VCNTRL  5
00006 COMMON /CCNTRL/  JOB                               VCNTRL  6
00007 COMMON /CCNTRL/  CCSP06                           VCNTRL  7
00008 COMMON /CCNTRL/  CCSP07                           VCNTRL  8
00009 COMMON /CCNTRL/  CCSP08                           VCNTRL  9
00010 COMMON /CCNTRL/  VER                               VCNTRL 10
00011 COMMON /CCNTRL/  XLABEL (10)                      VCNTRL 11
00012 COMMON /CCNTRL/  CQS (30)                         VCNTRL 12
00013 COMMON /CCNTRL/  CQU (10)                         VCNTRL 13
C .....                                          VCNTRL 14
00014 EQUIVALENCE      (CC0,CC(1))                      VCNTRL 15
00015 CHARACTER*8      CC0, CC(200)                     VCNTRL 16
00016 CHARACTER*8      ADATE                             VCNTRL 17
00017 CHARACTER*8      ATIME                             VCNTRL 18
00018 CHARACTER*8      JIC                               VCNTRL 19
00019 CHARACTER*8      JOB                               VCNTRL 20
00020 CHARACTER*8      CCSP06                           VCNTRL 21
00021 CHARACTER*8      CCSP07                           VCNTRL 22
00022 CHARACTER*8      CCSP08                           VCNTRL 23
00023 CHARACTER*8      VER                               VCNTRL 24
00024 CHARACTER*8      XLABEL                           VCNTRL 25
00025 CHARACTER*8      CQS                              VCNTRL 26
00026 CHARACTER*8      CQU                              VCNTRL 27
C .....                                          VCNTRL 28
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00027 COMMON /ICNTRL/  ICO                                VCNTRL 29
00028 COMMON /ICNTRL/  IM                               VCNTRL 30
00029 COMMON /ICNTRL/  IMD2                             VCNTRL 31
00030 COMMON /ICNTRL/  IMD2P1                           VCNTRL 32
00031 COMMON /ICNTRL/  NDRSW                             VCNTRL 33
00032 COMMON /ICNTRL/  JMD                               VCNTRL 34
00033 COMMON /ICNTRL/  JMD2                             VCNTRL 35
00034 COMMON /ICNTRL/  JMT2                             VCNTRL 36
00035 COMMON /ICNTRL/  JNP                              VCNTRL 37
00036 COMMON /ICNTRL/  JO4                              VCNTRL 38

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5-3

00037	COMMON /ICNTRL/	JOB	VCNTRL	44
00038	COMMON /ICNTRL/	JSP	VCNTRL	45
00039	COMMON /ICNTRL/	KLIALB	VCNTRL	46
00040	COMMON /ICNTRL/	KLIGW	VCNTRL	47
00041	COMMON /ICNTRL/	KLISST	VCNTRL	48
00042	COMMON /ICNTRL/	KS	VCNTRL	49
00043	COMMON /ICNTRL/	KU	VCNTRL	50
00044	COMMON /ICNTRL/	LOGBR	VCNTRL	51
00045	COMMON /ICNTRL/	MATIN	VCNTRL	52
00046	COMMON /ICNTRL/	MATSNK	VCNTRL	53
00047	COMMON /ICNTRL/	MATSUN	VCNTRL	54
00048	COMMON /ICNTRL/	MLF (12)	VCNTRL	55
00049	COMMON /ICNTRL/	MROD	VCNTRL	56
00050	COMMON /ICNTRL/	NKRSH	VCNTRL	57
00051	COMMON /ICNTRL/	MSM	VCNTRL	58
00052	COMMON /ICNTRL/	NB	VCNTRL	59
00053	COMMON /ICNTRL/	ND	VCNTRL	60
00054	COMMON /ICNTRL/	NDALT	VCNTRL	61
00055	COMMON /ICNTRL/	NDAY	VCNTRL	62
00056	COMMON /ICNTRL/	NDOUT	VCNTRL	63
00057	COMMON /ICNTRL/	NDPHY	VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL	65
00059	COMMON /ICNTRL/	NDT	VCNTRL	66
00060	COMMON /ICNTRL/	NHMS	VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL	68
00062	COMMON /ICNTRL/	NHMS0	VCNTRL	69
00063	COMMON /ICNTRL/	NLAY	VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL	77
00071	COMMON /ICNTRL/	NYMD	VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL	85
C				
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	86
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	87
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	88
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	89
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	90
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	91
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	92
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	93
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL	94
00088	EQUIVALENCE	(ICLOUD .IQS(10))	VCNTRL	95
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	96
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	97
C				
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL	98
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL	99
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL	100
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL	101
C				
00095	EQUIVALENCE	(IC0,IC(1))	VCNTRL	102
00096	INTEGER	IC0, IC(200)	VCNTRL	103
C				
LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD				

C				
00097	COMMON /LCNTRL/	LC0	VCNTRL	104
00098	COMMON /LCNTRL/	QALT	VCNTRL	105
00099	COMMON /LCNTRL/	QBEG	VCNTRL	106
00100	COMMON /LCNTRL/	QDAY	VCNTRL	107
00101	COMMON /LCNTRL/	QEND	VCNTRL	108
			VCNTRL	109
			VCNTRL	110
			VCNTRL	111
			VCNTRL	112
			VCNTRL	113
			VCNTRL	114

00102	COMMON /LCNTRL/	QOUT		VCNTRL 115
00103	COMMON /LCNTRL/	QPHY		VCNTRL 116
00104	COMMON /LCNTRL/	QSHF		VCNTRL 117
00105	COMMON /LCNTRL/	SN2FLG		VCNTRL 118
00106	COMMON /LCNTRL/	QRSW		VCNTRL 119
00107	COMMON /LCNTRL/	QRSH		VCNTRL 120
00108	COMMON /LCNTRL/	LQS(30)		VCNTRL 121
00109	COMMON /LCNTRL/	LQU(10)		VCNTRL 122
	C			VCNTRL 123
00110	EQUIVALENCE	(LTMIN	.LQS(1))	VCNTRL 124
00111	EQUIVALENCE	(LTMAX	.LQS(2))	VCNTRL 125
00112	EQUIVALENCE	(LPREACC	.LQS(3))	VCNTRL 126
00113	EQUIVALENCE	(LPRECON	.LQS(4))	VCNTRL 127
00114	EQUIVALENCE	(LHFLUX	.LQS(5))	VCNTRL 128
00115	EQUIVALENCE	(LEFLUX	.LQS(6))	VCNTRL 129
00116	EQUIVALENCE	(LFUSION	.LQS(7))	VCNTRL 130
00117	EQUIVALENCE	(LRADSWG	.LQS(8))	VCNTRL 131
00118	EQUIVALENCE	(LRADLWG	.LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD	.LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX	.LQS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX	.LQS(12))	VCNTRL 135
	C			VCNTRL 136
00122	EQUIVALENCE	(LOMEGA	.LQU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT	.LQU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW	.LQU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW	.LQU(4))	VCNTRL 140
	C			VCNTRL 141
00126	LOGICAL	GALT		VCNTRL 142
00127	LOGICAL	QBEG		VCNTRL 143
00128	LOGICAL	QDAY		VCNTRL 144
00129	LOGICAL	QEND		VCNTRL 145
00130	LOGICAL	QOUT		VCNTRL 146
00131	LOGICAL	QPHY		VCNTRL 147
00132	LOGICAL	QSHF		VCNTRL 148
00133	LOGICAL	SN2FLG		VCNTRL 149
00134	LOGICAL	QRSW		VCNTRL 150
00135	LOGICAL	QRSH		VCNTRL 151
	C			VCNTRL 152
00136	LOGICAL	LQS		VCNTRL 153
00137	LOGICAL	LQU		VCNTRL 154
00138	LOGICAL	LTMIN		VCNTRL 155
00139	LOGICAL	LTMAX		VCNTRL 156
00140	LOGICAL	LPREACC		VCNTRL 157
00141	LOGICAL	LPRECON		VCNTRL 158
00142	LOGICAL	LHFLUX		VCNTRL 159
00143	LOGICAL	LEFLUX		VCNTRL 160
00144	LOGICAL	LFUSION		VCNTRL 161
00145	LOGICAL	LRADSWG		VCNTRL 162
00146	LOGICAL	LRADLWG		VCNTRL 163
00147	LOGICAL	LICLOUD		VCNTRL 164
00148	LOGICAL	LUFLUX		VCNTRL 165
00149	LOGICAL	LVFLUX		VCNTRL 166
	C			VCNTRL 167
00150	LOGICAL	LOMEGA		VCNTRL 168
00151	LOGICAL	LDIABAT		VCNTRL 169
00152	LOGICAL	LRADSW		VCNTRL 170
00153	LOGICAL	LRADLW		VCNTRL 171
	C			VCNTRL 172
00154	EQUIVALENCE	(LCO,LC(1))		VCNTRL 173
00155	LOGICAL	LCO, LC(200)		VCNTRL 174
	C			VCNTRL 175
	CC			VCNTRL 176
	CC			VCNTRL 177
	CC			VCNTRL 178
	CC			VCNTRL 179
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ORIGINAL PAGE IS
OF POOR QUALITY

00164	COMMON /RCNTRL/	DIST	VCNTRL 186
00165	COMMON /RCNTRL/	DLAT	VCNTRL 187
00166	COMMON /RCNTRL/	DLON	VCNTRL 188
00167	COMMON /RCNTRL/	DT	VCNTRL 189
00168	COMMON /RCNTRL/	ECCN	VCNTRL 190
00169	COMMON /RCNTRL/	GNU1	VCNTRL 191
00170	COMMON /RCNTRL/	GNU2	VCNTRL 192
00171	COMMON /RCNTRL/	GRAV	VCNTRL 193
00172	COMMON /RCNTRL/	OMEGA2	VCNTRL 194
00173	COMMON /RCNTRL/	PI	VCNTRL 195
00174	COMMON /RCNTRL/	PI180	VCNTRL 196
00175	COMMON /RCNTRL/	PI2	VCNTRL 197
00176	COMMON /RCNTRL/	PSTD	VCNTRL 198
00177	COMMON /RCNTRL/	PIMEAN	VCNTRL 199
00178	COMMON /RCNTRL/	PSMAX	VCNTRL 200
00179	COMMON /RCNTRL/	PSMIN	VCNTRL 201
00180	COMMON /RCNTRL/	PTOP	VCNTRL 202
00181	COMMON /RCNTRL/	RADE	VCNTRL 203
00182	COMMON /RCNTRL/	RGAS	VCNTRL 204
00183	COMMON /RCNTRL/	ROCP	VCNTRL 205
00184	COMMON /RCNTRL/	RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/	SDAY	VCNTRL 207
00186	COMMON /RCNTRL/	SEASON	VCNTRL 208
00187	COMMON /RCNTRL/	SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/	SIND	VCNTRL 210
00189	COMMON /RCNTRL/	SOLS	VCNTRL 211
00190	COMMON /RCNTRL/	TSTD	VCNTRL 212
00191	COMMON /RCNTRL/	PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/	HEATW	VCNTRL 214
00193	COMMON /RCNTRL/	HEATI	VCNTRL 215
00194	COMMON /RCNTRL/	EPS	VCNTRL 216
00195	COMMON /RCNTRL/	EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/	GALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/	PZERO	VCNTRL 219
	C	EQUIVALENCE (RC0,RC(1))	VCNTRL 220
00198		REAL RC0, RC(200)	VCNTRL 221
00199			VCNTRL 222
	C		VCNTRL 223
	C	INTEGER MODEL CONSTANTS	VCNTRL 224
	C	=====	VCNTRL 225
00200	COMMON /IDPARM/	IJUMP (46)	VCNTRL 226
00201	COMMON /IDPARM/	IDSP02	VCNTRL 227
00202	COMMON /IDPARM/	INDEX (72)	VCNTRL 228
00203	COMMON /IDPARM/	IROD	VCNTRL 229
00204	COMMON /IDPARM/	JC (46)	VCNTRL 230
00205	COMMON /IDPARM/	JE (2)	VCNTRL 231
00206	COMMON /IDPARM/	JP (2.2)	VCNTRL 232
00207	COMMON /IDPARM/	KSTEP	VCNTRL 233
00208	COMMON /IDPARM/	MJ (46)	VCNTRL 234
00209	COMMON /IDPARM/	NHMS1	VCNTRL 235
00210	COMMON /IDPARM/	NYMD1	VCNTRL 236
	C		VCNTRL 237
	C	LOGICAL MODEL CONSTANTS	VCNTRL 238
	C	=====	VCNTRL 239
00211	COMMON /LDPARM/	FILTER (46)	VCNTRL 240
00212	COMMON /LDPARM/	ITAPE	VCNTRL 241
00213	COMMON /LDPARM/	START	VCNTRL 242
	C		VCNTRL 243
00214	LOGICAL	FILTER	VCNTRL 244
00215	LOGICAL	ITAPE	VCNTRL 245
00216	LOGICAL	START	VCNTRL 246
	C		VCNTRL 247
	C	REAL MODEL CONSTANTS	VCNTRL 248
	C	=====	VCNTRL 249
00217	COMMON /RDPARM/	ADLDP	VCNTRL 250
00218	COMMON /RDPARM/	CON1	VCNTRL 251
00219	COMMON /RDPARM/	CON1DT	VCNTRL 252
00220	COMMON /RDPARM/	CON2	VCNTRL 253
00221	COMMON /RDPARM/	CON2DT	VCNTRL 254
00222	COMMON /RDPARM/	CON3	VCNTRL 255
00223	COMMON /RDPARM/	CON3DT	VCNTRL 256

ORIGINAL PAGE IS
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00224 COMMON /RDPARM/ CON4
 00225 COMMON /RDPARM/ CON4DT
 00226 COMMON /RDPARM/ CON5
 00227 COMMON /RDPARM/ COSL (46)
 00228 COMMON /RDPARM/ COSLON (72)
 00229 COMMON /RDPARM/ CPD2
 00230 COMMON /RDPARM/ DXP (46)
 00231 COMMON /RDPARM/ DXP (46)
 00232 COMMON /RDPARM/ DYP (46)
 00233 COMMON /RDPARM/ FCORLS (46)
 00234 COMMON /RDPARM/ F1DT
 00235 COMMON /RDPARM/ F2DT
 00236 COMMON /RDPARM/ H1DT
 00237 COMMON /RDPARM/ H2DT
 00238 COMMON /RDPARM/ PKSTD
 00239 COMMON /RDPARM/ PKTOP
 00240 COMMON /RDPARM/ RLAT (46)
 00241 COMMON /RDPARM/ RLATD (46)
 00242 COMMON /RDPARM/ ROCPD
 00243 COMMON /RDPARM/ ROCPD1
 00244 COMMON /RDPARM/ SGNP (2)
 00245 COMMON /RDPARM/ SINL (46)
 00246 COMMON /RDPARM/ SINLON (72)
 00247 COMMON /RDPARM/ THSTD
 00248 COMMON /RDPARM/ THSTD2
 00249 COMMON /RDPARM/ WSAVE (159)
 00250 COMMON /RDPARM/ DSIG (9)
 00251 COMMON /RDPARM/ SIG (9)
 00252 COMMON /RDPARM/ DSIGINV (9)

C * * *
 C PHYSICS PARAMETERS AND CONSTANTS

00253 COMMON /CNTRLP/ CDFR
 00254 COMMON /CNTRLP/ CDXL
 00255 COMMON /CNTRLP/ CDXO
 00256 COMMON /CNTRLP/ CLH
 00257 COMMON /CNTRLP/ COE (9)
 00258 COMMON /CNTRLP/ COEF
 00259 COMMON /CNTRLP/ COEFS
 00260 COMMON /CNTRLP/ COSROT
 00261 COMMON /CNTRLP/ CPP
 00262 COMMON /CNTRLP/ CTID
 00263 COMMON /CNTRLP/ CUMDAY
 00264 COMMON /CNTRLP/ CUMRAT
 00265 COMMON /CNTRLP/ C10
 00266 COMMON /CNTRLP/ C100
 00267 COMMON /CNTRLP/ C40
 00268 COMMON /CNTRLP/ DELTA
 00269 COMMON /CNTRLP/ DTC3
 00270 COMMON /CNTRLP/ DTOUT
 00271 COMMON /CNTRLP/ ED
 00272 COMMON /CNTRLP/ EDNM
 00273 COMMON /CNTRLP/ FCOEF
 00274 COMMON /CNTRLP/ FMU
 00275 COMMON /CNTRLP/ FWET
 00276 COMMON /CNTRLP/ GAMFAC
 00277 COMMON /CNTRLP/ GTOPO
 00278 COMMON /CNTRLP/ HICE
 00279 COMMON /CNTRLP/ NDTL3
 00280 COMMON /CNTRLP/ NFLW
 00281 COMMON /CNTRLP/ PIM
 00282 COMMON /CNTRLP/ QHOG
 00283 COMMON /CNTRLP/ SHLTOP
 00284 COMMON /CNTRLP/ SINROT
 00285 COMMON /CNTRLP/ SNOWN
 00286 COMMON /CNTRLP/ SNOWS
 00287 COMMON /CNTRLP/ STBO
 00288 COMMON /CNTRLP/ STERP1
 00289 COMMON /CNTRLP/ STERP2
 00290 COMMON /CNTRLP/ TICE
 00291 COMMON /CNTRLP/ TLTOP

VCNTRL 257
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 VCNTRLP 42

ORIGINAL PAGE IS
 OF POOR QUALITY

IMD2P1	ICNTRL	INTEGER	SIMPLE	30															
INDEX	IDPARM	INTEGER	ARRAY	202															
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91															
IPREACC	ICNTRL	INTEGER	UNKNOWN	81															
IPRECON	ICNTRL	INTEGER	UNKNOWN	82															
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88					
IQU	ICNTRL	INTEGER	ARRAY	78	90														
IRADLW	ICNTRL	INTEGER	UNKNOWN	79	91	92	93	94											
IRADLWG	ICNTRL	INTEGER	UNKNOWN	94															
IRADSW	ICNTRL	INTEGER	UNKNOWN	87															
IRADSWG	ICNTRL	INTEGER	UNKNOWN	93															
IROD	ICNTRL	INTEGER	UNKNOWN	86															
IROP	IDPARM	INTEGER	SIMPLE	203															
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215														
ITMAX	ICNTRL	INTEGER	UNKNOWN	80															
ITMIN	ICNTRL	INTEGER	UNKNOWN	79															
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89															
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90															
JC	IDPARM	INTEGER	ARRAY	204															
JE	IDPARM	INTEGER	ARRAY	205															
JIC	CCNTRL	CHAR*8	SIMPLE	5	18														
JM	ICNTRL	INTEGER	SIMPLE	32															
JMD2	ICNTRL	INTEGER	SIMPLE	33															
JMT2	ICNTRL	INTEGER	SIMPLE	34															
JNP	ICNTRL	INTEGER	SIMPLE	35															
JO4	ICNTRL	INTEGER	SIMPLE	36															
JOB	ICNTRL	INTEGER	SIMPLE	37															
JOB	CCNTRL	CHAR*8	SIMPLE	6	19														
JP	IDPARM	INTEGER	ARRAY	206															
JSP	ICNTRL	INTEGER	SIMPLE	38															
KLIALB	ICNTRL	INTEGER	SIMPLE	39															
KLIGW	ICNTRL	INTEGER	SIMPLE	40															
KLISST	ICNTRL	INTEGER	SIMPLE	41															
KS	ICNTRL	INTEGER	SIMPLE	42															
KSTEP	IDPARM	INTEGER	SIMPLE	207															
KU	ICNTRL	INTEGER	SIMPLE	43															
LC	LCNTRL	LOGICAL	ARRAY	154	155														
LCO	LCNTRL	LOGICAL	SIMPLE	97	154	155													
LCNTRL	ICNTRL	INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107					
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109														
LDPARM		INTEGER	UNKNOWN	123	151														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213													
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144														
LIICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142														
LOGBR	ICNTRL	INTEGER	UNKNOWN	119	147														
LOGBR	ICNTRL	INTEGER	SIMPLE	44															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141														
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119					
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136													
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137										
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	125	153														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	124	152														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	117	145														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	111	139														
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138														
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148														
MATIN	ICNTRL	INTEGER	UNKNOWN	121	149														
MATSNX	ICNTRL	INTEGER	SIMPLE	45															
MATSNX	ICNTRL	INTEGER	SIMPLE	46															
MATSUN	ICNTRL	INTEGER	SIMPLE	47															
MJ	IDPARM	INTEGER	ARRAY	208															
MLF	ICNTRL	INTEGER	ARRAY	48															
MROD	ICNTRL	INTEGER	SIMPLE	49															
MSM	ICNTRL	INTEGER	SIMPLE	51															
NB	ICNTRL	INTEGER	SIMPLE	52															

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ND	ICNTRL	INTEGER	SIMPLE	53																
NDALT	ICNTRL	INTEGER	SIMPLE	54																
NDAY	ICNTRL	INTEGER	SIMPLE	55	300	303														
NDHOG	ICNTRL	INTEGER	SIMPLE	76	296	296														
NDOUT	ICNTRL	INTEGER	SIMPLE	86																
NDPHY	ICNTRL	INTEGER	SIMPLE	57																
NDRSW	ICNTRL	INTEGER	SIMPLE	31																
NDSHF	ICNTRL	INTEGER	SIMPLE	58																
NDT	ICNTRL	INTEGER	SIMPLE	59																
NDTC3	CNTRLP	INTEGER	SIMPLE	279	296															
NFLW	CNTRLP	INTEGER	SIMPLE	280																
NHMS	ICNTRL	INTEGER	SIMPLE	60	296															
NHMS0	ICNTRL	INTEGER	SIMPLE	62																
NHMS1	IDPARM	INTEGER	SIMPLE	209																
NHMSE	ICNTRL	INTEGER	SIMPLE	61																
NKRSH	ICNTRL	INTEGER	SIMPLE	50																
NLAY	ICNTRL	INTEGER	SIMPLE	63																
NLAVM1	ICNTRL	INTEGER	SIMPLE	64																
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																
NMLEV	ICNTRL	INTEGER	SIMPLE	75																
NSDAY	ICNTRL	INTEGER	SIMPLE	66	297															
NSEQ	ICNTRL	INTEGER	SIMPLE	67																
NSTEP	ICNTRL	INTEGER	SIMPLE	69																
NYMD	ICNTRL	INTEGER	SIMPLE	71																
NYMD0	ICNTRL	INTEGER	SIMPLE	73																
NYMD1	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																
OMEGA2	RCNTRL	REAL	SIMPLE	172																
PI	RCNTRL	REAL	SIMPLE	173	300	301	302													
PI180	RCNTRL	REAL	SIMPLE	174	300															
PI2	RCNTRL	REAL	SIMPLE	175	297															
PIM	CNTRLP	REAL	SIMPLE	281																
PIMEAN	RCNTRL	REAL	SIMPLE	177																
PKSTD	RDPARM	REAL	SIMPLE	238																
PKTOP	RDPARM	REAL	SIMPLE	239																
PLEVS	RCNTRL	REAL	ARRAY	191																
PSMAX	RCNTRL	REAL	SIMPLE	178																
PSMIN	RCNTRL	REAL	SIMPLE	179																
PSTD	RCNTRL	REAL	SIMPLE	176																
PTOP	RCNTRL	REAL	SIMPLE	180																
PZERO	RCNTRL	REAL	SIMPLE	197																
QALT	LCNTRL	LOGICAL	SIMPLE	98	126															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127															
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128															
QEND	LCNTRL	LOGICAL	SIMPLE	101	129															
QHOG	CNTRLP	LOGICAL	SIMPLE	282	294	296/S														
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130															
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135															
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134															
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132															
RADE	RCNTRL	REAL	SIMPLE	181																
RC	RCNTRL	REAL	ARRAY	198	199															
RC0	RCNTRL	REAL	SIMPLE	156	198	199														
RCNTRL	RCNTRL	REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						
				178	179	180	181	182	183	184	185	186	187	188						
				189	190	191	192	193	194	195	196	197								
RDPARM	REAL	UNKNOWN		217	218	219	220	221	222	223	224	225	226	227						
				228	229	230	231	232	233	234	235	236	237	238						
				239	240	241	242	243	244	245	246	247	248	249						
				250	251	252														
RGAS	RCNTRL	REAL	SIMPLE	182																
RLAT	RDPARM	REAL	ARRAY	240																
RLATD	RDPARM	REAL	ARRAY	241																
ROCP	RCNTRL	REAL	SIMPLE	183																
ROCPDT	RDPARM	REAL	SIMPLE	242																
ROCPP	RDPARM	REAL	SIMPLE	243																
ROT	REAL	SIMPLE		297/S	298	299														

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RSDIST	RCNTRL	REAL	SIMPLE	184		
SDAY	RCNTRL	REAL	SIMPLE	185	297	
SEASON	RCNTRL	REAL	SIMPLE	186		
SGNP	RDPARM	REAL	ARRAY	244		
SHLTOP	CNTRLP	REAL	SIMPLE	283		
SIG	RDPARM	REAL	ARRAY	251		
SIGE	RCNTRL	REAL	ARRAY	187		
SIND	RCNTRL	REAL	SIMPLE	188		
SINL	RDPARM	REAL	ARRAY	245		
SINLON	RDPARM	REAL	ARRAY	246		
SINROT	CNTRLP	REAL	SIMPLE	284	299/S	
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133	
SNODEC		REAL	SIMPLE	300/S	301	302
SNOWN	CNTRLP	REAL	SIMPLE	285	301/S	
SNOWS	CNTRLP	REAL	SIMPLE	286	302/S	
SOLS	RCNTRL	REAL	SIMPLE	189		
START	LDPARM	LOGICAL	SIMPLE	213	216	
STBO	CNTRLP	REAL	SIMPLE	287		
STERP1	CNTRLP	REAL	SIMPLE	288		
STERP2	CNTRLP	REAL	SIMPLE	289		
THSTD	RDPARM	REAL	SIMPLE	247		
THSTD2	RDPARM	REAL	SIMPLE	248		
TICE	CNTRLP	REAL	SIMPLE	290		
TLTOP	CNTRLP	REAL	SIMPLE	291		
TSTD	RCNTRL	REAL	SIMPLE	190		
VER	CCNTRL	CHAR*8	SIMPLE	10	23	
WSAVE	RDPARM	REAL	ARRAY	249		
XDAY	CNTRLP	REAL	SIMPLE	292	303/S	
.LABEL	CCNTRL	CHAR*8	ARRAY	11	24	
ZLNCO	CNTRLP	REAL	SIMPLE	293		

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
COS	REAL	INTRINSIC	298	
FLOAT	REAL	INTRINSIC	303	300
MODHMS	INTEGER	FUNCTION	296	
SIN	REAL	INTRINSIC	299	

00001

SUBROUTINE COPYQ (N1, N2, J)

VCOPYQ 2

UTILITY SUBROUTINE TO COPY 4TH-ORDER MODEL VALUES

VCOPYQ 3

ARGUMENTS

DESCRIPTION

VCOPYQ 4

N1 TIME STEP POINTER TO WHICH TO COPY VALUES
N2 TIME STEP POINTER FROM WHICH TO COPY VALUES
J LATITUDE GRID BAND

VCOPYQ 5

VCOPYQ 6

VCOPYQ 7

VCOPYQ 8

VCOPYQ 9

VCOPYQ 10

VCNTRL 2

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

VCNTRL 3

VCNTRL 4

00002

COMMON /CCNTRL/ CC0

VCNTRL 5

00003

COMMON /CCNTRL/ ADATE

VCNTRL 6

00004

COMMON /CCNTRL/ ATIME

VCNTRL 7

00005

COMMON /CCNTRL/ JIC

VCNTRL 8

00006

COMMON /CCNTRL/ JOB

VCNTRL 9

00007

COMMON /CCNTRL/ CCSP06

VCNTRL 10

00008

COMMON /CCNTRL/ CCSP07

VCNTRL 11

00009

COMMON /CCNTRL/ CCSP08

VCNTRL 12

00010

COMMON /CCNTRL/ VER

VCNTRL 13

00011

COMMON /CCNTRL/ XLABEL (10)

VCNTRL 14

00012

COMMON /CCNTRL/ CQS (30)

VCNTRL 15

00013

COMMON /CCNTRL/ CQU (10)

VCNTRL 16

C

VCNTRL 17

00014

EQUIVALENCE (CC0,CC(1))

VCNTRL 18

00015

CHARACTER*B CC0, CC(200)

VCNTRL 19

00016

CHARACTER*B ADATE

VCNTRL 20

00017

CHARACTER*B ATIME

VCNTRL 21

00018

CHARACTER*B JIC

VCNTRL 22

00019

CHARACTER*B JOB

VCNTRL 23

00020

CHARACTER*B CCSP06

VCNTRL 24

00021

CHARACTER*B CCSP07

VCNTRL 25

00022

CHARACTER*B CCSP08

VCNTRL 26

00023

CHARACTER*B VER

VCNTRL 27

00024

CHARACTER*B XLABEL

VCNTRL 28

00025

CHARACTER*B CQS

VCNTRL 29

00026

CHARACTER*B CQU

VCNTRL 30

C

VCNTRL 31

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

VCNTRL 32

VCNTRL 33

00027

COMMON /ICNTRL/ IC0

VCNTRL 34

00028

COMMON /ICNTRL/ IM

VCNTRL 35

00029

COMMON /ICNTRL/ IMD2

VCNTRL 36

00030

COMMON /ICNTRL/ IMD2P1

VCNTRL 37

00031

COMMON /ICNTRL/ NDRSW

VCNTRL 38

00032

COMMON /ICNTRL/ JM

VCNTRL 39

00033

COMMON /ICNTRL/ JMD2

VCNTRL 40

00034

COMMON /ICNTRL/ JMT2

VCNTRL 41

00035

COMMON /ICNTRL/ JNP

VCNTRL 42

00036

COMMON /ICNTRL/ JO4

VCNTRL 43

00037

COMMON /ICNTRL/ JO8

VCNTRL 44

00038

COMMON /ICNTRL/ JSP

VCNTRL 45

00039

COMMON /ICNTRL/ KLIALB

VCNTRL 46

00040

COMMON /ICNTRL/ KLIGW

VCNTRL 47

00041

COMMON /ICNTRL/ KLISST

VCNTRL 48

00042

COMMON /ICNTRL/ KS

VCNTRL 49

00043

COMMON /ICNTRL/ KU

VCNTRL 50

00044

COMMON /ICNTRL/ LOGBR

VCNTRL 51

00045

COMMON /ICNTRL/ MATIN

VCNTRL 52

00046

COMMON /ICNTRL/ MATSNX

VCNTRL 53

00047

COMMON /ICNTRL/ MATSUN

VCNTRL 54

00048

COMMON /ICNTRL/ MLF (12)

VCNTRL 55

00049

COMMON /ICNTRL/ MROD

VCNTRL 56

00050

COMMON /ICNTRL/ NKRSR

VCNTRL 57

00051

COMMON /ICNTRL/ MSM

VCNTRL 58

00052

COMMON /ICNTRL/ NB

VCNTRL 59

00053

COMMON /ICNTRL/ ND

VCNTRL 60

00054

COMMON /ICNTRL/ NDALT

VCNTRL 61

00055

COMMON /ICNTRL/ NDAY

VCNTRL 62

00056

COMMON /ICNTRL/ NDOUT

VCNTRL 63

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COPYQ 1

00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (ICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (IC0,IC(1))	VCNTRL 105
00096	INTEGER IC0, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C	VCNTRL 108
	C	VCNTRL 109
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	C	VCNTRL 134
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QDUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSW	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
	C	VCNTRL 123
00110	EQUIVALENCE (LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE (LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE (LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE (LRADSWG .LQS(8))	VCNTRL 131
00118	EQUIVALENCE (LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE (LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE (LUFLUX .LQS(11))	VCNTRL 134

00121	C	EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 135
00122		EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 136
00123		EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 137
00124		EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 138
00125		EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 139
00126	C	LOGICAL	QALT	VCNTRL 140
00127		LOGICAL	QBEG	VCNTRL 141
00128		LOGICAL	QDAY	VCNTRL 142
00129		LOGICAL	QEND	VCNTRL 143
00130		LOGICAL	QOUT	VCNTRL 144
00131		LOGICAL	QPHY	VCNTRL 145
00132		LOGICAL	QSHF	VCNTRL 146
00133		LOGICAL	SN2FLG	VCNTRL 147
00134		LOGICAL	QRSW	VCNTRL 148
00135		LOGICAL	QRSH	VCNTRL 149
00136	C	LOGICAL	LQS	VCNTRL 150
00137		LOGICAL	LQU	VCNTRL 151
00138		LOGICAL	LTMIN	VCNTRL 152
00139		LOGICAL	LTMAX	VCNTRL 153
00140		LOGICAL	LPREACC	VCNTRL 154
00141		LOGICAL	LPRECON	VCNTRL 155
00142		LOGICAL	LHFLUX	VCNTRL 156
00143		LOGICAL	LEFLUX	VCNTRL 157
00144		LOGICAL	LFUSION	VCNTRL 158
00145		LOGICAL	LRADSWG	VCNTRL 159
00146		LOGICAL	LRADLWG	VCNTRL 160
00147		LOGICAL	LICLOUD	VCNTRL 161
00148		LOGICAL	LUFLOW	VCNTRL 162
00149		LOGICAL	LVFLUX	VCNTRL 163
00150	C	LOGICAL	LOMEGA	VCNTRL 164
00151		LOGICAL	LDIABAT	VCNTRL 165
00152		LOGICAL	LRADSW	VCNTRL 166
00153		LOGICAL	LRADLW	VCNTRL 167
00154	C	EQUIVALENCE	(LCO,LC(1))	VCNTRL 168
00155		LOGICAL	LCO, LC(200)	VCNTRL 169
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 170
	C	-----		VCNTRL 171
00156		COMMON	/RCNTRL/ RCO	VCNTRL 172
00157		COMMON	/RCNTRL/ APHEL	VCNTRL 173
00158		COMMON	/RCNTRL/ BETA	VCNTRL 174
00159		COMMON	/RCNTRL/ COSD	VCNTRL 175
00160		COMMON	/RCNTRL/ CP	VCNTRL 176
00161		COMMON	/RCNTRL/ DAYSPY	VCNTRL 177
00162		COMMON	/RCNTRL/ DEC	VCNTRL 178
00163		COMMON	/RCNTRL/ DECMAX	VCNTRL 179
00164		COMMON	/RCNTRL/ DIST	VCNTRL 180
00165		COMMON	/RCNTRL/ DLAT	VCNTRL 181
00166		COMMON	/RCNTRL/ DLON	VCNTRL 182
00167		COMMON	/RCNTRL/ DT	VCNTRL 183
00168		COMMON	/RCNTRL/ ECCN	VCNTRL 184
00169		COMMON	/RCNTRL/ GNU1	VCNTRL 185
00170		COMMON	/RCNTRL/ GNU2	VCNTRL 186
00171		COMMON	/RCNTRL/ GRAV	VCNTRL 187
00172		COMMON	/RCNTRL/ OMEGA2	VCNTRL 188
00173		COMMON	/RCNTRL/ PI	VCNTRL 189
00174		COMMON	/RCNTRL/ PI 180	VCNTRL 190
00175		COMMON	/RCNTRL/ PI2	VCNTRL 191
00176		COMMON	/RCNTRL/ PSTD	VCNTRL 192
00177		COMMON	/RCNTRL/ PIMEAN	VCNTRL 193
00178		COMMON	/RCNTRL/ PSMAX	VCNTRL 194
00179		COMMON	/RCNTRL/ PSMIN	VCNTRL 195
00180		COMMON	/RCNTRL/ PTOP	VCNTRL 196
00181		COMMON	/RCNTRL/ RADE	VCNTRL 197
00182		COMMON	/RCNTRL/ RGAS	VCNTRL 198
00183		COMMON	/RCNTRL/ ROCP	VCNTRL 199
				VCNTRL 200
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				VCNTRL 204
				VCNTRL 205

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00184 COMMON /RCNTRL/ RSDIST
00185 COMMON /RCNTRL/ SDAY
00186 COMMON /RCNTRL/ SEASON
00187 COMMON /RCNTRL/ SIGE (25)
00188 COMMON /RCNTRL/ SIND
00189 COMMON /RCNTRL/ SOLS
00190 COMMON /RCNTRL/ TSTD
00191 COMMON /RCNTRL/ PLEVS (25)
00192 COMMON /RCNTRL/ HEATW
00193 COMMON /RCNTRL/ HEATI
00194 COMMON /RCNTRL/ EPS
00195 COMMON /RCNTRL/ EPSFAC
00196 COMMON /RCNTRL/ CALTOJ
00197 COMMON /RCNTRL/ PZERO

C
00198 EQUIVALENC (RCO,RC(1))
00199 REAL RCO, RC(200)

C
C C INTEGER MODEL CONSTANTS
C C =====
00200 COMMON /IDPARM/ IJUMP (46)
00201 COMMON /IDPARM/ IDSP02
00202 COMMON /IDPARM/ INDEX (72)
00203 COMMON /IDPARM/ IROD
00204 COMMON /IDPARM/ JC (46)
00205 COMMON /IDPARM/ JE (2)
00206 COMMON /IDPARM/ JP (2,2)
00207 COMMON /IDPARM/ KSTEP
00208 COMMON /IDPARM/ MJ (46)
00209 COMMON /IDPARM/ NHMS1
00210 COMMON /IDPARM/ NYMD1

C
C C LOGICAL MODEL CONSTANTS
C C =====
00211 COMMON /LDPARM/ FILTER (46)
00212 COMMON /LDPARM/ ITAPE
00213 COMMON /LDPARM/ START

C
C LOGICAL FILTER
C LOGICAL ITAPE
C LOGICAL START

C
C C REAL MODEL CONSTANTS
C C =====
00217 COMMON /RDPARM/ ADLDP
00218 COMMON /RDPARM/ CON1
00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CON5
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLDN (72)
00229 COMMON /RDPARM/ GPD2
00230 COMMON /RDPARM/ DXP (46)
00231 COMMON /RDPARM/ DXYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROC PDT
00243 COMMON /RDPARM/ ROC PP1

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VCNTRL 206
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VCNTRL 276

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00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

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VCNTRL 277
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VCANDQT 2
VCANDQT 3
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VQPOLES 2
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VQPOLES 5
VQPOLES 6
VQPOLES 7
VQPOLES 8

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C
C *****
C COMDECK VQANDQT RESOLUTION VALUES
C *****
C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23

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C *****
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C *****
00253 C COMMON /QANDQT/ QPROG(72,9,11,46)
00254 C DIMENSION PHIS (7128,1)
00255 C DIMENSION SMTH (7128,23)
00256 C DIMENSION ALBEDO (7128,1)
00257 C DIMENSION GT (7128,1)
00258 C DIMENSION GW (7128,1)
00259 C DIMENSION TS (7128,1)
00260 C DIMENSION SHS (7128,1)
00261 C DIMENSION P (72,99,1)
00262 C DIMENSION U (72,9,11,1)
00263 C DIMENSION V (72,9,11,1)
00264 C DIMENSION T (72,9,11,1)
00265 C DIMENSION SH (72,9,11,1)
00266 C DIMENSION PHI (72,9,11,1)
00267 C EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 C EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 C EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 C EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 C EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 C EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 C EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 C EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))
00275 C EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
00276 C EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
00277 C EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))
00278 C EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
00279 C EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))

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C *****
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C *****

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00280 C COMMON /QANDQT/ QSDIAG(72,15,46)
00281 C DIMENSION IQSDIAG(72,15,46)
00282 C EQUIVALENCE (QSDIAG,IQSDIAG)
00283 C COMMON /QANDQT/ QUDIAG(72,9,5,46)
C * * *
C *****
C POLAR MODEL PROGNOSTIC FIELDS
00284 C COMMON /QPOLES/ PP(2,2)
00285 C COMMON /QPOLES/ UP(9,2,2)
00286 C COMMON /QPOLES/ VP(9,2,2)
00287 C COMMON /QPOLES/ TP(9,2,2)
00288 C COMMON /QPOLES/ SHP(9,2,2)

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CP	RCNTRL	REAL	SIMPLE	160																	
CPD2	RD Parm	REAL	SIMPLE	229																	
CQS	CCNTRL	CHAR*8	ARRAY	12	25																
CQU	CCNTRL	CHAR*8	ARRAY	13	26																
DAYSPY	RCNTRL	REAL	SIMPLE	161																	
DEC	RCNTRL	REAL	SIMPLE	162																	
DECMAX	RCNTRL	REAL	SIMPLE	163																	
DIST	RCNTRL	REAL	SIMPLE	164																	
DLAT	RCNTRL	REAL	SIMPLE	165																	
DLON	RCNTRL	REAL	SIMPLE	166																	
DSIG	RD Parm	REAL	ARRAY	250																	
DSIGINV	RD Parm	REAL	ARRAY	252																	
DT	RCNTRL	REAL	SIMPLE	167																	
DXP	RD Parm	REAL	ARRAY	230																	
DXYP	RD Parm	REAL	ARRAY	231																	
DYP	RD Parm	REAL	ARRAY	232																	
ECCN	RCNTRL	REAL	SIMPLE	168																	
EPS	RCNTRL	REAL	SIMPLE	194																	
EPSFAC	RCNTRL	REAL	SIMPLE	195																	
F1DT	RD Parm	REAL	SIMPLE	234																	
F2DT	RD Parm	REAL	SIMPLE	235																	
FCORLS	RD Parm	REAL	ARRAY	233																	
FILTER	LD Parm	LOGICAL	ARRAY	211	214																
GNU1	RCNTRL	REAL	SIMPLE	169																	
GNU2	RCNTRL	REAL	SIMPLE	170																	
GRAV	RCNTRL	REAL	SIMPLE	171																	
GT	QANDQT	REAL	ARRAY	267	270																
GW	QANDQT	REAL	ARRAY	258	271																
H1DT	RD Parm	REAL	SIMPLE	236																	
H2DT	RD Parm	REAL	SIMPLE	237																	
HEATI	RCNTRL	REAL	SIMPLE	193																	
HEATW	RCNTRL	REAL	SIMPLE	192																	
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																	
IC	ICNTRL	INTEGER	ARRAY	95	96																
IC0	ICNTRL	INTEGER	SIMPLE	27	95	96															
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37							
				38	39	40	41	42	43	44	45	46	47	48							
				49	50	51	52	53	54	55	56	57	58	59							
				60	61	62	63	64	65	66	67	68	69	70							
				71	72	73	74	75	76	77	78										
ICSP53	ICNTRL	INTEGER	SIMPLE	68																	
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																	
ID Parm		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210							
IDSP02	ID Parm	INTEGER	SIMPLE	201																	
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																	
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																	
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																	
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																	
IJUMP	ID Parm	INTEGER	ARRAY	200																	
IM	ICNTRL	INTEGER	SIMPLE	28	302	302															
IMD2	ICNTRL	INTEGER	SIMPLE	29																	
IMD2M1	IMJM	INTEGER	SIMPLE	290																	
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																	
IMJM		INTEGER	UNKNOWN	290																	
IMM1	IMJM	INTEGER	SIMPLE	290																	
IMM2	IMJM	INTEGER	SIMPLE	290																	
IMM3	IMJM	INTEGER	SIMPLE	290																	
IMM4	IMJM	INTEGER	SIMPLE	290																	
IMM5	IMJM	INTEGER	SIMPLE	290																	
IMNLAY	IMJM	INTEGER	SIMPLE	290	303	303	304	304	305	305	306	306									
IMNLAY1	IMJM	INTEGER	SIMPLE	290																	
IMNLAY2	IMJM	INTEGER	SIMPLE	290																	
IMNLAY3	IMJM	INTEGER	SIMPLE	290																	
IMNLAY4	IMJM	INTEGER	SIMPLE	290																	
IMNLAY5	IMJM	INTEGER	SIMPLE	290																	
IMT2	IMJM	INTEGER	SIMPLE	290																	
IMT4	IMJM	INTEGER	SIMPLE	290																	
INDEX	ID Parm	INTEGER	ARRAY	202																	
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91																	
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																	

MSM	ICNTRL	INTEGER	SIMPLE	51																	
N1		INTEGER	SIMPLE	1	294	296	297	298	299	302	303	304	305	306							
N2		INTEGER	SIMPLE	1	294	296	297	298	299	302	303	304	305	306							
NB	ICNTRL	INTEGER	SIMPLE	52																	
ND	ICNTRL	INTEGER	SIMPLE	53																	
NDALT	ICNTRL	INTEGER	SIMPLE	54																	
NDAY	ICNTRL	INTEGER	SIMPLE	55																	
NDHOG	ICNTRL	INTEGER	SIMPLE	76																	
NDOUT	ICNTRL	INTEGER	SIMPLE	56																	
NDPHY	ICNTRL	INTEGER	SIMPLE	57																	
NDRSW	ICNTRL	INTEGER	SIMPLE	31																	
NDSHF	ICNTRL	INTEGER	SIMPLE	58																	
NDT	ICNTRL	INTEGER	SIMPLE	59																	
NHMS	ICNTRL	INTEGER	SIMPLE	61																	
NHMS0	ICNTRL	INTEGER	SIMPLE	62																	
NHMS1	IDPARM	INTEGER	SIMPLE	209																	
NHMS2	ICNTRL	INTEGER	SIMPLE	61																	
NKRSH	ICNTRL	INTEGER	SIMPLE	50																	
NLAY	ICNTRL	INTEGER	SIMPLE	63	295																
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																	
NLAYT2	IMJM	INTEGER	SIMPLE	290																	
NLAYT3	IMJM	INTEGER	SIMPLE	290																	
NLAYT4	IMJM	INTEGER	SIMPLE	290																	
NLAYT5	IMJM	INTEGER	SIMPLE	290																	
NLAYT6	IMJM	INTEGER	SIMPLE	290																	
NLAYT7	IMJM	INTEGER	SIMPLE	290																	
NMLEV	ICNTRL	INTEGER	SIMPLE	75																	
NSDAY	ICNTRL	INTEGER	SIMPLE	66																	
NSEQ	ICNTRL	INTEGER	SIMPLE	67																	
NSTEP	ICNTRL	INTEGER	SIMPLE	69																	
NYMD	ICNTRL	INTEGER	SIMPLE	71																	
NYMD0	ICNTRL	INTEGER	SIMPLE	73																	
NYMD1	IDPARM	INTEGER	SIMPLE	210																	
NYMDE	ICNTRL	INTEGER	SIMPLE	72																	
NZINIT	ICNTRL	INTEGER	SIMPLE	74																	
OMEGA2	RCNTRL	REAL	SIMPLE	172																	
P	QANDQT	REAL	ARRAY	261	274	302/S	302														
PHI	QANDQT	REAL	ARRAY	266	279																
PHIP	QPOLES	REAL	ARRAY	289																	
PHIS	QANDQT	REAL	ARRAY	254	267																
PI	RCNTRL	REAL	SIMPLE	173																	
PI180	RCNTRL	REAL	SIMPLE	174																	
PI2	RCNTRL	REAL	SIMPLE	175																	
PIMEAN	RCNTRL	REAL	SIMPLE	177																	
PKSTD	RDPARM	REAL	SIMPLE	238																	
PKTOP	RDPARM	REAL	SIMPLE	239																	
PLEVS	RCNTRL	REAL	ARRAY	191																	
PP	QPOLES	REAL	ARRAY	284	294/S	294															
PSMAX	RCNTRL	REAL	SIMPLE	178																	
PSMIN	RCNTRL	REAL	SIMPLE	179																	
PSTD	RCNTRL	REAL	SIMPLE	176																	
PTOP	RCNTRL	REAL	SIMPLE	180																	
PZERO	RCNTRL	REAL	SIMPLE	197																	
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																
QANDQT		REAL	UNKNOWN	253	280	283															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289												
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282																
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QUDIAG	QANDQT	REAL	ARRAY	283																	
RADE	RCNTRL	REAL	SIMPLE	181																	

ORIGINAL PAGE IS
OF POOR QUALITY

RC	RCNTRL	REAL	ARRAY	198	199								
RCO	RCNTRL	REAL	SIMPLE	156	198	199							
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165
				167	168	169	170	171	172	173	174	175	176
				178	179	180	181	182	183	184	185	186	177
				189	190	191	192	193	194	195	196	197	188
				217	218	219	220	221	222	223	224	225	226
				228	229	230	231	232	233	234	235	236	237
				239	240	241	242	243	244	245	246	247	228
				250	251	252							229
				182									230
RGAS	RCNTRL	REAL	SIMPLE	182									231
RLAT	RDPARM	REAL	ARRAY	240									232
RLATD	RDPARM	REAL	ARRAY	241									233
ROCP	RCNTRL	REAL	SIMPLE	183									234
ROCPDT	RDPARM	REAL	SIMPLE	242									235
ROCPPI	RDPARM	REAL	SIMPLE	243									236
RSDIST	RCNTRL	REAL	SIMPLE	184									237
SDAY	RCNTRL	REAL	SIMPLE	185									238
SEASON	RCNTRL	REAL	SIMPLE	186									239
SGNP	RDPARM	REAL	ARRAY	244									240
SH	RDPARM	REAL	ARRAY	265	278	306/S	306						241
SHP	QPOLES	REAL	ARRAY	288	299/S	299							242
SHS	QANDQT	REAL	ARRAY	260	273								243
SIG	RDPARM	REAL	ARRAY	251									244
SIGE	RCNTRL	REAL	ARRAY	187									245
SIND	RCNTRL	REAL	SIMPLE	188									246
SINL	RDPARM	REAL	ARRAY	245									247
SINLON	RDPARM	REAL	ARRAY	246									248
SMTH	QANDQT	REAL	ARRAY	255	268								249
SN2FLG	RCNTRL	LOGICAL	SIMPLE	105	133								250
SOLS	RCNTRL	REAL	SIMPLE	189									251
START	LDPARAM	LOGICAL	SIMPLE	213	216								252
T	QANDQT	REAL	ARRAY	264	277	305/S	305						253
THSTD	RDPARM	REAL	SIMPLE	247									254
THSTD2	RDPARM	REAL	SIMPLE	248									255
TP	QPOLES	REAL	ARRAY	287	298/S	298							256
TS	QANDQT	REAL	ARRAY	259	272								257
TSTD	RCNTRL	REAL	SIMPLE	190									258
U	QANDQT	REAL	ARRAY	262	275	303/S	303						259
UP	QPOLES	REAL	ARRAY	285	296/S	296							260
V	QANDQT	REAL	ARRAY	263	276	304/S	304						261
VER	CCNTRL	CHAR*8	SIMPLE	10	23								262
VP	QPOLES	REAL	ARRAY	286	297/S	297							263
WSAVE	RDPARM	REAL	ARRAY	249									264
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24								265

ORIGINAL PAGE IS
OF POOR QUALITY

```

C.....VCUMULO 2
C      SUBROUTINE CUMULO                      VCUMULO 3
C      PURPOSE                                VCUMULO 4
C      CUMULUS CLOUD PARAMETERIZATION        VCUMULO 5
C      USAGE                                  VCUMULO 6
C      CALLED FROM COMP3                      VCUMULO 7
C      INPUT/OUTPUT FILES USED               VCUMULO 8
C      NONE                                   VCUMULO 9
C      DESCRIPTION OF PARAMETERS             VCUMULO 10
C      J - INDEX FOR LATITUDE BAND          VCUMULO 11
C      SUBPROGRAMS NEEDED                   VCUMULO 12
C      NONE                                  VCUMULO 13
C      RECORD OF MODIFICATIONS              VCUMULO 14
C      ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VCUMULO 15
C      22JUL83 JIM.PF      ADDED DOCUMENTATION * CHOICE OF DIAGNOSTICS VCUMULO 16
C      REMARKS:                              VCUMULO 17
C      ( 1 ) LARRY TACAIS IS THE EXPERT (AUTHOR) OF THIS ROUTINE VCUMULO 18
C.....VCUMULO 19
C      M / A - C O M S I G M A D A T A I N C . N A S A - G S F C VCUMULO 20
C.....VCUMULO 21
00001  SUBROUTINE CUMULO (J)                  VCUMULO 22
C.....VCUMULO 23
C      CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD VCUMULO 24
C      ===== VCUMULO 25
00002  COMMON /CCNTRL/ CC0                    VCNTRL 2
00003  COMMON /CCNTRL/ ADATE                  VCNTRL 3
00004  COMMON /CCNTRL/ ATIME                  VCNTRL 4
00005  COMMON /CCNTRL/ JIC                    VCNTRL 5
00006  COMMON /CCNTRL/ JOB                    VCNTRL 6
00007  COMMON /CCNTRL/ CCSP06                 VCNTRL 7
00008  COMMON /CCNTRL/ CCSP07                 VCNTRL 8
00009  COMMON /CCNTRL/ CCSP08                 VCNTRL 9
00010  COMMON /CCNTRL/ VER                    VCNTRL 10
00011  COMMON /CCNTRL/ XLABEL (10)           VCNTRL 11
00012  COMMON /CCNTRL/ CQS (30)              VCNTRL 12
00013  COMMON /CCNTRL/ CQU (10)              VCNTRL 13
C.....VCNTRL 14
00014  EQUIVALENCE (CC0,CC(1))              VCNTRL 15
00015  CHARACTER*8 CC0, CC(200)              VCNTRL 16
00016  CHARACTER*8 ADATE                     VCNTRL 17
00017  CHARACTER*8 ATIME                     VCNTRL 18
00018  CHARACTER*8 JIC                       VCNTRL 19
00019  CHARACTER*8 JOB                       VCNTRL 20
00020  CHARACTER*8 CCSP06                    VCNTRL 21
00021  CHARACTER*8 CCSP07                    VCNTRL 22
00022  CHARACTER*8 CCSP08                    VCNTRL 23
00023  CHARACTER*8 VER                       VCNTRL 24
00024  CHARACTER*8 XLABEL                    VCNTRL 25
00025  CHARACTER*8 CQS                       VCNTRL 26
00026  CHARACTER*8 CQU                       VCNTRL 27
C.....VCNTRL 28
C      INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 29
C      ===== VCNTRL 30
00027  COMMON /ICNTRL/ IC0                   VCNTRL 31
00028  COMMON /ICNTRL/ IM                    VCNTRL 32
00029  COMMON /ICNTRL/ IMD2                  VCNTRL 33
00030  COMMON /ICNTRL/ IMD2P1               VCNTRL 34
00031  COMMON /ICNTRL/ NDRSW                VCNTRL 35
VCUMULO 36
VCUMULO 37
VCUMULO 38

```

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

00032	COMMON /ICNTRL/ JM	VCNTRL 39
00033	COMMON /ICNTRL/ JMD2	VCNTRL 40
00034	COMMON /ICNTRL/ JMT2	VCNTRL 41
00035	COMMON /ICNTRL/ JNP	VCNTRL 42
00036	COMMON /ICNTRL/ JO4	VCNTRL 43
00037	COMMON /ICNTRL/ JOB	VCNTRL 44
00038	COMMON /ICNTRL/ JSP	VCNTRL 45
00039	COMMON /ICNTRL/ KLIALB	VCNTRL 46
00040	COMMON /ICNTRL/ KLIKW	VCNTRL 47
00041	COMMON /ICNTRL/ KLISST	VCNTRL 48
00042	COMMON /ICNTRL/ KS	VCNTRL 49
00043	COMMON /ICNTRL/ KU	VCNTRL 50
00044	COMMON /ICNTRL/ LOGBR	VCNTRL 51
00045	COMMON /ICNTRL/ MATIN	VCNTRL 52
00046	COMMON /ICNTRL/ MATSNX	VCNTRL 53
00047	COMMON /ICNTRL/ MATSUN	VCNTRL 54
00048	COMMON /ICNTRL/ MLF (12)	VCNTRL 55
00049	COMMON /ICNTRL/ MRD	VCNTRL 56
00050	COMMON /ICNTRL/ NKRS	VCNTRL 57
00051	COMMON /ICNTRL/ MSM	VCNTRL 58
00052	COMMON /ICNTRL/ NB	VCNTRL 59
00053	COMMON /ICNTRL/ ND	VCNTRL 60
00054	COMMON /ICNTRL/ NDALT	VCNTRL 61
00055	COMMON /ICNTRL/ NDAY	VCNTRL 62
00056	COMMON /ICNTRL/ NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
C		VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
C		VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
C		VCNTRL 104
00095	EQUIVALENCE (IC0,IC(1))	VCNTRL 105
00096	INTEGER IC0, IC(200)	VCNTRL 106
C		VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
C	=====	VCNTRL 109

00097	COMMON /LCNTRL/ LCO		VCNTRL 110
00098	COMMON /LCNTRL/ QALT		VCNTRL 111
00099	COMMON /LCNTRL/ QBEG		VCNTRL 112
00100	COMMON /LCNTRL/ QDAY		VCNTRL 113
00101	COMMON /LCNTRL/ QEND		VCNTRL 114
00102	COMMON /LCNTRL/ QOUT		VCNTRL 115
00103	COMMON /LCNTRL/ QPHY		VCNTRL 116
00104	COMMON /LCNTRL/ QSHF		VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG		VCNTRL 118
00106	COMMON /LCNTRL/ QRSW		VCNTRL 119
00107	COMMON /LCNTRL/ QRSW		VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)		VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)		VCNTRL 122
	C		VCNTRL 123
00110	EQUIVALENCE (LTMIN .LQS(1))		VCNTRL 124
00111	EQUIVALENCE (LTMAX .LQS(2))		VCNTRL 125
00112	EQUIVALENCE (LPREACC .LQS(3))		VCNTRL 126
00113	EQUIVALENCE (LPRECON .LQS(4))		VCNTRL 127
00114	EQUIVALENCE (LHFLUX .LQS(5))		VCNTRL 128
00115	EQUIVALENCE (LEFLUX .LQS(6))		VCNTRL 129
00116	EQUIVALENCE (LFUSION .LQS(7))		VCNTRL 130
00117	EQUIVALENCE (LRADSWG .LQS(8))		VCNTRL 131
00118	EQUIVALENCE (LRADLWG .LQS(9))		VCNTRL 132
00119	EQUIVALENCE (LICLOUD .LQS(10))		VCNTRL 133
00120	EQUIVALENCE (LUFLUX .LQS(11))		VCNTRL 134
00121	EQUIVALENCE (LVFLUX .LQS(12))		VCNTRL 135
	C		VCNTRL 136
00122	EQUIVALENCE (LOMEGA .LQU(1))		VCNTRL 137
00123	EQUIVALENCE (LDIABAT .LQU(2))		VCNTRL 138
00124	EQUIVALENCE (LRADSW .LQU(3))		VCNTRL 139
00125	EQUIVALENCE (LRADLW .LQU(4))		VCNTRL 140
	C		VCNTRL 141
00126	LOGICAL QALT		VCNTRL 142
00127	LOGICAL QBEG		VCNTRL 143
00128	LOGICAL QDAY		VCNTRL 144
00129	LOGICAL QEND		VCNTRL 145
00130	LOGICAL QOUT		VCNTRL 146
00131	LOGICAL QPHY		VCNTRL 147
00132	LOGICAL QSHF		VCNTRL 148
00133	LOGICAL SN2FLG		VCNTRL 149
00134	LOGICAL QRSW		VCNTRL 150
00135	LOGICAL QRSW		VCNTRL 151
	C		VCNTRL 152
00136	LOGICAL LQS		VCNTRL 153
00137	LOGICAL LQU		VCNTRL 154
00138	LOGICAL LTMIN		VCNTRL 155
00139	LOGICAL LTMAX		VCNTRL 156
00140	LOGICAL LPREACC		VCNTRL 157
00141	LOGICAL LPRECON		VCNTRL 158
00142	LOGICAL LHFLUX		VCNTRL 159
00143	LOGICAL LEFLUX		VCNTRL 160
00144	LOGICAL LFUSION		VCNTRL 161
00145	LOGICAL LRADSWG		VCNTRL 162
00146	LOGICAL LRADLWG		VCNTRL 163
00147	LOGICAL LICLOUD		VCNTRL 164
00148	LOGICAL LUFLUX		VCNTRL 165
00149	LOGICAL LVFLUX		VCNTRL 166
	C		VCNTRL 167
00150	LOGICAL LOMEGA		VCNTRL 168
00151	LOGICAL LDIABAT		VCNTRL 169
00152	LOGICAL LRADSW		VCNTRL 170
00153	LOGICAL LRADLW		VCNTRL 171
	C		VCNTRL 172
00154	EQUIVALENCE (LCO,LC(1))		VCNTRL 173
00155	LOGICAL LCO, LC(200)		VCNTRL 174
	C		VCNTRL 175
	C		VCNTRL 176
	C		VCNTRL 177
	C		VCNTRL 178
	C		VCNTRL 179
	C		VCNTRL 180
	C		
00156	COMMON /RCNTRL/ RCO		
00157	COMMON /RCNTRL/ APHEL		
00158	COMMON /RCNTRL/ BETA		

REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
 =====

ORIGINAL PAGE IS
 OF POOR QUALITY

00159	COMMON /RCNTRL/ COSD		VCNTRL 181
00160	COMMON /RCNTRL/ CP		VCNTRL 182
00161	COMMON /RCNTRL/ DAYSPY		VCNTRL 183
00162	COMMON /RCNTRL/ DEC		VCNTRL 184
00163	COMMON /RCNTRL/ DECMAX		VCNTRL 185
00164	COMMON /RCNTRL/ DIST		VCNTRL 186
00165	COMMON /RCNTRL/ DLAT		VCNTRL 187
00166	COMMON /RCNTRL/ DLON		VCNTRL 188
00167	COMMON /RCNTRL/ DT		VCNTRL 189
00168	COMMON /RCNTRL/ ECCN		VCNTRL 190
00169	COMMON /RCNTRL/ GNU1		VCNTRL 191
00170	COMMON /RCNTRL/ GNU2		VCNTRL 192
00171	COMMON /RCNTRL/ GRAV		VCNTRL 193
00172	COMMON /RCNTRL/ OMEGA2		VCNTRL 194
00173	COMMON /RCNTRL/ PI		VCNTRL 195
00174	COMMON /RCNTRL/ PI180		VCNTRL 196
00175	COMMON /RCNTRL/ PI2		VCNTRL 197
00176	COMMON /RCNTRL/ PSTD		VCNTRL 198
00177	COMMON /RCNTRL/ PIMEAN		VCNTRL 199
00178	COMMON /RCNTRL/ PSIMAX		VCNTRL 200
00179	COMMON /RCNTRL/ PSMIN		VCNTRL 201
00180	COMMON /RCNTRL/ PTOP		VCNTRL 202
00181	COMMON /RCNTRL/ RADE		VCNTRL 203
00182	COMMON /RCNTRL/ RGAS		VCNTRL 204
00183	COMMON /RCNTRL/ ROCP		VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST		VCNTRL 206
00185	COMMON /RCNTRL/ SDAY		VCNTRL 207
00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
00198	C EQUIVALENCE (RC0,RC(1))		VCNTRL 220
00199	REAL RC0, RC(200)		VCNTRL 221
	C INTEGER MODEL CONSTANTS		VCNTRL 222
	C =====		VCNTRL 223
00200	COMMON /IDPARM/ IJUMP (46)		VCNTRL 224
00201	COMMON /IDPARM/ IDSP02		VCNTRL 225
00202	COMMON /IDPARM/ INDEX (72)		VCNTRL 226
00203	COMMON /IDPARM/ IROD		VCNTRL 227
00204	COMMON /IDPARM/ JC (46)		VCNTRL 228
00205	COMMON /IDPARM/ JE (2)		VCNTRL 229
00206	COMMON /IDPARM/ JP (2,2)		VCNTRL 230
00207	COMMON /IDPARM/ KSTEP		VCNTRL 231
00208	COMMON /IDPARM/ MJ (46)		VCNTRL 232
00209	COMMON /IDPARM/ NHMS1		VCNTRL 233
00210	COMMON /IDPARM/ NYMD1		VCNTRL 234
	C LOGICAL MODEL CONSTANTS		VCNTRL 235
	C =====		VCNTRL 236
00211	COMMON /LDPARM/ FILTER (46)		VCNTRL 237
00212	COMMON /LDPARM/ ITAPE		VCNTRL 238
00213	COMMON /LDPARM/ START		VCNTRL 239
	C LOGICAL FILTER		VCNTRL 240
00214	LOGICAL ITAPE		VCNTRL 241
00215	LOGICAL START		VCNTRL 242
	C REAL MODEL CONSTANTS		VCNTRL 243
	C =====		VCNTRL 244
00217	COMMON /RDPARM/ ADLDP		VCNTRL 245
00218	COMMON /RDPARM/ CON1		VCNTRL 246
			VCNTRL 247
			VCNTRL 248
			VCNTRL 249
			VCNTRL 250
			VCNTRL 251

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00219	COMMON	/RDPARM/	CON1DT		VCNTRL	252
00220	COMMON	/RDPARM/	CON2		VCNTRL	253
00221	COMMON	/RDPARM/	CON2DT		VCNTRL	254
00222	COMMON	/RDPARM/	CON3		VCNTRL	255
00223	COMMON	/RDPARM/	CON3DT		VCNTRL	256
00224	COMMON	/RDPARM/	CON4		VCNTRL	257
00225	COMMON	/RDPARM/	CON4DT		VCNTRL	258
00226	COMMON	/RDPARM/	CON5		VCNTRL	259
00227	COMMON	/RDPARM/	COSL	(46)	VCNTRL	260
00228	COMMON	/RDPARM/	COSLON	(72)	VCNTRL	261
00229	COMMON	/RDPARM/	CPD2		VCNTRL	262
00230	COMMON	/RDPARM/	DXP	(46)	VCNTRL	263
00231	COMMON	/RDPARM/	DXYP	(46)	VCNTRL	264
00232	COMMON	/RDPARM/	DYP	(46)	VCNTRL	265
00233	COMMON	/RDPARM/	FCORLS	(46)	VCNTRL	266
00234	COMMON	/RDPARM/	F1DT		VCNTRL	267
00235	COMMON	/RDPARM/	F2DT		VCNTRL	268
00236	COMMON	/RDPARM/	H1DT		VCNTRL	269
00237	COMMON	/RDPARM/	H2DT		VCNTRL	270
00238	COMMON	/RDPARM/	PKSTD		VCNTRL	271
00239	COMMON	/RDPARM/	PKTOP		VCNTRL	272
00240	COMMON	/RDPARM/	RLAT	(46)	VCNTRL	273
00241	COMMON	/RDPARM/	RLATD	(46)	VCNTRL	274
00242	COMMON	/RDPARM/	ROCPDT		VCNTRL	275
00243	COMMON	/RDPARM/	ROCPF1		VCNTRL	276
00244	COMMON	/RDPARM/	SGNP	(2)	VCNTRL	277
00245	COMMON	/RDPARM/	SINL	(46)	VCNTRL	278
00246	COMMON	/RDPARM/	SINLON	(72)	VCNTRL	279
00247	COMMON	/RDPARM/	THSTD		VCNTRL	280
00248	COMMON	/RDPARM/	THSTD2		VCNTRL	281
00249	COMMON	/RDPARM/	WSAVE	(159)	VCNTRL	282
00250	COMMON	/RDPARM/	WSIG	(9)	VCNTRL	283
00251	COMMON	/RDPARM/	SIG	(9)	VCNTRL	284
00252	COMMON	/RDPARM/	DSIGINV	(9)	VCNTRL	285

COMDECK VQANDQT RESOLUTION VALUES

=====

IM	=72
NLAY	=9
JM+1	=46
NLAY+11	=99
IM*NLAY+11	=7128
JM/2+1	=23

GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)

00253	COMMON	/QANDQT/	QPROG(72,9,11,46)
00254	DIMENSION	PHIS	(7128,1)
00255	DIMENSION	SMTH	(7128,23)
00256	DIMENSION	ALBEDO	(7128,1)
00257	DIMENSION	GT	(7128,1)
00258	DIMENSION	GV	(7128,1)
00259	DIMENSION	T:	(7128,1)
00260	DIMENSION	SHS	(7128,1)
00261	DIMENSION	P	(72,99,1)
00262	DIMENSION	U	(72,9,11,1)
00263	DIMENSION	V	(72,9,11,1)
00264	DIMENSION	T	(72,9,11,1)
00265	DIMENSION	SH	(72,9,11,1)
00266	DIMENSION	PHI	(72,9,11,1)
00267	EQUIVALENCE	(QPROG(1, 1,1,1),PHIS	(1,1))
00268	EQUIVALENCE	(QPROG(1, 2,1,1),SMTH	(1,1))
00269	EQUIVALENCE	(QPROG(1, 3,1,1),ALBEDO	(1,1))
00270	EQUIVALENCE	(QPROG(1, 4,1,1),GT	(1,1))
00271	EQUIVALENCE	(QPROG(1, 5,1,1),GV	(1,1))
00272	EQUIVALENCE	(QPROG(1, 6,1,1),TS	(1,1))

VCNTRL	286
VQANDQT	2
VQANDQT	3
VQANDQT	4
VQANDQT	5
VQANDQT	6
VQANDQT	7
VQANDQT	8
VQANDQT	9
VQANDQT	10
VQANDQT	11
VQANDQT	12
VQANDQT	13
VQANDQT	14
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VQANDQT	19
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VQANDQT	28
VQANDQT	29
VQANDQT	30
VQANDQT	31
VQANDQT	32
VQANDQT	33
VQANDQT	34
VQANDQT	35
VQANDQT	36
VQANDQT	37

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00273      EQUIVALENCE      (QPROG(1, 7,1,1),SHS  (1,1))
00274      EQUIVALENCE      (QPROG(1, 8,1,1),P    (1,1,1))
C
00275      EQUIVALENCE      (QPROG(1,1, 2,1),U  (1,1,1,1))
00276      EQUIVALENCE      (QPROG(1,1, 4,1),V  (1,1,1,1))
00277      EQUIVALENCE      (QPROG(1,1, 6,1),T  (1,1,1,1))
00278      EQUIVALENCE      (QPROG(1,1, 8,1),SH  (1,1,1,1))
00279      EQUIVALENCE      (QPROG(1,1,10,1),PHI(1,1,1,1))
C
C C C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C C C =====
00280      COMMON          /QANDQT/ QSDIAG(72      .15,46)
00281      DIMENSION       IQSDIAG(72      .15,46)
00282      EQUIVALENCE      (QSDIAG,IQSDIAG)
C
00283      COMMON          /QANDQT/ QUDIAG(72,9, 5,46)
C
C C C * * *
C C C PHYSICS PARAMETERS AND CONSTANTS
00284      COMMON /CNTRLP/ CDFR
00285      COMMON /CNTRLP/ CDXL
00286      COMMON /CNTRLP/ CDXD
00287      COMMON /CNTRLP/ CLH
00288      COMMON /CNTRLP/ COE      (9)
00289      COMMON /CNTRLP/ COEF
00290      COMMON /CNTRLP/ COEFS
00291      COMMON /CNTRLP/ COSROT
00292      COMMON /CNTRLP/ CPP
00293      COMMON /CNTRLP/ CTID
00294      COMMON /CNTRLP/ CUMDAY
00295      COMMON /CNTRLP/ CUMRAT
00296      COMMON /CNTRLP/ C10
00297      COMMON /CNTRLP/ C100
00298      COMMON /CNTRLP/ C40
00299      COMMON /CNTRLP/ DELTA
00300      COMMON /CNTRLP/ DTG3
00301      COMMON /CNTRLP/ DTOUT
00302      COMMON /CNTRLP/ ED
00303      COMMON /CNTRLP/ EDNM
00304      COMMON /CNTRLP/ FCOEF
00305      COMMON /CNTRLP/ FMU
00306      COMMON /CNTRLP/ FWET
00307      COMMON /CNTRLP/ GAMFAC
00308      COMMON /CNTRLP/ GTOP0
00309      COMMON /CNTRLP/ HICE
00310      COMMON /CNTRLP/ NDTG3
00311      COMMON /CNTRLP/ NFW
00312      COMMON /CNTRLP/ PIM
00313      COMMON /CNTRLP/ QHOG
00314      COMMON /CNTRLP/ SHLTOP
00315      COMMON /CNTRLP/ SINROT
00316      COMMON /CNTRLP/ SNOWN
00317      COMMON /CNTRLP/ SNOWS
00318      COMMON /CNTRLP/ STBO
00319      COMMON /CNTRLP/ STERP1
00320      COMMON /CNTRLP/ STERP2
00321      COMMON /CNTRLP/ TICE
00322      COMMON /CNTRLP/ TLTOP
00323      COMMON /CNTRLP/ XDAY
00324      COMMON /CNTRLP/ ZLNCO
00325      LOGICAL          QHOG
C
C C C * * *
C C C RADIATION AND SOURCE TERM FIELDS
00326      COMMON /RADCOM/ AS(72,9), RE(72,10)
00327      COMMON /RADCOM/ PL(72,9), PLE(72,10)
00328      COMMON /RADCOM/ PLK(72,9), PLKE(10)
00329      COMMON /RADCOM/ TL(72,9), TLE(72,10)
00330      COMMON /RADCOM/ TG(72), TH(72,9)
00331      COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
VCANDQT 38
VCANDQT 39
VCANDQT 40
VCANDQT 41
VCANDQT 42
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VCNTRLP 46
VRADCOM 2
VRADCOM 3
VRADCOM 4
VRADCOM 5
VRADCOM 6
VRADCOM 7
VRADCOM 8
VRADCOM 9

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00332	COMMON /RADCOM/ SHG(72),	CLOUD(72,12)	VRADCOM 10
00333	COMMON /RADCOM/ SHSAT(72,9),	GAM(72,9)	VRADCOM 11
00334	COMMON /RADCOM/ RH(72,9)		VRADCOM 12
00335	COMMON /RADCOM/ SSS(72,9),	SSSE(72,10)	VRADCOM 13
00336	COMMON /RADCOM/ HH(72,9),	HHE(72,10)	VRADCOM 14
00337	COMMON /RADCOM/ HHS(72,9)		VRADCOM 15
00338	COMMON /RADCOM/ CVT(72,9),	CVQ(72,9)	VRADCOM 16
00339	COMMON /RADCOM/ CXDE(9)		VRADCOM 17
00340	COMMON /RADCOM/ SWALE(72,10),	SWIL(72,9)	VRADCOM 18
00341	COMMON /RADCOM/ AL(72,10)		VRADCOM 19
00342	COMMON /RADCOM/ TAUL(72,10),	OZALE(72,10)	VRADCOM 20
00343	COMMON /RADCOM/ TOPABS(72)		VRADCOM 21
00344	COMMON /RADCOM/ RN(9),	TN(9), SRS(9), STN(9)	VRADCOM 22
00345	COMMON /RADCOM/ TCOND(9),	TPENE(9)	VRADCOM 23
00346	COMMON /RADCOM/ TLOWL,TMIDL,	NLAYOZ	VRADCOM 24
00347	COMMON /RADCOM/ FK(5),	XK(5), NFK	VRADCOM 25
00348	COMMON /RADCOM/ OLJAN(19),	OLAPR(19), OLJUL(19), OLOCT(19)	VRADCOM 26
00349	COMMON /RADCOM/ OCM22(23),	OCM30(23), OCM38(23), OCM46(23)	VRADCOM 27
00350	COMMON /RADCOM/ PROCM(23),	OCMXX(23), NOZ, TOTOZ(4), CDATE(6)	VRADCOM 28
00351	COMMON /RADCOM/ CZH(72),	WET(72), EVAP, PREP(72), WI(72)	VRADCOM 29
00352	COMMON /RADCOM/ COSZ(72),	SO, RADTRM(72), CXL	VRADCOM 30
00353	COMMON /RADCOM/ SG(72),	SP(72)	VRADCOM 31
00354	COMMON /RADCOM/ RSURF(72),	RLOUD(72), JALB	VRADCOM 32
00355	COMMON /RADCOM/ LAND(72),	OCEAN(72), ICE(72)	VRADCOM 33
00356	COMMON /RADCOM/ SNOW(72),	MIXWI(72), FROST(72)	VRADCOM 34
00357	LOGICAL	LAND, OCEAN, ICE, SNOW, MIXWI, FROST	VRADCOM 35
			VRADCOM 36
	C		VPCON 2
	C	***	VPCON 3
	C	PRECIPITATION FIELDS FROM CUMULUS CONVECTION	VPCON 4
00358	COMMON / PCON / PCMID(72)		VPCON 5
00359	COMMON / PCON / PCPEN(72)		VPCON 6
00360	COMMON / PCON / PCLOW(72)		VPCON 7
	C		VDCUMUL 2
	C	***	VDCUMUL 3
	C	DYNAMIC SPACE VARIABLES FOR CUMULO SUBROUTINE	VDCUMUL 4
00361	COMMON /DCUMU/ Q2P(72)		VDCUMUL 5
00362	COMMON /DCUMU/ Q3P(72)		VDCUMUL 6
00363	COMMON /DCUMU/ Q4P(72)		VDCUMUL 7
00364	COMMON /DCUMU/ Q5P(72)		VDCUMUL 8
00365	COMMON /DCUMU/ QST1P(72)		VDCUMUL 9
00366	COMMON /DCUMU/ GAM1P(72)		VDCUMUL 10
00367	COMMON /DCUMU/ GAM3P(72)		VDCUMUL 11
00368	COMMON /DCUMU/ SS1P(72)		VDCUMUL 12
00369	COMMON /DCUMU/ SS2P(72)		VDCUMUL 13
00370	COMMON /DCUMU/ SS3P(72)		VDCUMUL 14
00371	COMMON /DCUMU/ SS4P(72)		VDCUMUL 15
00372	COMMON /DCUMU/ SS5P(72)		VDCUMUL 16
00373	COMMON /DCUMU/ HH2P(72)		VDCUMUL 17
00374	COMMON /DCUMU/ HH3P(72)		VDCUMUL 18
00375	COMMON /DCUMU/ HH4P(72)		VDCUMUL 19
00376	COMMON /DCUMU/ HH5P(72)		VDCUMUL 20
00377	COMMON /DCUMU/ HH1SP(72)		VDCUMUL 21
00378	COMMON /DCUMU/ HH3SP(72)		VDCUMUL 22
00379	COMMON /DCUMU/ CVT1P(72)		VDCUMUL 23
00380	COMMON /DCUMU/ CVT3P(72)		VDCUMUL 24
00381	COMMON /DCUMU/ CVT5P(72)		VDCUMUL 25
00382	COMMON /DCUMU/ CVQ1P(72)		VDCUMUL 26
00383	COMMON /DCUMU/ CVQ2P(72)		VDCUMUL 27
00384	COMMON /DCUMU/ CVQ5P(72)		VDCUMUL 28
00385	COMMON /DCUMU/ EX(72)		VDCUMUL 29
00386	COMMON /DCUMU/ CXD(72)		VDCUMUL 30
00387	COMMON /DCUMU/ CT1P(72)		VDCUMUL 31
00388	COMMON /DCUMU/ CT3P(72)		VDCUMUL 32
00389	COMMON /DCUMU/ CT5P(72)		VDCUMUL 33
00390	COMMON /DCUMU/ CQ1P(72)		VDCUMUL 34
00391	COMMON /DCUMU/ CQ3P(72)		VDCUMUL 35
00392	COMMON /DCUMU/ CQ5P(72)		VDCUMUL 36
	C		VBITS 2
00393	BIT	BIT72(72), BITMAX(72)	VBITS 3
00394	DIMENSION	TEMP(72,9)	VBITS 4

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00407      ADS5P = 1./DS5P
C
00408      Q2P(1;IM) = SHLE(1.6;IM)
00409      Q3P(1;IM) = .5*( SHL(1.6;IM) + SHL(1.7;IM))
00410      Q4P(1;IM) = SHLE(1.8;IM)
00411      Q5P(1;IM) = .5*( SHL(1.8;IM) + SHL(1.9;IM))
C
00412      QST1P(1;IM) = .5*(SHSAT(1.4;IM) + SHSAT(1.5;IM))
C
00413      GAM1P(1;IM) = .5*(GAM(1.4;IM) + GAM(1.5;IM))
00414      GAM3P(1;IM) = .5*(GAM(1.6;IM) + GAM(1.7;IM))
C
00415      SS1P(1;IM) = .5*( SSS(1.4;IM) + SSS(1.5;IM))
00416      SS2P(1;IM) = SSSE(1.6;IM)
00417      SS3P(1;IM) = .5*( SSS(1.6;IM) + SSS(1.7;IM))
00418      SS4P(1;IM) = SSSE(1.8;IM)
00419      SS5P(1;IM) = .5*( SSS(1.8;IM) + SSS(1.9;IM))
C
00420      HH2P(1;IM) = HHE(1.6;IM)
00421      HH3P(1;IM) = .5*( HH(1.6;IM) + HH(1.7;IM))
00422      HH4P(1;IM) = HHE(1.8;IM)
00423      HH5P(1;IM) = .5*( HH(1.8;IM) + HH(1.9;IM))
C
00424      HH1SP(1;IM) = .5*(HHS(1.4;IM) + HHS(1.5;IM))
00425      HH3SP(1;IM) = .5*(HHS(1.6;IM) + HHS(1.7;IM))
C
00426      PCMID(1;IM) = 0.
00427      PCPEN(1;IM) = 0.
00428      PCLOW(1;IM) = 0.
00429      CVT1P(1;IM) = 0.
00430      CVT3P(1;IM) = 0.
00431      CVT5P(1;IM) = 0.
00432      CVQ1P(1;IM) = 0.
00433      CVQ3P(1;IM) = 0.
00434      CVQ5P(1;IM) = 0.
C
C*****
C*****
C***** MIDDLE LEVEL CONVECTION *****
C*****
C*****
C
00435      EX(1;IM) = HH3P(1;IM) - HH1SP(1;IM)
C
00436      BIT72(1;IM) = EX(1;IM) .GT. 0.0
C
00437      IBIT = QBSCNT( BIT72(1;IM) )
00438      IF( IBIT .EQ. 0 ) GOTO 1001
C
00439      WHERE( BIT72(1;IM) )
00440      TEMP(1,1;IM) = ( EX(1;IM) + (1.+GAM1P(1;IM))
S          * (SS1P(1;IM)-SS2P(1;IM)) )*ADS1P
S          + (HH3P(1;IM)-HH2P(1;IM)) *ADS3P
00441      ENDWHERE
C
00442      BITMAX(1;IM) = 0.001 .GT. TEMP(1,1;IM)
00443      WHERE( BIT72(1;IM) .AND. BITMAX(1;IM) ) TEMP(1,1;IM) = 0.001
C
00444      WHERE( BIT72(1;IM) ) CXD(1;IM) = EX(1;IM)/TEMP(1,1;IM)
C
00445      BITMAX(1;IM) = CXD(1;IM) .GT. DS3P
00446      WHERE( BIT72(1;IM) .AND. BITMAX(1;IM) ) CXD(1;IM) = DS3P
C
00447      WHERE( BIT72(1;IM) )
00448      CVT1P(1;IM) = CXD(1;IM) * (SS1P(1;IM) - SS2P(1;IM) + EX(1;IM)
S          / (1. + GAM1P(1;IM)) )*ADS1P
00449      CVT3P(1;IM) = CXD(1;IM) * (SS2P(1;IM) - SS3P(1;IM))*ADS3P
00450      CVQ1P(1;IM) = CXD(1;IM) * ( Q2P(1;IM) - QST1P(1;IM)
S          - EX(1;IM)*GAM1P(1;IM)/( (1.+GAM1P(1;IM)) * CLH ) )*ADS1P
00451      CVQ3P(1;IM) = CXD(1;IM)*( Q3P(1;IM) - Q2P(1;IM))*ADS3P

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00452 C    PCMID(I;IM) = (CVQ1P(I;IM)+DS1P
S      + CVQ3P(I;IM)-DS3P)+.1*SP(I;IM)+AGRAV          VCUMULO181
00453 C    HH1SP(I;IM) = HH1SP(I;IM) + (1. + GAM1P(I;IM))*CVT1P(I;IM)          VCUMULO182
00454 HH3SP(I;IM) = HH3SP(I;IM) + (1. + GAM3P(I;IM))*CVT3P(I;IM)          VCUMULO183
00455 HH3P(I;IM) = HH3P(I;IM) + CVT3P(I;IM) - CLH-CVQ3P(I;IM)          VCUMULO184
00456 SS1P(I;IM) = SS1P(I;IM) + CVT1P(I;IM)          VCUMULO185
00457 SS3P(I;IM) = SS3P(I;IM) + CVT3P(I;IM)          VCUMULO186
00458 Q3P(I;IM) = Q3P(I;IM) - CVQ3P(I;IM)          VCUMULO187
00459 QST1P(I;IM) = QST1P(I;IM) + GAM1P(I;IM)*CVT1P(I;IM)+ACLH          VCUMULO188
00460 ENDWHERE                                             VCUMULO189
00461 C    DO 1010 I=1,IM          VCUMULO190
00462 IF ( EX(I) .LE. 0.0 ) GOTO 1010          VCUMULO191
00463 L = 6          VCUMULO192
00464 IF ( RH(I,5) .GT. RH(I,6) ) L = 5          VCUMULO193
00465 CLOUD(I,L) = 1          VCUMULO194
00466 CLOUD(I,NLAY+2) = L-4          VCUMULO195
00467 IF (QOUT.AND.LICLOUD) IQSDIAG(I,IICLOUD,J) = IQSDIAG(I,IICLOUD,J)
S      + (L-4)          VCUMULO196
00468 1010 CONTINUE          VCUMULO197
00469 C    1001 CONTINUE          VCUMULO198
00470 C    *****          VCUMULO199
00471 C    *****          VCUMULO200
00472 C    *****          VCUMULO201
00473 C    *****          VCUMULO202
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00519 C    *****          VCUMULO248
00520 C    *****          VCUMULO249
00521 C    *****          VCUMULO250
00522 C    *****          VCUMULO251

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00490      TEMP(I,1) = CXD(I)*RETA
00491      IF (TEMP(I,1).GT.DSSP) CXD(I) = DSSP / RETA
00492      CT1P(I) = CXD(I)*(SS1P(I)-SS2P(I)+EX(I)/(1.+GAM1P(I)))*ADS1P
00493      CT3P(I) = CXD(I)*(SS2P(I)-SS3P(I)+RETA
S          *(SS3P(I) - SS4P(I)))*ADS3P
00494      CT5P(I) = CXD(I)*RETA*(SS4P(I) - SS5P(I))*ADS5P
00495      CQ1P(I) = CXD(I)*(Q2P(I)-QST1P(I)-EX(I)*GAM1P(I)
S          / ((1.+GAM1P(I))*CLH))*ADS1P
00496      CQ3P(I) = CXD(I)*(Q3P(I)-Q2P(I) + RETA
S          *(Q4P(I) - Q3P(I)))*ADS3P
00497      CQ5P(I) = CXD(I)*RETA*(Q5P(I) - Q4P(I))*ADS5P

C          DO 227 L=LCL1,LCL2
00498          CLOUD(I,L) = 1
00499          227 CONTINUE
00500

C          CLOUD(I,NLAY+3) = LCL1 - 3
00501          IF (QOUT.AND.LICLOUD) IQSDIAG(I,IICLOUD,J) =
00502          S          IQSDIAG(I,IICLOUD,J) + (LCL1-3)*4

C          IF (NCL.GT.4) NCL = NCL+1
00503          IF (NCL.GT.4) NCL = 1
00504          LCL1 = 8 - NCL
00505          IF (NCL.EQ.1) LCL1 = 5
00506          LCL2 = LCL1 + 3
00507

C          1020 CONTINUE
00508

C          BIT72(I;IM) = HH5P(I;IM) .GT. HH3SP(I;IM)
00509          BIT72(I;IM) = BIT72(I;IM) .AND. HH5P(I;IM) .GT. HH1SP(I;IM)
00510

C          IBIT = Q8SCNT( BIT72(I;IM) )
00511          IF( IBIT .EQ. 0 ) GOTO 2001
00512

C          WHERE( BIT72(I;IM) )
00513          CVT1P(I;IM) = CVT1P(I;IM) + CT1P(I;IM)
00514          CVT3P(I;IM) = CVT3P(I;IM) + CT3P(I;IM)
00515          CVT5P(I;IM) = CVT5P(I;IM) + CT5P(I;IM)
00516          CVQ1P(I;IM) = CVQ1P(I;IM) + CQ1P(I;IM)
00517          CVQ3P(I;IM) = CVQ3P(I;IM) + CQ3P(I;IM)
00518          CVQ5P(I;IM) = CVQ5P(I;IM) + CQ5P(I;IM)

C          SS3P(I;IM) = SS3P(I;IM) + CT3P(I;IM)
00520          SS5P(I;IM) = SS5P(I;IM) + CT5P(I;IM)
00521          Q3P(I;IM) = Q3P(I;IM) - CQ3P(I;IM)
00522          Q5P(I;IM) = Q5P(I;IM) - CQ5P(I;IM)

C          PCPEN(I;IM) = (CQ1P(I;IM)*DS1P + CQ3P(I;IM)*DS3P
S          + CQ5P(I;IM)*DS5P)
00524          S          + .1*SP(I;IM)*AGRAV

C          HH1SP(I;IM) = HH1SP(I;IM) + (1. + GAM1P(I;IM))*CT1P(I;IM)
00525          HH3SP(I;IM) = HH3SP(I;IM) + (1. + GAM3P(I;IM))*CT3P(I;IM)
00526          HH3P(I;IM) = HH3P(I;IM) + CT3P(I;IM) - CLH*CQ3P(I;IM)
00527          HH5P(I;IM) = HH5P(I;IM) + CT5P(I;IM) - CLH*CQ5P(I;IM)
00528          ENDWHERE
00529

C          2001 CONTINUE
00530

C          *****
C          *****
C          ***** LOW LEVEL CONVECTION *****
C          *****
C          *****

C          EX(I;IM) = HH5P(I;IM) - HH3SP(I;IM)
00531          BIT72(I;IM) = EX(I;IM) .GT. 0.0
00532

C          IBIT = Q8SCNT( BIT72(I;IM) )
00533          IF( IBIT .EQ. 0 ) GOTO 3001
00534

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00535      WHERE( BIT72(1;IM) )
00536      TEMP(1,1;IM) = ( EX(1;IM)/(1. + GAM3P(1;IM) )
00537      + SS3P(1;IM) - SS5P(1;IM))*ACLH
00537      TEMP(1,3;IM) = TEMP(1,1;IM) + (DS3P/DS3P + DS5P)
00538      TEMP(1,5;IM) = TEMP(1,1;IM) - TEMP(1,3;IM)
00539      TEMP(1,1;IM) = ( (1. + GAM3P(1;IM))
00539      + ( (SS3P(1;IM)-SS4P(1;IM))-CLH*TEMP(1,3;IM) )
00539      + EX(1;IM))*ADS3P
00539      + (HHSP(1;IM) - HR4P(1;IM))*ADS5P
00540      ENDWHERE
00541      BITMAX(1;IM) = 0.001 .GT. TEMP(1,1;IM)
00542      WHERE( BIT72(1;IM) .AND. BITMAX(1;IM) ) TEMP(1,1;IM) = 0.001
00543      WHERE( BIT72(1;IM) ) CXD(1;IM) = EX(1;IM)/TEMP(1,1;IM)
00544      BITMAX(1;IM) = DS5P .LT. CXD(1;IM)
00545      WHERE( BIT72(1;IM) .AND. BITMAX(1;IM) ) CXD(1;IM) = DS5P
00546      WHERE( BIT72(1;IM) )
00547      CT3P(1;IM) = CXD(1;IM) + (SS3P(1;IM) - SS4P(1;IM)
00547      - CLH * TEMP(1,3;IM) + EX(1;IM)
00547      / (1.0+GAM3P(1;IM)))*ADS3P
00548      CT5P(1;IM) = CXD(1;IM) + (SS4P(1;IM) - SS5P(1;IM)
00548      - CLH * TEMP(1,5;IM))*ADS5P
00549      CQ5P(1;IM) = CXD(1;IM)*(Q5P(1;IM) - Q4P(1;IM)
00549      - TEMP(1,5;IM))*ADS5P
00550      CQ3P(1;IM) = -CQ5P(1;IM)*DS5P*ADS3P
00551      CVT3P(1;IM) = CVT3P(1;IM) + CT3P(1;IM)
00552      CVT5P(1;IM) = CVT5P(1;IM) + CT5P(1;IM)
00553      CVQ3P(1;IM) = CVQ3P(1;IM) + CQ3P(1;IM)
00554      CVQ5P(1;IM) = CVQ5P(1;IM) + CQ5P(1;IM)
00555      PCLOW(1;IM) = (DS3P*CQ3P(1;IM) + DS5P*CQ5P(1;IM))
00556      + .1*SP(1;IM)*AGRAV
00557      DO 1030 I=1,IM
00558      EX(I) = HHSP(I) - HH3SP(I)
00559      IF (EX(I).LE.0.) GO TO 1030
00560      L = 8
00561      IF (RH(I,7).GT.RH(I,8)) L = 7
00562      CLOUD(I,L) = 1
00563      CLOUD(I,NLAYP1) = L - 6
00564      IF (GOUT.AND.LICLOUD) IQSDIAG(I,IICLOUD,J) =
00564      IQSDIAG(I,IICLOUD,J) + (L-6)*16
00565      1030 CONTINUE
00566      3001 CONTINUE
00567      *****
00567      *****
00568      *****
00569      *****
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00579      *****
00567      CVT(1,4;IM) = 1.25*CVT1P(1;IM) - .25*CVT3P(1;IM)
00568      CVT(1,5;IM) = .75*CVT1P(1;IM) + .25*CVT3P(1;IM)
00569      CVT(1,6;IM) = CVT3P(1;IM) + 0.125*(CVT1P(1;IM) - CVT5P(1;IM))
00570      CVT(1,7;IM) = CVT3P(1;IM) - 0.125*(CVT1P(1;IM) - CVT5P(1;IM))
00571      CVT(1,8;IM) = .75*CVT5P(1;IM) + .25*CVT3P(1;IM)
00572      CVT(1,9;IM) = 1.25*CVT5P(1;IM) - .25*CVT3P(1;IM)
00573      TEMP(1,1;IM) = 2.*SHSAT(1,4;IM)/(SHSAT(1,4;IM) + SHSAT(1,5;IM))
00574      BIT72(1;IM) = CVQ1P(1;IM) .GT. 0.0
00575      WHERE( BIT72(1;IM) )
00576      TEMP(1,1;IM) = 2.*SHL(1,4;IM)/(SHL(1,4;IM)+SHL(1,5;IM)+1.E-50)
00577      ENDWHERE
00578      TEMP(1,2;IM) = 2.-TEMP(1,1;IM)
00579      CVQ(1,4;IM) = TEMP(1,1;IM) * CVQ1P(1;IM)

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BITMAX		BIT	ARRAY	582/S	583	590/S	591												
C10	CNTRLP	REAL	SIMPLE	393	442/S	443	445/S	446	541/S	542	544/S	545							
C100	CNTRLP	REAL	SIMPLE	296															
C40	CNTRLP	REAL	SIMPLE	297															
CALTOJ	RCNTRL	REAL	SIMPLE	298															
CC	CCNTRL	CHAR*8	ARRAY	196															
CCO	CCNTRL	CHAR*8	SIMPLE	14	15														
CCNTRL	CCNTRL	CHAR*8	UNKNOWN	2	14	15													
				2	3	4	5	6	7	8	9	10	11	12					
				13															
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20														
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21														
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22														
CDATE	RADCOM	REAL	ARRAY	350															
CDFR	CNTRLP	REAL	SIMPLE	284															
CDXL	CNTRLP	REAL	SIMPLE	285															
CDXO	CNTRLP	REAL	SIMPLE	286															
CLH	CNTRLP	REAL	SIMPLE	287	401	450	455	495	527	528	539	547	548						
CLOUD	RADCOM	REAL	ARRAY	332	465/S	466/S	499 S	501/S	562/S	563/S									
CNTRLP		REAL	UNKNOWN	284	285	286	287	288	290	291	292	293	294						
				295	296	297	298	299	300	301	302	303	304						
				306	307	308	309	310	311	312	313	314	315						
				317	318	319	320	321	322	323	324								
COE	CNTRLP	REAL	ARRAY	288															
COEF	CNTRLP	REAL	SIMPLE	289															
COEFS	CNTRLP	REAL	SIMPLE	290															
CON1	RDPARM	REAL	SIMPLE	218															
CON1DT	RDPARM	REAL	SIMPLE	219															
CON2	RDPARM	REAL	SIMPLE	220															
CON2DT	RDPARM	REAL	SIMPLE	221															
CON3	RDPARM	REAL	SIMPLE	222															
CON3DT	RDPARM	REAL	SIMPLE	223															
CON4	RDPARM	REAL	SIMPLE	224															
CON4DT	RDPARM	REAL	SIMPLE	225															
CON5	RDPARM	REAL	SIMPLE	226															
COSD	RCNTRL	REAL	SIMPLE	159															
COSL	RDPARM	REAL	ARRAY	227															
COSLON	RDPARM	REAL	ARRAY	228															
COSROT	CNTRLP	REAL	SIMPLE	291															
COSZ	RADCOM	REAL	ARRAY	352															
CP	RCNTRL	REAL	SIMPLE	160															
CPD2	RDPARM	REAL	SIMPLE	229															
CPP	CNTRLP	REAL	SIMPLE	292															
CQ1P	DCUMU	REAL	ARRAY	390	495/S	517	524												
CQ3P	DCUMU	REAL	ARRAY	391	496/S	518	522	524	527	550/S	553	555							
CQ5P	DCUMU	REAL	ARRAY	392	497/S	519	523	524	528	549/S	550	554	555						
CQS	CCNTRL	CHAR*8	ARRAY	12	25														
CQU	CCNTRL	CHAR*8	ARRAY	13	26														
CT1P	DCUMU	REAL	ARRAY	387	492/S	514	525												
CT3P	DCUMU	REAL	ARRAY	388	493/S	515	520	526	527	547/S	551								
CT5P	DCUMU	REAL	ARRAY	389	494/S	516	521	528	548/S	552									
CTID	CNTRLP	REAL	SIMPLE	293															
CUMDAY	CNTRLP	REAL	SIMPLE	294															
CUMRAT	CNTRLP	REAL	SIMPLE	295															
CUMULO			SUBROUTINE	1															
CVQ	RADCOM	REAL	ARRAY	338	579/S	580/S	587/S	588/S	595/S	596/S	598								
CVQ1P	DCUMU	REAL	ARRAY	382	432/S	450/S	452	517/S	517	574	579	580							
CVQ3P	DCUMU	REAL	ARRAY	383	433/S	451/S	452	455	458	518/S	518	553/S	553	582					
				587	588														
CVQ5P	DCUMU	REAL	ARRAY	384	434/S	519/S	519	554/S	554	590	595	596							
CVT	RADCOM	REAL	ARRAY	338	567/S	568/S	569/S	570/S	571/S	572/S	597	597							
CVT1P	DCUMU	REAL	ARRAY	379	429/S	448/S	453	456	459	514/S	514	567	568	569					
				570															
CVT3P	DCUMU	REAL	ARRAY	380	430/S	449/S	454	455	457	515/S	515	551/S	551	567					
				568	569	570	571	572											
CVT5P	DCUMU	REAL	ARRAY	381	431/S	516/S	516	552/S	552	569	570	571	572						
CXD	DCUMU	REAL	ARRAY	386	444/S	445	446/S	448	449	450	451	473/S	486/S	488					
				489/S	490	491/S	492	493	494	495	496	497	543/S	544					
				545/S	547	548	549												
CXDE	RADCOM	REAL	ARRAY	339															

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CXL	RADCOM	REAL	SIMPLE	352										
CZH	RADCOM	REAL	ARRAY	351										
DAYSPLY	RCNTRL	REAL	SIMPLE	161										
DCUMU		REAL	UNKNOWN	361										
				372	362	363	364	365	366	367	368	369	370	371
DEC	RCNTRL	REAL	SIMPLE	383	373	374	375	376	377	378	379	380	381	382
DECMAX	CNTRLP	REAL	SIMPLE	162	384	385	386	387	388	389	390	391	392	
DELTA	RCNTRL	REAL	SIMPLE	163										
DIST	CNTRLP	REAL	SIMPLE	299										
DLAT	RCNTRL	REAL	SIMPLE	164										
DLON	RCNTRL	REAL	SIMPLE	165										
DS1P	RCNTRL	REAL	SIMPLE	166										
DS3P		REAL	SIMPLE	402/S	405	452	524							
DSSP		REAL	SIMPLE	403/S	406	445	446	452	489	489	524	537	537	555
				404/S	407	491	491	524	537	544	545	550	555	555
DSIG	RDPARM	REAL	ARRAY	250										
DSIGINV	RDPARM	REAL	ARRAY	252	402	402	403	403	404	404				
DT	RCNTRL	REAL	SIMPLE	167										
DTC3	CNTRLP	REAL	SIMPLE	300										
DTOUT	CNTRLP	REAL	SIMPLE	301										
DXP	RDPARM	REAL	ARRAY	230										
DXYP	RDPARM	REAL	ARRAY	231										
DYP	RDPARM	REAL	ARRAY	232										
ECCN	RCNTRL	REAL	SIMPLE	168										
ED	CNTRLP	REAL	SIMPLE	302										
EDNM	CNTRLP	REAL	SIMPLE	303										
EPS	RCNTRL	REAL	SIMPLE	194										
EPSFAC	RCNTRL	REAL	SIMPLE	195										
EVAP	RADCOM	REAL	SIMPLE	351										
EX	DCUMU	REAL	ARRAY	385										
				495	435/S	436	440	444	448	450	462	476/S	483/S	492
F1DT	RDPARM	REAL	SIMPLE	234	531/S	532	536	539	543	547	558/S	559		
F2DT	RDPARM	REAL	SIMPLE	235										
FCOEF	CNTRLP	REAL	SIMPLE	304										
FCORLS	RDPARM	REAL	ARRAY	233										
FILTER	LDPARM	LOGICAL	ARRAY	211	214									
FK	RADCOM	REAL	ARRAY	347										
FMU	CNTRLP	REAL	SIMPLE	305										
FROST	RADCOM	LOGICAL	ARRAY	356	357									
FWET	CNTRLP	REAL	SIMPLE	306										
GAM	RADCOM	REAL	ARRAY	333	413	413	414	414	600/S					
GAM1P	DCUMU	REAL	ARRAY	366	413/S	440	448	450	450	453	459	484	492	495
				495	525									
GAM3P	DCUMU	REAL	ARRAY	367	414/S	454	477	526	536	539	547			
GAMFAC	CNTRLP	REAL	SIMPLE	307	600									
GNU1	RCNTRL	REAL	SIMPLE	169										
GNU2	RCNTRL	REAL	SIMPLE	170										
GRAV	RCNTRL	REAL	SIMPLE	171										
GT	QANDQT	REAL	ARRAY	257	400									
GTOP0	CNTRLP	REAL	SIMPLE	308	270									
GW	QANDQT	REAL	ARRAY	258	271									
H1DT	RDPARM	REAL	SIMPLE	236										
H2DT	RDPARM	REAL	SIMPLE	237										
HEAT1	RCNTRL	REAL	SIMPLE	193										
HEATW	RCNTRL	REAL	SIMPLE	192										
HH	RADCOM	REAL	ARRAY	336	421	421	423	423						
HH1SP	DCUMU	REAL	ARRAY	377	424/S	435	453/S	453	471	473	476	482	486	510
				525/S	525									
HH2P	DCUMU	REAL	ARRAY	373	420/S	440								
HH3P	DCUMU	REAL	ARRAY	374	421/S	435	440	455/S	455	472	474	482	527/S	527
				378	425/S	454/S	454	471	473	474	476	478	509	526
HH4P	DCUMU	REAL	ARRAY	525	531	558								
HH5P	DCUMU	REAL	ARRAY	375	422/S	477	484	539						
				376	423/S	471	471	472	477	479	484	486	509	510
HHE	RADCOM	REAL	ARRAY	528/S	528	531	539	558						
HHS	RADCOM	REAL	ARRAY	336	420	422								
HICE	CNTRLP	REAL	SIMPLE	337	424	424	425	425						
I		INTEGER	SIMPLE	309										
				461/C	462	464	464	465	465	467	467	470/C	471	471
				471	471	472	472	472	473	473	474	474	474	476

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				476	476	477	477	477	477	477	477	477	477	478
				478	479	479	479	479	482	482	482	483	484	484
				484	484	484	484	485	485	486	486	486	486	488
				488	489	489	490	490	491	491	492	492	492	492
				492	492	493	493	493	493	493	493	494	494	494
				494	495	495	495	495	495	495	495	496	496	496
				496	496	496	497	497	497	497	499	499	502	502
				557/C	558	558	558	559	561	561	562	563	564	564
				437/S	432	511/S	512	533/S	534					
IBIT		INTEGER	SIMPLE	70										
IBLKSI		INTEGER	SIMPLE	95	96									
IC	ICNTRL	INTEGER	ARRAY	27	95									
ICO	ICNTRL	INTEGER	SIMPLE	355	357	96								
ICE	RADCOM	LOGICAL	ARRAY	27	28	29	30	31	32	33	34	35	36	37
ICNTRL		INTEGER	UNKNOWN	38	39	40	41	42	43	44	45	46	47	48
				49	50	51	52	53	54	55	56	57	58	59
				60	61	62	63	64	65	66	67	68	69	70
				71	72	73	74	75	76	77	78			
ICSP53	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92										
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210
IDSP02	IDPARM	INTEGER	SIMPLE	201										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83										
IICLOUD	ICNTRL	INTEGER	SIMPLE	88										
IJUMP	IDPARM	INTEGER	ARRAY	200	467	467	502	502	564	564				
IM	ICNTRL	INTEGER	SIMPLE	28	399	408	408	409	409	409	410	410	411	411
				411	412	412	412	409	409	409	410	410	411	411
				415	415	416	416	413	413	413	414	414	414	415
				419	420	420	421	417	417	417	418	418	419	419
				424	424	424	421	421	421	422	422	423	423	423
				431	432	424	425	425	425	422	422	423	423	429
				440	440	433	434	435	435	426	427	428	429	430
				440	440	440	440	440	440	435	436	437	437	439
				443	444	444	444	444	444	440	442	442	443	443
				448	448	448	448	448	448	445	446	446	446	447
				450	450	450	450	448	448	449	449	449	449	450
				452	452	452	450	450	451	451	451	451	451	452
				455	455	455	453	453	453	454	454	454	454	454
				458	458	455	455	456	456	456	457	457	457	458
				510	510	459	459	459	459	461	470	509	509	509
				515	516	510	510	511	513	514	514	514	515	515
				519	519	516	516	517	517	517	518	518	518	519
				523	523	520	520	520	520	521	521	522	522	522
				525	526	523	524	524	524	524	524	525	525	525
				528	528	526	526	526	526	527	527	527	528	528
				536	536	531	531	531	532	532	533	535	536	536
				539	539	536	537	537	538	538	538	539	539	539
				543	543	539	539	539	541	541	542	542	542	543
				547	547	543	544	544	545	545	545	546	547	547
				549	549	547	547	547	548	548	548	548	548	549
				552	553	549	549	550	550	551	551	552	552	552
				557	557	553	553	554	554	554	555	555	555	555
				570	570	557	557	558	558	558	559	559	559	559
				573	573	570	570	571	571	571	572	572	572	573
				578	579	573	574	574	575	575	576	576	576	578
				582	582	579	579	580	580	580	581	581	581	581
				587	588	583	584	584	584	584	586	586	587	587
				592	592	588	588	589	589	589	589	590	590	591
				596	592	592	592	594	594	595	595	595	596	596
IMD2	ICNTRL	INTEGER	SIMPLE	29										
IMD2P1	ICNTRL	INTEGER	SIMPLE	30										
IMNLAY		INTEGER	SIMPLE	399/S	597	597	597	598	598	598	599	599	599	599
				599	600	600	600	600	600	600	600	600	600	600
INDEX	IDPARM	INTEGER	ARRAY	91										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	81										
IPREACC	ICNTRL	INTEGER	UNKNOWN	81										
IPRECON	ICNTRL	INTEGER	UNKNOWN	82										
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88

IQSDIAG	QANDQT	INTEGER	ARRAY	89	90																
IQU	ICNTRL	INTEGER	ARRAY	281	282																
IRADLW	ICNTRL	INTEGER	UNKNOWN	78	91	467/S	467	502/S	502	564/S	564										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	94		92	93	94													
IRADSW	ICNTRL	INTEGER	UNKNOWN	87																	
IRADSWG	ICNTRL	INTEGER	UNKNOWN	93																	
IROD	IDPARM	INTEGER	UNKNOWN	86																	
ITAPE	LDPARM	LOGICAL	SIMPLE	203																	
ITMAX	ICNTRL	INTEGER	UNKNOWN	212	215																
ITMIN	ICNTRL	INTEGER	UNKNOWN	80																	
IUFLUX	ICNTRL	INTEGER	UNKNOWN	79																	
IVFLUX	ICNTRL	INTEGER	UNKNOWN	89																	
J		INTEGER	UNKNOWN	90																	
JALB	RADCOM	INTEGER	SIMPLE	1	467	467	502	502	564	564											
JC	IDPARM	INTEGER	SIMPLE	354																	
JE	IDPARM	INTEGER	ARRAY	204																	
JIC	CCNTRL	CHAR*8	INTEGER	205																	
JM	ICNTRL	INTEGER	SIMPLE	5	18																
JMD2	ICNTRL	INTEGER	SIMPLE	32																	
JMT2	ICNTRL	INTEGER	SIMPLE	33																	
JNP	ICNTRL	INTEGER	SIMPLE	34																	
JO4	ICNTRL	INTEGER	SIMPLE	35																	
JOB	ICNTRL	INTEGER	SIMPLE	36																	
JOB	CCNTRL	CHAR*8	INTEGER	37																	
JP	IDPARM	INTEGER	SIMPLE	6	19																
JSP	IDPARM	INTEGER	ARRAY	206																	
KLIALB	ICNTRL	INTEGER	SIMPLE	38																	
KLIGW	ICNTRL	INTEGER	SIMPLE	39																	
KLISST	ICNTRL	INTEGER	SIMPLE	40																	
KS	ICNTRL	INTEGER	SIMPLE	41																	
KSTEP	IDPARM	INTEGER	SIMPLE	42																	
KU	ICNTRL	INTEGER	SIMPLE	207																	
L		INTEGER	SIMPLE	43																	
LAND	RADCOM	LOGICAL	ARRAY	463/S	464/S	465	466	467	498/C	499	560/S	561/S	562	563							
LC	LCNTRL	LOGICAL	ARRAY	564																	
LC0	LCNTRL	LOGICAL	ARRAY	355	357																
LCL1		LOGICAL	ARRAY	154	155																
LCL2		LOGICAL	SIMPLE	97	154	165															
LCNTRL		INTEGER	SIMPLE	397/S	498	501	502	505/S	506/S	507											
LDIABAT	LCNTRL	LOGICAL	SIMPLE	398/S	498	507/S															
LDPARM		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107							
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	108	109																
LFUSION	LCNTRL	LOGICAL	UNKNOWN	123	151																
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	115	143																
LOGER	ICNTRL	LOGICAL	UNKNOWN	116	144																
LOMEGA	LCNTRL	LOGICAL	SIMPLE	114	142																
LPREACC	LCNTRL	LOGICAL	SIMPLE	119	147	467	502	564													
LPRECON	LCNTRL	LOGICAL	UNKNOWN	44																	
LQS	LCNTRL	LOGICAL	UNKNOWN	122	150																
LQU	LCNTRL	LOGICAL	UNKNOWN	112	140																
LRADLW	LCNTRL	LOGICAL	UNKNOWN	113	141																
LRADLWG	LCNTRL	LOGICAL	ARRAY	118	110	111	112	113	114	115	116	117	118	119							
LADSW	LCNTRL	LOGICAL	ARRAY	108	110																
LADSWG	LCNTRL	LOGICAL	ARRAY	109	121																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	120	122	136															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137												
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	125	153																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	118	146																
MATIN	ICNTRL	LOGICAL	UNKNOWN	124	152																
MATSNX	ICNTRL	INTEGER	UNKNOWN	117	145																
MATSUN	ICNTRL	INTEGER	UNKNOWN	111	139																
MI XWI	RADCOM	LOGICAL	UNKNOWN	110	138																
MJ	IDPARM	INTEGER	UNKNOWN	110	138																
MLF	ICNTRL	INTEGER	UNKNOWN	120	148																
MROD	ICNTRL	INTEGER	UNKNOWN	121	149																
		INTEGER	SIMPLE	45																	
		INTEGER	SIMPLE	46																	
		INTEGER	SIMPLE	46																	
		INTEGER	SIMPLE	47																	
		LOGICAL	ARRAY	356	357																
		INTEGER	ARRAY	208																	
		INTEGER	ARRAY	208																	
		INTEGER	ARRAY	48																	
		INTEGER	SIMPLE	48																	

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MSM	ICNTRL	INTEGER	SIMPLE	51						
NB	ICNTRL	INTEGER	SIMPLE	52						
NCL		INTEGER	SIMPLE	396/S	503/S	503	504	504/S	505	506
ND	ICNTRL	INTEGER	SIMPLE	53						
NDALT	ICNTRL	INTEGER	SIMPLE	54						
NDAY	ICNTRL	INTEGER	SIMPLE	55						
NDHOG	ICNTRL	INTEGER	SIMPLE	76						
NDOUT	ICNTRL	INTEGER	SIMPLE	56						
NDFHY	ICNTRL	INTEGER	SIMPLE	57						
NDRSW	ICNTRL	INTEGER	SIMPLE	31						
NDSHF	ICNTRL	INTEGER	SIMPLE	58						
NDT	ICNTRL	INTEGER	SIMPLE	59						
NDTC3	CNTRLP	INTEGER	SIMPLE	310						
NFK	RADCOM	INTEGER	SIMPLE	347						
NFLW	CNTRLP	INTEGER	SIMPLE	311						
NHMS	ICNTRL	INTEGER	SIMPLE	60						
NHMSO	ICNTRL	INTEGER	SIMPLE	62						
NHMS1	IDPARM	INTEGER	SIMPLE	209						
NHMSE	ICNTRL	INTEGER	SIMPLE	61						
NKRSH	ICNTRL	INTEGER	SIMPLE	50						
NLAY	ICNTRL	INTEGER	SIMPLE	63	399	466	501			
NLAYM1	ICNTRL	INTEGER	SIMPLE	64						
NLAYOZ	RADCOM	INTEGER	SIMPLE	346						
NLAYP1	ICNTRL	INTEGER	SIMPLE	65	563					
NMLEV	ICNTRL	INTEGER	SIMPLE	75						
NOZ	RADCOM	INTEGER	SIMPLE	350						
NSDAY	ICNTRL	INTEGER	SIMPLE	66						
NSEQ	ICNTRL	INTEGER	SIMPLE	67						
NSTEP	ICNTRL	INTEGER	SIMPLE	69						
NYMD	ICNTRL	INTEGER	SIMPLE	71						
NYMDO	ICNTRL	INTEGER	SIMPLE	73						
NYMD1	IDPARM	INTEGER	SIMPLE	210						
NYMDE	ICNTRL	INTEGER	SIMPLE	72						
NZINIT	ICNTRL	INTEGER	SIMPLE	74						
OCEAN	RADCOM	LOGICAL	ARRAY	355	357					
OCM22	RADCOM	REAL	ARRAY	349						
OCM30	RADCOM	REAL	ARRAY	349						
OCM38	RADCOM	REAL	ARRAY	349						
OCM46	RADCOM	REAL	ARRAY	349						
OCMXX	RADCOM	REAL	ARRAY	350						
OLAPR	RADCOM	REAL	ARRAY	348						
OLJAN	RADCOM	REAL	ARRAY	348						
OLJUL	RADCOM	REAL	ARRAY	348						
OLOCT	RADCOM	REAL	ARRAY	348						
OMEGA2	RCNTRL	REAL	SIMPLE	172						
OZALE	RADCOM	REAL	ARRAY	342						
P	QANDQT	REAL	ARRAY	261	274					
PCLOW	PCON	REAL	ARRAY	360	428/S	555/S				
PCMID	PCON	REAL	ARRAY	358	426/S	452/S				
PCON	PCON	REAL	UNKNOWN	358	359	360				
PCPEN	PCON	REAL	ARRAY	359	427/S	524/S				
PHI	QANDQT	REAL	ARRAY	266	279					
PHIS	QANDQT	REAL	ARRAY	254	267					
PI	RCNTRL	REAL	SIMPLE	173						
PI180	RCNTRL	REAL	SIMPLE	174						
PI2	RCNTRL	REAL	SIMPLE	175						
PIM	CNTRLP	REAL	SIMPLE	312						
PIMEAN	RCNTRL	REAL	SIMPLE	177						
PKSTD	RDPARM	REAL	SIMPLE	238						
PKTOP	RDPARM	REAL	SIMPLE	239						
PL	RADCOM	REAL	ARRAY	327	599					
PLE	RADCOM	REAL	ARRAY	327						
PLEVS	RCNTRL	REAL	ARRAY	191						
PLK	RADCOM	REAL	ARRAY	328						
PLKE	RADCOM	REAL	ARRAY	328						
PREP	RADCOM	REAL	ARRAY	351						
PROCM	RADCOM	REAL	ARRAY	350						
PSMAX	RCNTRL	REAL	SIMPLE	178						
PSMIN	RCNTRL	REAL	SIMPLE	179						
PSTD	RCNTRL	REAL	SIMPLE	176						

PTOP	RCNTRL	REAL	SIMPLE	180																	
PZERO	RCNTRL	REAL	SIMPLE	197																	
Q2P	DCUMU	REAL	ARRAY	361	408/S	450	451	455	496												
Q3P	DCUMU	REAL	ARRAY	362	409/S	451	458/S	458	496	496	522/S	522									
Q4P	DCUMU	REAL	ARRAY	363	410/S	496	497	549													
Q5P	DCUMU	REAL	ARRAY	364	411/S	497	523/S	523	549												
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																
QANDQT		REAL	UNKNOWN	253	280	283															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QHOG	CNTRLP	LOGICAL	SIMPLE	313	325																
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130	467	502	564													
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282																
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QST1P	DCUMU	REAL	ARRAY	365	412/S	450	459/S	459	495												
QUDIAG	QANDQT	REAL	ARRAY	283	326	327	328	329	330	331	332	333	334	335	336						
RADCOM		REAL	UNKNOWN	326	327	328	329	330	331	332	333	334	335	336							
				337	338	339	340	341	342	343	344	345	346	347							
RADE	RCNTRL	REAL	SIMPLE	348	349	350	351	352	353	354	355	356									
RADTRM	RADCOM	REAL	ARRAY	181																	
RC	RCNTRL	REAL	ARRAY	352	199																
RCD	RCNTRL	REAL	SIMPLE	156	198	199															
RCLD	RADCOM	REAL	ARRAY	354																	
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166							
				167	168	169	170	171	172	173	174	175	176	177							
				178	179	180	181	182	183	184	185	186	187	188							
RDPARM		REAL	UNKNOWN	189	190	191	192	193	194	195	196	197	198								
				217	218	219	220	221	222	223	224	225	226	227							
				228	229	230	231	232	233	234	235	236	237	238							
				239	240	241	242	243	244	245	246	247	248	249							
				250	251	252															
RE	RADCOM	REAL	ARRAY	326	474/S	475	475/S	477	477	482/S	484	488	489	490	491						
RETA		REAL	SIMPLE	474/S	493	494	496	497													
RGAS	RCNTRL	REAL	SIMPLE	182																	
RH	RADCOM	REAL	ARRAY	334	464	464	561	561													
RLAT	RDPARM	REAL	ARRAY	240																	
RLATD	RDPARM	REAL	ARRAY	241																	
RN	RADCOM	REAL	ARRAY	344																	
ROCP	RCNTRL	REAL	SIMPLE	183																	
ROCPDT	RDPARM	REAL	SIMPLE	242																	
ROCPP1	RDPARM	REAL	SIMPLE	243																	
RSDIST	RCNTRL	REAL	SIMPLE	184																	
RSURF	RADCOM	REAL	ARRAY	354																	
SO	RADCOM	REAL	SIMPLE	352																	
SDAY	RCNTRL	REAL	SIMPLE	185																	
SEASON	RCNTRL	REAL	SIMPLE	186																	
SG	RADCOM	REAL	ARRAY	353																	
SGNP	RDPARM	REAL	ARRAY	244																	
SH	QANDQT	REAL	ARRAY	265	278																
SHG	RADCOM	REAL	ARRAY	332																	
SHL	RADCOM	REAL	ARRAY	331	409	409	411	411	576	576	576	584	584	584							
				592	592	592	598/S	598													
SHLE	RADCOM	REAL	ARRAY	331	408	410															
SHLTOP	CNTRLP	REAL	SIMPLE	314																	
SHS	QANDQT	REAL	ARRAY	260	273																
SHSAT	RADCOM	REAL	ARRAY	333	412	412	573	573	573	581	581	581	589	589							
				589	599/S	599	600														
SIG	RDPARM	REAL	ARRAY	251																	
SIGE	RCNTRL	REAL	ARRAY	187																	
SIND	RCNTRL	REAL	SIMPLE	188																	
SINL	RDPARM	REAL	ARRAY	245																	
SINLON	RDPARM	REAL	ARRAY	246																	

SINROT	CNTRLP	REAL	SIMPLE	315																
SMTH	QANDQT	REAL	ARRAY	255	268															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133															
SNOW	RADCOM	LOGICAL	ARRAY	356	357															
SNOWN	CNTRLP	REAL	SIMPLE	316																
SNOWS	CNTRLP	REAL	SIMPLE	317																
SOLS	RCNTRL	REAL	SIMPLE	189																
SP	RADCOM	REAL	ARRAY	353	452	524	555													
SRS	RADCOM	REAL	ARRAY	344																
SS1P	DCUMU	REAL	ARRAY	368	415/S	440	448	456/S	456	484	492									
SS2P	DCUMU	REAL	ARRAY	369	416/S	440	448	449	477	484	492									
SS3P	DCUMU	REAL	ARRAY	370	417/S	449	448	457/S	477	484	492									
				536	539	547	457/S	457	477	477	493	493								
				371	418/S	477	493	494	539	547	548									
				372	419/S	494	521/S	521	536	548	548									
				335	415	415	417	417	419	419										
				213	416	418														
				218	216															
				318																
				319																
				320																
				344																
				340																
				340																
				264																
				342	277															
				345																
				394	440/S	442	443/S	444	472/S	474	477/S	478/S	478	479						
				482	484/S	485/S	485	486	488/S	489	490/S	491	536/S	537						
				537	538/S	538	538	539/S	539	541	542/S	543	547	548						
				549	573/S	576/S	578/S	578	579	580	581/S	584/S	586/S	586						
				587	588	589/S	592/S	594/S	594	595	596									
				330																
				330																
				247																
				248																
				321																
				329	597/S	597	599	600	600											
				329																
				346																
				322																
				346																
				344																
				343																
				350																
				345																
				259	272															
				190																
				262																
				263	275															
				10	276															
				351	23															
				351																
				249																
				323																
				347																
				11	24															
				324																

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PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
AMAX1	REAL	INTRINSIC	472 478 485
QBSCNT	INTEGER	INTRINSIC	437 511 533
VQSAT	REAL	FUNCTION	599

D=STMT FN DEF, A=ARGLIST

00001

SUBROUTINE DAILY (*)

UPDATE CALENDAR, CORRECT GLOBAL MEAN PRESSURE, AND READ CLIMATOLOGY

ARGUMENTS DESCRIPTION
CLIMATOLOGY I/O ERROR RETURN

I/O DDNAME DESCRIPTION
41 MONTHLY TOPOGRAPHY
42 MONTHLY GROUND WETNESS
43 MONTHLY ALBEDO

REFERENCES DESCRIPTION
ROCLI READ CLIMATE DATASET

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)

00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
00025 CHARACTER*8 CQS
00026 CHARACTER*8 CQU

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

00027 COMMON /ICNTRL/ IC0
00028 COMMON /ICNTRL/ IM
00029 COMMON /ICNTRL/ IMD2
00030 COMMON /ICNTRL/ IMD2P1
00031 COMMON /ICNTRL/ NDRSW
00032 COMMON /ICNTRL/ JM
00033 COMMON /ICNTRL/ JMD2
00034 COMMON /ICNTRL/ JMT2
00035 COMMON /ICNTRL/ JNP
00036 COMMON /ICNTRL/ JO4
00037 COMMON /ICNTRL/ JO8
00038 COMMON /ICNTRL/ JSP
00039 COMMON /ICNTRL/ KLIALB
00040 COMMON /ICNTRL/ KLIGW
00041 COMMON /ICNTRL/ KLISST
00042 COMMON /ICNTRL/ KS
00043 COMMON /ICNTRL/ KU
00044 COMMON /ICNTRL/ LOGBR
00045 COMMON /ICNTRL/ MATIN
00046 COMMON /ICNTRL/ MATSNX
00047 COMMON /ICNTRL/ MATSUN
00048 COMMON /ICNTRL/ MLF (12)
00049 COMMON /ICNTRL/ MR0D
00050 COMMON /ICNTRL/ NKRSH

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VCNTRL 57

ORIGINAL PAGE 13
OF POOR QUALITY

00051	COMMON /ICNTRL/ MSM	VCNTRL 58
00052	COMMON /ICNTRL/ NB	VCNTRL 59
00053	COMMON /ICNTRL/ ND	VCNTRL 60
00054	COMMON /ICNTRL/ NDALT	VCNTRL 61
00055	COMMON /ICNTRL/ NDAY	VCNTRL 62
00056	COMMON /ICNTRL/ NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
C		VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
C		VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
C		VCNTRL 104
00095	EQUIVALENCE (ICO, IC(1))	VCNTRL 105
00096	INTEGER IC0, IC(200)	VCNTRL 106
C		VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
C	=====	VCNTRL 109
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSH	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
C		VCNTRL 123
00110	EQUIVALENCE (LTMIN .LOS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX .LOS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC .LOS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON .LOS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX .LOS(5))	VCNTRL 128

ORIGINAL PAGE IS
OF POOR QUALITY

00115	EQUIVALENCE	(LEFLUX .LQS(6))		
00116	EQUIVALENCE	(LFUSION .LQS(7))		VCNTRL 129
00117	EQUIVALENCE	(LRADSWG .LQS(8))		VCNTRL 130
00118	EQUIVALENCE	(LRADLWG .LQS(9))		VCNTRL 131
00119	EQUIVALENCE	(LICLOUD .LQS(10))		VCNTRL 132
00120	EQUIVALENCE	(LUFLUX .LQS(11))		VCNTRL 133
00121	EQUIVALENCE	(LVFLUX .LQS(12))		VCNTRL 134
	C			VCNTRL 135
00122	EQUIVALENCE	(LOMEGA .LOU(1))		VCNTRL 136
00123	EQUIVALENCE	(LDIABAT .LOU(2))		VCNTRL 137
00124	EQUIVALENCE	(LRADSW .LOU(3))		VCNTRL 138
00125	EQUIVALENCE	(LRADLW .LOU(4))		VCNTRL 139
	C			VCNTRL 140
00126	LOGICAL	QALT		VCNTRL 141
00127	LOGICAL	QBEG		VCNTRL 142
00128	LOGICAL	QDAY		VCNTRL 143
00129	LOGICAL	QEND		VCNTRL 144
00130	LOGICAL	QOUT		VCNTRL 145
00131	LOGICAL	QPHY		VCNTRL 146
00132	LOGICAL	QSHF		VCNTRL 147
00133	LOGICAL	SN2FLG		VCNTRL 148
00134	LOGICAL	QRSW		VCNTRL 149
00135	LOGICAL	QRSH		VCNTRL 150
	C			VCNTRL 151
00136	LOGICAL	LQS		VCNTRL 152
00137	LOGICAL	LQU		VCNTRL 153
00138	LOGICAL	LTMIN		VCNTRL 154
00139	LOGICAL	LTMAX		VCNTRL 155
00140	LOGICAL	LPREACC		VCNTRL 156
00141	LOGICAL	LPRECON		VCNTRL 157
00142	LOGICAL	LHFLUX		VCNTRL 158
00143	LOGICAL	LEFLUX		VCNTRL 159
00144	LOGICAL	LFUSION		VCNTRL 160
00145	LOGICAL	LRADSWG		VCNTRL 161
00146	LOGICAL	LRADLWG		VCNTRL 162
00147	LOGICAL	LICLOUD		VCNTRL 163
00148	LOGICAL	LUFLUX		VCNTRL 164
00149	LOGICAL	LVFLUX		VCNTRL 165
	C			VCNTRL 166
00150	LOGICAL	LOMEGA		VCNTRL 167
00151	LOGICAL	LDIABAT		VCNTRL 168
00152	LOGICAL	LRADSW		VCNTRL 169
00153	LOGICAL	LRADLW		VCNTRL 170
	C			VCNTRL 171
00154	EQUIVALENCE	(LC0,LC(1))		VCNTRL 172
00155	LOGICAL	LC0, LC(200)		VCNTRL 173
	C			VCNTRL 174
	C			VCNTRL 175
	C			VCNTRL 176
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00156	COMMON /RCNTRL/	RC0		
00157	COMMON /RCNTRL/	APHEL		
00158	COMMON /RCNTRL/	BETA		
00159	COMMON /RCNTRL/	COSD		
00160	COMMON /RCNTRL/	CP		
00161	COMMON /RCNTRL/	DAYSPLY		
00162	COMMON /RCNTRL/	DEC		
00163	COMMON /RCNTRL/	DECMAX		
00164	COMMON /RCNTRL/	DIST		
00165	COMMON /RCNTRL/	DLAT		
00166	COMMON /RCNTRL/	DLOX		
00167	COMMON /RCNTRL/	DT		
00168	COMMON /RCNTRL/	ECCN		
00169	COMMON /RCNTRL/	GNU1		
00170	COMMON /RCNTRL/	GNU2		
00171	COMMON /RCNTRL/	GRAV		
00172	COMMON /RCNTRL/	OMEGA2		
00173	COMMON /RCNTRL/	PI		
00174	COMMON /RCNTRL/	PI180		
00175	COMMON /RCNTRL/	PI2		
00176	COMMON /RCNTRL/	PSTD		
00177	COMMON /RCNTRL/	PIMEAN		

ORIGINAL PAGE IS
OF POOR QUALITY

00178	COMMON /RCNTRL/ PSMAX	VCNTRL 200
00179	COMMON /RCNTRL/ PSMIN	VCNTRL 201
00180	COMMON /RCNTRL/ PTOP	VCNTRL 202
00181	COMMON /RCNTRL/ RADE	VCNTRL 203
00182	COMMON /RCNTRL/ RGAS	VCNTRL 204
00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
00198	C EQUIVALENCE (RCO,RC(1))	VCNTRL 220
00199	REAL RCO, RC(200)	VCNTRL 221
	C	VCNTRL 222
	C INTEGER MODEL CONSTANTS	VCNTRL 223
	C =====	VCNTRL 224
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 225
00201	COMMON /IDPARM/ IDSP02	VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 227
00203	COMMON /IDPARM/ IROD	VCNTRL 228
00204	COMMON /IDPARM/ JC (46)	VCNTRL 229
00205	COMMON /IDPARM/ JE (2)	VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 231
00207	COMMON /IDPARM/ KSTEP	VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 233
00209	COMMON /IDPARM/ NHMS1	VCNTRL 234
00210	COMMON /IDPARM/ NVMD1	VCNTRL 235
	C	VCNTRL 236
	C LOGICAL MODEL CONSTANTS	VCNTRL 237
	C =====	VCNTRL 238
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 239
00212	COMMON /LDPARM/ ITAPE	VCNTRL 240
00213	COMMON /LDPARM/ START	VCNTRL 241
	C	VCNTRL 242
00214	LOGICAL FILTER	VCNTRL 243
00215	LOGICAL ITAPE	VCNTRL 244
00216	LOGICAL START	VCNTRL 245
	C	VCNTRL 246
	C REAL MODEL CONSTANTS	VCNTRL 247
	C =====	VCNTRL 248
00217	COMMON /RDPARM/ ADLDP	VCNTRL 249
00218	COMMON /RDPARM/ CON1	VCNTRL 250
00219	COMMON /RDPARM/ CON1DT	VCNTRL 251
00220	COMMON /RDPARM/ CON2	VCNTRL 252
00221	COMMON /RDPARM/ CON2DT	VCNTRL 253
00222	COMMON /RDPARM/ CON3	VCNTRL 254
00223	COMMON /RDPARM/ CON3DT	VCNTRL 255
00224	COMMON /RDPARM/ CON4	VCNTRL 256
00225	COMMON /RDPARM/ CON4DT	VCNTRL 257
00226	COMMON /RDPARM/ CON5	VCNTRL 258
00227	COMMON /RDPARM/ COSL (46)	VCNTRL 259
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 260
00229	COMMON /RDPARM/ CPD2	VCNTRL 261
00230	COMMON /RDPARM/ DXF (46)	VCNTRL 262
00231	COMMON /RDPARM/ DXYP (46)	VCNTRL 263
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 264
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 265
00234	COMMON /RDPARM/ F1DT	VCNTRL 266
00235	COMMON /RDPARM/ F2DT	VCNTRL 267
00236	COMMON /RDPARM/ H1DT	VCNTRL 268
00237	COMMON /RDPARM/ H2DT	VCNTRL 269
		VCNTRL 270

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00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPDT
00243 COMMON /RDPARM/ ROCPP1
00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

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VCNTRL 271
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VCNTRL 286

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COMDECK VQANDQT RESOLUTION VALUES

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=====
IM =72
NLAY =9
JM+1 =46
NLAY+11 =99
IM+NLAY+11 =7128
JM/2+1 =23

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GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)

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00253 C COMMON /QANDQT/ QPROG(72,9,11,46)

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00254 C DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 C DIMENSION P (72,99,1)

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00262 C DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 C DIMENSION PHI (72,9,11,1)

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00267 C EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 C EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))

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00275 C EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 5,1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
00279 C EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))

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SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)

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00280 C COMMON /QANDQT/ QSDIAG(72,15,46)
00281 DIMENSION IQSDIAG(72,15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)

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00283 C COMMON /QANDQT/ QUDIAG(72,9,5,46)

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VQANDQT 53
VQANDQT 54
VQANDQT 55
VOPOLES 2

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ORIGINAL PAGE IS
OF POOR QUALITY

00335	IF (NMON.EQ.MONSST) GO TO 200	
00336	CALL RDCLI (LUSST,NMON,TOPOG1,JNP*IM,&900)	VDAILY 69
00337	MONSST = NMON	VDAILY 70
00338	DO 130 J=JSP,JNP	VDAILY 71
00339	INC = IJUMP(J)	VDAILY 72
00340	DO 130 I=1,IM,INC	VDAILY 73
	C CORRECT ONLY SEA-SURFACE TEMPERATURES	VDAILY 74
00341	IF (TOPOG1(J,I).LE.0.) GO TO 130	VDAILY 75
00342	GT(I,J) = TOPOG1(J,I)	VDAILY 76
00343	130 CONTINUE	VDAILY 77
00344	GO TO 200	VDAILY 78
	C INTERPOLATE BETWEEN MONTHS	VDAILY 79
00345	160 CONTINUE	VDAILY 80
00346	IF (MONSST.EQ.0)	VDAILY 81
	&CALL RDCLI (LUSST,NMON1,TOPOG2(1,1,MO1),JNP*IM,&900)	VDAILY 82
00347	IF (NMON2.EQ.MONSST) GO TO 180	VDAILY 83
00348	CALL RDCLI (LUSST,NMON2,TOPOG2(1,1,MO2),JNP*IM,&900)	VDAILY 84
00349	MONSST = NMON2	VDAILY 85
00350	180 CONTINUE	VDAILY 86
00351	DO 190 J=JSP,JNP	VDAILY 87
00352	INC = IJUMP(J)	VDAILY 88
00353	DO 190 I=1,IM,INC	VDAILY 89
	C CORRECT ONLY SEA-SURFACE TEMPERATURES	VDAILY 90
00354	IF (SIGN(1.,TOPOG2(J,I,MO1))*SIGN(1.,TOPOG2(J,I,MO2))) 190,183,185	VDAILY 91
00355	183 CONTINUE	VDAILY 92
00356	GT(I,J) = AMAX1(TOPOG2(J,I,MO1),TOPOG2(J,I,MO2))	VDAILY 93
00357	GO TO 190	VDAILY 94
00358	185 CONTINUE	VDAILY 95
00359	GT(I,J) = FDAT1*TOPOG2(J,I,MO1) + FDAT2*TOPOG2(J,I,MO2)	VDAILY 96
00360	190 CONTINUE	VDAILY 97
	C * * *	VDAILY 98
	C ADJUST GROUND WETNESS FIELD	VDAILY 99
00361	200 CONTINUE	VDAILY 100
00362	LU = LUGW	VDAILY 101
00363	GO TO (210,260), KLI GW	VDAILY 102
00364	GO TO 300	VDAILY 103
00365	210 CONTINUE	VDAILY 104
00366	IF (NMON.EQ.MONGW) GO TO 300	VDAILY 105
00367	CALL RDCLI (LUGW,NMON,GW1,JNP*IM,&900)	VDAILY 106
00368	MONGW = NMON	VDAILY 107
00369	DO 230 J=JSP,JNP	VDAILY 108
00370	INC = IJUMP(J)	VDAILY 109
00371	DO 230 I=1,IM,INC	VDAILY 110
00372	GW(I,J) = GW1(J,I)	VDAILY 111
00373	230 CONTINUE	VDAILY 112
00374	GO TO 300	VDAILY 113
	C INTERPOLATE BETWEEN MONTHS	VDAILY 114
00375	260 CONTINUE	VDAILY 115
00376	IF (MONGW.EQ.0)	VDAILY 116
	&CALL RDCLI (LUGW,NMON1,GW2(1,1,MO1),JNP*IM,&900)	VDAILY 117
00377	IF (NMON2.EQ.MONGW) GO TO 280	VDAILY 118
00378	CALL RDCLI (LUGW,NMON2,GW2(1,1,MO2),JNP*IM,&900)	VDAILY 119
00379	MONGW = NMON2	VDAILY 120
00380	280 CONTINUE	VDAILY 121
00381	DO 290 J=JSP,JNP	VDAILY 122
00382	INC = IJUMP(J)	VDAILY 123
00383	DO 290 I=1,IM,INC	VDAILY 124
00384	GW(I,J) = FDAT1*GW2(J,I,MO1) + FDAT2*GW2(J,I,MO2)	VDAILY 125
00385	290 CONTINUE	VDAILY 126
	C * * *	VDAILY 127
	C ADJUST ALBEDO FIELD	VDAILY 128
00386	300 CONTINUE	VDAILY 129
00387	LU = LUALB	VDAILY 130
00388	GO TO (310,360), KLIALB	VDAILY 131
00389	GO TO 400	VDAILY 132
00390	310 CONTINUE	VDAILY 133
00391	IF (NMON.EQ.MONALB) GO TO 400	VDAILY 134
00392	CALL RDCLI (LUALB,NMON,ALBDO1,JNP*IM,&900)	VDAILY 135
00393	MONALB = NMON	VDAILY 136
00394	DO 330 J=JSP,JNP	VDAILY 137
00395	INC = IJUMP(J)	VDAILY 138
		VDAILY 139

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00396          DO 330 I=1,IM,INC          VDAILY 140
00397          ALBEDO(I,J) = ALBDO1(J,I)  VDAILY 141
00398          330 CONTINUE              VDAILY 142
00399          GO TO 400                  VDAILY 143
00400          C INTERPOLATE BETWEEN MONTHS VDAILY 144
00401          360 CONTINUE              VDAILY 145
          IF (MONALB.EQ.0)              VDAILY 146
          &CALL RDCLI (LUALB,NMON1,ALBDO2(1,1,MO1),JNP*IM,&900) VDAILY 147
00402          IF (NMON2.EQ.MONALB) GO TO 380 VDAILY 148
00403          CALL RDCLI (LUALB,NMON2,ALBDO2(1,1,MO2),JNP*IM,&900) VDAILY 149
00404          MONALB = NMON2             VDAILY 150
00405          380 CONTINUE              VDAILY 151
00406          DO 390 J=JSP,JNP          VDAILY 152
00407          INC = IJUMP(J)            VDAILY 153
00408          DO 390 I=1,IM,INC          VDAILY 154
00409          ALBEDO(I,J) = FDAT1*ALBDO2(J,I,MO1) + FDAT2*ALBDO2(J,I,MO2) VDAILY 155
00410          390 CONTINUE              VDAILY 156
          C * * *                        VDAILY 157
00411          400 CONTINUE              VDAILY 158
00412          RETURN                    VDAILY 159
          C * * *                        VDAILY 160
          C ERROR IN READING CLIMATE DATASET VDAILY 161
00413          900 CONTINUE              VDAILY 162
00414          WRITE (3,6900) LU         VDAILY 163
00415          RETURN 1                  VDAILY 164
          C * * *                        VDAILY 165
00416          6040 FORMAT ('GLOBAL MEAN PRESSURE',F10.4,8X, VDAILY 166
          & 'PRESSURE ADDED',F10.4)     VDAILY 167
00417          6900 FORMAT ('ERROR IN READING CLIMATE DATASET ON UNIT',I4) VDAILY 168
00418          END                      VDAILY 169

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

100	330								
10000	297								
110	334	332							
130	343	338	340		341				
160	345	332							
180	350	347							
183	355	354							
185	358	354							
190	360	351	353		354		357		
200	361	333	335		344				
210	365	363							
230	373	369	371						
260	375	363							
280	380	377							
290	385	381	383						
300	386	364	366		374				
310	390	388							
330	398	394	396						
360	400	388							
380	405	402							
390	410	406	408						
40	303	299	301						
400	411	389	391		399				
50	307								
60	322	308							
6040	416	306							
6900	417	414							
900	413								

VARIABLE MAP
 --NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT. R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE		3	16													
ADLDP	RDPARM	REAL	SIMPLE		217														
ALBDO1	MNTHLY	REAL	ARRAY		291	294	392	397											
ALBDO2	MNTHLY	REAL	ARRAY		290	294	401	403	409	409									
ALBEDO	QANDOT	REAL	ARRAY		256	269	397/S	409/S											

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APHEL	RCNTRL	REAL	SIMPLE	157	325																	
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																	
BETA	RCNTRL	REAL	SIMPLE	158																		
CALTOJ	RCNTRL	REAL	SIMPLE	196																		
CC	CCNTRL	CHAR*8	ARRAY	14	15																	
CC0	CCNTRL	CHAR*8	SIMPLE	2	14	15																
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12								
				13																		
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20																	
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21																	
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22																	
CON1	RDPARM	REAL	SIMPLE	218																		
CON1DT	RDPARM	REAL	SIMPLE	219																		
CON2	RDPARM	REAL	SIMPLE	220																		
CON2DT	RDPARM	REAL	SIMPLE	221																		
CON3	RDPARM	REAL	SIMPLE	222																		
CON3DT	RDPARM	REAL	SIMPLE	223																		
CON4	RDPARM	REAL	SIMPLE	224																		
CON4DT	RDPARM	REAL	SIMPLE	225																		
CON5	RDPARM	REAL	SIMPLE	226																		
COSD	RCNTRL	REAL	SIMPLE	159	329/S																	
COSL	RDPARM	REAL	ARRAY	227																		
COSLON	RDPARM	REAL	ARRAY	228																		
CP	RCNTRL	REAL	SIMPLE	160																		
CPD2	RDPARM	REAL	SIMPLE	229																		
CQS	CCNTRL	CHAR*8	ARRAY	12	25																	
COU	CCNTRL	CHAR*8	ARRAY	13	26																	
DAILY			SUBROUTINE	1																		
DAYSPY	RCNTRL	REAL	SIMPLE	161	324	325																
DEC	RCNTRL	REAL	SIMPLE	162	326/S	328	329															
DECMAX	RCNTRL	REAL	SIMPLE	163	326																	
DELTAP		REAL	SIMPLE	298/S	302	304	305	306/W														
DIST	RCNTRL	REAL	SIMPLE	164	325/S	327																
DLAT	RCNTRL	REAL	SIMPLE	165																		
DLON	RCNTRL	REAL	SIMPLE	166																		
DSIG	RDPARM	REAL	ARRAY	250																		
DSIGINV	RDPARM	REAL	ARRAY	252																		
DT	RCNTRL	REAL	SIMPLE	167																		
DXP	RDPARM	REAL	ARRAY	230																		
DXYP	RDPARM	REAL	ARRAY	231																		
DYP	RDPARM	REAL	ARRAY	232																		
ECCN	RCNTRL	REAL	SIMPLE	168	327																	
EPS	RCNTRL	REAL	SIMPLE	194																		
EPSFAC	RCNTRL	REAL	SIMPLE	195																		
F1DT	RDPARM	REAL	SIMPLE	234																		
F2DT	RDPARM	REAL	SIMPLE	235																		
FCORLS	RDPARM	REAL	ARRAY	233																		
FDAT1		REAL	SIMPLE	316/S	359	384	409															
FDAT2		REAL	SIMPLE	315/S	316	359	384	409														
FDAY		REAL	SIMPLE	323/S	324	325																
FILTER	LDPARM	LOGICAL	ARRAY	211	214																	
GNU1	RCNTRL	REAL	SIMPLE	169																		
GNU2	RCNTRL	REAL	SIMPLE	170																		
GRAV	RCNTRL	REAL	SIMPLE	171																		
GT	QANDQT	REAL	ARRAY	257	270	342/S	356/S	359/S														
GW	QANDQT	REAL	ARRAY	258	271	372/S	384/S															
GW1	MNTHLY	REAL	ARRAY	291	293	367	372															
GW2	MNTHLY	REAL	ARRAY	290	293	376	378	384	384													
H1DT	RDPARM	REAL	SIMPLE	236																		
H2DT	RDPARM	REAL	SIMPLE	237																		
HEAT1	RCNTRL	REAL	SIMPLE	193																		
HEATW	RCNTRL	REAL	SIMPLE	192																		
I		INTEGER	SIMPLE	301/C	302	302	340/C	341	342	342	353/C	354	354	356								
				356	355	359	359	359	371/C	372	372	383/C	384	384								
				384	396/C	397	397	408/C	409	409	409	409	409	409								
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																		
IC	ICNTRL	INTEGER	ARRAY	95	96																	
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96																
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37								
				38	39	40	41	42	43	44	45	46	47	48								

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				49	50	51	52	53	54	55	56	57	58	59	10
ICSP53	ICNTRL	INTEGER	SIMPLE	60	61	62	63	64	65	66	67	68	69	70	
IDIABAT	ICNTRL	INTEGER	UNKNOWN	71	72	73	74	75	76	77	78				
IDPARM		INTEGER	UNKNOWN	68											
IDSP02	IDPARM	INTEGER	SIMPLE	92	200	201	202	203	204	205	206	207	208	209	210
IEFLUX	ICNTRL	INTEGER	UNKNOWN	201											
IFUSION	ICNTRL	INTEGER	UNKNOWN	84											
IHFLUX	ICNTRL	INTEGER	UNKNOWN	85											
IICLOUD	ICNTRL	INTEGER	UNKNOWN	83											
IJUMP	IDPARM	INTEGER	ARRAY	88	200	300	339	352	370	382	395	407			
IM	ICNTRL	INTEGER	SIMPLE	28	301	301	336	340	346	348	353	367	371	376	378
IMD2	ICNTRL	INTEGER	SIMPLE	383	392	392	396	401	403	408					
IMD2P1	ICNTRL	INTEGER	SIMPLE	29											
INC	ICNTRL	INTEGER	SIMPLE	30											
INDEX	IDPARM	INTEGER	ARRAY	300/S	301	301	339/S	340	352/S	353	370/S	371	382/S	383	395
IOMEGA	ICNTRL	INTEGER	UNKNOWN	396	407/S	407/S	408								
IPREACC	ICNTRL	INTEGER	UNKNOWN	202											
IPRECON	ICNTRL	INTEGER	UNKNOWN	91											
IQS	ICNTRL	INTEGER	ARRAY	81											
IQSDIAG	QANDQT	INTEGER	ARRAY	82	77	79	80	81	82	83	84	85	86	87	88
IQU	ICNTRL	INTEGER	ARRAY	89	90	90									
IRADLW	ICNTRL	INTEGER	UNKNOWN	281	282										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	78	91	92	93	94							
IRADSW	ICNTRL	INTEGER	UNKNOWN	94											
IRADSWG	ICNTRL	INTEGER	UNKNOWN	87											
IROD	IDPARM	INTEGER	SIMPLE	93											
ITAPE	LDPARM	LOGICAL	SIMPLE	86											
ITMAX	ICNTRL	INTEGER	UNKNOWN	203	215										
ITMIN	ICNTRL	INTEGER	UNKNOWN	212											
IUFLUX	ICNTRL	INTEGER	UNKNOWN	80											
IVFLUX	ICNTRL	INTEGER	UNKNOWN	79											
J		INTEGER	SIMPLE	89	90										
JC	IDPARM	INTEGER	ARRAY	299/C	300	302	302	338/C	339	341	342	342	351/C	352	
JE	IDPARM	INTEGER	ARRAY	354	354	356	356	356	359	359	359	359	369/C	370	372
JIC	CCNTRL	CHAR*8	ARRAY	372	381/C	382	384	384	384	394/C	395	395	397	397	406
JM	ICNTRL	INTEGER	SIMPLE	407	409	409	409								
JMD2	ICNTRL	INTEGER	SIMPLE	204											
JMT2	ICNTRL	INTEGER	SIMPLE	205											
JNP	ICNTRL	INTEGER	SIMPLE	5	18										
JO4	ICNTRL	INTEGER	SIMPLE	32	299										
JOB	ICNTRL	INTEGER	SIMPLE	33											
JOB	CCNTRL	CHAR*8	SIMPLE	34											
JP	IDPARM	INTEGER	ARRAY	35	336	338	346	348	351	367	369	376	378	381	
JSP	ICNTRL	INTEGER	SIMPLE	392	394	401	403	406							
KLIALB	ICNTRL	INTEGER	SIMPLE	36											
KLIGW	ICNTRL	INTEGFR	SIMPLE	37											
KLISST	ICNTRL	INTEGER	SIMPLE	6	19										
KS	ICNTRL	INTEGER	SIMPLE	206											
KSTEP	IDPARM	INTEGER	SIMPLE	38	338	351	369	381	394	406					
KU	ICNTRL	INTEGER	SIMPLE	39	388										
LC	LCNTRL	LOGICAL	ARRAY	40	353										
LGO	LCNTRL	LOGICAL	SIMPLE	41	332										
LCNTRL	LCNTRL	INTEGER	UNKNOWN	42											
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	207											
LDPARM	LCNTRL	INTEGER	UNKNOWN	43											
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	154	155	155	100	101	102	103	104	105	106	107	
LFUSION	LCNTRL	LOGICAL	UNKNOWN	97	154	155									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	97	98	99									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	108	109										
				123	151										
				211	212	213									
				115	143										
				116	144										
				114	142										
				119	147										

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LOGBR	ICNTRL	INTEGER	SIMPLE	44																	
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150																
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140																
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141																
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119							
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136															
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	125	153																
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146																
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	124	152																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	117	145																
LTMIN	LCNTRL	LOGICAL	UNKNOWN	111	139																
LU	LCNTRL	LOGICAL	UNKNOWN	110	138																
LUALB		INTEGER	SIMPLE	331/S	362/S	387/S	414/W														
LUFLEX	LCNTRL	INTEGER	SIMPLE	295/I	387	392	401	403													
LUGW		LOGICAL	UNKNOWN	120	148																
LUSST		INTEGER	SIMPLE	295/I	362	367	376	378													
LVFLUX	LCNTRL	INTEGER	SIMPLE	295/I	362	367	376	378													
MATIN	LCNTRL	INTEGER	UNKNOWN	121	149																
MATSNX	ICNTRL	INTEGER	SIMPLE	45																	
MATSUN	ICNTRL	INTEGER	SIMPLE	46																	
MJ	IDPARM	INTEGER	SIMPLE	47																	
MLF	IDPARM	INTEGER	ARRAY	208																	
MNTHLY	ICNTRL	INTEGER	ARRAY	48																	
MO1		INTEGER	UNKNOWN	290																	
MO2		INTEGER	SIMPLE	320/S	346	354	356	359	376	384	401	409									
MONALB		INTEGER	SIMPLE	321/S	348	354	356	359	378	384	403	409									
MONGW		INTEGER	SIMPLE	296/I	391	393/S	401	402	404/S												
MONSST		INTEGER	SIMPLE	296/I	366	368/S	376	377	379/S												
MROD		INTEGER	SIMPLE	296/I	335	337/S	346	347	349/S												
MSM	ICNTRL	INTEGER	SIMPLE	49																	
NB	ICNTRL	INTEGER	SIMPLE	51																	
ND	ICNTRL	INTEGER	SIMPLE	52	298	302	302	304	304	305	305										
NDALT	ICNTRL	INTEGER	SIMPLE	53																	
NDAT		INTEGER	SIMPLE	54																	
NDAY	ICNTRL	INTEGER	SIMPLE	314/S	316	318	312/S	323													
NDHOG	ICNTRL	INTEGER	SIMPLE	55	311/S	311															
NDOUT	ICNTRL	INTEGER	SIMPLE	76																	
NDPHY	ICNTRL	INTEGER	SIMPLE	56																	
NDRSW	ICNTRL	INTEGER	SIMPLE	57																	
NDSHF	ICNTRL	INTEGER	SIMPLE	31																	
NDT	ICNTRL	INTEGER	SIMPLE	58																	
NHMS	ICNTRL	INTEGER	SIMPLE	59																	
NHMSO	ICNTRL	INTEGER	SIMPLE	60	308	309/S	309														
NHMS1	ICNTRL	INTEGER	SIMPLE	62																	
NHMSE	IDPARM	INTEGER	SIMPLE	209																	
NKRSH	ICNTRL	INTEGER	SIMPLE	61																	
NLAY	ICNTRL	INTEGER	SIMPLE	50																	
NLAYM1	ICNTRL	INTEGER	SIMPLE	63																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	64																	
NMLEV	ICNTRL	INTEGER	SIMPLE	65																	
NMON		INTEGER	SIMPLE	75																	
NMON1		INTEGER	SIMPLE	313/S	317	336	336	337	366	367	368	391	392	393							
NMON2		INTEGER	SIMPLE	317/S	317/S	318	319	320	346	376	401										
NSDAY	ICNTRL	INTEGER	SIMPLE	319/S	321	347	348	349	377	378	379	402	403	404							
NSEQ	ICNTRL	INTEGER	SIMPLE	66																	
NSTEP	ICNTRL	INTEGER	SIMPLE	67																	
NYMD	ICNTRL	INTEGER	SIMPLE	69																	
NYMDO	ICNTRL	INTEGER	SIMPLE	71	310/S	310	312	313	314												
NYMD1	IDPARM	INTEGER	SIMPLE	73																	
NYMDE	ICNTRL	INTEGER	SIMPLE	210																	
NZINIT	ICNTRL	INTEGER	SIMPLE	72																	
OMEGA2	RCNTRL	REAL	SIMPLE	74																	
P	QANDQT	REAL	SIMPLE	172																	
PHI	QANDQT	REAL	ARRAY	261	274	302/S	302														
PHIP	QANDQT	REAL	ARRAY	266	279																
PHIS	QPOLES	REAL	ARRAY	289																	
PI	QANDQT	REAL	ARRAY	254	267																
PI180	RCNTRL	REAL	SIMPLE	173	326	327															
		REAL	SIMPLE	174																	

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PI2	RCNTRL	REAL	SIMPLE	175																		
PIMEAN	RCNTRL	REAL	SIMPLE	177																		
PKSTD	RDPARM	REAL	SIMPLE	238	298	306/W																
PKTOP	RDPARM	REAL	SIMPLE	239																		
PLEVS	RCNTRL	REAL	ARRAY	191																		
PI	QPOLES	REAL	ARRAY	284																		
PSMAX	RCNTRL	REAL	SIMPLE	178	304/S	304	305/S	305														
PSMIN	RCNTRL	REAL	SIMPLE	179																		
PSTD	RCNTRL	REAL	SIMPLE	176																		
PTOP	RCNTRL	REAL	SIMPLE	180																		
PZERO	RCNTRL	REAL	SIMPLE	197																		
QALT	LCNTRL	LOGICAL	SIMPLE	98																		
QANDQT	LCNTRL	REAL	UNKNOWN	253	126																	
QBEG	LCNTRL	LOGICAL	SIMPLE	99	283																	
QDAY	LCNTRL	LOGICAL	SIMPLE	100																		
QEND	LCNTRL	LOGICAL	SIMPLE	101																		
QOUT	LCNTRL	LOGICAL	SIMPLE	102																		
QPHY	LCNTRL	LOGICAL	SIMPLE	103																		
QPOLES	REAL	UNKNOWN	284	285	286	287	288	289														
QPROG	QANDQT	REAL	ARRAY	253	267	268	270	271	272	273	274	275	276									
QRSH	LCNTRL	LOGICAL	SIMPLE	277	278	279																
QRSW	RCNTRL	LOGICAL	SIMPLE	107	135																	
QSIDIAG	QANDQT	REAL	ARRAY	106	134																	
QSHF	LCNTRL	LOGICAL	SIMPLE	280	282																	
QUDIAG	QANDQT	REAL	ARRAY	104	132																	
RADE	RCNTRL	REAL	SIMPLE	283																		
RC	RCNTRL	REAL	ARRAY	181																		
RCO	RCNTRL	REAL	SIMPLE	198	199																	
RCNTRL	REAL	UNKNOWN	156	198	199																	
				156	157	158	159	160	161	162	163	164	165	166								
				167	168	169	170	171	172	173	174	175	176	177								
				178	179	180	181	182	183	184	185	186	187	188								
				189	190	191	192	193	194	195	196	197	198	199								
RDPARM	REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227	228								
			228	229	230	231	232	233	234	235	236	237	238	239								
			239	240	241	242	243	244	245	246	247	248	249									
			250	251	252																	
			182																			
			240																			
			241																			
			183																			
			242																			
			243																			
			184	327/S																		
			185																			
SEASON	RCNTRL	REAL	SIMPLE	186	324/S	325																
SGNP	RDPARM	REAL	ARRAY	244																		
SH	QANDQT	REAL	ARRAY	265	278																	
SHP	QPOLES	REAL	ARRAY	288																		
SHS	QANDQT	REAL	ARRAY	260	273																	
SIG	RDPARM	REAL	ARRAY	251																		
SIGE	RCNTRL	REAL	ARRAY	187																		
SIND	RCNTRL	REAL	SIMPLE	188	328/S																	
SINL	RDPARM	REAL	ARRAY	245																		
SINLON	RDPARM	REAL	ARRAY	246																		
SMTH	QANDQT	REAL	ARRAY	255	268																	
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133																	
SOLS	RCNTRL	REAL	SIMPLE	189	324																	
START	LDPARAM	LOGICAL	SIMPLE	213	216																	
T	QANDQT	REAL	ARRAY	264	277																	
THSTD	RDPARM	REAL	SIMPLE	247																		
THSTD2	RDPARM	REAL	SIMPLE	248																		
TOPOG1	MNTHLY	REAL	ARRAY	291	292	336	341	342														
TOPOG2	MNTHLY	REAL	ARRAY	290	292	346	348	354	354	356	356	359	359									
TP	QPOLES	REAL	ARRAY	287																		
TS	QANDQT	REAL	ARRAY	259	272																	
TSTD	RCNTRL	REAL	SIMPLE	190																		
U	QANDQT	REAL	ARRAY	262	275																	
UP	QPOLES	REAL	ARRAY	285																		
V	QANDQT	REAL	ARRAY	263	276																	

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VER	CCNTRL	CHAR*8	SIMPLE	10	23
VP	OPOLES	REAL	ARRAY	286	
WSAVE	RDPARM	REAL	ARRAY	249	
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24

PROCEDURE MAP

--NAME-----	TYPE-----	CLASS-----	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST				
AMAX I	REAL	INTRINSIC	356								
COS	REAL	INTRINSIC	326	327	329						
INCYMD	INTEGER	FUNCTION	310								
MOD	INTEGER	INTRINSIC	312	313	314	315	318	319	320	321	
PMEAN	REAL	FUNCTION	298								
RDCLI		SUBROUTINE	336	346	348	367	376	378	392	401	403
SIGN	REAL	INTRINSIC	354								
SIN	REAL	INTRINSIC	328								

ORIGINAL PAGE 13
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

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.....
SUBROUTINE DEFALT                                VDEFALT 2
PURPOSE                                           VDEFALT 3
  FILLS CONTROL BLOCKS /CCNTRL/, /ICNTRL/, /LCNTRL/ AND /RCNTRL/ VDEFALT 4
  WITH DEFAULT VALUES BEFORE READING NAMELIST &INPUTZ AND AFTER VDEFALT 5
  THE INITIAL CONDITIONS HAVE BEEN READ FROM UNIT 12. THE DEFAULT VDEFALT 6
  VALUES FOR THE HIGH LATITUDE FILTER DAMPING COEFFICIENTS ARE VDEFALT 7
  ALSO PLACED IN ARRAY SMTH BY THIS SUBROUTINE. VDEFALT 8
  VDEFALT 9
  VDEFALT 10
USAGE                                              VDEFALT 11
  CALLED BY SUBROUTINE INPUT                     VDEFALT 12
INPUT/OUTPUT FILES USED                          VDEFALT 13
  NONE                                           VDEFALT 14
DESCRIPTION OF PARAMETERS                         VDEFALT 15
  NO ARGUMENTS                                  VDEFALT 16
  VDEFALT 17
SUBPROGRAMS NEEDED                               VDEFALT 18
  PMEAN,MODYMD,MODHMS,ACOS,COS,SIN              VDEFALT 19
  VDEFALT 20
RECORD OF MODIFICATIONS                          VDEFALT 21
  ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VDEFALT 22
  09JUN83 JIM PF. RE-ORGANIZATION AND DOCUMENTATION VDEFALT 23
  21JUL83 JIM PF.  INITIALIZATION OF COS,COU,IQS ETC. VDEFALT 24
  VDEFALT 25
REMARKS:                                         VDEFALT 26
  ( 1 ) THE VARIABLES JOB, IM, JM, LOGSR, NB, ND, NLAY, NYMD, NHMS VDEFALT 27
  AND PTOP ARE THE ONLY ONES USED FROM THE HEADER RECORD OF VDEFALT 28
  THE INITIAL CONDITIONS DATA SET.             VDEFALT 29
  VDEFALT 30
  VDEFALT 31
  VDEFALT 32
  VDEFALT 33
  VDEFALT 34
.....
M / A - C O M S I G M A D A T A I N C . N A S A - G S F C VDEFALT 35
.....
00001 SUBROUTINE DEFALT                          VDEFALT 36
.....
CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD VDEFALT 37
=====
00002 COMMON /CCNTRL/ CCO                          VCNTRL 2
00003 COMMON /CCNTRL/ ADATE                        VCNTRL 3
00004 COMMON /CCNTRL/ ATIME                       VCNTRL 4
00005 COMMON /CCNTRL/ JIC                         VCNTRL 5
00006 COMMON /CCNTRL/ JOB                         VCNTRL 6
00007 COMMON /CCNTRL/ CCSP06                      VCNTRL 7
00008 COMMON /CCNTRL/ CCSP07                      VCNTRL 8
00009 COMMON /CCNTRL/ CCSP08                      VCNTRL 9
00010 COMMON /CCNTRL/ VER                         VCNTRL 10
00011 COMMON /CCNTRL/ XLABEL (10)                 VCNTRL 11
00012 COMMON /CCNTRL/ CQS (30)                    VCNTRL 12
00013 COMMON /CCNTRL/ COU (10)                    VCNTRL 13
  C
00014 EQUIVALENCE (CCO,CC(1))                     VCNTRL 14
00015 CHARACTER*8 CCO, CC(200)                    VCNTRL 15
00016 CHARACTER*8 ADATE                            VCNTRL 16
00017 CHARACTER*8 ATIME                            VCNTRL 17
00018 CHARACTER*8 JIC                              VCNTRL 18
00019 CHARACTER*8 JOB                              VCNTRL 19
00020 CHARACTER*8 CCSP06                           VCNTRL 20
00021 CHARACTER*8 CCSP07                           VCNTRL 21
00022 CHARACTER*8 CCSP08                           VCNTRL 22
00023 CHARACTER*8 VER                              VCNTRL 23
00024 CHARACTER*8 XLABEL                           VCNTRL 24
00025 CHARACTER*8 CQS                              VCNTRL 25
00026 CHARACTER*8 COU                              VCNTRL 26
  C
.....
VCNTRL 27
VCNTRL 28
VCNTRL 29
VCNTRL 30
VCNTRL 31
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C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====

00027 COMMON /ICNTRL/ IC0
 00028 COMMON /ICNTRL/ IM
 00029 COMMON /ICNTRL/ IMD2
 00030 COMMON /ICNTRL/ IMD2P1
 00031 COMMON /ICNTRL/ NDRSW
 00032 COMMON /ICNTRL/ JM
 00033 COMMON /ICNTRL/ JMD2
 00034 COMMON /ICNTRL/ JMT2
 00035 COMMON /ICNTRL/ JNP
 00036 COMMON /ICNTRL/ JO4
 00037 COMMON /ICNTRL/ JOB
 00038 COMMON /ICNTRL/ JSP
 00039 COMMON /ICNTRL/ KLIALB
 00040 COMMON /ICNTRL/ KLIGW
 00041 COMMON /ICNTRL/ KLISST
 00042 COMMON /ICNTRL/ KS
 00043 COMMON /ICNTRL/ KU
 00044 COMMON /ICNTRL/ LOGBR
 00045 COMMON /ICNTRL/ MATIN
 00046 COMMON /ICNTRL/ MATSNX
 00047 COMMON /ICNTRL/ MATSUN
 00048 COMMON /ICNTRL/ MLF (12)
 00049 COMMON /ICNTRL/ MR0D
 00050 COMMON /ICNTRL/ NKRSH
 00051 COMMON /ICNTRL/ MSM
 00052 COMMON /ICNTRL/ NB
 00053 COMMON /ICNTRL/ ND
 00054 COMMON /ICNTRL/ NDALT
 00055 COMMON /ICNTRL/ NDAY
 00056 COMMON /ICNTRL/ NDOUT
 00057 COMMON /ICNTRL/ NDPHY
 00058 COMMON /ICNTRL/ NDSHF
 00059 COMMON /ICNTRL/ NDT
 00060 COMMON /ICNTRL/ NHMS
 00061 COMMON /ICNTRL/ NHMSE
 00062 COMMON /ICNTRL/ NHMS0
 00063 COMMON /ICNTRL/ NLAY
 00064 COMMON /ICNTRL/ NLAYM1
 00065 COMMON /ICNTRL/ NLAYP1
 00066 COMMON /ICNTRL/ NSDAY
 00067 COMMON /ICNTRL/ NSEQ
 00068 COMMON /ICNTRL/ ICSP53
 00069 COMMON /ICNTRL/ NSTEP
 00070 COMMON /ICNTRL/ IBLKS12
 00071 COMMON /ICNTRL/ NYMD
 00072 COMMON /ICNTRL/ NYMDE
 00073 COMMON /ICNTRL/ NYMDO
 00074 COMMON /ICNTRL/ NZINIT
 00075 COMMON /ICNTRL/ NMLEV
 00076 COMMON /ICNTRL/ NDHOG
 00077 COMMON /ICNTRL/ IQS (30)
 00078 COMMON /ICNTRL/ IQU (10)

C
 00079 EQUIVALENCE (ITMIN ,IQS(1))
 00080 EQUIVALENCE (ITMAX ,IQS(2))
 00081 EQUIVALENCE (IPREACC ,IQS(3))
 00082 EQUIVALENCE (IPRECON ,IQS(4))
 00083 EQUIVALENCE (IHFLUX ,IQS(5))
 00084 EQUIVALENCE (IEFLUX ,IQS(6))
 00085 EQUIVALENCE (IFUSION ,IQS(7))
 00086 EQUIVALENCE (IRADSWG ,IQS(8))
 00087 EQUIVALENCE (IRADLWG ,IQS(9))
 00088 EQUIVALENCE (ICLOUD ,IQS(10))
 00089 EQUIVALENCE (IUFLUX ,IQS(11))
 00090 EQUIVALENCE (IVFLUX ,IQS(12))

C
 00091 EQUIVALENCE (IOMEGA ,IQU(1))
 00092 EQUIVALENCE (IDIABAT ,IQU(2))
 00093 EQUIVALENCE (IRADSW ,IQU(3))

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00094		EQUIVALENCE	(IRADLW ,LQU(4))	VCNTRL 103
	C			VCNTRL 104
00095		EQUIVALENCE	(ICO,IC(1))	VCNTRL 105
00096		INTEGER	ICO, IC(200)	VCNTRL 106
	C			VCNTRL 107
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 108
	C	-----		VCNTRL 109
00097		COMMON	/LCNTRL/ LCO	VCNTRL 110
00098		COMMON	/LCNTRL/ QALT	VCNTRL 111
00099		COMMON	/LCNTRL/ QBEG	VCNTRL 112
00100		COMMON	/LCNTRL/ QDAY	VCNTRL 113
00101		COMMON	/LCNTRL/ QEND	VCNTRL 114
00102		COMMON	/LCNTRL/ QOUT	VCNTRL 115
00103		COMMON	/LCNTRL/ QPHY	VCNTRL 116
00104		COMMON	/LCNTRL/ QSHF	VCNTRL 117
00105		COMMON	/LCNTRL/ SN2FLG	VCNTRL 118
00106		COMMON	/LCNTRL/ QRSW	VCNTRL 119
00107		COMMON	/LCNTRL/ QRSW	VCNTRL 120
00108		COMMON	/LCNTRL/ LQS(30)	VCNTRL 121
00109		COMMON	/LCNTRL/ LQU(10)	VCNTRL 122
	C			VCNTRL 123
00110		EQUIVALENCE	(LTMIN ,LQS(1))	VCNTRL 124
00111		EQUIVALENCE	(LTMAX ,LQS(2))	VCNTRL 125
00112		EQUIVALENCE	(LPREACC ,LQS(3))	VCNTRL 126
00113		EQUIVALENCE	(LPRECON ,LQS(4))	VCNTRL 127
00114		EQUIVALENCE	(LHFLUX ,LQS(5))	VCNTRL 128
00115		EQUIVALENCE	(LEFLUX ,LQS(6))	VCNTRL 129
00116		EQUIVALENCE	(LFUSION ,LQS(7))	VCNTRL 130
00117		EQUIVALENCE	(LRADSWG ,LQS(8))	VCNTRL 131
00118		EQUIVALENCE	(LRADLWG ,LQS(9))	VCNTRL 132
00119		EQUIVALENCE	(LICLOUD ,LQS(10))	VCNTRL 133
00120		EQUIVALENCE	(LUFLEX ,LQS(11))	VCNTRL 134
00121		EQUIVALENCE	(LVFLUX ,LQS(12))	VCNTRL 135
	C			VCNTRL 136
00122		EQUIVALENCE	(LOMEGA ,LQU(1))	VCNTRL 137
00123		EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL 138
00124		EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL 139
00125		EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL 140
	C			VCNTRL 141
00126		LOGICAL	QALT	VCNTRL 142
00127		LOGICAL	QBEG	VCNTRL 143
00128		LOGICAL	QDAY	VCNTRL 144
00129		LOGICAL	QEND	VCNTRL 145
00130		LOGICAL	QOUT	VCNTRL 146
00131		LOGICAL	QPHY	VCNTRL 147
00132		LOGICAL	QSHF	VCNTRL 148
00133		LOGICAL	SN2FLG	VCNTRL 149
00134		LOGICAL	QRSW	VCNTRL 150
00135		LOGICAL	QRSW	VCNTRL 151
	C			VCNTRL 152
00136		LOGICAL	LQS	VCNTRL 153
00137		LOGICAL	LQU	VCNTRL 154
00138		LOGICAL	LTMIN	VCNTRL 155
00139		LOGICAL	LTMAX	VCNTRL 156
00140		LOGICAL	LPREACC	VCNTRL 157
00141		LOGICAL	LPRECON	VCNTRL 158
00142		LOGICAL	LHFLUX	VCNTRL 159
00143		LOGICAL	LEFLUX	VCNTRL 160
00144		LOGICAL	LFUSION	VCNTRL 161
00145		LOGICAL	LRADSWG	VCNTRL 162
00146		LOGICAL	LRADLWG	VCNTRL 163
00147		LOGICAL	LICLOUD	VCNTRL 164
00148		LOGICAL	LUFLEX	VCNTRL 165
00149		LOGICAL	LVFLUX	VCNTRL 166
	C			VCNTRL 167
00150		LOGICAL	LOMEGA	VCNTRL 168
00151		LOGICAL	LDIABAT	VCNTRL 169
00152		LOGICAL	LRADSW	VCNTRL 170
00153		LOGICAL	LRADLW	VCNTRL 171
	C			VCNTRL 172
00154		EQUIVALENCE	(LCO,LC(1))	VCNTRL 173

ORIGINAL PAGE IS
OF POOR QUALITY

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00155      LOGICAL          LC0, LC(200)          VCNTRL 174
C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD  VCNTRL 175
C -----
00156      COMMON /RCNTRL/  RCO                   VCNTRL 176
00157      COMMON /RCNTRL/  APHEL                  VCNTRL 177
00158      COMMON /RCNTRL/  BETA                   VCNTRL 178
00159      COMMON /RCNTRL/  COSD                   VCNTRL 179
00160      COMMON /RCNTRL/  CP                     VCNTRL 180
00161      COMMON /RCNTRL/  DAYSPY                 VCNTRL 181
00162      COMMON /RCNTRL/  DEC                    VCNTRL 182
00163      COMMON /RCNTRL/  DECMAX                 VCNTRL 183
00164      COMMON /RCNTRL/  DIST                   VCNTRL 184
00165      COMMON /RCNTRL/  DLAT                   VCNTRL 185
00166      COMMON /RCNTRL/  DLON                   VCNTRL 186
00167      COMMON /RCNTRL/  DT                     VCNTRL 187
00168      COMMON /RCNTRL/  ECCN                   VCNTRL 188
00169      COMMON /RCNTRL/  GNU1                   VCNTRL 189
00170      COMMON /RCNTRL/  GNU2                   VCNTRL 190
00171      COMMON /RCNTRL/  GRAV                   VCNTRL 191
00172      COMMON /RCNTRL/  OMEGA2                VCNTRL 192
00173      COMMON /RCNTRL/  PI                     VCNTRL 193
00174      COMMON /RCNTRL/  PI180                  VCNTRL 194
00175      COMMON /RCNTRL/  PI2                    VCNTRL 195
00176      COMMON /RCNTRL/  PSTD                   VCNTRL 196
00177      COMMON /RCNTRL/  PIMEAN                 VCNTRL 197
00178      COMMON /RCNTRL/  PSMAX                 VCNTRL 198
00179      COMMON /RCNTRL/  PSMIN                 VCNTRL 199
00180      COMMON /RCNTRL/  PTOP                   VCNTRL 200
00181      COMMON /RCNTRL/  RADE                   VCNTRL 201
00182      COMMON /RCNTRL/  RGAS                   VCNTRL 202
00183      COMMON /RCNTRL/  ROCP                   VCNTRL 203
00184      COMMON /RCNTRL/  RSDIST                 VCNTRL 204
00185      COMMON /RCNTRL/  SDAY                   VCNTRL 205
00186      COMMON /RCNTRL/  SEASON                 VCNTRL 206
00187      COMMON /RCNTRL/  SIGE (25)             VCNTRL 207
00188      COMMON /RCNTRL/  SIND                   VCNTRL 208
00189      COMMON /RCNTRL/  SOLS                   VCNTRL 209
00190      COMMON /RCNTRL/  TSTD                   VCNTRL 210
00191      COMMON /RCNTRL/  PLEVS (25)           VCNTRL 211
00192      COMMON /RCNTRL/  HEATW                 VCNTRL 212
00193      COMMON /RCNTRL/  HEATI                 VCNTRL 213
00194      COMMON /RCNTRL/  EPS                    VCNTRL 214
00195      COMMON /RCNTRL/  EPSFAC                 VCNTRL 215
00196      COMMON /RCNTRL/  CALTOJ                 VCNTRL 216
00197      COMMON /RCNTRL/  PZERO                 VCNTRL 217
C
00198      EQUIVALENCE (RC0,RC(1))              VCNTRL 218
00199      REAL          RCO, RC(200)            VCNTRL 219
C
C INTEGER MODEL CONSTANTS                          VCNTRL 220
C -----
00200      COMMON /IDPARM/  IJUMP (46)           VCNTRL 221
00201      COMMON /IDPARM/  IDSP02              VCNTRL 222
00202      COMMON /IDPARM/  INDEX (72)          VCNTRL 223
00203      COMMON /IDPARM/  IROD                VCNTRL 224
00204      COMMON /IDPARM/  JC (46)             VCNTRL 225
00205      COMMON /IDPARM/  JE (2)             VCNTRL 226
00206      COMMON /IDPARM/  JP (2,2)           VCNTRL 227
00207      COMMON /IDPARM/  KSTEP              VCNTRL 228
00208      COMMON /IDPARM/  MJ (46)            VCNTRL 229
00209      COMMON /IDPARM/  NHMS1              VCNTRL 230
00210      COMMON /IDPARM/  NYMD1              VCNTRL 231
C
C LOGICAL MODEL CONSTANTS                          VCNTRL 232
C -----
00211      COMMON /LDPARM/  FILTER (46)         VCNTRL 233
00212      COMMON /LDPARM/  ITAPE              VCNTRL 234
00213      COMMON /LDPARM/  START              VCNTRL 235
C
00214      LOGICAL          FILTER              VCNTRL 236
VCNTRL 237
VCNTRL 238
VCNTRL 239
VCNTRL 240
VCNTRL 241
VCNTRL 242
VCNTRL 243
VCNTRL 244

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00215          LOGICAL          ITAPE
00216          LOGICAL          START
C
C REAL MODEL CONSTANTS
C =====
00217          COMMON /RDPARM/ ADLDP
00218          COMMON /RDPARM/ CON1
00219          COMMON /RDPARM/ CON1DT
00220          COMMON /RDPARM/ CON2
00221          COMMON /RDPARM/ CON2DT
00222          COMMON /RDPARM/ CON3
00223          COMMON /RDPARM/ CON3DT
00224          COMMON /RDPARM/ CON4
00225          COMMON /RDPARM/ CON4DT
00226          COMMON /RDPARM/ CONS
00227          COMMON /RDPARM/ COSL (46)
00228          COMMON /RDPARM/ COSLON (72)
00229          COMMON /RDPARM/ CPD2
00230          COMMON /RDPARM/ DXP (46)
00231          COMMON /RDPARM/ DXYP (46)
00232          COMMON /RDPARM/ DYP (46)
00233          COMMON /RDPARM/ FCORLS (46)
00234          COMMON /RDPARM/ F1DT
00235          COMMON /RDPARM/ F2DT
00236          COMMON /RDPARM/ H1DT
00237          COMMON /RDPARM/ H2DT
00238          COMMON /RDPARM/ PKSTD
00239          COMMON /RDPARM/ PKTOP
00240          COMMON /RDPARM/ RLAT (46)
00241          COMMON /RDPARM/ RLATD (46)
00242          COMMON /RDPARM/ ROC PDT
00243          COMMON /RDPARM/ ROCPP1
00244          COMMON /RDPARM/ SGNP (2)
00245          COMMON /RDPARM/ SINL (46)
00246          COMMON /RDPARM/ SINLON (72)
00247          COMMON /RDPARM/ THSTD
00248          COMMON /RDPARM/ THSTD2
00249          COMMON /RDPARM/ WSAVE (159)
00250          COMMON /RDPARM/ DSIG (9)
00251          COMMON /RDPARM/ SIG (9)
00252          COMMON /RDPARM/ DSIGINV (9)
C
C IDENTIFYING LABELS OF MODEL RESTART RECORD QUANTITIES
C =====
00253          COMMON /CORDER/ XORDS(24),XORDU(15)
00254          CHARACTER*8 XORDS ,XORDU
C
C IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES
C =====
00255          COMMON /CORDER/ XSA (23),XUA (10)
00256          CHARACTER*8 XSA ,XUA
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY+11 =99
C IM+NLAY+11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMP0)
C =====
00257          COMMON /QANDQT/ QPROG(72,9,11,46)
C
00258          DIMENSION PHIS (7128,1)
00259          DIMENSION SMTH (7128,23)
00260          DIMENSION ALBEDO (7128,1)

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VCNTRL 245
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VQANDQT 19

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00261      DIMENSION      GT      (7128,1)      VQANDQT 20
00262      DIMENSION      GW      (7128,1)      VQANDQT 21
00263      DIMENSION      TS      (7128,1)      VQANDQT 22
00264      DIMENSION      SHS     (7128,1)      VQANDQT 23
00265      DIMENSION      P       (72,99,1)     VQANDQT 24
C
00266      DIMENSION      U       (72,9,11,1)   VQANDQT 25
00267      DIMENSION      V       (72,9,11,1)   VQANDQT 26
00268      DIMENSION      T       (72,9,11,1)   VQANDQT 27
00269      DIMENSION      SH      (72,9,11,1)   VQANDQT 28
00270      DIMENSION      PHI     (72,9,11,1)   VQANDQT 29
C
00271      EQUIVALENCE     (QPROG(1, 1,1,1),PHIS (1,1)) VQANDQT 30
00272      EQUIVALENCE     (QPROG(1, 2,1,1),SMTH (1,1)) VQANDQT 31
00273      EQUIVALENCE     (QPROG(1, 3,1,1),ALBEDO(1,1)) VQANDQT 32
00274      EQUIVALENCE     (QPROG(1, 4,1,1),GT (1,1)) VQANDQT 33
00275      EQUIVALENCE     (QPROG(1, 5,1,1),GW (1,1)) VQANDQT 34
00276      EQUIVALENCE     (QPROG(1, 6,1,1),TS (1,1)) VQANDQT 35
00277      EQUIVALENCE     (QPROG(1, 7,1,1),SHS (1,1)) VQANDQT 36
00278      EQUIVALENCE     (QPROG(1, 8,1,1),P (1,1,1)) VQANDQT 37
C
00279      EQUIVALENCE     (QPROG(1,1, 2,1),U (1,1,1,1)) VQANDQT 38
00280      EQUIVALENCE     (QPROG(1,1, 4,1),V (1,1,1,1)) VQANDQT 39
00281      EQUIVALENCE     (QPROG(1,1, 6,1),T (1,1,1,1)) VQANDQT 40
00282      EQUIVALENCE     (QPROG(1,1, 8,1),SH (1,1,1,1)) VQANDQT 41
00283      EQUIVALENCE     (QPROG(1,1,10,1),PHI(1,1,1,1)) VQANDQT 42
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMP9)
C -----
C
00284      COMMON          /QANDQT/ QSDIAG(72,15,46) VQANDQT 43
00285      DIMENSION      IQSDIAG(72,15,46) VQANDQT 44
00286      EQUIVALENCE     (QSDIAG,IQSDIAG) VQANDQT 45
C
00287      COMMON          /QANDQT/ QUDIAG(72,9,5,46) VQANDQT 46
C
C * * *
C ONE-DIMENSIONAL WORK AREAS
00288      COMMON          CARD(10), DATA(144), CATA(144) VWORKID 2
00289      CHARACTER*B      CARD VWORKID 3
C
C
C DEFAULT VALUES FOR XORDS AND XCRDU
C =====
00290      CHARACTER*B      YORDS(24) VDEFALT 47
00291      DATA YORDS /BHPHIS .8HSMTH .8HALBEDO .8HGT VDEFALT 48
& .8HGW .8HTS .8SHS .8HP 1. VDEFALT 49
& BHP 2,15*BH / VDEFALT 50
C
00292      CHARACTER*B      YORDU(15) VDEFALT 51
00293      DATA YORDU /BHU 1.8HU 2.8HV 1.8HV 2. VDEFALT 52
& BHT 1.8HT 2.8HSH 1.8HSH 2. VDEFALT 53
& BHPHI 1.8HPHI 2.5*8H VDEFALT 54
C
C .....
C
C * * *
C DEBUG
00294      10000 CONTINUE VDEFALT 55
C ***** CYBER VECTOR VERSION 00.001 INPUT IOQ VDEFALT 56
C ***** CYBER VECTOR VERSION 00 VDEFALT 57
C ===== VDEFALT 58
C
C SET DEFAULT VALUES FOR CC
C =====
00295      CCO = 'CDC' VDEFALT 59
00296      ADATE = ' ' VDEFALT 60
00297      ATIME = ' ' VDEFALT 61
C
00298      JIC = ***** (VALUE USED FROM INITIAL CONDITIONS) VBEGDEB 2
00299      JIC = 'JOB' VBEGDEB 3
00299      JOB = ' ' VBEGDEB 4
00300      CCSP06 = 'XXXXXXXX' VBEGDEB 5
VDEFALT 62
VDEFALT 63
VDEFALT 64
VDEFALT 65
VDEFALT 66
VDEFALT 67
VDEFALT 68
VDEFALT 69
VDEFALT 70
VDEFALT 71
VDEFALT 72

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00301      CCSP07      = 'XXXXXXXX'
00302      CCSP08      = 'XXXXXXXX'
00303      VER          = 'GWSGCM00'
00304      DO 10 K=1,10
00305      XLABEL(K)   =
00306      10          CONTINUE
00307      DO 11 K=1,30
00308      CQS(K)       = 'XXXXXXXX'
00309      11          CONTINUE
00310      CQS( 1)      = 'TMIN'
00311      CQS( 2)      = 'TMAX'
00312      CQS( 3)      = 'PREACC'
00313      CQS( 4)      = 'PRECON'
00314      CQS( 5)      = 'HFLUX'
00315      CQS( 6)      = 'EFLUX'
00316      CQS( 7)      = 'FUSION'
00317      CQS( 8)      = 'RADSWG'
00318      CQS( 9)      = 'RADLWG'
00319      CQS(10)      = 'ICLOUD'
00320      CQS(11)      = 'UFLUX'
00321      CQS(12)      = 'VFLUX'
00322      DO 12 K=1,10
00323      CQU(K)       = 'XXXXXXXX'
00324      12          CONTINUE
00325      CQU( 1)      = 'OMEGA'
00326      CQU( 2)      = 'DIABAT'
00327      CQU( 3)      = 'RADSW'
00328      CQU( 4)      = 'RADLW'
00329      DO 13 K=60,200
00330      CC(K)       = 'XXXXXXXX'
00331      13          CONTINUE

```

```

C
C SET DEFAULT VALUES FOR IC
C =====

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```

00332      IC0         = 0
C          IM         = ***** (VALUE USED FROM INITIAL CONDITIONS)
00333      IM          = IM
00334      IMD2         = IM / 2
00335      IMD2P1       = IMD2 + 1
00336      NDRSW        = 050000
C          JM         = ***** (VALUE USED FROM INITIAL CONDITIONS)
00337      JM          = JM
00338      JMD2         = (JM + 1) / 2
00339      JMT2         = JM + 2
00340      JNP         = JM + 1
00341      JO4         = 0
00342      JOB         = 0
00343      JSP         = 1
00344      KLIALB      = 1
00345      KLIGW       = 1
00346      KLISST      = 1
00347      KS          = 19
00348      KU          = 14
C          LOG8R      = ***** (VALUE USED FROM INITIAL CONDITIONS)
00349      LOG8R       = LOG8R
00350      MATIN        = 1
00351      MATSNX       = 0
00352      MATSUN       = -1
00353      MLF(1)       = 1
00354      DO 17 N=2,12
00355      MLF(N)      = 0
00356      17          CONTINUE
00357      MROD         = 32
00358      NKRSH        = -1
00359      MSM          = 5
C          NB         = ***** (VALUE USED FROM INITIAL CONDITIONS)
00360      NB          = NB
C          ND         = ***** (VALUE USED FROM INITIAL CONDITIONS)
00361      ND          = ND
00362      NDALT        = 0
00363      NDAY         = MODYMD(NYMD)

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VDEFALT 73
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VDEFALT143

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00364      NDOUT      = 030000
00365      NDPHY      = 003000
00366      NDSHF      = 023000
00367      NDT         =          43200 / IM
                                (VALUE USED FROM INITIAL CONDITIONS)
C          NHMS      = *****
00368      NHMS      = NHMS
00369      NHMSE     = NHMS
00370      NHMSO     = NHMS
                                (VALUE USED FROM INITIAL CONDITIONS)
C          NLAY      = *****
00371      NLAY      = NLAY
00372      NLAYM1   =          NLAY - 1
00373      NLAYP1   =          NLAY + 1
00374      NSDAY    =          MODHMS(NHMS,240000)
00375      NSEQ     =          1
00376      ICSP53   = 999999
00377      NSTEP    =          0
00378      ICSP55   = 999999
                                (VALUE USED FROM INITIAL CONDITIONS)
C          NYMD     = *****
00379      NYMD     = NYMD
00380      NYMDE    =          NYMD
00381      NYMDO    =          NYMD
00382      NZINIT   =          0
00383      NMLEV    =          0
00384      NDHOG    = 030000
00385      DO 18 N=1,30
00386      IQS(N)   =          0
00387      CONTINUE
18          ITMIN   = 1
00388      ITMAX   = 2
00389      IPREACC  = 3
00390      IPRECON  = 4
00391      IHFLUX   = 5
00392      IEFLUX   = 6
00393      IFUSION  = 7
00394      IRADSWG  = 8
00395      IRADLWG  = 9
00396      ICLOUD   = 10
00397      IUFLUX   = 0
00398      IVFLUX   = 0
00399      DO 19 N=1,10
00400      IQU(N)   =          0
00401      CONTINUE
19          IOMEGA  = 1
00402      IDIABAT  = 2
00403      IRADSW   = 3
00404      IRADLW   = 4
00405      DO 21 K = 102,200
00406      IC(K)    = 999999
00407      CONTINUE
21
C          SET DEFAULT VALUES FOR LC
C          =====
00410      LCO      = .FALSE.
00411      QALT     = .FALSE.
00412      QBEG     = .TRUE.
00413      QDAY     =          NSDAY.EQ.0
00414      QEND     = .TRUE.
00415      QOUT     = .TRUE.
00416      QPHY     = .TRUE.
00417      QSHF     = .TRUE.
00418      SN2FLG   = .FALSE.
00419      QRSW     = .TRUE.
00420      QRS      = .TRUE.
00421      DO 22 K = 1,30
00422      LQS(K)   = .FALSE.
00423      CONTINUE
22          LTMIN   = .TRUE.
00424      LTMAX   = .TRUE.
00425      LPREACC  = .TRUE.
00426      LPRECON  = .TRUE.
00427      LHFLUX   = .TRUE.

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VDEFAULT144
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OF POOR QUALITY

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00429 LEFLUX = .TRUE.
00430 LFUSION = .TRUE.
00431 LRADSWG = .TRUE.
00432 LRADLWG = .TRUE.
00433 LICLOUD = .TRUE.
00434 LUFLUX = .FALSE.
00435 LVFLUX = .FALSE.
00436 DO 23 K = 1.10
00437 LOU(K) = .FALSE.
00438 23 CONTINUE
00439 LOMEGA = .TRUE.
00440 LDIABAT = .TRUE.
00441 LRADSW = .TRUE.
00442 LRADLW = .TRUE.
00443 DO 24 K = 52.200
00444 LC(K) = .FALSE.
00445 24 CONTINUE

C
C SET DEFAULT VALUES FOR RC
C =====
00446 RC0 = 999999.9999
00447 APHEL = 183.0000
00448 BETA = 0.0065
00449 CP = 1003.5000
00450 DAYSPY = 365.0000
00451 PI = ACOS(-1.00)
00452 PI2 = 2.0 * PI
00453 PI180 = PI / 180.00
00454 DECMAX = 23.5000 * PI180
00455 SOLS = 173.0000
00456 DEC = DECMAX * COS(PI2*(NDAY-SOLS)/DAYSPY)
00457 COSD = COS(DEC)
00458 SIND = SIN(DEC)
00459 DIST = (NDAY - APHEL) / DAYSPY
00460 DLAT = PI / JM
00461 DLON = PI2 / IM
00462 DT = NDT
00463 ECCN = 0.0178
00464 GNU1 = 1.0000
00465 GNU2 = 0.0000
00466 GRAV = 9.8100
00467 SDAY = 86400.0000
00468 OMEGA2 = 2.0 * PI2 / SDAY
00469 PSTD = 1000.0000
00470 PIMEAN = PMEAN(NB)
00471 PSMAX = 1200.0000
00472 PSMIN = 300.0000
C
C ***** (VALUE USED FROM INITIAL CONDITIONS)
00473 PTOP = PTOP
00474 RADE = 6375.0E03
00475 RGAS = 287.0000
00476 ROCP = RGAS / CP
00477 RSDIST = (1.0 + ECCN * COS(PI2*DIST))**2
00478 SEASON = (NDAY-SOLS) / DAYSPY
00479 SIGE(1:25) = 999999.9999
00480 DO 30 L=1,NLAYP1
00481 SIGE(L) = FLOAT(L-1)/NLAY
00482 30 CONTINUE
00483 TSTD = 280.0000
00484 PLEVS(1:25) = 999999.9999
00485 HEATW = 597.2000
00486 HEATI = 680.0000
00487 EPS = 0.6220
00488 CALTOJ = 4186.0000
00489 EPSFAC = EPS * HEATW / RGAS * CALTOJ
00490 PZERO = 1013.2500
00491 DO 31 K=92,200
00492 RC(K) = 999999.9999
00493 31 CONTINUE

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C
C SET DEFAULT VALUES FOR XORDS AND XORDU

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VDEFALT215
VDEFALT216
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CON2DT	RDPARM	REAL	SIMPLE	221																	
CON3	RDPARM	REAL	SIMPLE	222																	
CON3DT	RDPARM	REAL	SIMPLE	223																	
CON4	RDPARM	REAL	SIMPLE	224																	
CON4DT	RDPARM	REAL	SIMPLE	225																	
CON5	RDPARM	REAL	SIMPLE	226																	
CORDER		REAL	UNKNOWN	253	255																
COSD	RCNTRL	REAL	SIMPLE	159	457/S																
COSJ		REAL	SIMPLE	509/S	511																
COSL	RDPARM	REAL	ARRAY	227																	
COSLON	RDPARM	REAL	ARRAY	228																	
CP	RCNTRL	REAL	SIMPLE	160	449/S	476															
CPD2	RDPARM	REAL	SIMPLE	229																	
CQS	CCNTRL	CHAR*8	ARRAY	12	25	308/S	310/S	311/S	312/S	313/S	314/S	315/S	316/S	317							
CQU	CCNTRL	CHAR*8	ARRAY	318/S	319/S	320/S	321/S														
D		REAL	SIMPLE	13	26	323/S	325/S	326/S	327/S	328/S											
DATA	//	REAL	ARRAY	506/S	508/S	508	509														
DAYSPLY	RCNTRL	REAL	SIMPLE	288	504/S	511															
DEC	RCNTRL	REAL	SIMPLE	161	450/S	456	459	478													
DECMAX	RCNTRL	REAL	SIMPLE	162	456/S	457	458														
DEFAULT			SIMPLE	163	454/S	456															
DIST	RCNTRL	REAL	SUBROUTINE	1																	
DLAT	RCNTRL	REAL	SIMPLE	164	459/S	477															
DLON	RCNTRL	REAL	SIMPLE	165	460/S	508															
DNORM		REAL	SIMPLE	166	461/S	504	504														
DSIG	RDPARM	REAL	SIMPLE	500/S	504																
DSIGINV	RDPARM	REAL	ARRAY	250																	
DT	RCNTRL	REAL	ARRAY	252																	
DXP	RCNTRL	REAL	SIMPLE	167	462/S																
DXYP	RDPARM	REAL	ARRAY	230																	
DYP	RDPARM	REAL	ARRAY	231																	
ECCN	RDPARM	REAL	ARRAY	232																	
EPS	RCNTRL	REAL	SIMPLE	168	463/S	477															
EPSFAC	RCNTRL	REAL	SIMPLE	194	487/S	489															
F1DT	RCNTRL	REAL	SIMPLE	195	489/S																
F2DT	RDPARM	REAL	SIMPLE	234																	
FCORLS	RDPARM	REAL	SIMPLE	235																	
FILTER	RDPARM	REAL	ARRAY	233																	
GNU1	LDPRM	LOGICAL	ARRAY	211	214																
GNU2	RCNTRL	REAL	SIMPLE	169	464/S																
GRAV	RCNTRL	REAL	SIMPLE	170	465/S																
GT	RCNTRL	REAL	SIMPLE	171	466/S																
GW	QANDQT	REAL	ARRAY	261	274																
H1DT	QANDQT	REAL	ARRAY	262	275																
H2DT	RDPARM	REAL	SIMPLE	236																	
HEATI	RDPARM	REAL	SIMPLE	237																	
HEATW	RCNTRL	REAL	SIMPLE	193	485/S																
I	RCNTRL	REAL	SIMPLE	192	485/S	489															
IBLSIZ	ICNTRL	INTEGER	SIMPLE	501/C	502	503	504	504	504	504	510/C	511	511								
IC	ICNTRL	INTEGER	SIMPLE	70																	
ICO	ICNTRL	INTEGER	ARRAY	95	96	408/S															
ICNTRL	ICNTRL	INTEGER	SIMPLE	27	95	96	332/S														
		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37							
				38	39	40	41	42	43	44	45	46	47	48							
				49	50	51	52	53	54	55	56	57	58	59							
				60	61	62	63	64	65	66	67	68	69	70							
				71	72	73	74	75	76	77	78										
ICSP53	ICNTRL	INTEGER	SIMPLE	68	376/S																
ICSP55		INTEGER	SIMPLE	378/S																	
IDIABAT	ICNTRL	INTEGER	SIMPLE	92	404/S																
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210							
IDSP02	IDPARM	INTEGER	SIMPLE	201																	
IEFLUX	ICNTRL	INTEGER	SIMPLE	84	393/S																
IFUSION	ICNTRL	INTEGER	SIMPLE	85	394/S																
IHFLUX	ICNTRL	INTEGER	SIMPLE	83	392/S																
IICLOUD	ICNTRL	INTEGER	SIMPLE	88	397/S																
IJUMP	IDPARM	INTEGER	ARRAY	200																	
IM	ICNTRL	INTEGER	SIMPLE	28	333/S	333	334	367	461	500											
IMD2	ICNTRL	INTEGER	SIMPLE	29	334/S	335	501	510													
IMD2P1	ICNTRL	INTEGER	SIMPLE	30	335/S																

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MJ	IDPARM	INTEGER	ARRAY	208																
MLF	ICNTRL	INTEGER	ARRAY	48	353/S	355/S														
MROD	ICNTRL	INTEGER	SIMPLE	49	357/S															
MSM	ICNTRL	INTEGER	SIMPLE	51	359/S															
N		INTEGER	SIMPLE	354/C	355	385/C	386	400/C	401											
NB	ICNTRL	INTEGER	SIMPLE	52	360/S	360	470													
ND	ICNTRL	INTEGER	SIMPLE	53	361/S	361														
NDALT	ICNTRL	INTEGER	SIMPLE	54	362/S															
NDAY	ICNTRL	INTEGER	SIMPLE	55	363/S	456	459	478												
NDHOG	ICNTRL	INTEGER	SIMPLE	76	384/S															
NDOUT	ICNTRL	INTEGER	SIMPLE	56	364/S															
NDPHY	ICNTRL	INTEGER	SIMPLE	57	365/S															
NDRSW	ICNTRL	INTEGER	SIMPLE	31	336/S															
NDSHF	ICNTRL	INTEGER	SIMPLE	58	366/S															
NDT	ICNTRL	INTEGER	SIMPLE	59	367/S	462														
NHMS	ICNTRL	INTEGER	SIMPLE	60	368/S	368	369	370	374											
NHMS0	ICNTRL	INTEGER	SIMPLE	62	370/S															
NHMS1	IDPARM	INTEGER	SIMPLE	209																
NHMSE	ICNTRL	INTEGER	SIMPLE	61	369/S															
NKRSH	ICNTRL	INTEGER	SIMPLE	50	358/S															
NLAY	ICNTRL	INTEGER	SIMPLE	63	371/S	371	372	373	481											
NLAYM1	ICNTRL	INTEGER	SIMPLE	64	372/S															
NLAYP1	ICNTRL	INTEGER	SIMPLE	65	373/S	480														
NMLEV	ICNTRL	INTEGER	SIMPLE	75	383/S															
NSDAY	ICNTRL	INTEGER	SIMPLE	66	374/S	413														
NSEQ	ICNTRL	INTEGER	SIMPLE	67	375/S															
NSTEP	ICNTRL	INTEGER	SIMPLE	69	377/S															
NYMD	ICNTRL	INTEGER	SIMPLE	71	363	379/S	379	380	381											
NYMD0	ICNTRL	INTEGER	SIMPLE	73	381/S															
NYMD1	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72	380/S															
NZINIT	ICNTRL	INTEGER	SIMPLE	74	382/S															
OMEGA2	RCNTRL	REAL	SIMPLE	172	468/S															
P	QANDQT	REAL	ARRAY	265	278															
PHI	QANDQT	REAL	ARRAY	270	283															
PHIS	QANDQT	REAL	ARRAY	258	271															
PI	RCNTRL	REAL	SIMPLE	173	451/S	452	453	460	506											
PI180	RCNTRL	REAL	SIMPLE	174	453/S	454														
PI2	RCNTRL	REAL	SIMPLE	175	452/S	456	461	468	477											
PIMEAN	RCNTRL	REAL	SIMPLE	177	470/S															
PKSTD	RDPARM	REAL	SIMPLE	238																
PKTOP	RDPARM	REAL	SIMPLE	239																
PLEVS	RCNTRL	REAL	ARRAY	191	484/S															
PSMAX	RCNTRL	REAL	SIMPLE	178	471/S															
PSMIN	RCNTRL	REAL	SIMPLE	179	472/S															
PSTD	RCNTRL	REAL	SIMPLE	176	469/S															
PTOP	RCNTRL	REAL	SIMPLE	180	473/S	473														
PZERO	RCNTRL	REAL	SIMPLE	197	490/S															
QALT	LCNTRL	LOGICAL	SIMPLE	98	126	411/S														
QANDQT		REAL	UNKNOWN	257	284	287														
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127	412/S														
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128	413/S														
QEND	LCNTRL	LOGICAL	SIMPLE	101	129	414/S														
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130	415/S														
OPHY	LCNTRL	LOGICAL	SIMPLE	103	131	416/S														
OPROG	QANDQT	REAL	ARRAY	257	271	272	273	274	275	276	277	278	279	280						
				281	282	283														
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135	420/S														
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134	419/S														
QSDIAG	QANDQT	REAL	ARRAY	284	286															
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132	417/S														
QUDIAG	QANDQT	REAL	ARRAY	287																
RADE	RCNTRL	REAL	SIMPLE	181	474/S															
RC	RCNTRL	REAL	ARRAY	199	492/S															
RC0	RCNTRL	REAL	SIMPLE	156	198	199	446/S													
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						
				178	179	180	181	182	183	184	185	186	187	188						
				189	190	191	192	193	194	195	196	197	198	199						
				217	218	219	220	221	222	223	224	225	226	227						
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227						

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RGAS	RCNTRL	REAL	SIMPLE	228	229	230	231	232	233	234	235	236	237	238
RLAT	RDPARM	REAL	ARRAY	239	240	241	242	243	244	245	246	247	248	249
RLATD	RDPARM	REAL	ARRAY	250	251	252								
ROCP	RCNTRL	REAL	SIMPLE	182	475/S	476	489							
ROCPDT	RDPARM	REAL	ARRAY	240										
ROCPP1	RCNTRL	REAL	SIMPLE	241										
RSDIST	RDPARM	REAL	SIMPLE	183	476/S									
SDAY	RCNTRL	REAL	SIMPLE	242										
SEASON	RCNTRL	REAL	SIMPLE	243										
SGNP	RDPARM	REAL	SIMPLE	184	477/S									
SH	QANDQT	REAL	ARRAY	185	467/S	468								
SHS	RDPARM	REAL	ARRAY	186	478/S									
SIG	RCNTRL	REAL	ARRAY	244										
SIGE	RDPARM	REAL	ARRAY	269	282									
SIND	RCNTRL	REAL	ARRAY	254	277									
SINL	RDPARM	REAL	ARRAY	187	479/S	481/S								
SINLON	RDPARM	REAL	ARRAY	188	458/S									
SMTH	QANDQT	REAL	ARRAY	245										
SN2FLG	LCNTRL	LOGICAL	SIMPLE	246										
SOLS	RCNTRL	REAL	SIMPLE	239	272	502/S	503/S	511/S						
START	LDPARM	LOGICAL	SIMPLE	109	133	418/S								
T	QANDQT	REAL	ARRAY	189	455/S	456	478							
THSTD	RDPARM	REAL	SIMPLE	213	216									
THSTD2	RDPARM	REAL	SIMPLE	268	281									
TS	QANDQT	REAL	ARRAY	247										
TSTD	RCNTRL	REAL	SIMPLE	248										
U	QANDQT	REAL	ARRAY	263	276									
V	QANDQT	REAL	ARRAY	190	483/S									
VER	CCNTRL	CHAR*B	SIMPLE	266	279									
WSAVE	RDPARM	REAL	ARRAY	267	280									
XLABEL	CCNTRL	CHAR*B	SIMPLE	10	23	303/S								
XORDS	CORDER	CHAR*B	ARRAY	249										
XORDU	CORDER	CHAR*B	ARRAY	11	24	305/S								
XSA	CORDER	CHAR*B	ARRAY	253	254	495/S								
XUA	CORDER	CHAR*B	ARRAY	253	254	498/S								
YORDS	CORDER	CHAR*B	ARRAY	255	256									
YORDU	CORDER	CHAR*B	ARRAY	255	256									
		CHAR*B	ARRAY	290	291/I	495								
		CHAR*B	ARRAY	292	293/I	498								

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST
ACOS	REAL	INTRINSIC	451				
AMIN1	REAL	INTRINSIC	511				
COS	REAL	INTRINSIC	456	457	477	509	
FLOAT	REAL	INTRINSIC	481				
MODHMS	INTEGER	FUNCTION	374				
MODYMD	INTEGER	FUNCTION	363				
PMEAN	REAL	FUNCTION	470				
SIN	REAL	INTRINSIC	458	504	504		

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C*****VDEPEND 2
C SUBROUTINE DEPEND VDEPEND 3
C VDEPEND 4
C PURPOSES VDEPEND 5
C 1) ADJUST THE VARIABLES IN /CNTRL/, /ICNTRL/, /LONTRL/ AND VDEPEND 6
C /RCNTRL/ TO REFLECT CHANGES REQUESTED VIA NAMELIST &INPUTZ. VDEPEND 7
C 2) COMPUTE PARAMETERS AND CONSTANTS WHICH CAN BE DERIVED FROM VDEPEND 8
C THE VARIABLES IN THE CONTROL COMMON BLOCKS. BLOCKS /IMJM/ VDEPEND 9
C /IFAX/, /IDPARM/, /LDPARM/, /RDPARM/, /IFAX/ AND /BITCM/ VDEPEND 10
C ARE INITIALIZED BY THIS ROUTINE. THE ARRAY OF FOURIER DAMPING VDEPEND 11
C FACTORS (SMTH IN /QANDQT/) IS ALSO FORCED TO HAVE NORTH-SOUTH VDEPEND 12
C SYMMETRY BY THIS ROUTINE. VDEPEND 13
C VDEPEND 14
C USAGE VDEPEND 15
C CALLED BY SUBROUTINE INPUT AFTER READING NAMELIST &INPUTZ VDEPEND 16
C VDEPEND 17
C INPUT/OUTPUT FILES USED VDEPEND 18
C NONE VDEPEND 19
C VDEPEND 20
C DESCRIPTION OF PARAMETERS VDEPEND 21
C NO ARGUMENTS VDEPEND 22
C VDEPEND 23
C SUBPROGRAMS NEEDED VDEPEND 24
C SETFIL,SIN,COS,EXPBYK,COTAN VDEPEND 25
C VDEPEND 26
C RECORD OF MODIFICATIONS VDEPEND 27
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VDEPEND 28
C 09JUN83 JIM PF RE-ORGANIZATION OF CONSTANT INITIALIZATION VDEPEND 29
C 21JUL83 JIM PF ADDING CHOICE OF DIAGNOSTICS VDEPEND 30
C VDEPEND 31
C VDEPEND 32
C*****VDEPEND 33
C* M / A - C O M S I G M A D A T A I N C . N A S A - G S F C *VDEPEND 34
C*****VDEPEND 35
C VDEPEND 36
00001 C SUBROUTINE DEPEND VDEPEND 37
C VDEPEND 38
C*****VDEPEND 39
C VDEPEND 40
C VCNTRL 2
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 3
C ===== VCNTRL 4
C COMMON /CCNTRL/ CCO VCNTRL 5
C 00002 COMMON /CCNTRL/ ADATE VCNTRL 6
C 00003 COMMON /CCNTRL/ ATIME VCNTRL 7
C 00004 COMMON /CCNTRL/ JIC VCNTRL 8
C 00005 COMMON /CCNTRL/ JOB VCNTRL 9
C 00006 COMMON /CCNTRL/ CCSP06 VCNTRL 10
C 00007 COMMON /CCNTRL/ CCSP07 VCNTRL 11
C 00008 COMMON /CCNTRL/ CCSP08 VCNTRL 12
C 00009 COMMON /CCNTRL/ VER VCNTRL 13
C 00010 COMMON /CCNTRL/ XLABEL (10) VCNTRL 14
C 00011 COMMON /CCNTRL/ CQS (30) VCNTRL 15
C 00012 COMMON /CCNTRL/ CQU (10) VCNTRL 16
C 00013 VCNTRL 17
C 00014 EQUIVALENCE (CCO,CC(1)) VCNTRL 18
C 00015 CHARACTER*8 CCO, CC(200) VCNTRL 19
C 00016 CHARACTER*8 ADATE VCNTRL 20
C 00017 CHARACTER*8 ATIME VCNTRL 21
C 00018 CHARACTER*8 JIC VCNTRL 22
C 00019 CHARACTER*8 JOB VCNTRL 23
C 00020 CHARACTER*8 CCSP06 VCNTRL 24
C 00021 CHARACTER*8 CCSP07 VCNTRL 25
C 00022 CHARACTER*8 CCSP08 VCNTRL 26
C 00023 CHARACTER*8 VER VCNTRL 27
C 00024 CHARACTER*8 XLABEL VCNTRL 28
C 00025 CHARACTER*8 CQS VCNTRL 29
C 00026 CHARACTER*8 CQU VCNTRL 30
C VCNTRL 31
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 32
C ===== VCNTRL 33

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00027	COMMON /ICNTRL/	ICO		VCNTRL	34
00028	COMMON /ICNTRL/	IM		VCNTRL	35
00029	COMMON /ICNTRL/	IMD2		VCNTRL	36
00030	COMMON /ICNTRL/	IMD2P1		VCNTRL	37
00031	COMMON /ICNTRL/	NDRSW		VCNTRL	38
00032	COMMON /ICNTRL/	JM		VCNTRL	39
00033	COMMON /ICNTRL/	JMD2		VCNTRL	40
00034	COMMON /ICNTRL/	JMT2		VCNTRL	41
00035	COMMON /ICNTRL/	JNP		VCNTRL	42
00036	COMMON /ICNTRL/	JO4		VCNTRL	43
00037	COMMON /ICNTRL/	JOB		VCNTRL	44
00038	COMMON /ICNTRL/	JSP		VCNTRL	45
00039	COMMON /ICNTRL/	KLIALB		VCNTRL	46
00040	COMMON /ICNTRL/	KLIGW		VCNTRL	47
00041	COMMON /ICNTRL/	KLISST		VCNTRL	48
00042	COMMON /ICNTRL/	KS		VCNTRL	49
00043	COMMON /ICNTRL/	KU		VCNTRL	50
00044	COMMON /ICNTRL/	LOGGER		VCNTRL	51
00045	COMMON /ICNTRL/	MATIN		VCNTRL	52
00046	COMMON /ICNTRL/	MATSNX		VCNTRL	53
00047	COMMON /ICNTRL/	MATSUN		VCNTRL	54
00048	COMMON /ICNTRL/	MLF	(12)	VCNTRL	55
00049	COMMON /ICNTRL/	MROD		VCNTRL	56
00050	COMMON /ICNTRL/	NKRSH		VCNTRL	57
00051	COMMON /ICNTRL/	MSM		VCNTRL	58
00052	COMMON /ICNTRL/	NB		VCNTRL	59
00053	COMMON /ICNTRL/	ND		VCNTRL	60
00054	COMMON /ICNTRL/	NDALT		VCNTRL	61
00055	COMMON /ICNTRL/	NDAY		VCNTRL	62
00056	COMMON /ICNTRL/	NDOUT		VCNTRL	63
00057	COMMON /ICNTRL/	NDPHY		VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF		VCNTRL	65
00059	COMMON /ICNTRL/	NDT		VCNTRL	66
00060	COMMON /ICNTRL/	NHMS		VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE		VCNTRL	68
00062	COMMON /ICNTRL/	NHM50		VCNTRL	69
00063	COMMON /ICNTRL/	NLAY		VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1		VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1		VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY		VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ		VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53		VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP		VCNTRL	76
00070	COMMON /ICNTRL/	ICSP55		VCNTRL	77
00071	COMMON /ICNTRL/	NYMD		VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE		VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO		VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT		VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV		VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG		VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)		VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)		VCNTRL	85
	C			VCNTRL	86
00079	EQUIVALENCE	(ITMIN ,IQS(1))		VCNTRL	87
00080	EQUIVALENCE	(ITMAX ,IQS(2))		VCNTRL	88
00081	EQUIVALENCE	(IPREACC ,IQS(3))		VCNTRL	89
00082	EQUIVALENCE	(IPRECON ,IQS(4))		VCNTRL	90
00083	EQUIVALENCE	(IHFLUX ,IQS(5))		VCNTRL	91
00084	EQUIVALENCE	(IEFLUX ,IQS(6))		VCNTRL	92
00085	EQUIVALENCE	(IFUSION ,IQS(7))		VCNTRL	93
00086	EQUIVALENCE	(IRADSWG ,IQS(8))		VCNTRL	94
00087	EQUIVALENCE	(IRADLWG ,IQS(9))		VCNTRL	95
00088	EQUIVALENCE	(IICLOUD ,IQS(10))		VCNTRL	96
	C			VCNTRL	97
00089	EQUIVALENCE	(IOMEGA ,IQU(1))		VCNTRL	98
00090	EQUIVALENCE	(IDIABAT ,IQU(2))		VCNTRL	99
00091	EQUIVALENCE	(IRADSW ,IQU(3))		VCNTRL	100
00092	EQUIVALENCE	(IRADLW ,IQU(4))		VCNTRL	101
	C			VCNTRL	102
00093	EQUIVALENCE	(ICO ,IC(1))		VCNTRL	103
00094	INTEGER	ICO , IC(200)		VCNTRL	104

C			VCNTRL 105
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 106
C	=====		VCNTRL 107
	00095 COMMON /LCNTRL/ LCO		VCNTRL 108
	00096 COMMON /LCNTRL/ QALT		VCNTRL 109
	00097 COMMON /LCNTRL/ QBEG		VCNTRL 110
	00098 COMMON /LCNTRL/ QDAY		VCNTRL 111
	00099 COMMON /LCNTRL/ QEND		VCNTRL 112
	00100 COMMON /LCNTRL/ QOUT		VCNTRL 113
	00101 COMMON /LCNTRL/ QPHY		VCNTRL 114
	00102 COMMON /LCNTRL/ QSHF		VCNTRL 115
	00103 COMMON /LCNTRL/ SN2FLG		VCNTRL 116
	00104 COMMON /LCNTRL/ QRSW		VCNTRL 117
	00105 COMMON /LCNTRL/ QRSW		VCNTRL 118
	00106 COMMON /LCNTRL/ LQS(30)		VCNTRL 119
	00107 COMMON /LCNTRL/ LQU(10)		VCNTRL 120
C			VCNTRL 121
	00108 EQUIVALENCE (LTMIN .LQS(1))		VCNTRL 122
	00109 EQUIVALENCE (LTMAX .LQS(2))		VCNTRL 123
	00110 EQUIVALENCE (LPREACC .LQS(3))		VCNTRL 124
	00111 EQUIVALENCE (LPRECON .LQS(4))		VCNTRL 125
	00112 EQUIVALENCE (LHFLUX .LQS(5))		VCNTRL 126
	00113 EQUIVALENCE (LEFLUX .LQS(6))		VCNTRL 127
	00114 EQUIVALENCE (LFUSION .LQS(7))		VCNTRL 128
	00115 EQUIVALENCE (LRADSWG .LQS(8))		VCNTRL 129
	00116 EQUIVALENCE (LRADLWG .LQS(9))		VCNTRL 130
	00117 EQUIVALENCE (LICLOUD .LQS(10))		VCNTRL 131
C			VCNTRL 132
	00118 EQUIVALENCE (LOMEGA .LQU(1))		VCNTRL 133
	00119 EQUIVALENCE (LDIABAT .LQU(2))		VCNTRL 134
	00120 EQUIVALENCE (LRADSW .LQU(3))		VCNTRL 135
	00121 EQUIVALENCE (LRADLW .LQU(4))		VCNTRL 136
C			VCNTRL 137
	00122 LOGICAL QALT		VCNTRL 138
	00123 LOGICAL QBEG		VCNTRL 139
	00124 LOGICAL QDAY		VCNTRL 140
	00125 LOGICAL QEND		VCNTRL 141
	00126 LOGICAL QOUT		VCNTRL 142
	00127 LOGICAL QPHY		VCNTRL 143
	00128 LOGICAL QSHF		VCNTRL 144
	00129 LOGICAL SN2FLG		VCNTRL 145
	00130 LOGICAL QRSW		VCNTRL 146
	00131 LOGICAL QRSW		VCNTRL 147
C			VCNTRL 148
	00132 LOGICAL LQS		VCNTRL 149
	00133 LOGICAL LQU		VCNTRL 150
	00134 LOGICAL LTMIN		VCNTRL 151
	00135 LOGICAL LTMAX		VCNTRL 152
	00136 LOGICAL LPREACC		VCNTRL 153
	00137 LOGICAL LPRECON		VCNTRL 154
	00138 LOGICAL LHFLUX		VCNTRL 155
	00139 LOGICAL LEFLUX		VCNTRL 156
	00140 LOGICAL LFUSION		VCNTRL 157
	00141 LOGICAL LRADSWG		VCNTRL 158
	00142 LOGICAL LRADLWG		VCNTRL 159
	00143 LOGICAL LICLOUD		VCNTRL 160
C			VCNTRL 161
	00144 LOGICAL LOMEGA		VCNTRL 162
	00145 LOGICAL LDIABAT		VCNTRL 163
	00146 LOGICAL LRADSW		VCNTRL 164
	00147 LOGICAL LRADLW		VCNTRL 165
C			VCNTRL 166
	00148 EQUIVALENCE (LCO,LC(1))		VCNTRL 167
	00149 LOGICAL LCO, LC(200)		VCNTRL 168
C			VCNTRL 169
C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 170
C	=====		VCNTRL 171
	00150 COMMON /RCNTRL/ RCO		VCNTRL 172
	00151 COMMON /RCNTRL/ APHEL		VCNTRL 173
	00152 COMMON /RCNTRL/ BETA		VCNTRL 174
	00153 COMMON /RCNTRL/ COSD		VCNTRL 175

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00154 COMMON /RCNTRL/ CP
00155 COMMON /RCNTRL/ DAYSPV
00156 COMMON /RCNTRL/ DEC
00157 COMMON /RCNTRL/ DECMAX
00158 COMMON /RCNTRL/ DIST
00159 COMMON /RCNTRL/ DLAT
00160 COMMON /RCNTRL/ DLON
00161 COMMON /RCNTRL/ DT
00162 COMMON /RCNTRL/ ECCN
00163 COMMON /RCNTRL/ GNU1
00164 COMMON /RCNTRL/ GNU2
00165 COMMON /RCNTRL/ GRAV
00166 COMMON /RCNTRL/ OMEGA2
00167 COMMON /RCNTRL/ PI
00168 COMMON /RCNTRL/ PI180
00169 COMMON /RCNTRL/ PI2
00170 COMMON /RCNTRL/ PSTD
00171 COMMON /RCNTRL/ PIMEAN
00172 COMMON /RCNTRL/ PSMAX
00173 COMMON /RCNTRL/ PSMIN
00174 COMMON /RCNTRL/ PTOP
00175 COMMON /RCNTRL/ RADE
00176 COMMON /RCNTRL/ RGAS
00177 COMMON /RCNTRL/ RQCP
00178 COMMON /RCNTRL/ RSDIST
00179 COMMON /RCNTRL/ SDAY
00180 COMMON /RCNTRL/ SEASON
00181 COMMON /RCNTRL/ SIGE (25)
00182 COMMON /RCNTRL/ SIND
00183 COMMON /RCNTRL/ SOLS
00184 COMMON /RCNTRL/ TSTD
00185 COMMON /RCNTRL/ PLEVS (25)
00186 COMMON /RCNTRL/ HEATW
00187 COMMON /RCNTRL/ HEATI
00188 COMMON /RCNTRL/ EPS
00189 COMMON /RCNTRL/ EPSFAC
00190 COMMON /RCNTRL/ GALTOJ
00191 COMMON /RCNTRL/ PZERO

C
00192 EQUIVALENCE (RC0,RC(1))
00193 REAL RC0, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00194 COMMON /IDPARM/ IJUMP (46)
00195 COMMON /IDPARM/ IDSP02
00196 COMMON /IDPARM/ INDEX (72)
00197 COMMON /IDPARM/ IROD
00198 COMMON /IDPARM/ JC (46)
00199 COMMON /IDPARM/ JE (2)
00200 COMMON /IDPARM/ JP (2,2)
00201 COMMON /IDPARM/ KSTEP
00202 COMMON /IDPARM/ MJ (46)
00203 COMMON /IDPARM/ NHMS1
00204 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00205 COMMON /LDPARM/ FILTER (46)
00206 COMMON /LDPARM/ ITAPE
00207 COMMON /LDPARM/ START

C
00208 LOGICAL FILTER
00209 LOGICAL ITAPE
00210 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00211 COMMON /RDPARM/ ADLDP
00212 COMMON /RDPARM/ CON1
00213 COMMON /RDPARM/ CON1DT

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VCNTRL 176
VCNTRL 177
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00268      EQUIVALENCE      (QPROG(1, 8,1,1),P      (1,1,1))      VQANDQT 39
C
00269      EQUIVALENCE      (QPROG(1,1, 2,1),U      (1,1,1,1))      VQANDQT 40
00270      EQUIVALENCE      (QPROG(1,1, 4,1),V      (1,1,1,1))      VQANDQT 41
00271      EQUIVALENCE      (QPROG(1,1, 6,1),T      (1,1,1,1))      VQANDQT 42
00272      EQUIVALENCE      (QPROG(1,1, 8,1),SH      (1,1,1,1))      VQANDQT 43
00273      EQUIVALENCE      (QPROG(1,1,10,1),PHI(1,1,1,1))      VQANDQT 44
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====
00274      COMMON          /QANDQT/ QSDIAG(72      ,15,46)      VQANDQT 45
00275      DIMENSION      IQSDIAG(72      ,15,46)      VQANDQT 46
00276      EQUIVALENCE      (QSDIAG,IQSDIAG)      VQANDQT 47
C
00277      COMMON          /QANDQT/ QUDIAG(72,9, 5,46)      VQANDQT 48
C
C * * *
C * * * PHYSICS PARAMETERS AND CONSTANTS
00278      COMMON /CNTRLP/ CDFR      VQANDQT 49
00279      COMMON /CNTRLP/ CDXL      VQANDQT 50
00280      COMMON /CNTRLP/ CDXO      VQANDQT 51
00281      COMMON /CNTRLP/ CLH      VQANDQT 52
00282      COMMON /CNTRLP/ COE      (9)      VQANDQT 53
00283      COMMON /CNTRLP/ COEF      VQANDQT 54
00284      COMMON /CNTRLP/ COEFS      VQANDQT 55
00285      COMMON /CNTRLP/ COSROT      VCNTRLP 2
00286      COMMON /CNTRLP/ CPP      VCNTRLP 3
00287      COMMON /CNTRLP/ CTID      VCNTRLP 4
00288      COMMON /CNTRLP/ CUMDAY      VCNTRLP 5
00289      COMMON /CNTRLP/ CUMRAT      VCNTRLP 6
00290      COMMON /CNTRLP/ C10      VCNTRLP 7
00291      COMMON /CNTRLP/ C100      VCNTRLP 8
00292      COMMON /CNTRLP/ C40      VCNTRLP 9
00293      COMMON /CNTRLP/ DELTA      VCNTRLP 10
00294      COMMON /CNTRLP/ DTC3      VCNTRLP 11
00295      COMMON /CNTRLP/ DTOUT      VCNTRLP 12
00296      COMMON /CNTRLP/ ED      VCNTRLP 13
00297      COMMON /CNTRLP/ EDNM      VCNTRLP 14
00298      COMMON /CNTRLP/ FCOEF      VCNTRLP 15
00299      COMMON /CNTRLP/ FMU      VCNTRLP 16
00300      COMMON /CNTRLP/ FWET      VCNTRLP 17
00301      COMMON /CNTRLP/ GAMFAC      VCNTRLP 18
00302      COMMON /CNTRLP/ GTOPO      VCNTRLP 19
00303      COMMON /CNTRLP/ HICE      VCNTRLP 20
00304      COMMON /CNTRLP/ NDTCS      VCNTRLP 21
00305      COMMON /CNTRLP/ NFLW      VCNTRLP 22
00306      COMMON /CNTRLP/ PIM      VCNTRLP 23
00307      COMMON /CNTRLP/ QHOG      VCNTRLP 24
00308      COMMON /CNTRLP/ SHLTOP      VCNTRLP 25
00309      COMMON /CNTRLP/ SINROT      VCNTRLP 26
00310      COMMON /CNTRLP/ SNOWN      VCNTRLP 27
00311      COMMON /CNTRLP/ SNOWS      VCNTRLP 28
00312      COMMON /CNTRLP/ STBO      VCNTRLP 29
00313      COMMON /CNTRLP/ STERP1      VCNTRLP 30
00314      COMMON /CNTRLP/ STERP2      VCNTRLP 31
00315      COMMON /CNTRLP/ TICE      VCNTRLP 32
00316      COMMON /CNTRLP/ TLTOP      VCNTRLP 33
00317      COMMON /CNTRLP/ XDAY      VCNTRLP 34
00318      COMMON /CNTRLP/ ZLNCO      VCNTRLP 35
00319      LOGICAL          QHOG      VCNTRLP 36
C
00320      COMMON /IMJM/      IMM1,      IMM2,      IMM3,      IMM4,      IMM5,
          IMT2,      IMT4,
          IMNLAY, IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5,
          IMD2M1,
          NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7
00321      COMMON /IFAX/ IFAX(10), TRIGS(72), NLAYT4P1, NLAYTBP2      VCNTRLP 37
C * * *
C * * * RADIATION AND SOURCE TERM FIELDS
00322      COMMON /RADCOM/ AS(72,9), RE(72,10)      VCNTRLP 38
          VCNTRLP 39
          VCNTRLP 40
          VCNTRLP 41
          VCNTRLP 42
          VCNTRLP 43
          VCNTRLP 44
          VCNTRLP 45
          VCNTRLP 46
          VIMJM 2
          VIMJM 3
          VIMJM 4
          VIMJM 5
          VIMJM 6
          VIFAX 2
          VRADCOM 2
          VRADCOM 3
          VRADCOM 4

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00323	COMMON /RADCOM/	PL(72,9), PLE(72,10)	VRADCOM 5
00324	COMMON /RADCOM/	PLK(72,9), PLKE(10)	VRADCOM 6
00325	COMMON /RADCOM/	TL(72,9), TLE(72,10)	VRADCOM 7
00326	COMMON /RADCOM/	TG(72), TH(72,9)	VRADCOM 8
00327	COMMON /RADCOM/	SHL(72,9), SHLE(72,10)	VRADCOM 9
00328	COMMON /RADCOM/	SHG(72), CLOUD(72,12)	VRADCOM 10
00329	COMMON /RADCOM/	SHSAT(72,9), GAM(72,9)	VRADCOM 11
00330	COMMON /RADCOM/	RH(72,9)	VRADCOM 12
00331	COMMON /RADCOM/	SSS(72,9), SSSE(72,10)	VRADCOM 13
00332	COMMON /RADCOM/	HH(72,9), HHE(72,10)	VRADCOM 14
00333	COMMON /RADCOM/	HHS(72,9)	VRADCOM 15
00334	COMMON /RADCOM/	CVT(72,9), CVQ(72,9)	VRADCOM 16
00335	COMMON /RADCOM/	CXDE(9)	VRADCOM 17
00336	COMMON /RADCOM/	SWALE(72,10), SWIL(72,9)	VRADCOM 18
00337	COMMON /RADCOM/	AL(72,10)	VRADCOM 19
00338	COMMON /RADCOM/	TAUL(72,10), OZALE(72,10)	VRADCOM 20
00339	COMMON /RADCOM/	TOPABS(72)	VRADCOM 21
00340	COMMON /RADCOM/	RN(9), TN(9), SRS(9), STN(9)	VRADCOM 22
00341	COMMON /RADCOM/	TCOND(9), TPENE(9)	VRADCOM 23
00342	COMMON /RADCOM/	TLOWL, TMIDL, NLAYOZ	VRADCOM 24
00343	COMMON /RADCOM/	FK(5), XK(5), NFK	VRADCOM 25
00344	COMMON /RADCOM/	DLJAN(19), DLAPR(19), DLJUL(19), DLOCT(19)	VRADCOM 26
00345	COMMON /RADCOM/	DCM22(23), DCM30(23), DCM38(23), DCM46(23)	VRADCOM 27
00346	COMMON /RADCOM/	PROGM(23), OCMXX(23), NOZ, TOTQZ(4), CDATE(6)	VRADCOM 28
00347	COMMON /RADCOM/	CZH(72), WET(72), EVAP, PREP(72), WI(72)	VRADCOM 29
00348	COMMON /RADCOM/	COSZ(72), SO, RADTRM(72), CXL	VRADCOM 30
00349	COMMON /RADCOM/	SG(72), SP(72)	VRADCOM 31
00350	COMMON /RADCOM/	RSURF(72), RCLLOUD(72), JALB	VRADCOM 32
00351	COMMON /RADCOM/	LAND(72), OCEAN(72), ICE(72)	VRADCOM 33
00352	COMMON /RADCOM/	SNOW(72), MIXWI(72), FROST(72)	VRADCOM 34
00353	LOGICAL	LAND, OCEAN, ICE, SNOW, MIXWI, FROST	VRADCOM 35
	C		VRADCOM 36
	C		VCORDER 2
	C	IDENTIFYING LABELS OF MODEL RESTART RECORD QUANTITIES	VCORDER 3
	C	=====	VCORDER 4
00354	COMMON	/CORORDER/ XORDS(24), XORDU(15)	VCORDER 5
00355	CHARACTER*8	XORDS, XORDU	VCORDER 6
	C		VCORDER 7
	C	IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES	VCORDER 8
	C	=====	VCORDER 9
00356	COMMON	/CORORDER/ XSA (23), XUA (10)	VCORDER 10
00357	CHARACTER*8	XSA, XUA	VCORDER 11
	C		VCORDER 12
	C	DATA TO BE TRANSFERED TO /RADCOM/	VDEPEND 48
	C	=====	VDEPEND 49
00358	DIMENSION	YCOND(9)	VDEPEND 50
00359	DATA	YCOND /0.0, 1.0, 2.0, 4.0, 6.0, 6.0, 8.0, 8.0, 8.0/	VDEPEND 51
00360	DIMENSION	YPENE(9)	VDEPEND 52
00361	DATA	YPENE /0.0, 0.0, 8.0, 8.0, 8.0, 8.0, 8.0, 8.0, 8.0/	VDEPEND 53
	C		VDEPEND 54
00362	DIMENSION	YFK(5)	VDEPEND 55
00363	DATA	YFK /0.107, 0.104, 0.073, 0.044, 0.025/	VDEPEND 56
00364	DIMENSION	YXK(5)	VDEPEND 57
00365	DATA	YXK /0.005, 0.041, 0.416, 4.752, 72.459/	VDEPEND 58
	C		VDEPEND 59
00366	DIMENSION	DLJAN(19), DLAPR(19), DLJUL(19), DLOCT(19)	VDEPEND 60
00367	DATA	DLJAN/ .2292, .2308, .2354, .2417, .2521, .2646, .2783, .2942, .3042, .3121, .3204, .3292, .3404, .3496, .3542, .3775, .3579, .3567, .3558/	VDEPEND 61
00368	DATA	DLAPR/ .2375, .2408, .2475, .2583, .2725, .2879, .3062, .3250, .3429, .3608, .3762, .3925, .4075, .4200, .4287, .4333, .4342, .4325, .4312/	VDEPEND 62
00369	DATA	DLJUL/ .2387, .2454, .2508, .2583, .2658, .2746, .2837, .2950, .3067, .3187, .3275, .3329, .3354, .3358, .3337, .3321, .3283, .3229, .3175/	VDEPEND 63
00370	DATA	DLOCT/ .2346, .2358, .2383, .2425, .2479, .2525, .2567, .2608, .2646, .2679, .2717, .2754, .2792, .2829, .2867, .2883, .2896, .2896, .2883/	VDEPEND 64
	C		VDEPEND 65
00371	DIMENSION	DCM22(23), DCM30(23), DCM38(23), DCM46(23)	VDEPEND 66
00372	DATA	DCM22/ .00008, .00657, .01830, .03353, .05614, .08685, .10930, .14029, .16624, .17797, .18492, .18867, .19120, .19384, .19645, .19844, .20262, .20601, .20907, .21198, .21473, .21728, .21982/	VDEPEND 67
00373	DATA	DCM30/ .00008, .00657, .01837, .03496, .06280, .10410, .13398, .17521, .21079, .22947, .24222, .24927, .25410, .25911, .26396/	VDEPEND 68
			VDEPEND 69
			VDEPEND 70
			VDEPEND 71
			VDEPEND 72
			VDEPEND 73
			VDEPEND 74
			VDEPEND 75

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00395      IMM5      = IM - 5
00396      IMT2      = IM * 2
00397      IMT4      = IM * 4
00398      IMNLAY   = IM * NLAY
00399      IMNLAY1  = IMNLAY - 1
00400      IMNLAY2  = IMNLAY - 2
00401      IMNLAY3  = IMNLAY - 3
00402      IMNLAY4  = IMNLAY - 4
00403      IMNLAY5  = IMNLAY - 5
00404      IMD2M1   = IMD2 - 1
00405      NLAYT2   = NLAY*2
00406      NLAYT3   = NLAY*3
00407      NLAYT4   = NLAY*4
00408      NLAYT5   = NLAY*5
00409      NLAYT6   = NLAY*6
00410      NLAYT7   = NLAY*7

C
CC COMMON BLOCK /IFAX/
C =====
00411      CALL SETFIL(TRIGS,IFAX,IM)
00412      NLAYT4P1= NLAYT4 + 1
00413      NLAYT8P2= NLAYT4P1 + NLAYT4P1

C
CC COMMON BLOCK /BITCM1/
C =====
00414      BITIMM1(1;IMNLAY) = QBVMKO(IMM1,IM;BITIMM1(1;IMNLAY))
00415      BITIMM2(1;IMNLAY) = QBVMKO(IMM2,IM;BITIMM2(1;IMNLAY))

C
CC COMMON BLOCK /RCNTRL/
C =====
00416      GNU1      = 1.0 - 2.0 * GNU2
00417      DO 8 L=1,NLAY
00418      IF (SN2FLG) SIGE(L+1) = SIN(.5*PI/NLAY*L)**2
00419      8          CONTINUE

C
CC COMMON BLOCK /IDPARAM/
C =====
00420      DO 10 I=1,IMD2
00421      INDEX(I)    = I + IMD2
00422      INDEX(I+IMD2) = I
00423      10         CONTINUE
00424      DO 12 J=JSP,JNP
00425      IJUMP(J)    = 1
00426      JC(J)      = MOD(J-1,MSK) + 1
00427      MJ(J)      = 0
00428      12         CONTINUE
00429      IJUMP(JSP) = IM
00430      IJUMP(JNP) = IM
00431      MJ(JSP)    = 1
00432      MJ(JNP)    = 2
00433      JE(1)     = JSP
00434      JE(2)     = JNP
00435      JP(1,1)   = JSP + 1
00436      JP(2,1)   = JSP + 2
00437      JP(1,2)   = JNP - 1
00438      JP(2,2)   = JNP - 2
00439      NHMS1    = NHMS
00440      NYMD1    = NYMD

C
CC COMMON BLOCK /LDPARM/ AND DAMPING COEFS FOR HIGH LATITUDE FILTER
C =====
00441      DO 14 J=JSP,JNP
00442      FILTER(J) = .FALSE.
00443      DO 13 I=1,IMD2
00444      IF (J.GT.JMD2) SMTH(I,J) = SMTH(I,JM-J+2)
00445      FILTER(J) = FILTER(J) .OR. SMTH(I,J).NE.1.0
00446      13         CONTINUE
00447      14         CONTINUE

C
CC COMMON BLOCK /RDPARM/
C =====

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00448      PKSTD      = EXPBYK(PSTD)
00449      ROCPP1     = ROCP + 1
00450      THSTD      = TSTD / PKSTD
00451      DO 15 L=1,NLAY
00452      DSIG(L)    = SIGE(L+1) - SIGE(L)
00453      DSIGINV(L) = 1.0 / DSIG(L)
00454      SIG(L)      = 0.5 * (SIGE(L+1) + SIGE(L))
00455      15         CONTINUE
00456      DO 20 I=1,IMD2
00457      COSLON(I)   = -COS((I-1)*DLON)
00458      COSLON(I+IMD2) = -COSLON(I)
00459      SINLON(I)  = -SIN((I-1)*DLON)
00460      SINLON(I+IMD2) = -SINLON(I)
00461      20         CONTINUE
00462      FJEQ        = 0.5 * (JSP + JNP)
00463      DO 30 J=JSP,JNP
00464      RLAT(J)     = DLAT * (J - FJEQ)
00465      RLATD(J)    = RLAT(J) / PI180
00466      COSL(J)    = COS(RLAT(J))
00467      SINL(J)    = SIN(RLAT(J))
00468      DXP(J)     = RADE * DLOW * COSL(J)
00469      DYP(J)     = RADE * DLAT
00470      DXYP(J)    = 12.0 * DXP(J) * DYP(J)
00471      FCORLS(J) = OMEGA2 * SINL(J)
00472      30         CONTINUE
00473      SGNP(1)    = -1.0
00474      SGNP(2)    = 1.0
00475      ADLDP      = 12.0 * RADE * DLAT * DLON
00476      RADIM3     = 3.0 * RADE * IM
00477      CON1       = 4.0 * COTAN(.5*DLAT) / RADIM3
00478      CON2       = -COTAN(DLAT) / RADIM3
00479      CON3        = CON1
00480      CON4        = -CON2
00481      CON5        = 1.0 / (RADIM3 * DLAT)
00482      CPD2        = CP * 0.5
00483      PKTOP      = PTOP**ROCPP1
00484      THSTD2     = THSTD * 2.0

C
C COMMON BLOCK /CNTRLR/
C =====
00485      GDFR       = 1.00
00486      CPP        = 0.24
00487      C10       = 60.00
00488      C100      = 100.00
00489      C40       = 8.00
00490      DELTA     = 0.0001
00491      EDNM      = 2.00
00492      HICE      = 300.00
00493      SHLTOP    = 0.00002
00494      STBO     = 1.171E-07
00495      TICE     = 273.16
00496      TLTOP    = 220.00
00497      NDTCS    = MODHMS(NDPHY,0)
00498      DTC3     = NDTCS
00499      DTOUT    = MODHMS(NDOUT,0)
00500      CUMRAT   = DTC3 / DTOUT
00501      CUMDAY   = SDAY / DTOUT
00502      CLH      = HEATW / CPP
00503      GAMFAC   = CLH * EPSFAC
00504      GTPO     = (2.0 * GRAV * PZERO / SQRT(TICE)) / 10.0
00505      CTID    = SDAY * 0.0052
00506      PIM      = PSTD - PTOP
00507      STERP1    = (SIGE(NLAYP1) - SIG(NLAYM1)) / (SIG(NLAY) - SIG(NLAYM1))
00508      STERP2    = (SIG(NLAY) - SIGE(NLAYP1)) / (SIG(NLAY) - SIG(NLAYM1))
00509      ZLNCO     = 0.5 * DSIG(NLAY) * RGAS / GRAV
00510      CMASS    = PIM * 10.0 / GRAV
00511      COEF      = DTC3 / (CPP * CMASS * SDAY)
00512      COEFS     = GRAV * DTC3 / DSIG(NLAY)
00513      DO 45 L
00514      COE(L)    = COEF / DSIG(L)
00515      45 CONTINUE

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C
C   DEFAULT AND READ NAMELIST INPHYS
C   =====
00516   CDXL      = 0.50
00517   CDXO      = 0.50
00518   ED        = 0.50
00519   FMU       = .00067
00520   FWET      = 0.50
00521   NFLW      = 5
C   THE SWITCHES FOR THE DIAGNOSTIC QUANTITIES WERE SET TO DEFAULT
C   VALUES IN SUBROUTINE DEFALT
00522   READ (11,INPHYS,END=48)
00523   48 CONTINUE
00524   WRITE(3,INPHYS)
00525   FCOEF      = 258.0 * GRAV**2 * FMU * DTC3 / (500.0 * RGAS)
C
C   REMOVE OLD MIXWI CONDITION FROM GT ARRAY
C   =====
00526   DO 49      JJ = JSP,JNP
00527   DO 49      II = 1,IM
00528   IF(GT(II,JJ).LE.1.1) GT(II,JJ) = TICE
00529   49 CONTINUE
C
C   COMMON BLOCK /RADCOM/
C   =====
00530   DO 50      L = 1,NLAY
00531   TCOND(L)    = YCOND(L)
00532   TPENE(L)   = YPENE(L)
00533   50 CONTINUE
00534   TLOWL      = 16.00
00535   TMIDL      = 8.00
00536   NLAYOZ    = 5
00537   NFK        = 5
00538   DO 51      I = 1,5
00539   FK(I)       = YFK(I)
00540   XK(I)       = YXK(I)
00541   51 CONTINUE
00542   DO 53      I = 1,19
00543   DLJAN(I)   = DLJAN(I)
00544   DLAPR(I)   = DLAPR(I)
00545   DLJUL(I)   = DLJUL(I)
00546   DLOCT(I)  = DLOCT(I)
00547   53 CONTINUE
00548   NOZ        = 23
00549   DO 54      I = 1,23
00550   PROCM(I)    = DROCM(I)
00551   OCM22(I)   = DCM22(I)
00552   OCM30(I)   = DCM30(I)
00553   OCM38(I)   = DCM38(I)
00554   OCM46(I)   = DCM46(I)
00555   54 CONTINUE
00556   CDATE(1)   = -77.00
00557   CDATE(2)   = 15.00
00558   CDATE(3)   = 105.00
00559   CDATE(4)   = 196.00
00560   CDATE(5)   = 288.00
00561   CDATE(6)   = 380.00
00562   TOTOZ(1)   = 0.22
00563   TOTOZ(2)   = 0.30
00564   TOTOZ(3)   = 0.38
00565   TOTOZ(4)   = 0.46
00566   S0         = 2880.0 / RSDIST
C
C   DETERMINE KS AND KU AND SET POINTERS AND LABELS FOR DIAGNOSTICS
C   =====
00567   KS         = 9
00568   DO 60      K = 1,30
00569   IF(.NOT.LQS(K)) GO TO 60
00570   KS         = KS + 1
00571   XORDS(KS)  = CQS(K)
00572   IQS(K)     = KS - 9

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CDATE	RADCOM	REAL	ARRAY	346	556/S	557/S	558/S	559/S	560/S	561/S						
CDFR	CNTRLP	REAL	SIMPLE	278	485/S											
CDXL	CNTRLP	REAL	SIMPLE	279	378	516/S										
CDXO	CNTRLP	REAL	SIMPLE	280	378	517/S										
CLH	CNTRLP	REAL	SIMPLE	281	502/S	503										
CLOUD	RADCOM	REAL	ARRAY	328												
CMASS		REAL	SIMPLE	510/S	511											
CNTRLP		REAL	UNKNOWN	278	279	280	281	282	283	284	285	286	287	288		
				289	290	291	292	293	294	295	296	297	298	299		
				300	301	302	303	304	305	306	307	308	309	310		
				311	312	313	314	315	316	317	318					
COE	CNTRLP	REAL	ARRAY	282	514/S											
COEF	CNTRLP	REAL	SIMPLE	283	511/S	514										
COEFS	CNTRLP	REAL	SIMPLE	284	512/S											
CON1	RDPARM	REAL	SIMPLE	212	477/S	479										
CON1DT	RDPARM	REAL	SIMPLE	213												
CON2	RDPARM	REAL	SIMPLE	214	478/S	480										
CON2DT	RDPARM	REAL	SIMPLE	215												
CON3	RDPARM	REAL	SIMPLE	216	479/S											
CON3DT	RDPARM	REAL	SIMPLE	217												
CON4	RDPARM	REAL	SIMPLE	218	480/S											
CON4DT	RDPARM	REAL	SIMPLE	219												
CON5	RDPARM	REAL	SIMPLE	220	481/S											
CORDER		REAL	UNKNOWN	354	356											
COSD	RCNTRL	REAL	SIMPLE	153												
COSL	RDPARM	REAL	ARRAY	221	466/S	468										
COSLON	RDPARM	REAL	ARRAY	222	457/S	458/S	458									
COSROT	CNTRLP	REAL	SIMPLE	285												
GOSZ	RADCOM	REAL	ARRAY	348												
GP	RCNTRL	REAL	SIMPLE	154	482											
CPD2	RDPARM	REAL	SIMPLE	223	482/S											
GPP	CNTRLP	REAL	SIMPLE	286	486/S	502	511									
CQS	CCNTRL	CHAR*8	ARRAY	12	25	571										
CQU	CCNTRL	CHAR*8	ARRAY	13	26	579										
CTID	CNTRLP	REAL	SIMPLE	287	505/S											
CUMDAY	CNTRLP	REAL	SIMPLE	288	501/S											
CUMRAT	CNTRLP	REAL	SIMPLE	289	500/S											
CVQ	RADCOM	REAL	ARRAY	334												
CVT	RADCOM	REAL	ARRAY	334												
CXDE	RADCOM	REAL	ARRAY	335												
CXL	RADCOM	REAL	SIMPLE	348												
CZH	RADCOM	REAL	ARRAY	347												
DAYSPY	RCNTRL	REAL	SIMPLE	155												
DCM22		REAL	ARRAY	371	372/I	551										
DCM30		REAL	ARRAY	371	373/I	552										
DCM38		REAL	ARRAY	371	374/I	553										
DCM46		REAL	ARRAY	371	375/I	554										
DEC	RCNTRL	REAL	SIMPLE	156												
DECMAX	RCNTRL	REAL	SIMPLE	157												
DELTA	CNTRLP	REAL	SIMPLE	293	490/S											
DEPEND			SUBROUTINE	1												
DIST	RCNTRL	REAL	SIMPLE	158												
DLAPR		REAL	ARRAY	355	368/I	544										
DLAT	RCNTRL	REAL	SIMPLE	159	464	469	475	477	478	481						
DLJAN		REAL	ARRAY	366	367/I	543										
DLJUL		REAL	ARRAY	366	369/I	545										
DLOCT		REAL	ARRAY	366	370/I	546										
DLON	RCNTRL	REAL	SIMPLE	160	457	459	468	475								
DROCM		REAL	ARRAY	376	377/I	550										
DSIG	RDPARM	REAL	ARRAY	244	452/S	453	509	512	514							
DSIGINV	RDPARM	REAL	ARRAY	246	453/S											
DT	RCNTRL	REAL	SIMPLE	161												
DTC3	CNTRLP	REAL	SIMPLE	294	498/S	500	511	512	525							
DTOUT	CNTRLP	REAL	SIMPLE	295	499/S	500	501									
DXP	RDPARM	REAL	ARRAY	224	468/S	470										
DXYP	RDPARM	REAL	ARRAY	225	470/S											
DYP	RDPARM	REAL	ARRAY	226	469/S	470										
ECCN	RCNTRL	REAL	SIMPLE	162												
ED	CNTRLP	REAL	SIMPLE	296	378	518/S										

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QUALITY

IMNLAY5	IMJM	INTEGER	SIMPLE	320	403/S															
IMT2	IMJM	INTEGER	SIMPLE	320	396/S															
IMT4	IMJM	INTEGER	SIMPLE	320	397/S															
INDEX	IDPARM	INTEGER	ARRAY	196	421/S	422/S														
INPHYS		INTEGER	SIMPLE	378	522	524														
IOMEGA	ICNTRL	INTEGER	UNKNOWN	89			80	81	82	83	84	85	86	87	88					
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																
IQS	ICNTRL	INTEGER	ARRAY	77	79															
				572/S																
IQSDIAG	QANDQT	INTEGER	ARRAY	275	276															
IQU	ICNTRL	INTEGER	ARRAY	78	89		90	91	92	580/S										
IRADLW	ICNTRL	INTEGER	UNKNOWN	92																
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																
IRADSW	ICNTRL	INTEGER	UNKNOWN	91																
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																
IROD	IDPARM	INTEGER	SIMPLE	197																
ITAPE	LDPARM	LOGICAL	SIMPLE	206	209															
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																
J		INTEGER	SIMPLE	424/C	425	426	426	427	441/C	442	444	444	444	444	445					
				445	445	463/C	464	464	465	465	466	466	466	467	467					
				468	468	469	470	470	470	471	471	471	471	471	471					
JALB	RADCOM	INTEGER	SIMPLE	350																
JC	IDPARM	INTEGER	ARRAY	198	426/S															
JE	IDPARM	INTEGER	ARRAY	199	433/S	434/S														
JIC	CCNTRL	CHAR*8	SIMPLE	5	18															
JJ		INTEGER	SIMPLE	526/C	528	528														
JM	ICNTRL	INTEGER	SIMPLE	32	444															
JMD2	ICNTRL	INTEGER	SIMPLE	33	444															
JMT2	ICNTRL	INTEGER	SIMPLE	34																
JNP	ICNTRL	INTEGER	SIMPLE	35	424	430	432	434	437	438	441	462	463	526						
JO4	ICNTRL	INTEGER	SIMPLE	36																
JOB	ICNTRL	INTEGER	SIMPLE	37																
JOB	CCNTRL	CHAR*8	SIMPLE	6	19															
JP	IDPARM	INTEGER	ARRAY	200	435/S	436/S	437/S	438/S												
JSP	ICNTRL	INTEGER	SIMPLE	38	424	429	431	433	435	436	441	462	463	526						
K		INTEGER	SIMPLE	568/C	569	571	572	576/C	577	579	580	582	582	582						
KLIALB	ICNTRL	INTEGER	SIMPLE	39																
				40																
KLIGW	ICNTRL	INTEGER	SIMPLE	41																
KLISST	ICNTRL	INTEGER	SIMPLE	42	567/S	570/S	570	571	572	574										
KS	ICNTRL	INTEGER	SIMPLE	201																
KSTEP	IDPARM	INTEGER	SIMPLE	43	575/S	578/S	578	579	580	582										
KU	ICNTRL	INTEGER	SIMPLE	417/C	418	418	451/C	452	452	452	453	453	454	454						
L		INTEGER	SIMPLE	454	513/C	514	514	530/C	531	531	532	532	454	454						
LAND	RADCOM	LOGICAL	ARRAY	351	353															
LC	LCNTRL	LOGICAL	ARRAY	148	149															
LC0	LCNTRL	LOGICAL	SIMPLE	95	148	149														
LCNTRL		INTEGER	UNKNOWN	96	96	97	98	99	100	101	102	103	104	105						
				106	107															
LDIABAT	LCNTRL	LOGICAL	SIMPLE	119	145	378														
LDPARM		INTEGER	UNKNOWN	205	206	207														
LEFLUX	LCNTRL	LOGICAL	SIMPLE	113	139	378														
LFUSION	LCNTRL	LOGICAL	SIMPLE	114	140	378														
LHFLUX	LCNTRL	LOGICAL	SIMPLE	112	138	378														
LICLOUD	LCNTRL	LOGICAL	SIMPLE	117	143	378														
LOGBR	ICNTRL	INTEGER	SIMPLE	44																
LOMEGA	LCNTRL	LOGICAL	SIMPLE	118	144	378														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	110	136															
LPRECON	LCNTRL	LOGICAL	SIMPLE	111	137	378														
LQS	LCNTRL	LOGICAL	ARRAY	106	108	109	110	111	112	113	114	115	116	117						
				132	569															
LQU	LCNTRL	LOGICAL	ARRAY	107	118	119	120	121	133	577										
LRADLW	LCNTRL	LOGICAL	UNKNOWN	121	147															
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	116	142															
LRADSW	LCNTRL	LOGICAL	SIMPLE	120	146	378														
LRADSWG	LCNTRL	LOGICAL	SIMPLE	115	141	378														
LTMAX	LCNTRL	LOGICAL	SIMPLE	109	135	378														
LTMIN	LCNTRL	LOGICAL	SIMPLE	108	134	378														

MATIN	ICNTRL	INTEGER	SIMPLE	45																
MATSNX	ICNTRL	INTEGER	SIMPLE	46																
MATSUN	ICNTRL	INTEGER	SIMPLE	47																
MI XWI	RADCOM	LOGICAL	ARRAY	352	353															
MJ	IDPARM	INTEGER	ARRAY	202	427/S	431/S	432/S													
MLF	ICNTRL	INTEGER	ARRAY	48																
MROD	ICNTRL	INTEGER	SIMPLE	49																
MSM	ICNTRL	INTEGER	SIMPLE	51	426															
NB	ICNTRL	INTEGER	SIMPLE	52																
ND	ICNTRL	INTEGER	SIMPLE	53																
NDALT	ICNTRL	INTEGER	SIMPLE	54																
NDAY	ICNTRL	INTEGER	SIMPLE	55																
NDHOG	ICNTRL	INTEGER	SIMPLE	76	378															
NDOUT	ICNTRL	INTEGER	SIMPLE	56	499															
NDRSW	ICNTRL	INTEGER	SIMPLE	57	497															
NDRSW	ICNTRL	INTEGER	SIMPLE	31																
NDSHF	ICNTRL	INTEGER	SIMPLE	58																
NDT	ICNTRL	INTEGER	SIMPLE	59																
NDTC3	CNTRLP	INTEGER	SIMPLE	304	497/S	498														
NFK	RADCOM	INTEGER	SIMPLE	343	537/S															
NFLW	CNTRLP	INTEGER	SIMPLE	305	378	521/S														
NHMS	ICNTRL	INTEGER	SIMPLE	60	439															
NHMSO	ICNTRL	INTEGER	SIMPLE	62																
NHMS1	IDPARM	INTEGER	SIMPLE	203	430/S															
NHMSE	ICNTRL	INTEGER	SIMPLE	61																
NKRSH	ICNTRL	INTEGER	SIMPLE	50																
NLAY	ICNTRL	INTEGER	SIMPLE	63	398	405	406	407	408	409	410	417	418	451						
				507	508	508	509	512	513	530										
NLAYM1	ICNTRL	INTEGER	SIMPLE	64	507	507	508													
NLAYOZ	RADCOM	INTEGER	SIMPLE	342	536/S															
NLAYP1	ICNTRL	INTEGER	SIMPLE	65	507	508														
NLAYT2	IMJM	INTEGER	SIMPLE	320	405/S															
NLAYT3	IMJM	INTEGER	SIMPLE	320	406/S															
NLAYT4	IMJM	INTEGER	SIMPLE	320	407/S	412														
NLAYT4P1	IFAX	INTEGER	SIMPLE	321	412/S	413	413													
NLAYT5	IMJM	INTEGER	SIMPLE	320	408/S															
NLAYT6	IMJM	INTEGER	SIMPLE	320	409/S															
NLAYT7	IMJM	INTEGER	SIMPLE	320	410/S															
NLAYT8P2	IFAX	INTEGER	SIMPLE	321	413/S															
NMLEV	ICNTRL	INTEGER	SIMPLE	75																
NOZ	RADCOM	INTEGER	SIMPLE	346	548/S															
NSDAY	ICNTRL	INTEGER	SIMPLE	66																
NSEQ	ICNTRL	INTEGER	SIMPLE	67																
NSTEP	ICNTRL	INTEGER	SIMPLE	69																
NYMD	ICNTRL	INTEGER	SIMPLE	71	440															
NYMD0	ICNTRL	INTEGER	SIMPLE	73																
NYMD1	IDPARM	INTEGER	SIMPLE	204	440/S															
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																
OCEAN	RADCOM	LOGICAL	ARRAY	351	353															
OCM22	RADCOM	REAL	ARRAY	345	551/S															
OCM30	RADCOM	REAL	ARRAY	345	552/S															
OCM38	RADCOM	REAL	ARRAY	345	553/S															
OCM46	RADCOM	REAL	ARRAY	345	554/S															
OCMXX	RADCOM	REAL	ARRAY	346																
OLAPR	RADCOM	REAL	ARRAY	344	544/S															
OLJAN	RADCOM	REAL	ARRAY	344	543/S															
OLJUL	RADCOM	REAL	ARRAY	344	545/S															
OLOCT	RADCOM	REAL	ARRAY	344	546/S															
OMEGA2	ICNTRL	REAL	SIMPLE	166	471															
OZALE	RADCOM	REAL	ARRAY	338																
P	QANDQT	REAL	ARRAY	255	268															
PHI	QANDQT	REAL	ARRAY	260	273															
PHIS	QANDQT	REAL	ARRAY	248	261															
PI	ICNTRL	REAL	SIMPLE	167	418															
PI180	ICNTRL	REAL	SIMPLE	168	465															
PI2	ICNTRL	REAL	SIMPLE	169																
PIM	CNTRLP	REAL	SIMPLE	305	506/S	510														
PIMEAN	ICNTRL	REAL	SIMPLE	171																
PKSTD	IDPARM	REAL	SIMPLE	232	448/S	450														

ORIGINAL PAGE IS
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SIND	RCNTRL	REAL	SIMPLE	182					
SINL	RDPARM	REAL	ARRAY	239	467/S	471			
SINLON	RDPARM	REAL	ARRAY	240	459/S	460/S	460		
SINROT	CNTRLP	REAL	SIMPLE	309					
SMTH	QANDQT	REAL	ARRAY	249	262	444/S	444	445	
SN2FLG	LCNTRL	LOGICAL	SIMPLE	103	129	418			
SNOW	RADCOM	LOGICAL	ARRAY	352	353				
SNOWN	CNTRLP	REAL	SIMPLE	310					
SNOWS	CNTRLP	REAL	SIMPLE	311					
SOLS	RCNTRL	REAL	SIMPLE	183					
SP	RADCOM	REAL	ARRAY	349					
SRS	RADCOM	REAL	ARRAY	340					
SSS	RADCOM	REAL	ARRAY	331					
SSSF	RADCOM	REAL	ARRAY	331					
START	LDPARM	LOGICAL	SIMPLE	207	210				
STBO	CNTRLP	REAL	SIMPLE	312	494/S				
STERP 1	CNTRLP	REAL	SIMPLE	313	507/S				
STERP 2	CNTRLP	REAL	SIMPLE	314	508/S				
STN	RADCOM	REAL	ARRAY	340					
SWALE	RADCOM	REAL	ARRAY	336					
SWIL	RADCOM	REAL	ARRAY	336					
T	QANDQT	REAL	ARRAY	258	271				
TAUL	RADCOM	REAL	ARRAY	338					
TCOND	RADCOM	REAL	ARRAY	341	531/S				
TG	RADCOM	REAL	ARRAY	326					
TH	RADCOM	REAL	ARRAY	326					
THSTD	RDPARM	REAL	SIMPLE	241	450/S	484			
THSTD2	RDPARM	REAL	SIMPLE	242	484/S				
TICE	CNTRLP	REAL	SIMPLE	315	498/S	504	528		
TL	RADCOM	REAL	ARRAY	325					
TLE	RADCOM	REAL	ARRAY	325					
TLOWL	RADCOM	REAL	SIMPLE	342	534/S				
TLTOP	CNTRLP	REAL	SIMPLE	316	496/S				
TMIDL	RADCOM	REAL	SIMPLE	342	535/S				
TN	RADCOM	REAL	ARRAY	340					
TOPABS	RADCOM	REAL	ARRAY	339					
TOTOZ	RADCOM	REAL	ARRAY	346	562/S	563/S	564/S	565/S	
TPENE	RADCOM	REAL	ARRAY	341	532/S				
TRIGS	IFAX	REAL	ARRAY	321	411				
TS	QANDQT	REAL	ARRAY	253	266				
TSTD	RCNTRL	REAL	SIMPLE	184	450				
U	QANDQT	REAL	ARRAY	255	269				
V	QANDQT	REAL	ARRAY	257	270				
VER	CNTRLP	CHAR*8	SIMPLE	10	23				
WET	RADCOM	REAL	ARRAY	347					
WI	RADCOM	REAL	ARRAY	347					
WSAVE	RDPARM	REAL	ARRAY	243					
XDAY	CNTRLP	REAL	SIMPLE	317					
XK	RADCOM	REAL	ARRAY	343	540/S				
XLABEL	CNTRLP	CHAR*8	ARRAY	11	24				
XORDS	CORDER	CHAR*8	ARRAY	354	355	571/S			
XORDU	CORDER	CHAR*8	ARRAY	354	355	579/S			
XSA	CORDER	CHAR*8	ARRAY	356	357				
XUA	CORDER	CHAR*8	ARRAY	356	357				
YCOND		REAL	ARRAY	358	359/I	531			
YFK		REAL	ARRAY	362	363/I	539			
YPENE		REAL	ARRAY	360	361/I	532			
YXK		REAL	ARRAY	364	365/I	540			
ZLNCO	CNTRLP	REAL	SIMPLE	318	509/S				

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
COS	REAL	INTRINSIC	457	466			
COTAN	REAL	INTRINSIC	477	478			
EXPBYK	REAL	FUNCTION	448				
MOD	INTEGER	INTRINSIC	426				
MODHMS	INTEGER	FUNCTION	497	499			
QBVMKO	BIT	INTRINSIC	414	415			

ORIGINAL PAGE IS
OF POOR QUALITY

SETFIL			
SIN	REAL	459	467
SORT	REAL		
	SUBROUTINE		
	INTRINSIC	411	
	INTRINSIC	418	
	INTRINSIC	504	

00001

SUBROUTINE DIFFQ (N1, N2, J)

UTILITY SUBROUTINE TO SUBTRACT 4TH-ORDER MODEL VALUES

ARGUMENTS	DESCRIPTION
N1	TIME STEP POINTER OF VALUES FROM WHICH TO SUBTRACT
N2	TIME STEP POINTER OF VALUES TO SUBTRACT
J	LATITUDE GRID BAND

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002
00003
00004
00005
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00007
00008
00009
00010
00011
00012
00013

COMMON /CCNTRL/	CC0
COMMON /CCNTRL/	ADATE
COMMON /CCNTRL/	ATIME
COMMON /CCNTRL/	JIC
COMMON /CCNTRL/	JOB
COMMON /CCNTRL/	CCSP06
COMMON /CCNTRL/	CCSP07
COMMON /CCNTRL/	CCSP08
COMMON /CCNTRL/	VER
COMMON /CCNTRL/	XLABEL (10)
COMMON /CCNTRL/	CQS (30)
COMMON /CCNTRL/	CQU (10)

00014
00015
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00019
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00026

EQUIVALENCE	(CC0,CC(1))
CHARACTER*B	CC0, CC(200)
CHARACTER*B	ADATE
CHARACTER*B	ATIME
CHARACTER*B	JIC
CHARACTER*B	JOB
CHARACTER*B	CCSP06
CHARACTER*B	CCSP07
CHARACTER*B	CCSP08
CHARACTER*B	VER
CHARACTER*B	XLABEL
CHARACTER*B	CQS
CHARACTER*B	CQU

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

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COMMON /ICNTRL/	IC0
COMMON /ICNTRL/	IM
COMMON /ICNTRL/	IMD2
COMMON /ICNTRL/	IMD2P1
COMMON /ICNTRL/	NDRSW
COMMON /ICNTRL/	JM
COMMON /ICNTRL/	JMD2
COMMON /ICNTRL/	JMT2
COMMON /ICNTRL/	JNP
COMMON /ICNTRL/	JD4
COMMON /ICNTRL/	JOB
COMMON /ICNTRL/	JSP
COMMON /ICNTRL/	KLIALB
COMMON /ICNTRL/	KLIGW
COMMON /ICNTRL/	KLISST
COMMON /ICNTRL/	KS
COMMON /ICNTRL/	KU
COMMON /ICNTRL/	LOGBR
COMMON /ICNTRL/	MATIN
COMMON /ICNTRL/	MATGNX
COMMON /ICNTRL/	MATSUN
COMMON /ICNTRL/	MLF (12)
COMMON /ICNTRL/	MROD
COMMON /ICNTRL/	NKRSH
COMMON /ICNTRL/	MSM
COMMON /ICNTRL/	NB
COMMON /ICNTRL/	ND
COMMON /ICNTRL/	NDAL7
COMMON /ICNTRL/	NDAY
COMMON /ICNTRL/	NDOUT

VDIFFQ 2
VDIFFQ 3
VDIFFQ 4
VDIFFQ 5
VDIFFQ 6
VDIFFQ 7
VDIFFQ 8
VDIFFQ 9
VDIFFQ 10
VCNTRL 2
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ORIGINAL PAGE 19
OF POOR QUALITY

00057	COMMON /ICNTRL/	NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/	NDT	VCNTRL 66
00060	COMMON /ICNTRL/	NHMS	VCNTRL 67
00061	COMMON /ICNTRL/	NHMSB	VCNTRL 68
00062	COMMON /ICNTRL/	NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/	NLAY	VCNTRL 70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/	NYMD	VCNTRL 78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL 85
	C		VCNTRL 86
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE	(LICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL 98
	C		VCNTRL 99
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL 103
	C		VCNTRL 104
00095	EQUIVALENCE	(ICO,IC(1))	VCNTRL 105
00096	INTEGER	ICO, IC(200)	VCNTRL 106
	C		VCNTRL 107
	C		VCNTRL 108
	C		VCNTRL 109
	C		VCNTRL 110
	C		VCNTRL 111
	C		VCNTRL 112
	C		VCNTRL 113
	C		VCNTRL 114
	C		VCNTRL 115
	C		VCNTRL 116
	C		VCNTRL 117
	C		VCNTRL 118
	C		VCNTRL 119
	C		VCNTRL 120
	C		VCNTRL 121
	C		VCNTRL 122
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	C		VCNTRL 125
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00121		EQUIVALENCE	(LVFLUX ,LQS(12))	VCNTRL 135
	C			VCNTRL 136
00122		EQUIVALENCE	(LOMEGA ,LQU(1))	VCNTRL 137
00123		EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL 138
00124		EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL 139
00125		EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL 140
	C			VCNTRL 141
00126		LOGICAL	QALT	VCNTRL 142
00127		LOGICAL	QBEG	VCNTRL 143
00128		LOGICAL	QDAY	VCNTRL 144
00129		LOGICAL	QEND	VCNTRL 145
00130		LOGICAL	QOUT	VCNTRL 146
00131		LOGICAL	QPHY	VCNTRL 147
00132		LOGICAL	QSHF	VCNTRL 148
00133		LOGICAL	SN2FLG	VCNTRL 149
00134		LOGICAL	QRSW	VCNTRL 150
00135		LOGICAL	QRSH	VCNTRL 151
	C			VCNTRL 152
00136		LOGICAL	LQS	VCNTRL 153
00137		LOGICAL	LQU	VCNTRL 154
00138		LOGICAL	LTMIN	VCNTRL 155
00139		LOGICAL	LTMAX	VCNTRL 156
00140		LOGICAL	LPREACC	VCNTRL 157
00141		LOGICAL	LPRECON	VCNTRL 158
00142		LOGICAL	LHFLUX	VCNTRL 159
00143		LOGICAL	LEFLUX	VCNTRL 160
00144		LOGICAL	LFUSION	VCNTRL 161
00145		LOGICAL	LRADSWG	VCNTRL 162
00146		LOGICAL	LRADLWG	VCNTRL 163
00147		LOGICAL	LICLOUD	VCNTRL 164
00148		LOGICAL	LVFLUX	VCNTRL 165
00149		LOGICAL	LUFLUX	VCNTRL 166
	C			VCNTRL 167
00150		LOGICAL	LOMEGA	VCNTRL 168
00151		LOGICAL	LDIABAT	VCNTRL 169
00152		LOGICAL	LRADSW	VCNTRL 170
00153		LOGICAL	LRADLW	VCNTRL 171
	C			VCNTRL 172
00154		EQUIVALENCE	(LC0,LC(1))	VCNTRL 173
00155		LOGICAL	LC0, LC(200)	VCNTRL 174
	C			VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 176
	C	=====		VCNTRL 177
00156		COMMON /RCNTRL/	RCO	VCNTRL 178
00157		COMMON /RCNTRL/	APHEL	VCNTRL 179
00158		COMMON /RCNTRL/	BETA	VCNTRL 180
00159		COMMON /RCNTRL/	COSD	VCNTRL 181
00160		COMMON /RCNTRL/	CP	VCNTRL 182
00161		COMMON /RCNTRL/	DAYSPLY	VCNTRL 183
00162		COMMON /RCNTRL/	DEC	VCNTRL 184
00163		COMMON /RCNTRL/	DECMAX	VCNTRL 185
00164		COMMON /RCNTRL/	DIST	VCNTRL 186
00165		COMMON /RCNTRL/	DLAT	VCNTRL 187
00166		COMMON /RCNTRL/	DLON	VCNTRL 188
00167		COMMON /RCNTRL/	DT	VCNTRL 189
00168		COMMON /RCNTRL/	ECCN	VCNTRL 190
00169		COMMON /RCNTRL/	GNU1	VCNTRL 191
00170		COMMON /RCNTRL/	GNU2	VCNTRL 192
00171		COMMON /RCNTRL/	GRAV	VCNTRL 193
00172		COMMON /RCNTRL/	OMEGA2	VCNTRL 194
00173		COMMON /RCNTRL/	P1	VCNTRL 195
00174		COMMON /RCNTRL/	P1180	VCNTRL 196
00175		COMMON /RCNTRL/	P12	VCNTRL 197
00176		COMMON /RCNTRL/	PSTD	VCNTRL 198
00177		COMMON /RCNTRL/	PIMEAN	VCNTRL 199
00178		COMMON /RCNTRL/	PSMAX	VCNTRL 200
00179		COMMON /RCNTRL/	PSMIN	VCNTRL 201
00180		COMMON /RCNTRL/	PTOP	VCNTRL 202
00181		COMMON /RCNTRL/	RADE	VCNTRL 203
00182		COMMON /RCNTRL/	RGAS	VCNTRL 204
00183		COMMON /RCNTRL/	ROCP	VCNTRL 205

ORIGINAL PAGE IS
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00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
	C	VCNTRL 220
00198	EQUIVALENCE (RCO, RC(1))	VCNTRL 221
00199	REAL RCO, RC(200)	VCNTRL 222
	C	VCNTRL 223
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	C	VCNTRL 276


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00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY+11 =99
C IM*NLAY+11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====
C
00253 COMMON /QANDQT/ OPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1, 1, 1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2, 1, 1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3, 1, 1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4, 1, 1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5, 1, 1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6, 1, 1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7, 1, 1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8, 1, 1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1, 1, 2, 1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1, 1, 4, 1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1, 1, 6, 1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1, 1, 8, 1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1, 1, 10, 1),PHI(1,1,1,1))
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====
C
00280 COMMON /QANDQT/ QSDIAG(72, 15,46)
00281 DIMENSION IQSDIAG(72, 15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C
C
C * * *
C POLAR MODEL PROGNOSTIC FIELDS
00284 COMMON /QPOLES/ PP(2,2)
00285 COMMON /QPOLES/ UP(9,2,2)
00286 COMMON /QPOLES/ VP(9,2,2)
00287 COMMON /QPOLES/ TP(9,2,2)
00288 COMMON /QPOLES/ SHP(9,2,2)

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VCNTRL 277
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VQANDQT 2
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VQANDQT 55
VQPOLES 2
VQPOLES 3
VQPOLES 4
VQPOLES 5
VQPOLES 6
VQPOLES 7
VQPOLES 8

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IOMEGA	ICNTRL	INTEGER	UNKNOWN	91																
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88						
				89	90															
IQSDTAG	QANDOT	INTEGER	ARRAY	281	282															
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94												
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																
IROD	IDPARM	INTEGER	SIMPLE	203																
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215															
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																
IUFLUX	ICNTRL	INTEGER	UNKNOWN	80																
J		INTEGER	SIMPLE	1	292	302	302	302	303	303	303	304	304	304						
				305	305	305	306	306	306	306	306	304	304	304						
JC	IDPARM	INTEGER	ARRAY	204																
JE	IDPARM	INTEGER	ARRAY	205																
JIC	CCNTRL	CHAR*8	SIMPLE	5	18															
JM	ICNTRL	INTEGER	SIMPLE	32																
JMD2	ICNTRL	INTEGER	SIMPLE	33																
JMT2	ICNTRL	INTEGER	SIMPLE	34																
JNP	ICNTRL	INTEGER	SIMPLE	35																
JO4	ICNTRL	INTEGER	SIMPLE	36																
JOB	ICNTRL	INTEGER	SIMPLE	37																
JOB	CCNTRL	CHAR*8	SIMPLE	6	19															
JP	IDPARM	INTEGER	ARRAY	206																
JSP	ICNTRL	INTEGER	SIMPLE	38																
KLIALB	ICNTRL	INTEGER	SIMPLE	39																
KLIGW	ICNTRL	INTEGER	SIMPLE	40																
KLISST	ICNTRL	INTEGER	SIMPLE	41																
KS	ICNTRL	INTEGER	SIMPLE	42																
KSTEP	IDPARM	INTEGER	SIMPLE	207																
KU	ICNTRL	INTEGER	SIMPLE	43																
L		INTEGER	SIMPLE	295/C	296	296	296	297	297	297	298	298	298	299						
				299	299															
LC	LCNTRL	LOGICAL	ARRAY	154	155															
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155														
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107						
				108	109															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151															
LDPARM		INTEGER	UNKNOWN	211	212	213														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147															
LOGBR	ICNTRL	INTEGER	SIMPLE	117																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	112	150															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141															
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119						
				120	121	136														
				109	122	123	124	125	137											
LQU	LCNTRL	LOGICAL	ARRAY	125	153															
LRADLW	LCNTRL	LOGICAL	UNKNOWN	118	146															
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	124	152															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	145															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	111	139															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	110	138															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	120	148															
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149															
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	292/S	293	294	294	294	296	296	296	297	297	297						
M		INTEGER	SIMPLE	298	298	298	299	299	299	299										
				45																
MATIN	ICNTRL	INTEGER	SIMPLE	46																
MATSNX	ICNTRL	INTEGER	SIMPLE	47																
MATSUN	ICNTRL	INTEGER	SIMPLE	208	292															
MJ	IDPARM	INTEGER	ARRAY	208	292															

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MLF	ICNTRL	INTEGER	ARRAY	48																	
MROD	ICNTRL	INTEGER	SIMPLE	49																	
MSM	ICNTRL	INTEGER	SIMPLE	51																	
N1		INTEGER	SIMPLE	1	294	294	296	296	297	297	298	298	298	299	299						
				302	302	303	303	304	304	305	305	305	305	306	306						
				302	294	296	297	298	299	302	303	303	304	305	306						
N2		INTEGER	SIMPLE	1																	
NB	ICNTRL	INTEGER	SIMPLE	52																	
ND	ICNTRL	INTEGER	SIMPLE	53																	
NDALT	ICNTRL	INTEGER	SIMPLE	54																	
NDAY	ICNTRL	INTEGER	SIMPLE	55																	
NDHOG	ICNTRL	INTEGER	SIMPLE	76																	
NDHUT	ICNTRL	INTEGER	SIMPLE	56																	
NDPHY	ICNTRL	INTEGER	SIMPLE	57																	
NDRSW	ICNTRL	INTEGER	SIMPLE	31																	
NDSHF	ICNTRL	INTEGER	SIMPLE	58																	
NDT	ICNTRL	INTEGER	SIMPLE	59																	
NHMS	ICNTRL	INTEGER	SIMPLE	60																	
NHMS0	ICNTRL	INTEGER	SIMPLE	62																	
NHMS1	IDPARM	INTEGER	SIMPLE	209																	
NHMS2	ICNTRL	INTEGER	SIMPLE	61																	
NKRSH	ICNTRL	INTEGER	SIMPLE	50																	
NLAY	ICNTRL	INTEGER	SIMPLE	63	295																
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																	
NLAYT2	IMJM	INTEGER	SIMPLE	290																	
NLAYT3	IMJM	INTEGER	SIMPLE	290																	
NLAYT4	IMJM	INTEGER	SIMPLE	290																	
NLAYT5	IMJM	INTEGER	SIMPLE	290																	
NLAYT6	IMJM	INTEGER	SIMPLE	290																	
NLAYT7	IMJM	INTEGER	SIMPLE	290																	
NMLEV	ICNTRL	INTEGER	SIMPLE	75																	
NNDAY	ICNTRL	INTEGER	SIMPLE	66																	
NSEQ	ICNTRL	INTEGER	SIMPLE	67																	
NSTEP	ICNTRL	INTEGER	SIMPLE	69																	
NYMD	ICNTRL	INTEGER	SIMPLE	71																	
NYMD0	ICNTRL	INTEGER	SIMPLE	73																	
NYMD1	IDPARM	INTEGER	SIMPLE	210																	
NYMDE	ICNTRL	INTEGER	SIMPLE	72																	
NZINIT	ICNTRL	INTEGER	SIMPLE	74																	
OMEGA2	ICNTRL	REAL	SIMPLE	172																	
P	QANDQT	REAL	ARRAY	261	274		302/S	302		302											
PHI	QANDQT	REAL	ARRAY	266	279																
PHIP	QPOLES	REAL	ARRAY	289																	
PHIS	QANDQT	REAL	ARRAY	254	267																
PI	ICNTRL	REAL	SIMPLE	173																	
PI180	ICNTRL	REAL	SIMPLE	174																	
PI2	ICNTRL	REAL	SIMPLE	175																	
PIMEAN	ICNTRL	REAL	SIMPLE	177																	
PKSTD	IDPARM	REAL	SIMPLE	238																	
PKTOP	IDPARM	REAL	SIMPLE	239																	
PLEVS	ICNTRL	REAL	ARRAY	191																	
PP	QPOLES	REAL	ARRAY	284	294/S	294		294													
PSMAX	ICNTRL	REAL	SIMPLE	178																	
PSMIN	ICNTRL	REAL	SIMPLE	179																	
PSTD	ICNTRL	REAL	SIMPLE	176																	
PTOP	ICNTRL	REAL	SIMPLE	180																	
PZERO	ICNTRL	REAL	SIMPLE	197																	
QALT	ICNTRL	LOGICAL	SIMPLE	98	126																
QANDQT		REAL	UNKNOWN	253	280		283														
QBEG	ICNTRL	LOGICAL	SIMPLE	99	127																
QDAY	ICNTRL	LOGICAL	SIMPLE	100	128																
QEND	ICNTRL	LOGICAL	SIMPLE	101	129																
QOUT	ICNTRL	LOGICAL	SIMPLE	102	130																
QPHY	ICNTRL	LOGICAL	SIMPLE	103	131																
QPOLES		REAL	UNKNOWN	284	285		286	287	288	289											
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	ICNTRL	LOGICAL	SIMPLE	107	135																
QRSW	ICNTRL	LOGICAL	SIMPLE	106	134																

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```

CCCC
00001      FUNCTION VEXPBYK(XD,L;*)
00002      DESCRIPTOR VEXPBYK,XD
00003      VEXPBYK = XD** .286
00004      RETURN
00005      FUNCTION VEXPBYK(XD,L;*)
00006      COMMON/ WORKVE / TMPR(5000)
00007      DESCRIPTOR VEXPBYK,TEMP1D,XD
00008      ASSIGN TEMP1D,TMPR(1:L)
00009      VEXPBYK = VSQRT(XD;VEXPBYK)
00010      VEXPBYK = VSQRT(VEXPBYK;VEXPBYK)
00011      TEMP1D = VSQRT(VEXPBYK; TEMP1D)
00012      TEMP1D = VSQRT( TEMP1D; TEMP1D)
00013      TEMP1D = VSQRT( TEMP1D; TEMP1D)
00014      VEXPBYK = VEXPBYK*TEMP1D
00015      TEMP1D = VSQRT( TEMP1D; TEMP1D)
00016      TEMP1D = VSQRT( TEMP1D; TEMP1D)
00017      VEXPBYK = VEXPBYK*TEMP1D
00018      RETURN
00019      END
VEXPBYK  2
VEXPBYK  3
VEXPBYK  4
VEXPBYK  5
VEXPBYK  6
VEXPBYK  7
VEXPBYK  8
VEXPBYK  9
VEXPBYK 10
VEXPBYK 11
VEXPBYK 12
VEXPBYK 13
VEXPBYK 14
VEXPBYK 15
VEXPBYK 16
VEXPBYK 17
VEXPBYK 18
VEXPBYK 19
VEXPBYK 20
VEXPBYK 21
VEXPBYK 22
VEXPBYK 23
VEXPBYK 24

```

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DD	I=DATA INIT	R=READ	S=STORE	W=WRITE
L		INTEGER	SIMPLE	1	4					
TEMP1D		REAL	DESCRIPTOR	3	4	7/S	7	8/S	8	8
				11/S	11	12/S	12	12	13/S	13
				15	15	16/S	16	17	13	14
TMPR	WORKVE	REAL	ARRAY	2	4					
VEXPBYK		REAL	DESCRIPTOR	1	3	5/S	5	6/S	6	6
				14	17/S	17			7	10/S
WORKVE		REAL	UNKNOWN	2						10
XD		REAL	DESCRIPTOR	1	3	5				14

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF	A=ARGLIST
VSQRT	REAL	INTRINSIC	5	6	7 8 9 11 12 13 15 16

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```

C
00001 FUNCTION EXPBYK(X)
00002 EXPBYK = X**0.286
00003 RETURN
00004 FUNCTION EXPBYK(XD)
00005 EXPBYK = SORT(XD)
00006 EXPBYK = SORT(EXPBYK)
00007 TEMP1D = SORT(EXPBYK)
00008 TEMP1D = SORT( TEMP1D)
00009 TEMP1D = SORT( TEMP1D)
00010 EXPBYK = EXPBYK*TEMP1D
00011 TEMP1D = SORT( TEMP1D)
00012 TEMP1D = SORT( TEMP1D)
00013 TEMP1D = SORT( TEMP1D)
00014 EXPBYK = EXPBYK*TEMP1D
00015 RETURN
00016 END

```

- VEXPBYK 25
- VEXPBYK 26
- VEXPBYK 27
- VEXPBYK 28
- VEXPBYK 29
- VEXPBYK 30
- VEXPBYK 31
- VEXPBYK 32
- VEXPBYK 33
- VEXPBYK 34
- VEXPBYK 35
- VEXPBYK 36
- VEXPBYK 37
- VEXPBYK 38
- VEXPBYK 39
- VEXPBYK 40
- VEXPBYK 41
- VEXPBYK 42
- VEXPBYK 43

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE				
EXPBYK		REAL	FUNCTION	1	2/S	3/S	3	4	7/S	7	11/S	11	14/S	14
TEMP1D		REAL	SIMPLE	4/S	5/S	5	6/S	6	7	8/S	8	9/S	9	10
XD		REAL	SIMPLE	10	11	12/S	12	13/S	13	14				

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF	A=ARGLIST
SQRT	REAL	INTRINSIC	2	3	4

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```

00001 SUBROUTINE DUMPIJ (IX, JX)
C+*****
C+ PURPOSE
C+ DUMP GRID POINT (JX,IX).
C+ USAGE
C+ CALLED NORMALLY BY (PRDIAG).
C+ ARGUMENTS DESCRIPTION
C+ IX I POINT
C+ JX J POINT
C+ SUBPROGRAMS NEEDED
C+ NONE
C+ RECORD OF MODIFICATIONS
C+ 12/05/83 RAMESH NEW PROGRAM
C+ 02/04/84 JIM.PF COMMENTS + MOVED TO F400M 207
C+ REMARKS:
C+*****
C+ M / R - C O M S I G M A D A T A I N C . N A S A - G S F C
C+*****
C HALF/FULL PRECISION
C =====
00002 IMPLICIT HALF PRECISION (A-H,O-Z)
C =====
C+ PARAMETER STATEMENTS FOR DIMENSIONING RESOLUTION
C+ =====
C+ CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C+ =====
00003 COMMON /CCNTRL/ CCO
00004 COMMON /CCNTRL/ ADATE
00005 COMMON /CCNTRL/ ATIME
00006 COMMON /CCNTRL/ JIC
00007 COMMON /CCNTRL/ JOB
00008 COMMON /CCNTRL/ CCSP06
00009 COMMON /CCNTRL/ CCSP07
00010 COMMON /CCNTRL/ CCSP08
00011 COMMON /CCNTRL/ VER
00012 COMMON /CCNTRL/ XLABEL (10)
00013 COMMON /CCNTRL/ CQS (30)
00014 COMMON /CCNTRL/ CQU (10)
00015 COMMON /CCNTRL/ DSTOP(4)
00016 COMMON /CCNTRL/ DSLWI(4)
00017 COMMON /CCNTRL/ DSSST(4)
00018 COMMON /CCNTRL/ DSALB(4)
00019 COMMON /CCNTRL/ DSGWT(4)
C
00020 EQUIVALENCE (CCO,CC(1))
00021 CHARACTER*8 CCO, CC(200)
00022 CHARACTER*8 ADATE
00023 CHARACTER*8 ATIME
00024 CHARACTER*8 JIC
00025 CHARACTER*8 JOB
00026 CHARACTER*8 CCSP06
00027 CHARACTER*8 CCSP07
00028 CHARACTER*8 CCSP08
00029 CHARACTER*8 VER
00030 CHARACTER*8 XLABEL
00031 CHARACTER*8 CQS
00032 CHARACTER*8 CQU
00033 CHARACTER*8 DSTOP
00034 CHARACTER*8 DSLWI
00035 CHARACTER*8 DSSST
00036 CHARACTER*8 DSALB
00037 CHARACTER*8 DSGWT
C
C+ INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C+ =====
00038 COMMON /ICNTRL/ IGO
00039 COMMON /ICNTRL/ IM

```

```

VDUMPIJ 2
VDUMPIJ 3
VDUMPIJ 4
VDUMPIJ 5
VDUMPIJ 6
VDUMPIJ 7
VDUMPIJ 8
VDUMPIJ 9
VDUMPIJ 10
VDUMPIJ 11
VDUMPIJ 12
VDUMPIJ 13
VDUMPIJ 14
VDUMPIJ 15
VDUMPIJ 16
VDUMPIJ 17
VDUMPIJ 18
VDUMPIJ 19
VDUMPIJ 20
VREAL 2
VREAL 3
VREAL 4
VREAL 5
VRSLV 2
VRSLV 3
VRSLV 4
VRSLV 5
VRSLV 6
VCNTRL 2
VCNTRL 3
VCNTRL 4
VCNTRL 5
VCNTRL 6
VCNTRL 7
VCNTRL 8
VCNTRL 9
VCNTRL 10
VCNTRL 11
VCNTRL 12
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VCNTRL 43
VCNTRL 44

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C-4

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00040	COMMON /ICNTRL/	IMD2	VCNTRL	45
00041	COMMON /ICNTRL/	IMD2P1	VCNTRL	46
00042	COMMON /ICNTRL/	NDRSW	VCNTRL	47
00043	COMMON /ICNTRL/	JM	VCNTRL	48
00044	COMMON /ICNTRL/	JMD2	VCNTRL	49
00045	COMMON /ICNTRL/	JMT2	VCNTRL	50
00046	COMMON /ICNTRL/	JNP	VCNTRL	51
00047	COMMON /ICNTRL/	JO4	VCNTRL	52
00048	COMMON /ICNTRL/	JOB	VCNTRL	53
00049	COMMON /ICNTRL/	JSP	VCNTRL	54
00050	COMMON /ICNTRL/	KLIALB	VCNTRL	55
00051	COMMON /ICNTRL/	KLIGW	VCNTRL	56
00052	COMMON /ICNTRL/	KLISST	VCNTRL	57
00053	COMMON /ICNTRL/	KS	VCNTRL	58
00054	COMMON /ICNTRL/	KU	VCNTRL	59
00055	COMMON /ICNTRL/	LOGBR	VCNTRL	60
00056	COMMON /ICNTRL/	MATIN	VCNTRL	61
00057	COMMON /ICNTRL/	MATSNX	VCNTRL	62
00058	COMMON /ICNTRL/	MATSUN	VCNTRL	63
00059	COMMON /ICNTRL/	MLF	VCNTRL	64
00060	COMMON /ICNTRL/	MROD	VCNTRL	65
00061	COMMON /ICNTRL/	NKRSH	VCNTRL	66
00062	COMMON /ICNTRL/	MSM	VCNTRL	67
00063	COMMON /ICNTRL/	NB	VCNTRL	68
00064	COMMON /ICNTRL/	ND	VCNTRL	69
00065	COMMON /ICNTRL/	NDALT	VCNTRL	70
00066	COMMON /ICNTRL/	NDAY	VCNTRL	71
00067	COMMON /ICNTRL/	NDOUT	VCNTRL	72
00068	COMMON /ICNTRL/	NDPHY	VCNTRL	73
00069	COMMON /ICNTRL/	NDSHF	VCNTRL	74
00070	COMMON /ICNTRL/	NDT	VCNTRL	75
00071	COMMON /ICNTRL/	NHMS	VCNTRL	76
00072	COMMON /ICNTRL/	NHMSE	VCNTRL	77
00073	COMMON /ICNTRL/	NHMSO	VCNTRL	78
00074	COMMON /ICNTRL/	NLAY	VCNTRL	79
00075	COMMON /ICNTRL/	NLAYM1	VCNTRL	80
00076	COMMON /ICNTRL/	NLAYP1	VCNTRL	81
00077	COMMON /ICNTRL/	NSDAY	VCNTRL	82
00078	COMMON /ICNTRL/	NSEQ	VCNTRL	83
00079	COMMON /ICNTRL/	ICSP53	VCNTRL	84
00080	COMMON /ICNTRL/	NSTEP	VCNTRL	85
00081	COMMON /ICNTRL/	IBLKSIZ	VCNTRL	86
00082	COMMON /ICNTRL/	NYMD	VCNTRL	87
00083	COMMON /ICNTRL/	NYMDE	VCNTRL	88
00084	COMMON /ICNTRL/	NYMDO	VCNTRL	89
00085	COMMON /ICNTRL/	NZINIT	VCNTRL	90
00086	COMMON /ICNTRL/	NMLEV	VCNTRL	91
00087	COMMON /ICNTRL/	NDHOG	VCNTRL	92
00088	COMMON /ICNTRL/	IQS (30)	VCNTRL	93
00089	COMMON /ICNTRL/	IQU (10)	VCNTRL	94
00090	COMMON /ICNTRL/	KLITOP	VCNTRL	95
00091	COMMON /ICNTRL/	KLILWI	VCNTRL	96
	C		VCNTRL	97
00092	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	98
00093	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	99
00094	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	100
00095	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	101
00096	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	102
00097	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	103
00098	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	104
00099	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	105
00100	EQUIVALENCE	(IRADSWG .IQS(9))	VCNTRL	106
00101	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL	107
00102	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	108
00103	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	109
	C		VCNTRL	110
00104	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL	111
00105	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL	112
00106	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL	113
00107	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL	114
	C		VCNTRL	115

(12)

00108	EQUIVALENCE	{IC0,IC(1)}	VCNTRL 116
00109	INTEGER	IC0, IC(200)	VCNTRL 117
C			VCNTRL 118
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 119
C	=====		VCNTRL 120
00110	COMMON /LCNTRL/	LC0	VCNTRL 121
00111	COMMON /LCNTRL/	QALT	VCNTRL 122
00112	COMMON /LCNTRL/	QBEG	VCNTRL 123
00113	COMMON /LCNTRL/	QDAY	VCNTRL 124
00114	COMMON /LCNTRL/	QEND	VCNTRL 125
00115	COMMON /LCNTRL/	QOUT	VCNTRL 126
00116	COMMON /LCNTRL/	QPHY	VCNTRL 127
00117	COMMON /LCNTRL/	QSHF	VCNTRL 128
00118	COMMON /LCNTRL/	SN2FLG	VCNTRL 129
00119	COMMON /LCNTRL/	QRSW	VCNTRL 130
00120	COMMON /LCNTRL/	QRSH	VCNTRL 131
00121	COMMON /LCNTRL/	LQS(30)	VCNTRL 132
00122	COMMON /LCNTRL/	LQU(10)	VCNTRL 133
C			VCNTRL 134
00123	EQUIVALENCE	{LTMIN ,LQS(1)}	VCNTRL 135
00124	EQUIVALENCE	{LTMAX ,LQS(2)}	VCNTRL 136
00125	EQUIVALENCE	{LPREACC ,LQS(3)}	VCNTRL 137
00126	EQUIVALENCE	{LPRECON ,LQS(4)}	VCNTRL 138
00127	EQUIVALENCE	{LHFLUX ,LQS(5)}	VCNTRL 139
00128	EQUIVALENCE	{LEFLUX ,LQS(6)}	VCNTRL 140
00129	EQUIVALENCE	{LFUSION ,LQS(7)}	VCNTRL 141
00130	EQUIVALENCE	{LRADSWG ,LQS(8)}	VCNTRL 142
00131	EQUIVALENCE	{LRADLWG ,LQS(9)}	VCNTRL 143
00132	EQUIVALENCE	{LICLOUD ,LQS(10)}	VCNTRL 144
00133	EQUIVALENCE	{LUFUX ,LQS(11)}	VCNTRL 145
00134	EQUIVALENCE	{LVFLUX ,LQS(12)}	VCNTRL 146
C			VCNTRL 147
00135	EQUIVALENCE	{LOMEGA ,LQU(1)}	VCNTRL 148
00136	EQUIVALENCE	{LDIABAT ,LQU(2)}	VCNTRL 149
00137	EQUIVALENCE	{LRADSW ,LQU(3)}	VCNTRL 150
00138	EQUIVALENCE	{LRADLW ,LQU(4)}	VCNTRL 151
C			VCNTRL 152
00139	LOGICAL	QALT	VCNTRL 153
00140	LOGICAL	QBEG	VCNTRL 154
00141	LOGICAL	QDAY	VCNTRL 155
00142	LOGICAL	QEND	VCNTRL 156
00143	LOGICAL	QOUT	VCNTRL 157
00144	LOGICAL	QPHY	VCNTRL 158
00145	LOGICAL	QSHF	VCNTRL 159
00146	LOGICAL	SN2FLG	VCNTRL 160
00147	LOGICAL	QRSW	VCNTRL 161
00148	LOGICAL	QRSH	VCNTRL 162
C			VCNTRL 163
00149	LOGICAL	LQS	VCNTRL 164
00150	LOGICAL	LQU	VCNTRL 165
00151	LOGICAL	LTMIN	VCNTRL 166
00152	LOGICAL	LTMAX	VCNTRL 167
00153	LOGICAL	LPREACC	VCNTRL 168
00154	LOGICAL	LPRECON	VCNTRL 169
00155	LOGICAL	LHFLUX	VCNTRL 170
00156	LOGICAL	LEFLUX	VCNTRL 171
00157	LOGICAL	LFUSION	VCNTRL 172
00158	LOGICAL	LRADSWG	VCNTRL 173
00159	LOGICAL	LRADLWG	VCNTRL 174
00160	LOGICAL	LICLOUD	VCNTRL 175
00161	LOGICAL	LUFUX	VCNTRL 176
00162	LOGICAL	LVFLUX	VCNTRL 177
C			VCNTRL 178
00163	LOGICAL	LOMEGA	VCNTRL 179
00164	LOGICAL	LDIABAT	VCNTRL 180
00165	LOGICAL	LRADSW	VCNTRL 181
00166	LOGICAL	LRADLW	VCNTRL 182
C			VCNTRL 183
00167	EQUIVALENCE	{LC0,LC(1)}	VCNTRL 184
00168	LOGICAL	LC0, LC(200)	VCNTRL 185
C			VCNTRL 186

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	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 187
	C	-----		VCNTRL 188
00169		COMMON /RCNTRL/ RCO		VCNTRL 189
00170		COMMON /RCNTRL/ APHEL		VCNTRL 190
00171		COMMON /RCNTRL/ BETA		VCNTRL 191
00172		COMMON /RCNTRL/ COSD		VCNTRL 192
00173		COMMON /RCNTRL/ CP		VCNTRL 193
00174		COMMON /RCNTRL/ DAYSPV		VCNTRL 194
00175		COMMON /RCNTRL/ DEC		VCNTRL 195
00176		COMMON /RCNTRL/ DECMAX		VCNTRL 196
00177		COMMON /RCNTRL/ DIST		VCNTRL 197
00178		COMMON /RCNTRL/ DLAT		VCNTRL 198
00179		COMMON /RCNTRL/ DLON		VCNTRL 199
00180		COMMON /RCNTRL/ DT		VCNTRL 200
00181		COMMON /RCNTRL/ ECCN		VCNTRL 201
00182		COMMON /RCNTRL/ GNU1		VCNTRL 202
00183		COMMON /RCNTRL/ GNU2		VCNTRL 203
00184		COMMON /RCNTRL/ GRAV		VCNTRL 204
00185		COMMON /RCNTRL/ OMEGA2		VCNTRL 205
00186		COMMON /RCNTRL/ PI		VCNTRL 206
00187		COMMON /RCNTRL/ PI180		VCNTRL 207
00188		COMMON /RCNTRL/ P12		VCNTRL 208
00189		COMMON /RCNTRL/ PSTD		VCNTRL 209
00190		COMMON /RCNTRL/ PIMEAN		VCNTRL 210
00191		COMMON /RCNTRL/ PSMAX		VCNTRL 211
00192		COMMON /RCNTRL/ PSMIN		VCNTRL 212
00193		COMMON /RCNTRL/ PTOP		VCNTRL 213
00194		COMMON /RCNTRL/ RADE		VCNTRL 214
00195		COMMON /RCNTRL/ RGAS		VCNTRL 215
00196		COMMON /RCNTRL/ ROCP		VCNTRL 216
00197		COMMON /RCNTRL/ RSDIST		VCNTRL 217
00198		COMMON /RCNTRL/ SDAY		VCNTRL 218
00199		COMMON /RCNTRL/ SEASON		VCNTRL 219
00200		COMMON /RCNTRL/ SIGE (25)		VCNTRL 220
00201		COMMON /RCNTRL/ SIND		VCNTRL 221
00202		COMMON /RCNTRL/ SOLS		VCNTRL 222
00203		COMMON /RCNTRL/ TSTD		VCNTRL 223
00204		COMMON /RCNTRL/ PLEVS (25)		VCNTRL 224
00205		COMMON /RCNTRL/ HEATW		VCNTRL 225
00206		COMMON /RCNTRL/ HEATI		VCNTRL 226
00207		COMMON /RCNTRL/ EPS		VCNTRL 227
00208		COMMON /RCNTRL/ EPSFAC		VCNTRL 228
00209		COMMON /RCNTRL/ CALTOJ		VCNTRL 229
00210		COMMON /RCNTRL/ PZERO		VCNTRL 230
	C	EQUIVALENCE (RC0,RC(1))		VCNTRL 231
00211		HALF PRECISION RC0, RC(400)		VCNTRL 232
00212				VCNTRL 233
	C	INTEGER MODEL CONSTANTS		VCNTRL 234
	C	-----		VCNTRL 235
00213		COMMON /IDPARM/ IJUMP (46)		VCNTRL 236
00214		COMMON /IDPARM/ IDSP02		VCNTRL 237
00215		COMMON /IDPARM/ INDEX (72)		VCNTRL 238
00216		COMMON /IDPARM/ IROD		VCNTRL 239
00217		COMMON /IDPARM/ JC (46)		VCNTRL 240
00218		COMMON /IDPARM/ JE (2)		VCNTRL 241
00219		COMMON /IDPARM/ JP (2,2)		VCNTRL 242
00220		COMMON /IDPARM/ KSTEP		VCNTRL 243
00221		COMMON /IDPARM/ MJ (46)		VCNTRL 244
00222		COMMON /IDPARM/ NHMS1		VCNTRL 245
00223		COMMON /IDPARM/ NYMD1		VCNTRL 246
	C	LOGICAL MODEL CONSTANTS		VCNTRL 247
	C	-----		VCNTRL 248
00224		COMMON /LDPARM/ FILTER (46)		VCNTRL 249
00225		COMMON /LDPARM/ ITAPE		VCNTRL 250
00226		COMMON /LDPARM/ START		VCNTRL 251
	C	LOGICAL FILTER		VCNTRL 252
00227		LOGICAL ITAPE		VCNTRL 253
00228		LOGICAL START		VCNTRL 254
00229				VCNTRL 255
				VCNTRL 256
				VCNTRL 257

```

C
C REAL MODEL CONSTANTS
C =====
00230 COMMON /RDPARM/ ADLDP
00231 COMMON /RDPARM/ CON1
00232 COMMON /RDPARM/ CON1DT
00233 COMMON /RDPARM/ CON2
00234 COMMON /RDPARM/ CON2DT
00235 COMMON /RDPARM/ CON3
00236 COMMON /RDPARM/ CON3DT
00237 COMMON /RDPARM/ CON4
00238 COMMON /RDPARM/ CON4DT
00239 COMMON /RDPARM/ CON5
00240 COMMON /RDPARM/ COSL (46)
00241 COMMON /RDPARM/ COSLON (72)
00242 COMMON /RDPARM/ CPD2
00243 COMMON /RDPARM/ DXP (46)
00244 COMMON /RDPARM/ DXYP (46)
00245 COMMON /RDPARM/ DYP (46)
00246 COMMON /RDPARM/ FCORLS (46)
00247 COMMON /RDPARM/ F1DT
00248 COMMON /RDPARM/ F2DT
00249 COMMON /RDPARM/ H1DT
00250 COMMON /RDPARM/ H2DT
00251 COMMON /RDPARM/ PKSTD
00252 COMMON /RDPARM/ PKTOP
00253 COMMON /RDPARM/ RLAT (46)
00254 COMMON /RDPARM/ RLATD (46)
00255 COMMON /RDPARM/ ROCPDT
00256 COMMON /RDPARM/ ROGPP1
00257 COMMON /RDPARM/ SGNP (2)
00258 COMMON /RDPARM/ SINL (46)
00259 COMMON /RDPARM/ SINLON (72)
00260 COMMON /RDPARM/ THSTD
00261 COMMON /RDPARM/ THSTD2
00262 COMMON /RDPARM/ WSAVE (159)
00263 COMMON /RDPARM/ DSIG (9)
00264 COMMON /RDPARM/ SIG (9)
00265 COMMON /RDPARM/ DSIGINV (9)

C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM+NLAY*11 =7128
C JM/2+1 =23

C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====
00266 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00267 DIMENSION PHIS (7128,1)
00268 DIMENSION SMTH (7128,23)
00269 DIMENSION ALBEDO (7128,1)
00270 DIMENSION GT (7128,1)
00271 DIMENSION GW (7128,1)
00272 DIMENSION TS (7128,1)
00273 DIMENSION SHS (7128,1)
00274 DIMENSION P (72,99,1)
C
00275 DIMENSION U (72,9,11,1)
00276 DIMENSION V (72,9,11,1)
00277 DIMENSION T (72,9,11,1)
00278 DIMENSION SH (72,9,11,1)
00279 DIMENSION PHI (72,9,11,1)
C
00280 EQUIVALENCE (QPROG(1,1,1,1),PHIS (1,1))

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VCNTRL 258
VCNTRL 259
VCNTRL 260
VCNTRL 261
VCNTRL 262
VCNTRL 263
VCNTRL 264
VCNTRL 265
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VCNTRL 268
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VCNTRL 294
VCNTRL 295
VCNTRL 296
VCNTRL 297
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
VQANDQT 16
VQANDQT 17
VQANDQT 18
VQANDQT 19
VQANDQT 20
VQANDQT 21
VQANDQT 22
VQANDQT 23
VQANDQT 24
VQANDQT 25
VQANDQT 26
VQANDQT 27
VQANDQT 28
VQANDQT 29
VQANDQT 30
VQANDQT 31
VQANDQT 32

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	309													
6000	325	310												
6010	326	311												
6020	327	312	313	314	315	316	317	318	319	320	321	322	323	

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
ADATE	CCNTRL	CHAR*8	SIMPLE	4	22																									
ADLDP	RDPARM	HALF	SIMPLE	230																										
ALBEDO	QANDQT	HALF	ARRAY	269	282																									
APHEL	RCNTRL	HALF	SIMPLE	170																										
ATIME	CCNTRL	CHAR*8	SIMPLE	5	23																									
BETA	RCNTRL	HALF	SIMPLE	171																										
BQSDIAG	QANDQT	BIT	ARRAY	294	295																									
CALTOJ	RCNTRL	HALF	SIMPLE	209																										
CC	CCNTRL	CHAR*8	ARRAY	20	21																									
CCO	CCNTRL	CHAR*8	SIMPLE	3	20	21																								
CCNTRL	CCNTRL	HALF	UNKNOWN	3	4	5	6	7	8	9	10	11	12	13																
				14	15	16	17	18	19																					
CCSP06	CCNTRL	CHAR*8	SIMPLE	8	26																									
CCSP07	CCNTRL	CHAR*8	SIMPLE	9	27																									
CCSP08	CCNTRL	CHAR*8	SIMPLE	10	28																									
CON1	RDPARM	HALF	SIMPLE	231																										
CON1DT	RDPARM	HALF	SIMPLE	232																										
CON2	RDPARM	HALF	SIMPLE	233																										
CON2DT	RDPARM	HALF	SIMPLE	234																										
CON3	RDPARM	HALF	SIMPLE	235																										
CON3DT	RDPARM	HALF	SIMPLE	236																										
CON4	RDPARM	HALF	SIMPLE	237																										
CON4DT	RDPARM	HALF	SIMPLE	238																										
CONS	RDPARM	HALF	SIMPLE	239																										
COSD	RCNTRL	HALF	SIMPLE	172																										
COSL	RDPARM	HALF	ARRAY	240																										
COSLON	RDPARM	HALF	ARRAY	241																										
CP	RCNTRL	HALF	SIMPLE	173																										
CPD2	RDPARM	HALF	SIMPLE	242																										
CQS	CCNTRL	CHAR*8	ARRAY	13	31																									
CQU	CCNTRL	CHAR*8	ARRAY	14	32																									
DAYSPLY	RCNTRL	HALF	SIMPLE	174																										
DEC	RCNTRL	HALF	SIMPLE	175																										
DECMAX	RCNTRL	HALF	SIMPLE	176																										
DIST	RCNTRL	HALF	SIMPLE	177																										
DLAT	RCNTRL	HALF	SIMPLE	178																										
DLON	RCNTRL	HALF	SIMPLE	179																										
DSALB	CCNTRL	CHAR*8	ARRAY	18	36																									
DSGWT	CCNTRL	CHAR*8	ARRAY	19	37																									
DSIG	RDPARM	HALF	ARRAY	263																										
DSIGINV	RDPARM	HALF	ARRAY	265																										
DSLWI	CCNTRL	CHAR*8	ARRAY	16	34																									
DSSST	CCNTRL	CHAR*8	ARRAY	17	35																									
DSTOP	CCNTRL	CHAR*8	ARRAY	15	33																									
DT	RCNTRL	HALF	SIMPLE	180																										
DUMPIJ			SUBROUTINE	1																										
DXP	RDPARM	HALF	ARRAY	243																										
DXYP	RDPARM	HALF	ARRAY	244																										
DYP	RDPARM	HALF	ARRAY	245																										
ECCN	RCNTRL	HALF	SIMPLE	181																										
EPS	RCNTRL	HALF	SIMPLE	207																										
EPSFAC	RCNTRL	HALF	SIMPLE	208																										
F1DT	RDPARM	HALF	SIMPLE	247																										
F2DT	RDPARM	HALF	SIMPLE	248																										
FCORLS	RDPARM	HALF	ARRAY	246																										
FILTER	LDPARM	LOGICAL	ARRAY	224	227																									
GNU1	RCNTRL	HALF	SIMPLE	182																										

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GNU2	RCNTRL	HALF	SIMPLE	183																			
GRAV	RCNTRL	HALF	SIMPLE	184																			
GT	QANDQT	HALF	ARRAY	270	283																		
GW	QANDQT	HALF	ARRAY	271	284																		
H1DT	RDPARM	HALF	SIMPLE	249																			
H2DT	RDPARM	HALF	SIMPLE	250																			
HEATI	RCNTRL	HALF	SIMPLE	206																			
HEATW	RCNTRL	HALF	SIMPLE	205																			
IBLKSI Z	ICNTRL	INTEGER	SIMPLE	81																			
IC	ICNTRL	INTEGER	ARRAY	108	109																		
IC0	ICNTRL	INTEGER	SIMPLE	38	108	109																	
ICNTRL	ICNTRL	INTEGER	UNKNOWN	38	39	40	41	42	43	44	45	46	47	48									
				49	50	51	52	53	54	55	56	57	58	59									
				60	61	62	63	64	65	66	67	68	69	70									
				71	72	73	74	75	76	77	78	79	80	81									
				82	83	84	85	86	87	88	89	90	91										
				79																			
ICSP53	ICNTRL	INTEGER	SIMPLE	105																			
ID1ABAT	ICNTRL	INTEGER	UNKNOWN	213																			
IDPARM	ICNTRL	INTEGER	UNKNOWN	214	214	215	216	217	218	219	220	221	222	223									
IDSP02	IDPARM	INTEGER	SIMPLE	214																			
IEFLUX	ICNTRL	INTEGER	UNKNOWN	97																			
IFUSION	ICNTRL	INTEGER	UNKNOWN	98																			
IHFLUX	ICNTRL	INTEGER	UNKNOWN	96																			
IICLOUD	ICNTRL	INTEGER	UNKNOWN	101																			
IJUMP	IDPARM	INTEGER	ARRAY	213																			
IM	ICNTRL	INTEGER	SIMPLE	39																			
IMD2	ICNTRL	INTEGER	SIMPLE	40																			
IMD2P1	ICNTRL	INTEGER	SIMPLE	41																			
INDEX	IDPARM	INTEGER	ARRAY	215																			
IONEGA	ICNTRL	INTEGER	UNKNOWN	104																			
IPREA3C	ICNTRL	INTEGER	UNKNOWN	94																			
IPRECON	ICNTRL	INTEGER	UNKNOWN	95																			
IQS	ICNTRL	INTEGER	ARRAY	88	92	93	94	95	96	97	98	99	100	101									
				102	103																		
IQU	ICNTRL	INTEGER	ARRAY	89	104	105	106	107															
IRADLW	ICNTRL	INTEGER	UNKNOWN	107																			
IRADLWG	ICNTRL	INTEGER	UNKNOWN	100																			
IRADSW	ICNTRL	INTEGER	UNKNOWN	106																			
IRADSWG	ICNTRL	INTEGER	UNKNOWN	99																			
IROD	IDPARM	INTEGER	SIMPLE	216																			
ITAPE	IDPARM	LOGICAL	SIMPLE	225	228																		
ITMAX	ICNTRL	INTEGER	UNKNOWN	93																			
ITMIN	ICNTRL	INTEGER	UNKNOWN	92																			
IUFLUX	ICNTRL	INTEGER	UNKNOWN	102																			
IVFLUX	ICNTRL	INTEGER	UNKNOWN	103																			
IX	ICNTRL	INTEGER	SIMPLE	1	311/W	311	311	312	313	314	315	316	317	318									
				319	320	321	322	323															
JC	IDPARM	INTEGER	ARRAY	217																			
JE	IDPARM	INTEGER	ARRAY	218																			
JIC	CCNTRL	CHAR*8	SIMPLE	6	24																		
JM	ICNTRL	INTEGER	SIMPLE	43																			
JMD2	ICNTRL	INTEGER	SIMPLE	44																			
JMT2	ICNTRL	INTEGER	SIMPLE	45																			
JNP	ICNTRL	INTEGER	SIMPLE	46																			
JO4	ICNTRL	INTEGER	SIMPLE	47																			
JOB	ICNTRL	INTEGER	SIMPLE	48																			
JOB	CCNTRL	CHAR*8	SIMPLE	7	25																		
JP	IDPARM	INTEGER	ARRAY	219																			
JSP	ICNTRL	INTEGER	SIMPLE	49																			
JX	ICNTRL	INTEGER	SIMPLE	1	311/W	311	311	312	313	314	315	316	317	318									
				319	320	321	322	323															
KLIALB	ICNTRL	INTEGER	SIMPLE	50																			
KLIGW	ICNTRL	INTEGER	SIMPLE	51																			
KLILWI	ICNTRL	INTEGER	SIMPLE	91																			
KLISST	ICNTRL	INTEGER	SIMPLE	52																			
KLITOP	ICNTRL	INTEGER	SIMPLE	90																			
KS	ICNTRL	INTEGER	SIMPLE	53																			
KSTEP	IDPARM	INTEGER	SIMPLE	220																			
KU	ICNTRL	INTEGER	SIMPLE	54																			
L	ICNTRL	INTEGER	SIMPLE	312	312/C	313	313/C	314	314/C	315	315/C	316	316/C	317									

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LC	LCNTRL	LOGICAL	ARRAY	317/C	318	318/C	319	319/C	320	320/C	321	321/C	322	322
LCO	LCNTRL	LOGICAL	SIMPLE	323	323/C									
LCNTRL	LCNTRL	INTEGER	UNKNOWN	167	168									
				110	167	168								
				110	111	112	113	114	115	116	117	118	119	120
				121	122									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	136	164									
LDPARM	LCNTRL	INTEGER	UNKNOWN	224	225	226								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	128	156									
LFLUX	LCNTRL	LOGICAL	UNKNOWN	129	157									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	127	155									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	132	160									
LOGBR	ICNTRL	INTEGER	SIMPLE	55										
LOMGA	LCNTRL	LOGICAL	UNKNOWN	135	163									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	125	153									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	126	154									
LQS	LCNTRL	LOGICAL	ARRAY	121	123	124	125	126	127	128	129	130	131	132
				133	134	149								
LQU	LCNTRL	LOGICAL	ARRAY	122	135	136	137	138	150					
LRADLW	LCNTRL	LOGICAL	UNKNOWN	138	166									
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	131	159									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	137	165									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	130	158									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	123	151									
LUFUX	LCNTRL	LOGICAL	UNKNOWN	133	161									
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	134	162									
MATIN	ICNTRL	INTEGER	SIMPLE	56										
MATSNX	ICNTRL	INTEGER	SIMPLE	57										
MATSNX	ICNTRL	INTEGER	SIMPLE	58										
MJ	IDPARM	INTEGER	ARRAY	221										
MLF	ICNTRL	INTEGER	ARRAY	59										
MROD	ICNTRL	INTEGER	SIMPLE	60										
MSM	ICNTRL	INTEGER	SIMPLE	62										
NB	ICNTRL	INTEGER	SIMPLE	63	311	312	313	314	315	316	317			
ND	ICNTRL	INTEGER	SIMPLE	64	311	318	319	320	321	322	323			
NDALT	ICNTRL	INTEGER	SIMPLE	65										
NDAY	ICNTRL	INTEGER	SIMPLE	66										
NDHOG	ICNTRL	INTEGER	SIMPLE	87										
NDOUT	ICNTRL	INTEGER	SIMPLE	67										
NDPHY	ICNTRL	INTEGER	SIMPLE	68										
NDRSW	ICNTRL	INTEGER	SIMPLE	42										
NDSHF	ICNTRL	INTEGER	SIMPLE	69										
NDT	ICNTRL	INTEGER	SIMPLE	70										
NHMS	ICNTRL	INTEGER	SIMPLE	71										
NHMS0	ICNTRL	INTEGER	SIMPLE	73										
NHMS1	IDPARM	INTEGER	SIMPLE	222										
NHMSE	ICNTRL	INTEGER	SIMPLE	72										
NKRSH	ICNTRL	INTEGER	SIMPLE	61										
NLAY	ICNTRL	INTEGER	SIMPLE	74	313	313	315	315	317	317	319	319	321	321
				323	323									
NLAYM1	ICNTRL	INTEGER	SIMPLE	75										
NLAYP1	ICNTRL	INTEGER	SIMPLE	76										
NMLEV	ICNTRL	INTEGER	SIMPLE	86										
NSDAY	ICNTRL	INTEGER	SIMPLE	77										
NSEQ	ICNTRL	INTEGER	SIMPLE	78										
NSTEP	ICNTRL	INTEGER	SIMPLE	80										
NYMD	ICNTRL	INTEGER	SIMPLE	82										
NYMDO	ICNTRL	INTEGER	SIMPLE	84										
NYMD1	IDPARM	INTEGER	SIMPLE	223										
NYMDE	ICNTRL	INTEGER	SIMPLE	83										
NZINIT	ICNTRL	INTEGER	SIMPLE	85										
OMEGA2	ICNTRL	HALF	SIMPLE	185										
P	QANDQT	HALF	ARRAY	274	287	311/W	311/W							
PHI	QANDQT	HALF	ARRAY	279	290									
PHIS	QANDQT	HALF	ARRAY	267										
PI	RCNTRL	HALF	SIMPLE	186										
PI180	RCNTRL	HALF	SIMPLE	187										
PI2	RCNTRL	HALF	SIMPLE	188										
PIMEAN	RCNTRL	HALF	SIMPLE	190										

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TSTD	RCNTRL	HALF	SIMPLE	203					
U	QANDOT	HALF	ARRAY	275	288	312/W	313/W	318/W	319/W
V	QANDOT	HALF	ARRAY	276	289	314/W	315/W	320/W	321/W
VER	CCNTRL	CHAR+8	SIMPLE	11	29				
WSAVE	RDPARM	HALF	ARRAY	262					
XLABEL	CCNTRL	CHAR+8	ARRAY	12	30				

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C      FUNCTION EXPBYK(X)
CC     EXPBYK = X*.286
C      RETURN
00001  FUNCTION EXPBYK(XD)
00002  EXPBYK = SQRT(XD)
00003  EXPBYK = SQRT(EXPBYK)
00004  TEMP1D = SQRT(EXPBYK)
00005  TEMP1D = SQRT(TEMP1D)
00006  TEMP1D = SQRT(TEMP1D)
00007  EXPBYK = EXPBYK*TEMP1D
00008  TEMP1D = SQRT(TEMP1D)
00009  TEMP1D = SQRT(TEMP1D)
00010  TEMP1D = SQRT(TEMP1D)
00011  EXPBYK = EXPBYK*TEMP1D
00012  TEMP1D = SQRT(TEMP1D)
00013  TEMP1D = SQRT(TEMP1D)
00014  EXPBYK = EXPBYK*TEMP1D
00015  RETURN
00016  END

```

```

VEXPBYK 25
VEXPBYK 26
VEXPBYK 27
VEXPBYK 28
VEXPBYK 29
VEXPBYK 30
VEXPBYK 31
VEXPBYK 32
VEXPBYK 33
VEXPBYK 34
VEXPBYK 35
VEXPBYK 36
VEXPBYK 37
VEXPBYK 38
VEXPBYK 39
VEXPBYK 40
VEXPBYK 41
VEXPBYK 42
VEXPBYK 43

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VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE												
EXPBYK		REAL	FUNCTION	1													
TEMP1D		REAL	SIMPLE	4/S	2/S	3/S	3	4	7/S	7	11/S	11	14/S	14			
				10	5/S	5	6/S	6	7	8/S	8	9/S	9	10			
XD		REAL	SIMPLE	1	11	12/S	12	13/S	13	14							
				1	2												

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST												
SQRT	REAL	INTRINSIC	2	3	4	5	6	8	9	10	12	13				

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00001      SUBROUTINE GEOHT (N,J)
C
C      CALCULATE PHILLIPS NORMALIZED GEOPOTENTIAL HEIGHTS AT SIGMA EDGES
C
C      ARGUMENTS      DESCRIPTION
C      N              TIME-STEP POINTER AT WHICH TO CALCULATE HEIGHTS
C      J              LATITUDE BAND NUMBER
C
C      CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C      =====
00002      COMMON /GCNTRL/ CC0
00003      COMMON /GCNTRL/ ADATE
00004      COMMON /GCNTRL/ ATIME
00005      COMMON /GCNTRL/ JIC
00006      COMMON /GCNTRL/ JOB
00007      COMMON /GCNTRL/ CCSP06
00008      COMMON /GCNTRL/ CCSP07
00009      COMMON /GCNTRL/ CCSP08
00010      COMMON /GCNTRL/ VER
00011      COMMON /GCNTRL/ XLABEL (10)
00012      COMMON /GCNTRL/ CQS (30)
00013      COMMON /GCNTRL/ CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
00025      CHARACTER*8      CQS
00026      CHARACTER*8      CQU
C
C      INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C      =====
00027      COMMON /ICNTRL/ IC0
00028      COMMON /ICNTRL/ IM
00029      COMMON /ICNTRL/ IMD2
00030      COMMON /ICNTRL/ IMD2P1
00031      COMMON /ICNTRL/ NDRSW
00032      COMMON /ICNTRL/ JM
00033      COMMON /ICNTRL/ JMD2
00034      COMMON /ICNTRL/ JMT2
00035      COMMON /ICNTRL/ JNP
00036      COMMON /ICNTRL/ JO4
00037      COMMON /ICNTRL/ JO8
00038      COMMON /ICNTRL/ JSP
00039      COMMON /ICNTRL/ KLIALB
00040      COMMON /ICNTRL/ KLIGW
00041      COMMON /ICNTRL/ KLISST
00042      COMMON /ICNTRL/ KS
00043      COMMON /ICNTRL/ KU
00044      COMMON /ICNTRL/ LOGBR
00045      COMMON /ICNTRL/ MATIN
00046      COMMON /ICNTRL/ MATSNX
00047      COMMON /ICNTRL/ MATSUN
00048      COMMON /ICNTRL/ MLF      (12)
00049      COMMON /ICNTRL/ MROD
00050      COMMON /ICNTRL/ NKRSR
00051      COMMON /ICNTRL/ MSM
00052      COMMON /ICNTRL/ NB
00053      COMMON /ICNTRL/ ND
00054      COMMON /ICNTRL/ NDALT
00055      COMMON /ICNTRL/ NDAY
00056      COMMON /ICNTRL/ NDCUT
00057      COMMON /ICNTRL/ ND°HY

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VGEOHT 2
VGEOHT 3
VGEOHT 4
VGEOHT 5
VGEOHT 6
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ORIGINAL PAGE IS
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00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMS	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ WDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS(30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU(10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN ,IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX ,IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC ,IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON ,IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX ,IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX ,IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION ,IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG ,IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG ,IQS(9))	VCNTRL 95
00088	EQUIVALENCE (ICLOUD ,IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX ,IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX ,IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA ,IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT ,IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW ,IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW ,IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (ICO,IC(1))	VCNTRL 105
00096	INTEGER ICO, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C	VCNTRL 108
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00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSH	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
	C	VCNTRL 123
00110	EQUIVALENCE (LTMIN ,LOS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX ,LOS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC ,LOS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON ,LOS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX ,LOS(5))	VCNTRL 128
00115	EQUIVALENCE (LEFLUX ,LOS(6))	VCNTRL 129
00116	EQUIVALENCE (LFUSION ,LOS(7))	VCNTRL 130
00117	EQUIVALENCE (LRADSWG ,LOS(8))	VCNTRL 131
00118	EQUIVALENCE (LRADLWG ,LOS(9))	VCNTRL 132
00119	EQUIVALENCE (LICLOUD ,LOS(10))	VCNTRL 133
00120	EQUIVALENCE (LUFLUX ,LOS(11))	VCNTRL 134
00121	EQUIVALENCE (LVFLUX ,LOS(12))	VCNTRL 135

ORIGINAL PAGE IS
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00122	C	EQUIVALENCE	(LOMEGA ,LQU(1))	VCNTRL	136
00123		EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL	137
00124		EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL	138
00125		EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL	139
	C			VCNTRL	140
00126		LOGICAL	QALT	VCNTRL	141
00127		LOGICAL	QBEG	VCNTRL	142
00128		LOGICAL	QDAY	VCNTRL	143
00129		LOGICAL	QEND	VCNTRL	144
00130		LOGICAL	QOUT	VCNTRL	145
00131		LOGICAL	QPHY	VCNTRL	146
00132		LOGICAL	QSHF	VCNTRL	147
00133		LOGICAL	SN2FLG	VCNTRL	148
00134		LOGICAL	QRSW	VCNTRL	149
00135		LOGICAL	QRSH	VCNTRL	150
	C			VCNTRL	151
00136		LOGICAL	LQS	VCNTRL	152
00137		LOGICAL	LQU	VCNTRL	153
00138		LOGICAL	LTMIN	VCNTRL	154
00139		LOGICAL	LTMAX	VCNTRL	155
00140		LOGICAL	LPREACC	VCNTRL	156
00141		LOGICAL	LPRECON	VCNTRL	157
00142		LOGICAL	LHFLUX	VCNTRL	158
00143		LOGICAL	LEFLUX	VCNTRL	159
00144		LOGICAL	LFUSION	VCNTRL	160
00145		LOGICAL	LRADSWG	VCNTRL	161
00146		LOGICAL	LRADLWG	VCNTRL	162
00147		LOGICAL	LICLOUD	VCNTRL	163
00148		LOGICAL	LUFLUX	VCNTRL	164
00149		LOGICAL	LVFLUX	VCNTRL	165
	C			VCNTRL	166
00150		LOGICAL	LOMEGA	VCNTRL	167
00151		LOGICAL	LDIABAT	VCNTRL	168
00152		LOGICAL	LRADSW	VCNTRL	169
00153		LOGICAL	LRADLW	VCNTRL	170
	C			VCNTRL	171
00154		EQUIVALENCE	(LC0,LC(1))	VCNTRL	172
00155		LOGICAL	LC0, LC(200)	VCNTRL	173
	C			VCNTRL	174
	C			VCNTRL	175
	C			VCNTRL	176
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	C			VCNTRL	206
	C			VCNTRL	206

REAL MODEL PARAMETERS SAVED ON HISTORY RECORD

00156	COMMON	/RCNTRL/	RC0	VCNTRL	178
00157	COMMON	/RCNTRL/	APHEL	VCNTRL	179
00158	COMMON	/RCNTRL/	BETA	VCNTRL	180
00159	COMMON	/RCNTRL/	COSD	VCNTRL	181
00160	COMMON	/RCNTRL/	CP	VCNTRL	182
00161	COMMON	/RCNTRL/	DAYSPLY	VCNTRL	183
00162	COMMON	/RCNTRL/	DEC	VCNTRL	184
00163	COMMON	/RCNTRL/	DECMAX	VCNTRL	185
00164	COMMON	/RCNTRL/	DIST	VCNTRL	186
00165	COMMON	/RCNTRL/	DLAT	VCNTRL	187
00166	COMMON	/RCNTRL/	DLOM	VCNTRL	188
00167	COMMON	/RCNTRL/	DT	VCNTRL	189
00168	COMMON	/RCNTRL/	ECCN	VCNTRL	190
00169	COMMON	/RCNTRL/	GNU1	VCNTRL	191
00170	COMMON	/RCNTRL/	GNU2	VCNTRL	192
00171	COMMON	/RCNTRL/	GRAV	VCNTRL	193
00172	COMMON	/RCNTRL/	OMEGA2	VCNTRL	194
00173	COMMON	/RCNTRL/	PI	VCNTRL	195
00174	COMMON	/RCNTRL/	PI180	VCNTRL	196
00175	COMMON	/RCNTRL/	PI2	VCNTRL	197
00176	COMMON	/RCNTRL/	PSTD	VCNTRL	198
00177	COMMON	/RCNTRL/	PIMEAN	VCNTRL	199
00178	COMMON	/RCNTRL/	PSMAX	VCNTRL	200
00179	COMMON	/RCNTRL/	PSMIN	VCNTRL	201
00180	COMMON	/RCNTRL/	PTOP	VCNTRL	202
00181	COMMON	/RCNTRL/	RADE	VCNTRL	203
00182	COMMON	/RCNTRL/	RGAS	VCNTRL	204
00183	COMMON	/RCNTRL/	ROCP	VCNTRL	205
00184	COMMON	/RCNTRL/	RSDIST	VCNTRL	206

ORIGINAL PAGE IS
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ORIGINAL PAGE IS
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00185	COMMON /RCNTRL/ SDAY		VCNTRL 207
00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
00198	C EQUIVALENC (RCO,RC(1))		VCNTRL 220
00199	REAL REAL RCO, RC(200)		VCNTRL 221
	CC INTEGER MODEL CONSTANTS		VCNTRL 222
	CC =====		VCNTRL 223
00200	COMMON /IDPARM/ JJUMP (46)		VCNTRL 224
00201	COMMON /IDPARM/ IDSP02		VCNTRL 225
00202	COMMON /IDPARM/ INDEX (72)		VCNTRL 226
00203	COMMON /IDPARM/ IROD		VCNTRL 227
00204	COMMON /IDPARM/ JC (46)		VCNTRL 228
00205	COMMON /IDPARM/ JE (2)		VCNTRL 229
00206	COMMON /IDPARM/ JP (2.2)		VCNTRL 230
00207	COMMON /IDPARM/ KSTEP		VCNTRL 231
00208	COMMON /IDPARM/ MJ (46)		VCNTRL 232
00209	COMMON /IDPARM/ NHMS1		VCNTRL 233
00210	COMMON /IDPARM/ NYMD1		VCNTRL 234
	C LOGICAL MODEL CONSTANTS		VCNTRL 235
	CC =====		VCNTRL 236
00211	COMMON /LDPARM/ FILTER (46)		VCNTRL 237
00212	COMMON /LDPARM/ ITAPE		VCNTRL 238
00213	COMMON /LDPARM/ START		VCNTRL 239
	C LOGICAL LOGICAL FILTER		VCNTRL 240
00214	LOGICAL LOGICAL ITAPE		VCNTRL 241
00215	LOGICAL LOGICAL START		VCNTRL 242
00216			VCNTRL 243
	C REAL MODEL CONSTANTS		VCNTRL 244
	CC =====		VCNTRL 245
00217	COMMON /RDPARM/ ADLDP		VCNTRL 246
00218	COMMON /RDPARM/ CON1		VCNTRL 247
00219	COMMON /RDPARM/ CON1DT		VCNTRL 248
00220	COMMON /RDPARM/ CON2		VCNTRL 249
00221	COMMON /RDPARM/ CON2DT		VCNTRL 250
00222	COMMON /RDPARM/ CON3		VCNTRL 251
00223	COMMON /RDPARM/ CON3DT		VCNTRL 252
00224	COMMON /RDPARM/ CON4		VCNTRL 253
00225	COMMON /RDPARM/ CON4DT		VCNTRL 254
00226	COMMON /RDPARM/ CON5		VCNTRL 255
00227	COMMON /RDPARM/ COSL (46)		VCNTRL 256
00228	COMMON /RDPARM/ COSLON (72)		VCNTRL 257
00229	COMMON /RDPARM/ CPD2		VCNTRL 258
00230	COMMON /RDPARM/ DXP (46)		VCNTRL 259
00231	COMMON /RDPARM/ DXYP (46)		VCNTRL 260
00232	COMMON /RDPARM/ DYP (46)		VCNTRL 261
00233	COMMON /RDPARM/ FCORLS (46)		VCNTRL 262
00234	COMMON /RDPARM/ F1DT		VCNTRL 263
00235	COMMON /RDPARM/ F2DT		VCNTRL 264
00236	COMMON /RDPARM/ H1DT		VCNTRL 265
00237	COMMON /RDPARM/ H2DT		VCNTRL 266
00238	COMMON /RDPARM/ PKSTD		VCNTRL 267
00239	COMMON /RDPARM/ PKTOP		VCNTRL 268
00240	COMMON /RDPARM/ RLAT (46)		VCNTRL 269
00241	COMMON /RDPARM/ RLATD (46)		VCNTRL 270
00242	COMMON /RDPARM/ ROCPDT		VCNTRL 271
00243	COMMON /RDPARM/ ROCPPI		VCNTRL 272
00244	COMMON /RDPARM/ SGNP (2)		VCNTRL 273
			VCNTRL 274
			VCNTRL 275
			VCNTRL 276
			VCNTRL 277

00245 COMMON /RDPARM/ SINL (46)
 00246 COMMON /RDPARM/ SINLON (72)
 00247 COMMON /RDPARM/ THSTD
 00248 COMMON /RDPARM/ THSTD2
 00249 COMMON /RDPARM/ WSAVE (159)
 00250 COMMON /RDPARM/ DSIG (9)
 00251 COMMON /RDPARM/ SIG (9)
 00252 COMMON /RDPARM/ DSIGINV (9)

VCNTRL 278
 VCNTRL 279
 VCNTRL 280
 VCNTRL 281
 VCNTRL 282
 VCNTRL 283
 VCNTRL 284
 VCNTRL 285
 VCNTRL 286

C
 C COMDECK VQANDQT RESOLUTION VALUES
 C =====
 C IM =72
 C NLAY =9
 C JM+1 =46
 C NLAY+11 =99
 C IM+NLAY+11 =7128
 C JM/2+1 =23

VQANDQT 2
 VQANDQT 3
 VQANDQT 4
 VQANDQT 5
 VQANDQT 6
 VQANDQT 7
 VQANDQT 8
 VQANDQT 9

C
 C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
 C =====

VQANDQT 10
 VQANDQT 11
 VQANDQT 12
 VQANDQT 13
 VQANDQT 14
 VQANDQT 15

00253 C COMMON /QANDQT/ QPROG(72.9,11,46)
 00254 C DIMENSION PHIS (7128,1)
 00255 DIMENSION SMTH (7128,23)
 00256 DIMENSION ALBEDO (7128,1)
 00257 DIMENSION GT (7128,1)
 00258 DIMENSION GW (7128,1)
 00259 DIMENSION TS (7128,1)
 00260 DIMENSION SHS (7128,1)
 00261 DIMENSION P (72.99,1)

VQANDQT 16
 VQANDQT 17
 VQANDQT 18
 VQANDQT 19
 VQANDQT 20
 VQANDQT 21
 VQANDQT 22
 VQANDQT 23
 VQANDQT 24

00262 C DIMENSION U (72.9,11,1)
 00263 DIMENSION V (72.9,11,1)
 00264 DIMENSION T (72.9,11,1)
 00265 DIMENSION SH (72.9,11,1)
 00266 DIMENSION PHI (72.9,11,1)

VQANDQT 25
 VQANDQT 26
 VQANDQT 27
 VQANDQT 28
 VQANDQT 29
 VQANDQT 30
 VQANDQT 31

00267 C EQUIVALENCE (QPROG(1, 1, 1, 1), PHIS (1, 1))
 00268 EQUIVALENCE (QPROG(1, 2, 1, 1), SMTH (1, 1))
 00269 EQUIVALENCE (QPROG(1, 3, 1, 1), ALBEDO(1, 1))
 00270 EQUIVALENCE (QPROG(1, 4, 1, 1), GT (1, 1))
 00271 EQUIVALENCE (QPROG(1, 5, 1, 1), GW (1, 1))
 00272 EQUIVALENCE (QPROG(1, 6, 1, 1), TS (1, 1))
 00273 EQUIVALENCE (QPROG(1, 7, 1, 1), SHS (1, 1))
 00274 EQUIVALENCE (QPROG(1, 8, 1, 1), P (1, 1, 1))

VQANDQT 32
 VQANDQT 33
 VQANDQT 34
 VQANDQT 35
 VQANDQT 36
 VQANDQT 37
 VQANDQT 38
 VQANDQT 39

00275 C EQUIVALENCE (QPROG(1, 1, 2, 1), U (1, 1, 1, 1))
 00276 EQUIVALENCE (QPROG(1, 1, 4, 1), V (1, 1, 1, 1))
 00277 EQUIVALENCE (QPROG(1, 1, 6, 1), T (1, 1, 1, 1))
 00278 EQUIVALENCE (QPROG(1, 1, 8, 1), SH (1, 1, 1, 1))
 00279 EQUIVALENCE (QPROG(1, 1, 10, 1), PHI(1, 1, 1, 1))

VQANDQT 40
 VQANDQT 41
 VQANDQT 42
 VQANDQT 43
 VQANDQT 44
 VQANDQT 45
 VQANDQT 46
 VQANDQT 47

C
 C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
 C =====

00280 C COMMON /QANDQT/ QSDIAG(72, 15, 46)
 00281 DIMENSION IQSDIAG(72, 15, 46)
 00282 EQUIVALENCE (QSDIAG, IQSDIAG)
 00283 C COMMON /QANDQT/ QUDIAG(72.9, 5, 46)

VQANDQT 48
 VQANDQT 49
 VQANDQT 50
 VQANDQT 51
 VQANDQT 52
 VQANDQT 53
 VQANDQT 54
 VQANDQT 55
 VQPOLES 2

C
 C * * *
 C POLAR MODEL PROGNOSTIC FIELDS

00284 COMMON /QPOLES/ PP(2, 2)
 00285 COMMON /QPOLES/ UP(9, 2, 2)
 00286 COMMON /QPOLES/ VP(9, 2, 2)
 00287 COMMON /QPOLES/ TP(9, 2, 2)
 00288 COMMON /QPOLES/ SHP(9, 2, 2)
 00289 COMMON /QPOLES/ PHIP(9, 2, 2)

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00340 C COMPUTE GEOPOTENTIAL HEIGHT GLOBALLY
50 CONTINUE
00341 NLAYN = NLAY*(N - 1)
C
C COMPUTE GLAS SCHEME FOR PRESSURE** (RGAS/CP)
CC COMPUTE PRESSURE GRADIENT TERM
C COMPUTE AND ADJUST FIRST LAYER NORMALIZED GEOPOTENTIAL HEIGHT
00342 PHIBAR(1;IM) = PHIS(1,J;IM)
00343 PK1(1;IM) = PTOP*EXPBYK(PTOP)
00344 PKD1(1;IM) = 0.
C
00345 DO 60 L=1,NLAY
00346 PL2(1;IM) = SIGE(L+1)*P(1,N,J;IM) + PTOP
00347 PK2(1;IM) = VEXPBYK(PL2(1;IM),IM:PK2(1;IM))
00348 PK2(1;IM) = PL2(1;IM)*PK2(1;IM)
C
00349 PK(1,L;IM) = 1./((ROCPP1*DSIG(L))*P(1,N,J;IM))
00350 PK(1,L;IM) = (PK2(1;IM) - PK1(1;IM))*PK(1,L;IM)
C
00351 TH(1,L;IM) = T(1,L,N,J;IM)/PK(1,L;IM)
C
00352 TERM(1;IM) = (RGAS*SIG(L))/(SIG(L)*P(1,N,J;IM)+PTOP)
00353 TERM(1;IM) = PK(1,L;IM)*TERM(1;IM)
C
00354 TERMW(1,L,K;IM) = TERM(1;IM)*(TH(1,L;IM) - THSTD)
C
00355 TERMT(1,L,K;IM) = TERM(1;IM)*TH(1,L;IM)*P(1,N,J;IM)*CP1V
C
00356 PHIBAR(1;IM) = PHIBAR(1;IM) + (CP*DSIG(L))*TERMT(1,L,K;IM)
C
00357 PK1(1;IM) = PK2(1;IM)
C
00358 IF (L.EQ.1) GO TO 60
00359 PKD2(1;IM) = SIGE(L)*(PK(1,L;IM) - PK(1,L-1;IM))
00360 TEMP1(1;IM) = CPD2*(PKD1(1;IM) + PKD2(1;IM))
00361 PHIBAR(1;IM) = PHIBAR(1;IM) - TH(1,L-1;IM)*TEMP1(1;IM)
00362 PKD1(1;IM) = PKD2(1;IM)
60 CONTINUE
00363 TEMP1(1;IM) = THSTD2*(PK(1,NLAY;IM) - PKSTD)
00364 TEMP1(1;IM) = TH(1,NLAY;IM)*PKD2(1;IM) - TEMP1(1;IM)
00365 PHIL(1;IM) = PHIBAR(1;IM) - CPD2*TEMP1(1;IM)
00366 PHI(1,NLAY,N,J;IM) = PHIL(1;IM)
C INTEGRATE GEOPOTENTIAL HEIGHTS UP THE COLUMN
C
00368 DO 80 LX=1,NLAYM:
00369 L = NLAY - LX
00370 LP1 = L + 1
00371 TEMP1(1;IM) = TH(1,L;IM) - THSTD2
00372 TEMP1(1;IM) = CPD2*(TH(1,LP1;IM) + TEMP1(1;IM))
00373 PHIL(1;IM) = PHIL(1;IM) + (PK(1,LP1;IM) - PK(1,L;IM))*TEMP1(1;IM)
00374 PHI(1,L,N,J;IM) = PHIL(1;IM)
80 CONTINUE
00375 RETURN
00376
00377 END

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VGEOHT 64
VGEOHT 65
VGEOHT 66
VGEOHT 67
VGEOHT 68
VGEOHT 69
VGEOHT 70
VGEOHT 71
VGEOHT 72
VGEOHT 73
VGEOHT 74
VGEOHT 75
VGEOHT 76
VGEOHT 77
VGEOHT 78
VGEOHT 79
VGEOHT 80
VGEOHT 81
VGEOHT 82
VGEOHT 83
VGEOHT 84
VGEOHT 85
VGEOHT 86
VGEOHT 87
VGEOHT 88
VGEOHT 89
VGEOHT 90
VGEOHT 91
VGEOHT 92
VGEOHT 93
VGEOHT 94
VGEOHT 95
VGEOHT 96
VGEOHT 97
VGEOHT 98
VGEOHT 99
VGEOHT 100
VGEOHT 101
VGEOHT 102
VGEOHT 103
VGEOHT 104
VGEOHT 105
VGEOHT 106
VGEOHT 107
VGEOHT 108
VGEOHT 109
VGEOHT 110
VGEOHT 111
VGEOHT 112
VGEOHT 113
VGEOHT 114
VGEOHT 115
VGEOHT 116
VGEOHT 117

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

10	325	311	321
10000	303		
30	333	328	
40	338	334	
50	340	307	
60	363	345	358
80	375	368	

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

ADATE	CCNTRL	CHAR*8	SIMPLE	3	
ADLDP	RDPARM	REAL	SIMPLE	217	16

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

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ALBEDO	QANDQT	REAL	ARRAY	256	269															
APHEL	RCNTRL	REAL	SIMPLE	157																
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17															
BETA	RCNTRL	REAL	SIMPLE	158																
CALTOJ	RCNTRL	REAL	SIMPLE	196																
CC	CCNTRL	CHAR*8	ARRAY	14	15															
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15														
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12						
				13																
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20															
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21															
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22															
CON1	RDPARM	REAL	SIMPLE	218																
CON1DT	RDPARM	REAL	SIMPLE	219																
CON2	RDPARM	REAL	SIMPLE	220																
CON2DT	RDPARM	REAL	SIMPLE	221																
CON3	RDPARM	REAL	SIMPLE	222																
CON3DT	RDPARM	REAL	SIMPLE	223																
CON4	RDPARM	REAL	SIMPLE	224																
CON4DT	RDPARM	REAL	SIMPLE	225																
CON5	RDPARM	REAL	SIMPLE	226																
CONV	QMSAVE	REAL	ARRAY	298																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160	306	319	356													
CPD2	RDPARM	REAL	SIMPLE	229	323	326	331	360	366	372										
CPIV	RDPARM	REAL	SIMPLE	306/S	318	355														
CQV	CCNTRL	CHAR*8	ARRAY	12	25															
CQU	CCNTRL	CHAR*8	ARRAY	13	26															
DAYSPY	RCNTRL	REAL	SIMPLE	161																
DEC	RCNTRL	REAL	SIMPLE	162																
DECMAX	RCNTRL	REAL	SIMPLE	163																
DIST	RCNTRL	REAL	SIMPLE	164																
DLAT	RCNTRL	REAL	SIMPLE	165																
DLON	RCNTRL	REAL	SIMPLE	166																
DSIG	RDPARM	REAL	ARRAY	250	314	319	349	356												
DSIGINV	RDPARM	REAL	ARRAY	252																
DT	RCNTRL	REAL	SIMPLE	167																
DXP	RDPARM	REAL	ARRAY	230																
DXYP	RDPARM	REAL	ARRAY	231																
DYP	RDPARM	REAL	ARRAY	232																
ECCN	RCNTRL	REAL	SIMPLE	168																
EPS	RCNTRL	REAL	SIMPLE	194																
E*SFAC	RCNTRL	REAL	SIMPLE	195																
F1DT	RDPARM	REAL	SIMPLE	234																
F2DT	RDPARM	REAL	SIMPLE	235																
FCORLS	RDPARM	REAL	ARRAY	233																
FILTER	LDPARM	LOGICAL	ARRAY	211	214															
GEOHT			SUBROUTINE	1																
GNU1	RCNTRL	REAL	SIMPLE	169																
GNU2	RCNTRL	REAL	SIMPLE	170																
GRAV	RCNTRL	REAL	SIMPLE	171																
GT	QANDQT	REAL	ARRAY	257	270															
GW	QANDQT	REAL	ARRAY	258	271															
H1DT	RDPARM	REAL	SIMPLE	236																
H2DT	RDPARM	REAL	SIMPLE	237																
HEATI	RCNTRL	REAL	SIMPLE	193																
HEATW	RCNTRL	REAL	SIMPLE	192																
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																
IC	ICNTRL	INTEGER	ARRAY	95	96															
IC0	ICNTRL	INTEGER	SIMPLE	27	95	96														
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37						
				38	39	40	41	42	43	44	45	46	47	48						
				49	50	51	52	53	54	55	56	57	58	59						
				60	61	62	63	64	65	66	67	68	69	70						
				71	72	73	74	75	76	77	78									
ICSP53	ICNTRL	INTEGER	SIMPLE	68																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																
IDPARM	IDPARM	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210						

IDSP02	IDPARM	INTEGER	SIMPLE	201														
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84														
IFUSION	ICNTRL	INTEGER	UNKNOWN	85														
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83														
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88														
IJUMP	IDPARM	INTEGER	ARRAY	200														
IM	ICNTRL	INTEGER	SIMPLE	28	335	336	337	342	342	343	344	346	346	347				
				347	347	347	348	348	348	349	349	350	350	350				
				350	351	351	351	352	352	353	353	353	354	354				
				354	355	355	355	355	356	356	356	357	357	359				
				359	359	360	360	360	360	361	361	361	362	362				
				364	364	365	365	365	365	366	366	366	367	367				
				371	371	372	372	372	373	373	373	373	373	374				
				374														
				29														
IMD2	ICNTRL	INTEGER	SIMPLE	30														
IMD2P1	ICNTRL	INTEGER	SIMPLE	30														
INDEX	IDPARM	INTEGER	ARRAY	202														
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91														
IPREACC	ICNTRL	INTEGER	UNKNOWN	81														
IPRECON	ICNTRL	INTEGER	UNKNOWN	82														
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88				
				89	90													
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282													
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94										
IRADLW	ICNTRL	INTEGER	UNKNOWN	94														
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87														
IRADSW	ICNTRL	INTEGER	UNKNOWN	93														
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86														
IROD	IDPARM	INTEGER	SIMPLE	203														
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215													
ITMAX	ICNTRL	INTEGER	UNKNOWN	80														
ITMIN	ICNTRL	INTEGER	UNKNOWN	79														
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89														
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90														
J		INTEGER	SIMPLE	1	304	305	308	335	342	346	349	351	352	355				
				367	374													
JC	IDPARM	INTEGER	ARRAY	204	305													
JE	IDPARM	INTEGER	ARRAY	205														
JIC	CCNTRL	CHAR*8	SIMPLE	5	18													
JM	ICNTRL	INTEGER	SIMPLE	32														
JMD2	ICNTRL	INTEGER	SIMPLE	33														
JMT2	ICNTRL	INTEGER	SIMPLE	34														
JNP	ICNTRL	INTEGER	SIMPLE	35														
JO4	ICNTRL	INTEGER	SIMPLE	36														
JOB	ICNTRL	INTEGER	SIMPLE	37														
JOB	CCNTRL	CHAR*8	SIMPLE	6	19													
JP	IDPARM	INTEGER	ARRAY	206														
JSP	ICNTRL	INTEGER	SIMPLE	38														
K		INTEGER	SIMPLE	305/S	317	318	319	336	336	337	337	354	355	366				
KLIALB	ICNTRL	INTEGER	SIMPLE	39														
KLIGW	ICNTRL	INTEGER	SIMPLE	40														
KLISST	ICNTRL	INTEGER	SIMPLE	41														
KS	ICNTRL	INTEGER	SIMPLE	42														
KSTEP	IDPARM	INTEGER	SIMPLE	207														
KU	ICNTRL	INTEGER	SIMPLE	43														
L		INTEGER	SIMPLE	311/C	312	314	314	315	315	315	316	316	316	317				
				317	318	318	319	319	321	322	322	322	323	329				
				330	331	331	332	334/C	335	335	336	336	337	337				
				345/C	346	349	349	350	350	351	351	351	352	352				
				353	354	354	355	355	356	356	358	359	359	359				
				361	369/S	370	371	373	374									
				154	155													
LC	LCNTRL	LOGICAL	ARRAY	97	154	155												
LC0	LCNTRL	LOGICAL	SIMPLE	97	98	99	100	101	102	103	104	105	106	107				
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107				
				108	109													
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123														
LDPARM		INTEGER	UNKNOWN	211	212	213												
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143													
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144													
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142													

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LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147																
LOGBR	ICNTRL	INTEGER	SIMPLE	44																	
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150																
LP1		INTEGER	SIMPLE	330/S	331	331	370/S	372	373												
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140																
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141																
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119							
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136															
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	125	153																
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146																
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	124	152																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	117	145																
LTMIN	LCNTRL	LOGICAL	UNKNOWN	111	139																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148																
LX		INTEGER	SIMPLE	121	149																
M		INTEGER	SIMPLE	328/C	329	368/C	369														
MATIN	ICNTRL	INTEGER	SIMPLE	304/S	307	312	314	315	316	318	327	332	335								
				46																	
MATSNX	ICNTRL	INTEGER	SIMPLE	46																	
MATSUN	ICNTRL	INTEGER	SIMPLE	47																	
MJ	IDPARM	INTEGER	ARRAY	208	304																
MLF	ICNTRL	INTEGER	ARRAY	48																	
MROD	ICNTRL	INTEGER	SIMPLE	49																	
MSM	ICNTRL	INTEGER	SIMPLE	51																	
N		INTEGER	SIMPLE	1																	
NB	ICNTRL	INTEGER	SIMPLE	346	312	314	315	316	318	327	332	335	335	341							
ND	ICNTRL	INTEGER	SIMPLE	52	349	351	352	355	367	374											
NDALT	ICNTRL	INTEGER	SIMPLE	53																	
NDAY	ICNTRL	INTEGER	SIMPLE	54																	
NDHOG	ICNTRL	INTEGER	SIMPLE	55																	
NDOUT	ICNTRL	INTEGER	SIMPLE	76																	
NDPHY	ICNTRL	INTEGER	SIMPLE	56																	
NDRSW	ICNTRL	INTEGER	SIMPLE	57																	
NDSHF	ICNTRL	INTEGER	SIMPLE	31																	
NDT	ICNTRL	INTEGER	SIMPLE	38																	
NHMS	ICNTRL	INTEGER	SIMPLE	59																	
NHMSO	ICNTRL	INTEGER	SIMPLE	60																	
NHMS1	ICNTRL	INTEGER	SIMPLE	62																	
NHMSE	IDPARM	INTEGER	SIMPLE	209																	
NKRSH	ICNTRL	INTEGER	SIMPLE	61																	
NLAY	ICNTRL	INTEGER	SIMPLE	50																	
				63	311	326	326	327	329	334	341	345	364	365							
NLAYM1	ICNTRL	INTEGER	SIMPLE	367	369																
NLAYN		INTEGER	SIMPLE	64	328																
NLAYP1	ICNTRL	INTEGER	SIMPLE	341/S		368															
NMLEV	ICNTRL	INTEGER	SIMPLE	65																	
NSDAY	ICNTRL	INTEGER	SIMPLE	75																	
NSEQ	ICNTRL	INTEGER	SIMPLE	66																	
NSTEP	ICNTRL	INTEGER	SIMPLE	67																	
NYMD	ICNTRL	INTEGER	SIMPLE	69																	
NYMDO	ICNTRL	INTEGER	SIMPLE	71																	
NYMD!	IDPARM	INTEGER	SIMPLE	73																	
NYMDE	ICNTRL	INTEGER	SIMPLE	210																	
NZINIT	ICNTRL	INTEGER	SIMPLE	72																	
OMEGA2	ICNTRL	INTEGER	SIMPLE	74																	
P	RCNTRL	REAL	SIMPLE	172																	
QANDQT	REAL	ARRAY	ARRAY	261	274	345	349	352	355												
PHI	QANDQT	REAL	ARRAY	266	279	335/S	367/S	374/S													
PHIBAR	//	REAL	ARRAY	300	308/S	319/S	319	323/S	323	326	342/S	356/S	356	361							
				361	366																
PHIL	//	REAL	ARRAY	301	326/S	327	331/S	331	332	366/S	367	373/S	373	374							
PHIM	QMSAVE	REAL	ARRAY	295																	
PHIP	QPOLES	REAL	ARRAY	289	327/S	332/S	335														
PHIS	QANDQT	REAL	ARRAY	254	267	308	342														
PI	RCNTRL	REAL	SIMPLE	173																	
PI180	RCNTRL	REAL	SIMPLE	174																	
PI2	RCNTRL	REAL	SIMPLE	175																	
PIMEAN	RCNTRL	REAL	SIMPLE	177																	

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PIT	QMSAVE	REAL	ARRAY	297											
PK	//	REAL	ARRAY	302	314/S	315	316	322	322	326	331	331	349/S	350	
PK1	//	REAL	ARRAY	350	351	353	359	359	364	373	373				
PK2	//	REAL	ARRAY	300	309/S	314	320/S	343/S	350	357/S					
PKD1	//	REAL	ARRAY	300	313/S	314	320	347/S	347	348/S	348	350	357		
PKD2	//	REAL	ARRAY	301	310/S	323	324/S	344/S	360	362/S					
PKSTD	RDPARM	REAL	SIMPLE	238	322/S	323			355/S	360	362	365			
PKTOP	RDPARM	REAL	SIMPLE	239	326	364	324	326							
PL2	//	REAL	ARRAY	301	312/S	313	313	346/S	347	348					
PLEVS	RCNTRL	REAL	ARRAY	191											
PM	QMSAVE	REAL	ARRAY	290											
PP	QPOLES	REAL	ARRAY	284	312	314	316	318							
PSMAX	RCNTRL	REAL	SIMPLE	178											
PSMIN	RCNTRL	REAL	SIMPLE	179											
PSTD	RCNTRL	REAL	SIMPLE	176											
PTOP	RCNTRL	REAL	SIMPLE	180	309	309	312	316	343	343	346	352			
PV	QMSAVE	REAL	ARRAY	296											
PZERO	RCNTRL	REAL	SIMPLE	197											
QALT	LCNTRL	LOGICAL	SIMPLE	98	126										
QANDQT		REAL	UNKNOWN	253	280	283									
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127										
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128										
QEND	LCNTRL	LOGICAL	SIMPLE	101	129										
QMSAVE		REAL	UNKNOWN	290	291	292	293	294	295	296	297	298	299		
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130										
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131										
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289						
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276	
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135										
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134										
QSDIAG	QANDQT	REAL	ARRAY	280	282										
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132										
QUDIAG	QANDQT	REAL	ARRAY	283											
RADE	RCNTRL	REAL	SIMPLE	181											
RC	RCNTRL	REAL	ARRAY	198	199										
RCO	RCNTRL	REAL	SIMPLE	156	198	199									
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166	
				167	168	169	170	171	172	173	174	175	176	177	
				178	179	180	181	182	183	184	185	186	187	188	
				189	190	191	192	193	194	195	196	197			
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227	
				228	229	230	231	232	233	234	235	236	237	238	
				239	240	241	242	243	244	245	246	247	248	249	
				250	251	252									
RGAS	RCNTRL	REAL	SIMPLE	182	316	352									
RLAT	RDPARM	REAL	ARRAY	240											
RLATD	RDPARM	REAL	ARRAY	241											
ROCP	RCNTRL	REAL	SIMPLE	183											
ROCPDT	RDPARM	REAL	SIMPLE	242											
ROCPP1	RDPARM	REAL	SIMPLE	243	314	349									
RSDIST	RCNTRL	REAL	SIMPLE	184											
SD	QMSAVE	REAL	ARRAY	298											
SDAY	RCNTRL	REAL	SIMPLE	185											
SEASON	RCNTRL	REAL	SIMPLE	186											
SGNP	RDPARM	REAL	ARRAY	244											
SH	QANDQT	REAL	ARRAY	265	278										
SHM	QMSAVE	REAL	ARRAY	294											
SHP	QPOLES	REAL	ARRAY	288											
SHS	QANDQT	REAL	ARRAY	260	273										
SIG	RDPARM	REAL	ARRAY	251	316	316	352	352							
SIGE	RCNTRL	REAL	ARRAY	187	312	322	346	359							
SIND	RCNTRL	REAL	SIMPLE	188											
SINL	RDPARM	REAL	ARRAY	245											
SINLON	RDPARM	REAL	ARRAY	246											
SMTH	QANDQT	REAL	ARRAY	255	268										
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133										
SOLS	RCNTRL	REAL	SIMPLE	189											

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START	LDPARM	LOGICAL	SIMPLE	213	216									
T	QANDQT	REAL	ARRAY	264	277	351								
TEMP1	//	REAL	ARRAY	302	360/S	361	364/S	365/S	366	371/S	372/S	372	378	
TERM	//	REAL	ARRAY	301	316/S	317	318	352/S	353	354	355			
TERMT	QMSAVE	REAL	ARRAY	299	318/S	319	337/S	337/S	356					
TERMW	QMSAVE	REAL	ARRAY	299	317/S	336/S	336	354/S						
TH	//	REAL	ARRAY	302	315/S	317	318	323	326	331	331	351/S	354	355
				361	365	371	372							
THSTD	RDPARM	REAL	SIMPLE	247	317	354								
THSTD2	RDPARM	REAL	SIMPLE	248	326	331	364	371						
TM	QMSAVE	REAL	ARRAY	293										
TP	QPOLES	REAL	ARRAY	287	315									
TS	QANDQT	REAL	ARRAY	259	272									
TSTD	RCNTRL	REAL	SIMPLE	190										
U	QANDQT	REAL	ARRAY	262	275									
UM	QMSAVE	REAL	ARRAY	291										
UP	QPOLES	REAL	ARRAY	285										
V	QANDQT	REAL	ARRAY	263	276									
VER	CCNTRL	CHAR*8	SIMPLE	10	23									
VM	QMSAVE	REAL	ARRAY	292										
VP	QPOLES	REAL	ARRAY	286										
WSAVE	RDPARM	REAL	ARRAY	249										
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24									

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST
EXPBYK	REAL	FUNCTION	309	313			343
VEXPBYK	REAL	FUNCTION	347				

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00001      FUNCTION INCHMS (NHMS, NSEC)
C
C CMS FILE NAME      INCHMS FORTRAN
C ORIGIN MACHINE     IREDELL
C DOCUMENTATION DATE 06/26/81
C
C DOES HOUR-MINUTE-SECOND ARITHMETIC
C
C ARGUMENTS  DESCRIPTION
C NHMS      CURRENT TIME IN HHMMSS FORMAT
C NSEC      INCREMENT TIME IN SECONDS
C INCHMS    CURRENT TIME PLUS INCREMENT TIME IN HHMMSS FORMAT
C MHMS      INCREMENT TIME IN HHMMSS FORMAT
C MODHMS    TIME SINCE LAST INCREMENT TIME OCCURRED IN SECONDS
C
00002      NSECF(N) = N/10000*3600 + MOD(N,10000)/100*60 + MOD(N,100)
00003      NHMSF(N) = N/3600*10000 + MOD(N,3600)/60*100 + MOD(N,60)
C * * *
00004      INCHMS = NHMSF(NSECF(NHMS)+NSEC)
00005      RETURN
C * * *
00006      ENTRY MODHMS (NHMS, MHMS)
00007      MSEC = NSECF(NHMS)
00008      IF (MHMS.GT.0) MSEC = MOD(MSEC,NSECF(MHMS))
00009      MODHMS = MSEC
00010      RETURN
00011      END

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VINCHMS 2
VINCHMS 3
VINCHMS 4
VINCHMS 5
VINCHMS 6
VINCHMS 7
VINCHMS 8
VINCHMS 9
VINCHMS 10
VINCHMS 11
VINCHMS 12
VINCHMS 13
VINCHMS 14
VINCHMS 15
VINCHMS 16
VINCHMS 17
VINCHMS 18
VINCHMS 19
VINCHMS 20
VINCHMS 21
VINCHMS 22
VINCHMS 23
VINCHMS 24
VINCHMS 25
VINCHMS 26
VINCHMS 27
VINCHMS 28

```

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE
INCHMS		INTEGER	FUNCTION	1	4/S					
MHMS		INTEGER	SIMPLE	6	8					
MODHMS		INTEGER	FUNCTION	6	9/S					
MSEC		INTEGER	SIMPLE	7/S	8/S					
N		INTEGER	SIMPLE	2	2			3	3	3
NHMS		INTEGER	SIMPLE	1	4			6	7	
NSEC		INTEGER	SIMPLE	1	4					

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
MOD	INTEGER	INTRINSIC	2	2	3	3	8
NHMSF	INTEGER	STAT FUNC	3/S	4			
NSECF	INTEGER	STAT FUNC	2/S	4	7	8	

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00001

```

C      FUNCTION INCYMD (NYMD)
C      CMS FILE NAME      INCYMD FORTRAN
C      CRIGIN MACHINE     IREDELL
C      DOCUMENTATION DATE 06/26/81
C      INCREMENTS THE YEAR-MONTH-DAY BY ONE DAY
C      OR COMPUTES NUMBER OF DAYS IN THE YEAR (JULIAN DAY)
C      ARGUMENTS  DESCRIPTION
C      NYMD      CURRENT DATE IN YYYYMMDD FORMAT
C      INCYMD    CURRENT DATE PLUS ONE DAY IN YYYYMMDD FORMAT
C      MODYMD    CURRENT JULIAN DAY
C
00002      INTEGER NDPM(12)/31,28,31,30,31,30,31,31,30,31,30,31/
00003      LOGICAL LEAP
00004      DATA NY00/1900/
00005      LEAP(NY) = MOD(NY,4).EQ.0 .AND. (NY.NE.0 .OR. MOD(NY00,400).EQ.0)
C * * *
00006      NY = NYMD/10000
00007      NM = MOD(NYMD,10000)/100
00008      ND = MOD(NYMD,100)
C * * *
00009      ND = ND + 1
00010      IF (ND.LE.NDPM(NM)) GO TO 20
00011      IF (ND.EQ.29 .AND. NM.EQ.2 .AND. LEAP(NY)) GO TO 20
00012      ND = 1
00013      NM = NM + 1
00014      IF (NM.LE.12) GO TO 20
00015      NM = 1
00016      NY = NY + 1
C * * *
00017      20      CONTINUE
00018      INCYMD = NY+10000 + NM*100 + ND
00019      RETURN
C * * *
00020      ENTRY MODYMD (NYMD)
00021      NY = NYMD/10000
00022      NM = MOD(NYMD,10000)/100
00023      ND = MOD(NYMD,100)
C * * *
00024      40      CONTINUE
00025      IF (NM.LE.1) GO TO 60
00026      NM = NM - 1
00027      ND = ND + NDPM(NM)
00028      IF (NM.EQ.2 .AND. LEAP(NY)) ND = ND + 1
00029      GO TO 40
C * * *
00030      60      CONTINUE
00031      MODYMD = ND
00032      RETURN
00033      END

```

VINCYMD 2
VINCYMD 3
VINCYMD 4
VINCYMD 5
VINCYMD 6
VINCYMD 7
VINCYMD 8
VINCYMD 9
VINCYMD 10
VINCYMD 11
VINCYMD 12
VINCYMD 13
VINCYMD 14
VINCYMD 15
VINCYMD 16
VINCYMD 17
VINCYMD 18
VINCYMD 19
VINCYMD 20
VINCYMD 21
VINCYMD 22
VINCYMD 23
VINCYMD 24
VINCYMD 25
VINCYMD 26
VINCYMD 27
VINCYMD 28
VINCYMD 29
VINCYMD 30
VINCYMD 31
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VINCYMD 35
VINCYMD 36
VINCYMD 37
VINCYMD 38
VINCYMD 39
VINCYMD 40
VINCYMD 41
VINCYMD 42
VINCYMD 43
VINCYMD 44
VINCYMD 45
VINCYMD 46
VINCYMD 47
VINCYMD 48
VINCYMD 49
VINCYMD 50
VINCYMD 51
VINCYMD 52
VINCYMD 53

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STATEMENT LABEL MAP
--LABEL--DEFINED--REFERENCES

20	17	10	11	14
40	24	29		
60	30	25		

VARIABLE MAP
--NAME--BLOCK-----TYPE-----CLASS-----REFERENCES

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE												
INCYMD		INTEGER	FUNCTION	1	18/S												
MODYMD		INTEGER	FUNCTION	20	31/S												
ND		INTEGER	SIMPLE	8/S	9/S	9	10	11	12/S	18	23/S	27/S	27	28			
NDPM		INTEGER	ARRAY	28	31												
NM		INTEGER	SIMPLE	2	10	27											
		INTEGER	SIMPLE	7/S	10	11	13/S	13	14	15/S	18	22/S	25	26			
NY		INTEGER	SIMPLE	25	27	28											
				5	5	5	6/S	11	16/S	16	18	21/S	28				

INCYMD 1

NY00 NYMD	INTEGER INTEGER	SIMPLE SIMPLE	4/1 1	5 6	7	8	20	21	22	23
PROCEDURE MAP										
NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF. A=ARGLIST						
LEAP	LOGICAL	STAT FUNC	3	5/S	11	28				
MOD	INTEGER	INTRINSIC	5	5	7	8	22	23		

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-----VINITSD 2
SUBROUTINE INITSD VINITSD 3
VINITSD 4
PURPOSE VINITSD 5
INITIALIZE MODEL DIAGNOSTIC QUANTITIES VINITSD 6
VINITSD 7
USAGE VINITSD 8
CALLED FROM GWSGCM VINITSD 9
VINITSD 10
INPUT/OUTPUT FILES USED VINITSD 11
NONE VINITSD 12
VINITSD 13
DESCRIPTION OF PARAMETERS VINITSD 14
NONE VINITSD 15
VINITSD 16
SUBPROGRAMS NEEDED VINITSD 17
NONE VINITSD 18
VINITSD 19
RECORD OF MODIFICATIONS VINITSD 20
?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VINITSD 21
22JUL83 JIM.PF ADDED DOCUMENTATION + CHOICE OF DIAGNOSTICS VINITSD 22
VINITSD 23
REMARKS: VINITSD 24
( 1) VINITSD 25
VINITSD 26
-----VINITSD 27
M / A - C O M S I G M A D A T A I N C . N A S A - G S F C VINITSD 28
-----VINITSD 29
VINITSD 30
00001 SUBROUTINE INITSD VINITSD 31
VINITSD 32
-----VINITSD 33
VINITSD 34
VINITSD 35
CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
-----
00002 COMMON /CCNTRL/ CCO VCNTRL 2
00003 COMMON /CCNTRL/ ADATE VCNTRL 3
00004 COMMON /CCNTRL/ ATIME VCNTRL 4
00005 COMMON /CCNTRL/ JIC VCNTRL 5
00006 COMMON /CCNTRL/ JOB VCNTRL 6
00007 COMMON /CCNTRL/ CCSP06 VCNTRL 7
00008 COMMON /CCNTRL/ CCSP07 VCNTRL 8
00009 COMMON /CCNTRL/ CCSP08 VCNTRL 9
00010 COMMON /CCNTRL/ VER VCNTRL 10
00011 COMMON /CCNTRL/ XLABEL (10) VCNTRL 11
00012 COMMON /CCNTRL/ CQS (30) VCNTRL 12
00013 COMMON /CCNTRL/ CQU (10) VCNTRL 13
C VCNTRL 14
00014 EQUIVALENCE (CCO,CC(1)) VCNTRL 15
00015 CHARACTER*8 CCO, CC(200) VCNTRL 16
00016 CHARACTER*8 ADATE VCNTRL 17
00017 CHARACTER*8 ATIME VCNTRL 18
00018 CHARACTER*8 JIC VCNTRL 19
00019 CHARACTER*8 JOB VCNTRL 20
00020 CHARACTER*8 CCSP06 VCNTRL 21
00021 CHARACTER*8 CCSP07 VCNTRL 22
00022 CHARACTER*8 CCSP08 VCNTRL 23
00023 CHARACTER*8 VER VCNTRL 24
00024 CHARACTER*8 XLABEL VCNTRL 25
00025 CHARACTER*8 CQS VCNTRL 26
00026 CHARACTER*8 CQU VCNTRL 27
C VCNTRL 28
C VCNTRL 29
C VCNTRL 30
C VCNTRL 31
C VCNTRL 32
C VCNTRL 33
C VCNTRL 34
C VCNTRL 35
C VCNTRL 36
C VCNTRL 37
C VCNTRL 38
-----
00027 COMMON /ICNTRL/ ICO VCNTRL 31
00028 COMMON /ICNTRL/ IM VCNTRL 32
00029 COMMON /ICNTRL/ IMD2 VCNTRL 33
00030 COMMON /ICNTRL/ IMD2P1 VCNTRL 34
00031 COMMON /ICNTRL/ NDRSW VCNTRL 35
VCNTRL 36
VCNTRL 37
VCNTRL 38
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00032	COMMON /ICNTRL/ JM	VCNTRL 39
00033	COMMON /ICNTRL/ JMD2	VCNTRL 40
00034	COMMON /ICNTRL/ JMT2	VCNTRL 41
00035	COMMON /ICNTRL/ JNP	VCNTRL 42
00036	COMMON /ICNTRL/ JO4	VCNTRL 43
00037	COMMON /ICNTRL/ JOB	VCNTRL 44
00038	COMMON /ICNTRL/ JSP	VCNTRL 45
00039	COMMON /ICNTRL/ KLI ALB	VCNTRL 46
00040	COMMON /ICNTRL/ KLI GW	VCNTRL 47
00041	COMMON /ICNTRL/ KLI SST	VCNTRL 48
00042	COMMON /ICNTRL/ KS	VCNTRL 49
00043	COMMON /ICNTRL/ KU	VCNTRL 50
00044	COMMON /ICNTRL/ LOG8R	VCNTRL 51
00045	COMMON /ICNTRL/ MATIN	VCNTRL 52
00046	COMMON /ICNTRL/ MATSNX	VCNTRL 53
00047	COMMON /ICNTRL/ MATSUN	VCNTRL 54
00048	COMMON /ICNTRL/ MLF (12)	VCNTRL 55
00049	COMMON /ICNTRL/ MROD	VCNTRL 56
00050	COMMON /ICNTRL/ NKRSR	VCNTRL 57
00051	COMMON /ICNTRL/ MSM	VCNTRL 58
00052	COMMON /ICNTRL/ NB	VCNTRL 59
00053	COMMON /ICNTRL/ ND	VCNTRL 60
00054	COMMON /ICNTRL/ NDALT	VCNTRL 61
00055	COMMON /ICNTRL/ NDAY	VCNTRL 62
00056	COMMON /ICNTRL/ NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
C		VCNTRL 86
00079	EQUIVALENCE (ITMIN ,IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX ,IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC ,IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON ,IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX ,IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX ,IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION ,IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG ,IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG ,IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD ,IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX ,IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX ,IQS(12))	VCNTRL 98
C		VCNTRL 99
00091	EQUIVALENCE (IOMEGA ,IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT ,IOU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW ,IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW ,IQU(4))	VCNTRL 103
C		VCNTRL 104
00095	EQUIVALENCE (ICO, IC(1))	VCNTRL 105
00096	INTEGER ICO, IC(200)	VCNTRL 106
C		VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
C	=====	VCNTRL 109

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00097	COMMON /LCNTRL/	LCO	VCNTRL 110
00098	COMMON /LCNTRL/	QALT	VCNTRL 111
00099	COMMON /LCNTRL/	QBEG	VCNTRL 112
00100	COMMON /LCNTRL/	QDAY	VCNTRL 113
00101	COMMON /LCNTRL/	QEND	VCNTRL 114
00102	COMMON /LCNTRL/	QOUT	VCNTRL 115
00103	COMMON /LCNTRL/	QPHY	VCNTRL 116
00104	COMMON /LCNTRL/	QSHF	VCNTRL 117
00105	COMMON /LCNTRL/	SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/	QRSW	VCNTRL 119
00107	COMMON /LCNTRL/	QRSH	VCNTRL 120
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL 122
C			VCNTRL 123
00110	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 131
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 135
C			VCNTRL 136
00122	EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 140
C			VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
C			VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
C			VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
C			VCNTRL 172
00154	EQUIVALENCE	(LCO,LC(1))	VCNTRL 173
00155	LOGICAL	LCO, LC(200)	VCNTRL 174
C			VCNTRL 175
C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 176
C	=====		VCNTRL 177
00156	COMMON /RCNTRL/	RCO	VCNTRL 178
00157	COMMON /RCNTRL/	APHEL	VCNTRL 179
00158	COMMON /RCNTRL/	BETA	VCNTRL 180

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00159	COMMON /RCNTRL/ COSD		VCNTRL 181
00160	COMMON /RCNTRL/ CP		VCNTRL 182
00161	COMMON /RCNTRL/ DAYSPY		VCNTRL 183
00162	COMMON /RCNTRL/ DEC		VCNTRL 184
00163	COMMON /RCNTRL/ DECMAX		VCNTRL 185
00164	COMMON /RCNTRL/ DIST		VCNTRL 186
00165	COMMON /RCNTRL/ DLAT		VCNTRL 187
00166	COMMON /RCNTRL/ DLON		VCNTRL 188
00167	COMMON /RCNTRL/ DT		VCNTRL 189
00168	COMMON /RCNTRL/ ECCN		VCNTRL 190
00169	COMMON /RCNTRL/ GNU1		VCNTRL 191
00170	COMMON /RCNTRL/ GNU2		VCNTRL 192
00171	COMMON /RCNTRL/ GRAV		VCNTRL 193
00172	COMMON /RCNTRL/ OMEGA2		VCNTRL 194
00173	COMMON /RCNTRL/ PI		VCNTRL 195
00174	COMMON /RCNTRL/ PI 180		VCNTRL 196
00175	COMMON /RCNTRL/ PI2		VCNTRL 197
00176	COMMON /RCNTRL/ PSTD		VCNTRL 198
00177	COMMON /RCNTRL/ PIMEAN		VCNTRL 199
00178	COMMON /RCNTRL/ PSMAX		VCNTRL 200
00179	COMMON /RCNTRL/ PSMIN		VCNTRL 201
00180	COMMON /RCNTRL/ PTOF		VCNTRL 202
00181	COMMON /RCNTRL/ RADE		VCNTRL 203
00182	COMMON /RCNTRL/ RGAS		VCNTRL 204
00183	COMMON /RCNTRL/ ROCP		VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST		VCNTRL 206
00185	COMMON /RCNTRL/ SDAY		VCNTRL 207
00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
	C	EQUIVALENCE (RC0, RC(1))	VCNTRL 220
00198	REAL	RC0, RC(200)	VCNTRL 221
00199			VCNTRL 222
	C	INTEGER MODEL CONSTANTS	VCNTRL 223
	C	=====	VCNTRL 224
00200	COMMON /IDPARM/ IJUMP (46)		VCNTRL 225
00201	COMMON /IDPARM/ IDSP02		VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)		VCNTRL 227
00203	COMMON /IDPARM/ IROD		VCNTRL 228
00204	COMMON /IDPARM/ JC (46)		VCNTRL 229
00205	COMMON /IDPARM/ JE (2)		VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)		VCNTRL 231
00207	COMMON /IDPARM/ KSTEP		VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)		VCNTRL 233
00209	COMMON /IDPARM/ NHMS1		VCNTRL 234
00210	COMMON /IDPARM/ NYMD1		VCNTRL 235
	C	LOGICAL MODEL CONSTANTS	VCNTRL 236
	C	=====	VCNTRL 237
00211	COMMON /LDPARM/ FILTER (46)		VCNTRL 238
00212	COMMON /LDPARM/ ITAPE		VCNTRL 239
00213	COMMON /LDPARM/ START		VCNTRL 240
	C	LOGICAL FILTER	VCNTRL 241
00214	LOGICAL ITAPE		VCNTRL 242
00215	LOGICAL START		VCNTRL 243
00216			VCNTRL 244
	C	REAL MODEL CONSTANTS	VCNTRL 245
	C	=====	VCNTRL 246
00217	COMMON /RDPARM/ ADLDP		VCNTRL 247
00218	COMMON /RDPARM/ CON1		VCNTRL 248
			VCNTRL 249
			VCNTRL 250
			VCNTRL 251

```

00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CONS
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLON (72)
00229 COMMON /RDPARM/ CPDZ
00230 COMMON /RDPARM/ DXP (46)
00231 COMMON /RDPARM/ DXYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPDT
00243 COMMON /RDPARM/ ROCPP1
00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

```

```

C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23

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```

C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====

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```

00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))

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VCNTRL 252
VCNTRL 253
VCNTRL 254
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VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
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VQANDQT 8
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VQANDQT 33
VQANDQT 34
VQANDQT 35
VQANDQT 36
VQANDQT 37

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00273      EQUIVALENCE      (QPROG(1, 7.1,1),SHS  (1,1))      VQANDQT 38
00274      EQUIVALENCE      (QPROG(1, 8.1,1),P    (1,1,1))      VQANDQT 39
C
00275      EQUIVALENCE      (QPROG(1,1, 2.1),U  (1,1,1,1))      VQANDQT 40
00276      EQUIVALENCE      (QPROG(1,1, 4.1),V  (1,1,1,1))      VQANDQT 41
00277      EQUIVALENCE      (QPROG(1,1, 6.1),T  (1,1,1,1))      VQANDQT 42
00278      EQUIVALENCE      (QPROG(1,1, 8.1),SH (1,1,1,1))      VQANDQT 43
00279      EQUIVALENCE      (QPROG(1,1,10,1),PHI(1,1,1,1))      VQANDQT 44
C
C      SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C      =====
00280      COMMON          /QANDQT/ QSDIAG(72          ,15,46)      VQANDQT 45
00281      DIMENSION        IQSDIAG(72          ,15,46)      VQANDQT 46
00282      EQUIVALENCE      (QSDIAG,IQSDIAG)      VQANDQT 47
C
00283      COMMON          /QANDQT/ QUDIAG(72,9, 5,46)      VQANDQT 48
C
C      =====
C      *****
C      C DEBUG
00284      10000 CONTINUE
C      **** CYBER VECTOR VERSION 00.001 INPUT IOQ
C      **** CYBER VECTOR VERSION 00
C      =====
00285      DO 20 J = 1,JNP
C
C      SURFACE QUANTITIES
C      =====
C      MINIMUM DAILY SURFACE TEMPERATURE
C      =====
00286      IF (QDAY.AND.LTMIN) QSDIAG(1,ITMIN,J;IM) = 1.E6
C
C      MAXIMUM DAILY SURFACE TEMPERATURE
C      =====
00287      IF (QDAY.AND.LTMAX) QSDIAG(1,ITMAX,J;IM) = 0.00
C
C      TOTAL ACCUMULATED PRECIPITATION
C      =====
00288      IF(LPREACC) QSDIAG(1,IPREACC,J;IM) = 0.00
C
C      CONVECTIVE PRECIPITATION
C      =====
00289      IF(LPRECON) QSDIAG(1,IPRECON,J;IM) = 0.00
C
C      SENSIBLE HEAT FLUX
C      =====
00290      IF(LHFLUX ) QSDIAG(1,IHFLUX ,J;IM) = 0.00
C
C      EVAPORATIVE FLUX
C      =====
00291      IF(LEFLUX ) QSDIAG(1,IEFLUX ,J;IM) = 0.00
C
C      HEAT STORAGE IN FREEZING AT GROUND
C      =====
00292      IF(LFUSION) QSDIAG(1,IFUSION,J;IM) = 0.00
C
C      CLOUD FLAGS
C      =====
00293      IF(LICLOUD) IQSDIAG(1,IICLOUD,J;IM) = 0
C
C      SOLAR RADIATION AT GROUND
C      =====
00294      IF(LRADSWG) QSDIAG(1,IRADSWG,J;IM) = 0.00
C
C      U MOMENTUM FLUX

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VQANDQT 38
VQANDQT 39
VQANDQT 40
VQANDQT 41
VQANDQT 42
VQANDQT 43
VQANDQT 44
VQANDQT 45
VQANDQT 46
VQANDQT 47
VQANDQT 48
VQANDQT 49
VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VINITSD 38
VINITSD 39
VINITSD 40
VBEGDEB 2
VBEGDEB 3
VBEGDEB 4
VBEGDEB 5
VBEGDEB 6
VINITSD 42
VINITSD 43
VINITSD 44
VINITSD 45
VINITSD 46
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VINITSD 85
VINITSD 86

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00295 C =====
      IF(LUFLUX ) QSDIAG(1,IUFLUX ,J;IM) = 0.00
      C
      C V MOMENTUM FLUX
      C =====
00296 C      IF(LVFLUX ) QSDIAG(1,IVFLUX ,J;IM) = 0.00
      C
      C U P P E R   A I R   Q U A N T I T I E S
      C =====
      C
      C SOLAR RADIATION (ALL SIGMA LEVELS)
      C =====
00297 C      IF(LRADSW ) QUDIAG(1,1,IRADSW ,J;IM*NLAY) = 0.00
      C
      C DIABATIC HEATING (ALL SIGMA LEVELS)
      C =====
00298 C      IF(LDIABAT) QUDIAG(1,1,LDIABAT,J;IM*NLAY) = 0.00
      C
      C VERTICAL VELOCITY (ALL SIGMA LEVELS)
      C =====
00299 C      IF(LOMEGA ) QUDIAG(1,1,IOMEGA ,J;IM*NLAY) = 0.00
      C
      C
00300 C      20          CONTINUE
00301 C      R E T U R N
00302 C      E N D

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VINITSD 87
VINITSD 88
VINITSD 89
VINITSD 90
VINITSD 91
VINITSD 92
VINITSD 93
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VINITSD111
VINITSD112
VINITSD113
VINITSD114
VINITSD115

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

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10000      284
20         300          285

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VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE															
ADATE	CCNTRL	CHAR*B	SIMPLE	3	16															
ADLDP	RDPARM	REAL	SIMPLE	217																
ALBEDO	QANDQT	REAL	ARRAY	256	269															
APHEL	RCNTRL	REAL	SIMPLE	157																
ATIME	CCNTRL	CHAR*B	SIMPLE	4	17															
BETA	RCNTRL	REAL	SIMPLE	158																
CALTOJ	RCNTRL	REAL	SIMPLE	196																
CC	CCNTRL	CHAR*B	ARRAY	14	15															
CC0	CCNTRL	CHAR*B	SIMPLE	2	14															
CCNTRL		REAL	UNKNOWN	2	3															
				13																
CCSP06	CCNTRL	CHAR*B	SIMPLE	7	20															
CCSP07	CCNTRL	CHAR*B	SIMPLE	8	21															
CCSP08	CCNTRL	CHAR*B	SIMPLE	9	22															
CON1	RDPARM	REAL	SIMPLE	218																
CON1DT	RDPARM	REAL	SIMPLE	219																
CON2	RDPARM	REAL	SIMPLE	220																
CON2DT	RDPARM	REAL	SIMPLE	221																
CON3	RDPARM	REAL	SIMPLE	222																
CON3DT	RDPARM	REAL	SIMPLE	223																
CON4	RDPARM	REAL	SIMPLE	224																
CON4DT	RDPARM	REAL	SIMPLE	225																
CON5	RDPARM	REAL	SIMPLE	226																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*B	ARRAY	12	25															
CQU	CCNTRL	CHAR*B	ARRAY	13	26															
DAYSPY	RCNTRL	REAL	SIMPLE	161																
DEC	RCNTRL	REAL	SIMPLE	162																

JIC	CCNTRL	CHAR*8	SIMPLE	5	18																	
JM	ICNTRL	INTEGER	SIMPLE	32																		
JMD2	ICNTRL	INTEGER	SIMPLE	33																		
JMT2	ICNTRL	INTEGER	SIMPLE	34																		
JNP	ICNTRL	INTEGER	SIMPLE	35	285																	
JO4	ICNTRL	INTEGER	SIMPLE	36																		
JOB	ICNTRL	INTEGER	SIMPLE	37																		
JOB	CCNTRL	CHAR*8	SIMPLE	6	19																	
JP	IDPARM	INTEGER	ARRAY	206																		
JSP	ICNTRL	INTEGER	SIMPLE	38																		
KLIALB	ICNTRL	INTEGER	SIMPLE	39																		
KLIGW	ICNTRL	INTEGER	SIMPLE	40																		
KLISST	ICNTRL	INTEGER	SIMPLE	41																		
KS	ICNTRL	INTEGER	SIMPLE	42																		
KSTEP	IDPARM	INTEGER	SIMPLE	207																		
KU	ICNTRL	INTEGER	SIMPLE	43																		
LC	LCNTRL	LOGICAL	ARRAY	154	155																	
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155																
LCNTRL	ICNTRL	INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107								
				108	109																	
LDIABAT	LCNTRL	LOGICAL	SIMPLE	123	151	298																
LDPARM	ICNTRL	INTEGER	UNKNOWN	211	212	213																
LEFLUX	LCNTRL	LOGICAL	SIMPLE	116	143	291																
LFUSION	LCNTRL	LOGICAL	SIMPLE	116	144	292																
LHFLUX	LCNTRL	LOGICAL	SIMPLE	114	142	290																
LICLOUD	LCNTRL	LOGICAL	SIMPLE	119	147	293																
LOGBR	ICNTRL	INTEGER	SIMPLE	44																		
LOMEGA	LCNTRL	LOGICAL	SIMPLE	122	150	299																
LPREACC	LCNTRL	LOGICAL	SIMPLE	112	140	288																
LPRECON	LCNTRL	LOGICAL	SIMPLE	113	141	289																
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119								
				120	121	136																
LQU	LCNTRL	LOGICAL	ARRAY	109	122	123	124	125	137													
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153																	
LADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146																	
LADSW	LCNTRL	LOGICAL	SIMPLE	124	152	297																
LADSWG	LCNTRL	LOGICAL	SIMPLE	117	145	294																
LTMAX	LCNTRL	LOGICAL	SIMPLE	111	139	287																
LTMIN	LCNTRL	LOGICAL	SIMPLE	110	138	286																
LUFLUX	LCNTRL	LOGICAL	SIMPLE	120	148	295																
LVFLUX	LCNTRL	LOGICAL	SIMPLE	121	149	296																
MATIN	ICNTRL	INTEGER	SIMPLE	45																		
MATSNX	ICNTRL	INTEGER	SIMPLE	46																		
MATSUN	ICNTRL	INTEGER	SIMPLE	47																		
MJ	IDPARM	INTEGER	ARRAY	208																		
MLF	ICNTRL	INTEGER	ARRAY	48																		
MROD	ICNTRL	INTEGER	SIMPLE	49																		
MSM	ICNTRL	INTEGER	SIMPLE	51																		
NB	ICNTRL	INTEGER	SIMPLE	52																		
ND	ICNTRL	INTEGER	SIMPLE	53																		
NDALT	ICNTRL	INTEGER	SIMPLE	54																		
NDAY	ICNTRL	INTEGER	SIMPLE	55																		
NDHOG	ICNTRL	INTEGER	SIMPLE	76																		
NDOUT	ICNTRL	INTEGER	SIMPLE	56																		
NDPHY	ICNTRL	INTEGER	SIMPLE	57																		
NDRSW	ICNTRL	INTEGER	SIMPLE	31																		
NDSHF	ICNTRL	INTEGER	SIMPLE	58																		
NDT	ICNTRL	INTEGER	SIMPLE	59																		
NHMS	ICNTRL	INTEGER	SIMPLE	60																		
NHMS0	ICNTRL	INTEGER	SIMPLE	62																		
NHMS1	IDPARM	INTEGER	SIMPLE	209																		
NHMSE	ICNTRL	INTEGER	SIMPLE	61																		
NKRSH	ICNTRL	INTEGER	SIMPLE	50																		
NLAY	ICNTRL	INTEGER	SIMPLE	63	297	298	299															
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																		
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																		
NMLEV	ICNTRL	INTEGER	SIMPLE	75																		
NSDAY	ICNTRL	INTEGER	SIMPLE	66																		
NSEQ	ICNTRL	INTEGER	SIMPLE	67																		

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THSTD	RDPARM	REAL	SIMPLE	247	
THSTD2	RDPARM	REAL	SIMPLE	248	
TS	QANDQT	REAL	ARRAY	259	272
TSTD	RCNTRL	REAL	SIMPLE	190	
U	QANDQT	REAL	ARRAY	262	275
V	QANDQT	REAL	ARRAY	263	276
VER	CCNTRL	CHAR*8	SIMPLE	10	23
WSAVE	RDPARM	REAL	ARRAY	249	
KLABEL	CCNTRL	CHAR*8	ARRAY	11	24

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00001

SUBROUTINE INPUT (*)

READ MODEL CONTROL NAMELIST AND MODEL INITIAL CONDITIONS

ARGUMENTS DESCRIPTION
I/O ERROR RETURN

I/O DDNAME DESCRIPTION
5 CARD-IMAGE DATA INCLUDING INPUTZ NAMELIST (EXXXNL)
11 REWINDABLE COPY OF CARD-IMAGE DATA FROM UNIT 5 (TEMPNL)
12 MODEL INITIAL OR RESTART CONDITIONS (EXXXRS1)

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002 COMMON /CCNTRL/ CCO
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)

00014 EQUIVALENCE (CCO,CC(1))
00015 CHARACTER*8 CCO, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
00025 CHARACTER*8 CQS
00026 CHARACTER*8 CQU

C
C
C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

00027 COMMON /ICNTRL/ ICO
00028 COMMON /ICNTRL/ IM
00029 COMMON /ICNTRL/ IMD2
00030 COMMON /ICNTRL/ IMD2P1
00031 COMMON /ICNTRL/ NDRSW
00032 COMMON /ICNTRL/ JM
00033 COMMON /ICNTRL/ JMD2
00034 COMMON /ICNTRL/ JMT2
00035 COMMON /ICNTRL/ JNP
00036 COMMON /ICNTRL/ JO4
00037 COMMON /ICNTRL/ JOB
00038 COMMON /ICNTRL/ JSP
00039 COMMON /ICNTRL/ KLIALB
00040 COMMON /ICNTRL/ KLIGW
00041 COMMON /ICNTRL/ KLISST
00042 COMMON /ICNTRL/ KS
00043 COMMON /ICNTRL/ KU
00044 COMMON /ICNTRL/ LOGBR
00045 COMMON /ICNTRL/ MATIN
00046 COMMON /ICNTRL/ MATSNX
00047 COMMON /ICNTRL/ MATSUN
00048 COMMON /ICNTRL/ MLF (12)
00049 COMMON /ICNTRL/ MROD
00050 COMMON /ICNTRL/ NKRSB
00051 COMMON /ICNTRL/ NSM
00052 COMMON /ICNTRL/ NB
00053 COMMON /ICNTRL/ ND

VINPUT 2
VINPUT 3
VINPUT 4
VINPUT 5
VINPUT 6
VINPUT 7
VINPUT 8
VINPUT 9
VINPUT 10
VINPUT 11
VINPUT 12
VINPUT 13
VCNTRL 2
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VCNTRL 8
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VCNTRL 60

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00054	COMMON /ICNTRL/	NDALT	VCNTRL 61
00055	COMMON /ICNTRL/	NDAY	VCNTRL 62
00056	COMMON /ICNTRL/	NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/	NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/	NDT	VCNTRL 66
00060	COMMON /ICNTRL/	NHMS	VCNTRL 67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/	NHMSE	VCNTRL 69
00063	COMMON /ICNTRL/	NLAY	VCNTRL 70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/	NYMD	VCNTRL 78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/	NHOG	VCNTRL 83
00077	COMMON /ICNTRL/	IQS(30)	VCNTRL 84
00078	COMMON /ICNTRL/	IQU(10)	VCNTRL 85
C			VCNTRL 86
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL 98
C			VCNTRL 99
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL 103
C			VCNTRL 104
00095	EQUIVALENCE	(IC0,IC(1))	VCNTRL 105
00096	INTEGER	IC0, IC(200)	VCNTRL 106
C			VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
C	=====		
00097	COMMON /LCNTRL/	LC0	VCNTRL 110
00098	COMMON /LCNTRL/	QALT	VCNTRL 111
00099	COMMON /LCNTRL/	QBEG	VCNTRL 112
00100	COMMON /LCNTRL/	QDAY	VCNTRL 113
00101	COMMON /LCNTRL/	QEND	VCNTRL 114
00102	COMMON /LCNTRL/	QOUT	VCNTRL 115
00103	COMMON /LCNTRL/	QPHY	VCNTRL 116
00104	COMMON /LCNTRL/	QSHF	VCNTRL 117
00105	COMMON /LCNTRL/	SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/	QRSW	VCNTRL 119
00107	COMMON /LCNTRL/	QRSH	VCNTRL 120
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL 122
C			VCNTRL 123
00110	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 131

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00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 135
C			VCNTRL 136
00122	EQUIVALENCE	(LOMEGA .LOU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT .LOU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW .LOU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW .LOU(4))	VCNTRL 140
C			VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
C			VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
C			VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
C			VCNTRL 172
00154	EQUIVALENCE	(LGO,LC(1))	VCNTRL 173
00155	LOGICAL	LGO, LC(200)	VCNTRL 174
CC			VCNTRL 175
CC			VCNTRL 176
CC			VCNTRL 177
C			VCNTRL 178
00156	COMMON	/RCNTRL/ RCO	VCNTRL 179
00157	COMMON	/RCNTRL/ APHEL	VCNTRL 180
00158	COMMON	/RCNTRL/ BETA	VCNTRL 181
00159	COMMON	/RCNTRL/ COSD	VCNTRL 182
00160	COMMON	/RCNTRL/ CP	VCNTRL 183
00161	COMMON	/RCNTRL/ DAYSPY	VCNTRL 184
00162	COMMON	/RCNTRL/ DEC	VCNTRL 185
00163	COMMON	/RCNTRL/ DECMAK	VCNTRL 186
00164	COMMON	/RCNTRL/ DIST	VCNTRL 187
00165	COMMON	/RCNTRL/ DLAT	VCNTRL 188
00166	COMMON	/RCNTRL/ DLON	VCNTRL 189
00167	COMMON	/RCNTRL/ DT	VCNTRL 190
00168	COMMON	/RCNTRL/ ECCN	VCNTRL 191
00169	COMMON	/RCNTRL/ GNU1	VCNTRL 192
00170	COMMON	/RCNTRL/ GNU2	VCNTRL 193
00171	COMMON	/RCNTRL/ GRAV	VCNTRL 194
00172	COMMON	/RCNTRL/ OMEGA2	VCNTRL 195
00173	COMMON	/RCNTRL/ PI	VCNTRL 196
00174	COMMON	/RCNTRL/ PI180	VCNTRL 197
00175	COMMON	/RCNTRL/ PI2	VCNTRL 198
00176	COMMON	/RCNTRL/ PSTD	VCNTRL 199
00177	COMMON	/RCNTRL/ PIMEAN	VCNTRL 200
00178	COMMON	/RCNTRL/ PSMAX	VCNTRL 201
00179	COMMON	/RCNTRL/ PSMIN	VCNTRL 202
00180	COMMON	/RCNTRL/ PTOP	

REAL MODEL PARAMETERS SAVED ON HISTORY RECORD

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00181	COMMON /RCNTRL/ RADE	VCNTRL 203
00182	COMMON /RCNTRL/ RGAS	VCNTRL 204
00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
	C	VCNTRL 220
00198	EQUIVALENCE (RCO,RC(1))	VCNTRL 221
00199	REAL RCO, RC(200)	VCNTRL 222
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00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 225
00201	COMMON /IDPARM/ IDSP02	VCNTRL 226
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 227
00203	COMMON /IDPARM/ IROD	VCNTRL 228
00204	COMMON /IDPARM/ JC (46)	VCNTRL 229
00205	COMMON /IDPARM/ JE (2)	VCNTRL 230
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 231
00207	COMMON /IDPARM/ KSTEP	VCNTRL 232
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 233
00209	COMMON /IDPARM/ NHMS1	VCNTRL 234
00210	COMMON /IDPARM/ NYMD1	VCNTRL 235
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00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 239
00212	COMMON /LDPARM/ ITAPE	VCNTRL 240
00213	COMMON /LDPARM/ START	VCNTRL 241
	C	VCNTRL 242
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00217	COMMON /RDPARM/ ADLDP	VCNTRL 248
00218	COMMON /RDPARM/ CON1	VCNTRL 249
00219	COMMON /RDPARM/ CON1DT	VCNTRL 250
00220	COMMON /RDPARM/ CON2	VCNTRL 251
00221	COMMON /RDPARM/ CON2DT	VCNTRL 252
00222	COMMON /RDPARM/ CON3	VCNTRL 253
00223	COMMON /RDPARM/ CON3DT	VCNTRL 254
00224	COMMON /RDPARM/ CON4	VCNTRL 255
00225	COMMON /RDPARM/ CON4DT	VCNTRL 256
00226	COMMON /RDPARM/ CON5	VCNTRL 257
00227	COMMON /RDPARM/ COSL (46)	VCNTRL 258
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 259
00229	COMMON /RDPARM/ CPD2	VCNTRL 260
00230	COMMON /RDPARM/ DXP (46)	VCNTRL 261
00231	COMMON /RDPARM/ DXYP (46)	VCNTRL 262
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 263
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 264
00234	COMMON /RDPARM/ F1DT	VCNTRL 265
00235	COMMON /RDPARM/ F2DT	VCNTRL 266
00236	COMMON /RDPARM/ H1DT	VCNTRL 267
00237	COMMON /RDPARM/ H2DT	VCNTRL 268
00238	COMMON /RDPARM/ PKSTD	VCNTRL 269
00239	COMMON /RDPARM/ PKTOP	VCNTRL 270
00240	COMMON /RDPARM/ RLAT (46)	VCNTRL 271

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00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPDT
00243 COMMON /RDPARM/ ROCPD1
00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

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C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C

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C IM =72
C NLAY =9
C JM*1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2-1 =23

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C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====

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00253 C COMMON /QANDQT/ QPROG(72,9,11,46)
00254 C DIMENSION PHIS (7128,1)
00255 C DIMENSION SMTH (7128,23)
00256 C DIMENSION ALBEDO (7128,1)
00257 C DIMENSION GT (7128,1)
00258 C DIMENSION GW (7128,1)
00259 C DIMENSION TS (7128,1)
00260 C DIMENSION SHS (7128,1)
00261 C DIMENSION P (72,99,1)
00262 C DIMENSION U (72,9,11,1)
00263 C DIMENSION V (72,9,11,1)
00264 C DIMENSION T (72,9,11,1)
00265 C DIMENSION SH (72,9,11,1)
00266 C DIMENSION PHI (72,9,11,1)
00267 C EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 C EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 C EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 C EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 C EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 C EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 C EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 C EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))
00275 C EQUIVALENCE (QPROG(1,1, 2,1),U ((1,1,1,1))
00276 C EQUIVALENCE (QPROG(1,1, 4,1),V ((1,1,1,1))
00277 C EQUIVALENCE (QPROG(1,1, 6,1),T ((1,1,1,1))
00278 C EQUIVALENCE (QPROG(1,1, 8,1),SH ((1,1,1,1))
00279 C EQUIVALENCE (QPROG(1,1,10,1),PHI((1,1,1,1))

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C
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====

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00280 C COMMON /QANDQT/ QSDIAG(72 ,15,46)
00281 C DIMENSION IQSDIAG(72 ,15,46)
00282 C EQUIVALENCE (QSDIAG,IQSDIAG)
00283 C COMMON /QANDQT/ QUDIAG(72,9, 5,46)
00284 C * * * ONE-DIMENSIONAL WORK AREAS
00285 C COMMON CARD(10), DATA(144), CATA(144)
C CHARACTER*8 CARD

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VQANDQT 2
VQANDQT 3
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VWORK ID 3
VWORK ID 4
VWORK ID 5

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				VWORK1D	6
				VCORDER	2
				VCORDER	3
00286				VCORDER	4
00287				VCORDER	5
				VCORDER	6
				VCORDER	7
				VCORDER	8
00288				VCORDER	9
00289				VCORDER	10
				VCORDER	11
				VCORDER	12
				VINPUT	18
				VINPUT	19
00290				VINPUT	20
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00286 IDENTIFYING LABELS OF MODEL RESTART RECORD QUANTITIES
00287 COMMON /CORDER/ XORDS(24),XORDU(15)
      CHARACTER*8 XORDS ,XORDU

00288 IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES
00289 COMMON /CORDER/ XSA (23),XUA (10)
      CHARACTER*8 XSA ,XUA

00290 TEMPORARY ARRAY TO READ IN DAMPING COEFS
      COMMON SMTHNL(288.91)

00291 INPUT MODEL PARAMETER NAMelist
      SEE MODEL TECHNICAL DOCUMENTATION FOR EXTENSIVE DETAILS

      NAMELIST /INPUTZ/ NYMD1, NHMS1, NYMDE, NHMSE,
      JOB, XLABEL,
      NDOUT, NDRSW, NKRSH, MRD,
      NDALT, NDPHY, NDSHF,
      JO4, JOB,
      KLIALB, KLIW, KLISS,
      MATIN, MLF, NDT, NSEQ,
      SN2FLG,
      PIMEAN, PSMAX, PSMIN, PSTD, TSTD,
      SIGE, GNU2, SMTHNL

      VAR LOC DEFAULT DESCRIPTION
      --- ---
      NYMD1 /IDPARM/ 000000 YMMDD AT START OF EXPERIMENT
      NHMS1 /IDPARM/ 000000 HHMSS AT START OF EXPERIMENT
      NYMDE /ICNTRL/ 000000 YMMDD AT END OF EXPERIMENT
      NHMSE /ICNTRL/ 000000 HHMSS AT END OF EXPERIMENT
      JOB /GCNTRL/ ' B CHARACTER EXPERIMENT IDENTIFIER
      XLABEL /GCNTRL/ 10*' 80 CHARACTER EXPERIMENT DESCRIPTION
      NDOUT /ICNTRL/ 030000 HHMSS WRITE INCREMENT TO HISTORY
      NDRSW /ICNTRL/ 060000 HHMSS WRITE INCREMENT TO RESTART
      NKRSH /ICNTRL/ -1 KEY FOR WRITE OF RESTART TO HISTORY
      -1 FOR START AND END OF EXPERIMENT
      0 FOR NEVER
      N FOR EVERY N'TH DAY
      MRD /ICNTRL/ 25 MAXIMUM ALLOWABLE WRITES TO UNIT 08
      NDALT /ICNTRL/ 000000 HHMSS INCREMENT FOR ANALYSIS
      NDPHY /ICNTRL/ 003000 HHMSS INCREMENT FOR PHYSICS
      NDSHF /ICNTRL/ 023000 HHMSS INCREMENT FOR SHAPIRO FILTER
      CALLS
      JO4 /ICNTRL/ 0 BAND LIMIT FOR 4'TH ORDER SHAPIRO
      JOB /ICNTRL/ 0 BAND LIMIT FOR 8'TH ORDER SHAPIRO
      KLIALB /ICNTRL/ 1 ALBEDO FLAG
      KLIW /ICNTRL/ 1 GROUND WEINNESS FLAG
      KLISS /ICNTRL/ 1 SEA SURFACE TEMPERATURE FLAG
      MATIN /ICNTRL/ 1 MATSUNO STEPS BEFORE REGULAR CYCLE
      MLF /ICNTRL/ 1.11*0 REGULAR CYCLE DESCRIPTION
      NDT /ICNTRL/ 34200/IM TIMESTEP IN SECONDS
      NSEQ /ICNTRL/ 1 LENGTH OF REGULAR CYCLE
      SN2FLG /LCNTRL/ F PBL SIGMA PROFILE FLAG
      PIMEAN /RCNTRL/ FROM IC GLOBAL MEAN PRESSURE
      PSMAX /RCNTRL/ 1200. MAXIMUM ALLOWABLE SURFACE PRESSURE
      PSMIN /RCNTRL/ 300. MINIMUM ALLOWABLE SURFACE PRESSURE
      PSTD /RCNTRL/ 1000. REFERENCE PRESSURE FOR NORMALIZATION
      TSTD /RCNTRL/ 280. REFERENCE TEMP FOR NORMALIZATION
      SIGE /RCNTRL/ UNIFORM SIGMA VALUES AT EDGES OF LAYERS
      GNU2 /RCNTRL/ 0. CONSTANT FOR USE IN TIME AVERAGE

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C SMTHNL // SEE DEFAULT DAMPING FACTORS FOR GRAVITY WAVES VINPUTZ 56
C ***** READ INTO TEMPORARY ARRAY AND MOVED TO ARRAY SMTH IN COMMON /QANDQT/ VINPUTZ 57
C ***** VINPUTZ 58
C ***** VINPUTZ 59
00292 LOGICAL SKIP VINPUT 24
00293 CHARACTER*8 MACHID,VERSAVE VINPUT 25
00294 DATA MACHID /8HCDC / VINPUT 26
00295 DATA VERSAVE /8HV00.001 / VINPUT 27
C ***** VINPUT 28
C ***** VINPUT 29
C ***** VBEGDEB 2
00296 10000 CONTINUE VBEGDEB 3
C ***** VBEGDEB 4
C ***** VBEGDEB 5
C ***** VBEGDEB 6
C ***** VINPUT 31
C ***** VINPUT 32
00297 READ AND COPY INPUTZ NAMELIST VINPUT 33
00298 WRITE (3,6000) VERSAVE VINPUT 34
00299 10 CONTINUE VINPUT 35
00299 READ (5,6010,END=15) CARD VINPUT 36
00300 WRITE (11,6010) CARD VINPUT 37
00301 WRITE (3,6015) CARD VINPUT 38
00302 GO TO 10 VINPUT 39
00303 15 CONTINUE VINPUT 40
00304 NYMD1 = 0 VINPUT 41
00305 NHMS1 = 0 VINPUT 42
00306 REWIND 11 VINPUT 43
00307 READ (11,INPUTZ,END=20) VINPUT 44
00308 20 CONTINUE VINPUT 45
C ***** VINPUT 46
C ***** VINPUT 47
00309 INITIAL START OR RESTART FROM LOG12 VINPUT 48
00310 REQUIRED PARAMETERS ON INPUT ARE VINPUT 49
00311 IM, JM, NLAY, KS, KU, NB, ND, JOB, NYMD, NHMS, LOGBR VINPUT 50
C ***** VINPUT 51
C ***** VINPUT 52
C ***** VINPUT 53
00312 READ INITIAL CONDITIONS FOR THIS FORECAST SEGMENT VINPUT 54
00313 SEARCH FOR SPECIFIC TIME OR TYPE OF RECORD VINPUT 55
00314 40 CONTINUE VINPUT 56
00314 CALL IOQ (LU,1,0,8810,8820) VINPUT 57
00314 IROD = IROD + 1 VINPUT 58
00315 IOFLAG = 1 VINPUT 59
00316 IF (LOGBR .NE. 0) IOFLAG = 0 VINPUT 60
00317 IF (LOGBR .EQ. 6) IOFLAG = 1 VINPUT 61
C ***** VINPUT 62
C ***** VINPUT 63
00318 READ IN DATA BY LATITUDE BAND VINPUT 64
00319 JMP1 = JM + 1 VINPUT 65
00320 DO 45 J = 1, JMP1 VINPUT 66
00320 CALL IOQ (LU,IOFLAG,J,8810,8820) VINPUT 67
00321 45 CONTINUE VINPUT 68
00322 IF (IOFLAG.EQ.0) GO TO 40 VINPUT 69
C ***** VINPUT 70
C ***** VINPUT 71
C ***** VINPUT 72
C ***** VINPUT 73
00323 START RECORD FOUND VINPUT 74
00324 DEFAULT PARAMETERS IF INITIAL START VINPUT 75
00325 READ IN MODEL PARAMETER NAMELIST VINPUT 76
00326 CALCULATE DEPENDENT VARIABLES VINPUT 77
00326 IF (NYMD.EQ.NYMD1).AND.(NHMS.EQ.NHMS1) CALL DEFAULT VINPUT 78
00326 JESMTH = JM / 2 + 1 VINPUT 79
00327 DO 46 J = 1, JESMTH VINPUT 80
00327 SMTHNL(1,J;IMD2) = SMTH(1,J;IMD2) VINPUT 81
00328 46 CONTINUE VINPUT 82
00328 REWIND 11 VINPUT 83
00329 READ (11,INPUTZ) VINPUT 84
00330 DO 47 J = 1, JESMTH VINPUT 85
00331 SMTH(1,J;IMD2) = SMTHNL(1,J;IMD2) VINPUT 86
00332 47 CONTINUE VINPUT 87
00333 VER = VERSAVE VINPUT 88
00334 WRITE (3,6040) NYMD, NHMS, LOGBR, VINPUT 89
& JOB, IM, JM, NLAY, KS, KU VINPUT 90
C ***** VINPUT 91
00335 CCO = MACHID VINPUT 92
00336 CALL DEPEND VINPUT 93
00337 CALL POLINP (NB,1) VINPUT 94

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INPUT 7

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00338      CALL POLINP (ND,1)
00339      CALL POLINP (NB,2)
00340      CALL POLINP (ND,2)
00341      WRITE (6,6045) (I, I=1,IMD2)
00342      DO 50 J=2,JM
00343      IF (FILTER(J)) WRITE (6,6050) J, RLATD(J), (SMTH(I,J), I=1,IMD2)
00344      50 CONTINUE
C * * *
00345      60 CONTINUE
00346      RETURN
C * * *
C * * *
00347      END-OF-FILE ENCOUNTERED READING
00348      810 CONTINUE
00349      WRITE (3,6810) LU
00349      RETURN 1
C * * *
C * * *
00350      ERROR ENCOUNTERED READING
00351      820 CONTINUE
00352      WRITE (3,6820) LU
00352      RETURN 1
C * * *
00353      6000 FORMAT ('1GODDARD MODELING AND SIMULATION FACILITY',
& 'FOURTH-ORDER GENERAL CIRCULATION MODEL VERSION ',A8/)
00354      6010 FORMAT (10A8)
00355      6015 FORMAT (16X,10A8)
00356      6020 FORMAT ('0INITIAL OR RESTART CONDITIONS FROM DISK')
00357      6040 FORMAT (' RESTART RECORD READ FROM DISK ',4X,
& ' MODEL TIME ',16,2X,16,2X,14,4X,' JOB ',A8,4X,
& ' GRID ',5I4)
00358      6045 FORMAT ('0GRAVITY WAVE FILTER COEFFICIENTS'/(T17,20(13,2X)))
00359      6050 FORMAT (' J ',12,' LAT ',F5.1,(T17,20F5.2))
00360      6810 FORMAT ('0END-OF-FILE ENCOUNTERED READING INPUT FROM LOG',I4)
00361      6820 FORMAT ('0ERROR ENCOUNTERED READING INPUT FROM LOG',I4)
00362      END
VINPUT 87
VINPUT 88
VINPUT 89
VINPUT 90
VINPUT 91
VINPUT 92
VINPUT 93
VINPUT 94
VINPUT 95
VINPUT 96
VINPUT 97
VINPUT 98
VINPUT 99
VINPUT 100
VINPUT 101
VINPUT 102
VINPUT 103
VINPUT 104
VINPUT 105
VINPUT 106
VINPUT 107
VINPUT 108
VINPUT 109
VINPUT 110
VINPUT 111
VINPUT 112
VINPUT 113
VINPUT 114
VINPUT 115
VINPUT 116
VINPUT 117
VINPUT 118
VINPUT 119
VINPUT 120

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

Label	Defined	References
10	298	302
10000	296	
15	303	299
20	308	307
40	312	322
45	321	319
46	327	325
47	332	330
50	344	342
60	345	
6000	353	297
6010	354	299 300
6015	355	301
6020	356	311
6040	357	334
6045	358	341
6050	359	343
6810	360	348
6820	361	351
810	347	
820	350	

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16
ADLDP	RDPARM	REAL	SIMPLE	217	
ALBEDO	QANDQT	REAL	ARRAY	256	269
APHEL	RCNTRL	REAL	SIMPLE	157	
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17
BETA	RCNTRL	REAL	SIMPLE	158	
CALTOJ	RCNTRL	REAL	SIMPLE	196	
CARD	//	CHAR*8	ARRAY	284	285 299/R 300/W 301/W

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CATA	//	REAL	ARRAY	284																
CC	CCNTRL	CHAR*8	ARRAY	14	15															
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15	335/S													
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12						
				13																
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20															
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21															
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22															
CON1	RDPARM	REAL	SIMPLE	218																
CON1DT	RDPARM	REAL	SIMPLE	219																
CON2	RDPARM	REAL	SIMPLE	220																
CON2DT	RDPARM	REAL	SIMPLE	221																
CON3	RDPARM	REAL	SIMPLE	222																
CON3DT	RDPARM	REAL	SIMPLE	223																
CON4	RDPARM	REAL	SIMPLE	224																
CON4DT	RDPARM	REAL	SIMPLE	225																
CONS	RDPARM	REAL	SIMPLE	226																
CORDER		REAL	UNKNOWN	286	288															
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*8	ARRAY	12	25															
CQU	CCNTRL	CHAR*8	ARRAY	13	26															
DATA	//	REAL	ARRAY	284																
DAYSPY	RCNTRL	REAL	SIMPLE	161																
DEC	RCNTRL	REAL	SIMPLE	162																
DECMAX	RCNTRL	REAL	SIMPLE	163																
DIST	RCNTRL	REAL	SIMPLE	164																
DLAT	RCNTRL	REAL	SIMPLE	165																
DLON	RCNTRL	REAL	SIMPLE	166																
DSIG	RDPARM	REAL	ARRAY	250																
DSIGINV	RDPARM	REAL	ARRAY	252																
DT	RCNTRL	REAL	SIMPLE	167																
DXP	RDPARM	REAL	ARRAY	230																
DXYP	RDPARM	REAL	ARRAY	231																
DYP	RDPARM	REAL	ARRAY	232																
ECCN	RCNTRL	REAL	SIMPLE	168																
EPS	RCNTRL	REAL	SIMPLE	194																
EPSFAC	RCNTRL	REAL	SIMPLE	195																
F1DT	RDPARM	REAL	SIMPLE	234																
F2DT	RDPARM	REAL	SIMPLE	235																
FCORLS	RDPARM	REAL	ARRAY	233																
FILTER	LDPARM	LOGICAL	ARRAY	211	214	343														
GNU1	RCNTRL	REAL	SIMPLE	169																
GNU2	RCNTRL	REAL	SIMPLE	170	291															
GRAV	RCNTRL	REAL	SIMPLE	171																
GT	QANDQT	REAL	ARRAY	257	270															
GW	QANDQT	REAL	ARRAY	258	271															
H1DT	RDPARM	REAL	SIMPLE	236																
H2DT	RDPARM	REAL	SIMPLE	237																
HEATI	RCNTRL	REAL	SIMPLE	193																
HEATW	RCNTRL	REAL	SIMPLE	192																
I		INTEGER	SIMPLE	341/W	341/C	343	343/C													
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																
IC	ICNTRL	INTEGER	ARRAY	95	96															
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96														
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37						
				38	39	40	41	42	43	44	45	46	47	48						
				49	50	51	52	53	54	55	56	57	58	59						
				60	61	62	63	64	65	66	67	68	69	70						
				71	72	73	74	75	76	77	78	79	80	81						
				82																
ICSP53	ICNTRL	INTEGER	SIMPLE	68																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																
IDPARM	IDPARM	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210						
IDSP02	IDPARM	INTEGER	SIMPLE	201																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																
IIFLUX	ICNTRL	INTEGER	UNKNOWN	83																

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IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																		
IJUMP	IDPARM	INTEGER	ARRAY	200																		
IM	ICNTRL	INTEGER	SIMPLE	28	334/W																	
IMD2	ICNTRL	INTEGER	SIMPLE	29	326	326	331	331	341	343												
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																		
INDEX	IDPARM	INTEGER	ARRAY	202																		
INPUT			SUBROUTINE	1																		
INPUTZ		INTEGER	SIMPLE	291	307	329																
IOFLAG		INTEGER	SIMPLE	315/S	316/S	317/S	320	322														
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91																		
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																		
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																		
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88								
				89	90																	
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282																	
IOU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94														
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																		
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																		
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																		
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																		
IROD	IDPARM	INTEGER	SIMPLE	203	310/S	314/S	314															
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215																	
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																		
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																		
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																		
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90																		
J		INTEGER	SIMPLE	319/C	320	325/C	326	326	330/C	331	331	342/C	343	343								
				343	343																	
JC	IDPARM	INTEGER	ARRAY	204																		
JE	IDPARM	INTEGER	ARRAY	205																		
JESMTH		INTEGER	SIMPLE	324/S	325	330																
JIC	CCNTRL	CHAR*8	SIMPLE	5	18																	
JM	ICNTRL	INTEGER	SIMPLE	32	318	324	334/W	342														
JMD2	ICNTRL	INTEGER	SIMPLE	33																		
JMP1		INTEGER	SIMPLE	318/S	319																	
JMT2	ICNTRL	INTEGER	SIMPLE	34																		
JNP	ICNTRL	INTEGER	SIMPLE	35																		
JO4	ICNTRL	INTEGER	SIMPLE	36	291																	
JO8	ICNTRL	INTEGER	SIMPLE	37	291																	
JOB	CCNTRL	CHAR*8	SIMPLE	6	19	291	334/W															
JP	IDPARM	INTEGER	ARRAY	206																		
JSP	ICNTRL	INTEGER	SIMPLE	38																		
KLIAB	ICNTRL	INTEGER	SIMPLE	39	291																	
KLIW	ICNTRL	INTEGER	SIMPLE	40	291																	
KLISST	ICNTRL	INTEGER	SIMPLE	41	291																	
KS	ICNTRL	INTEGER	SIMPLE	42	334/W																	
KSTEP	IDPARM	INTEGER	SIMPLE	207																		
KU	ICNTRL	INTEGER	SIMPLE	43	334/W																	
LC	LCNTRL	LOGICAL	ARRAY	154	155																	
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155																
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107								
				108	109																	
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151																	
LDPARM		INTEGER	UNKNOWN	211	212	213																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143																	
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144																	
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142																	
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147																	
LOG8R	ICNTRL	INTEGER	SIMPLE	44	316	317	334/W															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150																	
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140																	
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141																	
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119								
				120	121	123																
LQU	LCNTRL	LOGICAL	ARRAY	109	122	124	125	137														
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153																	
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146																	
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152																	
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145																	
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139																	

LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138																
LU		INTEGER	SIMPLE	309/S	313																
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148	320		348/W		351/W											
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149																
MACHID		CHAR*8	SIMPLE	293	294/I	335															
MATIN	ICNTRL	INTEGER	SIMPLE	45	291																
MATSNX	ICNTRL	INTEGER	SIMPLE	46																	
MATSUN	ICNTRL	INTEGER	SIMPLE	47																	
MJ	IDPARM	INTEGER	ARRAY	208																	
MLF	ICNTRL	INTEGER	ARRAY	48	291																
MROD	ICNTRL	INTEGER	SIMPLE	49	291																
MSM	ICNTRL	INTEGER	SIMPLE	51																	
NB	ICNTRL	INTEGER	SIMPLE	52	337	339															
ND	ICNTRL	INTEGER	SIMPLE	53	338	340															
NDALT	ICNTRL	INTEGER	SIMPLE	54	291																
NDAY	ICNTRL	INTEGER	SIMPLE	55																	
NDHOG	ICNTRL	INTEGER	SIMPLE	76																	
NDOUT	ICNTRL	INTEGER	SIMPLE	56																	
NDPHY	ICNTRL	INTEGER	SIMPLE	57	291																
NDRSW	ICNTRL	INTEGER	SIMPLE	57	291																
NDSHF	ICNTRL	INTEGER	SIMPLE	31	291																
NDT	ICNTRL	INTEGER	SIMPLE	58	291																
NHMS	ICNTRL	INTEGER	SIMPLE	59	291																
NHMSO	ICNTRL	INTEGER	SIMPLE	60	323	334/W															
NHMS1	IDPARM	INTEGER	SIMPLE	62																	
NHMSE	ICNTRL	INTEGER	SIMPLE	209	291	305/S	323														
NKRSH	ICNTRL	INTEGER	SIMPLE	61	291																
NLAY	ICNTRL	INTEGER	SIMPLE	50	291																
NLAYM1	ICNTRL	INTEGER	SIMPLE	63	334/W																
NLAYP1	ICNTRL	INTEGER	SIMPLE	64																	
NMLEV	ICNTRL	INTEGER	SIMPLE	65																	
NSDAY	ICNTRL	INTEGER	SIMPLE	75																	
NSEQ	ICNTRL	INTEGER	SIMPLE	66																	
NSTEP	ICNTRL	INTEGER	SIMPLE	67	291																
NVMD	ICNTRL	INTEGER	SIMPLE	69																	
NVMD0	ICNTRL	INTEGER	SIMPLE	71	323	334/W															
NVMD1	IDPARM	INTEGER	SIMPLE	73																	
NVMD2	ICNTRL	INTEGER	SIMPLE	210	291	304/S	323														
NZINIT	ICNTRL	INTEGER	SIMPLE	72	291																
OMEGA2	RCNTRL	REAL	SIMPLE	74																	
P	QANDQT	REAL	ARRAY	172																	
PHI	QANDQT	REAL	ARRAY	261	274																
PHIS	QANDQT	REAL	ARRAY	266	279																
PI	RCNTRL	REAL	ARRAY	254	267																
PI180	RCNTRL	REAL	SIMPLE	173																	
PI2	RCNTRL	REAL	SIMPLE	174																	
PIMEAN	RCNTRL	REAL	SIMPLE	175																	
PKSTD	RDPARM	REAL	SIMPLE	177	291																
PKTOP	RDPARM	REAL	SIMPLE	238																	
PLEVS	RCNTRL	REAL	SIMPLE	239																	
PSMAX	RCNTRL	REAL	ARRAY	191																	
PSMIN	RCNTRL	REAL	SIMPLE	178	291																
PSTD	RCNTRL	REAL	SIMPLE	179	291																
PTOP	RCNTRL	REAL	SIMPLE	176	291																
PZERO	RCNTRL	REAL	SIMPLE	180																	
QALT	LCNTRL	LOGICAL	SIMPLE	197																	
QANDQT		REAL	SIMPLE	98	126																
QBEG	LCNTRL	LOGICAL	UNKNOWN	253	280	283															
QDAY	LCNTRL	LOGICAL	SIMPLE	99	127																
		LOGICAL	SIMPLE	100	128																
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282																
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QUDIAG	QANDQT	REAL	ARRAY	283																	

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RADE	RCNTRL	REAL	SIMPLE	181															
RC	RCNTRL	REAL	ARRAY	198	199														
RCO	RCNTRL	REAL	SIMPLE	156	198	199													
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186	187	188					
				189	190	191	192	193	194	195	196	197							
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240	241	242	243	244	245	246	247	248	249					
				250	251	252													
RGAS	RCNTRL	REAL	SIMPLE	182															
RLAT	RDPARM	REAL	ARRAY	240															
RLATD	RDPARM	REAL	ARRAY	241	343/W														
ROCP	RCNTRL	REAL	SIMPLE	183															
ROCPDT	RDPARM	REAL	SIMPLE	242															
ROCPP1	RDPARM	REAL	SIMPLE	243															
RSDIST	RCNTRL	REAL	SIMPLE	184															
SDAY	RCNTRL	REAL	SIMPLE	185															
SEASON	RCNTRL	REAL	SIMPLE	186															
SGNP	RDPARM	REAL	ARRAY	244															
SH	QANDQT	REAL	ARRAY	265	278														
SHS	QANDQT	REAL	ARRAY	260	273														
SIG	RDPARM	REAL	ARRAY	251															
SIGE	RCNTRL	REAL	ARRAY	187	291														
SIND	RCNTRL	REAL	SIMPLE	188															
SINL	RDPARM	REAL	ARRAY	246															
SINLON	RDPARM	REAL	ARRAY	246															
SKIP		LOGICAL	UNKNOWN	292															
SMTH	QANDQT	REAL	ARRAY	255	268	326	331/S	343/W											
SMTHNL	//	REAL	ARRAY	290	291	326/S	331												
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133	291													
SOLS	RCNTRL	REAL	SIMPLE	189															
START	LDPARM	LOGICAL	SIMPLE	213	216														
T	QANDQT	REAL	ARRAY	264	277														
THSTD	RDPARM	REAL	SIMPLE	247															
THSTD2	RDPARM	REAL	SIMPLE	248															
TS	QANDQT	REAL	ARRAY	259	272														
TSTD	RCNTRL	REAL	SIMPLE	190	291														
U	QANDQT	REAL	ARRAY	262	275														
V	QANDQT	REAL	ARRAY	263	276														
VER	CCNTRL	CHAR*8	SIMPLE	10	23	333/S													
VERSAVE		CHAR*8	SIMPLE	293	295/I	297/W	333												
WSAVE	RDPARM	REAL	ARRAY	249															
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24	291													
XORDS	CORDER	CHAR*8	ARRAY	285	287														
XORDU	CORDER	CHAR*8	ARRAY	286	287														
XSA	CORDER	CHAR*8	ARRAY	288	289														
XUA	CORDER	CHAR*8	ARRAY	288	289														

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PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
DEFAULT		SUBROUTINE	323				
DEPEND		SUBROUTINE	336				
IOQ		SUBROUTINE	313	320			
POLINP		SUBROUTINE	337	338	339	340	

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00001 SUBROUTINE IOQ (LU, KOP, J, +, +)
C *****
C SUBROUTINE IOQ
PURPOSE
C UTILITY SUBROUTINE TO SKIP, READ, OR WRITE MODEL RESTART RECORDS
C USAGE
C CALLED FROM TWRITE AND INPUT
C INPUT/OUTPUT FILES USED
UNIT12 I/O READS INITIAL CONDITIONS IN INPUT
UNIT12 O WRITES RESTART FILES IN TWRITE
UNIT14 O WRITES RESTART FILES IN TWRITE
UNIT08 O WRITES RESTART RECORDS TO HISTORY IN TWRITE
C DESCRIPTION OF PARAMETERS
LU LOGICAL UNIT ON WHICH TO DO INPUT/OUTPUT
KOP CODE OF OPERATION TO PERFORM
(0 TO SKIP, 1 TO READ, 2 TO WRITE)
J LATITUDE BAND NUMBER
(0 FOR HEADER RECORD, NEGATIVE FOR ALL DATA RECORDS)
+ EOF RETURN
+ ERROR RETURN
C SUBPROGRAMS NEEDED
RIOQ
C RECORD OF MODIFICATIONS
000 21JUL83 JIM.PF ADDING CHOICE FOR DIAGNOSTICS
001 15SEP83 JIM.PF FIX TO READ VBRSTR WITHOUT DIAGNOSTICS
002 19JAN84 RAMESH MAKE IT WORK FOR MIX PRECISION
003 01FEB84 JIM.PF COMMENTS
C REMARKS:
THIS SUBROUTINE READS AND WRITES BETWEEN MODEL COMMON BLOCK
/QANDQT/ AND VBRSTR FORMAT DATA SETS
C *****
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C
C *****
C HALF/FULL PRECISION
C =====
00002 IMPLICIT HALF PRECISION (A-H,O-Z)
C
C PARAMETER STATEMENTS FOR DIMENSIONING RESOLUTION
=====
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
=====
00003 COMMON /CCNTRL/ CC0
00004 COMMON /CCNTRL/ ADATE
00005 COMMON /CCNTRL/ ATIME
00006 COMMON /CCNTRL/ JIC
00007 COMMON /CCNTRL/ JOB
00008 COMMON /CCNTRL/ CGSP06
00009 COMMON /CCNTRL/ CCSP07
00010 COMMON /CCNTRL/ CCSP08
00011 COMMON /CCNTRL/ VER
00012 COMMON /CCNTRL/ XLABEL (10)
00013 COMMON /CCNTRL/ CQS (30)
00014 COMMON /CCNTRL/ CQU (10)
00015 COMMON /CCNTRL/ DSTOP(4)
00016 COMMON /CCNTRL/ DSLWI(4)
00017 COMMON /CCNTRL/ DSSST(4)
00018 COMMON /CCNTRL/ DSALB(4)
00019 COMMON /CCNTRL/ DSGWT(4)
C
00020 EQUIVALENCE (CC0,CC(1))
00021 CHARACTER*8 CC0, CC(200)
00022 CHARACTER*8 ADATE
00023 CHARACTER*8 ATIME
00024 CHARACTER*8 JIC
00025 CHARACTER*8 JOB
00026 CHARACTER*8 CGSP06
00027 CHARACTER*8 CCSP07

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VIOQ 2
VIOQ 3
VIOQ 4
VIOQ 5
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VIOQ 7
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VIOQ 31
VIOQ 32
VIOQ 33
VIOQ 34
VIOQ 35
VREAL 2
VREAL 3
VREAL 4
VREAL 5
VRSLV 2
VRSLV 3
VRSLV 4
VRSLV 5
VRSLV 6
VCNTRL 2
VCNTRL 3
VCNTRL 4
VCNTRL 5
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VCNTRL 28
VCNTRL 29

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00028	CHARACTER*8	CCSP08	VCNTRL	30
00029	CHARACTER*8	VER	VCNTRL	31
00030	CHARACTER*8	KLABEL	VCNTRL	32
00031	CHARACTER*8	CQS	VCNTRL	33
00032	CHARACTER*8	CQU	VCNTRL	34
00033	CHARACTER*8	DSTOP	VCNTRL	35
00034	CHARACTER*8	DSLWI	VCNTRL	36
00035	CHARACTER*8	DSSST	VCNTRL	37
00036	CHARACTER*8	DSALB	VCNTRL	38
00037	CHARACTER*8	DSGWT	VCNTRL	39
			VCNTRL	40
			VCNTRL	41
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			VCNTRL	98
			VCNTRL	99
			VCNTRL	100

C
C
C
=====

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

=====

00038	COMMON /ICNTRL/	IC0		
00039	COMMON /ICNTRL/	IM		
00040	COMMON /ICNTRL/	IMD2		
00041	COMMON /ICNTRL/	IMD2P1		
00042	COMMON /ICNTRL/	NDRSW		
00043	COMMON /ICNTRL/	JM		
00044	COMMON /ICNTRL/	MD2		
00045	COMMON /ICNTRL/	JMT2		
00046	COMMON /ICNTRL/	JNP		
00047	COMMON /ICNTRL/	JO4		
00048	COMMON /ICNTRL/	JOB		
00049	COMMON /ICNTRL/	JSP		
00050	COMMON /ICNTRL/	KLIALB		
00051	COMMON /ICNTRL/	KLIGW		
00052	COMMON /ICNTRL/	KLISST		
00053	COMMON /ICNTRL/	KS		
00054	COMMON /ICNTRL/	KU		
00055	COMMON /ICNTRL/	LOGBR		
00056	COMMON /ICNTRL/	MATIN		
00057	COMMON /ICNTRL/	MATSNX		
00058	COMMON /ICNTRL/	MATSUN		
00059	COMMON /ICNTRL/	MLF	(12)	
00060	COMMON /ICNTRL/	MROD		
00061	COMMON /ICNTRL/	NKRSH		
00062	COMMON /ICNTRL/	MSM		
00063	COMMON /ICNTRL/	NB		
00064	COMMON /ICNTRL/	ND		
00065	COMMON /ICNTRL/	NDALT		
00066	COMMON /ICNTRL/	NDAY		
00067	COMMON /ICNTRL/	NDOUT		
00068	COMMON /ICNTRL/	NDPHY		
00069	COMMON /ICNTRL/	NDSHF		
00070	COMMON /ICNTRL/	NDT		
00071	COMMON /ICNTRL/	NHMS		
00072	COMMON /ICNTRL/	NHMS		
00073	COMMON /ICNTRL/	NHMS0		
00074	COMMON /ICNTRL/	NLAY		
00075	COMMON /ICNTRL/	NLAYM1		
00076	COMMON /ICNTRL/	NLAYP1		
00077	COMMON /ICNTRL/	NSDAY		
00078	COMMON /ICNTRL/	NSEQ		
00079	COMMON /ICNTRL/	ICSP53		
00080	COMMON /ICNTRL/	NSTEP		
00081	COMMON /ICNTRL/	IBLKSIZ		
00082	COMMON /ICNTRL/	NYMD		
00083	COMMON /ICNTRL/	NYMDE		
00084	COMMON /ICNTRL/	NYMDO		
00085	COMMON /ICNTRL/	NZINIT		
00086	COMMON /ICNTRL/	NMLEV		
00087	COMMON /ICNTRL/	NDHOG		
00088	COMMON /ICNTRL/	IQS (30)		
00089	COMMON /ICNTRL/	IQU (10)		
00090	COMMON /ICNTRL/	KLITOP		
00091	COMMON /ICNTRL/	KLILWI		
00092	EQUIVALENCE	(ITMIN ,IQS(1))		
00093	EQUIVALENCE	(ITMAX ,IQS(2))		
00094	EQUIVALENCE	(IPREACC ,IQS(3))		

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00095	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL 101
00096	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL 102
00097	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL 103
00098	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL 104
00099	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL 105
00100	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL 106
00101	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL 107
00102	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL 108
00103	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL 109
	C		VCNTRL 110
00104	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL 111
00105	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL 112
00106	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL 113
00107	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL 114
	C		VCNTRL 115
00108	EQUIVALENCE	(ICO,IC(1))	VCNTRL 116
00109	INTEGER	ICO, IC(200)	VCNTRL 116
	C		VCNTRL 117
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 118
	C	=====	VCNTRL 119
	C		VCNTRL 120
00110	COMMON /LCNTRL/	LCO	VCNTRL 121
00111	COMMON /LCNTRL/	QALT	VCNTRL 122
00112	COMMON /LCNTRL/	QBEG	VCNTRL 123
00113	COMMON /LCNTRL/	QDAY	VCNTRL 124
00114	COMMON /LCNTRL/	QEND	VCNTRL 125
00115	COMMON /LCNTRL/	QOUT	VCNTRL 126
00116	COMMON /LCNTRL/	QPHY	VCNTRL 127
00117	COMMON /LCNTRL/	QSHF	VCNTRL 128
00118	COMMON /LCNTRL/	SN2FLG	VCNTRL 129
00119	COMMON /LCNTRL/	QRSW	VCNTRL 130
00120	COMMON /LCNTRL/	QRSH	VCNTRL 131
00121	COMMON /LCNTRL/	LQS(30)	VCNTRL 132
00122	COMMON /LCNTRL/	LQU(10)	VCNTRL 133
	C		VCNTRL 134
00123	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL 135
00124	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL 136
00125	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL 137
00126	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL 138
00127	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 139
00128	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL 140
00129	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 141
00130	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 142
00131	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 143
00132	EQUIVALENCE	(LIICLOUD .LQS(10))	VCNTRL 144
00133	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL 145
00134	EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 146
	C		VCNTRL 147
00135	EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 148
00136	EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 149
00137	EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 150
00138	EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 151
	C		VCNTRL 152
00139	LOGICAL	QALT	VCNTRL 153
00140	LOGICAL	QBEG	VCNTRL 154
00141	LOGICAL	QDAY	VCNTRL 155
00142	LOGICAL	QEND	VCNTRL 156
00143	LOGICAL	QOUT	VCNTRL 157
00144	LOGICAL	QPHY	VCNTRL 158
00145	LOGICAL	QSHF	VCNTRL 159
00146	LOGICAL	SN2FLG	VCNTRL 160
00147	LOGICAL	QRSW	VCNTRL 161
00148	LOGICAL	QRSH	VCNTRL 162
	C		VCNTRL 163
00149	LOGICAL	LQS	VCNTRL 164
00150	LOGICAL	LQU	VCNTRL 165
00151	LOGICAL	LTMIN	VCNTRL 166
00152	LOGICAL	LTMAX	VCNTRL 167
00153	LOGICAL	LPREACC	VCNTRL 168
00154	LOGICAL	LPRECON	VCNTRL 169
00155	LOGICAL	LHFLUX	VCNTRL 170
00156	LOGICAL	LEFLUX	VCNTRL 171

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00219 COMMON /IDPARM/ JP (2,2)
 00220 COMMON /IDPARM/ KSTEP
 00221 COMMON /IDPARM/ MJ (46)
 00222 COMMON /IDPARM/ NHMS1
 00223 COMMON /IDPARM/ NYMD1

C
 C LOGICAL MODEL CONSTANTS
 C =====

00224 COMMON /LDPARM/ FILTER (46)
 00225 COMMON /LDPARM/ ITAPE
 00226 COMMON /LDPARM/ START

C
 C LOGICAL FILTER
 00227 LOGICAL ITAPE
 00228 LOGICAL START
 00229

C
 C REAL MODEL CONSTANTS
 C =====

00230 COMMON /RDPARM/ ADLDP
 00231 COMMON /RDPARM/ CON1
 00232 COMMON /RDPARM/ CON1DT
 00233 COMMON /RDPARM/ CON2
 00234 COMMON /RDPARM/ CON2DT
 00235 COMMON /RDPARM/ CON3
 00236 COMMON /RDPARM/ CON3DT
 00237 COMMON /RDPARM/ CON4
 00238 COMMON /RDPARM/ CON4DT
 00239 COMMON /RDPARM/ CON5
 00240 COMMON /RDPARM/ COSL (46)
 00241 COMMON /RDPARM/ COSLON (72)
 00242 COMMON /RDPARM/ CPD2
 00243 COMMON /RDPARM/ DXP (46)
 00244 COMMON /RDPARM/ DXYP (46)
 00245 COMMON /RDPARM/ DYP (46)
 00246 COMMON /RDPARM/ FCORLS (46)
 00247 COMMON /RDPARM/ F1DT
 00248 COMMON /RDPARM/ F2DT
 00249 COMMON /RDPARM/ H1DT
 00250 COMMON /RDPARM/ H2DT
 00251 COMMON /RDPARM/ PKSTD
 00252 COMMON /RDPARM/ PKTOP
 00253 COMMON /RDPARM/ RLAT (46)
 00254 COMMON /RDPARM/ RLATD (46)
 00255 COMMON /RDPARM/ ROCPPDT
 00256 COMMON /RDPARM/ ROCPP1
 00257 COMMON /RDPARM/ SGNP (2)
 00258 COMMON /RDPARM/ SINL (46)
 00259 COMMON /RDPARM/ SINLON (72)
 00260 COMMON /RDPARM/ THSTD
 00261 COMMON /RDPARM/ THSTD2
 00262 COMMON /RDPARM/ WSAVE (159)
 00263 COMMON /RDPARM/ DSIG (9)
 00264 COMMON /RDPARM/ SIG (9)
 00265 COMMON /RDPARM/ DSIGINV (9)

C
 C IDENTIFYING LABELS OF MODEL RESTART RECORD QUANTITIES
 C =====

00266 COMMON /CORDER/ XORDS(24),XORDU(15)
 00267 CHARACTER*8 XORDS ,XORDU

C
 C IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES
 C =====

00268 COMMON /CORDER/ XSA (23),XUA (10)
 00269 CHARACTER*8 XSA ,XUA

C
 C COMDECK VQANDQT RESOLUTION VALUES
 C =====

C IM =72
 C NLAY =9

VCNTRL 243
 VCNTRL 244
 VCNTRL 245
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 VCORDER 2
 VCORDER 3
 VCORDER 4
 VCORDER 5
 VCORDER 6
 VCORDER 7
 VCORDER 8
 VCORDER 9
 VCORDER 10
 VCORDER 11
 VCORDER 12
 VQANDQT 2
 VQANDQT 3
 VQANDQT 4
 VQANDQT 5
 VQANDQT 6

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00307          IF (J) 160, 120, 140
C          *****
C          *****
C          *****
00308          CONTINUE
00309          READ (LU,END=800,ERR=900)
00310          RETURN
C          *****
C          *****
C          *****
00311          CONTINUE
00312          READ (LU,END=800,ERR=900)
00313          RETURN
C          *****
C          *****
C          *****
00314          CONTINUE
00315          DO 180 JJ = 1, JUMP1
00316          READ (LU,END=800,ERR=900)
00317          CONTINUE
00318          RETURN
C          *****
C          *****
C          *****
00319          CONTINUE
00320          IF (J.NE.0) GOTO 240
C          *****
C          *****
C          *****
00321          CONTINUE
00322          READ (LU,END=800,ERR=900) CC, IC, LC, RC, (XORDS(K), K=1,KS),
S          (XORDU(K), K=1,KU)
00323          RETURN
C          *****
C          *****
C          *****
00324          CONTINUE
00325          CALL RIOQ (LU, J, &800, &900)
00326          RETURN
C          *****
C          *****
C          *****
00327          CONTINUE
00328          IF (J.NE.0) GOTO 340
C          *****
C          *****
C          *****
00329          CONTINUE
00330          WRITE (LU) CC, IC, LC, RC, (XORDS(K), K=1,KS),
S          (XORDU(K), K=1,KU)
00331          RETURN
C          *****
C          *****
C          *****
00332          CONTINUE
00333          IF ((KS.GT.9).AND.(KU.GT.10))
S          WRITE (LU) (( QPROG(I,K,1,J), I=1,IM), K=1,9),
S          (( QSDIAG(I,K-9,J), I=1,IM), K=10,KS),
S          (( QPROG(I,L,K,J), I=1,IM), L=1,NLAY)
S          , K=2,11),
S          (( QUDIAG(I,L,K-10,J), I=1,IM), L=1,NLAY)
S          , K=11,KU)
C          *****
00334          IF ((KS.GT.9).AND.(KU.EQ.10))
S          WRITE (LU) (( QPROG(I,K,1,J), I=1,IM), K=1,9),
S          (( QSDIAG(I,K-9,J), I=1,IM), K=10,KS),
S          *****

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VIOQ 59
VIOQ 60
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VIOQ 62
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VIOQ 127
VIOQ 128
VIOQ 129

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00335 C      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 130
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 131
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 132
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 133
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 134
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 135
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 136
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 137
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 138
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 139
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 140
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 141
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 142
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 143
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 144
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 145
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 146
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 147
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 148
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 149
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 150
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 151
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 152
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 153
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 154
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 155
      (( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VIOQ 156

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	306	304			
10000	301				
120	308	307			
140	311	307			
160	314	307			
180	317	315			
200	319	304			
220	321				
240	324	320			
300	327	304			
320	329				
340	332	328			
800	338	309	312	316	322
900	340	309	312	316	322

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE
ADATE	CCNTRL	CHAR*8	SIMPLE	4	22					
ADLDP	RDPARM	HALF	SIMPLE	230						
ALBEDO	QANDQT	HALF	ARRAY	273	286					
APHEL	RCNTRL	HALF	SIMPLE	170						
ATIME	CCNTRL	CHAR*8	SIMPLE	5	23					
BETA	RCNTRL	HALF	SIMPLE	171						
BQSDIAG	QANDQT	BIT	ARRAY	298	299					
CALTOJ	RCNTRL	HALF	SIMPLE	209						
CC	CCNTRL	CHAR*8	ARRAY	20	21	322/R		330/W		
CC0	CCNTRL	CHAR*8	SIMPLE	3	20	21				
CCNTRL		HALF	UNKNOWN	3	4	5	6	7	8	9
				14	15	16	17	18	19	10
CCSP06	CCNTRL	CHAR*8	SIMPLE	8	26					11
CCSP07	CCNTRL	CHAR*8	SIMPLE	9	27					12
CCSP08	CCNTRL	CHAR*8	SIMPLE	10	28					13
CON1	RDPARM	HALF	SIMPLE	231						
CON1DT	RDPARM	HALF	SIMPLE	232						
CON2	RDPARM	HALF	SIMPLE	233						
CON2DT	RDPARM	HALF	SIMPLE	234						
CON3	RDPARM	HALF	SIMPLE	235						
CON3DT	RDPARM	HALF	SIMPLE	236						
CON4	RDPARM	HALF	SIMPLE	237						

CON4DT	RDPARM	HALF	SIMPLE	238																		
CON5	RDPARM	HALF	SIMPLE	239																		
CORDER		HALF	UNKNOWN	266	268																	
COSD	RCNTRL	HALF	SIMPLE	172																		
COSL	RDPARM	HALF	ARRAY	240																		
COSLON	RDPARM	HALF	ARRAY	241																		
CP	RCNTRL	HALF	SIMPLE	173																		
CPD2	RDPARM	HALF	SIMPLE	242																		
CQS	CCNTRL	CHAR*8	ARRAY	13	31																	
CQU	CCNTRL	CHAR*8	ARRAY	14	32																	
DAYSPLY	RCNTRL	HALF	SIMPLE	174																		
DEC	RCNTRL	HALF	SIMPLE	175																		
DECMAX	RCNTRL	HALF	SIMPLE	176																		
DIST	RCNTRL	HALF	SIMPLE	177																		
DLAT	RCNTRL	HALF	SIMPLE	178																		
DLON	RCNTRL	HALF	SIMPLE	179																		
DSALB	CCNTRL	CHAR*8	ARRAY	18	36																	
DSGWT	CCNTRL	CHAR*8	ARRAY	19	37																	
DSIG	RDPARM	HALF	ARRAY	263																		
DSIGINV	RDPARM	HALF	ARRAY	265																		
DSLWI	CCNTRL	CHAR*8	ARRAY	16	34																	
DSSST	CCNTRL	CHAR*8	ARRAY	17	35																	
DSTOP	CCNTRL	CHAR*8	ARRAY	15	33																	
DT	RCNTRL	HALF	SIMPLE	180																		
DXP	RDPARM	HALF	ARRAY	243																		
DXYP	RDPARM	HALF	ARRAY	244																		
DYP	RDPARM	HALF	ARRAY	245																		
ECCN	RCNTRL	HALF	SIMPLE	181																		
END	HALF	UNKNOWN	309	312	316	322																
EPS	RCNTRL	HALF	SIMPLE	207																		
EPSFAC	RCNTRL	HALF	SIMPLE	208																		
F1DT	RDPARM	HALF	SIMPLE	247																		
F2DT	RDPARM	HALF	SIMPLE	248																		
FCORLS	RDPARM	HALF	ARRAY	246																		
FILTER	LDPARM	LOGICAL	ARRAY	224	227																	
GNU1	RCNTRL	HALF	SIMPLE	182																		
GNU2	RCNTRL	HALF	SIMPLE	183																		
GRAV	RCNTRL	HALF	SIMPLE	184																		
GT	QANDQT	HALF	ARRAY	274	287																	
GW	QANDQT	HALF	ARRAY	275	288																	
H1DT	RDPARM	HALF	SIMPLE	249																		
H2DT	RDPARM	HALF	SIMPLE	250																		
HEATI	RCNTRL	HALF	SIMPLE	206																		
HEATW	RCNTRL	HALF	SIMPLE	205																		
I	INTEGER	INTEGER	SIMPLE	333	333	333/C	334	334	334/C	335	335	335/C	336									
				336/C																		
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	81																		
IC	ICNTRL	INTEGER	ARRAY	108	109	322/R	330/W															
IC0	ICNTRL	INTEGER	SIMPLE	38	108	109																
ICNTRL	INTEGER	UNKNOWN	38	39	40	41	42	43	44	45	46	47	48	49								
			49	50	51	52	53	54	55	56	57	58	59	60								
			60	61	62	63	64	65	66	67	68	69	70	71								
			71	72	73	74	75	76	77	78	79	80	81	82								
			82	83	84	85	86	87	88	89	90	91	92	93								
			79																			
ICSP53	ICNTRL	INTEGER	SIMPLE	105																		
ID1ABAT	ICNTRL	INTEGER	UNKNOWN	213	214	215	216	217	218	219	220	221	222	223								
IDPARM	IDPARM	INTEGER	UNKNOWN	214																		
IDSP02	IDPARM	INTEGER	SIMPLE	97																		
IEFLUX	ICNTRL	INTEGER	UNKNOWN	98																		
IFUSION	ICNTRL	INTEGER	UNKNOWN	96																		
IHFLUX	ICNTRL	INTEGER	UNKNOWN	101																		
IICLOUD	ICNTRL	INTEGER	UNKNOWN	213																		
IJUMP	IDPARM	INTEGER	ARRAY	39																		
IM	ICNTRL	INTEGER	SIMPLE	40																		
IMD2	ICNTRL	INTEGER	SIMPLE	41																		
IMD2P1	ICNTRL	INTEGER	SIMPLE	215																		
INDEX	IDPARM	INTEGER	ARRAY	104																		
IOMEGA	ICNTRL	INTEGER	UNKNOWN	1																		
IOQ			SUBROUTINE	94																		
IPREACC	ICNTRL	INTEGER	UNKNOWN																			

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IPRECON	ICNTRL	INTEGER	UNKNOWN	96																
IQS	ICNTRL	INTEGER	ARRAY	88	92	93	94	95	96	97	98	99	100	101						
IQU	ICNTRL	INTEGER	ARRAY	102	103															
				89	104	105	106	107												
IRADLW	ICNTRL	INTEGER	UNKNOWN	107																
IRADLWG	ICNTRL	INTEGER	UNKNOWN	100																
IRADSW	ICNTRL	INTEGER	UNKNOWN	106																
IRADSWG	ICNTRL	INTEGER	UNKNOWN	99																
IROD	IDPARM	INTEGER	SIMPLE	218																
ITAPE	LDPARM	LOGICAL	SIMPLE	225	228															
ITMAX	ICNTRL	INTEGER	UNKNOWN	93																
ITMIN	ICNTRL	INTEGER	UNKNOWN	92																
IUFLUX	ICNTRL	INTEGER	UNKNOWN	102																
IVFLUX	ICNTRL	INTEGER	UNKNOWN	103																
J		INTEGER	SIMPLE	1	307	320	325	328	333	333	333	333	334	334						
JC	IDPARM	INTEGER	ARRAY	334	335	335	335	336	336											
JE	IDPARM	INTEGER	ARRAY	217																
JIC	CCNTRL	CHAR *8	SIMPLE	218																
JJ		INTEGER	SIMPLE	6	24															
JJ		INTEGER	SIMPLE	315/C																
JM	ICNTRL	INTEGER	SIMPLE	43	302															
JMD2	ICNTRL	INTEGER	SIMPLE	44																
JMP1		INTEGER	SIMPLE	302/S	315															
JMT2	ICNTRL	INTEGER	SIMPLE	45																
JNP	ICNTRL	INTEGER	SIMPLE	46																
JO4	ICNTRL	INTEGER	SIMPLE	47																
JO8	ICNTRL	INTEGER	SIMPLE	48																
JOB	CCNTRL	CHAR *8	SIMPLE	7	25															
JP	IDPARM	INTEGER	ARRAY	219																
JSP	ICNTRL	INTEGER	SIMPLE	49																
K		INTEGER	SIMPLE	322	322/C	322/C	330	330/C	330/C	333	333	333	333/C	333						
KLIALB	ICNTRL	INTEGER	SIMPLE	334	334	334/C	334/C	335	335	335/C	335/C	335/C	336	336						
KLIGW	ICNTRL	INTEGER	SIMPLE	50																
KLILWI	ICNTRL	INTEGER	SIMPLE	51																
KLISST	ICNTRL	INTEGER	SIMPLE	91																
KLITOP	ICNTRL	INTEGER	SIMPLE	52																
KOP		INTEGER	SIMPLE	90																
KOP1		INTEGER	SIMPLE	1	303															
KS	ICNTRL	INTEGER	SIMPLE	303/S	304															
KSTEP	IDPARM	INTEGER	SIMPLE	53	333	334	335	336												
KU	ICNTRL	INTEGER	SIMPLE	220																
L		INTEGER	SIMPLE	54	322	330	333	333	333	334	335	335	336							
LC	LCNTRL	LOGICAL	ARRAY	333	333/C	334/C	335	335/C	336/C											
LCO	LCNTRL	LOGICAL	SIMPLE	167	168	322/R	330/W													
LCNTRL	LCNTRL	LOGICAL	UNKNOWN	167	168	168														
		INTEGER	UNKNOWN	110	111	112	113	114	115	116	117	118	119	120						
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	121	122															
LDPARM		INTEGER	UNKNOWN	136	164															
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	224	225	226														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	128	156															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	129	157															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	127	155															
LOGBR	ICNTRL	INTEGER	SIMPLE	132	160															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	55																
LPREACC	LCNTRL	LOGICAL	UNKNOWN	135	163															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	125	153															
LQS	LCNTRL	LOGICAL	ARRAY	126	154															
				121	123	124	125	126	127	128	129	130	131	132						
LQU	LCNTRL	LOGICAL	ARRAY	133	134	149														
LRADLW	LCNTRL	LOGICAL	UNKNOWN	122	135	136	137	138	150											
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	138	166															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	131	159															
				137	165															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	130	158															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	123	151															
LU		INTEGER	SIMPLE	1	309	312	316	322	325	330	333	334	335	336						
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	133	161															
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	134	162															

MATIN	ICNTRL	INTEGER	SIMPLE	56																		
MATSNX	ICNTRL	INTEGER	SIMPLE	57																		
MATSUN	ICNTRL	INTEGER	SIMPLE	58																		
MJ	IDPARM	INTEGER	ARRAY	221																		
MLF	ICNTRL	INTEGER	ARRAY	59																		
MROD	ICNTRL	INTEGER	SIMPLE	60																		
MSM	ICNTRL	INTEGER	SIMPLE	62																		
NB	ICNTRL	INTEGER	SIMPLE	63																		
ND	ICNTRL	INTEGER	SIMPLE	64																		
NDALT	ICNTRL	INTEGER	SIMPLE	65																		
NDAY	ICNTRL	INTEGER	SIMPLE	66																		
NDHOG	ICNTRL	INTEGER	SIMPLE	87																		
NDOUT	ICNTRL	INTEGER	SIMPLE	67																		
NDPHY	ICNTRL	INTEGER	SIMPLE	68																		
NDRSW	ICNTRL	INTEGER	SIMPLE	42																		
NDSHF	ICNTRL	INTEGER	SIMPLE	69																		
NDT	ICNTRL	INTEGER	SIMPLE	70																		
NHMS	ICNTRL	INTEGER	SIMPLE	71																		
NHMSO	ICNTRL	INTEGER	SIMPLE	73																		
NHMS1	IDPARM	INTEGER	SIMPLE	222																		
NHMS2	ICNTRL	INTEGER	SIMPLE	72																		
NKRSH	ICNTRL	INTEGER	SIMPLE	61																		
NLAY	ICNTRL	INTEGER	SIMPLE	74																		
NLAYM1	ICNTRL	INTEGER	SIMPLE	75																		
NLAYP1	ICNTRL	INTEGER	SIMPLE	76																		
NMLEV	ICNTRL	INTEGER	SIMPLE	86																		
NSDAY	ICNTRL	INTEGER	SIMPLE	77																		
NSEQ	ICNTRL	INTEGER	SIMPLE	78																		
NSTEP	ICNTRL	INTEGER	SIMPLE	80																		
NYMD	ICNTRL	INTEGER	SIMPLE	82																		
NYMDO	ICNTRL	INTEGER	SIMPLE	84																		
NYMD1	IDPARM	INTEGER	SIMPLE	223																		
NYMDE	ICNTRL	INTEGER	SIMPLE	83																		
NZINIT	ICNTRL	INTEGER	SIMPLE	85																		
OMEGA2	RCNTRL	HALF	SIMPLE	185																		
P	QANDQT	HALF	ARRAY	278	291																	
PHI	QANDQT	HALF	ARRAY	283	296																	
PHIS	QANDQT	HALF	ARRAY	271	284																	
PI	RCNTRL	HALF	SIMPLE	186																		
PI180	RCNTRL	HALF	SIMPLE	187																		
PI2	RCNTRL	HALF	SIMPLE	188																		
PMEAN	RCNTRL	HALF	SIMPLE	190																		
PKSTD	RDPARM	HALF	SIMPLE	251																		
PKTOP	RDPARM	HALF	SIMPLE	252																		
PLEVS	RCNTRL	HALF	ARRAY	204																		
PSMAX	RCNTRL	HALF	SIMPLE	191																		
PSMIN	RCNTRL	HALF	SIMPLE	192																		
PSTD	RCNTRL	HALF	SIMPLE	189																		
PTOP	RCNTRL	HALF	SIMPLE	193																		
PZERO	RCNTRL	HALF	SIMPLE	210																		
QALT	LCNTRL	LOGICAL	SIMPLE	111	139																	
QANDQT	HALF	UNKNOWN		270	297	300																
QBEG	LCNTRL	LOGICAL	SIMPLE	112	140																	
QDAY	LCNTRL	LOGICAL	SIMPLE	113	141																	
QEND	LCNTRL	LOGICAL	SIMPLE	114	142																	
QOUT	LCNTRL	LOGICAL	SIMPLE	115	143																	
QPHY	LCNTRL	LOGICAL	SIMPLE	116	144																	
QPROG	QANDQT	HALF	ARRAY	270	284	285	286	287	288	289	290	291	292	293								
				294	295	296	333/W	333/W	334/W	334/W	335/W	335/W	336/W	336								
QRSH	LCNTRL	LOGICAL	SIMPLE	120	148																	
QRSW	LCNTRL	LOGICAL	SIMPLE	119	147																	
QSDIAG	QANDQT	HALF	ARRAY	297	299	333/W	334/W															
QSHF	LCNTRL	LOGICAL	SIMPLE	117	145																	
QUDIAG	QANDQT	HALF	ARRAY	300	333/W	335/W																
RADE	RCNTRL	HALF	SIMPLE	194																		
RC	RCNTRL	HALF	ARRAY	211	212	322/R	330/W															
RCO	RCNTRL	HALF	SIMPLE	169	211	212																
RCNTRL	HALF	UNKNOWN		169	170	171	172	173	174	175	176	177	178	179								
				180	181	182	183	184	185	186	187	188	189	190								
				191	192	193	194	195	196	197	198	199	200	201								

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RD Parm	HALF	UNKNOWN	202	203	204	205	206	207	208	209	210	239	240
			230	231	232	233	234	235	236	237	238	250	251
			241	242	243	244	245	246	247	248	249	250	251
			252	253	254	255	256	257	258	259	260	261	262
			263	264	265								
RGAS	RCNTRL	HALF	SIMPLE										
RLAT	RD Parm	HALF	ARRAY										
RLATD	RD Parm	HALF	ARRAY										
ROCP	RCNTRL	HALF	ARRAY										
ROCPDT	RD Parm	HALF	SIMPLE										
ROCPP1	RD Parm	HALF	SIMPLE										
RSDIST	RCNTRL	HALF	SIMPLE										
SDAY	RCNTRL	HALF	SIMPLE										
SEASON	RCNTRL	HALF	SIMPLE										
SGNP	RD Parm	HALF	ARRAY										
SH	QANDQT	HALF	ARRAY										
SHS	QANDQT	HALF	ARRAY		295								
SIG	RD Parm	HALF	ARRAY		290								
SIGE	RCNTRL	HALF	ARRAY										
SIND	RCNTRL	HALF	ARRAY										
SINL	RD Parm	HALF	SIMPLE										
SINLON	RD Parm	HALF	ARRAY										
SMTH	QANDQT	HALF	ARRAY										
SN2FLG	LCNTRL	LOGICAL	SIMPLE		285								
SOLS	RCNTRL	HALF	SIMPLE		146								
START	LD Parm	LOGICAL	SIMPLE										
T	QANDQT	HALF	ARRAY										
THSTD	RD Parm	HALF	ARRAY		229								
THSTD2	RD Parm	HALF	SIMPLE		294								
TS	RD Parm	HALF	SIMPLE										
TSTD	QANDQT	HALF	ARRAY			289							
U	RCNTRL	HALF	SIMPLE										
V	QANDQT	HALF	ARRAY										
VER	QANDQT	HALF	ARRAY		292								
WSAVE	CCNTRL	CHAR*8	SIMPLE		293								
XLABEL	RD Parm	HALF	ARRAY		29								
XORDS	CCNTRL	CHAR*8	ARRAY										
XORDU	CORDER	CHAR*8	ARRAY		12	30							
XSA	CORDER	CHAR*8	ARRAY		266	267	322/R	330/W					
XUA	CORDER	CHAR*8	ARRAY		267	269	322/R	330/W					
			ARRAY		268	269							

PROCEDURE MAP
 --NAME-----TYPE-----CLASS-----REFERENCES
 RIOQ SUBROUTINE 325
 D=STMT FN DEF, A=ARGLIST

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00001 SUBROUTINE LAPSE (J,GAM) SVL00010
C ***** SVL00020
C PURPOSE SVL00030
C COMPUTE LAPSE RATE FOR HIGH-LATITUDE MODIFIED TEMPERATURE FILIER SVL00040
C USAGE SVL00050
C CALLED FROM AVRX SVL00060
C DESCRIPTION OF PARAMETERS SVL00070
C J - INDEX FOR LATITUDE BAND SVL00080
C GAM - LAPSE RATE SVL00090
C SUBPROGRAMS NEEDED SVL00100
C RECORD OF MODIFICATIONS SVL00110
C REMARKS: SVL00120
C ***** SVL00130
C* M / A - C O M S I G M A D A T A I N C . N A S A - G S F C SVL00140
C ***** SVL00150
C CCOMDECK VREAL SVL00160
C HALF/FULL PRECISION SVL00170
C ===== SVL00180
00002 IMPLICIT REAL (A-H,O-Z) SVL00190
C SVL00200
CCOMDECK VCNTRL SVL00210
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD SVL00220
C ===== SVL00230
00003 COMMON /CCNTRL/ CC0 SVL00240
00004 COMMON /CCNTRL/ ADATE SVL00250
00005 COMMON /CCNTRL/ ATIME SVL00260
00006 COMMON /CCNTRL/ JIC SVL00270
00007 COMMON /CCNTRL/ JOB SVL00280
00008 COMMON /CCNTRL/ CCSP06 SVL00290
00009 COMMON /CCNTRL/ CCSP07 SVL00300
00010 COMMON /CCNTRL/ CCSP08 SVL00310
00011 COMMON /CCNTRL/ VER SVL00320
00012 COMMON /CCNTRL/ XLABEL (10) SVL00330
00013 COMMON /CCNTRL/ CQS (30) SVL00340
00014 COMMON /CCNTRL/ CQU (10) SVL00350
C SVL00360
00015 EQUIVALENCE (CC0,CC(1)) SVL00370
00016 CHARACTER*8 CC0, CC(200) SVL00380
00017 CHARACTER*8 ADATE SVL00390
00018 CHARACTER*8 ATIME SVL00400
00019 CHARACTER*8 JIC SVL00410
00020 CHARACTER*8 JOB SVL00420
00021 CHARACTER*8 CCSP06 SVL00430
00022 CHARACTER*8 CCSP07 SVL00440
00023 CHARACTER*8 CCSP08 SVL00450
00024 CHARACTER*8 VER SVL00460
00025 CHARACTER*8 XLABEL SVL00470
00026 CHARACTER*8 CQS SVL00480
00027 CHARACTER*8 CQU SVL00490
C SVL00500
C C SVL00510
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD SVL00520
C ===== SVL00530
00028 COMMON /ICNTRL/ IGO SVL00540
00029 COMMON /ICNTRL/ IM SVL00550
00030 COMMON /ICNTRL/ IMD2 SVL00560
00031 COMMON /ICNTRL/ IMD2P1 SVL00570
00032 COMMON /ICNTRL/ NDRSW SVL00580
00033 COMMON /ICNTRL/ JM SVL00590
00034 COMMON /ICNTRL/ JMD2 SVL00600
00035 COMMON /ICNTRL/ JMT2 SVL00610
00036 COMMON /ICNTRL/ JNP SVL00620
00037 COMMON /ICNTRL/ JO4 SVL00630
00038 COMMON /ICNTRL/ JOB SVL00640
00039 COMMON /ICNTRL/ JSP SVL00650
00040 COMMON /ICNTRL/ KLIALB SVL00660
00041 COMMON /ICNTRL/ KLIGW SVL00670
00042 COMMON /ICNTRL/ KLISST SVL00680
00043 COMMON /ICNTRL/ KS SVL00690
00044 COMMON /ICNTRL/ KU SVL00700
00045 COMMON /ICNTRL/ LOGBR SVL00710

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00046	COMMON /ICNTRL/ MATIN		\$VL00720
00047	COMMON /ICNTRL/ MATSNX		\$VL00730
00048	COMMON /ICNTRL/ MATSNX		\$VL00740
00049	COMMON /ICNTRL/ MLF (12)		\$VL00750
00050	COMMON /ICNTRL/ MROD		\$VL00760
00051	COMMON /ICNTRL/ NKRSR		\$VL00770
00052	COMMON /ICNTRL/ MSM		\$VL00780
00053	COMMON /ICNTRL/ NB		\$VL00790
00054	COMMON /ICNTRL/ ND		\$VL00800
00055	COMMON /ICNTRL/ NDALT		\$VL00810
00056	COMMON /ICNTRL/ NDAY		\$VL00820
00057	COMMON /ICNTRL/ NDOUT		\$VL00830
00058	COMMON /ICNTRL/ NDPHY		\$VL00840
00059	COMMON /ICNTRL/ NDSHF		\$VL00850
00060	COMMON /ICNTRL/ NDT		\$VL00860
00061	COMMON /ICNTRL/ NHMS		\$VL00870
00062	COMMON /ICNTRL/ NHMSE		\$VL00880
00063	COMMON /ICNTRL/ NHMS0		\$VL00890
00064	COMMON /ICNTRL/ NLAY		\$VL00900
00065	COMMON /ICNTRL/ NLAYM1		\$VL00910
00066	COMMON /ICNTRL/ NLAYP1		\$VL00920
00067	COMMON /ICNTRL/ NSDAY		\$VL00930
00068	COMMON /ICNTRL/ NSEQ		\$VL00940
00069	COMMON /ICNTRL/ ICSP53		\$VL00950
00070	COMMON /ICNTRL/ NSTEP		\$VL00960
00071	COMMON /ICNTRL/ IBLKSIZ		\$VL00970
00072	COMMON /ICNTRL/ NYMD		\$VL00980
00073	COMMON /ICNTRL/ NYMDE		\$VL00990
00074	COMMON /ICNTRL/ NYMDO		\$VL01000
00075	COMMON /ICNTRL/ NZINIT		\$VL01010
00076	COMMON /ICNTRL/ NMLEV		\$VL01020
00077	COMMON /ICNTRL/ NDHOG		\$VL01030
00078	COMMON /ICNTRL/ IQS (30)		\$VL01040
00079	COMMON /ICNTRL/ IQU (10)		\$VL01050
C			
00080	EQUIVALENCE (ITMIN .IQS(1))		\$VL01060
00081	EQUIVALENCE (ITMAX .IQS(2))		\$VL01070
00082	EQUIVALENCE (IPREACC .IQS(3))		\$VL01080
00083	EQUIVALENCE (IPRECON .IQS(4))		\$VL01090
00084	EQUIVALENCE (IHFLUX .IQS(5))		\$VL01100
00085	EQUIVALENCE (IEFLUX .IQS(6))		\$VL01110
00086	EQUIVALENCE (IFUSION .IQS(7))		\$VL01120
00087	EQUIVALENCE (IRADSWG .IQS(8))		\$VL01130
00088	EQUIVALENCE (IRADLWG .IQS(9))		\$VL01140
00089	EQUIVALENCE (IICLOUD .IQS(10))		\$VL01150
00090	EQUIVALENCE (IUFLUX .IQS(11))		\$VL01160
00091	EQUIVALENCE (IVFLUX .IQS(12))		\$VL01170
C			
00092	EQUIVALENCE (IOMEGA .IQU(1))		\$VL01180
00093	EQUIVALENCE (IDIABAT .IQU(2))		\$VL01190
00094	EQUIVALENCE (IRADSW .IQU(3))		\$VL01200
00095	EQUIVALENCE (IRADLW .IQU(4))		\$VL01210
00096	EQUIVALENCE (ISENSBL .IQU(5))		\$VL01220
00097	EQUIVALENCE (ILATENT .IQU(6))		\$VL01230
C			
00098	EQUIVALENCE (IC0,IC(1))		\$VL01240
00099	INTEGER IC0, IC(200)		\$VL01250
C			
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD			
C =====			
C			
00100	COMMON /LCNTRL/ LCO		\$VL01260
00101	COMMON /LCNTRL/ QALT		\$VL01270
00102	COMMON /LCNTRL/ QBEG		\$VL01280
00103	COMMON /LCNTRL/ QDAY		\$VL01290
00104	COMMON /LCNTRL/ QEND		\$VL01300
00105	COMMON /LCNTRL/ QOUT		\$VL01310
00106	COMMON /LCNTRL/ QPHY		\$VL01320
00107	COMMON /LCNTRL/ QSHF		\$VL01330
00108	COMMON /LCNTRL/ SN2FLG		\$VL01340
00109	COMMON /LCNTRL/ QRSW		\$VL01350
00110	COMMON /LCNTRL/ QRSH		\$VL01360
			\$VL01370
			\$VL01380
			\$VL01390
			\$VL01400
			\$VL01410
			\$VL01420

ORIGINAL PAGE IS
OF POOR QUALITY

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OF POOR QUALITY

00111	COMMON /LCNTRL/	LQS(30)	\$VL01430
00112	COMMON /LCNTRL/	LQU(10)	\$VL01440
	C		\$VL01450
00113	EQUIVALENCE	(LTMIN ,LQS(1))	\$VL01460
00114	EQUIVALENCE	(LTMAX ,LQS(2))	\$VL01470
00115	EQUIVALENCE	(LPREACC ,LQS(3))	\$VL01480
00116	EQUIVALENCE	(LPRECON ,LQS(4))	\$VL01490
00117	EQUIVALENCE	(LHFLUX ,LQS(5))	\$VL01500
00118	EQUIVALENCE	(LEFLUX ,LQS(6))	\$VL01510
00119	EQUIVALENCE	(LFUSION ,LQS(7))	\$VL01520
00120	EQUIVALENCE	(LRADSWG ,LQS(8))	\$VL01530
00121	EQUIVALENCE	(LRADLWG ,LQS(9))	\$VL01540
00122	EQUIVALENCE	(LTCLOUD ,LQS(10))	\$VL01550
00123	EQUIVALENCE	(LUFLUX ,LQS(11))	\$VL01560
00124	EQUIVALENCE	(LVFLUX ,LQS(12))	\$VL01570
	C		\$VL01580
00125	EQUIVALENCE	(LMEGA ,LQU(1))	\$VL01590
00126	EQUIVALENCE	(LDIABAT ,LQU(2))	\$VL01600
00127	EQUIVALENCE	(LRADSW ,LQU(3))	\$VL01610
00128	EQUIVALENCE	(LRADLW ,LQU(4))	\$VL01620
00129	EQUIVALENCE	(LSENSBL ,LQU(5))	\$VL01630
00130	EQUIVALENCE	(LLATENT ,LQU(6))	\$VL01640
	C		\$VL01650
00131	LOGICAL	QALT	\$VL01660
00132	LOGICAL	QBEG	\$VL01670
00133	LOGICAL	QDAY	\$VL01680
00134	LOGICAL	QEND	\$VL01690
00135	LOGICAL	QOUT	\$VL01700
00136	LOGICAL	QPHY	\$VL01710
00137	LOGICAL	QSHF	\$VL01720
00138	LOGICAL	SN2FLG	\$VL01730
00139	LOGICAL	QRSW	\$VL01740
00140	LOGICAL	QRSH	\$VL01750
	C		\$VL01760
00141	LOGICAL	LQS	\$VL01770
00142	LOGICAL	LQU	\$VL01780
00143	LOGICAL	LTMIN	\$VL01790
00144	LOGICAL	LTMAX	\$VL01800
00145	LOGICAL	LPREACC	\$VL01810
00146	LOGICAL	LPRECON	\$VL01820
00147	LOGICAL	LHFLUX	\$VL01830
00148	LOGICAL	LEFLUX	\$VL01840
00149	LOGICAL	LFUSION	\$VL01850
00150	LOGICAL	LRADSWG	\$VL01860
00151	LOGICAL	LRADLWG	\$VL01870
00152	LOGICAL	LTCLOUD	\$VL01880
00153	LOGICAL	LUFLUX	\$VL01890
00154	LOGICAL	LVFLUX	\$VL01900
	C		\$VL01910
00155	LOGICAL	LMEGA	\$VL01920
00156	LOGICAL	LDIABAT	\$VL01930
00157	LOGICAL	LRADSW	\$VL01940
00158	LOGICAL	LRADLW	\$VL01950
00159	LOGICAL	LSENSBL	\$VL01960
00160	LOGICAL	LLATENT	\$VL01970
	C		\$VL01980
00161	EQUIVALENCE	(LC0,LC(1))	\$VL01990
00162	LOGICAL	LC0, LC(200)	\$VL02000
	C		\$VL02010
	C		\$VL02020
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	\$VL02030
	C	=====	\$VL02040
00163	COMMON /RCNTRL/	RCO	\$VL02050
00164	COMMON /RCNTRL/	APHEL	\$VL02060
00165	COMMON /RCNTRL/	BETA	\$VL02070
00166	COMMON /RCNTRL/	COSD	\$VL02080
00167	COMMON /RCNTRL/	CP	\$VL02090
00168	COMMON /RCNTRL/	DAYSPY	\$VL02100
00169	COMMON /RCNTRL/	DEC	\$VL02110
00170	COMMON /RCNTRL/	DECMAX	\$VL02120
00171	COMMON /RCNTRL/	DIST	\$VL02130
00172	COMMON /RCNTRL/	DLAT	\$VL02130

00173	COMMON /RCNTRL/ DLON	SVL02140
00174	COMMON /RCNTRL/ DT	SVL02150
00175	COMMON /RCNTRL/ ECCN	SVL02160
00176	COMMON /RCNTRL/ GNU1	SVL02170
00177	COMMON /RCNTRL/ GNU2	SVL02180
00178	COMMON /RCNTRL/ GRAV	SVL02190
00179	COMMON /RCNTRL/ OMEGA2	SVL02200
00180	COMMON /RCNTRL/ PI	SVL02210
00181	COMMON /RCNTRL/ PI180	SVL02220
00182	COMMON /RCNTRL/ PI2	SVL02230
00183	COMMON /RCNTRL/ PSTD	SVL02240
00184	COMMON /RCNTRL/ PIMEAN	SVL02250
00185	COMMON /RCNTRL/ PSMAK	SVL02260
00186	COMMON /RCNTRL/ PSMIN	SVL02270
00187	COMMON /RCNTRL/ PTOP	SVL02280
00188	COMMON /RCNTRL/ RADE	SVL02290
00189	COMMON /RCNTRL/ RGAS	SVL02300
00190	COMMON /RCNTRL/ ROCP	SVL02310
00191	COMMON /RCNTRL/ RSDIST	SVL02320
00192	COMMON /RCNTRL/ SDAY	SVL02330
00193	COMMON /RCNTRL/ SEASON	SVL02340
00194	COMMON /RCNTRL/ SIGE (25)	SVL02350
00195	COMMON /RCNTRL/ SIND	SVL02360
00196	COMMON /RCNTRL/ SOLS	SVL02370
00197	COMMON /RCNTRL/ TSTD	SVL02380
00198	COMMON /RCNTRL/ PLEVS (25)	SVL02390
00199	COMMON /RCNTRL/ HEATW	SVL02400
00200	COMMON /RCNTRL/ HEATI	SVL02410
00201	COMMON /RCNTRL/ EPS	SVL02420
00202	COMMON /RCNTRL/ EPSFAC	SVL02430
00203	COMMON /RCNTRL/ CALTOJ	SVL02440
00204	COMMON /RCNTRL/ PZERO	SVL02450
	C	SVL02460
00205	EQUIVALENCE (RC0,RC(1))	SVL02470
	CHANGE TO HALF DELETE 1	SVL02480
00206	REAL RC0, RC(200)	SVL02490
	CHANGE TO HALF COMMENT 1	SVL02500
	C HALF PRECISION RC0, RC(400)	SVL02510
	C	SVL02520
	C	SVL02530
	C INTEGER MODEL CONSTANTS	SVL02540
	C =====	SVL02550
00207	COMMON /IDPARM/ IJUMP (46)	SVL02560
00208	COMMON /IDPARM/ IDSP02	SVL02570
00209	COMMON /IDPARM/ INDEK (72)	SVL02580
00210	COMMON /IDPARM/ IROD	SVL02590
00211	COMMON /IDPARM/ JC (46)	SVL02600
00212	COMMON /IDPARM/ JE (2)	SVL02610
00213	COMMON /IDPARM/ JP (2,2)	SVL02620
00214	COMMON /IDPARM/ KSTEP	SVL02630
00215	COMMON /IDPARM/ MJ (46)	SVL02640
00216	COMMON /IDPARM/ NHMS1	SVL02650
00217	COMMON /IDPARM/ NVMD1	SVL02660
	C	SVL02670
	C LOGICAL MODEL CONSTANTS	SVL02680
	C =====	SVL02690
00218	COMMON /LDPARM/ FILTER (46)	SVL02700
00219	COMMON /LDPARM/ ITAPE	SVL02710
00220	COMMON /LDPARM/ START	SVL02720
	C	SVL02730
00221	LOGICAL FILTER	SVL02740
00222	LOGICAL ITAPE	SVL02750
00223	LOGICAL START	SVL02760
	C	SVL02770
	C REAL MODEL CONSTANTS	SVL02780
	C =====	SVL02790
00224	COMMON /RDPARM/ ADLDP	SVL02800
00225	COMMON /RDPARM/ CON1	SVL02810
00226	COMMON /RDPARM/ CON1DT	SVL02820
00227	COMMON /RDPARM/ CON2	SVL02830
00228	COMMON /RDPARM/ CON2DT	SVL02840
00229	COMMON /RDPARM/ CON3	SVL02850

ORIGINAL PAGE IS
OF POOR QUALITY

00230	COMMON /RDPARM/ CON3DT				\$VL02850
00231	COMMON /RDPARM/ CON4				\$VL02850
00232	COMMON /RDPARM/ CON4DT				\$VL02870
00233	COMMON /RDPARM/ CON5				\$VL02880
00234	COMMON /RDPARM/ COSL (46)				\$VL02890
00235	COMMON /RDPARM/ COSLON (72)				\$VL02900
00236	COMMON /RDPARM/ CPD2				\$VL02910
00237	COMMON /RDPARM/ DXP (46)				\$VL02920
00238	COMMON /RDPARM/ DXYP (46)				\$VL02930
00239	COMMON /RDPARM/ DYP (46)				\$VL02540
00240	COMMON /RDPARM/ FCURLS (46)				\$VL02950
00241	COMMON /RDPARM/ F1DT				\$VL02960
00242	COMMON /RDPARM/ F2DT				\$VL02970
00243	COMMON /RDPARM/ H1DT				\$VL02980
00244	COMMON /RDPARM/ H2DT				\$VL02990
00245	COMMON /RDPARM/ PKSTD				\$VL03000
00246	COMMON /RDPARM/ PKTOP				\$VL03010
00247	COMMON /RDPARM/ RLAT (46)				\$VL03020
00248	COMMON /RDPARM/ RLATD (46)				\$VL03030
00249	COMMON /RDPARM/ ROCPDT				\$VL03040
00250	COMMON /RDPARM/ ROCP1				\$VL03050
00251	COMMON /RDPARM/ SGNP (2)				\$VL03060
00252	COMMON /RDPARM/ SINL (46)				\$VL03070
00253	COMMON /RDPARM/ SINLON (72)				\$VL03080
00254	COMMON /RDPARM/ THSTD				\$VL03090
00255	COMMON /RDPARM/ THSTD2				\$VL03100
00256	COMMON /RDPARM/ WSAVE (159)				\$VL03110
00257	COMMON /RDPARM/ JSIG (9)				\$VL03120
00258	COMMON /RDPARM/ SIG (9)				\$VL03130
00259	COMMON /RDPARM/ DSIGINV (9)				\$VL03140
C					\$VL03150
C	COMDECK VQANDQT				\$VL03160
C					\$VL03170
C	COMDECK VQANDQT RESOLUTION VALUES				\$VL03180
C	=====				\$VL03190
C	IM =72				\$VL03200
C	NLAY =9				\$VL03210
C	JM+1 =46				\$VL03220
C	NLAY*11 =99				\$VL03230
C	IM*NLAY*11 =7128				\$VL03240
C	JM/2+1 =23				\$VL03250
C					\$VL03260
C	GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)				\$VL03270
C	=====				\$VL03280
C					\$VL03290
00260	COMMON /QANDQT/ QPROG(72,9,11,46)				\$VL03300
C					\$VL03310
00261	DIMENSION PHIS (7128,1)				\$VL03320
00262	DIMENSION SMTH (7128,23)				\$VL03330
00263	DIMENSION ALBEDO (7128,1)				\$VL03340
00264	DIMENSION GT (7128,1)				\$VL03350
00265	DIMENSION GW (7128,1)				\$VL03360
00266	DIMENSION TS (7128,1)				\$VL03370
00267	DIMENSION SHS (7128,1)				\$VL03380
00268	DIMENSION P (72,99,1)				\$VL03390
C					\$VL03400
00269	DIMENSION U (72,9,11,1)				\$VL03410
00270	DIMENSION V (72,9,11,1)				\$VL03420
00271	DIMENSION T (72,9,11,1)				\$VL03430
00272	DIMENSION SH (72,9,11,1)				\$VL03440
00273	DIMENSION PHI (72,9,11,1)				\$VL03450
C					\$VL03460
00274	EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))				\$VL03470
00275	EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))				\$VL03480
00276	EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))				\$VL03490
00277	EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))				\$VL03500
00278	EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))				\$VL03510
00279	EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))				\$VL03520
00280	EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))				\$VL03530
00281	EQUIVALENCE (QPROG(1, 8,1,1),P ((1,1,1)))				\$VL03540
C					\$VL03550

ORIGINAL PAGE 13
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

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00282      EQUIVALENCE      (QPROG(1,1, 2,1),U  (1,1,1,1))      $VL03560
00283      EQUIVALENCE      (QPROG(1,1, 4,1),V  (1,1,1,1))      $VL03570
00284      EQUIVALENCE      (QPROG(1,1, 6,1),T  (1,1,1,1))      $VL03580
00285      EQUIVALENCE      (QPROG(1,1, 8,1),SH (1,1,1,1))      $VL03590
00286      EQUIVALENCE      (QPROG(1,1,10,1),PHI(1,1,1,1))      $VL03600
C
C      SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C      =====
00287      COMMON          /QANDQT/ QSDIAG(72      ,15,46)      $VL03640
00288      BIT              BQSDIAG(64, 72,15,46)      $VL03650
00289      EQUIVALENCE      (QSDIAG,BQSDIAG)          $VL03660
C
00290      COMMON          /QANDQT/ QUDIAG(72,9, 5,46)      $VL03680
C
C      COMDECK VDLAPSE
C      * * *
C      DYNAMIC SPACE VARIABLES FOR LAPSE SUBROUTINE
00291      COMMON /DLAPSE/   RHOS(72)                  $VL03730
00292      COMMON /DLAPSE/   TL(72,9)                  $VL03740
00293      COMMON /DLAPSE/   TLE(72,10)                $VL03750
00294      COMMON /DLAPSE/   GAMMA(72,9)                $VL03760
00295      DIMENSION         GAM(9)                     $VL03770
C
C
00296      IMNLAY = IM*NLAY
C
C      *****
C      *****
C      *****
C      *****
00297      TL(1,1;IMNLAY) = T(1,1,NB,J;IMNLAY)
C
00298      DO 10 L=2,NLAY
00299      LM1 = L-1
00300      ASGPLS = 1.0E0/(DSIG(LM1) + DSIG(L))
00301      TLE(1,L;IM) = ( DSIG(L) *TL(1,LM1;IM)
S          ( DSIG(LM1)+TL(1,L ;IM) )+ASGPLS
10 CONTINUE
C
00303      TLE(1,1 ;IM) = 2.0E0*TL(1,1;IM) - TLE(1,2;IM)
00304      TLE(1,NLAYP1;IM) = TS(1,J;IM)
C
C      *****
C      *****
C      *****
C      *****
00305      DO 20 L=1,NLAY
00306      LP1 = L+1
00307      RHOS(1;IM) = (P(1,NB,J;IM)+PTOP)/(TS(1,J;IM)*RGAS)
00308      GAMMA(1,L;IM) = ( TLE(1,L;IM)-TLE(1,LP1;IM) ) + RHOS(1;IM)
S          / ( P(1,NB,J;IM)+DSIG(L) )
00309      GAM(L) = - QBSSUM( GAMMA(1,L;IM) ) / IM
00310      20 CONTINUE
C
00311      RETURN
00312      END

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	302	298
20	310	305

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES
ADATE	CCNTRL	CHAR*B	SIMPLE	4
ADLDP	RDPARM	REAL	SIMPLE	224
ALBEDO	QANDQT	REAL	ARRAY	263
APHEL	RCNTRL	REAL	SIMPLE	164

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

IDSP02	IDPARM	INTEGER	SIMPLE	208																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	85																
IFUSION	ICNTRL	INTEGER	UNKNOWN	86																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	84																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	89																
IJUMP	IDPARM	INTEGER	ARRAY	207																
ILATENT	ICNTRL	INTEGER	UNKNOWN	97																
IM	ICNTRL	INTEGER	SIMPLE	29																
IMD2	ICNTRL	INTEGER	SIMPLE	307	296	301	301	301	303	303	303	304	304	307						
IMD2P1	ICNTRL	INTEGER	SIMPLE	30	307	308	308	308	308	308	309	309	304	307						
IMNLAY	ICNTRL	INTEGER	SIMPLE	31																
INDEX	IDPARM	INTEGER	SIMPLE	296/S	297	297														
IONEGA	ICNTRL	INTEGER	ARRAY	209																
IPREACC	ICNTRL	INTEGER	UNKNOWN	92																
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																
IQS	ICNTRL	INTEGER	UNKNOWN	83																
IQU	ICNTRL	INTEGER	ARRAY	78	80	81	82	83	84	85	86	87	88	89						
IRADLW	ICNTRL	INTEGER	UNKNOWN	90	91															
IRADLWG	ICNTRL	INTEGER	UNKNOWN	79	92	93	94	95	96	97										
IRADSW	ICNTRL	INTEGER	UNKNOWN	95																
IRADSWG	ICNTRL	INTEGER	UNKNOWN	88																
IROD	IDPARM	INTEGER	UNKNOWN	94																
ISENSBL	ICNTRL	INTEGER	SIMPLE	87																
ITAPE	ICNTRL	INTEGER	UNKNOWN	210																
ITMAX	IDPARM	LOGICAL	SIMPLE	96																
ITMIN	ICNTRL	INTEGER	UNKNOWN	219	222															
IUFLUX	ICNTRL	INTEGER	UNKNOWN	81																
IVFLUX	ICNTRL	INTEGER	UNKNOWN	80																
J	ICNTRL	INTEGER	UNKNOWN	90																
JC	IDPARM	INTEGER	SIMPLE	91																
JE	IDPARM	INTEGER	ARRAY	91	297	304	307	307	308											
JIC	ICNTRL	CHAR*8	ARRAY	212																
JM	ICNTRL	INTEGER	SIMPLE	6	19															
JMD2	ICNTRL	INTEGER	SIMPLE	33																
JMT2	ICNTRL	INTEGER	SIMPLE	34																
JNP	ICNTRL	INTEGER	SIMPLE	35																
JO4	ICNTRL	INTEGER	SIMPLE	36																
JOB	ICNTRL	INTEGER	SIMPLE	37																
JOB	ICNTRL	INTEGER	SIMPLE	38																
JP	IDPARM	CHAR*8	SIMPLE	7	20															
JSP	ICNTRL	INTEGER	ARRAY	213																
KLIALB	ICNTRL	INTEGER	SIMPLE	39																
KLIGW	ICNTRL	INTEGER	SIMPLE	40																
KLISST	ICNTRL	INTEGER	SIMPLE	41																
KS	ICNTRL	INTEGER	SIMPLE	42																
KSTEP	IDPARM	INTEGER	SIMPLE	43																
KU	ICNTRL	INTEGER	SIMPLE	214																
L	ICNTRL	INTEGER	SIMPLE	44																
LAPSE	ICNTRL	INTEGER	SIMPLE	298/C	299	300	301	301	301	305/C	306	308	308	308						
LC	ICNTRL	LOGICAL	SUBROUTINE	309	309															
LC0	ICNTRL	LOGICAL	ARRAY	1																
LCNTRL	ICNTRL	LOGICAL	SIMPLE	161	162															
		INTEGER	UNKNOWN	100	161	162	103	104	105	106	107	108	109	110						
LDIABAT	ICNTRL	LOGICAL	UNKNOWN	100	101	102														
LDPARM	ICNTRL	INTEGER	UNKNOWN	111	112															
LEFLUX	ICNTRL	INTEGER	UNKNOWN	126	156															
LFUSION	ICNTRL	LOGICAL	UNKNOWN	218	219	220														
LHFLUX	ICNTRL	LOGICAL	UNKNOWN	118	148															
LICLOUD	ICNTRL	LOGICAL	UNKNOWN	119	149															
LLATENT	ICNTRL	LOGICAL	UNKNOWN	117	147															
LM1	ICNTRL	LOGICAL	UNKNOWN	122	152															
LOGBR	ICNTRL	INTEGER	SIMPLE	130	160															
LOMEGA	ICNTRL	INTEGER	SIMPLE	299/S	300	301	301													
LP1	ICNTRL	LOGICAL	UNKNOWN	45																
LPREACC	ICNTRL	INTEGER	SIMPLE	125	155															
LPRECON	ICNTRL	LOGICAL	UNKNOWN	306/S	308															
LQS	ICNTRL	LOGICAL	UNKNOWN	115	145															
		ARRAY	UNKNOWN	116	146															
		ARRAY	UNKNOWN	111	113	114	115	116	117	118	119	120	121	122						

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OF POOR QUALITY.

LQU	LCNTRL	LOGICAL	ARRAY	123	124	111											
LRADLW	LCNTRL	LOGICAL	UNKNOWN	112	125	126	127	128	129	130	142						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	128	158												
LRADSW	LCNTRL	LOGICAL	UNKNOWN	121	151												
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	127	157												
LSSENSBL	LCNTRL	LOGICAL	UNKNOWN	120	150												
LTMAX	LCNTRL	LOGICAL	UNKNOWN	129	159												
LTMIN	LCNTRL	LOGICAL	UNKNOWN	114	144												
LUFLEX	LCNTRL	LOGICAL	UNKNOWN	113	143												
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	123	153												
MATIN	ICNTRL	INTEGER	UNKNOWN	124	154												
MATSNX	ICNTRL	INTEGER	SIMPLE	46													
MATSUN	ICNTRL	INTEGER	SIMPLE	47													
MJ	IDPARM	INTEGER	SIMPLE	48													
MLF	ICNTRL	INTEGER	ARRAY	215													
MROD	ICNTRL	INTEGER	ARRAY	49													
MSM	ICNTRL	INTEGER	SIMPLE	50													
NB	ICNTRL	INTEGER	SIMPLE	52													
ND	ICNTRL	INTEGER	SIMPLE	53	297	307	308										
NDALT	ICNTRL	INTEGER	SIMPLE	54													
NDAY	ICNTRL	INTEGER	SIMPLE	55													
NDHOG	ICNTRL	INTEGER	SIMPLE	56													
				77													
NDOUT	ICNTRL	INTEGER	SIMPLE	57													
NDRHY	ICNTRL	INTEGER	SIMPLE	58													
NDRSW	ICNTRL	INTEGER	SIMPLE	32													
NDSHF	ICNTRL	INTEGER	SIMPLE	59													
NDT	ICNTRL	INTEGER	SIMPLE	60													
NHMS	ICNTRL	INTEGER	SIMPLE	61													
NHMS0	ICNTRL	INTEGER	SIMPLE	63													
NHMS1	IDPARM	INTEGER	SIMPLE	216													
NHMS2	ICNTRL	INTEGER	SIMPLE	62													
NHSE	ICNTRL	INTEGER	SIMPLE	51													
NKRSH	ICNTRL	INTEGER	SIMPLE	64	296	298	305										
NLAY	ICNTRL	INTEGER	SIMPLE	65													
NLAYM1	ICNTRL	INTEGER	SIMPLE	66	304												
NLAYP1	ICNTRL	INTEGER	SIMPLE	76													
NMLEV	ICNTRL	INTEGER	SIMPLE	67													
NSDAY	ICNTRL	INTEGER	SIMPLE	68													
NSEQ	ICNTRL	INTEGER	SIMPLE	70													
NSTEP	ICNTRL	INTEGER	SIMPLE	72													
NYMD	ICNTRL	INTEGER	SIMPLE	74													
NYMD0	ICNTRL	INTEGER	SIMPLE	73													
NYMD1	IDPARM	INTEGER	SIMPLE	217													
NYMD2	ICNTRL	INTEGER	SIMPLE	75													
NZINIT	ICNTRL	INTEGER	SIMPLE	75													
OMEGA2	RCNTRL	REAL	SIMPLE	179													
P	QANDQT	REAL	ARRAY	268	281	307	308										
PHI	QANDQT	REAL	ARRAY	273	286												
PHIS	QANDQT	REAL	ARRAY	261	274												
PI	RCNTRL	REAL	ARRAY	180													
PI180	RCNTRL	REAL	SIMPLE	181													
PI2	RCNTRL	REAL	SIMPLE	182													
PIMEAN	RCNTRL	REAL	SIMPLE	184													
PKSTD	RDPARM	REAL	SIMPLE	245													
PKTOP	RDPARM	REAL	SIMPLE	246													
PLEVS	RCNTRL	REAL	ARRAY	198													
PSMAX	RCNTRL	REAL	SIMPLE	185													
PSMIN	RCNTRL	REAL	SIMPLE	186													
PSTD	RCNTRL	REAL	SIMPLE	183													
PTOP	RCNTRL	REAL	SIMPLE	187	307												
PZERO	RCNTRL	REAL	SIMPLE	204													
QALT	LCNTRL	LOGICAL	SIMPLE	101	131												
QANDQT		REAL	UNKNOWN	260	287	290											
QBEG	LCNTRL	LOGICAL	SIMPLE	102	132												
QDAY	LCNTRL	LOGICAL	SIMPLE	103	133												
QEND	LCNTRL	LOGICAL	SIMPLE	104	134												
QOUT	LCNTRL	LOGICAL	SIMPLE	105	135												
QPHY	LCNTRL	LOGICAL	SIMPLE	106	136												
QPROG	QANDQT	REAL	ARRAY	260	274	275	276	277	278	279	280	281	282	283	284	285	286

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QRSH	LCNTRL	LOGICAL	SIMPLE	110	140									
QRSW	LCNTRL	LOGICAL	SIMPLE	109	139									
QSDIAG	QANDQT	REAL	ARRAY	287	289									
QSHF	LCNTRL	LOGICAL	SIMPLE	107	137									
QUDIAG	QANDQT	REAL	ARRAY	290										
RADE	RCNTRL	REAL	SIMPLE	188										
RC	RCNTRL	REAL	ARRAY	205	206									
RCO	RCNTRL	REAL	SIMPLE	163	205	206								
RCNTRL		REAL	UNKNOWN	163	164	165	166	167	168	169	170	171	172	173
				174	175	176	177	178	179	180	181	182	183	184
				185	186	187	188	189	190	191	192	193	194	195
				196	197	198	199	200	201	202	203	204		
RDPARM		REAL	UNKNOWN	224	225	226	227	228	229	230	231	232	233	234
				235	236	237	238	239	240	241	242	243	244	245
				246	247	248	249	250	251	252	253	254	255	256
				257	258	259								
RGAS	RCNTRL	REAL	SIMPLE	189	307									
RHOS	DLAPSE	REAL	ARRAY	291	307/S	308								
RLAT	RDPARM	REAL	ARRAY	247										
RLATD	RDPARM	REAL	ARRAY	248										
ROCP	RCNTRL	REAL	SIMPLE	190										
ROCPDT	RDPARM	REAL	SIMPLE	249										
ROCPPI	RDPARM	REAL	SIMPLE	250										
RSDIST	RCNTRL	REAL	SIMPLE	191										
SDAY	RCNTRL	REAL	SIMPLE	192										
SEASON	RCNTRL	REAL	SIMPLE	193										
SGNP	RDPARM	REAL	ARRAY	251										
SH	QANDQT	REAL	ARRAY	272	285									
SHS	QANDQT	REAL	ARRAY	267	280									
SIG	RDPARM	REAL	ARRAY	258										
SIGE	RCNTRL	REAL	ARRAY	194										
SIND	RCNTRL	REAL	SIMPLE	195										
SINL	RDPARM	REAL	ARRAY	252										
SINLON	RDPARM	REAL	ARRAY	253										
SMTH	QANDQT	REAL	ARRAY	262	275									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	108	138									
SOLS	RCNTRL	REAL	SIMPLE	196										
START	LDPARM	LOGICAL	SIMPLE	220	223									
T	QANDQT	REAL	ARRAY	271	284	297								
THSTD	RDPARM	REAL	SIMPLE	254										
THSTD2	RDPARM	REAL	SIMPLE	255										
TL	DLAPSE	REAL	ARRAY	292	297/S	301	301	303						
TLE	DLAPSE	REAL	ARRAY	293	301/S	303/S	303	304/S	308	308				
TS	QANDQT	REAL	ARRAY	266	279	304	307							
TSTD	RCNTRL	REAL	SIMPLE	197										
U	QANDQT	REAL	ARRAY	269	282									
V	QANDQT	REAL	ARRAY	270	283									
VER	CCNTRL	CHAR*8	SIMPLE	11	24									
WSAVE	RDPARM	REAL	ARRAY	256										
XLABEL	CCNTRL	CHAR*8	ARRAY	12	25									

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
QBSSUM	REAL	INTRINSIC	309	

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00001      SUBROUTINE LINKHO(LLAY,NFLW,IDAY,LATD,JNP,IBB)
C * *
C RADIATION AND SOURCE TERM FIELDS
00002      COMMON /RADCOM/ AS(72,9), RE(72,10)
00003      COMMON /RADCOM/ PL(72,9), PLE(72,10)
00004      COMMON /RADCOM/ PLK(72,9), PLKE(10)
00005      COMMON /RADCOM/ TL(72,9), TLE(72,10)
00006      COMMON /RADCOM/ TG(72), TH(72,9)
00007      COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00008      COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00009      COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00010      COMMON /RADCOM/ RH(72,9)
00011      COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00012      COMMON /RADCOM/ HH(72,9), HHE(72,10)
00013      COMMON /RADCOM/ HHS(72,9)
00014      COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00015      COMMON /RADCOM/ CXDE(9)
00016      COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00017      COMMON /RADCOM/ AL(72,10)
00018      COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
00019      COMMON /RADCOM/ TOPABS(72)
00020      COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00021      COMMON /RADCOM/ TCOND(9), TPENE(9)
00022      COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
00023      COMMON /RADCOM/ FK(5), XK(5), NFK
00024      COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
00025      COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00026      COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)
00027      COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)
00028      COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL
00029      COMMON /RADCOM/ SG(72), SP(72)
00030      COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB
00031      COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)
00032      COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)
00033      LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST
C
00034      DIMENSION TO3(19,19), TI1(19), TI2(19)
00035      COMMON /WUDATA/ TO1(19,5), TO2(19,5), TRO3(19,19,5)
00036      COMMON /WUDATA/ CTINF(19,2), CTRANS(19,19,2), CTIN(19,2)
00037      DIMENSION DP(19)
00038      DIMENSION G(2), C(10),
00039      1APRI(5), BPRI(5), X(10), CNUCUB(10), DELNU(10)
      DIMENSION BG(10), CM(19), BB1(10), SS1(10), WTRINF(19,10),
00040      1TINF(19,10), IUP(9)
      DIMENSION CAPPSI(37,10), CONT(37), S(10,10),
      1TRAD(21), R(19,19,11), P(37), PHI(37), W(37), VAR(19),
      2 BB(21,11), SS(21,11), CAP(37,10), T(37), O(37)
C
C DATA
C K, KJ, PH, AV1, NLE, TTT, SURFL, BB, PLE, TINF,
C L, KK, PM, CMI, PDG, CAP1, SURFU, BG, SS1, TRAD,
C M, LA, Q1, DP1, PDP, CAP2, TERM1, CM, TI1, TRO3,
C N, LL, Q2, DP2, PDQ, CMI1, TERM2, DP, TI2, CTINF,
C AG, L2, TS, III, PDT, NLEV, TRAD1, PL, TO1, CAPPSI,
C AV, L3, TT, JJJ, SSB, PHII, IJTEST, SS, TO2, CTRANS,
C CG, NF, TI, JM1, SSD, TERM, P, BB1, TO3, WTRINF,
C II, NK, T2, KKK, SUM, CONT1, Q, CAP, VAR, R,
C IJ, NN, XX, LAY, TRB, CONT2, S, IUP, CONT,
C JJ, PD, YY, NFL, TRD, LLLAY, T, PHI, CTIN,
C /9232*Z00000000/
00041      DATA APRI /0., 9.08, 15.1, 13.469, 21.235/
00042      DATA BPRI /0., -38.1, -54.1, -120., -74.94/
00043      DATA G /27.15, 21.76/
00044      DATA C /1100., 217.0319, 18.46318, 1.49369, .086965,
      1 .014317, 1.8675, 51.31344, 350.0512, 26.79471/
00045      DATA X /201.418, 474.771, 633.028, 834.446, 1050.25,
      11438.7, 1834.34, 2014.18, 2301.92, 2733.53/
00046      DATA CNUCUB /102.658, 1344.47, 3186.9, 7299.53,
      114553.9, 37412., 77542.8, 102658., 153240., 256609./
00047      DATA DELNU /280., 100., 120., 160., 140., 400., 150.,
      VLINKHO 2
      VRADCOM 2
      VRADCOM 3
      VRADCOM 4
      VRADCOM 5
      VRADCOM 6
      VRADCOM 7
      VRADCOM 8
      VRADCOM 9
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      VRADCOM 34
      VRADCOM 35
      VRADCOM 36
      VLINKHO 4
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      VLINKHO 38

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00048      1100.,300.,300./
00049      DATA GRNDP,P1,P2,XY,NFF/1.013E6,1.E3,5.E3,5.89527,10/
          DATA KURT/0/
          CALL ERRSET(207,256,-1,1,0,209)

00050      LAY=LLAY-1
00051      NF=5
00052      NFLW=NFF
00053      NFL=NFLW+1
00054      LA=LAY-1
00055      LLLAY=LLAY+1
00056      NLEV=LLAY*4+1
00057      NLE=NLEV-2
00058      L2=LLAY*2+1
00059      LL=L2+1
00060      L3=LL+1
00061      K=0
00062      DO 2555 I=1,LLAY
00063      IF(SHL(1BB,I) .EQ. 0.) SHL(1BB,I)=1.E-8
00064      PL(1BB,I)=PL(1BB,I)+1.E3
00065      PLE(1BB,I)=PLE(1BB,I)+1.E3
00066      IF(CLOUD(1BB,I) .GT. 0.) K=1
00067      IUP(I)=K
2555      IF(SHG(1BB) .EQ. 0.) SHG(1BB)=1.E-8
00068      PLE(1BB,LLLAY)=PLE(1BB,LLLAY)+1.E3
00069      DP1=P2-P1
00070      DP2=PLE(1BB,1)-P2
00071      CALL ZEITBEG(8HSTRATM )
00072      CALL STRATM(T1,T2,1DAY,LATD)
00073      CALL ZEITEND
00074      DO 2324 J=1,LLAY
00075      JJ=2*J
00076      IJ=4*J
00077      DP(JJ-1)=-{(PLE(1BB,J)-PL(1BB,J))/2.
00078      DP(JJ)=-{(PL(1BB,J)-PLE(1BB,J+1))/2.
00079      P(IJ-3)=PLE(1BB,J)
00080      P(IJ-2)=PLE(1BB,J)+DP(JJ-1)
00081      P(IJ-1)=PL(1BB,J)
00082      P(IJ) =PL(1BB,J)+DP(JJ)
00083      PHI(IJ-1)=P(IJ-1)/GRNDP
00084      PHI(IJ-2)=P(IJ-2)/GRNDP
00085      PHI(IJ-3)=P(IJ-3)/GRNDP
00086      PHI(IJ) = P(IJ )/GRNDP
00087
00088      2324 CONTINUE
00089      P(NLEV)=PLE(1BB,LLLAY)
00090      PHI(NLEV)=P(NLEV)/GRNDP
00091      IF(KURT .EQ. 1) GO TO 9000
00092      DO 20 N=1,2
00093      DO 20 I=3,21
00094      READ(55,10) GTINF(I-2,N),CTIN(I-2,N),(CTRANS(J-2,I-2,N),J=3,I)
00095      10 FORMAT(13F6.4)
00096      20 CONTINUE
00097      DO 80 N=1,2
00098      DO 80 I=1,L2
00099      DO 80 J=1,I
00100      80 CTRANS(I,J,N)=CTRANS(J,I,N)
00101      DO 6 N=1,5
00102      READ(55,9)(TO1(I,N),I=1,L2)
00103      READ(55,9)(TO2(I,N),I=1,L2)
00104      DO 7 I=1,L2
00105      7 READ(55,9)(TRO3(I,J,N),J=1,L2)
00106      9 FORMAT(10F8.5)
00107      6 CONTINUE
00108      9000 KURT=1
00109      CALL ZEITBEG(8HOSINT )
00110      CALL OSINT(TO1,TO2,TRO3,TI1,TI2,TO3,JALB)
00111      CALL ZEITEND
00112      CONT1=EXP(1745./T1-XY)
00113      CONT2=EXP(1745./T2-XY)
00114      TS=TLE(1BB,LLLAY)
          VLINKHO 39
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          VLINKHO 109

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00115      DO 5354 I=1,3
00116      T(I)=TL( IBB,I)
00117      5354 CONTINUE
00118      DO 11 I=1,LAY
00119      IF(SHL( IBB,I+1).LE.1.E-8.OR. SHL( IBB,I).LE.1.E-8)GO TO 7777
00120      PDQ= SHL( IBB,I)/SHL( IBB,I+1)
00121      GO TO 7778
00122      7777 PDQ=1.
00123      7778 CONTINUE
00124      PDT= TL( IBB,I+1)-TL( IBB,I)
00125      PDP=ALOG(PL( IBB,I)/PL( IBB,I+1))
00126      PD=PDT/PDP
00127      L=(2-I)*(LA-I)
00128      IF(L .LE. 0) GO TO 12
00129      M=2
00130      IF (I .EQ. 1) M=3
00131      DO 13 K=1,M
00132      IF (I .EQ. 1) GO TO 14
00133      JJ=NLE+K
00134      PDG=ALOG(P(JJ)/P(NLEV))
00135      AV=ALOG(P(NLE)/P(NLEV))
00136      T(JJ)=TS-(TS-TL( IBB,LLAY))*PDG/AV
00137      PDG=PDG/AV
00138      IF(SHG( IBB).LE.1.E-8)GO TO 1256
00139      Q(JJ)=SHG( IBB)*(SHL( IBB,LLAY)/SHG( IBB))*PDG
00140      GO TO 15
00141      14 JJ=4-K
00142      PDG=ALOG(P(JJ)/PL( IBB,I+1))/PDP
00143      IF(SHL( IBB,I).LE.1.E-8)GO TO 1256
00144      Q(JJ)=SHL( IBB,I+1)*PDQ*PDG
00145      IF(SHL( IBB,I+1).LE.1.E-8)Q(JJ)=SHL( IBB,I)
00146      15 CONTINUE
00147      TT=(T(JJ)-260.)*1.E-3
00148      TTT=TT*TT
00149      CONT(JJ)=EXP(1745./T(JJ)-XY)
00150      IF(Q(JJ) .LE. .00001) GO TO 1256
00151      CONT(JJ)=CONT(JJ)*Q(JJ)*PHI(JJ)*Q(JJ)
00152      GO TO 1257
00153      1256 CONTINUE
00154      CONT(JJ)=0.
00155      Q(JJ)=0.
00156      DO 1333 N=1,NFLW
00157      1333 CAP(JJ,N)=0.
00158      GO TO 12
00159      1257 CONTINUE
00160      DO 19 N=1,NFLW
00161      CAPPST(JJ,N)=1.
00162      IF(N .GT. NF) GO TO 5859
00163      CAPPST(JJ,N)=EXP(APRI(N)*TT+BPRI(N)*TTT)
00164      5859 CONTINUE
00165      CAP(JJ,N)=Q(JJ)*CAPPST(JJ,N)*PHI(JJ)
00166      19 CONTINUE
00167      18 CONTINUE
00168      13 CONTINUE
00169      12 KJ=4*I-1
00170      DO 11 K=1,4
00171      JJ=KJ+K
00172      PDG=ALOG(P(JJ)/PL( IBB,I+1))
00173      T(JJ)=TL( IBB,I+1)-PDG*PD
00174      IF(SHL( IBB,I).LE.1.E-8.AND. SHL( IBB,I+1).LE.1.E-8) GO TO 4300
00175      IF(SHL( IBB,I).LE.1.E-8.AND. K .EQ. 1) GO TO 4300
00176      IF(SHL( IBB,I+1).LE.1.E-8.AND.K .GT. 2) GO TO 4300
00177      IF(SHL( IBB,I+1).LE.1.E-8.AND.K .LE. 2) GO TO 4302
00178      PDG=PDG/PDP
00179      Q(JJ)=SHL( IBB,I+1)*PDQ*PDG
00180      GO TO 4301
00181      4302 Q(JJ)=Q(JJ-1)
00182      4301 CONTINUE
00183      TT=(T(JJ)-260.)*1.E-3
00184      TTT=TT*TT
00185      CONT(JJ)=EXP(1745./T(JJ)-XY)

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00186     CONT(JJ)=CONT(JJ)*Q(JJ)*PHI(JJ)*Q(JJ)
00187     DO 21 N=1,NFLW
00188     CAPPSE(JJ,N)=1.
00189     IF(N.GT. NF) GO TO 5858
00190     CAPPSE(JJ,N)=EXP(APRI(N)*TT*BPRI(N)*TTT)
00191 5858  CONTINUE
00192     CAP(JJ,N)=Q(JJ)*CAPPSE(JJ,N)-PHI(JJ)
00193     21 CONTINUE
00194     GO TO 11
00195 4300  Q(JJ)=0.
00196     CONT(JJ)=0.
00197     DO 2333 N=1,NFLW
00198 2333  CAP(JJ,N)=0.
00199     11 CONTINUE
00200     TRAD1=T1
00201     TRAD(1)=T2
00202     TRAD(2)=T(1)
00203     DO 30 I=3,NLEV,2
00204     K=(I+1)/2+1
00205     30  TRAD(K)=T(I)
00206     TRAD(L3)=TS*2.-TL(1BB,LLAY)
00207     DO 1000 N=1,NFLW
00208     DO 1100 I=1,L3
00209     XX=X(N)/TRAD(I)
00210     YY=EXP(XX)-1.
00211     BB(I,N)=CNUCUB(N)/YY
00212     SS(I,N)=BB(I,N)*XX*(YY+1.)/(YY*TRAD(I))
00213 1100  CONTINUE
00214     BG(N)=CNUCUB(N)/(EXP(X(N)/TG(1BB))-1.)
00215     XX=X(N)/TRAD1
00216     YY=EXP(XX)-1.
00217     BB1(N)=CNUCUB(N)/YY
00218     SS1(N)=BB1(N)*XX*(YY+1.)/(YY*TRAD1)
00219 1000  CONTINUE
00220     CM(1)=0
00221     DO 108 J=2,L2
00222     L=J/2
00223     JJ=2*J-1
00224     CM(J)=CM(J-1)*(CONT(JJ)+4.*CONT(JJ-1)+CONT(JJ-2))*DP(J-1)
00225     108 CONTINUE
00226     Q1=Q(1)
00227     Q2=Q(1)
00228     DO 301 N=1,NFLW
00229     DO 301 I=1,L2
00230     DO 301 J=1,I
00231     R(I,J,N)=1.
00232 301  R(J,I,N)=1.
00233     DO 100 N=1,NFLW
00234     NN=N-4
00235     NK=N-3
00236     CG=0.
00237     IF(N.EQ. 5 .OR. N.EQ. 6) CG=G(NN)
00238     VAR(1)=0.0
00239     DO 200 J=2,L2
00240     L=J/2
00241     JJ=2*J-1
00242     VAR(J)=VAR(J-1)+(CAP(JJ,N)+4.*CAP(JJ-1,N)+CAP(JJ-2,N))*
1DP(J-1)/2940.
00243     JM1=J-1
00244     DO 300 I=2,JM1
00245     M=((I/2)*2-1)*((I/2)*2-I)+((J/2)*2-J)*((J/2)*2-J)
00246     IF(M.EQ. 0) GO TO 300
00247     PM=VAR(J)-VAR(I)
00248     AV=(CM(J)-CM(I))
00249     PD=CG*AV+SQRT(C(N)*PM)
00250     IF(PD.GT. 9.) GO TO 2896
00251     R(I,J,N)=EXP(-PD)
00252     IF(N.LT. 4 .OR. N.GT. 6) GO TO 25
00253     IF(N.EQ. 6) GO TO 26
00254     R(I,J,N)=R(I,J,N)*CTRANS(I,J,NK)

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00255 GO TO 25
00256 26 R(I,J,N)=R(I,J,N)*TO3(I,J)
00257 GO TO 25
00258 2896 CONTINUE
00259 R(I,J,N)=0.
00260 25 R(J,I,N)=R(I,J,N)
00261 300 CONTINUE
00262 PM=VAR(J)
00263 AV=CM(J)
00264 PD=CG *AV+SQRT (C(N)*PM)
00265 IF(PD .GT. 9.) GO TO 1896
00266 R(I,J,N)=EXP(-PD)
00267 IF(N.LT. 4 .OR. N .GT. 6) GO TO 85
00268 IF(N .EQ. 6) GO TO 86
00269 R(I,J,N)=R(I,J,N)*CTRANS(1,J,NK)
00270 GO TO 85
00271 86 R(I,J,N)=R(I,J,N)*TO3(1,J)
00272 GO TO 85
00273 1896 CONTINUE
00274 R(I,J,N)=0.
00275 85 R(J,I,N)=R(1,J,N)
00276 200 CONTINUE
00277 IF( N .GT. NF) GO TO 111
00278 TT=(T1-260.)*1.E-3
00279 TTT=TT*TT
00280 CAP1=EXP(APRI(N)*TT+BPRI(N)*TTT)
00281 TT=(T2-260.)*1.E-3
00282 TTT=TT*TT
00283 CAP2=EXP(APRI(N)*TT+BPRI(N)*TTT)
00284 GO TO 112
00285 111 CAP1=1.
00286 CAP2=1.
00287 112 TERM1=(CAP2*Q2*P2/GRNDP+ CAP(1,N))*DP2 /1960.
00288 TERM=TERM1+(CAP1*Q1 *P1+CAP2*Q2*P2)*DP1 /(1960.*GRNDP)
00289 CMI1=(CONT2*Q2*P2*DP2 *Q2/GRNDP+ CONT(1)*DP2 )/1960.
00290 CMI=CMI1+(CONT1*Q1*P1*DP1 *Q1+CONT2*Q2*P2*DP1 *Q2)/(1960.*GRNDP)
00291 DO 100 I=1,L2
00292 PHII=TERM+VAR(I)
00293 PH=TERM1+VAR(I)
00294 AV1=CMI1 *CM(I)
00295 AV=CMI1 +CM(I)
00296 PD=CG *AV1+SQRT(C(N)*PH)
00297 IF( PD.GT. 9.)GO TO 5890
00298 TINF(I,N)=EXP(-CG *AV -SQRT(C(N)*PHII))
00299 WTRINF(I,N)=EXP(-PD)
00300 IF(N .LT. 4 .OR. N.GT. 6) GO TO 100
00301 IF(N .EQ. 6) GO TO 101
00302 TINF(I,N)= TINF(I,N)*CTINF(I,NK)
00303 WTRINF(I,N)=WTRINF(I,N)*CTIN(I,NK)
00304 GO TO 100
00305 101 TINF(I,N)=TINF(I,N)*TI1(I)
00306 WTRINF(I,N)=WTRINF(I,N)*TI2(I)
00307 GO TO 100
00308 5890 CONTINUE
00309 TINF(I,N)=0.
00310 WTRINF(I,N)=0.
00311 100 CONTINUE
00312 DO 507 I=1,21
00313 SS(I,NFL)=0.
00314 DO 507 N=1,NFLW
00315 SS(I,NFL)=SS(I,NFL)+SS(I,N)*DELNU(N)
00316 507 CONTINUE
00317 DO 508 J=1,L2
00318 DO 508 I=1,L2
00319 R(I,J,NFL)=0.
00320 DO 605 N=1,NFLW
00321 R(I,J,NFL)=R(I,J,NFL)+R(I,J,N)*SS(I+1,N)*DELNU(N)
00322 605 CONTINUE
00323 R(I,J,NFL)=R(I,J,NFL)/SS(I+1,NFL)
00324 508 CONTINUE
C DO QUADRATURE

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00325      DO 2000 I=1,LLAY
00326      III=2*I
00327      II=III-1
00328      SUM=0.
00329      SURFL=0.
00330      SURFU=0.
00331      K=1
00332      IF(I .EQ. 1) GO TO 3366
00333      IF(I .EQ. LLLAY .AND. IUP(I-1) .EQ. LLAY) GO TO 2115
00334      IF(I .GT. IUP(I-1))      K=IUP(I-1)+1
00335 3366 CONTINUE
00336      KKK=K*2
00337      KK=KKK-1
00338      DO 2100 J=K,LLAY
00339      S(I,J)=0.
00340      JJJ=2*J
00341      JJ=JJJ-1
00342      IF(J .EQ. IUP(J)) GO TO 2115
00343      IJTEST=(I-J)*(2*(I-J)-3)
00344      IF(IJTEST) 2081,2082,2083
00345 2081 DO 2210 N=1,NFLW
00346      IF(R(II-1,II,N) .LT. .98 ) GO TO 3053
00347      AG=((BB(III-1,N)-BB(III,N))*(1.+R(II-1,II,N))+
188(BB(III-1,N))*R(II-1,II,N)+R(II-2,II,N)))/2.
      GO TO 3054
00348 3053 CONTINUE
00349      TRB=.125*(6.*R(JJ+1,II,N)+3.*R(JJ,II,N)-R(JJ+2,II,N))
00350      SSB=.125*(6.*SS(JJJ,N)+3.*SS(JJJ+1,N)-SS(JJJ-1,N))
00351      TERM2=(TRAD(JJJ)-TRAD(JJJ+1))*(SS(JJJ,N)*R(JJ,II,N)+4.*SSB*TRB+
00352      +SS(JJJ+1,N)*R(JJ+1,II,N))/6.
00353      IF(R(II-1,II,N) .GE. .7) GO TO 1515
00354      TERM1=(1./6.+R(II-1,II,N))*(BB(III-1,N)-BB(III,N))
00355      AG=TERM1+TERM2
00356      GO TO 3054
00357 1515 CONTINUE
00358      TRD=.125*(6.*R(JJ+1,II,N)+3.*R(JJ+2,II,N)-R(JJ,II,N))
00359      SSD=.125*(6.*SS(JJJ+2,N)+3.*SS(JJJ+1,N)-SS(JJJ-3,N))
00360      AG=TERM2
      1-(TRAD(JJJ+1)-TRAD(JJJ+2))*(SS(JJJ+1,N)*R(JJ+1,II,N)+4.*
      2SSD*TRD+SS(JJJ+2,N)*R(JJ+2,II,N))/6.
00361 3054 CONTINUE
00362      S(I,J)=S(I,J)+AG      *DELNU(N)
00363 2210 CONTINUE
00364      GO TO 2400
00365 2082 DO 2220 N=1,NFLW
00366      IF(R(II+1,II,N) .LT. .98 ) GO TO 3063
00367      AG=((BB(III,N)-BB(III+1,N))*(1.+R(II+1,II,N))+
188(BB(III+2,N))*R(II+1,II,N)+R(II+2,II,N)))/2.
      GO TO 3064
00368 3063 CONTINUE
00369      TRD=.125*(6.*R(JJ+1,II,N)+3.*R(JJ+2,II,N)-R(JJ,II,N))
00370      SSD=.125*(6.*SS(JJJ+2,N)+3.*SS(JJJ+1,N)-SS(JJJ-3,N))
00371      TERM2=(TRAD(JJJ+1)-TRAD(JJJ+2))*(SS(JJJ+2,N)*R(JJ+2,II,N)+
00372      14.*SSD*TRD+SS(JJJ+1,N)*R(JJ+1,II,N))/6.
00373      IF(R(II+1,II,N) .GE. .7) GO TO 1616
00374      TERM1=(1./6.+R(II+1,II,N))*(BB(III,N)-BB(III+1,N))
00375      AG=TERM1+TERM2
00376      GO TO 3064
00377 1616 CONTINUE
00378      TRB=.125*(6.*R(JJ+1,II,N)+3.*R(JJ,II,N)-R(JJ+2,II,N))
00379      SSB=.125*(6.*SS(JJJ,N)+3.*SS(JJJ+1,N)-SS(JJJ-1,N))
00380      AG=(TRAD(JJJ)-TRAD(JJJ+1))*(SS(JJJ,N)*R(JJ,II,N)+4.*SSB*TRB+
      1SS(JJJ+1,N)*R(JJ+1,II,N))/6.
      AG=AG+TERM2
00381 3064 CONTINUE
00382      S(I,J)=S(I,J)+AG      *DELNU(N)
00383 2220 CONTINUE
00384      GO TO 2400
00385 2083 N=NFLW
00386      TRB=.125*(6.*R(JJ+1,II,N)+3.*R(JJ,II,N)-R(JJ+2,II,N))
00387      SSB=.125*(6.*SS(JJJ,N)+3.*SS(JJJ+1,N)-SS(JJJ-1,N))
00388

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00389 TRD=.125*(6.*R(JJ+1,II,N)+3.*R(JJ+2,II,N)-R(JJ,II,N))
00390 SSD=.125*(6.*SS(JJJ+2,N)+3.*SS(JJJ+1,N)-SS(JJJ+3,N))
00391 TERM2=(TRAD(JJJ)-TRAD(JJJ+1))*SS(JJJ,N)*R(JJ,II,N)+4.*SSB*TRB+
+SS(JJJ+1,N)*R(JJ+1,II,N))/6.
1+(TRAD(JJJ)-TRAD(JJJ+2))*SS(JJJ+1,N)*R(JJ+1,II,N)+4.*
2SSD*TRD+SS(JJJ+2,N)*R(JJ+2,II,N))/6.
00392 S(I,J)=S(I,J)+TERM2
00393 2400 CONTINUE
C WRITE(6,88) I,J, S(I,J)
C 88 FORMAT(2X,2I5,E12.5)
SUM=SUM+S(I,J)
00394 2100 CONTINUE
00395 2115 CONTINUE
00396 S(I,LLAY)=0.
00397 IF(I.EQ.1) GO TO 8
00398 IF(I.EQ.LLAY.AND.IUP(I-1).EQ.LLAY) J=LLAY
00399 8 CONTINUE
00400 IF(J.EQ.LLAY) GO TO 2156
00401 IF(J.EQ.IUP(J)) GO TO 2512
00402 2156 DO 2500 N=1,NFLW
00403 SURFL=SURFL+(BG(N)-BB(LL,N))*R(L2,II,N)*DELNU(N)
00404 2512 IF(I.EQ.1) GO TO 2556
00405 IF(IUP(I-1).NE.0) GO TO 2510
00406 2556 DO 2501 N=1,NFLW
00407 S(I,LLAY)=S(I,LLAY)+(TINF(II,N)*SS1(N)+4.*WTRINF(II,N)*SS(1,N)+
00408 TR(1,II,N)*SS(2,N))*{T1-T(I)}/6.*DELNU(N)
00409 SURFU=SURFU+BB1(N)*TINF(II,N)*DELNU(N)
00410 2510 CONTINUE
00411 RE(1BB,I)=SURFL+SURFU-SUM-S(I,LLAY)
00412 RE(1BB,I)=RE(1BB,I)*.2064E-2
00413 2000 CONTINUE
00414 DO 5552 I=1,LLAY
00415 PL(1BB,I)=PL(1BB,I)+1.E-3
00416 PLE(1BB,I)=PLE(1BB,I)+1.E-3
00417 5552 CONTINUE
00418 PLE(1BB,LLAY)=PLE(1BB,LLAY)+1.E-3
00419 RETURN
00420 END

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	95	94				
100	311	233	291	300	304	307
1000	219	207				
101	305	301				
108	225	221				
11	199	118	170	194		
1100	213	208				
111	285	277				
112	287	284				
12	169	128				
1256	153	138	143	150		
1257	159	152				
13	168	131				
1333	157	156				
14	141	132				
15	146	140				
1515	357	353				
1616	377	373				
18	167	158				
1896	273	265				
19	166	160				
20	96	92	93			
200	276	239				
2000	413	325				
2081	345	344				
2082	365	344				
2083	386	344				
21	193	187				
2100	395	338				

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GM1		REAL	SIMPLE	289/S	290	294												
CNUCUB		REAL	ARRAY	38	46/I	211	214	217										
CONT		REAL	ARRAY	40	149/S	151/S	151	154/S	185/S	186/S	186	195/S	224	224				
CONT1		REAL	SIMPLE	224	289													
CONT2		REAL	SIMPLE	112/S	290													
COSZ	RADCOM	REAL	ARRAY	113/S	289	290												
CTIN	WUDATA	REAL	ARRAY	28														
CTINF	WUDATA	REAL	ARRAY	36	94/R	303												
CTRANS	WUDATA	REAL	ARRAY	36	94/R	302												
CVQ	RADCOM	REAL	ARRAY	36	94/R	100/S	100	254	269									
CVT	RADCOM	REAL	ARRAY	14														
CXDE	RADCOM	REAL	ARRAY	14														
CXL	RADCOM	REAL	ARRAY	15														
GZH	RADCOM	REAL	SIMPLE	28														
		REAL	ARRAY	27														
DELNU		REAL	ARRAY	38	47/I	315	321	362	383	404	408	409						
DP		REAL	ARRAY	37	78/S	79/S	81	83	224	242								
DP1		REAL	SIMPLE	70/S	288	290	290											
DP2		REAL	SIMPLE	71/S	287	289	289											
EVAP	RADCOM	REAL	SIMPLE	27														
FK	RADCOM	REAL	ARRAY	23														
FROST	RADCOM	LOGICAL	ARRAY	32	33													
G		REAL	ARRAY	38	43/I	237												
GAM	RADCOM	REAL	ARRAY	9														
GRNDP		REAL	SIMPLE	48/I	84	85	86	87	90	287	288	289	290					
HH	RADCOM	REAL	ARRAY	12														
HHE	RADCOM	REAL	ARRAY	12														
HHS	RADCOM	REAL	ARRAY	13														
I		INTEGER	SIMPLE	62/C	63	63	64	64	65	65	66	66	67	67	67	67	67	67
				94	94	94	94	98/C	99	100	100	102	102/C	103	103	103	103	103
				103/C	104/C	105	115/C	116	118/C	119	119	120	120	120	120	120	120	120
				124	125	125	127	127	130	132	142	143	144	144	144	144	144	144
				145	169	172	173	174	174	175	176	177	179	179	179	179	179	179
				204	205	208/C	209	211	212	212	212	229/C	230	230	230	230	230	230
				232	244/C	245	245	245	245	247	248	251	254	254	254	254	254	254
				254	256	256	256	259	260	260	291/C	292	293	293	293	293	293	293
				295	298	299	302	302	302	303	303	303	305	305	305	305	305	305
				305	306	306	306	309	310	312/C	313	315	315	315	315	315	315	315
				318/C	319	321	321	321	321	323	323	323	325/C	326	326	326	326	326
				332	333	333	334	334	334	334	339	343	362	362	362	362	362	362
				383	383	392	392	394	397	398	399	399	405	406	406	406	406	406
				408	408	411	411	412	412	414/C	415	415	416	416	416	416	416	416
IBB		INTEGER	SIMPLE	1	63	63	64	64	65	65	66	66	67	67	67	67	67	67
				69	71	78	78	79	80	81	82	83	83	83	83	83	83	83
				114	116	119	119	120	120	124	124	125	125	125	125	125	125	125
				138	139	139	139	142	143	144	145	145	172	172	172	172	172	172
				174	174	175	176	177	179	206	214	411	412	412	412	412	412	412
				415	415	416	416	418	418									
ICE				31	33													
IDAY	RADCOM	LOGICAL	ARRAY	1	73													
II		INTEGER	SIMPLE	327/S	346	346	347	347	347	347	347	347	350	350	350	350	350	350
				350	352	352	353	353	354	354	358	358	358	358	358	358	358	358
				360	366	366	367	367	367	367	367	367	370	370	370	370	370	370
				370	372	372	373	373	374	374	378	378	378	378	378	378	378	378
				380	387	387	387	389	389	389	391	391	391	391	391	391	391	391
				404	408	408	408	409	409	409	409	409	409	409	409	409	409	409
III		INTEGER	SIMPLE	326/S	327	347	347	347	347	354	354	367	367	367	367	367	367	367
				367	374	374	374	374	374	374	374	374	374	374	374	374	374	374
IJ		INTEGER	SIMPLE	77/S	80	81	82	83	84	84	85	85	86	86	86	86	86	86
				87	87													
IJTEST		INTEGER	SIMPLE	343/S	344													
IUP		INTEGER	ARRAY	39	67/S	333	334	334	342	399	402	406						
J		INTEGER	SIMPLE	75/C	76	77	78	78	75	79	80	81	82	82	82	82	82	82
				94	94/C	99/C	100	100	105	105/C	221/C	222	223	224	224	224	224	224
				224	224	230/C	231	232	239/C	240	241	242	242	242	242	242	242	242
				243	245	245	245	245	247	248	251	254	254	254	254	254	254	254
				256	256	256	259	259	260	262	263	266	269	269	269	269	269	269
				269	271	271	271	271	275	275	317/C	319	321	321	321	321	321	321
				321	323	323	338/C	339	340	342	342	343	343	343	343	343	343	343
				362	383	383	392	392	394	399/S	401	402	402	402	402	402	402	402

ORIGINAL PAGE IS
OF POOR QUALITY

LINKHO 9

JALB	RADCOM	INTEGER	SIMPLE	30	110														
JJ		INTEGER	SIMPLE	76/S	78	79	81	83	133/S	134	136	139	141/S	142					
				144	145	147	149	149	150	151	151	151	151	151	151	151	151	151	151
				154	155	157	161	163	165	165	165	165	171/S	172					
				173	179	181	181	183	185	185	186	185	186	186	186	186	186	186	186
				186	188	190	192	192	192	192	195	196	196	198	198	198	198	198	198
				224	224	224	224	241/S	242	242	341/S	350	350	350	350	350	350	350	350
				352	352	358	358	358	360	360	360	370	370	370	370	370	370	370	370
				372	378	378	378	378	380	380	387	387	387	387	387	387	387	387	387
				389	391	391	391	391	391	391	391	391	391	391	391	391	391	391	391
JJJ		INTEGER	SIMPLE	340/S	341	351	351	351	352	352	352	352	359	359	359	359	359	359	359
				359	360	360	360	360	371	371	371	372	372	372	372	372	372	372	372
				372	379	379	379	380	380	380	380	388	388	388	388	388	388	388	388
				390	390	390	391	391	391	391	391	391	391	391	391	391	391	391	391
JM1		INTEGER	SIMPLE	243/S	244														
JNP		INTEGER	UNKNOWN	1															
K		INTEGER	SIMPLE	61/S	66/S	67	131/C	133	141	170/C	171	175	176	176	177				
KJ		INTEGER	SIMPLE	204/S	205	331/S	334/S	336	338										
KK		INTEGER	SIMPLE	169/S	171														
KKK		INTEGER	SIMPLE	337/S															
KURT		INTEGER	SIMPLE	336/S	337														
L		INTEGER	SIMPLE	49/I	91	108/S													
L2		INTEGER	SIMPLE	127/S	128	222/S	240/S												
				58/S	59	98	102	103	104	105	221	229	239	291					
L3		INTEGER	SIMPLE	317	318	404													
LA		INTEGER	SIMPLE	60/S	206	208													
LAND		INTEGER	SIMPLE	54/S	127														
LATD	RADCOM	LOGICAL	ARRAY	31	33														
LAY		INTEGER	SIMPLE	1	73														
LINKHO		INTEGER	SIMPLE	50/S	54	118													
LL		INTEGER	SUBROUTINE	1															
LLAY		INTEGER	SIMPLE	59/S	60	404													
				1	50	55	56	58	62	75	136	139	206	333					
LLLAY		INTEGER	SIMPLE	338	399	414													
				55/S	69	69	89	114	325	333	397	399	399	401					
M		INTEGER	SIMPLE	408	408	411	418	418											
MIXWI	RADCOM	LOGICAL	ARRAY	129/S	130/S	131	245/S	246											
N		INTEGER	SIMPLE	32	33														
				92/C	94	94	94	97/C	100	100	101/C	102	103	105					
				156/C	157	160/C	161	162	163	163	163	165	165	167					
				188	189	190	190	190	192	192	197/C	198	198	209					
				211	211	212	212	214	214	214	215	217	217	218					
				218	228/C	231	232	233/C	234	235	237	237	242	242					
				242	249	251	252	252	253	254	254	256	256	256					
				260	260	264	265	267	267	268	269	271	271	271					
				274	275	275	277	280	280	283	283	287	287	287					
				298	299	300	300	301	302	302	303	303	305	305					
				306	306	309	310	314/C	315	315	320/C	321	321	321					
				345/C	346	347	347	347	347	347	347	347	350	350					
				350	351	351	351	352	352	352	352	352	354	354					
				354	358	358	358	359	359	359	359	360	360	360					
				362	365/C	366	367	367	367	367	367	367	367	367					
				370	370	371	371	371	372	372	372	372	372	372					
				374	374	378	378	378	379	379	379	380	380	380					
				380	383	386/S	387	387	387	387	388	388	388	388					
				389	390	390	390	391	391	391	391	391	391	391					
				391	403/C	404	404	404	404	404	407/C	408	408	408					
				408	408	408	409	409	409	409									
NF		INTEGER	SIMPLE	51/S	162	189	277												
NFF		INTEGER	SIMPLE	48/I	52														
NFK	RADCOM	INTEGER	SIMPLE	23															
NFL		INTEGER	SIMPLE	53/S	313	315	315	319	321	321	323	323	323	323					
NFLW		INTEGER	SIMPLE	1	52/S	53	156	160	187	197	207	228	233	386					
				320	345	365	403	407											
NK		INTEGER	SIMPLE	235/S	254	269	302	303											
NLAYOZ	RADCOM	INTEGER	SIMPLE	22															
NLE		INTEGER	SIMPLE	57/S	133	135													
NLEV		INTEGER	SIMPLE	56/S	57	89	90	90	134	135	203								
NN		INTEGER	SIMPLE	234/S	237														

NOZ		INTEGER	SIMPLE	26																		
OCEAN	RADCOM	LOGICAL	ARRAY	31																		
OCM22	RADCOM	REAL	ARRAY	25	33																	
OCM30	RADCOM	REAL	ARRAY	25																		
OCM38	RADCOM	REAL	ARRAY	25																		
OCM46	RADCOM	REAL	ARRAY	25																		
OCMXX	RADCOM	REAL	ARRAY	25																		
OLAPR	RADCOM	REAL	ARRAY	26																		
OLJAN	RADCOM	REAL	ARRAY	24																		
OLJUL	RADCOM	REAL	ARRAY	24																		
OLOCT	RADCOM	REAL	ARRAY	24																		
OZALE	RADCOM	REAL	ARRAY	18																		
P		REAL	ARRAY	40		80/S	81/S	82/S	83/S	84	85	86	87	89/S	90							
P1		REAL	SIMPLE	134	134	134	135	135	142	172												
P2		REAL	SIMPLE	48/I	70	288	290	290														
PD		REAL	SIMPLE	48/I	70	71	287	288	289	290												
PDG		REAL	SIMPLE	126/S	173	249/S	250	251	254/S	265	266	296/S	297	299								
				134/S	136	137/S	137	139	142/S	144	172/S	173	178/S	178								
				179																		
PDP		REAL	SIMPLE	125/S	126	142	178															
PDQ		REAL	SIMPLE	120/S	122/S	144	179															
PDT		REAL	SIMPLE	124/S	126																	
PH		REAL	SIMPLE	293/S	296																	
PHI		REAL	ARRAY	40	84/S	85/S	86/S	87/S	90/S	151	165	186	192									
PHIT		REAL	SIMPLE	292/S	298																	
PL	RADCOM	REAL	ARRAY	3	64/S	64	78	79	82	83	125	125	142	172								
PLE	RADCOM	REAL	ARRAY	415/S	415																	
				3	65/S	65	69/S	69	71	78	79	80	81	89								
				416/S	416	418/S	418															
PLK	RADCOM	REAL	ARRAY	4																		
PLKE	RADCOM	REAL	ARRAY	4																		
PM		REAL	SIMPLE	247/S	249	262/S	264															
PREP	RADCOM	REAL	ARRAY	27																		
PROCM	RADCOM	REAL	ARRAY	26																		
Q		REAL	ARRAY	40	139/S	144/S	145/S	150	151	151	155/S	165	179/S	181								
				181	186	186	192	195/S	225	227												
Q1		REAL	SIMPLE	226/S	288	290	290															
Q2		REAL	SIMPLE	227/S	287	288	289	289	290	290												
R		REAL	ARRAY	40	231/S	232/S	251/S	254/S	254	256/S	256	259/S	260/S	260								
				265/S	269/S	269	271/S	271	274/S	275/S	275	319/S	321/S	321								
				321	323/S	323	346	347	347	350	350	350	350	350								
				352	353	354	358	358	358	360	360	366	367	367								
				367	370	370	370	372	372	373	374	378	378	378								
				380	380	387	387	387	389	389	389	391	391	391								
				391	404	408	408															
RADCOM		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12								
				13	14	15	16	17	18	19	20	21	22	23								
				24	25	26	27	28	29	30	31	32										
RADTRM	RADCOM	REAL	ARRAY	28																		
RCLLOUD	RADCOM	REAL	ARRAY	30																		
RE	RADCOM	REAL	ARRAY	2	411/S	412/S	412															
RH	RADCOM	REAL	ARRAY	10																		
RH	RADCOM	REAL	ARRAY	20																		
RSURF	RADCOM	REAL	ARRAY	30																		
S		REAL	ARRAY	40	339/S	362/S	362	383/S	383	392/S	392	394	397/S	405								
				408	411																	
SO	RADCOM	REAL	SIMPLE	28																		
SG	RADCOM	REAL	ARRAY	29																		
SHG	RADCOM	REAL	ARRAY	8	68	68/S	138	139	139													
SHL	RADCOM	REAL	ARRAY	7	63	63/S	119	119	120	120	139	143	144	145								
				145	174	174	175	176	177	179												
SHLE	RADCOM	REAL	ARRAY	7																		
SHSAT	RADCOM	REAL	ARRAY	9																		
SNOW	RADCOM	LOGICAL	ARRAY	32	33																	
SP	RADCOM	REAL	ARRAY	29																		
SRS	RADCOM	REAL	ARRAY	20																		
SS		REAL	ARRAY	40	212/S	313/S	315/S	315	315	321	323	351	351	351								
				352	352	359	359	359	359	360	360	371	371	371								
				372	379	379	379	380	380	388	388	388	388	390								
				390	391	391	391	391	408	408												

ORIGINAL PAGE IS
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LINKHO 11


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00001      SUBROUTINE LOGTOB (QLOG,QBIT,IM,M)
00002      INTEGER ONE(100)
00003      LOGICAL QLOG(IM)
00004      BIT QBIT(IM)
00005      IF(M .EQ. -1) GOTO 2000
00006      DO 100 I=1,IM
00007          ONE(I) = 0
00008      100 IF( QLOG(I) ) ONE(I) = 1
00009      QBIT(1:IM) = ONE(1:IM) .EQ. 1
00010      RETURN
00011      2000 CONTINUE
00012      DO 200 I=1,IM
00013          ONE(I) = 0
00014      200 IF( QLOG(I) ) ONE(I) = 1
00015      QBIT(1:IM) = ONE(1:IM) .EQ. 0
00016      RETURN
00017      END

```

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VBTOLOG 19
VBTOLOG 20
VBTOLOG 21
VBTOLOG 22
VBTOLOG 23
VBTOLOG 24
VBTOLOG 25
VBTOLOG 26
VBTOLOG 27
VBTOLOG 28
VBTOLOG 29
VBTOLOG 30
VBTOLOG 31
VBTOLOG 32
VBTOLOG 33
VBTOLOG 34
VBTOLOG 35

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

100	8	6
200	14	12
2000	11	5

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST. C=CTRL OF DO. I=DATA INIT. R=READ. S=STORE. W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
I		INTEGER	SIMPLE	6	7	8	8	12	13	14
IM		INTEGER	SIMPLE	1	3	4	6	9	9	12
LOGTOB			SUBROUTINE	1						15
M		INTEGER	SIMPLE	1	5					
ONE		INTEGER	ARRAY	2	7/S	8/S	9	13/S	14/S	15
QBIT		BIT	ARRAY	1	4	9/S	15/S			
QLOG		LOGICAL	ARRAY	1	3	8	14			

ORIGINAL PAGE IS
 OF POOR QUALITY

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00001      SUBROUTINE MOIST
00002      C      IMPLICIT REAL (A-H,O-Z)
      C      CCOMDECK VCNTRL
      C      CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
      C      =====
00003      COMMON /CCNTRL/ CCO
00004      COMMON /CCNTRL/ ADATE
00005      COMMON /CCNTRL/ ATIME
00006      COMMON /CCNTRL/ JIC
00007      COMMON /CCNTRL/ JOB
00008      COMMON /CCNTRL/ CCSP06
00009      COMMON /CCNTRL/ CCSP07
00010      COMMON /CCNTRL/ CCSP08
00011      COMMON /CCNTRL/ VER
00012      COMMON /CCNTRL/ XLABEL (10)
00013      COMMON /CCNTRL/ CQS (30)
00014      COMMON /CCNTRL/ CQU (10)

00015      EQUIVALENCE      (CCO,CC(1))
00016      CHARACTER*8      CCO, CC(200)
00017      CHARACTER*8      ADATE
00018      CHARACTER*8      ATIME
00019      CHARACTER*8      JIC
00020      CHARACTER*8      JOB
00021      CHARACTER*8      CCSP06
00022      CHARACTER*8      CCSP07
00023      CHARACTER*8      CCSP08
00024      CHARACTER*8      VER
00025      CHARACTER*8      XLABEL
00026      CHARACTER*8      CQS
00027      CHARACTER*8      CQU

      C      INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
      C      =====
00028      COMMON /ICNTRL/ ICO
00029      COMMON /ICNTRL/ IM
00030      COMMON /ICNTRL/ IMD2
00031      COMMON /ICNTRL/ IMD2P1
00032      COMMON /ICNTRL/ NDRSW
00033      COMMON /ICNTRL/ JM
00034      COMMON /ICNTRL/ JMD2
00035      COMMON /ICNTRL/ JMT2
00036      COMMON /ICNTRL/ JNP
00037      COMMON /ICNTRL/ JO4
00038      COMMON /ICNTRL/ JOB
00039      COMMON /ICNTRL/ JSP
00040      COMMON /ICNTRL/ KLIALB
00041      COMMON /ICNTRL/ KLISW
00042      COMMON /ICNTRL/ KLISST
00043      COMMON /ICNTRL/ KS
00044      COMMON /ICNTRL/ KU
00045      COMMON /ICNTRL/ LOGBR
00046      COMMON /ICNTRL/ MATYH
00047      COMMON /ICNTRL/ MATSNX
00048      COMMON /ICNTRL/ MATSUN
00049      COMMON /ICNTRL/ MLF      (12)
00050      COMMON /ICNTRL/ MROD
00051      COMMON /ICNTRL/ NKRSR
00052      COMMON /ICNTRL/ MSM
00053      COMMON /ICNTRL/ NB
00054      COMMON /ICNTRL/ ND
00055      COMMON /ICNTRL/ NDALT
00056      COMMON /ICNTRL/ NDAY
00057      COMMON /ICNTRL/ NDOUT
00058      COMMON /ICNTRL/ NDPHY
00059      COMMON /ICNTRL/ NDSHF
00060      COMMON /ICNTRL/ NDT
00061      COMMON /ICNTRL/ NHMS

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$VM00010
$VM00020
$VM00030
$VM00040
$VM00050
$VM00060
$VM00070
$VM00080
$VM00090
$VM00100
$VM00110
$VM00120
$VM00130
$VM00140
$VM00150
$VM00160
$VM00170
$VM00180
$VM00190
$VM00200
$VM00210
$VM00220
$VM00230
$VM00240
$VM00250
$VM00260
$VM00270
$VM00280
$VM00290
$VM00300
$VM00310
$VM00320
$VM00330
$VM00340
$VM00350
$VM00360
$VM00370
$VM00380
$VM00390
$VM00400
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$VM00420
$VM00430
$VM00440
$VM00450
$VM00460
$VM00470
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$VM00500
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$VM00580
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$VM00600
$VM00610
$VM00620
$VM00630
$VM00640
$VM00650
$VM00660
$VM00670
$VM00680
$VM00690
$VM00700
$VM00710

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ORIGINAL PAGE IS
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00062	COMMON /ICNTRL/	NHMSE			
00063	COMMON /ICNTRL/	NHMS0			\$VM00720
00064	COMMON /ICNTRL/	NLAY			\$VM00730
00065	COMMON /ICNTRL/	NLAYM1			\$VM00740
00066	COMMON /ICNTRL/	NLAYP1			\$VM00750
00067	COMMON /ICNTRL/	NSDAY			\$VM00760
00068	COMMON /ICNTRL/	NSEQ			\$VM00770
00069	COMMON /ICNTRL/	ICSP53			\$VM00780
00070	COMMON /ICNTRL/	NSTEP			\$VM00790
00071	COMMON /ICNTRL/	IBLKSI2			\$VM00800
00072	COMMON /ICNTRL/	NYMO			\$VM00810
00073	COMMON /ICNTRL/	NYMDE			\$VM00820
00074	COMMON /ICNTRL/	NYMDO			\$VM00830
00075	COMMON /ICNTRL/	NZINIT			\$VM00840
00076	COMMON /ICNTRL/	NMLEV			\$VM00850
00077	COMMON /ICNTRL/	NDHOG			\$VM00860
00078	COMMON /ICNTRL/	IQS (30)			\$VM00870
00079	COMMON /ICNTRL/	IQU (10)			\$VM00880
	C				\$VM00890
00080	EQUIVALENCE	(ITMIN	.IQS(1)		\$VM00900
00081	EQUIVALENCE	(ITMAX	.IQS(2)		\$VM00910
00082	EQUIVALENCE	(IPREACC	.IQS(3)		\$VM00920
00083	EQUIVALENCE	(IPRECON	.IQS(4)		\$VM00930
00084	EQUIVALENCE	(IHFLUX	.IQS(5)		\$VM00940
00085	EQUIVALENCE	(IEFLUX	.IQS(6)		\$VM00950
00086	EQUIVALENCE	(IFUSION	.IQS(7)		\$VM00960
00087	EQUIVALENCE	(IRADSWG	.IQS(8)		\$VM00970
00088	EQUIVALENCE	(IRADLWG	.IQS(9)		\$VM00980
00089	EQUIVALENCE	(ICLOUD	.IQS(10)		\$VM00990
	C				\$VM01000
00090	EQUIVALENCE	(IOMEGA	.IQU(1)		\$VM01010
00091	EQUIVALENCE	(IDIABAT	.IQU(2)		\$VM01020
00092	EQUIVALENCE	(IRADSW	.IQU(3)		\$VM01030
00093	EQUIVALENCE	(IRADLW	.IQU(4)		\$VM01040
	C				\$VM01050
00094	EQUIVALENCE	(IC0,IC(1))			\$VM01060
00095	INTEGER	IC0, IC(200)			\$VM01070
	C				\$VM01080
	C				\$VM01090
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD			\$VM01100
	C	=====			\$VM01110
00096	COMMON /LCNTRL/	LC0			\$VM01120
00097	COMMON /LCNTRL/	QALT			\$VM01130
00098	COMMON /LCNTRL/	QBEG			\$VM01140
00099	COMMON /LCNTRL/	QDAY			\$VM01150
00100	COMMON /LCNTRL/	QEND			\$VM01160
00101	COMMON /LCNTRL/	QOUT			\$VM01170
00102	COMMON /LCNTRL/	QPHY			\$VM01180
00103	COMMON /LCNTRL/	QSHF			\$VM01190
00104	COMMON /LCNTRL/	SN2FLG			\$VM01200
00105	COMMON /LCNTRL/	QRSW			\$VM01210
00106	COMMON /LCNTRL/	QRSH			\$VM01220
00107	COMMON /LCNTRL/	LQS(30)			\$VM01230
00108	COMMON /LCNTRL/	LQU(10)			\$VM01240
	C				\$VM01250
00109	EQUIVALENCE	(LTMIN	.LQS(1)		\$VM01260
00110	EQUIVALENCE	(LTMAX	.LQS(2)		\$VM01270
00111	EQUIVALENCE	(LPREACC	.LQS(3)		\$VM01280
00112	EQUIVALENCE	(LPRECON	.LQS(4)		\$VM01290
00113	EQUIVALENCE	(LHFLUX	.LQS(5)		\$VM01300
00114	EQUIVALENCE	(LEFLUX	.LQS(6)		\$VM01310
00115	EQUIVALENCE	(LFUSION	.LQS(7)		\$VM01320
00116	EQUIVALENCE	(LRADSWG	.LQS(8)		\$VM01330
00117	EQUIVALENCE	(LRADLWG	.LQS(9)		\$VM01340
00118	EQUIVALENCE	(LICLOUD	.LQS(10)		\$VM01350
	C				\$VM01360
00119	EQUIVALENCE	(LOMEGA	.LQU(1)		\$VM01370
00120	EQUIVALENCE	(LDIABAT	.LQU(2)		\$VM01380
00121	EQUIVALENCE	(LRADSW	.LQU(3)		\$VM01390
00122	EQUIVALENCE	(LRADLW	.LQU(4)		\$VM01400
	C				\$VM01410
00123	LOGICAL	QALT			\$VM01420

00124	LOGICAL	QBEG	\$VMO1430
00125	LOGICAL	QDAY	\$VMO1440
00126	LOGICAL	QEND	\$VMO1450
00127	LOGICAL	QOUT	\$VMO1460
00128	LOGICAL	QPHY	\$VMO1470
00129	LOGICAL	QSHF	\$VMO1480
00130	LOGICAL	SN2FLG	\$VMO1490
00131	LOGICAL	QRSW	\$VMO1500
00132	LOGICAL	QRSH	\$VMO1510
	C		\$VMO1520
00133	LOGICAL	LQS	\$VMO1530
00134	LOGICAL	LQU	\$VMO1540
00135	LOGICAL	LTMIN	\$VMO1550
00136	LOGICAL	LTMAX	\$VMO1560
00137	LOGICAL	LPREACC	\$VMO1570
00138	LOGICAL	LPRECON	\$VMO1580
00139	LOGICAL	LHFLUX	\$VMO1590
00140	LOGICAL	LEFLUX	\$VMO1600
00141	LOGICAL	LFUSION	\$VMO1610
00142	LOGICAL	LRADSWG	\$VMO1620
00143	LOGICAL	LRADLWG	\$VMO1630
00144	LOGICAL	LICLOUD	\$VMO1640
	C		\$VMO1650
00145	LOGICAL	LOMEGA	\$VMO1660
00146	LOGICAL	LDIABAT	\$VMO1670
00147	LOGICAL	LRADSW	\$VMO1680
00148	LOGICAL	LRADLW	\$VMO1690
	C		\$VMO1700
00149	EQUIVALENCE	(LC0,LC(1))	\$VMO1710
00150	LOGICAL	LC0, LC(200)	\$VMO1720
	C		\$VMO1730
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	\$VMO1740
	C	=====	\$VMO1750
00151	COMMON /RCNTRL/	RCO	\$VMO1760
00152	COMMON /RCNTRL/	APHEL	\$VMO1770
00153	COMMON /RCNTRL/	BETA	\$VMO1780
00154	COMMON /RCNTRL/	COSD	\$VMO1790
00155	COMMON /RCNTRL/	CP	\$VMO1800
00156	COMMON /RCNTRL/	DAYSPLY	\$VMO1810
00157	COMMON /RCNTRL/	DEC	\$VMO1820
00158	COMMON /RCNTRL/	DECMAX	\$VMO1830
00159	COMMON /RCNTRL/	DIST	\$VMO1840
00160	COMMON /RCNTRL/	DLAT	\$VMO1850
00161	COMMON /RCNTRL/	DLOD	\$VMO1860
00162	COMMON /RCNTRL/	DT	\$VMO1870
00163	COMMON /RCNTRL/	ECCN	\$VMO1880
00164	COMMON /RCNTRL/	GNU1	\$VMO1890
00165	COMMON /RCNTRL/	GNU2	\$VMO1900
00166	COMMON /RCNTRL/	GRAV	\$VMO1910
00167	COMMON /RCNTRL/	OMEGA2	\$VMO1920
00168	COMMON /RCNTRL/	PI	\$VMO1930
00169	COMMON /RCNTRL/	PI180	\$VMO1940
00170	COMMON /RCNTRL/	PI2	\$VMO1950
00171	COMMON /RCNTRL/	PSTD	\$VMO1960
00172	COMMON /RCNTRL/	PIMEAN	\$VMO1970
00173	COMMON /RCNTRL/	PSMAX	\$VMO1980
00174	COMMON /RCNTRL/	PSMIN	\$VMO1990
00175	COMMON /RCNTRL/	PTOP	\$VMO2000
00176	COMMON /RCNTRL/	RADE	\$VMO2010
00177	COMMON /RCNTRL/	RGAS	\$VMO2020
00178	COMMON /RCNTRL/	ROOP	\$VMO2030
00179	COMMON /RCNTRL/	RSDIST	\$VMO2040
00180	COMMON /RCNTRL/	SDAY	\$VMO2050
00181	COMMON /RCNTRL/	SEASON	\$VMO2060
00182	COMMON /RCNTRL/	SIGE (25)	\$VMO2070
00183	COMMON /RCNTRL/	SIND	\$VMO2080
00184	COMMON /RCNTRL/	SOLS	\$VMO2090
00185	COMMON /RCNTRL/	TSTD	\$VMO2100
00186	COMMON /RCNTRL/	PLEVS (25)	\$VMO2110
00187	COMMON /RCNTRL/	HEATW	\$VMO2120
00188	COMMON /RCNTRL/	HEATI	\$VMO2130

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00189	COMMON /RCNTRL/ EPS		\$VM02140
00190	COMMON /RCNTRL/ EPSFAC		\$VM02150
00191	COMMON /RCNTRL/ CAL TOJ		\$VM02160
00192	COMMON /RCNTRL/ PZERO		\$VM02170
	C		\$VM02180
00193	EQUIVALENCE	(RCO,RC(1))	\$VM02190
00194	REAL	RCO, RC(200)	\$VM02200
	C		\$VM02210
	C		\$VM02220
	C		\$VM02230
	C		\$VM02240
	C		\$VM02250
	C		\$VM02260
	C		\$VM02270
	C		\$VM02280
	C		\$VM02290
	C		\$VM02300
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	C		\$VM02840

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CCOMDECK CNTRLP
C  PHYSICS PARAMETERS AND CONSTANTS
C  =====
00248 COMMON /CNTRLP/ CDFR
00249 COMMON /CNTRLP/ CDXL
00250 COMMON /CNTRLP/ CDXO
00251 COMMON /CNTRLP/ CLH
00252 COMMON /CNTRLP/ COE (9)
00253 COMMON /CNTRLP/ COEF
00254 COMMON /CNTRLP/ COEFS
00255 COMMON /CNTRLP/ COSROT
00256 COMMON /CNTRLP/ GPP
00257 COMMON /CNTRLP/ CTID
00258 COMMON /CNTRLP/ CUMDAY
00259 COMMON /CNTRLP/ CUMRAT
00260 COMMON /CNTRLP/ C10
00261 COMMON /CNTRLP/ C100
00262 COMMON /CNTRLP/ C40
00263 COMMON /CNTRLP/ DELTA
00264 COMMON /CNTRLP/ DTC3
00265 COMMON /CNTRLP/ DTOUT
00266 COMMON /CNTRLP/ ED
00267 COMMON /CNTRLP/ EDNM
00268 COMMON /CNTRLP/ FCOEF
00269 COMMON /CNTRLP/ FMU
00270 COMMON /CNTRLP/ FWET
00271 COMMON /CNTRLP/ GAMFAC
00272 COMMON /CNTRLP/ GTOPO
00273 COMMON /CNTRLP/ HICE
00274 COMMON /CNTRLP/ NDTC3
00275 COMMON /CNTRLP/ NFLW
00276 COMMON /CNTRLP/ PIM
00277 COMMON /CNTRLP/ QHOG
00278 COMMON /CNTRLP/ SHLTOP
00279 COMMON /CNTRLP/ SINROT
00280 COMMON /CNTRLP/ SNOWN
00281 COMMON /CNTRLP/ SNOWS
00282 COMMON /CNTRLP/ STBO
00283 COMMON /CNTRLP/ STERP1
00284 COMMON /CNTRLP/ STERP2
00285 COMMON /CNTRLP/ TICE
00286 COMMON /CNTRLP/ TLTOP
00287 COMMON /CNTRLP/ XDAY
00288 COMMON /CNTRLP/ ZLNCO
00289 LOGICAL QHOG

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C
CCOMDECK VRADCOM
C  * * *
C  RADIATION AND SOURCE TERM FIELDS
00290 COMMON /RADCOM/ AS(72,9), RE(72,10)
00291 COMMON /RADCOM/ PL(72,9), PLE(72,10)
00292 COMMON /RADCOM/ PLK(72,9), PLKE(10)
00293 COMMON /RADCOM/ TL(72,9), TLE(72,10)
00294 COMMON /RADCOM/ TG(72), TH(72,9)
00295 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00296 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00297 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00298 COMMON /RADCOM/ RH(72,9)
00299 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00300 COMMON /RADCOM/ HH(72,9), HHE(72,10)
00301 COMMON /RADCOM/ HHS(72,9)
00302 COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00303 COMMON /RADCOM/ CKDE(9)
00304 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00305 COMMON /RADCOM/ AL(72,10)
00306 COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
00307 COMMON /RADCOM/ TOPABS(72)
00308 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00309 COMMON /RADCOM/ TCOND(9), TPENE(9)
00310 COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ
00311 COMMON /RADCOM/ FK(5), XK(5), NFK

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$VMO3000
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$VMO3550

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00312 COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
00313 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00314 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00315 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00316 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00317 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00318 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00319 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00320 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00321 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
C
C COMDECK VPCON
C * * *
C PRECIPITATION FIELDS FROM CUMULUS CONVECTION
00322 COMMON /PCON / PCMED(72)
00323 COMMON /PCON / PCPEN(72)
00324 COMMON /PCON / PGLow(72)
00325 COMMON /PCON / PMOIST(72)
C
C
00326 COMMON /DMOIST/ EX(72)
00327 COMMON /DMOIST/ CFLUX(72)
00328 COMMON /DMOIST/ DSHLM1(72)
00329 COMMON /DMOIST/ DSHL(72)
00330 COMMON /DMOIST/ DTLM1(72)
00331 COMMON /DMOIST/ DTL(72)
C
C
00332 ZERO = 0.0E0
00333 ONE = 1.0E0
C
00334 DO 10 I=1,IM
00335 PMOIST(I) = ZERO
00336 10 CONTINUE
C
C *****
C *****
C ***** ELIMINATE NEGATIVE SPECIFIC HUMIDITY *****
C *****
C *****
C *****
00337 DO 11 L=2,NLAY
00338 LM1 = L-1
00339 DDSIG = DSIG(LM1)/DSIG(L)
00340 DO 12 I=1,IM
00341 IF (SHL(I,LM1).GE.ZERO) GO TO 12
00342 SHL(I,L) = SHL(I,L) + SHL(I,LM1)*DDSIG
00343 SHL(I,LM1) = ZERO
00344 12 CONTINUE
00345 11 CONTINUE
00346 DO 13 I=1,IM
00347 IF (SHL(I,NLAY).LT.ZERO) SHL(I,NLAY) = ZERO
00348 13 CONTINUE
C
C *****
C *****
C ***** INITIALIZE DRY AND MOIST STATIC ENERGIES *****
C ***** USING TEMPERATURE AND MOISTURE ADJUSTMENTS *****
C ***** FROM CUMULUS PARAMETERIZATION *****
C *****
C *****
00349 DO 20 L=1,NLAY
00350 DO 20 I=1,IM
00351 SSS(I,L) = SSS(I,L) + CVT(I,L)
00352 HH(I,L) = SSS(I,L) + CLH* SHL(I,L)
00353 MHS(I,L) = SSS(I,L) + CLH*SHSAT(I,L)
00354 20 CONTINUE
C
C *****
C *****

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SVM03560
SVM03570
SVM03580
SVM03590
SVM03600
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SVM03990
SVM04000
SVM04010
SVM04020
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SVM04150
SVM04160
SVM04170
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SVM04190
SVM04200
SVM04210
SVM04220
SVM04230
SVM04240
SVM04250
SVM04260

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C ****      MOIST ADIABATIC ADJUSTMENT LOOP      ****
C ****
C *****
00355      DO 30 N=1,3
C          L = NLAY
00356      DO 40 LL=1,NLAYM1
00357      LM1 = L-1
00358      FACL = DSIG(L)/(DSIG(L)+DSIG(LM1))
00359      FACLM1 = ONE - FACL
00360      ASGL = ONE / DSIG(L)
00361      ASGLM1 = ONE / DSIG(LM1)
C          DO 50 I=1,IM
C *****
C *****      TEST FOR CONVECTIVE INSTABILITY      ****
C *****
00364      EX(I) = HH(I,L) - HHS(I,LM1)
00365      IF( EX(I) .LE. ZERO ) GOTO 50
C *****
C *****      COMPUTE EDGE VALUES      ****
C *****
00366      SSSE(I,L) = FACLM1*SSS(I,L) + FACL*SSS(I,LM1)
C          $
C          $      - FACLM1*FACL*( PL(I,L)-PL(I,LM1) )*ROCP
C          $      *( TL(I,L)-TL(I,LM1) )/PL(I,LM1)
00367      SHLE(I,L) = FACLM1*SHL(I,L) + FACL*SHL(I,LM1)
00368      IF( SHLE(I,L) .NE. ZERO )
C          $      SHLE(I,L) = SHL(I,L)*SHL(I,LM1)/SHLE(I,L)
00369      $      SHLE(I,L) = AMIN1( SHLE(I,L) ,
C          $      SHSAT(I,LM1) + (SSS(I,LM1)-SSSE(I,L))/CLH )
00370      HHE(I,L) = SSSE(I,L) + CLH*SHLE(I,L)
C *****
C *****      COMPUTE EVAPORATED MOISTURE      ****
C *****
00371      DQE = ( SSS(I,LM1)-SSS(I,L) + EX(I)/(ONE+GAM(I,LM1)) )/CLH
00372      DQEL = FACL* DQE
00373      DQELM1 = DQE - DQEL
C *****
C *****      COMPUTE MASS FLUX INTO CLOUD      ****
C *****
00374      CFLUX(I) = ( ONE+GAM(I,LM1) )*( SSS(I,LM1)-SSSE(I,L)-CLH*DQELM1 )
00375      CFLUX(I) = ( EX(I) + CFLUX(I) )*ASGLM1
00376      CFLUX(I) = CFLUX(I) + ( HH(I,L)-HHE(I,L) )*ASGL
00377      CFLUX(I) = EX(I) / CFLUX(I)
C          IF( CFLUX(I).GT.DSIG(LM1) ) CFLUX(I) = DSIG(LM1)
00378      IF( CFLUX(I).GT.DSIG( L ) ) CFLUX(I) = DSIG( L )
C *****
C *****      COMPUTE TEMPERATURE      ****
C *****      AND MOISTURE ADJUSTMENTS      ****

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SVM04270
SVM04280
SVM04290
SVM04300
SVM04310
SVM04320
SVM04330
SVM04340
SVM04350
SVM04360
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SVM04380
SVM04390
SVM04400
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C ****
C *****
00380      DSHLM1(I) = CFLUX(I) * ( SHSAT(I,LM1) - SHLE(I,L) + DQELM1
S          + GAM(I,LM1)*EX(I)/( CLH*(ONE+GAM(I,LM1)) ) ) *ASGLM1
00381      DSHL(I)  = CFLUX(I) * ( SHLE(I,L) - SHL(I,L) + DQEL ) *ASGL
C          DTLM1(I) = CFLUX(I) * ( SSS(I,LM1) - SSSE(I,L) - CLH*DQELM1
S          + EX(I) / (ONE+GAM(I,LM1)) ) * ASGLM1
00383      DTL(I)   = CFLUX(I) * ( SSSE(I,L) - SSS(I,L) - CLH*DQEL ) *ASGL
C          *****
C          *****
C          UPDATE TEMPERATURE AND MOISTURE FIELDS
C          AND DRY AND MOIST STATIC ENERGIES
C          *****
C          *****
00384      SHL(I,LM1) = SHL(I,LM1) + DSHLM1(I)
00385      SHL(I,L)  = SHL(I,L)  + DSHL(I)
C          TL(I,LM1) = TL(I,LM1) + DTLM1(I)
00386      TL(I,L)  = TL(I,L)  + DTL(I)
C          SSS(I,LM1) = SSS(I,LM1) + DTLM1(I)
00388      SSS(I,L)  = SSS(I,L)  + DTL(I)
C          HH(I,LM1) = HH(I,LM1) + DTLM1(I) + CLH*DSHLM1(I)
00390      HH(I,L)  = HH(I,L)  + DTL(I)  + CLH*DSHL(I)
C          SHSAT(I,LM1) = QSAT( TL(I,LM1),PL(I,LM1) )
00392      SHSAT(I,L)  = QSAT( TL(I,L) ,PL(I,L) )
C          GAM(I,LM1) = GAMFAC*SHSAT(I,LM1)/TL(I,LM1)**2
00394      GAM(I,L)  = GAMFAC*SHSAT(I,L) /TL(I,L)**2
C          HHS(I,LM1) = SSS(I,LM1) + CLH*SHSAT(I,LM1)
00396      HHS(I,L)  = SSS(I,L)  + CLH*SHSAT(I,L)
C          PMOIST(I) = PMOIST(I) - DSHLM1(I)*DSIG(LM1) - DSHL(I)*DSIG(L)
00398
C          50 CONTINUE
00399
C          L = LM1
00400      40 CONTINUE
00401      30 CONTINUE
00402
C          *****
C          *****
C          SCALE PRECIPITATION
C          *****
C          *****
00403      DO 60 I=1,IM
00404      PMOIST(I) = PMOIST(I) *.1E0*SP(I)/GRAV
00405      60 CONTINUE
C          RETURN
00406      END
00407
SVM04980
SVM04990
SVM05000
SVM05010
SVM05020
SVM05030
SVM05040
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SVM05060
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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	336	334	
11	345	337	
12	344	340	341
13	348	346	
20	354	349	350
30	402	355	
40	401	357	
50	399	363	365

60 405 403

VARIABLE MAP

---NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES														
ADATE	CNTRL	CHAR*8	SIMPLE	4	17													
ADLDP	RDPARM	REAL	SIMPLE	212														
AL	RADCOM	REAL	ARRAY	305														
APHEL	RCNTRL	REAL	SIMPLE	152														
AS	RADCOM	REAL	ARRAY	290														
ASGL		REAL	SIMPLE	361/S	376	381	383											
ASGLM1		REAL	SIMPLE	362/S	375	380	382											
ATIME	CNTRL	CHAR*8	SIMPLE	5	18													
BETA	RCNTRL	REAL	SIMPLE	153														
C10	CNTRLP	REAL	SIMPLE	260														
C100	CNTRLP	REAL	SIMPLE	261														
C40	CNTRLP	REAL	SIMPLE	262														
CALTOJ	RCNTRL	REAL	SIMPLE	191														
CD	CNTRL	CHAR*8	ARRAY	15	16													
CC0	CNTRL	CHAR*8	SIMPLE	3	15	16												
CCNTRL		REAL	UNKNOWN	3	4	5	6	7	8	9	10	11	12	13				
CCSP06	CNTRL	CHAR*8	SIMPLE	14	8	21												
CCSP07	CNTRL	CHAR*8	SIMPLE	9	22													
CCSP08	CNTRL	CHAR*8	SIMPLE	10	23													
CDATE	RADCOM	REAL	ARRAY	314														
CDFR	CNTRLP	REAL	SIMPLE	248														
CDXL	CNTRLP	REAL	SIMPLE	249														
CDXD	CNTRLP	REAL	SIMPLE	250														
GFLUX	DMOIST	REAL	ARRAY	327	374/S	375/S	375	376/S	376	377/S	377	378	378/S	379				
				379/S	380	381	382	383										
CLH	CNTRLP	REAL	SIMPLE	251	352	353	369	370	371	374	380	382	383	390				
				391	396	397												
CLOUD	RADCOM	REAL	ARRAY	296														
CNTRLP		REAL	UNKNOWN	248	249	250	251	252	253	254	255	256	257	258				
				259	260	261	262	263	264	265	266	267	268	269				
				270	271	272	273	274	275	276	277	278	279	280				
				281	282	283	284	285	286	287	288							
COE	CNTRLP	REAL	ARRAY	252														
COEF	CNTRLP	REAL	SIMPLE	253														
COEFS	CNTRLP	REAL	SIMPLE	254														
CON1	RDPARM	REAL	SIMPLE	213														
CON1DT	RDPARM	REAL	SIMPLE	214														
CON2	RDPARM	REAL	SIMPLE	215														
CON2DT	RDPARM	REAL	SIMPLE	216														
CON3	RDPARM	REAL	SIMPLE	217														
CON3DT	RDPARM	REAL	SIMPLE	218														
CON4	RDPARM	REAL	SIMPLE	219														
CON4DT	RDPARM	REAL	SIMPLE	220														
CON5	RDPARM	REAL	SIMPLE	221														
COSD	RCNTRL	REAL	SIMPLE	154														
COSL	RDPARM	REAL	ARRAY	222														
COSLON	RDPARM	REAL	ARRAY	223														
COSROT	CNTRLP	REAL	SIMPLE	255														
COSZ	RADCOM	REAL	ARRAY	315														
CP	RCNTRL	REAL	SIMPLE	155														
GPD2	RDPARM	REAL	SIMPLE	224														
GPP	CNTRLP	REAL	SIMPLE	256														
CQS	CNTRL	CHAR*8	ARRAY	13	26													
CQU	CNTRL	CHAR*8	ARRAY	14	27													
CTID	CNTRLP	REAL	SIMPLE	257														
CUMDAY	CNTRLP	REAL	SIMPLE	258														
CUMRAT	CNTRLP	REAL	SIMPLE	259														
CVQ	RADCOM	REAL	ARRAY	302														
CVT	RADCOM	REAL	ARRAY	302	351													
CXDE	RADCOM	REAL	ARRAY	303														
CXL	RADCOM	REAL	SIMPLE	316														
CZH	RADCOM	REAL	ARRAY	315														
DAYSPY	RCNTRL	REAL	SIMPLE	156														
DDSIG		REAL	SIMPLE	339/S	342													

ORIGINAL PAGE IS
OF POOR QUALITY

DEC	RCNTRL	REAL	SIMPLE	167																		
DECMAX	RCNTRL	REAL	SIMPLE	158																		
DELTA	ONTRLP	REAL	SIMPLE	263																		
DIST	RCNTRL	REAL	SIMPLE	159																		
DLAT	RCNTRL	REAL	SIMPLE	160																		
DLOD	RCNTRL	REAL	SIMPLE	161																		
DMOIST		REAL	UNKNOWN	326	327	328	329	330	331													
DQE		REAL	SIMPLE	371/S	372	373																
DQEL		REAL	SIMPLE	372/S	373	381	383															
DQELM1		REAL	SIMPLE	373/S	374	380	382															
DSHL	DMOIST	REAL	ARRAY	329	381/S	385	391	398														
DSHLM1	DMOIST	REAL	ARRAY	328	380/S	384	390	398														
DSIG	RDPARM	REAL	ARRAY	245	339	339	359	359	359	359	359	359	359	359	359							
DSIGINV	RDPARM	REAL	ARRAY	379	398	398										359	361	362	378	378	379	
DT	RCNTRL	REAL	SIMPLE	247																		
DTC3	ONTRLP	REAL	SIMPLE	162																		
DTL	DMOIST	REAL	ARRAY	264																		
DTLM1	DMOIST	REAL	ARRAY	331	383/S	387	389	391														
DTOUT	ONTRLP	REAL	SIMPLE	330	382/S	386	388	390														
DXP	RDPARM	REAL	ARRAY	265																		
DXYP	RDPARM	REAL	ARRAY	225																		
DYP	RDPARM	REAL	ARRAY	226																		
ECCN	RCNTRL	REAL	SIMPLE	227																		
ED	ONTRLP	REAL	SIMPLE	163																		
EDNM	ONTRLP	REAL	SIMPLE	266																		
EPS	RCNTRL	REAL	SIMPLE	267																		
EPSFAC	RCNTRL	REAL	SIMPLE	189																		
EVAP	RADCOM	REAL	SIMPLE	190																		
EX	DMOIST	REAL	ARRAY	315																		
F1DT	RDPARM	REAL	SIMPLE	326	364/S	365	371	375	377	380	382											
F2DT	RDPARM	REAL	SIMPLE	229																		
FAOL		REAL	SIMPLE	230																		
FACLM1		REAL	SIMPLE	359/S	360	366	366	366	367	372												
FGOEF		REAL	SIMPLE	360/S	366	366	367															
FCORLS	ONTRLP	REAL	SIMPLE	268																		
	RDPARM	REAL	ARRAY	228																		
FILTER	LDPARM	LOGICAL	ARRAY	206																		
FK	RADCOM	REAL	ARRAY	311	209																	
FMU	ONTRLP	REAL	SIMPLE	269																		
FROST	RADCOM	LOGICAL	ARRAY	320	321																	
FWET	ONTRLP	REAL	SIMPLE	270																		
GAM	RADCOM	REAL	ARRAY	297	371	374	380	380	382	394/S	395/S											
GAMFAC	ONTRLP	REAL	SIMPLE	271	394	395																
GNU1	RCNTRL	REAL	SIMPLE	164																		
GNU2	RCNTRL	REAL	SIMPLE	165																		
GRAV	RCNTRL	REAL	SIMPLE	166	404																	
GTOPO	ONTRLP	REAL	SIMPLE	272																		
H1DT	RDPARM	REAL	SIMPLE	231																		
H2DT	RDPARM	REAL	SIMPLE	232																		
HEATI	RCNTRL	REAL	SIMPLE	188																		
HEATW	RCNTRL	REAL	SIMPLE	187																		
HH	RADCOM	REAL	ARRAY	300	362/S	364	376	390/S	390	391/S	391											
HHE	RADCOM	REAL	ARRAY	300	370/S	376																
HHS	RADCOM	REAL	ARRAY	301	363/S	364	396/S	397/S														
HICE	ONTRLP	REAL	SIMPLE	273																		
I		INTEGER	SIMPLE	334/C	335	340/C	341	342	342	342	343	346/C	347	347	349	349	352	352	353	353	353	353
				350/C	351	351	351	352	352	352	353	353	353	353	353	353	353	353	353	353	353	353
					364	364	365	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366
					366	367	367	368	368	368	368	368	368	368	368	368	368	368	368	368	368	368
					369	369	370	370	370	370	371	371	371	371	371	371	371	371	371	371	371	371
					374	374	374	375	375	375	376	376	376	376	376	376	376	376	376	376	376	376
					377	377	378	378	379	379	380	380	380	380	380	380	380	380	380	380	380	380
					380	380	381	381	381	381	382	382	382	382	382	382	382	382	382	382	382	382
					382	383	383	383	383	383	384	384	384	384	384	384	384	384	384	384	384	384
					386	386	387	387	387	387	388	388	388	388	388	388	388	388	388	388	388	388
					389	390	390	390	390	391	391	391	391	391	391	391	391	391	391	391	391	391
					392	393	393	393	393	394	394	394	394	394	394	394	394	394	394	394	394	394
					396	396	397	397	397	397	398	398	398	398	398	398	398	398	398	398	398	398
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	404	404	404	404	404	404	404	404	403/C	404	404	404	404	404	404	404	404	404	404
				71																		

ORIGINAL PAGE IS
OF POOR QUALITY

IC		INTEGER	ARRAY	94	95									
ICG	ICNTRL	INTEGER	SIMPLE	28	94									
ICE	RADCOM	LOGICAL	ARRAY	319	321	95								
ICNTRL		INTEGER	UNKNOWN	28	29	30	31	32	33	34	35	36	37	38
				39	40	41	42	43	44	45	46	47	48	49
				50	51	52	53	54	55	56	57	58	59	60
				61	62	63	64	65	66	67	68	69	70	71
				72	73	74	75	76	77	78	79			
				69										
ICSP53	ICNTRL	INTEGER	SIMPLE	91										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	91										
IDPARM		INTEGER	UNKNOWN	196	196	197	198	199	200	201	202	203	204	205
IDSP02	IDPARM	INTEGER	SIMPLE	196										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	85										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	89										
IJUMP	IDPARM	INTEGER	ARRAY	195										
IM	ICNTRL	INTEGER	SIMPLE	29	334	340	346	350	363	403				
IMD2	ICNTRL	INTEGER	SIMPLE	30										
IMD2P1	ICNTRL	INTEGER	SIMPLE	31										
INDEX	IDPARM	INTEGER	ARRAY	197										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	90										
IPREACC	ICNTRL	INTEGER	UNKNOWN	82										
IPRECON	ICNTRL	INTEGER	UNKNOWN	83										
IQS	ICNTRL	INTEGER	ARRAY	78	80	81	82	83	84	85	86	87	88	89
IQU	ICNTRL	INTEGER	ARRAY	79	90	91	92	93						
IRADLW	ICNTRL	INTEGER	UNKNOWN	93										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	88										
IRADSW	ICNTRL	INTEGER	UNKNOWN	92										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	87										
IROD	IDPARM	INTEGER	SIMPLE	198										
ITAPE	LDPARM	LOGICAL	SIMPLE	207	210									
ITMAX	ICNTRL	INTEGER	UNKNOWN	81										
ITMIN	ICNTRL	INTEGER	UNKNOWN	80										
JALB	RADCOM	INTEGER	SIMPLE	318										
JC	IDPARM	INTEGER	ARRAY	199										
JE	IDPARM	INTEGER	ARRAY	200										
JIC	CCNTRL	CHAR*8	SIMPLE	6	19									
JM	ICNTRL	INTEGER	SIMPLE	33										
JMD2	ICNTRL	INTEGER	SIMPLE	34										
JMT2	ICNTRL	INTEGER	SIMPLE	35										
JNP	ICNTRL	INTEGER	SIMPLE	36										
JO4	ICNTRL	INTEGER	SIMPLE	37										
JOB	ICNTRL	INTEGER	SIMPLE	38										
JOB	CCNTRL	CHAR*8	SIMPLE	7	20									
JP	IDPARM	INTEGER	ARRAY	201										
JSP	ICNTRL	INTEGER	SIMPLE	39										
KLIALB	ICNTRL	INTEGER	SIMPLE	40										
KLIGW	ICNTRL	INTEGER	SIMPLE	41										
KLISST	ICNTRL	INTEGER	SIMPLE	42										
KS	ICNTRL	INTEGER	SIMPLE	43										
KSTEP	IDPARM	INTEGER	SIMPLE	202										
KU	ICNTRL	INTEGER	SIMPLE	44										
L		INTEGER	SIMPLE	337/C	338	339	342	342	349/C	351	351	351	352	352
				352	353	353	353	356/S	358	359	359	361	364	366
				366	366	366	367	367	368	368	368	368	369	369
				369	370	370	370	371	374	376	376	379	379	380
				381	381	382	383	383	385	385	387	387	389	389
				391	391	393	393	393	395	395	395	397	397	397
				398										
				319	321									
LAND	RADCOM	LOGICAL	ARRAY	149										
LC	LCNTRL	LOGICAL	ARRAY	150										
LCO	LCNTRL	LOGICAL	SIMPLE	96	150	150								
LCNTRL		INTEGER	UNKNOWN	96	98	99	100	101	102	103	104	105	106	
				107										
				107										
				120										
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	206		208								
LDPARM		INTEGER	UNKNOWN	207										
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	114										
LFLUSION	LCNTRL	LOGICAL	UNKNOWN	115										
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	115										
				113										
				139										

ORIGINAL PAGE IS
OF POOR QUALITY

LICLOUD	LCNTRL	LOGICAL	UNKNOWN	118	144														
LL		INTEGER	SIMPLE	357/C															
LM1		INTEGER	SIMPLE	338/S	339	341	342	343	358/S	359	362	364	366	366	366	366	366	366	366
				366	366	367	368	369	369	371	371	374	374	374	374	374	374	374	374
				378	380	380	380	382	382	384	384	386	386	386	386	386	386	386	386
				388	390	390	392	392	392	394	394	394	394	394	394	394	394	394	394
				396	398	400													
LOGBR	ICNTRL	INTEGER	SIMPLE	45															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	119	145														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	111	137														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	138														
LQS	LCNTRL	LOGICAL	ARRAY	107	109	110	111	112	113	114	115	116	117	117	117	117	117	117	117
				133															
LQU	LCNTRL	LOGICAL	ARRAY	108	119	120	121	122	134										
LRADLW	LCNTRL	LOGICAL	UNKNOWN	122	148														
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	117	143														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	121	147														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	116	142														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	110	136														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	109	135														
MATIN	ICNTRL	INTEGER	SIMPLE	46															
MATSNX	ICNTRL	INTEGER	SIMPLE	47															
MATSUN	ICNTRL	INTEGER	SIMPLE	48															
MI XWI	RADCOM	LOGICAL	ARRAY	320	321														
MJ	IDPARM	INTEGER	ARRAY	203															
MLF	ICNTRL	INTEGER	ARRAY	49															
MOIST			SUBROUTINE	1															
MROD	ICNTRL	INTEGER	SIMPLE	50															
MSM	ICNTRL	INTEGER	SIMPLE	52															
N		INTEGER	SIMPLE	355/C															
NB	ICNTRL	INTEGER	SIMPLE	53															
ND	ICNTRL	INTEGER	SIMPLE	54															
NDALT	ICNTRL	INTEGER	SIMPLE	55															
NDAY	ICNTRL	INTEGER	SIMPLE	56															
NDHOG	ICNTRL	INTEGER	SIMPLE	77															
NDOUT	ICNTRL	INTEGER	SIMPLE	57															
NDPHY	ICNTRL	INTEGER	SIMPLE	58															
NDRSW	ICNTRL	INTEGER	SIMPLE	32															
NDSHF	ICNTRL	INTEGER	SIMPLE	59															
NDT	ICNTRL	INTEGER	SIMPLE	60															
NDTC3	ONTRLP	INTEGER	SIMPLE	274															
NFK	RADCOM	INTEGER	SIMPLE	311															
NFLW	ONTRLP	INTEGER	SIMPLE	275															
NHMS	ICNTRL	INTEGER	SIMPLE	61															
NHMS0	ICNTRL	INTEGER	SIMPLE	63															
NHMS1	IDPARM	INTEGER	SIMPLE	204															
NHMSE	ICNTRL	INTEGER	SIMPLE	62															
NKRSH	ICNTRL	INTEGER	SIMPLE	51															
NLAY	ICNTRL	INTEGER	SIMPLE	64	337	347	347	349	356										
NLAYM1	ICNTRL	INTEGER	SIMPLE	65	357														
NLAYOZ	RADCOM	INTEGER	SIMPLE	310															
NLAYP1	ICNTRL	INTEGER	SIMPLE	66															
NMLEV	ICNTRL	INTEGER	SIMPLE	76															
NOZ	RADCOM	INTEGER	SIMPLE	314															
NSDAY	ICNTRL	INTEGER	SIMPLE	67															
NSEQ	ICNTRL	INTEGER	SIMPLE	68															
NSTEP	ICNTRL	INTEGER	SIMPLE	70															
NYMD	ICNTRL	INTEGER	SIMPLE	72															
NYMDO	ICNTRL	INTEGER	SIMPLE	74															
NYMD1	IDPARM	INTEGER	SIMPLE	205															
NYMDE	ICNTRL	INTEGER	SIMPLE	73															
NZINIT	ICNTRL	INTEGER	SIMPLE	75															
OCEAN	RADCOM	LOGICAL	ARRAY	319	321														
OCM22	RADCOM	REAL	ARRAY	313															
OCM30	RADCOM	REAL	ARRAY	313															
OCM38	RADCOM	REAL	ARRAY	313															
OCM46	RADCOM	REAL	ARRAY	313															
OCMXX	RADCOM	REAL	ARRAY	314															
OLAPR	RADCOM	REAL	ARRAY	312															
OLJAN	RADCOM	REAL	ARRAY	312															

01JUL	RADCOM	REAL	ARRAY	312															
0LOCT	RADCOM	REAL	ARRAY	312															
OMEGA2	RCNTRL	REAL	SIMPLE	167															
ONE		REAL	SIMPLE	333/S	360	361	362	371	374	380	382								
OZALE	RADCOM	REAL	ARRAY	306															
PCLOW	PCON	REAL	ARRAY	324															
PCMID	PCON	REAL	ARRAY	322															
PCON		REAL	UNKNOWN	322	323	324	325												
PCPEN	PCON	REAL	ARRAY	323															
PI	RCNTRL	REAL	SIMPLE	168															
PI180	RCNTRL	REAL	SIMPLE	169															
PI2	RCNTRL	REAL	SIMPLE	170															
PIM	CNTRLP	REAL	SIMPLE	276															
PIMEAN	RCNTRL	REAL	SIMPLE	172															
PKSTD	RDPARM	REAL	SIMPLE	233															
PKTOP	RDPARM	REAL	SIMPLE	234															
PL	RADCOM	REAL	ARRAY	291	366	366	366	392	393										
PLE	RADCOM	REAL	ARRAY	291															
PLEVS	RCNTRL	REAL	ARRAY	186															
PLK	RADCOM	REAL	ARRAY	292															
PLKE	RADCOM	REAL	ARRAY	292															
PMOIST	PCON	REAL	ARRAY	325	335/S	398/S	398	404/S	404										
PREP	RADCOM	REAL	ARRAY	315															
PROCM	RADCOM	REAL	ARRAY	314															
PSMAX	RCNTRL	REAL	SIMPLE	173															
PSMIN	RCNTRL	REAL	SIMPLE	174															
PSTD	RCNTRL	REAL	SIMPLE	171															
PTOP	RCNTRL	REAL	SIMPLE	175															
PZERO	RCNTRL	REAL	SIMPLE	192															
QALT	LCNTRL	LOGICAL	SIMPLE	97	123														
QBEG	LCNTRL	LOGICAL	SIMPLE	98	124														
QDAY	LCNTRL	LOGICAL	SIMPLE	99	125														
QEND	LCNTRL	LOGICAL	SIMPLE	100	126														
QHOG	CNTRLP	LOGICAL	SIMPLE	277	289														
QOUT	LCNTRL	LOGICAL	SIMPLE	101	127														
QPHY	LCNTRL	LOGICAL	SIMPLE	102	128														
QRSW	LCNTRL	LOGICAL	SIMPLE	106	132														
QRSW	LCNTRL	LOGICAL	SIMPLE	105	131														
QSHF	LCNTRL	LOGICAL	SIMPLE	103	129														
RADCOM		REAL	UNKNOWN	290	291	292	293	294	295	296	297	298	299	300					
				301	302	303	304	305	306	307	308	309	310	311					
				312	313	314	315	316	317	318	319	320							
				176															
RADE	RCNTRL	REAL	SIMPLE	176															
RADTRM	RADCOM	REAL	ARRAY	316															
RC	RCNTRL	REAL	ARRAY	193	194														
RCO	RCNTRL	REAL	SIMPLE	151	193	194													
RCLD	RADCOM	REAL	ARRAY	318															
RCNTRL		REAL	UNKNOWN	151	152	153	154	155	156	157	158	159	160	161					
				162	163	164	165	166	167	168	169	170	171	172					
				173	174	175	176	177	178	179	180	181	182	183					
				184	185	186	187	188	189	190	191	192	193	194					
RDPARM		REAL	UNKNOWN	212	213	214	215	216	217	218	219	220	221	222					
				223	224	225	226	227	228	229	230	231	232	233					
				234	235	236	237	238	239	240	241	242	243	244					
				245	246	247													
				290															
RE	RADCOM	REAL	ARRAY	177															
RGAS	RCNTRL	REAL	SIMPLE	177															
RH	RADCOM	REAL	ARRAY	298															
RLAT	RDPARM	REAL	ARRAY	235															
RLATD	RDPARM	REAL	ARRAY	236															
RN	RADCOM	REAL	ARRAY	308															
ROCP	RCNTRL	REAL	SIMPLE	178	366														
ROCPDT	RDPARM	REAL	SIMPLE	237															
ROCPP1	RDPARM	REAL	SIMPLE	238															
RSDIST	RCNTRL	REAL	SIMPLE	179															
RSURF	RADCOM	REAL	ARRAY	318															
SO	RADCOM	REAL	SIMPLE	316															
SDAY	RCNTRL	REAL	SIMPLE	180															
SEASON	RCNTRL	REAL	SIMPLE	181															

U-5

ORIGINAL PAGE IS
OF POOR QUALITY

MOIST 13

SG	RADCOM	REAL	ARRAY	317														
SGNP	RDPARM	REAL	ARRAY	239														
SHG	RADCOM	REAL	ARRAY	296														
SHL	RADCOM	REAL	ARRAY	295	341	342/S	342	342	343/S	347	347/S	352	367	367				
SHLE	CNTRLP	REAL	ARRAY	368	368	381	384/S	384	385/S	385								
SHLTOP	RADCOM	REAL	SIMPLE	278	367/S	368	368/S	368	369/S	369	370	380	381					
SHSAT	RADCOM	REAL	ARRAY	297	353	369	380	392/S	393/S	394	395	396	397					
SIG	RDPARM	REAL	ARRAY	246														
SIGE	RCNTRL	REAL	ARRAY	182														
SIND	RCNTRL	REAL	SIMPLE	183														
SINL	RDPARM	REAL	ARRAY	240														
SINLON	RDPARM	REAL	ARRAY	241														
SINROT	CNTRLP	REAL	SIMPLE	279														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	104	130													
SNOW	RADCOM	LOGICAL	ARRAY	320	321													
SNOWN	CNTRLP	REAL	SIMPLE	280														
SNOWS	CNTRLP	REAL	SIMPLE	281														
SOLS	RCNTRL	REAL	SIMPLE	184														
SP	RADCOM	REAL	ARRAY	317	404													
SRS	RADCOM	REAL	ARRAY	308														
SSS	RADCOM	REAL	ARRAY	299	351/S	351	352	353	366	366	369	371	371	374				
SSSE	RADCOM	REAL	ARRAY	299	383	388/S	388	389/S	389	396	397							
START	LDPARM	LOGICAL	SIMPLE	208	211	369	370	374	382	383								
STBO	CNTRLP	REAL	SIMPLE	282														
STERP1	CNTRLP	REAL	SIMPLE	283														
STERP2	CNTRLP	REAL	SIMPLE	284														
STN	RADCOM	REAL	ARRAY	308														
SWALE	RADCOM	REAL	ARRAY	304														
SWIL	RADCOM	REAL	ARRAY	304														
TAUL	RADCOM	REAL	ARRAY	306														
TCOND	RADCOM	REAL	ARRAY	309														
TG	RADCOM	REAL	ARRAY	294														
TH	RADCOM	REAL	ARRAY	294														
THSTD	RDPARM	REAL	SIMPLE	242														
THSTD2	RDPARM	REAL	SIMPLE	243														
TJCE	CNTRLP	REAL	SIMPLE	285														
TL	RADCOM	REAL	ARRAY	293	366	366	386/S	386	387/S	387	392	393	394	395				
TLE	RADCOM	REAL	ARRAY	293														
TLOWL	RADCOM	REAL	SIMPLE	310														
TLTOP	CNTRLP	REAL	SIMPLE	286														
TMIDL	RADCOM	REAL	SIMPLE	310														
TN	RADCOM	REAL	ARRAY	308														
TOPABS	RADCOM	REAL	ARRAY	307														
TOTOZ	RADCOM	REAL	ARRAY	314														
TPENE	RADCOM	REAL	ARRAY	309														
TSTD	RCNTRL	REAL	SIMPLE	185														
VER	CCNTRL	CHAR*8	SIMPLE	11	24													
WET	RADCOM	REAL	ARRAY	315														
WI	RADCOM	REAL	ARRAY	315														
WSAVE	RDPARM	REAL	ARRAY	244														
XDAY	CNTRLP	REAL	SIMPLE	287														
XK	RADCOM	REAL	ARRAY	311														
KLABEL	CCNTRL	CHAR*8	ARRAY	12	25													
ZERO	REAL	REAL	SIMPLE	332/S	335	341	343	347	347	365	368							
ZLNCO	CNTRLP	REAL	SIMPLE	288														

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
AMIN1	REAL	INTRINSIC	369
QSAT	REAL	FUNCTION	392 393

D=STMT FN DEF, A=ARGLIST

00001

SUBROUTINE MSGOP

C SEND A MESSAGE TO THE COMPUTER SYSTEM OPERATOR
C GIVING CURRENT, START, AND END MODEL TIME OF THIS JOB SEGMENT

C REFERENCES DESCRIPTION
C FORMSC BUILD A MESSAGE FROM TEXT AND VARIABLES
C WTC WRITE TO OPERATOR

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002
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00009
00010
00011
00012
00013

=====
COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

C

00014
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EQUIVALENCE (CC0,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL
CHARACTER*8 CQS
CHARACTER*8 CQU

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

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=====
COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JO8
COMMON /ICNTRL/ JSP
COMMON /ICNTRL/ KLIALB
COMMON /ICNTRL/ KLIGW
COMMON /ICNTRL/ KLISST
COMMON /ICNTRL/ KS
COMMON /ICNTRL/ KU
COMMON /ICNTRL/ LOGBR
COMMON /ICNTRL/ MATIN
COMMON /ICNTRL/ MATSNX
COMMON /ICNTRL/ MATSUN
COMMON /ICNTRL/ MLF (12)
COMMON /ICNTRL/ MROD
COMMON /ICNTRL/ NKRSH
COMMON /ICNTRL/ MSM
COMMON /ICNTRL/ NB
COMMON /ICNTRL/ ND
COMMON /ICNTRL/ NDALT
COMMON /ICNTRL/ NDAY
COMMON /ICNTRL/ NDOUT

VMSGOP 2
VMSGOP 3
VMSGOP 4
VMSGOP 5
VMSGOP 6
VMSGOP 7
VMSGOP 8
VMSGOP 9
VMSGOP 10
VCNTRL 2
VCNTRL 3
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VCNTRL 63

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00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
C		VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
C		VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
C		VCNTRL 104
00095	EQUIVALENCE (ICO,IC(1))	VCNTRL 105
00096	INTEGER IC0, IC(200)	VCNTRL 106
C		VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
C	=====	VCNTRL 109
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSW	VCNTRL 120
00108	COMMON /LCNTRL/ QRSW	VCNTRL 121
00109	COMMON /LCNTRL/ LQS(30)	VCNTRL 122
C	COMMON /LCNTRL/ LQU(10)	VCNTRL 123
00110	EQUIVALENCE (LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE (LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE (LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE (LRADSWG .LQS(8))	VCNTRL 131
00118	EQUIVALENCE (LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE (LIICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE (LUFLUX .LQS(11))	VCNTRL 134

00121		EQUIVALENCE	(LVFLUX ,LOS(12))	VCNTRL 135
	C			VCNTRL 136
00122		EQUIVALENCE	(LOMEGA ,LQU(1))	VCNTRL 137
00123		EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL 138
00124		EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL 139
00125		EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL 140
	C			VCNTRL 141
00126		LOGICAL	QALT	VCNTRL 142
00127		LOGICAL	QBEG	VCNTRL 143
00128		LOGICAL	QDAY	VCNTRL 144
00129		LOGICAL	QEND	VCNTRL 145
00130		LOGICAL	QOUT	VCNTRL 146
00131		LOGICAL	QPHY	VCNTRL 147
00132		LOGICAL	QSHF	VCNTRL 148
00133		LOGICAL	SN2FLG	VCNTRL 149
00134		LOGICAL	QRSW	VCNTRL 150
00135		LOGICAL	QRSH	VCNTRL 151
	C			VCNTRL 152
00136		LOGICAL	LQS	VCNTRL 153
00137		LOGICAL	LQU	VCNTRL 154
00138		LOGICAL	LTMIN	VCNTRL 155
00139		LOGICAL	LTMAX	VCNTRL 156
00140		LOGICAL	LPREACC	VCNTRL 157
00141		LOGICAL	LPRECON	VCNTRL 158
00142		LOGICAL	LHFLUX	VCNTRL 159
00143		LOGICAL	LEFLUX	VCNTRL 160
00144		LOGICAL	LFUSION	VCNTRL 161
00145		LOGICAL	LRADSWG	VCNTRL 162
00146		LOGICAL	LRADLWG	VCNTRL 163
00147		LOGICAL	LICLOUD	VCNTRL 164
00148		LOGICAL	LUFLUX	VCNTRL 165
00149		LOGICAL	LVFLUX	VCNTRL 166
	C			VCNTRL 167
00150		LOGICAL	LOMEGA	VCNTRL 168
00151		LOGICAL	LDIABAT	VCNTRL 169
00152		LOGICAL	LRADSW	VCNTRL 170
00153		LOGICAL	LRADLW	VCNTRL 171
	C			VCNTRL 172
00154		EQUIVALENCE	(LC0,LC(1))	VCNTRL 173
00155		LOGICAL	LC0, LC(200)	VCNTRL 174
	C			VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 176
	C	=====		VCNTRL 177
00156		COMMON	/RCNTRL/ ROO	VCNTRL 178
00157		COMMON	/RCNTRL/ APHEL	VCNTRL 179
00158		COMMON	/RCNTRL/ BETA	VCNTRL 180
00159		COMMON	/RCNTRL/ COSD	VCNTRL 181
00160		COMMON	/RCNTRL/ CP	VCNTRL 182
00161		COMMON	/RCNTRL/ DAYSPY	VCNTRL 183
00162		COMMON	/RCNTRL/ DEC	VCNTRL 184
00163		COMMON	/RCNTRL/ DECMAK	VCNTRL 185
00164		COMMON	/RCNTRL/ DIST	VCNTRL 186
00165		COMMON	/RCNTRL/ DLAT	VCNTRL 187
00166		COMMON	/RCNTRL/ DLON	VCNTRL 188
00167		COMMON	/RCNTRL/ DT	VCNTRL 189
00168		COMMON	/RCNTRL/ ECCN	VCNTRL 190
00169		COMMON	/RCNTRL/ GNU1	VCNTRL 191
00170		COMMON	/RCNTRL/ GNU2	VCNTRL 192
00171		COMMON	/RCNTRL/ GRAV	VCNTRL 193
00172		COMMON	/RCNTRL/ OMEGA2	VCNTRL 194
00173		COMMON	/RCNTRL/ P1	VCNTRL 195
00174		COMMON	/RCNTRL/ P1180	VCNTRL 196
00175		COMMON	/RCNTRL/ P12	VCNTRL 197
00176		COMMON	/RCNTRL/ PSTD	VCNTRL 198
00177		COMMON	/RCNTRL/ PIMEAN	VCNTRL 199
00178		COMMON	/RCNTRL/ PSMAX	VCNTRL 200
00179		COMMON	/RCNTRL/ PSMIN	VCNTRL 201
00180		COMMON	/RCNTRL/ PTOP	VCNTRL 202
00181		COMMON	/RCNTRL/ RADE	VCNTRL 203
00182		COMMON	/RCNTRL/ RGAS	VCNTRL 204
00183		COMMON	/RCNTRL/ ROCP	VCNTRL 205

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00184	COMMON /RCNTRL/ RSDIST		VCNTRL 266
00185	COMMON /RCNTRL/ SDAY		VCNTRL 207
00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
00198	C EQUIVALENCE (RC0,RC(1))		VCNTRL 220
00199	C REAL RC0, RC(200)		VCNTRL 221
	C C INTEGER MODEL CONSTANTS		VCNTRL 222
	C C =====		VCNTRL 223
00200	COMMON /IDPARM/ IJUMP (46)		VCNTRL 224
00201	COMMON /IDPARM/ IDSP02		VCNTRL 225
00202	COMMON /IDPARM/ INDEX (72)		VCNTRL 226
00203	COMMON /IDPARM/ IROD		VCNTRL 227
00204	- COMMON /IDPARM/ JC (46)		VCNTRL 228
00205	COMMON /IDPARM/ JE (2)		VCNTRL 229
00206	COMMON /IDPARM/ JP (2,2)		VCNTRL 230
00207	COMMON /IDPARM/ KSTEP		VCNTRL 231
00208	COMMON /IDPARM/ MJ (46)		VCNTRL 232
00209	COMMON /IDPARM/ NHMS1		VCNTRL 233
00210	COMMON /IDPARM/ NYMD1		VCNTRL 234
	C C LOGICAL MODEL CONSTANTS		VCNTRL 235
	C C =====		VCNTRL 236
00211	COMMON /LDPARM/ FILTER (46)		VCNTRL 237
00212	COMMON /LDPARM/ ITAPE		VCNTRL 238
00213	COMMON /LDPARM/ START		VCNTRL 239
	C C LOGICAL FILTER		VCNTRL 240
00214	LOGICAL ITAPE		VCNTRL 241
00215	LOGICAL START		VCNTRL 242
00216			VCNTRL 243
	C C REAL MODEL CONSTANTS		VCNTRL 244
	C C =====		VCNTRL 245
00217	COMMON /RDPARM/ ADLDP		VCNTRL 246
00218	COMMON /RDPARM/ CON1		VCNTRL 247
00219	COMMON /RDPARM/ CON1DT		VCNTRL 248
00220	COMMON /RDPARM/ CON2		VCNTRL 249
00221	COMMON /RDPARM/ CON2DT		VCNTRL 250
00222	COMMON /RDPARM/ CON3		VCNTRL 251
00223	COMMON /RDPARM/ CON3DT		VCNTRL 252
00224	COMMON /RDPARM/ CON4		VCNTRL 253
00225	COMMON /RDPARM/ CON4DT		VCNTRL 254
00226	COMMON /RDPARM/ CON5		VCNTRL 255
00227	COMMON /RDPARM/ COSL (46)		VCNTRL 256
00228	COMMON /RDPARM/ COSLON (72)		VCNTRL 257
00229	COMMON /RDPARM/ CPD2		VCNTRL 258
00230	COMMON /RDPARM/ DXP (46)		VCNTRL 259
00231	COMMON /RDPARM/ DXYP (46)		VCNTRL 260
00232	COMMON /RDPARM/ DYP (46)		VCNTRL 261
00233	COMMON /RDPARM/ FCORLS (46)		VCNTRL 262
00234	COMMON /RDPARM/ F1DT		VCNTRL 263
00235	COMMON /RDPARM/ F2DT		VCNTRL 264
00236	COMMON /RDPARM/ H1DT		VCNTRL 265
00237	COMMON /RDPARM/ H2DT		VCNTRL 266
00238	COMMON /RDPARM/ PKSTD		VCNTRL 267
00239	COMMON /RDPARM/ PKTOP		VCNTRL 268
00240	COMMON /RDPARM/ RLAT (46)		VCNTRL 269
00241	COMMON /RDPARM/ RLATD (46)		VCNTRL 270
00242	COMMON /RDPARM/ ROCPDT		VCNTRL 271
00243	COMMON /RDPARM/ ROGPP1		VCNTRL 272
			VCNTRL 273
			VCNTRL 274
			VCNTRL 275
			VCNTRL 276

00244	COMMON /RDPARM/ SGNP (2)	VCNTRL 277
00245	COMMON /RDPARM/ SINL (46)	VCNTRL 278
00246	COMMON /RDPARM/ SINLON (72)	VCNTRL 279
00247	COMMON /RDPARM/ THSTD	VCNTRL 280
00248	COMMON /RDPARM/ THSTD2	VCNTRL 281
00249	COMMON /RDPARM/ WSAVE (159)	VCNTRL 282
00250	COMMON /RDPARM/ DSIG (9)	VCNTRL 283
00251	COMMON /RDPARM/ SIG (9)	VCNTRL 284
00252	COMMON /RDPARM/ DSIGINV (9)	VCNTRL 285
	C * * *	VCNTRL 286
	C ONE-DIMENSIONAL WORK AREAS	VWORK1D 2
00253	COMMON CARD(10), DATA(144), CATA(144)	VWORK1D 3
00254	CHARACTER*8 CARD	VWORK1D 4
	C * * *	VWORK1D 5
	C * * *	VWORK1D 6
00255	DIMENSION ATYP(8), IWID(8), IDEC(8), NUT(8)	VMSGOP 13
00256	CHARACTER*8 OUT(4)	VMSGOP 14
00257	EQUIVALENCE (OUT(1),NUT(1))	VMSGOP 15
00258	CHARACTER*1 ATYP	VMSGOP 16
00259	DATA ATYP/6*1HA,2*1HI/, IWID/6*4.2*6/, IDEC/8*0/	VMSGOP 17
00260	CHARACTER*8 BLANK/8H	VMSGOP 18
	C * * *	VMSGOP 19
	C DEBUG	VMSGOP 20
00261	10000 CONTINUE	VBEGDEB 2
	C * * *	VBEGDEB 3
	C * * *	VBEGDEB 4
	C * * *	VBEGDEB 5
	C * * *	VBEGDEB 6
	C RELAY REAL TIME	VMSGOP 22
00262	OUT(1) = JOB	VMSGOP 23
00263	OUT(2) = ADATE	VMSGOP 24
00264	OUT(3) = ATIME	VMSGOP 25
00265	CALL FORMSG ('JOB \$\$: BEGAN \$\$ \$\$',	VMSGOP 26
	& ATYP,IWID,IDEC,OUT,CARD,80)	VMSGOP 27
00266	CALL WTO (CARD,80)	VMSGOP 28
	C * * *	VMSGOP 29
	C RELAY START TIME	VMSGOP 30
00267	OUT(1) = JOB	VMSGOP 31
00268	OUT(2) = BLANK	VMSGOP 32
00269	OUT(3) = BLANK	VMSGOP 33
00270	NUT(7) = NYMD	VMSGOP 34
00271	NUT(8) = NHMS	VMSGOP 35
00272	CALL FORMSG ('JOB \$\$: \$\$ \$\$ S S START MODEL TIME',	VMSGOP 36
	& ATYP,IWID,IDEC,OUT,CARD,80)	VMSGOP 37
00273	CALL WTO (CARD,80)	VMSGOP 38
	C * * *	VMSGOP 39
	C RELAY CURRENT TIME	VMSGOP 40
00274	OUT(1) = JOB	VMSGOP 41
00275	OUT(2) = BLANK	VMSGOP 42
00276	OUT(3) = BLANK	VMSGOP 43
00277	NUT(7) = NYMD	VMSGOP 44
00278	NUT(8) = NHMS	VMSGOP 45
00279	CALL FORMSG ('JOB \$\$: \$\$ \$\$ S S CURRENT MODEL TIME',	VMSGOP 46
	& ATYP,IWID,IDEC,OUT,CARD,80)	VMSGOP 47
00280	CALL WTO (CARD,80)	VMSGOP 48
	C * * *	VMSGOP 49
	C RELAY END TIME	VMSGOP 50
00281	OUT(1) = JOB	VMSGOP 51
00282	OUT(2) = BLANK	VMSGOP 52
00283	OUT(3) = BLANK	VMSGOP 53
00284	NUT(7) = NYMDE	VMSGOP 54
00285	NUT(8) = NHMSE	VMSGOP 55
00286	CALL FORMSG ('JOB \$\$: \$\$ \$\$ S S END MODEL TIME',	VMSGOP 56
	& ATYP,IWID,IDEC,OUT,CARD,80)	VMSGOP 57
00287	CALL WTO (CARD,80)	VMSGOP 58
00288	RETURN	VMSGOP 59
00289	END	VMSGOP 60

STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

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10000 261		VARIABLE MAP															
NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO.	I=DATA INIT.	R=READ	S=STORE	W=WRITE							
ADATE	CCNTRL	CHAR*8	SIMPLE	3													
ADLDP	RDPARM	REAL	SIMPLE	217	16	263											
APHEL	RCNTRL	REAL	SIMPLE	157													
ATIME	CCNTRL	CHAR*8	SIMPLE	4													
ATYP	RCNTRL	CHARACTER	ARRAY	255	17	264											
BETA	RCNTRL	REAL	SIMPLE	158	258	259/I	265	272	279	286							
BLANK	RCNTRL	CHAR*8	SIMPLE	260/I	268	269	275	276	282	283							
CALTOJ	RCNTRL	REAL	SIMPLE	196													
CARD	//	CHAR*8	ARRAY	253	254	265	266	272	273	279	280	286	287				
CATA	//	REAL	ARRAY	253													
CC	CCNTRL	CHAR*8	ARRAY	14	15												
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15											
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12			
CCSPO6	CCNTRL	CHAR*8	SIMPLE	13													
CCSPO7	CCNTRL	CHAR*8	SIMPLE	7	20												
CCSPO8	CCNTRL	CHAR*8	SIMPLE	8	21												
CON1	RDPARM	REAL	SIMPLE	9	22												
CON1DT	RDPARM	REAL	SIMPLE	218													
CON2	RDPARM	REAL	SIMPLE	219													
CON2DT	RDPARM	REAL	SIMPLE	220													
CON3	RDPARM	REAL	SIMPLE	221													
CON3DT	RDPARM	REAL	SIMPLE	222													
CON4	RDPARM	REAL	SIMPLE	223													
CON4DT	RDPARM	REAL	SIMPLE	224													
CONS	RDPARM	REAL	SIMPLE	225													
COSD	RCNTRL	REAL	SIMPLE	226													
COSL	RDPARM	REAL	ARRAY	159													
CCSLON	RDPARM	REAL	ARRAY	227													
CP	RCNTRL	REAL	SIMPLE	228													
CPD2	RDPARM	REAL	SIMPLE	160													
CQS	CCNTRL	CHAR*8	ARRAY	229													
CQU	CCNTRL	CHAR*8	ARRAY	12	25												
DATA	//	REAL	ARRAY	13	26												
DAYSPLY	RCNTRL	REAL	SIMPLE	253													
DEC	RCNTRL	REAL	SIMPLE	161													
DECMAX	RCNTRL	REAL	SIMPLE	162													
DIST	RCNTRL	REAL	SIMPLE	163													
DLAT	RCNTRL	REAL	SIMPLE	164													
DLOM	RCNTRL	REAL	SIMPLE	165													
DSIG	RDPARM	REAL	ARRAY	166													
DSIGINV	RDPARM	REAL	ARRAY	250													
DT	RCNTRL	REAL	SIMPLE	252													
DXP	RDPARM	REAL	ARRAY	167													
DXYP	RDPARM	REAL	ARRAY	230													
DYP	RDPARM	REAL	ARRAY	231													
ECCN	RCNTRL	REAL	SIMPLE	232													
EPS	RCNTRL	REAL	SIMPLE	168													
EPSFAC	RCNTRL	REAL	SIMPLE	194													
F1DT	RDPARM	REAL	SIMPLE	195													
F2DT	RDPARM	REAL	SIMPLE	234													
FCORLS	RDPARM	REAL	ARRAY	235													
FILTER	LDPARM	LOGICAL	ARRAY	233													
GNU1	RCNTRL	REAL	SIMPLE	211	214												
GNU2	RCNTRL	REAL	SIMPLE	169													
GRAV	RCNTRL	REAL	SIMPLE	170													
H1DT	RDPARM	REAL	SIMPLE	171													
H2DT	RDPARM	REAL	SIMPLE	236													
HEAT1	RCNTRL	REAL	SIMPLE	237													
HEATW	RCNTRL	REAL	SIMPLE	193													
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	192													
IC	ICNTRL	INTEGER	ARRAY	70													
IC0	ICNTRL	INTEGER	SIMPLE	95	96												
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	95	96											
				27	28	29	30	31	32	33	34	35	36	37			
				38	39	40	41	42	43	44	45	46	47	48			

				49	50	51	52	53	54	55	56	57	58	59
				60	61	62	63	64	65	66	67	68	69	70
ICSP53	ICNTRL	INTEGER	SIMPLE	68	71	72	73	74	75	76	77	78		
IDEC		INTEGER	ARRAY	255	259/1	265	272	279	286					
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92										
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210
IDSPO2	IDPARM	INTEGER	SIMPLE	201										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88										
IJUMP	IDPARM	INTEGER	ARRAY	200										
IM	ICNTRL	INTEGER	SIMPLE	28										
IMD2	ICNTRL	INTEGER	SIMPLE	29										
IMD2P1	ICNTRL	INTEGER	SIMPLE	30										
INDEX	IDPARM	INTEGER	ARRAY	202										
IONEGA	ICNTRL	INTEGER	UNKNOWN	91										
IPREACC	ICNTRL	INTEGER	UNKNOWN	81										
IPRECON	ICNTRL	INTEGER	UNKNOWN	82										
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88
IQU	ICNTRL	INTEGER	ARRAY	89	90	91	92	93	94					
IRADLW	ICNTRL	INTEGER	UNKNOWN	78										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	94										
IRADSW	ICNTRL	INTEGER	UNKNOWN	87										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	93										
IROD	IDPARM	INTEGER	UNKNOWN	86										
ITAPE	IDPARM	LOGICAL	SIMPLE	203										
ITMAX	ICNTRL	INTEGER	UNKNOWN	212	215									
ITMIN	ICNTRL	INTEGER	UNKNOWN	80										
IUFLUX	ICNTRL	INTEGER	UNKNOWN	79										
IVFLUX	ICNTRL	INTEGER	UNKNOWN	89										
IWID		INTEGER	ARRAY	90										
JC	IDPARM	INTEGER	ARRAY	255	259/1	265	272	279	286					
JE	IDPARM	INTEGER	ARRAY	204										
JIC	IDPARM	INTEGER	ARRAY	205										
JM	ICNTRL	CHAR*8	SIMPLE	5	18									
JMD2	ICNTRL	INTEGER	SIMPLE	32										
JMT2	ICNTRL	INTEGER	SIMPLE	33										
JNP	ICNTRL	INTEGER	SIMPLE	34										
JO4	ICNTRL	INTEGER	SIMPLE	35										
JO8	ICNTRL	INTEGER	SIMPLE	36										
JOB	CCNTRL	CHAR*8	SIMPLE	37										
JP	IDPARM	INTEGER	ARRAY	6	19	262	267	274	281					
JSP	ICNTRL	INTEGER	SIMPLE	206										
KLIALB	ICNTRL	INTEGER	SIMPLE	38										
KLIGW	ICNTRL	INTEGER	SIMPLE	39										
KLISST	ICNTRL	INTEGER	SIMPLE	40										
KS	ICNTRL	INTEGER	SIMPLE	41										
KSTEP	IDPARM	INTEGER	SIMPLE	42										
KU	ICNTRL	INTEGER	SIMPLE	207										
LC	LCNTRL	LOGICAL	ARRAY	43										
LCO	LCNTRL	LOGICAL	SIMPLE	154	155									
LCNTRL		INTEGER	UNKNOWN	97	154	155								
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107
LDPARM		INTEGER	UNKNOWN	108	109									
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	123	151									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	211	212	213								
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	116	144									
LOGBR	ICNTRL	INTEGER	SIMPLE	114	142									
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	119	147									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	44										
LPRECON	LCNTRL	LOGICAL	UNKNOWN	122	150									
LQS	LCNTRL	LOGICAL	ARRAY	112	140									
QU	LCNTRL	LOGICAL	ARRAY	113	141									
IRADLW	LCNTRL	LOGICAL	UNKNOWN	108	110	111	112	113	114	115	116	117	118	119
				120	121	136								
				109	122	123	124	125	137					
				125	153									

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ORIGINAL PAGE 19
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LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146																	
LRAOSW	LCNTRL	LOGICAL	UNKNOWN	124	152																	
LRAOSWG	LCNTRL	LOGICAL	UNKNOWN	117	145																	
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139																	
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138																	
LUFUX	LCNTRL	LOGICAL	UNKNOWN	120	148																	
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149																	
MATIN	ICNTRL	INTEGER	SIMPLE	45																		
MATSNX	ICNTRL	INTEGER	SIMPLE	46																		
MATSUN	ICNTRL	INTEGER	SIMPLE	47																		
MJ	IDPARM	INTEGER	ARRAY	208																		
MLF	ICNTRL	INTEGER	ARRAY	48																		
MROD	ICNTRL	INTEGER	SIMPLE	49																		
MSGOP			SUBROUTINE	1																		
MSM	ICNTRL	INTEGER	SIMPLE	51																		
NB	ICNTRL	INTEGER	SIMPLE	52																		
ND	ICNTRL	INTEGER	SIMPLE	53																		
NDALT	ICNTRL	INTEGER	SIMPLE	54																		
NDAY	ICNTRL	INTEGER	SIMPLE	55																		
NDHOG	ICNTRL	INTEGER	SIMPLE	56																		
NDOUT	ICNTRL	INTEGER	SIMPLE	57																		
NDPHY	ICNTRL	INTEGER	SIMPLE	58																		
NDRSW	ICNTRL	INTEGER	SIMPLE	59																		
NDSHF	ICNTRL	INTEGER	SIMPLE	60	278																	
NDT	ICNTRL	INTEGER	SIMPLE	61																		
NHMS	ICNTRL	INTEGER	SIMPLE	62																		
NHMS0	ICNTRL	INTEGER	SIMPLE	209	271																	
NHMS1	IDPARM	INTEGER	SIMPLE	61	285																	
NHMSE	ICNTRL	INTEGER	SIMPLE	50																		
NKRSH	ICNTRL	INTEGER	SIMPLE	53																		
NLAY	ICNTRL	INTEGER	SIMPLE	64																		
NLAYM1	ICNTRL	INTEGER	SIMPLE	65																		
NLAYP1	ICNTRL	INTEGER	SIMPLE	75																		
NMLEV	ICNTRL	INTEGER	SIMPLE	66																		
NSDAY	ICNTRL	INTEGER	SIMPLE	67																		
NSEQ	ICNTRL	INTEGER	SIMPLE	69																		
NSTEP	ICNTRL	INTEGER	ARRAY	255	257	270/S	271/S	277/S	278/S	284/S	285/S											
NUT	ICNTRL	INTEGER	SIMPLE	71	277																	
NYMD	ICNTRL	INTEGER	SIMPLE	73																		
NYMDO	IDPARM	INTEGER	SIMPLE	210	270																	
NYMD1	ICNTRL	INTEGER	SIMPLE	72	284																	
NYMDE	ICNTRL	INTEGER	SIMPLE	74																		
NZINIT	ICNTRL	REAL	SIMPLE	172																		
OMEGA2	RCNTRL	REAL	SIMPLE	256	257	262/S	263/S	264/S	265	267/S	268/S	269/S	272	274								
OUT		CHAR*8	ARRAY	275/S	276/S	279	281/S	282/S	283/S	286												
PI	RCNTRL	REAL	SIMPLE	173																		
PI180	RCNTRL	REAL	SIMPLE	174																		
PI2	RCNTRL	REAL	SIMPLE	175																		
PIMEAN	RCNTRL	REAL	SIMPLE	177																		
PKSTD	RDPARM	REAL	SIMPLE	238																		
PKTOP	RDPARM	REAL	SIMPLE	239																		
PLEVS	RCNTRL	REAL	ARRAY	191																		
PSMAK	RCNTRL	REAL	SIMPLE	178																		
PSMIN	RCNTRL	REAL	SIMPLE	179																		
PSTD	RCNTRL	REAL	SIMPLE	176																		
PTOP	RCNTRL	REAL	SIMPLE	180																		
PZERO	RCNTRL	REAL	SIMPLE	197																		
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																	
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																	
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																	
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																	
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																	
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																	
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																	
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																	
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																	
RADE	RCNTRL	REAL	SIMPLE	181																		
RC	RCNTRL	REAL	ARRAY	198	199																	
RCO	RCNTRL	REAL	SIMPLE	156	198	199																

RCNTRL	REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166
			167	168	169	170	171	172	173	174	175	176	177
			178	179	180	181	182	183	184	185	186	187	188
			189	190	191	192	193	194	195	196	197	198	199
RDPARM	REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227
			228	229	230	231	232	233	234	235	236	237	238
			239	240	241	242	243	244	245	246	247	248	249
			250	251	252								
RGAS	RCNTRL	REAL	SIMPLE										
RLAT	RDPARM	REAL	ARRAY	182									
RLATD	RDPARM	REAL	ARRAY	240									
ROCP	RCNTRL	REAL	ARRAY	241									
ROCPDT	RDPARM	REAL	SIMPLE	183									
ROCPP1	RDPARM	REAL	SIMPLE	242									
RSDIST	RCNTRL	REAL	SIMPLE	243									
S DAY	RCNTRL	REAL	SIMPLE	184									
SEASON	RCNTRL	REAL	SIMPLE	185									
SGNP	RDPARM	REAL	ARRAY	186									
SIG	RDPARM	REAL	ARRAY	244									
SIGE	RCNTRL	REAL	ARRAY	251									
SIND	RCNTRL	REAL	SIMPLE	187									
SINL	RDPARM	REAL	ARRAY	188									
				245									
SINLON	RDPARM	REAL	ARRAY	246									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133								
SOLS	RCNTRL	REAL	SIMPLE	189									
START	LDPARAM	LOGICAL	SIMPLE	213	216								
THSTD	RDPARM	REAL	SIMPLE	247									
THSTD2	RDPARM	REAL	SIMPLE	248									
TSTD	RCNTRL	REAL	SIMPLE	190									
VER	CCNTRL	CHAR*8	SIMPLE	13	23								
WSAVE	RDPARM	REAL	ARRAY	249									
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24								

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST
FORMSG		SUBROUTINE	265	272	279	286	
WTO		SUBROUTINE	266	273	280	287	

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SUBROUTINE NAMEZ (IM ,JM ,IMD2 ,IFIRST ,
IYNYMD1 ,IYNHMS1 ,IVNYMDE ,IYNHMSE ,
CYJOB ,CYXLABEL ,
IYNDOUT ,IYNDRSW ,IYNKRSH ,IYMROD ,
IYNDALT ,IYNDPHY ,IYNSHF ,
IYJO4 ,IYJOB ,
IYKLIALB ,IYKLIW ,IYKLISST ,IYKLITOP ,IYKLILWI ,
IYMATIN ,IYMFL ,IYNDT ,IYNSEQ ,
LYSN2FLG ,
RYPIMEAN ,RYPST ,RYSIG ,
RYPISMA ,RYPISMI ,RYPISST ,RYPISST ,RYPISST ,
RYSIG ,RYSIG )
*****
PURPOSE
TO READ MODEL CONTROL NAMELIST INPUTZ.
USAGE
CALLED BY INPUT
INITIALIZE FULL PRECISION WITH DEFAULT VALUES.
THEN READ IN THE NAMELIST FOLLOWED BY
INITIALIZING WITH INCOMING VALUES.
ARGUMENTS DESCRIPTION
IM GRID POINT LATITUDE DIRECTION.
JM GRID POINT LONGITUDE DIRECTION.
IMD2 IM/2
IFIRST 0 OR 1 (0 WHEN BEFORE READING INITIAL CONDITION)
FOLLOWING ARGUMENTS ARE RELATED TO NAMELIST
=====
IYNYMD1 YMMDD AT START OF EXPERIMENT
IYNHMS1 HHMMSS AT START OF EXPERIMENT
IVNYMDE YMMDD AT END OF EXPERIMENT
IYNHMSE HHMMSS AT END OF EXPERIMENT
CYJOB 8 CHARACTER EXPERIMENT IDENTIFIER
CYXLABEL 80 CHARACTER EXPERIMENT DESCRIPTION
IYNDOUT HHMMSS WRITE INCREMENT TO HISTORY
IYNDRSW HHMMSS WRITE INCREMENT TO RESTART
IYNKRSH KEY FOR WRITE OF RESTART TO HISTORY
-1 FOR START AND END OF EXPERIMENT
0 FOR NEVER
N FOR EVERY N'TH DAY
IYMROD MAXIMUM ALLOWABLE WRITES TO UNIT 08
IYNDALT HHMMSS INCREMENT FOR ANALYSIS
IYNDPHY HHMMSS INCREMENT FOR PHYSICS
IYNSHF HHMMSS INCREMENT FOR SHAPIRO FILTER CALLS
IYJO4 BAND LIMIT FOR 4'TH ORDER SHAPIRO
IYJOB BAND LIMIT FOR 8'TH ORDER SHAPIRO
IYKLIALB ALBEDO FLAG
IYKLIW GROUND WETNESS FLAG
IYKLISST SEA SURFACE TEMPERATURE FLAG
IYKLITOP TOPOGRAPHY REPLACEMENT FLAG
IYKLILWI LAND-WATER-ICE KEY REPLACEMENT FLAG
IYMATIN MATSUNO STEPS BEFORE REGULAR CYCLE
IYMFL REGULAR CYCLE DESCRIPTION
IYNDT TIMESTEP IN SECONDS
IYNSEQ LENGTH OF REGULAR CYCLE
LYSN2FLG PBL SIGMA PROFILE FLAG
RYPIMEAN GLOBAL MEAN PRESSURE
RYPISMA MAXIMUM ALLOWABLE SURFACE PRESSURE
RYPISMI MINIMUM ALLOWABLE SURFACE PRESSURE
RYPISST REFERENCE PRESSURE FOR NORMALIZATION
RYPST REFERENCE PRESSURE FOR NORMALIZATION
RYSIG REFERENCE TEMP FOR NORMALIZATION
RYSIG SIGMA VALUES AT EDGES OF LAYERS
RYGNU2 CONSTANT FOR USE IN TIME AVERAGE
I/O DDNAME DESCRIPTION
=== =====
11 REWINDABLE COPY OF CARD-IMAGE DATA FROM UNIT 5 (TEMPNL)
REWINDED IN THE CALLING ROUTINE.
SUBPROGRAMS NEEDED
NONE
RECORD OF MODIFICATIONS
10/15/83 RAMESH NEW SUBROUTINE FOR HALF PREC
02/02/84 JIM.PF COMMENTS
02/02/84 JIM.PF TOP AND LWI REPLACEMENT FLAGS

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VNAMEZ 2
VNAMEZ 3
VNAMEZ 4
VNAMEZ 5
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VNAMEZ 72

ORIGINAL PAGE IS
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NAMEZ 1

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C	REMARKS:	VNAMEZ	73
C	DESIGNED TO READ NAMELIST IN FULL PRECISION AND CONVERT IT	VNAMEZ	74
C	IF NECESSARY TO HALF PRECISION.	VNAMEZ	75
C	*****	VNAMEZ	76
C	M / A - C O M S I G M A D A T A I N C . N A S A - G S F C	VNAMEZ	77
C	*****	VNAMEZ	78
C		VNAMEZ	79
C	HALF/FULL PRECISION	VREAL	2
C	=====	VREAL	3
00002	IMPLICIT HALF PRECISION (A-H,O-Z)	VREAL	4
C		VREAL	5
C		VRSLV	2
C	PARAMETER STATEMENTS FOR DIMENSIONING RESOLUTION	VRSLV	3
C	=====	VRSLV	4
C		VRSLV	5
C		VRSLV	6
C	COMDECK VQANDQT RESOLUTION VALUES	VQANDQT	2
C	=====	VQANDQT	3
C	IM =72	VQANDQT	4
C	NLAY =9	VQANDQT	5
C	JM+1 =46	VQANDQT	6
C	NLAY+11 =99	VQANDQT	7
C	IM*NLAY+11 =7128	VQANDQT	8
C	JM/2+1 =23	VQANDQT	9
C		VQANDQT	10
C	GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)	VQANDQT	11
C	=====	VQANDQT	12
00003	COMMON /QANDQT/ QPROG(72,9,11,46)	VQANDQT	13
C		VQANDQT	14
00004	DIMENSION PHIS (7128,1)	VQANDQT	15
00005	DIMENSION SMTH (7128,23)	VQANDQT	16
00006	DIMENSION ALBEDO (7128,1)	VQANDQT	17
00007	DIMENSION GT (7128,1)	VQANDQT	18
00008	DIMENSION GW (7128,1)	VQANDQT	19
00009	DIMENSION TS (7128,1)	VQANDQT	20
00010	DIMENSION SHS (7128,1)	VQANDQT	21
00011	DIMENSION P (72,99,1)	VQANDQT	22
C		VQANDQT	23
00012	DIMENSION U (72,9,11,1)	VQANDQT	24
00013	DIMENSION V (72,9,11,1)	VQANDQT	25
00014	DIMENSION T (72,9,11,1)	VQANDQT	26
00015	DIMENSION SH (72,9,11,1)	VQANDQT	27
00016	DIMENSION PHI (72,9,11,1)	VQANDQT	28
C		VQANDQT	29
00017	EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))	VQANDQT	30
00018	EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))	VQANDQT	31
00019	EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))	VQANDQT	32
00020	EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))	VQANDQT	33
00021	EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))	VQANDQT	34
00022	EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))	VQANDQT	35
00023	EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))	VQANDQT	36
00024	EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))	VQANDQT	37
C		VQANDQT	38
00025	EQUIVALENCE (QPROG(1,1, 2,1),U ((1,1,1,1))	VQANDQT	39
00026	EQUIVALENCE (QPROG(1,1, 4,1),V ((1,1,1,1))	VQANDQT	40
00027	EQUIVALENCE (QPROG(1,1, 6,1),T ((1,1,1,1))	VQANDQT	41
00028	EQUIVALENCE (QPROG(1,1, 8,1),SH ((1,1,1,1))	VQANDQT	42
00029	EQUIVALENCE (QPROG(1,1,10,1),PHI((1,1,1,1))	VQANDQT	43
C		VQANDQT	44
C	SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)	VQANDQT	45
C	=====	VQANDQT	46
C		VQANDQT	47
00030	COMMON /QANDQT/ QSDIAG(72, ,15,46)	VQANDQT	48
00031	BIT BQSDIAG(32, 72,15,46)	VQANDQT	49
00032	EQUIVALENCE (QSDIAG,BQSDIAG)	VQANDQT	50
C		VQANDQT	51
00033	COMMON /QANDQT/ QUDIAG(72,9, 5,46)	VQANDQT	52
C		VQANDQT	53
C		VQANDQT	54
C		VQANDQT	55
C		VNAMEZ	83

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00042

CHARACTER*8 JOB
CHARACTER*8 CYJOB
CHARACTER*8 XLABEL (10)
CHARACTER*8 CYXLABEL (10)
INTEGER MLF (12)
INTEGER IVMLF (12)
LOGICAL SN2FLG
LOGICAL LYSN2FLG
DIMENSION RYSIZE (25)

VNAMEZ 84
VNAMEZ 85
VNAMEZ 86
VNAMEZ 87
VNAMEZ 88
VNAMEZ 89
VNAMEZ 90
VNAMEZ 91
VNAMEZ 92
VNAMEZ 93
VNAMEZ 94
VNAMEZ 95
VNAMEZ 96
VNAMEZ 97
VNAMEZ 98
VNAMEZ 99
VNAMEZ 100
VINPUTZ 2
VINPUTZ 3
VINPUTZ 4
VINPUTZ 5
VINPUTZ 6
VINPUTZ 7
VINPUTZ 8
VINPUTZ 9
VINPUTZ 10
VINPUTZ 11
VINPUTZ 12
VINPUTZ 13
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VINPUTZ 42
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VINPUTZ 44
VINPUTZ 45
VINPUTZ 46
VINPUTZ 47
VINPUTZ 48
VINPUTZ 49
VINPUTZ 50
VINPUTZ 51
VINPUTZ 52
VINPUTZ 53
VINPUTZ 54
VINPUTZ 55

THIS TEMPORARY VARIABLES ARE ALWAYS DEFINED TO BE FULL PRECISION
=====

00043
00044
00045

REAL SIGE (25)
REAL SMTHNL (288,91)
REAL PIMEAN, PSMAX, PSMIN, PSTD, TSTD, GNU2

INPUT MODEL PARAMETER NAMELIST
=====

SEE MODEL TECHNICAL DOCUMENTATION FOR EXTENSIVE DETAILS

00046

NAMELIST /INPUTZ/ NYMD1 ,NHMS1 ,NYMDE ,NHMSE ,
JOB ,XLABEL ,
NDOUT ,NDRSW ,NKRSH ,MROD ,
NDALT ,NDPHY ,NDSHF ,
JO4 ,JOB ,
KLIABL,KLIGW ,KLISSST,KLITOP,KLILWI ,
MATIN ,MLF ,NDT ,NSEQ ,
SN2FLG ,
PIMEAN,PSMAX ,PSMIN ,PSTD ,TSTD
SIGE ,GNU2 ,SMTHNL

VAR	LOC	DEFAULT	DESCRIPTION
===	===	=====	=====
NYMD1	/IDPARM/	000000	YVMMDD AT START OF EXPERIMENT
NHMS1	/IDPARM/	000000	HMMSS AT START OF EXPERIMENT
NYMDE	/ICNTRL/	000000	YVMMDD AT END OF EXPERIMENT
NHMSE	/ICNTRL/	000000	HMMSS AT END OF EXPERIMENT
JOB	/CCNTRL/	'	8 CHARACTER EXPERIMENT IDENTIFIER
XLABEL	/CCNTRL/	10*	80 CHARACTER EXPERIMENT DESCRIPTION
NDOUT	/ICNTRL/	030000	HMMSS WRITE INCREMENT TO HISTORY
NDRSW	/ICNTRL/	060000	HMMSS WRITE INCREMENT TO HISTORY
NKRSH	/ICNTRL/	-1	KEY FOR WRITE OF RESTART TO HISTORY
			-1 FOR START AND END OF EXPERIMENT
			0 FOR NEVER
			N FOR EVERY N'TH DAY
MROD	/ICNTRL/	25	MAXIMUM ALLOWABLE WRITES TO UNIT 08
NDALT	/ICNTRL/	000000	HMMSS INCREMENT FOR ANALYSIS
NDPHY	/ICNTRL/	003000	HMMSS INCREMENT FOR PHYSICS
NDSHF	/ICNTRL/	023000	HMMSS INCREMENT FOR SHAPIRO FILTER CALLS
JO4	/ICNTRL/	0	BAND LIMIT FOR 4'TH ORDER SHAPIRO
JOB	/ICNTRL/	0	BAND LIMIT FOR 8'TH ORDER SHAPIRO
MATIN	/ICNTRL/	1	MATSUNO STEPS BEFORE REGULAR CYCLE
MLF	/ICNTRL/	1.11*0	REGULAR CYCLE DESCRIPTION
NDT	/ICNTRL/	34200/IM	TIMESTEP IN SECONDS
NSEQ	/ICNTRL/	1	LENGTH OF REGULAR CYCLE
SN2FLG	/ICNTRL/	F	PBL SIGMA PROFILE FLAG
PIMEAN	/RCNTRL/	FROM IC	GLOBAL MEAN PRESSURE
PSMAX	/RCNTRL/	1200.	MAXIMUM ALLOWABLE SURFACE PRESSURE
PSMIN	/RCNTRL/	300.	MINIMUM ALLOWABLE SURFACE PRESSURE
PSTD	/RCNTRL/	1000.	REFERENCE PRESSURE FOR NORMALIZATION
TSTD	/RCNTRL/	280.	REFERENCE TEMP FOR NORMALIZATION
SIGE	/RCNTRL/	UNIFORM	SIGMA VALUES AT EDGES OF LAYERS
GNU2	/RCNTRL/	0	CONSTANT FOR USE IN TIME AVERAGE
SMTHNL	//	SEE DEFALT	DAMPING FACTORS FOR GRAVITY WAVES
			READ INTO TEMPORARY ARRAY AND MOVED TO ARRAY SMTH IN COMMON /QANDQT/

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```

C ***** TRANSFER READ IN VALUES FROM *****VNAMEZ 163
C ***** LOCAL NAMELIST VARIABLES. *****VNAMEZ 164
C *****VNAMEZ 165
C *****VNAMEZ 166
00093 IF (IFIRST.EQ.0) GOTO 35 VNAMEZ 167
00094 DO 30 J = 1,JESMTH VNAMEZ 168
00095 SMTH (1,J;IMD2) = SMTHNL(1,J;IMD2) VNAMEZ 169
00096 30 CONTINUE VNAMEZ 170
C VNAMEZ 171
00097 35 DO 40 KTRANS =1,25 VNAMEZ 172
00098 40 RYSIGE (KTRANS) = SIGE(KTRANS) VNAMEZ 173
00099 RYPIMEAN = PIMEAN VNAMEZ 174
00100 RYPSMAX = PSMAX VNAMEZ 175
00101 RYPSMIN = PSMIN VNAMEZ 176
00102 RYPSTD = PSTD VNAMEZ 177
00103 RYTSTD = TSTD VNAMEZ 178
00104 RYGNU2 = GNU2 VNAMEZ 179
C VNAMEZ 180
C VNAMEZ 181
00105 IYNYMD1 = NYMD1 VNAMEZ 182
00106 IYNHMS1 = NHMS1 VNAMEZ 183
00107 IYNYMDE = NYMDE VNAMEZ 184
00108 IYNHMSE = NHMSE VNAMEZ 185
00109 CYJOB = JOB VNAMEZ 186
00110 DO 55 I=1,10 VNAMEZ 187
00111 CYXLABEL(I) = XLABEL(I) VNAMEZ 188
00112 55 CONTINUE VNAMEZ 189
00113 IYNDOUT = NDOUT VNAMEZ 190
00114 IYNDRSW = NDRSW VNAMEZ 191
00115 IYKRSW = NKRSW VNAMEZ 192
00116 IYMROD = MROD VNAMEZ 193
00117 IYNDALT = NDALT VNAMEZ 194
00118 IYNDPHY = NDPHY VNAMEZ 195
00119 IYNSHF = NDSHF VNAMEZ 196
00120 IYJO4 = JO4 VNAMEZ 197
00121 IYJOB = JOB VNAMEZ 198
00122 IYKLIALB = KLIALB VNAMEZ 199
00123 IYKLIW = KLIGW VNAMEZ 200
00124 IYKLISST = KLISST VNAMEZ 201
00125 IYKLITOP = KLITOP VNAMEZ 202
00126 IYKLILWI = KLILWI VNAMEZ 203
00127 IYMATIN = MATIN VNAMEZ 204
00128 DO 56 I=1,12 VNAMEZ 205
00129 IYMLF(I) = MLF(I) VNAMEZ 206
00130 56 CONTINUE VNAMEZ 207
00131 IYNDT = NDT VNAMEZ 208
00132 IYNSEQ = NSEQ VNAMEZ 209
00133 LYSN2FLG = SN2FLG VNAMEZ 210
C VNAMEZ 211
00134 RETURN VNAMEZ 212
00135 END VNAMEZ 213

```

STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

10	87	85
10000	47	
20	89	88
25	90	83
30	96	94
35	97	93
40	98	97
5	61	59
55	112	110
56	130	128
6	79	77
99	92	91

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

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ALBEDO	QANDQT	HALF	ARRAY	6	19														
BOSDIAG	QANDQT	BIT	ARRAY	31	32														
CYJOB		CHAR*8	SIMPLE	1	35	58	109/S												
CYXLABEL		CHAR*8	ARRAY	1	37	60	111/S												
GNU2		REAL	SIMPLE	45	46	53/S	104												
GT	QANDQT	HALF	ARRAY	7	20														
GW	QANDQT	HALF	ARRAY	8	21														
I	QANDQT	INTEGER	SIMPLE	59/C	60	60	77/C	78	78	110/C	111	111	128/C	129					
IFIRST		INTEGER	SIMPLE	129	1	83	93												
IM		INTEGER	UNKNOWN	1	1														
IMD2		INTEGER	SIMPLE	1	86	86	95	95											
INPUTZ		INTEGER	SIMPLE	46	91														
IYJ04		INTEGER	SIMPLE	1	69	120/S													
IYJ08		INTEGER	SIMPLE	1	70	121/S													
IYKLIALB		INTEGER	SIMPLE	1	71	122/S													
IYKLIIGW		INTEGER	SIMPLE	1	72	123/S													
IYKLIILWI		INTEGER	SIMPLE	1	75	126/S													
IYKLISSST		INTEGER	SIMPLE	1	73	124/S													
IYKLIITOP		INTEGER	SIMPLE	1	74	125/S													
IYMATIN		INTEGER	SIMPLE	1	76	127/S													
IYMLF		INTEGER	ARRAY	1	39	78	129/S												
IYMR0D		INTEGER	SIMPLE	1	65	116/S													
IYNDALT		INTEGER	SIMPLE	1	66	117/S													
IYNDOUT		INTEGER	SIMPLE	1	62	113/S													
IYNDPHY		INTEGER	SIMPLE	1	67	118/S													
IYNDRSW		INTEGER	SIMPLE	1	63	114/S													
IYNDSHF		INTEGER	SIMPLE	1	68	119/S													
IYNDT		INTEGER	SIMPLE	1	80	131/S													
IYNHMS1		INTEGER	SIMPLE	1	55	106/S													
IYNHMSE		INTEGER	SIMPLE	1	57	108/S													
IYNKRSR		INTEGER	SIMPLE	1	64	115/S													
IYNSEQ		INTEGER	SIMPLE	1	81	132/S													
IYNYMD1		INTEGER	SIMPLE	1	54	105/S													
IYNYMDE		INTEGER	SIMPLE	1	56	107/S													
J		INTEGER	SIMPLE	85/C	86	86	94/C	95	95										
JESMTH		INTEGER	SIMPLE	84/S	85	94													
JM		INTEGER	SIMPLE	1	84														
JO4		INTEGER	SIMPLE	46	69/S	120													
JOB		INTEGER	SIMPLE	46	70/S	121													
JOB		CHAR*8	SIMPLE	34	46	58/S	109												
KLIAIB		INTEGER	SIMPLE	46	71/S	122													
KLIIGW		INTEGER	SIMPLE	46	72/S	123													
KLIILWI		INTEGER	SIMPLE	46	75/S	126													
KLISSST		INTEGER	SIMPLE	46	73/S	124													
KLIITOP		INTEGER	SIMPLE	46	74/S	125													
KTRANS		INTEGER	SIMPLE	88/C	89	89	97/C	98	98										
LYSN2FLG		LOGICAL	SIMPLE	1	41	82	133/S												
MATIN		INTEGER	SIMPLE	46	76/S	127													
MLF		INTEGER	ARRAY	38	46	78/S	129												
MROD		INTEGER	SIMPLE	46	65/S	116													
NAMEZ			SUBROUTINE	1															
NDALT		INTEGER	SIMPLE	46	66/S	117													
NDOUT		INTEGER	SIMPLE	46	62/S	113													
NDPHY		INTEGER	SIMPLE	46	67/S	118													
NDRSW		INTEGER	SIMPLE	46	63/S	114													
NDSHF		INTEGER	SIMPLE	46	68/S	119													
NDT		INTEGER	SIMPLE	46	80/S	131													
NHMS1		INTEGER	SIMPLE	46	55/S	106													
NHMSE		INTEGER	SIMPLE	46	57/S	109													
NKRSH		INTEGER	SIMPLE	46	64/S	115													
NSEQ		INTEGER	SIMPLE	46	81/S	132													
NYMD1		INTEGER	SIMPLE	46	54/S	105													
NYMDE		INTEGER	SIMPLE	46	56/S	107													
P	QANDQT	HALF	ARRAY	11	24														
PHI	QANDQT	HALF	ARRAY	16	29														
PHIS	QANDQT	HALF	ARRAY	4	17														
PIMEAN		REAL	SIMPLE	45	46	48/S	99												
PSMAX		REAL	SIMPLE	45	46	49/S	100												
PSMIN		REAL	SIMPLE	45	46	50/S	101												

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PSTD		REAL	SIMPLE	45	46	51/S	102								
QANDQT	QANDQT	HALF	UNKNOWN	3	30	33									
QPROG		HALF	ARRAY	3	17	18	19	20	21	22	23	24	25	26	
QSDIAG	QANDQT	HALF	ARRAY	27	28	29									
QUDIAG	QANDQT	HALF	ARRAY	30	32										
RYGNU2		HALF	ARRAY	33											
RYPIMEAN		HALF	SIMPLE	1	53	104/S									
RYPSPMAX		HALF	SIMPLE	1	48	99/S									
RYPSPMIN		HALF	SIMPLE	1	49	100/S									
RYPSTD		HALF	SIMPLE	1	50	101/S									
RYSIGE		HALF	SIMPLE	1	51	102/S									
RYTSTD		HALF	ARRAY	1	42	89	98/S								
SH	QANDQT	HALF	SIMPLE	1	52	103/S									
SHS	QANDQT	HALF	ARRAY	15	28										
SIGE		REAL	ARRAY	10	23										
SMTH	QANDQT	REAL	ARRAY	43	46	89/S	98								
SMTHNL		HALF	ARRAY	5	18										
SN2FLG		REAL	ARRAY	44	46	86	95/S								
T	QANDQT	LOGICAL	SIMPLE	40	46	86/S	95								
TS	QANDQT	HALF	ARRAY	14	27	82/S	133								
TSTD	QANDQT	HALF	ARRAY	9	22										
U	QANDQT	REAL	SIMPLE	45	46	52/S	103								
V	QANDQT	HALF	ARRAY	12	25										
XLABEL	QANDQT	HALF	ARRAY	13	26										
		CHAR*8	ARRAY	36	46	60/S	111								

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00001 SUBROUTINE MAMPHY ( RYCDXL, RYCDXO, RYED, RYFMU, VNAMEP 2
          RYFWET, IYNDHOG, IYNFLW, VNAMEP 3
          XSNLWI, XSNLWI, XSNSST, XSNALB, XSNLWT, VNAMEP 4
          YLTMIN, YLTMAX, YLPRECON, YLHFLUX, VNAMEP 5
          YLFLUX, YLFUSION, YLRADSW, YLICLOUD, VNAMEP 6
          YLUFUX, YLVFLUX, VNAMEP 7
          YLOMEGA, YLDIABAT, YLRADSW, YLPREACC) VNAMEP 8
C *****
C PURPOSE VNAMEP 9
C TO READ MODEL CONTROL NAMELIST INPHYS. VNAMEP 10
C USAGE VNAMEP 11
C CALLED BY DEPEND VNAMEP 12
C INITIALIZE FULL PRECISION WITH DEFAULT VALUES. VNAMEP 13
C THEN READ IN THE NAMELIST FOLLOWED BY VNAMEP 14
C INITIALIZING WITH INCOMING VALUES. VNAMEP 15
C ARGUMENTS DESCRIPTION (SEE INPHYS COMMON) VNAMEP 16
C RYCDXL VNAMEP 17
C RYCDXO VNAMEP 18
C RYED VNAMEP 19
C RYFMU VNAMEP 20
C RYFWET VNAMEP 21
C IYNDHOG VNAMEP 22
C IYNFLW VNAMEP 23
C XSNLWI DATA SET NAME FOR REPLACEMENT TOPOGRAPHY VNAMEP 24
C XSNLWI DATA SET NAME FOR REPLACEMENT LAND-WATER-ICE KEY VNAMEP 25
C XSNSST DATA SET NAME FOR REPLACEMENT SEA SURF TEMP VNAMEP 26
C XSNALB DATA SET NAME FOR REPLACEMENT ALBEDO VNAMEP 27
C XSNLWT DATA SET NAME FOR REPLACEMENT GROUND WETNESS VNAMEP 28
C YLTMIN MINIMUM DAILY SURFACE TEMPERATURE VNAMEP 29
C YLTMAX MAXIMUM DAILY SURFACE TEMPERATURE VNAMEP 30
C YLPREACC TOTAL ACCUMULATED PRECIPITATION VNAMEP 31
C YLPRECON CONVECTIVE PRECIPITATION VNAMEP 32
C YLHFLUX SENSIBLE HEAT FLUX VNAMEP 33
C YLFLUX EVAPORATIVE FLUX VNAMEP 34
C YLFUSION HEAT STORED IN FREEZING AT GROUND VNAMEP 35
C YLRADSW SOLAR RADIATION AT GROUND VNAMEP 36
C YLICLOUD CLOUD FLAGS VNAMEP 37
C YLOMEGA VERTICAL VELOCITY (ALL LEVELS) VNAMEP 38
C YLDIABAT DIABATIC HEATING (ALL LEVELS) VNAMEP 39
C YLRADSW SOLAR RADIATION (ALL LEVELS) VNAMEP 40
C YLUFUX NET UPWARD FLUX OF U-MOMENTUM VNAMEP 41
C YLVFLUX NET UPWARD FLUX OF V-MOMENTUM VNAMEP 42
C I/O UNITS USED VNAMEP 43
C I1 REWINDABLE COPY OF CARD-IMAGE DATA FROM UNIT 5 (TEMPNL). VNAMEP 44
C SUBPROGRAMS NEEDED VNAMEP 45
C NONE VNAMEP 46
C RECORD OF MODIFICATIONS VNAMEP 47
C 10/15/83 RAMESH NEW PGM VNAMEP 48
C 01FEB84 JIM.PF COMMENTS VNAMEP 49
C 02FEB84 JIM.PF ADDED ARGS FOR SURF DATA SET NAMES VNAMEP 50
C REMARKS: VNAMEP 51
C DESIGNED TO READ NAMELIST IN FULL PRECISION AND CONVERT IT VNAMEP 52
C IF NECESSARY TO HALF PRECISION. VNAMEP 53
C ***** VNAMEP 54
C M / A - C O M S I G M A D A T A I N C N A S A - G S F C VNAMEP 55
C ***** VNAMEP 56
C HALF/FULL PRECISION VNAMEP 57
C ===== VNAMEP 58
00002 IMPLICIT HALF PRECISION (A-H,O-Z) VREAL 2
C VREAL 3
C VREAL 4
C VREAL 5
C VNAMEP 60
00003 CHARACTER*8 XSNLWI(4), XSNLWI(4), XSNSST(4), XSNALB(4), XSNLWT(4) VNAMEP 61
00004 CHARACTER*8 DSNTOP(4), DSNLWI(4), DSNST(4), DSNALB(4), DSNLWT(4) VNAMEP 62
C VNAMEP 63
00005 LOGICAL LTMIN VNAMEP 64
00006 LOGICAL YLTMIN VNAMEP 65
00007 LOGICAL YLTMAX VNAMEP 66
00008 LOGICAL YLTMAX VNAMEP 67
00009 LOGICAL LPREACC VNAMEP 68
00010 LOGICAL YLPREACC VNAMEP 69

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00011 LOGICAL LPRECON
00012 LOGICAL YLPRECON
00013 LOGICAL LHFLUX
00014 LOGICAL VLHFLUX
00015 LOGICAL LEFLUX
00016 LOGICAL VLEFLUX
00017 LOGICAL LFUSION
00018 LOGICAL YLFUSION
00019 LOGICAL LRADSWG
00020 LOGICAL YLRADSWG
00021 LOGICAL LICLOUD
00022 LOGICAL YLICLOUD
00023 LOGICAL LOMEGA
00024 LOGICAL YLOMEGA
00025 LOGICAL LDIABAT
00026 LOGICAL YLDIABAT
00027 LOGICAL LRADSW
00028 LOGICAL YLRADSW
00029 LOGICAL LUFLUX
00030 LOGICAL VLUFLUX
00031 LOGICAL LVFLUX
00032 LOGICAL YLVFLUX
VNAMEP 70
VNAMEP 71
VNAMEP 72
VNAMEP 73
VNAMEP 74
VNAMEP 75
VNAMEP 76
VNAMEP 77
VNAMEP 78
VNAMEP 79
VNAMEP 80
VNAMEP 81
VNAMEP 82
VNAMEP 83
VNAMEP 84
VNAMEP 85
VNAMEP 86
VNAMEP 87
VNAMEP 88
VNAMEP 89
VNAMEP 90
VNAMEP 91
VNAMEP 92
VNAMEP 93
VNAMEP 94
VNAMEP 95
VNAMEP 96
VNAMEP 97
VNAMEP 98
VNAMEP 99
VNAMEP 100
C
C THESE TEMPORARY VARIABLES ARE ALWAYS DEFINED TO BE FULL PRECISION.
C -----
00033 REAL CDXL
00034 REAL CDXO
00035 REAL ED
00036 REAL FMU
00037 REAL FWET
VINPHYS 2
VINPHYS 3
VINPHYS 4
VINPHYS 5
VINPHYS 6
VINPHYS 7
VINPHYS 8
VINPHYS 9
VINPHYS 10
VINPHYS 11
VINPHYS 12
VINPHYS 13
VINPHYS 14
VINPHYS 15
VINPHYS 16
VINPHYS 17
VINPHYS 18
VINPHYS 19
VINPHYS 20
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VINPHYS 22
VINPHYS 23
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VINPHYS 27
VINPHYS 28
VINPHYS 29
VINPHYS 30
VINPHYS 31
VINPHYS 32
VINPHYS 33
VINPHYS 34
VINPHYS 35
VINPHYS 36
VINPHYS 37
VINPHYS 38
VINPHYS 39
VINPHYS 40
VINPHYS 41
C
C PHYSICS INPUT NAMELIST
C -----
00038 NAMELIST /INPHYS/
C
C X CDXL CDXO ED FMU
C O FWET NDHOG NFWL DSNSST DSNTOP
C S DSNLWI DSNALB DSNLWI DSNALB DSNLWI DSNALB DSNLWI DSNALB
C S LTMIN LTMAX LPRECON LHFLUX LICLOUD
C U LEFLUX LFUSION LRADSWG LADACC
C LOMEGA LDIABAT LRADSW
C
C VAR LOC DEFAULT DESCRIPTION
C === ===
C CDXL 0.5
C CDXO 0.5
C ED 0.5
C FMU 0.00067
C FWET 0.5
C NDHOG 030000
C NFWL 5
C DSNLWI /MNTHLY/ (DEPEND) LAND-WATER-ICE REPLACEMENT DATA SET
C DSNALB /MNTHLY/ (DEPEND) ALBEDO REPLACEMENT DATA SET
C DSNLWI /MNTHLY/ (DEPEND) GROUND WETNESS REPLACEMENT DATA SET
C DSNLWI /MNTHLY/ (DEPEND) SEA SURF TEMP REPLACEMENT DATA SET
C DSNLWI /MNTHLY/ (DEPEND) TOPOGRAPHY REPLACEMENT DATA SET
C LTMIN /ICNTRL/ .TRUE. MINIMUM DAILY SURFACE TEMPERATURE
C LTMAX /ICNTRL/ .TRUE. MAXIMUM DAILY SURFACE TEMPERATURE
C LADACC /ICNTRL/ .TRUE. TOTAL ACCUMULATED PRECIPITATION
C LADACC /ICNTRL/ .TRUE. CONVECTIVE PRECIPITATION
C LHFLUX /ICNTRL/ .TRUE. SENSIBLE HEAT FLUX
C LEFLUX /ICNTRL/ .TRUE. EVAPORATIVE FLUX
C LFUSION /ICNTRL/ .TRUE. HEAT STORED IN FREEZING AT GROUND
C LRADSWG /ICNTRL/ .TRUE. SOLAR RADIATION AT GROUND
C LICLOUD /ICNTRL/ .TRUE. CLOUD FLAGS
C LUFLUX /ICNTRL/ .FALSE. NET UPWARD FLUX OF U-MOMENTUM
C LVFLUX /ICNTRL/ .FALSE. NET UPWARD FLUX OF V-MOMENTUM
C LOMEGA /ICNTRL/ .TRUE. VERTICAL VELOCITY (ALL LEVELS)
C LDIABAT /ICNTRL/ .TRUE. DIABATIC HEATING (ALL LEVELS)
C LRADSW /ICNTRL/ .TRUE. SOLAR RADIATION (ALL LEVELS)

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C
C*****VNAMEP 102
C*****VNAMEP 103
C*****VNAMEP 104
00039 00000 DEBUG CONTINUE VNAMEP 105
C*****VNAMEP 106
C*****VNAMEP 107
C*****VNAMEP 108
C*****VNAMEP 109
C*****VNAMEP 110
C*****VNAMEP 111
00040 CDXL = RYCDXL VNAMEP 112
00041 CDXO = RYCDXO VNAMEP 113
00042 ED = RYED VNAMEP 114
00043 FMU = RYFMU VNAMEP 115
00044 FWET = RYFWET VNAMEP 116
00045 NDHOG = IYNDHOG VNAMEP 117
00046 NFLW = IYNFLW VNAMEP 118
00047 DO 45 K = 1,4 VNAMEP 119
00048 DSNTOP(K) = XSNTOP(K) VNAMEP 120
00049 DSNLWI(K) = XSNLWI(K) VNAMEP 121
00050 DSNST(K) = XSNST(K) VNAMEP 122
00051 DSNALB(K) = XSNALB(K) VNAMEP 123
00052 DSNGBT(K) = XSNGBT(K) VNAMEP 124
00053 45 CONTINUE VNAMEP 125
00054 LTMIN = YLTMIN VNAMEP 126
00055 LTMAX = YLTMAX VNAMEP 127
00056 LPREACC = YLPREACC VNAMEP 128
00057 LPRECON = YLPRECON VNAMEP 129
00058 LHFLUX = YLHFLUX VNAMEP 130
00059 LEFLUX = YLEFLUX VNAMEP 131
00060 LFUSION = YLFUSION VNAMEP 132
00061 LRADSWG = YLRADSWG VNAMEP 133
00062 LICLOUD = YLICLOUD VNAMEP 134
00063 LOMEGA = YLOMEGA VNAMEP 135
00064 LDIABAT = YLDIABAT VNAMEP 136
00065 LRADSW = YLRADSW VNAMEP 137
00066 LUFLUX = YLUFLUX VNAMEP 138
00067 LVFLUX = YLVFLUX VNAMEP 139
C VNAMEP 140
00068 READ (11,INPHYS,END=48) VNAMEP 141
00069 48 CONTINUE VNAMEP 142
00070 WRITE(3,INPHYS) VNAMEP 143
C VNAMEP 144
C*****VNAMEP 145
C*****VNAMEP 146
C*****VNAMEP 147
C*****VNAMEP 148
C*****VNAMEP 149
00071 RYCDXL = CDXL VNAMEP 150
00072 RYCDXO = CDXO VNAMEP 151
00073 RYED = ED VNAMEP 152
00074 RYFMU = FMU VNAMEP 153
00075 RYFWET = FWET VNAMEP 154
00076 IYNDHOG = NDHOG VNAMEP 155
00077 IYNFLW = NFLW VNAMEP 156
00078 DO 65 K = 1,4 VNAMEP 157
00079 XSNTOP(K) = DSNTOP(K) VNAMEP 158
00080 XSNLWI(K) = DSNLWI(K) VNAMEP 159
00081 XSNST(K) = DSNST(K) VNAMEP 160
00082 XSNALB(K) = DSNALB(K) VNAMEP 161
00083 XSNGBT(K) = DSNGBT(K) VNAMEP 162
00084 65 CONTINUE VNAMEP 163
00085 YLTMIN = LTMIN VNAMEP 164
00086 YLTMAX = LTMAX VNAMEP 165
00087 YLPREACC = LPREACC VNAMEP 166
00088 YLPRECON = LPRECON VNAMEP 167
00089 YLHFLUX = LHFLUX VNAMEP 168

```

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```

00090      YLEFLUX = LEFLUX
00091      YLFUSION = LFUSION
00092      YLRADSWG = LRADSWG
00093      YLICLOUD = LICLOUD
00094      YLOMEGA = LOMEGA
00095      YLDIABAT = LDIABAT
00096      YLRADSW = LRADSW
00097      YLUFUX = LUFLUX
00098      YLVFLUX = LVFLUX

      C
00099      RETURN
00100      END
    
```

```

VNAMEP 169
VNAMEP 170
VNAMEP 171
VNAMEP 172
VNAMEP 173
VNAMEP 174
VNAMEP 175
VNAMEP 176
VNAMEP 177
VNAMEP 178
VNAMEP 179
VNAMEP 180
    
```

STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

```

10000      39
45         53         47
48         69         68
65         84         78
    
```

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W	
CDXL		REAL	SIMPLE	33	38	40/S					
CDXO		REAL	SIMPLE	34	38	41/S					
DSNALB		CHAR*8	ARRAY	4	38	51/S					
DSNGWT		CHAR*8	ARRAY	4	38	52/S					
DSNLWI		CHAR*8	ARRAY	4	38	49/S					
DSNSST		CHAR*8	ARRAY	4	38	50/S					
DSNTOP		CHAR*8	ARRAY	4	38	48/S					
ED		REAL	SIMPLE	35	38	42/S					
FMU		REAL	SIMPLE	36	38	43/S					
FWET		REAL	SIMPLE	37	38	44/S					
INPHYS		INTEGER	SIMPLE	38	68	70					
IYNDHOG		INTEGER	SIMPLE	1	45	76/S					
IYNFLW		INTEGER	SIMPLE	1	46	77/S					
K		INTEGER	SIMPLE	47/C	48	48	49				
				78/C	79	79	80	49	50	51	52
								80	81	81	82
											83
											83
LDIABAT		LOGICAL	SIMPLE	25	38	64/S					
LEFLUX		LOGICAL	SIMPLE	15	38	59/S					
LFUSION		LOGICAL	SIMPLE	17	38	60/S					
LHFLUX		LOGICAL	SIMPLE	13	38	58/S					
LICLOUD		LOGICAL	SIMPLE	21	38	62/S					
LOMEGA		LOGICAL	SIMPLE	23	38	63/S					
LPREACC		LOGICAL	SIMPLE	9	38	56/S					
LPRECON		LOGICAL	SIMPLE	11	38	57/S					
LRADSW		LOGICAL	SIMPLE	27	38	65/S					
LRADSWG		LOGICAL	SIMPLE	19	38	61/S					
LTMAX		LOGICAL	SIMPLE	7	38	55/S					
LTMIN		LOGICAL	SIMPLE	5	38	54/S					
LUFLUX		LOGICAL	SIMPLE	29	38	66/S					
LVFLUX		LOGICAL	SIMPLE	31	38	67/S					
NAMPHY			SUBROUTINE	1							
NDHOG		INTEGER	SIMPLE	38	45/S	76					
NFLW		INTEGER	SIMPLE	38	46/S	77					
RYCDXL		HALF	SIMPLE	1	40	71/S					
RYCDXO		HALF	SIMPLE	1	41	72/S					
RYED		HALF	SIMPLE	1	42	73/S					
RYFMU		HALF	SIMPLE	1	43	74/S					
RYFWET		HALF	SIMPLE	1	44	75/S					
XSNALB		CHAR*8	ARRAY	1	3	51	82/S				
XSNLWT		CHAR*8	ARRAY	1	3	52	83/S				
XSNLWI		CHAR*8	ARRAY	1	3	49	80/S				
XSNSST		CHAR*8	ARRAY	1	3	50	81/S				
XSNSTP		CHAR*8	ARRAY	1	3	48	79/S				
YLDIABAT		LOGICAL	SIMPLE	1	26	64	95/S				
YLEFLUX		LOGICAL	SIMPLE	1	16	59	90/S				
YLFUSION		LOGICAL	SIMPLE	1	18	60	91/S				
YLHFLUX		LOGICAL	SIMPLE	1	14	58	89/S				
YLICLOUD		LOGICAL	SIMPLE	1	22	62	93/S				

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YLOMEGA	LOGICAL	SIMPLE	1	24	63	94/S
YLPREACC	LOGICAL	SIMPLE	1	10	56	87/S
YLPRECON	LOGICAL	SIMPLE	1	12	57	88/S
YLRADSW	LOGICAL	SIMPLE	1	28	65	96/S
YLRADSWG	LOGICAL	SIMPLE	1	20	61	92/S
YLTMAX	LOGICAL	SIMPLE	1	8	55	86/S
YLTMIN	LOGICAL	SIMPLE	1	6	54	85/S
YLUFLUX	LOGICAL	SIMPLE	1	30	66	97/S
YLVFLUX	LOGICAL	SIMPLE	1	32	67	98/S

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```

00001 SUBROUTINE ORBIT (TIME,PHI,ECC,PRD)
C+*****
C SUBROUTINE ORBIT
C PURPOSE
C CALCULATES PLANETARY ANGULAR POSITION USING
C CONSERVATION OF ANGULAR MOMENTUM
C USAGE
C CALLED FROM DAILY AND DEPEND
C INPUT/OUTPUT FILES USED
C NONE
C DESCRIPTION OF PARAMETERS
C TIME - TIME IN DAYS FROM APHELION (POSITIVE OR NEGATIVE)
C PHI - ANGULAR POSITION IN ELLIPTICAL ORBIT
C ECC - ECCENTRICITY OF ORBIT
C PRD - PLANETARY PERIOD IN DAYS
C SUBPROGRAMS NEEDED
C FNT1 - INTEGRAL EXPRESSION FOR SQUARED SUN-PLANET DISTANCE
C FNT2 - DERIVATIVE OF FNT1
C RECORD OF MODIFICATIONS
C 02FEB84 JIM.PF COMMENTS
C REMARKS:
C LARRY TAKACS IS THE AUTHOR OF THIS ROUTINE
C+*****
C M / A - C O M S I G M A D A T A I N C N A S A - G S F C
C+*****
C HALF/FULL PRECISION
C =====
00002 IMPLICIT HALF PRECISION (A-H,O-Z)
C
C
00003 DATA PHI0 /1.570850/
C
C+*****
C STATEMENT FUNCTIONS
00004 FNT1(X,E,A) = E + HSIN(X) / ( A + (1.050 - E + HCOS(X)) )
          + 2.050 / ( A + HSQRT(A) ) * HATAN( HSQRT(A) /
          ( 1.050 - E ) * HTAN( 0.550 * X ) )
00005 FNT2(X,E) = 1.050 / (1.050 - E + HCOS(X))**2
C+*****
C
C
C DEBUG
00006 10000 CONTINUE
C **** CYBER VECTOR VERSION 00.001 INPUT 100
C **** CYBER VECTOR VERSION 00
C *****
C
00007 PI = 4.50 + HATAN( 1.050 )
00008 A = 1.050 - ECC + ECC
00009 Z = 2.050 + PI / ( PRD + A * HSQRT(A) )
00010 ATIME = HMIN1 ( HABS(TIME), PRD + 0.550 )
00011 ZT = Z * ATIME
C
00012 100 PHI = PHI0 - ( FNT1(PHI0,ECC,A) - ZT ) / FNT2(PHI0,ECC)
00013 Y = HABS(PHI-PHI0)
00014 PHI0 = PHI
C
00015 IF( Y .LT. 1.05-6 ) GOTO 200
00016 GOTO 100
C
00017 200 CONTINUE
C
00018 RETURN
00019 END

```

```

VORBIT 2
VORBIT 3
VORBIT 4
VORBIT 5
VORBIT 6
VORBIT 7
VORBIT 8
VORBIT 9
VORBIT 10
VORBIT 11
VORBIT 12
VORBIT 13
VORBIT 14
VORBIT 15
VORBIT 16
VORBIT 17
VORBIT 18
VORBIT 19
VORBIT 20
VORBIT 21
VORBIT 22
VORBIT 23
VORBIT 24
VORBIT 25
VORBIT 26
VORBIT 27
VREAL 2
VREAL 3
VREAL 4
VREAL 5
VORBIT 29
VORBIT 30
VORBIT 31
VORBIT 32
VORBIT 33
VORBIT 34
VORBIT 35
VORBIT 36
VORBIT 37
VORBIT 38
VORBIT 39
VBEGDEB 2
VBEGDEB 3
VBEGDEB 4
VBEGDEB 5
VBEGDEB 6
VORBIT 41
VORBIT 42
VORBIT 43
VORBIT 44
VORBIT 45
VORBIT 46
VORBIT 47
VORBIT 48
VORBIT 49
VORBIT 50
VORBIT 51
VORBIT 52
VORBIT 53
VORBIT 54
VORBIT 55
VORBIT 56
VORBIT 57
VORBIT 58

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	12	16
10000	6	
200	17	15

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VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE							
A		HALF	SIMPLE	4	4	4	4	4	8/S	9	9	12
ATIME		HALF	SIMPLE	10/S	11							
E		HALF	SIMPLE	4	4	4	4	5	5			
ECC		HALF	SIMPLE	1	8	8	12	12				
ORBIT			SUBROUTINE	1								
PHI		HALF	SIMPLE	1	12/S	13	14					
PHIO		HALF	SIMPLE	3/I	12	12	12	13	14/S			
PI		HALF	SIMPLE	7/S	9							
PRD		HALF	SIMPLE	1	9	10						
TIME		HALF	SIMPLE	1	10							
X		HALF	SIMPLE	4	4	4	4	5	5			
Y		HALF	SIMPLE	13/S	15							
Z		HALF	SIMPLE	9/S	11							
ZT		HALF	SIMPLE	11/S	12							

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST			
FNT1	HALF	STAT FUNC	4/S 12				
FNT2	HALF	STAT FUNC	5/S 12				
HABS	HALF	INTRINSIC	10 13				
HATAN	HALF	INTRINSIC	4 7				
KCOS	HALF	INTRINSIC	4 5				
HMIN1	HALF	INTRINSIC	10				
HSIN	HALF	INTRINSIC	4				
HSQRT	HALF	INTRINSIC	4 4	9			
HTAN	HALF	INTRINSIC	4				

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```

00058 CDAV = XDAY - 63.0
00059 IF (XLAT.LT.0.00) CDAV = CDAV + 183.0
00060 IF (CDAV.GT.365.) CDAV = CDAV - 365.0
00061 DLAT = ABS(XLAT)
00062 DO 100 J=1,6
00063 CDATEJ = CDATE(J)
00064 IF (CDAV.LT.CDATEJ) GO TO 110
00065 CDATEI=CDATEJ
00066 100 CONTINUE
00067 110 CONTINUE
00068 DXDATE = (CDAV - CDATEI)/(CDATEJ - CDATEI)
00069 DLATI = 0.0
00070 DO 120 K=2,19
00071 J = K
00072 DLATJ = DLATI + 5.0
00073 IF (DLAT.LT.DLATJ) GO TO 130
00074 DLATI = DLATJ
00075 120 CONTINUE
00076 130 CONTINUE
00077 DXDLAT = (DLAT - DLATI)/5.0
00078 JM1 = J-1
  
```

VOZONE2 10
VOZONE2 11
VOZONE2 12
VOZONE2 13
VOZONE2 14
VOZONE2 15
VOZONE2 16
VOZONE2 17
VOZONE2 18
VOZONE2 19
VOZONE2 20
VOZONE2 21
VOZONE2 22
VOZONE2 23
VOZONE2 24
VOZONE2 25
VOZONE2 26
VOZONE2 27
VOZONE2 28
VOZONE2 29
VOZONE2 30
VOZONE2 31
VOZONE2 32
VOZONE2 33
VOZONE2 34
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VOZONE2 36
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VOZONE2 41
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VOZONE2 66
VOZONE2 67
VOZONE2 68
VOZONE2 69
VOZONE2 70
VOZONE2 71
VOZONE2 72
VOZONE2 73
VOZONE2 74
VOZONE2 75
VOZONE2 76
VOZONE2 77
VOZONE2 78
VOZONE2 79
VOZONE2 80

.....
.....
..... TOTAL VERTICAL OZONE CONTENT (CM*NTP)
..... FOR GIVEN LATITUDE AND DATE
.....
.....

```

00079 IF (CDAV.GT.15.00) GO TO 150
00080 CONTINUE
00081 140 OD1 = OLOCT(JM1) + DXDLAT*(OLOCT(J) - OLOCT(JM1))
00082 OD2 = OLJAN(JM1) + DXDLAT*(OLJAN(J) - OLJAN(JM1))
00083 GO TO 200
00084 150 CONTINUE
00085 IF (CDAV.GT.105.0) GO TO 170
00086 OD1 = OLJAN(JM1) + DXDLAT*(OLJAN(J) - OLJAN(JM1))
00087 OD2 = OLAPR(JM1) + DXDLAT*(OLAPR(J) - OLAPR(JM1))
00088 GO TO 200
00089 170 CONTINUE
00090 IF (CDAV.GT.195.0) GO TO 190
00091 OD1 = OLAPR(JM1) + DXDLAT*(OLAPR(J) - OLAPR(JM1))
00092 OD2 = OLJUL(JM1) + DXDLAT*(OLJUL(J) - OLJUL(JM1))
00093 GO TO 200
00094 190 CONTINUE
00095 IF (CDAV.GT.288.0) GO TO 140
00096 OD1 = OLJUL(JM1) + DXDLAT*(OLJUL(J) - OLJUL(JM1))
00097 OD2 = OLOCT(JM1) + DXDLAT*(OLOCT(J) - OLOCT(JM1))
00098 200 CONTINUE
00099 TOTOCM = OD1 + DXDATE*(OD2 - OD1)
  
```

.....
.....
..... VERTICAL OZONE DISTRIBUTION FOR GIVEN TOTAL OZONE CONTENT
.....

```

00100 TOTOZI = TOTOZ(I)
00101 DO 210 K=2,4
00102 J = K
00103 TOTOZJ = TOTOZ(J)
00104 IF (TOTOCM.LT.TOTOZJ) GO TO 220
00105 TOTOZI = TOTOZJ
00106 210 CONTINUE
00107 220 CONTINUE
00108 DXOCM = (TOTOCM - TOTOZI)/0.08
00109 IF (J.GT.2) GO TO 240
00110 DO 230 N=1,NOZ
00111 OCMXX(N) = OCM22(N) + DXOCM*(OCM30(N) - OCM22(N))
00112 230 CONTINUE
00113 GO TO 280
  
```

```

00114      240      CONTINUE
00115      IF (J.GT.3) GO TO 260
00116      DO 250 N=1,NOZ
00117          OCMXX(N) = OCM30(N) + DXOCM*(OCM38(N) - OCM30(N))
00118      250      CONTINUE
00119      GO TO 280
00120      260      CONTINUE
00121      DO 270 N=1,NOZ
00122          OCMXX(N) = OCM38(N) + DXOCM*(OCM46(N) - OCM38(N))
00123      270      CONTINUE
C
C.....
C.....
C.....
C.....
C.....
00124      280      CONTINUE
C
00125      DO 810 I=1,IM
00126      IF ( DARK(I) ) GOTO 810
00127      NP = 2
00128      PROCM I = PROCM(I)
C
00129      DO 310 L=1,NLAYO1
00130      PLEN = PLE(I,L)
00131      DO 290 K=NP,NOZ
00132      J = K
00133      PROCMJ = PROCM(J)
00134      IF (PLEN.LT.PROCMJ) GO TO 300
00135      PROCM I = PROCMJ
00136      290      CONTINUE
00137      PROCM I = PROCM(J-1)
00138      300      CONTINUE
C
00139      DXPRO = (PLEN - PROCM I)/(PROCMJ - PROCM I)
00140      JM1 = J-1
00141      NP = J
00142      OZALE(I,L) = OCMXX(JM1) + DXPRO*(OCMXX(J) - OCMXX(JM1))
00143      310      CONTINUE
C
00144      810      CONTINUE
C
00145      RETURN
00146      END

```

```

VOZONE2 81
VOZONE2 82
VOZONE2 83
VOZONE2 84
VOZONE2 85
VOZONE2 86
VOZONE2 87
VOZONE2 88
VOZONE2 89
VOZONE2 90
VOZONE2 91
VOZONE2 92
VOZONE2 93
VOZONE2 94
VOZONE2 95
VOZONE2 96
VOZONE2 97
VOZONE2 98
VOZONE2 99
VOZONE2100
VOZONE2101
VOZONE2102
VOZONE2103
VOZONE2104
VOZONE2105
VOZONE2106
VOZONE2107
VOZONE2108
VOZONE2109
VOZONE2110
VOZONE2111
VOZONE2112
VOZONE2113
VOZONE2114
VOZONE2115
VOZONE2116
VOZONE2117
VOZONE2118
VOZONE2119
VOZONE2120
VOZONE2121
VOZONE2122
VOZONE2123
VOZONE2124
VOZONE2125

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	66	62		
10000	57			
110	67	64		
120	75	70		
130	76	73		
140	80	95		
150	84	79		
170	89	85		
190	94	90		
200	98	83	88	93
210	106	101		
220	107	104		
230	112	110		
240	114	109		
250	118	116		
260	120	115		
270	123	121		
280	124	113	119	
290	136	131		
300	138	134		
310	143	129		
810	144	125	126	

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VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE																
ACLEAR	DSOLAR	REAL	ARRAY	44																	
ACLOUD	DSOLAR	REAL	ARRAY	45																	
AL	RADCOM	REAL	ARRAY	17																	
AS	RADCOM	REAL	ARRAY	2																	
CDATE	RADCOM	REAL	ARRAY	26	63																
CDATEI		REAL	SIMPLE	65/S	68	68															
CDATEJ		REAL	SIMPLE	63/S	64	65	68														
CDAV		REAL	SIMPLE	58/S	59/S	59	60	60/S	60	64	68	79	85	90							
				95																	
CLEAR	DSOLAR	LOGICAL	ARRAY	51	56																
CLOUD	RADCOM	REAL	ARRAY	8																	
CLOUDY	DSOLAR	LOGICAL	ARRAY	52	56																
COSMAG	DSOLAR	REAL	ARRAY	36																	
CJSZ	RADCOM	REAL	ARRAY	28																	
CVQ	RADCOM	REAL	ARRAY	14																	
CVT	RADCOM	REAL	ARRAY	14																	
CXDE	RADCOM	REAL	ARRAY	15																	
CXL	RADCOM	REAL	SIMPLE	28																	
CZH	RADCOM	REAL	ARRAY	27																	
DARK	DSOLAR	LOGICAL	ARRAY	50	56	126															
DLAT		REAL	SIMPLE	61/S	73	77															
DLATI		REAL	SIMPLE	69/S	72	74/S	77														
DLATJ		REAL	SIMPLE	72/S	73	74															
DSOLAR		REAL	UNKNOWN	34	35	36	37	38	39	40	41	42	43	44							
				45	46	47	48	49	50	51	52	53	54	55							
DXDATE		REAL	SIMPLE	68/S	99																
DXDLAT		REAL	SIMPLE	77/S	81	82	86	87	91	92	96	97									
DXOCM		REAL	SIMPLE	108/S	111	117	122														
DXPRO		REAL	SIMPLE	139/S	142																
EVAP	RADCOM	REAL	SIMPLE	27																	
FCLD	DSOLAR	LOGICAL	ARRAY	53	56																
FCLEAR	DSOLAR	REAL	ARRAY	42																	
FCLD	DSOLAR	REAL	ARRAY	41																	
FK	RADCOM	REAL	ARRAY	23																	
FROST	RADCOM	LOGICAL	ARRAY	32	33																
FSCAT	DSOLAR	REAL	ARRAY	38																	
GAM	RADCOM	REAL	ARRAY	9																	
HH	RADCOM	REAL	ARRAY	12																	
HHE	RADCOM	REAL	ARRAY	12																	
HHS	RADCOM	REAL	ARRAY	13																	
I		INTEGER	SIMPLE	125/C	126	130	142														
ICE	RADCOM	LOGICAL	ARRAY	31	33																
IM		INTEGER	SIMPLE	1	125																
J		INTEGER	SIMPLE	62/C	63	71/S	78	81	82	86	87	91	92	96							
				97	102/S	103	109	115	132/S	133	137	140	141	142							
JALB	RADCOM	INTEGER	SIMPLE	30																	
JMI		INTEGER	SIMPLE	78/S	81	81	82	82	86	86	87	87	91	91							
				92	92	96	96	97	97	140/S	142	142									
K		INTEGER	SIMPLE	70/C	71	101/C	102	131/C	132												
L		INTEGER	SIMPLE	129/C	130	142															
LAND	RADCOM	LOGICAL	ARRAY	31	33																
MIXWI	RADCOM	LOGICAL	ARRAY	32	33																
N		INTEGER	SIMPLE	110/C	111	111	111	111	116/C	117	117	117	117	121							
				122	122	122	122														
NFK	RADCOM	INTEGER	SIMPLE	23																	
NLAYO1		INTEGER	SIMPLE	1	129																
NLAYOZ	RADCOM	INTEGER	SIMPLE	22																	
NOZ	RADCOM	INTEGER	SIMPLE	26	110	116	121	131													
NP		INTEGER	SIMPLE	127/S	131	141/S															
NTOP	DSOLAR	INTEGER	ARRAY	49																	
NTOPF	DSOLAR	INTEGER	ARRAY	48																	
NTOPT	DSOLAR	INTEGER	ARRAY	47																	
OCEAN	RADCOM	LOGICAL	ARRAY	31	33																
OCM22	RADCOM	REAL	ARRAY	25	111	111															
OCM30	RADCOM	REAL	ARRAY	25	111	117	117														
OCM38	RADCOM	REAL	ARRAY	25	117	122	122														

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OCM46	RADCOM	REAL	ARRAY	25	122															
OCMXX	RADCOM	REAL	ARRAY	26	111/S	117/S	122/S	142	142	142										
OD1		REAL	SIMPLE	81/S	86/S	91/S	96/S	99	99	99										
OD2		REAL	SIMPLE	82/S	87/S	92/S	97/S	99	99	99										
OLAPR	RADCOM	REAL	ARRAY	24	87	87	87	91	91	91										
OLJAN	RADCOM	REAL	ARRAY	24	82	82	82	86	86	86										
OLJUL	RADCOM	REAL	ARRAY	24	92	92	92	96	96	96										
OLOCT	RADCOM	REAL	ARRAY	24	81	81	81	97	97	97										
OZALE	RADCOM	REAL	ARRAY	18	142/S															
OZONE2			SUBROUTINE	1																
PL	RADCOM	REAL	ARRAY	3																
PLE	RADCOM	REAL	ARRAY	3	130															
PLEN		REAL	SIMPLE	130/S	134	139														
PLK	RADCOM	REAL	ARRAY	4																
PLKE	RADCOM	REAL	ARRAY	4																
PREP	RADCOM	REAL	ARRAY	27																
PROCM	RADCOM	REAL	ARRAY	26	128	133	137													
PROCMJ		REAL	SIMPLE	128/S	135/S	137/S	139	139												
PROCMJ		REAL	SIMPLE	133/S	134	135	139													
RADCOM		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12						
				13	14	15	16	17	18	19	20	21	22	23						
				24	25	26	27	28	29	30	31	32								
RADTRM	RADCOM	REAL	ARRAY	28																
RCLEAR	DSOLAR	REAL	ARRAY	39																
RCLOUD	RADCOM	REAL	ARRAY	30																
RE	RADCOM	REAL	ARRAY	2																
RF	DSOLAR	REAL	ARRAY	55																
RH	RADCOM	REAL	ARRAY	10																
RMEAN	DSOLAR	REAL	ARRAY	34																
RN	RADCOM	REAL	ARRAY	20																
RSURF	RADCOM	REAL	ARRAY	30																
SO	RADCOM	REAL	SIMPLE	28																
SCOSZ	DSOLAR	REAL	ARRAY	37																
SG	RADCOM	REAL	ARRAY	29																
SHG	RADCOM	REAL	ARRAY	8																
SHL	RADCOM	REAL	ARRAY	7																
SHLE	RADCOM	REAL	ARRAY	7																
SHSAT	RADCOM	REAL	ARRAY	9																
SNOW	RADCOM	LOGICAL	ARRAY	32	33															
SP	RADCOM	REAL	ARRAY	29																
SRS	RADCOM	REAL	ARRAY	20																
SSS	RADCOM	REAL	ARRAY	11																
SSSE	RADCOM	REAL	ARRAY	11																
STN	RADCOM	REAL	ARRAY	20																
SWALE	RADCOM	REAL	ARRAY	16																
SWIL	RADCOM	REAL	ARRAY	16																
TAUL	RADCOM	REAL	ARRAY	18																
TCOND	RADCOM	REAL	ARRAY	21																
TEMP	DSOLAR	REAL	ARRAY	54																
TEMP1	DSOLAR	REAL	ARRAY	40																
TG	RADCOM	REAL	ARRAY	6																
TH	RADCOM	REAL	ARRAY	6																
TL	RADCOM	REAL	ARRAY	5																
TLE	RADCOM	REAL	ARRAY	5																
TLOWL	RADCOM	REAL	ARRAY	5																
TMIDL	RADCOM	REAL	SIMPLE	22																
TN	RADCOM	REAL	SIMPLE	22																
TN	RADCOM	REAL	ARRAY	20																
TOPABS	RADCOM	REAL	ARRAY	19																
TOTABS	DSOLAR	REAL	ARRAY	35																
TOTOQM		REAL	SIMPLE	99/S	104	108														
TOTOZ	RADCOM	REAL	ARRAY	26	100	103														
TOTOZI		REAL	SIMPLE	100/S	105/S	108														
TOTOZJ		REAL	SIMPLE	103/S	104	105														
TPENE	RADCOM	REAL	ARRAY	21																
W	DSOLAR	REAL	ARRAY	43																
WET	RADCOM	REAL	ARRAY	27																
WI	RADCOM	REAL	ARRAY	27																
WW	DSOLAR	REAL	ARRAY	46																
XDAY		REAL	ARRAY	1	58															
XK	RADCOM	REAL	SIMPLE	23																
			ARRAY	23																

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

XLAT	REAL	SIMPLE	1	59	61
PROCEDURE MAP					
--NAME-----	TYPE-----	CLASS-----	REFERENCES	D=STMT FN DEF.	A=ARGLIST
ABS	REAL	INTRINSIC			61


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C-----VO3INT 2
C SUBROUTINE O3INT VO3INT 3
C PURPOSE VO3INT 4
C INTERPOLATES OZONE CONCENTRATIONS FOR LONGWAVE RADIATION VO3INT 5
C VO3INT 6
C USAGE VO3INT 7
C CALL O3INT(TO1,TO2,TRO3,TI1,TI2,TO3,JALB) VO3INT 8
C VO3INT 9
C INPUT/OUTPUT FILES USED VO3INT 10
C NONE VO3INT 11
C VO3INT 12
C DESCRIPTION OF PARAMETERS VO3INT 13
C ?NAME? ?I/O? ?DESCRIPTION? VO3INT 14
C TO1 VO3INT 15
C TO2 VO3INT 16
C TRO3 VO3INT 17
C TI1 VO3INT 18
C TI2 VO3INT 19
C TO3 VO3INT 20
C JALB VO3INT 21
C VO3INT 22
C SUBPROGRAMS NEEDED VO3INT 23
C NONE VO3INT 24
C VO3INT 25
C RECORD OF MODIFICATIONS VO3INT 26
C 001 28OCT83 LARRY.T REWROTE TO FIX BUG + RESOLUTION VO3INT 27
C VO3INT 28
C REMARKS: VO3INT 29
C ( 1 ) VO3INT 30
C VO3INT 31
C-----VO3INT 32
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C VO3INT 33
C-----VO3INT 34
C 00001 SUBROUTINE O3INT(TO1,TO2,TRO3,TI1,TI2,TO3,JALB) VO3INT 35
C-----VO3INT 36
C-----VO3INT 37
C-----VO3INT 38
C-----VO3INT 39
C-----VO3INT 40
C-----VO3INT 41
C-----VO3INT 42
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----VCNTRL 2
C-----VCNTRL 3
C-----VCNTRL 4
C 00002 COMMON /CCNTRL/ CC0 VCNTRL 5
C 00003 COMMON /CCNTRL/ ADATE VCNTRL 6
C 00004 COMMON /CCNTRL/ ATIME VCNTRL 7
C 00005 COMMON /CCNTRL/ JIC VCNTRL 8
C 00006 COMMON /CCNTRL/ JOB VCNTRL 9
C 00007 COMMON /CCNTRL/ CCSP06 VCNTRL 10
C 00008 COMMON /CCNTRL/ CCSP07 VCNTRL 11
C 00009 COMMON /CCNTRL/ CCSP08 VCNTRL 12
C 00010 COMMON /CCNTRL/ VER VCNTRL 13
C 00011 COMMON /CCNTRL/ XLABEL (10) VCNTRL 14
C 00012 COMMON /CCNTRL/ CQS (30) VCNTRL 15
C 00013 COMMON /CCNTRL/ CQU (10) VCNTRL 16
C-----VCNTRL 17
C 00014 EQUIVALENCE (CC0,CC(1)) VCNTRL 18
C 00015 CHARACTER*8 CC0,CC(200) VCNTRL 19
C 00016 CHARACTER*8 ADATE VCNTRL 20
C 00017 CHARACTER*8 ATIME VCNTRL 21
C 00018 CHARACTER*8 JIC VCNTRL 22
C 00019 CHARACTER*8 JOB VCNTRL 23
C 00020 CHARACTER*8 CCSP06 VCNTRL 24
C 00021 CHARACTER*8 CCSP07 VCNTRL 25
C 00022 CHARACTER*8 CCSP08 VCNTRL 26
C 00023 CHARACTER*8 VER VCNTRL 27
C 00024 CHARACTER*8 XLABEL VCNTRL 28
C 00025 CHARACTER*8 CQS VCNTRL 29
C 00026 CHARACTER*8 CQU VCNTRL 30
C-----VCNTRL 31

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ORIGINAL PAGE 18
OF POOR QUALITY

ORIGINAL PAGE 19
OF POOR QUALITY

C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL
00027	COMMON /ICNTRL/	ICO	32
00028	COMMON /ICNTRL/	IM	33
00029	COMMON /ICNTRL/	IMD2	34
00030	COMMON /ICNTRL/	IMD2P1	35
00031	COMMON /ICNTRL/	NDRSW	36
00032	COMMON /ICNTRL/	JM	37
00033	COMMON /ICNTRL/	JMD2	38
00034	COMMON /ICNTRL/	JMT2	39
00035	COMMON /ICNTRL/	JNP	40
00036	COMMON /ICNTRL/	JO4	41
00037	COMMON /ICNTRL/	JO8	42
00038	COMMON /ICNTRL/	JSP	43
00039	COMMON /ICNTRL/	KLIALB	44
00040	COMMON /ICNTRL/	KLIGW	45
00041	COMMON /ICNTRL/	KLISST	46
00042	COMMON /ICNTRL/	KS	47
00043	COMMON /ICNTRL/	KU	48
00044	COMMON /ICNTRL/	LOG8R	49
00045	COMMON /ICNTRL/	MATIN	50
00046	COMMON /ICNTRL/	MATSNX	51
00047	COMMON /ICNTRL/	MATSUN	52
00048	COMMON /ICNTRL/	MLF (12)	53
00049	COMMON /ICNTRL/	MROD	54
00050	COMMON /ICNTRL/	NKRSH	55
00051	COMMON /ICNTRL/	MSM	56
00052	COMMON /ICNTRL/	NB	57
00053	COMMON /ICNTRL/	ND	58
00054	COMMON /ICNTRL/	NDALT	59
00055	COMMON /ICNTRL/	NDAY	60
00056	COMMON /ICNTRL/	NDOUT	61
00057	COMMON /ICNTRL/	NDPHY	62
00058	COMMON /ICNTRL/	NDSHF	63
00059	COMMON /ICNTRL/	NDT	64
00060	COMMON /ICNTRL/	NHMS	65
00061	COMMON /ICNTRL/	NHMSE	66
00062	COMMON /ICNTRL/	NHM50	67
00063	COMMON /ICNTRL/	NLAY	68
00064	COMMON /ICNTRL/	NLAYM1	69
00065	COMMON /ICNTRL/	NLAYP1	70
00066	COMMON /ICNTRL/	NSDAY	71
00067	COMMON /ICNTRL/	NSEQ	72
00068	COMMON /ICNTRL/	ICSP53	73
00069	COMMON /ICNTRL/	NSTEP	74
00070	COMMON /ICNTRL/	IBLKSIZ	75
00071	COMMON /ICNTRL/	NYMD	76
00072	COMMON /ICNTRL/	NYMDE	77
00073	COMMON /ICNTRL/	NYMDO	78
00074	COMMON /ICNTRL/	NZINIT	79
00075	COMMON /ICNTRL/	NMLEV	80
00076	COMMON /ICNTRL/	NDHOG	81
00077	COMMON /ICNTRL/	IQS (30)	82
00078	COMMON /ICNTRL/	IQU (10)	83
00079	EQUIVALENCE	(ITMIN .IQS(1))	84
00080	EQUIVALENCE	(ITMAX .IQS(2))	85
00081	EQUIVALENCE	(IPREACC .IQS(3))	86
00082	EQUIVALENCE	(IPRECON .IQS(4))	87
00083	EQUIVALENCE	(IHFLUX .IQS(5))	88
00084	EQUIVALENCE	(IEFLUX .IQS(6))	89
00085	EQUIVALENCE	(IFUSION .IQS(7))	90
00086	EQUIVALENCE	(IRADSWG .IQS(8))	91
00087	EQUIVALENCE	(IRADLWG .IQS(9))	92
00088	EQUIVALENCE	(IICLOUD .IQS(10))	93
00089	EQUIVALENCE	(IUFUX .IQS(11))	94
00090	EQUIVALENCE	(IVFLUX .IQS(12))	95
00091	EQUIVALENCE	(IOMEGA .IQU(1))	96
00092	EQUIVALENCE	(IDIABAT .IQU(2))	97
00093	EQUIVALENCE	(IRADSW .IQU(3))	98
			99
			100
			101
			102

00094		EQUIVALENCE	(IRADLW ,LQU(4))	VCNTRL	103	
00095	C	EQUIVALENCE	(ICO.IC(1))	VCNTRL	104	
00096		INTEGER	ICO. IC(200)	VCNTRL	105	
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL	106
	C	=====			VCNTRL	107
00097		COMMON /LCNTRL/	LCO	VCNTRL	108	
00098		COMMON /LCNTRL/	QALT	VCNTRL	109	
00099		COMMON /LCNTRL/	QBEG	VCNTRL	110	
00100		COMMON /LCNTRL/	QDAY	VCNTRL	111	
00101		COMMON /LCNTRL/	QEND	VCNTRL	112	
00102		COMMON /LCNTRL/	QOUT	VCNTRL	113	
00103		COMMON /LCNTRL/	QPHY	VCNTRL	114	
00104		COMMON /LCNTRL/	QSHF	VCNTRL	115	
00105		COMMON /LCNTRL/	SN2FLG	VCNTRL	116	
00106		COMMON /LCNTRL/	QRSW	VCNTRL	117	
00107		COMMON /LCNTRL/	QRSH	VCNTRL	118	
00108		COMMON /LCNTRL/	LQS(30)	VCNTRL	119	
00109		COMMON /LCNTRL/	LQU(10)	VCNTRL	120	
	C	EQUIVALENCE	{LTMIN .LQS(1)}	VCNTRL	121	
00110		EQUIVALENCE	{LTMAX .LQS(2)}	VCNTRL	122	
00111		EQUIVALENCE	{LPREACC .LQS(3)}	VCNTRL	123	
00112		EQUIVALENCE	{LPRECON .LQS(4)}	VCNTRL	124	
00113		EQUIVALENCE	{LHFLUX .LQS(5)}	VCNTRL	125	
00114		EQUIVALENCE	{LEFLUX .LQS(6)}	VCNTRL	126	
00115		EQUIVALENCE	{LFUSION .LQS(7)}	VCNTRL	127	
00116		EQUIVALENCE	{LRADSWG .LQS(8)}	VCNTRL	128	
00117		EQUIVALENCE	{LRADLWG .LQS(9)}	VCNTRL	129	
00118		EQUIVALENCE	{LICLOUD .LQS(10)}	VCNTRL	130	
00119		EQUIVALENCE	{LUFLEX .LQS(11)}	VCNTRL	131	
00120		EQUIVALENCE	{LVFLUX .LQS(12)}	VCNTRL	132	
	C	EQUIVALENCE	{LOMEGA .LQU(1)}	VCNTRL	133	
00122		EQUIVALENCE	{LDIABAT .LQU(2)}	VCNTRL	134	
00123		EQUIVALENCE	{LRADSW .LQU(3)}	VCNTRL	135	
00124		EQUIVALENCE	{LRADLW .LQU(4)}	VCNTRL	136	
00125				VCNTRL	137	
	C	LOGICAL	QALT	VCNTRL	138	
00126		LOGICAL	QBEG	VCNTRL	139	
00127		LOGICAL	QDAY	VCNTRL	140	
00128		LOGICAL	QEND	VCNTRL	141	
00129		LOGICAL	QOUT	VCNTRL	142	
00130		LOGICAL	QPHY	VCNTRL	143	
00131		LOGICAL	QSHF	VCNTRL	144	
00132		LOGICAL	SN2FLG	VCNTRL	145	
00133		LOGICAL	QRSW	VCNTRL	146	
00134		LOGICAL	QRSH	VCNTRL	147	
00135				VCNTRL	148	
	C	LOGICAL	LQS	VCNTRL	149	
00136		LOGICAL	LQU	VCNTRL	150	
00137		LOGICAL	LTMIN	VCNTRL	151	
00138		LOGICAL	LTMAX	VCNTRL	152	
00139		LOGICAL	LPREACC	VCNTRL	153	
00140		LOGICAL	LPRECON	VCNTRL	154	
00141		LOGICAL	LHFLUX	VCNTRL	155	
00142		LOGICAL	LEFLUX	VCNTRL	156	
00143		LOGICAL	LFUSION	VCNTRL	157	
00144		LOGICAL	LRADSWG	VCNTRL	158	
00145		LOGICAL	LRADLWG	VCNTRL	159	
00146		LOGICAL	LICLOUD	VCNTRL	160	
00147		LOGICAL	LUFLEX	VCNTRL	161	
00148		LOGICAL	LVFLUX	VCNTRL	162	
00149				VCNTRL	163	
	C	LOGICAL	LOMEGA	VCNTRL	164	
00150		LOGICAL	LDIABAT	VCNTRL	165	
00151		LOGICAL	LRADSW	VCNTRL	166	
00152		LOGICAL	LRADLW	VCNTRL	167	
00153				VCNTRL	168	
	C	EQUIVALENCE	{LCO.LC(1)}	VCNTRL	169	
00154				VCNTRL	170	
				VCNTRL	171	
				VCNTRL	172	
				VCNTRL	173	

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

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00155      LOGICAL          LC0, LC(200)          VCNTRL 174
C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD  VCNTRL 175
C =====
00156      COMMON /RCNTRL/ RC0                    VCNTRL 176
00157      COMMON /RCNTRL/ APHEL                  VCNTRL 177
00158      COMMON /RCNTRL/ BETA                   VCNTRL 178
00159      COMMON /RCNTRL/ COSD                   VCNTRL 179
00160      COMMON /RCNTRL/ CP                     VCNTRL 180
00161      COMMON /RCNTRL/ DAYSPLY                VCNTRL 181
00162      COMMON /RCNTRL/ DEC                    VCNTRL 182
00163      COMMON /RCNTRL/ DECMAK                 VCNTRL 183
00164      COMMON /RCNTRL/ DIST                  VCNTRL 184
00165      COMMON /RCNTRL/ DLAT                   VCNTRL 185
00166      COMMON /RCNTRL/ DLON                   VCNTRL 186
00167      COMMON /RCNTRL/ DT                     VCNTRL 187
00168      COMMON /RCNTRL/ ECCN                   VCNTRL 188
00169      COMMON /RCNTRL/ GNU1                   VCNTRL 189
00170      COMMON /RCNTRL/ GNU2                   VCNTRL 190
00171      COMMON /RCNTRL/ GRAV                   VCNTRL 191
00172      COMMON /RCNTRL/ OMEGA2                VCNTRL 192
00173      COMMON /RCNTRL/ PI                     VCNTRL 193
00174      COMMON /RCNTRL/ PI180                 VCNTRL 194
00175      COMMON /RCNTRL/ PI2                   VCNTRL 195
00176      COMMON /RCNTRL/ PSTD                   VCNTRL 196
00177      COMMON /RCNTRL/ PIMEAN                 VCNTRL 197
00178      COMMON /RCNTRL/ PSMAK                 VCNTRL 198
00179      COMMON /RCNTRL/ PSMIN                 VCNTRL 199
00180      COMMON /RCNTRL/ PTOP                   VCNTRL 200
00181      COMMON /RCNTRL/ RADE                   VCNTRL 201
00182      COMMON /RCNTRL/ RGAS                   VCNTRL 202
00183      COMMON /RCNTRL/ ROCP                   VCNTRL 203
00184      COMMON /RCNTRL/ RSDIST                 VCNTRL 204
00185      COMMON /RCNTRL/ SDAY                   VCNTRL 205
00186      COMMON /RCNTRL/ SEASON                 VCNTRL 206
00187      COMMON /RCNTRL/ SIGE (25)             VCNTRL 207
00188      COMMON /RCNTRL/ SIND                   VCNTRL 208
00189      COMMON /RCNTRL/ SOLS                   VCNTRL 209
00190      COMMON /RCNTRL/ TSTD                   VCNTRL 210
00191      COMMON /RCNTRL/ PLEVS (25)           VCNTRL 211
00192      COMMON /RCNTRL/ HEATW                 VCNTRL 212
00193      COMMON /RCNTRL/ HEATI                 VCNTRL 213
00194      COMMON /RCNTRL/ EPS                    VCNTRL 214
00195      COMMON /RCNTRL/ EPSFAC                 VCNTRL 215
00196      COMMON /RCNTRL/ CALTOJ                 VCNTRL 216
00197      COMMON /RCNTRL/ PZERO                  VCNTRL 217
C
00198      EQUIVALENCE (RC0,RC(1))              VCNTRL 218
00199      REAL          RC0, RC(200)            VCNTRL 219
C
C INTEGER MODEL CONSTANTS                          VCNTRL 220
C =====
00200      COMMON /IDPARM/ IJUMP (46)            VCNTRL 221
00201      COMMON /IDPARM/ IDSP02                VCNTRL 222
00202      COMMON /IDPARM/ INDEX (72)           VCNTRL 223
00203      COMMON /IDPARM/ IROD                   VCNTRL 224
00204      COMMON /IDPARM/ JC (46)              VCNTRL 225
00205      COMMON /IDPARM/ JE (2)               VCNTRL 226
00206      COMMON /IDPARM/ JP (2,2)             VCNTRL 227
00207      COMMON /IDPARM/ KSTEP                 VCNTRL 228
00208      COMMON /IDPARM/ MJ (46)              VCNTRL 229
00209      COMMON /IDPARM/ NHMS1                 VCNTRL 230
00210      COMMON /IDPARM/ NYMD1                 VCNTRL 231
C
C LOGICAL MODEL CONSTANTS                          VCNTRL 232
C =====
00211      COMMON /LDPARM/ FILTER (46)          VCNTRL 233
00212      COMMON /LDPARM/ ITAPE                 VCNTRL 234
00213      COMMON /LDPARM/ START                 VCNTRL 235
C
00214      LOGICAL          FILTER                VCNTRL 236
VCNTRL 237
VCNTRL 238
VCNTRL 239
VCNTRL 240
VCNTRL 241
VCNTRL 242
VCNTRL 243
VCNTRL 244

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00215	LOGICAL	ITAPE	VCNTRL
00216	LOGICAL	START	
	C		VCNTRL 246
	C		VCNTRL 246
	C	REAL MODEL CONSTANTS	VCNTRL 247
	C	=====	VCNTRL 248
00217	COMMON /RDPARM/	ADLDP	VCNTRL 249
00218	COMMON /RDPARM/	CON1	VCNTRL 250
00219	COMMON /RDPARM/	CON1DT	VCNTRL 251
00220	COMMON /RDPARM/	CON2	VCNTRL 252
00221	COMMON /RDPARM/	CON2DT	VCNTRL 253
00222	COMMON /RDPARM/	CON3	VCNTRL 254
00223	COMMON /RDPARM/	CON3DT	VCNTRL 255
00224	COMMON /RDPARM/	CON4	VCNTRL 256
00225	COMMON /RDPARM/	CON4DT	VCNTRL 257
00226	COMMON /RDPARM/	CON5	VCNTRL 258
00227	COMMON /RDPARM/	COSL (46)	VCNTRL 259
00228	COMMON /RDPARM/	COSLON (72)	VCNTRL 260
00229	COMMON /RDPARM/	CPD2	VCNTRL 261
00230	COMMON /RDPARM/	DXP (46)	VCNTRL 262
00231	COMMON /RDPARM/	DXYP (46)	VCNTRL 263
00232	COMMON /RDPARM/	DYP (46)	VCNTRL 264
00233	COMMON /RDPARM/	FCORLS (46)	VCNTRL 265
00234	COMMON /RDPARM/	F1DT	VCNTRL 266
00235	COMMON /RDPARM/	F2DT	VCNTRL 267
00236	COMMON /RDPARM/	H1DT	VCNTRL 268
00237	COMMON /RDPARM/	H2DT	VCNTRL 269
00238	COMMON /RDPARM/	PKSTD	VCNTRL 270
00239	COMMON /RDPARM/	PKTOP	VCNTRL 271
00240	COMMON /RDPARM/	RLAT (46)	VCNTRL 272
00241	COMMON /RDPARM/	RLATD (46)	VCNTRL 273
00242	COMMON /RDPARM/	ROCPDT	VCNTRL 274
00243	COMMON /RDPARM/	ROCPP1	VCNTRL 275
00244	COMMON /RDPARM/	SGNP (2)	VCNTRL 276
00245	COMMON /RDPARM/	SINL (46)	VCNTRL 277
00246	COMMON /RDPARM/	SINLON (72)	VCNTRL 278
00247	COMMON /RDPARM/	THSTD	VCNTRL 279
00248	COMMON /RDPARM/	THSTD2	VCNTRL 280
00249	COMMON /RDPARM/	WSAVE (159)	VCNTRL 281
00250	COMMON /RDPARM/	DSIG (9)	VCNTRL 282
00251	COMMON /RDPARM/	SIG (9)	VCNTRL 283
00252	COMMON /RDPARM/	DSIGINV (9)	VCNTRL 284
	C		VCNTRL 285
00253		DIMENSION TO1(19,5), TO2(19,5), TRO3(19,19,5)	VCNTRL 286
00254		DIMENSION TI1(19), TI2(19), TO3(19,19)	VO3INT 44
	C		VO3INT 45
	C		VO3INT 46
	C	.....	VO3INT 47
	C		VO3INT 48
00255		L2 = 19	VO3INT 49
00256		L22 = 19*19	VO3INT 50
00257		XLAT = ABS(RLATD(JALB))	VO3INT 51
	C		VO3INT 52
00258		IF(XLAT.GE.75.0) GOTO 101	VO3INT 53
00259		IF(XLAT.GE.60.0) GOTO 102	VO3INT 54
00260		IF(XLAT.GE.45.0) GOTO 103	VO3INT 55
00261		IF(XLAT.GE.30.0) GOTO 104	VO3INT 56
00262		IF(XLAT.GE.15.0) GOTO 105	VO3INT 57
00263		GOTO 106	VO3INT 58
	C		VO3INT 59
00264	101	CONTINUE	VO3INT 60
00265		TI1(1:L2) = TO1(1,5:L2)	VO3INT 61
00266		TI2(1:L2) = TO2(1,5:L2)	VO3INT 62
00267		TO3(1,1:L22) = TRO3(1,1,5:L22)	VO3INT 63
00268		RETURN	VO3INT 64
	C		VO3INT 65
00269	102	CONTINUE	VO3INT 66
00270		C1 = (XLAT-60.0)/15.0	VO3INT 67
00271		C2 = 1.0-C1	VO3INT 68
00272		TI1(1:L2) = C1*TO1(1,5:L2) + C2*TO1(1,4:L2)	VO3INT 69
00273		TI2(1:L2) = C1*TO2(1,5:L2) + C2*TO2(1,4:L2)	VO3INT 70
00274		TO3(1,1:L22) = C1*TRO3(1,1,5:L22) + C2*TRO3(1,1,4:L22)	VO3INT 71
			VO3INT 72

ORIGINAL PAGE IS
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CON4DT	RDPARM	REAL	SIMPLE	225																		
CON5	RDPARM	REAL	SIMPLE	226																		
COSD	RCNTRL	REAL	SIMPLE	159																		
COSL	RDPARM	REAL	ARRAY	227																		
COSLON	RDPARM	REAL	ARRAY	228																		
CP	RCNTRL	REAL	SIMPLE	160																		
CPD2	RDPARM	REAL	SIMPLE	229																		
CQS	CCNTRL	CHAR*8	ARRAY	12	25																	
CQU	CCNTRL	CHAR*8	ARRAY	13	26																	
DAYSPLY	RCNTRL	REAL	SIMPLE	161																		
DEC	RCNTRL	REAL	SIMPLE	162																		
DECMAX	RCNTRL	REAL	SIMPLE	163																		
DIST	RCNTRL	REAL	SIMPLE	164																		
DLAT	RCNTRL	REAL	SIMPLE	165																		
DOLON	RCNTRL	REAL	SIMPLE	166																		
DSIG	RDPARM	REAL	ARRAY	250																		
DSIGINV	RDPARM	REAL	ARRAY	252																		
DT	RCNTRL	REAL	SIMPLE	167																		
DXP	RDPARM	REAL	ARRAY	230																		
DXYP	RDPARM	REAL	ARRAY	231																		
DYP	RDPARM	REAL	ARRAY	232																		
ECCN	RCNTRL	REAL	SIMPLE	168																		
EPS	RCNTRL	REAL	SIMPLE	194																		
EPSFAC	RCNTRL	REAL	SIMPLE	195																		
F1DT	RDPARM	REAL	SIMPLE	234																		
F2DT	RDPARM	REAL	SIMPLE	235																		
FCORLS	RDPARM	REAL	ARRAY	233																		
FILTER	LDPARM	LOGICAL	ARRAY	211	214																	
GNU1	RCNTRL	REAL	SIMPLE	169																		
GNU2	RCNTRL	REAL	SIMPLE	170																		
GRAV	RCNTRL	REAL	SIMPLE	171																		
H1DT	RDPARM	REAL	SIMPLE	236																		
H2DT	RDPARM	REAL	SIMPLE	237																		
HEATI	RCNTRL	REAL	SIMPLE	193																		
HEATW	RCNTRL	REAL	SIMPLE	192																		
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																		
IG	ICNTRL	INTEGER	ARRAY	95	96																	
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96																
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37								
				38	39	40	41	42	43	44	45	46	47	48	49							
				49	50	51	52	53	54	55	56	57	58	59	60							
				60	61	62	63	64	65	66	67	68	69	70								
				71	72	73	74	75	76	77	78											
ICSP53	ICNTRL	INTEGER	SIMPLE	68																		
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																		
IDPARM	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210								
IDSP02	IDPARM	INTEGER	SIMPLE	201																		
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																		
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																		
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																		
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																		
IJUMP	IDPARM	INTEGER	ARRAY	200																		
IM	ICNTRL	INTEGER	SIMPLE	28																		
IMD2	ICNTRL	INTEGER	SIMPLE	29																		
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																		
INDEX	IDPARM	INTEGER	ARRAY	202																		
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91																		
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																		
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																		
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88								
				89	90																	
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94														
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																		
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																		
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																		
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																		
IROD	IDPARM	INTEGER	SIMPLE	203																		
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215																	
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																		
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																		

ORIGINAL PAGE IS
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IUFLUX	ICNTRL	INTEGER	UNKNOWN	89															
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90															
JALB		INTEGER	SIMPLE	1	257														
JC	IDPARM	INTEGER	ARRAY	204															
JE	IDPARM	INTEGER	ARRAY	205															
JIC	CCNTRL	CHAR*8	SIMPLE	5	18														
JM	ICNTRL	INTEGER	SIMPLE	32															
JMD2	ICNTRL	INTEGER	SIMPLE	33															
JMT2	ICNTRL	INTEGER	SIMPLE	34															
JNP	ICNTRL	INTEGER	SIMPLE	35															
JO4	ICNTRL	INTEGER	SIMPLE	36															
JOB	ICNTRL	INTEGER	SIMPLE	37															
JOB	CCNTRL	CHAR*8	SIMPLE	6	19														
JP	IDPARM	INTEGER	ARRAY	206															
JSP	ICNTRL	INTEGER	SIMPLE	38															
KLIALB	ICNTRL	INTEGER	SIMPLE	39															
KLIGW	ICNTRL	INTEGER	SIMPLE	40															
KLISST	ICNTRL	INTEGER	SIMPLE	41															
KS	ICNTRL	INTEGER	SIMPLE	42															
KSTEP	IDPARM	INTEGER	SIMPLE	207															
KU	ICNTRL	INTEGER	SIMPLE	43															
L2		INTEGER	SIMPLE	255/S	265	265	266	266	272	272	272	273	273	273	273	273			
				279	279	279	280	280	280	286	286	286	287	287	287	287			
L22		INTEGER	SIMPLE	287	293	293	293	294	294	298	298	298	299	299	299	299			
				256/S	267	267	274	274	274	281	281	281	288	288	288	288			
				288	295	295	295	300	300	300									
LC	LCNTRL	LOGICAL	ARRAY	154	155														
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155													
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	106	107				
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109														
LDPARM		INTEGER	UNKNOWN	123	151														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213													
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144														
LICLGD	LCNTRL	LOGICAL	UNKNOWN	114	142														
LOG8R	ICNTRL	INTEGER	SIMPLE	119	147														
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	44															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140														
LQS	LCNTRL	LOGICAL	UNKNOWN	113	141														
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	118	119				
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136													
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137										
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138														
LUFLEX	LCNTRL	LOGICAL	UNKNOWN	120	148														
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149														
MATIN	ICNTRL	INTEGER	SIMPLE	45															
MATSNX	ICNTRL	INTEGER	SIMPLE	46															
MATSUN	ICNTRL	INTEGER	SIMPLE	47															
MJ	IDPARM	INTEGER	ARRAY	208															
MLF	ICNTRL	INTEGER	ARRAY	48															
MROD	ICNTRL	INTEGER	SIMPLE	49															
MSM	ICNTRL	INTEGER	SIMPLE	51															
NB	ICNTRL	INTEGER	SIMPLE	52															
ND	ICNTRL	INTEGER	SIMPLE	53															
NDALT	ICNTRL	INTEGER	SIMPLE	54															
NDAY	ICNTRL	INTEGER	SIMPLE	55															
NDHOG	ICNTRL	INTEGER	SIMPLE	76															
NDOUT	ICNTRL	INTEGER	SIMPLE	76															
NDPHY	ICNTRL	INTEGER	SIMPLE	56															
NDRSW	ICNTRL	INTEGER	SIMPLE	57															
NDSHF	ICNTRL	INTEGER	SIMPLE	31															
NDT	ICNTRL	INTEGER	SIMPLE	58															
NHMS	ICNTRL	INTEGER	SIMPLE	59															
				60															

ORIGINAL PAGE IS
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NHMS0	ICNTRL	INTEGER	SIMPLE	62																
NHMS1	IDPARM	INTEGER	SIMPLE	209																
NHMSE	ICNTRL	INTEGER	SIMPLE	61																
NKRSH	ICNTRL	INTEGER	SIMPLE	50																
NLAY	ICNTRL	INTEGER	SIMPLE	63																
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																
NMLEV	ICNTRL	INTEGER	SIMPLE	75																
NSDAY	ICNTRL	INTEGER	SIMPLE	66																
NSEQ	ICNTRL	INTEGER	SIMPLE	67																
NSTEP	ICNTRL	INTEGER	SIMPLE	69																
NYMD	ICNTRL	INTEGER	SIMPLE	71																
NYMDO	ICNTRL	INTEGER	SIMPLE	73																
NYMDI	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																
O3INT			SUBROUTINE	1																
OMEGA2	RCNTRL	REAL	SIMPLE	172																
PI	RCNTRL	REAL	SIMPLE	173																
PI120	RCNTRL	REAL	SIMPLE	174																
PI2	RCNTRL	REAL	SIMPLE	175																
PIMEAN	RCNTRL	REAL	SIMPLE	177																
PKSTD	RDARM	REAL	SIMPLE	238																
PKTOP	RDARM	REAL	SIMPLE	239																
PLEVS	RCNTRL	REAL	ARRAY	191																
PSMAX	RCNTRL	REAL	SIMPLE	178																
PSMIN	RCNTRL	REAL	SIMPLE	179																
PSTD	RCNTRL	REAL	SIMPLE	176																
PTOP	RCNTRL	REAL	SIMPLE	180																
PZERO	RCNTRL	REAL	SIMPLE	197																
QALT	LCNTRL	LOGICAL	SIMPLE	98	126															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127															
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128															
QEND	LCNTRL	LOGICAL	SIMPLE	101	129															
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130															
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135															
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134															
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132															
RADE	RCNTRL	REAL	SIMPLE	181																
RC	RCNTRL	REAL	ARRAY	198	199															
RCO	RCNTRL	REAL	SIMPLE	156	198	199														
RCNTRL	RCNTRL	REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						
				178	179	180	181	182	183	184	185	186	187	188						
				189	190	191	192	193	194	195	196	197	198	199						
RDARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233
				239	240	241	242	243	244	245	246	247	248	249						
				250	251	252														
RGAS	RCNTRL	REAL	SIMPLE	182																
RLAT	RDARM	REAL	ARRAY	240																
RLATD	RDARM	REAL	ARRAY	241	257															
ROCP	RCNTRL	REAL	SIMPLE	183																
ROCPDT	RDARM	REAL	SIMPLE	242																
ROCPP1	RDARM	REAL	SIMPLE	243																
RSDIST	RCNTRL	REAL	SIMPLE	184																
SDAY	RCNTRL	REAL	SIMPLE	185																
SEASON	RCNTRL	REAL	SIMPLE	186																
SGNP	RDARM	REAL	ARRAY	244																
SIG	RDARM	REAL	ARRAY	251																
SIGE	RCNTRL	REAL	ARRAY	187																
SIND	RCNTRL	REAL	SIMPLE	188																
SINL	RDARM	REAL	ARRAY	245																
SINLON	RDARM	REAL	ARRAY	246																
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133															
SOLS	RCNTRL	REAL	SIMPLE	189																
START	LDARM	LOGICAL	SIMPLE	213	216															
THSTD	RDARM	REAL	SIMPLE	247																
THSTD2	RDARM	REAL	SIMPLE	248																

TI1	REAL	ARRAY	1	254	265/S	272/S	279/S	286/S	293/S	298/S				
TI2	REAL	ARRAY	1	254	266/S	273/S	280/S	287/S	294/S	299/S				
TO1	REAL	ARRAY	1	253	265	272	272	279	279	286	286	293	293	
TO2	REAL	ARRAY	1	253	266	273	273	280	280	287	287	294	294	
TO3	REAL	ARRAY	1	254	267/S	274/S	281/S	288/S	295/S	300/S				
TRO3	REAL	ARRAY	1	253	267	274	274	281	281	288	288	295	295	
TSTD			300											
VER	RCNTRL	REAL	190											
WSAVE	CCNTRL	CHAR*8	10	23										
XLABEL	RDPRM	REAL	249											
XLAT	CCNTRL	CHAR*8	11	24										
		REAL	257/S	258	259	260	261	262	270	277	284	291		

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES

ABS REAL INTRINSIC 257

D=STMT FN DEF, A=ARGLIST

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00001 SUBROUTINE PGMAP
C *****
C PURPOSE VPGMAP 2
C TO MAP COMMON BLOCKS TO CYBER VIRTUAL MEMORY PAGE. VPGMAP 3
C USAGE VPGMAP 4
C CALLED BY VGWSGCM ONLY VPGMAP 5
C ARGUMENTS DESCRIPTION VPGMAP 6
C NONE VPGMAP 7
C SUBPROGRAMS NEEDED VPGMAP 8
C NAME DESCRIPTION VPGMAP 9
C Q5CLOSE SYSLIB CLOSES A CYBER FILE VPGMAP 10
C Q5RETURN SYSLIB RETURNS A CYBER FILE VPGMAP 11
C Q5OPEN SYSLIB OPEN A CYBER FILE VPGMAP 12
C Q5MAPIN SYSLIB MAP COMMON BLOCKS TO CYBER FILE VPGMAP 13
C Q5RQUEST SYSLIB CREATES A LOCAL CYBER FILE VPGMAP 14
C RECORD OF MODIFICATIONS VPGMAP 15
C 001 29NOV83 RAMESH NEW FOR MIXED PREC. VPGMAP 16
C 002 23FEB84 JIM.PF NEW START FOR /MNTHLY/ 4 COMP OF LENGTHS VPGMAP 17
C REMARKS: VPGMAP 18
C . NOTE ENTRY POINT PGRET. VPGMAP 19
C ***** VPGMAP 20
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C VPGMAP 21
C ***** VPGMAP 22
C HALF/FULL PRECISION VPGMAP 23
C ===== VPGMAP 24
C IMPLICIT HALF PRECISION (A-H,O-Z) VPGMAP 25
C VREAL 2
C VREAL 3
C VREAL 4
C VREAL 5
C PARAMETER STATEMENTS FOR DIMENSIONING RESOLUTION VRSLV 2
C ===== VRSLV 3
C VRSLV 4
C VRSLV 5
C VRSLV 6
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 2
C ===== VCNTRL 3
00003 COMMON /CCNTRL/ CCO VCNTRL 4
00004 COMMON /CCNTRL/ ADATE VCNTRL 5
00005 COMMON /CCNTRL/ ATIME VCNTRL 6
00006 COMMON /CCNTRL/ JIC VCNTRL 7
00007 COMMON /CCNTRL/ JOB VCNTRL 8
00008 COMMON /CCNTRL/ CCSP06 VCNTRL 9
00009 COMMON /CCNTRL/ CCSP07 VCNTRL 10
00010 COMMON /CCNTRL/ CCSP08 VCNTRL 11
00011 COMMON /CCNTRL/ VER VCNTRL 12
00012 COMMON /CCNTRL/ XLABEL (10) VCNTRL 13
00013 COMMON /CCNTRL/ CQS (30) VCNTRL 14
00014 COMMON /CCNTRL/ CQU (10) VCNTRL 15
00015 COMMON /CCNTRL/ DSTOP(4) VCNTRL 16
00016 COMMON /CCNTRL/ DSLWI(4) VCNTRL 17
00017 COMMON /CCNTRL/ DSSST(4) VCNTRL 18
00018 COMMON /CCNTRL/ DSALB(4) VCNTRL 19
00019 COMMON /CCNTRL/ DSGWT(4) VCNTRL 20
C EQUIVALENCE (CCO,CC(1)) VCNTRL 21
00020 CHARACTER*8 CCO, CC(200) VCNTRL 22
00021 CHARACTER*8 ADATE VCNTRL 23
00022 CHARACTER*8 ATIME VCNTRL 24
00023 CHARACTER*8 JIC VCNTRL 25
00024 CHARACTER*8 JOB VCNTRL 26
00025 CHARACTER*8 CCSP06 VCNTRL 27
00026 CHARACTER*8 CCSP07 VCNTRL 28
00027 CHARACTER*8 CCSP08 VCNTRL 29
00028 CHARACTER*8 VER VCNTRL 30
00029 CHARACTER*8 XLABEL VCNTRL 31
00030 CHARACTER*8 CQS VCNTRL 32
00031 CHARACTER*8 CQU VCNTRL 33
00032 CHARACTER*8 DSTOP VCNTRL 34
00033 CHARACTER*8 DSLWI VCNTRL 35
00034 CHARACTER*8 DSSST VCNTRL 36
00035 CHARACTER*8 DSALB VCNTRL 37
00036 CHARACTER*8 DSGWT VCNTRL 38

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00037	CHARACTER+B	DSGWT	VCNTRL
	-----	-----	39
	INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD		40
	-----	-----	41
00038	COMMON /ICNTRL/ ICO		42
00039	COMMON /ICNTRL/ IM		43
00040	COMMON /ICNTRL/ IMD2		44
00041	COMMON /ICNTRL/ IMD2P1		45
00042	COMMON /ICNTRL/ NDRSW		46
00043	COMMON /ICNTRL/ JM		47
00044	COMMON /ICNTRL/ JMD2		48
00045	COMMON /ICNTRL/ JMT2		49
00046	COMMON /ICNTRL/ JNP		50
00047	COMMON /ICNTRL/ JO4		51
00048	COMMON /ICNTRL/ JOB		52
00049	COMMON /ICNTRL/ JSP		53
00050	COMMON /ICNTRL/ KLIALB		54
00051	COMMON /ICNTRL/ KLIGW		55
00052	COMMON /ICNTRL/ KLISST		56
00053	COMMON /ICNTRL/ KS		57
00054	COMMON /ICNTRL/ KU		58
00055	COMMON /ICNTRL/ LOGSR		59
00056	COMMON /ICNTRL/ MATIN		60
00057	COMMON /ICNTRL/ MATSNX		61
00058	COMMON /ICNTRL/ MATSUN		62
00059	COMMON /ICNTRL/ MLF (12)		63
00060	COMMON /ICNTRL/ MROD		64
00061	COMMON /ICNTRL/ NKRSR		65
00062	COMMON /ICNTRL/ MSM		66
00063	COMMON /ICNTRL/ NB		67
00064	COMMON /ICNTRL/ ND		68
00065	COMMON /ICNTRL/ NDALT		69
00066	COMMON /ICNTRL/ NDAY		70
00067	COMMON /ICNTRL/ NDOUT		71
00068	COMMON /ICNTRL/ NDPHY		72
00069	COMMON /ICNTRL/ NDSHF		73
00070	COMMON /ICNTRL/ NDT		74
00071	COMMON /ICNTRL/ NHMS		75
00072	COMMON /ICNTRL/ NHMSE		76
00073	COMMON /ICNTRL/ NHMSO		77
00074	COMMON /ICNTRL/ NLAY		78
00075	COMMON /ICNTRL/ NLAYM1		79
00076	COMMON /ICNTRL/ NLAYP1		80
00077	COMMON /ICNTRL/ NSDAY		81
00078	COMMON /ICNTRL/ NSEQ		82
00079	COMMON /ICNTRL/ ICSP53		83
00080	COMMON /ICNTRL/ NSTEP		84
00081	COMMON /ICNTRL/ IBLKSI2		85
00082	COMMON /ICNTRL/ NYMD		86
00083	COMMON /ICNTRL/ NYMDE		87
00084	COMMON /ICNTRL/ NYMDO		88
00085	COMMON /ICNTRL/ NZINIT		89
00086	COMMON /ICNTRL/ NMLEV		90
00087	COMMON /ICNTRL/ NDHOG		91
00088	COMMON /ICNTRL/ IQS (30)		92
00089	COMMON /ICNTRL/ IQU (10)		93
00090	COMMON /ICNTRL/ KLITOP		94
00091	COMMON /ICNTRL/ KLILWI		95
00092	EQUIVALENCE (ITMIN .IQS(1))		96
00093	EQUIVALENCE (ITMAX .IQS(2))		97
00094	EQUIVALENCE (IPREACC .IQS(3))		98
00095	EQUIVALENCE (IPRECON .IQS(4))		99
00096	EQUIVALENCE (IHFLUX .IQS(5))		100
00097	EQUIVALENCE (IEFLUX .IQS(6))		101
00098	EQUIVALENCE (IFUSION .IQS(7))		102
00099	EQUIVALENCE (IRADSWG .IQS(8))		103
00100	EQUIVALENCE (IRADLWG .IQS(9))		104
00101	EQUIVALENCE (ICLOUD .IQS(10))		105
00102	EQUIVALENCE (IUFLUX .IQS(11))		106
00103	EQUIVALENCE (IVFLUX .IQS(12))		107
			108
			109

00104	C	EQUIVALENCE	{ IOMEGA .IQU(1)}	VCNTRL 110
00105		EQUIVALENCE	{ IDIABAT .IQU(2)}	VCNTRL 111
00106		EQUIVALENCE	{ IRADSW .IQU(3)}	VCNTRL 112
00107		EQUIVALENCE	{ IRADLW .IQU(4)}	VCNTRL 113
	C			VCNTRL 114
00108		EQUIVALENCE	{ ICO.IC(1) }	VCNTRL 115
00109		INTEGER	ICO. IC(100)	VCNTRL 116
	C			VCNTRL 117
	C			VCNTRL 118
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 119
	C	=====		VCNTRL 120
00110		COMMON /LCNTRL/	LCO	VCNTRL 121
00111		COMMON /LCNTRL/	QALT	VCNTRL 122
00112		COMMON /LCNTRL/	QBEG	VCNTRL 123
00113		COMMON /LCNTRL/	QDAY	VCNTRL 124
00114		COMMON /LCNTRL/	QEND	VCNTRL 125
00115		COMMON /LCNTRL/	QOUT	VCNTRL 126
00116		COMMON /LCNTRL/	QPHY	VCNTRL 127
00117		COMMON /LCNTRL/	QSHF	VCNTRL 128
00118		COMMON /LCNTRL/	SN2FLG	VCNTRL 129
00119		COMMON /LCNTRL/	QRSW	VCNTRL 130
00120		COMMON /LCNTRL/	QRSH	VCNTRL 131
00121		COMMON /LCNTRL/	LQS(30)	VCNTRL 132
00122		COMMON /LCNTRL/	LOU(10)	VCNTRL 133
	C			VCNTRL 134
00123		EQUIVALENCE	{ LTMIN .LQS(1)}	VCNTRL 135
00124		EQUIVALENCE	{ LTMAX .LQS(2)}	VCNTRL 136
00125		EQUIVALENCE	{ LPREACC .LQS(3)}	VCNTRL 137
00126		EQUIVALENCE	{ LPRECON .LQS(4)}	VCNTRL 138
00127		EQUIVALENCE	{ LHFLUX .LQS(5)}	VCNTRL 139
00128		EQUIVALENCE	{ LEFLUX .LQS(6)}	VCNTRL 140
00129		EQUIVALENCE	{ LFUSION .LQS(7)}	VCNTRL 141
00130		EQUIVALENCE	{ LRADSWG .LQS(8)}	VCNTRL 142
00131		EQUIVALENCE	{ LRADLWG .LQS(9)}	VCNTRL 143
00132		EQUIVALENCE	{ LICLOUD .LQS(10) }	VCNTRL 144
00133		EQUIVALENCE	{ LUFLUX .LQS(11) }	VCNTRL 145
00134		EQUIVALENCE	{ LVFLUX .LQS(12) }	VCNTRL 146
	C			VCNTRL 147
00135		EQUIVALENCE	{ LOMEGA .LQU(1)}	VCNTRL 148
00136		EQUIVALENCE	{ LDIABAT .LQU(2)}	VCNTRL 149
00137		EQUIVALENCE	{ LRADSW .LQU(3)}	VCNTRL 150
00138		EQUIVALENCE	{ LRADLW .LQU(4)}	VCNTRL 151
	C			VCNTRL 152
00139		LOGICAL	QALT	VCNTRL 153
00140		LOGICAL	QBEG	VCNTRL 154
00141		LOGICAL	QDAY	VCNTRL 155
00142		LOGICAL	QEND	VCNTRL 156
00143		LOGICAL	QOUT	VCNTRL 157
00144		LOGICAL	QPHY	VCNTRL 158
00145		LOGICAL	QSHF	VCNTRL 159
00146		LOGICAL	SN2FLG	VCNTRL 160
00147		LOGICAL	QRSW	VCNTRL 161
00148		LOGICAL	QRSH	VCNTRL 162
	C			VCNTRL 163
00149		LOGICAL	LQS	VCNTRL 164
00150		LOGICAL	LQU	VCNTRL 165
00151		LOGICAL	LTMIN	VCNTRL 166
00152		LOGICAL	LTMAX	VCNTRL 167
00153		LOGICAL	LPREACC	VCNTRL 168
00154		LOGICAL	LPRECON	VCNTRL 169
00155		LOGICAL	LHFLUX	VCNTRL 170
00156		LOGICAL	LEFLUX	VCNTRL 171
00157		LOGICAL	LFUSION	VCNTRL 172
00158		LOGICAL	LRADSWG	VCNTRL 173
00159		LOGICAL	LRADLWG	VCNTRL 174
00160		LOGICAL	LICLOUD	VCNTRL 175
00161		LOGICAL	LUFLUX	VCNTRL 176
00162		LOGICAL	LVFLUX	VCNTRL 177
	C			VCNTRL 178
00163		LOGICAL	LOMEGA	VCNTRL 179
00164		LOGICAL	LDIABAT	VCNTRL 180

ORIGINAL PAGE IS
OF POOR QUALITY

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OF POOR QUALITY

00165	LOGICAL	LRADSW	VCNTRL 181
00166	LOGICAL	LRADLW	VCNTRL 182
	C		VCNTRL 183
00167	EQUIVALENCE	(LC0,LC(1))	VCNTRL 184
00168	LOGICAL	LC0, LC(200)	VCNTRL 185
	C		VCNTRL 186
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 187
	C	=====	VCNTRL 188
00169	COMMON	/RCNTRL/ R00	VCNTRL 189
00170	COMMON	/RCNTRL/ APHEL	VCNTRL 190
00171	COMMON	/RCNTRL/ BETA	VCNTRL 191
00172	COMMON	/RCNTRL/ COSD	VCNTRL 192
00173	COMMON	/RCNTRL/ CP	VCNTRL 193
00174	COMMON	/RCNTRL/ DAYSPY	VCNTRL 194
00175	COMMON	/RCNTRL/ DEC	VCNTRL 195
00176	COMMON	/RCNTRL/ DECMAK	VCNTRL 196
00177	COMMON	/RCNTRL/ DIST	VCNTRL 197
00178	COMMON	/RCNTRL/ DLAT	VCNTRL 198
00179	COMMON	/RCNTRL/ DLON	VCNTRL 199
00180	COMMON	/RCNTRL/ DT	VCNTRL 200
00181	COMMON	/RCNTRL/ ECCN	VCNTRL 201
00182	COMMON	/RCNTRL/ GNU1	VCNTRL 202
00183	COMMON	/RCNTRL/ GNU2	VCNTRL 203
00184	COMMON	/RCNTRL/ GRAV	VCNTRL 204
00185	COMMON	/RCNTRL/ OMEGA2	VCNTRL 205
00186	COMMON	/RCNTRL/ PI	VCNTRL 206
00187	COMMON	/RCNTRL/ PI180	VCNTRL 207
00188	COMMON	/RCNTRL/ PI2	VCNTRL 208
00189	COMMON	/RCNTRL/ PSTD	VCNTRL 209
00190	COMMON	/RCNTRL/ PIMEAN	VCNTRL 210
00191	COMMON	/RCNTRL/ PSMAX	VCNTRL 211
00192	COMMON	/RCNTRL/ PSMIN	VCNTRL 212
00193	COMMON	/RCNTRL/ PTOP	VCNTRL 213
00194	COMMON	/RCNTRL/ RADE	VCNTRL 214
00195	COMMON	/RCNTRL/ RGAS	VCNTRL 215
00196	COMMON	/RCNTRL/ ROCP	VCNTRL 216
00197	COMMON	/RCNTRL/ RSDIST	VCNTRL 217
00198	COMMON	/RCNTRL/ SDAY	VCNTRL 218
00199	COMMON	/RCNTRL/ SEASON	VCNTRL 219
00200	COMMON	/RCNTRL/ SIGE (25)	VCNTRL 220
00201	COMMON	/RCNTRL/ SIND	VCNTRL 221
00202	COMMON	/RCNTRL/ SOLS	VCNTRL 222
00203	COMMON	/RCNTRL/ TSTD	VCNTRL 223
00204	COMMON	/RCNTRL/ PLEVS (25)	VCNTRL 224
00205	COMMON	/RCNTRL/ HEATW	VCNTRL 225
00206	COMMON	/RCNTRL/ HEATI	VCNTRL 226
00207	COMMON	/RCNTRL/ EPS	VCNTRL 227
00208	COMMON	/RCNTRL/ EPSFAC	VCNTRL 228
00209	COMMON	/RCNTRL/ CALTOJ	VCNTRL 229
00210	COMMON	/RCNTRL/ PZERO	VCNTRL 230
	C		VCNTRL 231
00211	EQUIVALENCE	(RC0,RC(1))	VCNTRL 232
00212	HALF PRECISION	RC0, RC(400)	VCNTRL 233
	C		VCNTRL 234
	C	INTEGER MODEL CONSTANTS	VCNTRL 235
	C	=====	VCNTRL 236
00213	COMMON	/IDPARM/ IJUMP (46)	VCNTRL 237
00214	COMMON	/IDPARM/ IDSP02	VCNTRL 238
00215	COMMON	/IDPARM/ INDEK (72)	VCNTRL 239
00216	COMMON	/IDPARM/ IROD	VCNTRL 240
00217	COMMON	/IDPARM/ JC (46)	VCNTRL 241
00218	COMMON	/IDPARM/ JE (2)	VCNTRL 242
00219	COMMON	/IDPARM/ JP (2,2)	VCNTRL 243
00220	COMMON	/IDPARM/ KSTEP	VCNTRL 244
00221	COMMON	/IDPARM/ MJ (46)	VCNTRL 245
00222	COMMON	/IDPARM/ NHMS1	VCNTRL 246
00223	COMMON	/IDPARM/ NYMD1	VCNTRL 247
	C		VCNTRL 248
	C	LOGICAL MODEL CONSTANTS	VCNTRL 249
	C	=====	VCNTRL 250
00224	COMMON	/LDPARM/ FILTER (46)	VCNTRL 251

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00225 COMMON /LDPARM/ ITAPE
00226 COMMON /LDPARM/ START

C
00227 LOGICAL FILTER
00228 LOGICAL ITAPE
00229 LOGICAL START

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C C REAL MODEL CONSTANTS
C C =====

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```

00230 COMMON /RDPARM/ ADLDP
00231 COMMON /RDPARM/ CON1
00232 COMMON /RDPARM/ CON1DT
00233 COMMON /RDPARM/ CON2
00234 COMMON /RDPARM/ CON2DT
00235 COMMON /RDPARM/ CON3
00236 COMMON /RDPARM/ CON3DT
00237 COMMON /RDPARM/ CON4
00238 COMMON /RDPARM/ CON4DT
00239 COMMON /RDPARM/ CONS
00240 COMMON /RDPARM/ COSL (46)
00241 COMMON /RDPARM/ COSLON (72)
00242 COMMON /RDPARM/ CPD2
00243 COMMON /RDPARM/ DXP (46)
00244 COMMON /RDPARM/ DXP (46)
00245 COMMON /RDPARM/ DYP (46)
00246 COMMON /RDPARM/ DYP (46)
00247 COMMON /RDPARM/ FCORLS (46)
00248 COMMON /RDPARM/ F1DT
00249 COMMON /RDPARM/ F2DT
00250 COMMON /RDPARM/ H1DT
00251 COMMON /RDPARM/ H2DT
00252 COMMON /RDPARM/ PKSTD
00253 COMMON /RDPARM/ PKTOP
00254 COMMON /RDPARM/ RLAT (46)
00255 COMMON /RDPARM/ RLATD (46)
00256 COMMON /RDPARM/ ROCPDT
00257 COMMON /RDPARM/ ROCPPI
00258 COMMON /RDPARM/ SGNP (2)
00259 COMMON /RDPARM/ SINL (46)
00260 COMMON /RDPARM/ SINLON (72)
00261 COMMON /RDPARM/ THSTD
00262 COMMON /RDPARM/ THSTD2
00263 COMMON /RDPARM/ WSAVE (159)
00264 COMMON /RDPARM/ DSIG (9)
00265 COMMON /RDPARM/ SIG (9)
COMMON /RDPARM/ DSIGINV (9)

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C C COMDECK VQANDQT RESOLUTION VALUES
C C =====

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C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23

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C C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C C =====

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00266 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00267 DIMENSION PHIS (7128,1)
00268 DIMENSION SMTH (7128,23)
00269 DIMENSION ALBEDO (7128,1)
00270 DIMENSION GT (7128,1)
00271 DIMENSION GW (7128,1)
00272 DIMENSION TS (7128,1)
00273 DIMENSION SHS (7128,1)
00274 DIMENSION P (72,99,1)
C
00275 DIMENSION U (72,9,11,1)

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VCNTRL 252
VCNTRL 253
VCNTRL 254
VCNTRL 255
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VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
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VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
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VQANDQT 20
VQANDQT 21
VQANDQT 22
VQANDQT 23
VQANDQT 24
VQANDQT 25
VQANDQT 26

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OF POOR QUALITY

00276	DIMENSION	V	(72.9, 11, 1)	VQANDQT	27	
00277	DIMENSION	T	(72.9, 11, 1)	VQANDQT	28	
00278	DIMENSION	SH	(72.9, 11, 1)	VQANDQT	29	
00279	DIMENSION	PHI	(72.9, 11, 1)	VQANDQT	30	
C				VQANDQT	31	
00280	EQUIVALENCE	{QPROG(1, 1, 1), PHIS	{(1, 1)}	VQANDQT	32	
00281	EQUIVALENCE	{QPROG(1, 2, 1), SMTH	{(1, 1)}	VQANDQT	33	
00282	EQUIVALENCE	{QPROG(1, 3, 1), ALBEDO	{(1, 1)}	VQANDQT	34	
00283	EQUIVALENCE	{QPROG(1, 4, 1), GT	{(1, 1)}	VQANDQT	35	
00284	EQUIVALENCE	{QPROG(1, 5, 1), GW	{(1, 1)}	VQANDQT	36	
00285	EQUIVALENCE	{QPROG(1, 6, 1), TS	{(1, 1)}	VQANDQT	37	
00286	EQUIVALENCE	{QPROG(1, 7, 1), SHS	{(1, 1)}	VQANDQT	38	
00287	EQUIVALENCE	{QPROG(1, 8, 1), P	{(1, 1, 1)}	VQANDQT	39	
C				VQANDQT	40	
00288	EQUIVALENCE	{QPROG(1, 1, 2), U	{(1, 1, 1, 1)}	VQANDQT	41	
00289	EQUIVALENCE	{QPROG(1, 1, 4), V	{(1, 1, 1, 1)}	VQANDQT	42	
00290	EQUIVALENCE	{QPROG(1, 1, 6), T	{(1, 1, 1, 1)}	VQANDQT	43	
00291	EQUIVALENCE	{QPROG(1, 1, 8), SH	{(1, 1, 1, 1)}	VQANDQT	44	
00292	EQUIVALENCE	{QPROG(1, 1, 10), PHI	{(1, 1, 1, 1)}	VQANDQT	45	
C				VQANDQT	46	
C				VQANDQT	47	
C	SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)				VQANDQT	48
C				VQANDQT	49	
00293	COMMON	/QANDQT/ QSDIAG(72	, 15, 46)	VQANDQT	50	
00294	BIT	QSDIAG(32,	72, 15, 46)	VQANDQT	51	
00295	EQUIVALENCE	(QSDIAG, BQSDIAG)		VQANDQT	52	
C				VQANDQT	53	
00296	COMMON	/QANDQT/ QUDIAG(72.9,	5, 46)	VQANDQT	54	
C				VQANDQT	55	
C				VCNTRLP	2	
C	PHYSICS PARAMETERS AND CONSTANTS				VCNTRLP	3
C				VCNTRLP	4	
00297	COMMON	/CNTRLP/ CDFR		VCNTRLP	5	
00298	COMMON	/CNTRLP/ CDXL		VCNTRLP	6	
00299	COMMON	/CNTRLP/ CDXO		VCNTRLP	7	
00300	COMMON	/CNTRLP/ CLH		VCNTRLP	8	
00301	COMMON	/CNTRLP/ COE	(9)	VCNTRLP	9	
00302	COMMON	/CNTRLP/ COEF		VCNTRLP	10	
00303	COMMON	/CNTRLP/ COEFS		VCNTRLP	11	
00304	COMMON	/CNTRLP/ COSROT		VCNTRLP	12	
00305	COMMON	/CNTRLP/ CPP		VCNTRLP	13	
00306	COMMON	/CNTRLP/ CTID		VCNTRLP	14	
00307	COMMON	/CNTRLP/ CUMDAY		VCNTRLP	15	
00308	COMMON	/CNTRLP/ CUMRAT		VCNTRLP	16	
00309	COMMON	/CNTRLP/ C10		VCNTRLP	17	
00310	COMMON	/CNTRLP/ C100		VCNTRLP	18	
00311	COMMON	/CNTRLP/ C40		VCNTRLP	19	
00312	COMMON	/CNTRLP/ DELTA		VCNTRLP	20	
00313	COMMON	/CNTRLP/ DTC3		VCNTRLP	21	
00314	COMMON	/CNTRLP/ DTOUT		VCNTRLP	22	
00315	COMMON	/CNTRLP/ ED		VCNTRLP	23	
00316	COMMON	/CNTRLP/ EDNM		VCNTRLP	24	
00317	COMMON	/CNTRLP/ FCOEF		VCNTRLP	25	
00318	COMMON	/CNTRLP/ FMU		VCNTRLP	26	
00319	COMMON	/CNTRLP/ FWET		VCNTRLP	27	
00320	COMMON	/CNTRLP/ GAMFAC		VCNTRLP	28	
00321	COMMON	/CNTRLP/ GTOPO		VCNTRLP	29	
00322	COMMON	/CNTRLP/ HICE		VCNTRLP	30	
00323	COMMON	/CNTRLP/ NDTC3		VCNTRLP	31	
00324	COMMON	/CNTRLP/ NFLW		VCNTRLP	32	
00325	COMMON	/CNTRLP/ PIM		VCNTRLP	33	
00326	COMMON	/CNTRLP/ QHOG		VCNTRLP	34	
00327	COMMON	/CNTRLP/ SHLTOP		VCNTRLP	35	
00328	COMMON	/CNTRLP/ SINROT		VCNTRLP	36	
00329	COMMON	/CNTRLP/ SNOWN		VCNTRLP	37	
00330	COMMON	/CNTRLP/ SNOWS		VCNTRLP	38	
00331	COMMON	/CNTRLP/ STBO		VCNTRLP	39	
00332	COMMON	/CNTRLP/ STERP1		VCNTRLP	40	
00333	COMMON	/CNTRLP/ STERP2		VCNTRLP	41	
00334	COMMON	/CNTRLP/ TICE		VCNTRLP	42	
00335	COMMON	/CNTRLP/ TLTOP		VCNTRLP	43	

ORIGINAL PAGE IS
OF POOR QUALITY


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00336 COMMON /CNTRLP/ XDAY
00337 COMMON /CNTRLP/ ZLNCO
00338 LOGICAL QHOG
C
C
C SURFACE BOUNDARY CONDITIONS DATA FIELDS
C =====
00339 COMMON /MNTHLY/ DSNTOP(4)
00340 CHARACTER*8 DSNTOP
00341 COMMON /MNTHLY/ SURTOP (72,46 )
00342 HALF PRECISION SURTOP
C
00343 COMMON /MNTHLY/ DSNLWI(4)
00344 CHARACTER*8 DSNLWI
00345 COMMON /MNTHLY/ SURLWI (72,46 )
00346 HALF PRECISION SURLWI
00347 CHARACTER*1 CCCLWI (4,72,46)
00348 EQUIVALENCE (SURLWI(1,1),CCCLWI(1,1,1))
C
00349 COMMON /MNTHLY/ DSNSSST(4)
00350 CHARACTER*8 DSNSSST
00351 COMMON /MNTHLY/ SURSSST (72,46,2)
00352 HALF PRECISION SURSSST
C
00353 COMMON /MNTHLY/ DSNALB(4)
00354 CHARACTER*8 DSNALB
00355 COMMON /MNTHLY/ SURALB (72,46,2)
00356 HALF PRECISION SURALB
C
00357 COMMON /MNTHLY/ DSNLWT(4)
00358 CHARACTER*8 DSNLWT
00359 COMMON /MNTHLY/ SURLWT (72,46,2)
00360 HALF PRECISION SURLWT

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COMDECK VAMAM RESOLUTION VALUES

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=====
IM =72
NLAY =9
JM+1 =46
IM+NLAY =648
LPSPACE =7

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DYNAMIC SPACE VARIABLES FOR SUBROUTINE CONHTR

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=====
00361 COMMON /SPACE/ QSH(72,46,23)
00362 HALF PRECISION QSH
00363 COMMON /SPACE/ QUH(72,9,46,10)
00364 HALF PRECISION QUH
00365 COMMON /SPACE/ CA(200)
00366 CHARACTER*8 CA
00367 COMMON /SPACE/ IA(200)
00368 HALF PRECISION IA
00369 COMMON /SPACE/ LA(200)
00370 HALF PRECISION LA
00371 COMMON /SPACE/ RA(200)
00372 HALF PRECISION RA
00373 COMMON /SPACE/ HWORK(648)
00374 HALF PRECISION HWORK
00375 HALF PRECISION
00376 EQUIVALENCE (QSH,SPAXXX) SPAXXX(512,128,7)

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RADIATION AND SOURCE TERM FIELDS

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=====
00377 COMMON /RADCOM/ AS (72,9 )
00378 COMMON /RADCOM/ RE (72,10)
00379 COMMON /RADCOM/ PL (72,9 )
00380 COMMON /RADCOM/ PLE (72,10)
00381 COMMON /RADCOM/ PLK (72,9 )

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VCNTRLP 44
VCNTRLP 45
VCNTRLP 46
VCNTRLP 47
VMNTHLY 2
VMNTHLY 3
VMNTHLY 4
VMNTHLY 5
VMNTHLY 6
VMNTHLY 7
VMNTHLY 8
VMNTHLY 9
VMNTHLY 10
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VRADCOM 2
VRADCOM 3
VRADCOM 4
VRADCOM 5
VRADCOM 6
VRADCOM 7
VRADCOM 8
VRADCOM 9

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ORIGINAL PAGE 19
OF POOR QUALITY

00382	COMMON /RADCOM/	PLKE	(10)			VRADCOM	10
00383	COMMON /RADCOM/	TL	(72.9)			VRADCOM	11
00384	COMMON /RADCOM/	TLE	(72.10)	)			VRADCOM	12
00385	COMMON /RADCOM/	TG	(72	)	)		VRADCOM	13
00386	COMMON /RADCOM/	TH	(72.9	)			VRADCOM	14
00387	COMMON /RADCOM/	SHL	(72.9	)			VRADCOM	15
00388	COMMON /RADCOM/	SHLE	(72.10)	)			VRADCOM	16
00389	COMMON /RADCOM/	SHG	(72	)	)		VRADCOM	17
00390	COMMON /RADCOM/	CLOUD	(72.12)	)			VRADCOM	18
00391	COMMON /RADCOM/	SHSAT	(72.9	)			VRADCOM	19
00392	COMMON /RADCOM/	GAM	(72.9	)			VRADCOM	20
00393	COMMON /RADCOM/	RH	(72.9	)			VRADCOM	21
00394	COMMON /RADCOM/	SSS	(72.9	)			VRADCOM	22
00395	COMMON /RADCOM/	SSSE	(72.10)	)			VRADCOM	23
00396	COMMON /RADCOM/	HH	(72.9	)			VRADCOM	24
00397	COMMON /RADCOM/	HHE	(72.10)	)			VRADCOM	25
00398	COMMON /RADCOM/	HHS	(72.9	)			VRADCOM	26
00399	COMMON /RADCOM/	QVT	(72.9	)			VRADCOM	27
00400	COMMON /RADCOM/	CVQ	(72.9	)			VRADCOM	28
00401	COMMON /RADCOM/	CXDE	(	9	)		VRADCOM	29
00402	COMMON /RADCOM/	SWALE	(72.10)	)			VRADCOM	30
00403	COMMON /RADCOM/	SWIL	(72.9	)			VRADCOM	31
00405	COMMON /RADCOM/	AL	(72.10)	)			VRADCOM	32
00406	COMMON /RADCOM/	TAUL	(72.10)	)			VRADCOM	33
00407	COMMON /RADCOM/	OZALE	(72.10)	)			VRADCOM	34
00407	COMMON /RADCOM/	TOPASS	(72	)	)		VRADCOM	35
00408	COMMON /RADCOM/	RN	(	8	)		VRADCOM	36
00409	COMMON /RADCOM/	TN	(	8	)		VRADCOM	37
00410	COMMON /RADCOM/	SRS	(	8	)		VRADCOM	38
00411	COMMON /RADCOM/	STN	(	8	)		VRADCOM	39
00412	COMMON /RADCOM/	TCOND	(	8	)		VRADCOM	40
00413	COMMON /RADCOM/	TPENE	(	8	)		VRADCOM	41
00414	COMMON /RADCOM/	TLOWL	(	8	)		VRADCOM	42
00415	COMMON /RADCOM/	TMIDL	(	8	)		VRADCOM	43
00416	COMMON /RADCOM/	NLAYOZ	(	8	)		VRADCOM	44
00417	COMMON /RADCOM/	FK	(	5	)		VRADCOM	45
00418	COMMON /RADCOM/	KK	(	5	)		VRADCOM	46
00419	COMMON /RADCOM/	NFK	(	5	)		VRADCOM	47
00420	COMMON /RADCOM/	OLJAN	(19)	)			VRADCOM	48
00421	COMMON /RADCOM/	OLAPR	(19)	)			VRADCOM	49
00422	COMMON /RADCOM/	OLJUL	(19)	)			VRADCOM	50
00423	COMMON /RADCOM/	OLOCT	(19)	)			VRADCOM	51
00424	COMMON /RADCOM/	OCM22	(23)	)			VRADCOM	52
00425	COMMON /RADCOM/	OCM30	(23)	)			VRADCOM	53
00426	COMMON /RADCOM/	OCM38	(23)	)			VRADCOM	54
00427	COMMON /RADCOM/	OCM46	(23)	)			VRADCOM	55
00428	COMMON /RADCOM/	PROCM	(23)	)			VRADCOM	56
00429	COMMON /RADCOM/	OCMXX	(23)	)			VRADCOM	57
00430	COMMON /RADCOM/	NOZ	(	4	)		VRADCOM	58
00431	COMMON /RADCOM/	TOTOZ	(	4	)		VRADCOM	59
00432	COMMON /RADCOM/	CDATE	(	6	)		VRADCOM	60
00433	COMMON /RADCOM/	CZH	(72	)	)		VRADCOM	61
00434	COMMON /RADCOM/	WET	(72	)	)		VRADCOM	62
00435	COMMON /RADCOM/	EVAP	(72	)	)		VRADCOM	63
00436	COMMON /RADCOM/	PREP	(72	)	)		VRADCOM	64
00437	COMMON /RADCOM/	WI	(72	)	)		VRADCOM	65
00438	COMMON /RADCOM/	COSZ	(72	)	)		VRADCOM	66
00439	COMMON /RADCOM/	SO	(72	)	)		VRADCOM	67
00440	COMMON /RADCOM/	RADTRM	(72	)	)		VRADCOM	68
00441	COMMON /RADCOM/	CXL	(72	)	)		VRADCOM	69
00442	COMMON /RADCOM/	SG	(72	)	)		VRADCOM	70
00443	COMMON /RADCOM/	SP	(72	)	)		VRADCOM	71
00444	COMMON /RADCOM/	RSURF	(72	)	)		VRADCOM	72
00445	COMMON /RADCOM/	RLOUD	(72	)	)		VRADCOM	73
00446	COMMON /RADCOM/	JALB	(72	)	)		VRADCOM	74
00447	COMMON /RADCOM/	LAND	(72	)	)		VRADCOM	75
00448	LOGICAL	LAND	(72	)	)		VRADCOM	76
00449	COMMON /RADCOM/	OCEAN	(72	)	)		VRADCOM	77
00450	LOGICAL	OCEAN	(72))		VRADCOM	78
00451	COMMON /RADCOM/	ICE	(72))		VRADCOM	79
00452	LOGICAL	ICE	(72))		VRADCOM	80

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00495     LY = LWORK/64
00496     DO 300 LX=1,LY
00497     300 WORK1(1 : (LX-1)*512+64,1,1;512*64) = 0.0 S0
C
C =====
00498     CALL Q5RQUEST
00499     $('LFN=', 'SPACE', 'LEN=', LSPACE, 'RT=', 'U', 'EXT=', 'N', 'PN=', 'TPAK25')
00500     CALL Q5OPEN ('LFN=', 'SPACE', 'IMP')
00501     CALL Q5MAPIN ('LFN=', 'SPACE', 'VBA=', SPAXXX, 'LEN=', LSPACE, 'LPAGE')
00502     LY = LSPACE/64
00503     DO 400 LX=1,LY
00504     400 SPAXXX(1 : (LX-1)*512+64,1,1;512*64) = 0.0 S0
C
C =====
00505     CALL Q5RQUEST
00506     $('LFN=', 'XCNTR', 'LEN=', LXCNTR, 'RT=', 'U', 'EXT=', 'N', 'PN=', 'TPAK25')
00507     CALL Q5OPEN ('LFN=', 'XCNTR', 'IMP')
00508     CALL Q5MAPIN ('LFN=', 'XCNTR', 'VBA=', AS, 'LEN=', LXCNTR, 'LPAGE')
00509     LY = LXCNTR/64
00510     DO 500 LX=1,LY
00511     500 AS(1 : (LX-1)*512+64,1;512*64) = 0.0 S0
C
C =====
00512     RETURN
C
C *****
00513     ENTRY PGRET
C *****
C
00514     CALL Q5CLOSE ('LFN=', 'QSAVE')
00515     CALL Q5RETURN('LFN=', 'QSAVE')
00516     CALL Q5CLOSE ('LFN=', 'MNTHLY')
00517     CALL Q5RETURN('LFN=', 'MNTHLY')
00518     CALL Q5CLOSE ('LFN=', 'QWORK')
00519     CALL Q5RETURN('LFN=', 'QWORK')
00520     CALL Q5CLOSE ('LFN=', 'SPACE')
00521     CALL Q5RETURN('LFN=', 'SPACE')
00522     CALL Q5CLOSE ('LFN=', 'XCNTR')
00523     CALL Q5RETURN('LFN=', 'XCNTR')
C
00524     RETURN
00525     END
VPGMAP 92
VPGMAP 93
VPGMAP 94
VPGMAP 95
VPGMAP 96
VPGMAP 97
VPGMAP 98
VPGMAP 99
VPGMAP 100
VPGMAP 101
VPGMAP 102
VPGMAP 103
VPGMAP 104
VPGMAP 105
VPGMAP 106
VPGMAP 107
VPGMAP 108
VPGMAP 109
VPGMAP 110
VPGMAP 111
VPGMAP 112
VPGMAP 113
VPGMAP 114
VPGMAP 115
VPGMAP 116
VPGMAP 117
VPGMAP 118
VPGMAP 119
VPGMAP 120
VPGMAP 121
VPGMAP 122
VPGMAP 123
VPGMAP 124
VPGMAP 125
VPGMAP 126
VPGMAP 127
VPGMAP 128
VPGMAP 129
VPGMAP 130
VPGMAP 131
VPGMAP 132
VPGMAP 133
VPGMAP 134
VPGMAP 135

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	485	484
10000	467	
200	491	490
300	497	496
400	503	502
500	509	508

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE
ADATE	CCNTRL	CHAR*8	SIMPLE	4	22
ADLDP	RDPARM	HALF	SIMPLE	230	
ADSTOP	MNTHLY	HALF	ARRAY	465	466
AIJUMP	IDPARM	HALF	ARRAY	463	464 491/S
AL	RADCOM	HALF	ARRAY	404	485/S
ALBEDO	QANDQT	HALF	ARRAY	269	282
APHEL	RCNTRL	HALF	SIMPLE	170	
AS	RADCOM	HALF	ARRAY	377	506 509/S
ATIME	CCNTRL	CHAR*8	SIMPLE	5	23
BETA	RCNTRL	HALF	SIMPLE	171	
BQSDIAG	QANDQT	BIT	ARRAY	294	295
C10	CNTRLP	HALF	SIMPLE	309	
C100	CNTRLP	HALF	SIMPLE	310	

C40	CNTRLP	HALF	SIMPLE	311																	
CA	SPACE	CHAR*8	ARRAY	365	366																
CALTOJ	RCNTRL	HALF	SIMPLE	209																	
CC	CCNTRL	CHAR*8	ARRAY	20	21																
CCO	CCNTRL	CHAR*8	SIMPLE	3	20	21															
CCCLWI	MNTHLY	CHARACTER	ARRAY	347	348																
CNTRL		HALF	UNKNOWN	3	4	5	6	7	8	9	10	11	12	13							
				14	15	16	17	18	19												
CCSP06	CCNTRL	CHAR*8	SIMPLE	8	26																
CCSP07	CCNTRL	CHAR*8	SIMPLE	9	27																
CCSP08	CCNTRL	CHAR*8	SIMPLE	10	28																
CDATE	RADCOM	HALF	ARRAY	432																	
CDFR	CNTRLP	HALF	SIMPLE	297																	
CDXL	CNTRLP	HALF	SIMPLE	298																	
CDXO	CNTRLP	HALF	SIMPLE	299																	
CLH	CNTRLP	HALF	SIMPLE	300																	
CLOUD	RADCOM	HALF	ARRAY	390																	
CNTRLP		HALF	UNKNOWN	297	298	299	300	301	302	303	304	305	306	307							
				308	309	310	311	312	313	314	315	316	317	318							
				319	320	321	322	323	324	325	326	327	328	329							
				330	331	332	333	334	335	336	337										
COE	CNTRLP	HALF	ARRAY	301																	
COEF	CNTRLP	HALF	SIMPLE	302																	
COEFS	CNTRLP	HALF	SIMPLE	303																	
CON1	RDPARM	HALF	SIMPLE	231																	
CON1DT	RDPARM	HALF	SIMPLE	232																	
CON2	RDPARM	HALF	SIMPLE	233																	
CON2DT	RDPARM	HALF	SIMPLE	234																	
CON3	RDPARM	HALF	SIMPLE	235																	
CON3DT	RDPARM	HALF	SIMPLE	236																	
CON4	RDPARM	HALF	SIMPLE	237																	
CON4DT	RDPARM	HALF	SIMPLE	238																	
CON5	RDPARM	HALF	SIMPLE	239																	
COSD	RCNTRL	HALF	SIMPLE	172																	
COSL	RDPARM	HALF	ARRAY	240																	
COSLON	RDPARM	HALF	ARRAY	241																	
COSROT	CNTRLP	HALF	SIMPLE	304																	
COSZ	RADCOM	HALF	ARRAY	438																	
CP	CNTRLP	HALF	SIMPLE	173																	
CPD2	RDPARM	HALF	SIMPLE	242																	
CPP	CNTRLP	HALF	SIMPLE	305																	
CQS	CCNTRL	CHAR*8	ARRAY	13	31																
CQU	CCNTRL	CHAR*8	ARRAY	14	32																
CTID	CNTRLP	HALF	SIMPLE	306																	
CUMDAY	CNTRLP	HALF	SIMPLE	307																	
CUMRAT	CNTRLP	HALF	SIMPLE	308																	
CVQ	RADCOM	HALF	ARRAY	400																	
CVT	RADCOM	HALF	ARRAY	399																	
CXDE	RADCOM	HALF	ARRAY	401																	
CXL	RADCOM	HALF	SIMPLE	441																	
CZH	RADCOM	HALF	ARRAY	433																	
DAYSPY	RCNTRL	HALF	SIMPLE	174																	
DEC	RCNTRL	HALF	SIMPLE	175																	
DECMAK	RCNTRL	HALF	SIMPLE	176																	
DELTA	CNTRLP	HALF	SIMPLE	312																	
DIST	CNTRLP	HALF	SIMPLE	177																	
DLAT	RCNTRL	HALF	SIMPLE	178																	
DLON	RCNTRL	HALF	SIMPLE	179																	
DSALB	CCNTRL	CHAR*8	ARRAY	18	36																
DSGWT	CCNTRL	CHAR*8	ARRAY	19	37																
DSIG	RDPARM	HALF	ARRAY	263																	
DSIGINV	RDPARM	HALF	ARRAY	265																	
DSLWI	CCNTRL	CHAR*8	ARRAY	16	34																
DSNALB	MNTHLY	CHAR*8	ARRAY	353	354																
DSNGWT	MNTHLY	CHAR*8	ARRAY	357	358																
DSNLWI	MNTHLY	CHAR*8	ARRAY	343	344																
DSNSST	MNTHLY	CHAR*8	ARRAY	349	350																
DSNTOP	MNTHLY	CHAR*8	ARRAY	339	340	466	488														
DSST	CCNTRL	CHAR*8	ARRAY	17	35																
DSTOP	CCNTRL	CHAR*8	ARRAY	15	33																

ORIGINAL PAGE IS
OF POOR QUALITY

DT	RCNTRL	HALF	SIMPLE	180																
DTG3	CNTRLP	HALF	SIMPLE	313																
DTOUT	CNTRLP	HALF	SIMPLE	314																
DXP	RDPARM	HALF	ARRAY	243																
DXYP	RDPARM	HALF	ARRAY	244																
DYP	RDPARM	HALF	ARRAY	245																
ECCN	RCNTRL	HALF	SIMPLE	181																
ED	CNTRLP	HALF	SIMPLE	315																
EDNM	CNTRLP	HALF	SIMPLE	316																
EPS	RCNTRL	HALF	SIMPLE	207																
EPSFAC	RCNTRL	HALF	SIMPLE	208																
EVAP	RADCOM	HALF	SIMPLE	435																
F1DT	RDPARM	HALF	SIMPLE	247																
F2DT	RDPARM	HALF	SIMPLE	248																
F3COEF	CNTRLP	HALF	SIMPLE	317																
FCORLS	RDPARM	HALF	ARRAY	246																
FLTR	LDPRM	LOGICAL	ARRAY	224	227															
FK	RADCOM	HALF	ARRAY	417																
FNU	CNTRLP	HALF	SIMPLE	318																
FROST	RADCOM	LOGICAL	ARRAY	457	458															
FWET	CNTRLP	HALF	SIMPLE	319																
GAM	RADCOM	HALF	ARRAY	392																
GAMFAC	CNTRLP	HALF	SIMPLE	320																
GNU1	RCNTRL	HALF	SIMPLE	182																
GNU2	RCNTRL	HALF	SIMPLE	183																
GRAV	RCNTRL	HALF	SIMPLE	184																
GT	QANDQT	HALF	ARRAY	270	283															
GTOPO	CNTRLP	HALF	SIMPLE	321																
GW	QANDQT	HALF	ARRAY	271	284															
H1DT	RDPARM	HALF	SIMPLE	249																
H2DT	RDPARM	HALF	SIMPLE	250																
HEATI	RCNTRL	HALF	SIMPLE	206																
HEATW	RCNTRL	HALF	SIMPLE	205																
HH	RADCOM	HALF	ARRAY	396																
HHE	RADCOM	HALF	ARRAY	397																
HHS	RADCOM	HALF	ARRAY	398																
HICE	CNTRLP	HALF	SIMPLE	322																
HWORX	SPACE	HALF	ARRAY	373	374															
IA	SPACE	HALF	ARRAY	367	368															
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	81																
IC	ICNTRL	INTEGER	ARRAY	108	109															
IC0	ICNTRL	INTEGER	SIMPLE	38	108	109														
ICE	RADCOM	LOGICAL	ARRAY	451	452															
ICNTRL		INTEGER	UNKNOWN	38	39	40	41	42	43	44	45	46	47	48						
				49	50	51	52	53	54	55	56	57	58	59						
				60	61	62	63	64	65	66	67	68	69	70						
				71	72	73	74	75	76	77	78	79	80	81						
				82	83	84	85	86	87	88	89	90	91							
				79																
ICSP53	ICNTRL	INTEGER	SIMPLE	105																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	213	214	215	216	217	218	219	220	221	222	223						
IDPARM		INTEGER	UNKNOWN	214																
IDSP02	IDPARM	INTEGER	SIMPLE	97																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	98																
IFUSION	ICNTRL	INTEGER	UNKNOWN	96																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	101																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	213	464	482														
IJUMP	IDPARM	INTEGER	ARRAY	39																
IM	ICNTRL	INTEGER	SIMPLE	40																
IMD2	ICNTRL	INTEGER	SIMPLE	41																
IMD2P1	ICNTRL	INTEGER	SIMPLE	215																
INDEX	IDPARM	INTEGER	ARRAY	104																
IONEGA	ICNTRL	INTEGER	UNKNOWN	94																
IPREACC	ICNTRL	INTEGER	UNKNOWN	95																
IPRECON	ICNTRL	INTEGER	UNKNOWN	88	92	93	94	95	96	97	98	99	100	101						
IQS	ICNTRL	INTEGER	ARRAY	102	103															
				89	104	105	106	107												
IQU	ICNTRL	INTEGER	ARRAY	107																
IRADLW	ICNTRL	INTEGER	UNKNOWN	100																
IRADLWG	ICNTRL	INTEGER	UNKNOWN	106																
IRADSW	ICNTRL	INTEGER	UNKNOWN	106																

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE 13
OF POOR QUALITY

IRADSWG	ICNTRL	INTEGER	UNKNOWN	99																
IROD	IDPARM	INTEGER	SIMPLE	216																
ITAPE	LDPARM	LOGICAL	SIMPLE	225	228															
ITMAX	ICNTRL	INTEGER	UNKNOWN	93																
ITMIN	ICNTRL	INTEGER	UNKNOWN	92																
IUFLUX	ICNTRL	INTEGER	UNKNOWN	102																
IVFLUX	ICNTRL	INTEGER	UNKNOWN	103																
JALB	RADCOM	INTEGER	SIMPLE	446																
JC	IDPARM	INTEGER	ARRAY	217																
JE	IDPARM	INTEGER	ARRAY	218																
JIC	CCNTRL	CHAR*8	SIMPLE	6	24															
JM	ICNTRL	INTEGER	SIMPLE	43																
JMD2	ICNTRL	INTEGER	SIMPLE	44																
JMT2	ICNTRL	INTEGER	SIMPLE	45																
JNP	ICNTRL	INTEGER	SIMPLE	46																
JO4	ICNTRL	INTEGER	SIMPLE	47																
JOB	ICNTRL	INTEGER	SIMPLE	48																
JOB	CCNTRL	CHAR*8	SIMPLE	7	25															
JP	IDPARM	INTEGER	ARRAY	219																
JSP	ICNTRL	INTEGER	SIMPLE	49																
KEYLWI	RADCOM	INTEGER	ARRAY	461																
KLIALB	ICNTRL	INTEGER	SIMPLE	50																
KLIGW	ICNTRL	INTEGER	SIMPLE	51																
KLILWI	ICNTRL	INTEGER	SIMPLE	91																
KLISST	ICNTRL	INTEGER	SIMPLE	52																
KLITOP	ICNTRL	INTEGER	SIMPLE	90																
KS	ICNTRL	INTEGER	SIMPLE	53																
KSTEP	IDPARM	INTEGER	SIMPLE	220																
KU	ICNTRL	INTEGER	SIMPLE	54																
LA	SPACE	HALF	ARRAY	369	370															
LAND	RADCOM	LOGICAL	ARRAY	447	448															
LC	LCNTRL	LOGICAL	ARRAY	167	168															
LC0	LCNTRL	LOGICAL	SIMPLE	110	167	168														
LCNTRL	ICNTRL	INTEGER	UNKNOWN	110	111	112	113	114	115	116	117	118	119	120						
				121	122															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	136	164															
LDPARM	ICNTRL	INTEGER	UNKNOWN	224	225	226														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	128	156															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	129	157															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	127	155															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	132	160															
LMNTHLY	ICNTRL	INTEGER	SIMPLE	469/S	475/S	486	488	489												
LOGBR	ICNTRL	INTEGER	SIMPLE	55																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	135	163															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	125	153															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	126	154															
LQS	LCNTRL	LOGICAL	ARRAY	121	123	124	125	126	127	128	129	130	131	132						
				133	134	149														
LQSAVE	ICNTRL	INTEGER	SIMPLE	468/S	474/S	480	482	483												
LQU	LCNTRL	LOGICAL	ARRAY	122	135	136	137	138	150											
LQWORK	ICNTRL	INTEGER	SIMPLE	470/S	476/S	492	494	495												
LRADLW	LCNTRL	LOGICAL	UNKNOWN	138	166															
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	131	159															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	137	165															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	130	158															
LSPACE	ICNTRL	INTEGER	SIMPLE	471/S	477/S	498	500	501												
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	123	151															
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	133	161															
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	134	162															
LX	ICNTRL	INTEGER	SIMPLE	484/C	485	490/C	491	496/C	497	502/C	503	508/C	509							
LXCNTR	ICNTRL	INTEGER	SIMPLE	472/S	478/S	504	506	507												
LY	ICNTRL	INTEGER	SIMPLE	483/S	484	489/S	490	495/S	496	501/S	502	507/S	508							
MATIN	ICNTRL	INTEGER	SIMPLE	56																
MATSNX	ICNTRL	INTEGER	SIMPLE	57																
MATSNX	ICNTRL	INTEGER	SIMPLE	58																
MIXWI	RADCOM	LOGICAL	ARRAY	455	456															
MJ	IDPARM	INTEGER	ARRAY	221																
MLF	ICNTRL	INTEGER	ARRAY	59																

MNTHLY		INTEGER	UNKNOWN	339								
MROD	ICNTRL	INTEGER	SIMPLE	60	341							
MSM	ICNTRL	INTEGER	SIMPLE	62								
NB	ICNTRL	INTEGER	SIMPLE	63								
ND	ICNTRL	INTEGER	SIMPLE	64								
NDALT	ICNTRL	INTEGER	SIMPLE	65								
NDAY	ICNTRL	INTEGER	SIMPLE	66								
NDHOG	ICNTRL	INTEGER	SIMPLE	67								
NDOUT	ICNTRL	INTEGER	SIMPLE	68								
NDPHY	ICNTRL	INTEGER	SIMPLE	42								
NDRSW	ICNTRL	INTEGER	SIMPLE	69								
NDSHF	ICNTRL	INTEGER	SIMPLE	70								
NDT	ICNTRL	INTEGER	SIMPLE	323								
NDTC3	CNTRLP	INTEGER	SIMPLE	419								
NFK	RADCOM	INTEGER	SIMPLE	324								
NFLW	CNTRLP	INTEGER	SIMPLE	71								
NHMS	ICNTRL	INTEGER	SIMPLE	73								
NHMSO	ICNTRL	INTEGER	SIMPLE	222								
NHMSI	IDPARM	INTEGER	SIMPLE	72								
NHMSE	ICNTRL	INTEGER	SIMPLE	61								
NKRSH	ICNTRL	INTEGER	SIMPLE	74								
NLAY	ICNTRL	INTEGER	SIMPLE	75								
NLAYM1	ICNTRL	INTEGER	SIMPLE	416								
NLAYOZ	RADCOM	INTEGER	SIMPLE	76								
NLAYP1	ICNTRL	INTEGER	SIMPLE	86								
NMLEV	ICNTRL	INTEGER	SIMPLE	430								
NOZ	RADCOM	INTEGER	SIMPLE	77								
NSDAY	ICNTRL	INTEGER	SIMPLE	78								
NSEQ	ICNTRL	INTEGER	SIMPLE	80								
NSTEP	ICNTRL	INTEGER	SIMPLE	82								
NYMD	ICNTRL	INTEGER	SIMPLE	84								
NYMDO	ICNTRL	INTEGER	SIMPLE	223								
NYMDI	IDPARM	INTEGER	SIMPLE	83								
NYMDE	ICNTRL	INTEGER	SIMPLE	85								
NZINIT	ICNTRL	INTEGER	SIMPLE	449	450							
OCEAN	RADCOM	LOGICAL	ARRAY	424								
OCM22	RADCOM	HALF	ARRAY	425								
OCM30	RADCOM	HALF	ARRAY	426								
OCM38	RADCOM	HALF	ARRAY	427								
OCM46	RADCOM	HALF	ARRAY	429								
OCMXX	RADCOM	HALF	ARRAY	421								
OLAPR	RADCOM	HALF	ARRAY	420								
OLJAN	RADCOM	HALF	ARRAY	422								
OLJUL	RADCOM	HALF	ARRAY	423								
OLOCT	RADCOM	HALF	ARRAY	185								
OMEGA2	RCNTRL	HALF	SIMPLE	406								
OZALE	RADCOM	HALF	ARRAY	274	287							
P	QANDQT	HALF	ARRAY	511								
PGMAP			SUBROUTINE	279								
PGRET			SUBROUTINE	267	292							
PHI	QANDQT	HALF	ARRAY	186	280							
PHIS	QANDQT	HALF	ARRAY	187								
PI	RCNTRL	HALF	SIMPLE	188								
PI180	RCNTRL	HALF	SIMPLE	325								
PI2	RCNTRL	HALF	SIMPLE	190								
PIM	CNTRLP	HALF	SIMPLE	251								
PIMEAN	ICNTRL	HALF	SIMPLE	252								
PKSTD	RDPARM	HALF	SIMPLE	379								
PKTOP	RDPARM	HALF	SIMPLE	380								
PL	RADCOM	HALF	ARRAY	204								
PLE	RADCOM	HALF	ARRAY	381								
PLEVS	RCNTRL	HALF	ARRAY	382								
PLK	RADCOM	HALF	ARRAY	436								
PLKE	RADCOM	HALF	ARRAY	428								
PREP	RADCOM	HALF	ARRAY	191								
PROCM	RADCOM	HALF	ARRAY	192								
PSMAX	RCNTRL	HALF	SIMPLE	189								
PSMIN	RCNTRL	HALF	SIMPLE	193								
PSTD	RCNTRL	HALF	SIMPLE									
PSTOP	RCNTRL	HALF	SIMPLE									

ORIGINAL PAGE IS
OF POOR QUALITY

PZERO	RCNTRL	HALF	SIMPLE	210																									
QALT	LCNTRL	LOGICAL	SIMPLE	111	139																								
QANDQT		HALF	UNKNOWN	266	293	296																							
QBEG	LCNTRL	LOGICAL	SIMPLE	112	140																								
QDAY	LCNTRL	LOGICAL	SIMPLE	113	141																								
QEND	LCNTRL	LOGICAL	SIMPLE	114	142																								
QHOG	CNTRLP	LOGICAL	SIMPLE	326	338																								
QOJT	LCNTRL	LOGICAL	SIMPLE	115	143																								
QOHY	LCNTRL	LOGICAL	SIMPLE	115	144																								
QPROG	QANDQT	HALF	ARRAY	266	280	281	282	283	284	285	286	287	288	289															
				290	291	292																							
QRSH	LCNTRL	LOGICAL	SIMPLE	120	148																								
QRSW	LCNTRL	LOGICAL	SIMPLE	119	147																								
QSDIAG	QANDQT	HALF	ARRAY	293	295																								
QSH	SPACE	HALF	ARRAY	361	362	376																							
QSHF	LCNTRL	LOGICAL	SIMPLE	117	145																								
QUDIAG	QANDQT	HALF	ARRAY	296																									
QUH	SPACE	HALF	ARRAY	363	364																								
RA	SPACE	HALF	ARRAY	371	372																								
RADCOM		HALF	UNKNOWN	377	378	379	380	381	382	383	384	385	386	387															
				388	389	390	391	392	393	394	395	396	397	398															
				399	400	401	402	403	404	405	406	407	408	409															
				410	411	412	413	414	415	416	417	418	419	420															
				421	422	423	424	425	426	427	428	429	430	431															
				432	433	434	435	436	437	438	439	440	441	442															
				443	444	445	446	447	448	449	451	453	455	457	459														
				461																									
RADE	RCNTRL	HALF	SIMPLE	194																									
RADTRM	RADCOM	HALF	ARRAY	440																									
RC	RCNTRL	HALF	ARRAY	211	212																								
RCO	RCNTRL	HALF	SIMPLE	169	211	212																							
RCLUD	RADCOM	HALF	ARRAY	445																									
RCNTRL		HALF	UNKNOWN	169	170	171	172	173	174	175	176	177	178	179															
				180	181	182	183	184	185	186	187	188	189	190															
				191	192	193	194	195	196	197	198	199	200	201															
				202	203	204	205	206	207	208	209	210	211	212															
RDPARM		HALF	UNKNOWN	230	231	232	233	234	235	236	237	238	239	240															
				241	242	243	244	245	246	247	248	249	250	251															
				252	253	254	255	256	257	258	259	260	261	262															
				263	264	265																							
				378																									
RE	RADCOM	HALF	ARRAY	378																									
RGAS	RCNTRL	HALF	SIMPLE	195																									
RH	RADCOM	HALF	ARRAY	393																									
RLAT	RDPARM	HALF	ARRAY	253																									
RLATD	RDPARM	HALF	ARRAY	254																									
RN	RADCOM	HALF	ARRAY	408																									
ROCP	RCNTRL	HALF	SIMPLE	196																									
ROCPDT	RDPARM	HALF	SIMPLE	255																									
ROCPP1	RDPARM	HALF	SIMPLE	256																									
RSDIST	RCNTRL	HALF	SIMPLE	197																									
RSURF	RADCOM	HALF	ARRAY	444																									
SO	RADCOM	HALF	SIMPLE	439																									
SDAY	RCNTRL	HALF	SIMPLE	198																									
SEASON	RCNTRL	HALF	SIMPLE	199																									
SG	RADCOM	HALF	ARRAY	442																									
SGNP	RDPARM	HALF	ARRAY	257																									
SH	QANDQT	HALF	ARRAY	278	291																								
SHG	RADCOM	HALF	ARRAY	389																									
SHL	RADCOM	HALF	ARRAY	387																									
SHLE	RADCOM	HALF	ARRAY	388																									
SHLTOP	CNTRLP	HALF	SIMPLE	327																									
SHS	QANDQT	HALF	ARRAY	273	286																								
SHSAT	RADCOM	HALF	ARRAY	391																									
SIG	RDPARM	HALF	ARRAY	264																									
SIGE	RCNTRL	HALF	ARRAY	200																									
SIND	RCNTRL	HALF	SIMPLE	201																									
SINL	RDPARM	HALF	ARRAY	258																									
SINLON	RDPARM	HALF	ARRAY	259																									
SINROT	CNTRLP	HALF	SIMPLE	328																									
SMTH	QANDQT	HALF	ARRAY	268	281																								

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SN2FLG	LCNTRL	LOGICAL	SIMPLE	118						
SNOW	RADCOM	LOGICAL	ARRAY	146						
SNOWN	CNTRLR	HALF	SIMPLE	453	454					
SNOWS	CNTRLR	HALF	SIMPLE	329						
SOLS	RCNTRL	HALF	SIMPLE	330						
SP	RADCOM	HALF	SIMPLE	202						
SPACE		HALF	ARRAY	443						
SPAXXX	SPACE	HALF	UNKNOWN	361	363	365	367	369	371	373
SRS	RADCOM	HALF	ARRAY	375	376	500	503/S			
SSS	RADCOM	HALF	ARRAY	410						
SSSE	RADCOM	HALF	ARRAY	394						
START	LDPARM	HALF	ARRAY	395						
STBO	CNTRLR	LOGICAL	SIMPLE	226	229					
STERP1	CNTRLR	HALF	SIMPLE	331						
STERP2	CNTRLR	HALF	SIMPLE	332						
STN	RADCOM	HALF	SIMPLE	333						
SURALB	MNTHLY	HALF	ARRAY	411						
SURGWT	MNTHLY	HALF	ARRAY	355	356					
SURLWI	MNTHLY	HALF	ARRAY	359	360					
SURSS	MNTHLY	HALF	ARRAY	345	346	348				
SURTOP	MNTHLY	HALF	ARRAY	351	352					
SWALE	RADCOM	HALF	ARRAY	341	342					
SWIL	RADCOM	HALF	ARRAY	402						
T	QANDQT	HALF	ARRAY	403						
TAUL	RADCOM	HALF	ARRAY	277	290					
TCOND	RADCOM	HALF	ARRAY	405						
TG	RADCOM	HALF	ARRAY	412						
TH	RADCOM	HALF	ARRAY	385						
THSTD	RDPARM	HALF	ARRAY	386						
THSTD2	RDPARM	HALF	SIMPLE	260						
TICE	CNTRLR	HALF	SIMPLE	261						
TL	RADCOM	HALF	SIMPLE	334						
TLE	RADCOM	HALF	ARRAY	383						
TLOWL	RADCOM	HALF	ARRAY	384						
TLTOP	CNTRLR	HALF	SIMPLE	414						
TMIDL	RADCOM	HALF	SIMPLE	335						
TN	RADCOM	HALF	SIMPLE	415						
		HALF	ARRAY	409						
TOPABS	RADCOM	HALF	ARRAY	407						
TOTZ	RADCOM	HALF	ARRAY	431						
TPENE	RADCOM	HALF	ARRAY	413						
TS	QANDQT	HALF	ARRAY	272	285					
TSTD	RCNTRL	HALF	SIMPLE	203						
U	QANDQT	HALF	ARRAY	275	288					
USELWI	RADCOM	LOGICAL	SIMPLE	459	460					
V	QANDQT	HALF	ARRAY	276	289					
VER	CNTRLR	CHAR+8	SIMPLE	11	29					
WET	RADCOM	HALF	ARRAY	434						
WI	RADCOM	HALF	ARRAY	437						
WORK1	//	HALF	ARRAY	452	494	497/S				
WSAVE	RDPARM	HALF	ARRAY	262						
XDAY	CNTRLR	HALF	ARRAY	336						
XX	RADCOM	HALF	ARRAY	418						
XLABEL	CNTRLR	CHAR+8	ARRAY	12	30					
ZLNCO	CNTRLR	HALF	SIMPLE	337						

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES					
			D	STMT	FN	DEF	A	ARGLIST
QSCLOSE		SUBROUTINE	512	514	516	518	520	
QSMAPIN		SUBROUTINE	482	488	494	500	506	
QSOOPEN		SUBROUTINE	481	487	493	499	505	
QSRTURN		SUBROUTINE	513	515	517	519	521	
QSRQUEST		SUBROUTINE	480	486	492	498	504	

00001		FUNCTION PMEAN (N)			VPMEAN	2
	C				VPMEAN	3
	C				VPMEAN	4
	C				VPMEAN	5
	C				VPMEAN	6
	C				VPMEAN	7
	C				VPMEAN	8
	C				VPMEAN	9
	C				VCNTRL	2
					VCNTRL	3
					VCNTRL	4
					VCNTRL	5
					VCNTRL	6
					VCNTRL	7
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					VCNTRL	63
					VCNTRL	64

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00058	COMMON /ICNTRL/ NDSHF		VCNTRL 65
00059	COMMON /ICNTRL/ NDT		VCNTRL 66
00060	COMMON /ICNTRL/ NHMS		VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE		VCNTRL 68
00062	COMMON /ICNTRL/ NHMS0		VCNTRL 69
00063	COMMON /ICNTRL/ NLAY		VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1		VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1		VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY		VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ		VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53		VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP		VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ		VCNTRL 77
00071	COMMON /ICNTRL/ NYMD		VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE		VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO		VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT		VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV		VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG		VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)		VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)		VCNTRL 85
	C		VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))		VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))		VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))		VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))		VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))		VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))		VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))		VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))		VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))		VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))		VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))		VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))		VCNTRL 98
	C		VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))		VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))		VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))		VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))		VCNTRL 103
	C		VCNTRL 104
00095	EQUIVALENCE (ICO, IC(1))		VCNTRL 105
00096	INTEGER IC0, IC(200)		VCNTRL 106
	C		VCNTRL 107
	C		VCNTRL 108
	C		VCNTRL 109
	C		VCNTRL 110
	C		VCNTRL 111
	C		VCNTRL 112
	C		VCNTRL 113
	C		VCNTRL 114
	C		VCNTRL 115
	C		VCNTRL 116
	C		VCNTRL 117
	C		VCNTRL 118
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	C		VCNTRL 121
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	C		VCNTRL 132
	C		VCNTRL 133
	C		VCNTRL 134
	C		VCNTRL 135
00097	COMMON /LCNTRL/ LCO		VCNTRL 109
00098	COMMON /LCNTRL/ QALT		VCNTRL 110
00099	COMMON /LCNTRL/ QBEG		VCNTRL 111
00100	COMMON /LCNTRL/ QDAY		VCNTRL 112
00101	COMMON /LCNTRL/ QEND		VCNTRL 113
00102	COMMON /LCNTRL/ QOUT		VCNTRL 114
00103	COMMON /LCNTRL/ QPHY		VCNTRL 115
00104	COMMON /LCNTRL/ QSHF		VCNTRL 116
00105	COMMON /LCNTRL/ SN2FLG		VCNTRL 117
00106	COMMON /LCNTRL/ QRSW		VCNTRL 118
00107	COMMON /LCNTRL/ QRSH		VCNTRL 119
00108	COMMON /LCNTRL/ LQS(30)		VCNTRL 120
00109	COMMON /LCNTRL/ LQU(10)		VCNTRL 121
	C		VCNTRL 122
00110	EQUIVALENCE (LTMIN .LQS(1))		VCNTRL 123
00111	EQUIVALENCE (LTMAX .LQS(2))		VCNTRL 124
00112	EQUIVALENCE (LPREACC .LQS(3))		VCNTRL 125
00113	EQUIVALENCE (LPRECON .LQS(4))		VCNTRL 126
00114	EQUIVALENCE (LHFLUX .LQS(5))		VCNTRL 127
00115	EQUIVALENCE (LEFLUX .LQS(6))		VCNTRL 128
00116	EQUIVALENCE (LFUSION .LQS(7))		VCNTRL 129
00117	EQUIVALENCE (LRADSWG .LQS(8))		VCNTRL 130
00118	EQUIVALENCE (LRADLWG .LQS(9))		VCNTRL 131
00119	EQUIVALENCE (LIICLOUD .LQS(10))		VCNTRL 132
00120	EQUIVALENCE (LUFLUX .LQS(11))		VCNTRL 133
00121	EQUIVALENCE (LVFLUX .LQS(12))		VCNTRL 134
			VCNTRL 135

00122	C	EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 136
00123		EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 137
00124		EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 138
00125		EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 139
00126	C	LOGICAL	QALT	VCNTRL 140
00127		LOGICAL	QBEG	VCNTRL 141
00128		LOGICAL	QDAY	VCNTRL 142
00129		LOGICAL	QEND	VCNTRL 143
00130		LOGICAL	QOUT	VCNTRL 144
00131		LOGICAL	QPHY	VCNTRL 145
00132		LOGICAL	QSHF	VCNTRL 146
00133		LOGICAL	SN2FLG	VCNTRL 147
00134		LOGICAL	QRSW	VCNTRL 148
00135		LOGICAL	QRSH	VCNTRL 149
00136	C	LOGICAL	LQS	VCNTRL 150
00137		LOGICAL	LQU	VCNTRL 151
00138		LOGICAL	LTMIN	VCNTRL 152
00139		LOGICAL	LTMAX	VCNTRL 153
00140		LOGICAL	LPREACC	VCNTRL 154
00141		LOGICAL	LPRECON	VCNTRL 155
00142		LOGICAL	LHFLUX	VCNTRL 156
00143		LOGICAL	LEFLUX	VCNTRL 157
00144		LOGICAL	LFUSION	VCNTRL 158
00145		LOGICAL	LRADSWG	VCNTRL 159
00146		LOGICAL	LRADLWG	VCNTRL 160
00147		LOGICAL	LICLOUD	VCNTRL 161
00148		LOGICAL	LUFLUX	VCNTRL 162
00149		LOGICAL	LVFLUX	VCNTRL 163
00150	C	LOGICAL	LOMEGA	VCNTRL 164
00151		LOGICAL	LDIABAT	VCNTRL 165
00152		LOGICAL	LRADSW	VCNTRL 166
00153		LOGICAL	LRADLW	VCNTRL 167
00154	C	EQUIVALENCE	(LC9.LC(1))	VCNTRL 168
00155		LOGICAL	LC0.LC(200)	VCNTRL 169
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
	C	-----		
00156		COMMON /RCNTRL/	RC0	VCNTRL 170
00157		COMMON /RCNTRL/	APHEL	VCNTRL 171
00158		COMMON /RCNTRL/	BETA	VCNTRL 172
00159		COMMON /RCNTRL/	COSD	VCNTRL 173
00160		COMMON /RCNTRL/	CP	VCNTRL 174
00161		COMMON /RCNTRL/	DAYSPY	VCNTRL 175
00162		COMMON /RCNTRL/	DEC	VCNTRL 176
00163		COMMON /RCNTRL/	DECMAX	VCNTRL 177
00164		COMMON /RCNTRL/	DIST	VCNTRL 178
00165		COMMON /RCNTRL/	DLAT	VCNTRL 179
00166		COMMON /RCNTRL/	DLON	VCNTRL 180
00167		COMMON /RCNTRL/	DT	VCNTRL 181
00168		COMMON /RCNTRL/	ECCN	VCNTRL 182
00169		COMMON /RCNTRL/	GNU1	VCNTRL 183
00170		COMMON /RCNTRL/	GNU2	VCNTRL 184
00171		COMMON /RCNTRL/	GRAV	VCNTRL 185
00172		COMMON /RCNTRL/	OMEGA2	VCNTRL 186
00173		COMMON /RCNTRL/	P1	VCNTRL 187
00174		COMMON /RCNTRL/	P1180	VCNTRL 188
00175		COMMON /RCNTRL/	P12	VCNTRL 189
00176		COMMON /RCNTRL/	PSTD	VCNTRL 190
00177		COMMON /RCNTRL/	PIMEAN	VCNTRL 191
00178		COMMON /RCNTRL/	PSMAX	VCNTRL 192
00179		COMMON /RCNTRL/	PSMIN	VCNTRL 193
00180		COMMON /RCNTRL/	PTOP	VCNTRL 194
00181		COMMON /RCNTRL/	RADE	VCNTRL 195
00182		COMMON /RCNTRL/	RGAS	VCNTRL 196
00183		COMMON /RCNTRL/	ROCP	VCNTRL 197
00184		COMMON /RCNTRL/	RSDIST	VCNTRL 198
				VCNTRL 199
				VCNTRL 200
				VCNTRL 201
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				VCNTRL 204
				VCNTRL 205
				VCNTRL 206

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00185	COMMON /RCNTRL/	SDAY		VCNTRL 207
00186	COMMON /RCNTRL/	SEASON		VCNTRL 208
00187	COMMON /RCNTRL/	SIGE	(25)	VCNTRL 209
00188	COMMON /RCNTRL/	SIND		VCNTRL 210
00189	COMMON /RCNTRL/	SOLS		VCNTRL 211
00190	COMMON /RCNTRL/	TSTD		VCNTRL 212
00191	COMMON /RCNTRL/	PLEVS	(25)	VCNTRL 213
00192	COMMON /RCNTRL/	HEATW		VCNTRL 214
00193	COMMON /RCNTRL/	HEATI		VCNTRL 215
00194	COMMON /RCNTRL/	EPS		VCNTRL 216
00195	COMMON /RCNTRL/	EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/	CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/	PZERO		VCNTRL 219
	C			VCNTRL 220
00198	EQUIVALENCE	(RCO,RC(1))		VCNTRL 221
00199	REAL	RCO, RC(200)		VCNTRL 222
	C			VCNTRL 223
	C	INTEGER MODEL CONSTANTS		VCNTRL 224
	C	=====		VCNTRL 225
00200	COMMON /IDPARM/	IJUMP	(46)	VCNTRL 226
00201	COMMON /IDPARM/	IDSP02		VCNTRL 227
00202	COMMON /IDPARM/	INDEX	(72)	VCNTRL 228
00203	COMMON /IDPARM/	IROD		VCNTRL 229
00204	COMMON /IDPARM/	JC	(46)	VCNTRL 230
00205	COMMON /IDPARM/	JE	(2)	VCNTRL 231
00206	COMMON /IDPARM/	JP	(2,2)	VCNTRL 232
00207	COMMON /IDPARM/	KSTEP		VCNTRL 233
00208	COMMON /IDPARM/	MJ	(46)	VCNTRL 234
00209	COMMON /IDPARM/	NHMS1		VCNTRL 235
00210	COMMON /IDPARM/	NYMD1		VCNTRL 236
	C			VCNTRL 237
	C	LOGICAL MODEL CONSTANTS		VCNTRL 238
	C	=====		VCNTRL 239
00211	COMMON /LDPARM/	FILTER	(46)	VCNTRL 240
00212	COMMON /LDPARM/	ITAPE		VCNTRL 241
00213	COMMON /LDPARM/	START		VCNTRL 242
	C			VCNTRL 243
00214	LOGICAL	FILTER		VCNTRL 244
00215	LOGICAL	ITAPE		VCNTRL 245
00216	LOGICAL	START		VCNTRL 246
	C			VCNTRL 247
	C	REAL MODEL CONSTANTS		VCNTRL 248
	C	=====		VCNTRL 249
00217	COMMON /RDPARM/	ADLDP		VCNTRL 250
00218	COMMON /RDPARM/	CON1		VCNTRL 251
00219	COMMON /RDPARM/	CON1DT		VCNTRL 252
00220	COMMON /RDPARM/	CON2		VCNTRL 253
00221	COMMON /RDPARM/	CON2DT		VCNTRL 254
00222	COMMON /RDPARM/	CON3		VCNTRL 255
00223	COMMON /RDPARM/	CON3DT		VCNTRL 256
00224	COMMON /RDPARM/	CON4		VCNTRL 257
00225	COMMON /RDPARM/	CON4DT		VCNTRL 258
00226	COMMON /RDPARM/	CON5		VCNTRL 259
00227	COMMON /RDPARM/	GOSL	(46)	VCNTRL 260
00228	COMMON /RDPARM/	GOSLON	(72)	VCNTRL 261
00229	COMMON /RDPARM/	QPD2		VCNTRL 262
00230	COMMON /RDPARM/	DXP	(46)	VCNTRL 263
00231	COMMON /RDPARM/	DXYP	(46)	VCNTRL 264
00232	COMMON /RDPARM/	DYP	(46)	VCNTRL 265
00233	COMMON /RDPARM/	FCORLS	(46)	VCNTRL 266
00234	COMMON /RDPARM/	F1DT		VCNTRL 267
00235	COMMON /RDPARM/	F2DT		VCNTRL 268
00236	COMMON /RDPARM/	H1DT		VCNTRL 269
00237	COMMON /RDPARM/	H2DT		VCNTRL 270
00238	COMMON /RDPARM/	PKSTD		VCNTRL 271
00239	COMMON /RDPARM/	PKTOP		VCNTRL 272
00240	COMMON /RDPARM/	RLAT	(46)	VCNTRL 273
00241	COMMON /RDPARM/	RLATD	(46)	VCNTRL 274
00242	COMMON /RDPARM/	ROCPDT		VCNTRL 275
00243	COMMON /RDPARM/	ROCPP1		VCNTRL 276
00244	COMMON /RDPARM/	SGNP	(2)	VCNTRL 277

00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

COMDECK VQANDQT RESOLUTION VALUES

=====
IM =72
NLAY =9
JM*1 =46
NLAY*11 =99
IM*NLAY*11 =7128
JM/2+1 =23

GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)

00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1,1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1,2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1,3,1,1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1,4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1,5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1,6,1,1),TS (1,1))
00273 EQUIVALENCE (QPROG(1,7,1,1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1,8,1,1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1,2,1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1,4,1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1,6,1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1,8,1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))

SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)

=====
00280 COMMON /QANDQT/ QSADIAG(72,15,46)
00281 DIMENSION IQSADIAG(72,15,46)
00282 EQUIVALENCE (QSADIAG,IQSADIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9,5,46)

00284 C * * * LOGICAL QUITE/.FALSE./

C * * *
C DEBUG
00285 10000 CONTINUE
C * * * CYBER VECTOR VERSION 00.001 INPUT IOQ
C * * * CYBER VECTOR VERSION 00

C#####
C#####

VCNTRL 278
VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
VQANDQT 16
VQANDQT 17
VQANDQT 18
VQANDQT 19
VQANDQT 20
VQANDQT 21
VQANDQT 22
VQANDQT 23
VQANDQT 24
VQANDQT 25
VQANDQT 26
VQANDQT 27
VQANDQT 28
VQANDQT 29
VQANDQT 30
VQANDQT 31
VQANDQT 32
VQANDQT 33
VQANDQT 34
VQANDQT 35
VQANDQT 36
VQANDQT 37
VQANDQT 38
VQANDQT 39
VQANDQT 40
VQANDQT 41
VQANDQT 42
VQANDQT 43
VQANDQT 44
VQANDQT 45
VQANDQT 46
VQANDQT 47
VQANDQT 48
VQANDQT 49
VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VPMEAN 12
VPMEAN 13
VPMEAN 14
VBEGDEB 2
VBEGDEB 3
VBEGDEB 4
VBEGDEB 5
VBEGDEB 6

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00286           IF (QUITE) GO TO 5
00287           QUITE = .TRUE.
00288           DL = ACOS(-1.)/JM
00289           PAREA = IM*(1. - COS(.5*DL))/SIN(DL)
00290           S   CONTINUE
00291           SAREA = PAREA
00292           SMASS = .5*PAREA*(P(1,N,1) + P(1,N,JM+1))
00293           D = -.5*DL*JM
00294           DO 20 J=2,JM
00295           SPRESS = QBSSUM(P(1,N,J;IM))
00296           D = D + DL
00297           COSJ = COS(D)
00298           SAREA = SAREA + IM*COSJ
00299           SMASS = SMASS + SPRESS*COSJ
00300           20   CONTINUE
00301           PMEAN = SMASS/SAREA + PTOP
00302           RETURN
00303           END

```

VPMEAN 16
VPMEAN 17
VPMEAN 18
VPMEAN 19
VPMEAN 20
VPMEAN 21
VPMEAN 22
VPMEAN 23
VPMEAN 24
VPMEAN 25
VPMEAN 26
VPMEAN 27
VPMEAN 28
VPMEAN 29
VPMEAN 30
VPMEAN 31
VPMEAN 32
VPMEAN 33

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	285	
20	300	294
5	290	286

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16																									
ADLDP	RDPARM	REAL	SIMPLE	217																										
ALBEDO	QA VDOT	REAL	ARRAY	256	269																									
APHEL	RCNTRL	REAL	SIMPLE	157																										
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																									
BETA	CCNTRL	REAL	SIMPLE	158																										
CALTOJ	RCNTRL	REAL	SIMPLE	196																										
CC	CCNTRL	CHAR*8	ARRAY	14	15																									
CCO	CCNTRL	CHAR*8	SIMPLE	2	14			15																						
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3			4		5		6		7		8		9		10		11		12						
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20																									
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21																									
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22																									
CON1	RDPARM	REAL	SIMPLE	218																										
CON1DT	RDPARM	REAL	SIMPLE	219																										
CON2	RDPARM	REAL	SIMPLE	220																										
CON2DT	RDPARM	REAL	SIMPLE	221																										
CON3	RDPARM	REAL	SIMPLE	222																										
CON3DT	RDPARM	REAL	SIMPLE	223																										
CON4	RDPARM	REAL	SIMPLE	224																										
CON4DT	RDPARM	REAL	SIMPLE	225																										
CON5	RDPARM	REAL	SIMPLE	226																										
COSD	RCNTRL	REAL	SIMPLE	159																										
COSJ	RCNTRL	REAL	SIMPLE	297/S	298			299																						
COSL	RDPARM	REAL	ARRAY	227																										
COSLON	RDPARM	REAL	ARRAY	228																										
CP	RCNTRL	REAL	SIMPLE	160																										
CPD2	RDPARM	REAL	SIMPLE	229																										
CQS	CCNTRL	CHAR*8	ARRAY	12	25																									
CQU	CCNTRL	CHAR*8	ARRAY	13	26																									
D	RCNTRL	REAL	SIMPLE	293/S	296/S			296		297																				
DAYSPLY	RCNTRL	REAL	SIMPLE	161																										
DEC	RCNTRL	REAL	SIMPLE	162																										
DECMAX	RCNTRL	REAL	SIMPLE	163																										
DIST	RCNTRL	REAL	SIMPLE	164																										
DL	RCNTRL	REAL	SIMPLE	288/S	289			289		293		296																		
DLAT	RCNTRL	REAL	SIMPLE	165																										
DLON	RCNTRL	REAL	SIMPLE	166																										
DSIG	RDPARM	REAL	ARRAY	250																										
DSIGINV	RDPARM	REAL	ARRAY	252																										
DT	RCNTRL	REAL	SIMPLE	167																										

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DXP	RDPARM	REAL	ARRAY	230																	
DXYP	RDPARM	REAL	ARRAY	231																	
DYP	RDPARM	REAL	ARRAY	232																	
ECCN	RCNTRL	REAL	SIMPLE	168																	
EPS	RCNTRL	REAL	SIMPLE	194																	
EPSFAC	RCNTRL	REAL	SIMPLE	195																	
F1DT	RDPARM	REAL	SIMPLE	234																	
F2DT	RDPARM	REAL	SIMPLE	235																	
FCORLS	RDPARM	REAL	ARRAY	233																	
FILTER	LDPARM	LOGICAL	ARRAY	211	214																
GNU1	RCNTRL	REAL	SIMPLE	169																	
GNU2	RCNTRL	REAL	SIMPLE	170																	
GRAV	RCNTRL	REAL	SIMPLE	171																	
GT	QANDQT	REAL	ARRAY	257	270																
GW	QANDQT	REAL	ARRAY	258	271																
H1DT	RDPARM	REAL	SIMPLE	236																	
H2DT	RDPARM	REAL	SIMPLE	237																	
HEAT1	RCNTRL	REAL	SIMPLE	193																	
HEATW	RCNTRL	REAL	SIMPLE	192																	
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																	
IC	ICNTRL	INTEGER	ARRAY	95	96																
IC0	ICNTRL	INTEGER	SIMPLE	95	95	96															
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37							
				38	39	40	41	42	43	44	45	46	47	48							
				49	50	51	52	53	54	55	56	57	58	59							
				60	61	62	63	64	65	66	67	68	69	70							
				71	72	73	74	75	76	77	78										
ICSP53	ICNTRL	INTEGER	SIMPLE	68																	
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																	
IDPAB	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210							
IDSP02	IDPARM	INTEGER	SIMPLE	201																	
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																	
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																	
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																	
ICLOUD	ICNTRL	INTEGER	UNKNOWN	88																	
IJUMP	IDPARM	INTEGER	ARRAY	200																	
IM	ICNTRL	INTEGER	SIMPLE	28	289	295	298														
IMD2	ICNTRL	INTEGER	SIMPLE	29																	
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																	
INDEX	IDPARM	INTEGER	ARRAY	202																	
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91																	
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																	
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																	
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88							
				89	90	91	92	93	94												
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282																
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94													
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																	
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																	
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																	
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																	
IROD	IDPARM	INTEGER	SIMPLE	203																	
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215																
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																	
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																	
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																	
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90																	
J	ICNTRL	INTEGER	UNKNOWN	294 / C	295																
JC	IDPARM	INTEGER	ARRAY	204																	
JE	IDPARM	INTEGER	ARRAY	205																	
JIC	CCNTRL	CHAR*8	SIMPLE	5	18																
JM	ICNTRL	INTEGER	SIMPLE	32	288	292	293	294													
JMD2	ICNTRL	INTEGER	SIMPLE	33																	
JMT2	ICNTRL	INTEGER	SIMPLE	34																	
JNP	ICNTRL	INTEGER	SIMPLE	35																	
JO4	ICNTRL	INTEGER	SIMPLE	36																	
JOB	ICNTRL	INTEGER	SIMPLE	37																	
JOB	CCNTRL	CHAR*8	SIMPLE	6	19																
JP	IDPARM	INTEGER	ARRAY	206																	

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JSP	ICNTRL	INTEGER	SIMPLE	38																
KLIALB	ICNTRL	INTEGER	SIMPLE	39																
KLIGW	ICNTRL	INTEGER	SIMPLE	40																
KLISST	ICNTRL	INTEGER	SIMPLE	41																
KS	ICNTRL	INTEGER	SIMPLE	42																
KSTEP	IDPARM	INTEGER	SIMPLE	207																
KU	ICNTRL	INTEGER	SIMPLE	43																
LC	LCNTRL	LOGICAL	ARRAY	154	155															
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155														
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107						
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109															
LDPARM		INTEGER	UNKNOWN	123	151															
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142															
LOGBR	ICNTRL	INTEGER	UNKNOWN	119	147															
LOMEGA	ICNTRL	INTEGER	SIMPLE	44																
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140															
LQS	LCNTRL	LOGICAL	UNKNOWN	113	141															
LQU	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119						
LRADLW	LCNTRL	LOGICAL	ARRAY	120	121	136														
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137											
LRADSW	LCNTRL	LOGICAL	UNKNOWN	125	153															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	118	146															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	117	145															
LUFUX	LCNTRL	LOGICAL	UNKNOWN	111	139															
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138															
MATIN	ICNTRL	INTEGER	UNKNOWN	120	148															
MATSNX	ICNTRL	INTEGER	UNKNOWN	121	149															
MATSUN	ICNTRL	INTEGER	SIMPLE	45																
MJ	IDPARM	INTEGER	SIMPLE	46																
MLF	IDPARM	INTEGER	ARRAY	47																
MROD	ICNTRL	INTEGER	ARRAY	208																
MSM	ICNTRL	INTEGER	ARRAY	48																
N	ICNTRL	INTEGER	SIMPLE	49																
NB	ICNTRL	INTEGER	SIMPLE	51																
ND	ICNTRL	INTEGER	SIMPLE	1	292	292	295													
NDALT	ICNTRL	INTEGER	SIMPLE	52																
NDAY	ICNTRL	INTEGER	SIMPLE	53																
NDHOG	ICNTRL	INTEGER	SIMPLE	54																
NDOUT	ICNTRL	INTEGER	SIMPLE	55																
NDPHY	ICNTRL	INTEGER	SIMPLE	76																
NDRSW	ICNTRL	INTEGER	SIMPLE	56																
NDSHF	ICNTRL	INTEGER	SIMPLE	57																
NDT	ICNTRL	INTEGER	SIMPLE	31																
NHMS	ICNTRL	INTEGER	SIMPLE	58																
NHMS0	ICNTRL	INTEGER	SIMPLE	59																
NHMS1	ICNTRL	INTEGER	SIMPLE	60																
NHMS2	IDPARM	INTEGER	SIMPLE	62																
NHMS3	IDPARM	INTEGER	SIMPLE	209																
NHMS4	ICNTRL	INTEGER	SIMPLE	61																
NKRSH	ICNTRL	INTEGER	SIMPLE	61																
NLAY	ICNTRL	INTEGER	SIMPLE	50																
NLAYM1	ICNTRL	INTEGER	SIMPLE	63																
NLAYP1	ICNTRL	INTEGER	SIMPLE	64																
NMLEV	ICNTRL	INTEGER	SIMPLE	65																
NSDAY	ICNTRL	INTEGER	SIMPLE	75																
NSEQ	ICNTRL	INTEGER	SIMPLE	66																
NSTEP	ICNTRL	INTEGER	SIMPLE	67																
NYMD	ICNTRL	INTEGER	SIMPLE	69																
NYMD0	ICNTRL	INTEGER	SIMPLE	71																
NYMD1	IDPARM	INTEGER	SIMPLE	73																
NYMD2	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																
OMEGA2	ICNTRL	REAL	SIMPLE	74																
P	ICNTRL	REAL	ARRAY	172																
PAREA	ICNTRL	REAL	ARRAY	261	274	292	292	292	295											
		REAL	SIMPLE	289/S	291	292														

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PHI	QANDQT	REAL	ARRAY	266	279																	
PHIS	QANDQT	REAL	ARRAY	254	267																	
PI	RCNTRL	REAL	SIMPLE	173																		
PI180	RCNTRL	REAL	SIMPLE	174																		
PI2	RCNTRL	REAL	SIMPLE	175																		
PIMEAN	RCNTRL	REAL	SIMPLE	177																		
PKSTD	RDPARM	REAL	SIMPLE	238																		
PKTOP	RDPARM	REAL	SIMPLE	239																		
PLEVS	RCNTRL	REAL	ARRAY	191																		
PMEAN		REAL	FUNCTION	1	301/S																	
PSMAX	RCNTRL	REAL	SIMPLE	178																		
PSMIN	RCNTRL	REAL	SIMPLE	179																		
PSTD	RCNTRL	REAL	SIMPLE	176																		
PTOP	RCNTRL	REAL	SIMPLE	180	301																	
PZERO	RCNTRL	REAL	SIMPLE	197																		
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																	
QANDQT		REAL	UNKNOWN	253	280	283																
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																	
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																	
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																	
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																	
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																	
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276								
				277	278	279																
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																	
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																	
QSDIAG	QANDQT	REAL	ARRAY	280	282																	
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																	
QUDIAG	QANDQT	REAL	ARRAY	283																		
QUITE		LOGICAL	SIMPLE	284/I	286	287/S																
RADE	RCNTRL	REAL	SIMPLE	181																		
RC	RCNTRL	REAL	ARRAY	198	199																	
RCO	RCNTRL	REAL	ARRAY	156	198	199																
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166								
				167	168	169	170	171	172	173	174	175	176	177								
				178	179	180	181	182	183	184	185	186	187	188								
				189	190	191	192	193	194	195	196	197	198	199								
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227								
				228	229	230	231	232	233	234	235	236	237	238								
				239	240	241	242	243	244	245	246	247	248	249								
				250	251	252																
RGAS	RCNTRL	REAL	SIMPLE	182																		
RLAY	RDPARM	REAL	ARRAY	240																		
RLATD	RDPARM	REAL	ARRAY	241																		
ROCP	RCNTRL	REAL	SIMPLE	183																		
ROCPDT	RDPARM	REAL	SIMPLE	242																		
ROCPP1	RDPARM	REAL	SIMPLE	243																		
RSDIST	RCNTRL	REAL	SIMPLE	184																		
SAREA		REAL	SIMPLE	291/S	298/S	298	301															
SDAY	RCNTRL	REAL	SIMPLE	185																		
SEASON	RCNTRL	REAL	SIMPLE	186																		
SGNP	RDPARM	REAL	ARRAY	244																		
SH	QANDQT	REAL	ARRAY	265	278																	
SHS	QANDQT	REAL	ARRAY	260	273																	
SIG	RDPARM	REAL	ARRAY	251																		
SIGE	RCNTRL	REAL	ARRAY	187																		
SIND	RCNTRL	REAL	SIMPLE	188																		
SINL	RDPARM	REAL	ARRAY	245																		
SINLON	RDPARM	REAL	ARRAY	246																		
SMASS		REAL	SIMPLE	292/S	299/S	299	301															
SMTH	QANDQT	REAL	ARRAY	255	268																	
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133																	
SOLS	RCNTRL	REAL	SIMPLE	189																		
SPRESS		REAL	SIMPLE	295/S	299																	
START	LDPARM	LOGICAL	SIMPLE	213	216																	
T	QANDQT	REAL	ARRAY	264	277																	
THSTD	RDPARM	REAL	SIMPLE	247																		
THSTD2	RDPARM	REAL	SIMPLE	248																		
TS	QANDQT	REAL	ARRAY	259	272																	
TSTD	RCNTRL	REAL	SIMPLE	190																		

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U	QANDQT	REAL	ARRAY	262	275
V	QANDQT	REAL	ARRAY	263	276
VER	CCNTRL	CHAR*B	SIMPLE	10	23
WSAVE	RDPARM	REAL	ARRAY	249	
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
ACOS	REAL	INTRINSIC	288	
COS	REAL	INTRINSIC	289	297
Q8SSUM	REAL	INTRINSIC	295	
SIN	REAL	INTRINSIC	289	

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C      SUBROUTINE POLINP (N, M)
C      COPIES POLE VALUES FROM GLOBAL MODEL ARRAY Q
C      INTO STEREOGRAPHIC POLE ARRAY QP
C      ARGUMENTS      DESCRIPTION
C      N              TIME STEP POINTER
C      M              POLE FLAG, =1 FOR SOUTH POLE, =2 FOR NORTH POLE

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C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

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C =====
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)

```

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C
C      EQUIVALENCE      (CC0, CC(1))
C      CHARACTER*8      CC0, CC(200)
C      CHARACTER*8      ADATE
C      CHARACTER*8      ATIME
C      CHARACTER*8      JIC
C      CHARACTER*8      JOB
C      CHARACTER*8      CCSP06
C      CHARACTER*8      CCSP07
C      CHARACTER*8      CCSP08
C      CHARACTER*8      VER
C      CHARACTER*8      XLABEL
C      CHARACTER*8      CQS
C      CHARACTER*8      CQU

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C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

```

C =====
00027 COMMON /ICNTRL/ IC0
00028 COMMON /ICNTRL/ IM
00029 COMMON /ICNTRL/ IMD2
00030 COMMON /ICNTRL/ IMD2P1
00031 COMMON /ICNTRL/ NDRSW
00032 COMMON /ICNTRL/ JM
00033 COMMON /ICNTRL/ JMD2
00034 COMMON /ICNTRL/ JMT2
00035 COMMON /ICNTRL/ JNP
00036 COMMON /ICNTRL/ JO4
00037 COMMON /ICNTRL/ JOB
00038 COMMON /ICNTRL/ JSP
00039 COMMON /ICNTRL/ KLIALB
00040 COMMON /ICNTRL/ KLIW
00041 COMMON /ICNTRL/ KLISST
00042 COMMON /ICNTRL/ KS
00043 COMMON /ICNTRL/ KU
00044 COMMON /ICNTRL/ LOGBR
00045 COMMON /ICNTRL/ MATIN
00046 COMMON /ICNTRL/ MATSNX
00047 COMMON /ICNTRL/ MATSUN
00048 COMMON /ICNTRL/ MLF (12)
00049 COMMON /ICNTRL/ MROD
00050 COMMON /ICNTRL/ NKRSH
00051 COMMON /ICNTRL/ MSM
00052 COMMON /ICNTRL/ NB
00053 COMMON /ICNTRL/ ND
00054 COMMON /ICNTRL/ NDALT
00055 COMMON /ICNTRL/ NDAY
00056 COMMON /ICNTRL/ NDOUT

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VPOLINP 2
VPOLINP 3
VPOLINP 4
VPOLINP 5
VPOLINP 6
VPOLINP 7
VPOLINP 8
VPOLINP 9
VPOLINP 10
VCNTRL 2
VCNTRL 3
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VCNTRL 62
VCNTRL 63

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00057	COMMON /ICNTRL/	NDRPHY	VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL	65
00059	COMMON /ICNTRL/	NDT	VCNTRL	66
00060	COMMON /ICNTRL/	NHMS	VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL	68
00062	COMMON /ICNTRL/	NHMSO	VCNTRL	69
00063	COMMON /ICNTRL/	NLAY	VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL	77
00071	COMMON /ICNTRL/	NVMD	VCNTRL	78
00072	COMMON /ICNTRL/	NVMDE	VCNTRL	79
00073	COMMON /ICNTRL/	NVMD0	VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL	85
	C		VCNTRL	86
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	87
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	88
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	89
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	90
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	91
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	92
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	93
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	94
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL	95
00088	EQUIVALENCE	(LICLOUD .IQS(10))	VCNTRL	96
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	97
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	98
	C		VCNTRL	99
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL	100
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL	101
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL	102
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL	103
	C		VCNTRL	104
00095	EQUIVALENCE	(ICO,IC(1))	VCNTRL	105
00096	INTEGER	ICO, IC(200)	VCNTRL	106
	C		VCNTRL	107
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL	108
	C	=====	VCNTRL	109
00097	COMMON /LCNTRL/	LCO	VCNTRL	110
00098	COMMON /LCNTRL/	QALT	VCNTRL	111
00099	COMMON /LCNTRL/	QBEG	VCNTRL	112
00100	COMMON /LCNTRL/	QDAY	VCNTRL	113
00101	COMMON /LCNTRL/	QEND	VCNTRL	114
00102	COMMON /LCNTRL/	QOUT	VCNTRL	115
00103	COMMON /LCNTRL/	QPHY	VCNTRL	115
00104	COMMON /LCNTRL/	QSHF	VCNTRL	117
00105	COMMON /LCNTRL/	SN2FLG	VCNTRL	118
00106	COMMON /LCNTRL/	QRSW	VCNTRL	119
00107	COMMON /LCNTRL/	QRSH	VCNTRL	120
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL	121
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL	122
	C		VCNTRL	123
00110	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL	124
00111	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL	125
00112	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL	126
00113	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL	127
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL	128
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL	129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL	130
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL	131
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL	132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL	133
00120	EQUIVALENCE	(LOFLUX .LQS(11))	VCNTRL	134

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00121		EQUIVALENCE	(LVFLUX ,LQS(12))	VCNTRL 135
00122	C	EQUIVALENCE	(LOMEGA ,LQU(1))	VCNTRL 136
00123		EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL 137
00124		EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL 138
00125		EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL 139
	C			VCNTRL 140
00126		LOGICAL	QALT	VCNTRL 141
00127		LOGICAL	QBEG	VCNTRL 142
00128		LOGICAL	QDAY	VCNTRL 143
00129		LOGICAL	QEND	VCNTRL 144
00130		LOGICAL	QOUT	VCNTRL 145
00131		LOGICAL	QPHY	VCNTRL 146
00132		LOGICAL	QSHF	VCNTRL 147
00133		LOGICAL	SN2FLG	VCNTRL 148
00134		LOGICAL	QRSW	VCNTRL 149
00135		LOGICAL	QRSH	VCNTRL 150
	C			VCNTRL 151
00136		LOGICAL	LQS	VCNTRL 152
00137		LOGICAL	LQU	VCNTRL 153
00138		LOGICAL	LTMIN	VCNTRL 154
00139		LOGICAL	LTMAX	VCNTRL 155
00140		LOGICAL	LPREACC	VCNTRL 156
00141		LOGICAL	LPRECON	VCNTRL 157
00142		LOGICAL	LHFLUX	VCNTRL 158
00143		LOGICAL	LEFLUX	VCNTRL 159
00144		LOGICAL	LFUSION	VCNTRL 160
00145		LOGICAL	LRADSWG	VCNTRL 161
00146		LOGICAL	LRADLWG	VCNTRL 162
00147		LOGICAL	LICLOUD	VCNTRL 163
00148		LOGICAL	LUFLUX	VCNTRL 164
00149		LOGICAL	LVFLUX	VCNTRL 165
	C			VCNTRL 166
00150		LOGICAL	LOMEGA	VCNTRL 167
00151		LOGICAL	LDIABAT	VCNTRL 168
00152		LOGICAL	LRADSW	VCNTRL 169
00153		LOGICAL	LRADLW	VCNTRL 170
	C			VCNTRL 171
00154		EQUIVALENCE	(LCO,LC(1))	VCNTRL 172
00155		LOGICAL	LCO, LC(200)	VCNTRL 173
	C			VCNTRL 174
	C			VCNTRL 175
	C			VCNTRL 176
	C			VCNTRL 177
		REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 178
		=====		VCNTRL 179
00156		COMMON /RCNTRL/	RCO	VCNTRL 180
00157		COMMON /RCNTRL/	APHEL	VCNTRL 181
00158		COMMON /RCNTRL/	BETA	VCNTRL 182
00159		COMMON /RCNTRL/	COSD	VCNTRL 183
00160		COMMON /RCNTRL/	CP	VCNTRL 184
00161		COMMON /RCNTRL/	DAYSPY	VCNTRL 185
00162		COMMON /RCNTRL/	DEC	VCNTRL 186
00163		COMMON /RCNTRL/	DECMAX	VCNTRL 187
00164		COMMON /RCNTRL/	DIST	VCNTRL 188
00165		COMMON /RCNTRL/	DLAT	VCNTRL 189
00166		COMMON /RCNTRL/	DLOW	VCNTRL 190
00167		COMMON /RCNTRL/	DT	VCNTRL 191
00168		COMMON /RCNTRL/	ECCN	VCNTRL 192
00169		COMMON /RCNTRL/	GNU1	VCNTRL 193
00170		COMMON /RCNTRL/	GNU2	VCNTRL 194
00171		COMMON /RCNTRL/	GRAV	VCNTRL 195
00172		COMMON /RCNTRL/	OMEGA2	VCNTRL 196
00173		COMMON /RCNTRL/	PI	VCNTRL 197
00174		COMMON /RCNTRL/	PI180	VCNTRL 198
00175		COMMON /RCNTRL/	PI2	VCNTRL 199
00176		COMMON /RCNTRL/	PSTD	VCNTRL 200
00177		COMMON /RCNTRL/	PMEAN	VCNTRL 201
00178		COMMON /RCNTRL/	PSMAX	VCNTRL 202
00179		COMMON /RCNTRL/	PSMIN	VCNTRL 203
00180		COMMON /RCNTRL/	PTOP	VCNTRL 204
00181		COMMON /RCNTRL/	RADE	VCNTRL 205
00182		COMMON /RCNTRL/	RGAS	
00183		COMMON /RCNTRL/	ROCP	

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00184 COMMON /RCNTRL/ RSDIST
00185 COMMON /RCNTRL/ SDAV
00186 COMMON /RCNTRL/ SEASON
00187 COMMON /RCNTRL/ SIGE (25)
00188 COMMON /RCNTRL/ SIND
00189 COMMON /RCNTRL/ SOLS
00190 COMMON /RCNTRL/ TSTD
00191 COMMON /RCNTRL/ PLEVS (25)
00192 COMMON /RCNTRL/ HEATW
00193 COMMON /RCNTRL/ HEATI
00194 COMMON /RCNTRL/ EPS
00195 COMMON /RCNTRL/ EPSFAC
00196 COMMON /RCNTRL/ CALTOJ
00197 COMMON /RCNTRL/ PZERO

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C EQUIVALENCE (RCO,RC(1))
00198 REAL RCO, RC(200)
00199

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C INTEGER MODEL CONSTANTS
C =====
00200 COMMON /IDPARM/ IJUMP (46)
00201 COMMON /IDPARM/ IDSP02
00202 COMMON /IDPARM/ INDEX (72)
00203 COMMON /IDPARM/ IROD
00204 COMMON /IDPARM/ JC (46)
00205 COMMON /IDPARM/ JE (2)
00206 COMMON /IDPARM/ JP (2,2)
00207 COMMON /IDPARM/ KSTEP
00208 COMMON /IDPARM/ MJ (46)
00209 COMMON /IDPARM/ NHMS1
00210 COMMON /IDPARM/ NYMD1

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C LOGICAL MODEL CONSTANTS
C =====
00211 COMMON /LDPARM/ FILTER (46)
00212 COMMON /LDPARM/ ITAPE
00213 COMMON /LDPARM/ START

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C LOGICAL FILTER
00214 LOGICAL ITAPE
00215 LOGICAL START
00216

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```

C REAL MODEL CONSTANTS
C =====
00217 COMMON /RDPARM/ ADLDP
00218 COMMON /RDPARM/ CON1
00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CON5
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLON (72)
00229 COMMON /RDPARM/ CPD2
00230 COMMON /RDPARM/ DKP (46)
00231 COMMON /RDPARM/ DKYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPDT
00243 COMMON /RDPARM/ ROCPPI

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VCNTRL 206
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00289 COMMON /QPOLES/ PHIP(9,2,2)
C
C * * *
C DEBUG
00290 10000 CONTINUE
C **** CYBER VECTOR VERSION 00.001 INPUT IOQ
C **** CYBER VECTOR VERSION 00
C *****
C COPY Q INTO QP
00291 PP(N,M) = P(1,N,JE(M))
00292 DO 120 L=1,NLAY
00293 UP(L,N,M) = U(1,L,N,JE(M))*SINLON(1)
&
00294 VP(L,N,M) = - SGNP(M)*V(1,L,N,JE(M))*COSLON(1)
&
00295 TP(L,N,M) = T(1,L,N,JE(M))
00296 SHP(L,N,M) = SH(1,L,N,JE(M))
00297 120 CONTINUE
C *****
00298 ENTRY POLOUT (N, M)
C
C COPIES STEREOGRAPHIC POLE VALUES FROM QP
C BACK INTO GLOBAL MODEL ARRAY Q
C
C ARGUMENTS DESCRIPTION
C N TIME STEP POINTER
C M POLE FLAG, =1 FOR SOUTH POLE, =2 FOR NORTH POLE
C * * *
C COPY QP INTO Q
00299 P(1,N,JE(M);IM) = PP(N,M)
C
00300 DO 220 L=1,NLAY
00301 U(1,L,N,JE(M);IM) = UP(L,N,M)*SINLON(1;IM)
00302 U(1,L,N,JE(M);IM) = U(1,L,N,JE(M);IM)
&
00303 V(1,L,N,JE(M);IM) = + (SGNP(M)*VP(L,N,M)) *COSLON(1;IM)
00304 V(1,L,N,JE(M);IM) = - (SGNP(M)*VP(L,N,M)) *COSLON(1;IM)
&
00305 T(1,L,N,JE(M);IM) = TP(L,N,M)
00306 SH(1,L,N,JE(M);IM) = SHP(L,N,M)
00307 220 CONTINUE
00308 RETURN
00309 END

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VQPOLES 9
VPOLES 10
VPOLINP 14
VBEGDEB 2
VBEGDEB 3
VBEGDEB 4
VBEGDEB 5
VBEGDEB 6
VPOLINP 16
VPOLINP 17
VPOLINP 18
VPOLINP 19
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VPOLINP 52

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	290	
120	297	292
220	307	300

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES
ADATE	CCNTRL	CHAR*8	SIMPLE	3
ADLDP	RDPARM	REAL	SIMPLE	16
ALBEDO	QANDQT	REAL	ARRAY	217
APHEL	RCNTRL	REAL	SIMPLE	256
ATIME	CCNTRL	CHAR*8	SIMPLE	157
BETA	RCNTRL	REAL	SIMPLE	4
CALTOJ	RCNTRL	REAL	SIMPLE	158
CC	CCNTRL	CHAR*8	SIMPLE	196
CCO	CCNTRL	CHAR*8	ARRAY	14
CCNTRL	CCNTRL	CHAR*8	SIMPLE	2
		REAL	UNKNOWN	2
				3
CCSP06	CCNTRL	CHAR*8	SIMPLE	13
CCSP07	CCNTRL	CHAR*8	SIMPLE	7
CCSP08	CCNTRL	CHAR*8	SIMPLE	8
CON1	RDPARM	REAL	SIMPLE	9
				218

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

15 4 5 6 7 8 9 10 11 12

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CON1DT	RDPARM	REAL	SIMPLE	219																
CON2	RDPARM	REAL	SIMPLE	220																
CON2DT	RDPARM	REAL	SIMPLE	221																
CON3	RDPARM	REAL	SIMPLE	222																
CON3DT	RDPARM	REAL	SIMPLE	223																
CON4	RDPARM	REAL	SIMPLE	224																
CON4DT	RDPARM	REAL	SIMPLE	225																
CONS	RDPARM	REAL	SIMPLE	226																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228	293	294	302	303												
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*8	ARRAY	12																
CQU	CCNTRL	CHAR*8	ARRAY	13	25															
DAYSPY	RCNTRL	REAL	SIMPLE	161	26															
DEC	RCNTRL	REAL	SIMPLE	162																
DECMAX	RCNTRL	REAL	SIMPLE	163																
DIST	RCNTRL	REAL	SIMPLE	164																
DLAT	RCNTRL	REAL	SIMPLE	165																
DLON	RCNTRL	REAL	SIMPLE	166																
DSIG	RDPARM	REAL	ARRAY	250																
DSIGINV	RDPARM	REAL	ARRAY	252																
DT	RCNTRL	REAL	SIMPLE	167																
DXP	RDPARM	REAL	ARRAY	230																
DXYP	RDPARM	REAL	ARRAY	231																
DYP	RDPARM	REAL	ARRAY	232																
ECCN	RCNTRL	REAL	SIMPLE	168																
EPS	RCNTRL	REAL	SIMPLE	194																
EPSFAC	RCNTRL	REAL	SIMPLE	195																
F1DT	RDPARM	REAL	SIMPLE	234																
F2DT	RDPARM	REAL	SIMPLE	235																
FCORLS	RDPARM	REAL	ARRAY	233																
FILTER	LDPARM	LOGICAL	ARRAY	211	214															
GNU1	RCNTRL	REAL	SIMPLE	169																
GNU2	RCNTRL	REAL	SIMPLE	170																
GRAV	RCNTRL	REAL	SIMPLE	171																
GT	QANDQT	REAL	ARRAY	257	270															
GW	QANDQT	REAL	ARRAY	258	271															
H1DT	RDPARM	REAL	SIMPLE	236																
H2DT	RDPARM	REAL	SIMPLE	237																
HEAT1	RCNTRL	REAL	SIMPLE	193																
HEATW	RCNTRL	REAL	SIMPLE	192																
IBLKSI Z	ICNTRL	INTEGER	SIMPLE	70																
IC	ICNTRL	INTEGER	ARRAY	95	96															
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96														
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37						
				38	39	40	41	42	43	44	45	46	47	48						
				49	50	51	52	53	54	55	56	57	58	59						
				60	61	62	63	64	65	66	67	68	69	70						
				71	72	73	74	75	76	77	78									
ICSP53	ICNTRL	INTEGER	SIMPLE	68																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																
IDPARM	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210						
IDSP02	IDPARM	INTEGER	SIMPLE	201																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																
IJUMP	IDPARM	INTEGER	ARRAY	200																
IM	ICNTRL	INTEGER	SIMPLE	28	299	301	301	302	302	302	303	303	304	304						
IMD2	ICNTRL	INTEGER	SIMPLE	304	305	306														
IMD2P1	ICNTRL	INTEGER	SIMPLE	29																
INDEX	IDPARM	INTEGER	ARRAY	30																
IOMEGA	ICNTRL	INTEGER	UNKNOWN	202																
IPREACC	ICNTRL	INTEGER	UNKNOWN	91																
IPRECON	ICNTRL	INTEGER	UNKNOWN	81																
IQS	ICNTRL	INTEGER	ARRAY	82	79	80	81	82	83	84	85	86	87	88						
				77	90															
				89																

POLINP 7

IQSDIAG	QANDQT	INTEGER	ARRAY	281	282																
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94													
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																	
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																	
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																	
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																	
IROD	IDPARM	INTEGER	SIMPLE	203																	
ITAPE	IDPARM	LOGICAL	SIMPLE	212	215																
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																	
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																	
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																	
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90																	
JC	IDPARM	INTEGER	ARRAY	204																	
JE	IDPARM	INTEGER	ARRAY	205	291	293	293	294	294	295	296	299	301	302							
JIC	CCNTRL	CHAR*8	SIMPLE	302	303	304	304	305	306												
JM	ICNTRL	INTEGER	SIMPLE	5	18																
JMD2	ICNTRL	INTEGER	SIMPLE	32																	
JMT2	ICNTRL	INTEGER	SIMPLE	33																	
JNP	ICNTRL	INTEGER	SIMPLE	34																	
JO4	ICNTRL	INTEGER	SIMPLE	35																	
JOB	ICNTRL	INTEGER	SIMPLE	36																	
JOB	ICNTRL	INTEGER	SIMPLE	37																	
JOB	CCNTRL	CHAR*8	SIMPLE	6	19																
JP	IDPARM	INTEGER	ARRAY	206																	
JSP	ICNTRL	INTEGER	SIMPLE	38																	
KLIALB	ICNTRL	INTEGER	SIMPLE	39																	
KLIGW	ICNTRL	INTEGER	SIMPLE	40																	
KLISST	ICNTRL	INTEGER	SIMPLE	41																	
KS	ICNTRL	INTEGER	SIMPLE	42																	
KSTEP	IDPARM	INTEGER	SIMPLE	207																	
KU	ICNTRL	INTEGER	SIMPLE	43																	
L	ICNTRL	INTEGER	SIMPLE	292/C	293	293	293	294	294	294	295	295	296	296							
				300/C	301	301	302	302	302	303	303	304	304	304							
				305	305	306	306														
LC	LCNTRL	LOGICAL	ARRAY	154	155																
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155															
LCNTRL	ICNTRL	INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107							
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109																
LDPARM	ICNTRL	INTEGER	UNKNOWN	123	151																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143																
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144																
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142																
LOGBR	ICNTRL	INTEGER	SIMPLE	119	147																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	44																	
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150																
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140																
LQS	LCNTRL	LOGICAL	ARRAY	113	141																
				108	110	111	112	113	114	115	116	117	118	119							
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136															
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	125	153																
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146																
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	124	152																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	117	145																
LTMIN	LCNTRL	LOGICAL	UNKNOWN	111	139																
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148																
M	ICNTRL	INTEGER	SIMPLE	121	149																
				1	291	291	293	293	293	293	294	294	294	294							
				295	295	296	296	298	299	299	301	301	302	302							
				302	302	303	303	303	304	304	304	305	305	305							
				306																	
MATIN	ICNTRL	INTEGER	SIMPLE	45																	
MATSNX	ICNTRL	INTEGER	SIMPLE	46																	
MATSUN	ICNTRL	INTEGER	SIMPLE	47																	
MJ	IDPARM	INTEGER	ARRAY	208																	
MLF	ICNTRL	INTEGER	ARRAY	48																	
MROD	ICNTRL	INTEGER	SIMPLE	49																	
MSM	ICNTRL	INTEGER	SIMPLE	51																	

N		INTEGER	SIMPLE	1	291	291	293	293	293	294	294	294	295	295
				296	296									
				303	304	304	304	305	305	301	302	302	302	303
NB	ICNTRL	INTEGER	SIMPLE	52										
ND	ICNTRL	INTEGER	SIMPLE	53										
NDALT	ICNTRL	INTEGER	SIMPLE	54										
NDAY	ICNTRL	INTEGER	SIMPLE	55										
NDHOG	ICNTRL	INTEGER	SIMPLE	56										
NDOUT	ICNTRL	INTEGER	SIMPLE	56										
NDPHY	ICNTRL	INTEGER	SIMPLE	57										
NDRSW	ICNTRL	INTEGER	SIMPLE	31										
NDSHF	ICNTRL	INTEGER	SIMPLE	58										
NDT	ICNTRL	INTEGER	SIMPLE	59										
NHMS	ICNTRL	INTEGER	SIMPLE	60										
NHMSO	ICNTRL	INTEGER	SIMPLE	62										
NHMS1	IDPARM	INTEGER	SIMPLE	209										
NHMSL	ICNTRL	INTEGER	SIMPLE	61										
NKRSH	ICNTRL	INTEGER	SIMPLE	50										
NLAY	ICNTRL	INTEGER	SIMPLE	63	292	300								
NLAYM1	ICNTRL	INTEGER	SIMPLE	64										
NLAYP1	ICNTRL	INTEGER	SIMPLE	65										
NMLEV	ICNTRL	INTEGER	SIMPLE	75										
NSDAY	ICNTRL	INTEGER	SIMPLE	66										
NSEQ	ICNTRL	INTEGER	SIMPLE	67										
NSTEP	ICNTRL	INTEGER	SIMPLE	69										
NYMD	ICNTRL	INTEGER	SIMPLE	71										
NYMDO	ICNTRL	INTEGER	SIMPLE	73										
NYMD1	IDPARM	INTEGER	SIMPLE	210										
NYMDE	ICNTRL	INTEGER	SIMPLE	72										
NZINIT	ICNTRL	INTEGER	SIMPLE	74										
OMEGA2	RCNTRL	REAL	SIMPLE	172										
P	QANDQT	REAL	ARRAY	261	274	291	299, S							
PHI	QANDQT	REAL	ARRAY	266	279									
PHIP	OPOLES	REAL	ARRAY	289										
PHIS	QANDQT	REAL	ARRAY	254	267									
PI	RCNTRL	REAL	SIMPLE	173										
PI180	RCNTRL	REAL	SIMPLE	174										
PI2	RCNTRL	REAL	SIMPLE	175										
PIMEAN	RCNTRL	REAL	SIMPLE	177										
PKSTD	RDPARM	REAL	SIMPLE	238										
PKTOP	RDPARM	REAL	SIMPLE	239										
PLEVS	RCNTRL	REAL	ARRAY	191										
POLINP			SUBROUTINE	1										
POLOUT			SUBROUTINE	298										
PP	OPOLES	REAL	ARRAY	284	291/S	299								
PSMAX	RCNTRL	REAL	SIMPLE	178										
PSMIN	RCNTRL	REAL	SIMPLE	179										
PSTD	RCNTRL	REAL	SIMPLE	176										
PTOP	RCNTRL	REAL	SIMPLE	180										
PZERO	RCNTRL	REAL	SIMPLE	197										
QALT	LCNTRL	LOGICAL	SIMPLE	98	126									
QANDQT		REAL	UNKNOWN	253	280	283								
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127									
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128									
QEND	LCNTRL	LOGICAL	SIMPLE	101	129									
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130									
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131									
QPOLES		REAL	UNKNOWN	264	285	286	287	288	289					
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276
				277	278	279								
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135									
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134									
QSDIAG	QANDQT	REAL	ARRAY	280	282									
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132									
QUDIAG	QANDQT	REAL	ARRAY	283										
RADE	RCNTRL	REAL	SIMPLE	181										
RC	RCNTRL	REAL	ARRAY	198	199									
RCO	RCNTRL	REAL	SIMPLE	156	198	199								
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166
				167	168	169	170	171	172	173	174	175	176	177

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POLINP 9

RD Parm	REAL	UNKNOWN	178	179	180	181	182	183	184	185	186	187	188
			178	179	180	181	182	183	184	185	186	187	188
			189	190	191	192	193	194	195	196	197	198	199
			217	218	219	220	221	222	223	224	225	226	227
			228	229	230	231	232	233	234	235	236	237	238
			239	240	241	242	243	244	245	246	247	248	249
			250	251	252								
RGAS	RCNTRL	REAL	182										
RLAT	RD Parm	REAL	182										
RLATD	RD Parm	REAL	240										
ROCP	RCNTRL	REAL	241										
ROCPDT	RD Parm	REAL	183										
ROCPP1	RD Parm	REAL	242										
RSDIST	RCNTRL	REAL	243										
S DAY	RCNTRL	REAL	184										
SEASON	RCNTRL	REAL	185										
SGNP	RD Parm	REAL	186										
SH	RD Parm	REAL	244	293	294	302	303						
SHP	QPOLES	REAL	265	278	296	306/S							
SHS	QANDQT	REAL	288	296/S	306								
SIG	RD Parm	REAL	260	273									
SIGE	RCNTRL	REAL	251										
SIND	RCNTRL	REAL	187										
SINL	RD Parm	REAL	188										
SINLON	RD Parm	REAL	245										
SMTH	RD Parm	REAL	246	293	294	301	304						
SN2FLG	QANDQT	REAL	255	268									
SOLS	LCNTRL	LOGICAL	105	133									
START	RCNTRL	REAL	189										
T	LD Parm	LOGICAL	213	216									
THSTD	QANDQT	REAL	264	277	295	305/S							
THSTD2	RD Parm	REAL	247										
TP	RD Parm	REAL	248										
TS	QPOLES	REAL	287	295/S	305								
TSTD	QANDQT	REAL	259	272									
U	RCNTRL	REAL	190										
UP	QANDQT	REAL	262	275	293	294	301/S	302/S	302				
V	QPOLES	REAL	285	293/S	301	303							
VER	QANDQT	REAL	263	276	293	294	303/S	304/S	304				
VP	CCNTRL	CHAR*8	10	23									
WSAVE	QPOLES	REAL	286	294/S	302	304							
XLABEL	RD Parm	REAL	249										
	CCNTRL	CHAR*8	11	24									

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00001

SUBROUTINE PRDIAG (JX, IX)

PRINT OUT QUANTITIES NEAR A PRESSURE DIAGNOSTIC

ARGUMENTS DESCRIPTION
JX J POINT
IX I POINT

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002
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00011
00012
00013

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

C

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00026

EQUIVALENCE (CC0, CC(1))
CHARACTER*8 CC0, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL
CHARACTER*8 CQS
CHARACTER*8 CQU

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

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00057

COMMON /ICNTRL/ IC0
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JOB
COMMON /ICNTRL/ JSP
COMMON /ICNTRL/ KLIALB
COMMON /ICNTRL/ KLIGW
COMMON /ICNTRL/ KLISST
COMMON /ICNTRL/ KS
COMMON /ICNTRL/ KU
COMMON /ICNTRL/ LOG8R
COMMON /ICNTRL/ MATIN
COMMON /ICNTRL/ MATSNX
COMMON /ICNTRL/ MATSUN
COMMON /ICNTRL/ MLF (12)
COMMON /ICNTRL/ MROD
COMMON /ICNTRL/ NKRSR
COMMON /ICNTRL/ MSM
COMMON /ICNTRL/ NB
COMMON /ICNTRL/ ND
COMMON /ICNTRL/ NDALT
COMMON /ICNTRL/ NDAY
COMMON /ICNTRL/ NDOUT
COMMON /ICNTRL/ NDPHY

VPRDIAG 2
VPRDIAG 3
VPRDIAG 4
VPRDIAG 5
VPRDIAG 6
VPRDIAG 7
VPRDIAG 8
VPRDIAG 9
VCNTRL 2
VCNTRL 3
VCNTRL 4
VCNTRL 5
VCNTRL 6
VCNTRL 7
VCNTRL 8
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VCNTRL 64

ORIGINAL PAGE IS
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00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN ,IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX ,IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC ,IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON ,IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX ,IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX ,IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION ,IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG ,IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG ,IQS(9))	VCNTRL 95
00088	EQUIVALENCE (ICLOUD ,IQS(10))	VCNTRL 96
00089	EQUIVALENCE (LUFUX ,IQS(11))	VCNTRL 97
00090	EQUIVALENCE (LVFLUX ,IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA ,IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT ,IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW ,IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW ,IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (ICO,IC(1))	VCNTRL 105
00096	INTEGER IC0, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
	C =====	VCNTRL 109
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSH	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
	C	VCNTRL 123
00110	EQUIVALENCE (LTMIN ,LQS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX ,LQS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC ,LQS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON ,LQS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX ,LQS(5))	VCNTRL 128
00115	EQUIVALENCE (LEFLUX ,LQS(6))	VCNTRL 129
00116	EQUIVALENCE (LFUSION ,LQS(7))	VCNTRL 130
00117	EQUIVALENCE (LRADSWG ,LQS(8))	VCNTRL 131
00118	EQUIVALENCE (LRADLWG ,LQS(9))	VCNTRL 132
00119	EQUIVALENCE (LICLOUD ,LQS(10))	VCNTRL 133
00120	EQUIVALENCE (LUFUX ,LQS(11))	VCNTRL 134
00121	EQUIVALENCE (LVFLUX ,LQS(12))	VCNTRL 135

00122	C	EQUIVALENCE	(LOMEGA	.LQU(1))	VCNTRL 136
00123		EQUIVALENCE	(LDIABAT	.LQU(2))	VCNTRL 137
00124		EQUIVALENCE	(LRADSW	.LQU(3))	VCNTRL 138
00125		EQUIVALENCE	(LRADLW	.LQU(4))	VCNTRL 139
	C				VCNTRL 140
00126		LOGICAL	QALT		VCNTRL 141
00127		LOGICAL	QBEG		VCNTRL 142
00128		LOGICAL	QDAY		VCNTRL 143
00129		LOGICAL	QEND		VCNTRL 144
00130		LOGICAL	QOUT		VCNTRL 145
00131		LOGICAL	QPHY		VCNTRL 146
00132		LOGICAL	QSHF		VCNTRL 147
00133		LOGICAL	SN2FLG		VCNTRL 148
00134		LOGICAL	QRSW		VCNTRL 149
00135		LOGICAL	QRSH		VCNTRL 150
	C				VCNTRL 151
00136		LOGICAL	LQS		VCNTRL 152
00137		LOGICAL	LQU		VCNTRL 153
00138		LOGICAL	LTMIN		VCNTRL 154
00139		LOGICAL	LTMAX		VCNTRL 155
00140		LOGICAL	LPREACC		VCNTRL 156
00141		LOGICAL	LPRECON		VCNTRL 157
00142		LOGICAL	LHFLUX		VCNTRL 158
00143		LOGICAL	LEFLUX		VCNTRL 159
00144		LOGICAL	LFUSION		VCNTRL 160
00145		LOGICAL	LRADSWG		VCNTRL 161
00146		LOGICAL	LRADLWG		VCNTRL 162
00147		LOGICAL	LICLOUD		VCNTRL 163
00148		LOGICAL	LIFLUX		VCNTRL 164
00149		LOGICAL	LVFLUX		VCNTRL 165
	C				VCNTRL 166
00150		LOGICAL	LOMEGA		VCNTRL 167
00151		LOGICAL	LDIABAT		VCNTRL 168
00152		LOGICAL	LRADSW		VCNTRL 169
00153		LOGICAL	LRADLW		VCNTRL 170
	C				VCNTRL 171
00154		EQUIVALENCE	(LC0,LC(1))		VCNTRL 172
00155		LOGICAL	LC0, LC(200)		VCNTRL 173
	C				VCNTRL 174
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL 175
	C	-----			VCNTRL 176
	C	-----			VCNTRL 177
00156		COMMON	/RCNTRL/	RC0	VCNTRL 178
00157		COMMON	/RCNTRL/	APHEL	VCNTRL 179
00158		COMMON	/RCNTRL/	BETA	VCNTRL 180
00159		COMMON	/RCNTRL/	COSD	VCNTRL 181
00160		COMMON	/RCNTRL/	CP	VCNTRL 182
00161		COMMON	/RCNTRL/	DAYSPLY	VCNTRL 183
00162		COMMON	/RCNTRL/	DEC	VCNTRL 184
00163		COMMON	/RCNTRL/	DECMAX	VCNTRL 185
00164		COMMON	/RCNTRL/	DIST	VCNTRL 186
00165		COMMON	/RCNTRL/	DLAT	VCNTRL 187
00166		COMMON	/RCNTRL/	DLOH	VCNTRL 188
00167		COMMON	/RCNTRL/	DT	VCNTRL 189
00168		COMMON	/RCNTRL/	ECCN	VCNTRL 190
00169		COMMON	/RCNTRL/	GNU1	VCNTRL 191
00170		COMMON	/RCNTRL/	GNU2	VCNTRL 192
00171		COMMON	/RCNTRL/	GRAV	VCNTRL 193
00172		COMMON	/RCNTRL/	OMEGA2	VCNTRL 194
00173		COMMON	/RCNTRL/	PI	VCNTRL 195
00174		COMMON	/RCNTRL/	PI 180	VCNTRL 196
00175		COMMON	/RCNTRL/	PI2	VCNTRL 197
00176		COMMON	/RCNTRL/	PSTD	VCNTRL 198
00177		COMMON	/RCNTRL/	PIMEAN	VCNTRL 199
00178		COMMON	/RCNTRL/	PSMAX	VCNTRL 200
00179		COMMON	/RCNTRL/	PSMIN	VCNTRL 201
00180		COMMON	/RCNTRL/	PTOP	VCNTRL 202
00181		COMMON	/RCNTRL/	RADE	VCNTRL 203
00182		COMMON	/RCNTRL/	RGAS	VCNTRL 204
00183		COMMON	/RCNTRL/	ROCP	VCNTRL 205
00184		COMMON	/RCNTRL/	RSDIST	VCNTRL 206

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00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
	C	VCNTRL 220
00198	EQUIVALENCE (RCO,RC(1))	VCNTRL 221
00199	REAL RC0, RC(200)	VCNTRL 222
	C	VCNTRL 223
	C	VCNTRL 224
	C	VCNTRL 225
	C	VCNTRL 226
	C	VCNTRL 227
	C	VCNTRL 228
	C	VCNTRL 229
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	C	VCNTRL 269
	C	VCNTRL 270
	C	VCNTRL 271
	C	VCNTRL 272
	C	VCNTRL 273
	C	VCNTRL 274
	C	VCNTRL 275
	C	VCNTRL 276
	C	VCNTRL 277

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00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====
C
00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====
C
00280 COMMON /QANDQT/ QSDIAG(72, 15,46)
00281 DIMENSION IQSDIAG(72, 15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C
C * * *
C ONE-DIMENSIONAL WORK AREAS
00284 COMMON CARD(10), DATA(144), CATA(144)
00285 CHARACTER*8 CARD
C
00286 COMMON /IFAX/ IFAX(10), TRIGS(72), NLAYT4P1, NLAYT8P2
C * * *
00287 CHARACTER*8 PRU1(2)/1HU,7HI-1,J+1/

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VCNTRL 278
VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
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VQANDQT 18
VQANDQT 19
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VQANDQT 47
VQANDQT 48
VQANDQT 49
VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VWORK1D 2
VWORK1D 3
VWORK1D 4
VWORK1D 5
VWORK1D 6
VIFAX 2
VPRDIAG 14
VPRDIAG 15

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00288 CHARACTER*8 PRTV1(2)/1HV,7HI-1,J+1/ VPRDIAG 16
00289 CHARACTER*8 PRTU2(2)/1HU,5HI,J+1/ VPRDIAG 17
00290 CHARACTER*8 PRTV2(2)/1HV,5HI,J+1/ VPRDIAG 18
00291 CHARACTER*8 PRTU3(2)/1HU,7HI+1,J+1/ VPRDIAG 19
00292 CHARACTER*8 PRTV3(2)/1HV,7HI+1,J+1/ VPRDIAG 20
00293 CHARACTER*8 PRTU4(2)/1HU,5HI-1,J/ VPRDIAG 21
00294 CHARACTER*8 PRTV4(2)/1HV,5HI-1,J/ VPRDIAG 22
00295 CHARACTER*8 PRTU5(2)/1HU,3HI,J/ VPRDIAG 23
00296 CHARACTER*8 PRTV5(2)/1HV,3HI,J/ VPRDIAG 24
00297 CHARACTER*8 PRTU6(2)/1HU,5HI+1,J/ VPRDIAG 25
00298 CHARACTER*8 PRTV6(2)/1HV,5HI+1,J/ VPRDIAG 26
00299 CHARACTER*8 PRTU7(2)/1HU,7HI-1,J-1/ VPRDIAG 27
00300 CHARACTER*8 PRTV7(2)/1HV,7HI-1,J-1/ VPRDIAG 28
00301 CHARACTER*8 PRTU8(2)/1HU,5HI,J-1/ VPRDIAG 29
00302 CHARACTER*8 PRTV8(2)/1HV,5HI,J-1/ VPRDIAG 30
00303 CHARACTER*8 PRTU9(2)/1HU,7HI+1,J-1/ VPRDIAG 31
00304 CHARACTER*8 PRTV9(2)/1HV,7HI+1,J-1/ VPRDIAG 32
00305 CHARACTER*8 PRVT(2)/1HT,3HI,J/ VPRDIAG 33
00306 CHARACTER*8 PRTSH(2)/2HSH,3HI,J/ VPRDIAG 34
C * * * * * VSLEXP 2
C SURFACE TO SEA LEVEL PRESSURE EXPONENT FUNCTION VSLEXP 3
00307 SLEXP(TS,PHIS) = EXP(PHIS/(RGAS*(TS*.5*BETA*PHIS/GRAV))) VSLEXP 4
C * * * * * VSLEXP 5
C * * * * * VPRDIAG 36
C DEBUG VBEGDEB 2
00308 10000 CONTINUE VBEGDEB 3
C * * * * * CYBER VECTOR VERSION 00.001 INPUT IOQ VBEGDEB 4
C * * * * * CYBER VECTOR VERSION 00 VBEGDEB 5
C ***** VBEGDEB 6
00309 JXM1 = MAXO(JX-1,JSP) VPRDIAG 38
00310 JXP1 = MINO(JX+1,JNP) VPRDIAG 39
00311 IXM1 = MOD(IX+IM-2,IM) + 1 VPRDIAG 40
00312 IXP1 = MOD(IX,IM) + 1 VPRDIAG 41
00313 WRITE (6,6000) IX, JX, P(IX,ND,JX), P(IX,NB,JX) VPRDIAG 42
00314 WRITE (6,6005) PRTU1, (U(IXM1,L,ND,JXP1), L=1,NLAY) VPRDIAG 43
00315 WRITE (6,6005) PRTV1, (V(IXM1,L,ND,JXP1), L=1,NLAY) VPRDIAG 44
00316 WRITE (6,6005) PRTU2, (U(IX,L,ND,JXP1), L=1,NLAY) VPRDIAG 45
00317 WRITE (6,6005) PRTV2, (V(IX,L,ND,JXP1), L=1,NLAY) VPRDIAG 46
00318 WRITE (6,6005) PRTU3, (U(IXP1,L,ND,JXP1), L=1,NLAY) VPRDIAG 47
00319 WRITE (6,6005) PRTV3, (V(IXP1,L,ND,JXP1), L=1,NLAY) VPRDIAG 48
00320 WRITE (6,6005) PRTU4, (U(IXM1,L,ND,JX), L=1,NLAY) VPRDIAG 49
00321 WRITE (6,6005) PRTV4, (V(IXM1,L,ND,JX), L=1,NLAY) VPRDIAG 50
00322 WRITE (6,6005) PRTU5, (U(IX,L,ND,JX), L=1,NLAY) VPRDIAG 51
00323 WRITE (6,6005) PRTV5, (V(IX,L,ND,JX), L=1,NLAY) VPRDIAG 52
00324 WRITE (6,6005) PRTU6, (U(IXP1,L,ND,JX), L=1,NLAY) VPRDIAG 53
00325 WRITE (6,6005) PRTV6, (V(IXP1,L,ND,JX), L=1,NLAY) VPRDIAG 54
00326 WRITE (6,6005) PRTU7, (U(IXM1,L,ND,JXM1), L=1,NLAY) VPRDIAG 55
00327 WRITE (6,6005) PRTV7, (V(IXM1,L,ND,JXM1), L=1,NLAY) VPRDIAG 56
00328 WRITE (6,6005) PRTU8, (U(IX,L,ND,JXM1), L=1,NLAY) VPRDIAG 57
00329 WRITE (6,6005) PRTV8, (V(IX,L,ND,JXM1), L=1,NLAY) VPRDIAG 58
00330 WRITE (6,6005) PRTU9, (U(IXP1,L,ND,JXM1), L=1,NLAY) VPRDIAG 59
00331 WRITE (6,6005) PRTV9, (V(IXP1,L,ND,JXM1), L=1,NLAY) VPRDIAG 60
00332 WRITE (6,6005) PRVT, (T(IX,L,ND,JX), L=1,NLAY) VPRDIAG 61
00333 WRITE (6,6005) PRTSH, (SH(IX,L,ND,JX), L=1,NLAY) VPRDIAG 62
C * * * * * VPRDIAG 63
C WRITE OUT WAVE NUMBER OF SLP ALONG LATITUDE BAND VPRDIAG 64
C SLEXP(TS,PHIS) = EXP(PHIS/(RGAS*(TS*.5*BETA*PHIS/GRAV))) VPRDIAG 65
C GIVEN BY NEXT 5 LINES VPRDIAG 66
C BETAG5 = .5*BETA/GRAV VPRDIAG 67
00334 CATA(1;IM) = TS(1,JX;IM) + BETAG5*PHIS(1,JX;IM) VPRDIAG 68
00335 CATA(1;IM) = RGAS*CATA(1;IM) VPRDIAG 69
00337 CATA(1;IM) = PHIS(1,J;IM)/CATA(1;IM) VPRDIAG 70
00338 CATA(1;IM) = VEXP(CATA(1;IM);CATA(1;IM)) VPRDIAG 71
C VPRDIAG 72
00339 DATA(1;IM) = (P(1,NB,JX;IM) + PTOP)*CATA(1;IM) VPRDIAG 73
C VPRDIAG 74
00340 CALL FFT77(DATA,CATA,TRIGS,IFAX,IM,1,-1) VPRDIAG 75
00341 WRITE (3,6010) VPRDIAG 76
00342 IW = 0 VPRDIAG 77
00343 WAVLEN = 1.E12 VPRDIAG 78
00344 WAVAMP = ABS(CATA(1))/IM VPRDIAG 79

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00345 WAVPCT = 100.
00346 WRITE (3,6015) IW, WAVLEN, WAVAMP, WAVPCT
00347 WAVPER = WAVPCT/WAVAMP
00348 DO 20 I=2,IMD2
00349 IW = I - 1
00350 WAVLEN = IM/FLOAT(IW)
00351 WAVAMP = SQRT(CATA(2*IW)**2 + CATA(2*IW+1)**2)/IM
00352 WAVPCT = WAVPER*WAVAMP
00353 WRITE (3,6015) IW, WAVLEN, WAVAMP, WAVPCT
00354 20 CONTINUE
00355 IW = IMD2
00356 WAVLEN = 2.
00357 WAVAMP = ABS(CATA(IM))/IM
00358 WAVPCT = WAVPER*WAVAMP
00359 WRITE (3,6015) IW, WAVLEN, WAVAMP, WAVPCT
00360 RETURN
C . . .
00361 6000 FORMAT ('OPRESSURE DIAGNOSTIC AT I,J'.214,8X,2G16.4)
00362 6005 FORMAT (5X,2A8,(T26,1P9E12.4))
00363 6010 FORMAT (' WAVE NUMBER',T21,'GRID LENGTH',
& T41,'AMPLITUDE',T61,'PERCENT OF MEAN')
00364 6015 FORMAT (1B,T21,F12.2,T41,E12.4,T61,F12.4)
00365 END
VPRDIAG 80
VPRDIAG 81
VPRDIAG 82
VPRDIAG 83
VPRDIAG 84
VPRDIAG 85
VPRDIAG 86
VPRDIAG 87
VPRDIAG 88
VPRDIAG 89
VPRDIAG 90
VPRDIAG 91
VPRDIAG 92
VPRDIAG 93
VPRDIAG 94
VPRDIAG 95
VPRDIAG 96
VPRDIAG 97
VPRDIAG 98
VPRDIAG 99
VPRDIAG100
VPRDIAG101
VPRDIAG102

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	308																		
20	354	348																	
6000	361	313																	
6005	362	314	315	316	317	318	319	320	321	322	323	324	325	326	327				
		328	329	330	331	332	333												
6010	363	341																	
6015	364	346	353	359															

VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES																
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16															
ADLDP	RDPRM	REAL	SIMPLE	217																
ALBEDO	QANDQT	REAL	ARRAY	256	269															
APHEL	RCNTRL	REAL	SIMPLE	157																
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17															
BETA	RCNTRL	REAL	SIMPLE	158	307	334														
BETAG5	RCNTRL	REAL	SIMPLE	334/S	335															
CALTOJ	RCNTRL	REAL	SIMPLE	196																
CARD	//	CHAR*8	ARRAY	284	285															
CATA	//	REAL	ARRAY	284	335/S	336/S	336	337/S	337	338/S	338	339	339	340						
				344	351	351	357													
CC	CCNTRL	CHAR*8	ARRAY	14	15															
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15														
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12						
				13																
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20															
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21															
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22															
CON1	RDPRM	REAL	SIMPLE	218																
CON1DT	RDPRM	REAL	SIMPLE	219																
CON2	RDPRM	REAL	SIMPLE	220																
CON2DT	RDPRM	REAL	SIMPLE	221																
CON3	RDPRM	REAL	SIMPLE	222																
CON3DT	RDPRM	REAL	SIMPLE	223																
CON4	RDPRM	REAL	SIMPLE	224																
CON4DT	RDPRM	REAL	SIMPLE	225																
CON5	RDPRM	REAL	SIMPLE	226																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPRM	REAL	ARRAY	227																
COSLON	RDPRM	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPRM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*8	ARRAY	12	25															

ITMIN	ICNTRL	INTEGER	UNKNOWN	79												
IUFUX	ICNTRL	INTEGER	UNKNOWN	89												
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90												
IW		INTEGER	SIMPLE	342/S	346/W	349/S	350	351	351	353/W	355/S	359/W				
IX		INTEGER	SIMPLE	1	311	312	313/W	313	313	316	317	322	323	328		
				329	332	333										
I XM1		INTEGER	SIMPLE	311/S	314	315	320	321	326	327						
IXP1		INTEGER	SIMPLE	312/S	318	319	324	325	330	331						
J		INTEGER	SIMPLE	337												
JC	IDPARM	INTEGER	ARRAY	204												
JE	IDPARM	INTEGER	ARRAY	205												
JIC	CCNTRL	CHAR*8	SIMPLE	5	18											
JM	ICNTRL	INTEGER	SIMPLE	32												
JMD2	ICNTRL	INTEGER	SIMPLE	33												
JMT2	ICNTRL	INTEGER	SIMPLE	34												
JNP	ICNTRL	INTEGER	SIMPLE	35	310											
JO4	ICNTRL	INTEGER	SIMPLE	36												
JOB	ICNTRL	INTEGER	SIMPLE	37												
JOB	CCNTRL	CHAR*8	SIMPLE	6	19											
JP	IDPARM	INTEGER	ARRAY	206												
JSP	ICNTRL	INTEGER	SIMPLE	38	309											
JX		INTEGER	SIMPLE	1	309	310	313/W	313	313	320	321	322	323	324		
				325	332	333	335	335	339							
JXM1		INTEGER	SIMPLE	309/S	326	327	328	329	330	331						
JXP1		INTEGER	SIMPLE	310/S	314	315	316	317	318	319						
KLIALB	ICNTRL	INTEGER	SIMPLE	39												
KLIGW	ICNTRL	INTEGER	SIMPLE	40												
KLISST	ICNTRL	INTEGER	SIMPLE	41												
KS	ICNTRL	INTEGER	SIMPLE	42												
KSTEP	IDPARM	INTEGER	SIMPLE	207												
KU	ICNTRL	INTEGER	SIMPLE	43												
L		INTEGER	SIMPLE	314	314/C	315	315/C	316	316/C	317	317/C	318	318/C	319		
				319/C	320	320/C	321	321/C	322	322/C	323	323/C	324	324		
				325	325/C	326	326/C	327	327/C	328	328/C	329	329/C	330		
				330/C	331	331/C	332	332/C	333	333/C						
LC	LCNTRL	LOGICAL	ARRAY	154	155											
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155										
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107		
				108	109											
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151											
LDPARM		INTEGER	UNKNOWN	211	212	213										
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143											
LFUSTON	LCNTRL	LOGICAL	UNKNOWN	116	144											
LHFLJX	LCNTRL	LOGICAL	UNKNOWN	114	142											
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147											
LOGBR	ICNTRL	INTEGER	SIMPLE	44												
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150											
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140											
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141											
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119		
				120	121	136										
LQU	LCNTRL	LOGICAL	ARRAY	109	122	123	124	125	137							
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153											
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146											
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152											
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145											
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139											
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138											
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148											
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149											
MATIN	ICNTRL	INTEGER	SIMPLE	45												
MATSNX	ICNTRL	INTEGER	SIMPLE	46												
MATSUN	ICNTRL	INTEGER	SIMPLE	47												
MJ	IDPARM	INTEGER	ARRAY	208												
MLF	ICNTRL	INTEGER	ARRAY	48												
MROD	ICNTRL	INTEGER	SIMPLE	49												
MSM	ICNTRL	INTEGER	SIMPLE	51												
NB	ICNTRL	INTEGER	SIMPLE	52	313	339										
ND	ICNTRL	INTEGER	SIMPLE	53	313	314	315	316	317	318	319	320	321	322		

QEND	LCNTRL	LOGICAL	SIMPLE	101	129														
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130														
QPHV	LCNTRL	LOGICAL	SIMPLE	103	131														
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276					
				277	278	279													
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135														
QRSW	LCNTRL	LOGICAL	SIMPLE	108	134														
QSDIAG	QANDQT	REAL	ARRAY	280	282														
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132														
QUDIAG	QANDQT	REAL	ARRAY	283															
RADE	RCNTRL	REAL	SIMPLE	181															
RC	RCNTRL	REAL	ARRAY	198	199														
RCO	RCNTRL	REAL	SIMPLE	156	198	199													
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186	187	188					
				189	190	191	192	193	194	195	196	197	198	199					
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240	241	242	243	244	245	246	247	248	249					
				250	251	252	253	254	255	256	257	258	259	260					
RGAS	RCNTRL	REAL	SIMPLE	182	307	336													
RLAT	RDPARM	REAL	ARRAY	240															
RLATD	RDPARM	REAL	ARRAY	241															
ROCP	RCNTRL	REAL	SIMPLE	183															
ROCPDT	RDPARM	REAL	SIMPLE	242															
ROCPP1	RDPARM	REAL	SIMPLE	243															
RSDIST	RCNTRL	REAL	SIMPLE	184															
SDAY	RCNTRL	REAL	SIMPLE	185															
SEASON	RCNTRL	REAL	SIMPLE	186															
SGNP	RDPARM	REAL	ARRAY	244															
SH	QANDQT	REAL	ARRAY	265	278	333/W													
SHS	QANDQT	REAL	ARRAY	260	273														
SIG	RDPARM	REAL	ARRAY	251															
SIGE	RCNTRL	REAL	ARRAY	187															
SIND	RCNTRL	REAL	SIMPLE	188															
SINL	RDPARM	REAL	ARRAY	245															
SINLON	RDPARM	REAL	ARRAY	246															
SMTH	QANDQT	REAL	ARRAY	255	268														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133														
SOLS	RCNTRL	REAL	SIMPLE	189															
START	LDPARM	LOGICAL	SIMPLE	213	216														
T	QANDQT	REAL	ARRAY	254	277	332/W													
THSTD	RDPARM	REAL	SIMPLE	247															
THSTD2	RDPARM	REAL	SIMPLE	248															
TRIGS	IFAX	REAL	ARRAY	286	340														
TS	QANDQT	REAL	ARRAY	259	272	307	307	335											
TSTD	RCNTRL	REAL	SIMPLE	190															
U	QANDQT	REAL	ARRAY	262	275	314/W	316/W	318/W	320/W	322/W	324/W	326/W	328/W	330					
V	QANDQT	REAL	ARRAY	263	276	315/W	317/W	319/W	321/W	323/W	325/W	327/W	329/W	331					
VER	CCNTRL	CHAR*8	SIMPLE	10	23														
WAVAMP		REAL	SIMPLE	344/S	346/W	347	351/S	352	353/W	357/S	358	359/W							
WAVLEN		REAL	SIMPLE	343/S	346/W	350/S	353/W	356/S	359/W										
WAVPCT		REAL	SIMPLE	345/S	346/W	347	352/S	353/W	358/S	359/W									
WAVPER		REAL	SIMPLE	347/S	352	358													
WSAVE	RDPARM	REAL	ARRAY	249															
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24														

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D-STMT FN DEF, A-ARGLIST
ABS	REAL	INTRINSIC	344	357
FFT77		SUBROUTINE	340	
FLOAT	REAL	INTRINSIC	350	
MAXO	INTEGER	INTRINSIC	309	
MINO	INTEGER	INTRINSIC	310	
MOD	INTEGER	INTRINSIC	311	312
SLEXP	REAL	STAT FUNC	307/S	
SQRT	REAL	INTRINSIC	351	
VEXP	REAL	INTRINSIC	338	

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00001      C      FUNCTION.QSAT ( T,P)                                VQSAT      2
00002      REAL      EST(139), EST1(67), EST2(72)                    VQSAT      3
00003      EQUIVALENCE (EST(1), EST1(1)), (EST(68),EST2(1))          VQSAT      4
00004      C      DATA EST1/                                          VQSAT      5
*          0.31195E-02, 0.36135E-02, 0.41800E-02, 0.41800E-02,    VQSAT      6
*          0.48227E-02, 0.55571E-02, 0.63934E-02, 0.73433E-02,    VQSAT      7
*          0.84286E-02, 0.96407E-02, 0.11014E-01, 0.12582E-01,    VQSAT      8
*          0.14353E-01, 0.16341E-01, 0.18574E-01, 0.21095E-01,    VQSAT      9
*          0.23928E-01, 0.27096E-01, 0.30652E-01, 0.34629E-01,    VQSAT     10
*          0.39073E-01, 0.44028E-01, 0.49546E-01, 0.55691E-01,    VQSAT     11
*          0.62508E-01, 0.70077E-01, 0.78700E-01, 0.88128E-01,    VQSAT     12
*          0.98477E-01, 0.10983E+00, 0.12233E+00, 0.13608E+00,    VQSAT     13
*          0.15121E+00, 0.16784E+00, 0.18615E+00, 0.20627E+00,    VQSAT     14
*          0.22837E+00, 0.25263E+00, 0.27923E+00, 0.30838E+00,    VQSAT     15
*          0.34030E+00, 0.37520E+00, 0.41334E+00, 0.45497E+00,    VQSAT     16
*          0.50037E+00, 0.54984E+00, 0.60369E+00, 0.66225E+00,    VQSAT     17
*          0.72589E+00, 0.79497E+00, 0.86991E+00, 0.95113E+00,    VQSAT     18
*          0.10391E+01, 0.11343E+01, 0.12372E+01, 0.13484E+01,    VQSAT     19
*          0.14684E+01, 0.15979E+01, 0.17375E+01, 0.18879E+01,    VQSAT     20
*          0.20499E+01, 0.22241E+01, 0.24113E+01, 0.26126E+01,    VQSAT     21
*          0.28286E+01, 0.30604E+01, 0.33091E+01, 0.35755E+01/    VQSAT     22
00005      C      DATA EST2/                                          VQSAT     23
*          0.38608E+01, 0.41663E+01, 0.44930E+01, 0.48423E+01,    VQSAT     24
*          0.52155E+01, 0.56140E+01, 0.60394E+01, 0.64930E+01,    VQSAT     25
*          0.69767E+01, 0.74919E+01, 0.80406E+01, 0.86246E+01,    VQSAT     26
*          0.92457E+01, 0.99061E+01, 0.10608E+02, 0.11353E+02,    VQSAT     27
*          0.12144E+02, 0.12983E+02, 0.13873E+02, 0.14816E+02,    VQSAT     28
*          0.15815E+02, 0.16872E+02, 0.17992E+02, 0.19176E+02,    VQSAT     29
*          0.20428E+02, 0.21750E+02, 0.23148E+02, 0.24623E+02,    VQSAT     30
*          0.26180E+02, 0.27822E+02, 0.29553E+02, 0.31378E+02,    VQSAT     31
*          0.33300E+02, 0.35324E+02, 0.37454E+02, 0.39696E+02,    VQSAT     32
*          0.42053E+02, 0.44531E+02, 0.47134E+02, 0.49869E+02,    VQSAT     33
*          0.52741E+02, 0.55754E+02, 0.58915E+02, 0.62232E+02,    VQSAT     34
*          0.65708E+02, 0.69351E+02, 0.73168E+02, 0.77164E+02,    VQSAT     35
*          0.81348E+02, 0.85725E+02, 0.90305E+02, 0.95094E+02,    VQSAT     36
*          0.10010E+03, 0.10533E+03, 0.11080E+03, 0.11650E+03,    VQSAT     37
*          0.12246E+03, 0.12868E+03, 0.13517E+03, 0.14193E+03,    VQSAT     38
*          0.14899E+03, 0.15634E+03, 0.16400E+03, 0.17199E+03,    VQSAT     39
*          0.18030E+03, 0.18895E+03, 0.19796E+03, 0.20733E+03,    VQSAT     40
*          0.21708E+03, 0.22722E+03, 0.23776E+03, 0.24871E+03/    VQSAT     41
00006      C      TMAX = AMAX1( T ,200.0 )                            VQSAT     42
00007      TMIN = AMIN1( TMAX,337.9 )                                VQSAT     43
00008      TSTAR = TMIN - 198.99999                                  VQSAT     44
00009      IC = TSTAR                                                VQSAT     45
00010      TEMP = EST(IC) + (EST(IC+1) - EST(IC))*(TSTAR - IC)      VQSAT     46
00011      QSAT = AMIN1(TEMP,P/1.622)                                VQSAT     47
00012      C      QSAT = .622*QSAT/(P - QSAT)                          VQSAT     48
00013      RETURN                                                    VQSAT     49
00014      END                                                        VQSAT     50

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VARIABLE MAP

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--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES      A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE
EST          REAL          ARRAY          2          3          3          10          10
EST1         REAL          ARRAY          2          3          4/I         10
EST2         REAL          ARRAY          2          3          5/I         10
IC           INTEGER        SIMPLE          9/S         10          10          10
P           REAL          SIMPLE          1          11         12
QSAT        REAL          FUNCTION       1          11/S        12/S        12          12
T           REAL          SIMPLE          1          6
TEMP        REAL          SIMPLE         10/S        11
TMAX        REAL          SIMPLE          6/S         7
TMIN        REAL          SIMPLE          7/S         8
TSTAR       REAL          SIMPLE          8/S         9          10

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PROCEDURE MAP

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--NAME--	-----TYPE-----	CLASS-----	-----REFERENCES	D=STMT	FN	DEF.	A=ARGLIST
AMAX1	REAL	INTRINSIC	6				
AMIN1	REAL	INTRINSIC	7				
							11

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C .....
C SUBROUTINE RADIO VRADIO 2
C VRADIO 3
C PURPOSE VRADIO 4
C DRIVER FOR THE RADIATION ROUTINES VRADIO 5
C VRADIO 6
C USAGE VRADIO 7
C CALLED FROM COMP3 VRADIO 8
C VRADIO 9
C INPUT/OUTPUT FILES USED VRADIO 10
C NONE VRADIO 11
C VRADIO 12
C DESCRIPTION OF PARAMETERS VRADIO 13
C J - INDEX FOR LATITUDE BAND VRADIO 14
C VRADIO 15
C SUBPROGRAMS NEEDED VRADIO 16
C SOLAR1 - VRADIO 17
C ZEIT - VRADIO 18
C LINKHO - VRADIO 19
C VLINKHO - VRADIO 20
C VRADIO 21
C VRADIO 22
C RECORD OF MODIFICATIONS VRADIO 23
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VRADIO 24
C 22JUL83 JIM.PF ADDED DOCUMENTATION + CHOICE FOR DIAGNOSTICS VRADIO 25
C VRADIO 26
C REMARKS: VRADIO 27
C ( 1 ) LARRY TAKECS IS THE EXPERT FOR THIS ROUTINE VRADIO 28
C VRADIO 29
C VRADIO 30
C .....
C M / A - C O M S I G M A D A T A I N C N A S A - G S F C VRADIO 31
C .....
C 00001 SUBROUTINE RADIO (J) VRADIO 32
C .....
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD VRADIO 33
C .....
C 00002 COMMON /CCNTRL/ CC0 VCNTRL 2
C 00003 COMMON /CCNTRL/ ADATE VCNTRL 3
C 00004 COMMON /CCNTRL/ ATIME VCNTRL 4
C 00005 COMMON /CCNTRL/ JIC VCNTRL 5
C 00006 COMMON /CCNTRL/ JOB VCNTRL 6
C 00007 COMMON /CCNTRL/ CCSP06 VCNTRL 7
C 00008 COMMON /CCNTRL/ CCSP07 VCNTRL 8
C 00009 COMMON /CCNTRL/ CCSP08 VCNTRL 9
C 00010 COMMON /CCNTRL/ VER VCNTRL 10
C 00011 COMMON /CCNTRL/ XLABEL (10) VCNTRL 11
C 00012 COMMON /CCNTRL/ CQS (30) VCNTRL 12
C 00013 COMMON /CCNTRL/ CQU (10) VCNTRL 13
C .....
C 00014 EQUIVALENCE (CC0,CC(1)) VCNTRL 14
C 00015 CHARACTER*8 CC0, CC(200) VCNTRL 15
C 00016 CHARACTER*8 ADATE VCNTRL 16
C 00017 CHARACTER*8 ATIME VCNTRL 17
C 00018 CHARACTER*8 JIC VCNTRL 18
C 00019 CHARACTER*8 JOB VCNTRL 19
C 00020 CHARACTER*8 CCSP06 VCNTRL 20
C 00021 CHARACTER*8 CCSP07 VCNTRL 21
C 00022 CHARACTER*8 CCSP08 VCNTRL 22
C 00023 CHARACTER*8 VER VCNTRL 23
C 00024 CHARACTER*8 XLABEL VCNTRL 24
C 00025 CHARACTER*8 CQS VCNTRL 25
C 00026 CHARACTER*8 CQU VCNTRL 26
C .....
C C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD VCNTRL 27
C .....
C 00027 COMMON /ICNTRL/ IC0 VCNTRL 28
C 00028 COMMON /ICNTRL/ IM VCNTRL 29
C VCNTRL 30
C VCNTRL 31
C VCNTRL 32
C VCNTRL 33
C VCNTRL 34
C VCNTRL 35

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00029	COMMON /ICNTRL/	IMD2	VCNTRL 36
00030	COMMON /ICNTRL/	IMD2P1	VCNTRL 37
00031	COMMON /ICNTRL/	NDRSW	VCNTRL 38
00032	COMMON /ICNTRL/	JM	VCNTRL 39
00033	COMMON /ICNTRL/	JMD2	VCNTRL 40
00034	COMMON /ICNTRL/	JMT2	VCNTRL 41
00035	COMMON /ICNTRL/	JNP	VCNTRL 42
00036	COMMON /ICNTRL/	JO4	VCNTRL 43
00037	COMMON /ICNTRL/	JOB	VCNTRL 44
00038	COMMON /ICNTRL/	JSP	VCNTRL 45
00039	COMMON /ICNTRL/	KLIALB	VCNTRL 46
00040	COMMON /ICNTRL/	KLIGW	VCNTRL 47
00041	COMMON /ICNTRL/	KLISST	VCNTRL 48
00042	COMMON /ICNTRL/	KS	VCNTRL 49
00043	COMMON /ICNTRL/	KU	VCNTRL 50
00044	COMMON /ICNTRL/	LOGBR	VCNTRL 51
00045	COMMON /ICNTRL/	MATIN	VCNTRL 52
00046	COMMON /ICNTRL/	MATSNX	VCNTRL 53
00047	COMMON /ICNTRL/	MATSUN	VCNTRL 54
00048	COMMON /ICNTRL/	MLF (12)	VCNTRL 55
00049	COMMON /ICNTRL/	MROD	VCNTRL 56
00050	COMMON /ICNTRL/	NKRSH	VCNTRL 57
00051	COMMON /ICNTRL/	MSM	VCNTRL 58
00052	COMMON /ICNTRL/	NB	VCNTRL 59
00053	COMMON /ICNTRL/	ND	VCNTRL 60
00054	COMMON /ICNTRL/	NDALT	VCNTRL 61
00055	COMMON /ICNTRL/	NDAY	VCNTRL 62
00056	COMMON /ICNTRL/	NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/	NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/	NDT	VCNTRL 66
00060	COMMON /ICNTRL/	NHMS	VCNTRL 67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/	NHMS0	VCNTRL 69
00063	COMMON /ICNTRL/	NLAY	VCNTRL 70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/	IBLSIZ	VCNTRL 77
00071	COMMON /ICNTRL/	NVMD	VCNTRL 78
00072	COMMON /ICNTRL/	NVMDE	VCNTRL 79
00073	COMMON /ICNTRL/	NVMD0	VCNTRL 80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL 85
	C		VCNTRL 86
00079	EQUIVALENCE	(ITMIN ,IQS(1))	VCNTRL 87
00080	EQUIVALENCE	(ITMAX ,IQS(2))	VCNTRL 88
00081	EQUIVALENCE	(IPREACC ,IQS(3))	VCNTRL 89
00082	EQUIVALENCE	(IPRECON ,IQS(4))	VCNTRL 90
00083	EQUIVALENCE	(IHFLUX ,IQS(5))	VCNTRL 91
00084	EQUIVALENCE	(IEFLUX ,IQS(6))	VCNTRL 92
00085	EQUIVALENCE	(IFUSION ,IQS(7))	VCNTRL 93
00086	EQUIVALENCE	(IRADSWG ,IQS(8))	VCNTRL 94
00087	EQUIVALENCE	(IRADLWG ,IQS(9))	VCNTRL 95
00088	EQUIVALENCE	(ICLOUD ,IQS(10))	VCNTRL 96
00089	EQUIVALENCE	(IUFLUX ,IQS(11))	VCNTRL 97
00090	EQUIVALENCE	(IVFLUX ,IQS(12))	VCNTRL 98
	C		VCNTRL 99
00091	EQUIVALENCE	(IDOMEGA ,IQU(1))	VCNTRL 100
00092	EQUIVALENCE	(IDIABAT ,IQU(2))	VCNTRL 101
00093	EQUIVALENCE	(IRADSW ,IQU(3))	VCNTRL 102
00094	EQUIVALENCE	(IRADLW ,IQU(4))	VCNTRL 103
	C		VCNTRL 104
00095	EQUIVALENCE	(IC0 ,IC(1))	VCNTRL 105
00096	INTEGER	IC0 , IC(200)	VCNTRL 106

	C				VCNTRL 107
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL 108
	C	-----			VCNTRL 109
00097		COMMON /LCNTRL/ LCO			VCNTRL 110
00098		COMMON /LCNTRL/ QALT			VCNTRL 111
00099		COMMON /LCNTRL/ QBEG			VCNTRL 112
00100		COMMON /LCNTRL/ QDAY			VCNTRL 113
00101		COMMON /LCNTRL/ QEND			VCNTRL 114
00102		COMMON /LCNTRL/ QOUT			VCNTRL 115
00103		COMMON /LCNTRL/ QPHY			VCNTRL 116
00104		COMMON /LCNTRL/ QSHF			VCNTRL 117
00105		COMMON /LCNTRL/ SN2FLG			VCNTRL 118
00106		COMMON /LCNTRL/ QRSW			VCNTRL 119
00107		COMMON /LCNTRL/ QRSW			VCNTRL 120
00108		COMMON /LCNTRL/ QRSW			VCNTRL 121
00109		COMMON /LCNTRL/ LQS(30)			VCNTRL 122
		COMMON /LCNTRL/ LQU(10)			VCNTRL 123
	C				VCNTRL 124
00110		EQUIVALENCE (LTMIN .LQS(1))			VCNTRL 125
00111		EQUIVALENCE (LTMAX .LQS(2))			VCNTRL 126
00112		EQUIVALENCE (LPREACC .LQS(3))			VCNTRL 127
00113		EQUIVALENCE (LPRECON .LQS(4))			VCNTRL 128
00114		EQUIVALENCE (LHFLUX .LQS(5))			VCNTRL 129
00115		EQUIVALENCE (LEFLUX .LQS(6))			VCNTRL 130
00116		EQUIVALENCE (LFUSION .LQS(7))			VCNTRL 131
00117		EQUIVALENCE (LRADSWG .LQS(8))			VCNTRL 132
00118		EQUIVALENCE (LRADLWG .LQS(9))			VCNTRL 133
00119		EQUIVALENCE (LICLOUD .LQS(10))			VCNTRL 134
00120		EQUIVALENCE (LUFLUX .LQS(11))			VCNTRL 135
00121		EQUIVALENCE (LVFLUX .LQS(12))			VCNTRL 136
	C				VCNTRL 137
00122		EQUIVALENCE (LOMEGA .LQU(1))			VCNTRL 138
00123		EQUIVALENCE (LDIABAT .LQU(2))			VCNTRL 139
00124		EQUIVALENCE (LRADSW .LQU(3))			VCNTRL 140
00125		EQUIVALENCE (LRADLW .LQU(4))			VCNTRL 141
	C				VCNTRL 142
00126		LOGICAL QALT			VCNTRL 143
00127		LOGICAL QBEG			VCNTRL 144
00128		LOGICAL QDAY			VCNTRL 145
00129		LOGICAL QEND			VCNTRL 146
00130		LOGICAL QOUT			VCNTRL 147
00131		LOGICAL QPHY			VCNTRL 148
00132		LOGICAL QSHF			VCNTRL 149
00133		LOGICAL SN2FLG			VCNTRL 150
00134		LOGICAL QRSW			VCNTRL 151
00135		LOGICAL QRSW			VCNTRL 152
	C				VCNTRL 153
00136		LOGICAL LQS			VCNTRL 154
00137		LOGICAL LQU			VCNTRL 155
00138		LOGICAL LTMIN			VCNTRL 156
00139		LOGICAL LTMAX			VCNTRL 157
00140		LOGICAL LPREACC			VCNTRL 158
00141		LOGICAL LPRECON			VCNTRL 159
00142		LOGICAL LHFLUX			VCNTRL 160
00143		LOGICAL LEFLUX			VCNTRL 161
00144		LOGICAL LFUSION			VCNTRL 162
00145		LOGICAL LRADSWG			VCNTRL 163
00146		LOGICAL LRADLWG			VCNTRL 164
00147		LOGICAL LICLOUD			VCNTRL 165
00148		LOGICAL LUFLUX			VCNTRL 166
00149		LOGICAL LVFLUX			VCNTRL 167
	C				VCNTRL 168
00150		LOGICAL LOMEGA			VCNTRL 169
00151		LOGICAL LDIABAT			VCNTRL 170
00152		LOGICAL LRADSW			VCNTRL 171
00153		LOGICAL LRADLW			VCNTRL 172
	C				VCNTRL 173
00154		EQUIVALENCE (LCO,LC(1))			VCNTRL 174
00155		LOGICAL LCO, LC(200)			VCNTRL 175
	C				VCNTRL 176
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL 177
	C	-----			

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00156	COMMON /RCNTRL/	RCO		VCNTRL 178
00157	COMMON /RCNTRL/	APHEL		VCNTRL 179
00158	COMMON /RCNTRL/	BETA		VCNTRL 180
00159	COMMON /RCNTRL/	COSD		VCNTRL 181
00160	COMMON /RCNTRL/	CP		VCNTRL 182
00161	COMMON /RCNTRL/	DAYSPLY		VCNTRL 183
00162	COMMON /RCNTRL/	DEC		VCNTRL 184
00163	COMMON /RCNTRL/	DECMAX		VCNTRL 185
00164	COMMON /RCNTRL/	DIST		VCNTRL 186
00165	COMMON /RCNTRL/	DLAT		VCNTRL 187
00166	COMMON /RCNTRL/	DLOW		VCNTRL 188
00167	COMMON /RCNTRL/	DT		VCNTRL 189
00168	COMMON /RCNTRL/	ECCN		VCNTRL 190
00169	COMMON /RCNTRL/	GNU1		VCNTRL 191
00170	COMMON /RCNTRL/	GNU2		VCNTRL 192
00171	COMMON /RCNTRL/	GRAV		VCNTRL 193
00172	COMMON /RCNTRL/	OMEGA2		VCNTRL 194
00173	COMMON /RCNTRL/	PI		VCNTRL 195
00174	COMMON /RCNTRL/	PI180		VCNTRL 196
00175	COMMON /RCNTRL/	PI2		VCNTRL 197
00176	COMMON /RCNTRL/	PSTD		VCNTRL 198
00177	COMMON /RCNTRL/	PIMEAN		VCNTRL 199
00178	COMMON /RCNTRL/	PSMAX		VCNTRL 200
00179	COMMON /RCNTRL/	PSMIN		VCNTRL 201
00180	COMMON /RCNTRL/	PTOP		VCNTRL 202
00181	COMMON /RCNTRL/	RADE		VCNTRL 203
00182	COMMON /RCNTRL/	RGAS		VCNTRL 204
00183	COMMON /RCNTRL/	ROCP		VCNTRL 205
00184	COMMON /RCNTRL/	RSDIST		VCNTRL 206
00185	COMMON /RCNTRL/	SDAY		VCNTRL 207
00186	COMMON /RCNTRL/	SEASON		VCNTRL 208
00187	COMMON /RCNTRL/	SIGE	(25)	VCNTRL 209
00188	COMMON /RCNTRL/	SIND		VCNTRL 210
00189	COMMON /RCNTRL/	SOLS		VCNTRL 211
00190	COMMON /RCNTRL/	TSTD		VCNTRL 212
00191	COMMON /RCNTRL/	PLEVS	(25)	VCNTRL 213
00192	COMMON /RCNTRL/	HEATW		VCNTRL 214
00193	COMMON /RCNTRL/	HEATI		VCNTRL 215
00194	COMMON /RCNTRL/	EPS		VCNTRL 216
00195	COMMON /RCNTRL/	EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/	GALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/	PZERO		VCNTRL 219
	C			VCNTRL 220
00198	EQUIVALENCE	(RC0,RC(1))		VCNTRL 221
00199	REAL	RC0, RC(200)		VCNTRL 222
	C			VCNTRL 223
	C	INTEGER MODEL CONSTANTS		VCNTRL 224
	C	=====		VCNTRL 225
00200	COMMON /IDPARM/	IJUMP	(46)	VCNTRL 226
00201	COMMON /IDPARM/	IDSP02		VCNTRL 227
00202	COMMON /IDPARM/	INDEX	(72)	VCNTRL 228
00203	COMMON /IDPARM/	IROD		VCNTRL 229
00204	COMMON /IDPARM/	JC	(46)	VCNTRL 230
00205	COMMON /IDPARM/	JE	(2)	VCNTRL 231
00206	COMMON /IDPARM/	JP	(2,2)	VCNTRL 232
00207	COMMON /IDPARM/	KSTEP		VCNTRL 233
00208	COMMON /IDPARM/	MJ	(46)	VCNTRL 234
00209	COMMON /IDPARM/	NHMS1		VCNTRL 235
00210	COMMON /IDPARM/	NYMD1		VCNTRL 236
	C			VCNTRL 237
	C	LOGICAL MODEL CONSTANTS		VCNTRL 238
	C	=====		VCNTRL 239
00211	COMMON /LDPARM/	FILTER	(46)	VCNTRL 240
00212	COMMON /LDPARM/	ITAPE		VCNTRL 241
00213	COMMON /LDPARM/	START		VCNTRL 242
	C			VCNTRL 243
00214	LOGICAL	FILTER		VCNTRL 244
00215	LOGICAL	ITAPE		VCNTRL 245
00216	LOGICAL	START		VCNTRL 246
	C			VCNTRL 247
	C	REAL MODEL CONSTANTS		VCNTRL 248

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C =====
00217 COMMON /RDPARM/ ADLDP
00218 COMMON /RDPARM/ CON1
00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CON5
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLON (72)
00229 COMMON /RDPARM/ CPD2
00230 COMMON /RDPARM/ DXP (46)
00231 COMMON /RDPARM/ DXYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPOD
00243 COMMON /RDPARM/ ROCPP1
00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

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C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====

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00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1, 1, 1), PHIS (1, 1))
00268 EQUIVALENCE (QPROG(1, 2, 1, 1), SMTH (1, 1))
00269 EQUIVALENCE (QPROG(1, 3, 1, 1), ALBEDO(1, 1))

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VQANDQT 33
VQANDQT 34

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00270 EQUIVALENCE (QPROG(1, 4, 1, 1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5, 1, 1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6, 1, 1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7, 1, 1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8, 1, 1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1, 10,1),PHI(1,1,1,1))
C
C C C
SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
=====
00280 COMMON /QANDQT/ QSDIAG(72 ,15,46)
00281 DIMENSION IQSDIAG(72 ,15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C C C
* * *
C C C
PHYSICS PARAMETERS AND CONSTANTS
00284 COMMON /CNTRLP/ CDFR
00285 COMMON /CNTRLP/ CDXL
00286 COMMON /CNTRLP/ CDXO
00287 COMMON /CNTRLP/ CLH
00288 COMMON /CNTRLP/ COE (9)
00289 COMMON /CNTRLP/ COEF
00290 COMMON /CNTRLP/ CCEFS
00291 COMMON /CNTRLP/ COSROT
00292 COMMON /CNTRLP/ CPP
00293 COMMON /CNTRLP/ CTID
00294 COMMON /CNTRLP/ CUMDAY
00295 COMMON /CNTRLP/ CUMRAT
00296 COMMON /CNTRLP/ C10
00297 COMMON /CNTRLP/ C100
00298 COMMON /CNTRLP/ C40
00299 COMMON /CNTRLP/ DELTA
00300 COMMON /CNTRLP/ DTC3
00301 COMMON /CNTRLP/ DTOUT
00302 COMMON /CNTRLP/ ED
00303 COMMON /CNTRLP/ EDNM
00304 COMMON /CNTRLP/ FCOEF
00305 COMMON /CNTRLP/ FMU
00306 COMMON /CNTRLP/ FWET
00307 COMMON /CNTRLP/ GAMFAC
00308 COMMON /CNTRLP/ GTOPO
00309 COMMON /CNTRLP/ HICE
00310 COMMON /CNTRLP/ NDTCS
00311 COMMON /CNTRLP/ NFLW
00312 COMMON /CNTRLP/ PIM
00313 COMMON /CNTRLP/ QHOG
00314 COMMON /CNTRLP/ SHLTOP
00315 COMMON /CNTRLP/ SINROT
00316 COMMON /CNTRLP/ SNOWN
00317 COMMON /CNTRLP/ SNOWS
00318 COMMON /CNTRLP/ STBO
00319 COMMON /CNTRLP/ STERP1
00320 COMMON /CNTRLP/ STERP2
00321 COMMON /CNTRLP/ TICE
00322 COMMON /CNTRLP/ TLTOP
00323 COMMON /CNTRLP/ XDAY
00324 COMMON /CNTRLP/ ZLNCO
00325 LOGICAL QHOG
C C C
* * *
C C C
RADIATION AND SOURCE TERM FIELDS
00326 COMMON /RADCOM/ AS(72,9), RE(72,10)
00327 COMMON /RADCOM/ PL(72,9), PLE(72,10)
00328 COMMON /RADCOM/ PLK(72,9), PLKE(10)
VOANDQT 35
VOANDQT 36
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VCNTRLP 44
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VCNTRLP 46
VRADCOM 2
VRADCOM 3
VRADCOM 4
VRADCOM 5
VRADCOM 6

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00329     COMMON /RADCOM/ TL(72,9), TLE(72,10)           VRADCOM 7
00330     COMMON /RADCOM/ TG(72), TH(72,9)             VRADCOM 8
00331     COMMON /RADCOM/ SHL(72,9), SHLE(72,10)        VRADCOM 9
00332     COMMON /RADCOM/ SHG(72), CLOUD(72,12)        VRADCOM 10
00333     COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)        VRADCOM 11
00334     COMMON /RADCOM/ RH(72,9)                       VRADCOM 12
00335     COMMON /RADCOM/ SSS(72,9), SSSE(72,10)        VRADCOM 13
00336     COMMON /RADCOM/ HH(72,9), HHE(72,10)         VRADCOM 14
00337     COMMON /RADCOM/ HHS(72,9)                   VRADCOM 15
00338     COMMON /RADCOM/ CVT(72,9), CVQ(72,9)         VRADCOM 16
00339     COMMON /RADCOM/ CXDE(9)                      VRADCOM 17
00340     COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)      VRADCOM 18
00341     COMMON /RADCOM/ AL(72,10)                    VRADCOM 19
00342     COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)    VRADCOM 20
00343     COMMON /RADCOM/ TOPABS(72)                   VRADCOM 21
00344     COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)  VRADCOM 22
00345     COMMON /RADCOM/ TCOND(9), TPENE(9)            VRADCOM 23
00346     COMMON /RADCOM/ TLOWL,TMIDL, NLAYOZ          VRADCOM 24
00347     COMMON /RADCOM/ FK(5), KK(5), NFK            VRADCOM 25
00348     COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19) VRADCOM 26
00349     COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23) VRADCOM 27
00350     COMMON /RADCOM/ PROCN(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6) VRADCOM 28
00351     COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72) VRADCOM 29
00352     COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL VRADCOM 30
00353     COMMON /RADCOM/ SG(72), SP(72)                VRADCOM 31
00354     COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB VRADCOM 32
00355     COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72) VRADCOM 33
00356     COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72) VRADCOM 34
00357     LOGICAL   LAND, OCEAN, ICE, SNOW, MIXWI, FROST VRADCOM 35
C                                               VRADCOM 36
C ..... VRADCOM 43
C ..... VRADCOM 44
C ..... VRADCOM 45
C DEBUG VRADCOM 46
00358 10000 CONTINUE VBEGDEB 2
C ***** CYBER VECTOR VERSION 00.001 INPUT 100 VBEGDEB 3
C ***** CYBER VECTOR VERSION 00 VBEGDEB 4
C ***** VBEGDEB 5
C ***** VBEGDEB 6
00359 C IMNLAY = IM* NLAY VRADCOM 47
00360 C IMNLAYP1 = IM*(NLAY+1) VRADCOM 48
C VRADCOM 49
C ..... VRADCOM 50
C ..... VRADCOM 51
C ..... RADIATION SUBROUTINES ..... VRADCOM 52
C ..... VRADCOM 53
C ..... VRADCOM 54
C ..... VRADCOM 55
C ..... VRADCOM 56
00361 C AS(1,1;IMNLAY) = 0. VRADCOM 57
00362 C RE(1,1;IMNLAYP1) = 0. VRADCOM 58
00363 C SG(1;IM) = 0. VRADCOM 59
C VRADCOM 60
00364 C IF (NFLW.EQ.0) GO TO 440 VRADCOM 61
C VRADCOM 62
00365 C RSURF(1;IM) = ALBEDO(1,J;IM)*0.01 VRADCOM 63
00366 C XLAT = RLATD(J) VRADCOM 64
00367 C CALL SOLAR1 (J,XLAT) VRADCOM 65
C VRADCOM 66
C ..... VRADCOM 67
C ..... VRADCOM 68
C ***** SAVE SOLAR RADIATION ABSORBED BY ATMOSPHERE (LY/DAY) ..... VRADCOM 69
C ..... VRADCOM 70
C ..... VRADCOM 71
00368 C IF (LRADSW) QUDIAG(1,1,IRADSW,J;IMNLAY) = VRADCOM 72
1 QUDIAG(1,1,IRADSW,J;IMNLAY) + CUMRAT*AS(1,1;IMNLAY) VRADCOM 73
00369 C IF (LRADSWG) QSIDIAG(1,IRADSWG,J;IM) = VRADCOM 74
1 QSIDIAG(1,IRADSWG,J;IM) + CUMRAT*SG(1;IM) VRADCOM 75
C VRADCOM 76
00370 C IF (.NOT.QHOG) GO TO 420 VRADCOM 77
C VRADCOM 78
C VRADCOM 79

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00371      JALB = J
C
00372      IF (J.NE.1 .AND. J.NE.JNP) GOTO 442
00373      CALL ZEITBEG(SHVLINKHO )
00374      CALL LINKHO (NLAY,NFLW,NDAY,IFIX(XLAT+.5),JNP,1)
00375      CALL ZEITEND
00376      DO 414 L=1,NLAY
00377          RE(2,L;IM-1) = RE(1,L)
00378          SHL(2,L;IM-1) = SHL(1,L)
00379      414 CONTINUE
00380          RE(2,NLAYP1;IM-1) = RE(1,NLAYP1)
00381          SHG(2;IM-1) = SHG(1)
00382      GO TO 443
C
00383      442 CONTINUE
00384      CALL ZEITBEG(SHVLINKHO )
00385      CALL VLINKHO (NLAY,NFLW,NDAY,IFIX(XLAT+.5),IM)
00386      CALL ZEITEND
C
00387      443 CONTINUE
C
00388      QUDIAG(1,1,IRADLW,J;IMNLAY) = RE(1,1;IMNLAY)
00389      QSDIAG(1,IRADLWG,J;IM) = RE(1,NLAYP1;IM)
C
00390      GO TO 440
C
C *****
00391      420 CONTINUE
C
C *****
00392      RE(1,1;IMNLAY) = QUDIAG(1,1,IRADLW,J;IMNLAY)
00393      RE(1,NLAYP1;IM) = QSDIAG(1,IRADLWG,J;IM)
C
C *****
00394      440 CONTINUE
C
C *****
00395      RADTRM(1;IM) = SG(1;IM) - RE(1,NLAYP1;IM)
C
00396      RETURN
00397      END

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VRADIO 80
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VRADIO 123
VRADIO 124

C-6

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	358		
414	379	376	
420	391	370	
440	394	364	390
442	383	372	
443	387	382	

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE
ADATE	CCNTRL	CHAR*8	SIMPLE	3		16				
ADLDP	RDPARM	REAL	SIMPLE	217						
AL	RADCOM	REAL	ARRAY	341						
ALBEDO	QANDQT	REAL	ARRAY	256		269		365		
APHEL	RCNTRL	REAL	SIMPLE	157						
AS	RADCOM	REAL	ARRAY	326		361/S		368		
ATIME	CCNTRL	CHAR*8	SIMPLE	4		17				
BETA	RCNTRL	REAL	SIMPLE	158						
C10	CNTRLP	REAL	SIMPLE	296						
C100	CNTRLP	REAL	SIMPLE	297						
C40	CNTRLP	REAL	SIMPLE	298						
CALTOJ	RCNTRL	REAL	SIMPLE	196						

CC	CCNTRL	CHAR*8	ARRAY	14	15									
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15								
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12
				13										
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20									
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21									
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22									
CDATE	RADCOM	REAL	ARRAY	350										
CDFR	CNTRLP	REAL	SIMPLE	284										
CDXL	CNTRLP	REAL	SIMPLE	285										
CDXO	CNTRLP	REAL	SIMPLE	286										
CLH	CNTRLP	REAL	SIMPLE	217										
CLOUD	RADCOM	REAL	ARRAY	332										
CNTRLP		REAL	UNKNOWN	284	285	286	287	288	289	290	291	292	293	294
				295	296	297	298	299	300	301	302	303	304	305
				306	307	308	309	310	311	312	313	314	315	316
				317	318	319	320	321	322	323	324			
				288										
COE	CNTRLP	REAL	ARRAY	288										
COEF	CNTRLP	REAL	SIMPLE	289										
COEFS	CNTRLP	REAL	SIMPLE	290										
CON1	RDPARM	REAL	SIMPLE	218										
CON1DT	RDPARM	REAL	SIMPLE	219										
CON2	RDPARM	REAL	SIMPLE	220										
CON2DT	RDPARM	REAL	SIMPLE	221										
CON3	RDPARM	REAL	SIMPLE	222										
CON3DT	RDPARM	REAL	SIMPLE	223										
CON4	RDPARM	REAL	SIMPLE	224										
CON4DT	RDPARM	REAL	SIMPLE	225										
CONS	RDPARM	REAL	SIMPLE	226										
COSD	RCNTRL	REAL	SIMPLE	159										
COSL	RDPARM	REAL	ARRAY	227										
COSLON	RDPARM	REAL	ARRAY	228										
COSROT	CNTRLP	REAL	SIMPLE	291										
				352										
COSZ	RADCOM	REAL	ARRAY	160										
CP	RCNTRL	REAL	SIMPLE	229										
CPD2	RDPARM	REAL	SIMPLE	292										
CPP	CNTRLP	REAL	SIMPLE	292										
CQS	CCNTRL	CHAR*8	ARRAY	12	25									
COU	CCNTRL	CHAR*8	ARRAY	13	26									
CTID	CNTRLP	REAL	SIMPLE	293										
CUMDAY	CNTRLP	REAL	SIMPLE	294										
CUMRAT	CNTRLP	REAL	SIMPLE	295	368	369								
CVQ	RADCOM	REAL	ARRAY	338										
CVT	RADCOM	REAL	ARRAY	338										
CXDE	RADCOM	REAL	ARRAY	339										
CXL	RADCOM	REAL	SIMPLE	352										
CZH	RADCOM	REAL	ARRAY	351										
DAYSPLY	RCNTRL	REAL	SIMPLE	161										
DEC	RCNTRL	REAL	SIMPLE	162										
DECMAx	RCNTRL	REAL	SIMPLE	163										
DELTA	CNTRLP	REAL	SIMPLE	299										
DIST	RCNTRL	REAL	SIMPLE	164										
DLAT	RCNTRL	REAL	SIMPLE	165										
DLON	RCNTRL	REAL	SIMPLE	166										
DSIG	RDPARM	REAL	ARRAY	250										
DSIGINV	RDPARM	REAL	ARRAY	252										
DT	RCNTRL	REAL	SIMPLE	167										
DTG3	CNTRLP	REAL	SIMPLE	300										
DTOUT	CNTRLP	REAL	SIMPLE	301										
DXP	RDPARM	REAL	ARRAY	230										
DXYP	RDPARM	REAL	ARRAY	231										
DYP	RDPARM	REAL	ARRAY	232										
ECCN	RCNTRL	REAL	SIMPLE	168										
ED	CNTRLP	REAL	SIMPLE	302										
EDNM	CNTRLP	REAL	SIMPLE	303										
EPS	RCNTRL	REAL	SIMPLE	194										
EPSFAC	RCNTRL	REAL	SIMPLE	195										
EVAP	RADCOM	REAL	SIMPLE	351										
F1DT	RDPARM	REAL	SIMPLE	234										
F2DT	RDPARM	REAL	SIMPLE	235										

ORIGINAL PAGE IS
OF POOR QUALITY

NLAYM1	ICNTRL	INTEGER	SIMPLE	64																	
NLAYOZ	RADCOM	INTEGER	SIMPLE	346																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	65	380	380	389	393	395												
NMLEV	ICNTRL	INTEGER	SIMPLE	75																	
NOZ	RADCOM	INTEGER	SIMPLE	350																	
NSDAY	ICNTRL	INTEGER	SIMPLE	66																	
NSEQ	ICNTRL	INTEGER	SIMPLE	67																	
NSTEP	ICNTRL	INTEGER	SIMPLE	69																	
NYMD	ICNTRL	INTEGER	SIMPLE	71																	
NYMDO	ICNTRL	INTEGER	SIMPLE	73																	
NYMD1	IDPARM	INTEGER	SIMPLE	210																	
NYMDE	ICNTRL	INTEGER	SIMPLE	72																	
NZINIT	ICNTRL	INTEGER	SIMPLE	74																	
OCEAN	RADCOM	LOGICAL	ARRAY	355	357																
OCM22	RADCOM	REAL	ARRAY	349																	
OCM30	RADCOM	REAL	ARRAY	349																	
OCM38	RADCOM	REAL	ARRAY	349																	
OCM46	RADCOM	REAL	ARRAY	349																	
OCMXX	RADCOM	REAL	ARRAY	350																	
OLAPR	RADCOM	REAL	ARRAY	348																	
OLJAN	RADCOM	REAL	ARRAY	348																	
OLJUL	RADCOM	REAL	ARRAY	348																	
OLOCT	RADCOM	REAL	ARRAY	348																	
OMEGA2	RCNTRL	REAL	SIMPLE	172																	
OZALE	RADCOM	REAL	ARRAY	342																	
P	QANDQT	REAL	ARRAY	261	274																
PHI	QANDQT	REAL	ARRAY	266	279																
PHIS	QANDQT	REAL	ARRAY	254	267																
PI	RCNTRL	REAL	SIMPLE	173																	
PI180	RCNTRL	REAL	SIMPLE	174																	
PI2	RCNTRL	REAL	SIMPLE	175																	
PIM	CNTRLP	REAL	SIMPLE	312																	
PIMEAN	RCNTRL	REAL	SIMPLE	177																	
PKSTD	RDPARM	REAL	SIMPLE	238																	
PKTOP	RDPARM	REAL	SIMPLE	239																	
PL	RADCOM	REAL	ARRAY	327																	
PLE	RADCOM	REAL	ARRAY	327																	
PLEVS	RCNTRL	REAL	ARRAY	191																	
PLK	RADCOM	REAL	ARRAY	328																	
PLKE	RADCOM	REAL	ARRAY	328																	
PREP	RADCOM	REAL	ARRAY	351																	
PROCM	RADCOM	REAL	ARRAY	350																	
PSMAX	RCNTRL	REAL	SIMPLE	178																	
PSMIN	RCNTRL	REAL	SIMPLE	179																	
PSTD	RCNTRL	REAL	SIMPLE	176																	
PTOP	RCNTRL	REAL	SIMPLE	180																	
PZERO	RCNTRL	REAL	SIMPLE	197																	
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																
QANDQT	REAL	UNKNOWN		253	280	283															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QHOG	CNTRLP	LOGICAL	SIMPLE	313	325	370															
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282	369/S	369	389/S	393												
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QUDIAG	QANDQT	REAL	ARRAY	283	368/S	368	388/S	392													
RADCOM		REAL	UNKNOWN	326	327	328	329	330	331	332	333	334	335	336							
				337	338	339	340	341	342	343	344	345	346	347							
				348	349	350	351	352	353	354	355	356	357								
RADE	RCNTRL	REAL	SIMPLE	181																	
RADIO			SUBROUTINE	1																	
RADTRM	RADCOM	REAL	ARRAY	352	395/S																
RC	RCNTRL	REAL	ARRAY	198	199																

ORIGINAL PAGE IS
OF POOR QUALITY

RCO	RCNTRL	REAL	SIMPLE	156	198	199									
RCLOUD	RADCOM	REAL	ARRAY	354											
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166	
				167	168	169	170	171	172	173	174	175	176	177	
				178	179	180	181	182	183	184	185	186	187	188	
				189	190	191	192	193	194	195	196	197			
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227	
				228	229	230	231	232	233	234	235	236	237	238	
				239	240	241	242	243	244	245	246	247	248	249	
				250	251	252									
RE	RADCOM	REAL	ARRAY	326	362/S	377/S	377	380/S	380	388	389	392/S	393/S	395	
RGAS	RCNTRL	REAL	SIMPLE	182											
RH	RADCOM	REAL	ARRAY	334											
RLAT	RDPARM	REAL	ARRAY	240											
RLATD	RDPARM	REAL	ARRAY	241	366										
RN	RADCOM	REAL	ARRAY	344											
ROCP	RCNTRL	REAL	SIMPLE	183											
ROCPDT	RDPARM	REAL	SIMPLE	242											
ROCPP1	RDPARM	REAL	SIMPLE	243											
RSDIST	RCNTRL	REAL	SIMPLE	184											
RSURF	RADCOM	REAL	ARRAY	354	365/S										
SO	RADCOM	REAL	SIMPLE	352											
SDAY	RCNTRL	REAL	SIMPLE	185											
SEASON	RCNTRL	REAL	SIMPLE	186											
SG	RADCOM	REAL	ARRAY	353	363/S	369	395								
SGNP	RDPARM	REAL	ARRAY	244											
SH	QANDQT	REAL	ARRAY	265	278										
SHG	RADCOM	REAL	ARRAY	332	381/S	381									
SHL	RADCOM	REAL	ARRAY	331	378/S	378									
SHLE	RADCOM	REAL	ARRAY	331											
SHLTOP	CNTRLP	REAL	SIMPLE	314											
SHS	QANDQT	REAL	ARRAY	260	273										
SHSAT	RADCOM	REAL	ARRAY	333											
SIG	RDPARM	REAL	ARRAY	251											
SIGE	RCNTRL	REAL	ARRAY	187											
SIND	RCNTRL	REAL	SIMPLE	188											
SINL	RDPARM	REAL	ARRAY	245											
SINLON	RDPARM	REAL	ARRAY	246											
SINROT	CNTRLP	REAL	SIMPLE	315											
SMTH	QANDQT	REAL	ARRAY	255	268										
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133										
SNOW	RADCOM	LOGICAL	ARRAY	356	357										
SNOWN	CNTRLP	REAL	SIMPLE	316											
SNOWS	CNTRLP	REAL	SIMPLE	317											
SOLS	RCNTRL	REAL	SIMPLE	189											
SP	RADCOM	REAL	ARRAY	353											
SRS	RADCOM	REAL	ARRAY	344											
SSS	RADCOM	REAL	ARRAY	335											
SSSE	RADCOM	REAL	ARRAY	335											
START	LDPARM	LOGICAL	SIMPLE	213	216										
STBO	CNTRLP	REAL	SIMPLE	318											
STERP1	CNTRLP	REAL	SIMPLE	319											
STERP2	CNTRLP	REAL	SIMPLE	320											
STN	RADCOM	REAL	ARRAY	344											
SWALE	RADCOM	REAL	ARRAY	340											
SWIL	RADCOM	REAL	ARRAY	340											
T	QANDQT	REAL	ARRAY	264	277										
TAUL	RADCOM	REAL	ARRAY	342											
TCOND	RADCOM	REAL	ARRAY	345											
TG	RADCOM	REAL	ARRAY	330											
TH	RADCOM	REAL	ARRAY	330											
THSTD	RDPARM	REAL	SIMPLE	247											
THSTD2	RDPARM	REAL	SIMPLE	248											
TICE	CNTRLP	REAL	SIMPLE	321											
TL	RADCOM	REAL	ARRAY	329											
TLE	RADCOM	REAL	ARRAY	329											
TLOWL	RADCOM	REAL	SIMPLE	346											
TLTOP	CNTRLP	REAL	SIMPLE	322											
TMIDL	RADCOM	REAL	SIMPLE	346											
TN	RADCOM	REAL	ARRAY	344											

ORIGINAL PAGE IS
OF POOR QUALITY

TOPABS	RADCOM	REAL	ARRAY	343				
TOTOZ	RADCOM	REAL	ARRAY	350				
TPENE	RADCOM	REAL	ARRAY	345				
TS	QANDQT	REAL	ARRAY	259	272			
TSTD	RCNTRL	REAL	SIMPLE	190				
U	QANDQT	REAL	ARRAY	262	275			
V	QANDQT	REAL	ARRAY	263	276			
VER	CCNTRL	CHAR*8	SIMPLE	10	23			
WET	RADCOM	REAL	ARRAY	351				
WI	RADCOM	REAL	ARRAY	249				
WSAVE	RDPARM	REAL	ARRAY	323				
XDAY	CNTRLP	REAL	SIMPLE	347				
KK	RADCOM	REAL	ARRAY	11	24			
XLABEL	CCNTRL	CHAR*8	ARRAY	366/S	367	374	385	
XLAT		REAL	SIMPLE	324				
ZLNCO	CNTRLP	REAL	SIMPLE					

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
IFIX	INTEGER	INTRINSIC	374	385
LINKHO		SUBROUTINE	374	
SOLAR1		SUBROUTINE	367	
VLINKHO		SUBROUTINE	385	
ZEITBEG		SUBROUTINE	373	384
ZEITEND		SUBROUTINE	375	386

ORIGINAL PAGE IS
OF POOR QUALITY

00001

SUBROUTINE RESTQM (N, J)

UTILITY SUBROUTINE TO RESTORE 4TH-ORDER MODEL VALUES BY BAND

ARGUMENTS DESCRIPTION
N TIME STEP POINTER (1 OR 2)
J LATITUDE GRID BAND

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002
00003
00004
00005
00006
00007
00008
00009
00010
00011
00012
00013

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

00014
00015
00016
00017
00018
00019
00020
00021
00022
00023
00024
00025
00026

EQUIVALENCE (CCO,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL
CHARACTER*8 CQS
CHARACTER*8 CQU

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

00027
00028
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00057

COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JOB
COMMON /ICNTRL/ JSP
COMMON /ICNTRL/ KLIALB
COMMON /ICNTRL/ KLIGW
COMMON /ICNTRL/ KLISST
COMMON /ICNTRL/ KS
COMMON /ICNTRL/ KU
COMMON /ICNTRL/ LOGBR
COMMON /ICNTRL/ MATIN
COMMON /ICNTRL/ MATSNX
COMMON /ICNTRL/ MATSUN
COMMON /ICNTRL/ MLF (12)
COMMON /ICNTRL/ MR0D
COMMON /ICNTRL/ NKRSH
COMMON /ICNTRL/ MSM
COMMON /ICNTRL/ NB
COMMON /ICNTRL/ ND
COMMON /ICNTRL/ NDALT
COMMON /ICNTRL/ NDAY
COMMON /ICNTRL/ NDOUT
COMMON /ICNTRL/ NDPHY

VRESTQM 2
VRESTQM 3
VRESTQM 4
VRESTQM 5
VRESTQM 6
VRESTQM 7
VRESTQM 8
VRESTQM 9
VCNTRL 2
VCNTRL 3
VCNTRL 4
VCNTRL 5
VCNTRL 6
VCNTRL 7
VCNTRL 8
VCNTRL 9
VCNTRL 10
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VCNTRL 64

ORIGINAL PAGE 18
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
C		VCNTRL 86
00079	EQUIVALENCE (ITMIN ,IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX ,IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC ,IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON ,IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX ,IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX ,IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION ,IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG ,IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG ,IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD ,IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX ,IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX ,IQS(12))	VCNTRL 98
C		VCNTRL 99
00091	EQUIVALENCE (IOMEGA ,IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT ,IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW ,IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW ,IQU(4))	VCNTRL 103
C		VCNTRL 104
00095	EQUIVALENCE (ICO,IC(1))	VCNTRL 105
00096	INTEGER ICO, IC(200)	VCNTRL 106
C		VCNTRL 107
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
C	=====	VCNTRL 109
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSW	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
C		VCNTRL 123
00110	EQUIVALENCE (LTMIN ,LQS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX ,LQS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC ,LQS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON ,LQS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX ,LQS(5))	VCNTRL 128
00115	EQUIVALENCE (LEFLUX ,LQS(6))	VCNTRL 129
00116	EQUIVALENCE (LFUSION ,LQS(7))	VCNTRL 130
00117	EQUIVALENCE (LRADSWG ,LQS(8))	VCNTRL 131
00118	EQUIVALENCE (LRADLWG ,LQS(9))	VCNTRL 132
00119	EQUIVALENCE (LIICLOUD ,LQS(10))	VCNTRL 133
00120	EQUIVALENCE (LUFLUX ,LQS(11))	VCNTRL 134
00121	EQUIVALENCE (LVFLUX ,LQS(12))	VCNTRL 135

00122	C	EQUIVALENCE	(LOMEGA	.LQU(1))	VCNTRL 136
00123		EQUIVALENCE	(LDIABAT	.LQU(2))	VCNTRL 137
00124		EQUIVALENCE	(LRADSW	.LQU(3))	VCNTRL 138
00125		EQUIVALENCE	(LRADLW	.LQU(4))	VCNTRL 139
	C				VCNTRL 140
00126		LOGICAL	QALT		VCNTRL 141
00127		LOGICAL	QBEG		VCNTRL 142
00128		LOGICAL	QDAY		VCNTRL 143
00129		LOGICAL	QEND		VCNTRL 144
00130		LOGICAL	QOUT		VCNTRL 145
00131		LOGICAL	QPHY		VCNTRL 146
00132		LOGICAL	QSHF		VCNTRL 147
00133		LOGICAL	SN2FLG		VCNTRL 148
00134		LOGICAL	QRSW		VCNTRL 149
00135		LOGICAL	QRSH		VCNTRL 150
	C				VCNTRL 151
00136		LOGICAL	LQS		VCNTRL 152
00137		LOGICAL	LQU		VCNTRL 153
00138		LOGICAL	LTMIN		VCNTRL 154
00139		LOGICAL	LTMAX		VCNTRL 155
00140		LOGICAL	LPREACC		VCNTRL 156
00141		LOGICAL	LPRECON		VCNTRL 157
00142		LOGICAL	LHFLUX		VCNTRL 158
00143		LOGICAL	LEFLUX		VCNTRL 159
00144		LOGICAL	LFUSION		VCNTRL 160
00145		LOGICAL	LRADSWG		VCNTRL 161
00146		LOGICAL	LRADLWG		VCNTRL 162
00147		LOGICAL	LICLOUD		VCNTRL 163
00148		LOGICAL	LVFLUX		VCNTRL 164
00149		LOGICAL	LVFLUX		VCNTRL 165
	C				VCNTRL 166
00150		LOGICAL	LOMEGA		VCNTRL 167
00151		LOGICAL	LDIABAT		VCNTRL 168
00152		LOGICAL	LRADSW		VCNTRL 169
00153		LOGICAL	LRADLW		VCNTRL 170
	C				VCNTRL 171
00154		EQUIVALENCE	(LC0,LC(1))		VCNTRL 172
00155		LOGICAL	LC0, LC(200)		VCNTRL 173
	C				VCNTRL 174
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL 175
	C	=====			VCNTRL 176
00156		COMMON	/RCNTRL/ RCO		VCNTRL 177
00157		COMMON	/RCNTRL/ APHEL		VCNTRL 178
00158		COMMON	/RCNTRL/ BETA		VCNTRL 179
00159		COMMON	/RCNTRL/ COSD		VCNTRL 180
00160		COMMON	/RCNTRL/ CP		VCNTRL 181
00161		COMMON	/RCNTRL/ DAYSPY		VCNTRL 182
00162		COMMON	/RCNTRL/ DEC		VCNTRL 183
00163		COMMON	/RCNTRL/ DECMAX		VCNTRL 184
00164		COMMON	/RCNTRL/ DIST		VCNTRL 185
00165		COMMON	/RCNTRL/ DLAT		VCNTRL 186
00166		COMMON	/RCNTRL/ DLON		VCNTRL 187
00167		COMMON	/RCNTRL/ DT		VCNTRL 188
00168		COMMON	/RCNTRL/ ECCN		VCNTRL 189
00169		COMMON	/RCNTRL/ GNU1		VCNTRL 190
00170		COMMON	/RCNTRL/ GNU2		VCNTRL 191
00171		COMMON	/RCNTRL/ GRAV		VCNTRL 192
00172		COMMON	/RCNTRL/ OMEGA2		VCNTRL 193
00173		COMMON	/RCNTRL/ PI		VCNTRL 194
00174		COMMON	/RCNTRL/ PI180		VCNTRL 195
00175		COMMON	/RCNTRL/ PI2		VCNTRL 196
00176		COMMON	/RCNTRL/ PSTD		VCNTRL 197
00177		COMMON	/RCNTRL/ PIMEAN		VCNTRL 198
00178		COMMON	/RCNTRL/ PSMAX		VCNTRL 199
00179		COMMON	/RCNTRL/ PSMIN		VCNTRL 200
00180		COMMON	/RCNTRL/ PTOP		VCNTRL 201
00181		COMMON	/RCNTRL/ RADE		VCNTRL 202
00182		COMMON	/RCNTRL/ RGAS		VCNTRL 203
00183		COMMON	/RCNTRL/ ROCP		VCNTRL 204
00184		COMMON	/RCNTRL/ RSDIST		VCNTRL 205
					VCNTRL 206

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00185 COMMON /RCNTRL/ SDAY
00186 COMMON /RCNTRL/ SEASON
00187 COMMON /RCNTRL/ SIGE (25)
00188 COMMON /RCNTRL/ SIND
00189 COMMON /RCNTRL/ SOLS
00190 COMMON /RCNTRL/ TSTD
00191 COMMON /RCNTRL/ PLEVS (25)
00192 COMMON /RCNTRL/ HEATW
00193 COMMON /RCNTRL/ HEATI
00194 COMMON /RCNTRL/ EPS
00195 COMMON /RCNTRL/ EPSFAC
00196 COMMON /RCNTRL/ CALTOJ
00197 COMMON /RCNTRL/ PZERO

C
00198 EQUIVALENCE (RCO,RC(1))
00199 REAL RCO, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00200 COMMON /IDPARM/ IJUMP (46)
00201 COMMON /IDPARM/ IDSP02
00202 COMMON /IDPARM/ INDEX (72)
00203 COMMON /IDPARM/ IROD
00204 COMMON /IDPARM/ JC (46)
00205 COMMON /IDPARM/ JE (2)
00206 COMMON /IDPARM/ JP (2,2)
00207 COMMON /IDPARM/ KSTEP
00208 COMMON /IDPARM/ MJ (46)
00209 COMMON /IDPARM/ NHMS1
00210 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00211 COMMON /LDPARM/ FILTER (46)
00212 COMMON /LDPARM/ ITAPE
00213 COMMON /LDPARM/ START

C
C LOGICAL FILTER
00214 LOGICAL ITAPE
00215 LOGICAL START
00216 LOGICAL

C
C REAL MODEL CONSTANTS
C =====
00217 COMMON /RDPARM/ ADLDP
00218 COMMON /RDPARM/ CON1
00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CON5
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLON (72)
00229 COMMON /RDPARM/ CPD2
00230 COMMON /RDPARM/ DXP (46)
00231 COMMON /RDPARM/ DKYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPPDT
00243 COMMON /RDPARM/ ROCPP1
00244 COMMON /RDPARM/ SGNP (2)

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VCNTRL 207
VCNTRL 208
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VCNTRL 277

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00245 COMMON /RDPARM/ SINL (46)
 00246 COMMON /RDPARM/ SINLON (72)
 00247 COMMON /RDPARM/ THSTD
 00248 COMMON /RDPARM/ THSTD2
 00249 COMMON /RDPARM/ WSAVE (159)
 00250 COMMON /RDPARM/ DSIG (9)
 00251 COMMON /RDPARM/ SIG (9)
 00252 COMMON /RDPARM/ DSIGINV (9)

C
 C
 C COMDECK VQANDQT RESOLUTION VALUES
 C =====

C IM =72
 C NLAY =9
 C JM+1 =46
 C NLAY+11 =99
 C IM+NLAY+11 =7128
 C JM/2+1 =23

C
 C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
 C =====

00253 COMMON /QANDQT/ QPROG(72,9,11,46)

C
 00254 DIMENSION PHIS (7128,11)
 00255 DIMENSION SMTH (7128,23)
 00256 DIMENSION ALBEDO (7128,1)
 00257 DIMENSION GT (7128,1)
 00258 DIMENSION GW (7128,1)
 00259 DIMENSION TS (7128,1)
 00260 DIMENSION SHS (7128,1)
 00261 DIMENSION P (72,99,1)

C
 00262 DIMENSION U (72,9,11,1)
 00263 DIMENSION V (72,9,11,1)
 00264 DIMENSION T (72,9,11,1)
 00265 DIMENSION SH (72,9,11,1)
 00266 DIMENSION PHI (72,9,11,1)

C
 00267 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
 00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
 00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1))
 00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
 00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
 00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
 00273 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
 00274 EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))

C
 00275 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
 00276 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
 00277 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))
 00278 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
 00279 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))

C
 C
 C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
 C =====

C
 00280 COMMON /QANDQT/ QSDIAG(72, 15,46)
 00281 DIMENSION IQSDIAG(72, 15,46)
 00282 EQUIVALENCE (QSDIAG,IQSDIAG)

C
 00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)

C
 C * * *
 C POLAR MODEL PROGNOSTIC FIELDS

00284 COMMON /QPOLES/ PP(2,2)
 00285 COMMON /QPOLES/ UP(9,2,2)
 00286 COMMON /QPOLES/ VP(9,2,2)
 00287 COMMON /QPOLES/ TP(9,2,2)
 00288 COMMON /QPOLES/ SHP(9,2,2)
 00289 COMMON /QPOLES/ PHIP(9,2,2)

VCNTRL 278
 VCNTRL 279
 VCNTRL 280
 VCNTRL 281
 VCNTRL 282
 VCNTRL 283
 VCNTRL 284
 VCNTRL 285
 VCNTRL 286

VQANDQT 2
 VQANDQT 3
 VQANDQT 4
 VQANDQT 5
 VQANDQT 6
 VQANDQT 7
 VQANDQT 8
 VQANDQT 9
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 VQANDQT 51
 VQANDQT 52
 VQANDQT 53
 VQANDQT 54
 VQANDQT 55
 VQPOLES 2
 VQPOLES 3
 VQPOLES 4
 VQPOLES 5
 VQPOLES 6
 VQPOLES 7
 VQPOLES 8
 VQPOLES 9

ORIGINAL PAGE 19
 OF POOR QUALITY

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C
C
C * * *
00290 GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP
COMMON /QMSAVE/ PM(72,5)
00291 COMMON /QMSAVE/ UM(72,9,5)
00292 COMMON /QMSAVE/ VM(72,9,5)
00293 COMMON /QMSAVE/ TM(72,9,5)
00294 COMMON /QMSAVE/ SHM(72,9,5)
00295 COMMON /QMSAVE/ PHIM(72,9,5)
00296 COMMON /QMSAVE/ PV(72,9,5)
00297 COMMON /QMSAVE/ PIT(72,5)
00298 COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5)
00299 COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5)
C
00300 COMMON /IMJM/ IMM1, IMM2, IMM3, IMM4, IMM5,
IMT2, IMT4,
IMNLAY, IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5,
IMD2M1,
NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7
C * * *
C DEBUG
00301 10000 CONTINUE
C **** CYBER VECTOR VERSION 00.001 INPUT IOQ
C **** CYBER VECTOR VERSION 00
C *****
00302 M = MJ(J)
00303 K = JC(J)
00304 IF (M.EQ.0) GO TO 50
C * * *
C POLE POINT
00305 PP(N,M) = PM(I,K)
00306 DO 10 L=1,NLAY
00307 UP(L,N,M) = UM(I,L,K)
00308 VP(L,N,M) = VM(I,L,K)
00309 TP(L,N,M) = TM(I,L,K)
00310 SHP(L,N,M) = SHM(I,L,K)
00311 10 CONTINUE
00312 RETURN
C * * *
C NON-POLE POINT
00313 50 CONTINUE
00314 P(I,N,J;IM) = PM(I,K;IM)
C
00315 U(I,1,N,J;IMNLAY) = UM(I,1,K;IMNLAY)
00316 V(I,1,N,J;IMNLAY) = VM(I,1,K;IMNLAY)
00317 T(I,1,N,J;IMNLAY) = TM(I,1,K;IMNLAY)
00318 SH(I,1,N,J;IMNLAY) = SHM(I,1,K;IMNLAY)
00319 RETURN
00320 END
VQPOLES 10
VQMSAVE 2
VQMSAVE 3
VQMSAVE 4
VQMSAVE 5
VQMSAVE 6
VQMSAVE 7
VQMSAVE 8
VQMSAVE 9
VQMSAVE 10
VQMSAVE 11
VQMSAVE 12
VQMSAVE 13
VQMSAVE 14
VIMJM 2
VIMJM 3
VIMJM 4
VIMJM 5
VIMJM 6
VRESTQM 15
VBEGDEB 2
VBEGDEB 3
VBEGDEB 4
VBEGDEB 5
VBEGDEB 6
VRESTQM 17
VRESTQM 18
VRESTQM 19
VRESTQM 20
VRESTQM 21
VRESTQM 22
VRESTQM 23
VRESTQM 24
VRESTQM 25
VRESTQM 26
VRESTQM 27
VRESTQM 28
VRESTQM 29
VRESTQM 30
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VRESTQM 33
VRESTQM 34
VRESTQM 35
VRESTQM 36
VRESTQM 37
VRESTQM 38
VRESTQM 39
VRESTQM 40

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	311	306
10000	301	
50	313	304

VARIABLE MAP

--NAME---	BLOCK---	TYPE---	CLASS---	REFERENCES
ADATE	CCNTRL	CHAR*8	SIMPLE	3
ADLDP	RDPARM	REAL	SIMPLE	217
ALBEDO	QANDOT	REAL	ARRAY	256
APHEL	RCNTRL	REAL	SIMPLE	157
ATIME	CCNTRL	CHAR*8	SIMPLE	4
BETA	RCNTRL	REAL	SIMPLE	158
CALTOJ	RCNTRL	REAL	SIMPLE	196
CC	CCNTRL	CHAR*8	ARRAY	14
CCO	CCNTRL	CHAR*8	SIMPLE	2
CCNTRL		REAL	UNKIOWN	2
				13

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

15	14	3	4	5	6	7	8	9	10	11	12
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LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138														
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148														
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149														
M		INTEGER	SIMPLE	302/S	304	305	307	308	309	310									
MATIN	ICNTRL	INTEGER	SIMPLE	45															
MATSNX	ICNTRL	INTEGER	SIMPLE	46															
MATSUN	ICNTRL	INTEGER	SIMPLE	47															
MJ	IDPARM	INTEGER	ARRAY	208	302														
MLF	ICNTRL	INTEGER	ARRAY	48															
MROD	ICNTRL	INTEGER	SIMPLE	49															
MSM	ICNTRL	INTEGER	SIMPLE	51															
N		INTEGER	SIMPLE	1	305	307	308	309	310	314	315	316	317	318					
NB	ICNTRL	INTEGER	SIMPLE	52															
ND	ICNTRL	INTEGER	SIMPLE	53															
NDALT	ICNTRL	INTEGER	SIMPLE	54															
NDAY	ICNTRL	INTEGER	SIMPLE	55															
NDHOG	ICNTRL	INTEGER	SIMPLE	76															
NDOUT	ICNTRL	INTEGER	SIMPLE	56															
NDPHY	ICNTRL	INTEGER	SIMPLE	57															
NDRSW	ICNTRL	INTEGER	SIMPLE	31															
NDSHF	ICNTRL	INTEGER	SIMPLE	58															
NDT	ICNTRL	INTEGER	SIMPLE	59															
NHMS	ICNTRL	INTEGER	SIMPLE	60															
NHMS0	ICNTRL	INTEGER	SIMPLE	62															
NHMS1	IDPARM	INTEGER	SIMPLE	209															
NHMSE	ICNTRL	INTEGER	SIMPLE	61															
NKRSH	ICNTRL	INTEGER	SIMPLE	50															
NLAY	ICNTRL	INTEGER	SIMPLE	63	306														
NLAYM1	ICNTRL	INTEGER	SIMPLE	64															
NLAYP1	ICNTRL	INTEGER	SIMPLE	65															
NLAYT2	IMJM	INTEGER	SIMPLE	300															
NLAYT3	IMJM	INTEGER	SIMPLE	300															
NLAYT4	IMJM	INTEGER	SIMPLE	300															
NLAYT5	IMJM	INTEGER	SIMPLE	300															
NLAYT6	IMJM	INTEGER	SIMPLE	300															
NLAYT7	IMJM	INTEGER	SIMPLE	300															
NMLEV	ICNTRL	INTEGER	SIMPLE	75															
NSDAY	ICNTRL	INTEGER	SIMPLE	66															
NSEQ	ICNTRL	INTEGER	SIMPLE	67															
NSTEP	ICNTRL	INTEGER	SIMPLE	69															
NYMD	ICNTRL	INTEGER	SIMPLE	71															
NYMD0	ICNTRL	INTEGER	SIMPLE	73															
NYMD1	IDPARM	INTEGER	SIMPLE	210															
NYMDE	ICNTRL	INTEGER	SIMPLE	72															
NZINIT	ICNTRL	INTEGER	SIMPLE	74															
OMEGA2	RCNTRL	REAL	SIMPLE	172															
P	QANDQT	REAL	ARRAY	261	274	314/S													
PHI	QANDQT	REAL	ARRAY	266	279														
PHIM	QMSAVE	REAL	ARRAY	295															
PHIP	QPOLES	REAL	ARRAY	289															
PHIS	QANDQT	REAL	ARRAY	254	267														
P1	RCNTRL	REAL	SIMPLE	173															
PI180	RCNTRL	REAL	SIMPLE	174															
PI2	RCNTRL	REAL	SIMPLE	175															
PIMEAN	RCNTRL	REAL	SIMPLE	177															
PIT	QMSAVE	REAL	ARRAY	297															
PKSTD	RDPARM	REAL	SIMPLE	238															
PKTOP	RDPARM	REAL	SIMPLE	239															
PLEVS	RCNTRL	REAL	ARRAY	191															
PM	QMSAVE	REAL	ARRAY	290	305	314													
PP	QPOLES	REAL	ARRAY	284	305/S														
PSMAK	RCNTRL	REAL	SIMPLE	178															
PSMIN	RCNTRL	REAL	SIMPLE	179															
PSTD	RCNTRL	REAL	SIMPLE	176															
PTOP	RCNTRL	REAL	SIMPLE	180															
PV	QMSAVE	REAL	ARRAY	296															

ORIGINAL PAGE IS
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PZERO	RCNTRL	REAL	SIMPLE	197																
QALT	LCNTRL	LOGICAL	SIMPLE	98	126															
QANDQT		REAL	UNKNOWN	253	280															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127	283														
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128															
QEND	LCNTRL	LOGICAL	SIMPLE	101	129															
QMSAVE		REAL	UNKNOWN	290	291	292	293	294	295	296	297	298	299							
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130															
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131															
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289											
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276						
QRSH	LCNTRL	LOGICAL	SIMPLE	277	278	279														
QRSW	LCNTRL	LOGICAL	SIMPLE	107	135															
QSDIAG	QANDQT	REAL	ARRAY	106	134															
QSHF	LCNTRL	LOGICAL	SIMPLE	280	282															
QUDIAG	QANDQT	REAL	ARRAY	104	132															
RADE	RCNTRL	REAL	SIMPLE	283																
RC	RCNTRL	REAL	ARRAY	181																
RCO	RCNTRL	REAL	ARRAY	198	199															
RCNTRL	RCNTRL	REAL	SIMPLE	198	198	199														
		REAL	UNKNOWN	156	157	158														
				167	168	169	159	160	161	162	163	164	165	166						
				178	179	180	170	171	172	173	174	175	176	177						
				189	190	191	181	182	183	184	185	186	187	188						
RDPARM		REAL	UNKNOWN	217	218	219	192	193	194	195	196	197	198	199						
				228	229	230	220	221	222	223	224	225	226	227						
				239	240	241	231	232	233	234	235	236	237	238						
				250	251	252	242	243	244	245	246	247	248	249						
RESTQM			SUBROUTINE	1																
RGAS	RCNTRL	REAL	SIMPLE	182																
RLAT	RDPARM	REAL	ARRAY	240																
RLATD	RDPARM	REAL	ARRAY	241																
ROCP	RCNTRL	REAL	SIMPLE	183																
ROCPDT	RDPARM	REAL	SIMPLE	242																
ROCPP1	RDPARM	REAL	SIMPLE	243																
RSDIST	RCNTRL	REAL	SIMPLE	184																
SD	QMSAVE	REAL	ARRAY	298																
SDAY	RCNTRL	REAL	SIMPLE	185																
SEASON	RCNTRL	REAL	SIMPLE	186																
SGNP	RDPARM	REAL	ARRAY	244																
SH	QANDQT	REAL	ARRAY	265	278	318/S														
SHM	QMSAVE	REAL	ARRAY	294	310	318														
SHP	QPOLES	REAL	ARRAY	288	310/S															
SHS	QANDQT	REAL	ARRAY	260	273															
SIG	RDPARM	REAL	ARRAY	251																
SIGE	RCNTRL	REAL	ARRAY	187																
SIND	RCNTRL	REAL	SIMPLE	188																
SINL	RDPARM	REAL	ARRAY	245																
SINLON	RDPARM	REAL	ARRAY	246																
SMTH	QANDQT	REAL	ARRAY	255																
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	268															
SOLS	RCNTRL	REAL	SIMPLE	189	133															
START	LDPARM	LOGICAL	SIMPLE	213	216															
T	QANDQT	REAL	ARRAY	264	277	317/S														
TERMT	QMSAVE	REAL	ARRAY	299																
TERMW	QMSAVE	REAL	ARRAY	299																
THSTD	RDPARM	REAL	ARRAY	247																
THSTD2	RDPARM	REAL	SIMPLE	248																
TM	QMSAVE	REAL	ARRAY	293																
TP	QPOLES	REAL	ARRAY	287	309	317														
TS	QANDQT	REAL	ARRAY	259	309/S															
TSTD	RCNTRL	REAL	SIMPLE	190	272															
U	QANDQT	REAL	ARRAY	262	275	315/S														
UM	QMSAVE	REAL	ARRAY	291	307	315														
UP	QPOLES	REAL	ARRAY	285	307/S															
V	QANDQT	REAL	ARRAY	263	276	316/S														
VER	CCNTRL	CHAR*8	SIMPLE	10	23															
VM	QMSAVE	REAL	ARRAY	292	308	316														
VP	QPOLES	REAL	ARRAY	286	308/S															

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WSAVE
XLABEL
RDPARM
CONTRL
REAL
CHAR * 8
ARRAY
ARRAY
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11
24

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00001 C*DECK RIOQ
      SUBROUTINE RIOQ (LU, J, *, *)
      VIOQ 157
C*****
C SUBROUTINE RIOQ
      VIOQ 158
C PURPOSE
      VIOQ 159
      TO OVERCOME THE COMPILER PROBLEM WHEN READING THIS PART WITH IOQ.
      VIOQ 160
C USAGE
      VIOQ 161
      CALLED FROM IOQ
      VIOQ 162
      INPUT/OUTPUT FILES USED
      VIOQ 163
      UNIT12 I/O READS INITIAL CONDITIONS IN INPUT
      VIOQ 164
C DESCRIPTION OF PARAMETERS
      VIOQ 165
      LU LOGICAL UNIT ON WHICH TO DO INPUT/OUTPUT
      VIOQ 166
      J LATITUDE BAND NUMBER
      VIOQ 167
      * EOF RETURN
      VIOQ 168
      * ERROR RETURN
      VIOQ 169
C SUBPROGRAMS NEEDED
      VIOQ 170
      NONE
      VIOQ 171
C RECORD OF MODIFICATIONS
      VIOQ 172
      000 19JAN84 RAMESH
      VIOQ 173
      001 01FEB84 JIM.PF
      VIOQ 174
      DESIGNED TO OVER COME THE PROBLEM
      VIOQ 175
      REMARKS:
      VIOQ 176
      THIS SUBROUTINE READS BETWEEN MODEL COMMON BLOCK
      VIOQ 177
      /QANDQT/ AND VBRSTR FORMAT DATA SETS
      VIOQ 178
C*****
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C
      VIOQ 179
      VIOQ 180
      VIOQ 181
      VIOQ 182
C HALF/FULL PRECISION
      VIOQ 183
C =====
      VREAL 2
      IMPLICIT HALF PRECISION (A-H,O-Z)
      VREAL 3
      VREAL 4
      VREAL 5
C PARAMETER STATEMENTS FOR DIMENSIONING RESOLUTION
      VRSLV 2
      VRSLV 3
      VRSLV 4
      VRSLV 5
      VRSLV 6
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
      VCNTRL 2
      =====
      VCNTRL 3
00003 COMMON /CCNTRL/ CCO
      VCNTRL 4
00004 COMMON /CCNTRL/ ADATE
      VCNTRL 5
00005 COMMON /CCNTRL/ ATIME
      VCNTRL 6
00006 COMMON /CCNTRL/ JIC
      VCNTRL 7
00007 COMMON /CCNTRL/ JOB
      VCNTRL 8
00008 COMMON /CCNTRL/ CCSP06
      VCNTRL 9
00009 COMMON /CCNTRL/ CCSP07
      VCNTRL 10
00010 COMMON /CCNTRL/ CCSP08
      VCNTRL 11
00011 COMMON /CCNTRL/ VER
      VCNTRL 12
00012 COMMON /CCNTRL/ XLABEL (10)
      VCNTRL 13
00013 COMMON /CCNTRL/ CQS (30)
      VCNTRL 14
00014 COMMON /CCNTRL/ CQU (10)
      VCNTRL 15
00015 COMMON /CCNTRL/ DSTOP(4)
      VCNTRL 16
00016 COMMON /CCNTRL/ DSLWI(4)
      VCNTRL 17
00017 COMMON /CCNTRL/ DSSST(4)
      VCNTRL 18
00018 COMMON /CCNTRL/ DSALB(4)
      VCNTRL 19
00019 COMMON /CCNTRL/ DSGWT(4)
      VCNTRL 20
C
00020 EQUIVALENCE (CCO,CC(1))
      VCNTRL 21
00021 CHARACTER*8 CCO, CC(200)
      VCNTRL 22
00022 CHARACTER*8 ADATE
      VCNTRL 23
00023 CHARACTER*8 ATIME
      VCNTRL 24
00024 CHARACTER*8 JIC
      VCNTRL 25
00025 CHARACTER*8 JOB
      VCNTRL 26
00026 CHARACTER*8 CCSP06
      VCNTRL 27
00027 CHARACTER*8 CCSP07
      VCNTRL 28
00028 CHARACTER*8 CCSP08
      VCNTRL 29
00029 CHARACTER*8 VER
      VCNTRL 30
00030 CHARACTER*8 XLABEL
      VCNTRL 31
00031 CHARACTER*8 CQS
      VCNTRL 32
00032 CHARACTER*8 CQU
      VCNTRL 33
00033 CHARACTER*8 DSTOP
      VCNTRL 34
00034 CHARACTER*8 DSLWI
      VCNTRL 35
      VCNTRL 36

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00035	CHARACTER*8	DSSST	VCNTRL	37
00036	CHARACTER*8	DSALB	VCNTRL	38
00037	CHARACTER*8	DSGWT	VCNTRL	39
			VCNTRL	40
			VCNTRL	41
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			VCNTRL	107

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INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

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00102	EQUIVALENCE	(IUFLUX ,IQS(11))	VCNTRL 108
00103	EQUIVALENCE	(IVFLUX ,IQS(12))	VCNTRL 109
	C		VCNTRL 110
00104	EQUIVALENCE	(IOMEGA ,IQU(1))	VCNTRL 111
00105	EQUIVALENCE	(IDIABAT ,IQU(2))	VCNTRL 112
00106	EQUIVALENCE	(IRADSW ,IQU(3))	VCNTRL 113
00107	EQUIVALENCE	(IRADLW ,IQU(4))	VCNTRL 114
	C		VCNTRL 115
00108	EQUIVALENCE	(IC0,IC(1))	VCNTRL 116
00109	INTEGER	IC0, IC(200)	VCNTRL 117
	C		VCNTRL 118
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 119
	C	=====	VCNTRL 120
00110	COMMON /LCNTRL/	LC0	VCNTRL 121
00111	COMMON /LCNTRL/	QALT	VCNTRL 122
00112	COMMON /LCNTRL/	QBEG	VCNTRL 123
00113	COMMON /LCNTRL/	QDAY	VCNTRL 124
00114	COMMON /LCNTRL/	QEND	VCNTRL 125
00115	COMMON /LCNTRL/	QOUT	VCNTRL 126
00116	COMMON /LCNTRL/	QPHY	VCNTRL 127
00117	COMMON /LCNTRL/	QSHF	VCNTRL 128
00118	COMMON /LCNTRL/	SN2FLG	VCNTRL 129
00119	COMMON /LCNTRL/	QRSW	VCNTRL 130
00120	COMMON /LCNTRL/	QRSH	VCNTRL 131
00121	COMMON /LCNTRL/	LQS(30)	VCNTRL 132
00122	COMMON /LCNTRL/	LQU(10)	VCNTRL 133
	C		VCNTRL 134
00123	EQUIVALENCE	(LTMIN ,LQS(1))	VCNTRL 135
00124	EQUIVALENCE	(LTMAX ,LQS(2))	VCNTRL 136
00125	EQUIVALENCE	(LPREACC ,LQS(3))	VCNTRL 137
00126	EQUIVALENCE	(LPRECON ,LQS(4))	VCNTRL 138
00127	EQUIVALENCE	(LHFLUX ,LQS(5))	VCNTRL 139
00128	EQUIVALENCE	(LEFLUX ,LQS(6))	VCNTRL 140
00129	EQUIVALENCE	(LFUSION ,LQS(7))	VCNTRL 141
00130	EQUIVALENCE	(LRADSWG ,LQS(8))	VCNTRL 142
00131	EQUIVALENCE	(LRADLWG ,LQS(9))	VCNTRL 143
00132	EQUIVALENCE	(LICLOUD ,LQS(10))	VCNTRL 144
00133	EQUIVALENCE	(LUFLUX ,LQS(11))	VCNTRL 145
00134	EQUIVALENCE	(LVFLUX ,LQS(12))	VCNTRL 146
	C		VCNTRL 147
00135	EQUIVALENCE	(LWEGA ,LQU(1))	VCNTRL 148
00136	EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL 149
00137	EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL 150
00138	EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL 151
	C		VCNTRL 152
00139	LOGICAL	QALT	VCNTRL 153
00140	LOGICAL	QBEG	VCNTRL 154
00141	LOGICAL	QDAY	VCNTRL 155
00142	LOGICAL	QEND	VCNTRL 156
00143	LOGICAL	QOUT	VCNTRL 157
00144	LOGICAL	QPHY	VCNTRL 158
00145	LOGICAL	QSHF	VCNTRL 159
00146	LOGICAL	SN2FLG	VCNTRL 160
00147	LOGICAL	QRSW	VCNTRL 161
00148	LOGICAL	QRSH	VCNTRL 162
	C		VCNTRL 163
00149	LOGICAL	LQS	VCNTRL 164
00150	LOGICAL	LQU	VCNTRL 165
00151	LOGICAL	LTMIN	VCNTRL 166
00152	LOGICAL	LTMAX	VCNTRL 167
00153	LOGICAL	LPREACC	VCNTRL 168
00154	LOGICAL	LPRECON	VCNTRL 169
00155	LOGICAL	LHFLUX	VCNTRL 170
00156	LOGICAL	LEFLUX	VCNTRL 171
00157	LOGICAL	LFUSION	VCNTRL 172
00158	LOGICAL	LRADSWG	VCNTRL 173
00159	LOGICAL	LRADLWG	VCNTRL 174
00160	LOGICAL	LICLOUD	VCNTRL 175
00161	LOGICAL	LUFLUX	VCNTRL 176
00162	LOGICAL	LVFLUX	VCNTRL 177
	C		VCNTRL 178

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00163	LOGICAL	LOMEGA	VCNTRL 179
00164	LOGICAL	LDIABAT	VCNTRL 180
00165	LOGICAL	LRADSW	VCNTRL 181
00166	LOGICAL	LRADLW	VCNTRL 182
	C		VCNTRL 183
00167	EQUIVALENCE	(LC0,LC(1))	VCNTRL 184
00168	LOGICAL	LC0, LC(200)	VCNTRL 185
	C		VCNTRL 186
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 187
	C	-----	VCNTRL 188
00169	COMMON	/RCNTRL/ RCO	VCNTRL 189
00170	COMMON	/RCNTRL/ APHEL	VCNTRL 190
00171	COMMON	/RCNTRL/ BETA	VCNTRL 191
00172	COMMON	/RCNTRL/ COSD	VCNTRL 192
00173	COMMON	/RCNTRL/ CP	VCNTRL 193
00174	COMMON	/RCNTRL/ DAYSPY	VCNTRL 194
00175	COMMON	/RCNTRL/ DEC	VCNTRL 195
00176	COMMON	/RCNTRL/ DECMAK	VCNTRL 196
00177	COMMON	/RCNTRL/ DIST	VCNTRL 197
00178	COMMON	/RCNTRL/ DLAT	VCNTRL 198
00179	COMMON	/RCNTRL/ DLON	VCNTRL 199
00180	COMMON	/RCNTRL/ DT	VCNTRL 200
00181	COMMON	/RCNTRL/ ECCN	VCNTRL 201
00182	COMMON	/RCNTRL/ GNU1	VCNTRL 202
00183	COMMON	/RCNTRL/ GNU2	VCNTRL 203
00184	COMMON	/RCNTRL/ GRAV	VCNTRL 204
00185	COMMON	/RCNTRL/ OMEGA2	VCNTRL 205
00186	COMMON	/RCNTRL/ PI	VCNTRL 206
00187	COMMON	/RCNTRL/ PI180	VCNTRL 207
00188	COMMON	/RCNTRL/ PI2	VCNTRL 208
00189	COMMON	/RCNTRL/ PSTD	VCNTRL 209
00190	COMMON	/RCNTRL/ PIMEAN	VCNTRL 210
00191	COMMON	/RCNTRL/ PSMAX	VCNTRL 211
00192	COMMON	/RCNTRL/ PSMIN	VCNTRL 212
00193	COMMON	/RCNTRL/ PTOP	VCNTRL 213
00194	COMMON	/RCNTRL/ RADE	VCNTRL 214
00195	COMMON	/RCNTRL/ RGAS	VCNTRL 215
00196	COMMON	/RCNTRL/ ROCP	VCNTRL 216
00197	COMMON	/RCNTRL/ RSDIST	VCNTRL 217
00198	COMMON	/RCNTRL/ SDAV	VCNTRL 218
00199	COMMON	/RCNTRL/ SEASON	VCNTRL 219
00200	COMMON	/RCNTRL/ SIGE (25)	VCNTRL 220
00201	COMMON	/RCNTRL/ SIND	VCNTRL 221
00202	COMMON	/RCNTRL/ SOLS	VCNTRL 222
00203	COMMON	/RCNTRL/ TSTD	VCNTRL 223
00204	COMMON	/RCNTRL/ PLEVS (25)	VCNTRL 224
00205	COMMON	/RCNTRL/ HEATW	VCNTRL 225
00206	COMMON	/RCNTRL/ HEATI	VCNTRL 226
00207	COMMON	/RCNTRL/ EPS	VCNTRL 227
00208	COMMON	/RCNTRL/ EPSFAC	VCNTRL 228
00209	COMMON	/RCNTRL/ CALTOJ	VCNTRL 229
00210	COMMON	/RCNTRL/ PZERO	VCNTRL 230
	C		VCNTRL 231
00211	EQUIVALENCE	(RC0,RC(1))	VCNTRL 232
00212	HALF PRECISION	RC0, RC(400)	VCNTRL 233
	C		VCNTRL 234
	C	INTEGER MODEL CONSTANTS	VCNTRL 235
	C	-----	VCNTRL 236
00213	COMMON	/IDPARM/ IJUMP (46)	VCNTRL 237
00214	COMMON	/IDPARM/ IDSP02	VCNTRL 238
00215	COMMON	/IDPARM/ INDEX (72)	VCNTRL 239
00216	COMMON	/IDPARM/ ITROD	VCNTRL 240
00217	COMMON	/IDPARM/ JC (46)	VCNTRL 241
00218	COMMON	/IDPARM/ JE (2)	VCNTRL 242
00219	COMMON	/IDPARM/ JP (2,2)	VCNTRL 243
00220	COMMON	/IDPARM/ KSTEP	VCNTRL 244
00221	COMMON	/IDPARM/ MJ (46)	VCNTRL 245
00222	COMMON	/IDPARM/ NHMS1	VCNTRL 246
00223	COMMON	/IDPARM/ NYMD1	VCNTRL 247
	C		VCNTRL 248
	C	LOGICAL MODEL CONSTANTS	VCNTRL 249

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00224 C =====
00225 COMMON /LDPARM/ FILTER (46)
00226 COMMON /LDPARM/ ITAPE
00226 COMMON /LDPARM/ START

00227 C LOGICAL FILTER
00228 LOGICAL ITAPE
00229 LOGICAL START

C C REAL MODEL CONSTANTS
C C =====
00230 COMMON /RDPARM/ ADLDP
00231 COMMON /RDPARM/ CON1
00232 COMMON /RDPARM/ CON1DT
00233 COMMON /RDPARM/ CON2
00234 COMMON /RDPARM/ CON20T
00235 COMMON /RDPARM/ CON3
00236 COMMON /RDPARM/ CON3DT
00237 COMMON /RDPARM/ CON4
00238 COMMON /RDPARM/ CON4DT
00239 COMMON /RDPARM/ CON5
00240 COMMON /RDPARM/ COSL (46)
00241 COMMON /RDPARM/ COSLON (72)
00242 COMMON /RDPARM/ CPD2
00243 COMMON /RDPARM/ DXP (46)
00244 COMMON /RDPARM/ DXYP (46)
00245 COMMON /RDPARM/ DYP (46)
00246 COMMON /RDPARM/ FCORLS (46)
00247 COMMON /RDPARM/ F1DT
00248 COMMON /RDPARM/ F2DT
00249 COMMON /RDPARM/ H1DT
00250 COMMON /RDPARM/ H2DT
00251 COMMON /RDPARM/ PKSTD
00252 COMMON /RDPARM/ PKTOP
00253 COMMON /RDPARM/ RLAT (46)
00254 COMMON /RDPARM/ RLATD (46)
00255 COMMON /RDPARM/ ROCFDT
00256 COMMON /RDPARM/ ROGPP1
00257 COMMON /RDPARM/ SGNP (2)
00258 COMMON /RDPARM/ SINL (46)
00259 COMMON /RDPARM/ SINLON (72)
00260 COMMON /RDPARM/ THSTD
00261 COMMON /RDPARM/ THSTD2
00262 COMMON /RDPARM/ WSAVE (159)
00263 COMMON /RDPARM/ DSIG (9)
00264 COMMON /RDPARM/ SIG (9)
00265 COMMON /RDPARM/ DSIGINV (9)

C C COMDECK VQANDQT RESOLUTION VALUES
C C =====
C C IM =72
C C NLAY =9
C C JM+1 =46
C C NLAY*11 =99
C C IM*NLAY*11 =7128
C C JM/2+1 =23

C C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C C =====
00266 C COMMON /QANDQT/ QPROG(72,9,11,46)

00267 DIMENSION PHIS (7128,1)
00268 DIMENSION SMTH (7128,23)
00269 DIMENSION ALBEDO (7128,1)
00270 DIMENSION GT (7128,1)
00271 DIMENSION GW (7128,1)
00272 DIMENSION TS (7128,1)
00273 DIMENSION SHS (7128,1)
00274 DIMENSION P (72,99,1)

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00275 C DIMENSION U (72,9,11,1) VQANDQT 25
00276 DIMENSION V (72,9,11,1) VQANDQT 26
00277 DIMENSION T (72,9,11,1) VQANDQT 27
00278 DIMENSION SH (72,9,11,1) VQANDQT 28
00279 DIMENSION PHI (72,9,11,1) VQANDQT 29
C VQANDQT 30
00280 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1)) VQANDQT 31
00281 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1)) VQANDQT 32
00282 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO(1,1)) VQANDQT 33
00283 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1)) VQANDQT 34
00284 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1)) VQANDQT 35
00285 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1)) VQANDQT 36
00286 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1)) VQANDQT 37
00287 EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1)) VQANDQT 38
C VQANDQT 39
00288 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1)) VQANDQT 40
00289 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1)) VQANDQT 41
00290 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1)) VQANDQT 42
00291 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1)) VQANDQT 43
00292 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1)) VQANDQT 44
C VQANDQT 45
C C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C C =====
C C VQANDQT 46
00293 C COMMON /QANDQT/ QSDIAG(72, 5,46) VQANDQT 47
00294 BIT BQSDIAG(32, 72,15,46) VQANDQT 48
00295 EQUIVALENCE (QSDIAG,BQSDIAG) VQANDQT 49
C VQANDQT 50
00296 C COMMON /QANDQT/ QUDIAG(72,9, 5,46) VQANDQT 51
C C VQANDQT 52
C C ***** VQANDQT 53
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C C VQANDQT 194
C C VQANDQT 195
C C VQANDQT 196
C C VQANDQT 197
C C VQANDQT 198
C C VQANDQT 199
C C VQANDQT 200
00299 C IF((KS.GT.9).AND.(KU.EQ.10)) VQANDQT 201
SREAD (LU,END=810,ERR=910) (( QPROG(I,K,1,J),I=1,IM),K=1,9), VQANDQT 202
(( QSDIAG(I,K-9,J),I=1,IM),K=10,KS), VQANDQT 203
(( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VQANDQT 204
,K=2,11) VQANDQT 205
(( (QUDIAG(I,L,K-10,J),I=1,IM),L=1,NLAY) VQANDQT 206
,K=11,KU) VQANDQT 207
00300 C IF((KS.EQ.9).AND.(KU.GT.10)) VQANDQT 208
SREAD (LU,END=810,ERR=910) (( QPROG(I,K,1,J),I=1,IM),K=1,9), VQANDQT 209
(( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VQANDQT 210
,K=2,11) VQANDQT 211
(( (QUDIAG(I,L,K-10,J),I=1,IM),L=1,NLAY) VQANDQT 212
,K=11,KU) VQANDQT 213
00301 C IF((KS.EQ.9).AND.(KU.EQ.10)) VQANDQT 214
SREAD (LU,END=810,ERR=910) (( QPROG(I,K,1,J),I=1,IM),K=1,9), VQANDQT 215
(( QPROG(I,L,K,J),I=1,IM),L=1,NLAY) VQANDQT 216
,K=2,11) VQANDQT 217
00302 C RETURN VQANDQT 218
C ***** VQANDQT 219
C END-OF-FILE ENCOUNTERED ***** VQANDQT 220
C ***** VQANDQT 221
00303 810 CONTINUE VQANDQT 222
00304 RETURN 1 VQANDQT 223

```

C
C
C
00305 910
00306
C
00307 END

***** READ ERROR ENCOUNTERED *****

CONTINUE
RETURN 2

VIOQ 224
VIOQ 225
VIOQ 226
VIOQ 227
VIOQ 228
VIOQ 229
VIOQ 230

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10000	297					
810	303	298	299	300	301	
910	305	298	299	300	301	

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES											
ADATE	CCNTRL	CHAR*8	SIMPLE	4	22										
ADLDP	RDPARM	HALF	SIMPLE	230											
ALBEDO	QANDQT	HALF	ARRAY	269	282										
APHEL	RCNTRL	HALF	SIMPLE	170											
ATIME	CCNTRL	CHAR*8	SIMPLE	5	23										
BETA	RCNTRL	HALF	SIMPLE	171											
BQSDIAG	QANDQT	BIT	ARRAY	294	295										
CALTOJ	CCNTRL	HALF	SIMPLE	209											
CC	CCNTRL	CHAR*8	ARRAY	20	21										
CCO	CCNTRL	CHAR*8	SIMPLE	3	20										
CCNTRL	HALF	UNKNOWN		3	20	21									
				14	4	5	6	7	8	9	10	11	12	13	
CCSP06	CCNTRL	CHAR*8	SIMPLE	14	15	16	17	18	19						
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	26										
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	27										
CON1	RDPARM	HALF	SIMPLE	10	28										
CON1DT	RDPARM	HALF	SIMPLE	231											
CON2	RDPARM	HALF	SIMPLE	232											
CON2DT	RDPARM	HALF	SIMPLE	233											
CON3	RDPARM	HALF	SIMPLE	234											
CON3DT	RDPARM	HALF	SIMPLE	235											
CON4	RDPARM	HALF	SIMPLE	236											
CON4DT	RDPARM	HALF	SIMPLE	237											
CON5	RDPARM	HALF	SIMPLE	238											
COSD	RCNTRL	HALF	SIMPLE	239											
COSL	RDPARM	HALF	ARRAY	172											
GOSLON	RDPARM	HALF	ARRAY	240											
CP	RCNTRL	HALF	ARRAY	241											
CPD2	RDPARM	HALF	SIMPLE	173											
CQS	RDPARM	HALF	SIMPLE	242											
CQU	CCNTRL	CHAR*8	ARRAY	13	31										
DAVSPV	CCNTRL	CHAR*8	ARRAY	14	32										
DEC	RCNTRL	HALF	SIMPLE	174											
DECMAX	RCNTRL	HALF	SIMPLE	175											
DIST	RCNTRL	HALF	SIMPLE	176											
DLAT	RCNTRL	HALF	SIMPLE	177											
DLON	RCNTRL	HALF	SIMPLE	178											
DSALB	RCNTRL	HALF	SIMPLE	179											
DSALB	CCNTRL	CHAR*8	ARRAY	18	36										
DSGWT	CCNTRL	CHAR*8	ARRAY	19	37										
DSIG	RDPARM	HALF	ARRAY	263											
DSIGINV	RDPARM	HALF	ARRAY	265											
DSLWI	CCNTRL	CHAR*8	ARRAY	16	34										
DSSST	CCNTRL	CHAR*8	ARRAY	17	35										
DSTOP	CCNTRL	CHAR*8	ARRAY	15	33										
DT	RCNTRL	HALF	SIMPLE	180											
DXP	RDPARM	HALF	ARRAY	243											
DXYP	RDPARM	HALF	ARRAY	244											
DYP	RDPARM	HALF	ARRAY	245											
ECCN	RCNTRL	HALF	SIMPLE	181											
END	HALF	UNKNOWN		298	299	300	301								
EPS	RCNTRL	HALF	SIMPLE	207											
EPSFAC	RCNTRL	HALF	SIMPLE	208											

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F1DT	RDPARM	HALF	SIMPLE	247											
F2DT	RDPARM	HALF	SIMPLE	248											
FCORLS	RDPARM	HALF	ARRAY	246											
FILTER	LDPARAM	LOGICAL	ARRAY	224	227										
GNU1	RCNTRL	HALF	SIMPLE	182											
GNU2	RCNTRL	HALF	SIMPLE	183											
GRAV	RCNTRL	HALF	SIMPLE	184											
GT	QANDQT	HALF	ARRAY	270	283										
GW	QANDQT	HALF	ARRAY	271	284										
H1DT	RDPARM	HALF	SIMPLE	249											
H2DT	RDPARM	HALF	SIMPLE	250											
HEATI	RCNTRL	HALF	SIMPLE	206											
HEATW	RCNTRL	HALF	SIMPLE	205											
I	RCNTRL	HALF	SIMPLE	298	298	298	298/C	299	299	299	299/C	300	300	300/C	301
IBLKSI2	ICNTRL	INTEGER	SIMPLE	301/C											
IC	ICNTRL	INTEGER	ARRAY	81											
ICO	ICNTRL	INTEGER	ARRAY	108	109										
ICNTRL	ICNTRL	INTEGER	SIMPLE	38	108										
		INTEGER	UNKNOWN	38	109										
				49	39	40	41	42	43	44	45	46	47	48	
				60	50	51	52	53	54	55	56	57	58	59	
				71	61	62	63	64	65	66	67	68	69	70	
				82	72	73	74	75	76	77	78	79	80	81	
				79	83	84	85	86	87	88	89	90	91		
ICSP53	ICNTRL	INTEGER	SIMPLE	105											
IDIABAT	ICNTRL	INTEGER	UNKNOWN	213	214	215	216	217	218	219	220	221	222	223	
IDPARM	IDPARM	INTEGER	UNKNOWN	214											
IDSP02	ICNTRL	INTEGER	SIMPLE	97											
IEFLUX	ICNTRL	INTEGER	UNKNOWN	98											
IFUSION	ICNTRL	INTEGER	UNKNOWN	96											
IHFLUX	ICNTRL	INTEGER	UNKNOWN	101											
IICLOUD	ICNTRL	INTEGER	UNKNOWN	213											
IJUMP	IDPARM	INTEGER	ARRAY	39											
IM	ICNTRL	INTEGER	SIMPLE	40											
IMD2	ICNTRL	INTEGER	SIMPLE	41											
IMD2P1	ICNTRL	INTEGER	SIMPLE	215											
INDEX	IDPARM	INTEGER	ARRAY	104											
IOMEGA	ICNTRL	INTEGER	UNKNOWN	94											
IPREACC	ICNTRL	INTEGER	UNKNOWN	95											
IPRECON	ICNTRL	INTEGER	UNKNOWN	88	92	93	94	95	96	97	98	99	100	101	
IQS	ICNTRL	INTEGER	ARRAY	102	103										
				89	104	105	106	107							
IQU	ICNTRL	INTEGER	ARRAY	107											
IRADLW	ICNTRL	INTEGER	UNKNOWN	100											
IRADLWS	ICNTRL	INTEGER	UNKNOWN	106											
IRADSW	ICNTRL	INTEGER	UNKNOWN	99											
IRADSWG	ICNTRL	INTEGER	UNKNOWN	216											
IROD	IDPARM	INTEGER	SIMPLE	225	228										
ITAPE	LDPARAM	LOGICAL	SIMPLE	93											
ITMAX	ICNTRL	INTEGER	UNKNOWN	92											
ITMIN	ICNTRL	INTEGER	UNKNOWN	102											
IUFLUX	ICNTRL	INTEGER	UNKNOWN	103											
IVFLUX	ICNTRL	INTEGER	UNKNOWN	1	298	298	298	298	299	299	299	300	300	300	
J			SIMPLE	301	301										
JC	IDPARM	INTEGER	ARRAY	217											
JE	IDPARM	INTEGER	ARRAY	218											
JIC	CCNTRL	CHAR*8	SIMPLE	6	24										
JM	ICNTRL	INTEGER	SIMPLE	43											
JMD2	ICNTRL	INTEGER	SIMPLE	44											
JMT2	ICNTRL	INTEGER	SIMPLE	45											
JNP	ICNTRL	INTEGER	SIMPLE	46											
JO4	ICNTRL	INTEGER	SIMPLE	47											
JOB	ICNTRL	INTEGER	SIMPLE	48											
JOB	CCNTRL	CHAR*8	SIMPLE	7	25										
JP	IDPARM	INTEGER	ARRAY	219											
JSP	ICNTRL	INTEGER	SIMPLE	49											
K		INTEGER	SIMPLE	298	298	298	298/C	298/C	299	299	299/C	299/C	300	300	
KLIALB	ICNTRL	INTEGER	SIMPLE	300/C	300/C	301	301/C	301/C							
KLIGW	ICNTRL	INTEGER	SIMPLE	50											
				51											

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KLILWI	ICNTRL	INTEGER	SIMPLE	91																	
KLISST	ICNTRL	INTEGER	SIMPLE	52																	
KLITOP	ICNTRL	INTEGER	SIMPLE	90																	
KS	ICNTRL	INTEGER	SIMPLE	53	298	299	300	301													
KSTEP	IDPARM	INTEGER	SIMPLE	220																	
KU	ICNTRL	INTEGER	SIMPLE	54	298	298	299	300	300	301											
L		INTEGER	SIMPLE	298	298/C	299/C	300	300/C	301/C	301											
LC	LCNTRL	LOGICAL	ARRAY	167	168																
LC0	LCNTRL	LOGICAL	SIMPLE	110	167	168															
LCNTRL		INTEGER	UNKNOWN	110	111	112	113	114	115	116	117	118	119	120							
				121	122																
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	136	164																
LDPARM		INTEGER	UNKNOWN	224	225	226															
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	128	156																
LFUSION	LCNTRL	LOGICAL	UNKNOWN	129	157																
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	127	155																
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	132	160																
LOGBR	ICNTRL	INTEGER	SIMPLE	55																	
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	135	163																
LPREACC	LCNTRL	LOGICAL	UNKNOWN	125	153																
LPRECON	LCNTRL	LOGICAL	UNKNOWN	126	154																
LQS	LCNTRL	LOGICAL	ARRAY	121	123	124	125	126	127	128	129	130	131	132							
				133	134	149															
LQU	LCNTRL	LOGICAL	ARRAY	122	135	136	137	138	150												
LQADLW	LCNTRL	LOGICAL	UNKNOWN	138	166																
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	131	159																
LRAWSW	LCNTRL	LOGICAL	UNKNOWN	137	165																
LRAWSWG	LCNTRL	LOGICAL	UNKNOWN	130	158																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152																
LTMIN	LCNTRL	LOGICAL	UNKNOWN	123	151																
LU		INTEGER	SIMPLE	1	298	299	300	301													
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	133	161																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	134	162																
MATIN	ICNTRL	INTEGER	SIMPLE	56																	
MATSNX	ICNTRL	INTEGER	SIMPLE	57																	
MATSUN	ICNTRL	INTEGER	SIMPLE	58																	
MJ	IDPARM	INTEGER	ARRAY	221																	
MLF	ICNTRL	INTEGER	ARRAY	59																	
MROD	ICNTRL	INTEGER	SIMPLE	60																	
MSM	ICNTRL	INTEGER	SIMPLE	62																	
NB	ICNTRL	INTEGER	SIMPLE	63																	
ND	ICNTRL	INTEGER	SIMPLE	64																	
NDALT	ICNTRL	INTEGER	SIMPLE	65																	
NDAY	ICNTRL	INTEGER	SIMPLE	66																	
NDHOG	ICNTRL	INTEGER	SIMPLE	87																	
NDOUT	ICNTRL	INTEGER	SIMPLE	67																	
NDPHY	ICNTRL	INTEGER	SIMPLE	68																	
NDRSW	ICNTRL	INTEGER	SIMPLE	42																	
NDSHF	ICNTRL	INTEGER	SIMPLE	69																	
NDT	ICNTRL	INTEGER	SIMPLE	70																	
NHMS	ICNTRL	INTEGER	SIMPLE	71																	
NHMS0	ICNTRL	INTEGER	SIMPLE	73																	
NHMS1	IDPARM	INTEGER	SIMPLE	222																	
NHMSE	ICNTRL	INTEGER	SIMPLE	72																	
NKRSH	ICNTRL	INTEGER	SIMPLE	61																	
NLAY	ICNTRL	INTEGER	SIMPLE	74																	
NLAYM1	ICNTRL	INTEGER	SIMPLE	75																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	76																	
NMLEV	ICNTRL	INTEGER	SIMPLE	86																	
NSDAY	ICNTRL	INTEGER	SIMPLE	77																	
NSEQ	ICNTRL	INTEGER	SIMPLE	78																	
NSTEP	ICNTRL	INTEGER	SIMPLE	80																	
NYMD	ICNTRL	INTEGER	SIMPLE	82																	
NYMD0	ICNTRL	INTEGER	SIMPLE	84																	
NYMD1	IDPARM	INTEGER	SIMPLE	223																	
NYMDE	ICNTRL	INTEGER	SIMPLE	83																	
NZINIT	ICNTRL	INTEGER	SIMPLE	85																	
OMEGA2	RCNTRL	HALF	SIMPLE	185																	
P	QANDQT	HALF	ARRAY	274	287																
PHI	QANDQT	HALF	ARRAY	279	292																

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PHIS	QANDQT	HALF	ARRAY	267	280															
PI	RCNTRL	HALF	SIMPLE	186																
PI180	RCNTRL	HALF	SIMPLE	187																
PI2	RCNTRL	HALF	SIMPLE	188																
PIMEAN	RCNTRL	HALF	SIMPLE	190																
PKSTD	RDPARM	HALF	SIMPLE	251																
PKTOP	RDPARM	HALF	SIMPLE	252																
PLEVS	RCNTRL	HALF	ARRAY	204																
PSMAX	RCNTRL	HALF	SIMPLE	191																
PSMIN	RCNTRL	HALF	SIMPLE	192																
PSTD	RCNTRL	HALF	SIMPLE	189																
PTOP	RCNTRL	HALF	SIMPLE	193																
PZERO	RCNTRL	HALF	SIMPLE	210																
QALT	RCNTRL	LOGICAL	SIMPLE	111	139															
QANDQT		HALF	UNKNOWN	266	293	296														
QBEG	LCNTRL	LOGICAL	SIMPLE	112	140															
QDAY	LCNTRL	LOGICAL	SIMPLE	113	141															
QEND	LCNTRL	LOGICAL	SIMPLE	114	142															
QOUT	LCNTRL	LOGICAL	SIMPLE	114	143															
QPHY	LCNTRL	LOGICAL	SIMPLE	115	144															
QPROG	QANDQT	HALF	ARRAY	266	280	281	282	283	284	285	286	287	288	289						
QRSH	LCNTRL	LOGICAL	SIMPLE	290	291	292	298/R	298/R	299/R	299/R	300/R	300/R	301/R	301						
QRSW	LCNTRL	LOGICAL	SIMPLE	120	148															
QSDIAG	QANDQT	HALF	ARRAY	119	147															
QSHF	LCNTRL	LOGICAL	SIMPLE	293	295	298/R	299/R													
QUDIAG	QANDQT	HALF	ARRAY	117	145															
RADE	RCNTRL	HALF	ARRAY	296	298/R	300/R														
RC	RCNTRL	HALF	SIMPLE	194																
RCO	RCNTRL	HALF	ARRAY	211	212															
RCNTRL	RCNTRL	HALF	SIMPLE	169	211	212														
		HALF	UNKNOWN	169	170	171	172	173	174	175	176	177	178	179						
				180	181	182	183	184	185	186	187	188	189	190						
				191	192	193	194	195	196	197	198	199	200	201						
				202	203	204	205	206	207	208	209	210	211	212						
RDPARM		HALF	UNKNOWN	230	231	232	233	234	235	236	237	238	239	240						
				241	242	243	244	245	246	247	248	249	250	251						
				252	253	254	255	256	257	258	259	260	261	262						
				263	264	265														
RGAS	RCNTRL	HALF	SIMPLE	195																
RIOQ			SUBROUTINE	1																
RLAT	RDPARM	HALF	ARRAY	253																
RLATD	RDPARM	HALF	ARRAY	254																
ROCP	RCNTRL	HALF	SIMPLE	196																
ROCPDT	RDPARM	HALF	SIMPLE	255																
ROCPP1	RDPARM	HALF	SIMPLE	256																
RSDIST	RCNTRL	HALF	SIMPLE	197																
SDAY	RCNTRL	HALF	SIMPLE	198																
SEASON	RCNTRL	HALF	SIMPLE	199																
SGNP	RDPARM	HALF	SIMPLE	199																
SH	RDPARM	HALF	ARRAY	257																
SHS	QANDQT	HALF	ARRAY	278	291															
SIG	QANDQT	HALF	ARRAY	273	286															
SIGE	RDPARM	HALF	ARRAY	264																
SIND	RCNTRL	HALF	ARRAY	200																
SIND	RCNTRL	HALF	SIMPLE	201																
SINL	RDPARM	HALF	ARRAY	258																
SINLON	RDPARM	HALF	ARRAY	259																
SMTH	QANDQT	HALF	ARRAY	268	281															
SN2FLG	LCNTRL	LOGICAL	ARRAY	118	146															
SOLS	RCNTRL	HALF	SIMPLE	202																
START	LCNTRL	LOGICAL	SIMPLE	226	229															
T	LDPARM	HALF	SIMPLE	226	229															
THSTD	QANDQT	HALF	ARRAY	277	290															
THSTD2	RDPARM	HALF	ARRAY	260																
TS	RDPARM	HALF	SIMPLE	261																
TSTD	QANDQT	HALF	ARRAY	272	285															
U	RCNTRL	HALF	SIMPLE	203																
V	QANDQT	HALF	ARRAY	275	288															
VER	RCNTRL	HALF	ARRAY	276	289															
WSAVE	QANDQT	HALF	ARRAY	276	289															
XLABEL	RCNTRL	CHAR*B	SIMPLE	11	29															
		HALF	ARRAY	262	29															
		CHAR*B	ARRAY	12	30															

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00001      SUBROUTINE SAVEQM (N, J)
          UTILITY SUBROUTINE TO SAVE 4TH-ORDER MODEL VALUES BY BAND
          ARGUMENTS  DESCRIPTION
                   N      TIME STEP POINTER (1 OR 2)
                   J      LATITUDE GRID BAND

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          CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
          -----

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```

00002      COMMON /CCNTRL/  CCO
00003      COMMON /CCNTRL/  ADATE
00004      COMMON /CCNTRL/  ATIME
00005      COMMON /CCNTRL/  JIC
00006      COMMON /CCNTRL/  JOB
00007      COMMON /CCNTRL/  CCSP06
00008      COMMON /CCNTRL/  CCSP07
00009      COMMON /CCNTRL/  CCSP08
00010      COMMON /CCNTRL/  VER
00011      COMMON /CCNTRL/  XLABEL (10)
00012      COMMON /CCNTRL/  CQS (30)
00013      COMMON /CCNTRL/  CQU (10)

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          C
          EQUIVALENCE      (CCO,CC(1))
          CHARACTER*8      CCO, CC(200)
          CHARACTER*8      ADATE
          CHARACTER*8      ATIME
          CHARACTER*8      JIC
          CHARACTER*8      JOB
          CHARACTER*8      CCSP06
          CHARACTER*8      CCSP07
          CHARACTER*8      CCSP08
          CHARACTER*8      VER
          CHARACTER*8      XLABEL
          CHARACTER*8      CQS
          CHARACTER*8      CQU

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          C
          C
          INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
          -----

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00027      COMMON /ICNTRL/  ICO
00028      COMMON /ICNTRL/  IM
00029      COMMON /ICNTRL/  IMD2
00030      COMMON /ICNTRL/  IMD2P1
00031      COMMON /ICNTRL/  NDRSW
00032      COMMON /ICNTRL/  JM
00033      COMMON /ICNTRL/  JMD2
00034      COMMON /ICNTRL/  JMT2
00035      COMMON /ICNTRL/  JNP
00036      COMMON /ICNTRL/  JO4
00037      COMMON /ICNTRL/  JO8
00038      COMMON /ICNTRL/  JSP
00039      COMMON /ICNTRL/  KLIALB
00040      COMMON /ICNTRL/  KLIGW
00041      COMMON /ICNTRL/  KLISST
00042      COMMON /ICNTRL/  KS
00043      COMMON /ICNTRL/  KU
00044      COMMON /ICNTRL/  LOGBR
00045      COMMON /ICNTRL/  MATIN
00046      COMMON /ICNTRL/  MATSNX
00047      COMMON /ICNTRL/  MATSUN
00048      COMMON /ICNTRL/  MLF      (12)
00049      COMMON /ICNTRL/  MR0D
00050      COMMON /ICNTRL/  NHRSH
00051      COMMON /ICNTRL/  MSM
00052      COMMON /ICNTRL/  NB
00053      COMMON /ICNTRL/  ND
00054      COMMON /ICNTRL/  NDALT
00055      COMMON /ICNTRL/  NDAY
00056      COMMON /ICNTRL/  NDOUT
00057      COMMON /ICNTRL/  NDPHY

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VSAVEQM  2
VSAVEQM  3
VSAVEQM  4
VSAVEQM  5
VSAVEQM  6
VSAVEQM  7
VSAVEQM  8
VSAVEQM  9
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VCNTRL  64

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ORIGINAL PAGE IS
OF POOR QUALITY

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OF POOR QUALITY

00058	COMMON /ICNTRL/	NDSHF	VCNTRL	65
00059	COMMON /ICNTRL/	NDT	VCNTRL	66
00060	COMMON /ICNTRL/	NHMS	VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE	VCNTRL	68
00062	COMMON /ICNTRL/	NHMSE	VCNTRL	69
00063	COMMON /ICNTRL/	NLAY	VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL	77
00071	COMMON /ICNTRL/	NYMD	VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL	85
	C		VCNTRL	86
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	87
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	88
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	89
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	90
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	91
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	92
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	93
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	94
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL	95
00088	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL	96
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	97
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	98
	C		VCNTRL	99
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL	100
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL	101
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL	102
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL	103
	C		VCNTRL	104
00095	EQUIVALENCE	(ICO,IC(1))	VCNTRL	105
00096	INTEGER	ICO, IC(200)	VCNTRL	106
	C		VCNTRL	107
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL	108
	C	=====	VCNTRL	109
00097	COMMON /LCNTRL/	LCO	VCNTRL	110
00098	COMMON /LCNTRL/	QALT	VCNTRL	111
00099	COMMON /LCNTRL/	QBEG	VCNTRL	112
00100	COMMON /LCNTRL/	QDAY	VCNTRL	113
00101	COMMON /LCNTRL/	QEND	VCNTRL	114
00102	COMMON /LCNTRL/	QOUT	VCNTRL	115
00103	COMMON /LCNTRL/	QPHY	VCNTRL	116
00104	COMMON /LCNTRL/	QSHF	VCNTRL	117
00105	COMMON /LCNTRL/	SN2FLG	VCNTRL	118
00106	COMMON /LCNTRL/	QRSW	VCNTRL	119
00107	COMMON /LCNTRL/	QRSH	VCNTRL	120
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL	121
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL	122
	C		VCNTRL	123
00110	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL	124
00111	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL	125
00112	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL	126
00113	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL	127
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL	128
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL	129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL	130
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL	131
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL	132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL	133
00120	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL	134
00121	EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL	135

ORIGINAL PAGE IS
OF POOR QUALITY

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00122 C EQUIVALENCE (LOMEGA ,LQU( 1))
00123 EQUIVALENCE (LDIABAT ,LQU( 2))
00124 EQUIVALENCE (LRADSW ,LQU( 3))
00125 EQUIVALENCE (LRADLW ,LQU( 4))

00126 C LOGICAL QALT
00127 LOGICAL QBEG
00128 LOGICAL QDAY
00129 LOGICAL QEND
00130 LOGICAL QOUT
00131 LOGICAL QPHY
00132 LOGICAL QSHF
00133 LOGICAL SN2FLG
00134 LOGICAL QRSW
00135 LOGICAL QRSH

00136 C LOGICAL LQS
00137 LOGICAL LQU
00138 LOGICAL LTMIN
00139 LOGICAL LTMAX
00140 LOGICAL LPREACC
00141 LOGICAL LPRECON
00142 LOGICAL LHFLUX
00143 LOGICAL LEFLUX
00144 LOGICAL LFUSION
00145 LOGICAL LRADSWG
00146 LOGICAL LRADLWG
00147 LOGICAL LICLOUD
00148 LOGICAL LUFLUX
00149 LOGICAL LVFLUX

00150 C LOGICAL LOMEGA
00151 LOGICAL LDIABAT
00152 LOGICAL LRADSW
00153 LOGICAL LRADLW

00154 C EQUIVALENCE (LCO,LC(1))
00155 LOGICAL LCO, LC(200)

C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00156 COMMON /RCNTRL/ RCO
00157 COMMON /RCNTRL/ APHEL
00158 COMMON /RCNTRL/ BETA
00159 COMMON /RCNTRL/ COSD
00160 COMMON /RCNTRL/ CP
00161 COMMON /RCNTRL/ DAYSPY
00162 COMMON /RCNTRL/ DEC
00163 COMMON /RCNTRL/ DECMAK
00164 COMMON /RCNTRL/ DIST
00165 COMMON /RCNTRL/ DLAT
00166 COMMON /RCNTRL/ DLON
00167 COMMON /RCNTRL/ DT
00168 COMMON /RCNTRL/ ECCN
00169 COMMON /RCNTRL/ GNU1
00170 COMMON /RCNTRL/ GNU2
00171 COMMON /RCNTRL/ GRAV
00172 COMMON /RCNTRL/ OMEGA2
00173 COMMON /RCNTRL/ PI
00174 COMMON /RCNTRL/ PI180
00175 COMMON /RCNTRL/ PI2
00176 COMMON /RCNTRL/ PSTD
00177 COMMON /RCNTRL/ PIMEAN
00178 COMMON /RCNTRL/ PSMAX
00179 COMMON /RCNTRL/ PSMIN
00180 COMMON /RCNTRL/ PTOP
00181 COMMON /RCNTRL/ RADE
00182 COMMON /RCNTRL/ RGAS
00183 COMMON /RCNTRL/ ROCP
00184 COMMON /RCNTRL/ RSDIST
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00185 COMMON /RCNTRL/ SDAY
00186 COMMON /RCNTRL/ SEASON
00187 COMMON /RCNTRL/ SIGE (25)
00188 COMMON /RCNTRL/ SIND
00189 COMMON /RCNTRL/ SOLS
00190 COMMON /RCNTRL/ TSTD
00191 COMMON /RCNTRL/ PLEVS (25)
00192 COMMON /RCNTRL/ HEATW
00193 COMMON /RCNTRL/ HEATI
00194 COMMON /RCNTRL/ EPS
00195 COMMON /RCNTRL/ EPSFAC
00196 COMMON /RCNTRL/ CALTOJ
00197 COMMON /RCNTRL/ PZERO
C
00198 EQUIVALENCE (RCO,RC(1))
00199 REAL RCO, RC(200)
C
C
C INTEGER MODEL CONSTANTS
C
C
C =====
00200 COMMON /IDPARM/ IJUMP (46)
00201 COMMON /IDPARM/ IDSP02
00202 COMMON /IDPARM/ INDEX (72)
00203 COMMON /IDPARM/ IROD
00204 COMMON /IDPARM/ JC (46)
00205 COMMON /IDPARM/ JE (2)
00206 COMMON /IDPARM/ JP (2,2)
00207 COMMON /IDPARM/ KSTEP
00208 COMMON /IDPARM/ MJ (46)
00209 COMMON /IDPARM/ NHMS1
00210 COMMON /IDPARM/ NYMD1
C
C
C LOGICAL MODEL CONSTANTS
C
C
C =====
00211 COMMON /LDPARM/ FILTER (46)
00212 COMMON /LDPARM/ ITAPE
00213 COMMON /LDPARM/ START
C
00214 LOGICAL FILTER
00215 LOGICAL ITAPE
00216 LOGICAL START
C
C
C REAL MODEL CONSTANTS
C
C
C =====
00217 COMMON /RDPARM/ ADLDP
00218 COMMON /RDPARM/ CON1
00219 COMMON /RDPARM/ CON1DT
00220 COMMON /RDPARM/ CON2
00221 COMMON /RDPARM/ CON2DT
00222 COMMON /RDPARM/ CON3
00223 COMMON /RDPARM/ CON3DT
00224 COMMON /RDPARM/ CON4
00225 COMMON /RDPARM/ CON4DT
00226 COMMON /RDPARM/ CON5
00227 COMMON /RDPARM/ COSL (46)
00228 COMMON /RDPARM/ COSLON (72)
00229 COMMON /RDPARM/ CPD2
00230 COMMON /RDPARM/ DXP (46)
00231 COMMON /RDPARM/ DXYP (46)
00232 COMMON /RDPARM/ DYP (46)
00233 COMMON /RDPARM/ FCORLS (46)
00234 COMMON /RDPARM/ F1DT
00235 COMMON /RDPARM/ F2DT
00236 COMMON /RDPARM/ H1DT
00237 COMMON /RDPARM/ H2DT
00238 COMMON /RDPARM/ PKSTD
00239 COMMON /RDPARM/ PKTOP
00240 COMMON /RDPARM/ RLAT (46)
00241 COMMON /RDPARM/ RLATD (46)
00242 COMMON /RDPARM/ ROCPDT
00243 COMMON /RDPARM/ ROCPP1
00244 COMMON /RDPARM/ SGNP (2)

VCNTRL 207
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VCNTRL 276
VCNTRL 277

ORIGINAL PAGE IS
OF POOR QUALITY

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00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

C
C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY+11 =99
C IM*NLAY+11 =7128
C JM/2+1 =23
C
C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====
C
00253 COMMON /QANDQT/ QPROG(72,9,11,46)
C
00254 DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO (1,1))
00270 EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))
C
C
C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====
C
00280 COMMON /QANDQT/ QSDIAG(72, 15,46)
00281 DIMENSION IQSDIAG(72, 15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C
C
C
C POLAR MODEL PROGNOSTIC FIELDS
00284 COMMON /QPOLES/ PP(2,2)
00285 COMMON /QPOLES/ UP(9,2,2)
00286 COMMON /QPOLES/ VP(9,2,2)
00287 COMMON /QPOLES/ TP(9,2,2)
00288 COMMON /QPOLES/ SHP(9,2,2)
00289 COMMON /QPOLES/ PHIP(9,2,2)

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VCNTRL 278
VCNTRL 279
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VQANDQT 2
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VQPOLES 2
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CCSP07	CCNTRL	CHAR*8	SIMPLE	8																
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	21															
CON1	RDPARM	REAL	SIMPLE	218	22															
CON1DT	RDPARM	REAL	SIMPLE	219																
CON2	RDPARM	REAL	SIMPLE	220																
CON2DT	RDPARM	REAL	SIMPLE	221																
CON3	RDPARM	REAL	SIMPLE	222																
CON3DT	RDPARM	REAL	SIMPLE	223																
CON4	RDPARM	REAL	SIMPLE	224																
CON4DT	RDPARM	REAL	SIMPLE	225																
CON5	RDPARM	REAL	SIMPLE	226																
CONV	QMSAVE	REAL	ARRAY	298																
COSD	RCNTRL	REAL	SIMPLE	159																
COSL	RDPARM	REAL	ARRAY	227																
COSLON	RDPARM	REAL	ARRAY	228																
CP	RCNTRL	REAL	SIMPLE	160																
CPD2	RDPARM	REAL	SIMPLE	229																
CQS	CCNTRL	CHAR*8	ARRAY	12	25															
CQU	CCNTRL	CHAR*8	ARRAY	13	26															
DAYSPY	RCNTRL	REAL	SIMPLE	161																
DEC	RCNTRL	REAL	SIMPLE	162																
DECMAX	RCNTRL	REAL	SIMPLE	163																
DIST	RCNTRL	REAL	SIMPLE	164																
DLAT	RCNTRL	REAL	SIMPLE	165																
DLON	RCNTRL	REAL	SIMPLE	166																
DSIG	RDPARM	REAL	ARRAY	250																
DSIGINV	RDPARM	REAL	ARRAY	252																
DT	RCNTRL	REAL	SIMPLE	167																
DXP	RDPARM	REAL	ARRAY	230																
DXYP	RDPARM	REAL	ARRAY	231																
DYP	RDPARM	REAL	ARRAY	232																
ECCN	RCNTRL	REAL	SIMPLE	168																
EPS	RCNTRL	REAL	SIMPLE	194																
EPSFAC	RCNTRL	REAL	SIMPLE	195																
F1DT	RDPARM	REAL	SIMPLE	234																
F2DT	RDPARM	REAL	SIMPLE	235																
FCORLS	RDPARM	REAL	ARRAY	233																
FILTER	LDPARM	LOGICAL	ARRAY	211	214															
GNU1	RCNTRL	REAL	SIMPLE	169																
GNU2	RCNTRL	REAL	SIMPLE	170																
GRAV	RCNTRL	REAL	SIMPLE	171																
GT	QANDQT	REAL	ARRAY	257	270															
GW	QANDQT	REAL	ARRAY	258	271															
H1DT	RDPARM	REAL	SIMPLE	236																
H2DT	RDPARM	REAL	SIMPLE	237																
HEATI	RCNTRL	REAL	SIMPLE	193																
HEATW	RCNTRL	REAL	SIMPLE	192																
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																
IC	ICNTRL	INTEGER	ARRAY	96	96															
ICO	ICNTRL	INTEGER	SIMPLE	95	95															
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	27															
				27	28	96														
				38	39	29	30													
				49	50	40	41	31												
				60	61	51	52	32	33											
				71	72	62	63	43	44	34										
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				92		72	73	55	56	47										
				200				66	67	48										
				201	201			68	69	49										
				84				76	77	50										
				85						51										
				83						52										
				88						53										
				200						54										
				28	314	314				55										
				29						56										
				300						57										
				30						58										
				300						59										
				300						60										
										61										
										62										
										63										
										64										
										65										
										66										
										67										
										68										
										69										
										70										
										71										
										72										
ICSP53	ICNTRL	INTEGER	SIMPLE	68																
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																
IDPARM	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210						
IDSP02	IDPARM	INTEGER	SIMPLE	201																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																
IJUMP	IDPARM	INTEGER	ARRAY	200																
IM	ICNTRL	INTEGER	SIMPLE	28	314	314														
IMD2	ICNTRL	INTEGER	SIMPLE	29																
IMD2M1	IMJM	INTEGER	SIMPLE	300																
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																
IMJM	ICNTRL	INTEGER	UNKNOWN	300																
IMM1	IMJM	INTEGER	SIMPLE	300																

LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138									
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148									
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149									
M		INTEGER	SIMPLE	302/S	304	305	307	308	309	310				
MATIN	ICNTRL	INTEGER	SIMPLE	45										
MATSNX	ICNTRL	INTEGER	SIMPLE	46										
MATSUN	ICNTRL	INTEGER	SIMPLE	47										
MJ	IDPARM	INTEGER	ARRAY	208	302									
MLF	ICNTRL	INTEGER	ARRAY	49										
MROD	ICNTRL	INTEGER	SIMPLE	49										
MSM	ICNTRL	INTEGER	SIMPLE	51										
N		INTEGER	SIMPLE	1	305	307	308	309	310	314	315	316	317	318
NB	ICNTRL	INTEGER	SIMPLE	52										
ND	ICNTRL	INTEGER	SIMPLE	53										
NDALT	ICNTRL	INTEGER	SIMPLE	54										
NDAY	ICNTRL	INTEGER	SIMPLE	55										
NDHOG	ICNTRL	INTEGER	SIMPLE	76										
NDOUT	ICNTRL	INTEGER	SIMPLE	56										
NDPHY	ICNTRL	INTEGER	SIMPLE	57										
NDRSW	ICNTRL	INTEGER	SIMPLE	31										
NDSHF	ICNTRL	INTEGER	SIMPLE	58										
NOT	ICNTRL	INTEGER	SIMPLE	59										
NHMS	ICNTRL	INTEGER	SIMPLE	60										
NHMSO	ICNTRL	INTEGER	SIMPLE	62										
NHMS1	IDPARM	INTEGER	SIMPLE	209										
NHMS2	ICNTRL	INTEGER	SIMPLE	61										
NHMSH	ICNTRL	INTEGER	SIMPLE	50										
NLAY	ICNTRL	INTEGER	SIMPLE	63	306									
NLAYM1	ICNTRL	INTEGER	SIMPLE	64										
NLAYP1	ICNTRL	INTEGER	SIMPLE	65										
NLAYT2	IMJM	INTEGER	SIMPLE	300										
NLAYT3	IMJM	INTEGER	SIMPLE	300										
NLAYT4	IMJM	INTEGER	SIMPLE	300										
NLAYT5	IMJM	INTEGER	SIMPLE	300										
NLAYT6	IMJM	INTEGER	SIMPLE	300										
NLAYT7	IMJM	INTEGER	SIMPLE	300										
NMLEV	ICNTRL	INTEGER	SIMPLE	75										
NSDAY	ICNTRL	INTEGER	SIMPLE	66										
NSEQ	ICNTRL	INTEGER	SIMPLE	67										
NSTEP	ICNTRL	INTEGER	SIMPLE	69										
NYMD	ICNTRL	INTEGER	SIMPLE	71										
NYMDO	ICNTRL	INTEGER	SIMPLE	73										
NYMD1	IDPARM	INTEGER	SIMPLE	210										
NYMDE	ICNTRL	INTEGER	SIMPLE	72										
NZINIT	ICNTRL	INTEGER	SIMPLE	74										
OMEGA2	RCNTRL	REAL	SIMPLE	172										
P	QANDQT	REAL	ARRAY	261	274	314								
PHI	QANDOT	REAL	ARRAY	266	279									
PHIM	QMSAVE	REAL	ARRAY	295										
PHIP	QPOLES	REAL	ARRAY	289										
PHIS	QANDQT	REAL	ARRAY	254	267									
PI	RCNTRL	REAL	SIMPLE	173										
PI180	RCNTRL	REAL	SIMPLE	174										
PI2	RCNTRL	REAL	SIMPLE	175										
PIMEAN	RCNTRL	REAL	SIMPLE	177										
PIT	QMSAVE	REAL	ARRAY	297										
PKSTD	RDPARM	REAL	SIMPLE	238										
PKTOP	RDPARM	REAL	SIMPLE	239										
PLEVS	RCNTRL	REAL	ARRAY	191										
PM	QMSAVE	REAL	ARRAY	290	305/S	314/S								
PP	QPOLES	REAL	ARRAY	284	305									
PSMAX	RCNTRL	REAL	SIMPLE	178										
PSMIN	RCNTRL	REAL	SIMPLE	179										
PSTD	RCNTRL	REAL	SIMPLE	176										
PSTP	RCNTRL	REAL	SIMPLE	180										
PV	QMSAVE	REAL	ARRAY	296										
PZERO	RCNTRL	REAL	SIMPLE	197										

ORIGINAL PAGE IS
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QAL T	LCNTRL	LOGICAL	SIMPLE	98	126															
QANDQT		REAL	UNKNOWN	253	280	283														
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127															
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128															
QEND	LCNTRL	LOGICAL	SIMPLE	101	129															
QMSAVE		REAL	UNKNOWN	290	291	292	293	294	295	296	297	298	299							
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130															
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131															
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289											
QPROG	QANDQT	REAL	ARRAY	253	257	268	269	270	271	272	273	274	275	276						
				277	278	279														
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135															
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134															
QSDIAG	QANDQT	REAL	ARRAY	280	282															
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132															
QUDIAG	QANDQT	REAL	ARRAY	283																
RADE	RCNTRL	REAL	SIMPLE	181																
RC	RCNTRL	REAL	ARRAY	198	199															
RCO	RCNTRL	REAL	SIMPLE	156	198		199													
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						
				178	179	180	181	182	183	184	185	186	187	188						
				189	190	191	192	193	194	195	196	197	198	199						
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233
				228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244
				239	240	241	242	243	244	245	246	247	248	249						
				250	251	252														
RGAS	RCNTRL	REAL	SIMPLE	182																
RLAT	RDPARM	REAL	ARRAY	240																
RLATD	RDPARM	REAL	ARRAY	241																
ROCP	RCNTRL	REAL	SIMPLE	183																
ROCPDT	RDPARM	REAL	SIMPLE	242																
ROCPPI	RDPARM	REAL	SIMPLE	243																
RSDIST	RCNTRL	REAL	SIMPLE	184																
SAVEQM			SUBROUTINE	1																
SD	QMSAVE	REAL	ARRAY	298																
SDAY	RCNTRL	REAL	SIMPLE	185																
SEASON	RCNTRL	REAL	SIMPLE	186																
SGNP	RDPARM	REAL	ARRAY	244																
SH	QANDQT	REAL	ARRAY	265	278	318														
SHM	QMSAVE	REAL	ARRAY	294	310/S	318/S														
SHP	QPOLES	REAL	ARRAY	288	310															
SHS	QANDQT	REAL	ARRAY	260	273															
SIG	RDPARM	REAL	ARRAY	251																
SIGE	RCNTRL	REAL	ARRAY	187																
SIND	RCNTRL	REAL	SIMPLE	188																
SINL	RDPARM	REAL	ARRAY	245																
SINLON	RDPARM	REAL	ARRAY	246																
SMTH	QANDQT	REAL	ARRAY	255	268															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133															
SOLS	RCNTRL	REAL	SIMPLE	189																
START	LDPARM	LOGICAL	SIMPLE	213	216															
T	QANDQT	REAL	ARRAY	264	277	317														
TERMT	QMSAVE	REAL	ARRAY	299																
TERMW	QMSAVE	REAL	ARRAY	299																
THSTD	RDPARM	REAL	SIMPLE	247																
THSTD2	RDPARM	REAL	SIMPLE	248																
TM	QMSAVE	REAL	ARRAY	293	309/S	317/S														
TP	QPOLES	REAL	ARRAY	287	309															
TS	QANDQT	REAL	ARRAY	259	272															
TSTD	RCNTRL	REAL	SIMPLE	190																
U	QANDQT	REAL	ARRAY	262	275	315														
UM	QMSAVE	REAL	ARRAY	291	307/S	315/S														
UP	QPOLES	REAL	ARRAY	285	307															
V	QANDQT	REAL	ARRAY	263	276	316														
VER	CCNTRL	CHAR*B	SIMPLE	10	23															
VM	QMSAVE	REAL	ARRAY	292	308/S	316/S														
VP	QPOLES	REAL	ARRAY	286	308															
WSAVE	RDPARM	REAL	ARRAY	249																

ORIGINAL PAGE IS
OF POOR QUALITY

24

11

ARRAY

CHAR*8

CCNTRL

KLABEL

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00001      SUBROUTINE SCALEQ (N, J, KSC)
C          UTILITY SUBROUTINE TO SCALE 4TH-ORDER MODEL VALUES
C          ARGUMENTS   DESCRIPTION
C          N           TIME STEP POINTER (1 OR 2)
C          J           LATITUDE GRID BAND
C          KSC        SCALING EXPONENT (1 TO SCALE, -1 TO UNSCALE)
C          CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C          =====
00002      COMMON /CCNTRL/  CCO
00003      COMMON /CCNTRL/  ADATE
00004      COMMON /CCNTRL/  ATIME
00005      COMMON /CCNTRL/  JIC
00006      COMMON /CCNTRL/  JOB
00007      COMMON /CCNTRL/  CCSP06
00008      COMMON /CCNTRL/  CCSP07
00009      COMMON /CCNTRL/  CCSP08
00010      COMMON /CCNTRL/  VER
00011      COMMON /CCNTRL/  XLABEL (10)
00012      COMMON /CCNTRL/  CQS (30)
00013      COMMON /CCNTRL/  CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
00025      CHARACTER*8      CQS
00026      CHARACTER*8      CQU
C
C          INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C          =====
00027      COMMON /ICNTRL/  ICO
00028      COMMON /ICNTRL/  IM
00029      COMMON /ICNTRL/  IMD2
00030      COMMON /ICNTRL/  IMD2P1
00031      COMMON /ICNTRL/  NDRSW
00032      COMMON /ICNTRL/  JM
00033      COMMON /ICNTRL/  JMD2
00034      COMMON /ICNTRL/  JMT2
00035      COMMON /ICNTRL/  JNP
00036      COMMON /ICNTRL/  JO4
00037      COMMON /ICNTRL/  JO8
00038      COMMON /ICNTRL/  JSP
00039      COMMON /ICNTRL/  KLIALB
00040      COMMON /ICNTRL/  KLIGW
00041      COMMON /ICNTRL/  KLISST
00042      COMMON /ICNTRL/  KS
00043      COMMON /ICNTRL/  KU
00044      COMMON /ICNTRL/  LOGBR
00045      COMMON /ICNTRL/  MATIN
00046      COMMON /ICNTRL/  MATSNX
00047      COMMON /ICNTRL/  MATSUN
00048      COMMON /ICNTRL/  MLF      (12)
00049      COMMON /ICNTRL/  MR0D
00050      COMMON /ICNTRL/  NKRSH
00051      COMMON /ICNTRL/  MSM
00052      COMMON /ICNTRL/  NB
00053      COMMON /ICNTRL/  ND
00054      COMMON /ICNTRL/  NDALT
00055      COMMON /ICNTRL/  NDAY
00056      COMMON /ICNTRL/  NDOUT

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VSCALEQ  2
VSCALEQ  3
VSCALEQ  4
VSCALEQ  5
VSCALEQ  6
VSCALEQ  7
VSCALEQ  8
VSCALEQ  9
VSCALEQ 10
VCNTRL   2
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VCNTRL  62
VCNTRL  63

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ORIGINAL PAGE IS
OF POOR QUALITY

00057	COMMON /ICNTRL/	NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/	NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/	NDT	VCNTRL 66
00060	COMMON /ICNTRL/	NHMS	VCNTRL 67
00061	COMMON /ICNTRL/	NHMS	VCNTRL 68
00062	COMMON /ICNTRL/	NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/	NLAY	VCNTRL 70
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/	NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/	NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/	ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/	NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/	NYMD	VCNTRL 78
00072	COMMON /ICNTRL/	NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/	NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/	NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/	NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/	NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/	IQS(30)	VCNTRL 84
00078	COMMON /ICNTRL/	IQU(10)	VCNTRL 85
	C		VCNTRL 86
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE	(ICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE	(IUFUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL 98
	C		VCNTRL 99
00091	EQUIVALENCE	(IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE	(IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE	(IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE	(IRADLW .IQU(4))	VCNTRL 103
	C		VCNTRL 104
00095	EQUIVALENCE	(IC0, IC(1))	VCNTRL 105
00096	INTEGER	IC0, IC(200)	VCNTRL 106
	C		VCNTRL 107
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
	C	=====	VCNTRL 109
00097	COMMON /LCNTRL/	LC0	VCNTRL 110
00098	COMMON /LCNTRL/	QALT	VCNTRL 111
00099	COMMON /LCNTRL/	QBEG	VCNTRL 112
00100	COMMON /LCNTRL/	QDAY	VCNTRL 113
00101	COMMON /LCNTRL/	QEND	VCNTRL 114
00102	COMMON /LCNTRL/	QOUT	VCNTRL 115
00103	COMMON /LCNTRL/	QPHY	VCNTRL 116
00104	COMMON /LCNTRL/	QSHF	VCNTRL 117
00105	COMMON /LCNTRL/	SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/	QRSW	VCNTRL 119
00107	COMMON /LCNTRL/	QRSH	VCNTRL 120
00108	COMMON /LCNTRL/	LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/	LQU(10)	VCNTRL 122
	C		VCNTRL 123
00110	EQUIVALENCE	(LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE	(LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE	(LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE	(LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE	(LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE	(LRADSWG .LQS(8))	VCNTRL 131
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX .LQS(11))	VCNTRL 134

ORIGINAL PAGE IS
OF POOR QUALITY

00121		EQUIVALENCE	(LVFLUX .LQS(12))	VCNTRL 135
	C			VCNTRL 136
00122		EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 137
00123		EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 138
00124		EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 139
00125		EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 140
	C			VCNTRL 141
00126		LOGICAL	QALT	VCNTRL 142
00127		LOGICAL	QBEG	VCNTRL 143
00128		LOGICAL	QDAY	VCNTRL 144
00129		LOGICAL	QEND	VCNTRL 145
00130		LOGICAL	QOUT	VCNTRL 146
00131		LOGICAL	QPHY	VCNTRL 147
00132		LOGICAL	QSHF	VCNTRL 148
00133		LOGICAL	SN2FLG	VCNTRL 149
00134		LOGICAL	QRSW	VCNTRL 150
00135		LOGICAL	QRSH	VCNTRL 151
	C			VCNTRL 152
00136		LOGICAL	LQS	VCNTRL 153
00137		LOGICAL	LQU	VCNTRL 154
00138		LOGICAL	LTMIN	VCNTRL 155
00139		LOGICAL	LTMAX	VCNTRL 156
00140		LOGICAL	LPREACC	VCNTRL 157
00141		LOGICAL	LPRECON	VCNTRL 158
00142		LOGICAL	LHFLUX	VCNTRL 159
00143		LOGICAL	LEFLUX	VCNTRL 160
00144		LOGICAL	LFUSION	VCNTRL 161
00145		LOGICAL	LRADSWG	VCNTRL 162
00146		LOGICAL	LRADLWG	VCNTRL 163
00147		LOGICAL	LICLOUD	VCNTRL 164
00148		LOGICAL	LUFLUX	VCNTRL 165
00149		LOGICAL	LVFLUX	VCNTRL 166
	C			VCNTRL 167
00150		LOGICAL	LOMEGA	VCNTRL 168
00151		LOGICAL	LDIABAT	VCNTRL 169
00152		LOGICAL	LRADSW	VCNTRL 170
00153		LOGICAL	LRADLW	VCNTRL 171
	C			VCNTRL 172
00154		EQUIVALENCE	(LCO,LC(1))	VCNTRL 173
00155		LOGICAL	LCO, LC(200)	VCNTRL 174
	C			VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 176
	C	=====		VCNTRL 177
00156		COMMON	/RCNTRL/ RCO	VCNTRL 178
00157		COMMON	/RCNTRL/ APHEL	VCNTRL 179
00158		COMMON	/RCNTRL/ BETA	VCNTRL 180
00159		COMMON	/RCNTRL/ COSD	VCNTRL 181
00160		COMMON	/RCNTRL/ CP	VCNTRL 182
00161		COMMON	/RCNTRL/ DAYSPY	VCNTRL 183
00162		COMMON	/RCNTRL/ DEC	VCNTRL 184
00163		COMMON	/RCNTRL/ DECMAX	VCNTRL 185
00164		COMMON	/RCNTRL/ DIST	VCNTRL 186
00165		COMMON	/RCNTRL/ DLAT	VCNTRL 187
00166		COMMON	/RCNTRL/ DLON	VCNTRL 188
00167		COMMON	/RCNTRL/ DT	VCNTRL 189
00168		COMMON	/RCNTRL/ ECCN	VCNTRL 190
00169		COMMON	/RCNTRL/ GNU1	VCNTRL 191
00170		COMMON	/RCNTRL/ GNU2	VCNTRL 192
00171		COMMON	/RCNTRL/ GRAV	VCNTRL 193
00172		COMMON	/RCNTRL/ OMEGA2	VCNTRL 194
00173		COMMON	/RCNTRL/ PI	VCNTRL 195
00174		COMMON	/RCNTRL/ PI180	VCNTRL 196
00175		COMMON	/RCNTRL/ PI2	VCNTRL 197
00176		COMMON	/RCNTRL/ PSTD	VCNTRL 198
00177		COMMON	/RCNTRL/ PIMEAN	VCNTRL 199
00178		COMMON	/RCNTRL/ PSMAX	VCNTRL 200
00179		COMMON	/RCNTRL/ PSMIN	VCNTRL 201
00180		COMMON	/RCNTRL/ PTOP	VCNTRL 202
00181		COMMON	/RCNTRL/ RADE	VCNTRL 203
00182		COMMON	/RCNTRL/ RGAS	VCNTRL 204
00183		COMMON	/RCNTRL/ ROCP	VCNTRL 205

ORIGINAL PAGE 19
OF POOR QUALITY

00184	COMMON /RCNTRL/	RSDIST		VCNTRL 206
00185	COMMON /RCNTRL/	SDAY		VCNTRL 207
00186	COMMON /RCNTRL/	SEASON		VCNTRL 208
00187	COMMON /RCNTRL/	SIGE	(25)	VCNTRL 209
00188	COMMON /RCNTRL/	SIND		VCNTRL 210
00189	COMMON /RCNTRL/	SOLS		VCNTRL 211
00190	COMMON /RCNTRL/	TSTD		VCNTRL 212
00191	COMMON /RCNTRL/	PLEVS	(25)	VCNTRL 213
00192	COMMON /RCNTRL/	HEATW		VCNTRL 214
00193	COMMON /RCNTRL/	HEATI		VCNTRL 215
00194	COMMON /RCNTRL/	EPS		VCNTRL 216
00195	COMMON /RCNTRL/	EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/	CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/	PZERO		VCNTRL 219
	C			VCNTRL 220
00198	EQUIVALENCE	(RC0,RC(1))		VCNTRL 221
00199	REAL	RC0, RC(200)		VCNTRL 222
	C			VCNTRL 223
	C			VCNTRL 224
	C			VCNTRL 225
		INTEGER MODEL CONSTANTS		VCNTRL 226
		=====		VCNTRL 227
		=====		VCNTRL 228
00200	COMMON /IDPARM/	IJUMP	(46)	VCNTRL 229
00201	COMMON /IDPARM/	IDSP02		VCNTRL 230
00202	COMMON /IDPARM/	INDEX	(72)	VCNTRL 231
00203	COMMON /IDPARM/	IROD		VCNTRL 232
00204	COMMON /IDPARM/	JC	(46)	VCNTRL 233
00205	COMMON /IDPARM/	JE	(2)	VCNTRL 234
00206	COMMON /IDPARM/	JP	(2,2)	VCNTRL 235
00207	COMMON /IDPARM/	KSTEP		VCNTRL 236
00208	COMMON /IDPARM/	MJ	(46)	VCNTRL 237
00209	COMMON /IDPARM/	NHMS1		VCNTRL 238
00210	COMMON /IDPARM/	NYMD1		VCNTRL 239
	C			VCNTRL 240
	C			VCNTRL 241
	C			VCNTRL 242
		LOGICAL MODEL CONSTANTS		VCNTRL 243
		=====		VCNTRL 244
		=====		VCNTRL 245
00211	COMMON /LDPARM/	FILTER	(46)	VCNTRL 246
00212	COMMON /LDPARM/	ITAPE		VCNTRL 247
00213	COMMON /LDPARM/	START		VCNTRL 248
	C			VCNTRL 249
00214	LOGICAL	FILTER		VCNTRL 250
00215	LOGICAL	ITAPE		VCNTRL 251
00216	LOGICAL	START		VCNTRL 252
	C			VCNTRL 253
	C			VCNTRL 254
	C			VCNTRL 255
		REAL MODEL CONSTANTS		VCNTRL 256
		=====		VCNTRL 257
		=====		VCNTRL 258
00217	COMMON /RDPARM/	ADLDP		VCNTRL 259
00218	COMMON /RDPARM/	CON1		VCNTRL 260
00219	COMMON /RDPARM/	CON1DT		VCNTRL 261
00220	COMMON /RDPARM/	CON2		VCNTRL 262
00221	COMMON /RDPARM/	CON2DT		VCNTRL 263
00222	COMMON /RDPARM/	CON3		VCNTRL 264
00223	COMMON /RDPARM/	CON3DT		VCNTRL 265
00224	COMMON /RDPARM/	CON4		VCNTRL 266
00225	COMMON /RDPARM/	CON4DT		VCNTRL 267
00226	COMMON /RDPARM/	CON5		VCNTRL 268
00227	COMMON /RDPARM/	COSL	(46)	VCNTRL 269
00228	COMMON /RDPARM/	COSLON	(72)	VCNTRL 270
00229	COMMON /RDPARM/	CPD2		VCNTRL 271
00230	COMMON /RDPARM/	DXP	(46)	VCNTRL 272
00231	COMMON /RDPARM/	DXYP	(46)	VCNTRL 273
00232	COMMON /RDPARM/	DYP	(46)	VCNTRL 274
00233	COMMON /RDPARM/	FCORLS	(46)	VCNTRL 275
00234	COMMON /RDPARM/	F1DT		VCNTRL 276
00235	COMMON /RDPARM/	F2DT		VCNTRL 277
00236	COMMON /RDPARM/	H1DT		VCNTRL 278
00237	COMMON /RDPARM/	H2DT		VCNTRL 279
00238	COMMON /RDPARM/	PKSTD		VCNTRL 280
00239	COMMON /RDPARM/	PKTOP		VCNTRL 281
00240	COMMON /RDPARM/	RLAT	(46)	VCNTRL 282
00241	COMMON /RDPARM/	RLATD	(46)	VCNTRL 283
00242	COMMON /RDPARM/	RLOPDT		VCNTRL 284
00243	COMMON /RDPARM/	ROCPP1		VCNTRL 285

ORIGINAL PAGE IS
OF POOR QUALITY

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00244 COMMON /RDPARM/ SGNP (2)
00245 COMMON /RDPARM/ SINL (46)
00246 COMMON /RDPARM/ SINLON (72)
00247 COMMON /RDPARM/ THSTD
00248 COMMON /RDPARM/ THSTD2
00249 COMMON /RDPARM/ WSAVE (159)
00250 COMMON /RDPARM/ DSIG (9)
00251 COMMON /RDPARM/ SIG (9)
00252 COMMON /RDPARM/ DSIGINV (9)

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```

C
C COMDECK VQANDQT RESOLUTION VALUES
C =====
C IM =72
C NLAY =9
C JM+1 =46
C NLAY*11 =99
C IM*NLAY*11 =7128
C JM/2+1 =23

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C GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C =====

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```

00253 C COMMON /QANDQT/ QPROG(72,9,11,46)
00254 C DIMENSION PHIS (7128,1)
00255 DIMENSION SMTH (7128,23)
00256 DIMENSION ALBEDO (7128,1)
00257 DIMENSION GT (7128,1)
00258 DIMENSION GW (7128,1)
00259 DIMENSION TS (7128,1)
00260 DIMENSION SHS (7128,1)
00261 DIMENSION P (72,99,1)
C
00262 DIMENSION U (72,9,11,1)
00263 DIMENSION V (72,9,11,1)
00264 DIMENSION T (72,9,11,1)
00265 DIMENSION SH (72,9,11,1)
00266 DIMENSION PHI (72,9,11,1)
C
00267 EQUIVALENCE (QPROG(1, 1, 1, 1),PHIS (1,1))
00268 EQUIVALENCE (QPROG(1, 2, 1, 1),SMTH (1,1))
00269 EQUIVALENCE (QPROG(1, 3, 1, 1),ALBEDO(1,1))
00270 EQUIVALENCE (QPROG(1, 4, 1, 1),GT (1,1))
00271 EQUIVALENCE (QPROG(1, 5, 1, 1),GW (1,1))
00272 EQUIVALENCE (QPROG(1, 6, 1, 1),TS (1,1))
00273 EQUIVALENCE (QPROG(1, 7, 1, 1),SHS (1,1))
00274 EQUIVALENCE (QPROG(1, 8, 1, 1),P (1,1,1))
C
00275 EQUIVALENCE (QPROG(1,1, 2, 1),U (1,1,1,1))
00276 EQUIVALENCE (QPROG(1,1, 4, 1),V (1,1,1,1))
00277 EQUIVALENCE (QPROG(1,1, 6, 1),T (1,1,1,1))
00278 EQUIVALENCE (QPROG(1,1, 8, 1),SH (1,1,1,1))
00279 EQUIVALENCE (QPROG(1,1,10, 1),PHI(1,1,1,1))

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C SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C =====

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00280 C COMMON /QANDQT/ QSDIAG(72, 15,46)
00281 DIMENSION IQSDIAG(72, 15,46)
00282 EQUIVALENCE (QSDIAG,IQSDIAG)
C
00283 C COMMON /QANDQT/ QUDIAG(72,9, 5,46)
C
C
C POLAR MODEL PROGNOSTIC FIELDS
00284 COMMON /QPOLES/ PP(2,2)
00285 COMMON /QPOLES/ UP(9,2,2)
00286 COMMON /QPOLES/ VP(9,2,2)
00287 COMMON /QPOLES/ TP(9,2,2)
00288 COMMON /QPOLES/ SHP(9,2,2)

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VCNTRL 277
VCNTRL 278
VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
VQANDQT 16
VQANDQT 17
VQANDQT 18
VQANDQT 19
VQANDQT 20
VQANDQT 21
VQANDQT 22
VQANDQT 23
VQANDQT 24
VQANDQT 25
VQANDQT 26
VQANDQT 27
VQANDQT 28
VQANDQT 29
VQANDQT 30
VQANDQT 31
VQANDQT 32
VQANDQT 33
VQANDQT 34
VQANDQT 35
VQANDQT 36
VQANDQT 37
VQANDQT 38
VQANDQT 39
VQANDQT 40
VQANDQT 41
VQANDQT 42
VQANDQT 43
VQANDQT 44
VQANDQT 45
VQANDQT 46
VQANDQT 47
VQANDQT 48
VQANDQT 49
VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VQPOLES 2
VQPOLES 3
VQPOLES 4
VQPOLES 5
VQPOLES 6
VQPOLES 7
VQPOLES 8

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00289 COMMON /QPOLES/ Phip(9.2.2)
C
00290 COMMON SCALEV(72,9)
00291 COMMON /IMJM/ IMM1, IMM2, IMM3, IMM4, IMM5,
    SSS IMMNLAY, IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5,
    SSS IMD2M1, NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7
C * * *
C DEBUT
10000 CONTINUE
C ***** CYBER VECTOR VERSION 00.001 INPUT IOQ
C ***** CYBER VECTOR VERSION 00
C *****
00293 M = MJ(J)
00294 IF (M.EQ.0) GO TO 50
C * * *
C POLE POINT
SCALE = PP(N,M)
IF (KSC.LT.0) SCALE = 1./SCALE
DO 10 L=1,NLAY
UP(L,N,M) = UP(L,N,M)*SCALE
VP(L,N,M) = VP(L,N,M)*SCALE
TP(L,N,M) = TP(L,N,M)*SCALE
SHP(L,N,M) = SHP(L,N,M)*SCALE
10 CONTINUE
RETURN
C * * *
C NON-POLE POINT
50 CONTINUE
C
IF (KSC.LT.0) SCALE(1,1;IM) = P(1,N,J;IM)*DXYP(J)
SCALE(1,1;IM) = 1./SCALE(1,1;IM)
C
SCALEV(1,2; IM) = SCALEV(1,1; IM)
SCALEV(1,3;IMT2) = SCALEV(1,1;IMT2)
SCALEV(1,5;IMT4) = SCALEV(1,1;IMT4)
SCALEV(1,9; IM) = SCALEV(1,1; IM)
C
THE ABOVE SCHEME IS FASTER FOR 9 LAYERS THEN THE FOLLOWING
DO LOOP.
C
DO 60 L=2,NLAY
60 SCALEV(1,L; IM) = SCALEV(1,1; IM)
C
U(1,1,N,J;IMNLAY) = U(1,1,N,J;IMNLAY)*SCALEV(1,1;IMNLAY)
V(1,1,N,J;IMNLAY) = V(1,1,N,J;IMNLAY)*SCALEV(1,1;IMNLAY)
T(1,1,N,J;IMNLAY) = T(1,1,N,J;IMNLAY)*SCALEV(1,1;IMNLAY)
SH(1,1,N,J;IMNLAY) = SH(1,1,N,J;IMNLAY)*SCALEV(1,1;IMNLAY)
RETURN
END

```

- VQPOLES 9
- VQPOLES 10
- VWKSCAL 2
- VIMJM 3
- VIMJM 4
- VIMJM 5
- VIMJM 6
- VSCALEQ 16
- VBEGDEB 2
- VBEGDEB 3
- VBEGDEB 4
- VBEGDEB 5
- VBEGDEB 6
- VSCALEQ 18
- VSCALEQ 19
- VSCALEQ 20
- VSCALEQ 21
- VSCALEQ 22
- VSCALEQ 23
- VSCALEQ 24
- VSCALEQ 25
- VSCALEQ 26
- VSCALEQ 27
- VSCALEQ 28
- VSCALEQ 29
- VSCALEQ 30
- VSCALEQ 31
- VSCALEQ 32
- VSCALEQ 33
- VSCALEQ 34
- VSCALEQ 35
- VSCALEQ 36
- VSCALEQ 37
- VSCALEQ 38
- VSCALEQ 39
- VSCALEQ 40
- VSCALEQ 41
- VSCALEQ 42
- VSCALEQ 43
- VSCALEQ 44
- VSCALEQ 45
- VSCALEQ 46
- VSCALEQ 47
- VSCALEQ 48
- VSCALEQ 49
- VSCALEQ 50
- VSCALEQ 51
- VSCALEQ 52
- VSCALEQ 53
- VSCALEQ 54

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	302	297
10000	292	
50	304	294
60	308	307

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

ADATE	CCNTRL	CHAR*B	SIMPLE	3	16
ADLDP	RD Parm	REAL	SIMPLE	217	
ALBEDO	QANDQT	REAL	ARRAY	256	269
APHEL	CCNTRL	REAL	SIMPLE	157	
ATIME	CCNTRL	CHAR*B	SIMPLE	4	17
BETA	CCNTRL	REAL	SIMPLE	158	
CALTOJ	CCNTRL	REAL	SIMPLE	196	
CC	CCNTRL	CHAR*B	ARRAY	14	15

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15	5	6	7	8	9	10	11	12
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4								
				13										
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20									
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21									
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22									
CON1	RDPARM	REAL	SIMPLE	218										
CON1DT	RDPARM	REAL	SIMPLE	219										
CON2	RDPARM	REAL	SIMPLE	220										
CON2DT	RDPARM	REAL	SIMPLE	221										
CON3	RDPARM	REAL	SIMPLE	222										
CON3DT	RDPARM	REAL	SIMPLE	223										
CON4	RDPARM	REAL	SIMPLE	224										
CON4DT	RDPARM	REAL	SIMPLE	225										
CON5	RDPARM	REAL	SIMPLE	226										
COSD	RCNTRL	REAL	SIMPLE	159										
COSL	RDPARM	REAL	ARRAY	227										
COSLON	RDPARM	REAL	ARRAY	228										
CP	RCNTRL	REAL	SIMPLE	160										
CPD2	RDPARM	REAL	SIMPLE	229										
CQS	CCNTRL	CHAR*8	ARRAY	12	25									
CQU	CCNTRL	CHAR*8	ARRAY	13	26									
DAYSPLY	RCNTRL	REAL	SIMPLE	161										
DEC	RCNTRL	REAL	SIMPLE	162										
DECIMAX	RCNTRL	REAL	SIMPLE	163										
DIST	RCNTRL	REAL	SIMPLE	164										
DLAT	RCNTRL	REAL	SIMPLE	165										
DLON	RCNTRL	REAL	SIMPLE	166										
DSIG	RDPARM	REAL	ARRAY	250										
DSIGINV	RDPARM	REAL	ARRAY	252										
DT	RCNTRL	REAL	SIMPLE	167										
DXP	RDPARM	REAL	ARRAY	230										
DXYP	RDPARM	REAL	ARRAY	231	305									
DYP	RDPARM	REAL	ARRAY	232										
ECCN	RCNTRL	REAL	SIMPLE	168										
EPS	RCNTRL	REAL	SIMPLE	194										
EPSFAC	RCNTRL	REAL	SIMPLE	195										
F1DT	RDPARM	REAL	SIMPLE	234										
F2DT	RDPARM	REAL	SIMPLE	235										
FCORLS	RDPARM	REAL	ARRAY	233										
FILTER	LDPARM	LOGICAL	ARRAY	211	214									
GNU1	RCNTRL	REAL	SIMPLE	169										
GNU2	RCNTRL	REAL	SIMPLE	170										
GRAV	RCNTRL	REAL	SIMPLE	171										
GT	QANDQT	REAL	ARRAY	257	270									
GW	QANDQT	REAL	ARRAY	258	271									
H1DT	RDPARM	REAL	SIMPLE	236										
H2DT	RDPARM	REAL	SIMPLE	237										
HEATI	RCNTRL	REAL	SIMPLE	193										
HEATW	RCNTRL	REAL	SIMPLE	192										
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70										
IC	ICNTRL	INTEGER	ARRAY	95	96									
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96								
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37
				38	39	40	41	42	43	44	45	46	47	48
				49	50	51	52	53	54	55	56	57	58	59
				60	61	62	63	64	65	66	67	68	69	70
				71	72	73	74	75	76	77	78			
				68										
ICSP53	ICNTRL	INTEGER	SIMPLE	92										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210
IDPARM	ICNTRL	INTEGER	UNKNOWN	201										
IDSP02	IDPARM	INTEGER	SIMPLE	84										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	85										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	88										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	200										
IJUMP	IDPARM	INTEGER	ARRAY	28	305	305	306	306	308	308				
IM	ICNTRL	INTEGER	SIMPLE	29										
IMD2	ICNTRL	INTEGER	SIMPLE	29										
IMD2M1	IMJM	INTEGER	SIMPLE	291										

ORIGINAL PAGE IS
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IMD2P1	ICNTRL	INTEGER	SIMPLE	30																		
IMJM		INTEGER	UNKNOWN	291																		
IMM1	IMJM	INTEGER	SIMPLE	291																		
IMM2	IMJM	INTEGER	SIMPLE	291																		
IMM3	IMJM	INTEGER	SIMPLE	291																		
IMM4	IMJM	INTEGER	SIMPLE	291																		
IMM5	IMJM	INTEGER	SIMPLE	291																		
IMNLAY	IMJM	INTEGER	SIMPLE	291																		
				312	309	309	309	310	310	310	311	311	311	311	312							
IMNLAY1	IMJM	INTEGER	SIMPLE	291																		
IMNLAY2	IMJM	INTEGER	SIMPLE	291																		
IMNLAY3	IMJM	INTEGER	SIMPLE	291																		
IMNLAY4	IMJM	INTEGER	SIMPLE	291																		
IMNLAY5	IMJM	INTEGER	SIMPLE	291																		
IMT2	IMJM	INTEGER	SIMPLE	291																		
IMT4	IMJM	INTEGER	SIMPLE	291																		
INDEX	IMJM	INTEGER	SIMPLE	291																		
IDPARM	ICNTRL	INTEGER	ARRAY	202																		
IONEGA	ICNTRL	INTEGER	UNKNOWN	91																		
IPREACC	ICNTRL	INTEGER	UNKNOWN	81																		
IPRECON	ICNTRL	INTEGER	UNKNOWN	82																		
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88								
				89	90																	
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282																	
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94														
IRADLW	ICNTRL	INTEGER	UNKNOWN	94																		
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87																		
IRADSW	ICNTRL	INTEGER	UNKNOWN	93																		
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																		
IROD	IDPARM	INTEGER	SIMPLE	203																		
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215																	
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																		
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																		
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																		
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90																		
J		INTEGER	SIMPLE	1	293	305	305	309	309	310	310	311	311	312								
				312																		
JC	IDPARM	INTEGER	ARRAY	204																		
JE	IDPARM	INTEGER	ARRAY	205																		
JIC	CCNTRL	CHAR*8	SIMPLE	5	18																	
JM	ICNTRL	INTEGER	SIMPLE	32																		
JMD2	ICNTRL	INTEGER	SIMPLE	33																		
JMT2	ICNTRL	INTEGER	SIMPLE	34																		
JNP	ICNTRL	INTEGER	SIMPLE	35																		
JO4	ICNTRL	INTEGER	SIMPLE	36																		
JOB	ICNTRL	INTEGER	SIMPLE	37																		
JOB	CCNTRL	CHAR*8	SIMPLE	6	19																	
JP	IDPARM	INTEGER	ARRAY	206																		
JSP	ICNTRL	INTEGER	SIMPLE	38																		
KLIALB	ICNTRL	INTEGER	SIMPLE	39																		
KLIGW	ICNTRL	INTEGER	SIMPLE	40																		
KLISST	ICNTRL	INTEGER	SIMPLE	41																		
KS	ICNTRL	INTEGER	SIMPLE	42																		
KSC		INTEGER	SIMPLE	1	296	306																
KSTEP	IDPARM	INTEGER	SIMPLE	207																		
KU	ICNTRL	INTEGER	SIMPLE	43																		
L		INTEGER	SIMPLE	297/C	298	298	299	299	300	300	301	301	307/C	308								
LC	LCNTRL	LOGICAL	ARRAY	154	155																	
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155																
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107								
				108	109																	
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123																		
LDPARM		INTEGER	UNKNOWN	211	212	213																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143																	
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144																	
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142																	
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147																	
LOGBR	ICNTRL	INTEGER	SIMPLE	44																		
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150																	
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140																	
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141																	

LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119
LQU	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119
LRADLW	LCNTRL	LOGICAL	ARRAY	120	121	136								
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137					
LRADSW	LCNTRL	LOGICAL	UNKNOWN	125	153									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	118	146									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	117	145									
LUFLEX	LCNTRL	LOGICAL	UNKNOWN	111	139									
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138									
M		INTEGER	SIMPLE	120	148									
MATIN	ICNTRL	INTEGER	SIMPLE	121	149									
MATSNX	ICNTRL	INTEGER	SIMPLE	293/S	294	295	298	298	299	299	300	300	301	301
MATSUN	ICNTRL	INTEGER	SIMPLE	46										
MJ	IDPARM	INTEGER	ARRAY	46										
MLF	ICNTRL	INTEGER	ARRAY	47										
				208	293									
				48										
MROD	ICNTRL	INTEGER	SIMPLE	49										
MSM	ICNTRL	INTEGER	SIMPLE	51										
N		INTEGER	SIMPLE	1	295	298	298	299	299	300	300	301	301	305
				309	309	310	310	311	311	312	312			
NB	ICNTRL	INTEGER	SIMPLE	52										
ND	ICNTRL	INTEGER	SIMPLE	53										
NDALT	ICNTRL	INTEGER	SIMPLE	54										
NDAY	ICNTRL	INTEGER	SIMPLE	55										
NDHOG	ICNTRL	INTEGER	SIMPLE	76										
NDOUT	ICNTRL	INTEGER	SIMPLE	56										
NDPHY	ICNTRL	INTEGER	SIMPLE	57										
NDRSW	ICNTRL	INTEGER	SIMPLE	31										
NDSHF	ICNTRL	INTEGER	SIMPLE	52										
NDT	ICNTRL	INTEGER	SIMPLE	59										
NHMS	ICNTRL	INTEGER	SIMPLE	60										
NHMS0	ICNTRL	INTEGER	SIMPLE	62										
NHMS1	IDPARM	INTEGER	SIMPLE	209										
NHMSE	ICNTRL	INTEGER	SIMPLE	61										
NKRSH	ICNTRL	INTEGER	SIMPLE	50										
NLAY	ICNTRL	INTEGER	SIMPLE	63	297	307								
NLAYM1	ICNTRL	INTEGER	SIMPLE	64										
NLAYP1	ICNTRL	INTEGER	SIMPLE	65										
NLAYT2	IMJM	INTEGER	SIMPLE	291										
NLAYT3	IMJM	INTEGER	SIMPLE	291										
NLAYT4	IMJM	INTEGER	SIMPLE	291										
NLAYT5	IMJM	INTEGER	SIMPLE	291										
NLAYT6	IMJM	INTEGER	SIMPLE	291										
NLAYT7	IMJM	INTEGER	SIMPLE	291										
NMLEV	ICNTRL	INTEGER	SIMPLE	75										
NSDAY	ICNTRL	INTEGER	SIMPLE	66										
NSEQ	ICNTRL	INTEGER	SIMPLE	67										
NSTEP	ICNTRL	INTEGER	SIMPLE	69										
NYMD	ICNTRL	INTEGER	SIMPLE	71										
NYMD0	ICNTRL	INTEGER	SIMPLE	73										
NYMD1	IDPARM	INTEGER	SIMPLE	210										
NYMDE	ICNTRL	INTEGER	SIMPLE	72										
NZINIT	ICNTRL	INTEGER	SIMPLE	74										
OMEGA2	RCNTRL	REAL	SIMPLE	172										
P	QANDQT	REAL	ARRAY	261	274	305								
PHI	QANDQT	REAL	ARRAY	266	279									
PHIP	QPOLES	REAL	ARRAY	289										
PHIS	QANDQT	REAL	ARRAY	254	267									
PI	RCNTRL	REAL	SIMPLE	173										
PI180	RCNTRL	REAL	SIMPLE	174										
PI2	RCNTRL	REAL	SIMPLE	175										
PIMEAN	RCNTRL	REAL	SIMPLE	177										
PKSTD	RDPARM	REAL	SIMPLE	238										
PKTOP	RDPARM	REAL	SIMPLE	239										
PLEVS	RCNTRL	REAL	ARRAY	191										
PP	QPOLES	REAL	ARRAY	284	295									
PSMAX	RCNTRL	REAL	SIMPLE	178										
PSMIN	RCNTRL	REAL	SIMPLE	179										
PSTD	RCNTRL	REAL	SIMPLE	176										

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PTOP	RCNTRL	REAL	SIMPLE	180																	
PZERO	RCNTRL	REAL	SIMPLE	197																	
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																
QANDQT		REAL	UNKNOWN	253	250	283															
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130																
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289												
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276							
				277	278	279															
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134																
QSDIAG	QANDQT	REAL	ARRAY	280	282																
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																
QUDIAG	QANDQT	REAL	ARRAY	283																	
RADE	RCNTRL	REAL	SIMPLE	181																	
RC	RCNTRL	REAL	ARRAY	198	199																
RCO	RCNTRL	REAL	SIMPLE	156	198	199															
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166							
				167	158	169	170	171	172	173	174	175	176	177							
				178	179	180	181	182	183	184	185	186	187	188							
				189	190	191	192	193	194	195	196	197	198	199							
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	
				228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245
				239	240	241	242	243	244	245	246	247	248	249							
				250	251	252															
RGAS	RCNTRL	REAL	SIMPLE	182																	
RLAT	RDPARM	REAL	ARRAY	240																	
RLATD	RDPARM	REAL	ARRAY	241																	
ROCP	RCNTRL	REAL	SIMPLE	183																	
ROCPDT	RDPARM	REAL	SIMPLE	242																	
ROCPP1	RDPARM	REAL	SIMPLE	243																	
RSDIST	RDPARM	REAL	SIMPLE	184																	
SCALE	RCNTRL	REAL	SIMPLE	295/S	296/S	295	298	299	300	301											
SCALEQ			SUBROUTINE	1																	
SCALEV	//	REAL	ARRAY	290	305/S	306/S	306	308/S	308	309	310	311	312								
SDAY	RCNTRL	REAL	SIMPLE	185																	
SEASON	RCNTRL	REAL	SIMPLE	186																	
SGNP	RDPARM	REAL	ARRAY	244																	
SH	QANDQT	REAL	ARRAY	265	278	312/S	312														
SHP	QPOLES	REAL	ARRAY	288	301/S	301															
SHS	QANDQT	REAL	ARRAY	260	273																
SIG	RDPARM	REAL	ARRAY	251																	
SIGE	RCNTRL	REAL	ARRAY	187																	
SIND	RCNTRL	REAL	SIMPLE	188																	
SINL	RDPARM	REAL	ARRAY	245																	
SINLON	RDPARM	REAL	ARRAY	246																	
SMTN	QANDQT	REAL	ARRAY	255	268																
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133																
SOLS	RCNTRL	REAL	SIMPLE	189																	
START	LDPARM	LOGICAL	SIMPLE	213	216																
T	QANDQT	REAL	ARRAY	264	277	311/S	311														
THSTD	RDPARM	REAL	SIMPLE	247																	
THSTD2	RDPARM	REAL	SIMPLE	248																	
TP	QPOLES	REAL	ARRAY	287	300/S	300															
TS	QANDQT	REAL	ARRAY	259	272																
TSTD	RCNTRL	REAL	SIMPLE	190																	
U	QANDQT	REAL	ARRAY	262	275	309/S	309														
UP	QPOLES	REAL	ARRAY	285	298/S	298															
V	QANDQT	REAL	ARRAY	263	276	310/S	310														
VER	CCNTRL	CHAR*8	SIMPLE	10	23																
VP	QPOLES	REAL	ARRAY	286	299/S	299															
WSAVE	RDPARM	REAL	ARRAY	249																	
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24																

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SHAP 1

```
00001 SUBROUTINE SHAP (Q,IM,JM,M)
.....
NOTE JM IS ACTUALLY JNP VALUE (WHEN CALLED FROM THE MODEL)
FOR SHAPIRO FILTERING Q(IM,JM)
NOTE IT AVERAGES OVER THE POLE
SET M=1 TO FILTER OVER THE POLE (LATITUDE) AND (LONGITUDINAL)
M=2 TO FILTER JUST LONGITUDINAL
NOTE JM IS ACTUALLY JNP VALUE
.....
COMMON PQ(72,9), SUP(72), SVP(72)
COMMON D1(3312), D2(3312), DV1(72), DV2(72)
COMMON FLD(72,46,12)
COMMON UVF(72,46,18)
COMMON CARD(10), DATA(144), CATA(144)
BIT BIT1(3312), DIT1
DESCRIPTOR DIT1
CHARACTER*8 CARD
DIMENSION Q(IM,JM)
C
00011 IMJM = IM+JM
00012 IMJM1 = IMJM - IM
00013 IMJM2 = IMJM1 - IM
C
00014 ASSIGN DIT1,BIT1(1:IMJM2)
00015 DIT1 = QBVMKO(IM-1,IM;DIT1)
C
00016 JMT2 = JM*2
00017 J1 = 1
00018 J1P1 = J1+1
00019 JMM1 = JM-1
.....
IORDER = 8 IMPLIES 16TH ORDER SHAPIRO
FIRST DO LONGITUDE DIRECTION
FOLLOWED BY LATITUDE
.....
00020 IORDER=8
00021 A = 1./4.0**IORDER
C
00022 D1(1:IMJM2) = Q(1,2:IMJM2)
00023 DY1(1:JM-2) = QBVGATHP(D1(IM;IMJM2),IM,JM-2;DY1(1:JM-2))
00024 DO 100 N=1,IORDER
C
00025 WHERE(DIT1) D2(2:IMJM2) = D1(2:IMJM2) - D1(1:IMJM2)
00026 DY2(1:JM-2) = QBVGATHP(D1(1:IMJM2),IM,JM-2;DY2(1:JM-2))
00027 DY1(1:JM-2) = DY2(1:JM-2) - DY1(1:JM-2)
00028 D2(1:IMJM2) = QBVSCATP(DY1(1:JM-2),IM,JM-2;D2(1:IMJM2))
C
00029 WHERE(DIT1) D1(1:IMJM2) = D2(2:IMJM2) - D2(1:IMJM2)
00030 DY2(1:JM-2) = QBVGATHP(D2(IM;IMJM2),IM,JM-2;DY2(1:JM-2))
00031 DY1(1:JM-2) = DY2(1:JM-2) - DY1(1:JM-2)
00032 D1(IM;IMJM2) = QBVSCATP(DY1(1:JM-2),IM,JM-2;D1(IM;IMJM2))
C
00033 100 CONTINUE
C
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VSM SHAP 225
VSM SHAP 226
VSM SHAP 227
VSM SHAP 228
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VSM SHAP 244
VSM SHCM 2
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VSM SHAP 287
VSM SHAP 288

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00034      Q(1,2;IMJM2) = Q(1,2;IMJM2) - D1(1;IMJM2)*A
C
00035      IF(M.EQ.2) RETURN
00036      IMD2 = IM/2
00037      JMM1 = JM-1
00038      JMM1T2 = JMM1*2
C
C
C
00039      D1(1;IMJM) = Q(1,1;IMJM)
00040      DO 200 N=1,IORDER
C
00041      D2(1;IMJM1) = D1(IM+1;IMJM1) - D1(1;IMJM1)
C
00042      D1(IM+1;IMJM2) = D2(IM+1;IMJM2) - D2(1;IMJM2)
00043      D1(1;IMD2) = D2(IMD2+1;IMD2) + D2(1;IMD2)
00044      D1(IMD2+1;IMD2) = D1(1;IMD2)
00045      D1(IMJM1+1;IMD2) = -D2(IMJM2+1;IMD2) - D2(IMJM2+IMD2+1;IMD2)
00046      D1(IMJM1+IMD2+1;IMD2) = D1(IMJM1+1;IMD2)
C
00047      200 CONTINUE
C
00048      Q(1,1;IMJM) = Q(1,1;IMJM) - D1(1;IMJM)*A
C
00049      Q(1,1;IM) = QBSSUM(Q(1,1;IM))/FLOAT(IM)
00050      Q(1,JM;IM) = QBSSUM(Q(1,JM;IM))/FLOAT(IM)
00051      RETURN
00052      END
VSM SHAP289
VSM SHAP290
VSM SHAP291
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VSM SHAP314
VSM SHAP315
VSM SHAP316

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	33	24
200	47	40

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE															
A		REAL	SIMPLE	21/S	34	48														
BIT1		BIT	ARRAY	7	14															
CARD	//	CHAR+B	ARRAY	6	9															
CATA	//	REAL	ARRAY	6																
D1	//	REAL	ARRAY	3	22/S	23	25	25	26	29/S	32/S	32	34	39						
				41	41	42/S	43/S	44/S	44	45/S	46/S	46	48	48						
D2	//	REAL	ARRAY	3	25/S	28/S	28	29	29	30	41/S	42	42	43						
				43	45															
DATA	//	REAL	ARRAY	6																
DIT1		BIT	DESCRIPTOR	7	8	14	15/S	15	25	29										
DY1	//	REAL	ARRAY	3	23/S	23	27/S	27	28	31/S	31	32								
DY2	//	REAL	ARRAY	3	26/S	26	27	30/S	30	31										
FLD	//	REAL	ARRAY	4																
IM		INTEGER	SIMPLE	1	10	11	12	13	15	15	23	23	26	28						
				30	30	32	32	32	36	41	42	42	49	49						
				49	50	50	50													
IMD2		INTEGER	SIMPLE	36/S	43	43	43	43	44	44	44	45	45	45						
				45	46	46	46													
IMJM		INTEGER	SIMPLE	11/S	12	39	39	48	48	48										
IMJM1		INTEGER	SIMPLE	12/S	13	41	41	41	45	46	46									
IMJM2		INTEGER	SIMPLE	13/S	14	22	22	23	25	25	26	26	28	28						
				29	29	29	30	32	32	34	34	34	42	42						
				42	45	45														
IORDER		INTEGER	SIMPLE	20/S	21	24	40													
J1		INTEGER	SIMPLE	17/S	18															
J1P1		INTEGER	SIMPLE	18/S																
JM		INTEGER	SIMPLE	1	10	11	16	19	23	23	23	26	26	26						
				27	27	27	28	28	30	30	30	31	31	31						
				32	32	37	50	50												
JMM1		INTEGER	SIMPLE	19/S																
JMM1T2		INTEGER	SIMPLE	38/S	37/S	38														
JMT2		INTEGER	SIMPLE	16/S																
M		INTEGER	SIMPLE	1	35															

N		INTEGER	SIMPLE	24	40									
PQ	//	REAL	ARRAY	2										
Q		REAL	ARRAY	1	10	22	34/S	34	39	48/S	48	49/S	49	50
SHAP			SUBROUTINE	50										
SUP	//	REAL	ARRAY	1										
SVP	//	REAL	ARRAY	2										
UVF	//	REAL	ARRAY	5										

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
FLOAT	REAL	INTRINSIC	49	50
Q8SSUM	REAL	INTRINSIC	49	50
Q8VGATHP	REAL	INTRINSIC	23	26 30
Q8VMKO	BIT	INTRINSIC	15	
Q8VSCATP	REAL	INTRINSIC	28	32

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00001      SUBROUTINE SHCORN (J)
          C
          C CORRECT ADVECTED NEGATIVE SPECIFIC HUMIDITIES
          C MOISTURE DEFICIT IS DIFFUSED THROUGH REST OF COLUMN
          C
          C ARGUMENTS      DESCRIPTION
          C   J            LATITUDE BAND NUMBER
          C
          C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
          C =====
00002      COMMON /CCNTRL/ CC0
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
          C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
00025      CHARACTER*8      CQS
00026      CHARACTER*8      CQU
          C
          C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
          C =====
00027      COMMON /ICNTRL/ IC0
00028      COMMON /ICNTRL/ IM
00029      COMMON /ICNTRL/ IMD2
00030      COMMON /ICNTRL/ IMD2P1
00031      COMMON /ICNTRL/ NDRSW
00032      COMMON /ICNTRL/ JM
00033      COMMON /ICNTRL/ JMD2
00034      COMMON /ICNTRL/ JMT2
00035      COMMON /ICNTRL/ JNP
00036      COMMON /ICNTRL/ JO4
00037      COMMON /ICNTRL/ JO8
00038      COMMON /ICNTRL/ JSP
00039      COMMON /ICNTRL/ KLIALB
00040      COMMON /ICNTRL/ KLIW
00041      COMMON /ICNTRL/ KLISST
00042      COMMON /ICNTRL/ KS
00043      COMMON /ICNTRL/ KU
00044      COMMON /ICNTRL/ LOGBR
00045      COMMON /ICNTRL/ MATIN
00046      COMMON /ICNTRL/ MATSNX
00047      COMMON /ICNTRL/ MATSUN
00048      COMMON /ICNTRL/ MLF      (12)
00049      COMMON /ICNTRL/ MROD
00050      COMMON /ICNTRL/ NKRSH
00051      COMMON /ICNTRL/ MSM
00052      COMMON /ICNTRL/ NB
00053      COMMON /ICNTRL/ ND
00054      COMMON /ICNTRL/ NDALT
00055      COMMON /ICNTRL/ NDAY
00056      COMMON /ICNTRL/ NDOUT
00057      COMMON /ICNTRL/ NDPHY

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VSHCORN  2
VSHCORN  3
VSHCORN  4
VSHCORN  5
VSHCORN  6
VSHCORN  7
VSHCORN  8
VSHCORN  9
VCNTRL   2
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VCNTRL  64

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00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMS0	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS(30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU(10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IEFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (ICO,IC(1))	VCNTRL 105
00096	INTEGER ICO, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C	VCNTRL 108
	C	VCNTRL 109
	C	VCNTRL 110
	C	VCNTRL 111
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	C	VCNTRL 114
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	C	VCNTRL 134
	C	VCNTRL 135
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSW	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
	C	VCNTRL 123
00110	EQUIVALENCE (LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON .LQS(4))	VCNTRL 127
00114	EQUIVALENCE (LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE (LEFLUX .LQS(6))	VCNTRL 129
00116	EQUIVALENCE (LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE (LRADSWG .LQS(8))	VCNTRL 131
00118	EQUIVALENCE (LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE (LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE (LUFLUX .LQS(11))	VCNTRL 134
00121	EQUIVALENCE (LVFLUX .LQS(12))	VCNTRL 135

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00122 C EQUIVALENCE (LOMEGA .LC( 1))
00123 EQUIVALENCE (LDIABAT .LC( 2))
00124 EQUIVALENCE (LRADSW .LC( 3))
00125 EQUIVALENCE (LRADLW .LC( 4))

00126 C LOGICAL QALT
00127 LOGICAL QBEG
00128 LOGICAL QDAY
00129 LOGICAL QEND
00130 LOGICAL QOUT
00131 LOGICAL QPHY
00132 LOGICAL QSHF
00133 LOGICAL SN2FLG
00134 LOGICAL QRSW
00135 LOGICAL QRSW

00136 C LOGICAL LQS
00137 LOGICAL LQU
00138 LOGICAL LTMIN
00139 LOGICAL LTMAX
00140 LOGICAL LPREACC
00141 LOGICAL LPRECON
00142 LOGICAL LHFLUX
00143 LOGICAL LEFLUX
00144 LOGICAL LFUSION
00145 LOGICAL LRADSWG
00146 LOGICAL LRADLWG
00147 LOGICAL LICLOUD
00148 LOGICAL LUFLUX
00149 LOGICAL LVFLUX

00150 C LOGICAL LOMEGA
00151 LOGICAL LDIABAT
00152 LOGICAL LRADSW
00153 LOGICAL LRADLW

00154 C EQUIVALENCE (LC0,LC(1))
00155 LOGICAL LC0, LC(200)

C C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C C =====
00156 COMMON /RCNTRL/ RCO
00157 COMMON /RCNTRL/ APHEL
00158 COMMON /RCNTRL/ BETA
00159 COMMON /RCNTRL/ COSD
00160 COMMON /RCNTRL/ CP
00161 COMMON /RCNTRL/ DAYSPY
00162 COMMON /RCNTRL/ DEC
00163 COMMON /RCNTRL/ DECMAK
00164 COMMON /RCNTRL/ DIST
00165 COMMON /RCNTRL/ DLAT
00166 COMMON /RCNTRL/ DLON
00167 COMMON /RCNTRL/ DT
00168 COMMON /RCNTRL/ ECCN
00169 COMMON /RCNTRL/ GNU1
00170 COMMON /RCNTRL/ GNU2
00171 COMMON /RCNTRL/ GRAV
00172 COMMON /RCNTRL/ OMEGA2
00173 COMMON /RCNTRL/ PI
00174 COMMON /RCNTRL/ PI180
00175 COMMON /RCNTRL/ PI2
00176 COMMON /RCNTRL/ PSTD
00177 COMMON /RCNTRL/ PIMEAN
00178 COMMON /RCNTRL/ PSMAX
00179 COMMON /RCNTRL/ PSMIN
00180 COMMON /RCNTRL/ PTOP
00181 COMMON /RCNTRL/ RADE
00182 COMMON /RCNTRL/ RGAS
00183 COMMON /RCNTRL/ ROCP
00184 COMMON /RCNTRL/ RSDIST

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VCNTRL 136
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VCNTRL 206

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00185	COMMON /RCNTRL/ SDAY		VCNTRL 207
00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
	C		VCNTRL 220
00198	EQUIVALENCE (RCO, RC(1))		VCNTRL 221
00199	REAL RCO, RC(200)		VCNTRL 222
	C		VCNTRL 223
	C		VCNTRL 224
	C		VCNTRL 225
	INTEGER MODEL CONSTANTS		VCNTRL 226
	=====		VCNTRL 227
00200	COMMON /IDPARM/ IJUMP (46)		VCNTRL 228
00201	COMMON /IDPARM/ IDSP02		VCNTRL 229
00202	COMMON /IDPARM/ INDEX (72)		VCNTRL 230
00203	COMMON /IDPARM/ IROD		VCNTRL 231
00204	COMMON /IDPARM/ JC (46)		VCNTRL 232
00205	COMMON /IDPARM/ JE (2)		VCNTRL 233
00206	COMMON /IDPARM/ JP (2,2)		VCNTRL 234
00207	COMMON /IDPARM/ KSTEP		VCNTRL 235
00208	COMMON /IDPARM/ MJ (46)		VCNTRL 236
00209	COMMON /IDPARM/ NHMS1		VCNTRL 237
00210	COMMON /IDPARM/ NVMD1		VCNTRL 238
	C		VCNTRL 239
	C		VCNTRL 240
	C		VCNTRL 241
	LOGICAL MODEL CONSTANTS		VCNTRL 242
	=====		VCNTRL 243
00211	COMMON /LDPARM/ FILTER (46)		VCNTRL 244
00212	COMMON /LDPARM/ ITAPE		VCNTRL 245
00213	COMMON /LDPARM/ START		VCNTRL 246
	C		VCNTRL 247
00214	LOGICAL FILTER		VCNTRL 248
00215	LOGICAL ITAPE		VCNTRL 249
00216	LOGICAL START		VCNTRL 250
	C		VCNTRL 251
	C		VCNTRL 252
	C		VCNTRL 253
	REAL MODEL CONSTANTS		VCNTRL 254
	=====		VCNTRL 255
00217	COMMON /RDPARM/ ADLDP		VCNTRL 256
00218	COMMON /RDPARM/ CON1		VCNTRL 257
00219	COMMON /RDPARM/ CON1DT		VCNTRL 258
00220	COMMON /RDPARM/ CON2		VCNTRL 259
00221	COMMON /RDPARM/ CON2DT		VCNTRL 260
00222	COMMON /RDPARM/ CON3		VCNTRL 261
00223	COMMON /RDPARM/ CON3DT		VCNTRL 262
00224	COMMON /RDPARM/ CON4		VCNTRL 263
00225	COMMON /RDPARM/ CON4DT		VCNTRL 264
00226	COMMON /RDPARM/ CON5		VCNTRL 265
00227	COMMON /RDPARM/ COSL (46)		VCNTRL 266
00228	COMMON /RDPARM/ COSLON (72)		VCNTRL 267
00229	COMMON /RDPARM/ CPD2		VCNTRL 268
00230	COMMON /RDPARM/ DXF (46)		VCNTRL 269
00231	COMMON /RDPARM/ DXYP (46)		VCNTRL 270
00232	COMMON /RDPARM/ DYP (46)		VCNTRL 271
00233	COMMON /RDPARM/ FCORLS (46)		VCNTRL 272
00234	COMMON /RDPARM/ F1DT		VCNTRL 273
00235	COMMON /RDPARM/ F2DT		VCNTRL 274
00236	COMMON /RDPARM/ H1DT		VCNTRL 275
00237	COMMON /RDPARM/ H2DT		VCNTRL 276
00238	COMMON /RDPARM/ PKSTD		VCNTRL 277
00239	COMMON /RDPARM/ PKTOP		
00240	COMMON /RDPARM/ RLAT (46)		
00241	COMMON /RDPARM/ RLATD (46)		
00242	COMMON /RDPARM/ ROC PDT		
00243	COMMON /RDPARM/ ROC PP1		
00244	COMMON /RDPARM/ SGNP (2)		

00245	COMMON /RDPARM/ SINL (46)	VCNTRL 278
00246	COMMON /RDPARM/ SINLON (72)	VCNTRL 279
00247	COMMON /RDPARM/ THSTD	VCNTRL 280
00248	COMMON /RDPARM/ THSTD2	VCNTRL 281
00249	COMMON /RDPARM/ WSAVE (159)	VCNTRL 282
00250	COMMON /RDPARM/ DSIG (9)	VCNTRL 283
00251	COMMON /RDPARM/ SIG (9)	VCNTRL 284
00252	COMMON /RDPARM/ DSIGINV (9)	VCNTRL 285
		VCNTRL 286
	COMDECK VOANDQT RESOLUTION VALUES	VOANDQT 2
	=====	VOANDQT 3
	IM =72	VOANDQT 4
	NLAY =9	VOANDQT 5
	JM+1 =46	VOANDQT 6
	NLAY*11 =99	VOANDQT 7
	IM*NLAY*11 =7128	VOANDQT 8
	JM/2+1 =23	VOANDQT 9
		VOANDQT 10
	GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)	VOANDQT 11
	=====	VOANDQT 12
		VOANDQT 13
00253	COMMON /QANDQT/ QPROG(72,9,11,46)	VOANDQT 14
		VOANDQT 15
00254	DIMENSION PHIS (7128,1)	VOANDQT 16
00255	DIMENSION SMTH (7128,23)	VOANDQT 17
00256	DIMENSION ALBEDO (7128,1)	VOANDQT 18
00257	DIMENSION GT (7128,1)	VOANDQT 19
00258	DIMENSION GW (7128,1)	VOANDQT 20
00259	DIMENSION TS (7128,1)	VOANDQT 21
00260	DIMENSION SHS (7128,1)	VOANDQT 22
00261	DIMENSION P (72,99,1)	VOANDQT 23
		VOANDQT 24
00262	DIMENSION U (72,9,11,1)	VOANDQT 25
00263	DIMENSION V (72,9,11,1)	VOANDQT 26
00264	DIMENSION T (72,9,11,1)	VOANDQT 27
00265	DIMENSION SH (72,9,11,1)	VOANDQT 28
00266	DIMENSION PHI (72,9,11,1)	VOANDQT 29
		VOANDQT 30
00267	EQUIVALENCE (QPROG(1,1,1,1),PHIS (1,1))	VOANDQT 31
00268	EQUIVALENCE (QPROG(1,2,1,1),SMTH (1,1))	VOANDQT 32
00269	EQUIVALENCE (QPROG(1,3,1,1),ALBEDO(1,1))	VOANDQT 33
00270	EQUIVALENCE (QPROG(1,4,1,1),GT (1,1))	VOANDQT 34
00271	EQUIVALENCE (QPROG(1,5,1,1),GW (1,1))	VOANDQT 35
00272	EQUIVALENCE (QPROG(1,6,1,1),TS (1,1))	VOANDQT 36
00273	EQUIVALENCE (QPROG(1,7,1,1),SHS (1,1))	VOANDQT 37
00274	EQUIVALENCE (QPROG(1,8,1,1),P (1,1,1))	VOANDQT 38
		VOANDQT 39
00275	EQUIVALENCE (QPROG(1,1,2,1),U (1,1,1,1))	VOANDQT 40
00276	EQUIVALENCE (QPROG(1,1,4,1),V (1,1,1,1))	VOANDQT 41
00277	EQUIVALENCE (QPROG(1,1,6,1),T (1,1,1,1))	VOANDQT 42
00278	EQUIVALENCE (QPROG(1,1,8,1),SH (1,1,1,1))	VOANDQT 43
00279	EQUIVALENCE (QPROG(1,1,10,1),PHI(1,1,1,1))	VOANDQT 44
		VOANDQT 45
		VOANDQT 46
	SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)	VOANDQT 47
	=====	VOANDQT 48
		VOANDQT 49
00280	COMMON /QANDQT/ QSDIAG(72,15,46)	VOANDQT 50
00281	DIMENSION IQSDIAG(72,15,46)	VOANDQT 51
00282	EQUIVALENCE (QSDIAG,IQSDIAG)	VOANDQT 52
		VOANDQT 53
00283	COMMON /QANDQT/ QUDIAG(72,9,5,46)	VOANDQT 54
		VOANDQT 55
		VQPOLES 2
	POLAR MODEL PROGNOSTIC FIELDS	VQPOLES 3
00284	COMMON /QPOLES/ PP(2,2)	VQPOLES 4
00285	COMMON /QPOLES/ UP(9,2,2)	VQPOLES 5
00286	COMMON /QPOLES/ VP(9,2,2)	VQPOLES 6
00287	COMMON /QPOLES/ TP(9,2,2)	VQPOLES 7
00288	COMMON /QPOLES/ SHP(9,2,2)	VQPOLES 8
00289	COMMON /QPOLES/ PHIP(9,2,2)	VQPOLES 9

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00290 C          BIT BITTEMP(29808)          VQPOLES 10
C * * *          VBIT 12
C * * *          VSHCORN 14
C * * *          VBEGDEB 2
00291 10000 CONTINUE          VBEGDEB 3
C * * *          VBEGDEB 4
C * * *          VBEGDEB 5
C * * *          VBEGDEB 6
00292 M = MJ(J)          VSHCORN 16
00293          IF (M.EQ.0) GO TO 20      VSHCORN 17
C * * *          VSHCORN 18
C * * *          VSHCORN 19
00294 C CORRECT SPECIFIC HUMIDITY AT POLES VSHCORN 20
C * * *          DO 10 L=2,NLAY        VSHCORN 21
00295          LM1 = L - 1              VSHCORN 22
00296          IF (SHP(LM1,NB,M).GE.0.) GO TO 10 VSHCORN 23
00297          SHP(L,NB,M) = SHP(L,NB,M) + SHP(LM1,NB,M)*DSIG(LM1)*DSIGINV(L) VSHCORN 24
00298          SHP(LM1,NB,M) = 0.        VSHCORN 25
00299          10 CONTINUE              VSHCORN 26
00300          SHP(NLAY,NB,M) = AMAX1(SHP(NLAY,NB,M),0.) VSHCORN 27
00301          RETURN                    VSHCORN 28
C * * *          VSHCORN 29
00302 C CORRECT SPECIFIC HUMIDITY ELSEWHERE VSHCORN 30
C * * *          20 CONTINUE          VSHCORN 31
00303          DO 30 L=2,NLAY          VSHCORN 32
00304          LM1 = L - 1              VSHCORN 33
00305          BITTEMP(I;IM) = SH(I,LM1,NB,J;IM).LT.0. VSHCORN 34
00306          IF (QSSCNT(BITTEMP(I;IM)).EQ.0) GOTO 30 VSHCORN 35
00307          TEMPNOW = DSIG(LM1)*DSIGINV(L) VSHCORN 36
C * * *          VSHCORN 37
00308 C          WHERE(BITTEMP(I;IM))    VSHCORN 38
C * * *          S SH(I,L,NB,J;IM) = SH(I,L,NB,J;IM) + TEMPNOW*SH(I,LM1,NB,J;IM) VSHCORN 39
00309          WHERE(BITTEMP(I;IM)) SH(I,LM1,NB,J;IM) = 0. VSHCORN 40
00310          30 CONTINUE              VSHCORN 41
C * * *          VSHCORN 42
00311 C          SH(I,NLAY,NB,J;IM) = .5*(SH(I,NLAY,NB,J;IM) + VSHCORN 43
C * * *          S VABS(SH(I,NLAY,NB,J;IM);IM)) VSHCORN 44
00312          RETURN                    VSHCORN 45
00313          END

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

10	299	294	296
10000	291		
20	302	293	
30	310	303	306

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	217						
ALBEDO	QANDOT	REAL	ARRAY	256	269					
APHEL	CCNTRL	REAL	SIMPLE	157						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	CCNTRL	REAL	SIMPLE	158						
BITTEMP		BIT	ARRAY	290	305/S	306	308	309		
CALTOJ	CCNTRL	REAL	SIMPLE	196						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15				
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8
				13						
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					
CON1	RDPARM	REAL	SIMPLE	218						
CON1DT	RDPARM	REAL	SIMPLE	219						
CON2	RDPARM	REAL	SIMPLE	220						
CON2DT	RDPARM	REAL	SIMPLE	221						
CON3	RDPARM	REAL	SIMPLE	222						
CON3DT	RDPARM	REAL	SIMPLE	223						

CON4	RDPARM	REAL	SIMPLE	224																	
CON4DT	RDPARM	REAL	SIMPLE	225																	
CON5	RDPARM	REAL	SIMPLE	226																	
COSD	RCNTRL	REAL	SIMPLE	159																	
COSL	RDPARM	REAL	ARRAY	227																	
GOSLON	RDPARM	REAL	ARRAY	228																	
CP	RCNTRL	REAL	SIMPLE	160																	
CPD2	RDPARM	REAL	SIMPLE	229																	
CQS	CCNTRL	CHAR*8	ARRAY	12	25																
CQU	CCNTRL	CHAR*8	ARRAY	13	26																
DAYSPLY	RCNTRL	REAL	SIMPLE	161																	
DEC	RCNTRL	REAL	SIMPLE	162																	
DECMAX	RCNTRL	REAL	SIMPLE	163																	
DIST	RCNTRL	REAL	SIMPLE	164																	
DLAT	RCNTRL	REAL	SIMPLE	165																	
DLON	RCNTRL	REAL	SIMPLE	166																	
DSIG	RDPARM	REAL	ARRAY	250	297								307								
DSIGINV	RDPARM	REAL	ARRAY	252	297								307								
DT	RCNTRL	REAL	SIMPLE	167																	
DXP	RDPARM	REAL	ARRAY	230																	
DXYP	RDPARM	REAL	ARRAY	231																	
DYP	RDPARM	REAL	ARRAY	232																	
ECCN	RCNTRL	REAL	SIMPLE	168																	
EPS	RCNTRL	REAL	SIMPLE	194																	
EPSFAC	RCNTRL	REAL	SIMPLE	195																	
F1DT	RDPARM	REAL	SIMPLE	234																	
F2DT	RDPARM	REAL	SIMPLE	235																	
FCORLS	RDPARM	REAL	ARRAY	233																	
FILTER	LDPARM	LOGICAL	ARRAY	211	214																
GNU1	RCNTRL	REAL	SIMPLE	169																	
GNU2	RCNTRL	REAL	SIMPLE	170																	
GRAV	RCNTRL	REAL	SIMPLE	171																	
GT	QANDQT	REAL	ARRAY	257	270																
GW	QANDQT	REAL	ARRAY	258	271																
H1DT	RDPARM	REAL	SIMPLE	236																	
H2DT	RDPARM	REAL	SIMPLE	237																	
HEATI	RCNTRL	REAL	SIMPLE	193																	
HEATW	RCNTRL	REAL	SIMPLE	192																	
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																	
IC	ICNTRL	INTEGER	ARRAY	95	96																
IGO	ICNTRL	INTEGER	SIMPLE	27	95	96															
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37							
				38	39	40	41	42	43	44	45	46	47	48							
				49	50	51	52	53	54	55	56	57	58	59							
				60	61	62	63	64	65	66	67	68	69	70							
				71	72	73	74	75	76	77	78										
				68																	
ICSP53	ICNTRL	INTEGER	SIMPLE	92																	
IDIABAT	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210							
IDPARM	IDPARM	INTEGER	UNKNOWN	201																	
IDSP02	IDPARM	INTEGER	SIMPLE	84																	
IEFLUX	ICNTRL	INTEGER	UNKNOWN	85																	
IFUSION	ICNTRL	INTEGER	UNKNOWN	83																	
IHFLUX	ICNTRL	INTEGER	UNKNOWN	88																	
IICLOUD	ICNTRL	INTEGER	UNKNOWN	200																	
IJUMP	IDPARM	INTEGER	ARRAY	28	305	305	306	308	308	308	308	309	309	311							
IM	ICNTRL	INTEGER	SIMPLE	311	311	311															
				29																	
IMD2	ICNTRL	INTEGER	SIMPLE	30																	
IMD2P1	ICNTRL	INTEGER	SIMPLE	202																	
INDEX	IDPARM	INTEGER	ARRAY	91																	
IOMEGA	ICNTRL	INTEGER	UNKNOWN	81																	
IPREACC	ICNTRL	INTEGER	UNKNOWN	82																	
IPRECON	ICNTRL	INTEGER	UNKNOWN	77	79	80	81	82	83	84	85	86	87	88							
IQS	ICNTRL	INTEGER	ARRAY	89	90																
				281	282																
IQSDIAG	QANDQT	INTEGER	ARRAY	78	91	92	93	94													
IQU	ICNTRL	INTEGER	ARRAY	94																	
IRADLW	ICNTRL	INTEGER	UNKNOWN	87																	
IRADLWG	ICNTRL	INTEGER	UNKNOWN	93																	
IRADSW	ICNTRL	INTEGER	UNKNOWN																		

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IRADSWG	ICNTRL	INTEGER	UNKNOWN	86																	
IROD	IDPARM	INTEGER	SIMPLE	203																	
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215																
ITMAX	ICNTRL	INTEGER	UNKNOWN	80																	
ITMIN	ICNTRL	INTEGER	UNKNOWN	79																	
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89																	
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90																	
J		INTEGER	SIMPLE	1	292	305	308	308	308	309	311	311	311								
JC	IDPARM	INTEGER	ARRAY	204																	
JE	IDPARM	INTEGER	ARRAY	205																	
JIC	CCNTRL	CHAR*B	SIMPLE	5	18																
JM	ICNTRL	INTEGER	SIMPLE	32																	
JMD2	ICNTRL	INTEGER	SIMPLE	33																	
JMT2	ICNTRL	INTEGER	SIMPLE	34																	
JNP	ICNTRL	INTEGER	SIMPLE	35																	
JO4	ICNTRL	INTEGER	SIMPLE	36																	
JO8	ICNTRL	INTEGER	SIMPLE	37																	
JOB	CCNTRL	CHAR*B	SIMPLE	6	19																
JF	IDPARM	INTEGER	ARRAY	206																	
JSP	ICNTRL	INTEGER	SIMPLE	38																	
KLIALB	ICNTRL	INTEGER	SIMPLE	39																	
KLIGH	ICNTRL	INTEGER	SIMPLE	40																	
KLISST	ICNTRL	INTEGER	SIMPLE	41																	
KS	ICNTRL	INTEGER	SIMPLE	42																	
KSTEP	IDPARM	INTEGER	SIMPLE	207																	
KU	ICNTRL	INTEGER	SIMPLE	43																	
L		INTEGER	SIMPLE	294/C	295	297	297	297	303/C	304	307	308	308								
LC	LCNTRL	LOGICAL	ARRAY	154	155																
LCO	LCNTRL	LOGICAL	SIMPLE	97	154	155															
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107							
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109																
LDPARM		INTEGER	UNKNOWN	123	151																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143																
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144																
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142																
LM1		INTEGER	SIMPLE	119	147																
LOGBR	ICNTRL	INTEGER	SIMPLE	295/S	296	297	297	298	304/S	305	307	308	309								
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	44																	
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150																
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140																
LQS	LCNTRL	LOGICAL	ARRAY	113	141																
LQU	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119							
LRADLW	LCNTRL	LOGICAL	UNKNOWN	120	121	123															
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	109	122	124	125	125	137												
LRADSW	LCNTRL	LOGICAL	UNKNOWN	125	153																
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	118	146																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152																
LTMIN	LCNTRL	LOGICAL	UNKNOWN	117	145																
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	111	139																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138																
M		INTEGER	SIMPLE	120	148																
MATIN	ICNTRL	INTEGER	SIMPLE	121	149																
MATSNX	ICNTRL	INTEGER	SIMPLE	292/S	293	296	297	297	297	298	300	300									
MATSUN	ICNTRL	INTEGER	SIMPLE	45																	
MJ	IDPARM	INTEGER	ARRAY	46																	
MLF	ICNTRL	INTEGER	ARRAY	47																	
MROD	ICNTRL	INTEGER	SIMPLE	208	292																
MSM	ICNTRL	INTEGER	SIMPLE	48																	
NB	ICNTRL	INTEGER	SIMPLE	49																	
ND		INTEGER	SIMPLE	51																	
NDALT	ICNTRL	INTEGER	SIMPLE	52	296	297	297	297	298	300	300	305	308	308							
NDAY	ICNTRL	INTEGER	SIMPLE	308	309	311	311	311													
NDHOG	ICNTRL	INTEGER	SIMPLE	53																	
NDOUT	ICNTRL	INTEGER	SIMPLE	54																	
NDPHY	ICNTRL	INTEGER	SIMPLE	55																	
NDRSW	ICNTRL	INTEGER	SIMPLE	76																	
		INTEGER	SIMPLE	56																	
		INTEGER	SIMPLE	57																	
		INTEGER	SIMPLE	31																	

NDSHF	ICNTRL	INTEGER	SIMPLE	58											
NDT	ICNTRL	INTEGER	SIMPLE	59											
NHMS	ICNTRL	INTEGER	SIMPLE	60											
NHMSO	ICNTRL	INTEGER	SIMPLE	62											
NHMS1	IDPARM	INTEGER	SIMPLE	209											
NHMSE	ICNTRL	INTEGER	SIMPLE	61											
NKRSH	ICNTRL	INTEGER	SIMPLE	50											
NLAY	ICNTRL	INTEGER	SIMPLE	63	294	300	300	303	311	311	311				
NLAYM1	ICNTRL	INTEGER	SIMPLE	64											
NLAYP1	ICNTRL	INTEGER	SIMPLE	65											
NMLEV	ICNTRL	INTEGER	SIMPLE	75											
NSDAY	ICNTRL	INTEGER	SIMPLE	66											
NSEQ	ICNTRL	INTEGER	SIMPLE	67											
NSTEP	ICNTRL	INTEGER	SIMPLE	69											
NYMD	ICNTRL	INTEGER	SIMPLE	71											
NYMD0	ICNTRL	INTEGER	SIMPLE	73											
NYMD1	IDPARM	INTEGER	SIMPLE	210											
NYMDE	ICNTRL	INTEGER	SIMPLE	72											
NZINIT	ICNTRL	INTEGER	SIMPLE	74											
OMEGA2	RCNTRL	REAL	SIMPLE	172											
P	QANDQT	REAL	ARRAY	251	274										
PHI	QANDQT	REAL	ARRAY	266	279										
PHIP	QPOLES	REAL	ARRAY	289											
PHIS	QANDQT	REAL	ARRAY	254	267										
PI	RCNTRL	REAL	SIMPLE	173											
PI180	RCNTRL	REAL	SIMPLE	174											
PI2	RCNTRL	REAL	SIMPLE	175											
PIMEAN	RCNTRL	REAL	SIMPLE	177											
PKSTD	RDPARM	REAL	SIMPLE	238											
PKTOP	RDPARM	REAL	SIMPLE	239											
PLEVS	RCNTRL	REAL	ARRAY	191											
PP	QPOLES	REAL	ARRAY	284											
PSMAX	RCNTRL	REAL	SIMPLE	178											
PSMIN	RCNTRL	REAL	SIMPLE	179											
PSTD	RCNTRL	REAL	SIMPLE	176											
PTOP	RCNTRL	REAL	SIMPLE	180											
PZERO	RCNTRL	REAL	SIMPLE	197											
QALT	LCNTRL	LOGICAL	SIMPLE	98	126										
QANDQT	REAL	UNKNOWN		253	280	283									
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127										
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128										
QEND	LCNTRL	LOGICAL	SIMPLE	101	129										
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130										
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131										
QPOLES	REAL	UNKNOWN		284	285	286	287	288	289						
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276	
				277	278	279									
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135										
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134										
QSDIAG	QANDQT	REAL	ARRAY	280	282										
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132										
QUDIAG	QANDQT	REAL	ARRAY	283											
RADE	RCNTRL	REAL	SIMPLE	181											
RC	RCNTRL	REAL	ARRAY	198	199										
RCO	RCNTRL	REAL	SIMPLE	156	198	199									
RCNTRL	REAL	UNKNOWN		156	157	158	159	160	161	162	163	164	165	166	
				167	168	169	170	171	172	173	174	175	176	177	
				178	179	180	181	182	183	184	185	186	187	188	
				189	190	191	192	193	194	195	196	197			
				217	218	219	220	221	222	223	224	225	226	227	
				228	229	230	231	232	233	234	235	236	237	238	
				239	240	241	242	243	244	245	246	247	248	249	
				250	251	252									
RDPARM	REAL	UNKNOWN													
RGAS	RCNTRL	REAL	SIMPLE	182											
RLAT	RDPARM	REAL	ARRAY	240											
RLATD	RDPARM	REAL	ARRAY	241											
ROCP	RCNTRL	REAL	SIMPLE	183											
ROCPDT	RDPARM	REAL	SIMPLE	242											
ROCPP1	RDPARM	REAL	SIMPLE	243											

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RSDIST	RCNTRL	REAL	SIMPLE	184															
SDAY	RCNTRL	REAL	SIMPLE	185															
SEASON	RCNTRL	REAL	SIMPLE	186															
SGNP	RDPARM	REAL	ARRAY	244															
SH	RDPARM	REAL	ARRAY	244															
SHCORN	QANDQT	REAL	ARRAY	265	278	305	308/S	308	308	309/S	311/S	311	311						
SHP	QPOLES	REAL	SUBROUTINE	1															
SHS	QANDQT	REAL	ARRAY	288	296														
SIG	RDPARM	REAL	ARRAY	260	273	297/S	297	297	298/S	300/S	300								
SIGE	RCNTRL	REAL	ARRAY	251															
SIND	RCNTRL	REAL	ARRAY	187															
SINL	RCNTRL	REAL	SIMPLE	188															
SINLON	RDPARM	REAL	ARRAY	246															
SMTH	RDPARM	REAL	ARRAY	246															
SN2FLG	QANDQT	REAL	ARRAY	255	268														
SOLS	LCNTRL	LOGICAL	SIMPLE	105	133														
START	RCNTRL	REAL	SIMPLE	189															
T	LDPARM	LOGICAL	SIMPLE	213	216														
TEMPNOW	QANDQT	REAL	ARRAY	264	277														
THSTD	RDPARM	REAL	SIMPLE	307/S	308														
THSTD2	RDPARM	REAL	SIMPLE	247															
TP	RDPARM	REAL	SIMPLE	248															
TS	QPOLES	REAL	ARRAY	287															
TSTD	QANDQT	REAL	ARRAY	259	272														
U	RCNTRL	REAL	SIMPLE	190															
UP	QANDQT	REAL	ARRAY	262	275														
V	QPOLES	REAL	ARRAY	285															
VER	QANDQT	REAL	ARRAY	263	276														
VP	CCNTRL	CHAR*8	SIMPLE	10	23														
WSAVE	QPOLES	REAL	ARRAY	286															
XLABEL	RDPARM	REAL	ARRAY	249															
	CCNTRL	CHAR*8	ARRAY	11	24														

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
AMAX1	REAL	INTRINSIC	300
QBSCNT	INTEGER	INTRINSIC	306
VABS	REAL	INTRINSIC	311

D=STMT FN DEF A=ARGLIST

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00001      SUBROUTINE SMSHAP
C
C      APPLY TWO-WAY SHAPIRO FILTER TO MODEL GLOBAL FIELDS
C      SEA LEVEL PRESSURE, SEA LEVEL TEMPERATURE, POTENTIAL TEMPERATURES,
C      AND U AND V WIND COMPONENTS
C
C      CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C      -----
00002      COMMON /CCNTRL/  CCO
00003      COMMON /CCNTRL/  ADATE
00004      COMMON /CCNTRL/  ATIME
00005      COMMON /CCNTRL/  JIC
00006      COMMON /CCNTRL/  JOB
00007      COMMON /CCNTRL/  CCSP06
00008      COMMON /CCNTRL/  CCSP07
00009      COMMON /CCNTRL/  CCSP08
00010      COMMON /CCNTRL/  VER
00011      COMMON /CCNTRL/  XLABEL (10)
00012      COMMON /CCNTRL/  CQS (30)
00013      COMMON /CCNTRL/  CQU (10)
C
00014      EQUIVALENCE      (CCO,CC(1))
00015      CHARACTER*8      GC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
00025      CHARACTER*8      CQS
00026      CHARACTER*8      CQU
C
C      INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C      -----
00027      COMMON /ICNTRL/  ICO
00028      COMMON /ICNTRL/  IM
00029      COMMON /ICNTRL/  IMD2
00030      COMMON /ICNTRL/  IMD2P1
00031      COMMON /ICNTRL/  NDRSW
00032      COMMON /ICNTRL/  JM
00033      COMMON /ICNTRL/  JMD2
00034      COMMON /ICNTRL/  JMT2
00035      COMMON /ICNTRL/  JNP
00036      COMMON /ICNTRL/  JO4
00037      COMMON /ICNTRL/  JOB
00038      COMMON /ICNTRL/  JSP
00039      COMMON /ICNTRL/  KLIALB
00040      COMMON /ICNTRL/  KLIGW
00041      COMMON /ICNTRL/  KLISST
00042      COMMON /ICNTRL/  KS
00043      COMMON /ICNTRL/  KU
00044      COMMON /ICNTRL/  LOGBR
00045      COMMON /ICNTRL/  MATIN
00046      COMMON /ICNTRL/  MATSNX
00047      COMMON /ICNTRL/  MATSUN
00048      COMMON /ICNTRL/  MLF (12)
00049      COMMON /ICNTRL/  MRD
00050      COMMON /ICNTRL/  NKRSH
00051      COMMON /ICNTRL/  MSM
00052      COMMON /ICNTRL/  NB
00053      COMMON /ICNTRL/  ND
00054      COMMON /ICNTRL/  NDALT
00055      COMMON /ICNTRL/  NDAY
00056      COMMON /ICNTRL/  NDOUT
00057      COMMON /ICNTRL/  NDPHY
00058      COMMON /ICNTRL/  NDSHF
00059      COMMON /ICNTRL/  NDT
VSMSHAP 2
VSMSHAP 3
VSMSHAP 4
VSMSHAP 5
VSMSHAP 6
VSMSHAP 7
VCNTRL  2
VCNTRL  3
VCNTRL  4
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VCNTRL  6
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VCNTRL 65
VCNTRL 66

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00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (ICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (ICO, IC(1))	VCNTRL 105
00096	INTEGER ICO, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C	VCNTRL 108
	C	VCNTRL 109
	C	VCNTRL 110
	C	VCNTRL 111
	C	VCNTRL 112
	C	VCNTRL 113
	C	VCNTRL 114
	C	VCNTRL 115
	C	VCNTRL 116
	C	VCNTRL 117
	C	VCNTRL 118
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	C	VCNTRL 120
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	C	VCNTRL 134
	C	VCNTRL 135
	C	VCNTRL 136
	C	VCNTRL 137
00097	COMMON /LCNTRL/ LCO	
00098	COMMON /LCNTRL/ QALT	
00099	COMMON /LCNTRL/ QBEG	
00100	COMMON /LCNTRL/ QDAY	
00101	COMMON /LCNTRL/ QEND	
00102	COMMON /LCNTRL/ QOUT	
00103	COMMON /LCNTRL/ QPHY	
00104	COMMON /LCNTRL/ QSHF	
00105	COMMON /LCNTRL/ SN2FLG	
00106	COMMON /LCNTRL/ QRSW	
00107	COMMON /LCNTRL/ QRSR	
00108	COMMON /LCNTRL/ LQS(30)	
00109	COMMON /LCNTRL/ LQU(10)	
	C	
00110	EQUIVALENCE (LTMIN .LQS(1))	
00111	EQUIVALENCE (LTMAX .LQS(2))	
00112	EQUIVALENCE (LPREACC .LQS(3))	
00113	EQUIVALENCE (LPRECON .LQS(4))	
00114	EQUIVALENCE (LHFLUX .LQS(5))	
00115	EQUIVALENCE (LEFLUX .LQS(6))	
00116	EQUIVALENCE (LFUSION .LQS(7))	
00117	EQUIVALENCE (LRADSWG .LQS(8))	
00118	EQUIVALENCE (LRADLWG .LQS(9))	
00119	EQUIVALENCE (LICLOUD .LQS(10))	
00120	EQUIVALENCE (LUFLUX .LQS(11))	
00121	EQUIVALENCE (LVFLUX .LQS(12))	
	C	
00122	EQUIVALENCE (LOMEGA .LQU(1))	

00123	EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 140
C			VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
C			VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
C			VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
C			VCNTRL 172
00154	EQUIVALENCE	(LC0,LC(1))	VCNTRL 173
00155	LOGICAL	LC0, LC(200)	VCNTRL 174
C			VCNTRL 175
C			VCNTRL 176
C			VCNTRL 177
C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL 178
C	=====		VCNTRL 179
00156	COMMON /RCNTRL/ RCO		VCNTRL 180
00157	COMMON /RCNTRL/ APHEL		VCNTRL 181
00158	COMMON /RCNTRL/ BETA		VCNTRL 182
00159	COMMON /RCNTRL/ COSD		VCNTRL 183
00160	COMMON /RCNTRL/ CP		VCNTRL 184
00161	COMMON /RCNTRL/ DAYSPY		VCNTRL 185
00162	COMMON /RCNTRL/ DEC		VCNTRL 186
00163	COMMON /RCNTRL/ DECMAX		VCNTRL 187
00164	COMMON /RCNTRL/ DIST		VCNTRL 188
00165	COMMON /RCNTRL/ DLAT		VCNTRL 189
00166	COMMON /RCNTRL/ DLON		VCNTRL 190
00167	COMMON /RCNTRL/ DT		VCNTRL 191
00168	COMMON /RCNTRL/ ECCN		VCNTRL 192
00169	COMMON /RCNTRL/ GNU1		VCNTRL 193
00170	COMMON /RCNTRL/ GNU2		VCNTRL 194
00171	COMMON /RCNTRL/ GRAV		VCNTRL 195
00172	COMMON /RCNTRL/ OMEGA2		VCNTRL 196
00173	COMMON /RCNTRL/ PI		VCNTRL 197
00174	COMMON /RCNTRL/ P1180		VCNTRL 198
00175	COMMON /RCNTRL/ P12		VCNTRL 199
00176	COMMON /RCNTRL/ PSTD		VCNTRL 200
00177	COMMON /RCNTRL/ PIMEAN		VCNTRL 201
00178	COMMON /RCNTRL/ PSMAX		VCNTRL 202
00179	COMMON /RCNTRL/ PSMIN		VCNTRL 203
00180	COMMON /RCNTRL/ PTOP		VCNTRL 204
00181	COMMON /RCNTRL/ RADE		VCNTRL 205
00182	COMMON /RCNTRL/ RGAS		VCNTRL 206
00183	COMMON /RCNTRL/ ROCP		VCNTRL 207
00184	COMMON /RCNTRL/ RSDIST		VCNTRL 208
00185	COMMON /RCNTRL/ SDAY		
00186	COMMON /RCNTRL/ SEASON		

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00187	COMMON /RCNTRL/ SIGE	(25)	VCNTRL	209
00188	COMMON /RCNTRL/ SIND		VCNTRL	210
00189	COMMON /RCNTRL/ SOLS		VCNTRL	211
00190	COMMON /RCNTRL/ TSTD		VCNTRL	212
00191	COMMON /RCNTRL/ PLEVS	(25)	VCNTRL	213
00192	COMMON /RCNTRL/ HEATW		VCNTRL	214
00193	COMMON /RCNTRL/ HEATI		VCNTRL	215
00194	COMMON /RCNTRL/ EPS		VCNTRL	216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL	217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL	218
00197	COMMON /RCNTRL/ PZERO		VCNTRL	219
	C		VCNTRL	220
00198	EQUIVALENCE	(RC0, RC(1))	VCNTRL	221
00199	REAL	RC0, RC(200)	VCNTRL	222
	C		VCNTRL	223
	C	INTEGER MODEL CONSTANTS	VCNTRL	224
	C	=====	VCNTRL	225
00200	COMMON /IDPARM/ IJUMP	(46)	VCNTRL	226
00201	COMMON /IDPARM/ IDSP02		VCNTRL	227
00202	COMMON /IDPARM/ INDEX	(72)	VCNTRL	228
00203	COMMON /IDPARM/ IROD		VCNTRL	229
00204	COMMON /IDPARM/ JC	(46)	VCNTRL	230
00205	COMMON /IDPARM/ JE	(2)	VCNTRL	231
00206	COMMON /IDPARM/ JP	(2,2)	VCNTRL	232
00207	COMMON /IDPARM/ KSTEP		VCNTRL	233
00208	COMMON /IDPARM/ MJ	(46)	VCNTRL	234
00209	COMMON /IDPARM/ NHMS1		VCNTRL	235
00210	COMMON /IDPARM/ NYMD1		VCNTRL	236
	C		VCNTRL	237
	C	LOGICAL MODEL CONSTANTS	VCNTRL	238
	C	=====	VCNTRL	239
00211	COMMON /LDPARM/ FILTER	(46)	VCNTRL	240
00212	COMMON /LDPARM/ ITAPE		VCNTRL	241
00213	COMMON /LDPARM/ START		VCNTRL	242
	C		VCNTRL	243
00214	LOGICAL	FILTER	VCNTRL	244
00215	LOGICAL	ITAPE	VCNTRL	245
00216	LOGICAL	START	VCNTRL	246
	C		VCNTRL	247
	C	REAL MODEL CONSTANTS	VCNTRL	248
	C	=====	VCNTRL	249
00217	COMMON /RDPARM/ ADLOP		VCNTRL	250
00218	COMMON /RDPARM/ CON1		VCNTRL	251
00219	COMMON /RDPARM/ CON1DT		VCNTRL	252
00220	COMMON /RDPARM/ CON2		VCNTRL	253
00221	COMMON /RDPARM/ CON2DT		VCNTRL	254
00222	COMMON /RDPARM/ CON3		VCNTRL	255
00223	COMMON /RDPARM/ CON3DT		VCNTRL	256
00224	COMMON /RDPARM/ CON4		VCNTRL	257
00225	COMMON /RDPARM/ CON4DT		VCNTRL	258
00226	COMMON /RDPARM/ CONS		VCNTRL	259
00227	COMMON /RDPARM/ COSL	(46)	VCNTRL	260
00228	COMMON /RDPARM/ COSLON	(72)	VCNTRL	261
00229	COMMON /RDPARM/ CPD2		VCNTRL	262
00230	COMMON /RDPARM/ DXP	(46)	VCNTRL	263
00231	COMMON /RDPARM/ DXYP	(46)	VCNTRL	264
00232	COMMON /RDPARM/ DYP	(46)	VCNTRL	265
00233	COMMON /RDPARM/ FCORLS	(46)	VCNTRL	266
00234	COMMON /RDPARM/ F1DT		VCNTRL	267
00235	COMMON /RDPARM/ F2DT		VCNTRL	268
00236	COMMON /RDPARM/ H1DT		VCNTRL	269
00237	COMMON /RDPARM/ H2DT		VCNTRL	270
00238	COMMON /RDPARM/ PKSTD		VCNTRL	271
00239	COMMON /RDPARM/ PKTOP		VCNTRL	272
00240	COMMON /RDPARM/ RLAT	(46)	VCNTRL	273
00241	COMMON /RDPARM/ RLATD	(46)	VCNTRL	274
00242	COMMON /RDPARM/ ROCPDT		VCNTRL	275
00243	COMMON /RDPARM/ ROCPP1		VCNTRL	276
00244	COMMON /RDPARM/ SGNP	(2)	VCNTRL	277
00245	COMMON /RDPARM/ SINL	(46)	VCNTRL	278
00246	COMMON /RDPARM/ SINLON	(72)	VCNTRL	279

00247	COMMON	/RDPARM/	THSTD	VCNTRL	280
00248	COMMON	/RDPARM/	THSTD2	VCNTRL	281
00249	COMMON	/RDPARM/	WSAVE (159)	VCNTRL	282
00250	COMMON	/RDPARM/	DSIG (9)	VCNTRL	283
00251	COMMON	/RDPARM/	SIG (9)	VCNTRL	284
00252	COMMON	/RDPARM/	DSIGINV (9)	VCNTRL	285
				VCNTRL	286
				VOANDQT	2
				VOANDQT	3
				VOANDQT	4
				VOANDQT	5
				VOANDQT	6
				VOANDQT	7
				VOANDQT	8
				VOANDQT	9
				VOANDQT	10
				VOANDQT	11
				VOANDQT	12
				VOANDQT	13
				VOANDQT	14
				VOANDQT	15
				VOANDQT	16
				VOANDQT	17
				VOANDQT	18
				VOANDQT	19
				VOANDQT	20
				VOANDQT	21
				VOANDQT	22
				VOANDQT	23
				VOANDQT	24
				VOANDQT	25
				VOANDQT	26
				VOANDQT	27
				VOANDQT	28
				VOANDQT	29
				VOANDQT	30
				VOANDQT	31
				VOANDQT	32
				VOANDQT	33
				VOANDQT	34
				VOANDQT	35
				VOANDQT	36
				VOANDQT	37
				VOANDQT	38
				VOANDQT	39
				VOANDQT	40
				VOANDQT	41
				VOANDQT	42
				VOANDQT	43
				VOANDQT	44
				VOANDQT	45
				VOANDQT	46
				VOANDQT	47
				VOANDQT	48
				VOANDQT	49
				VOANDQT	50
				VOANDQT	51
				VOANDQT	52
				VOANDQT	53
				VOANDQT	54
				VOANDQT	55
				VQPOLES	2
				VQPOLES	3
				VQPOLES	4
				VQPOLES	5
				VQPOLES	6
				VQPOLES	7
				VQPOLES	8
				VQPOLES	9
				VQPOLES	10
				VBIT	2

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00291 COMMON PQ(72,9), SUP(72), SVP(72) VSMSCM 2
00292 COMMON D1(3312), D2(3312), DY1(72), DY2(72) VSMSCM 3
00293 COMMON FLD(72,46,12) VSMSCM 4
00294 COMMON UVF(72,46,18) VSMSCM 5
00295 COMMON CARD(10), DATA(144), CATA(144) VSMSCM 6
00296 BIT BIT1(3312), DIT1 VSMSCM 7
00297 DESCRIPTOR DIT1 VSMSCM 8
00298 CHARACTER*8 CARD VSMSCM 9
00299 COMMON /IMJM/ IMM1, IMM2, IMM3, IMM4, IMM5, VIMJM 20
          IMT2, IMT4, VIMJM 3
          IMNLAY1, IMNLAY2, IMNLAY3, IMNLAY4, IMNLAY5, VIMJM 4
          IMD2M1, VIMJM 5
          NLAYT2, NLAYT3, NLAYT4, NLAYT5, NLAYT6, NLAYT7 VIMJM 6
C * * * * * VSLEXP 22
C SURFACE TO SEA LEVEL PRESSURE EXPONENT FUNCTION VSLEXP 3
SLEXP(TS,PHIS) = EXP(PHIS/(RGAS*(TS+.5*BETA*PHIS/GRAV))) VSLEXP 4
C * * * * * VSLEXP 5
C * * * * * VSMSHAP 15
C DEBUG VBEGDEB 22
10000 CONTINUE VBEGDEB 3
C * * * * * VBEGDEB 4
C * * * * * VBEGDEB 5
C * * * * * VBEGDEB 6
00301 ***** CYBER VECTOR VERSION 00.001 INPUT IOQ
C * * * * * VBEGDEB 5
C ***** VBEGDEB 6
00302 BETAG = BETA/GRAV VSMSHAP 17
00303 BETAG5 = .5*BETAG VSMSHAP 18
C * * * * * VSMSHAP 19
C * * * * * VSMSHAP 20
C * * * * * VSMSHAP 21
C * * * * * VSMSHAP 22
C * * * * * VSMSHAP 23
C * * * * * VSMSHAP 24
C * * * * * VSMSHAP 25
C * * * * * VSMSHAP 26
00304 LM = 2 + NLAY + 1 VSMSHAP 27
00305 LMF = 2*NLAY VSMSHAP 28
00306 M = 1 VSMSHAP 29
00307 DO 240 J=1,JNP VSMSHAP 30
00308 IF (J.NE.1 .AND. J.NE.JNP) GO TO 120 VSMSHAP 31
00309 FLD(1,J,1) = (PP(NB,M) + PTOP)*SLEXP(TS(1,J),PHIS(1,J)) VSMSHAP 32
00310 FLD(2,J,1;IMM1) = FLD(1,J,1) VSMSHAP 33
00311 FLD(1,J,2) = TS(1,J) + BETAG*PHIS(1,J) VSMSHAP 34
00312 FLD(2,J,2;IMM1) = FLD(1,J,2) VSMSHAP 35
00313 FLD(1,J,2+NLAY+1) = GT(1,J) + BETAG*PHIS(1,J) VSMSHAP 36
00314 FLD(2,J,2+NLAY+1;IMM1) = FLD(1,J,2+NLAY+1) VSMSHAP 37
C * * * * * VSMSHAP 38
00315 DO 105 L=1,NLAY VSMSHAP 39
00316 FLD(1,J,2+L) = TP(L,NB,M)/EXPBYX(PP(NB,M)*SIG(L)-PTOP) VSMSHAP 40
00317 FLD(2,J,2+L;IMM1) = FLD(1,J,2+L) VSMSHAP 41
00318 105 CONTINUE VSMSHAP 42
C * * * * * VSMSHAP 43
00319 GO TO 140 VSMSHAP 44
00320 120 CONTINUE VSMSHAP 45
C * * * * * VSMSHAP 46
C * * * * * VSMSHAP 47
C * * * * * VSMSHAP 48
C * * * * * VSMSHAP 49
C * * * * * VSMSHAP 50
C * * * * * VSMSHAP 51
C * * * * * VSMSHAP 52
C * * * * * VSMSHAP 53
00321 CATA(1;IM) = TS(1,J;IM) + BETAG5*PHIS(1,J;IM) VSMSHAP 54
00322 CATA(1;IM) = RGAS*CATA(1;IM) VSMSHAP 55
00323 CATA(1;IM) = PHIS(1,J;IM)/CATA(1;IM) VSMSHAP 56
00324 PQ(1,1;IM) = VEXP(CATA(1;IM);PQ(1,1;IM)) VSMSHAP 57
C * * * * * VSMSHAP 58
00325 FLD(1,J,1;IM) = (P(1,NB,J;IM) + PTOP)*PQ(1,1;IM) VSMSHAP 59
00326 FLD(1,J,2;IM) = TS(1,J;IM) + BETAG*PHIS(1,J;IM) VSMSHAP 60
00327 FLD(1,J,2+NLAY+1;IM) = GT(1,J;IM) + BETAG*PHIS(1,J;IM) VSMSHAP 61
C * * * * * VSMSHAP 62
00328 DO 130 L=1,NLAY VSMSHAP 63
00329 PQ(1,L;IM) = P(1,NB,J;IM)*SIG(L) + PTOP VSMSHAP 64

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00411 1320 CONTINUE
00412 M I R GO TO 1380
00413 CONTINUE
00414 1340 CONTINUE
00415 CALL ZEITBEG(SHSHF F2UV)
00416 DO 1360 L=1,NLAY
00417 U(I,L,NB,J;IM) = UVF(I,J,L;IM)
00418 V(I,L,NB,J;IM) = UVF(I,J,L,NLAY;IM)
00419 1360 CONTINUE
00420 CALL ZEITEND
00421 1380 CONTINUE
00422 1400 CONTINUE
00423 1900 CONTINUE
00424 WRITE (3,6000)
00425 RETURN
C * * *
00426 6000 FORMAT ('GSHAPIRO SMOOTHER APPLIED ')
00427 END

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VSM SHAP207
VSM SHAP208
VSM SHAP209
VSM SHAP210
VSM SHAP211
VSM SHAP212
VSM SHAP213
VSM SHAP214
VSM SHAP215
VSM SHAP216
VSM SHAP216
VSM SHAP217
VSM SHAP218
VSM SHAP219
VSM SHAP219
VSM SHAP220
VSM SHAP221
VSM SHAP222
VSM SHAP223
VSM SHAP224

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

10000	301		
105	318	315	
1130	391	389	
1180	360	356	
1190	365	361	
120	320	308	
1200	366		
1230	376	373	
1235	380	377	
1240	382	369	
1250	396	394	
1280	400	381	
130	330	328	
1300	401		
1320	411	403	
1340	414	402	
135	335	333	
1360	419	416	
1380	421	368	413
140	337	319	
1400	422		
1900	423		
200	338		
210	344	340	
220	347	339	
230	352	349	
240	354	307	346
300	355		
6000	426	424	

VARIABLE MAP
 --NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W				
ADATE	CCNTRL	CHAR*B	SIMPLE	3	16									
ADLDP	RDPARM	REAL	SIMPLE	217										
ALBEDO	QANDQT	REAL	ARRAY	256	269									
APHEL	RCNTRL	REAL	SIMPLE	157										
ATIME	CCNTRL	CHAR*B	SIMPLE	4	17									
BETA	RCNTRL	REAL	SIMPLE	158	300	302								
BETAG		REAL	SIMPLE	302/S	303	311	313	326	327	370	378	383	399	
BETAGS		REAL	SIMPLE	303/S	321	384								
BIT1		BIT	ARRAY	296										
BITTEMP		BIT	ARRAY	290	398/S	399								
CALTOJ	RCNTRL	REAL	SIMPLE	196										
CARD	//	CHAR*B	ARRAY	295	298									
CATA	//	REAL	ARRAY	295	321/S	322/S	322	323/S	323	324	384/S	385/S	386	386
				386	387									
CC	CCNTRL	CHAR*B	ARRAY	14	15									
CCO	CCNTRL	CHAR*B	SIMPLE	2	14	15								

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		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12
CCNTRL				2										
CCSP06	CCNTRL	CHAR*8	SIMPLE	13										
CCSP07	CCNTRL	CHAR*8	SIMPLE	7	20									
CCSP08	CCNTRL	CHAR*8	SIMPLE	8	21									
CON1	RDPARM	REAL	SIMPLE	9	22									
CON1DT	RDPARM	REAL	SIMPLE	218										
CON2	RDPARM	REAL	SIMPLE	219										
CON2DT	RDPARM	REAL	SIMPLE	220										
CON3	RDPARM	REAL	SIMPLE	221										
CON3DT	RDPARM	REAL	SIMPLE	222										
CON4	RDPARM	REAL	SIMPLE	223										
CON4DT	RDPARM	REAL	SIMPLE	224										
CON5	RDPARM	REAL	SIMPLE	225										
COSD	RCNTRL	REAL	SIMPLE	226										
COSL	RDPARM	REAL	ARRAY	159										
COSLON	RDPARM	REAL	ARRAY	227										
CP	RCNTRL	REAL	SIMPLE	228	342	343	405	406	409	410				
CPD2	RDPARM	REAL	SIMPLE	160										
CQS	CCNTRL	CHAR*8	ARRAY	229										
CQU	CCNTRL	CHAR*8	ARRAY	12	25									
D1	///	REAL	ARRAY	13	26									
D2	///	REAL	ARRAY	292										
DATA	///	REAL	ARRAY	292										
DAYSPY	RCNTRL	REAL	SIMPLE	295										
DEC	RCNTRL	REAL	SIMPLE	161										
DECMAX	RCNTRL	REAL	SIMPLE	162										
DIST	RCNTRL	REAL	SIMPLE	163										
DIT1		BIT	DESCRIPTOR	164										
DLAT	RCNTRL	REAL	SIMPLE	296	297									
DLOK	RDPARM	REAL	SIMPLE	165										
DSIG	RDPARM	REAL	ARRAY	166										
DSIGINV	RDPARM	REAL	ARRAY	250										
DT	RCNTRL	REAL	SIMPLE	252										
DXP	RDPARM	REAL	ARRAY	167										
DXP	RDPARM	REAL	ARRAY	230										
DY1	///	REAL	ARRAY	231										
DY2	///	REAL	ARRAY	231										
DYP	RDPARM	REAL	ARRAY	292										
ECCN	RCNTRL	REAL	SIMPLE	292										
EPS	RCNTRL	REAL	SIMPLE	232										
EPSFAC	RCNTRL	REAL	SIMPLE	168										
F1DT	RDPARM	REAL	SIMPLE	194										
F2DT	RDPARM	REAL	SIMPLE	195										
FCORLS	RDPARM	REAL	ARRAY	234										
FILTER	LDPARM	LOGICAL	ARRAY	235										
FLD	///	REAL	ARRAY	233										
				211	214									
				293	309/S	310/S	310	311/S	312/S	312	313/S	314/S	314	316
				317/S	317	325/S	326/S	327/S	334/S	358	370	371	374	378
				383	388	395	399							
GNU1	RCNTRL	REAL	SIMPLF	169										
GNU2	RCNTRL	REAL	SIMPLF	170										
GRAV	RCNTRL	REAL	SIMPLE	171	300	302								
GT	QANDQT	REAL	ARRAY	257	270	313	327	378/S	379/S	379	399/S			
GW	QANDQT	REAL	ARRAY	258	271									
H1DT	RDPARM	REAL	SIMPLE	236										
H2DT	RDPARM	REAL	SIMPLE	237										
HEAT1	RCNTRL	REAL	SIMPLE	193										
HEATW	RCNTRL	REAL	SIMPLE	192										
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70										
IC	ICNTRL	INTEGER	ARRAY	95	96									
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96								
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37
				38	39	40	41	42	43	44	45	46	47	48
				49	50	51	52	53	54	55	56	57	58	59
				60	61	62	63	64	65	66	67	68	69	70
				71	72	73	74	75	76	77	78			
ICSP53	ICNTRL	INTEGER	SIMPLE	68										
IDIARAT	ICNTRL	INTEGER	UNKNOWN	92										
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210

IDSP02	IDPARM	INTEGER	SIMPLE	201										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83										
ICLOUD	ICNTRL	INTEGER	UNKNOWN	88										
IJUMP	IDPARM	INTEGER	ARRAY	200										
IM	ICNTRL	INTEGER	SIMPLE	28	321	321	321	322	322	323	323	323	324	324
				324	325	325	325	326	326	326	326	327	327	327
				329	334	334	334	342	342	342	342	343	343	350
				350	351	351	358	363	372	375	383	383	383	384
				384	384	385	385	386	386	386	387	387	387	388
				388	388	390	390	395	395	395	398	398	399	399
				399	399	405	405	405	405	405	406	406	406	406
				406	407	407	408	408	408	409	409	410	410	410
				417	417	418	418							
IMD2	ICNTRL	INTEGER	SIMPLE	29										
IMD2M1	IMJM	INTEGER	SIMPLE	299										
IMD2PI	ICNTRL	INTEGER	SIMPLE	30										
IMJM		INTEGER	UNKNOWN	299										
IMM1	IMJM	INTEGER	SIMPLE	299	310	312	314	317	379					
IMM2	IMJM	INTEGER	SIMPLE	299										
IMM3	IMJM	INTEGER	SIMPLE	299										
IMM4	IMJM	INTEGER	SIMPLE	299										
IMM5	IMJM	INTEGER	SIMPLE	299										
IMNLAY	IMJM	INTEGER	SIMPLE	299	331	331	331	331	392	392	392	392		
IMNLAY1	IMJM	INTEGER	SIMPLE	299										
IMNLAY2	IMJM	INTEGER	SIMPLE	299										
IMNLAY3	IMJM	INTEGER	SIMPLE	299										
IMNLAY4	IMJM	INTEGER	SIMPLE	299										
IMNLAY5	IMJM	INTEGER	SIMPLE	299										
IMT2	IMJM	INTEGER	SIMPLE	299										
IMT4	IMJM	INTEGER	SIMPLE	299										
INDEX	IDPARM	INTEGER	ARRAY	202										
IOmega	ICNTRL	INTEGER	UNKNOWN	91										
IPREACC	ICNTRL	INTEGER	UNKNOWN	81										
IPRECON	ICNTRL	INTEGER	UNKNOWN	82										
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	85	87	88
				89	90									
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282									
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94						
IRADLW	ICNTRL	INTEGER	UNKNOWN	94										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87										
IRADSW	ICNTRL	INTEGER	UNKNOWN	93										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86										
IROD	IDPARM	INTEGER	SIMPLE	203										
ITAPE	IDPARM	LOGICAL	SIMPLE	212	215									
ITMAX	ICNTRL	INTEGER	UNKNOWN	80										
ITMIN	ICNTRL	INTEGER	UNKNOWN	79										
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89										
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90										
J		INTEGER	SIMPLE	307/C	308	308	309	309	309	310	310	311	311	311
				312	312	313	313	313	314	314	316	317	317	321
				321	323	325	325	326	326	326	327	327	327	328
				334	334	339	339	342	343	350	350	351	351	358
				369	369	370	370	371	371	372	374	375	377	378
				378	378	379	379	383	383	384	386	388	388	390
				395	395	398	399	399	399	402	402	405	405	406
				406	409	410	417	417	418	418				
JC	IDPARM	INTEGER	ARRAY	204										
JE	IDPARM	INTEGER	ARRAY	205										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	32										
JMD2	ICNTRL	INTEGER	SIMPLE	33										
JMT2	ICNTRL	INTEGER	SIMPLE	34										
JNP	ICNTRL	INTEGER	SIMPLE	35	307	308	339	358	363	368	369	402		
JO4	ICNTRL	INTEGER	SIMPLE	36										
JOB	ICNTRL	INTEGER	SIMPLE	37										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	206										
JSP	ICNTRL	INTEGER	SIMPLE	38										

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KLIALB	ICNTRL	INTEGER	SIMPLE	39																		
KLIGW	ICNTRL	INTEGER	SIMPLE	40																		
KLISST	ICNTRL	INTEGER	SIMPLE	41																		
KS	ICNTRL	INTEGER	SIMPLE	42																		
KSTEP	IDPARM	INTEGER	SIMPLE	207																		
KU	ICNTRL	INTEGER	SIMPLE	43																		
L		INTEGER	SIMPLE	315/C	316	316	316	317	317	328/C	329	329	333/C	334								
				334	334	340/C	341	342	342	342	343	343	349/C	350								
				350	351	351	356/C	358	361/C	363	373/C	374	374	374								
				375	375	389/C	390	390	394/C	395	395	395	403/C	404								
				405	406	407	408	409	409	409	410	410	410	416								
				417	417	418	418															
LC	LCNTRL	LOGICAL	ARRAY	154	155																	
LC0	LCNTRL	LOGICAL	SIMPLE	97	154	155																
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107								
				108	109																	
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151																	
LDPARM		INTEGER	UNKNOWN	211	212	213																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143																	
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144																	
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142																	
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147																	
LL		INTEGER	SIMPLE	341/S	343	404/S	405	405														
LM		INTEGER	SIMPLE	304/S	356																	
LMF		INTEGER	SIMPLE	305/S	361																	
LOGBR	ICNTRL	INTEGER	SIMPLE	44																		
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	122	150																	
LPREACC	LCNTRL	LOGICAL	UNKNOWN	112	140																	
LPRECON	LCNTRL	LOGICAL	UNKNOWN	113	141																	
LQS	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119								
				120	121	136																
LQU	LCNTRL	LOGICAL	ARRAY	109	122	123	124	125	137													
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153																	
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146																	
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152																	
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145																	
LTMX	LCNTRL	LOGICAL	UNKNOWN	111	139																	
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138																	
LUFLEX	LCNTRL	LOGICAL	UNKNOWN	120	148																	
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149																	
M		INTEGER	SIMPLE	306/S	309	316	316	342	342	342	343	343	343	345								
				367/S	371	372	374	374	375	405	406	407	408	409								
				409	409	410	410	410	412/S													
MATIN	ICNTRL	INTEGER	SIMPLE	45																		
MATSNX	ICNTRL	INTEGER	SIMPLE	46																		
MATSUN	ICNTRL	INTEGER	SIMPLE	47																		
MJ	IDPARM	INTEGER	ARRAY	208																		
MLF	ICNTRL	INTEGER	ARRAY	48																		
MROD	ICNTRL	INTEGER	SIMPLE	49																		
MSM	ICNTRL	INTEGER	SIMPLE	51																		
NB	ICNTRL	INTEGER	SIMPLE	52	309	316	316	325	329	334	342	342	343	343								
				350	351	371	372	372	374	374	375	375	388	390								
				395	407	408	409	409	409	410	410	410	417	418								
ND	ICNTRL	INTEGER	SIMPLE	53																		
NDALT	ICNTRL	INTEGER	SIMPLE	54																		
NDAY	ICNTRL	INTEGER	SIMPLE	55																		
NDHOG	ICNTRL	INTEGER	SIMPLE	76																		
NDOUT	ICNTRL	INTEGER	SIMPLE	56																		
NDPHY	ICNTRL	INTEGER	SIMPLE	57																		
NDRSW	ICNTRL	INTEGER	SIMPLE	31																		
NDSHF	ICNTRL	INTEGER	SIMPLE	58																		
NDT	ICNTRL	INTEGER	SIMPLE	59																		
NHMS	ICNTRL	INTEGER	SIMPLE	60																		
NHMS0	ICNTRL	INTEGER	SIMPLE	62																		
NHMS1	IDPARM	INTEGER	SIMPLE	209																		
NHMS2	ICNTRL	INTEGER	SIMPLE	61																		
NKRSH	ICNTRL	INTEGER	SIMPLE	50																		
NLAY	ICNTRL	INTEGER	SIMPLE	63	304	305	313	314	314	315	327	328	333	340								
				341	349	351	373	378	389	394	399	403	404	416								
				418																		

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NLAYM1	ICNTRL	INTEGER	SIMPLE	64															
NLAYP1	ICNTRL	INTEGER	SIMPLE	65															
NLAYT2	IMJM	INTEGER	SIMPLE	299															
NLAYT3	IMJM	INTEGER	SIMPLE	299															
NLAYT4	IMJM	INTEGER	SIMPLE	299															
NLAYT5	IMJM	INTEGER	SIMPLE	299															
NLAYT6	IMJM	INTEGER	SIMPLE	299															
NLAYT7	IMJM	INTEGER	SIMPLE	299															
NMLEV	ICNTRL	INTEGER	SIMPLE	75															
NSDAY	ICNTRL	INTEGER	SIMPLE	66															
NSEQ	ICNTRL	INTEGER	SIMPLE	67															
NSTEP	ICNTRL	INTEGER	SIMPLE	69															
NYMD	ICNTRL	INTEGER	SIMPLE	71															
NYMD0	ICNTRL	INTEGER	SIMPLE	73															
NYMD1	IDPARM	INTEGER	SIMPLE	210															
NYMD2	ICNTRL	INTEGER	SIMPLE	72															
NZINIT	ICNTRL	INTEGER	SIMPLE	74															
OMEGA2	RCNTRL	REAL	SIMPLE	172															
P	QANDQT	REAL	ARRAY	261	274	325	329	372/S	388/S	390									
PHI	QANDQT	REAL	ARRAY	266	279														
PHIP	QPOLES	REAL	ARRAY	289															
PHIS	QANDQT	REAL	ARRAY	254	267	300	300	300	309	311	313	321	323	326					
				327	370	371	377	378	383	384	386	398	399						
PI	RCNTRL	REAL	SIMPLE	173															
PI180	RCNTRL	REAL	SIMPLE	174															
PI2	RCNTRL	REAL	SIMPLE	175															
PMEAN	RCNTRL	REAL	SIMPLE	177															
PKSTD	RDPARM	REAL	SIMPLE	238															
PKTOP	RDPARM	REAL	SIMPLE	239															
PLEVS	RCNTRL	REAL	ARRAY	191															
PP	QPOLES	REAL	ARRAY	284	309	316	371/S	372	374										
PQ	//	REAL	ARRAY	291	324/S	324	325	329/S	331/S	331	331	334	383/S	384					
				387/S	387	388	390/S	392/S	392	392	395								
PSMAX	RCNTRL	REAL	SIMPLE	178															
PSMIN	RCNTRL	REAL	SIMPLE	179															
PSTD	RCNTRL	REAL	SIMPLE	176															
PTOP	RCNTRL	REAL	SIMPLE	180	309	316	325	329	371	374	388	390							
PZERO	RCNTRL	REAL	SIMPLE	197															
QALT	LCNTRL	LOGICAL	SIMPLE	98	126														
QANDQT		REAL	UNKNOWN	253	280	283													
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127														
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128														
QEND	LCNTRL	LOGICAL	SIMPLE	101	129														
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130														
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131														
QPOLES		REAL	UNKNOWN	284	285	286	287	288	289										
QPROG	QANDQT	REAL	ARRAY	253	267	268	269	270	271	272	273	274	275	276					
				277	278	279													
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135														
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134														
QSDIAG	QANDQT	REAL	ARRAY	280	282														
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132														
QUDIAG	QANDQT	REAL	ARRAY	283															
RADE	RCNTRL	REAL	SIMPLE	181															
RC	RCNTRL	REAL	ARRAY	198	199														
RC0	RCNTRL	REAL	SIMPLE	156	198	199													
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186	187	188					
				189	190	191	192	193	194	195	196	197							
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240	241	242	243	244	245	246	247	248	249					
				250	251	252													
RGAS	RCNTRL	REAL	SIMPLE	182	300	322	385												
RLAT	RDPARM	REAL	ARRAY	240															
RLATD	RDPARM	REAL	ARRAY	241															
ROCP	RCNTRL	REAL	SIMPLE	183															
ROCPDT	RDPARM	REAL	SIMPLE	242															
ROCPP1	RDPARM	REAL	SIMPLE	243															

RSDIST	RCNTRL	REAL	SIMPLE	184															
SDAY	RCNTRL	REAL	SIMPLE	185															
SEASON	RCNTRL	REAL	SIMPLE	186															
SGNP	RDPARM	REAL	ARRAY	244	342	343	405	406	409	410									
SH	QANDQT	REAL	ARRAY	265	278														
SHP	QPOLES	REAL	ARRAY	288															
SHS	QANDQT	REAL	ARRAY	260	273														
SIG	RDPARM	REAL	ARRAY	251	316	329	374	390											
SIGE	RCNTRL	REAL	ARRAY	187															
SIND	RCNTRL	REAL	SIMPLE	188															
SINL	RDPARM	REAL	ARRAY	245															
SINLON	RDPARM	REAL	ARRAY	246	342	343	405	406	409	410									
SMSHAP			SUBROUTINE	1															
SMTSH	QANDQT	REAL	ARRAY	255	268														
SN2FLG	LCNTRL	REAL	LOGICAL	105	133														
SOLS	RCNTRL	REAL	SIMPLE	189															
START	LDPARM	REAL	SIMPLE	213	216														
SUP	//	REAL	ARRAY	291	405/S	407													
SVP	//	REAL	ARRAY	291	406/S	408													
T	QANDQT	REAL	ARRAY	264	277	334	375/S	395/S											
THSTD	RDPARM	REAL	SIMPLE	247															
THSTD2	RDPARM	REAL	SIMPLE	248															
TP	QPOLES	REAL	ARRAY	287	316	374/S	375												
TS	QANDQT	REAL	ARRAY	259	272	300	300	309	311	321	326								
TSTD	RCNTRL	REAL	SIMPLE	190															
TSURF		REAL	SIMPLE	370/S	371														
U	QANDQT	REAL	ARRAY	262	275	350	409/S	417/S											
UP	QPOLES	REAL	ARRAY	285	342	343	407/S	409	410										
UVF	//	REAL	ARRAY	294	342/S	343/S	350/S	351/S	363	405	405	406	406	417					
V	QANDQT	REAL	ARRAY	418															
VER	CCNTRL	REAL	CHAR*8	263	276	351	410/S	418/S											
VP	QPOLES	REAL	SIMPLE	10	23														
WSAVE	RDPARM	REAL	ARRAY	286	342	343	408/S	409	410										
XLABEL	CCNTRL	REAL	CHAR*8	249															
			ARRAY	11	24														

PROCEDURE MAP
 -----NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

EXP	REAL	INTRINSIC	300																
EXPBYK	REAL	FUNCTION	316	374															
FLOAT	REAL	INTRINSIC	407	408															
QBSSUM	REAL	INTRINSIC	407	408															
SHAP		SUBROUTINE	358	363															
SLEXP	REAL	STAT FUNC	300/S	309	371														
VEXP	REAL	INTRINSIC	324	387															
VEXPBYK	REAL	FUNCTION	331	392															
ZEITBEG		SUBROUTINE	332	348	357	362	393	415											
ZEITEND		SUBROUTINE	336	353	359	364	397	420											

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00001

SUBROUTINE SOLAR1 (J,XLAT)

CCCCCCCC

***** COMPUTE SOLAR RADIATION IN THE ATMOSPHERE *****

ARGUMENTS DESCRIPTION
NLAY NUMBER OF SIGMA LAYERS
XDAY SOLAR DAY OF THE YEAR
XLAT LATITUDE IN DEGREES

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)

C

00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
00025 CHARACTER*8 CQS
00026 CHARACTER*8 CQU

CCC

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

00027 COMMON /ICNTRL/ IC0
00028 COMMON /ICNTRL/ IM
00029 COMMON /ICNTRL/ IMD2
00030 COMMON /ICNTRL/ IMD2P1
00031 COMMON /ICNTRL/ NDRSW
00032 COMMON /ICNTRL/ JM
00033 COMMON /ICNTRL/ JMD2
00034 COMMON /ICNTRL/ JMT2
00035 COMMON /ICNTRL/ JNP
00036 COMMON /ICNTRL/ JO4
00037 COMMON /ICNTRL/ JOB
00038 COMMON /ICNTRL/ JSP
00039 COMMON /ICNTRL/ KLIALB
00040 COMMON /ICNTRL/ KLIGW
00041 COMMON /ICNTRL/ KLISST
00042 COMMON /ICNTRL/ KS
00043 COMMON /ICNTRL/ KU
00044 COMMON /ICNTRL/ LOGBR
00045 COMMON /ICNTRL/ MATIN
00046 COMMON /ICNTRL/ MATSNX
00047 COMMON /ICNTRL/ MATSUN
00048 COMMON /ICNTRL/ MLF (12)
00049 COMMON /ICNTRL/ MR0D
00050 COMMON /ICNTRL/ NKRSH
00051 COMMON /ICNTRL/ MSM
00052 COMMON /ICNTRL/ NB

VSOLAR1 2
VSOLAR1 3
VSOLAR1 4
VSOLAR1 5
VSOLAR1 6
VSOLAR1 7
VSOLAR1 8
VSOLAR1 9
VSOLAR1 10
VSOLAR1 11
VSOLAR1 12
VSOLAR1 13
VSOLAR1 14
VCNTRL 2
VCNTRL 3
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VCNTRL 59

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00053	COMMON /ICNTRL/	ND		VCNTRL	60
00054	COMMON /ICNTRL/	NDALT		VCNTRL	61
00055	COMMON /ICNTRL/	NDAY		VCNTRL	62
00056	COMMON /ICNTRL/	NDOUT		VCNTRL	63
00057	COMMON /ICNTRL/	NDPHY		VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF		VCNTRL	65
00059	COMMON /ICNTRL/	NDT		VCNTRL	66
00060	COMMON /ICNTRL/	NHMS		VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE		VCNTRL	68
00062	COMMON /ICNTRL/	NHMS0		VCNTRL	69
00063	COMMON /ICNTRL/	NLAY		VCNTRL	70
00064	COMMON /ICNTRL/	NLAYM1		VCNTRL	71
00065	COMMON /ICNTRL/	NLAYP1		VCNTRL	72
00066	COMMON /ICNTRL/	NSDAY		VCNTRL	73
00067	COMMON /ICNTRL/	NSEQ		VCNTRL	74
00068	COMMON /ICNTRL/	ICSP53		VCNTRL	75
00069	COMMON /ICNTRL/	NSTEP		VCNTRL	76
00070	COMMON /ICNTRL/	IBLKSI2		VCNTRL	77
00071	COMMON /ICNTRL/	NYMD		VCNTRL	78
00072	COMMON /ICNTRL/	NYMDE		VCNTRL	79
00073	COMMON /ICNTRL/	NYMDO		VCNTRL	80
00074	COMMON /ICNTRL/	NZINIT		VCNTRL	81
00075	COMMON /ICNTRL/	NMLEV		VCNTRL	82
00076	COMMON /ICNTRL/	NDHOG		VCNTRL	83
00077	COMMON /ICNTRL/	IQS (30)		VCNTRL	84
00078	COMMON /ICNTRL/	IQU (10)		VCNTRL	85
	C			VCNTRL	86
00079	EQUIVALENCE	(ITMIN	.IQS(1))	VCNTRL	87
00080	EQUIVALENCE	(ITMAX	.IQS(2))	VCNTRL	88
00081	EQUIVALENCE	(IPREACC	.IQS(3))	VCNTRL	89
00082	EQUIVALENCE	(IPRECON	.IQS(4))	VCNTRL	90
00083	EQUIVALENCE	(IHFLUX	.IQS(5))	VCNTRL	91
00084	EQUIVALENCE	(IEFLUX	.IQS(6))	VCNTRL	92
00085	EQUIVALENCE	(IFUSION	.IQS(7))	VCNTRL	93
00086	EQUIVALENCE	(IRADSWG	.IQS(8))	VCNTRL	94
00087	EQUIVALENCE	(IRADLWG	.IQS(9))	VCNTRL	95
00088	EQUIVALENCE	(ICLOUD	.IQS(10))	VCNTRL	96
00089	EQUIVALENCE	(IUFLUX	.IQS(11))	VCNTRL	97
00090	EQUIVALENCE	(IVFLUX	.IQS(12))	VCNTRL	98
	C			VCNTRL	99
00091	EQUIVALENCE	(IDOMEGA	.IQU(1))	VCNTRL	100
00092	EQUIVALENCE	(IDIABAT	.IQU(2))	VCNTRL	101
00093	EQUIVALENCE	(IRADSW	.IQU(3))	VCNTRL	102
00094	EQUIVALENCE	(IRADLW	.IQU(4))	VCNTRL	103
	C			VCNTRL	104
00095	EQUIVALENCE	(IC0, IC(1))		VCNTRL	105
00096	INTEGER	IC0, IC(200)		VCNTRL	106
	C			VCNTRL	107
	C			VCNTRL	108
	C			VCNTRL	109
	C			VCNTRL	110
	C			VCNTRL	111
	C			VCNTRL	112
	C			VCNTRL	113
	C			VCNTRL	114
	C			VCNTRL	115
	C			VCNTRL	116
	C			VCNTRL	117
	C			VCNTRL	118
	C			VCNTRL	119
	C			VCNTRL	120
	C			VCNTRL	121
	C			VCNTRL	122
	C			VCNTRL	123
	C			VCNTRL	124
	C			VCNTRL	125
	C			VCNTRL	126
	C			VCNTRL	127
	C			VCNTRL	128
	C			VCNTRL	129
	C			VCNTRL	130
00097	COMMON /LCNTRL/	LC0			
00098	COMMON /LCNTRL/	QALT			
00099	COMMON /LCNTRL/	QBEG			
00100	COMMON /LCNTRL/	QDAG			
00101	COMMON /LCNTRL/	QEND			
00102	COMMON /LCNTRL/	QOUT			
00103	COMMON /LCNTRL/	QPHY			
00104	COMMON /LCNTRL/	QSHF			
00105	COMMON /LCNTRL/	SN2FLG			
00106	COMMON /LCNTRL/	QRSW			
00107	COMMON /LCNTRL/	QRSH			
00108	COMMON /LCNTRL/	LQS(30)			
00109	COMMON /LCNTRL/	LQU(10)			
	C				
00110	EQUIVALENCE	(LTMIN	.LQS(1))		
00111	EQUIVALENCE	(LTMAX	.LQS(2))		
00112	EQUIVALENCE	(LPREACC	.LQS(3))		
00113	EQUIVALENCE	(LPRECON	.LQS(4))		
00114	EQUIVALENCE	(LHFLUX	.LQS(5))		
00115	EQUIVALENCE	(LEFLUX	.LQS(6))		
00116	EQUIVALENCE	(LFUSION	.LQS(7))		

00117	EQUIVALENCE	(LRADSWG ,LQS(8))	VCNTRL 131
00118	EQUIVALENCE	(LRADLWG ,LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD ,LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX ,LQS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX ,LQS(12))	VCNTRL 135
	C		VCNTRL 136
00122	EQUIVALENCE	(LOMEGA ,LQU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT ,LQU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW ,LQU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW ,LQU(4))	VCNTRL 140
	C		VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
	C		VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LEFLUX	VCNTRL 159
00143	LOGICAL	LFUSION	VCNTRL 160
00144	LOGICAL	LRADSWG	VCNTRL 161
00145	LOGICAL	LRADLWG	VCNTRL 162
00146	LOGICAL	LICLOUD	VCNTRL 163
00147	LOGICAL	LUFLUX	VCNTRL 164
00148	LOGICAL	LVFLUX	VCNTRL 165
00149	LOGICAL	LOMEGA	VCNTRL 166
	C		VCNTRL 167
00150	LOGICAL	LDIABAT	VCNTRL 168
00151	LOGICAL	LRADSW	VCNTRL 169
00152	LOGICAL	LRADLW	VCNTRL 170
00153	LOGICAL		VCNTRL 171
	C		VCNTRL 172
00154	EQUIVALENCE	(LC0,LC(1))	VCNTRL 173
00155	LOGICAL	LC0, LC(200)	VCNTRL 174
	C		VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 176
	C	=====	VCNTRL 177
00156	COMMON	/RCNTRL/ RCO	VCNTRL 178
00157	COMMON	/RCNTRL/ APHEL	VCNTRL 179
00158	COMMON	/RCNTRL/ BETA	VCNTRL 180
00159	COMMON	/RCNTRL/ COSD	VCNTRL 181
00160	COMMON	/RCNTRL/ CP	VCNTRL 182
00161	COMMON	/RCNTRL/ DAYSPY	VCNTRL 183
00162	COMMON	/RCNTRL/ DEC	VCNTRL 184
00163	COMMON	/RCNTRL/ DECMAX	VCNTRL 185
00164	COMMON	/RCNTRL/ DIST	VCNTRL 186
00165	COMMON	/RCNTRL/ DLAT	VCNTRL 187
00166	COMMON	/RCNTRL/ DLON	VCNTRL 188
00167	COMMON	/RCNTRL/ DT	VCNTRL 189
00168	COMMON	/RCNTRL/ ECCN	VCNTRL 190
00169	COMMON	/RCNTRL/ GNU1	VCNTRL 191
00170	COMMON	/RCNTRL/ GNU2	VCNTRL 192
00171	COMMON	/RCNTRL/ GRAV	VCNTRL 193
00172	COMMON	/RCNTRL/ OMEGA2	VCNTRL 194
00173	COMMON	/RCNTRL/ PI	VCNTRL 195
00174	COMMON	/RCNTRL/ PI180	VCNTRL 196
00175	COMMON	/RCNTRL/ PI2	VCNTRL 197
00176	COMMON	/RCNTRL/ PSTD	VCNTRL 198
00177	COMMON	/RCNTRL/ PIMEAN	VCNTRL 199
00178	COMMON	/RCNTRL/ PSMAX	VCNTRL 200
00179	COMMON	/RCNTRL/ PSMIN	VCNTRL 201

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00180	COMMON /RCNTRL/ PTOP	VCNTRL 202
00181	COMMON /RCNTRL/ RADE	VCNTRL 203
00182	COMMON /RCNTRL/ RGAS	VCNTRL 204
00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDAY	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
	C	VCNTRL 220
00198	EQUIVALENCE (RC0, RC(1))	VCNTRL 221
00199	REAL RC0, RC(200)	VCNTRL 222
	C	VCNTRL 223
	C	VCNTRL 224
	C	VCNTRL 225
	INTEGER MODEL CONSTANTS	VCNTRL 226
	=====	VCNTRL 227
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 228
00201	COMMON /IDPARM/ IDSP02	VCNTRL 229
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 230
00203	COMMON /IDPARM/ IROD	VCNTRL 231
00204	COMMON /IDPARM/ JC (46)	VCNTRL 232
00205	COMMON /IDPARM/ JE (2)	VCNTRL 233
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 234
00207	COMMON /IDPARM/ KSTEP	VCNTRL 235
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 236
00209	COMMON /IDPARM/ NHMS1	VCNTRL 237
00210	COMMON /IDPARM/ NYMD1	VCNTRL 238
	C	VCNTRL 239
	C	VCNTRL 240
	C	VCNTRL 241
	LOGICAL MODEL CONSTANTS	VCNTRL 242
	=====	VCNTRL 243
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 244
00212	COMMON /LDPARM/ ITAPE	VCNTRL 245
00213	COMMON /LDPARM/ START	VCNTRL 246
	C	VCNTRL 247
00214	LOGICAL FILTER	VCNTRL 248
00215	LOGICAL ITAPE	VCNTRL 249
00216	LOGICAL START	VCNTRL 250
	C	VCNTRL 251
	C	VCNTRL 252
	C	VCNTRL 253
	REAL MODEL CONSTANTS	VCNTRL 254
	=====	VCNTRL 255
00217	COMMON /RDPARM/ ADLDP	VCNTRL 256
00218	COMMON /RDPARM/ CON1	VCNTRL 257
00219	COMMON /RDPARM/ CON1DT	VCNTRL 258
00220	COMMON /RDPARM/ CON2	VCNTRL 259
00221	COMMON /RDPARM/ CON2DT	VCNTRL 260
00222	COMMON /RDPARM/ CON3	VCNTRL 261
00223	COMMON /RDPARM/ CON3DT	VCNTRL 262
00224	COMMON /RDPARM/ CON4	VCNTRL 263
00225	COMMON /RDPARM/ CON4DT	VCNTRL 264
00226	COMMON /RDPARM/ CON5	VCNTRL 265
00227	COMMON /RDPARM/ COSL (46)	VCNTRL 266
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 267
00229	COMMON /RDPARM/ CPD2	VCNTRL 268
00230	COMMON /RDPARM/ DXP (46)	VCNTRL 269
00231	COMMON /RDPARM/ DXYP (46)	VCNTRL 270
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 271
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 272
00234	COMMON /RDPARM/ F1DT	
00235	COMMON /RDPARM/ F2DT	
00236	COMMON /RDPARM/ H1DT	
00237	COMMON /RDPARM/ H2DT	
00238	COMMON /RDPARM/ PKSTD	
00239	COMMON /RDPARM/ PKTOP	

00240 COMMON /RDPARM/ RLAT (46)
 00241 COMMON /RDPARM/ RLATD (46)
 00242 COMMON /RDPARM/ ROC PDT
 00243 COMMON /RDPARM/ ROCPP1
 00244 COMMON /RDPARM/ SGNP (2)
 00245 COMMON /RDPARM/ SINL (46)
 00246 COMMON /RDPARM/ SINLON (72)
 00247 COMMON /RDPARM/ THSTD
 00248 COMMON /RDPARM/ THSTD2
 00249 COMMON /RDPARM/ WSAVE (159)
 00250 COMMON /RDPARM/ DSIG (9)
 00251 COMMON /RDPARM/ SIG (9)
 00252 COMMON /RDPARM/ DSIGINV (9)

C
 C C * * *
 PHYSICS PARAMETERS AND CONSTANTS

00253 COMMON /CNTRLP/ CDFR
 00254 COMMON /CNTRLP/ CDXL
 00255 COMMON /CNTRLP/ CDXO
 00256 COMMON /CNTRLP/ CLH
 00257 COMMON /CNTRLP/ COE (9)
 00258 COMMON /CNTRLP/ COEF
 00259 COMMON /CNTRLP/ COEFS
 00260 COMMON /CNTRLP/ COSROT
 00261 COMMON /CNTRLP/ CPP
 00262 COMMON /CNTRLP/ CTID
 00263 COMMON /CNTRLP/ CUMDAY
 00264 COMMON /CNTRLP/ CUMRAT
 00265 COMMON /CNTRLP/ C10
 00266 COMMON /CNTRLP/ C100
 00267 COMMON /CNTRLP/ C40
 00268 COMMON /CNTRLP/ DELTA
 00269 COMMON /CNTRLP/ DTC3
 00270 COMMON /CNTRLP/ DTOUT
 00271 COMMON /CNTRLP/ ED
 00272 COMMON /CNTRLP/ EDNM
 00273 COMMON /CNTRLP/ FCOEF
 00274 COMMON /CNTRLP/ FMU
 00275 COMMON /CNTRLP/ FWET
 00276 COMMON /CNTRLP/ GAMFAC
 00277 COMMON /CNTRLP/ GTOPO
 00278 COMMON /CNTRLP/ HICE
 00279 COMMON /CNTRLP/ NDTC3
 00280 COMMON /CNTRLP/ NFLW
 00281 COMMON /CNTRLP/ PIM
 00282 COMMON /CNTRLP/ QHOG
 00283 COMMON /CNTRLP/ SHLTOP
 00284 COMMON /CNTRLP/ SINROT
 00285 COMMON /CNTRLP/ SNOWN
 00286 COMMON /CNTRLP/ SNOWS
 00287 COMMON /CNTRLP/ STBO
 00288 COMMON /CNTRLP/ STERP1
 00289 COMMON /CNTRLP/ STERP2
 00290 COMMON /CNTRLP/ TICE
 00291 COMMON /CNTRLP/ TLTOP
 00292 COMMON /CNTRLP/ XDAY
 00293 COMMON /CNTRLP/ ZLNCO
 00294 LOGICAL QHOG

C
 C C * * *
 RADIATION AND SOURCE TERM FIELDS

00295 COMMON /RADCOM/ AS(72,9), RE(72,10)
 00296 COMMON /RADCOM/ PL(72,9), PLE(72,10)
 00297 COMMON /RADCOM/ PLK(72,9), PLKE(10)
 00298 COMMON /RADCOM/ TL(72,9), TLE(72,10)
 00299 COMMON /RADCOM/ TG(72), TH(72,9)
 00300 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
 00301 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
 00302 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
 00303 COMMON /RADCOM/ RH(72,9)
 00304 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)

VCNTRL 273
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 VRADCOM 2
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 VRADCOM 12
 VRADCOM 13

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C ..... VSOLAR1246
C ..... VSOLAR1247
C ..... VSOLAR1248
C ..... RAYLEIGH SCATTERING AND CLEAR ATMOSPHERE REFLECTIVITY ..... VSOLAR1249
C ..... VSOLAR1250
C ..... VSOLAR1251
C ..... VSOLAR1252
00457 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) ) VSOLAR1253
00458 TEMP(1;IM) = 1.0 + 6.43*COSZ(1;IM) VSOLAR1254
00459 TEMP(1;IM) = 0.433 / TEMP(1;IM) VSOLAR1255
00460 RCLEAR(1;IM) = TEMP(1;IM) + (1.0 - TEMP(1;IM))* .907*RSURF(1;IM) VSOLAR1256
S / (1.0 - .093*RSURF(1;IM) ) VSOLAR1257
C ..... VSOLAR1258
C ..... VSOLAR1259
C ..... VSOLAR1260
C ..... ABSORPTION BY WATER VAPOR IN CLEAR ATMOSPHERE ..... VSOLAR1261
C ..... VSOLAR1262
C ..... VSOLAR1263
00461 W(1;IM) = SWALE(1,1;IM)*COSMAG(1;IM) VSOLAR1264
00462 ENDWHERE VSOLAR1265
C VSOLAR1266
00463 TEMP(1,NLAY;IM) = VWATER( W(1;IM),IM;TEMP(1,NLAY;IM) ) VSOLAR1267
00464 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) ) VSOLAR1268
00465 TOPABS(1;IM) = TEMP(1,NLAY;IM) VSOLAR1269
00466 ENDWHERE VSOLAR1270
C VSOLAR1271
00467 LM1 = NLAY VSOLAR1272
00468 DO 210 L=1,NLAY VSOLAR1273
00469 LP1 = L+1 VSOLAR1274
00470 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) ) VSOLAR1275
S W(1;IM) = SWALE(1,LP1;IM)*COSMAG(1;IM) VSOLAR1276
TEMP(1,L;IM) = VWATER( W(1;IM),IM;TEMP(1,L;IM) ) VSOLAR1277
00471 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) ) VSOLAR1278
00472 AL(1,L;IM) = TEMP(1,L;IM) - TEMP(1,LM1;IM) VSOLAR1279
00473 ENDWHERE VSOLAR1280
00474 LM1 = L VSOLAR1281
00475 LM1 = L VSOLAR1282
00476 210 CONTINUE VSOLAR1283
C VSOLAR1284
00477 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) ) VSOLAR1285
00478 TEMP(1;IM) = 1.0 - TEMP(1,NLAY;IM) VSOLAR1286
00479 RF(1;IM) = TEMP(1;IM)*RSURF(1;IM) VSOLAR1287
00480 AL(1,NLAYP1;IM) = (TEMP(1;IM) - 0.647)*(1.0 - RSURF(1;IM)) VSOLAR1288
00481 ENDWHERE VSOLAR1289
C VSOLAR1290
00482 BIT72(1;IM) = RF(1;IM) .GE. 0.001 VSOLAR1291
00483 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) .AND. BIT72(1;IM) ) VSOLAR1292
S WW(1;IM) = W(1;IM)*(1.0 + 1.66/COSMAG(1;IM)) VSOLAR1293
C VSOLAR1294
00484 LM1 = NLAY VSOLAR1295
00485 DO 220 L=1,NLAY VSOLAR1296
00486 M = NLAYP1 - L VSOLAR1297
00487 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) .AND. BIT72(1;IM) ) VSOLAR1298
S W(1;IM) = WW(1;IM) - 1.66*SWALE(1,M;IM) VSOLAR1299
TEMP(1,L;IM) = VWATER( W(1;IM),IM;TEMP(1,L;IM) ) VSOLAR1300
00488 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) .AND. BIT72(1;IM) ) VSOLAR1301
00489 AL(1,M;IM) = AL(1,M;IM) + (TEMP(1,L;IM) VSOLAR1302
VSOLAR1303
- TEMP(1,LM1;IM))*RF(1;IM) VSOLAR1304
00490 LM1 = L VSOLAR1305
00491 220 CONTINUE VSOLAR1306
C VSOLAR1307
00492 WHERE( LIGHT(1;IM) .AND. SUNNY(1;IM) ) VSOLAR1308
00493 ACLEAR(1;IM) = FCLEAR(1;IM)*SCOSZ(1;IM) VSOLAR1309
00494 SG(1;IM) = FCLEAR(1;IM) + (FSCAT(1;IM)*(1.0 - RCLEAR(1;IM)) VSOLAR1310
+ SCOSZ(1;IM)*AL(1,NLAYP1;IM)) VSOLAR1311
00495 RMEAN(1;IM) = FCLEAR(1;IM)*RCLEAR(1;IM) VSOLAR1312
00496 TOTABS(1;IM) = TOTABS(1;IM)+ACLEAR(1;IM)*TOPABS(1;IM) VSOLAR1313
00497 ENDWHERE VSOLAR1314
C VSOLAR1315
00498 DO 240 L=1,NLAY VSOLAR1316

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C .....VSOLAR1388
C .....VSOLAR1389
C .....VSOLAR1390
C .....VSOLAR1391
C .....VSOLAR1392
C .....VSOLAR1393
00541 WHERE( LIGHT(1;IM) .AND. .NOT. HAZY(1;IM) ) VSOLAR1394
00542 TEMP(1;IM) = 0.2186 / (1.0 + 0.816*COSZ(1;IM)) VSOLAR1395
00543 RMEAN(1;IM) = TEMP(1;IM) * (1.0 - TEMP(1;IM)) * 0.856*RSURF(1;IM) VSOLAR1396
S / (1.0 - 0.144*RSURF(1;IM)) VSOLAR1397
00544 ENDWHERE VSOLAR1398
C .....VSOLAR1399
C .....VSOLAR1400
C .....VSOLAR1401
C .....VSOLAR1402
C .....VSOLAR1403
C .....VSOLAR1404
C .....VSOLAR1405
00545 NLAYO1 = NLAYOZ + 1 VSOLAR1406
00546 CALL ZEITBEG(8HOZONE2 ) VSOLAR1407
00547 CALL OZONE2 (IM,NLAYO1,XDAY,XLAT) VSOLAR1408
00548 CALL ZEITEND VSOLAR1409
C .....VSOLAR1410
C .....VSOLAR1411
C .....VSOLAR1412
C .....VSOLAR1413
C .....VSOLAR1414
C .....VSOLAR1415
00549 WHERE( LIGHT(1;IM) ) W(1;IM) = OZALE(1,1;IM)*COSMAG(1;IM) VSOLAR1416
00550 TEMP1(1,NLAYOZ;IM) = VOZON( W(1;IM),IM;TEMP1(1,NLAYOZ;IM) ) VSOLAR1417
00551 WHERE( LIGHT(1;IM) ) VSOLAR1418
00552 TOTABS(1;IM) = TOTABS(1;IM) + TEMP1(1,NLAYOZ;IM) VSOLAR1419
S * SCOSZ(1;IM) + SG(1;IM) VSOLAR1420
00553 ENDWHERE VSOLAR1421
C .....VSOLAR1422
C .....VSOLAR1423
00554 LM1 = NLAYOZ VSOLAR1424
00555 DO 310 L=1,NLAYOZ VSOLAR1425
00556 LP1 = L+1 VSOLAR1426
00557 WHERE( LIGHT(1;IM) ) VSOLAR1427
S W(1;IM) = OZALE(1,LP1;IM)*COSMAG(1;IM) VSOLAR1428
TEMP1(1,L;IM) = VOZON( W(1;IM),IM;TEMP1(1,L;IM) ) VSOLAR1429
00558 WHERE( LIGHT(1;IM) ) VSOLAR1430
00559 AS(1,L;IM) = AS(1,L;IM) + (TEMP1(1,L ;IM) VSOLAR1431
- TEMP1(1,LM1;IM)) * SCOSZ(1;IM) VSOLAR1432
00561 ENDWHERE VSOLAR1433
00562 LM1 = L VSOLAR1434
00563 310 CONTINUE VSOLAR1435
C .....VSOLAR1436
C .....VSOLAR1437
C .....VSOLAR1438
C .....VSOLAR1439
00564 LP1 = NLAYOZ + 1 VSOLAR1440
00565 WHERE( LIGHT(1;IM) ) VSOLAR1441
S WW(1;IM) = OZALE(1,LP1;IM)*(COSMAG(1;IM) + 1.90) VSOLAR1442
C .....VSOLAR1443
C .....VSOLAR1444
C .....VSOLAR1445
C .....VSOLAR1446
C .....VSOLAR1447
C .....VSOLAR1448
C .....VSOLAR1449
00566 LM1 = NLAYOZ VSOLAR1450
00567 DO 320 L=1,NLAYOZ VSOLAR1451
00568 M = NLAYO1 - L VSOLAR1452
C .....VSOLAR1453
C .....VSOLAR1454
00569 WHERE( LIGHT(1;IM) ) VSOLAR1455
00570 RF(1;IM) = SCOSZ(1;IM)*RMEAN(1;IM) VSOLAR1456
00571 W(1;IM) = WW(1;IM) - 1.90*OZALE(1,M;IM) VSOLAR1457
00572 ENDWHERE VSOLAR1458
00573 TEMP1(1,L;IM) = VOZON( W(1;IM),IM;TEMP1(1,L;IM) ) VSOLAR1459
00574 WHERE( LIGHT(1;IM) ) VSOLAR1460
00575 AS(1,M;IM) = AS(1,M;IM) + (TEMP1(1,L ;IM) VSOLAR1461
- TEMP1(1,LM1;IM)) * RF(1;IM) VSOLAR1462

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00576 ENDWHERE
 00577 C LM1 = L
 00578 C 320 CONTINUE
 00579 C RETURN
 00580 END

VSOLAR1459
 VSOLAR1460
 VSOLAR1461
 VSOLAR1462
 VSOLAR1463
 VSOLAR1464
 VSOLAR1465

STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

10000	354								
1060	423	406	407						
1069	427	424							
1090	456	437	438	450					
1095	443	440							
1100	448	445							
120	399	388							
1225	519	516	517						
130	418	411							
140	422	408	410	415	417	419			
150	436	432							
180	455	452							
210	476	468							
220	491	485							
240	500	498							
260	515	513							
270	528	525							
280	540	538							
310	563	555							
320	578	567							
999	372	359							

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ACLEAR	DSOLAR	REAL	ARRAY	337	493/S	496	499															
ACLOUD	DSOLAR	REAL	ARRAY	338	508/S	511	514	533/S	536	539												
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16																	
ADLDP	RDPARM	REAL	SIMPLE	217																		
AL	RADCOM	REAL	ARRAY	310	473/S	480/S	489/S	489	494	499	509	514	534	539								
APHEL	RCNTRL	REAL	SIMPLE	157																		
AS	RADCOM	REAL	ARRAY	295	362/S	499/S	514/S	514	539/S	539	560/S	560	575/S	575								
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																	
BETA	RCNTRL	REAL	SIMPLE	158																		
BIT72	BIT	BIT	ARRAY	350	430/S	431	434/S	435	482/S	483	487	489	502/S	503								
				526/S	527																	
C10	CNTRLP	REAL	SIMPLE	265																		
C100	CNTRLP	REAL	SIMPLE	266																		
C40	CNTRLP	REAL	SIMPLE	267																		
CALTOJ	RCNTRL	REAL	SIMPLE	196																		
CC	CCNTRL	CHAR*8	ARRAY	14	15																	
CC0	CCNTRL	CHAR*8	SIMPLE	2	14	15																
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12								
				13																		
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20																	
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21																	
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22																	
CDATE	RADCOM	REAL	ARRAY	319																		
CDFR	CNTRLP	REAL	SIMPLE	253																		
CDXL	CNTRLP	REAL	SIMPLE	254																		
CDX0	CNTRLP	REAL	SIMPLE	255																		
CLEAR	DSOLAR	LOGICAL	ARRAY	344	349	425/S	428	438	517													
CLH	CNTRLP	REAL	SIMPLE	256																		
CLOUD	RADCOM	REAL	ARRAY	301	409	434	439	444	449	526												
CLOUDY	DSOLAR	LOGICAL	ARRAY	345	349	426/S	429															
CNTRLP		REAL	UNKNOWN	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	
				264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
				275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	
				286	287	288	289	290	291	292	293											

ORIGINAL PAGE 13
 OF POOR QUALITY

SOLAR1 13

GAM	RADCOM	REAL	ARRAY	302																											
GAMFAC	CNTRL	REAL	SIMPLE	276																											
GNU1	CNTRL	REAL	SIMPLE	169																											
GNU2	CNTRL	REAL	SIMPLE	170																											
GRAV	CNTRL	REAL	SIMPLE	171																											
GSTAR		REAL	SIMPLE	375/S	385																										
GTOPO	CNTRL	REAL	SIMPLE	277	375	393																									
H1DT	RDPAARM	REAL	SIMPLE	236																											
H2DT	RDPAARM	REAL	SIMPLE	237																											
HAZY		REAL	SIMPLE	350	428	431	433	435	501	503	507	514	521	527																	
		BIT	ARRAY	532	539	541																									
HEATI		REAL	SIMPLE	193																											
HEATW	CNTRL	REAL	SIMPLE	192																											
HH	RADCOM	REAL	ARRAY	305																											
HHE	RADCOM	REAL	ARRAY	305																											
HHS	RADCOM	REAL	ARRAY	306																											
HICE	CNTRL	REAL	SIMPLE	278																											
I		INTEGER	SIMPLE	369/C	370	370	371	406/C	407	409	412	413	414	414																	
				415	416	419	420	421	424/C	425	425	426	414	414																	
				438	438	439	442	444	447	449	453	516/C	517	517																	
				518	518																										
IBLSIZ	ICNTRL	INTEGER	SIMPLE	70																											
IC	ICNTRL	INTEGER	ARRAY	95	96																										
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96																									
ICE	RADCOM	LOGICAL	ARRAY	324	326																										
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37																	
				38	39	40	41	42	43	44	45	46	47	48																	
				49	50	51	52	53	54	55	56	57	58	59																	
				60	61	62	63	64	65	66	67	68	69	70																	
				71	72	73	74	75	76	77	78																				
ICSP53	ICNTRL	INTEGER	SIMPLE	68																											
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92																											
IDPARR		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210																	
IDSP02	IDPARR	INTEGER	SIMPLE	201																											
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84																											
IFUSION	ICNTRL	INTEGER	UNKNOWN	85																											
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83																											
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88																											
IJUMP	IDPARR	INTEGER	ARRAY	200																											
IM	ICNTRL	INTEGER	SIMPLE	28	358	359	360	361	365	365	366	366	366	367																	
				367	369	373	374	376	377	378	379	379	379	380																	
				380	380	381	381	382	382	383	383	384	384	384																	
				385	385	390	391	391	391	392	392	392	393	393																	
				394	394	394	394	394	394	395	395	396	396	400																	
				401	402	403	404	406	424	428	429	430	430	431																	
				431	431	431	433	433	433	434	434	435	435	435																	
				435	437	457	457	458	458	459	459	460	460	460																	
				460	460	461	461	461	463	463	463	463	464	464																	
				465	465	470	470	470	470	470	471	471	471	471																	
				472	472	473	473	473	477	477	478	478	479	479																	
				479	480	480	480	482	482	483	483	483	483	483																	
				483	487	487	487	487	487	487	487	488	488	488																	
				489	489	489	489	489	489	489	489	489	492	492																	
				493	493	494	494	494	494	494	494	495	495	495																	
				496	496	496	496	496	499	499	499	499	499	501																	
				501	501	502	502	502	503	503	503	503	503	505																	
				507	507	508	508	508	509	509	509	509	509	509																	
				509	510	510	510	510	511	511	511	511	514	514																	
				514	514	514	514	516	520	521	521	521	522	522																	
				523	523	526	526	527	527	527	527	527	527	527																	
				532	532	533	533	533	533	533	533	534	534	534																	
				534	535	535	535	535	535	535	536	536	536	536																	
				539	539	539	539	539	541	541	542	542	543	543																	
				543	543	543	543	547	549	549	549	549	550	550																	
				550	551	552	552	552	552	552	552	552	552	557																	
				558	558	558	558	558	559	559	559	560	560	560																	
				565	565	565	565	569	570	570	571	571	571	571																	
				573	573	573	574	575	575	575	575	575	575	575																	
IMD2	ICNTRL	INTEGER	SIMPLE	29																											
IMD2P1	ICNTRL	INTEGER	SIMPLE	30																											

ORIGINAL PAGE IS
OF POOR QUALITY

LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153															
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138															
LUFLEX	LCNTRL	LOGICAL	UNKNOWN	120	148															
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149															
M		INTEGER	SIMPLE	486/S	487	489	489	568/S	571	575	575									
MATIN	ICNTRL	INTEGER	SIMPLE	45																
MATSNX	ICNTRL	INTEGER	SIMPLE	46																
MATSUN	ICNTRL	INTEGER	SIMPLE	47																
MI XWI	RADCOM	LOGICAL	ARRAY	325	326															
MJ	IDPARM	INTEGER	ARRAY	208																
MLF	ICNTRL	INTEGER	ARRAY	48																
MROD	ICNTRL	INTEGER	SIMPLE	49																
MSM	ICNTRL	INTEGER	SIMPLE	51																
N		INTEGER	SIMPLE	452/C																
NAB		INTEGER	SIMPLE	439/S	440	441														
NAC		INTEGER	SIMPLE	449/S	450	451														
NB	ICNTRL	INTEGER	SIMPLE	52																
NBC		INTEGER	SIMPLE	444/S	445	446														
ND	ICNTRL	INTEGER	SIMPLE	53																
NDALT	ICNTRL	INTEGER	SIMPLE	54																
NDARK		INTEGER	SIMPLE	368/S	371/S	371	373													
NDAY	ICNTRL	INTEGER	SIMPLE	55																
NDHOG	ICNTRL	INTEGER	SIMPLE	76																
NDOUT	ICNTRL	INTEGER	SIMPLE	56																
NDPHY	ICNTRL	INTEGER	SIMPLE	57																
NDRSW	ICNTRL	INTEGER	SIMPLE	51																
NDSHF	ICNTRL	INTEGER	SIMPLE	58																
NDT	ICNTRL	INTEGER	SIMPLE	52																
NDTC3	CNTRLP	INTEGER	SIMPLE	279																
NFK	RADCOM	INTEGER	SIMPLE	316																
NFLW	CNTRLP	INTEGER	SIMPLE	280																
NHMS	ICNTRL	INTEGER	SIMPLE	60																
NHMS0	ICNTRL	INTEGER	SIMPLE	62																
NHMS1	IDPARM	INTEGER	SIMPLE	209																
NHMS2	ICNTRL	INTEGER	SIMPLE	61																
NKRSH	ICNTRL	INTEGER	SIMPLE	50																
NLAY	ICNTRL	INTEGER	SIMPLE	63	355	356	357	358	384	385	387	388	408	415						
				419	432	463	463	465	467	468	478	484	485	498						
				505	513	525	530	538												
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																
NLAYO1		INTEGER	SIMPLE	545/S	547	568														
NLAYO2	RADCOM	INTEGER	SIMPLE	315	545	550	550	552	554	555	564	566	567							
NLAYP1	ICNTRL	INTEGER	SIMPLE	65	355/S	403	404	439	480	486	494	509	534							
NLAYP2		INTEGER	SIMPLE	356/S	444															
NLAYP3		INTEGER	SIMPLE	357/S	449															
NMLEV	ICNTRL	INTEGER	SIMPLE	75																
NOZ	RADCOM	INTEGER	SIMPLE	319																
NSDAY	ICNTRL	INTEGER	SIMPLE	66																
NSEQ	ICNTRL	INTEGER	SIMPLE	67																
NSTEP	ICNTRL	INTEGER	SIMPLE	69																
NTOP	DSOLAR	INTEGER	ARRAY	342	501/S	503/S	522/S													
NTOPF	DSOLAR	INTEGER	ARRAY	341	404/S	415	416/S	502	503											
NTOPT	DSOLAR	INTEGER	ARRAY	340	403/S	419	420/S	501	502	522										
NYMD	ICNTRL	INTEGER	SIMPLE	71																
NYMD0	ICNTRL	INTEGER	SIMPLE	73																
NYMD1	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																
OCEAN	RADCOM	LOGICAL	ARRAY	324	326															
OCM22	RADCOM	REAL	ARRAY	316																
OCM30	RADCOM	REAL	ARRAY	318																
OCM38	RADCOM	REAL	ARRAY	318																
OCM46	RADCOM	REAL	ARRAY	318																
OCMXX	RADCOM	REAL	ARRAY	319																
OLAPR	RADCOM	REAL	ARRAY	317																
OLJAN	RADCOM	REAL	ARRAY	317																

ORIGINAL PAGE IS
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OF POOR QUALITY

SGNP	RDPARM	REAL	ARRAY	244																			
SHG	RADCOM	REAL	ARRAY	301																			
SHL	RADCOM	REAL	ARRAY	300	394																		
SHLE	RADCOM	REAL	ARRAY	300																			
SHLTOP	CNTRLP	REAL	SIMPLE	283	376																		
SHSAT	RADCOM	REAL	ARRAY	302																			
SIG	RDPARM	REAL	ARRAY	251																			
SIGE	RCNTRL	REAL	ARRAY	187																			
SIND	RCNTRL	REAL	SIMPLE	188	364																		
SINL	RDPARM	REAL	ARRAY	245	364																		
SINLD	REAL	REAL	SIMPLE	364/S	367																		
SINLON	RDPARM	REAL	ARRAY	246	365																		
SINROT	CNTRLP	REAL	SIMPLE	284	365																		
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133																		
SNOW	RADCOM	LOGICAL	ARRAY	325	326																		
SNOWN	CNTRLP	REAL	SIMPLE	285																			
SNOWS	CNTRLP	REAL	SIMPLE	286																			
SOLAR1			SUBROUTINE	1																			
SOLS	RCNTRL	REAL	SIMPLE	189																			
SP	RADCOM	REAL	ARRAY	322																			
SRS	RADCOM	REAL	ARRAY	313																			
SSS	RADCOM	REAL	ARRAY	304																			
SSSE	RADCOM	REAL	ARRAY	304																			
START	LDPARM	LOGICAL	SIMPLE	213	216																		
STBO	CNTRLP	REAL	SIMPLE	287																			
STERP1	CNTRLP	REAL	SIMPLE	288																			
STERP2	CNTRLP	REAL	SIMPLE	289																			
STN	RADCOM	REAL	ARRAY	313																			
SUNNY		BIT	ARRAY	350	429	457	464	470	472	477	483	487	489	492									
				499																			
SWALE	RADCOM	REAL	ARRAY	309	385/S	396/S	396	461	470	487													
SWIL	RADCOM	REAL	ARRAY	309	395/S																		
TAUL	RADCOM	REAL	ARRAY	311	433/S	435/S	442/S	447/S	453/S	527/S													
TCOND	RADCOM	REAL	ARRAY	314	435																		
TEMP	DSOLAR	REAL	ARRAY	347	365/S	366/S	366	367	379/S	380/S	380	380	381	392									
				392	393/S	393	394	458/S	459/S	459	460	460	478/S	479									
				480	542/S	543	543																
TEMP1	DSOLAR	REAL	ARRAY	333	363/S	384/S	385	391/S	394	394	463/S	463	465	471									
				471	473	473	478	488/S	488	489	489	550/S	550	552									
				558/S	558	560	560	573/S	573	575	575	575	575	575									
				299																			
TG	RADCOM	REAL	ARRAY	299																			
TH	RADCOM	REAL	ARRAY	299																			
THSTD	RDPARM	REAL	SIMPLE	247																			
THSTD2	RDPARM	REAL	SIMPLE	248																			
TICE	CNTRLP	REAL	SIMPLE	290																			
TL	RADCOM	REAL	ARRAY	298	392																		
TLE	RADCOM	REAL	ARRAY	298																			
TLOWL	RADCOM	REAL	SIMPLE	315	442																		
TLTOP	CNTRLP	REAL	SIMPLE	291	375																		
TMIDL	RADCOM	REAL	SIMPLE	315	447																		
TN	RADCOM	REAL	ARRAY	313																			
TOPABS	RADCOM	REAL	ARRAY	312	465/S	496	511	536															
TOTABS	DSOLAR	REAL	ARRAY	328	378/S	496/S	496	511/S	511	536/S	536	552/S	552										
TOTOZ	RADCOM	REAL	ARRAY	319																			
TPENE	RADCOM	REAL	ARRAY	314	453																		
TSTD	RCNTRL	REAL	SIMPLE	190																			
VER	CNTRLP	CHAR*8	SIMPLE	10	23																		
W	DSOLAR	REAL	ARRAY	336	359/S	394/S	395	396	461/S	463	470/S	471	483	487									
				488	549/S	560	557/S	558	571/S	573													
WET	RADCOM	REAL	ARRAY	320																			
WI	RADCOM	REAL	ARRAY	320																			
WSAVE	RDPARM	REAL	ARRAY	249																			
WW	DSOLAR	REAL	ARRAY	339	360/S	483/S	487	565/S	571														
X		REAL	SIMPLE	352	352	352	352	353	353	353	353	353	353	353									
				353																			
XDAY	CNTRLP	REAL	SIMPLE	292	547																		
XK	RADCOM	REAL	ARRAY	316																			
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24																		
XLAT		REAL	SIMPLE	1	547																		

SOLAR1 19

XX		REAL	SIMPLE	409/S	410	411	412
ZLNCO	CNTRLP	REAL	SIMPLE	293			

PROCEDURE MAP

--NAME--	-----TYPE-----	-----CLASS-----	-----REFERENCES-----	D=STMT	FN	DEF.	A=ARGLIST
AMAX1	REAL	INTRINSIC	412				
AOZONE	REAL	STAT FUNC	353/S				
AWATER	REAL	STAT FUNC	352/S				
CLOUDS		SUBROUTINE	505	530			
LOGTOB		SUBROUTINE	374	428	429	520	
OZONE2		SUBROUTINE	547				
SQRT	REAL	INTRINSIC	375				
VOZON	REAL	FUNCTION	550	558	573		
VSORT	REAL	INTRINSIC	380	392			
VWATER	REAL	FUNCTION	463	471	488		
ZEITBEG		SUBROUTINE	504	529	546		
ZEITEND		SUBROUTINE	506	531	548		

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00001 SUBROUTINE STRATM (I1,I2, IDAYH, ILATH)
00002 DIMENSION TDAY(37,2), TJAN(19,2), TAPR(19,2), TJUL(19,2), TOCT(19,2)
00003 DATA IOLD/0/
00004 DATA TJAN/ 269.00, 269.00, 268.00, 266.00, 265.00, 263.00, 262.00,
* 261.00, 260.00, 260.00, 250.00, 250.00, 250.00, 250.00, 250.00,
* 253.00, 253.00, 253.00, 253.00, 242.50, 242.50, 242.50, 242.50,
* 242.50, 242.00, 240.50, 238.50, 237.00, 235.00, 232.00, 230.00,
* 228.00, 226.00, 224.50, 223.00, 222.50, 222.50, 222.50/
00005 DATA TAPR/ 270.00, 270.00, 270.00, 270.00, 270.00, 270.00, 270.00,
* 270.00, 270.00, 270.00, 267.00, 264.00, 263.00, 262.00, 260.00,
* 259.00, 257.00, 256.00, 255.00, 246.00, 246.00, 246.00, 246.00,
* 246.50, 246.50, 246.50, 246.50, 245.00, 245.00, 245.00, 245.00,
* 244.00, 243.50, 243.00, 242.50, 242.00, 242.00, 242.00/
00006 DATA TJUL/ 267.00, 266.00, 265.00, 265.00, 265.00, 270.00, 272.00,
* 273.00, 275.00, 277.00, 277.00, 280.00, 280.00, 280.00, 280.00,
* 280.00, 280.00, 280.00, 280.00, 242.00, 242.00, 242.00, 242.00,
* 242.50, 243.00, 244.00, 245.50, 247.50, 249.00, 251.00, 253.00,
* 255.00, 256.00, 257.50, 258.00, 259.00, 259.50, 260.00/
00007 DATA TOCT/ 267.00, 266.00, 265.00, 263.00, 263.00, 262.00, 260.00,
* 258.00, 255.00, 253.00, 252.00, 247.00, 245.00, 243.00, 240.00,
* 236.00, 234.00, 232.00, 231.00, 247.00, 247.00, 247.00,
* 245.00, 243.00, 241.00, 239.00, 237.00, 235.50, 233.00, 231.00,
* 229.00, 227.50, 226.00, 224.00, 223.00, 222.00, 222.00/
C *** INTRODUCE CLIMATOLOGICAL TEMPERATURES IN UPPER STMOSPHERE
C
C DATA
C * I. ILAT, JDAYH, TDAY/77*200000000/
C
C CALL ERRSET(207,255,-1,1,0,209)
00008 IF (IDAYH.EQ.IOLD) GO TO 113
C *** TIME INTERPOLATION NORTHERN HEMISPHERE
C *** I=19=EQUATOR, I=37=NORTH POLE
00009 IF (IDAYH.GE.0.AND.IDAYH.LE.15) GO TO 102
00010 IF (IDAYH.GE.15.AND.IDAYH.LE.106) GO TO 104
00011 IF (IDAYH.GE.106.AND.IDAYH.LE.197) GO TO 106
00012 IF (IDAYH.GE.197.AND.IDAYH.LE.289) GO TO 108
00013 IF (IDAYH.GE.289.AND.IDAYH.LE.366) GO TO 110
00014 DO 103 I=19,37
00015 I1=I-18
00016 DO 103 J = 1,2
00017 103 TDAY(I,J)=TOCT(I1,J)+(IDAYH+77)*(TJAN(I1,J)-TOCT(I1,J))/92
00018 GO TO 112
00019 104 DO 105 I=19,37
00020 I1=I-18
00021 DO 105 J = 1,2
00022 105 TDAY(I,J)=TJAN(I1,J)+(IDAYH-15)*(TAPR(I1,J)-TJAN(I1,J))/91
00023 GO TO 112
00024 106 DO 107 I=19,37
00025 I1=I-18
00026 DO 107 J=1,2
00027 107 TDAY(I,J)=TAPR(I1,J)+(IDAYH-106)*(TJUL(I1,J)-TAPR(I1,J))/91
00028 GO TO 112
00029 108 DO 109 I=19,37
00030 I1=I-18
00031 DO 109 J=1,2
00032 109 TDAY(I,J)=TJUL(I1,J)+(IDAYH-197)*(TOCT(I1,J)-TJUL(I1,J))/92
00033 GO TO 112
00034 110 DO 111 I=19,37
00035 I1=I-18
00036 DO 111 J=1,2
00037 111 TDAY(I,J)=TOCT(I1,J)+(IDAYH-289)*(TJAN(I1,J)-TOCT(I1,J))/92
00038 112 CONTINUE
C *** TIME INTERPOLATION SOUTHERN HEMISPHERE
C *** I=1=SOUTH POLE, I=18=5 DEGREE SOUTH
00039 IF (IDAYH.LE.183) GO TO 115
00040 114 JDAYH=IDAYH-183
00041 GO TO 116
00042 115 JDAYH=IDAYH+183
00043 116 CONTINUE
00044 IF (JDAYH.GE.0.AND.JDAYH.LE.15) GO TO 202

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VSTRATM 2
VSTRATM 3
VSTRATM 4
VSTRATM 5
VSTRATM 6
VSTRATM 7
VSTRATM 8
VSTRATM 9
VSTRATM 10
VSTRATM 11
VSTRATM 12
VSTRATM 13
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VSTRATM 72

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00045      IF (JDAYH.GE.15.AND.JDAYH.LE.106) GO TO 204
00046      IF (JDAYH.GE.106.AND.JDAYH.LE.197) GO TO 206
00047      IF (JDAYH.GE.197.AND.JDAYH.LE.289) GO TO 208
00048      IF (JDAYH.GE.289.AND.JDAYH.LE.366) GO TO 210
00049  202 DO 203 I=1,18
00050      I1=20-I
00051      DO 205 J=1,2
00052  203 TDAY(I,J)=TOCT(I1,J)+(JDAYH-77)*(TJAN(I1,J)-TOCT(I1,J))/92
00053      GO TO 212
00054  204 DO 205 I=1,18
00055      I1=20-I
00056      DO 205 J=1,2
00057  205 TDAY(I,J)=TJAN(I1,J)+(JDAYH-15)*(TAPR(I1,J)-TJAN(I1,J))/91
00058      GO TO 212
00059  206 DO 207 I=1,18
00060      I1=20-I
00061      DO 207 J=1,2
00062  207 TDAY(I,J)=TAPR(I1,J)+(JDAYH-106)*(TJUL(I1,J)-TAPR(I1,J))/91
00063      GO TO 212
00064  208 DO 209 I=1,18
00065      I1=20-I
00066      DO 209 J=1,2
00067  209 TDAY(I,J)=TJUL(I1,J)+(JDAYH-197)*(TOCT(I1,J)-TJUL(I1,J))/92
00068      GO TO 212
00069  210 DO 211 I=1,18
00070      I1=20-I
00071      DO 211 J=1,2
00072  211 TDAY(I,J)=TOCT(I1,J)+(JDAYH-289)*(TJAN(I1,J)-TOCT(I1,J))/92
00073  212 CONTINUE
00074      IOLD=IDAYH
00075  113 CONTINUE
00076      ILAT=1.00001+(ILATH+90)/5
00077      T1=TDAY(ILAT,1)
00078      T2=TDAY(ILAT,2)
00079      RETURN
00080      END

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VSTRATM 73
VSTRATM 74
VSTRATM 75
VSTRATM 76
VSTRATM 77
VSTRATM 78
VSTRATM 79
VSTRATM 80
VSTRATM 81
VSTRATM 82
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VSTRATM 84
VSTRATM 85
VSTRATM 86
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VSTRATM 90
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VSTRATM 92
VSTRATM 93
VSTRATM 94
VSTRATM 95
VSTRATM 96
VSTRATM 97
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VSTRATM 99
VSTRATM100
VSTRATM101
VSTRATM102
VSTRATM103
VSTRATM104
VSTRATM105
VSTRATM106
VSTRATM107
VSTRATM108

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

102	14	9		
103	17	14	16	
104	19	10		
105	22	19	21	
106	24	11		
107	27	24	26	
108	29	12		
109	32	29	31	
110	34	13		
111	37	34	36	
112	38	18	23	28 33
113	75	8		
114	40			
115	42	39		
116	43	41		
202	49	44		
203	52	49	51	
204	54	45		
205	57	54	56	
206	59	46		
207	62	59	61	
208	64	47		
209	67	64	66	
210	69	48		
211	72	69	71	
212	73	53	58	63 68

VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST. C=CTRL OF DO. I=DATA INIT. R=READ. S=STORE. W=WRITE

I		INTEGER	SIMPLE	14	15	17	19	20	22	24	25	27	29	30
---	--	---------	--------	----	----	----	----	----	----	----	----	----	----	----

I1	INTEGER	SIMPLE	32	34	35	37	49	50	52	54	55	57	59
			60	62	64	65	67	69	70	72			
			15/S	17	17	17	20/S	22	22	22	25/S	27	27
			27	30/S	32	32	32	35/S	37	37	37	50/S	52
IDAYH	INTEGER	SIMPLE	52	52	55/S	57	57	57	60/S	62	62	62	65
			67	67	67	70/S	72	72	72				
ILAT	INTEGER	SIMPLE	1	8	9	9	10	10	11	11	12	12	13
ILATH	INTEGER	SIMPLE	13	17	22	27	32	37	39	40	42	74	
IOLD	INTEGER	SIMPLE	76/S	77	78								
J	INTEGER	SIMPLE	1	76									
			3/I	8	74/S								
			16	17	17								
			27	27	27	17	17	21	22	22	22	22	26
			37	37	37	27	31	32	32	32	32	36	37
			57	57	61	51	52	52	52	52	56	57	57
JDAYH	INTEGER	SIMPLE	67	71	72	62	62	62	62	62	66	67	67
			40/S	42/S	44	44	45	45	46	46	47	47	48
			48	52	57	62	67	72					
STRATM		SUBROUTINE	1										
T1	REAL	SIMPLE	1	77/S									
T2	REAL	SIMPLE	1	78/S									
TAPR	REAL	ARRAY	2	5/I	22	27	27	57	62	62	62/S	67/S	72
TDAY	REAL	ARRAY	2	17/S	22/S	27/S	32/S	37/S	52/S	57/S	62/S	67/S	72
			77	78									
TJAN	REAL	ARRAY	2	4/I	17	22	22	37	52	57	57	72	
TJUL	REAL	ARRAY	2	6/I	27	32	32	62	67	67	67	72	
TOCT	REAL	ARRAY	2	7/I	17	17	32	37	37	52	52	67	72
			72										

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00001      SUBROUTINE TIMAVG (J)
C
C AVERAGES 4TH-ORDER MODEL VALUES OVER THREE TIME STEPS
C   QS(N) = Q(N) + NU*(QS(N-1)/2 - Q(N) + Q(N+1)/2)
C   WHERE 0<NU<1, IF NU1 = 1-NU AND NU2 = NU/2, THEN
C   QS(N) = NU1*Q(N) + NU2*(QS(N-1) + Q(N+1))
C
C ARGUMENTS      DESCRIPTION
C   J            LATITUDE GRID BAND
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C -----
00002      COMMON /CCNTRL/  CCO
00003      COMMON /CCNTRL/  ADATE
00004      COMMON /CCNTRL/  ATIME
00005      COMMON /CCNTRL/  JIC
00006      COMMON /CCNTRL/  JOB
00007      COMMON /CCNTRL/  CCSP06
00008      COMMON /CCNTRL/  CCSP07
00009      COMMON /CCNTRL/  CCSP08
00010      COMMON /CCNTRL/  VER
00011      COMMON /CCNTRL/  XLABEL (10)
00012      COMMON /CCNTRL/  CQS (30)
00013      COMMON /CCNTRL/  CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CCO, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
00025      CHARACTER*8      CQS
00026      CHARACTER*8      CQU
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C -----
00027      COMMON /ICNTRL/  ICO
00028      COMMON /ICNTRL/  IM
00029      COMMON /ICNTRL/  IMD2
00030      COMMON /ICNTRL/  IMD2P1
00031      COMMON /ICNTRL/  NDRSW
00032      COMMON /ICNTRL/  JM
00033      COMMON /ICNTRL/  JMD2
00034      COMMON /ICNTRL/  JMT2
00035      COMMON /ICNTRL/  JNP
00036      COMMON /ICNTRL/  JO4
00037      COMMON /ICNTRL/  JOB
00038      COMMON /ICNTRL/  JSP
00039      COMMON /ICNTRL/  KLIALB
00040      COMMON /ICNTRL/  KLIGW
00041      COMMON /ICNTRL/  KLISST
00042      COMMON /ICNTRL/  KS
00043      COMMON /ICNTRL/  KU
00044      COMMON /ICNTRL/  LOGBR
00045      COMMON /ICNTRL/  MATIN
00046      COMMON /ICNTRL/  MATSNX
00047      COMMON /ICNTRL/  MATSUN
00048      COMMON /ICNTRL/  MLF      (12)
00049      COMMON /ICNTRL/  MROD
00050      COMMON /ICNTRL/  NKRSH
00051      COMMON /ICNTRL/  MSM
00052      COMMON /ICNTRL/  NB
00053      COMMON /ICNTRL/  ND
00054      COMMON /ICNTRL/  NDALT
00055      COMMON /ICNTRL/  NDAY
VTIMAVG  2
VTIMAVG  3
VTIMAVG  4
VTIMAVG  5
VTIMAVG  6
VTIMAVG  7
VTIMAVG  8
VTIMAVG  9
VTIMAVG 10
VTIMAVG 11
VCNTRL   2
VCNTRL   3
VCNTRL   4
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VCNTRL  62

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00056	COMMON /ICNTRL/	NDOUT		VCNTRL	63
00057	COMMON /ICNTRL/	NDPHY		VCNTRL	64
00058	COMMON /ICNTRL/	NDSHF		VCNTRL	65
00059	COMMON /ICNTRL/	NDT		VCNTRL	66
00060	COMMON /ICNTRL/	NHMS		VCNTRL	67
00061	COMMON /ICNTRL/	NHMSE		VCNTRL	68
00062	COMMON /ICNTRL/	NHMSE		VCNTRL	68
00063	COMMON /ICNTRL/	NLAY		VCNTRL	69
00064	COMMON /ICNTRL/	NLAYM1		VCNTRL	70
00065	COMMON /ICNTRL/	NLAYP1		VCNTRL	71
00066	COMMON /ICNTRL/	NSDAY		VCNTRL	72
00067	COMMON /ICNTRL/	NSEQ		VCNTRL	73
00068	COMMON /ICNTRL/	ICSP53		VCNTRL	74
00069	COMMON /ICNTRL/	NSTEP		VCNTRL	75
00070	COMMON /ICNTRL/	IBLKSIZ		VCNTRL	76
00071	COMMON /ICNTRL/	NYMD		VCNTRL	77
00072	COMMON /ICNTRL/	NYMDE		VCNTRL	78
00073	COMMON /ICNTRL/	NYMDO		VCNTRL	79
00074	COMMON /ICNTRL/	NZINIT		VCNTRL	80
00075	COMMON /ICNTRL/	NMLEV		VCNTRL	81
00076	COMMON /ICNTRL/	NDHOG		VCNTRL	82
00077	COMMON /ICNTRL/	IQS (30)		VCNTRL	83
00078	COMMON /ICNTRL/	IQU (10)		VCNTRL	84
	C			VCNTRL	85
00079	EQUIVALENCE	(ITMIN	.IQS(1))	VCNTRL	86
00080	EQUIVALENCE	(ITMAX	.IQS(2))	VCNTRL	87
00081	EQUIVALENCE	(IPREACC	.IQS(3))	VCNTRL	88
00082	EQUIVALENCE	(IPRECON	.IQS(4))	VCNTRL	89
00083	EQUIVALENCE	(IFLUX	.IQS(5))	VCNTRL	90
00084	EQUIVALENCE	(IEFLUX	.IQS(6))	VCNTRL	91
00085	EQUIVALENCE	(IFUSION	.IQS(7))	VCNTRL	92
00086	EQUIVALENCE	(IRADSWG	.IQS(8))	VCNTRL	93
00087	EQUIVALENCE	(IRADLWG	.IQS(9))	VCNTRL	94
00088	EQUIVALENCE	(LICLOUD	.IQS(10))	VCNTRL	95
00089	EQUIVALENCE	(IUFLUX	.IQS(11))	VCNTRL	96
00090	EQUIVALENCE	(IVFLUX	.IQS(12))	VCNTRL	97
	C			VCNTRL	98
00091	EQUIVALENCE	(IOMEGA	.IQU(1))	VCNTRL	99
00092	EQUIVALENCE	(IDIABAT	.IQU(2))	VCNTRL	100
00093	EQUIVALENCE	(IRADSW	.IQU(3))	VCNTRL	101
00094	EQUIVALENCE	(IRADLW	.IQU(4))	VCNTRL	102
	C			VCNTRL	103
00095	EQUIVALENCE	(IC0, IC(1))		VCNTRL	104
00096	INTEGER	IC0, IC(200)		VCNTRL	105
	C			VCNTRL	106
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		VCNTRL	107
	C	=====		VCNTRL	108
00097	COMMON /LCNTRL/	LC0		VCNTRL	109
00098	COMMON /LCNTRL/	QALT		VCNTRL	110
00099	COMMON /LCNTRL/	QBEG		VCNTRL	111
00100	COMMON /LCNTRL/	QDAY		VCNTRL	112
00101	COMMON /LCNTRL/	QEND		VCNTRL	113
00102	COMMON /LCNTRL/	QOUT		VCNTRL	114
00103	COMMON /LCNTRL/	QPHV		VCNTRL	115
00104	COMMON /LCNTRL/	QSHF		VCNTRL	116
00105	COMMON /LCNTRL/	SN2FLG		VCNTRL	117
00106	COMMON /LCNTRL/	QRSW		VCNTRL	118
00107	COMMON /LCNTRL/	QRSH		VCNTRL	119
00108	COMMON /LCNTRL/	LQS(30)		VCNTRL	120
00109	COMMON /LCNTRL/	LQU(10)		VCNTRL	121
	C			VCNTRL	122
00110	EQUIVALENCE	(LTMIN	.LQS(1))	VCNTRL	123
00111	EQUIVALENCE	(LTMAX	.LQS(2))	VCNTRL	124
00112	EQUIVALENCE	(LPREACC	.LQS(3))	VCNTRL	125
00113	EQUIVALENCE	(LPRECON	.LQS(4))	VCNTRL	126
00114	EQUIVALENCE	(LHFLUX	.LQS(5))	VCNTRL	127
00115	EQUIVALENCE	(LEFLUX	.LQS(6))	VCNTRL	128
00116	EQUIVALENCE	(LFUSION	.LQS(7))	VCNTRL	129
00117	EQUIVALENCE	(LRADSWG	.LQS(8))	VCNTRL	130
00118	EQUIVALENCE	(LRADLWG	.LQS(9))	VCNTRL	131
00119	EQUIVALENCE	(LICLOUD	.LQS(10))	VCNTRL	132
				VCNTRL	133

00120	EQUIVALENCE	(LUFLUX ,LQS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX ,LQS(12))	VCNTRL 135
	C		VCNTRL 136
00122	EQUIVALENCE	(LOMEGA ,LOU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT ,LOU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW ,LOU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW ,LOU(4))	VCNTRL 140
	C		VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSH	VCNTRL 151
	C		VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
	C		VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
	C		VCNTRL 172
00154	EQUIVALENCE	(LCO,LC(1))	VCNTRL 173
00155	LOGICAL	LCO, LC(200)	VCNTRL 174
	C		VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 176
	C	-----	VCNTRL 177
00156	COMMON /RCNTRL/	RCO	VCNTRL 178
00157	COMMON /RCNTRL/	APHEL	VCNTRL 179
00158	COMMON /RCNTRL/	BETA	VCNTRL 180
00159	COMMON /RCNTRL/	COSD	VCNTRL 181
00160	COMMON /RCNTRL/	CP	VCNTRL 182
00161	COMMON /RCNTRL/	DAYSPLY	VCNTRL 183
00162	COMMON /RCNTRL/	DEC	VCNTRL 184
00163	COMMON /RCNTRL/	DECMAX	VCNTRL 185
00164	COMMON /RCNTRL/	DIST	VCNTRL 186
00165	COMMON /RCNTRL/	DLAT	VCNTRL 187
00166	COMMON /RCNTRL/	DLOM	VCNTRL 188
00167	COMMON /RCNTRL/	DT	VCNTRL 189
00168	COMMON /RCNTRL/	ECCN	VCNTRL 190
00169	COMMON /RCNTRL/	GNU1	VCNTRL 191
00170	COMMON /RCNTRL/	GNU2	VCNTRL 192
00171	COMMON /RCNTRL/	GRAV	VCNTRL 193
00172	COMMON /RCNTRL/	OMEGA2	VCNTRL 194
00173	COMMON /RCNTRL/	PI	VCNTRL 195
00174	COMMON /RCNTRL/	PI180	VCNTRL 196
00175	COMMON /RCNTRL/	PI2	VCNTRL 197
00176	COMMON /RCNTRL/	PSTD	VCNTRL 198
00177	COMMON /RCNTRL/	PIMEAN	VCNTRL 199
00178	COMMON /RCNTRL/	PSMAX	VCNTRL 200
00179	COMMON /RCNTRL/	PSMIN	VCNTRL 201
00180	COMMON /RCNTRL/	PTOP	VCNTRL 202
00181	COMMON /RCNTRL/	RADE	VCNTRL 203
00182	COMMON /RCNTRL/	RGAS	VCNTRL 204

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00183	COMMON /RCNTRL/ ROCP	VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST	VCNTRL 206
00185	COMMON /RCNTRL/ SDA1	VCNTRL 207
00186	COMMON /RCNTRL/ SEASON	VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)	VCNTRL 209
00188	COMMON /RCNTRL/ SIND	VCNTRL 210
00189	COMMON /RCNTRL/ SOLS	VCNTRL 211
00190	COMMON /RCNTRL/ TSTD	VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)	VCNTRL 213
00192	COMMON /RCNTRL/ HEATW	VCNTRL 214
00193	COMMON /RCNTRL/ HEATI	VCNTRL 215
00194	COMMON /RCNTRL/ EPS	VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC	VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ	VCNTRL 218
00197	COMMON /RCNTRL/ PZERO	VCNTRL 219
C		
00198	EQUIVALENCE (RC0,RC(1))	VCNTRL 220
00199	REAL RC0, RC(200)	VCNTRL 221
C		
C INTEGER MODEL CONSTANTS		
C =====		
00200	COMMON /IDPARM/ IJUMP (46)	VCNTRL 222
00201	COMMON /IDPARM/ IDSP02	VCNTRL 223
00202	COMMON /IDPARM/ INDEX (72)	VCNTRL 224
00203	COMMON /IDPARM/ IROD	VCNTRL 225
00204	COMMON /IDPARM/ JC (46)	VCNTRL 226
00205	COMMON /IDPARM/ JE (2)	VCNTRL 227
00206	COMMON /IDPARM/ JP (2,2)	VCNTRL 228
00207	COMMON /IDPARM/ KSTEP	VCNTRL 229
00208	COMMON /IDPARM/ MJ (46)	VCNTRL 230
00209	COMMON /IDPARM/ NHMS1	VCNTRL 231
00210	COMMON /IDPARM/ NHMS1	VCNTRL 232
C		
C LOGICAL MODEL CONSTANTS		
C =====		
00211	COMMON /LDPARM/ FILTER (46)	VCNTRL 233
00212	COMMON /LDPARM/ ITAPE	VCNTRL 234
00213	COMMON /LDPARM/ START	VCNTRL 235
C		
00214	LOGICAL FILTER	VCNTRL 236
00215	LOGICAL ITAPE	VCNTRL 237
00216	LOGICAL START	VCNTRL 238
C		
C REAL MODEL CONSTANTS		
C =====		
00217	COMMON /RDPARM/ ADLDP	VCNTRL 239
00218	COMMON /RDPARM/ CON1	VCNTRL 240
00219	COMMON /RDPARM/ CON1DT	VCNTRL 241
00220	COMMON /RDPARM/ CON2	VCNTRL 242
00221	COMMON /RDPARM/ CON2DT	VCNTRL 243
00222	COMMON /RDPARM/ CON3	VCNTRL 244
00223	COMMON /RDPARM/ CON3DT	VCNTRL 245
00224	COMMON /RDPARM/ CON4	VCNTRL 246
00225	COMMON /RDPARM/ CON4DT	VCNTRL 247
00226	COMMON /RDPARM/ CON5	VCNTRL 248
00227	COMMON /RDPARM/ COSL (46)	VCNTRL 249
00228	COMMON /RDPARM/ COSLON (72)	VCNTRL 250
00229	COMMON /RDPARM/ CPD2	VCNTRL 251
00230	COMMON /RDPARM/ DXP (46)	VCNTRL 252
00231	COMMON /RDPARM/ DXYP (46)	VCNTRL 253
00232	COMMON /RDPARM/ DYP (46)	VCNTRL 254
00233	COMMON /RDPARM/ FCORLS (46)	VCNTRL 255
00234	COMMON /RDPARM/ F1DT	VCNTRL 256
00235	COMMON /RDPARM/ F2DT	VCNTRL 257
00236	COMMON /RDPARM/ H1DT	VCNTRL 258
00237	COMMON /RDPARM/ H2DT	VCNTRL 259
00238	COMMON /RDPARM/ PKSTD	VCNTRL 260
00239	COMMON /RDPARM/ PKTOP	VCNTRL 261
00240	COMMON /RDPARM/ RLAT (46)	VCNTRL 262
00241	COMMON /RDPARM/ RLATD (46)	VCNTRL 263
00242	COMMON /RDPARM/ ROCPDT	VCNTRL 264
		VCNTRL 265
		VCNTRL 266
		VCNTRL 267
		VCNTRL 268
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		VCNTRL 274
		VCNTRL 275

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00243      COMMON /RDPARM/ ROCPP1
00244      COMMON /RDPARM/ SGNP (2)
00245      COMMON /RDPARM/ SINL (46)
00246      COMMON /RDPARM/ SINLON (72)
00247      COMMON /RDPARM/ THSTD
00248      COMMON /RDPARM/ THSTD2
00249      COMMON /RDPARM/ WSAVE (159)
00250      COMMON /RDPARM/ DSIG (9)
00251      COMMON /RDPARM/ SIG (9)
00252      COMMON /RDPARM/ DSIGINV (9)

VCNTRL 276
VCNTRL 277
VCNTRL 278
VCNTRL 279
VCNTRL 280
VCNTRL 281
VCNTRL 282
VCNTRL 283
VCNTRL 284
VCNTRL 285
VCNTRL 286
VQANDQT 2
VQANDQT 3
VQANDQT 4
VQANDQT 5
VQANDQT 6
VQANDQT 7
VQANDQT 8
VQANDQT 9
VQANDQT 10
VQANDQT 11
VQANDQT 12
VQANDQT 13
VQANDQT 14
VQANDQT 15
VQANDQT 16
VQANDQT 17
VQANDQT 18
VQANDQT 19
VQANDQT 20
VQANDQT 21
VQANDQT 22
VQANDQT 23
VQANDQT 24
VQANDQT 25
VQANDQT 26
VQANDQT 27
VQANDQT 28
VQANDQT 29
VQANDQT 30
VQANDQT 31
VQANDQT 32
VQANDQT 33
VQANDQT 34
VQANDQT 35
VQANDQT 36
VQANDQT 37
VQANDQT 38
VQANDQT 39
VQANDQT 40
VQANDQT 41
VQANDQT 42
VQANDQT 43
VQANDQT 44
VQANDQT 45
VQANDQT 46
VQANDQT 47
VQANDQT 48
VQANDQT 49
VQANDQT 50
VQANDQT 51
VQANDQT 52
VQANDQT 53
VQANDQT 54
VQANDQT 55
VQPOLES 2
VQPOLES 3
VQPOLES 4
VQPOLES 5
VQPOLES 6
VQPOLES 7

=====
COMDECK VQANDQT RESOLUTION VALUES
=====
IM          =72
NLAY        =9
JM+1        =46
NLAY+11     =99
IM*NLAY+11  =7128
JM/2+1      =23

=====
GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
=====
00253      COMMON          /QANDQT/ QPROG(72,9,11,46)

00254      DIMENSION      PHIS (7128,1)
00255      DIMENSION      SMTH (7128,23)
00256      DIMENSION      ALBEDO (7128,1)
00257      DIMENSION      GT (7128,1)
00258      DIMENSION      GW (7128,1)
00259      DIMENSION      TS (7128,1)
00260      DIMENSION      SHS (7128,1)
00261      DIMENSION      F (72,99,1)

00262      DIMENSION      U (72,9,11,1)
00263      DIMENSION      V (72,9,11,1)
00264      DIMENSION      T (72,9,11,1)
00265      DIMENSION      SH (72,9,11,1)
00266      DIMENSION      PHI (72,9,11,1)

00267      EQUIVALENCE    (QPROG(1, 1,1,1),PHIS (1,1))
00268      EQUIVALENCE    (QPROG(1, 2,1,1),SMTH (1,1))
00269      EQUIVALENCE    (QPROG(1, 3,1,1),ALBEDO(1,1))
00270      EQUIVALENCE    (QPROG(1, 4,1,1),GT (1,1))
00271      EQUIVALENCE    (QPROG(1, 5,1,1),GW (1,1))
00272      EQUIVALENCE    (QPROG(1, 6,1,1),TS (1,1))
00273      EQUIVALENCE    (QPROG(1, 7,1,1),SHS (1,1))
00274      EQUIVALENCE    (QPROG(1, 8,1,1),P (1,1,1))

00275      EQUIVALENCE    (QPROG(1,1, 2,1),U (1,1,1,1))
00276      EQUIVALENCE    (QPROG(1,1, 4,1),V (1,1,1,1))
00277      EQUIVALENCE    (QPROG(1,1, 6,1),T (1,1,1,1))
00278      EQUIVALENCE    (QPROG(1,1, 8,1),SH (1,1,1,1))
00279      EQUIVALENCE    (QPROG(1,1,10,1),PHI(1,1,1,1))

=====
SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
=====
00280      COMMON          /QANDQT/ QSIDIAG(72,15,46)
00281      DIMENSION      IQSIDIAG(72,15,46)
00282      EQUIVALENCE    (QSIDIAG,IQSIDIAG)

00283      COMMON          /QANDQT/ QUDIAG(72,9,5,46)

=====
POLAR MODEL PROGNOSTIC FIELDS
00284      COMMON /QPOLES/ PP(2,2)
00285      COMMON /QPOLES/ UP(9,2,2)
00286      COMMON /QPOLES/ VP(9,2,2)
00287      COMMON /QPOLES/ TP(9,2,2)

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00288          COMMON /QPOLES/ SHP(9,2,2)          VQPOLES  8
00289          COMMON /QPOLES/ PHIP(9,2,2)          VQPOLES  9
C * * *
C * * * GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP
00290          COMMON /QMSAVE/ PM(72,5)             VQMSAVE  2
00291          COMMON /QMSAVE/ UM(72,9,5)           VQMSAVE  3
00292          COMMON /QMSAVE/ VM(72,9,5)           VQMSAVE  4
00293          COMMON /QMSAVE/ TM(72,9,5)           VQMSAVE  5
00294          COMMON /QMSAVE/ SHM(72,9,5)           VQMSAVE  6
00295          COMMON /QMSAVE/ PHIM(72,9,5)           VQMSAVE  7
00296          COMMON /QMSAVE/ PV(72,9,5)           VQMSAVE  8
00297          COMMON /QMSAVE/ PIT(72,5)             VQMSAVE  9
00298          COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5) VQMSAVE 10
00299          COMMON /QMSAVE/ TERMW(72,9,5), TERMV(72,9,5) VQMSAVE 11
C * * *
00300          COMMON SCALEV(72,9)                   VQMSAVE 12
00301          COMMON /IMJM/          IMM1,          IMM2,          IMM3,          IMM4,          IMM5,          VQMSAVE 13
SUSUS          IMM2,          IMT2,          IMT4,          VQMSAVE 14
SUSUS          IMM3,          IMT3,          IMT5,          VQMSAVE 15
SUSUS          IMM4,          IMT4,          IMT6,          VQMSAVE 16
SUSUS          IMM5,          IMT5,          IMT7,          VQMSAVE 17
SUSUS          IMM6,          IMT6,          IMT8,          VQMSAVE 18
SUSUS          IMM7,          IMT7,          IMT9,          VQMSAVE 19
SUSUS          IMM8,          IMT8,          IMT10,         VQMSAVE 20
C * * *
00302          10000 CONTINUE                         VBEGDEB  2
C * * * CYBER VECTOR VERSION 00.001 INPUT IOQ       VBEGDEB  3
C * * * CYBER VECTOR VERSION 00                     VBEGDEB  4
C * * * *****                                     VBEGDEB  5
00303          M = MJ(J)                               VTIMAVG 20
00304          K = JC(J)                               VTIMAVG 21
00305          IF (M.EQ.0) GO TO 50                     VTIMAVG 22
C * * *
C * * * POLE POINT                                  VTIMAVG 23
00306          PP(ND,M) = GNU1*PP(ND,M) + GNU2*(PM(I,K)+PP(NB,M)) VTIMAVG 24
00307          DO 10 L=1,NLAY                          VTIMAVG 25
00308          UP(L,ND,M) = GNU1*UP(L,ND,M) + GNU2*(UM(I,L,K)+UP(L,NB,M)) VTIMAVG 26
00309          VP(L,ND,M) = GNU1*VP(L,ND,M) + GNU2*(VM(I,L,K)+VP(L,NB,M)) VTIMAVG 27
00310          TP(L,ND,M) = GNU1*TP(L,ND,M) + GNU2*(TM(I,L,K)+TP(L,NB,M)) VTIMAVG 28
00311          SHP(L,ND,M) = GNU1*SHP(L,ND,M) + GNU2*(SHM(I,L,K)+SHP(L,NB,M)) VTIMAVG 29
00312          10 CONTINUE                             VTIMAVG 30
00313          RETURN                                    VTIMAVG 31
C * * *
C * * * NON-POLE POINT                             VTIMAVG 32
00314          50 CONTINUE                             VTIMAVG 33
C * * *
00315          P(I,ND,J;IM) = GNU1*P(I,ND,J;IM) + GNU2*(PM(I,K)+P(I,NB,J)) VTIMAVG 34
00316          SCALEV(I,1;IMNLAY) = GNU2*(UM(I,1,K;IMNLAY) + U(I,L,NB,J;IMNLAY)) VTIMAVG 35
00317          U(I,1,ND,J;IMNLAY) = GNU1*U(I,1,ND,J;IMNLAY) + SCALEV(I,1;IMNLAY) VTIMAVG 36
00318          SCALEV(I,1;IMNLAY) = GNU2*(VM(I,1,K;IMNLAY) + V(I,1,NB,J;IMNLAY)) VTIMAVG 37
00319          V(I,1,ND,J;IMNLAY) = GNU1*V(I,1,ND,J;IMNLAY) + SCALEV(I,1;IMNLAY) VTIMAVG 38
00320          SCALEV(I,1;IMNLAY) = GNU2*(TM(I,1,K;IMNLAY) + T(I,1,NB,J;IMNLAY)) VTIMAVG 39
00321          T(I,1,ND,J;IMNLAY) = GNU1*T(I,1,ND,J;IMNLAY) + SCALEV(I,1;IMNLAY) VTIMAVG 40
00322          SCALEV(I,1;IMNLAY) = GNU2*(SHM(I,1,K;IMNLAY) + SH(I,1,NB,J;IMNLAY)) VTIMAVG 41
00323          SH(I,1,ND,J;IMNLAY) = GNU1*SH(I,1,ND,J;IMNLAY) + SCALEV(I,1;IMNLAY) VTIMAVG 42
00324          RETURN                                    VTIMAVG 43
00325          END                                       VTIMAVG 44

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	312	307
10000	302	
50	314	305

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE													
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16																		
ADLDP	RDPARM	REAL	SIMPLE	217																			
ALBEDO	QANDQT	REAL	ARRAY	256	269																		
APHEL	RCNTRL	REAL	SIMPLE	157																			
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																		
BETA	RCNTRL	REAL	SIMPLE	158																			
CALTOJ	RCNTRL	REAL	SIMPLE	196																			
CC	CCNTRL	CHAR*8	ARRAY	14	15																		
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15																	
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12									
				13																			
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20																		
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21																		
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22																		
CON1	RDPARM	REAL	SIMPLE	218																			
CON1DT	RDPARM	REAL	SIMPLE	219																			
CON2	RDPARM	REAL	SIMPLE	220																			
CON2DT	RDPARM	REAL	SIMPLE	221																			
CON3	RDPARM	REAL	SIMPLE	222																			
CON3DT	RDPARM	REAL	SIMPLE	223																			
CON4	RDPARM	REAL	SIMPLE	224																			
CON4DT	RDPARM	REAL	SIMPLE	225																			
CON5	RDPARM	REAL	SIMPLE	226																			
CONV	OWSAVE	REAL	ARRAY	298																			
COSD	RCNTRL	REAL	SIMPLE	159																			
COSL	RDPARM	REAL	ARRAY	227																			
COSLON	RDPARM	REAL	ARRAY	228																			
CP	RCNTRL	REAL	SIMPLE	160																			
CPD2	RDPARM	REAL	SIMPLE	229																			
CQS	CCNTRL	CHAR*8	ARRAY	12	25																		
CQU	CCNTRL	CHAR*8	ARRAY	13	26																		
DAYSPLY	RCNTRL	REAL	SIMPLE	161																			
DEC	RCNTRL	REAL	SIMPLE	162																			
DECMAX	RCNTRL	REAL	SIMPLE	163																			
DIST	RCNTRL	REAL	SIMPLE	164																			
DLAT	RCNTRL	REAL	SIMPLE	165																			
DLOW	RCNTRL	REAL	SIMPLE	166																			
DSIG	RDPARM	REAL	ARRAY	250																			
DSIGINV	RDPARM	REAL	ARRAY	252																			
DT	RCNTRL	REAL	SIMPLE	167																			
DXP	RDPARM	REAL	ARRAY	230																			
DXYP	RDPARM	REAL	ARRAY	231																			
DYP	RDPARM	REAL	ARRAY	232																			
ECCN	RCNTRL	REAL	SIMPLE	168																			
EPS	RCNTRL	REAL	SIMPLE	194																			
EPFAC	RCNTRL	REAL	SIMPLE	195																			
F1DT	RDPARM	REAL	SIMPLE	234																			
F2DT	RDPARM	REAL	SIMPLE	235																			
FCORLS	RDPARM	REAL	ARRAY	233																			
FILTER	LDPARM	LOGICAL	ARRAY	211	214																		
GNU1	RCNTRL	REAL	SIMPLE	169	306	308	309	310	311	315	317	319	321	323									
GNU2	RCNTRL	REAL	SIMPLE	170	306	308	309	310	311	315	316	318	320	322									
GRAV	RCNTRL	REAL	SIMPLE	171																			
GT	QANDQT	REAL	ARRAY	257	270																		
GW	QANDQT	REAL	ARRAY	258	271																		
H1DT	RDPARM	REAL	SIMPLE	236																			
H2DT	RDPARM	REAL	SIMPLE	237																			
HEATI	RCNTRL	REAL	SIMPLE	193																			
HEATW	RCNTRL	REAL	SIMPLE	192																			
I		INTEGER	SIMPLE	315	315																		
IBLKSIK	ICNTRL	INTEGER	SIMPLE	70																			
IC	ICNTRL	INTEGER	ARRAY	95	96																		
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96																	
ICNTRL		INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37									
				38	39	40	41	42	43	44	45	46	47	48									
				49	50	51	52	53	54	55	56	57	58	59									

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				60	61	62	63	64	65	66	67	68	69	70
				71	72	73	74	75	76	77	78			
ICSP53	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92										
IDPARM	ICNTRL	INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210
IDSP02	IDPARM	INTEGER	SIMPLE	201										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88										
IJUMP	IDPARM	INTEGER	ARRAY	200										
IM	ICNTRL	INTEGER	SIMPLE	28	315	315								
IMD2	ICNTRL	INTEGER	SIMPLE	29										
IMD2M1	IMJM	INTEGER	SIMPLE	301										
IMD2P1	ICNTRL	INTEGER	SIMPLE	30										
IMJM	ICNTRL	INTEGER	UNKNOWN	301										
IMM1	IMJM	INTEGER	SIMPLE	301										
IMM2	IMJM	INTEGER	SIMPLE	301										
IMM3	IMJM	INTEGER	SIMPLE	301										
IMM4	IMJM	INTEGER	SIMPLE	301										
IMM5	IMJM	INTEGER	SIMPLE	301										
IMNLAY	IMJM	INTEGER	SIMPLE	301	316	316	316	317	317	317	318	318	318	319
				319	319	320	320	320	321	321	321	322	322	322
				323	323	323								
IMNLAY1	IMJM	INTEGER	SIMPLE	301										
IMNLAY2	IMJM	INTEGER	SIMPLE	301										
IMNLAY3	IMJM	INTEGER	SIMPLE	301										
IMNLAY4	IMJM	INTEGER	SIMPLE	301										
IMNLAY5	IMJM	INTEGER	SIMPLE	301										
IMT2	IMJM	INTEGER	SIMPLE	301										
IMT4	IMJM	INTEGER	SIMPLE	301										
INDEX	IDPARM	INTEGER	ARRAY	202										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	91										
IPREACC	ICNTRL	INTEGER	UNKNOWN	81										
IPRECON	ICNTRL	INTEGER	UNKNOWN	82										
IQS	ICNTRL	INTEGER	ARRAY	77	79	80	81	82	83	84	85	86	87	88
				89	90									
IQSDIAG	QANDQT	INTEGER	ARRAY	281	282									
IQU	ICNTRL	INTEGER	ARRAY	78	91	92	93	94						
IRADLW	ICNTRL	INTEGER	UNKNOWN	94										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	87										
IRADSW	ICNTRL	INTEGER	UNKNOWN	93										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	86										
IROD	IDPARM	INTEGER	SIMPLE	203										
ITAPE	IDPARM	LOGICAL	SIMPLE	212	215									
ITMAX	ICNTRL	INTEGER	UNKNOWN	80										
ITMIN	ICNTRL	INTEGER	UNKNOWN	79										
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89										
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90										
J	ICNTRL	INTEGER	SIMPLE	1	303	304	315	315	315	316	317	317	318	319
				319	320	321	321	322	323	323				
JC	IDPARM	INTEGER	ARRAY	204	304									
JE	IDPARM	INTEGER	ARRAY	205										
JIC	CCNTRL	CHAR*B	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	32										
JMD2	ICNTRL	INTEGER	SIMPLE	33										
JMT2	ICNTRL	INTEGER	SIMPLE	34										
JNP	ICNTRL	INTEGER	SIMPLE	35										
JO4	ICNTRL	INTEGER	SIMPLE	36										
JO8	ICNTRL	INTEGER	SIMPLE	37										
JOB	CCNTRL	CHAR*B	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	206										
JSP	ICNTRL	INTEGER	SIMPLE	38										
K	ICNTRL	INTEGER	SIMPLE	304/S	306	308	309	310	311	315	316	318	320	322
KLIALB	ICNTRL	INTEGER	SIMPLE	39										
KLIGW	ICNTRL	INTEGER	SIMPLE	40										
KLISST	ICNTRL	INTEGER	SIMPLE	41										
KS	ICNTRL	INTEGER	SIMPLE	42										
KSTEP	IDPARM	INTEGER	SIMPLE	207										
KU	ICNTRL	INTEGER	SIMPLE	43										

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L		INTEGER	SIMPLE	307/C	308															
LC	LCNTRL	LOGICAL	ARRAY	310	310	308	308	308	309	309	309	309	310	310						
LC0	LCNTRL	LOGICAL	SIMPLE	154	155															
LCNTRL		INTEGER	UNKNOWN	97	154	155														
				97	98	99	100	101	102	103	104	105	106	107						
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109															
LDPARM		INTEGER	UNKNOWN	123	151															
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	115	143															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142															
LOGBR	ICNTRL	INTEGER	SIMPLE	119	147															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	44																
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140															
LQS	LCNTRL	LOGICAL	ARRAY	113	141															
				108	110	111	112	113	114	115	116	117	118	119						
LQU	LCNTRL	LOGICAL	ARRAY	120	121	136														
LRADLW	LCNTRL	LOGICAL	UNKNOWN	109	122	123	124	125	137											
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	125	153															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	118	146															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	124	152															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	117	145															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	111	139															
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	110	138															
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148															
M		INTEGER	SIMPLE	121	149															
				303/S	305	306	306	306	308	308	308	309	309	309						
MATIN	ICNTRL	INTEGER	SIMPLE	310	310	310	311	311	311	308	308	309	309	309						
				45																
MATSNX	ICNTRL	INTEGER	SIMPLE	46																
MATSUN	ICNTRL	INTEGER	SIMPLE	47																
MJ	IDPARM	INTEGER	ARRAY	208	303															
MLF	ICNTRL	INTEGER	ARRAY	48																
MROD	ICNTRL	INTEGER	SIMPLE	49																
MSM	ICNTRL	INTEGER	SIMPLE	51																
NB	ICNTRL	INTEGER	SIMPLE	52	306	308	309	310	311	315	316	318	320	322						
ND	ICNTRL	INTEGER	SIMPLE	53	306	306	308	308	309	309	310	310	311	311						
				315	315	317	317	319	319	321	321	323	323	323						
NDALT	ICNTRL	INTEGER	SIMPLE	54																
NDAY	ICNTRL	INTEGER	SIMPLE	55																
NDHOG	ICNTRL	INTEGER	SIMPLE	76																
NDOUT	ICNTRL	INTEGER	SIMPLE	56																
NDPHY	ICNTRL	INTEGER	SIMPLE	57																
NDRSW	ICNTRL	INTEGER	SIMPLE	31																
NDSHF	ICNTRL	INTEGER	SIMPLE	58																
NDT	ICNTRL	INTEGER	SIMPLE	59																
NHMS	ICNTRL	INTEGER	SIMPLE	60																
NHMS0	ICNTRL	INTEGER	SIMPLE	62																
NHMS1	IDPARM	INTEGER	SIMPLE	209																
NHMSE	ICNTRL	INTEGER	SIMPLE	61																
NKRSH	ICNTRL	INTEGER	SIMPLE	50																
NLAY	ICNTRL	INTEGER	SIMPLE	63	307															
NLAYM1	ICNTRL	INTEGER	SIMPLE	64																
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																
NLAYT2	IMJM	INTEGER	SIMPLE	301																
NLAYT3	IMJM	INTEGER	SIMPLE	301																
NLAYT4	IMJM	INTEGER	SIMPLE	301																
NLAYT5	IMJM	INTEGER	SIMPLE	301																
NLAYT6	IMJM	INTEGER	SIMPLE	301																
NLAYT7	IMJM	INTEGER	SIMPLE	301																
NMLEV	ICNTRL	INTEGER	SIMPLE	75																
NSDAY	ICNTRL	INTEGER	SIMPLE	66																
NSEQ	ICNTRL	INTEGER	SIMPLE	67																
NSTEP	ICNTRL	INTEGER	SIMPLE	69																
NYMD	ICNTRL	INTEGER	SIMPLE	71																
NYMD0	ICNTRL	INTEGER	SIMPLE	73																
NYMD1	IDPARM	INTEGER	SIMPLE	210																
NYMDE	ICNTRL	INTEGER	SIMPLE	72																
NZINIT	ICNTRL	INTEGER	SIMPLE	74																

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SMTH	QANDQT	REAL	ARRAY	255	268			
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133			
SOLS	RCNTRL	REAL	SIMPLE	189				
START	LDPARM	LOGICAL	SIMPLE	213	216			
T	QANDQT	REAL	ARRAY	264	277	320	321/S	321
TERMT	QMSAVE	REAL	ARRAY	299				
TERMW	QMSAVE	REAL	ARRAY	299				
THSTD	RDPARM	REAL	SIMPLE	247				
THSTD2	RDPARM	REAL	SIMPLE	248				
TIMAVG			SUBROUTINE	1				
TM	QMSAVE	REAL	ARRAY	293	310	320		
TP	QPOLES	REAL	ARRAY	287	310/S	310	310	
TS	QANDQT	REAL	ARRAY	259	272			
TSTD	RCNTRL	REAL	SIMPLE	190				
U	QANDQT	REAL	ARRAY	262	275	316	317/S	317
UM	QMSAVE	REAL	ARRAY	291	308	316		
UP	QPOLES	REAL	ARRAY	285	308/S	308	308	
V	QANDQT	REAL	ARRAY	263	276	318	319/S	319
VER	CCNTRL	CHAR*8	SIMPLE	10	23			
VM	QMSAVE	REAL	ARRAY	292	309	318		
VP	QPOLES	REAL	ARRAY	286	309/S	309	309	
WSAVE	RDPARM	REAL	ARRAY	249				
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24			

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00001

SUBROUTINE TWRITE (LFLAG, *, *)

C

WRITE MODEL HISTORY RECORD

C

ARGUMENTS

DESCRIPTION
RECORD TYPE FLAG
-1 FOR BEFORE ANALYSIS RECORD
-2 FOR MID-MATSUNO RECORD
0 FOR NORMAL HISTORY RECORD
6 FOR SENSE SWITCHED RECORD
* END-OF-DISK REACHED
* I/O ERROR RETURN

C

I/O DDNAME

DESCRIPTION
8 HISTORY RECORD OUTPUT

C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

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00010
00011
00012
00013

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

C

00014
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EQUIVALENCE (CC0,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL
CHARACTER*8 CQS
CHARACTER*8 CQU

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

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COMMON /ICNTRL/ IC0
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JOB
COMMON /ICNTRL/ JSP
COMMON /ICNTRL/ KLIALB
COMMON /ICNTRL/ KLIGW
COMMON /ICNTRL/ KLISST
COMMON /ICNTRL/ KS
COMMON /ICNTRL/ KU
COMMON /ICNTRL/ LOGBR
COMMON /ICNTRL/ MATIN
COMMON /ICNTRL/ MATSNX
COMMON /ICNTRL/ MATSUN
COMMON /ICNTRL/ MLF (12)
COMMON /ICNTRL/ MR0D

VTWRITE 2
VTWRITE 3
VTWRITE 4
VTWRITE 5
VTWRITE 6
VTWRITE 7
VTWRITE 8
VTWRITE 9
VTWRITE 10
VTWRITE 11
VTWRITE 12
VTWRITE 13
VTWRITE 14
VTWRITE 15
VTWRITE 16
VTWRITE 17
VCNTRL 2
VCNTRL 3
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VCNTRL 55
VCNTRL 56

ORIGINAL PAGE IS
OF POOR QUALITY

00050	COMMON /ICNTRL/ NKRSH	VCNTRL 57
00051	COMMON /ICNTRL/ MSM	VCNTRL 58
00052	COMMON /ICNTRL/ NB	VCNTRL 59
00053	COMMON /ICNTRL/ ND	VCNTRL 60
00054	COMMON /ICNTRL/ NDALT	VCNTRL 61
00055	COMMON /ICNTRL/ NDAY	VCNTRL 62
00056	COMMON /ICNTRL/ NDOUT	VCNTRL 63
00057	COMMON /ICNTRL/ NDPHY	VCNTRL 64
00058	COMMON /ICNTRL/ NDSHF	VCNTRL 65
00059	COMMON /ICNTRL/ NDT	VCNTRL 66
00060	COMMON /ICNTRL/ NHMS	VCNTRL 67
00061	COMMON /ICNTRL/ NHMSE	VCNTRL 68
00062	COMMON /ICNTRL/ NHMSO	VCNTRL 69
00063	COMMON /ICNTRL/ NLAY	VCNTRL 70
00064	COMMON /ICNTRL/ NLAYM1	VCNTRL 71
00065	COMMON /ICNTRL/ NLAYP1	VCNTRL 72
00066	COMMON /ICNTRL/ NSDAY	VCNTRL 73
00067	COMMON /ICNTRL/ NSEQ	VCNTRL 74
00068	COMMON /ICNTRL/ ICSP53	VCNTRL 75
00069	COMMON /ICNTRL/ NSTEP	VCNTRL 76
00070	COMMON /ICNTRL/ IBLKSIZ	VCNTRL 77
00071	COMMON /ICNTRL/ NYMD	VCNTRL 78
00072	COMMON /ICNTRL/ NYMDE	VCNTRL 79
00073	COMMON /ICNTRL/ NYMDO	VCNTRL 80
00074	COMMON /ICNTRL/ NZINIT	VCNTRL 81
00075	COMMON /ICNTRL/ NMLEV	VCNTRL 82
00076	COMMON /ICNTRL/ NDHOG	VCNTRL 83
00077	COMMON /ICNTRL/ IQS (30)	VCNTRL 84
00078	COMMON /ICNTRL/ IQU (10)	VCNTRL 85
	C	VCNTRL 86
00079	EQUIVALENCE (ITMIN .IQS(1))	VCNTRL 87
00080	EQUIVALENCE (ITMAX .IQS(2))	VCNTRL 88
00081	EQUIVALENCE (IPREACC .IQS(3))	VCNTRL 89
00082	EQUIVALENCE (IPRECON .IQS(4))	VCNTRL 90
00083	EQUIVALENCE (IHFLUX .IQS(5))	VCNTRL 91
00084	EQUIVALENCE (IEFLUX .IQS(6))	VCNTRL 92
00085	EQUIVALENCE (IFUSION .IQS(7))	VCNTRL 93
00086	EQUIVALENCE (IRADSWG .IQS(8))	VCNTRL 94
00087	EQUIVALENCE (IRADLWG .IQS(9))	VCNTRL 95
00088	EQUIVALENCE (IICLOUD .IQS(10))	VCNTRL 96
00089	EQUIVALENCE (IUFLUX .IQS(11))	VCNTRL 97
00090	EQUIVALENCE (IVFLUX .IQS(12))	VCNTRL 98
	C	VCNTRL 99
00091	EQUIVALENCE (IOMEGA .IQU(1))	VCNTRL 100
00092	EQUIVALENCE (IDIABAT .IQU(2))	VCNTRL 101
00093	EQUIVALENCE (IRADSW .IQU(3))	VCNTRL 102
00094	EQUIVALENCE (IRADLW .IQU(4))	VCNTRL 103
	C	VCNTRL 104
00095	EQUIVALENCE (IC0,IC(1))	VCNTRL 105
00096	INTEGER IC0, IC(200)	VCNTRL 106
	C	VCNTRL 107
	C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 108
	C -----	VCNTRL 109
00097	COMMON /LCNTRL/ LCO	VCNTRL 110
00098	COMMON /LCNTRL/ QALT	VCNTRL 111
00099	COMMON /LCNTRL/ QBEG	VCNTRL 112
00100	COMMON /LCNTRL/ QDAY	VCNTRL 113
00101	COMMON /LCNTRL/ QEND	VCNTRL 114
00102	COMMON /LCNTRL/ QOUT	VCNTRL 115
00103	COMMON /LCNTRL/ QPHY	VCNTRL 116
00104	COMMON /LCNTRL/ QSHF	VCNTRL 117
00105	COMMON /LCNTRL/ SN2FLG	VCNTRL 118
00106	COMMON /LCNTRL/ QRSW	VCNTRL 119
00107	COMMON /LCNTRL/ QRSH	VCNTRL 120
00108	COMMON /LCNTRL/ LQS(30)	VCNTRL 121
00109	COMMON /LCNTRL/ LQU(10)	VCNTRL 122
	C	VCNTRL 123
00110	EQUIVALENCE (LTMIN .LQS(1))	VCNTRL 124
00111	EQUIVALENCE (LTMAX .LQS(2))	VCNTRL 125
00112	EQUIVALENCE (LPREACC .LQS(3))	VCNTRL 126
00113	EQUIVALENCE (LPRECON .LQS(4))	VCNTRL 127

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00114	EQUIVALENCE	(LHFLUX .LQS(5))	VCNTRL 128
00115	EQUIVALENCE	(LEFLUX .LOS(6))	VCNTRL 129
00116	EQUIVALENCE	(LFUSION .LQS(7))	VCNTRL 130
00117	EQUIVALENCE	(LRADSWG .LOS(8))	VCNTRL 131
00118	EQUIVALENCE	(LRADLWG .LQS(9))	VCNTRL 132
00119	EQUIVALENCE	(LICLOUD .LQS(10))	VCNTRL 133
00120	EQUIVALENCE	(LUFLUX .LOS(11))	VCNTRL 134
00121	EQUIVALENCE	(LVFLUX .LOS(12))	VCNTRL 135
	C		VCNTRL 136
00122	EQUIVALENCE	(LOMEGA .LQU(1))	VCNTRL 137
00123	EQUIVALENCE	(LDIABAT .LQU(2))	VCNTRL 138
00124	EQUIVALENCE	(LRADSW .LQU(3))	VCNTRL 139
00125	EQUIVALENCE	(LRADLW .LQU(4))	VCNTRL 140
	C		VCNTRL 141
00126	LOGICAL	QALT	VCNTRL 142
00127	LOGICAL	QBEG	VCNTRL 143
00128	LOGICAL	QDAY	VCNTRL 144
00129	LOGICAL	QEND	VCNTRL 145
00130	LOGICAL	QOUT	VCNTRL 146
00131	LOGICAL	QPHY	VCNTRL 147
00132	LOGICAL	QSHF	VCNTRL 148
00133	LOGICAL	SN2FLG	VCNTRL 149
00134	LOGICAL	QRSW	VCNTRL 150
00135	LOGICAL	QRSW	VCNTRL 151
	C		VCNTRL 152
00136	LOGICAL	LQS	VCNTRL 153
00137	LOGICAL	LQU	VCNTRL 154
00138	LOGICAL	LTMIN	VCNTRL 155
00139	LOGICAL	LTMAX	VCNTRL 156
00140	LOGICAL	LPREACC	VCNTRL 157
00141	LOGICAL	LPRECON	VCNTRL 158
00142	LOGICAL	LHFLUX	VCNTRL 159
00143	LOGICAL	LEFLUX	VCNTRL 160
00144	LOGICAL	LFUSION	VCNTRL 161
00145	LOGICAL	LRADSWG	VCNTRL 162
00146	LOGICAL	LRADLWG	VCNTRL 163
00147	LOGICAL	LICLOUD	VCNTRL 164
00148	LOGICAL	LUFLUX	VCNTRL 165
00149	LOGICAL	LVFLUX	VCNTRL 166
	C		VCNTRL 167
00150	LOGICAL	LOMEGA	VCNTRL 168
00151	LOGICAL	LDIABAT	VCNTRL 169
00152	LOGICAL	LRADSW	VCNTRL 170
00153	LOGICAL	LRADLW	VCNTRL 171
	C		VCNTRL 172
00154	EQUIVALENCE	(LCO,LC(1))	VCNTRL 173
00155	LOGICAL	LC0, LC(200)	VCNTRL 174
	C		VCNTRL 175
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	VCNTRL 176
	C	=====	VCNTRL 177
00156	COMMON /RCNTRL/	RC0	VCNTRL 178
00157	COMMON /RCNTRL/	APHE1	VCNTRL 179
00158	COMMON /RCNTRL/	BETA	VCNTRL 180
00159	COMMON /RCNTRL/	COSD	VCNTRL 181
00160	COMMON /RCNTRL/	CP	VCNTRL 182
00161	COMMON /RCNTRL/	DAYSPLY	VCNTRL 183
00162	COMMON /RCNTRL/	DEC	VCNTRL 184
00163	COMMON /RCNTRL/	DECMAX	VCNTRL 185
00164	COMMON /RCNTRL/	DIST	VCNTRL 186
00165	COMMON /RCNTRL/	DLAT	VCNTRL 187
00166	COMMON /RCNTRL/	DLOH	VCNTRL 188
00167	COMMON /RCNTRL/	DT	VCNTRL 189
00168	COMMON /RCNTRL/	ECCN	VCNTRL 190
00169	COMMON /RCNTRL/	GNU1	VCNTRL 191
00170	COMMON /RCNTRL/	GNU2	VCNTRL 192
00171	COMMON /RCNTRL/	GRAV	VCNTRL 193
00172	COMMON /RCNTRL/	OMEGA2	VCNTRL 194
00173	COMMON /RCNTRL/	PI	VCNTRL 195
00174	COMMON /RCNTRL/	PI 180	VCNTRL 196
00175	COMMON /RCNTRL/	PI2	VCNTRL 197
00176	COMMON /RCNTRL/	PSTD	VCNTRL 198

ORIGINAL PAGE 13
OF POOR QUALITY

00177	COMMON /RCNTRL/ PIMEAN		VCNTRL 199
00178	COMMON /RCNTRL/ PSMAX		VCNTRL 200
00179	COMMON /RCNTRL/ PSMIN		VCNTRL 201
00180	COMMON /RCNTRL/ PTOP		VCNTRL 202
00181	COMMON /RCNTRL/ RADE		VCNTRL 203
00182	COMMON /RCNTRL/ RGAS		VCNTRL 204
00183	COMMON /RCNTRL/ ROCP		VCNTRL 205
00184	COMMON /RCNTRL/ RSDIST		VCNTRL 206
00185	COMMON /RCNTRL/ SDAY		VCNTRL 207
00186	COMMON /RCNTRL/ SEASON		VCNTRL 208
00187	COMMON /RCNTRL/ SIGE (25)		VCNTRL 209
00188	COMMON /RCNTRL/ SIND		VCNTRL 210
00189	COMMON /RCNTRL/ SOLS		VCNTRL 211
00190	COMMON /RCNTRL/ TSTD		VCNTRL 212
00191	COMMON /RCNTRL/ PLEVS (25)		VCNTRL 213
00192	COMMON /RCNTRL/ HEATW		VCNTRL 214
00193	COMMON /RCNTRL/ HEATI		VCNTRL 215
00194	COMMON /RCNTRL/ EPS		VCNTRL 216
00195	COMMON /RCNTRL/ EPSFAC		VCNTRL 217
00196	COMMON /RCNTRL/ CALTOJ		VCNTRL 218
00197	COMMON /RCNTRL/ PZERO		VCNTRL 219
	C		VCNTRL 220
00198	EQUIVALENCE (RC0, RC(1))		VCNTRL 221
00199	REAL RC0, RC(200)		VCNTRL 222
	C		VCNTRL 223
	C		VCNTRL 224
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	C		VCNTRL 300

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00237	COMMON /RDPARM/ H2DT			VCNTRL 270
00238	COMMON /RDPARM/ PKSTD			VCNTRL 271
00239	COMMON /RDPARM/ PKTOP			VCNTRL 272
00240	COMMON /RDPARM/ RLAT (46)			VCNTRL 273
00241	COMMON /RDPARM/ RLATD (46)			VCNTRL 274
00242	COMMON /RDPARM/ ROCPDT			VCNTRL 275
00243	COMMON /RDPARM/ ROCPDT			VCNTRL 276
00244	COMMON /RDPARM/ ROGPP1			VCNTRL 277
00245	COMMON /RDPARM/ SGNP (2)			VCNTRL 278
00246	COMMON /RDPARM/ SINL (46)			VCNTRL 279
00247	COMMON /RDPARM/ SINLON (72)			VCNTRL 280
00248	COMMON /RDPARM/ THSTD			VCNTRL 281
00248	COMMON /RDPARM/ THSTD2			VCNTRL 282
00249	COMMON /RDPARM/ WSAVE (159)			VCNTRL 283
00250	COMMON /RDPARM/ DSIG (9)			VCNTRL 284
00251	COMMON /RDPARM/ SIG (9)			VCNTRL 285
00252	COMMON /RDPARM/ DSIGINV (9)			VCNTRL 286
	===== IDENTIFYING LABELS OF MODEL RESTART RECORD QUANTITIES =====			VCORDER 2
00253	COMMON /CORDER/ XORDS(24),XORDU(15)			VCORDER 3
00254	CHARACTER*B XORDS XORDU			VCORDER 4
	===== IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES =====			VCORDER 5
00255	COMMON /CORDER/ XSA (23),XUA (10)			VCORDER 6
00256	CHARACTER*B XSA XUA			VCORDER 7
	===== COMDECK VQANDQT RESOLUTION VALUES =====			VCORDER 8
	IM =72			VCORDER 9
	NLAY =9			VCORDER 10
	JM*1 =46			VCORDER 11
	NLAY*11 =99			VCORDER 12
	IM*NLAY*11 =7128			VQANDQT 2
	JM/2*1 =23			VQANDQT 3
	===== GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMP0) =====			VQANDQT 4
00257	COMMON /QANDQT/ QPROG(72,9,11,46)			VQANDQT 5
00258	DIMENSION PHIS (7128,1)			VQANDQT 6
00259	DIMENSION SMTH (7128,23)			VQANDQT 7
00260	DIMENSION ALBEDO (7128,1)			VQANDQT 8
00261	DIMENSION GT (7128,1)			VQANDQT 9
00262	DIMENSION GW (7128,1)			VQANDQT 10
00263	DIMENSION TS (7128,1)			VQANDQT 11
00264	DIMENSION SHS (7128,1)			VQANDQT 12
00265	DIMENSION P (72,99,1)			VQANDQT 13
00266	DIMENSION U (72,9,11,1)			VQANDQT 14
00267	DIMENSION V (72,9,11,1)			VQANDQT 15
00268	DIMENSION T (72,9,11,1)			VQANDQT 16
00269	DIMENSION SH (72,9,11,1)			VQANDQT 17
00270	DIMENSION PHI (72,9,11,1)			VQANDQT 18
00271	EQUIVALENCE (QPROG(1, 1,1,1),PHIS (1,1))			VQANDQT 19
00272	EQUIVALENCE (QPROG(1, 2,1,1),SMTH (1,1))			VQANDQT 20
00273	EQUIVALENCE (QPROG(1, 3,1,1),ALBEDO (1,1))			VQANDQT 21
00274	EQUIVALENCE (QPROG(1, 4,1,1),GT (1,1))			VQANDQT 22
00275	EQUIVALENCE (QPROG(1, 5,1,1),GW (1,1))			VQANDQT 23
00276	EQUIVALENCE (QPROG(1, 6,1,1),TS (1,1))			VQANDQT 24
00277	EQUIVALENCE (QPROG(1, 7,1,1),SHS (1,1))			VQANDQT 25
00278	EQUIVALENCE (QPROG(1, 8,1,1),P (1,1,1))			VQANDQT 26
00279	EQUIVALENCE (QPROG(1,1, 2,1),U (1,1,1,1))			VQANDQT 27
00280	EQUIVALENCE (QPROG(1,1, 4,1),V (1,1,1,1))			VQANDQT 28
00281	EQUIVALENCE (QPROG(1,1, 6,1),T (1,1,1,1))			VQANDQT 29
00282	EQUIVALENCE (QPROG(1,1, 8,1),SH (1,1,1,1))			VQANDQT 30
				VQANDQT 31
				VQANDQT 32
				VQANDQT 33
				VQANDQT 34
				VQANDQT 35
				VQANDQT 36
				VQANDQT 37
				VQANDQT 38
				VQANDQT 39
				VQANDQT 40
				VQANDQT 41
				VQANDQT 42
				VQANDQT 43
				VQANDQT 44

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00335      6040      & FORMAT ('MODEL TIME '.16.2X.16.2X.14.4X.' JOB '.AB)
&          &          & ('PROC(RSPROC,NNNN,RSRUNIT,RSRVOL)'/
00336      END          & ('BEGIN(.P-RRSRUNIT-RRSR,-NNNN,-RSRVOL-,.11,.'R').)

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VTWRITE 73
VTWRITE 74
VTWRITE 75
VTWRITE 76

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

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10          292
10000       291
20          304          302
30          309          294
35          322          320
40          326          309          315
45          331          326
6020       333          306          325
6030       334          314
6040       335          329

```

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
ADATE	CCNTRL	CHAR*8	SIMPLE	3																										
ADLDP	RDPARM	REAL	SIMPLE	217																										
ALBEDO	QANDQT	REAL	ARRAY	260																										
APHEL	RCNTRL	REAL	SIMPLE	157																										
ATIME	CCNTRL	CHAR*8	SIMPLE	4																										
BETA	RCNTRL	REAL	SIMPLE	158																										
CALTOJ	RCNTRL	REAL	SIMPLE	196																										
CARD	//	CHAR*8	ARRAY	288																										
CATA	//	REAL	ARRAY	288																										
CC	CCNTRL	CHAR*8	ARRAY	14																										
CC0	CCNTRL	CHAR*8	SIMPLE	2																										
CCNTRL		REAL	UNKNOWN	2																										
				13																										
CCSP06	CCNTRL	CHAR*8	SIMPLE	7																										
CCSP07	CCNTRL	CHAR*8	SIMPLE	8																										
CCSP08	CCNTRL	CHAR*8	SIMPLE	9																										
CON1	RDPARM	REAL	SIMPLE	218																										
CON1DT	RDPARM	REAL	SIMPLE	219																										
CON2	RDPARM	REAL	SIMPLE	220																										
CON2DT	RDPARM	REAL	SIMPLE	221																										
CON3	RDPARM	REAL	SIMPLE	222																										
CON3DT	RDPARM	REAL	SIMPLE	223																										
CON4	RDPARM	REAL	SIMPLE	224																										
CON4DT	RDPARM	REAL	SIMPLE	225																										
CON5	RDPARM	REAL	SIMPLE	226																										
CORDER		REAL	UNKNOWN	253																										
COSD	RCNTRL	REAL	SIMPLE	159																										
COSL	RDPARM	REAL	ARRAY	227																										
COSLON	RDPARM	REAL	ARRAY	228																										
CP	RCNTRL	REAL	SIMPLE	160																										
CPD2	RDPARM	REAL	SIMPLE	229																										
CQS	CCNTRL	CHAR*8	ARRAY	12																										
CQU	CCNTRL	CHAR*8	ARRAY	13																										
DATA	//	REAL	ARRAY	288																										
DAYSPY	RCNTRL	REAL	SIMPLE	161																										
DEC	RCNTRL	REAL	SIMPLE	162																										
DECMAX	RCNTRL	REAL	SIMPLE	163																										
DIST	RCNTRL	REAL	SIMPLE	164																										
DLAT	RCNTRL	REAL	SIMPLE	165																										
DLON	RCNTRL	REAL	SIMPLE	166																										
DSIG	RDPARM	REAL	ARRAY	250																										
DSIGINV	RDPARM	REAL	ARRAY	252																										
DT	RCNTRL	REAL	SIMPLE	167																										
DXP	RDPARM	REAL	ARRAY	230																										
DXYP	RDPARM	REAL	ARRAY	231																										
DYP	RDPARM	REAL	ARRAY	232																										
ECCN	RCNTRL	REAL	SIMPLE	168																										
EPS	RCNTRL	REAL	SIMPLE	194																										

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EPSFAC	RCNTRL	REAL	SIMPLE	195																		
F1DT	RDPARM	REAL	SIMPLE	234																		
F2DT	RDPARM	REAL	SIMPLE	235																		
FCORLS	RDPARM	REAL	ARRAY	233																		
FILTER	LDPARM	LOGICAL	ARRAY	211	214																	
GNU1	RCNTRL	REAL	SIMPLE	169																		
GNU2	RCNTRL	REAL	SIMPLE	170																		
GRAV	RCNTRL	REAL	SIMPLE	171																		
GT	QANDQT	REAL	ARRAY	261	274																	
GW	QANDQT	REAL	ARRAY	262	275																	
H1DT	RDPARM	REAL	SIMPLE	236																		
H2DT	RDPARM	REAL	SIMPLE	237																		
HEATI	RCNTRL	REAL	SIMPLE	193																		
HEATW	RCNTRL	REAL	SIMPLE	192																		
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70																		
IC	ICNTRL	INTEGER	ARRAY	95	96																	
ICO	ICNTRL	INTEGER	SIMPLE	27	95	96																
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	29	30	31	32	33	34	35	36	37								
				38	39	40	41	42	43	44	45	46	47	48								
				49	50	51	52	53	54	55	56	57	58	59								
				60	61	62	63	64	65	66	67	68	69	70								
				71	72	73	74	75	76	77	78											
				68																		
				92																		
				200	201	202	203	204	205	206	207	208	209	210								
				201																		
				84																		
				85																		
				83																		
				88																		
				200																		
				28																		
				29																		
				30																		
				202																		
				91																		
				81																		
				82																		
				77	79	80	81	82	83	84	85	86	87	88								
				89	90																	
				285	286																	
				78		92	93	94														
				94																		
				87																		
				93																		
				86																		
				203	313/S	313	316'S	316	331													
				212	215																	
				80																		
				79																		
				89																		
				90																		
				302/C	303	320/C	321															
				204																		
				205																		
				5	18																	
				32																		
				33																		
				34																		
				35	302	320																
				36																		
				37																		
				6	19	306/W	314/W	325/W														
				206																		
				38																		
				39																		
				40																		
				41																		
				327/S	329/W																	
				42																		

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KSTEP	IDPARM	INTEGER	SIMPLE	207																	
KU	ICNTRL	INTEGER	SIMPLE	43																	
LC	LCNTRL	LOGICAL	ARRAY	154	155																
LCO	LCNTRL	LOGICAL	SIMPLE	97	154	155															
LCNTRL	LCNTRL	INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107							
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	108	109																
LDPARM	ICNTRL	INTEGER	UNKNOWN	123	151																
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	211	212	213															
LFLAG	ICNTRL	INTEGER	SIMPLE	115	143																
LFUSION	LCNTRL	LOGICAL	UNKNOWN	1	293	299	308	317													
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	116	144																
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	142																
LOGBR	ICNTRL	INTEGER	SIMPLE	119	147																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	44	299/S	306/W	314/W	317/S	325/W												
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150																
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140																
LQS	LCNTRL	LOGICAL	ARRAY	113	141																
LQU	LCNTRL	LOGICAL	ARRAY	108	110	111	112	113	114	115	116	117	118	119							
LRADLW	LCNTRL	LOGICAL	ARRAY	120	121	122															
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	109	121	122															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	125	153	123	124	125	137												
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	118	145																
LTMAX	LCNTRL	LOGICAL	UNKNOWN	124	152																
LTMIN	LCNTRL	LOGICAL	UNKNOWN	117	145																
LU	LCNTRL	INTEGER	UNKNOWN	111	139																
LUFLUX	LCNTRL	LOGICAL	SIMPLE	110	138																
LUNEXT	LCNTRL	LOGICAL	UNKNOWN	295/S	296	297	298	301	303	306/W	307	327									
LUU	ICNTRL	INTEGER	SIMPLE	120	148																
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	290/I	295	296/S	297/S														
MATIN	ICNTRL	INTEGER	SIMPLE	324/S	325/W																
MATSNX	ICNTRL	INTEGER	SIMPLE	121	149																
MATSUN	ICNTRL	INTEGER	SIMPLE	45																	
MJ	IDPARM	INTEGER	ARRAY	46																	
MLF	ICNTRL	INTEGER	ARRAY	47																	
MROD	ICNTRL	INTEGER	ARRAY	208																	
MSM	ICNTRL	INTEGER	SIMPLE	48																	
NB	ICNTRL	INTEGER	SIMPLE	49	331																
ND	ICNTRL	INTEGER	SIMPLE	51																	
NDALT	ICNTRL	INTEGER	SIMPLE	52																	
NDAY	ICNTRL	INTEGER	SIMPLE	53																	
NDHOG	ICNTRL	INTEGER	SIMPLE	54																	
NDOUT	ICNTRL	INTEGER	SIMPLE	55																	
NDPHY	ICNTRL	INTEGER	SIMPLE	56																	
NDRSW	ICNTRL	INTEGER	SIMPLE	57																	
NDSHF	ICNTRL	INTEGER	SIMPLE	31																	
NDT	ICNTRL	INTEGER	SIMPLE	58																	
NHMS	ICNTRL	INTEGER	SIMPLE	59																	
NHMS0	ICNTRL	INTEGER	SIMPLE	60	306/W	314/W	325/W														
NHMS1	IDPARM	INTEGER	SIMPLE	62																	
NHMSE	ICNTRL	INTEGER	SIMPLE	209																	
NKRSH	ICNTRL	INTEGER	SIMPLE	61																	
NLAY	ICNTRL	INTEGER	SIMPLE	50																	
NLAYM1	ICNTRL	INTEGER	SIMPLE	63																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	64																	
NMLEV	ICNTRL	INTEGER	SIMPLE	65																	
NSDAY	ICNTRL	INTEGER	SIMPLE	75																	
NSEQ	ICNTRL	INTEGER	SIMPLE	66																	
NSTEP	ICNTRL	INTEGER	SIMPLE	67																	
NYMD	ICNTRL	INTEGER	SIMPLE	69																	
NYMD0	ICNTRL	INTEGER	SIMPLE	71	306/W	314/W	325/W														
NYMD1	ICNTRL	INTEGER	SIMPLE	73																	
NYMDE	IDPARM	INTEGER	SIMPLE	210																	
NZINIT	ICNTRL	INTEGER	SIMPLE	72																	
OMEGA2	RCNTRL	REAL	SIMPLE	74																	
P	QANDQT	REAL	ARRAY	172																	
PHI	QANDQT	REAL	ARRAY	265	278																
PHIS	QANDQT	REAL	ARRAY	270	283																
PI	RCNTRL	REAL	ARRAY	258	271																
		REAL	SIMPLE	173																	

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PI180	RCNTRL	REAL	SIMPLE	174																		
PI2	RCNTRL	REAL	SIMPLE	175																		
PIMEAN	RCNTRL	REAL	SIMPLE	177																		
PKSTD	RDPRM	REAL	SIMPLE	238																		
PKTOP	RDPRM	REAL	SIMPLE	239																		
PLEVS	RCNTRL	REAL	ARRAY	191																		
PSMAX	RCNTRL	REAL	SIMPLE	178																		
PSMIN	RCNTRL	REAL	SIMPLE	179																		
PSTD	RCNTRL	REAL	SIMPLE	176																		
PTOP	RCNTRL	REAL	SIMPLE	180																		
PZERO	RCNTRL	REAL	SIMPLE	197																		
QALT	LCNTRL	LOGICAL	SIMPLE	98	126																	
QANDQT		REAL	UNKNOWN	257	284	287																
QBEG	LCNTRL	LOGICAL	SIMPLE	99	127																	
QDAY	LCNTRL	LOGICAL	SIMPLE	100	128																	
QEND	LCNTRL	LOGICAL	SIMPLE	101	129																	
QOUT	LCNTRL	LOGICAL	SIMPLE	102	130	308/S	309															
QPHY	LCNTRL	LOGICAL	SIMPLE	103	131																	
QPROG	QANDQT	REAL	ARRAY	257	271	272	273	274	275	276	277	278	279	280								
				281	282	283																
QRSH	LCNTRL	LOGICAL	SIMPLE	107	135																	
QRSW	LCNTRL	LOGICAL	SIMPLE	106	134	293/S	294	326														
QSDIAG	QANDQT	REAL	ARRAY	284	286																	
QSHF	LCNTRL	LOGICAL	SIMPLE	104	132																	
QUDIAG	QANDQT	REAL	ARRAY	287																		
RADE	RCNTRL	REAL	SIMPLE	181																		
RC	RCNTRL	REAL	ARRAY	198	199																	
RCO	RCNTRL	REAL	SIMPLE	156	198	199																
RCNTRL		REAL	UNKNOWN	156	157	158	159	160	161	162	163	164	165	166								
				167	168	169	170	171	172	173	174	175	176	177								
				178	179	180	181	182	183	184	185	186	187	188								
				189	190	191	192	193	194	195	196	197										
RDPARM		REAL	UNKNOWN	217	218	219	220	221	222	223	224	225	226	227								
				228	229	230	231	232	233	234	235	236	237	238								
				239	240	241	242	243	244	245	246	247	248	249								
				250	251	252																
RGAS	RCNTRL	REAL	SIMPLE	182																		
RLAT	RDPRM	REAL	ARRAY	240																		
RLATD	RDPRM	REAL	ARRAY	241																		
ROCP	RCNTRL	REAL	SIMPLE	183																		
ROCPDT	RDPRM	REAL	SIMPLE	242																		
ROCPP1	RDPRM	REAL	SIMPLE	243																		
RSDIST	RCNTRL	REAL	SIMPLE	184																		
SDAY	RCNTRL	REAL	SIMPLE	185																		
SEASON	RCNTRL	REAL	SIMPLE	186																		
SGNP	RDPRM	REAL	ARRAY	244																		
SH	QANDQT	REAL	ARRAY	269	282																	
SHS	QANDQT	REAL	ARRAY	264	277																	
SIG	RDPRM	REAL	ARRAY	251																		
SIGE	RCNTRL	REAL	ARRAY	187																		
SIND	RCNTRL	REAL	SIMPLE	188																		
SINL	RDPRM	REAL	ARRAY	245																		
SINLON	RDPRM	REAL	ARRAY	246																		
SMTH	QANDQT	REAL	ARRAY	259	272																	
SN2FLG	LCNTRL	LOGICAL	ARRAY	259	133																	
SOLS	RCNTRL	REAL	SIMPLE	189																		
START	LDPRM	LOGICAL	SIMPLE	213	216																	
T	QANDQT	REAL	ARRAY	268	281																	
THSTD	RDPRM	REAL	SIMPLE	247																		
1HSTD2	RDPRM	REAL	SIMPLE	248																		
TS	QANDQT	REAL	ARRAY	263	276																	
TSTD	RCNTRL	REAL	SIMPLE	190																		
TWRITE			SUBROUTINE	1																		
U	QANDQT	REAL	ARRAY	266	279																	
V	QANDQT	REAL	ARRAY	267	280																	
VER	RCNTRL	CHAR*8	SIMPLE	10	23																	
WSAVE	RDPRM	REAL	ARRAY	249																		
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24																	
XORDS	CORDER	CHAR*8	ARRAY	253	254																	
XORDU	CORDER	CHAR*8	ARRAY	253	254																	

XSA	CORDER	CHAR*8	ARRAY	255	256
XUA	CORDER	CHAR*8	ARRAY	255	256

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

CONHTR		SUBROUTINE	311			
IOQ		SUBROUTINE	301	303	319	321
ZEITBEG		SUBROUTINE	300	310	318	
ZEITEND		SUBROUTINE	305	312	323	

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C-----VVERT 2
C SUBROUTINE VERT VVERT 3
C VVERT 4
C PURPOSE VVERT 5
C COMPUTES OMEGA = VERTICAL VELOCITY VVERT 6
C VVERT 7
C USAGE VVERT 8
C CALLED FROM GWSGCM VVERT 9
C VVERT 10
C INPUT/OUTPUT FILES USED VVERT 11
C NONE VVERT 12
C VVERT 13
C DESCRIPTION OF PARAMETERS VVERT 14
C NONE VVERT 15
C VVERT 16
C SUBPROGRAMS NEEDED VVERT 17
C NONE VVERT 18
C VVERT 19
C RECORD OF MODIFICATIONS VVERT 20
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? VVERT 21
C 22JUL83 JIM.PF ADDED DOCUMENTATION + VARIABLE LOCATION VVERT 22
C FOR OMEGA VVERT 23
C VVERT 24
C REMARKS: VVERT 25
C ( 1 ) RAMESH B. IS THE EXPERT (AUTHOR) FOR THIS ROUTINE VVERT 26
C VVERT 27
C-----VVERT 28
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C VVERT 29
C-----VVERT 30
C-----VVERT 31
00001 SUBROUTINE VERT VVERT 32
C-----VVERT 33
C-----VVERT 34
C-----VVERT 35
C-----VVERT 36
C-----VVERT 37
C-----VVERT 38
C-----VVERT 39
C-----VVERT 40
C-----VVERT 41
C-----VVERT 42
C-----VVERT 43
C-----VVERT 44
C-----VVERT 45
C-----VVERT 46
C-----VCNTRL 2
C-----VCNTRL 3
C-----VCNTRL 4
C-----VCNTRL 5
00002 COMMON /CCNTRL/ CCO VCNTRL 6
00003 COMMON /CCNTRL/ ADATE VCNTRL 7
00004 COMMON /CCNTRL/ ATIME VCNTRL 8
00005 COMMON /CCNTRL/ JIC VCNTRL 9
00006 COMMON /CCNTRL/ JOB VCNTRL 10
00007 COMMON /CCNTRL/ CCSP06 VCNTRL 11
00008 COMMON /CCNTRL/ CCSP07 VCNTRL 12
00009 COMMON /CCNTRL/ CCSP08 VCNTRL 13
00010 COMMON /CCNTRL/ VER VCNTRL 14
00011 COMMON /CCNTRL/ XLABEL (10) VCNTRL 15
00012 COMMON /CCNTRL/ CQS (30) VCNTRL 16
00013 COMMON /CCNTRL/ CQU (10) VCNTRL 17
C-----VCNTRL 18
00014 EQUIVALENCE (CC0,CC(1)) VCNTRL 19
00015 CHARACTER*8 CC0, CC(200) VCNTRL 20
00016 CHARACTER*8 ADATE VCNTRL 21
00017 CHARACTER*8 ATIME VCNTRL 22
00018 CHARACTER*8 JIC VCNTRL 23
00019 CHARACTER*8 JOB VCNTRL 24
00020 CHARACTER*8 CCSP06 VCNTRL 25
00021 CHARACTER*8 CCSP07 VCNTRL 26
00022 CHARACTER*8 CCSP08 VCNTRL 27
00023 CHARACTER*8 VER VCNTRL 27

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00024	CHARACTER*8	XLABEL	VCNTRL	28	
00025	CHARACTER*8	CQS	VCNTRL	29	
00026	CHARACTER*8	CQU	VCNTRL	30	
C	INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL	31
C	=====			VCNTRL	32
00027	COMMON /ICNTRL/	ICO	VCNTRL	33	
00028	COMMON /ICNTRL/	IM	VCNTRL	34	
00029	COMMON /ICNTRL/	IMD2	VCNTRL	35	
00030	COMMON /ICNTRL/	IMD2P1	VCNTRL	36	
00031	COMMON /ICNTRL/	NDRSW	VCNTRL	37	
00032	COMMON /ICNTRL/	JM	VCNTRL	38	
00033	COMMON /ICNTRL/	JMD2	VCNTRL	39	
00034	COMMON /ICNTRL/	JMT2	VCNTRL	40	
00035	COMMON /ICNTRL/	JNP	VCNTRL	41	
00036	COMMON /ICNTRL/	JO4	VCNTRL	42	
00037	COMMON /ICNTRL/	JO8	VCNTRL	43	
00038	COMMON /ICNTRL/	JSP	VCNTRL	44	
00039	COMMON /ICNTRL/	KLIALB	VCNTRL	45	
00040	COMMON /ICNTRL/	KLIGW	VCNTRL	46	
00041	COMMON /ICNTRL/	KLISST	VCNTRL	47	
00042	COMMON /ICNTRL/	KS	VCNTRL	48	
00043	COMMON /ICNTRL/	KU	VCNTRL	49	
00044	COMMON /ICNTRL/	LOGBR	VCNTRL	50	
00045	COMMON /ICNTRL/	MATIN	VCNTRL	51	
00046	COMMON /ICNTRL/	MATSNX	VCNTRL	52	
00047	COMMON /ICNTRL/	MATSUN	VCNTRL	53	
00048	COMMON /ICNTRL/	MLF (12)	VCNTRL	54	
00049	COMMON /ICNTRL/	MROD	VCNTRL	55	
00050	COMMON /ICNTRL/	NKRSH	VCNTRL	56	
00051	COMMON /ICNTRL/	MSM	VCNTRL	57	
00052	COMMON /ICNTRL/	NB	VCNTRL	58	
00053	COMMON /ICNTRL/	ND	VCNTRL	59	
00054	COMMON /ICNTRL/	NDALT	VCNTRL	60	
00055	COMMON /ICNTRL/	NDAY	VCNTRL	61	
00056	COMMON /ICNTRL/	NDGUT	VCNTRL	62	
00057	COMMON /ICNTRL/	NDPHY	VCNTRL	63	
00058	COMMON /ICNTRL/	NDSHF	VCNTRL	64	
00059	COMMON /ICNTRL/	NDT	VCNTRL	65	
00060	COMMON /ICNTRL/	NHMS	VCNTRL	66	
00061	COMMON /ICNTRL/	NHMSE	VCNTRL	67	
00062	COMMON /ICNTRL/	NHM50	VCNTRL	68	
00063	COMMON /ICNTRL/	NLAY	VCNTRL	69	
00064	COMMON /ICNTRL/	NLAYM1	VCNTRL	70	
00065	COMMON /ICNTRL/	NLAYP1	VCNTRL	71	
00066	COMMON /ICNTRL/	NSDAY	VCNTRL	72	
00067	COMMON /ICNTRL/	NSEQ	VCNTRL	73	
00068	COMMON /ICNTRL/	ICSP53	VCNTRL	74	
00069	COMMON /ICNTRL/	NSTEP	VCNTRL	75	
00070	COMMON /ICNTRL/	IBLKSIZ	VCNTRL	76	
00071	COMMON /ICNTRL/	NVMD	VCNTRL	77	
00072	COMMON /ICNTRL/	NYMDE	VCNTRL	78	
00073	COMMON /ICNTRL/	NYMDO	VCNTRL	79	
00074	COMMON /ICNTRL/	NZINIT	VCNTRL	80	
00075	COMMON /ICNTRL/	NMLEV	VCNTRL	81	
00076	COMMON /ICNTRL/	NDHOG	VCNTRL	82	
00077	COMMON /ICNTRL/	IQS (30)	VCNTRL	83	
00078	COMMON /ICNTRL/	IQU (10)	VCNTRL	84	
C	=====			VCNTRL	85
00079	EQUIVALENCE	(ITMIN .IQS(1))	VCNTRL	86	
00080	EQUIVALENCE	(ITMAX .IQS(2))	VCNTRL	87	
00081	EQUIVALENCE	(IPREACC .IQS(3))	VCNTRL	88	
00082	EQUIVALENCE	(IPRECON .IQS(4))	VCNTRL	89	
00083	EQUIVALENCE	(IHFLUX .IQS(5))	VCNTRL	90	
00084	EQUIVALENCE	(IEFLUX .IQS(6))	VCNTRL	91	
00085	EQUIVALENCE	(IFUSION .IQS(7))	VCNTRL	92	
00086	EQUIVALENCE	(IRADSWG .IQS(8))	VCNTRL	93	
00087	EQUIVALENCE	(IRADLWG .IQS(9))	VCNTRL	94	
00088	EQUIVALENCE	(IICLOUD .IQS(10))	VCNTRL	95	
00089	EQUIVALENCE	(IUFLUX .IQS(11))	VCNTRL	96	
00090	EQUIVALENCE	(IVFLUX .IQS(12))	VCNTRL	97	
			VCNTRL	98	

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00091	C	EQUIVALENCE	(OMEGA .IQU(1))	VCNTRL 99
00092		EQUIVALENCE	(DIABAT .IQU(2))	VCNTRL 100
00093		EQUIVALENCE	(RADSW .IQU(3))	VCNTRL 101
00094		EQUIVALENCE	(RADLW .IQU(4))	VCNTRL 102
00095	C	EQUIVALENCE	(ICO.IC(1))	VCNTRL 103
00096		INTEGER	ICO .IC(200)	VCNTRL 104
	C			VCNTRL 105
	C			VCNTRL 106
	C			VCNTRL 107
	C			VCNTRL 108
	C			VCNTRL 109
	C			VCNTRL 110
	C			VCNTRL 111
	C			VCNTRL 112
	C			VCNTRL 113
	C			VCNTRL 114
	C			VCNTRL 115
	C			VCNTRL 116
	C			VCNTRL 117
	C			VCNTRL 118
	C			VCNTRL 119
	C			VCNTRL 120
	C			VCNTRL 121
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	C			VCNTRL 125
	C			VCNTRL 126
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	C			VCNTRL 136
	C			VCNTRL 137
	C			VCNTRL 138
	C			VCNTRL 139
	C			VCNTRL 140
	C			VCNTRL 141
	C			VCNTRL 142
	C			VCNTRL 143
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	C			VCNTRL 167
	C			VCNTRL 168
	C			VCNTRL 169
00097		COMMON /LCNTRL/	LCO	
00098		COMMON /LCNTRL/	QALT	
00099		COMMON /LCNTRL/	QBEG	
00100		COMMON /LCNTRL/	QDAY	
00101		COMMON /LCNTRL/	QEND	
00102		COMMON /LCNTRL/	QOUT	
00103		COMMON /LCNTRL/	QPHY	
00104		COMMON /LCNTRL/	QSHF	
00105		COMMON /LCNTRL/	SN2FLG	
00106		COMMON /LCNTRL/	QRSW	
00107		COMMON /LCNTRL/	QRSH	
00108		COMMON /LCNTRL/	LQS(30)	
00109		COMMON /LCNTRL/	LQU(10)	
00110		EQUIVALENCE	(LTMIN .LQS(1))	
00111		EQUIVALENCE	(LTMAX .LQS(2))	
00112		EQUIVALENCE	(LPREACC .LQS(3))	
00113		EQUIVALENCE	(LPRECON .LQS(4))	
00114		EQUIVALENCE	(LHFLUX .LQS(5))	
00115		EQUIVALENCE	(LEFLUX .LQS(6))	
00116		EQUIVALENCE	(LFUSION .LQS(7))	
00117		EQUIVALENCE	(LRADSWG .LQS(8))	
00118		EQUIVALENCE	(LRADLWG .LQS(9))	
00119		EQUIVALENCE	(LICLOUD .LQS(10))	
00120		EQUIVALENCE	(LUFLUX .LQS(11))	
00121		EQUIVALENCE	(LVFLUX .LQS(12))	
00122		EQUIVALENCE	(LOMEGA .LQU(1))	
00123		EQUIVALENCE	(LDIABAT .LQU(2))	
00124		EQUIVALENCE	(LRADSW .LQU(3))	
00125		EQUIVALENCE	(LRADLW .LQU(4))	
00126		LOGICAL	QALT	
00127		LOGICAL	QBEG	
00128		LOGICAL	QDAY	
00129		LOGICAL	QEND	
00130		LOGICAL	QOUT	
00131		LOGICAL	QPHY	
00132		LOGICAL	QSHF	
00133		LOGICAL	SN2FLG	
00134		LOGICAL	QRSW	
00135		LOGICAL	QRSH	
00136		LOGICAL	LQS	
00137		LOGICAL	LQU	
00138		LOGICAL	LTMIN	
00139		LOGICAL	LTMAX	
00140		LOGICAL	LPREACC	
00141		LOGICAL	LPRECON	
00142		LOGICAL	LHFLUX	
00143		LOGICAL	LEFLUX	
00144		LOGICAL	LFUSION	
00145		LOGICAL	LRADSWG	
00146		LOGICAL	LRADLWG	
00147		LOGICAL	LICLOUD	
00148		LOGICAL	LUFLUX	
00149		LOGICAL	LVFLUX	
00150		LOGICAL	LOMEGA	
00151		LOGICAL	LDIABAT	

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00152	LOGICAL	LRADSW		VCNTRL 170
00153	LOGICAL	LRADLW		VCNTRL 171
00154	EQUIVALENCE	(LC0,LC(1))		VCNTRL 172
00155	LOGICAL	LC0, LC(200)		VCNTRL 173
	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD			VCNTRL 174
	=====			VCNTRL 175
00156	COMMON	/RCNTRL/	RCO	VCNTRL 176
00157	COMMON	/RCNTRL/	APHEL	VCNTRL 177
00158	COMMON	/RCNTRL/	BETA	VCNTRL 178
00159	COMMON	/RCNTRL/	COSD	VCNTRL 179
00160	COMMON	/RCNTRL/	CP	VCNTRL 180
00161	COMMON	/RCNTRL/	DAYSPLY	VCNTRL 181
00162	COMMON	/RCNTRL/	DEC	VCNTRL 182
00163	COMMON	/RCNTRL/	DECMAX	VCNTRL 183
00164	COMMON	/RCNTRL/	DIST	VCNTRL 184
00165	COMMON	/RCNTRL/	DLAT	VCNTRL 185
00166	COMMON	/RCNTRL/	DLOX	VCNTRL 186
00167	COMMON	/RCNTRL/	DT	VCNTRL 187
00168	COMMON	/RCNTRL/	ECCN	VCNTRL 188
00169	COMMON	/RCNTRL/	GNU1	VCNTRL 189
00170	COMMON	/RCNTRL/	GNU2	VCNTRL 190
00171	COMMON	/RCNTRL/	GRAV	VCNTRL 191
00172	COMMON	/RCNTRL/	OMEGA2	VCNTRL 192
00173	COMMON	/RCNTRL/	PI	VCNTRL 193
00174	COMMON	/RCNTRL/	PI180	VCNTRL 194
00175	COMMON	/RCNTRL/	PI2	VCNTRL 195
00176	COMMON	/RCNTRL/	PSTD	VCNTRL 196
00177	COMMON	/RCNTRL/	PIMEAN	VCNTRL 197
00178	COMMON	/RCNTRL/	PSMAX	VCNTRL 198
00179	COMMON	/RCNTRL/	PSMIN	VCNTRL 199
00180	COMMON	/RCNTRL/	PTOP	VCNTRL 200
00181	COMMON	/RCNTRL/	RADE	VCNTRL 201
00182	COMMON	/RCNTRL/	RGAS	VCNTRL 202
00183	COMMON	/RCNTRL/	ROCP	VCNTRL 203
00184	COMMON	/RCNTRL/	RSDIST	VCNTRL 204
00185	COMMON	/RCNTRL/	SDAY	VCNTRL 205
00186	COMMON	/RCNTRL/	SEASON	VCNTRL 206
00187	COMMON	/RCNTRL/	SIGE (25)	VCNTRL 207
00188	COMMON	/RCNTRL/	SIND	VCNTRL 208
00189	COMMON	/RCNTRL/	SOLS	VCNTRL 209
00190	COMMON	/RCNTRL/	TSTD	VCNTRL 210
00191	COMMON	/RCNTRL/	PLEVS (25)	VCNTRL 211
00192	COMMON	/RCNTRL/	HEATW	VCNTRL 212
00193	COMMON	/RCNTRL/	HEATI	VCNTRL 213
00194	COMMON	/RCNTRL/	EPS	VCNTRL 214
00195	COMMON	/RCNTRL/	EPSFAC	VCNTRL 215
00196	COMMON	/RCNTRL/	CALTOJ	VCNTRL 216
00197	COMMON	/RCNTRL/	PZERO	VCNTRL 217
00198	EQUIVALENCE	(RC0,RC(1))		VCNTRL 218
00199	REAL	RC0, RC(200)		VCNTRL 219
	INTEGER MODEL CONSTANTS			VCNTRL 220
	=====			VCNTRL 221
00200	COMMON	/IDPARM/	IJUMP (46)	VCNTRL 222
00201	COMMON	/IDPARM/	IDSP02	VCNTRL 223
00202	COMMON	/IDPARM/	INDEX (72)	VCNTRL 224
00203	COMMON	/IDPARM/	IROD	VCNTRL 225
00204	COMMON	/IDPARM/	JC (46)	VCNTRL 226
00205	COMMON	/IDPARM/	JE (2)	VCNTRL 227
00206	COMMON	/IDPARM/	JP (2,2)	VCNTRL 228
00207	COMMON	/IDPARM/	KSTEP	VCNTRL 229
00208	COMMON	/IDPARM/	MJ (46)	VCNTRL 230
00209	COMMON	/IDPARM/	NHMS1	VCNTRL 231
00210	COMMON	/IDPARM/	NYMD1	VCNTRL 232
	LOGICAL MODEL CONSTANTS			VCNTRL 233
	=====			VCNTRL 234
00211	COMMON	/LDPARM/	FILTER (46)	VCNTRL 235
				VCNTRL 236
				VCNTRL 237
				VCNTRL 238
				VCNTRL 239
				VCNTRL 240

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00212      COMMON /LDPARM/ ITAPE
00213      COMMON /LDPARM/ START
C
00214      LOGICAL      FILTER
00215      LOGICAL      ITAPE
00216      LOGICAL      START

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C
CC REAL MODEL CONSTANTS
C
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00217      COMMON /RDPARM/ ADLDP
00218      COMMON /RDPARM/ CON1
00219      COMMON /RDPARM/ CON1DT
00220      COMMON /RDPARM/ CON2
00221      COMMON /RDPARM/ CON2DT
00222      COMMON /RDPARM/ CON3
00223      COMMON /RDPARM/ CON3DT
00224      COMMON /RDPARM/ CON4
00225      COMMON /RDPARM/ CON4DT
00226      COMMON /RDPARM/ CONS
00227      COMMON /RDPARM/ COSL (46)
00228      COMMON /RDPARM/ COSLON (72)
00229      COMMON /RDPARM/ CPD2
00230      COMMON /RDPARM/ DXP (46)
00231      COMMON /RDPARM/ DXYP (46)
00232      COMMON /RDPARM/ DYP (46)
00233      COMMON /RDPARM/ FCORLS (46)
00234      COMMON /RDPARM/ F1DT
00235      COMMON /RDPARM/ F2DT
00236      COMMON /RDPARM/ H1DT
00237      COMMON /RDPARM/ H2DT
00238      COMMON /RDPARM/ PKSTD
00239      COMMON /RDPARM/ PKTOP
00240      COMMON /RDPARM/ RLAT (46)
00241      COMMON /RDPARM/ RLATD (46)
00242      COMMON /RDPARM/ ROCPPD1
00243      COMMON /RDPARM/ ROCPP1
00244      COMMON /RDPARM/ SGNP (2)
00245      COMMON /RDPARM/ SINL (46)
00246      COMMON /RDPARM/ SINLON (72)
00247      COMMON /RDPARM/ THSTD
00248      COMMON /RDPARM/ THSTD2
00249      COMMON /RDPARM/ WSAVE (159)
00250      COMMON /RDPARM/ DSIG (9)
00251      COMMON /RDPARM/ SIG (9)
00252      COMMON /RDPARM/ DSIGINV (9)

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C
CC COMDECK VQANDQT RESOLUTION VALUES
C
=====

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```

C
CC IM =72
C
CC NLAY =9
C
CC JM+1 =46
C
CC NLAY*11 =99
C
CC IM*NLAY*11 =7128
C
CC JM/2+1 =23

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C
CC GLOBAL MODEL PROGNOSTIC FIELDS (NEEDED IN COMPO)
C
=====

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00253      COMMON      /QANDQT/ QPROG(72,9,11,46)
C
00254      DIMENSION    PHIS (7128,1)
00255      DIMENSION    SMTH (7128,23)
00256      DIMENSION    ALBEDO (7128,1)
00257      DIMENSION    GT (7128,1)
00258      DIMENSION    GW (7128,1)
00259      DIMENSION    TS (7128,1)
00260      DIMENSION    SHS (7128,1)
00261      DIMENSION    P (72,99,1)
C
00262      DIMENSION    U (72,9,11,1)

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VCNTRL 241
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VQANDQT 24
VQANDQT 25
VQANDQT 26

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00263      DIMENSION      V      (72,9,11,1)      VQANDQT 27
00264      DIMENSION      T      (72,9,11,1)      VQANDQT 28
00265      DIMENSION      SH     (72,9,11,1)      VQANDQT 29
00266      DIMENSION      PHI     (72,9,11,1)      VQANDQT 30
C
00267      EQUIVALENCE      (QPROG(1, 1,1,1),PHIS (1,1))      VQANDQT 31
00268      EQUIVALENCE      (QPROG(1, 2,1,1),SMTH (1,1))      VQANDQT 32
00269      EQUIVALENCE      (QPROG(1, 3,1,1),ALBEDO(1,1))      VQANDQT 33
00270      EQUIVALENCE      (QPROG(1, 4,1,1),GT (1,1))      VQANDQT 34
00271      EQUIVALENCE      (QPROG(1, 5,1,1),GW (1,1))      VQANDQT 35
00272      EQUIVALENCE      (QPROG(1, 6,1,1),TS (1,1))      VQANDQT 36
00273      EQUIVALENCE      (QPROG(1, 7,1,1),SHS (1,1))      VQANDQT 37
00274      EQUIVALENCE      (QPROG(1, 8,1,1),P (1,1,1,1))      VQANDQT 38
C
00275      EQUIVALENCE      (QPROG(1,1, 2,1),U (1,1,1,1))      VQANDQT 39
00276      EQUIVALENCE      (QPROG(1,1, 4,1),V (1,1,1,1))      VQANDQT 40
00277      EQUIVALENCE      (QPROG(1,1, 6,1),T (1,1,1,1))      VQANDQT 41
00278      EQUIVALENCE      (QPROG(1,1, 8,1),SH (1,1,1,1))      VQANDQT 42
00279      EQUIVALENCE      (QPROG(1,1,10,1),PHI(1,1,1,1))      VQANDQT 43
C
C      SPACE FOR GLOBAL MODEL DIAGNOSTIC FIELDS (NOT NEEDED IN COMPO)
C      =====
00280      COMMON          /QANDQT/ QSDIAG(72, ,15,46)      VQANDQT 44
00281      DIMENSION      IQSDIAG(72, ,15,46)      VQANDQT 45
00282      EQUIVALENCE      (QSDIAG,IQSDIAG)      VQANDQT 46
C
00283      COMMON          /QANDQT/ QUDIAG(72,9, 5,46)      VQANDQT 47
C
C      * * *
C      POLAR MODEL PROGNOSTIC FIELDS
00284      COMMON /QPOLES/ PP(2,2)      VQANDQT 48
00285      COMMON /QPOLES/ UP(9,2,2)      VQANDQT 49
00286      COMMON /QPOLES/ VP(9,2,2)      VQANDQT 50
00287      COMMON /QPOLES/ TP(9,2,2)      VQANDQT 51
00288      COMMON /QPOLES/ SHP(9,2,2)      VQANDQT 52
00289      COMMON /QPOLES/ PHIP(9,2,2)      VQANDQT 53
C
C      * * *
C      GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP
00290      COMMON /QMSAVE/ PM(72,5)      VQANDQT 54
00291      COMMON /QMSAVE/ UM(72,9,5)      VQANDQT 55
00292      COMMON /QMSAVE/ VM(72,9,5)      VQANDQT 56
00293      COMMON /QMSAVE/ TM(72,9,5)      VQANDQT 57
00294      COMMON /QMSAVE/ SHM(72,9,5)      VQANDQT 58
00295      COMMON /QMSAVE/ PHIM(72,9,5)      VQANDQT 59
00296      COMMON /QMSAVE/ PV(72,9,5)      VQANDQT 60
00297      COMMON /QMSAVE/ PIT(72,5)      VQANDQT 61
00298      COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5)      VQANDQT 62
00299      COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5)      VQANDQT 63
C
00300      COMMON          PU(180),PU1(180),PU2(180)      VQANDQT 64
C
C      *****
C      C DEBUG
00301      10000 CONTINUE      VQANDQT 65
C      **** CYBER VECTOR VERSION 00.001 INPUT IOQ      VQANDQT 66
C      **** CYBER VECTOR VERSION 00      VQANDQT 67
C      C*****VQANDQT 68
00302      NLAYND = NLAY*(ND - 1)      VQANDQT 69
00303      NLAYNB = NLAY*(NB - 1)      VQANDQT 70
00304      DO 1000 J=1,JM      VQANDQT 71
00305      JP1 = J + 1      VQANDQT 72
00306      JP2 = J + 2      VQANDQT 73
00307      K = JC(J)      VQANDQT 74
00308      KP1 = JC(JP1)      VQANDQT 75
00309      KP2 = JC(JP2)      VQANDQT 76
00310      DO 1090 L=1,NLAY      VQANDQT 77
00311      LND = L + NLAYND      VQANDQT 78
00312      LNB = L + NLAYNB      VQANDQT 79

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00313      IS2 = IM - 3
00314      IS1 = IM - 2
00315      I = IM - 1
00316      IP1 = IM
00317      PU(IS2) = DYP(J)*P(IS2,NB,J)*U(IS2,LNB,1,J)
00318      PU(IS1) = DYP(J)*P(IS1,NB,J)*U(IS1,LNB,1,J)
00319      PU(I) = DYP(J)*P(I,NB,J)*U(I,LNB,1,J)
00320      PU(IP1) = DYP(J)*P(IP1,NB,J)*U(IP1,LNB,1,J)
00321      PU2(IS2) = PU(IS2) + PU(I)
00322      PU1(IS1) = PU(IS1) + PU(I)
00323      PU2(IS1) = PU(IS1) + PU(IP1)
00324      DO 1080 IP2=1,IM
00325      IF (J.EQ.1) GO TO 1020
00326      PU(IP2) = DYP(J)*P(IP2,NB,J)*U(IP2,LNB,1,J)
00327      PU1(I) = PU(I) + PU(IP1)
00328      PU2(I) = PU(I) + PU(IP2)
00329      IF (J.EQ.JM) GO TO 1050
00330      GO TO 1030
00331      CONTINUE
00332      CONV(I,L,KP1) = 0.
00333      CONV(I,L,K) = 0.
00334      PV(I,L,K) = DXP(J)*P(I,NB,J)*V(I,LNB,1,J)
00335      PV(I,L,KP1) = DXP(JP1)*P(I,NB,JP1)*V(I,LNB,1,JP1)
C
00336      CONTINUE
00337      PV(I,L,KP2) = DXP(JP2)*P(I,NB,JP2)*V(I,LNB,1,JP2)
00338      PV1 = PV(I,L,K) + PV(I,L,KP1)
00339      PV2 = PV(I,L,K) + PV(I,L,KP2)
00340      CONTINUE
00341      CONV(I,L,KP2) = -PV2
00342      CONV(I,L,KP1) = CONV(I,L,KP1)
&          + 8.*PV1
&          + 8.*PV1 + PV2
&          - 8.*(PU1(I)-PU1(IS1)) + (PU2(I)-PU2(IS2))
00343      GO TO 1070
00344      CONTINUE
00345      CONV(I,L,K) = CONV(I,L,K)
00346      &          - 8.*PV(I,L,K)
&          - (8.*(PU1(I)-PU1(IS1)) - (PU2(I)-PU2(IS2)))
00347      CONTINUE
00348      CONTINUE
00349      CONV(I,L,K) = CONV(I,L,K)*DSIG(L)
00350      IS2 = IS1
00351      IS1 = I
00352      I = IP1
00353      IP1 = IP2
00354      CONTINUE
00355      CONTINUE
00356      IF (J.EQ.1) GO TO 1130
00357      DO 1120 I=1,IM
00358      PIT(I,K) = CONV(I,NLAY,K)
00359      DO 1100 L=1,NLAYM1
00360      PIT(I,K) = PIT(I,K) + CONV(I,L,K)
00361      CONTINUE
00362      SD2 = 0.
00363      DO 1110 L=1,NLAYM1
00364      SD2 = SD2 + CONV(I,L,K)
C
C *****
C ****
C ****
C ****
C *****
00365      QUDIAG(I,L,IOMEGA,J) = SD2/DXYP(J)*1.E6
00366      CONTINUE
00367      CONTINUE
00368      IF (J.LT.JM) GOTO 3000
C
C *****

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VVERT 137

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POLE CALCULATIONS

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00369 1130 CONTINUE
00370 M = 1
00371 IF (J.EQ.JM) M = 2
00372 K = JC(JE(M))
00373 JP1 = JP(1,M)
00374 JP2 = JP(2,M)
00375 DO 1150 L=1,NLAY
00376 LNB = L + NLAYNB
00377 PV1S = 0.
00378 PV2S = 0.
00379 DO 1140 I=1,IM
00380 PV1 = P(I,NB,JP1)*V(I,LNB,1,JP1)
00381 PV1S = PV1S + PV1
00382 PV2 = P(I,NB,JP2)*V(I,LNB,1,JP2)
00383 PV2S = PV2S + PV2
00384 CONTINUE

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```

00385 C 1140 CONV(1,L,K) = SGNP(M)*(CON1*PV1S + CON2*PV2S)*DSIG(L)
00386 CONTINUE
00387 1150 SD2 = 0.
00388 DO 1160 L=1,NLAYM1
00389 SD2 = SD2 + CONV(1,L,K)
00390 OUDIAG(1,L,1,OMEGA,JE(M)) = SD2*1.E6
00391 CONTINUE

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FOLLOWING AS IN COMP2

```

00392 3000 CONTINUE
00393 JS2 = J - 2
00394 IF (J.EQ.2) JS2 = J
00395 JS1 = J - 1
00396 JP1 = J + 1
00397 JP2 = J + 2
00398 IF (J.EQ.JM) JP2 = J
00399 K = JC(J)

```

```

00400 C * * * DO 50 L=1,NLAY
00401 LND = L + NLAYND
00402 LNB = L + NLAYNB
00403 LWE = LNB + 1
00404 IF (L.EQ.NLAY) LWE = LNB
00405 IF (J.EQ.1) GO TO 20
00406 IS2 = IM - 3
00407 IS1 = IM - 2
00408 I = IM - 1
00409 IP1 = IM
00410 DO 10 IP2=1,IM
00411 IXP = I
00412 IF (J.EQ.JM) IXP = INDEX(I)
00413 IXS = I
00414 IF (J.EQ.2) IXS = INDEX(I)
00415 PX1 = P(IP1,NB,J) - P(IS1,NB,J)
00416 PX2 = P(IP2,NB,J) - P(IS2,NB,J)
00417 PV1 = P(I,NB,JP1) - P(I,NB,JS1)
00418 PV2 = P(IXP,NB,JP2) - P(IXS,NB,JS2)

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OMEGA (SIG*PIDOT)*1.E6

- VVERT 138
- VVERT 139
- VVERT 140
- VVERT 141
- VVERT 142
- VVERT 143
- VVERT 144
- VVERT 145
- VVERT 146
- VVERT 147
- VVERT 148
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- VVERT 200
- VVERT 201
- VVERT 202
- VVERT 203
- VVERT 204
- VVERT 205
- VVERT 206
- VVERT 207
- VVERT 208

```

00419 PDOT = .5*
& ( DYP(J)*(U(I,LNB,1,J) + U(I,LWE,1,J))*(B*PX1 - PX2)
& + DXP(J)*(V(I,LNB,1,J) + V(I,LWE,1,J))*(B*PY1 - PY2) )
00420 QUDIAG(I,L,IOMEGA,J) = QUDIAG(I,L,IOMEGA,J)
+ SIGE(L+1)*PDOT/DXP(J)*1.E6
00421 2000 CONTINUE
00422 IS2 = IS1
00423 IS1 = I
00424 I = IP1
00425 IP1 = IP2
00426 10 CONTINUE
00427 IF (J.LT.JM) GO TO 50
00428 20 CONTINUE
00429 M = 1
00430 IF (J.EQ.JM) M = 2
00431 JEND = JE(M)
00432 KE = JC(JEND)
00433 PVDS = 0.
00434 DO 30 I=1,IM
00435 PVDS = PVDS
& + (SGNP(M)*(UP(LNB,1,M) + UP(LWE,1,M)) + COSLON(I)
& + (VP(LNB,1,M) + VP(LWE,1,M)) - SINLON(I) ) * 0.5
00436 30 CONTINUE
C *****
C OMEGA AT POLES (SIG*PIDOT)+1.E6
C *****
00437 QUDIAG(I,L,IOMEGA,JEND) = QUDIAG(I,L,IOMEGA,JEND)
S + SIGE(L+1)*CONS*PVDS*1.E6
C *****
C UNIFORM OMEGA AT POLES
C *****
00438 DO 40 I=1,IM
00439 QUDIAG(I,L,IOMEGA,JEND) = QUDIAG(I,L,IOMEGA,JEND)
00440 40 CONTINUE
00441 50 CONTINUE
00442 1000 CONTINUE
00443 R E T U R N
00444 E N D

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VVERT 209
VVERT 210
VVERT 211
VVERT 212
VVERT 213
VVERT 214
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VVERT 249
VVERT 250
VVERT 251
VVERT 252
VVERT 253
VVERT 254
VVERT 255

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

STATEMENT	LABEL	DEFINED	REFERENCES
10		426	410
1000		442	304
10000		301	
1020		331	325
1030		336	330
1040		340	
1050		345	329
1060		347	
1070		348	
1080		354	344
1090		355	324
1100		361	310
1110		366	359
1120		367	363
1130		369	357
1140		384	356
1150		386	379
1160		391	375
20		428	388
2000		421	405

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30	436	434
3000	392	368
40	440	438
50	441	400

427

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C-CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16																
ADLDP	RDPARM	REAL	SIMPLE	217																	
ALBEDO	QANDQT	REAL	ARRAY	256	269																
APHEL	RCNTRL	REAL	SIMPLE	157																	
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																
BETA	RCNTRL	REAL	SIMPLE	158																	
CALTOJ	RCNTRL	REAL	SIMPLE	196																	
CC	CCNTRL	CHAR*8	ARRAY	14	15																
CC0	CCNTRL	CHAR*8	SIMPLE	2	14	15															
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12							
CCSP06	CCNTRL	CHAR*8	SIMPLE	13																	
CCSP07	CCNTRL	CHAR*8	SIMPLE	7	20																
CCSP08	CCNTRL	CHAR*8	SIMPLE	8	21																
CON1	RDPARM	REAL	SIMPLE	9	22																
CON1DT	RDPARM	REAL	SIMPLE	218	385																
CON2	RDPARM	REAL	SIMPLE	219																	
CON2DT	RDPARM	REAL	SIMPLE	220	385																
CON3	RDPARM	REAL	SIMPLE	221																	
CON3DT	RDPARM	REAL	SIMPLE	222																	
CON4	RDPARM	REAL	SIMPLE	223																	
CON4DT	RDPARM	REAL	SIMPLE	224																	
CON5	RDPARM	REAL	SIMPLE	225																	
CONV	QMSAVE	REAL	ARRAY	226	437																
COSD	RCNTRL	REAL	SIMPLE	228	332/S	333/S	341/S	342/S	342	343/S	343	346/S	346	349							
COSL	RDPARM	REAL	ARRAY	349	358	360	364	385/S	389												
COSLON	RDPARM	REAL	ARRAY	159																	
CP	RCNTRL	REAL	SIMPLE	227																	
CPD2	RDPARM	REAL	SIMPLE	228	435																
CQS	CCNTRL	CHAR*8	ARRAY	160																	
CQU	CCNTRL	CHAR*8	ARRAY	229																	
DAYS	RCNTRL	REAL	SIMPLE	12	25																
DEC	RCNTRL	REAL	SIMPLE	13	26																
DECMA	RCNTRL	REAL	SIMPLE	161																	
DIST	RCNTRL	REAL	SIMPLE	162																	
DLAT	RCNTRL	REAL	SIMPLE	163																	
DLO	RCNTRL	REAL	SIMPLE	164																	
DSIG	RDPARM	REAL	SIMPLE	165																	
DSIGINV	RDPARM	REAL	ARRAY	166																	
DT	RCNTRL	REAL	SIMPLE	250	349	385															
DYP	RDPARM	REAL	ARRAY	252																	
DY	RDPARM	REAL	ARRAY	167																	
DY	RDPARM	REAL	ARRAY	230	334	335	337	419													
ECCN	RCNTRL	REAL	SIMPLE	231	365	420															
EPS	RCNTRL	REAL	SIMPLE	232	317	318	319	320	326	419											
EPSFAC	RCNTRL	REAL	SIMPLE	168																	
F1DT	RDPARM	REAL	SIMPLE	194																	
F2DT	RDPARM	REAL	SIMPLE	195																	
FCORLS	RDPARM	REAL	ARRAY	234																	
FILTER	LDPARM	LOGICAL	ARRAY	235																	
GNU1	RCNTRL	REAL	SIMPLE	233																	
GNU2	RCNTRL	REAL	SIMPLE	211	214																
GRAV	RCNTRL	REAL	SIMPLE	169																	
GT	QANDQT	REAL	SIMPLE	170																	
GW	QANDQT	REAL	ARRAY	171																	
H1DT	RDPARM	REAL	SIMPLE	257	270																
H2DT	RDPARM	REAL	SIMPLE	258	271																
HEAT I	RCNTRL	REAL	SIMPLE	236																	
HEATW	RCNTRL	REAL	SIMPLE	237																	
I		INTEGER	SIMPLE	192	315/S	319	319	321	322	327	327	328	328	332							
				333	334	334	334	335	335	335	337	337	337	337	338						

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				338	339	339	341	342	342	343	343	343	343	346
				346	346	346	346	349	349	351	352/S	357/C	358	358
				360	360	360	364	365	379/C	380	380	382	382	408
				411	412	413	414	417	417	419	419	419	419	420
				420	423	424/S	434/C	435	435	435	435	438/C	439	420
IBLKSIZ	ICNTRL	INTEGER	SIMPLE	70										
IC	ICNTRL	INTEGER	ARRAY	95	96									
ICO	ICNTRL	INTEGER	SIMPLE	27	95									
ICNTRL	ICNTRL	INTEGER	UNKNOWN	27	28	96								
				38	39	29	30	31	32	33	34	35	36	37
				49	50	40	41	42	43	44	45	46	47	48
				60	61	51	52	53	54	55	56	57	58	59
				71	72	62	63	64	65	66	67	68	69	70
ICSPB3	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	92										
IDPARM		INTEGER	UNKNOWN	200	201	202	203	204	205	206	207	208	209	210
IDSP02	IDPARM	INTEGER	SIMPLE	201										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	84										
IFUSION	ICNTRL	INTEGER	UNKNOWN	85										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	83										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	88										
IJUMP	IDPARM	INTEGER	ARRAY	200										
IM	ICNTRL	INTEGER	SIMPLE	28	313	314	315	316	324	357	379	406	407	408
				409	410	434	438							
IMD2	ICNTRL	INTEGER	SIMPLE	29										
IMD2P1	ICNTRL	INTEGER	SIMPLE	30										
INDEX	IDPARM	INTEGER	ARRAY	202	412	414								
IOMEGA	ICNTRL	INTEGER	SIMPLE	91	365	390	420	420	437	437	439	439		
IP1		INTEGER	SIMPLE	316/S	320	320	320	323	327	352	353/S	409/S	415	424
IP2		INTEGER	SIMPLE	425/S										
IPREACC	ICNTRL	INTEGER	UNKNOWN	324/C	326	326	326	328	353	410/C	416	425		
IPRECON	ICNTRL	INTEGER	UNKNOWN	81										
IQS	ICNTRL	INTEGER	ARRAY	82		80	81	82	83	84	85	86	87	88
				77	79									
IQSDIAG	QANDQT	INTEGER	ARRAY	89	90									
IQU	ICNTRL	INTEGER	ARRAY	281	282									
IRADLW	ICNTRL	INTEGER	UNKNOWN	78	91	92	93	94						
IRADLWG	ICNTRL	INTEGER	UNKNOWN	94										
IRADSW	ICNTRL	INTEGER	UNKNOWN	87										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	93										
IROD	IDPARM	INTEGER	UNKNOWN	86										
IS1		INTEGER	SIMPLE	203										
				314/S	318	318	318	322	322	323	323	343	346	350
IS2		INTEGER	SIMPLE	351/S	407/S	415	422	423/S						
				313/S	317	317	317	321	321	343	346	350/S	406/S	416
				422/S										
ITAPE	LDPARM	LOGICAL	SIMPLE	212	215									
ITMAX	ICNTRL	INTEGER	UNKNOWN	80										
ITMIN	ICNTRL	INTEGER	UNKNOWN	79										
IUFLUX	ICNTRL	INTEGER	UNKNOWN	89										
IVFLUX	ICNTRL	INTEGER	UNKNOWN	90										
IXP		INTEGER	SIMPLE	411/S	412/S	418								
IXS		INTEGER	SIMPLE	413/S	414/S	418								
J		INTEGER	SIMPLE	304/C	305	306	307	317	317	317	318	318	318	318
				319	319	320	320	320	325	326	326	326	329	334
				334	334	356	365	365	368	371	393	394	394	395
				396	397	398	398	399	405	412	414	415	415	416
				416	419	419	419	419	419	419	420	420	420	427
				430										
JC	IDPARM	INTEGER	ARRAY	204	307	308	309	372	399	432				
JE	IDPARM	INTEGER	ARRAY	205	372	390	431							
JEND		INTEGER	SIMPLE	431/S	432	437	437	439	439					
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	32	304	329	368	371	398	412	427	430		
JMD2	ICNTRL	INTEGER	SIMPLE	33										
JMT2	ICNTRL	INTEGER	SIMPLE	34										
JNP	ICNTRL	INTEGER	SIMPLE	35										
JO4	ICNTRL	INTEGER	SIMPLE	36										
JOB	ICNTRL	INTEGER	SIMPLE	37										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									

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JP	IDPARM	INTEGER	ARRAY	206	373	374	435	435									
JP1		INTEGER	SIMPLE	305/S	308	335	335	335									
JP2		INTEGER	SIMPLE	306/S	309	337	337	337	373/S	380	380	396/S	417				
JS1		INTEGER	SIMPLE	395/S	417				374/S	382	382	397/S	398/S	418			
JS2		INTEGER	SIMPLE	393/S	394/S	418											
JSP	ICNTRL	INTEGER	SIMPLE	38													
K		INTEGER	SIMPLE	307/S	333	334	338	339	343	343	346	346	346	349			
KE		INTEGER	SIMPLE	349	358	358	360	360	360	360	364	372/S	385	389	399		
KLIALB	ICNTRL	INTEGER	SIMPLE	432/S													
KLIGW	ICNTRL	INTEGER	SIMPLE	39													
KLISST	ICNTRL	INTEGER	SIMPLE	40													
KP1		INTEGER	SIMPLE	41													
KP2		INTEGER	SIMPLE	308/S	332	335	338	342	342								
KS	ICNTRL	INTEGER	SIMPLE	309/S	337	339	341										
KSTEP	IDPARM	INTEGER	SIMPLE	42													
KU	ICNTRL	INTEGER	SIMPLE	207													
L		INTEGER	SIMPLE	43													
		INTEGER	SIMPLE	310/C	311	312	332	333	334	335	337	338	338	338	339		
				339	341	342	342	343	343	346	346	346	349	349	349		
				349	359/C	360	363/C	364	365	375/C	376	385	385	388	388		
				389	390	400/C	401	402	404	420	420	420	437	437	437		
				437	439	439											
LC	LCNTRL	LOGICAL	ARRAY	154	155												
LCO	LCNTRL	LOGICAL	SIMPLE	97	154	155											
LCNTRL		INTEGER	UNKNOWN	97	98	99	100	101	102	103	104	105	106	107			
				108	109												
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	123	151												
LDPARM		INTEGER	UNKNOWN	211	212	213											
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	115	143												
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	144												
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	114	142												
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	119	147												
LNB		INTEGER	SIMPLE	312/S	317	318	319	320	326	334	335	337	376/S	380			
LND		INTEGER	SIMPLE	382	402/S	403	404	419	419	435	435						
LOGSR	ICNTRL	INTEGER	SIMPLE	311/S	401/S												
LOMGA	LCNTRL	LOGICAL	UNKNOWN	44													
LPREACC	LCNTRL	LOGICAL	UNKNOWN	122	150												
LPRECON	LCNTRL	LOGICAL	UNKNOWN	112	140												
LOS	LCNTRL	LOGICAL	ARRAY	113	141												
				108	110	111	112	113	114	115	116	117	118	119			
				120	121	135											
LQU	LCNTRL	LOGICAL	ARRAY	109	122	123	124	125	137								
LRADLW	LCNTRL	LOGICAL	UNKNOWN	125	153												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	118	146												
LRADSW	LCNTRL	LOGICAL	UNKNOWN	124	152												
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	145												
LTMAX	LCNTRL	LOGICAL	UNKNOWN	111	139												
LTMIN	LCNTRL	LOGICAL	UNKNOWN	110	138												
LUFLUX	LCNTRL	LOGICAL	UNKNOWN	120	148												
LVFLUX	LCNTRL	LOGICAL	UNKNOWN	121	149												
LWE		INTEGER	SIMPLE	403/S	404/S	419	419	435	435								
M		INTEGER	SIMPLE	370/S	371/S	372	373	374	385	390	429/S	430/S	431	435			
				435	435	435	435	435	435								
MATIN	ICNTRL	INTEGER	SIMPLE	45													
MATSNX	ICNTRL	INTEGER	SIMPLE	46													
MATSUN	ICNTRL	INTEGER	SIMPLE	47													
MJ	IDPARM	INTEGER	ARRAY	208													
MLF	ICNTRL	INTEGER	ARRAY	48													
MROD	ICNTRL	INTEGER	SIMPLE	49													
MSM	ICNTRL	INTEGER	SIMPLE	51													
NB	ICNTRL	INTEGER	SIMPLE	52	303	317	318	319	320	326	334	335	337	380			
				382	415	415	416	416	417	417	418	418	435	435			
				53	302												
ND	ICNTRL	INTEGER	SIMPLE	54													
NDALT	ICNTRL	INTEGER	SIMPLE	55													
NDAY	ICNTRL	INTEGER	SIMPLE	55													
NDHOG	ICNTRL	INTEGER	SIMPLE	56													
NDOUT	ICNTRL	INTEGER	SIMPLE	56													
NDPHY	ICNTRL	INTEGER	SIMPLE	57													
NDRSW	ICNTRL	INTEGER	SIMPLE	31													
NDSHF	ICNTRL	INTEGER	SIMPLE	58													

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NDT	ICNTRL	INTEGER	SIMPLE	59																			
NHMS	ICNTRL	INTEGER	SIMPLE	60																			
NHMS0	ICNTRL	INTEGER	SIMPLE	62																			
NHMS1	IDPARM	INTEGER	SIMPLE	209																			
NHMSE	ICNTRL	INTEGER	SIMPLE	61																			
NKRSH	ICNTRL	INTEGER	SIMPLE	50																			
NLAY	ICNTRL	INTEGER	SIMPLE	63	302	303	310	358	375	400	404												
NLAYM1	ICNTRL	INTEGER	SIMPLE	64	359	363	368																
NLAYNB	ICNTRL	INTEGER	SIMPLE	303/S	312	376	402																
NLAYND	ICNTRL	INTEGER	SIMPLE	302/S	311	401																	
NLAYP1	ICNTRL	INTEGER	SIMPLE	65																			
NMLEV	ICNTRL	INTEGER	SIMPLE	75																			
NSDAY	ICNTRL	INTEGER	SIMPLE	66																			
NSEQ	ICNTRL	INTEGER	SIMPLE	67																			
NSTEP	ICNTRL	INTEGER	SIMPLE	69																			
NYMD	ICNTRL	INTEGER	SIMPLE	71																			
NYMD0	ICNTRL	INTEGER	SIMPLE	73																			
NYMD1	IDPARM	INTEGER	SIMPLE	210																			
NYMDE	ICNTRL	INTEGER	SIMPLE	72																			
NZINIT	ICNTRL	INTEGER	SIMPLE	74																			
OMEGA2	RCNTRL	REAL	SIMPLE	172																			
P	QANDQT	REAL	ARRAY	261	274	317	318	319	320	326	334	339	337										
PDOT	PHI	REAL	SIMPLE	382	415	415	416	416	417	417	418	418	435	380									
PHIM	PHIP	REAL	ARRAY	266	279									385								385	
PHIS	PHIP	REAL	ARRAY	295																			
PHIS	QANDQT	REAL	ARRAY	289																			
PI	RCNTRL	REAL	ARRAY	254	267																		
PI180	RCNTRL	REAL	SIMPLE	173																			
PI2	RCNTRL	REAL	SIMPLE	174																			
PIMEAN	RCNTRL	REAL	SIMPLE	175																			
PIT	QMSAVE	REAL	SIMPLE	177																			
PKSTD	RDPARM	REAL	ARRAY	297	358/S	360/S	360																
PKTOP	RDPARM	REAL	SIMPLE	238																			
PLEVS	RCNTRL	REAL	SIMPLE	239																			
PH	RCNTRL	REAL	ARRAY	191																			
PP	QMSAVE	REAL	ARRAY	290																			
PSMAX	QPOLES	REAL	ARRAY	284																			
PSMIN	RCNTRL	REAL	SIMPLE	178																			
PSTD	RCNTRL	REAL	SIMPLE	179																			
PTOP	RCNTRL	REAL	SIMPLE	176																			
PU	//	REAL	SIMPLE	180																			
PU1	//	REAL	ARRAY	300	317/S	318/S	319/S	320/S	321	321	322	322	323	323									
PU2	//	REAL	ARRAY	326/S	327	327	328	328															
PV	//	REAL	ARRAY	300	322/S	327/S	343	343	346	346													
PV1	QMSAVE	REAL	ARRAY	300	321/S	323/S	328/S	343	346	346	346	338	338	338									
PV1S		REAL	SIMPLE	296	334/S	335/S	337/S	338	338	338	339	339	346										
PV2		REAL	SIMPLE	338/S	342	343	380/S	381	381	385													
PV2S		REAL	SIMPLE	377/S	381/S	381	385																
PVDS		REAL	SIMPLE	339/S	341	343	382/S	383															
PX1		REAL	SIMPLE	378/S	378/S	383/S	383																
PX2		REAL	SIMPLE	433/S	435/S	435	437																
PY1		REAL	SIMPLE	415/S	419																		
PY2		REAL	SIMPLE	416/S	419																		
PZERO	RCNTRL	REAL	SIMPLE	417/S	419																		
QALT	LCNTRL	REAL	SIMPLE	418/S	419																		
QANDQT	LCNTRL	LOGICAL	SIMPLE	197																			
QBEG	LCNTRL	REAL	UNKNOWN	98	126																		
QDAY	LCNTRL	LOGICAL	SIMPLE	253	280	283																	
QEND	LCNTRL	LOGICAL	SIMPLE	99	127																		
QMSAVE	LCNTRL	LOGICAL	SIMPLE	100	128																		
QOUT	LCNTRL	REAL	UNKNOWN	101	129																		
QPHY	LCNTRL	LOGICAL	SIMPLE	290	291	292	293	294	295	296	297	298	299										
QPOLES	LCNTRL	LOGICAL	SIMPLE	102	130																		
QPROG	QANDQT	REAL	UNKNOWN	103	131																		
QRSH	LCNTRL	REAL	ARRAY	284	285	286	287	288	289														
		REAL	SIMPLE	253	267	268	269	270	271	272	273	274	275	276									
		LOGICAL	SIMPLE	277	278	279																	
		REAL	ARRAY	107	135																		

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VERT 13

QRSW	LCNTRL	LOGICAL	SIMPLE	106											
QSDIAG	QANDQT	REAL	ARRAY	280	134										
QSHF	LCNTRL	LOGICAL	SIMPLE	282	282										
QDIAG	QANDQT	REAL	ARRAY	104	132										
RADE	RCNTRL	REAL	ARRAY	283	365/S	390/S	420/S	420	437/S	437	439/S	439			
RC	RCNTRL	REAL	ARRAY	181											
RCO	RCNTRL	REAL	ARRAY	198	198										
RCNTRL	RCNTRL	REAL	SIMPLE	156	198										
		REAL	UNKNOWN	156	157										
				167	158										
				178	168	159	160		161	162	163	164	165	166	
				189	179	180	181	182	183	184	185	186	187	188	
RDPARM		REAL	UNKNOWN	217	190	191	192	193	194	195	196	197	198	199	
				228	218	219	220	221	222	223	224	225	226	227	
				239	229	230	231	232	233	234	235	236	237	238	
				250	240	241	242	243	244	245	246	247	248	249	
				182	251	252									
RGAS	RCNTRL	REAL	SIMPLE	240											
RLAT	RDARM	REAL	ARRAY	241											
RLATD	RDARM	REAL	ARRAY	183											
ROCP	RCNTRL	REAL	SIMPLE	242											
ROCPDT	RDARM	REAL	SIMPLE	243											
ROCPP1	RDARM	REAL	SIMPLE	184											
RSDIST	RCNTRL	REAL	SIMPLE	298											
SD	QMSAVE	REAL	ARRAY	362/S	364/S	364	365	387/S	389/S	389	390				
SD2		REAL	SIMPLE	185											
SDAY	RCNTRL	REAL	SIMPLE	186											
SEASON	RCNTRL	REAL	SIMPLE	244											
SGNP	RDARM	REAL	ARRAY	265	385	435									
SH	QANDQT	REAL	ARRAY	294	278										
SHM	QMSAVE	REAL	ARRAY	288											
SHP	QPOLES	REAL	ARRAY	260	273										
SHS	QANDQT	REAL	ARRAY	251											
SIG	RDARM	REAL	ARRAY	187	420	437									
SIGE	RCNTRL	REAL	ARRAY	188											
SIND	RCNTRL	REAL	SIMPLE	245											
SINL	RDARM	REAL	ARRAY	246											
SINLON	RDARM	REAL	ARRAY	435											
SMTH	QANDQT	REAL	ARRAY	255	268										
SN2FLG	LCNTRL	LOGICAL	SIMPLE	105	133										
SOLS	RCNTRL	REAL	SIMPLE	189											
START	LDARM	LOGICAL	SIMPLE	213	216										
T	QANDQT	REAL	ARRAY	264	277										
TERMT	QMSAVE	REAL	ARRAY	299											
TERMW	QMSAVE	REAL	ARRAY	299											
THSTD	RDARM	REAL	ARRAY	247											
THSTD2	RDARM	REAL	SIMPLE	248											
TM	QMSAVE	REAL	SIMPLE	293											
TP	QPOLES	REAL	ARRAY	287											
TS	QANDQT	REAL	ARRAY	259	272										
TSTD	RCNTRL	REAL	SIMPLE	190											
U	QANDQT	REAL	ARRAY	262	275	317	318	319	320	326	419	419			
UM	QMSAVE	REAL	ARRAY	291											
UP	QPOLES	REAL	ARRAY	285	435	435									
V	QANDQT	REAL	ARRAY	263	276	334	335	337	380	382	419	419			
VER	CCNTRL	CHAR*8	SIMPLE	10	23										
VERT			SUBROUTINE	1											
VM	QMSAVE	REAL	ARRAY	292											
VP	QPOLES	REAL	ARRAY	286	435	435									
WSAVE	RDARM	REAL	ARRAY	249											
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24										

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C      FUNCTION VEXPBYK(XD,L:*)
C      DESCRIPTOR VEXPBYK,XD
C      VEXPBYK = XD** .256
C      RETURN
00001  FUNCTION VEXPBYK(XD,L:*)
00002  COMMON/ WORKVE / TMPR(5000)
00003  DESCRIPTOR VEXPBYK,TEMPID,XD
00004  ASSIGN TEMPID,TMPR(1:L)
00005  VEXPBYK = VSQRT(XD;VEXPBYK)
00006  VEXPBYK = VSQRT(VEXPBYK;VEXPBYK)
00007  TEMPID = VSQRT(VEXPBYK;TEMPID)
00008  TEMPID = VSQRT(TEMPID;TEMPID)
00009  TEMPID = VSQRT(TEMPID;TEMPID)
00010  VEXPBYK = VEXPBYK*TEMPID
00011  TEMPID = VSQRT(TEMPID;TEMPID)
00012  TEMPID = VSQRT(TEMPID;TEMPID)
00013  TEMPID = VSQRT(TEMPID;TEMPID)
00014  VEXPBYK = VEXPBYK*TEMPID
00015  TEMPID = VSQRT(TEMPID;TEMPID)
00016  TEMPID = VSQRT(TEMPID;TEMPID)
00017  VEXPBYK = VEXPBYK*TEMPID
00018  RETURN
00019  END
VEXPBYK  2
VEXPBYK  3
VEXPBYK  4
VEXPBYK  5
VEXPBYK  6
VEXPBYK  7
VEXPBYK  8
VEXPBYK  9
VEXPBYK 10
VEXPBYK 11
VEXPBYK 12
VEXPBYK 13
VEXPBYK 14
VEXPBYK 15
VEXPBYK 16
VEXPBYK 17
VEXPBYK 18
VEXPBYK 19
VEXPBYK 20
VEXPBYK 21
VEXPBYK 22
VEXPBYK 23
VEXPBYK 24

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VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	ARGLIST	C	CTRL	OF	DO	I	DATA	INIT	R	READ	S	STORE	W	WRITE
L		INTEGER	SIMPLE	1															
TEMPID		REAL	DESCRIPTOR	3	4														
				11/S	11	7/S	7	8/S	8	8	9/S	9	9	10					
				15	15	16/S	16	16	17	13/S	13	13	14	15					
TMPR	WORKVE	REAL	ARRAY	2	4														
VEXPBYK		REAL	DESCRIPTOR	1	3	5/S	5	6/S	6	6	7	10/S	10	14					
WORKVE		REAL	UNKNOWN	14	17/S	17													
XD		REAL	DESCRIPTOR	1	3	5													

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D	STMT	FN	DEF	A	ARGLIST
VSQRT	REAL	INTRINSIC	5	6	7	8	9	11	12
									13
									15
									16

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00001      SUBROUTINE VLINKHO (LLAY,NFLW,IDAY,LATD,IMBAND)
C
C
C * * *
C RADIATION AND SOURCE TERM FIELDS
00002      COMMON /RADCOM/ AS(72,9), RE(72,10)
00003      COMMON /RADCOM/ PL(72,9), PLE(72,10)
00004      COMMON /RADCOM/ PLK(72,9), PLKE(10)
00005      COMMON /RADCOM/ TL(72,9), TLE(72,10)
00006      COMMON /RADCOM/ TG(72), TH(72,9)
00007      COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00008      COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00009      COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00010      COMMON /RADCOM/ RH(72,9)
00011      COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00012      COMMON /RADCOM/ HH(72,9), HHE(72,10)
00013      COMMON /RADCOM/ HHS(72,9)
00014      COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00015      COMMON /RADCOM/ CXDE(9)
00016      COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00017      COMMON /RADCOM/ AL(72,10)
00018      COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
00019      COMMON /RADCOM/ TOPASS(72)
00020      COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00021      COMMON /RADCOM/ TCOND(9), TPENE(9)
00022      COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
00023      COMMON /RADCOM/ FK(5), XK(5), NFK
00024      COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
00025      COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00026      COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)
00027      COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)
00028      COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL
00029      COMMON /RADCOM/ SG(72), SP(72)
00030      COMMON /RADCOM/ RSURF(72), RCLD(72), JALB
00031      COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)
00032      COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)
00033      COMMON /RADCOM/ LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST
C
C
00034      BIT BITR(72)
00035      BIT BIT1(72)
00036      BIT BIT2(72)
00037      BIT BIT3(72)
00038      BIT BIT4(72)
00039      BIT BIT5(72)
00040      BIT BIT6(72)
00041      BIT BITZ(72,19)
C
00042      DATA NNVLH /1/
C
C
C DYNAMIC SPACE VARIABLES FOR LINKHO SUBROUTINE
C CONTAINS (6194 +9) * (72) ELEMENTS
00043      COMMON /SPACE/ KV(72)
00044      COMMON /SPACE/ IUP(72,9)
00045      COMMON /SPACE/ DP1(72)
00046      COMMON /SPACE/ DP2(72)
00047      COMMON /SPACE/ DP(72,19)
00048      COMMON /SPACE/ PHI(72,37)
00049      COMMON /SPACE/ P(72,37)
00050      COMMON /SPACE/ TS(72)
00051      COMMON /SPACE/ T(72,37)
00052      COMMON /SPACE/ PDQ(72)
00053      COMMON /SPACE/ PDT(72)
00054      COMMON /SPACE/ PDP(72)
00055      COMMON /SPACE/ PD(72)
00056      COMMON /SPACE/ PDG(72)
00057      COMMON /SPACE/ AV(72)
00058      COMMON /SPACE/ Q(72,37)
00059      COMMON /SPACE/ TEMP(72)
00060      COMMON /SPACE/ TT(72)
00061      COMMON /SPACE/ TTT(72)

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VVLINKH 2
VVLINKH 3
VRADCOM 2
VRADCOM 3
VRADCOM 4
VRADCOM 5
VRADCOM 6
VRADCOM 7
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00062	COMMON /SPACE/	CONT(72,37)	VSPACE	24
00063	COMMON /SPACE/	CAP(72,37,10)	VSPACE	25
00064	COMMON /SPACE/	CAPPSI(72,37,10)	VSPACE	26
00065	COMMON /SPACE/	TRAD(72,21)	VSPACE	27
00066	COMMON /SPACE/	TRAD1(72)	VSPACE	28
00067	COMMON /SPACE/	XX(72,21)	VSPACE	29
00068	COMMON /SPACE/	YY(72,21)	VSPACE	30
00069	COMMON /SPACE/	BB(72,21,11)	VSPACE	31
00070	COMMON /SPACE/	SS(72,21,11)	VSPACE	32
00071	COMMON /SPACE/	BB1(72,10)	VSPACE	33
00072	COMMON /SPACE/	SS1(72,10)	VSPACE	34
00073	COMMON /SPACE/	BG(72,10)	VSPACE	35
00074	COMMON /SPACE/	CM(72,19)	VSPACE	36
00075	COMMON /SPACE/	R(72,19,19,11)	VSPACE	37
00076	COMMON /SPACE/	Q1(72)	VSPACE	38
00077	COMMON /SPACE/	Q2(72)	VSPACE	39
00078	COMMON /SPACE/	VAR(72,19)	VSPACE	40
00079	COMMON /SPACE/	PM(72)	VSPACE	41
00080	COMMON /SPACE/	CG(72)	VSPACE	42
00081	COMMON /SPACE/	CAP1(72)	VSPACE	43
00082	COMMON /SPACE/	CAP2(72)	VSPACE	44
00083	COMMON /SPACE/	TERM(72)	VSPACE	45
00084	COMMON /SPACE/	TERM1(72)	VSPACE	46
00085	COMMON /SPACE/	TERM2(72)	VSPACE	47
00086	COMMON /SPACE/	CMI(72)	VSPACE	48
00087	COMMON /SPACE/	CMI1(72)	VSPACE	49
00088	COMMON /SPACE/	PH(72)	VSPACE	50
00089	COMMON /SPACE/	PH11(72,19)	VSPACE	51
00090	COMMON /SPACE/	AV1(72,19)	VSPACE	52
00091	COMMON /SPACE/	AV2(72,19)	VSPACE	53
00092	COMMON /SPACE/	TINF(72,19,10)	VSPACE	54
00093	COMMON /SPACE/	WTRINF(72,19,10)	VSPACE	55
00094	COMMON /SPACE/	RCBPM(72,19)	VSPACE	56
00095	COMMON /SPACE/	RCBAV(72,19)	VSPACE	57
00096	COMMON /SPACE/	RCBPD(72,19)	VSPACE	58
00097	COMMON /SPACE/	RCBCG(72,19)	VSPACE	59
00098	COMMON /SPACE/	TEMPZ(72,38)	VSPACE	60
00099	COMMON /SPACE/	S(72,10,10)	VSPACE	61
00100	COMMON /SPACE/	SUM(72)	VSPACE	62
00101	COMMON /SPACE/	SURFL(72)	VSPACE	63
00102	COMMON /SPACE/	SURFU(72)	VSPACE	64
00103	COMMON /SPACE/	AG(72)	VSPACE	65
00104	COMMON /SPACE/	TRB(72)	VSPACE	66
00105	COMMON /SPACE/	SSB(72)	VSPACE	67
00106	COMMON /SPACE/	TRD(72)	VSPACE	68
00107	COMMON /SPACE/	SSD(72)	VSPACE	69
00108	COMMON /SPACE/	JV(72)	VSPACE	70
			VSPACE	71
00109	COMMON /WUDATA/	TO1(19,5),TO2(19,5),TRO3(19,19,5)	VVLINKH	7
00110	COMMON /WUDATA/	CTINF(19,2),CTTRANS(19,19,2),CTIN(19,2)	VVLINKH	8
00111	DIMENSION	TD3(19,19), TI1(19), TI2(19)	VVLINKH	9
00112	DIMENSION	G(2)	VVLINKH	10
00113	DIMENSION	C(10)	VVLINKH	11
00114	DIMENSION	APRI(5), BPRI(5), X(10)	VVLINKH	12
00115	DIMENSION	CNUCUB(10), DELNU(10)	VVLINKH	13
00116	DIMENSION	W(37)	VVLINKH	14
00117	DATA	APRI /0., 9.08, 15.1, 13.469, 21.235/	VVLINKH	15
00118	DATA	BPRI /0., -38.10, -54.1, -120.000, -74.940/	VVLINKH	16
00119	DATA	G /27.15, 21.76/	VVLINKH	17
00120	DATA	C /1100., 217.0319, 18.46318, 1.49369, .086965,	VVLINKH	18
		.014317, 1.8675, 51.31344, 350.0512, 26.79471/	VVLINKH	19
00121	DATA	X /201.418, 474.771, 633.028, 834.446, 1050.25,	VVLINKH	20
		1438.7, 1834.34, 2014.18, 2301.92, 2733.53/	VVLINKH	21
00122	DATA	CNUCUB /102.658, 1344.47, 3186.9, 7299.53,	VVLINKH	22
		14553.900, 37412., 77542.8, 102658., 153240., 256609./	VVLINKH	23
00123	DATA	DELNU /280., 100., 120., 160., 140., 400., 150.,	VVLINKH	24
		100., 300., 300./	VVLINKH	25
			VVLINKH	26
			VVLINKH	27
			VVLINKH	28
			VVLINKH	29

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00124 C DATA GRNDP,P1,P2,XY,NFF /1.013E6,1.E3,5.E3,5.89527,10/
00125 C DATA KURT /1/

00126 IM = IMBAND / NNVLH
00127 TT (1;IM) = 0.0
00128 TTT(1;IM) = 0.0
00129 DO 9999 IB = 1,IMBAND,IM
00130 AGRNDP = 1./GRNDP
00131 A3980 = 1./(3.*980.)
00132 A2940 = 1./2940.
00133 A1960 = 1./1960.
00134 A6 = 1./6.

00135 C LAY = LLAY-1
00136 NF = 5
00137 NFLW = NFF
00138 NFL = NFLW+1
00139 LA = LAY-1
00140 LLLAY = LLAY+1
00141 NLEV = LLAY+4+1
00142 NLE = NLEV-2
00143 L2 = LLAY+2+1
00144 LL = L2+1
00145 L3 = LL+1
00146 IML3 = IM*L3
00147 IML2 = IM*L2
00148 IML2L2 = IML2*L2
00149 IML2T2 = IML2*2
00150 IMNFLW = IM*NFLW
00151 IMNF = IM*NF
00152 IMT2 = IM*2
00153 IM21 = IM*21

00154 C DO 50 L = 1,LLAY
00155 PL(IB,L;IM) = PL(IB,L;IM)*1.E3
00156 PLE(IB,L;IM) = PLE(IB,L;IM)*1.E3

00157 C BITR(1;IM) = SHL(IB,L;IM) .EQ. 0.0
00158 WHERE( BITR(1;IM) ) SHL(IB,L;IM) = 1.E-B
00159 50 CONTINUE
00160 PLE(IB,LLAY;IM) = PLE(IB,LLAY;IM)*1.E3

00161 C BIT1(1;IM) = SHG(IB;IM) .EQ. 0.0
00162 WHERE( BIT1(1;IM) ) SHG(IB;IM) = 1.E-8

00163 C KV(1;IM) = 0
00164 DO 2555 I=1,LLAY
00165 BIT1(1;IM) = CLOUD(IB,I;IM) .GT. 0.0
00166 WHERE( BIT1(1;IM) ) KV(1;IM) = I
00167 IUP(1,I;IM) = KV(1;IM)
00168 2555 CONTINUE

00169 C DP1(1;IM) = P2 - P1
00170 DP2(1;IM) = PLE(IB,1;IM) - P2

CCCC *****
CCCC *****
CCCC *****
00171 CALL ZEITBEG(SHSTRATM ) *****
00172 CALL STRATM(T1,T2,IDAY,LATD) *****
00173 CALL ZEITEND *****
CCCC *****
CCCC *****
CCCC *****
00174 DO 2324 J=1,LLAY
00175 JJ=2*J
00176 IJ=4*J

00177 C DP(1,IJ-1;IM) = - 0.5 * ( PLE(IB,J;IM) - PL(IB,J;IM) )

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VVLINKH 30
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VVLINKH100

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00178 C DP(1,JJ ;IM) = - 0.5 * ( PL(IB,J;IM)-PLE(IB,J+1;IM) )
00179 P(1,IJ-3;IM) = PLE(IB,J;IM)
00180 P(1,IJ-2;IM) = PLE(IB,J;IM) + DP(1,JJ-1;IM)
00181 P(1,IJ-1;IM) = PL(IB,J;IM)
00182 C P(1,IJ ;IM) = PL(IB,J;IM) + DP(1,JJ ;IM)
00183 PHI(1,IJ-1;IM) = P(1,IJ-1;IM)*AGRNDP
00184 PHI(1,IJ-2;IM) = P(1,IJ-2;IM)*AGRNDP
00185 PHI(1,IJ-3;IM) = P(1,IJ-3;IM)*AGRNDP
00186 PHI(1,IJ ;IM) = P(1,IJ ;IM)*AGRNDP
00187 2324 CONTINUE
00188 C P(1,NLEV;IM) = PLE(IB,LLLAY;IM)
00189 PHI(1,NLEV;IM) = P(1,NLEV;IM)*AGRNDP
C *****
C *****
C *****
00190 CALL ZEITBEG(8H03INT )
00191 CALL OSINT(TO1,TO2,TRO3,TI1, TI2,TO3,JALB)
00192 CALL ZEITEND
C *****
C *****
C *****
00193 CONT1=EXP(1745./T1-XY)
00194 CONT2=EXP(1745./T2-XY)
C
00195 TS(1;IM) = TLE(IB,LLLAY;IM)
00196 DO 5354 I=1,3
00197 T(1,I;IM) = TL(IB,I;IM)
00198 5354 CONTINUE
00199 DO 11 I=1,LAY
C
00200 BIT1(1;IM) = SHL(IB,I+1;IM) .LE. 1.E-8
00201 BIT2(1;IM) = SHL(IB,I ;IM) .LE. 1.E-8
00202 WHERE( BIT1(1;IM) .OR. BIT2(1;IM) )
00203 PDQ(1;IM) = 1.0
00204 OTHERWISE
00205 PDQ(1;IM) = SHL(IB,I;IM) / SHL(IB,I+1;IM)
00206 ENDWHERE
C
00207 PDT(1;IM) = TL(IB,I+1;IM)-TL(IB,I ;IM)
00208 PDP(1;IM) = PL(IB,I ;IM)/PL(IB,I+1;IM)
00209 PDP(1;IM) = VALOG( PDP(1;IM) ; POP(1;IM) )
00210 PD(1;IM) = PDT(1;IM) / PDP(1;IM)
C
00211 L = (2-I)*(LA-I)
00212 IF (L .LE. 0) GO TO 12
00213 M = 2
00214 IF (I .EQ. 1) M = 3
C
00215 DO 13 K=1,M
00216 IF (I .EQ. 1) GO TO 14
00217 JJ = NLE + K
C
00218 TEMPZ(1,1;IM) = P(1,JJ ;IM) / P(1,NLEV;IM)
00219 TEMPZ(1,2;IM) = P(1,NLE;IM) / P(1,NLEV;IM)
00220 TEMPZ(1,1;IMT2) = VALOG( TEMPZ(1,1;IMT2) ; TEMPZ(1,1;IMT2) )
00221 PDG(1;IM) = TEMPZ(1,1;IM)
00222 AV(1;IM) = TEMPZ(1,2;IM)
C
00223 TEMP(1;IM) = PDG(1;IM) / AV(1;IM)
00224 PDG(1;IM) = TEMP(1;IM)
00225 TEMP(1;IM) = ( TS(1;IM)-TL(IB,LLLAY;IM) ) * TEMP(1;IM)
00226 T(1,JJ;IM) = TS(1;IM) - TEMP(1;IM)
C
00227 IF( SHG(IBB).LE.1.E-8 ) GOTO 1256
BIT1(1;IM) = SHG(1B;IM) .LE. 1.E-8

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VVLINKH101
VVLINKH102
VVLINKH103
VVLINKH104
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VVLINKH108
VVLINKH109
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00228      IBIT = Q8SCNT( BIT1(1:IM) )
00229      IF( IBIT .EQ. IM ) GO TO 1256
00230      PDG(1:IM) = ( SHL( IB, LLAY; IM ) / SHG( IB; IM ) ) ** PDG(1:IM)
00231      WHERE( .NOT. BIT1(1:IM) ) Q(1, JJ; IM) = SHG( IB; IM ) * TEMP(1:IM)
00232      GO TO 15
C
00233      14 JJ=4-K
00234      PDG(1:IM) = P(1, JJ; IM) / PL( IB, I+1; IM)
00235      PDG(1:IM) = VALOG( PDG(1:IM) )
00236      PDG(1:IM) = PDG(1:IM) / PDG(1:IM)
C
00237      IF( SHL( IB, I ) .LE. 1.E-8 ) GOTO 1256
00238      BIT1(1:IM) = SHL( IB, I; IM ) .LE. 1.E-8
00239      IBIT = Q8SCNT( BIT1(1:IM) )
00240      IF( IBIT .EQ. IM ) GO TO 1256
00241      TEMP(1:IM) = PDQ(1:IM) ** PDG(1:IM)
00242      WHERE( .NOT. BIT1(1:IM) )
00243      $ Q(1, JJ; IM) = SHL( IB, I+1; IM ) * TEMP(1:IM)
00244      BIT3(1:IM) = SHL( IB, I+1; IM ) .LE. 1.E-8
00245      $ WHERE( .NOT. BIT1(1:IM) .AND. BIT3(1:IM) )
00246      $ Q(1, JJ; IM) = SHL( IB, I ; IM)
C
00247      15 CONTINUE
00248      WHERE( .NOT. BIT1(1:IM) )
00249      TT(1:IM) = ( T(1, JJ; IM) - 260.0 ) * 1.E-3
00250      TTT(1:IM) = TT(1:IM) * TT(1:IM)
00251      TEMP(1:IM) = 1745.0 / T(1, JJ; IM) - XY
00252      ENDWHERE
00253      TEMP(1:IM) = VEXP( TEMP(1:IM) )
00254      WHERE( .NOT. BIT1(1:IM) ) CONT(1, JJ; IM) = TEMP(1:IM)
C
00255      IF( Q( JJ ) .LE. .00001 ) GOTO 1256
00256      BIT2(1:IM) = Q(1, JJ; IM) .LE. .00001
C
00257      BIT3(1:IM) = BIT1(1:IM) .OR. BIT2(1:IM)
00258      WHERE( .NOT. BIT3(1:IM) )
00259      $ CONT(1, JJ; IM) = CONT(1, JJ; IM) * Q(1, JJ; IM)
00260      $ * PHI(1, JJ; IM) * Q(1, JJ; IM)
C
00261      GO TO 1257
00262      BIT1(1:IM) = BIT1(1:IM) .OR.
00263      $ ( BIT2(1:IM) .AND. .NOT. BIT1(1:IM) )
C
00264      1256 CONTINUE
00265      WHERE( BIT1(1:IM) )
00266      CONT(1, JJ; IM) = 0.0
00267      Q(1, JJ; IM) = 0.0
00268      ENDWHERE
00269      DO 1333 N=1, NFLW
00270      WHERE( BIT1(1:IM) ) CAP(1, JJ, N; IM) = 0.0
00271      GO TO 18
C
00272      1257 CONTINUE
C
00273      DO 5819 N=1, NF
00274      TEMPZ(1, N; IM) = APRI(N) * TT(1:IM) + BPHI(N) * TTT(1:IM)
00275      CONTINUE
00276      TEMPZ(1, 1; IMNF) = VEXP( TEMPZ(1, 1; IMNF) )
00277      DO 19 N=1, NFLW
00278      WHERE( .NOT. BIT1(1:IM) ) CAPPSI(1, JJ, N; IM) = 1.0
00279      IF( N .GT. NF ) GO TO 5859
00280      WHERE( .NOT. BIT1(1:IM) ) CAPPSI(1, JJ, N; IM) = TEMPZ(1, N; IM)
00281      CONTINUE
00282      WHERE( .NOT. BIT1(1:IM) )
00283      $ CAP(1, JJ, N; IM) = Q(1, JJ; IM) * CAPPSI(1, JJ, N; IM) * PHI(1, JJ; IM)
00284      19 CONTINUE
C
00285      18 CONTINUE
00286      13 CONTINUE
C
00287      12 KJ=4+I-1

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00278 C DO 11 K=1,4
00279 JU = KJ*K
00280 C PDG(1;IM) = P(1,JJ;IM) / PL(IB,I+1;IM)
00281 PDG(1;IM) = VALOG( PDG(1;IM) ; PDG(1;IM) )
00282 T(1,JJ;IM) = TL(IB,I+1;IM) - PDG(1;IM)*PD(1;IM)
C
C
C
C
C
C
00283 IF(SHL(1BB,1) .LE.1.E-8.AND. SHL(1BB,I+1) .LE.1.E-8) GO TO 4300
00284 IF(SHL(1BB,1) .LE.1.E-8.AND. K .EQ. 1) GO TO 4300
00285 IF(SHL(1BB,I+1) .LE.1.E-8.AND. K .GT. 2) GO TO 4300
C IF(SHL(1BB,I+1) .LE.1.E-8.AND. K .LE. 2) GO TO 4302
00286 BIT1(1;IM) = SHL(1B,I ;IM) .LE. 1.0E-8
00284 BIT2(1;IM) = SHL(1B,I+1;IM) .LE. 1.0E-8
00285 BIT3(1;IM) = BIT1(1;IM) .AND. BIT2(1;IM)
C
00286 BIT4 = B'0'
00287 IF(K.EQ.1) BIT4 = B'1'
00288 BIT4(1;IM) = BIT4(1;IM) .AND. BIT1(1;IM)
C
00289 BIT5 = B'0'
00290 IF(K.GT.2) BIT5 = B'1'
00291 BIT5(1;IM) = BIT5(1;IM) .AND. BIT2(1;IM)
C
00292 BIT6 = B'0'
00293 IF(K.LE.2) BIT6 = B'1'
00294 BIT6(1;IM) = BIT6(1;IM) .AND. BIT2(1;IM)
C
00295 BIT3(1;IM) = BIT3(1;IM) .OR. BIT4(1;IM) .OR. BIT5(1;IM)
00296 IBIT = Q8SCNT( BIT3(1;IM) )
00297 IF( IBIT .EQ. IM ) GO TO 4300
C
00298 WHERE( .NOT. BIT3(1;IM) .AND. .NOT. BIT6(1;IM) )
S PDG(1;IM) = PDG(1;IM) / PDP(1;IM)
00299 TEMP(1;IM) = PDQ(1;IM)*PDG(1;IM)
00300 WHERE( .NOT. BIT3(1;IM) .AND. .NOT. BIT6(1;IM) )
S Q(1,JJ;IM) = SHL(1B,I+1;IM) * TEMP(1;IM)
C
C
00301 4302 CONTINUE
00302 WHERE( BIT6(1;IM) ) Q(1,JJ;IM) = Q(1,JJ-1;IM)
C
00303 4301 CONTINUE
00304 BIT1(1;IM) = BIT6(1;IM) .OR. .NOT. BIT3(1;IM)
00305 WHERE( BIT1(1;IM) )
00306 TT(1;IM) = ( T(1,JJ;IM)-260. ) * 1.E-3
00307 TTT(1;IM) = TT(1;IM) * TT(1;IM)
00308 TEMP(1;IM) = 1745./T(1,JJ;IM) - XY
00309 ENDWHERE
00310 TEMP(1;IM) = VEXP( TEMP(1;IM) ; TEMP(1;IM) )
00311 WHERE( BIT1(1;IM) )
00312 CONT(1,JJ;IM) = TEMP(1;IM)
00313 CONT(1,JJ;IM) = CONT(1,JJ;IM) * Q(1,JJ;IM)
S CONT(1,JJ;IM) * PHI(1,JJ;IM) * Q(1,JJ;IM)
00314 ENDWHERE
C
00315 DO 5821 N=1,NF
00316 TEMPZ(1,N;IM) = APRI(N)*TT(1;IM) + BPRI(N)*TTT(1;IM)
00317 5821 CONTINUE
00318 TEMPZ(1,1;IMNF) = VEXP( TEMPZ(1,1;IMNF) ; TEMPZ(1,1;IMNF) )
00319 DO 21 N=1,NFLW
00320 WHERE( BIT1(1;IM) ) CAPPSI(1,JJ,N;IM) = 1.0
00321 IF(N .GT. NF) GO TO 5858
00322 WHERE( BIT1(1;IM) ) CAPPSI(1,JJ,N;IM) = TEMPZ(1,N;IM)
00323 5858 CONTINUE
00324 WHERE( BIT1(1;IM) )
S CAP(1,JJ,N;IM) = Q(1,JJ;IM) * CAPPSI(1,JJ,N;IM) * PHI(1,JJ;IM)
00325 21 CONTINUE
C GO TO 11
C

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00326 4300 CONTINUE
00327 WHERE( BIT3(1:IM) )
00328 Q(1,JJ:IM) = 0.0
00329 CONT(1,JJ:IM) = 0.0
00330 ENDWHERE
00331 DO 2333 N=1,NFLW
00332 2333 WHERE( BIT3(1:IM) ) CAP(1,JJ,N:IM) = 0.0
00333 11 CONTINUE

C
00334 TRAD1(1:IM) = T1
00335 TRAD(1,1:IM) = T2
00336 TRAD(1,2:IM) = T(1,1:IM)

C
00337 DO 30 I=3,NLEV,2
00338 K = (I+1)/2 + 1
00339 30 TRAD(1,K;IM) = T(1,I:IM)
00340 TRAD(1,L3;IM) = TS(1:IM)*2.0 - TL(IB,LLAY;IM)

C
00341 DO 1000 N=1,NFLW
00342 XX(1,1;IML3) = X(N) / TRAD(1,1;IML3)
00343 YY(1,1;IML3) = VEXP( XX(1,1;IML3) ; YY(1,1;IML3) )
00344 YY(1,1;IML3) = YY(1,1;IML3) - 1.0
00345 BB(1,1,N;IML3) = CNUCUB(N) / YY(1,1;IML3)
00346 SS(1,1,N;IML3) = BB(1,1,N;IML3) * XX(1,1;IML3)
S
00347 1000 CONTINUE * ( YY(1,1;IML3)+1. ) / ( YY(1,1;IML3)*TRAD(1,1;IML3) )

C
00348 DO 1001 N=1,NFLW
00349 TEMPZ(1,N:IM) = X(N)/TG(IB:IM)
00350 1001 CONTINUE
00351 TEMPZ(1,1;IMNFW) = VEXP( TEMPZ(1,1;IMNFW) ; TEMPZ(1,1;IMNFW) )

C
00352 DO 1002 N=1,NFLW
00353 BG(1,N;IM) = CNUCUB(N) / ( TEMPZ(1,N;IM) - 1.0 )
00354 XX(1,1;IM) = X(N)/TRAD1(1;IM)
00355 YY(1,1;IM) = VEXP( XX(1,1;IM) ; YY(1,1;IM) )
00356 YY(1,1;IM) = YY(1,1;IM) - 1.0
00357 BB(1,N;IM) = CNUCUB(N) / YY(1,1;IM)
00358 SS(1,N;IM) = BB(1,N;IM) * XX(1,1;IM)
S
00359 1002 CONTINUE * ( YY(1,1;IM)+1. ) / ( YY(1,1;IM)*TRAD1(1;IM) )

C
00360 CM(1,1;IM) = 0.
00361 DO 108 J=2,L2
00362 L=J/2
00363 JJ=2*J-1
00364 TEMP(1;IM) = CONT(1,JJ;IM) + 4.0*CONT(1,JJ-1;IM)
00365 CM(1,J;IM) = CM(1,J-1;IM) + ( TEMP(1;IM) + CONT(1,JJ-2;IM) )
S
DP(1,J-1;IM) * A3980

00366 108 CONTINUE
00367 Q1(1;IM) = Q(1,1;IM)
00368 Q2(1;IM) = Q(1,1;IM)
00369 DO 301 N=1,NFLW
00370 R(1,1,1,N;IML2L2) = 1.0
00371 301 CONTINUE

C
C
00372 DO 100 N=1,NFLW
00373 NN = N-4
00374 NK = N-3
00375 CG(1;IM) = 0.0
00376 IF( N.EQ.5 .OR. N.EQ.6 ) CG(1;IM) = G(NN)
00377 VAR(1,1;IM) = 0.0

C
00378 DO 101 I=1,L2
00379 RCBGG(1,I;IM) = CG(1;IM)
00380 101 CONTINUE

C
00381 DO 200 J=2,L2
00382 L = J/2

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00383      JJ = 2*J-1
00384      C      VAR(1,J;IM) = VAR(1,J-1;IM) + ( CAP(1,JJ,N;IM)
          USES      + 4.*CAP(1,JJ-1,N;IM) + CAP(1,JJ-2,N;IM) )
00385      C      JM1 = J-1
00386      C      ICM = 0
00387      DO 300 I=2,JM1
00388      M = ((I/2)*2-1)*((I/2)+2-1)+((J/2)*2-J)*((J/2)*2-J)
00389      IF( M.EQ. 0) GOTO 300
00390      ICM = ICM+1
00391      RCBPM(1,ICM;IM) = VAR(1,J;IM) - VAR(1,I;IM)
00392      RCBV(1,ICM;IM) = CM(1,J;IM) - CM(1,I;IM)
00393      C 300 CONTINUE
00394      C      IMICM = IM*ICM
00395      C      IF( ICM.EQ.0 ) GOTO 303
00396      C      TEMPZ(1,1;IMICM) = C(N) * RCBPM(1,1;IMICM)
00397      TEMPZ(1,1;IMICM) = VSQRT( TEMPZ(1,1;IMICM) ; TEMPZ(1,1;IMICM) )
00398      C      RCBPD(1,1;IMICM) = RCBPG(1,1;IMICM)*RCSAV(1,1;IMICM)
          S      + TEMPZ(1,1;IMICM)
00399      C      TEMPZ(1,1;IMICM) = -RCBPD(1,1;IMICM)
00400      TEMPZ(1,1;IMICM) = VEXP( TEMPZ(1,1;IMICM) ; TEMPZ(1,1;IMICM) )
00401      C      BITZ(1,1;IMICM) = RCBPD(1,1;IMICM) .LE. 9.0
00402      C      ICM = 0
00403      DO 302 I=2,JM1
00404      M = ((I/2)*2-1)*((I/2)+2-1)+((J/2)*2-J)*((J/2)*2-J)
00405      IF( M.EQ. 0) GOTO 302
00406      C      ICM = ICM+1
00407      C      WHERE( BITZ(1,ICM;IM) )
00408      R(1,I,J,N;IM) = TEMPZ(1,ICM;IM)
00409      OTHERWISE
00410      R(1,I,J,N;IM) = 0.0
00411      C      ENDWHERE
00412      C      IF( N.EQ.4 .OR. N.EQ.5 ) GOTO 295
00413      IF( N.EQ.6 ) GOTO 296
00414      C      GOTO 299
00415      C 295 CONTINUE
00416      WHERE( BITZ(1,ICM;IM) )
          S      R(1,I,J,N;IM) = R(1,I,J,N;IM) * CTRANS(I,J,NK)
00417      C      GOTO 299
00418      C 296 CONTINUE
00419      WHERE( BITZ(1,ICM;IM) )
          S      R(1,I,J,N;IM) = R(1,I,J,N;IM) * TO3(I,J)
00420      C 299 R(1,J,I,N;IM) = R(1,I,J,N;IM)
00421      C 302 CONTINUE
00422      C 303 CONTINUE
00423      C      PM(1;IM) = VAR(1,J;IM)
00424      AV(1;IM) = CM(1,J;IM)
00425      TEMP(1;IM) = C(N) * PM(1;IM)
00426      TEMP(1;IM) = VSQRT( TEMP(1;IM) ; TEMP(1;IM) )
00427      C      PD(1;IM) = CG(1;IM)*AV(1;IM) + TEMP(1;IM)
00428      C      BIT1(1;IM) = PD(1;IM) .LE. 9.0
00429      TEMP(1;IM) = -PD(1;IM)
00430      C      TEMP(1;IM) = VEXP( TEMP(1;IM) ; TEMP(1;IM) )
00431      C      WHERE( BIT1(1;IM) )
00432      R(1,1,J,N;IM) = TEMP(1;IM)
00433      OTHERWISE
00434      R(1,1,J,N;IM) = 0.0
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          VVLINKH455

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00435      ENDWHERE
C          IF( N.EQ.4 .OR. N.EQ.5 ) GOTO 195
00436      IF( N.EQ.6 ) GOTO 196
00437      GOTO 199
00438
C          195 CONTINUE
00439      WHERE( BIT1(1:IM) )
00440      S      R(1,1,J,N;IM) = R(1,1,J,N;IM) * CTRANS(1,J,NK)
00441      GOTO 199
C          196 CONTINUE
00442      WHERE( BIT1(1:IM) )
00443      S      R(1,1,J,N;IM) = R(1,1,J,N;IM) * TO3(1,J)
C          199 R(1,J,1,N;IM) = R(1,1,J,N;IM)
00444      200 CONTINUE
C
00446      IF( N.GT.NF ) GOTO 111
00447      TT(1:IM) = (T1-260.) * 1.E-3
00448      TTT(1:IM) = TT(1:IM) * TT(1:IM)
00449      TEMP(1:IM) = APRI(N)* TT(1:IM)
00450      TEMPZ(1,1;IM) = TEMP(1:IM) + BPRI(N)*TTT(1:IM)
00451      TT(1:IM) = (T2-260.) * 1.E-3
00452      TTT(1:IM) = TT(1:IM) * TT(1:IM)
00453      TEMP(1:IM) = APRI(N)* TT(1:IM)
00454      TEMPZ(1,2;IM) = TEMP(1:IM) + BPRI(N)*TTT(1:IM)
00455      TEMPZ(1,1;IMT2) = VEXP( TEMPZ(1,1;IMT2) ; TEMPZ(1,1;IMT2) )
00456      CAP1(1:IM) = TEMPZ(1,1;IM)
00457      CAP2(1:IM) = TEMPZ(1,2;IM)
00458      GOTO 112
C
00459      111 CAP1(1:IM) = 1.0
00460      CAP2(1:IM) = 1.0
00461      112 TERM1(1:IM) = ( CAP2(1:IM)*Q2(1:IM)* P2 * AGRNDP
S          + CAP(1,1,N;IM) ) * DP2(1:IM) * A1960
00462      S      TERM(1:IM) = TERM1(1:IM) + ( CAP1(1:IM)*Q1(1:IM)*P1
S          + CAP2(1:IM)*Q2(1:IM)*P2)*DP1(1:IM) * A1960*AGRNDP
00463      S      CMI1(1:IM) = ( CONT2*Q2(1:IM)*P2*DP2(1:IM)*Q2(1:IM)
S          + CONT(1,1;IM) *DP2(1:IM) ) * A1960
00464      S      CMI(1:IM) = CMI1(1:IM) + ( CONT1*Q1(1:IM)*P1*DP1(1:IM)*Q1(1:IM)
S          + CONT2*Q2(1:IM)*P2*DP1(1:IM)*Q2(1:IM) )
S          * A1960*AGRNDP
C
C          DO 95 I=1,L2
00465      PHII(1,I;IM) = TERM(1:IM) + VAR(1,I;IM)
00466      PH(1:IM) = TERM1(1:IM) + VAR(1,1:IM)
00467      AVI(1,I;IM) = CMI1(1:IM) + CM(1,I;IM)
00468      AV2(1,I;IM) = CMI(1:IM) + CM(1,I;IM)
00469      TEMPZ(1,I;IM) = C(N) + PH(1;IM)
00470      95 CONTINUE
C
00472      TEMPZ(1,L2+1;IML2) = C(N) * PHII(1,1;IML2)
00473      TEMPZ(1,1;IML2T2) = VSQRT( TEMPZ(1,1;IML2T2) ; TEMPZ(1,1;IML2T2) )
C
00474      RCBPD(1,1;IML2) = RCBGG(1,1;IML2)*AVI(1,1;IML2) + TEMPZ(1,1;IML2)
00475      BITZ(1,1;IML2) = RCBPD(1,1;IML2) .LE. 9.0
C
00476      TEMPZ(1,1;IML2) = -RCBGG(1,1;IML2)*AV2(1,1;IML2)
S          - TEMPZ(1,L2+1;IML2)
00477      TEMPZ(1,L2+1;IML2) = -RCBPD(1,1;IML2)
00478      TEMPZ(1,1 ;IML2T2) = VEXP( TEMPZ(1,1 ;IML2T2)
S          ; TEMPZ(1,1 ;IML2T2) )
C
00479      WHERE ( BITZ(1,1;IML2) )
00480      TINF(1,1,N;IML2) = TEMPZ(1,1 ;IML2)
00481      WTRINF(1,1,N;IML2) = TEMPZ(1,L2+1;IML2)
00482      OTHERWISE
00483      TINF(1,1,N;IML2) = 0.0
00484      WTRINF(1,1,N;IML2) = 0.0

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00485 C          ENDWHERE
00486          IF( N.EQ.4 .OR. N.EQ.5 ) GOTO 96
00487          IF( N.EQ.6 )              GOTO 97
00488                                     GOTO 100

00489 C          96 CONTINUE
00490          DO 98 I=1,L2
00491             WHERE( BITZ(1,I;IM) )
00492                TINF(1,I,N;IM) = TINF(1,I,N;IM) + CTINF(1,NK)
00493                WTRINF(1,I,N;IM) = WTRINF(1,I,N;IM) + CTIN(1,NK)
00494             ENDWHERE
00495          98 CONTINUE
00496          GOTO 100

00497 C          97 CONTINUE
00498          DO 99 I=1,L2
00499             WHERE( BITZ(1,I;IM) )
00500                TINF(1,I,N;IM) = TINF(1,I,N;IM) + T11(I)
00501                WTRINF(1,I,N;IM) = WTRINF(1,I,N;IM) + T12(I)
00502             ENDWHERE
00503          99 CONTINUE

00504 C          100 CONTINUE

00505 C          SS(1,1,NFL;IM21) = 0.0
00506          DO 507 N=1,NFLW
00507             SS(1,1,NFL;IM21) = SS(1,1,NFL;IM21)
                    + SS(1,1,N ;IM21) * DELNU(N)

00508 C          507 CONTINUE
00509          R(1,1,1,NFL;IML2L2) = 0.0

00510 C          DO 605 N=1,NFLW
00511          DO 508 J=1,L2
00512             R(1,1,J,NFL;IML2) = R(1,1,J,NFL;IML2)
                    + R(1,1,J,N ;IML2) * SS(1,2,N;IML2) * DELNU(N)

00513 C          508 CONTINUE
00514          605 CONTINUE
00515          DO 506 J=1,L2
00516             R(1,1,J,NFL;IML2) = R(1,1,J,NFL;IML2) / SS(1,2,NFL;IML2)
00517          506 CONTINUE

C          ****
C          **** DO QUADRATURE ****
C          ****
C          ****
C          ****

00518 C          DO 2000 I=1,LLLAY
00519          III=2*I
00520          II=III-I
00521             SUM(1;IM) = 0.0
00522             SURFL(1;IM) = 0.0
00523             SURFU(1;IM) = 0.0
00524             KV(1;IM) = 1

C          C          BITS = B'1'
00525          C          BIT1 = B'1'
00526          IF( I.EQ.1 ) GOTO 3366
00527          IF( I.NE.LLLAY ) GOTO 3365
00528             BIT1(1;IM) = IUP(1,I-1;IM) .NE. LLAY
00529             IBIT = Q8SCNT( BIT1(1;IM) )
00530             GOTO 2115
00531          3365 CONTINUE
00532          BIT2(1;IM) = IUP(1,I-1;IM) .LT. I
00533          C

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00534      WHERE( BIT1(1;IM) .AND. BIT2(1;IM) )
          S      KV(1;IM) = IUP(1,I-1;IM)+1
          C
00535      3366 CONTINUE
00536      KVMIN = Q8SMIN( KV(1;IM),BIT1(1;IM) )
00537      DO 2100 J=KVMIN,LLAY
          C
00538      BIT2(1;IM) = BIT1(1;IM) .AND. KV(1;IM).LE.J .AND. BIT6(1;IM)
          C
00539      WHERE( BIT2(1;IM) )
00540      JV(1;IM) = J
00541      S(1,I,J;IM) = 0.0
00542      ENDWHERE
          C
00543      JJJ = 2*J
00544      JJ = JJJ-1
          C
          C
00545      BITS(1;IM) = J.NE.IUP(1,J;IM)
00546      BIT6(1;IM) = BITS(1;IM) .AND. (BITS(1;IM) .OR. .NOT.BIT2(1;IM))
00547      BIT2(1;IM) = BIT2(1;IM) .AND. BIT6(1;IM)
00548      IBIT = Q8SCNT( BIT2(1;IM) )
00549      IF( IBIT.EQ.0 ) GOTO 2115
          C
00550      IJTEST = (I-J)*(2*(I-J)-3)
00551      IF(IJTEST) 2081, 2082, 2083
          C
00552      2081 CONTINUE
00553      DO 2210 N=1,NFLW
00554      BIT3(1;IM) = R(1,II-1,II,N;IM) .GE. 0.98
00555      WHERE( BIT2(1;IM) .AND. BIT3(1;IM) )
          S
          S      AG(1;IM) = ( (BB(1,III-1,N;IM)-BB(1,III,N;IM))
          S      * (1.+R(1,II-1,II,N;IM))+ (BB(1,III-2,N;IM)
          S      - BB(1,III-1,N;IM))
          S      + (R(1,II-1,II,N;IM)+R(1,II-2,II,N;IM)) ) * 0.5
          C
          C      GO TO 3054
          C
00556      3053 CONTINUE
00557      WHERE( BIT2(1;IM) .AND. .NOT.BIT3(1;IM) )
00558      TRB(1;IM) = 0.125 * ( 6.* R(1,JJ+1,II,N;IM)
          S      + 3.* R(1,JJ,II,N;IM) - R(1,JJ+2,II,N;IM) )
00559      SSB(1;IM) = 0.125 * ( 6.*SS(1,JJJ,N;IM)
          S      + 3.*SS(1,JJJ+1,N;IM) - SS(1,JJJ-1,N;IM) )
00560      S      TERM2(1;IM) = ( TRAD(1,JJJ;IM) - TRAD(1,JJJ+1;IM) )
          S      * ( SS(1,JJJ,N;IM)*R(1,JJ,II,N;IM)
          S      + 4.*SSB(1;IM)*TRB(1;IM)
          S      + SS(1,JJJ+1,N;IM)-R(1,JJ+1,II,N;IM) ) * A6
          C
00561      ENDWHERE
          C
00562      BIT4(1;IM) = R(1,II-1,II,N;IM) .LT. 0.7
00563      WHERE( BIT2(1;IM) .AND. .NOT.BIT3(1;IM) .AND. BIT4(1;IM) )
00564      TERM1(1;IM) = ( AG + R(1,II-1,II,N;IM) )
          S      * ( BB(1,III-1,N;IM)-BB(1,III,N;IM) )
00565      AG(1;IM) = TERM1(1;IM) + TERM2(1;IM)
00566      ENDWHERE
          C
          C      GO TO 3054
          C
00567      1515 CONTINUE
00568      WHERE( BIT2(1;IM) .AND. .NOT.BIT3(1;IM) .AND. .NOT.BIT4(1;IM) )
00569      TRD(1;IM) = 0.125 * ( 6.* R(1,JJ+1,II,N;IM)
          S      + 3.* R(1,JJ+2,II,N;IM)-R(1,JJ,II,N;IM) )
00570      SSD(1;IM) = 0.125 * ( 6.*SS(1,JJJ+2,N;IM)
          S      + 3.*SS(1,JJJ+1,N;IM)-SS(1,JJJ+3,N;IM) )
00571      S      AG(1;IM) = TERM2(1;IM)
          S      + (TRAD(1,JJJ+1;IM)-TRAD(1,JJJ+2;IM))
          S      + (SS(1,JJJ+1,N;IM)*R(1,JJ+1,II,N;IM)
          S      + 4.*SSD(1;IM)+TRD(1;IM)
          S      + SS(1,JJJ+2,N;IM)*R(1,JJ+2,II,N;IM) ) * A6
00572      ENDWHERE
          C
00573      3054 CONTINUE

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00574 WHERE( BIT2(1;IM) ) S(1,I,J;IM) = S(1,I,J;IM) + AG(1;IM)*DELNU(N) VVL INKH669
00575 2210 CONTINUE VVL INKH670
00576 GO TO 2400 VVL INKH671
C VVL INKH672
2082 CONTINUE VVL INKH673
DO 2220 N=1,NFLW VVL INKH674
BIT3(1;IM) = R(1,II+1,II,N;IM) .GE. 0.98 VVL INKH675
WHERE( BIT2(1;IM) .AND. BIT3(1;IM) ) VVL INKH676
AG(1;IM) = ( (BB(1,III,N;IM)-BB(1,III+1,N;IM)) VVL INKH677
* (1.+R(1,II+1,II,N;IM)) + (BB(1,III+1,N;IM) VVL INKH678
- BB(1,III+2,N;IM)) VVL INKH679
* (R(1,II+1,II,N;IM)+R(1,II+2,II,N;IM)) ) * 0.5 VVL INKH680
GO TO 3064 VVL INKH681
C VVL INKH682
3063 CONTINUE VVL INKH683
WHERE( BIT2(1;IM) .AND. .NOT.BIT3(1;IM) ) VVL INKH684
TRD(1;IM) = 0.125 * ( 6.* R(1,JJ+1,II,N;IM) VVL INKH685
+ 3.* R(1,JJ+2,II,N;IM)-R(1,JJ,II,N;IM)) VVL INKH686
SSD(1;IM) = 0.125 * ( 6.*SS(1,JJJ+2,N;IM) VVL INKH687
+ 3.*SS(1,JJJ+1,N;IM)-SS(1,JJJ+3,N;IM)) VVL INKH688
TERM2(1;IM) = (TRAD(1,JJJ+1;IM)-TRAD(1,JJJ+2;IM)) VVL INKH689
* (SS(1,JJJ+2,N;IM)*R(1,JJ+2,II,N;IM) VVL INKH690
+ 4.*SSD(1;IM)*TRD(1;IM) VVL INKH691
+ SS(1,JJJ+1,N;IM)*R(1,JJ+1,II,N;IM) ) * A6 VVL INKH692
ENDWHERE VVL INKH693
C VVL INKH694
00587 BIT4(1;IM) = R(1,II+1,II,N;IM) .LT. 0.7 VVL INKH695
00588 WHERE( BIT2(1;IM) .AND. .NOT.BIT3(1;IM) .AND. BIT4(1;IM) ) VVL INKH696
00589 TERM1(1;IM) = ( A6 * R(1,II+1,II,N;IM) ) VVL INKH697
* ( BB(1,III,N;IM)-BB(1,III+1,N;IM) ) VVL INKH698
AG(1;IM) = TERM1(1;IM) + TERM2(1;IM) VVL INKH699
ENDWHERE VVL INKH700
GO TO 3064 VVL INKH701
C VVL INKH702
00592 1616 CONTINUE VVL INKH703
00593 WHERE( BIT2(1;IM) .AND. .NOT.BIT3(1;IM) .AND. .NOT.BIT4(1;IM) ) VVL INKH704
00594 TRB(1;IM) = 0.125 * ( 6.* R(1,JJ+1,II,N;IM) VVL INKH705
+ 3.* R(1,JJ,II,N;IM)-R(1,JJ+2,II,N;IM)) VVL INKH706
SSB(1;IM) = 0.125 * ( 6.*SS(1,JJJ,N;IM) VVL INKH707
+ 3.*SS(1,JJJ+1,N;IM)-SS(1,JJJ-1,N;IM)) VVL INKH708
AG(1;IM) = (TRAD(1,JJJ;IM)-TRAD(1,JJJ+1;IM)) VVL INKH709
* (SS(1,JJJ,N;IM)*R(1,JJ,II,N;IM) VVL INKH710
+ 4.*SSB(1;IM)*TRB(1;IM) VVL INKH711
+ SS(1,JJJ+1,N;IM)*R(1,JJ+1,II,N;IM) ) * A6 VVL INKH712
ENDWHERE = AG(1;IM) + TERM2(1;IM) VVL INKH713
C VVL INKH714
00599 3064 CONTINUE VVL INKH715
00600 WHERE( BIT2(1;IM) ) S(1,I,J;IM) = S(1,I,J;IM) + AG(1;IM)*DELNU(N) VVL INKH716
00601 2220 CONTINUE VVL INKH717
00602 GO TO 2400 VVL INKH718
C VVL INKH719
2083 N=NFL VVL INKH720
WHERE( BIT2(1;IM) ) VVL INKH721
TRB(1;IM) = 0.125 * ( 6.* R(1,JJ+1,II,N;IM) VVL INKH722
+ 3.* R(1,JJ,II,N;IM)-R(1,JJ+2,II,N;IM)) VVL INKH723
SSB(1;IM) = 0.125 * ( 6.*SS(1,JJJ,N;IM) VVL INKH724
+ 3.*SS(1,JJJ+1,N;IM)-SS(1,JJJ-1,N;IM)) VVL INKH725
TRD(1;IM) = 0.125 * ( 6.* R(1,JJ+1,II,N;IM) VVL INKH726
+ 3.* R(1,JJ+2,II,N;IM)-R(1,JJ,II,N;IM)) VVL INKH727
SSD(1;IM) = 0.125 * ( 6.*SS(1,JJJ+2,N;IM) VVL INKH728
+ 3.*SS(1,JJJ+1,N;IM)-SS(1,JJJ+3,N;IM)) VVL INKH729
TERM2(1;IM) = (TRAD(1,JJJ;IM)-TRAD(1,JJJ+1;IM)) VVL INKH730
* (SS(1,JJJ,N;IM)*R(1,JJ,II,N;IM) VVL INKH731
+ 4.*SSB(1;IM)*TRB(1;IM) VVL INKH732
+ SS(1,JJJ+1,N;IM)*R(1,JJ+1,II,N;IM) ) * A6 VVL INKH733
+ (TRAD(1,JJJ+1;IM)-TRAD(1,JJJ+2;IM)) VVL INKH734
* (SS(1,JJJ+1,N;IM)*R(1,JJ+1,II,N;IM) VVL INKH735
+ 4.*SSD(1;IM)*TRD(1;IM) VVL INKH736
+ SS(1,JJJ+2,N;IM)*R(1,JJ+2,II,N;IM) ) * A6 VVL INKH737
S(1,I,J;IM) = S(1,I,J;IM) + TERM2(1;IM) VVL INKH738
VVL INKH739

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00611      ENDWHERE
C
00612      2400 CONTINUE
00613      WHERE( BIT2(1:IM) ) SUM(1:IM) = SUM(1:IM) + S(1,I,J:IM)
00614      2100 CONTINUE
00615      WHERE( BIT2(1:IM) ) JV(1:IM) = J
C
00616      2115 CONTINUE
C
C
00617      S(1,I,LLAY:IM) = 0.0
00618      IF( I.NE.LLAY ) GOTO 8
00619      BIT1(1:IM) = IUP(1,I-1:IM) .EQ. LLAY
00620      WHERE( BIT1(1:IM) ) JV(1:IM) = LLAY
C
00621      8 CONTINUE
C
C
00622      DO 812 IBB=1,IM
00623      KV( IBB ) = IUP( IBB, JV( IBB ) )
00624      812 CONTINUE
00625      BIT1(1:IM) = JV(1:IM) .EQ. LLAY
00626      BIT2(1:IM) = JV(1:IM) .EQ. KV(1:IM)
C
00627      DO 2500 N=1,NFLW
00628      WHERE( BIT1(1:IM) .OR. .NOT.BIT2(1:IM) )
S      SURFL(1:IM) = SURFL(1:IM) + (BG(1,N:IM)-BB(1,LL,N:IM))
S      * R(1,L2,II,N:IM)*DELNU(N)
C
00629      2500 CONTINUE
C
00630      IF( I.EQ.1 )      BIT1 = B'1'
00631      GOTO 2556
00632      BIT1(1:IM) = IUP(1,I-1:IM) .EQ. 0
00633      IBIT = QSSCNT( BIT1(1:IM) )
00634      IF( IBIT.EQ.0 ) GOTO 2510
00635      2556 CONTINUE
00636      DO 2501 N=1,NFLW
00637      WHERE( BIT1(1:IM) )
00638      S(1,I,LLAY:IM) = S(1,I,LLAY:IM)
S      + (TINF(1,II,N:IM)*SS1(1,N:IM)
S      + 4.*WTRINF(1,II,N:IM)*SS(1,1,N:IM)
S      + R(1,1,II,N:IM)*SS(1,2,N:IM))
S      * (T1-T(1,1:IM)) * A6 * DELNU(N)
00639      SURFU(1:IM) = SURFU(1:IM) + BB1(1,N:IM)*TINF(1,II,N:IM)*DELNU(N)
00640      ENDWHERE
00641      2501 CONTINUE
00642      2510 CONTINUE
C
00643      RE(1B,I:IM) = SURFL(1:IM)
S      + SURFU(1:IM)
S      - SUM(1:IM)
S      S(1,I,LLAY:IM)
00644      RE(1B,I:IM) = RE(1B,I:IM)*.2064E-2
00645      2000 CONTINUE
C
00646      DO 62 L = 1,LLAY
00647      PL(1B,L:IM) = PL(1B,L:IM)*1.E-3
00648      PLE(1B,L:IM) = PLE(1B,L:IM)*1.E-3
00649      62 CONTINUE
00650      PLE(1B,LLAY:IM) = PLE(1B,LLAY:IM)*1.E-3
C
00651      9999 CONTINUE
C
00652      RETURN
00653      END

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VVLINKH790
VVLINKH791
VVLINKH792
VVLINKH793
VVLINKH794
VVLINKH795
VVLINKH796
VVLINKH797
VVLINKH798
VVLINKH799
VVLINKH800
VVLINKH801
VVLINKH802
VVLINKH803
VVLINKH804

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	504	372	488	496
1000	347	341		

ORIGINAL PAGE IS
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1001	350	348	
1002	359	352	
101	380	378	
108	366	361	
11	333	199	278
111	459	446	
112	461	458	
12	277	212	
1256	256	229	239
1257	263		
13	276	215	
1333	262	261	
14	233	216	
15	244	232	
1515	567		
1616	592		
18	275		
19	274	268	
195	439	436	
196	442	437	
199	444	438	441
200	445	381	
2000	645	518	
2081	552	551	
2082	577	551	
2083	603	551	
21	325	319	
2100	614	537	
2115	616	531	549
2210	575	553	
2220	601	578	
2324	187	174	
2333	332	331	
2400	612	576	602
2500	629	627	
2501	641	636	
2510	642	634	
2555	168	164	
2556	635	631	
295	415	412	
296	418	413	
299	420	414	417
30	339	337	
300	393	387	389
301	371	369	
302	421	403	405
303	422	395	
3053	556		
3054	573		
3063	581		
3064	599		
3365	532	528	
3366	535	527	
4300	326	297	
4301	303		
4302	301		
50	159	154	
506	517	515	
507	508	506	
508	513	511	
5354	198	196	
5819	266	264	
5821	317	315	
5858	323	321	
5859	272	270	
605	514	510	
62	649	646	
8	621	618	
812	624	622	
95	471	465	

96	489	486
97	497	487
98	495	490
99	503	498
9999	651	129

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST.	C=CTRL OF DO.	I=DATA INIT.	R=READ.	S=STORE.	W=WRITE						
A1960		REAL	SIMPLE	133/S	461	462	463	464								
A2940		REAL	SIMPLE	132/S	384											
A3980		REAL	SIMPLE	131/S	365											
AG		REAL	SIMPLE	134/S	560	564	571	585	589	596	609	609	638			
AGRNDP	SPACE	REAL	ARRAY	103	555/S	565/S	571/S	574	580/S	590/S	596/S	597/S	597	600		
AL	RADCOM	REAL	SIMPLE	130/S	183	184	185	186	189	461	462	463	464			
APRI		REAL	ARRAY	17												
AS		REAL	ARRAY	114	117/I	265	316	449	453							
AV	RADCOM	REAL	ARRAY	2												
4V1	SPACE	REAL	ARRAY	57	222/S	223	424/S	427								
AV2	SPACE	REAL	ARRAY	90	468/S	474										
BB	SPACE	REAL	ARRAY	91	469/S	476										
BB1	SPACE	REAL	ARRAY	69	345/S	346	555	555	555	555	564	564	580	580		
BG	SPACE	REAL	ARRAY	580	580	589	589	628								
BIT1		REAL	ARRAY	71	357/S	358	639									
		BIT	ARRAY	73	353/S	628										
				35	161/S	162	165/S	166	200/S	202	227/S	228	231	237		
				238	241	243	245	251	253	255/S	255	255	257	262		
				269	271	273	283/S	285	288	304/S	305	311	320	322		
				324	422/S	431	440	443	525/S	529/S	530	534	536	538		
BIT2		BIT	ARRAY	619/S	620	625/S	628	630/S	632/S	633	637					
				36	201/S	202	252/S	253	255	284/S	285	291	294	533		
				534	538/S	539	546	547/S	547	548	555	557	563	568		
BIT3		BIT	ARRAY	574	580	582	588	593	600	604	613	615	626/S	628		
				37	242/S	243	253/S	254	285/S	295/S	295	296	298	300		
				304	327	332	554/S	555	557	563	568	579/S	580	582		
BIT4		BIT	ARRAY	588	593											
				38	286/S	287/S	288/S	288	295	562/S	563	568	587/S	588		
BIT5		BIT	ARRAY	593												
BIT6		BIT	ARRAY	39	289/S	290/S	291/S	291	295	545/S	546					
				40	292/S	293/S	294/S	294	299	300	302	304	525/S	538		
BITR		BIT	ARRAY	546/S	546	547										
				34	157/S	158										
BITZ		BIT	ARRAY	41	401/S	407	416	419	475/S	479	491	499				
BPRI		REAL	ARRAY	114	118/I	265	316	450	454							
C		REAL	ARRAY	113	120/I	396	425	470	472							
CAP	SPACE	REAL	ARRAY	63	262/S	273/S	324/S	332/S	384	384	384	461				
CAP1	SPACE	REAL	ARRAY	81	456/S	459/S	462									
CAP2	SPACE	REAL	ARRAY	82	457/S	460/S	461	462								
CAPPSI	SPACE	REAL	ARRAY	64	269/S	271/S	273	320/S	322/S	324						
CDATE	RADCOM	REAL	ARRAY	26												
CG	SPACE	REAL	ARRAY	80	375/S	376/S	379	427								
CLOUD	RADCOM	REAL	ARRAY	8	165											
CM	SPACE	REAL	ARRAY	74	360/S	365/S	365	392	392	424	468	469				
CMI	SPACE	REAL	ARRAY	86	464/S	469										
CMI1	SPACE	REAL	ARRAY	87	463/S	464	468									
CNUCUB		REAL	ARRAY	115	122/I	345	353	357								
CONT	SPACE	REAL	ARRAY	62	251/S	254/S	254	258/S	312/S	313/S	313	329/S	364	364		
				365	463											
CONT1		REAL	SIMPLE	193/S	464											
CONT2		REAL	SIMPLE	194/S	463	464										
COSZ	RADCOM	REAL	ARRAY	28												
CTIN	WUDATA	REAL	ARRAY	110	493											
CTINF	WUDATA	REAL	ARRAY	110	492											
CTRANS	WUDATA	REAL	ARRAY	110	416	440										
CVQ	RADCOM	REAL	ARRAY	14												
CVT	RADCOM	REAL	ARRAY	14												
CXDE	RADCOM	REAL	ARRAY	15												
CXL	RADCOM	REAL	SIMPLE	28												
CZH	RADCOM	REAL	ARRAY	27												
DELNU		REAL	ARRAY	115	123/I	507	512	574	600	628	638	639				

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DP	SPACE	REAL	ARRAY	47	177/S	178/S	180	182	365	384				
DP1	SPACE	REAL	ARRAY	45	169/S	462	464	464						
DP2	SPACE	REAL	ARRAY	46	170/S	461	463	463						
EVAP	RADCOM	REAL	SIMPLE	27										
FK	RADCOM	REAL	ARRAY	23										
FROST	RADCOM	LOGICAL	ARRAY	32	33									
G		REAL	ARRAY	112	119/I	376								
GAM	RADCOM	REAL	ARRAY	9										
GRNDP		REAL	SIMPLE	124/I	130									
HH	RADCOM	REAL	ARRAY	12										
HHE	RADCOM	REAL	ARRAY	12										
HHS	RADCOM	REAL	ARRAY	13										
I		INTEGER	SIMPLE	164/C	165	166	167	196/C	197	199/C	200	201	205	205
				207	207	208	208	211	211	214	216	234	237	241
				242	243	277	280	282	283	284	300	337/C	338	339
				378/C	379	387/C	388	388	388	388	391	392	403/C	404
				404	404	404	408	410	416	416	416	419	419	419
				420	420	465/C	466	466	467	468	468	469	469	470
				490/C	491	492	492	492	493	493	493	498/C	499	500
				500	500	501	501	501	518/C	519	527	528	529	533
				533	534	541	550	550	574	574	600	600	610	610
				613	617	618	619	631	632	638	638	643	643	644
				644										
IB		INTEGER	SIMPLE	129/C	155	155	156	156	157	158	160	160	161	162
				165	170	177	177	178	178	179	180	181	182	188
				195	197	200	201	205	205	207	207	208	208	225
				227	230	230	231	234	237	241	242	243	280	282
				283	284	300	340	349	643	644	644	647	647	648
				648	650	650								
IBB		INTEGER	SIMPLE	622/C	623	623	623							
IBIT		INTEGER	SIMPLE	228/S	229	238/S	239	296/S	297	530/S	531	548/S	549	633
				634										
ICE	RADCOM	LOGICAL	ARRAY	31	33									
ICM		INTEGER	SIMPLE	386/S	390/S	390	391	392	394	395	402/S	406/S	406	407
				408	416	419								
IDAY		INTEGER	SIMPLE	1	172									
II		INTEGER	SIMPLE	520/S	554	554	555	555	555	555	555	555	558	558
				558	560	560	562	562	564	564	569	569	569	571
				571	579	579	580	580	580	580	580	580	583	583
				583	585	585	587	587	589	589	594	594	594	596
				596	605	605	605	607	607	607	609	609	609	609
				628	638	638	638	639	639	639	639	639	639	639
III		INTEGER	SIMPLE	519/S	520	555	555	555	555	564	564	580	580	580
				580	589	589								
IJ		INTEGER	SIMPLE	176/S	179	180	181	182	183	183	184	184	185	185
				186	186									
IJTEST		INTEGER	SIMPLE	550/S	551									
IM		INTEGER	SIMPLE	126/S	127	128	129	146	147	150	151	152	153	155
				155	156	156	157	157	158	158	160	160	161	161
				162	162	163	165	165	166	166	167	167	169	170
				170	177	177	177	178	178	178	179	179	180	180
				180	181	181	182	182	182	183	183	184	184	185
				185	186	186	188	188	189	189	195	195	197	197
				200	200	201	201	202	202	203	205	205	205	207
				207	207	208	208	208	209	209	209	210	210	210
				218	218	218	219	219	219	221	221	222	222	223
				223	223	224	224	225	225	225	225	225	226	226
				227	227	228	229	230	230	230	230	231	231	231
				231	234	234	234	235	235	235	236	236	236	237
				237	238	239	240	240	240	241	241	241	241	242
				242	243	243	243	243	245	246	246	247	247	247
				248	248	250	250	250	251	251	251	252	252	253
				253	253	254	254	254	254	254	254	255	255	255
				255	257	258	259	262	262	265	265	265	269	269
				271	271	271	273	273	273	273	273	280	280	280
				281	281	281	282	282	282	282	283	283	284	284
				285	285	285	288	288	288	291	291	291	294	294
				294	295	295	295	295	296	297	298	298	298	298
				298	299	299	299	300	300	300	300	300	302	302
				302	304	304	304	305	305	306	307	307	307	308

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			308	310	310	310	311	312	312	313	313	313	311	
			313	316	316	316	320	320	322	322	322	324	324	
			324	324	324	327	328	329	332	332	334	335	336	
			336	339	339	340	340	340	349	349	353	353	354	
			354	355	355	355	356	356	357	357	358	358	358	
			358	358	358	350	364	364	364	365	365	365	365	
			365	367	367	368	368	375	376	377	379	379	384	
			384	384	384	384	384	391	391	391	392	392	392	
			394	407	408	408	410	416	416	416	419	419	419	
			420	420	423	423	424	424	425	425	426	426	426	
			427	427	427	427	428	428	429	429	430	430	430	
			431	432	432	434	440	440	440	443	443	443	444	
			444	447	448	448	448	449	449	450	450	450	451	
			452	452	452	453	453	454	454	454	456	456	457	
			457	459	460	461	461	461	461	461	462	462	462	
			462	462	462	462	463	463	463	463	463	463	464	
			464	464	464	464	464	464	466	466	466	466	467	
			467	467	468	468	468	469	469	469	470	470	491	
			492	492	493	493	499	500	500	501	501	521	522	
			523	524	525	529	530	533	533	534	534	534	534	
			536	536	538	538	538	538	539	540	541	545	546	
			546	546	546	546	547	547	547	548	554	554	555	
			555	555	555	555	555	555	555	555	555	557	557	
			558	558	558	558	559	559	559	559	560	560	560	
			560	560	560	560	560	560	562	563	563	563	563	
			564	564	564	564	565	565	565	568	568	568	569	
			569	569	569	570	570	570	570	571	571	571	571	
			571	571	571	571	571	571	574	574	574	574	579	
			579	580	580	580	580	580	580	580	580	580	580	
			582	582	583	583	583	583	584	584	584	584	585	
			585	585	585	585	585	585	585	585	585	587	588	
			588	588	589	589	589	589	590	590	590	593	593	
			593	594	594	594	594	595	595	595	595	596	596	
			596	596	596	596	596	596	597	597	597	597	600	
			600	600	600	604	605	605	605	605	606	606	606	
			606	607	607	607	607	608	608	608	608	609	609	
			609	609	609	609	609	609	609	609	609	609	609	
			609	609	609	609	610	610	610	613	613	613	613	
			615	615	617	619	619	619	620	622	625	625	626	
			626	626	628	628	628	628	628	628	628	632	632	
			633	637	638	638	638	638	638	638	638	638	638	
			639	639	639	639	643	643	643	643	643	644	644	
			647	647	648	648	650	650	650					
			153/S	505	507	507	507							
			1	126	129									
IM21		INTEGER	SIMPLE											
IMBAND		INTEGER	SIMPLE											
IMICM		INTEGER	SIMPLE	394/S	396	396	397	397	397	398	398	398	399	
				399	400	400	400	401	401					
IML2		INTEGER	SIMPLE	147/S	148	149	472	474	474	474	474	475	475	
				476	476	476	476	477	477	480	480	481	481	
				483	484	512	512	512	512	516	516			
IML2L2		INTEGER	SIMPLE	148/S	370	509								
IML2T2		INTEGER	SIMPLE	149/S	473	473	473	478	478	478				
IML3		INTEGER	SIMPLE	146/S	342	342	343	343	344	344	344	345	346	
				346	346	346	346	346						
IMNF		INTEGER	SIMPLE	151/S	267	267	267	318	318	318				
IMNFLW		INTEGER	SIMPLE	150/S	351	351	351							
IMT2		INTEGER	SIMPLE	152/S	220	220	220	455	455	455				
IUP	SPACE	INTEGER	ARRAY	44	167/S	529	533	534	545	619	623	632		
J		INTEGER	SIMPLE	174/C	175	176	177	177	178	178	179	180	181	182
				361/C	362	363	365	365	365	381/C	382	383	384	384
				384	385	388	388	388	391	392	392	404	404	404
				404	408	410	416	416	416	419	419	419	420	420
				423	424	432	434	440	440	440	443	443	443	444
				444	511/C	512	512	512	515/C	516	516	537/C	538	540
				541	543	545	545	550	550	574	574	600	600	610
				610	613	615								
JALB	RADCOM	INTEGER	SIMPLE	30	191									
JJ		INTEGER	SIMPLE	175/S	177	178	180	182	217/S	218	226	231	233/S	234
				241	243	246	248	251	252	254	254	254	254	254
				258	259	262	269	271	273	273	273	273	279/S	280

OCM38	RADCOM	REAL	ARRAY	25																		
OCM46	RADCOM	REAL	ARRAY	25																		
OCMXX	RADCOM	REAL	ARRAY	26																		
OLAPR	RADCOM	REAL	ARRAY	24																		
OLJAN	RADCOM	REAL	ARRAY	24																		
OLJUL	RADCOM	REAL	ARRAY	24																		
OLOCT	RADCOM	REAL	ARRAY	24																		
OZALE	RADCOM	REAL	ARRAY	18																		
P	SPACE	REAL	ARRAY	49	179/S	180/S	181/S	182/S	183	184	185	186	188/S	189								
P1		REAL	SIMPLE	218	218	219	219	234	280													
P2		REAL	SIMPLE	124/I	169	169	462	464														
PD	SPACE	REAL	ARRAY	124/I	169	170	461	462	463	464												
PDG	SPACE	REAL	ARRAY	55	210/S	282	427/S	428	429													
				56	221/S	223	224/S	230	234/S	235/S	235	235	236/S	236								
				240	280/S	281/S	281	281	282	298/S	298	299										
PDP	SPACE	REAL	ARRAY	54	208/S	209/S	209	209	210	236	298											
PDQ	SPACE	REAL	ARRAY	52	203/S	205/S	240	299														
PDT	SPACE	REAL	ARRAY	53	207/S	210																
PH	SPACE	REAL	ARRAY	88	467/S	470																
PHI	SPACE	REAL	ARRAY	48	183/S	184/S	185/S	186/S	189/S	254	273	313	324									
PHI I	SPACE	REAL	ARRAY	89	488/S	472																
PL	RADCOM	REAL	ARRAY	3	155/S	155	177	178	181	182	208	208	234	280								
PLE	RADCOM	REAL	ARRAY	647/S	647	156	160/S	160	170	177	178	179	180	188								
				3	156/S	156	160/S	160	170	177	178	179	180	188								
				648/S	648	650/S	650															
PLK	RADCOM	REAL	ARRAY	4																		
PLKE	RADCOM	REAL	ARRAY	4																		
PM	SPACE	REAL	ARRAY	79	423/S	425																
PREP	RADCOM	REAL	ARRAY	27																		
PROCM	RADCOM	REAL	ARRAY	26																		
Q	SPACE	REAL	ARRAY	58	231/S	241/S	243/S	252	254	254	259/S	273	300/S	302								
Q1	SPACE	REAL	ARRAY	302	313	313	324	328/S	367	368												
Q2	SPACE	REAL	ARRAY	76	367/S	462	464	464														
R	SPACE	REAL	ARRAY	77	368/S	461	462	463	463	464	464	464	420/S	432								
				75	370/S	408/S	410/S	416/S	416	419/S	419	512/S	512	512								
				434/S	440/S	440	443/S	443	444/S	444	509/S	512/S	512	512								
				516/S	516	554	555	555	555	558	558	558	560	560								
				562	564	569	569	569	571	571	579	580	580	580								
				583	583	583	585	585	587	589	594	594	594	596								
				596	605	605	605	607	607	607	609	609	609	609								
				628	638																	
RADCOM		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12								
				13	14	15	16	17	18	19	20	21	22	23								
				24	25	26	27	28	29	30	31	32										
RADTRM	RADCOM	REAL	ARRAY	28																		
RCBAV	SPACE	REAL	ARRAY	95	392/S	398																
RCBCG	SPACE	REAL	ARRAY	97	379/S	398	474	476														
RCBPD	SPACE	REAL	ARRAY	96	398/S	399	401	474/S	475	477												
RCBPM	SPACE	REAL	ARRAY	94	391/S	396																
RCLLOUD	RADCOM	REAL	ARRAY	30																		
RE	RADCOM	REAL	ARRAY	2	643/S	644/S	644															
RH	RADCOM	REAL	ARRAY	10																		
RN	RADCOM	REAL	ARRAY	20																		
RSURF	RADCOM	REAL	ARRAY	30																		
S	SPACE	REAL	ARRAY	99	541/S	574/S	574	600/S	600	610/S	610	613	617/S	638								
				638	643																	
SO	RADCOM	REAL	SIMPLE	28																		
SG	RADCOM	REAL	ARRAY	29																		
SHG	RADCOM	REAL	ARRAY	8	161	162/S	227	230	231													
SHL	RADCOM	REAL	ARRAY	7	157	158/S	200	201	205	205	230	237	241	242								
				243	283	284	300															
SHLE	RADCOM	REAL	ARRAY	7																		
SHSAT	RADCOM	REAL	ARRAY	9																		
SNOW	RADCOM	LOGICAL	ARRAY	32	33																	
SP	RADCOM	REAL	ARRAY	29																		
SPACE		REAL	UNKNOWN	43	44	45	46	47	48	49	50	51	52	53								
				54	55	56	57	58	59	60	61	62	63	64								
				65	66	67	68	69	70	71	72	73	74	75								
				76	77	78	79	80	81	82	83	84	85	86								
				87	88	89	90	91	92	93	94	95	96	97								

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VJLNKHO 19

				98	99	100	101	102	103	104	105	106	107	108
SRS	RADCOM	REAL	ARRAY	20										
SS	SPACE	REAL	ARRAY	70	346/S	505/S	507/S	507	507	512	516	559	559	559
				560	560	570	570	570	571	571	584	584	584	584
				585	595	595	595	596	596	606	606	606	608	608
				608	609	609	609	609	638	638				
SS1	SPACE	REAL	ARRAY	72	358/S	638								
SSB	SPACE	REAL	ARRAY	105	559/S	560	595/S	596	606/S	609				
SSD	SPACE	REAL	ARRAY	107	570/S	571	584/S	585	608/S	609				
SSS	RADCOM	REAL	ARRAY	11										
SSSE	RADCOM	REAL	ARRAY	11										
STN	RADCOM	REAL	ARRAY	20										
SUM	SPACE	REAL	ARRAY	100	521/S	613/S	613	643						
SURFL	SPACE	REAL	ARRAY	101	522/S	628/S	628	643						
SURFU	SPACE	REAL	ARRAY	102	523/S	639/S	639	643						
SWALE	RADCOM	REAL	ARRAY	16										
SWIL	RADCOM	REAL	ARRAY	16										
T	SPACE	REAL	ARRAY	51	197/S	226/S	246	248	282/S	306	308	336	339	638
T1		REAL	SIMPLE	172	193	334	447	638						
T2		REAL	SIMPLE	172	194	335	451							
TAUL	RADCOM	REAL	ARRAY	18										
TCOND	RADCOM	REAL	ARRAY	21										
TEMP	SPACE	REAL	ARRAY	59	223/S	224	225/S	225	226	230/S	231	240/S	241	248
				250/S	250	250	251	299/S	300	308/S	310/S	310	310	312
				364/S	365	425/S	426/S	426	426	427	429/S	430/S	430	430
				432	449/S	450	453/S	454						
TEMPZ	SPACE	REAL	ARRAY	98	218/S	219/S	220/S	220	220	221	222	265/S	267/S	267
				267	271	316/S	318/S	318	318	322	349/S	351/S	351	351
				353	396/S	397/S	397	397	398	399/S	400/S	400	400	408
				450/S	454/S	455/S	455	455	456	457	470/S	472/S	473/S	473
				473	474	476/S	476	477/S	478/S	478	478	480	481	
				83	462/S	466								
TERM	SPACE	REAL	ARRAY	84	461/S	462	467	564/S	566	589/S	590			
TERM1	SPACE	REAL	ARRAY	85	560/S	565	571	585/S	590	597	609/S	610		
TERM2	SPACE	REAL	ARRAY	6	349									
TG	RADCOM	REAL	ARRAY	6										
TH	RADCOM	REAL	ARRAY	6										
TI1		REAL	ARRAY	111	191	500								
TI2		REAL	ARRAY	111	191	501								
TINF	SPACE	REAL	ARRAY	92	480/S	483/S	492/S	492	500/S	500	638	639		
TL	RADCOM	REAL	ARRAY	5	197	207	207	225	282	340				
TLE	RADCOM	REAL	ARRAY	5	195									
TLOWL	RADCOM	REAL	SIMPLE	22										
TMIDL	RADCOM	REAL	SIMPLE	22										
TN	RADCOM	REAL	ARRAY	20										
TO1	WUDATA	REAL	ARRAY	109	191									
TO2	WUDATA	REAL	ARRAY	109	191									
TO3		REAL	ARRAY	111	191	419	443							
TOPABS	RADCOM	REAL	ARRAY	19										
TOTOZ	RADCOM	REAL	ARRAY	26										
TPENE	RADCOM	REAL	ARRAY	21										
TRAD	SPACE	REAL	ARRAY	65	335/S	336/S	339/S	340/S	342	346	560	560	571	571
				585	585	596	596	609	609	609	609			
				66	334/S	354	358							
TRAD1	SPACE	REAL	ARRAY	104	558/S	560	594/S	596	605/S	609				
TRB	SPACE	REAL	ARRAY	106	569/S	571	583/S	585	607/S	609				
TRD	SPACE	REAL	ARRAY	109	191									
TRC3	WUDATA	REAL	ARRAY	50	195/S	225	226	340						
TS	SPACE	REAL	ARRAY	50	127/S	246/S	247	247	265	306/S	307	307	316	447
TT	SPACE	REAL	ARRAY	448	448	449	451/S	452	452	453				
				61	128/S	247/S	265	307/S	316	448/S	450	452/S	454	
				78	377/S	384/S	384	391	391	423	456	467		
TTT	SPACE	REAL	ARRAY	1										
VAR	SPACE	REAL	SUBROUTINE	116										
VLINKHO				27										
W		REAL	ARRAY	27										
WET	RADCOM	REAL	ARRAY	27										
WI	RADCOM	REAL	ARRAY	93	481/S	484/S	493/S	493	501/S	501	638			
WTRINF	SPACE	REAL	ARRAY	109	110									
WUDATA		REAL	UNKNOWN	114	121/I	342	349	354						
X		REAL	ARRAY	23										
XK	RADCOM	REAL	ARRAY	67	342/S	343	346	354/S	355	358				
XX	SPACE	REAL	ARRAY											

VLINKHO 20

ORIGINAL PAGE IS
OF POOR QUALITY

XY YY	SPACE	REAL REAL	SIMPLE ARRAY	124/1 68 356	193 343/S 357	194 343 358	248 344/S 358	308 344	345	346	346	355/S	355	356
PROCEDURE MAP														
--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST														
EXP	REAL	INTRINSIC		193	194									
OSINT		SUBROUTINE		191										
Q8SCNT	INTEGER	INTRINSIC		228	238	296	530	548	633					
Q8SMIN	REAL	INTRINSIC		536										
STRATM		SUBROUTINE		172										
VALOG	REAL	INTRINSIC		209	220	295	281							
VEXP	REAL	INTRINSIC		250	257	310	318	343	351	355	400	430	455	478
VSQRT	REAL	INTRINSIC		397	426	473								
ZEITBEG		SUBROUTINE		171	190									
ZEITEND		SUBROUTINE		173	192									

ORIGINAL PAGE 19
OF POOR QUALITY

VLINKHO 21

```

00001 FUNCTION VQSAT (T,P,N;*)
00002 DESCRIPTOR VQSAT, T, P
C
00003 DIMENSION E1(1500), E2(1500)
00004 DIMENSION TQ(1500), I1(1500), I2(1500)
C
00005 REAL EST(139), EST1(67), EST2(72)
00006 EQUIVALENCE (EST(1), EST1(1)), (EST(68),EST2(1))
C
00007 DATA EST1/
* 0.48227E-02, 0.31195E-02, 0.36135E-02, 0.41800E-02,
* 0.84286E-02, 0.55571E-02, 0.63934E-02, 0.73433E-02,
* 0.14353E-01, 0.16341E-01, 0.18574E-01, 0.21095E-01,
* 0.23926E-01, 0.27096E-01, 0.30652E-01, 0.34629E-01,
* 0.39073E-01, 0.44028E-01, 0.49546E-01, 0.55691E-01,
* 0.62508E-01, 0.70077E-01, 0.78700E-01, 0.88128E-01,
* 0.98477E-01, 0.10983E+00, 0.12233E+00, 0.13608E+00,
* 0.15121E+00, 0.16784E+00, 0.18615E+00, 0.20627E+00,
* 0.22837E+00, 0.25263E+00, 0.27923E+00, 0.30838E+00,
* 0.34030E+00, 0.37520E+00, 0.41334E+00, 0.45497E+00,
* 0.50037E+00, 0.54984E+00, 0.60369E+00, 0.66225E+00,
* 0.72589E+00, 0.79497E+00, 0.86991E+00, 0.95113E+00,
* 0.10391E+01, 0.11343E+01, 0.12372E+01, 0.13484E+01,
* 0.14684E+01, 0.15979E+01, 0.17375E+01, 0.18879E+01,
* 0.20499E+01, 0.22241E+01, 0.24113E+01, 0.26126E+01,
* 0.28286E+01, 0.30604E+01, 0.33091E+01, 0.35756E+01,
C
00008 DATA EST2/
* 0.38608E+01, 0.41663E+01, 0.44930E+01, 0.48423E+01,
* 0.52155E+01, 0.56140E+01, 0.60394E+01, 0.64930E+01,
* 0.69767E+01, 0.74919E+01, 0.80406E+01, 0.86246E+01,
* 0.92457E+01, 0.99061E+01, 0.10608E+02, 0.11353E+02,
* 0.12144E+02, 0.12983E+02, 0.13873E+02, 0.14816E+02,
* 0.15815E+02, 0.16872E+02, 0.17992E+02, 0.19176E+02,
* 0.20428E+02, 0.21750E+02, 0.23148E+02, 0.24623E+02,
* 0.26180E+02, 0.27822E+02, 0.29553E+02, 0.31378E+02,
* 0.33300E+02, 0.35323E+02, 0.37454E+02, 0.39696E+02,
* 0.42053E+02, 0.44531E+02, 0.47134E+02, 0.49869E+02,
* 0.52741E+02, 0.55754E+02, 0.58916E+02, 0.62232E+02,
* 0.65708E+02, 0.69351E+02, 0.73168E+02, 0.77164E+02,
* 0.81348E+02, 0.85725E+02, 0.90305E+02, 0.95094E+02,
* 0.10010E+03, 0.10533E+03, 0.11080E+03, 0.11650E+03,
* 0.12246E+03, 0.12868E+03, 0.13517E+03, 0.14193E+03,
* 0.14899E+03, 0.15634E+03, 0.16400E+03, 0.17199E+03,
* 0.18030E+03, 0.18895E+03, 0.19796E+03, 0.20733E+03,
* 0.21708E+03, 0.22722E+03, 0.23776E+03, 0.24871E+03,
C
00009 A1622 = 1./1.622
00010 TQ(1:N) = T - 198.99999
00011 WHERE( T.LT.200.0 ) TQ(1:N) = 1.00001
00012 WHERE( T.GT.337.9 ) TQ(1:N) = 138.90001
00013 I1(1:N) = VINT( TQ(1:N) ; I1(1:N) )
00014 I2(1:N) = I1(1:N) + 1
00015 E1(1:N) = QBVGATHR( EST(1:139), I1(1:N) ; E1(1:N) )
00016 E2(1:N) = QBVGATHR( EST(1:139), I2(1:N) ; E2(1:N) )
00017 VQSAT = TQ(1:N) - I1(1:N)
00018 VQSAT = VQSAT * ( E2(1:N) - E1(1:N) )
00019 VQSAT = VQSAT + E1(1:N)
00020 E1(1:N) = P*A1622
00021 WHERE( E1(1:N).LT.VQSAT )
S VQSAT = E1(1:N)
VQSAT = .622*VQSAT/(P-VQSAT)
C
00022 RETURN
00024 END

```

VQSAT 56
VQSAT 57
VQSAT 58
VQSAT 59
VQSAT 60
VQSAT 61
VQSAT 62
VQSAT 63
VQSAT 64
VQSAT 65
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VQSAT 114
VQSAT 115
VQSAT 116
VQSAT 117
VQSAT 118
VQSAT 119
VQSAT 120
VQSAT 121

ORIGINAL PAGE IS
OF POOR QUALITY

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES
A1622		REAL	SIMPLE	9/S 20

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

VQSAT 1

E1	REAL	ARRAY	3	15/S	15	18	19	20/S	21	21					
E2	REAL	ARRAY	3	16/S	16	18									
EST	REAL	ARRAY	5	6	6	15	16								
EST1	REAL	ARRAY	5	6	7/I										
EST2	REAL	ARRAY	5	6	8/I										
I1	INTEGER	ARRAY	4	13/S	13	14	15	17							
I2	INTEGER	ARRAY	4	14/S	14										
N	INTEGER	SIMPLE	1	10	11	12	13	13	13	14	14	15	15		
			15	16	16	16	17	17	18	18	19	20	21		
			21												
P	REAL	DESCRIPTOR	1	2	20	22									
T	REAL	DESCRIPTOR	1	2	10	11	12								
TQ	REAL	ARRAY	4	10/S	11/S	12/S	13								
VQSAT	REAL	DESCRIPTOR	1	2	17/S	18/S	18	19/S	19	21	21/S	22/S	22		
			22												

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF. A=ARGLIST
QBVGATHR	REAL	INTRINSIC	15	16
VINT	REAL	INTRINSIC	13	

ORIGINAL PAGE IS
OF POOR QUALITY

```

00001 FUNCTION VOZON(XD,L:*)
00002 DIMENSION TEMP(288)
00003 DESCRIPTOR VOZON,XD,TEMPD
00004 ASSIGN TEMPD,TEMP(1:L)
00005 VOZON = 0.042 + XD*0.000323
00006 VOZON = 1.000 + XD-VOZON
00007 VOZON = .02180*XD/VOZON
00008 TEMPD = 1.0 + XD*138.57
00009 TEMPD = TEMPD*0.805
00010 TEMPD = 1.08173*XD/TEMPD
00011 VOZON = VOZON + TEMPD
00012 TEMPD = 103.63*XD
00013 TEMPD = TEMPD*TEMPD*TEMPD
00014 TEMPD = 1.0 + TEMPD
00015 TEMPD = 0.06580*XD/TEMPD
00016 VOZON = VOZON + TEMPD
00017 RETURN
00018 END

```

```

VSOLAR1474
VSOLAR1475
VSOLAR1476
VSOLAR1477
VSOLAR1478
VSOLAR1479
VSOLAR1480
VSOLAR1481
VSOLAR1482
VSOLAR1483
VSOLAR1484
VSOLAR1485
VSOLAR1486
VSOLAR1487
VSOLAR1488
VSOLAR1489
VSOLAR1490
VSOLAR1491

```

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
L		INTEGER	SIMPLE		1			4													
TEMP		REAL	ARRAY		2			4													
TEMPD		REAL	DESCRIPTOR		3			4													
					13			13	8/S	9/S	9	10/S	10		11	12/S	13/S	13			
VOZON		REAL	DESCRIPTOR		1			3	5/S	6/S	6	7/S	7		11/S	11	16/S	16			
XD		REAL	DESCRIPTOR		1			3	5	6	7	8	10		12	15					

ORIGINAL PAGE IS
OF POOR QUALITY

```

00001 FUNCTION VWATER(XD,L;+)
00002 DESCRIPTOR VWATER,XD
00003 VWATER = 1.0 + 141.51*XD
00004 VWATER = VWATER**0.635
00005 VWATER = VWATER + 5.925*XD
00006 VWATER = 2.9*XD / VWATER
00007 RETURN
00008 END

```

```

VSOLAR1466
VSOLAR1467
VSOLAR1468
VSOLAR1469
VSOLAR1470
VSOLAR1471
VSOLAR1472
VSOLAR1473

```

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	ARGLIST	C	CTRL OF DO	I	DATA INIT	R	READ	S	STORE	W	WRITE
L		INTEGER	UNKNOWN	1												
VWATER		REAL	DESCRIPTOR	1	2	3/S	4/S	4	5/S	5	6/S	6				
XD		REAL	DESCRIPTOR	1	2	3	5	6								

ORIGINAL PAGE IS
OF POOR QUALITY

VWATER 1