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Solar - Geophysical Data

NO. 346 JUNE 1973

Part I (Prompt Reports)

DATA FOR
MAY 1973
APRIL 1973

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 346

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MAY 1973

MAY 1973	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT	
			NO.	TYPE INCLUDING FLARE ACTIVITY EXPECTED
01	0316	TOYOKAWA TENFLARE 2200 UNITS 01/0240Z IN PROGRESS WEST LIMB		
	0321	CARNARVON TENFLARE 3914 FU 01/0229Z MAXIMUM AT 01/0308Z IN PROGRESS 01/0322Z		
	0400		01528	MAGSTORM EXISTS MINOR
			01529	MAGALERT 02/XX
			01530	SOLALERT; N10W90 ACTIVE; S12E90 ERUPTIVE; THREE QUIET
02	0400		02531	MAGSTORM ENDS
			02532	MAGALERT 01/02; S13E71 ACTIVE; ONE QUIET
	0853	CANARY ISLAND SOFLARE 2B S12E54 IN PROGRESS. TENFLARE 1,168 UNITS 03/0831Z IN PROGRESS		
03	0400		03533	MAGALERT 03/04
			03534	SOLALERT; S13E58 ACTIVE; TWO QUIET
04	0400		04535	SOLALERT; S11E46 ACTIVE; S09E63, S14E80 ERUPTIVE; THREE QUIET
05	0400			S14E28 ERUPTIVE; FOUR QUIET; SOLNIL
06	0400		06536	SOLALERT; S13E14 ACTIVE; FOUR QUIET
07	0400		07537	SOLALERT; S13E07 ACTIVE; TWO QUIET
08	0400		08538	SOLALERT; S15W10 ACTIVE; TWO QUIET
09	0400		09539	SOLALERT; S16W26 ERUPTIVE; ONE QUIET
10	0400			S15W38 ERUPTIVE; SOLNIL
11	0400			S17W60, S14W49 ERUPTIVE; ONE QUIET; SOLNIL
12	0400			TWO QUIET; SOLNIL
13	0400			THREE QUIET; SOLNIL
14	0145	BOULDER MAGSTORM BEGINS 14/0054Z SUDDEN COMMENCEMENT		
	0400		14540	MAGSTORM BEGINS 14/0054Z WITH VERY SUDDEN COMMENCEMENT; NO REGIONS ON VISIBLE DISK; SOLNIL
15	0400		15541	MAGSTORM EXISTS MINOR; N13E80 ERUPTIVE; ONE QUIET
16	0400		16542	MAGSTORM EXISTS MINOR; S09E21 ERUPTIVE; ONE QUIET
17	0400		17543	MAGSTORM EXISTS MINOR; N08E59 ERUPTIVE; TWO QUIET
18	0400		18544	MAGSTORM EXISTS MINOR
			18545	SOLALERT; N09E46 ACTIVE; THREE QUIET
	2340	TOYOKAWA TENFLARE 100 UNITS 18/2154Z		
19	0400		19546	MAGSTORM EXISTS MINOR
			19547	SOLALERT; N10E32 ERUPTIVE; THREE QUIET
	2258	BOULDER TENFLARE 1860 UNITS 19/2242Z MAXIMUM 19/2244Z IN PROGRESS		
20	0005	TOYOKAWA TENFLARE 550 UNITS 19/2238Z 15 MINUTES		
	0400		20548	MAGSTORM EXISTS MINOR
			20549	SOLALERT; N10E18 ERUPTIVE; ONE QUIET
	0510	TOYOKAWA TENFLARE 110 UNITS 20/0448Z 6 MINUTES		
	0615	TOYOKAWA TENFLARE 180 UNITS 20/0540Z 30 MINUTES		
	2345	TOYOKAWA TENFLARE 170 UNITS 20/2147Z 3 MINUTES		
21	0400		21550	MAGSTORM EXISTS MINOR
			21551	SOLALERT; N09E07 ERUPTIVE; ONE QUIET
22	0400		22552	MAGSTORM EXISTS MINOR
			22553	SOLALERT; N10W09 ERUPTIVE; FOUR QUIET
23	0400		23554	MAGSTORM ENDS 22/0900Z
			23555	SOLALERT; N10W20 ERUPTIVE; THREE QUIET
24	0400		24556	SOLALERT PIANO; N11W35 ERUPTIVE; FIVE QUIET
25	0400			N11W49, S03E00 ERUPTIVE; THREE QUIET; SOLNIL
26	0400			N11W60, S02W09 ERUPTIVE; THREE QUIET; SOLNIL
27	0400			S02W23 ERUPTIVE; THREE QUIET; SOLNIL
28	0400			S03W38 ERUPTIVE; FIVE QUIET; SOLNIL
29	0400			S03W51 ERUPTIVE; TWO QUIET; SOLNIL
30	0400			S01W69 ERUPTIVE; ONE QUIET; SOLNIL
31	0400			N15W44 ERUPTIVE; TWO QUIET; SOLNIL

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

	1972 FINAL							1973 PROVISIONAL				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	85	68	103	127	70	75	40	45	7	40	65	24
2	96	74	93	99	65	67	31	53	17	38	79	46
3	105	82	89	79	73	49	28	55	22	35	93	64
4	121	91	85	78	73	30	24	60	21	32	93	77
5	139	104	93	80	67	23	21	72	41	22	75	92
6	115	95	85	81	57	19	18	83	32	32	75	68
7	99	91	65	73	54	8	24	66	34	38	76	82
8	90	82	60	71	52	7	29	60	53	50	71	52
9	79	75	59	59	34	14	42	70	60	53	68	30
10	68	64	47	46	30	12	53	55	61	67	65	25
11	63	62	31	43	34	30	61	52	59	69	62	26
12	52	74	50	36	23	33	64	32	80	92	46	18
13	48	84	55	32	15	30	67	35	83	79	41	7
14	62	80	40	37	8	27	69	15	85	78	37	7
15	88	61	42	45	14	21	71	10	74	73	35	25
16	98	53	57	53	34	25	66	11	54	64	29	33
17	105	59	59	44	30	32	71	27	36	52	16	34
18	95	55	57	38	28	28	58	42	28	44	15	41
19	88	66	57	33	44	42	49	47	18	34	32	42
20	92	56	60	47	60	58	54	60	30	23	42	32
21	100	66	62	60	69	65	67	62	31	20	45	52
22	97	69	85	69	78	69	59	62	25	30	67	53
23	92	65	79	65	85	79	57	60	33	37	72	47
24	88	62	82	77	94	77	48	50	38	29	73	57
25	83	62	71	82	105	65	43	39	48	27	67	64
26	77	77	79	78	111	57	39	27	37	23	67	46
27	79	82	93	77	110	55	34	8	36	32	67	51
28	81	86	118	67	104	61	26	14	36	43	60	32
29	78	102	147	70	89	47	25	7		46	54	23
30	78	108	141	75	98	43	29	16		50	42	21
31		115	137		93		37	13		56		17
MEAN	88.0	76.5	76.8	64.0	61.3	41.6	45.3	42.2	42.1	45.4	57.6	41.5

1972 yearly mean = 68.9

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

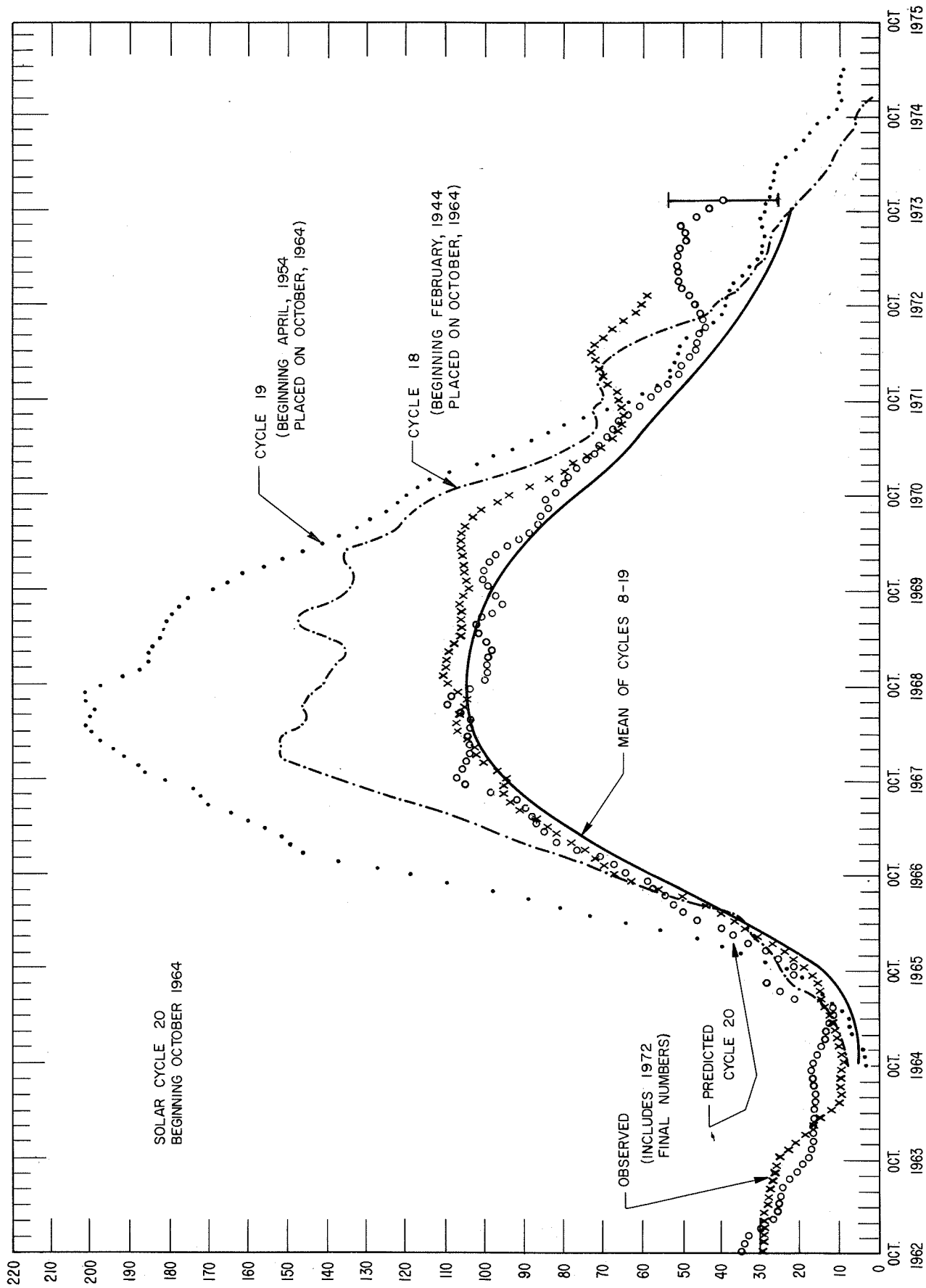
	1972							1973				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	128.2	133.0	156.3	144.3	114.7*	129.9	91.1	93.9	88.6	99.5	115.0	111.9*
2	130.0	137.0	150.4	139.7*	108.4*	121.8*	89.4	98.2	88.6	101.6*	118.1*	115.0*
3	137.5*	139.9	147.1*	129.4*	107.3	113.9	85.2	105.1*	93.1	97.8*	129.4	117.3
4	149.5*	146.7*	146.0	122.0	103.3	115.8	82.3	109.3*	94.1*	96.6	122.3	115.9*
5	164.8	150.2	146.5	117.0*	100.6	102.6	80.4	113.3	94.3	94.8	117.7	115.0*
6	159.1	146.1	143.4	119.2	98.4	93.2	77.8	115.0	95.3*	98.9	112.7*	109.7
7	152.7	143.2	139.0*	110.4	96.1	85.7	87.1	112.3	98.5	92.2	110.3	103.4
8	150.2*	136.7	125.3	115.9	97.2	82.5	91.6*	103.2	100.5	98.9*	121.0	100.0
9	149.1*	127.1	123.8	112.9	100.5	82.3	94.7*	103.7	100.9	104.7*	120.5	95.1
10	139.5	121.7	118.6	107.2	94.7	84.7	97.2*	103.8	102.1*	105.6*	115.5	90.9*
11	143.2*	123.6*	113.3*	102.7	93.5*	88.3	105.1*	102.8	101.2	113.4	110.3*	87.0
12	149.7	119.3	107.6	100.6	94.7	88.7	108.9	103.5	104.6*	114.5	130.4*	86.8
13	138.9*	119.9*	101.7	94.6	94.5	86.7	111.2*	100.9*	104.7*	118.9	99.4*	85.2
14	136.5	119.5	97.9	99.5	97.0	85.1	114.8*	96.2	105.6	114.0*	92.7*	89.3
15	139.5*	117.6	97.6	103.4	102.1*	86.5	116.1*	94.6	104.7	107.1*	89.5	90.1
16	142.7*	115.1	100.6	103.1	106.2	89.6	110.2	93.8	98.7	106.9	85.0	89.5
17	149.6	114.6*	106.4	100.3	112.1*	91.5	111.9	94.2	94.2	101.5	82.1	91.4
18	149.0*	108.9	109.6	102.6	111.0	94.6	112.4	95.3	90.7	94.9	86.9	95.4
19	143.2*	108.9	116.2	106.2	117.1*	99.7	113.2	94.8	88.9	96.7*	82.8	99.4
20	142.5	110.9	117.9	113.2	122.2	109.4	111.4	98.3	89.4	91.0	86.4	104.7*
21	139.0*	111.7	119.5	113.4*	132.8*	109.3*	113.4*	97.9	89.9	87.4	95.2	102.2
22	135.1	111.6	127.3*	119.4*	141.7	110.9*	107.9*	98.5	89.7	90.3	105.0	103.1
23	130.7	109.6	122.9*	125.2*	151.2*	115.3*	106.2	97.2	91.4	87.1	109.2	99.6
24	128.5	109.5	122.6	126.8	156.5	115.4*	101.1	96.9	93.6*	89.4	109.0*	104.5
25	125.5	112.4	127.8	126.3*	171.8	112.7	103.3*	95.6	97.2	90.0	109.2*	104.7
26	120.8	120.6	137.4*	122.5*	170.0*	108.6	97.7	95.3	95.6	88.6	110.0*	101.1
27	121.9*	127.2	144.1	118.3*	167.6*	102.3	97.6	93.4	98.2	92.0	111.6*	99.9
28	127.3	133.3*	147.2*	116.4	159.1*	97.5	91.9	91.7	100.9*	94.2	112.6	94.1
29	132.4	139.1	163.3*	115.2	B.I.P.	92.7	92.8*	91.4		99.0	109.5*	93.3
30	134.5	141.2*	163.3	118.5	144.6*	95.1	92.0*	89.7		102.7	106.2*	90.8
31		150.2	154.2*		140.1*		94.3	87.7		110.3		87.2
MEAN	139.7	126.0	128.9	114.9	120.2	99.7	99.7	99.0	96.3	99.4	105.8	99.1

B.I.P. = burst in progress
* adjusted for burst

DAILY SOLAR INDICES

MAY 1973

MAY 1973	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	121	13	24	30	110.1*	541	310	154	111.9*	108.9	77.2	52.2	29.7	14.2
2	122	14	46	43	113.2*	537	311	156	115.0*	113.2	76.7	52.2	28.8	11.3
3	123	15	64	53	115.3	537	305	156	117.3	112.3	77.6	52.3	31.2	15.5
4	124	16	77	63	114.0*	534	309	162	115.9*	116.8	80.5	53.2	31.3	12.2
5	125	17	92	73	113.0*	532	299	156	115.0*	110.2	77.6	49.3	27.5	10.4
6	126	18	68	66	107.8	523	287	149	109.7	105.4	74.1	50.3	27.8	12.1
7	127	19	82	75	101.5	523	291	138	103.4	99.2	70.4	49.1	27.5	10.6
8	128	20	52	48	98.1	522	284	133	100.0	92.9	69.5	46.9	26.3	9.6
9	129	21	30	30	93.3	523	280	130	95.1	91.1	66.2	44.9	24.5	9.2
10	130	22	25	24	89.1*	520	280	129	90.9*	88.7	63.0	41.8	23.4	8.9
11	131	23	26	22	85.3	520	276	122	87.0	81.6	59.2	40.0	22.3	8.8
12	132	24	18	19	85.0	519	274	128	86.8	81.8	56.5	40.0	22.9	9.1
13	133	25	7	7	83.4	523	276	125	85.2	79.5	54.8	39.2	23.6	10.2
14	134	26	7	2	87.4	525	278	127	89.3	84.9	55.9	41.3	24.3	9.3
15	135	27	25	26	88.2	518	277	129	90.1	84.0	56.6	41.9	25.7	9.7
16	136	1	33	34	87.5	518	276	127	89.5	86.0	57.3	40.4	25.5	10.5
17	137	2	34	39	89.3	514	275	129	91.4	87.3	56.7	39.8	25.3	17.2
18	138	3	41	41	93.2	516	281	130	95.4	91.0	61.2	41.7	24.1	9.4
19	139	4	42	38	97.1	517	291	131	99.4	95.5	63.7	42.3	24.1	11.5
20	140	5	32	45	102.2*	517	286	135	104.7*	98.6	66.7	44.2	28.2	26.2
21	141	6	52	42	99.7	517	284	135	102.2	97.4	67.6	44.3	27.6	25.2
22	142	7	53	51	100.6	520	285	137	103.1	98.6	68.0	46.3	27.0	12.2
23	143	8	47	46	97.1	515	280	131	99.6	91.6	64.2	45.9	26.0	11.2
24	144	9	57	57	101.9	519	287	134	104.5	97.7	67.5	47.6	27.2	11.2
25	145	10	64	62	102.0	525	290	136	104.7	96.7	70.0	48.2	24.2	10.1
26	146	11	46	47	98.4	519	289	133	101.1	95.1	68.4	48.8	27.7	10.3
27	147	12	51	44	97.3	520	290	134	99.9	94.6	65.7	50.4	24.7	12.8
28	148	13	32	26	91.6	530	285	131	94.1	89.9	64.4	46.4	23.1	9.7
29	149	14	23	36	90.8	523	274	130	93.3	88.1	62.2	45.9	22.3	9.5
30	150	15	21	21	88.3	516	275	128	90.8	85.2	61.1	45.0	24.4	10.1
31	151	16	17	15	84.8	516	276	126	87.2	82.3	59.6	45.0	22.6	9.4
MEAN			41.5	39.5	97.0	523	286	136	99.1	94.4	65.8	45.7	25.8	11.9



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS

CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.1	65.4	62.0	60.3	58.5	57.8
												(3)
1973	56.6	54.9	53.0	50.9	49.3	47.5	45.9	45.1	43.6	41.4	39.2	37.2
	(3)	(5)	(6)	(8)	(9)	(10)	(10)	(12)	(13)	(14)	(14)	(13)
1974	35.8	34.7	33.8	33.0	32.2	31.0	29.5	27.8	25.7	23.8	21.9	20.4
	(13)	(13)	(14)	(14)	(15)	(15)	(15)	(14)	(14)	(14)	(15)	(15)
1975	19.3	17.9										
	(14)	(14)										

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1972.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

MAY 1973

OBSERVATORY	OBSERVED UT DATE MAY	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
PALE	01	0051	0114	0102	S14	E89	.999		7.7	23	SN	3	C						F
MANI	01	0053E	0130D	0104	S14	E84	.993	12336	7.3	37D	1N	2		0104	1.24	3.46			F
MANI	01	0140	0209	0149	S17	E45	.718	12332	4.4	29	1N	2		0149	2.06	3.04			F
PALE	01	0141	0203	0148	S18	E45	.721		4.4	22	SN	3	C		1.08				DE
MITK	01	0305E	0350	0323	N13	W90	1.000	12322	24.4	45D	1B		C	0323	1.13				E
TEHR	01	0911	0952	0915	S16	E79	.979		7.3	41	SN	2	C		.55				DE
CATA	01	0925	0955	0935	S16	E77	.972		7.2	30	SN		C	0935	.29			(174)	
UPIC	01	0934E	1016	0939	S16	E77	.972	12336	7.2	42D	1N		P	0939	1.05				
UPIC	01	1115	1131	1122	N15	W90	1.000	12322	24.7	16	1N		P	1122	.42				
CATA	01	1150	1210	1150	N14	W90	1.000	12322	24.7	20	1N		C	1150	.58			(182)	
UPIC	01	1153	1235		N15	W90	1.000	12322	24.7	42	1B		P	1155	.63				
UPIC	01	1351	1544		S14	E75	.963	12336	7.2	113	1N		P	1433	1.47				KF
RAMY	01	1407E	1441	1410U	S13	E72	.949		7.0	34D	SF	2	C		.74				DE
RAMY	01			1418U							SN				.84				
TEHR	01	1420	1455D	1424	S13	E78	.976		7.4	35D	SB	2	C		.73				F Z
ISTA	02	0925	0955		S13	E70	.937		7.6	30	SN								E
TEHR	02	0928	1006	0936	S13	E71	.943		7.7	38	SN	2	C		.55				F
CATA	02	0930	1000D	0935	S14	E67	.919		7.4	30D	SB		P	0935	.58			(214)	
ATHN	02	0937E	1007	0937U	S14	E68	.925		7.5	30D	SN	2	C		.83				DE
HERS	02	0947E	1004	0949U	S13	E67	.918	12336	7.4	17D	1N		P	0949	.89	2.40			D
RAMY	02	1329	1341	1331	S14	E65	.905		7.4	12	SF	2	C		.37				DE
UPIC	02	1330	1350	1335	S15	E69	.932	12336	7.7	20	1N		P	1335	1.68				
ATHN	02	1330E	1342	1331	S15	E68	.925		7.7	12D	SN	3	V		.33				DE
RAMY	02	1508	1527	1515U	S12	W52	.788		28.7	19	SF	4	V		.28				DE
CATA	02	1510	1600	1520	S09	W53	.797	12323	28.7	50	1N		C	1520	2.02	3.35		(200)	
ATHN	02	1514E	1528	1515	S11	W56	.828		28.4	14D	SF	3	V		.33				DE
MANI	03	0830	0859D	0836	S16	E50	.772		7.1	29D	2B	2		0836	5.67	8.74			ZH
CATA	03	0830	0940	0840	S16	E49	.761	12336	7.0	70	3B		C	0840		16.99		(457)	
ISTA	03	0831	0915		S16	E50	.772	12336	7.1	44	3B								V
TEHR	03	0840E	0931	0840U	S12	E49	.756	12336	7.0	51D	2B	3	C		9.48				S 9
TEHR	04	1412	1448	1420	S13	E37	.611		7.4	36	SN	3	C		.45				F
CATA	04	1415	1455D	1440	S13	E38	.624	12336	7.4	40D	1N		P	1440	1.73	2.22		(200)	
RAMY	04	1418	1626	1423	S12	E40	.648		7.6	128	SF	4	C		.46				U F
RAMY	04			1446							SF				.93				
CATA	04	1510E	1515D	1510	S13	E37	.611		7.4	5D	SB		P	1510	1.44	1.83		(229)	
CATA	05	0630	0715D	0700	S15	E23	.427		7.0	45D	SN		P	0700	1.16	1.28		(191)	
ATHN	05	0632	0643	0634	S15	E26	.469		7.2	11	SF	2	C		.17				DE
MITK	05	0636	0701D	0650	S16	E28	.502	12336	7.4	25D	1F		C	0650	2.17	2.50			E
ATHN	05	0655	0708	0658	S15	E23	.427		7.0	13	SF	2	C		.50				DE
TEHR	05	0701	0724	0703	S14	E19	.364		6.7	23	SN	3	C		.36				F
MANI	05	0702E	0711D	0702U	S15	E23	.427		7.0	9D	SN	2		0702	.62	.68			
ATHN	05	0924	1001	0933	S15	E21	.399	12336	7.0	37	1B	3	C		2.15				U F
CATA	05	0925	1000D	0935	S15	E21	.399	12336	7.0	35D	1N		P	0935	2.60	2.84		(182)	
UPIC	05	0936	0943U	0941	S16	E20	.393		6.9	7U	SB		P	0941	1.68				
MANI	05	0936E	0945D	0936U	S14	E22	.407	12336	7.1	9D	1N	1		0936	2.27	2.46			F
RAMY	05	1654	1735D	1700	S15	E20	.385		7.2	41D	SF	4	C		.46				Z F
RAMY	05			1710							SN				1.70				
MCMA	05	1655	1702	1658	S16	E16	.341	12336	6.9	7	SF		C	1658	.41	.40			E
MCMA	05	1703	2030	1719	S16	E18	.367	12336	7.1	207	2B		C	1719	6.19	6.60			FILWXV
PALE	05	1731E	1822D	1731U	S16	E20	.393	12336	7.2	51D	2N	2	C		7.32				Z U
PALE	05			1741U							2N				11.24				
MANI	06	0904	0925D	0908	S13	E12	.260		7.3	21D	SN	1		0908	1.13	1.18			F
MANI	06			0915							SN			0915	1.65	1.71			F
CATA	06	0905	0935	0915	S14	E10	.247	12336	7.1	30	1B		C	0915	2.02	2.09		(229)	
ATHN	06	0907E	0929	0907U	S15	E08	.239		7.0	22D	SN	3	V		1.32				F
TEHR	06	0908E	0928	0910	S12	E10	.224		7.1	20D	SN	4	V		.66				F
ISTA	07	0730	0751		S14	W00	.181		7.3	21	SF								
MANI	07	0731E	0805D	0731U	S13	W00	.164		7.3	34D	SN	2		0731	1.13	1.16			F
WEND	07	0739E	0756		S14	W01	.182	12336	7.2	17D	1N		V		4.13				
ATHN	07	0740E	0759	0742	S14	W02	.184		7.2	19D	SN	3	V		.33				DE
MANI	07	0836	0854D	0850	S15	W05	.216		7.0	18D	SN	2		0850	.93	.94			F
ISTA	07	0837	0914		S15	W03	.205		7.1	37	SN								
ATHN	07	0838E	0911	0842	S14	W04	.193		7.1	33D	SN	3	V		1.32				DE
TEHR	07	0838	0913	0848	S15	W04	.209	12336	7.1	35	1N	3	V		2.64				F
ATHN	09	0620	0658D	0623	S13	W44	.701		6.0	38D	SF	1	C		.66				U F
TEHR	09	0621E	0810	0650	S15	W44	.705	12336	6.0	109D	1F	3	V		2.19				F
TEHR	09	0625E	0750	0644	S18	W41	.678	12336	6.2	85D	1F	3	V		2.06				F
BUCA	09	0625	0800		S14	W43	.691	12336	6.0	95	1N		P	0651	3.32	4.60			S
MANI	09	0626E	0635D	0626U	S14	W43	.691		6.0	9D	SN	1		0626	.61	.43			
ISTA	09	0630	0730		S12	W49	.758		5.6	60	SN								B
MANI	09	0703E	0716D	0703U	S14	W44	.703	12336	6.0	13D	1N	1		0703	2.06	2.90			

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

MAY 1973

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
					APPROX.														
	DATE MAY	START	END	MAX. PHASE	LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
MITK	15	0145	0205	0150	N05	E90	1.000	12352	21.8	20	1N		C	0150	1.65				EH
MANI	16	0455E	0535	0458	N05	E70	.942	12352	21.5	40D	1N	2		0458	2.06	4.42			FS
TEHR	16	0455	0525	0500	N05	E69	.936	12352	21.4	30	1N	4	V		1.55				F
MANI	17	0702	0723	0706	N06	E53	.805		21.3	21	SN	1		0706	1.03	1.69			F
TEHR	17	0704	0745	0712	N07	E52	.796		21.2	41	SN	3	C		1.00				F
CATA	17	0705E	07250	0720	N04	E54	.813		21.3	20D	SN		P	0720	.87	1.49		(182)	
UPIC	17	0707E	0753	0709	N05	E54	.814	12352	21.3	46D	1B		P	0709	2.53				
ISTA	17	0710	0745		N07	E52	.796	12352	21.2	35	1N								F
ISTA	17	0850	0910		N07	E56	.836	12352	21.6	20	1F								E
RAMY	17	1346	1351D	1350U	N06	E50	.773	12352	21.3	5D	1N	3	C		2.13				F
RAMY	17	1352	1430	1356	N07	E50	.775	12352	21.3	38	1N	3	V		1.86				F
TEHR	17	1354	1432	1358	N06	E49	.762		21.3	38	SN	3	C		1.45				F
MCMA	17	1426E	1446D		N02	E49	.757	12352	21.3	20D	SN		C	1430	.31	.50			D
MCMA	17	1908E	1927D		N06	E52	.795	12352	21.7	19D	SN		P	1926	.41	.70			E
PALE	17	1908E	1926D	1911U	N07	E54	.816	12352	21.8	18D	1N	2	V		1.44				DE
MCMA	18	1525	1555	1532	N06	E41	.666	12352	21.7	30	1B		C	1532	1.55	2.10			F
UPIC	18	1529E	1604U		N07	E42	.681		21.8	35U	SB		P	1529	1.47				
CATA	18	1530	1600D	1540	N07	E42	.681	12352	21.8	30D	1B		P	1540	2.31	3.16		(269)	
PALE	19	2233	2320	2245	N09	E20	.389	12352	21.4	47	1B	2	C		2.89				U H
MANI	19	2259E	2301D	2259U	N12	E21	.427	12352	21.5	2D	1B	2		2259	2.37	2.62			H
TEHR	20	0448	0520	0451	N10	E16	.342	12352	21.4	32	1B	3	C		2.11				F
MANI	20	0449	0519	0452	N10	E13	.304		21.2	30	SB	1		0452	1.55	1.62			F
MANI	21	0847	0915D	0849	S09	E56	.830		25.6	28D	SN	1		0849	.83	1.42			F
CATA	21	0850	0915	0855	S08	E56	.830	12357	25.6	25	1N		C	0855	1.44	2.59		(166)	
TEHR	21	0852E	0906	0856U	S05	E57	.838		25.6	14D	SF	4	V		1.32				F
MITK	21	2240	2306	2244	N15	W90	1.000	12358	15.2	26	1N		C	2244	1.13				E
MITK	22	0133	0139D	0136	N15	W90	1.000	12358	15.3	6D	1N		C	0136	.72				D
CATA	22	0640	0910	0820	N17	W90	1.000	12358	15.5	150	1F		C	0820	.87			(135)	T
CATA	22	1100	1110D	1100	N16	W90	1.000	12358	15.7	10D	1F		P	1100	.58			(120)	T
UPIC	22	1429	1447U		N16	W90	1.000	12358	15.9	18U	1N		P	1432	.42				
PALE	22	1716E	1805	1719	N12	W21	.424		21.1	49D	SN	3	C		.99				F H
WEND	22	1718E	1800D		N13	W20	.420	12352	21.2	42D	1N		V		5.16				
UPIC	22	1722E	1749D		N14	W13	.349		21.7	27D	SN		P	1722	1.90				F
MITK	23	2352	2450	2420	S15	W90	1.000	12349	17.2	58	1N		C	2420	.83				D
MANI	23	2353	0030	0005	N14	W37	.642	12352	21.2	37	1N	2		0005	1.86	2.43			FE
PALE	23	2354	0034	0002	N15	W36	.634		21.3	40	SN	3	C		1.54				U
MITK	24	0128E	0208D	0146	S15	W90	1.000	12349	17.3	40D	1N		C	0146	1.03				DH
MANI	24	0657	0730	0700	N14	W40	.677	12352	21.3	33	1B	2		0700	2.06	2.78			FE
TEHR	24	0700E	0740	0706	N14	W37	.641		21.5	40D	SB	4	V		1.44				F
BUCA	24	0700	0820		N14	W40	.677	12352	21.3	80	1B		C	0701	2.21	2.90			
CATA	24	0705	0750	0720	N14	W40	.677	12352	21.3	45	1N		C	0720	2.02	2.75		(186)	
CATA	24	0720	0815	0740	S15	W90	1.000	12349	17.6	55	1F		C	0740	.58			(123)	
CATA	24	0845	0900	0850	S15	W90	1.000	12349	17.6	15	1N		C	0850	.58			(155)	
CATA	24	0930	0955	0945	S14	W90	1.000	12349	17.6	25	1F		C	0945	.58			(126)	
RAMY	24	1208	1237	1214	S04	E20	.344		26.0	29	SN	4	C		1.30				F
WEND	24	1208	1236		S05	E22	.378	12357	26.2	28	1N		V		5.16				
CATA	24	1210	1250	1220	S06	E20	.349	12357	26.0	40	1B		C	1220	2.02	2.16		(224)	
MCMA	24	1210	1240		S06	E19	.333	12357	25.9	30	SN		P	1225	.62	.60			E
TEHR	24	1221E	1222D	1221U	S05	E25	.425		26.4	1D	SN	3	C		1.00				F
MITK	25	0152	0252	0211	N13	W53	.814	12352	21.1	60	1N		C	0211	1.65	2.90			E
TEHR	25	0153E	0251	0203	N14	W50	.787		21.3	58D	SN	2	V		1.32				F
MANI	25	0200E	0230D	0200U	N16	W53	.821	12352	21.1	30D	1N	2		0200	1.55	2.62			FU
PALE	25	0218E	0303	0219U	N14	W53	.817	12352	21.1	45D	1N	2	V		1.65				F
RAMY	28	1735	1804D	1739	S01	W49	.755		25.1	29D	SB	3	V		1.32				Z F
MCMA	28	1736E	1746D		N02	W48	.744	12357	25.1	10D	SB		C	1742	.41	.60			E
UPIC	28	1739E	1747	1742	N02	W50	.767	12357	25.0	8D	1B		P	1742	2.10				
PALE	28	1741E	1757	1741U	N01	W49	.755		25.1	16D	SB	4	C		.99				F
WEND	28	1743E	1756D		S01	W50	.766		25.0	13D	SN								

"Remarks":

A = Eruptive prominence, base at >90°
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No spots visible in the neighborhood.
H = Flare with high velocity dark surge.
I = Very extensive active region.
J = Plage with flare shows marked intensity variations.
K = Several intensity maxima.
L = Filaments show effects of sudden activation.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line.
S = Brightening follows disappearance of filament (same position).
T = Region active all day.
U = Close and somewhat parallel bright filaments (|| or Y shape).
V = Occurrence of an explosive phase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα emission.
Y = Onset of a system of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

MAY 1973

01 0243	N12 W90	01 0921	S14 E51	01 1650	S13 E69	01 2031	S16 E72	02 0032	S12 E70	02 0356	S16 E54
02 0422	S13 E66	02 0512	S10 W47	02 0517E	S10 W48	02 0730	S14 E66	02 0730	S13 E65	02 0731E	S14 E65
02 0732	S13 E66	02 0738E	S14 E63	02 0855	S10 W51	02 0940	S08 W53	02 1135	S13 E62	02 1149	S14 E63
02 1149	S12 E62	02 1149E	S13 E61	02 1526	S12 E61	02 1528	S15 E68	02 1615E	S12 E62	02 1620E	S15 E68
02 1753E	S12 E61	02 1754	N15 E62	02 1755E	S14 E65	02 1808E	S13 E58	02 1840E	S12 E60	02 1840E	S12 E60
02 2039	S14 E61	02 2039	S15 E59	02 2039E	S15 E57	02 2148	S11 E58	02 2152E	S14 E56	02 2155E	S12 E59
02 2222	S10 W58	02 2255	S09 W59	02 2313	S15 E58	02 2320	S13 E61	02 2345	S12 E59	03 0009E	S10 W59
03 0017	S13 E56	03 0024E	S14 E58	03 0050E	S11 E55	03 0055	S10 W56	03 0056	S09 W59	03 0143	S15 E53
03 0145E	S10 W60	03 0145E	S15 E53	03 0200	S09 W59	03 0322E	S14 E50	03 0327	S10 W60	03 0354E	S16 E54
03 0356	S16 E54	03 0414E	S13 E52	03 0537	S13 E52	03 0603	S14 E50	03 0603	S15 E49	03 0727E	S13 E46
03 0743E	S12 E50	03 1145	S13 E47	03 1719	S17 E80	03 1734	S15 E45	03 1734	S14 E45	03 1911	S13 E44
03 1913E	S13 E47	03 1929	S12 E64	03 1931	S14 E65	03 1942	S15 E48	03 2059	S13 E43	03 2200	S13 E47
03 2339E	S03 W76	04 0105E	S14 E45	04 0107	S06 W81	04 0236	S13 E41	04 0236	S13 E41	04 0249E	S15 E39
04 0356E	S12 E41	04 0406	S10 W71	04 0440E	S14 E42	04 0605E	S15 E38	04 0608E	S16 E39	04 0610	S14 E38
04 0618E	S13 E35	04 0623E	S15 E40	04 0935	S15 E40	04 1130	S13 E41	04 1203	S13 E79	04 1210	S13 E35
04 1235	S14 E44	04 1236	S13 E39	04 1237	S13 E35	04 1239	S13 E41	04 1243	S13 E35	04 1327	S13 E35
04 1839	S15 E32	04 1843E	S16 E31	04 1917E	S16 E30	04 1936	S13 E32	04 2030	S12 E32	04 2032	S14 E31
04 2033E	S13 E33	04 2033E	S13 E33	04 2039	S14 E33	04 2245E	S14 E31	04 2301E	S15 E32	05 0006	S13 E29
05 0011	S13 E29	05 0011	S13 E30	05 0159	S14 E31	05 0159	S14 E30	05 0159	S14 E30	05 0248	S09 W89
05 0258	S07 W86	05 0258E	S08 W88	05 0401E	S14 E19	05 0418	S12 E47	05 0419	S12 E46	05 0423	S13 E65
05 0423	S12 E67	05 0423	S13 E67	05 0424	S16 E23	05 0426	S14 E19	05 0451	S15 E24	05 0452	S15 E26
05 0452	S15 E26	05 0452	S15 E25	05 0521	S15 E26	05 0521	S14 E19	05 0522	S15 E25	05 0529E	S16 E25
05 0640	S15 E39	05 1052	S15 E21	05 1052	S15 E21	05 1105	S15 E21	05 1110	S16 E20	05 1120	S12 E22
05 1123E	S16 E20	05 1133	S14 E25	05 1138	S12 E22	05 1140E	S11 E26	05 1158	S13 E22	05 1159	S15 E23
05 1159	S16 E20	05 1159E	S12 E19	05 1200	S13 E24	05 1204E	S15 E22	05 1623	S13 E22	05 1625	S15 E22
05 1625	S14 E21	05 1625	S14 E22	05 1923E	S17 E16	05 2120E	S15 E26	05 2312E	S17 E10	05 2314	S15 E12
06 0033	S12 E22	06 0035	S12 E22	06 0036	S12 E21	06 0045	S13 E15	06 0049E	S14 E17	06 0218	S13 E12
06 0220	S13 E11	06 0317	S13 E10	06 0319	S15 E11	06 0425	S12 E09	06 0431	S13 E15	06 0431	S13 E14
06 0433E	S13 E15	06 0442	S12 E12	06 0443	S13 E12	06 0445	S09 E07	06 0750	S12 E14	06 0752	S13 E14
06 0753E	S12 E10	06 0939E	S10 E16	06 1019E	S13 E08	06 1020	S13 E07	06 1023E	S11 E08	06 1035	S15 E17
06 1036	S14 E17	06 1136	S11 E10	06 1137E	S14 E10	06 1153E	S15 E07	06 1154E	S13 E07	06 1210	S13 E10
06 1211E	S12 E10	06 1213E	S13 E09	06 1231E	S13 E10	06 1457E	S15 E07	06 1457	S15 E15	06 1459E	S15 E15
06 1643E	S15 E15	06 1736	S16 E04	06 1737E	S15 E08	06 1737E	S16 E02	06 1740E	S15 E04	06 1821E	S15 E04
06 1952	S15 E04	06 2106E	S17 W03	06 2108E	S18 W04	07 0016E	S16 W01	07 0035E	S13 E00	07 0055E	S16 W06
07 0105	S17 W06	07 0110	S16 W07	07 0202	S16 W07	07 0231	S16 W03	07 0252E	S17 W04	07 0324E	S18 W05
07 0403E	S16 W09	07 0403	S17 W08	07 0405	S08 W05	07 0406E	S16 W08	07 0437	S13 W04	07 0446	S15 E07
07 0501	S15 W03	07 0506E	S16 W03	07 0517	S16 W09	07 0534E	S14 W00	07 0637	S13 E01	07 0650E	S13 W01
07 0725	S15 W01	07 1031	S14 W12	07 1039	S15 W11	07 1100E	S17 W09	07 1151E	S12 W12	07 1152	S13 W08
07 1315E	S13 W00	07 1921	N14 W08	07 1923E	N12 W07	07 1948	S17 W13	07 1953E	S17 W03	07 2001E	S18 W04
07 2001E	S18 W04	07 2035	S14 W11	07 2053E	S18 W14	07 2108E	S13 W10	07 2223E	S19 W07	07 2228	S16 W15
07 2228E	S15 W16	07 2315E	S21 W09	07 2330	S15 W10	08 0022	S17 W22	08 0327	S14 W15	08 0327	S14 W15
08 0502E	S13 W21	08 0516	S18 W19	08 0537E	S11 W22	08 0537	S13 W20	08 0605E	S11 W22	08 1120	S12 E22
08 1122E	S14 E22	08 1134	S13 W23	08 1200	S13 W15	08 1201E	S12 W17	08 1205	S12 W16	08 2122E	S12 W23
08 2311E	S13 W26	09 0435E	S12 W25	09 0435	S13 W26	09 0436	S14 W27	09 0437E	S13 W26	09 0609E	S19 W13
09 0612	S08 W19	09 0612	S08 W20	09 1133E	S12 W22	09 1315	S13 W30	09 1630	S13 W32	10 0019	S14 W36
10 0019	S14 W36	10 0550E	S14 W45	10 0550E	S14 W45	10 0646E	S14 W45	10 1534	S12 W45	10 1634	S09 W41
10 1634	S09 W41	10 1638E	S07 W44	11 1450	N15 W51	11 1454	N17 W52	11 1536E	S07 W57	11 1634	S09 W41
12 0416E	S12 W63	12 0433	S13 W65	12 1517E	N00 E04	14 1252	N07 E90	14 1434	N11 E90	14 1706	N07 W24
15 0408E	S09 E37	15 1154	S09 E31	16 0958	N09 W10	17 0526	N05 E55	17 0721E	N08 E53	17 1340	N07 E56
17 1344	N09 E54	17 2258	N07 E46	17 2302	N01 E45	18 0025	N08 E45	18 0026E	N09 E45	18 0348	N09 E44
18 0353	N07 E49	18 0458	N10 E41	18 0503	N09 E43	18 0628	N10 E43	18 0630	N11 E41	18 0800	N13 E40
18 0801	N14 E42	18 1058E	N12 E40	18 1102E	N11 E42	18 1153E	N11 E36	18 1259E	N10 E38	18 1308E	N05 E36
18 1310E	N06 E37	18 1312	N05 E38	18 1315	N05 E37	18 1315	N02 E37	18 2048	N11 E29	18 2154	N09 E33
18 2154	N09 E33	18 2159E	N10 E32	18 2235E	S03 E90	18 2301	N08 E37	19 0003	N06 E30	19 0005E	N05 E27
19 0055	N06 E24	19 0133E	N08 E25	19 0923E	N11 E27	19 1003	N10 E27	19 1009E	N13 E26	19 1555E	N12 E24
19 1600	N10 E25	19 1656	N07 E26	19 1842E	N11 E23	19 2220E	N09 E21	20 0328	N11 E18	20 0348	N11 E18
20 0527	S10 W33	20 0555E	S10 W33	20 0559E	N10 E13	20 0930	N09 E13	20 0947E	N10 E12	20 1041	N10 E11
20 1135	N09 E12	20 1140	N09 E12	20 1141	N08 E12	20 1255	N08 E12	20 1255	N10 E11	20 1255	N09 E12
20 1447	N08 E12	20 1451	N09 E10	20 1600E	S10 E65	20 1601	S12 E66	20 1653	N09 E09	20 1827E	N09 E08
20 2016	N08 E08	20 2155E	N11 E08	20 2228E	N08 E06	21 0319	N08 E04	21 0336	N12 E02	21 0359	N09 E02
21 0401	N10 E02	21 0407E	N08 E05	21 0447	N10 E02	21 0627E	N14 E04	21 0635	N10 E01	21 0636	N10 E02
21 0641E	N09 E01	21 0657	N12 E00	21 0703	N11 W00	21 0808	N07 E01	21 0815	N06 W03	21 0819	N07 E08
21 1114	N10 W02	21 1115	N13 W01	21 1117E	N11 W01	21 1145	N11 W01	21 1155	N12 W02	21 1205	N11 W02
21 1210	N10 W02	21 1211E	N11 W02	21 1215	N10 W01	21 1551E	N12 W04	21 1638E	N11 W04	21 1639	N10 W04
21 1640E	N11 W04	21 1643E	N10 W04	21 1751E	N09 W07	21 1753E	N12 W06	21 1753E	N06 W09	21 1755E	N17 W80
21 1755E	N07 W09	21 1852E	N15 W86	21 1903E	N17 W80	21 2143E	N11 W07	21 2217E	N13 W84	21 2217E	N11 W08
22 0838	N09 W12	22 0922	N09 W13	22 0925	N09 W14	22 0933	N10 W13	22 1048	N15 W10	22 1915	S06 E40
22 1917	N16 W12	22 1919	N14 W13	23 0236	S10 W57	23 0302	S10 W71	23 0306	N10 W24	23 0532	N11 W26
23 0533	N10 W25	23 0620	N13 W27	23 0620	N13 W27	23 0621	N10 W27	23 1210	S14 W80	23 1849E	N02 E34
24 0533	N10 W25	24 0623	N14 W39	24 1238E	S03 E10	24 1649	N10 W46	24 1653	S06 E19	24 1718	S05 E22

SOLAR FLARES

MAY 1973

24	1818	N15	W47	24	1818	N15	W47	24	1823E	N16	W46	24	1906	N09	W41
24	2340	S04	E04	24	2344	S04	E04	24	2344	S04	E04	24	2344	S04	E04
25	0507	S01	E04	25	0508	S01	E02	25	0624E	N13	W56	25	0655	N16	W56
25	0658E	N14	W51	25	0742	S00	E00	25	1427	S05	W01	25	1522	S01	W05
25	1749E	S01	W06	25	1751E	S01	W06	25	1814	N17	W55	26	0014	N09	W60
26	0739	S01	W12	26	0740E	S01	W14	26	0846	N11	W63	26	1033E	S01	W12
26	1621E	N17	W72	26	1834E	N12	E36	27	0057	S03	W29	27	0337E	S05	W13
27	0735E	S06	W15	27	0936E	S00	W33	27	0940	N01	W32	27	1202	S02	W32
27	1208E	S00	W35	27	1208E	S00	W37	27	1223E	N15	W80	27	1317	S02	W31
27	1321E	N01	W36	27	1321E	S02	W35	27	1417E	S00	W37	27	1418	S01	W33
27	1644	S01	W34	27	1644	S04	W21	27	2238E	S11	E48	28	0033	S01	W38
28	1115	S01	W45	28	1240E	S00	W47	28	1241	S01	W46	28	1242E	N01	W46
28	1558E	S04	W37	28	1603	S04	W35	28	1631	N01	W47	28	1712	S01	W48
29	0432E	S00	W53	29	0535	N18	W19	29	0647	N17	W19	29	1131	N17	W23
29	1311E	N18	W23	29	1517	N17	W27	29	1735	N17	W27	29	1921	N02	W63
30	0615	S05	W68	30	0656	N16	W41	30	0814	N16	W38	30	1115E	N16	W40
30	1814	N14	W42	30	1815	N16	W43	31	0105	N16	W46	31	0107E	N18	W47
31	1324	N21	W80	31	1326E	N21	W80								

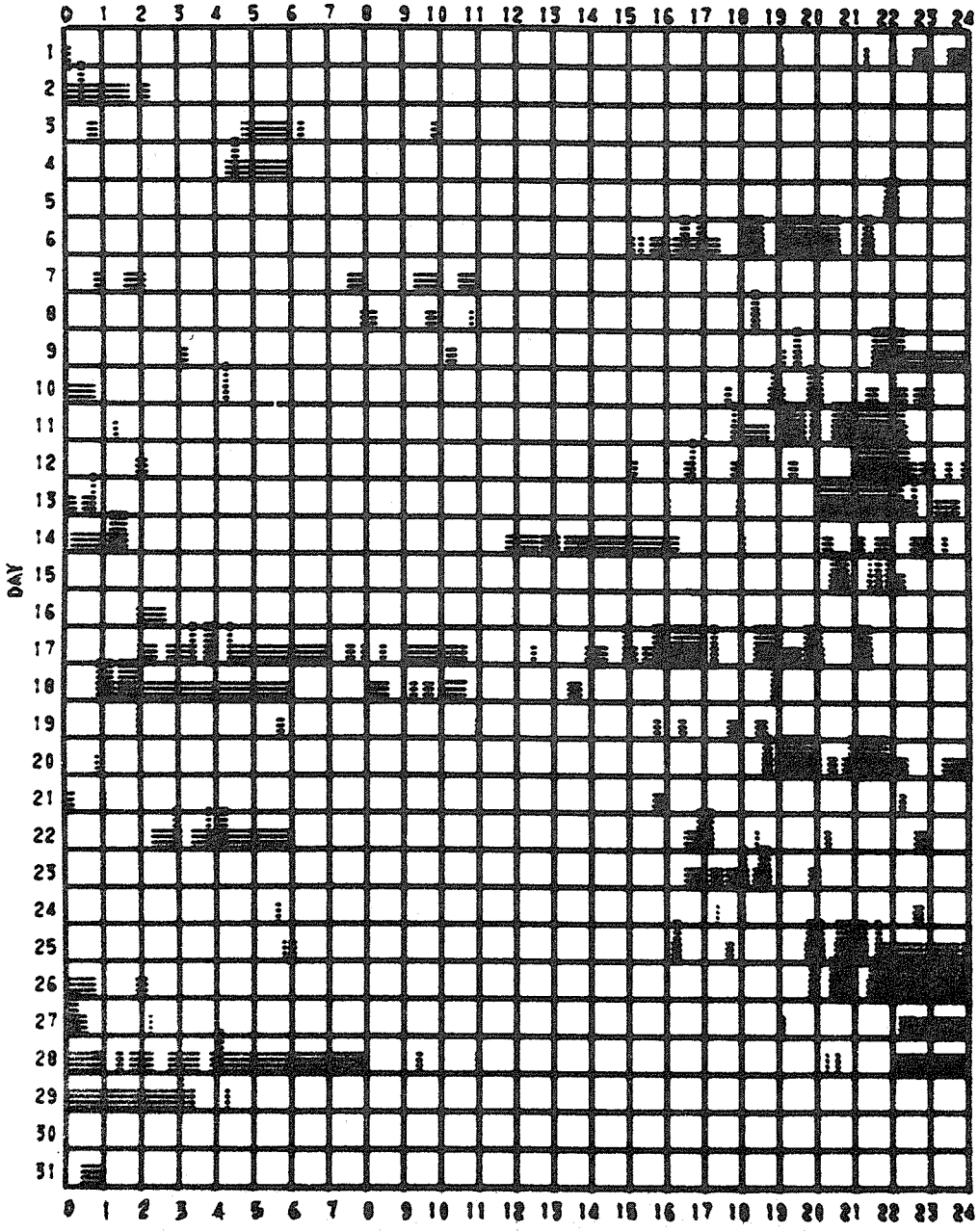
24	1953E	S03	E07	24	2001	S05	E21								
25	0239	S03	E02	25	0507	N01	E05								
25	0655	N16	W54	25	0655	N16	W52								
25	1622E	N14	W62	25	1714E	S04	W04								
26	0453	S02	W09	26	0734	S01	W13								
26	1234	S02	W14	26	1359	S02	W14								
27	0724	S05	W25	27	0724	S03	W26								
27	1203	S01	W32	27	1205	N01	W34								
27	1318	S01	W32	27	1320	N01	W32								
27	1608E	S00	W41	27	1609E	S01	W36								
28	0056	N12	E18	28	0459	S01	W41								
28	1245	N02	W47	28	1247	S06	W32								
28	1858	S05	W36	29	0431	S02	W55								
29	1220	N18	W24	29	1311	N18	W26								
30	0435E	N14	E53	30	0610	S06	W70								
30	1156	N17	W38	30	1657	N17	W40								
31	0352E	N15	W68	31	1323	N21	W82								

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MAY 1973

HOUR-UT



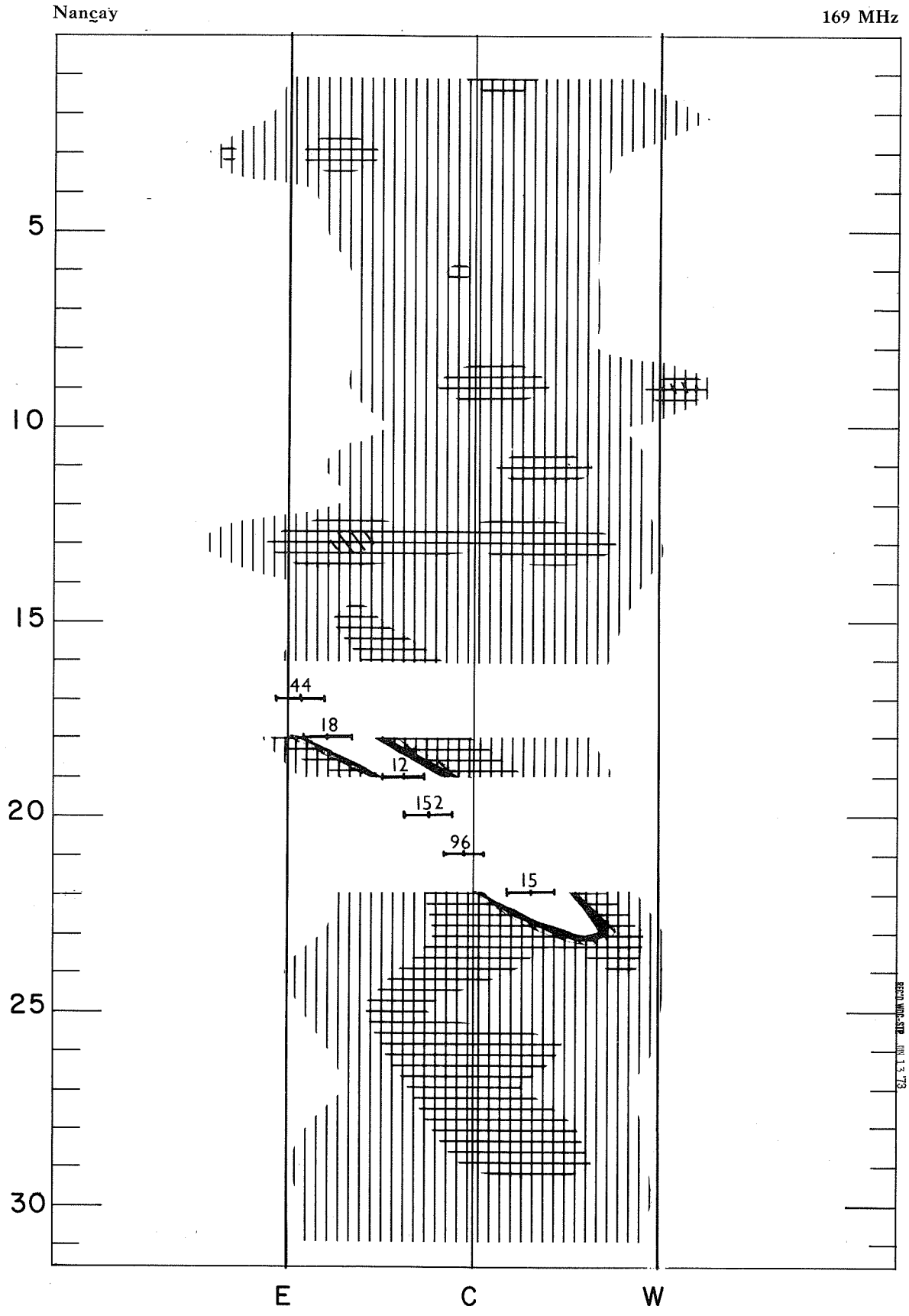
Observatories included in total patrol:

Athens	Catania	Manila	Palehua	Upice
Bucharest	Herstmonceux	McMath-Hulbert	Ramey	Wendelstein
Capri-F (German)	Istanboul	Mitaka	Tehran	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

MAY 1973



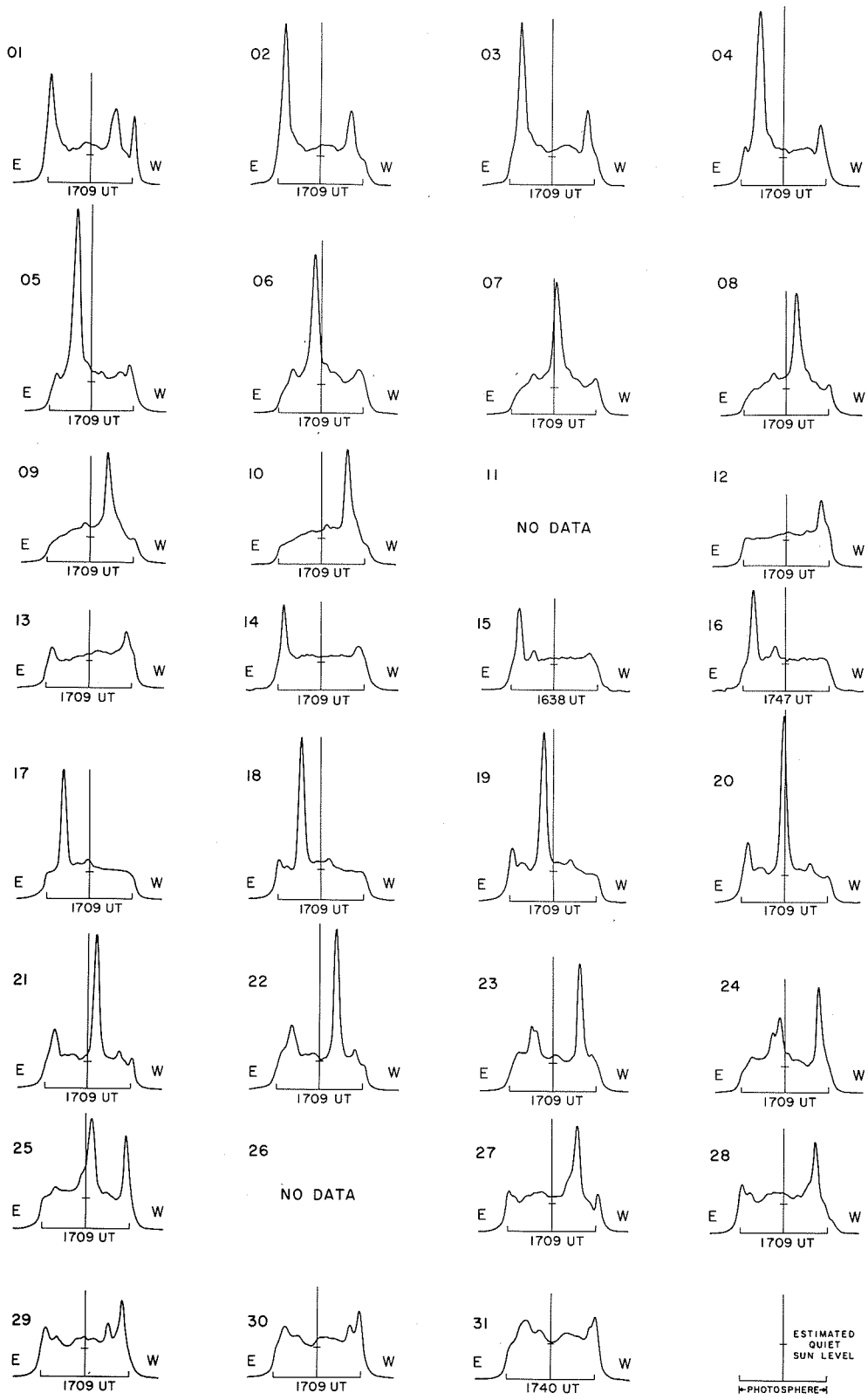
16
May 73

EAST - WEST SOLAR SCANS

May 1973

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan-Beam with 1.5 minutes of arc
E - W Resolution

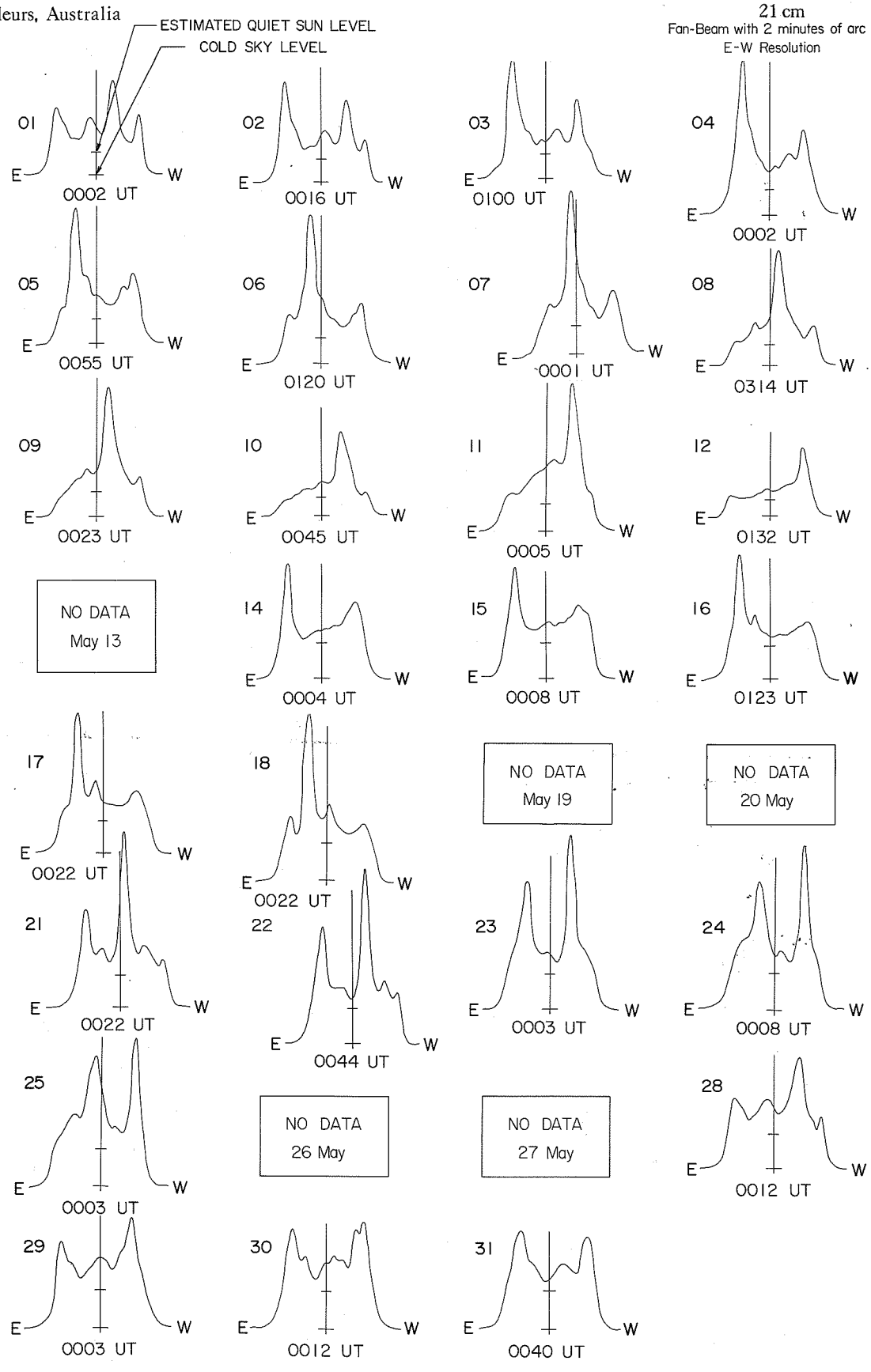


EAST-WEST SOLAR SCANS

MAY 1973

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



EAST-WEST SOLAR SCANS

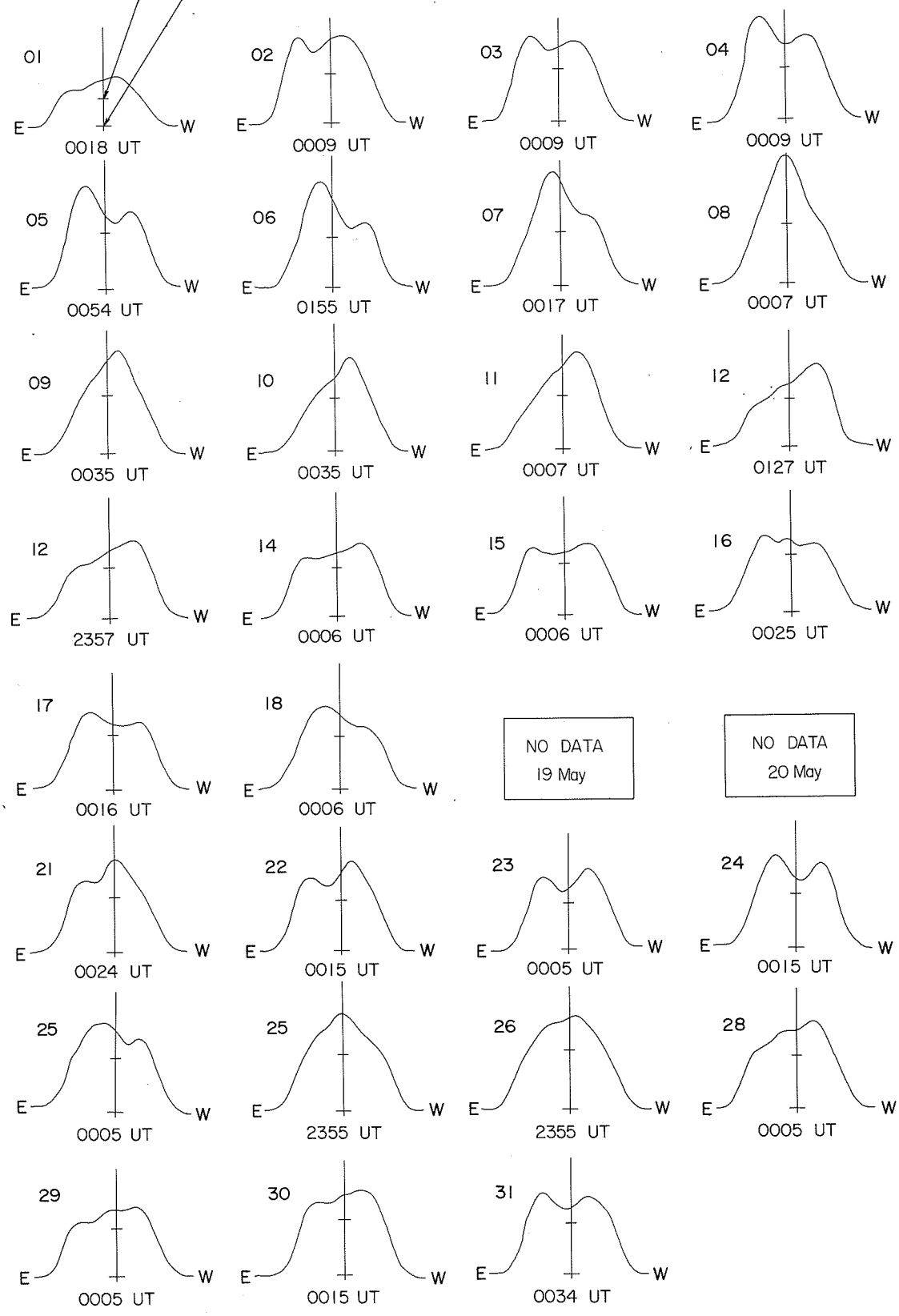
MAY 1973

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1973

MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	8800 MANI	47	0238.8	0321.7	83	5000.0	2800.0		
	2695 MANI	47	0238.8	0307.8	88.5	4500.0	1780.0		
	2695 CRON	47	0242	0308	199	3914.0	314.0		
	8800 MANI	30	0401.8	0401.8	213.3	310.0	73.0		
	2695 MANI	30	0407.3	0407.3	204.4	350.0	100.0		
	2695 MANI	22	0418.6	0439.9	29	102.0	31.5		
	8800 MANI	22	0424.1	0439.9	25.2	82.0	18.3		
	8800 MANI	4	0913.3	0916.3	11.9U	62.0	18.3U		
	2695 MANI	4	0913.2	0914.8	11.8U	16.3	8.2U		
	2695 CRON	3	0913	0914	4	10.0	4.0		
	2695 CANR	45	0914.5	0916	8.5	19.0	6.0		
	8800 SGMR	3	1111.1	1111.5	6	18.3	7.2		
	8800 SGMR	20	1152.5	1157.3	12.2	10.6	5.3		
	2695 CANR	3	1317.5	1318.5	1.5	3.0	1.0		
	2800 OTTA	28	1317	1318	2	2.0	1.0		
	2695 BOUL	8	1318	1318.5	2	12.0	4.0		
	8800 SGMR	3	1319	1319.4	5.3	20.1	8.0		
	2695 SGMR	3	1319.1	1319.4	6.3	40.0	16.0		
	2695 CANR	8	1319.5	1320.5	10.5	43.0	16.0		
	2800 OTTA	3	1319	1319.3	3.5	49.0	13.0		
	2800 OTTA	29	1322.5		21	4.0	1.5		
	8800 SGMR	3	1346	1346.9	3.8	17.1	6.4		
	2800 OTTA	21	1355	1515	315	6.4	3.2		
	8800 SGMR	3	1407.5	1408	4.5	11.2	4.3		
	2695 BOUL	45	1408	1419.5	6	10.0	3.0		
	8800 SGMR	46	1418.2	1419	13.3	89.0	38.1		
	8800 SGMR	46		1420.2		97.0			
	2695 SGMR	46	1418.3	1419.2	12.4	13.0	4.4		
	2695 SGMR	46		1420.2		13.4			
	2800 OTTA	4	1418.5	1420.1	7.5	13.8	4.6		
	2695 CANR	45	1419.5	1421	7.5	14.0	5.0		
	2800 OTTA	1	1440	1442	4	1.2	0.6		
	2695 BOUL	3	1559.5	1601.5	9.5	6.0	2.0		
	8800 SGMR	1	1600.6	1602.3	3.9	5.9	2.9		
	2695 SGMR	1	1600.7	1603.6	9.9	4.0	2.0		
	2800 OTTA	20	1600	1604	30	5.2	1.8		
	2695 CANR	21	1601	1605	17	7.0	2.0		
	8800 SGMR	23	1823.8	1830.8	36.3	20.2	4.8		
	2695 SGMR	22	1823.4	1830.6	37	12.4	3.0		
	2800 OTTA	46	1823	1830.8	13	14.2	7.1		
	2695 BOUL	45	1824.5	1830	25.5	11.0	3.0		
	2695 CANR	45	1825	1832	13	13.0	4.0		
	2800 OTTA	30	1836		20	4.0	2.0		
	8800 SGMR	3	1839.7	1840.6	3.2	19.8	4.0		
	2800 OTTA	8	1846.1	1846.1		8.0			
	2695 SGMR	3	1914.9	1915.1	1.4	15.4	5.4		
	2695 BOUL	8	1914	1914.5	1.5	6.0	2.0		
	2800 OTTA	3	1914.5	1915	3.5	18.2	3.6		
	8800 SGMR	3	1915	1915.1	1	11.0	5.1		
	2800 OTTA	32	1930	1945	40	-2.0	-1.0		
	2695 SGMR	46	2025.9	2034.1	28.1U	100.0	20.0U		
	2695 SGMR	46		2038.6		96.0			
	2800 OTTA	28	2026		5	2.0	1.6		
	2695 BOUL	45	2030.5	2050	24.5	47.0	14.0		
	8800 SGMR	46	2031	2035.9	23 U	200.0	65.0U		
	8800 SGMR	46		2038.7		280.0			
	2800 OTTA	46	2031	2034.2	26	96.0	30.0		
	2800 OTTA		2031	2034.2	7.2	96.0			
	2800 OTTA		2038.2	2039	10.3	95.0			
	2800 OTTA		2048.5	2050.8	8.5	58.0			
	2800 OTTA	30	2057		108	8.4	4.2		
	2800 OTTA	21	2105	2114	65	4.6	2.6		
	2800 OTTA	1	2105.3	2105.5	1	5.2	1.8		
	2800 OTTA	1	2106.9	2107.1	1	4.0	2.0		
	2800 OTTA	1	2110	2111	2	7.2	2.8		
2	8800 MANI	3	0032.8	0033.1	1.2	42.0	16.8		
	2695 MANI	1	0032.8	0033.1	1.4	9.6	4.8		
	2695 CRON	8	0032.5	0033	1	10.0	3.0		
	2695 BOUL	8	0032.5	0033.5	1.5	11.0	4.0		
	2695 PENT	1	0032.8	0033.1	2	7.6	2.6		
	8800 MANI	4	0105.7	0107.6	6.8	11.8	3.4		
	2695 MANI	2	0107.1	0107.5	.9	5.8	1.9		
	2695 PENT	2	0107.1	0107.2	1	2.0	1.0		
	8800 MANI	4	0727.5	0731.9	8.5	47.4	10.3		
	2695 MANI	40	0729.7	0731.5	6.3	63.0	9.1		
	2695 CANR	45	0731.5	0732.5	3.5	58.0	17.0		
	2695 CANR	3	0757.5	0758	2	3.0	1.0		
	8800 SGMR	4	1148.5	1149.3	8.6	410.0	160.0		
	2800 OTTA	4	1148.5	1149.5	5	76.0	19.0		
	2695 SGMR	4	1149	1149.5	5.9	74.2	26.0		
	2695 CANR	8	1149.5	1150.5	6	88.0	31.0		
	2800 OTTA	20	1305	1315	90	2.6	1.3		
	2800 OTTA	26	1510		155	3.0			
	2800 OTTA	20	1510	1535	140	4.0	2.4		
	2695 CANR	3	1709	1710	1.5	7.0	2.0		
	2695 BOUL	3	1812	1813.5	2.5	4.0	1.0		
	2800 OTTA	1	1812.5	1813	2	1.4	0.7		
	8800 SGMR	1	1858	1859.2	1.5	9.3	2.5		
	2695 SGMR	1	1858.3	1859.3	2.6	5.7	1.4		

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	2695 BOUL	3	1858.5	1859.5	1.5	4.0	1.0		
	2800 OTTA	2	1858	1859.1	2	3.4	1.4		
	2800 OTTA	1	2020	2021.5	2	1.4	0.6		
	2800 OTTA	2	2036	2036.8	1	6.2	3.1		
	8800 SGMR	4	2038.7	2041.1	16.3U	300.0	75.0U		
	2695 SGMR	46	2038.8	2039.1	8.2U	83.8	20.8U		
	2695 SGMR	46		2039.8		103.7			
	2800 OTTA	46	2038.6	2041.3	7	70.0	35.0		
	2800 OTTA		2038.6	2041.3	4.6	70.0			
	2800 OTTA		2043.2	2043.7	2.4	35.0			
	2695 BOUL	45	2039	2040.5	14.5	75.0	19.0		
	2800 OTTA	30	2045.6		240 D	16.4			
	2800 OTTA	1	2050	2050.9	3.5	9.0	4.4		
	8800 MANI	47	2147.6U	2149	2.9U	590.0U	186.0U		SUNRISE
	2695 MANI	4	2147.6U	2148.9	2.8U	104.0U	41.6U		SUNRISE
	8800 SGMR	4	2148.7	2149	1.3	145.9	48.7		
	2695 BOUL	45	2148.5	2149.5	7.5	56.0	12.0		
	2800 OTTA	45	2148	2149	7	73.0	12.8		
	2800 OTTA		2148	2149	3	73.0			
	2800 OTTA		2151	2152	4	45.0			
	2695 PENT	21	2310	2342	90	6.2	5.4		
	2695 PENT	1	2425.2	2425.7	1.5	6.6	2.0		
3	2695 MANI	2	0025	0025.7	2.1	7.8	3.3		
	2695 BOUL	8	0025	0026	1.5	10.0	4.0		
	8800 MANI	22	0148.1U	0156.2	30 U	40.0U	10.0U		
	2695 MANI	40	0148.1U	0152.5	23.9U	810.0	38.5U		
	2695 CRON	45	0218	0223	25	417.0	124.0		
	2695 CRON	3	0329.5	0334	8.5	8.0	3.0		
	2695 CRON	45	0438.5	0503	39.5	13.0	4.0		
	8800 MANI	4	0537.5	0538.2	4.7	52.0	16.0		
	2695 MANI	4	0537	0538.3	5.6	26.8	4.4		
	8800 MANI	47	0829.7	0833.5	21.7	2500.0	880.0		
	2695 CRON	47	0829.5	0834	34	687.0	153.0		
	2695 MANI	47	0830.8	0833.4	20.6	1100.0	400.0		
	2695 CANR	47	0831.5	0834.5	60.5	1169.0	219.0		
	8800 MANI	29	0851.4	0851.4	43.8	44.0	17.6		
	2695 MANI	29	0851.4	0851.4	43.8	12.0	5.5		
	2800 OTTA	22	1100 E	1115	170 D	7.2			
	8800 SGMR	1	1220.2	1220.4	2	7.4	1.7		
	2800 OTTA	20	1255	1315	55	4.6	2.6		
	2800 OTTA	21	1413	1515	145	2.4	1.2		
	8800 SGMR	3	1552.6	1552.8	.4	14.8	4.0		
	2695 SGMR	1	1552.8	1552.9	1.6	3.2	1.0		
	2695 BOUL	8	1552.5	1553	1	10.0	4.0		
	2800 OTTA	1	1552.5	1552.9	1.5	10.6	2.5		
	2695 CANR	8	1554	1554.5	1	8.0	3.0		
	2800 OTTA	22	1715		65	1.6	1.0		
	2800 OTTA	20	1825	1922	110	3.4	1.7		
	2800 OTTA	24	2040	----	25	2.0			
4	2695 PENT	26	0000	----	40	3.4			
	2695 CRON	3	0242	0248.5	12.5	7.0	2.0		
	8800 MANI	3	0622.8	0623.2	1.8	22.9	6.2		
	2800 OTTA	24	1240		55	4.1			
	2800 OTTA	20	1420	1432	35	2.4	1.2		
	2800 OTTA	21	1455	1540	255	12.8	6.8		
	2800 OTTA	4	1501.8	1505	8	12.8	6.0		
	2695 CANR	45	1504.5	1507	7	14.0	4.0		
	2695 BOUL	3	1935	1936	2	4.0	2.0		
	2800 OTTA	1	1935	1935.5	2	3.2	1.6		
	2800 OTTA	26	2000		35	5.2			
	2800 OTTA	1	2031.8	2032	2	2.0	1.0		
	2800 OTTA	20	2100	2101	10	1.4	0.7		
	2800 OTTA	1	2222.5	2224	4.5	1.6	0.8		
	2695 PENT	20	2240	2323	80	3.4	1.7		
5	8800 MANI	4	0452.3	0452.6	9.4	33.3	13.3		
	8800 MANI	40	0928.7	0935.4U		71.0U	--.-		
	2695 MANI	40	0928.8	0952.4U		24.4U	--.-		
	2695 CANR	45	0930	0933	11	24.0	9.0		
	8800 SGMR	44	1107.9	1109.9	5.9	11.1	2.5		
	8800 SGMR	45		1112.6		9.8			
	2800 OTTA	20	1110	1113	25	4.0	2.0		
	2800 OTTA	26	1140		50	5.4			
	2800 OTTA	24	1340		20	2.0			
	2800 OTTA	20	1430	1508	90	1.6	0.8		
	2800 OTTA	20	1620	1621	14	1.4	0.7		
	2695 SGMR	21	1646.5	1752.4	148.1	34.3	13.8		
	2800 OTTA	1	1647.5	1648	2.5	1.0	0.5		
	8800 SGMR	23	1653.9	1800	138	69.3	26.6		
	2800 OTTA	21	1655	2010	630	14.6			
	2800 OTTA	21	1705	1755	130	36.0	18.0		
	2695 SGMR	46	1712.7	1716.2	21.3	345.0	138.0		
	2695 SGMR	46		1717.9		275.0			
	2695 BOUL	45	1712.5	1718	120	284.0	44.0		
	2800 OTTA	4	1712.7	1717	11.3	355.0	110.0		
	8800 SGMR	47	1713.5	1716.2	20.8	497.0	224.0		
	8800 SGMR	47		1717.9		560.0			
	2695 CANR	45	1714	1718	17	318.0	108.0		

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	2800 OTTA	29	1724		14	16.6	8.0		
	2800 OTTA	20	1842	1845	13	4.0	1.8		
6	2695 CRON	45	0902.5	0905	13	12.0	4.0		
	8800 MANI	2	0903.4	0905.9	9.5	9.2	2.3		
	2695 MANI	4	0903.4	0905.8	5.4	15.2	3.5		
	2695 CANR	3	1020	1021	1.5	2.0	1.0		
	2695 CANR	3	1037.5	1038.5	2.5	3.0	1.0		
	2800 OTTA	21	1055	1140	105	4.2	2.1		
	2695 CANR	3	1135	1138	8.5	3.0	1.0		
	2800 OTTA	1	1154.5	1156	2.5	1.6	0.8		
	2695 CANR	3	1156	1157	2	3.0	1.0		
	2695 CANR	3	1210	1214.5	10	6.0	2.0		
	2800 OTTA	21	1210	1215	20	2.0	1.0		
	8800 SGMR	20	1211.3	1213	17.2	13.5	6.0		
	2800 OTTA	1	1212.5	1213	3	4.4	1.5		
	2800 OTTA	24	1300		30	3.0			
	8800 SGMR	2	1456.9	1457.6	8	8.6	2.0		
	2695 SGMR	1	1457	1457.7	8.2	4.8	2.0		
	2800 OTTA	1	1457	1457.5	2	6.8	2.4		
	2800 OTTA	21	1630	1915	310	2.4	1.2		
	2800 OTTA	20	1735	1737	10	1.2	0.6		
	2695 CANR	3	1736.5	1737.5	2.5	3.0	1.0		
	2800 OTTA	21	1800	1808	30	2.6	1.3		
	2695 CANR	3	1808	1809.5	3	3.0	1.0		
	2800 OTTA	1	1821.5	1822	2	1.8	0.9		
	2695 BOUL	45	1950	1955.5	15.5	8.0	3.0		
	2800 OTTA	20	1950	1956	90	7.0	2.4		
	2695 PENT	20	2230	2440	200 D	4.6			
7	2695 MANI	2	0635 U	0637.4U	5.3U	9.1U	2.3U		RFI
	2695 CRON	8	0635	0636	2.5	12.0	4.0		
	8800 MANI	3	0637	0637.4	2.5	22.9	4.6		
	2695 CRON	3	0836	0837	1.5	6.0	2.0		
	2695 SGMR	1	1030.8	1031.5	5	1.6	.8		
	8800 SGMR	1	1328.5	1328.8	2.2	9.5	5.0		
	2695 SGMR	1	1328.5	1328.9	4	3.2	1.5		
	2695 BOUL	3	1328.5	1329	1.5	4.0	1.0		
	2800 OTTA	1	1328.5	1329	4	3.6	1.2		
	2800 OTTA	1	1513	1513.5	1	1.0	0.5		
	2800 OTTA	20	1755	1800	25	1.4	0.7		
	2800 OTTA	21	2000	2335	280 D	23.0			
	2695 SGMR	1	2002.1	2006.8	7.9U	3.8	.4U		
	2800 OTTA	20	2048	2125	75	8.2	4.6		
8	2695 CANR	3	0824.5	0827	3	3.0	1.0		
9	2695 MANI	2	0435.4	0437.1	2.6	5.5	2.2		
10	2800 OTTA	1	0025	0025.5	4	.8	0.4		
	2800 OTTA	20	1538	1545	25	1.6	0.8		
	2800 OTTA	26	1630		135	3.2			
	2800 OTTA	20	1630	1715	135	4.4	2.2		
	2695 BOUL	8	1936.5	1937	1.5	15.0	6.0		
12	2800 OTTA	20	1200		190	1.2	0.8		
13	2800 OTTA	21	2010	2510	335 D	11.0			
	2800 OTTA	1	2252.2	2252.9	3	1.6	1.0		
	2695 BOUL	3	2253	2253.5	2	3.0	1.0		
14	2800 OTTA	1	1251.5	1252	2	2.4	1.2		
	2695 CANR	3	1252	1253	2.5	4.0	1.0		
	2800 OTTA	22	1420	1458	130	8.2	2.8		
	2695 SGMR	20	1429.8	1438.8	63.6	7.2	3.6		
	2695 CANR	45	1431.5	1439	33.5	6.0	2.0		
	2695 BOUL	3	1437.5	1439	3	3.0	1.0		
	8800 SGMR	3	1551.9	1552.1	.9	21.5	8.6		
	2800 OTTA	20	1700	1704	13	1.2	0.6		
	2800 OTTA	21	1840	1850	30	1.6	0.8		
	2800 OTTA	1	1856	1856.5	3	1.4	0.7		
15	2800 OTTA	20	1135	1142	20	2.4	1.2		
	2800 OTTA	20	1800	1807	25	1.2	0.6		
	2800 OTTA	20	1910	1920	30	1.6	0.8		
16	8800 MANI	4	0453	0455.2	6	11.0	4.4		
	2695 MANI	4	0453	0456	10.6	16.3	5.1		
	2695 CRON	45	0453	0500	12	16.0	4.0		
17	2695 CRON	8	0702.5	0704	2.5	12.0	4.0		
	2695 MANI	3	0703.4	0704.4	9.8	10.4	3.1		
	2695 CANR	45	0703.5	0705	2	13.0	4.0		
	2695 CANR	8	1046	1046.5	1	4.0	1.0		
	2800 OTTA	1	1046	1046.1	2	3.4	1.2		
	2800 OTTA	1	1208.2	1208.5	1	1.6	0.6		
	8800 SGMR	4	1343.4	1344.5	3.7	23.3	5.8		
	2695 SGMR	2	1343.6	1344.5	2.6	3.8	1.0		
	2800 OTTA	21	1343	1400	115	5.4	2.0		
	2800 OTTA	2	1343.5	1344.5	2	3.4	1.7		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2695	CANR	3	1344	1345	1.5	3.0	1.0		
	2695	BOUL	3	1344	1345	2	4.0	1.0		
	8800	SGMR	22	1354.5	1356.7	12.6	11.4	2.9		
	2695	SGMR	46	1354.2	1355.2	12.8	19.7	14.4		
	2695	SGMR	46		1356.6		57.6			
	2695	CANR	45	1354	1357	13	53.0	13.0		
	2800	OTTA	4	1354	1355	4.5	18.6	4.8		
	2695	BOUL	45	1355	1357	12.5	56.0	9.0		
	2800	OTTA	20	1548	1633	70	1.8	0.8		
	2695	BOUL	3	1632.5	1633	2.5	3.0	1.0		
	2695	SGMR	1	1823.8	1826.3	7.4	2.5	1.2		
	8800	SGMR	4	1825	1825.2	.9	11.4	2.0		
	8800	SGMR	47	1907.3	1908.8	25.3	835.0	334.0		
	8800	SGMR	47		1912.1		270.0			
	2695	SGMR	46	1907.5	1909	36.4	52.6	26.6		
	2695	SGMR	46		1912.4		64.0			
	2695	BOUL	45	1907.5	1909.5	12.5	58.0	15.0		
	2800	OTTA	46	1907	1909	13	55.0	19.0		
	2800	OTTA		1907	1909	3	55.0			
	2800	OTTA		1910	1912.2	10	54.6			
	2695	CANR	45	1908	1909.5	7.5	50.0	14.0		
	2800	OTTA	24	2230		25	1.2			
	8800	SGMR	1	2257.2	2258.2	1.9	8.8	4.4		
	2695	SGMR	1	2257.7	2258	1.8	5.1	2.6		
	8800	MANI	1	2257.6	2257.9	1.2	5.3	1.8		
	2695	MANI	1	2257.6	2258	1.7	3.2	1.1		
	2800	OTTA	1	2257	2258	2.5	4.4	1.5		
	2695	BOUL	3	2258	2258.5	1.5	6.0	2.0		
18	2695	MANI	20	0345.4	0353.2	12	5.3	1.1		
	8800	MANI	1	0457.7	0458.2	3.7	7.6	1.9		
	2695	MANI	3	0457.6	0458.7	4.9	12.6	3.2		
	2695	CRON	3	0457.5	0458.5	1.5	8.0	3.0		
	2695	CRON	8	0625	0626.5	2	10.0	4.0		
	2695	MANI	3	0626.7	0627.6	4.1	12.6	4.2		
	2695	MANI	1	0759.9	0801	3.1	3.2	1.1		
	2695	CRON	3	0759.5	0800.5	2.5	6.0	2.0		
	2695	CANR	3	0800	0801.5	4.5	5.0	1.0		
	2800	OTTA	20	1255	1315	80	1.6	0.8		
	2800	OTTA	21	1525	1540	35	5.0	2.3		
	8800	SGMR	46	1527.2	1528.6	7.6	81.0	17.0		
	8800	SGMR	46		1530		105.2			
	2695	SGMR	46	1527.2	1530.1	8.8	22.1	6.0		
	2695	SGMR	46		1531.5		31.6			
	2695	CANR	45	1527	1532	27	34.0	10.0		
	2695	BOUL	45	1527.5	1532	25.5	33.0	8.0		
	2800	OTTA	46	1527	1531.6	9	33.0	11.2		
	8800	SGMR	30	1534.8	1534.8	18.2	6.6	3.0		
	2695	SGMR	30	1536	1536	21.2	2.3	1.0		
	2695	SGMR	4	1543.8	1548.1	7.3	32.6	6.0		
	2800	OTTA	45	1544	1545	2.2	4.6	1.6		
	8800	SGMR	3	1547.8	1548.2	3.4	20.9	5.0		
	2800	OTTA	3	1547.3	1548.1	3.5	30.0	7.5		
	8800	SGMR	4	2031.4	2031.7	2.1	25.2	10.1		
	2800	OTTA	21	2147	2200	30	5.0	2.3		
	2695	BOUL	45	2151.5	2156	13	60.0	25.0		
	2695	SGMR	46	2153.8	2155.8	11.2U	61.6	24.0U		
	2695	SGMR	46		2156.6		49.7			
	8800	MANI	46	2153.6	2157.2	12	330.0	83.0		
	2695	MANI	46	2153.5	2155.5	12.1	67.0	19.8		
	2800	OTTA	45	2153.9	2156	5.5	78.0	28.0		
	8800	SGMR	46	2155.1	2156	11.9U	272.0	140.0U		
	8800	SGMR	46		2156.5		370.0			
	2695	PENT	4	2200	2201	5	10.4	5.2		
	2800	OTTA	24	2305		160	8.4			
19	2800	OTTA	20	1155	1220	85	1.6	0.8		
	2800	OTTA	20	1333	1336	35	1.6	0.8		
	2800	OTTA	21	1555	1618	50	2.2	1.1		
	8800	SGMR	1	1557.6	1557.8	2.3	9.0	3.0		
	2695	BOUL	45	1600.5	1604	8.5	8.0	3.0		
	2695	SGMR	1	1602.5	1605.2	6.9	5.1	1.2		
	2695	CANR	45	1602.5	1604	5.5	7.0	2.0		
	2800	OTTA	2	1602.8	1603.6	6	5.0	2.5		
	2800	OTTA	21	2155		110	9.2	4.0		
	2800	OTTA	1	2230.8	2233.8	3	1.6	0.7		
	2695	BOUL	47	2233.5	2245.5	36	1909.0	311.0		
	2695	MANI	47	2238.5	2244.4	23	1640.0	194.0		
	8800	MANI	47	2241.5	2244.6	20.5	970.0	370.0		
	2695	SGMR	47	2242.6	2244.3	9.9	1420.0	210.0		
	2800	OTTA	47	2242.5	2244.5	12	1470.0	177.0		
	8800	SGMR	47	2243.2	2244.5	11.9	1000.0	180.0		
20	2695	MANI	4	0449.9	0450.8	3.4	60.0	10.6		
	2695	CRON	45	0449	0451	5.5	47.0	17.0		
	8800	MANI	4	0450	0450.3	6	165.0	26.8		
	2695	MANI	4	0525.8	0527.4	3.1	11.7	2.1		
	2695	CRON	45	0526.5	0528	3	9.0	3.0		
	2695	MANI	23	0536.1	0550.6	40.3	21.2	10.6		
	2695	CRON	45	0538.5	0557	30.5	92.0	2.3		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1973

MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	8800	MANI	23	0539.6	0546.6	40.9	23.4	9.8		
	8800	MANI	4	0558.5	0559.3	3	101.0	29.3		
	2695	MANI	4	0558	0559	5	126.0	31.8		
	2695	CANR	3	0923.5	0924.5	3.5	3.0	1.0		
	2695	CANR	45	0946	0946.5	5	3.0	1.0		
	2800	OTTA	21	1130	1145	35	2.4	1.2		
	2695	CANR	3	1141.5	1142.5	2	2.0	1.0		
	2800	OTTA	1	1141	1142	3	2.4	1.2		
	8800	SGMR	4	1254.3	1256.4	13.4	30.7	12.2		
	2695	CANR	45	1254.5	1256.5	10	27.0	8.0		
	2800	OTTA	4	1254	1256.1	7	26.2	7.0		
	2800	OTTA	29	1301		20	1.6	0.8		
	2800	OTTA	21	1440	1449	28	2.2	1.1		
	2695	SGMR	1	1447.8	1450	5.9	3.8	1.9		
	8800	SGMR	1	1448.4	1450	8.5	4.8	2.4		
	2695	CANR	3	1449.5	1450.5	1.5	3.0	1.0		
	2695	BOUL	8	1449	1450.5	2.5	4.0	1.0		
	2800	OTTA	1	1449.8	1450	1	1.6	0.8		
	2695	CANR	8	1652.5	1654.5	5	10.0	3.0		
	2800	OTTA	1	1652	1654	4	9.2	2.3		
	2695	BOUL	8	1653.5	1654.5	2	9.0	3.0		
	2695	SGMR	1	1823.8	1825.4	9.4	8.6	1.9		
	2695	CANR	45	1823.5	1825.5	6	10.0	3.0		
	2800	OTTA	45	1823.5	1825.3	5	9.0	4.3		
	8800	SGMR	3	1824	1825.2	9.3	10.8	2.2		
	2695	BOUL	45	1824	1826	5.5	9.0	3.0		
	2800	OTTA	29	1828.5		12	1.8	0.9		
	2695	SGMR	1	1925.6	1926.4	3.9	8.4	2.2		
	2800	OTTA	1	1925.5	1926.9	2.5	7.6	3.6		
	2695	BOUL	3	1926	1926.5	2.5	7.0	2.0		
	2800	OTTA	29	1928		10	1.6	0.8		
	2800	OTTA	21	2010	2025	30	2.8	1.2		
	8800	SGMR	22	2016.3	2022.4	16.2	22.7	4.4		
	2695	SGMR	22	2016.2	2022.4	17.2	13.5	2.8		
	2800	OTTA	2	2016	2018	3	4.4	2.0		
	2695	BOUL	45	2017	2023	11.5	13.0	4.0		
	2800	OTTA	4	2020	2022.2	5	11.8	3.9		
	2800	OTTA	21	2052	2054	45	2.6	1.3		
	2695	BOUL	21	2053	2054	10	7.0	1.0		
	2800	OTTA	1	2053.2	2053.8	1	2.6	1.3		
	8800	MANI	4	2144.5U	2147.2	7.5U	186.0U	75.0U		SUNRISE
	2695	MANI	4	2144.5U	2147.2	7.5U	90.0U	18.6U		SUNRISE
	2695	BOUL	8	2145.5	2148	6	73.0	25.0		
	2695	SGMR	3	2146.9	2147.3	1.5	57.5	14.4		
	2800	OTTA	3	2146	2147	6	88.0	12.7		
	8800	SGMR	3	2147.1	2147.4	1.8	82.2	20.5		
	2800	OTTA	31	2152	2205	50	-2.2	-1.1		
	2695	BOUL	45	2155.5	2156.5	6.5	26.0	9.0		
21	8800	MANI	3	0359.6	0401.4	6.1	12.4	4.1		
	2695	MANI	1	0359.4	0401.6	4.6	9.9	2.2		
	2800	OTTA	21	1210	1213	25	1.0	0.5		
	2695	SGMR	2	1211.7	1212.2	2.3	8.0	1.6		
	2800	OTTA	1	1211.7	1212.1	1	6.8	3.4		
	8800	SGMR	4	1212	1212.2	6.8	13.8	2.7		
	2695	CANR	8	1212.5	1213	1	6.0	2.0		
	2695	CANR	8	1434.5	1435.5	1.5	4.0	1.0		
	2695	BOUL	8	1434.5	1435	1	4.0	1.0		
	2800	OTTA	1	1434	1435	1.5	2.4	1.2		
	2800	OTTA	20	1450	1600	135	2.6	1.3		
	2800	OTTA	21	1743	1749	20	3.4	1.7		
	2800	OTTA	1	1743	1745	3	3.2	1.6		
	2695	BOUL	3	1744.5	1745.5	2	4.0	1.0		
	2800	OTTA	2	2053.2	2054.2	3	2.0	0.8		
	2695	PENT	2	2337	2338.5	5	1.8	0.9		
22	2695	CANR	8	1050.5	1052.5	4.5	27.0	10.0		
	2800	OTTA	21	1050	1053.5	15	2.6	1.3		
	2695	SGMR	4	1051.6	1052.2	2.7	18.0	3.0		
	2800	OTTA	4	1051.5	1052.2	1.5	13.6	3.4		
	2695	SGMR	20	1414.5	1420.6	18.3	5.5	2.0		
	2695	SGMR	20	1537.7	1543.8	16.3	5.5	2.0		
	2695	SGMR	20	1607.4	1614.3	17.1	5.0	2.0		
	2800	OTTA	21	1705	1755	165	7.4	3.7		
	2695	SGMR	22	1710 U	1724 U	78.3U	7.5	3.0U		
	2800	OTTA	21	1715	1718	30	5.2	2.6		
	2800	OTTA	8	1731.2	1731.5	.5	4.2			
	2695	SGMR	46	1924.4	1924.9	1.6	21.8	5.4		
	2695	SGMR	46		1925.3		10.5			
	2695	BOUL	8	1924	1925.5	3	27.0	10.0		
	2800	OTTA	4	1924.1	1925	1.5	13.6	6.8		
	2800	OTTA	20	2306	2320	55	2.0	1.0		
23	2800	OTTA	21	1825	1850	50	1.6	0.8		
	2800	OTTA	1	1831.9	1832.3	1.5	5.6	1.9		
	2695	CANR	8	1832.5	1833	1	6.0	2.0		
	2695	BOUL	8	1832.5	1833	1	6.0	2.0		
	2800	OTTA	1	1926.5	1927.5	2	1.8	0.9		
	2695	BOUL	3	1927	1927.5	2	3.0	1.0		
	2695	CRON	45	2351	2352.5	6.5	8.0	2.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1973

MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2695	CRON		2351	2354					
	2695	PENT	2	2351.5	2354	4.5	9.2	6.1		
	2695	BOUL	45	2353	2355	3	7.0	3.0		
	2695	PENT	29	2356		45	5.0	1.7		
24	2695	CRON	3	0657	0659.5	10	13.0	4.0		
	8800	MANI	4	0659.2	0700.4	14.9	17.5	5.3		
	2695	MANI	4	0659.2	0659.9	4.3	10.2	2.5		
	2800	OTTA	24	1205		5	1.6			
	2695	CANR	8	1735.5	1736	1	6.0	2.0		
	2800	OTTA	21	1813	1835	107	6.4	3.3		
	2695	CANR	3	1815.5	1817.5	5.5	11.0	3.0		
	2695	SGMR	3	1816.5	1818.1	6.9	13.4	6.7		
	2800	OTTA	2	1817	1818	7	8.4	4.0		
	2695	BOUL	45	1818	1819	5	7.0	2.0		
	2695	PENT	24	2210		120	3.6			
25	2800	OTTA	20	1104	1106	15	1.8	0.9		
	2800	OTTA	24	1147		8	1.4			
	2800	OTTA	1	1459.5	1500	1.5	1.4	0.7		
	2800	OTTA	20	1620	1635	27	1.4	0.7		
	2800	OTTA	21	1740		45	1.2	0.6		
	2800	OTTA	1	1812	1814	8	1.4	0.7		
26	2800	OTTA	1	1308	1310	7	1.0	0.5		
27	2800	OTTA	21	1202	1203.5	11	3.0	1.5		
	2800	OTTA	1	1204.5	1204.9	1	2.2	1.1		
	2800	OTTA	20	1315	1330	55	1.6	0.8		
	2800	OTTA	21	1415	1520	210	1.6	0.8		
	2695	SGMR	2	1606.2	1606.6	2.1	5.3	2.0		
	2800	OTTA	40	1606	1606.5	2	9.7			
	2695	PENT	1	2304.5	2306.5	4	3.8	1.9		
	2695	BOUL	3	2305	2306.5	5	5.0	2.0		
28	8800	MANI	8	0500.5	0501	.9	109.0	21.8		
	2800	OTTA	24	1240		5	2.8			
	2800	OTTA	26	1410		20	2.1			
	2800	OTTA	23	1735	1742	25	3.2	1.8		
	2695	BOUL	3	1737.5	1741	16	5.0	1.0		
	2800	OTTA	1	1740.6	1741	1	1.6	0.8		
	2800	OTTA	32	1905	1915	35	-2.0	-1.0		
29	2800	OTTA	24	1500		70	2.6			
	2800	OTTA	24	2020		50	1.8			

Observatories:

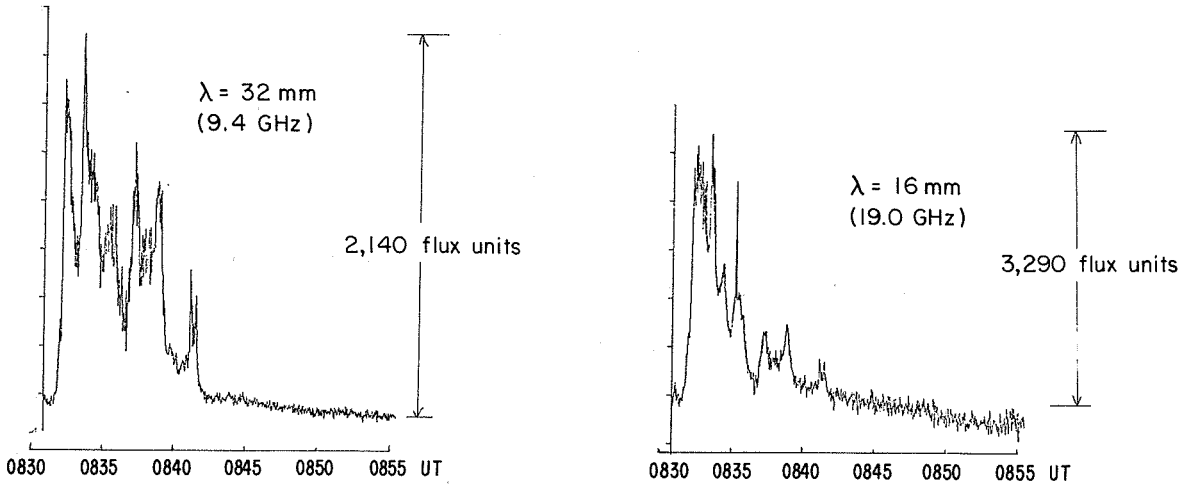
BOUL = Boulder
CANR = Canary Islands
CRON = Carnarvon
OTTA = Ottawa ARO
MANI = Manila
PENT = Penticton
SGMR = Sagamore Hill

Explanation of Type Code:

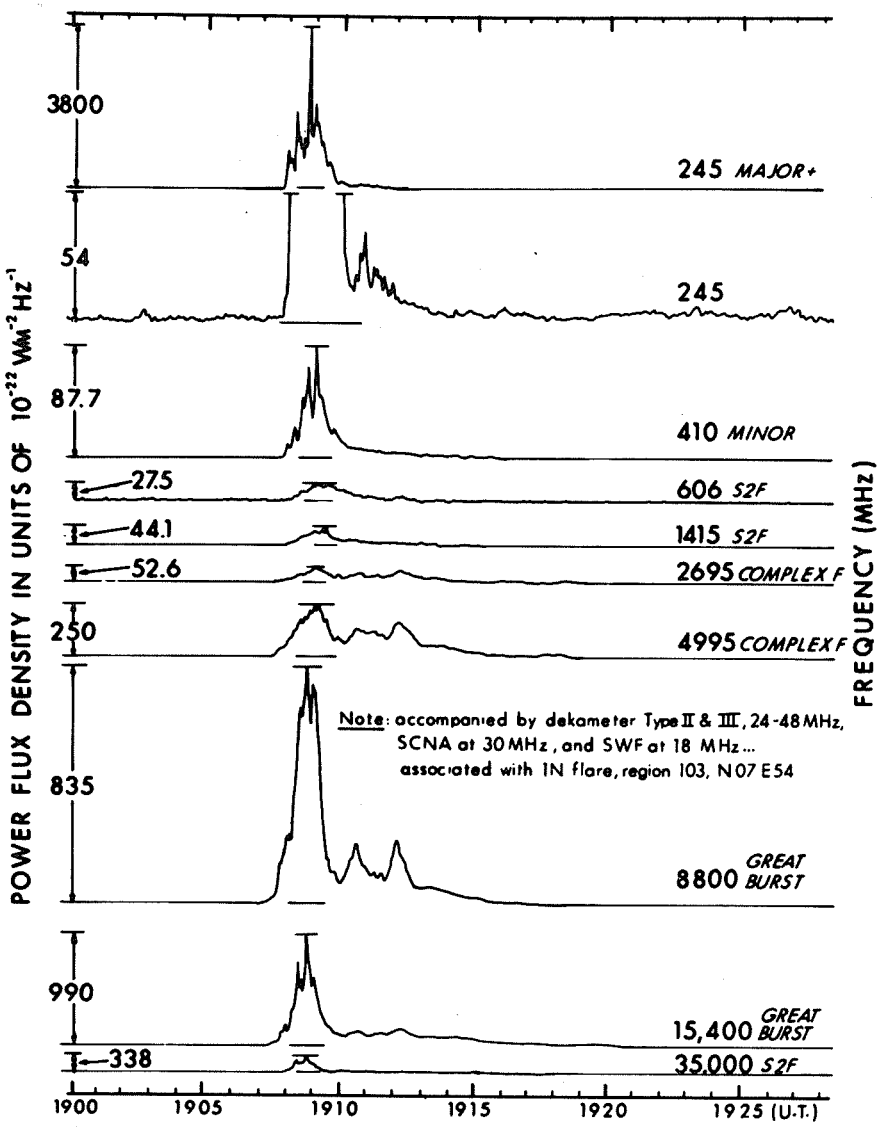
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SELECTED SOLAR NOISE BURSTS

MAY 1973



RADIO BURST OBSERVED ON 3 MAY, 1973 AT SLOUGH, U.K.



RADIO BURST OBSERVED ON 17 MAY, 1973
SAGAMORE HILL RADIO OBSERVATORY, HAMILTON, MASS.

PIONEER VI

MAY 1973

Date May 1973	Time (UT)	ESP (°)	Solar Wind[1]		Cosmic Ray Protons[2] (particles/sec)		
			U_{H^+} (km/sec)	TAU (Days)	0.6-13 Mev*	13-175 Mev**	>175 Mev
27	0300	-113.6	647	-8.218	2.91	.029	.065

PIONEER VII

MAY 1973

Date May 1973	Time (UT)	ESP (°)	Solar Wind[1]		Cosmic Ray Protons[2] (particles/sec)		
			U_{H^+} (km/sec)	TAU (Days)	0.6-13 Mev*	13-175 Mev**	>175 Mev
26	0300	-133.2	739	-10.0869	19.8	--	--

[1] Wolfe - NASA/ARC
[2] Simpson - University of Chicago

* Includes He 0.6-13 Mev/nucleons and electrons ∿0.5 Mev - see J. Retzler and J. A. Simpson, J. Geophys. Res., 74, 9, 2149-2160, 1969 for discussion of the electron response of Pioneer VII.
** Includes He >13 Mev/nucleons.
Q used to indicate that a rate is at its quiescent level.

Note: The notes published with the March 1972 data continue to apply to the current data.

ESP = Earth-Sun Probe Angle.

PIONEER VIII

MAY 1973

DATE May 1973	TIME (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IP MAGNETIC FIELD[3]			COSMIC RAY PROTONS[4] (particles/sec)	
			U_H^+ (km/sec)	N_H^+ (H^+/cc)	T_H^+ ($\times 10^6$ °K)	TAU (Days)	400 Hz (mv)	/B/ (Gamma)	ϕ (°)	Condition	>13.9 Mev	>64 Mev
7	2100	111.3	811	1.301	0.586	8.3567	0.274	6.6	182	very quiet	13.5	1.28
22	0300	110.9	482	0.463	0.100	8.3175	.312	5.8	323	very quiet	6.54	1.09
	0700		455	1.012	-----		.266				6.28	1.06
23	0300	110.9	355	-----	0.070	8.3113	.253	4.5	348	very quiet	6.66	1.03
	0700		408	1.27	0.078		.295				6.61	1.25
25	0500	110.9	519	2.36	0.179	8.3093	.827	14.9	320	very quiet	6.35	1.09
26	0600	110.9	530	3.36	0.464	8.3089	.639	14.8	315	very quiet	6.68	1.21
27	0600	110.9	600	.796	0.21	8.007	.300	13.6	315	very quiet	6.36	0.99
28	0230	110.8	608	.714	0.106	8.303	.225	7.1	312	disturbed (1)	6.52	1.23
	0630		608	.597	0.164		.270				6.49	1.04
29	0400	110.8	484	.453	0.086	8.2983	.274	5.5	342	quiet	6.46	1.0
30	0230	110.8	465	.809	-----	8.2951	.282	4.5	317	quiet	6.61	1.1
	0630		466	.837	-----		.229				6.61	1.26

[1] Wolfe - NASA/ARC
[2] Scarfe - TRW, Inc.
[3] Ness - NASA/Goddard & Mariani - Univ. of Roma
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

Note: (1) With 1 Field Direction Reversal at 0533 UT

Note: Possible Pioneer 8/10 Spiral Alignment Occurrences at various Nominal Solar Wind Velocities:

U_H^+(km/sec)	Date (of Alignment)
300	25 June 1973
400	9 May 1973
500	26 March 1973

PIONEER IX

MAY 1973

DATE May 1973	TIME (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IP MAGNETIC FIELD[3]			COSMIC RAY PROTONS[4] (particles/sec)	
			U_H^+ (km/sec)	N_H^+ (H^+/cc)	T_H^+ ($\times 10^6$ °K)	TAU (Days)	400 Hz (mv)	/B/ (Gamma)	ϕ (°)	Condition	>13.9 Mev	>40 Mev
1	1600	-001.0	659	0.88	-----	0.5667	0.11	12.5	132	very quiet	18	--
2	1040	-001.7	599	3.17	-----	0.597	.218	7.1	156	very quiet	10	--
	1430		550	2.36	-----		.163				13	--
3	1330	-002.3	443	1.57	-----	0.8447	.129	9.3	175	very quiet	15	--
	1730		414	1.73	-----		.121				9	--
9	1000	-006.1	483	1.44	0.098	0.4176	.155	9.1	160	quiet	5.38	0.96
	1400		470	2.38	.199		.172				5.19	0.94
10	1000	-006.7	489	1.7	.109	0.3379	.178	6.9	142	sl. dist.(1)	5.17	0.87
	1400		517	1.93	-----		.178				5.09	1.08
11	1000	-007.4	374	3.77	.0416	.5771	.195	8.7	124	quiet	5.09	0.91
	1400		384	5.68	.0755		.178				5.21	0.78
12	1000	-008.0	374	5.93	.036	.5707	.163	10.5	056	sl. dist.	4.99	1.01
	1400		350	3.64	.062		.258				5.01	0.86
16	1200	-010.5	777	1.56	.42	-0.2291	.163	8.5	326	sl. dist.(2)	4.56	0.85
23	0900	-014.8	470	2.67	.186	-0.2276	.188	7.2	320	very quiet	4.84	0.89
	1300		509	1.32	.171		.148				4.75	0.71
30	0830	-018.8	344	4.30	.079	-0.2737	.179	10.0	076	very quiet	5.36	0.97
	1230		379	3.65	-----		.217				5.43	0.90

Notes: (1) With 1 Field Direction Reversal at 0929 UT
(2) With 1 Field Direction Reversal at 1130 UT

Note: Pioneer 9/11 Radial Alignment occurred at 1200 UT 11 May 1973.

[1] Wolfe - NASA/ARC
[2] Scarfe - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

APRIL 1973 DATA

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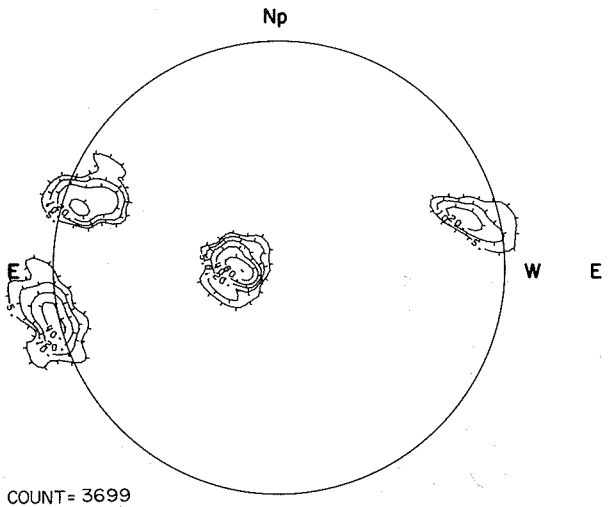
For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

APRIL 1, 1973 (P = -26.21, B_o = -6.53, L_o = 95.77)

Apr 30 73

NASA GSFC
OSO-7

X-RAY



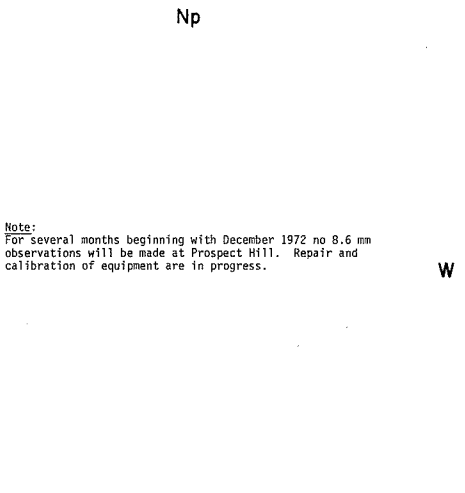
COUNT = 3699
ROLL = 32.9°
P-TH = -3.20

0950 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm



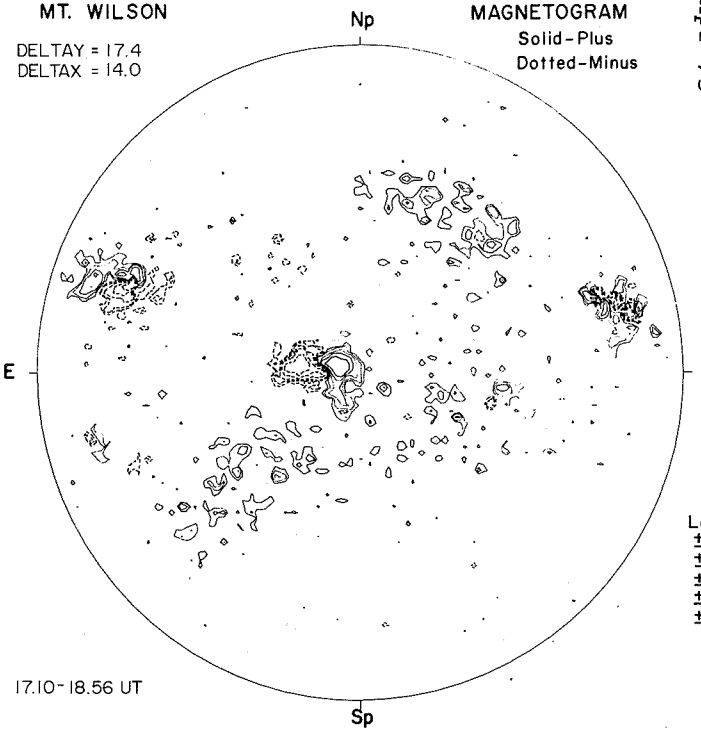
Note:
For several months beginning with December 1972 no 8.6 mm observations will be made at Prospect Hill. Repair and calibration of equipment are in progress.

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

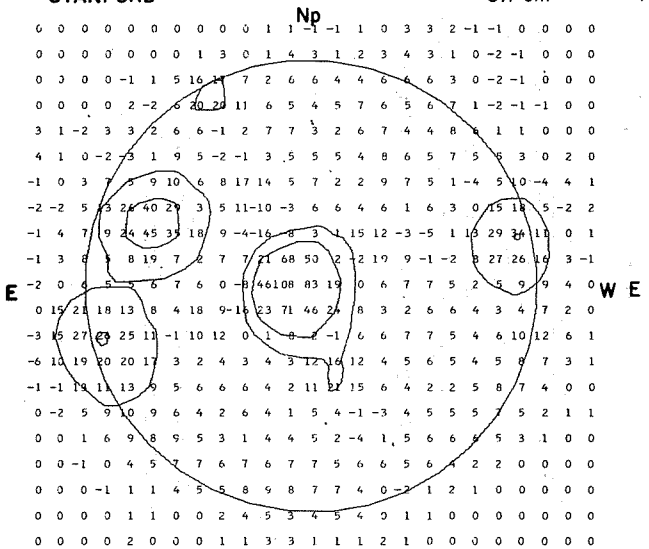


Levels
±5
±10
±20
±40
±80

17.10-18.56 UT

STANFORD

9.1 cm

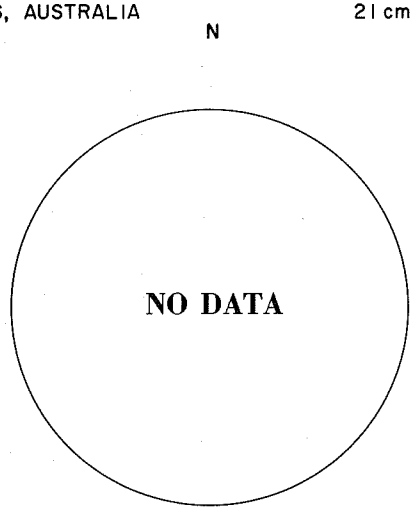


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

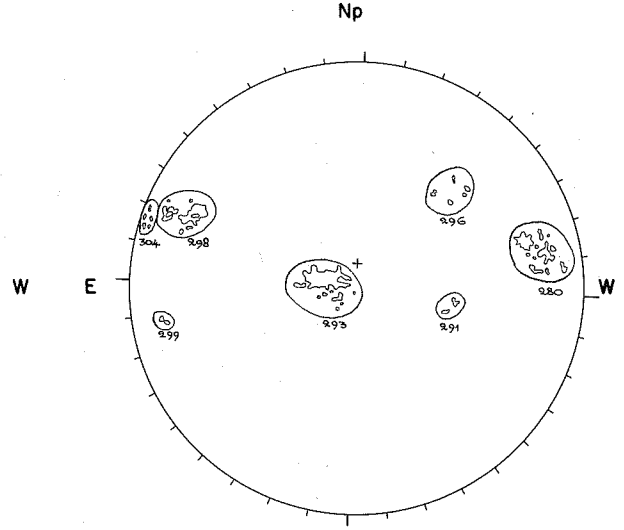


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

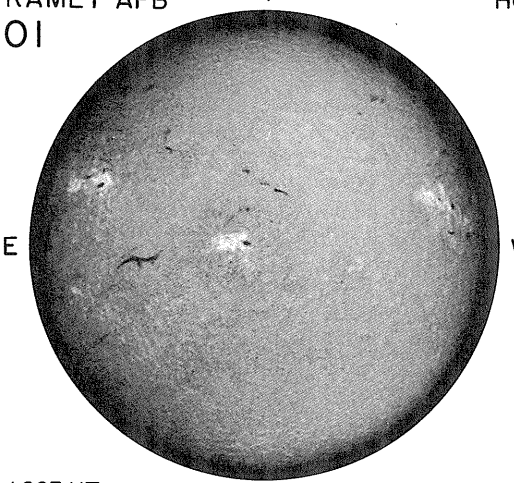
CALCIUM REPORT



FAIR	D
80 - 2800	- 3.0
93 - 2100	- 3.5
98 - 2200	- 3.5

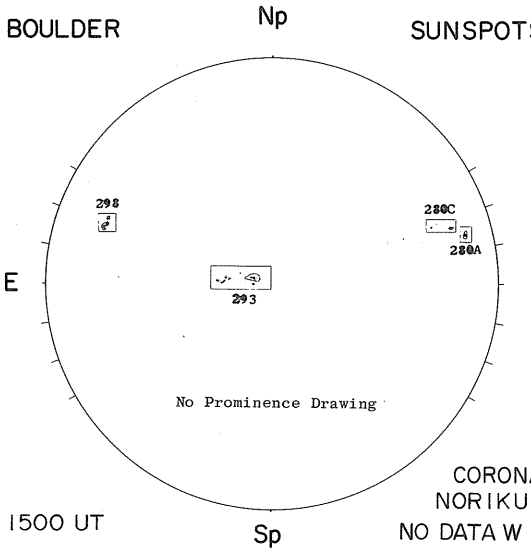
1600 UT

RAMEY AFB
OI



1603 UT

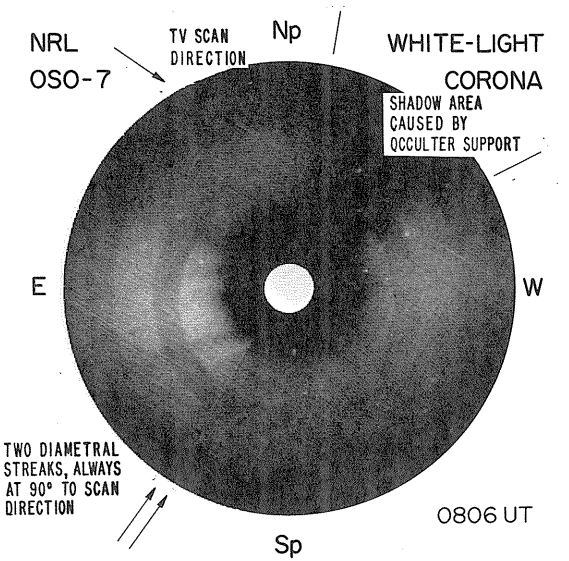
BOULDER



1500 UT

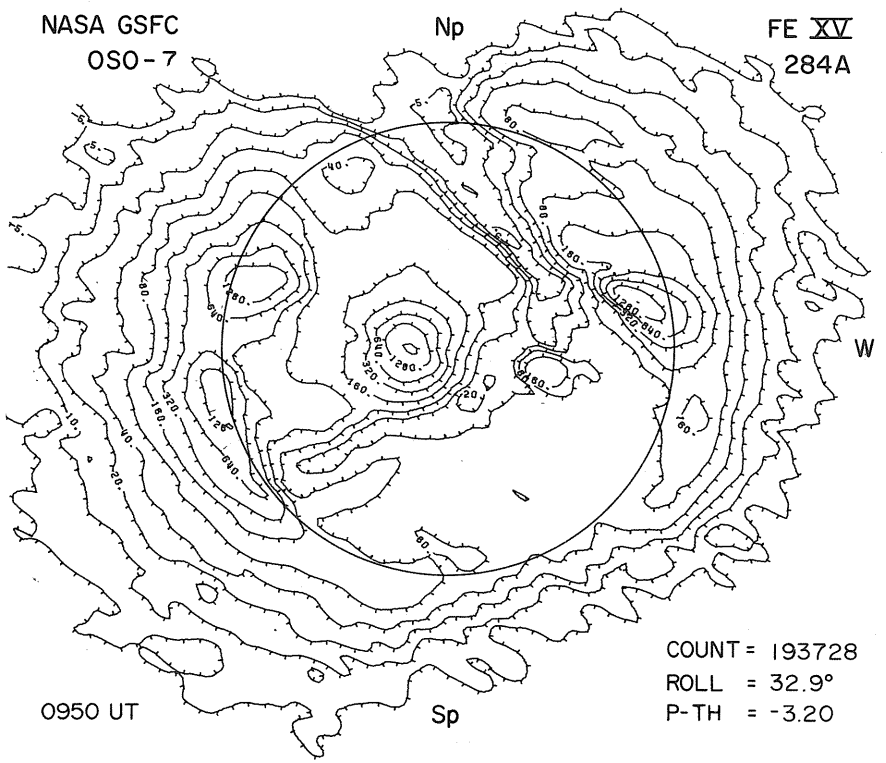
CORONA
NORIKURA
NO DATA W LIMB

NRL
OSO-7



0806 UT

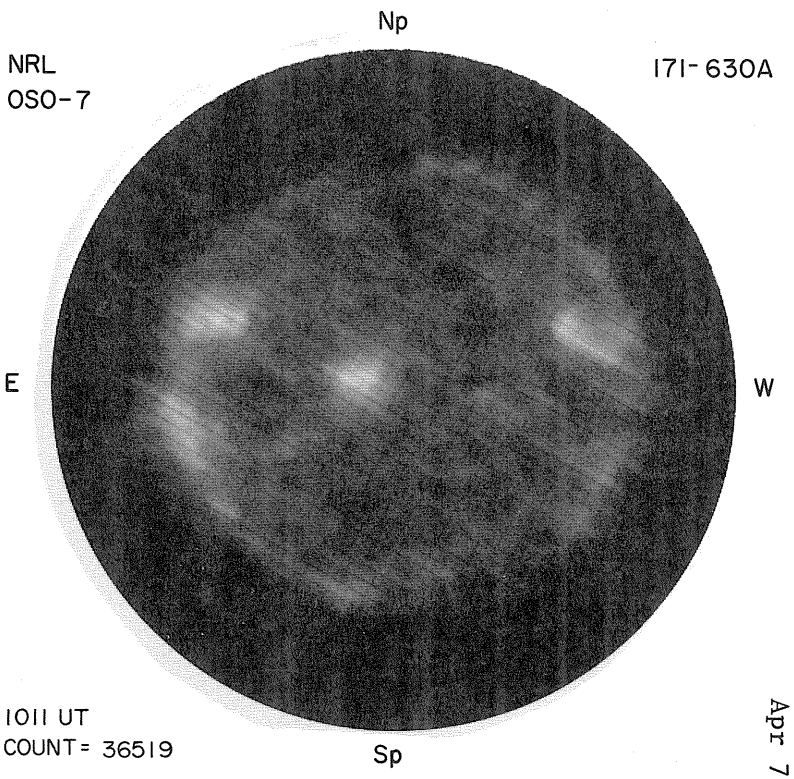
NASA GSFC
OSO-7



0950 UT

COUNT = 193728
ROLL = 32.9°
P-TH = -3.20

NRL
OSO-7



1011 UT
COUNT = 36519

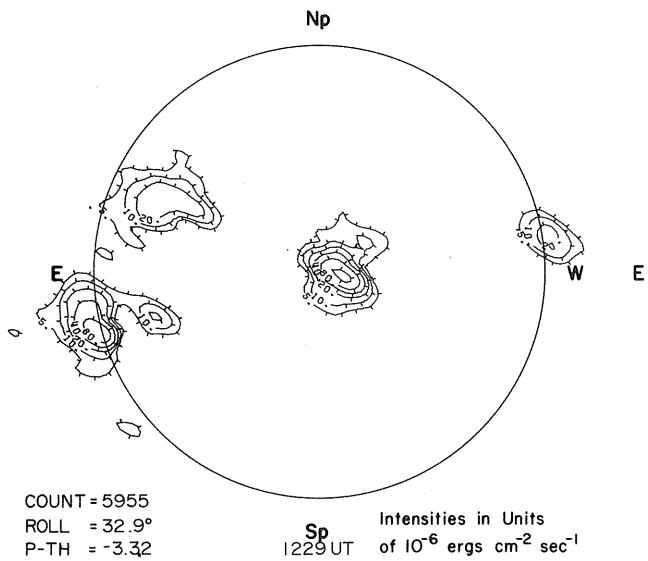
31
Apr 73

APRIL 2, 1973 (P = -26.25, B_o = -6.47, L_o = 82.58)

32
Apr 73

NASA GSFC
OSO-7

X-RAY



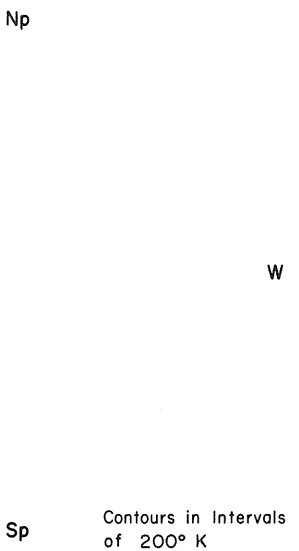
COUNT = 5955
ROLL = 32.9°
P-TH = -3.32

1229 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

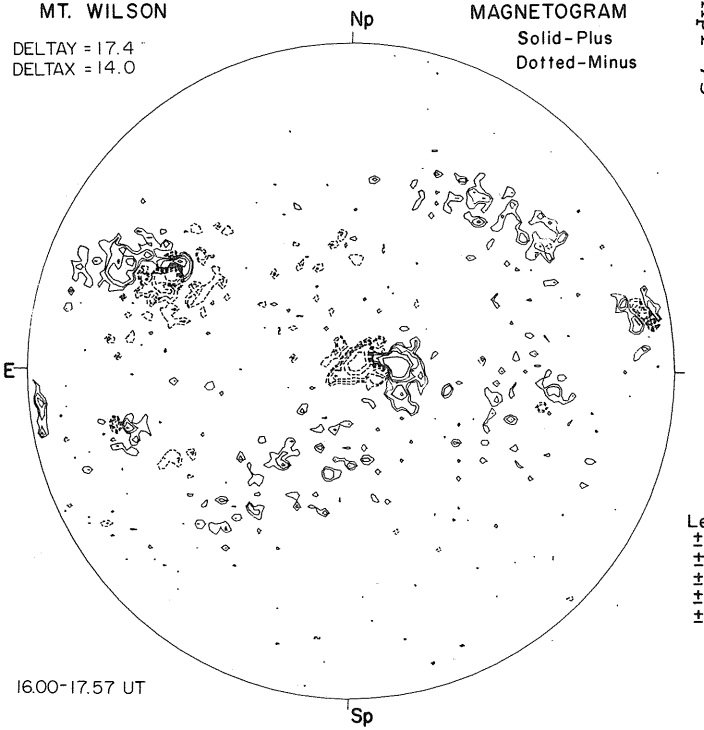


Contours in Intervals
of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

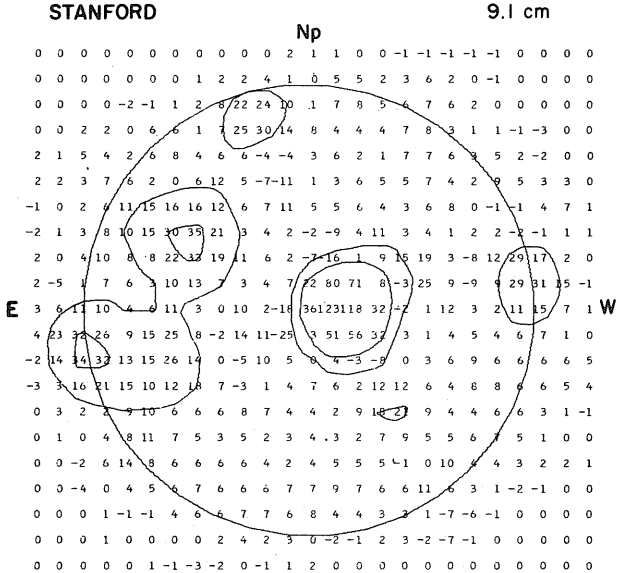


Levels
±5
±10
±20
±40
±80

16.00-17.57 UT

STANFORD

9.1 cm

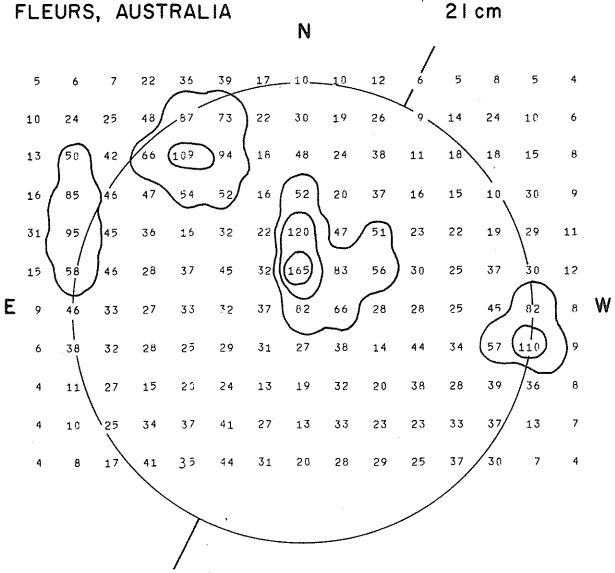


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

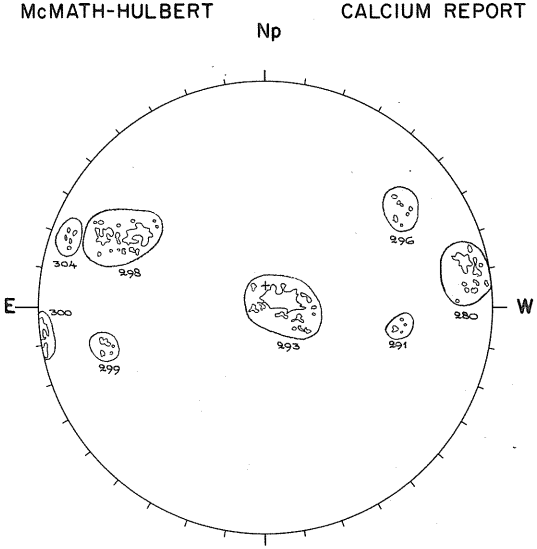


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
80 - 2400 - 2.5	
93 - 2800 - 4.0	
98 - 2600 - 3.5	
99 - 0500 - 3.0	
00 - 1400 - 2.5	

1415 UT

BOULDER
02

Np

Hα

E

NO DATA

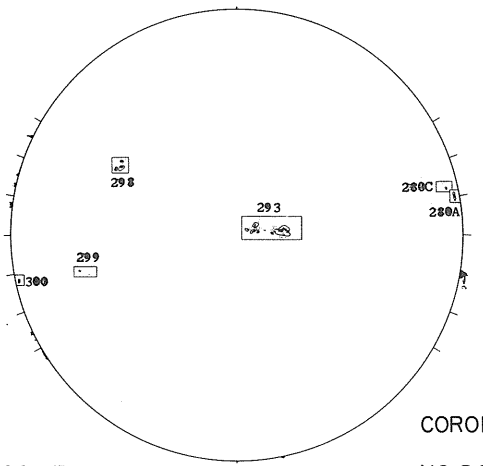
W

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

NO DATA

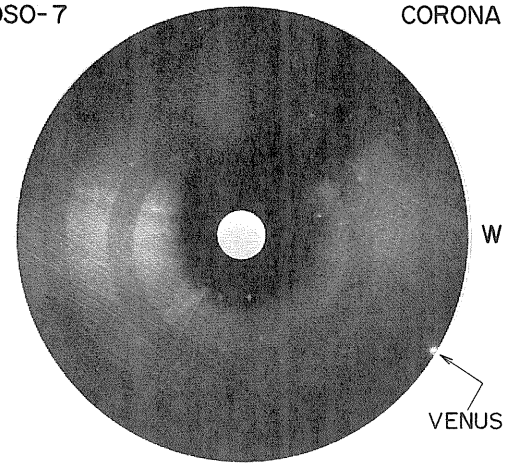
2100 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

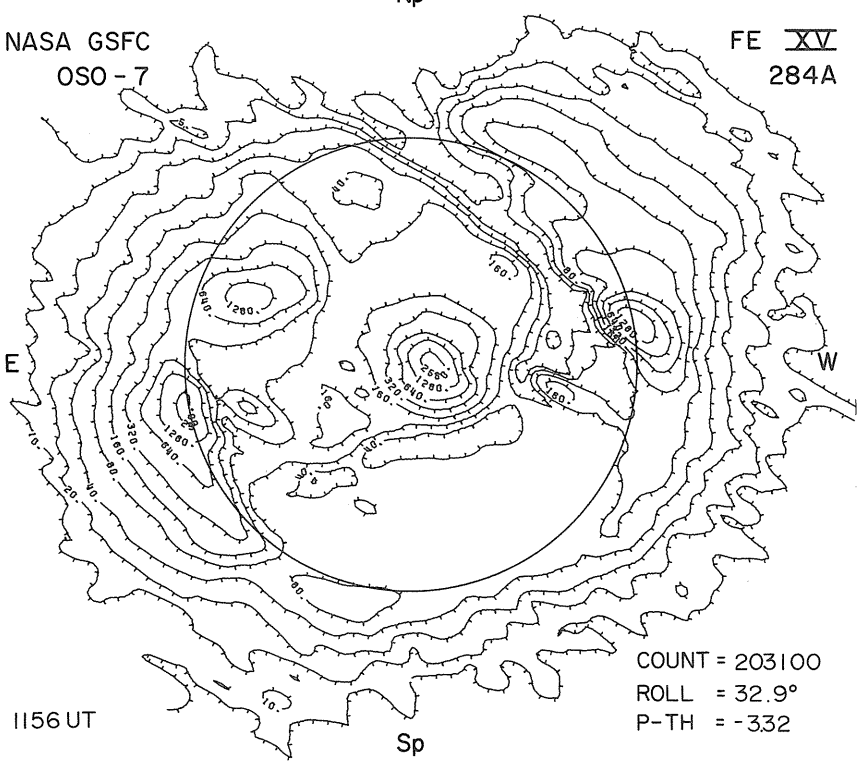
0707 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

W

COUNT = 203100
ROLL = 32.9°
P-TH = -3.32

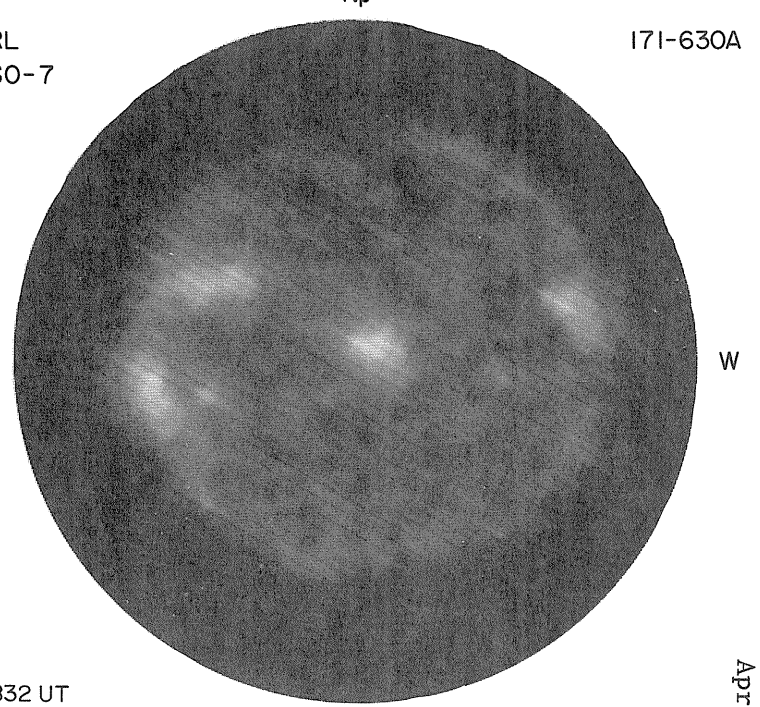
1156 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

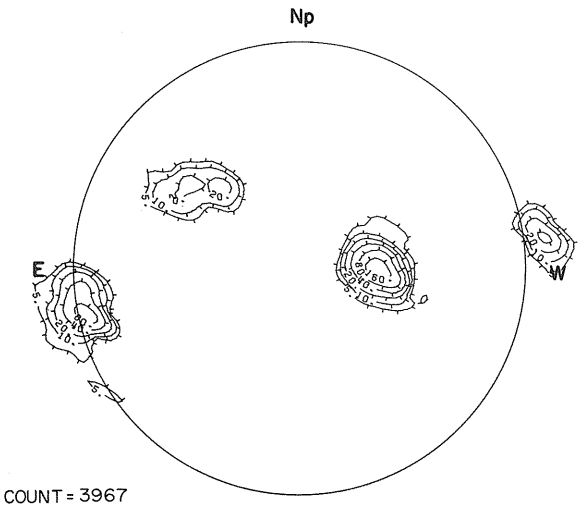
0832 UT
COUNT = 37408

Sp

APRIL 3, 1973 (P = -26.28, B_o = -6.41, L_o = 69.38)

NASA GSFC
OSO-7

X-RAY



COUNT = 3967
ROLL = 32.8°
P-TH = -3.4.4

1230 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

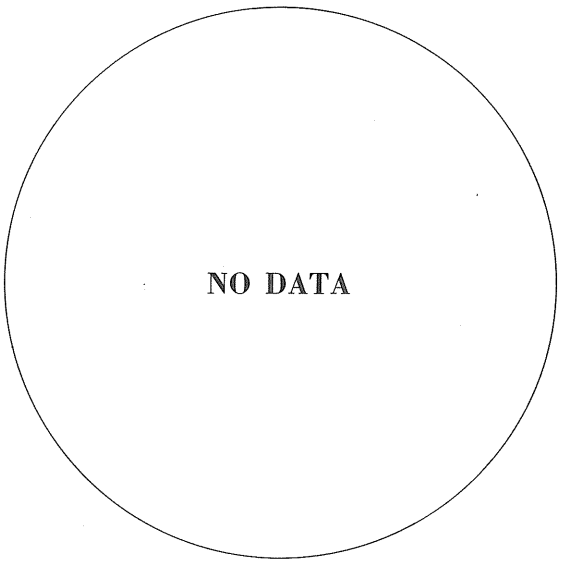
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON

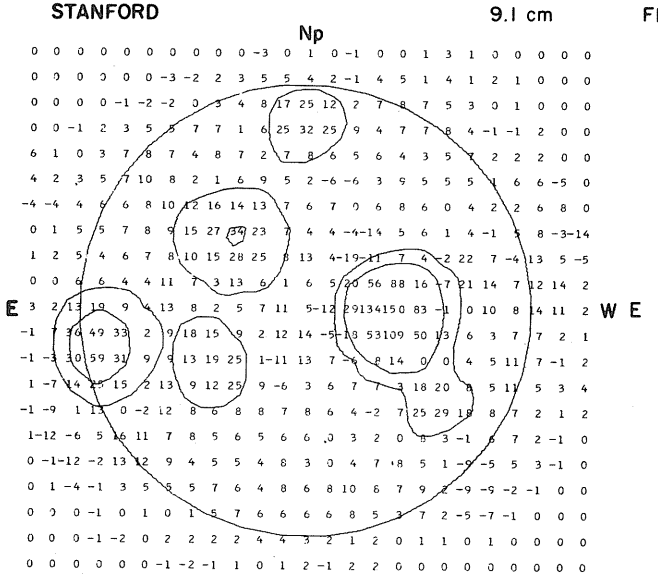
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
± 5
± 10
± 20
± 40
± 80

STANFORD

9.1 cm

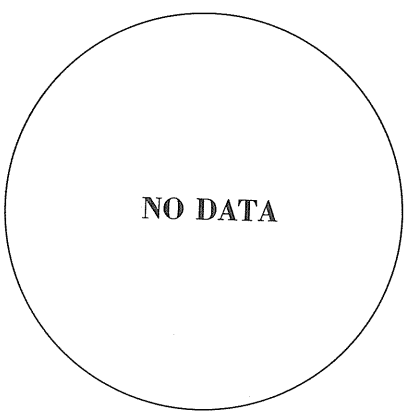


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

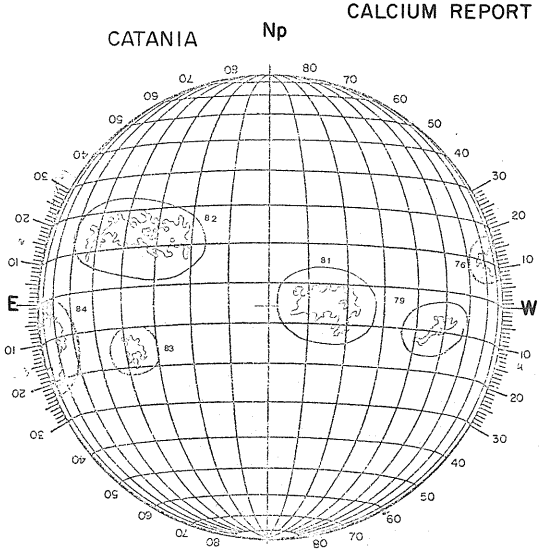


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CALCIUM REPORT

CATANIA



0750 UT

FAIR	
76 - 3905	---
79 - 1217	---
81 - 3385	---
82 - 7133	---
83 - 1153	---
84 - 14180	---

BOULDER
03

Np

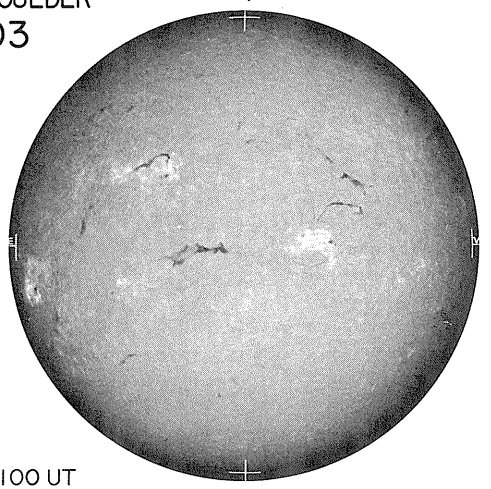
Hα

E

W

Sp

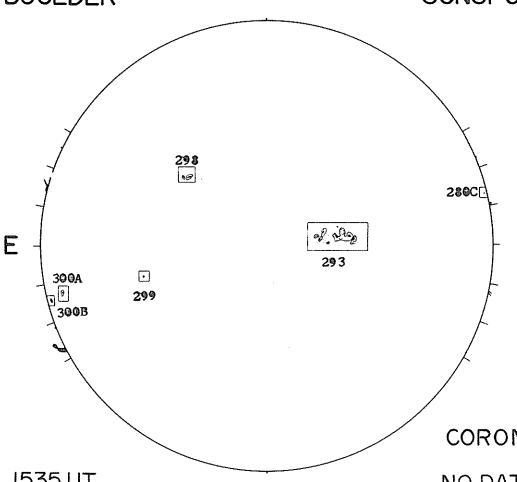
2100 UT



BOULDER

Np

SUNSPOTS



E

W

CORONA

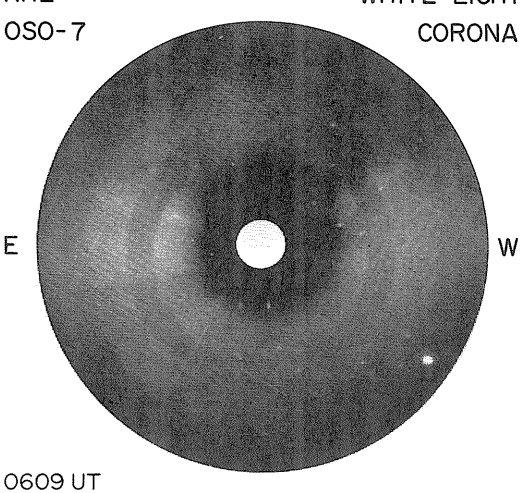
NO DATA

1535 UT

Sp

NRL
OSO-7

WHITE-LIGHT
CORONA



E

W

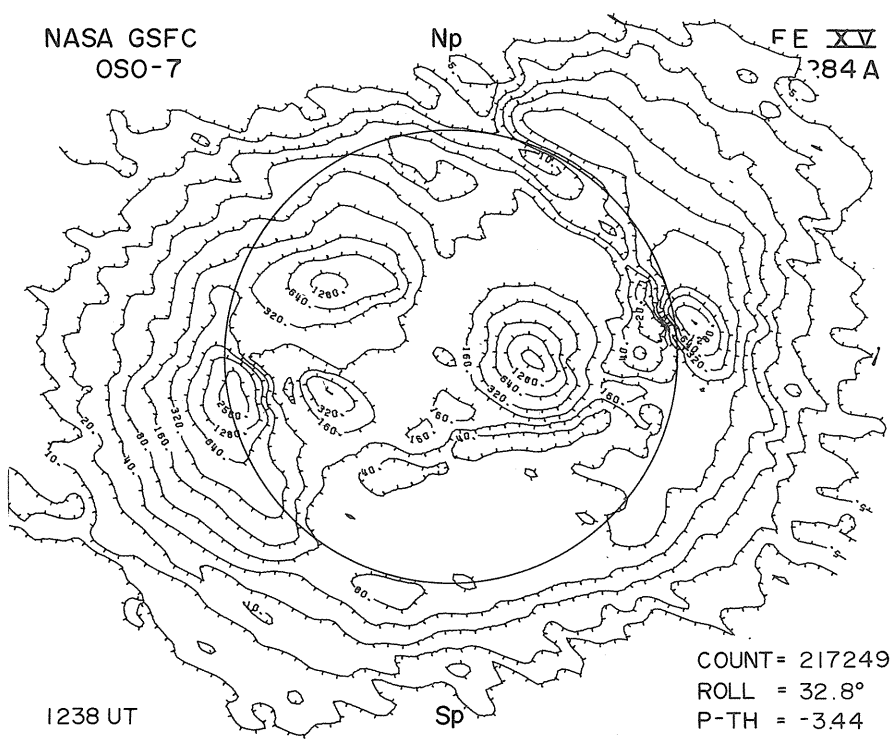
0609 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
?84 A



COUNT= 217249
ROLL = 32.8°
P-TH = -3.44

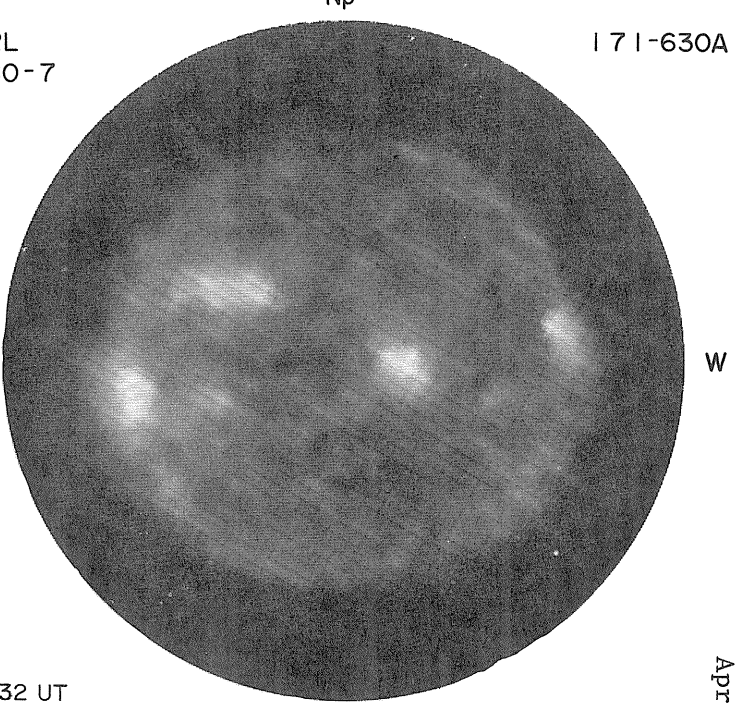
1238 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

0932 UT
COUNT = 38477

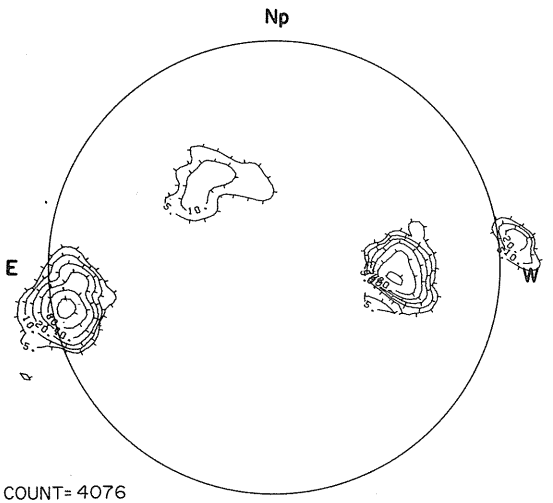
Sp

35
Apr 73

APRIL 4, 1973 (P = -26.31, B_o = -6.36, L_o = 56.19)

NASA GSFC
OSO-7

X-RAY



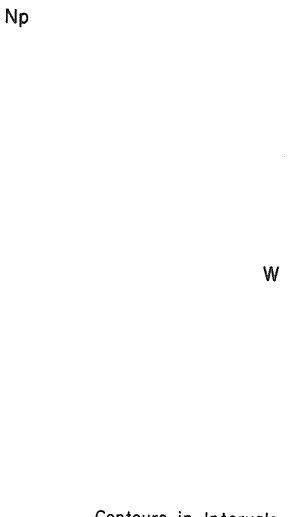
COUNT= 4076
ROLL = 32.6°
P-TH = -3.54

1132 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

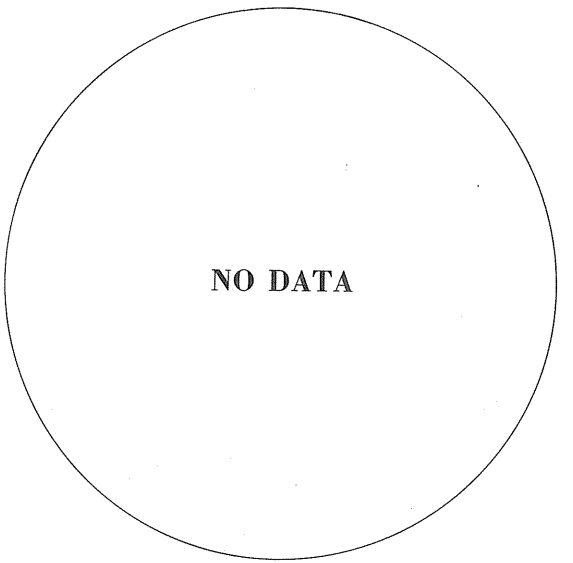
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

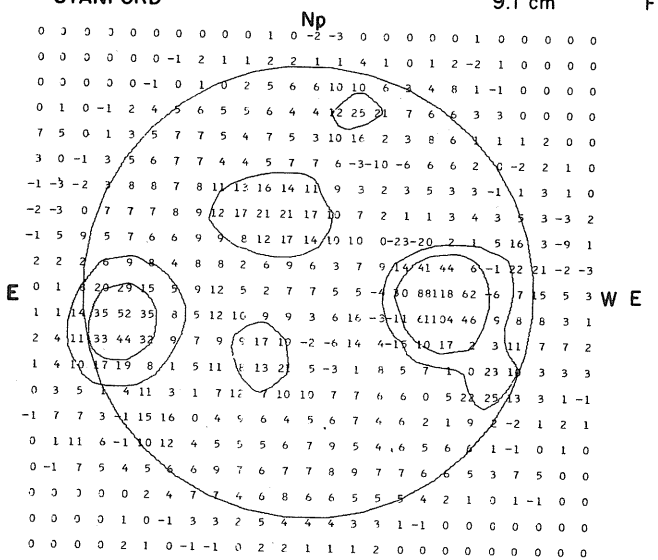
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

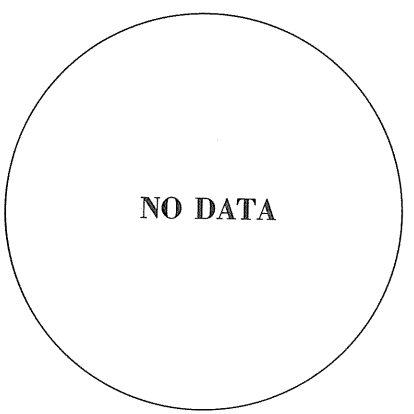


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

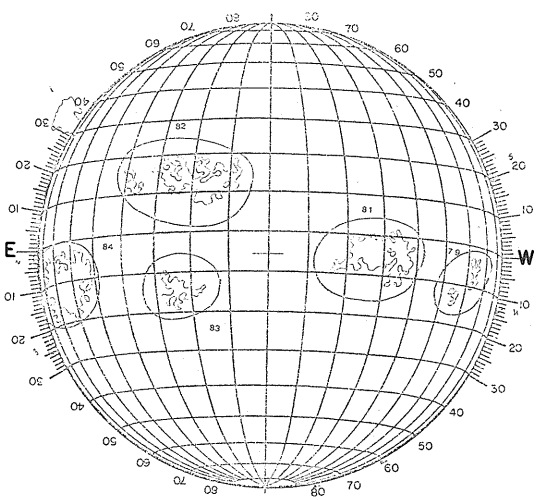


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CALCIUM REPORT

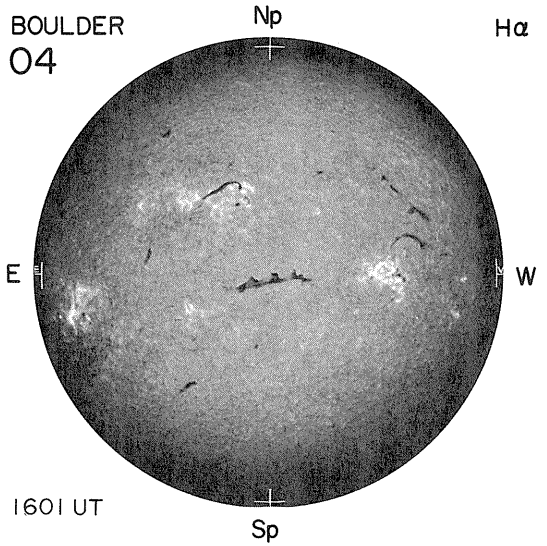
CATANIA

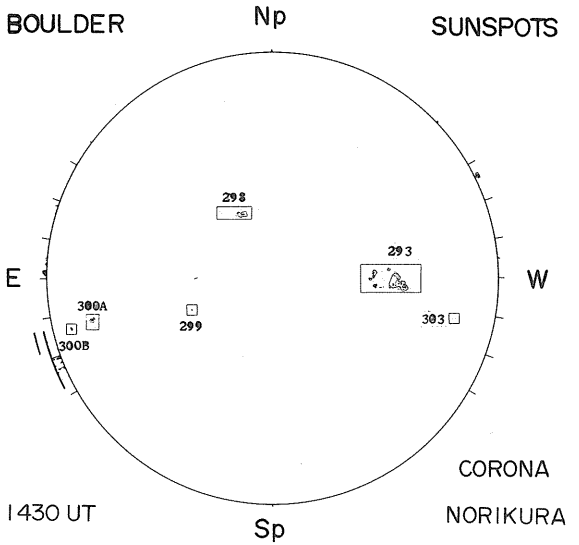


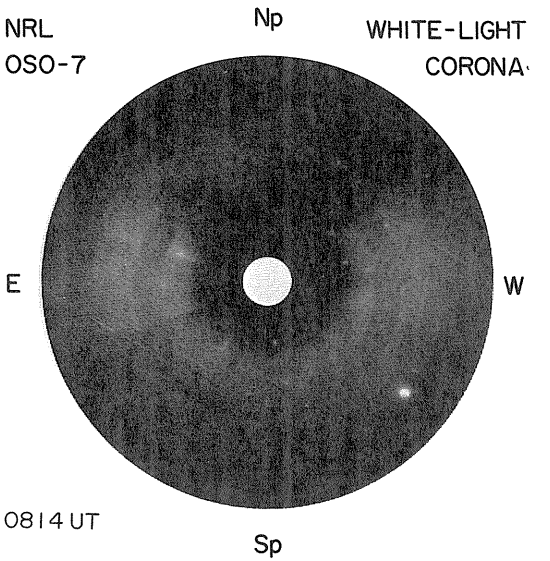
0830 UT

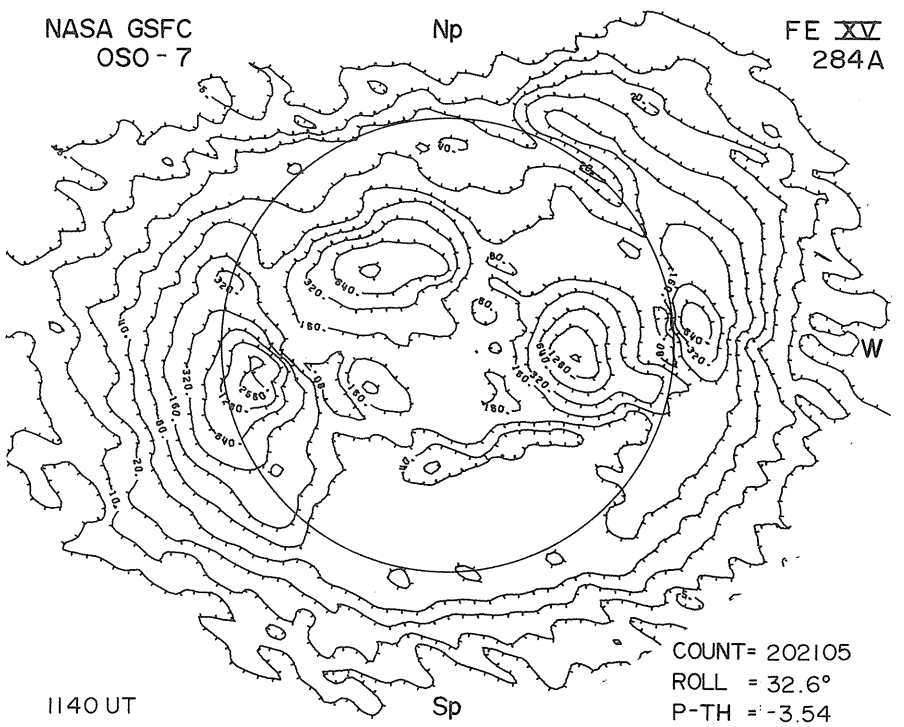
FAIR

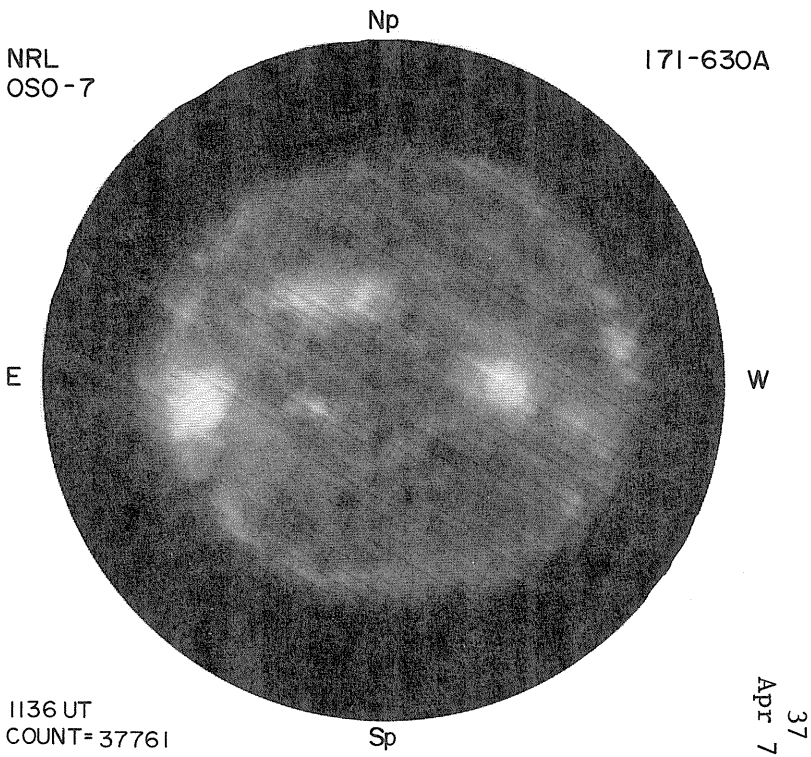
79 - 1336 ---
81 - 5495 ---
82 - 5433 ---
83 - 1799 ---
84 - 12816 ---


BOULDER
04
Np
Hα
E
W
Sp
1601 UT


BOULDER
Np
SUNSPOTS
298
293
300A
299
303
300B
E
W
CORONA
1430 UT
Sp
NORIKURA


NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
0814 UT
Sp

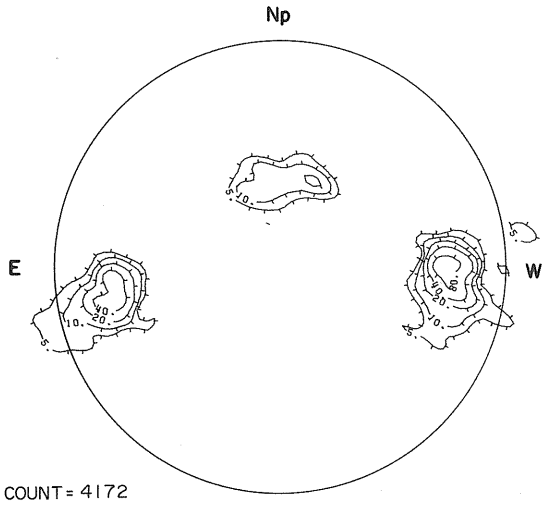

NASA GSFC
OSO-7
Np
FE XV
284A
W
COUNT= 202105
ROLL = 32.6°
P-TH = -3.54
1140 UT
Sp


Np
NRL
OSO-7
171-630A
E
W
1136 UT
COUNT= 37761
Sp

APRIL 5, 1973 (P = -26.32, B_o = -6.29, L_o = 42.99)

NASA GSFC
OSO-7

X-RAY



COUNT = 4172
ROLL = 32.7°
P-TH = -3.64

1054 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

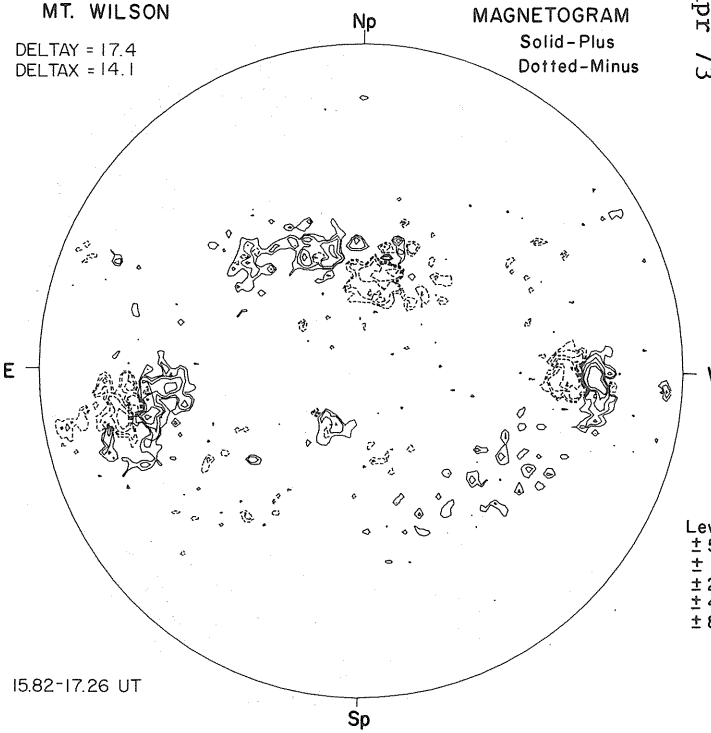
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

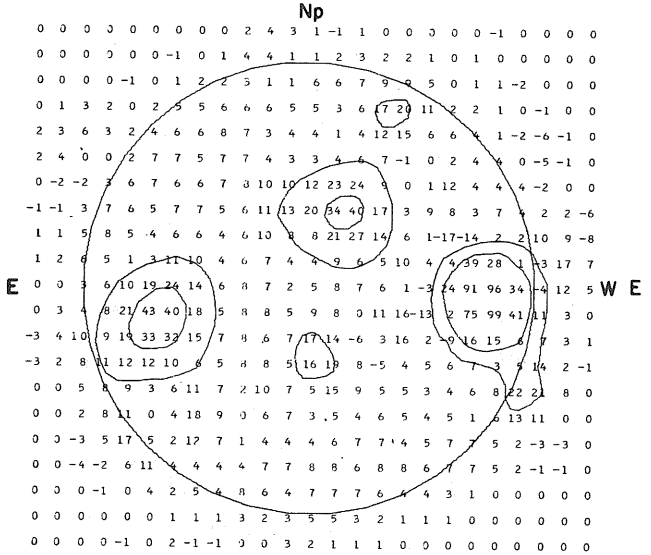


Levels
±5
±10
±20
±40
±80

15.82-17.26 UT

STANFORD

9.1 cm

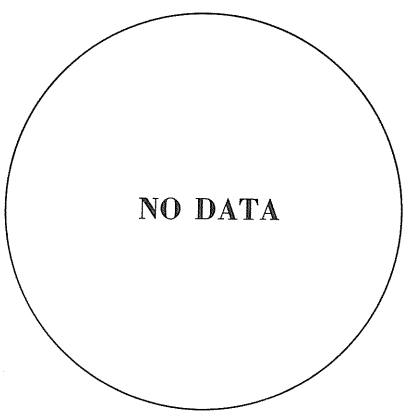


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

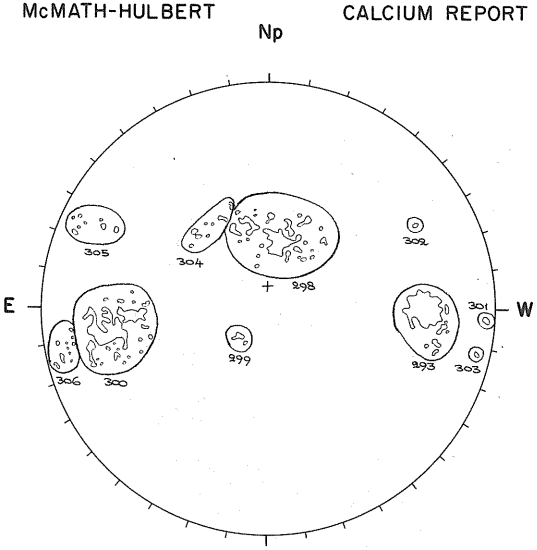


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

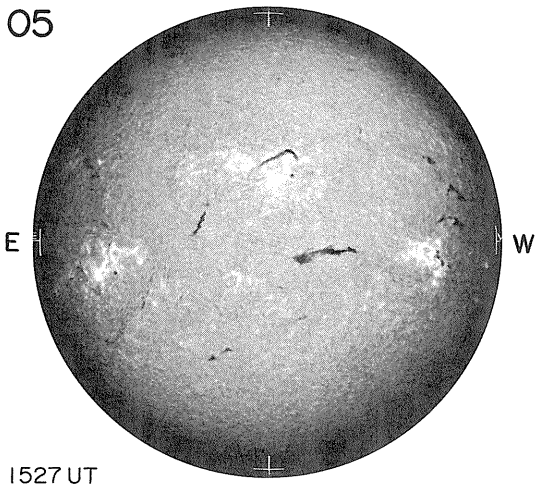
CALCIUM REPORT



FAIR	D
93 - 4000 - 4.0	
98 - 3000 - 3.5	
00 - 4200 - 3.5	
01 - 0200 - 2.5	
03 - 0200 - 2.5	

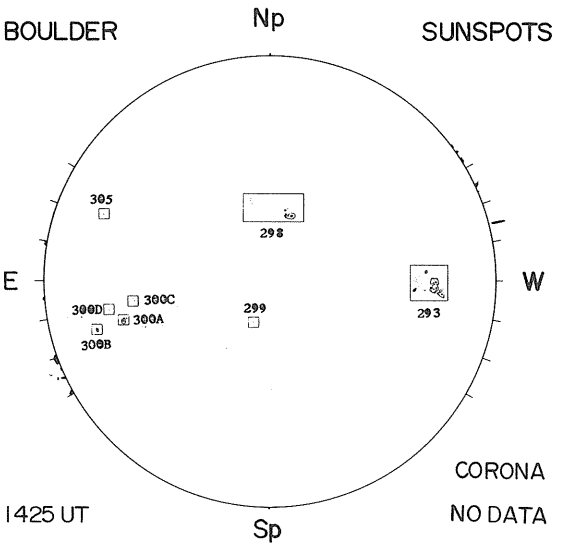
1600 UT

BOULDER
05



1527 UT

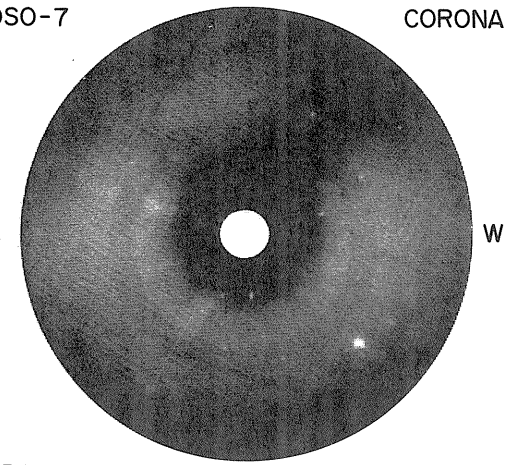
BOULDER



1425 UT

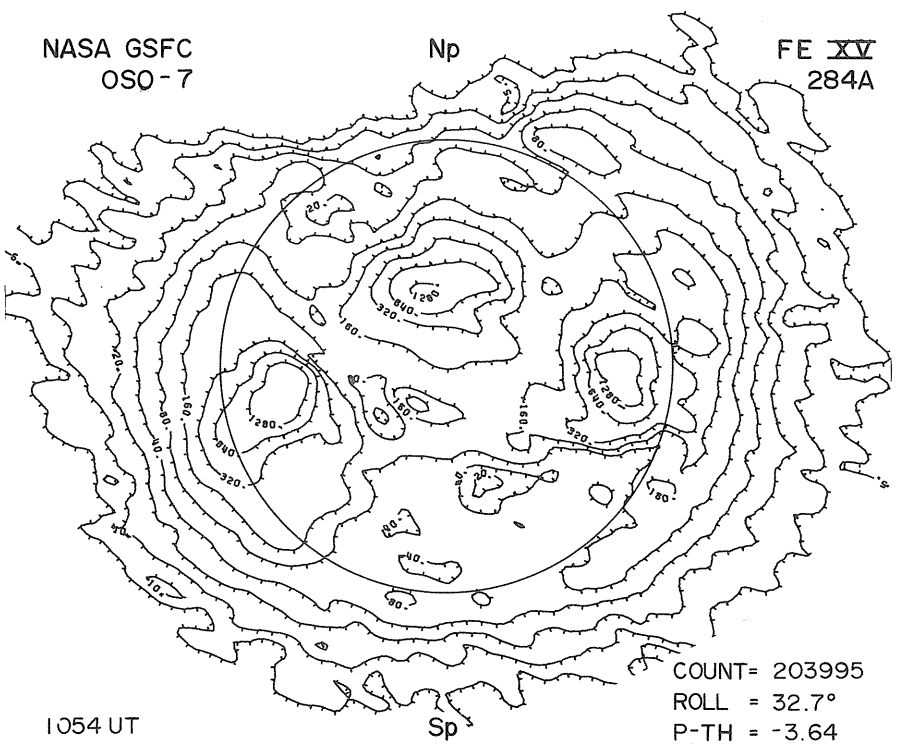
CORONA
NO DATA

NRL
OSO-7



0544 UT

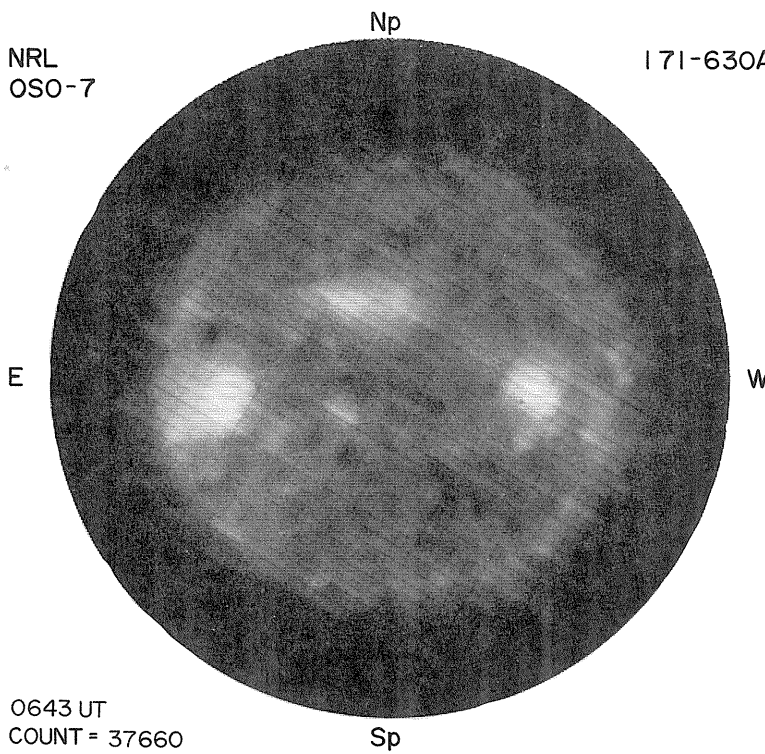
NASA GSFC
OSO-7



1054 UT

COUNT= 203995
ROLL = 32.7°
P-TH = -3.64

NRL
OSO-7

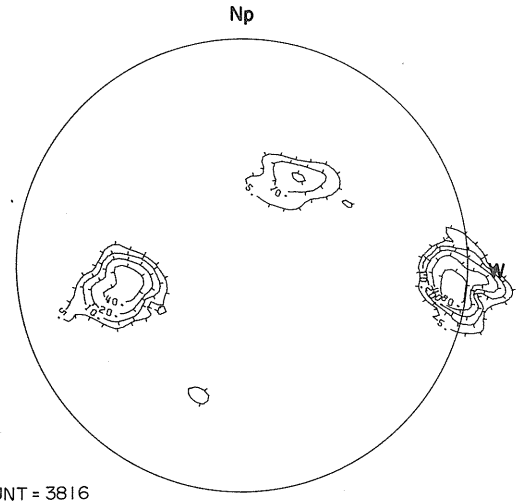


0643 UT
COUNT = 37660

APRIL 6, 1973 (P = -26.33, B_o = -6.23, L_o = 29.80)

NASA GSFC
OSO-7

X-RAY



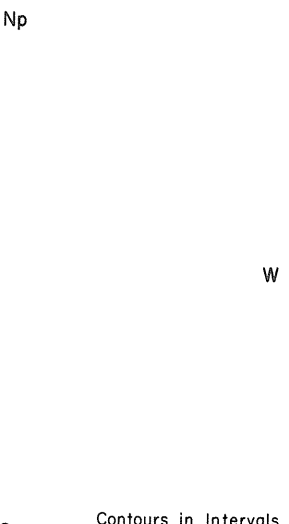
COUNT = 3816
ROLL = 32.9°
P-TH = -3.76

1427 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

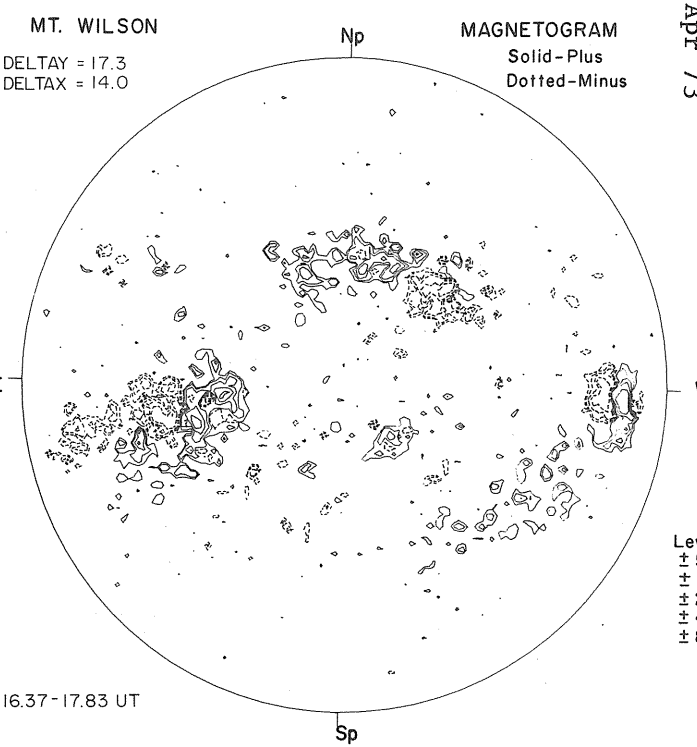


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

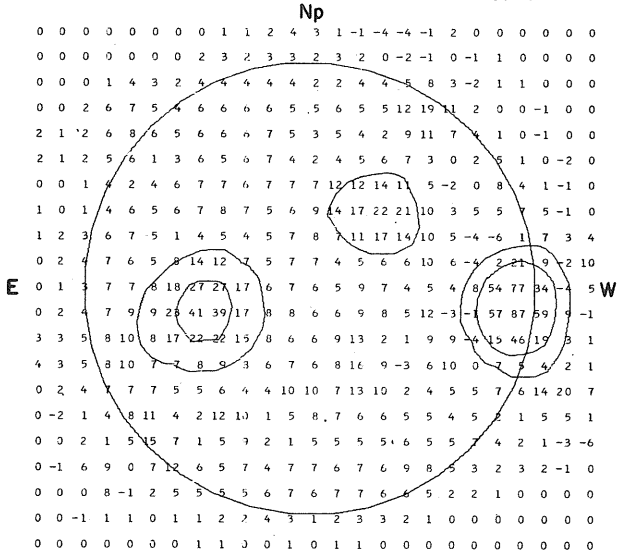


Levels
± 5
± 10
± 20
± 40
± 80

16.37-17.83 UT

STANFORD

9.1 cm

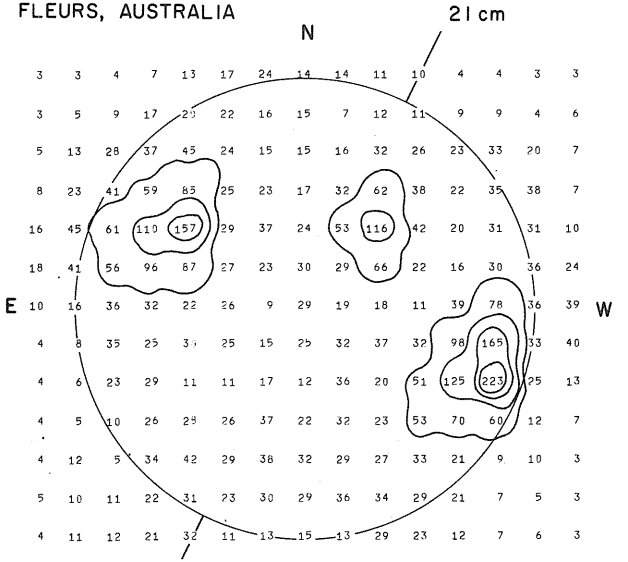


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

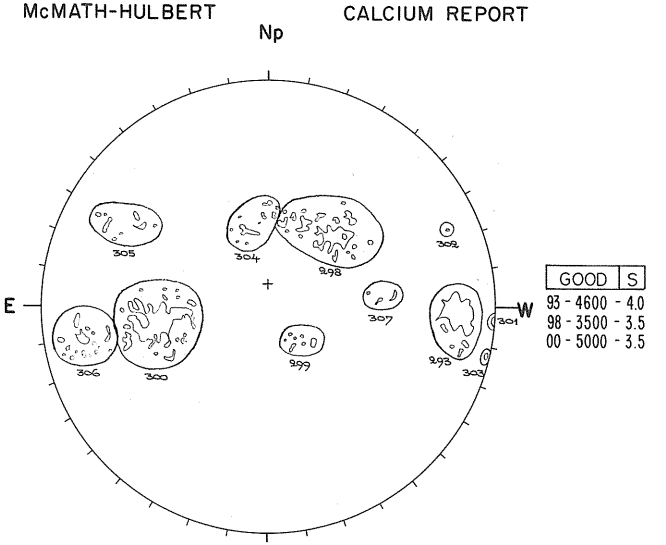


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1545 UT

BOULDER
06

Np

Hα

E

NO DATA

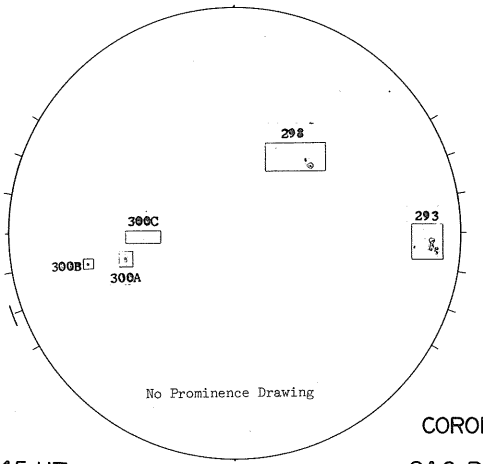
W

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

1345 UT

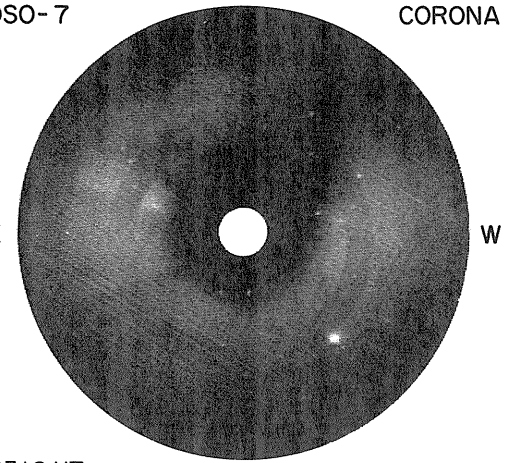
SAC PEAK

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

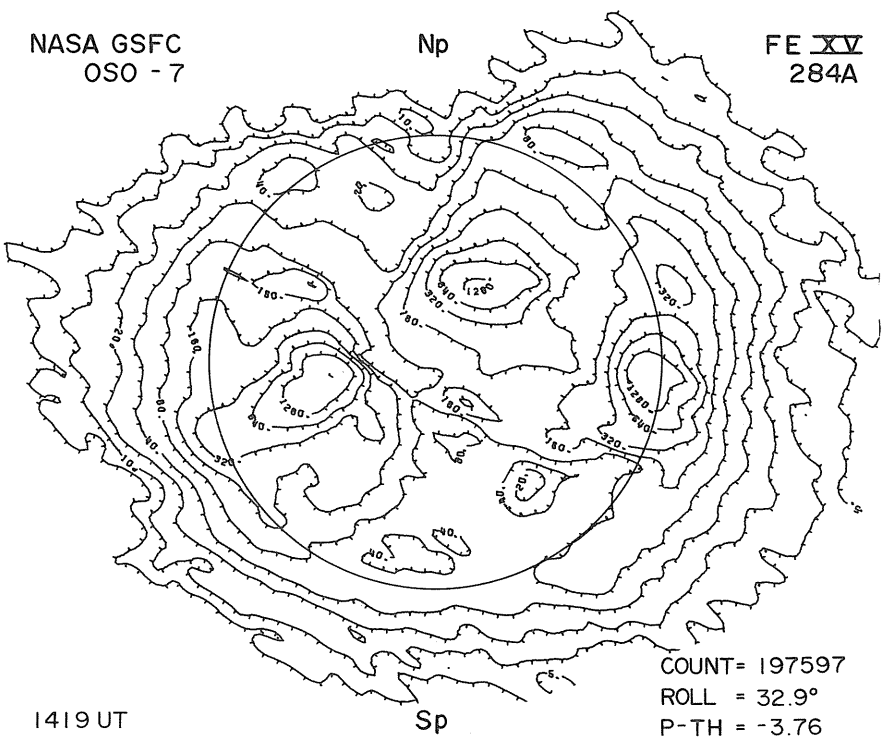
0312 UT

Sp

NASA GSFC
OSO - 7

Np

FE XV
284A



COUNT= 197597
ROLL = 32.9°
P-TH = -3.76

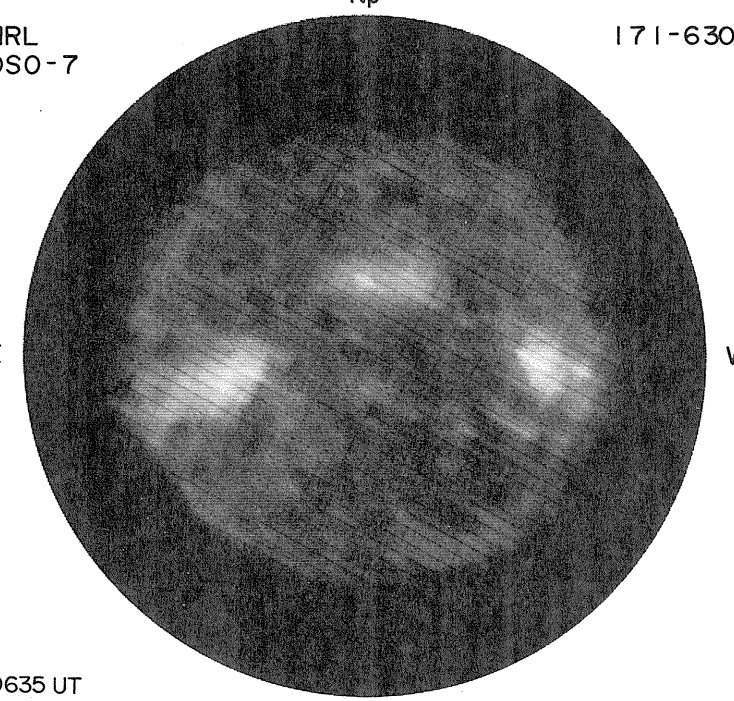
1419 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

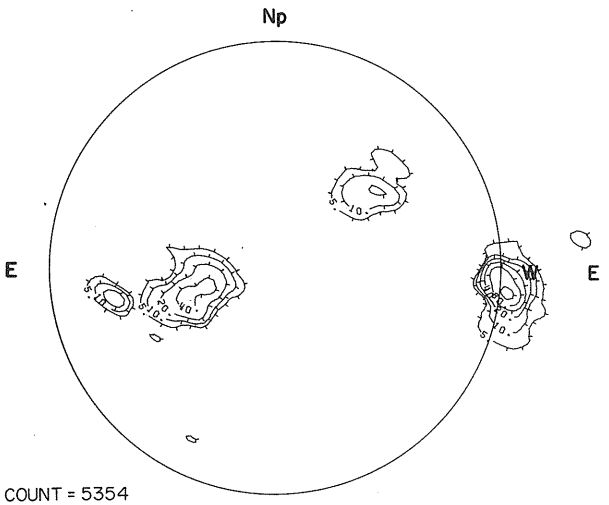
0635 UT
COUNT= 37897

Sp

APRIL 7, 1973 (P = -26.34, B_o = -6.17, L_o = 16.60)

NASA GSFC
OSO-7

X-RAY



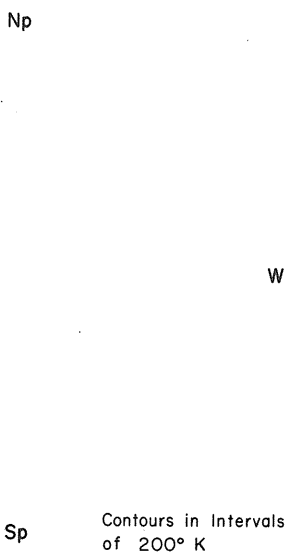
COUNT = 5354
ROLL = 33.1°
P-TH = -3.85

1032 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

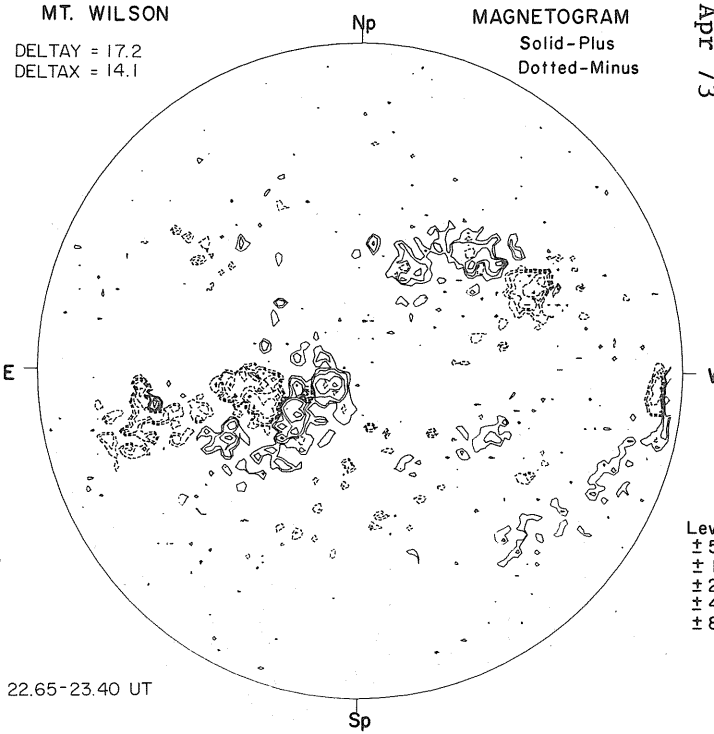


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

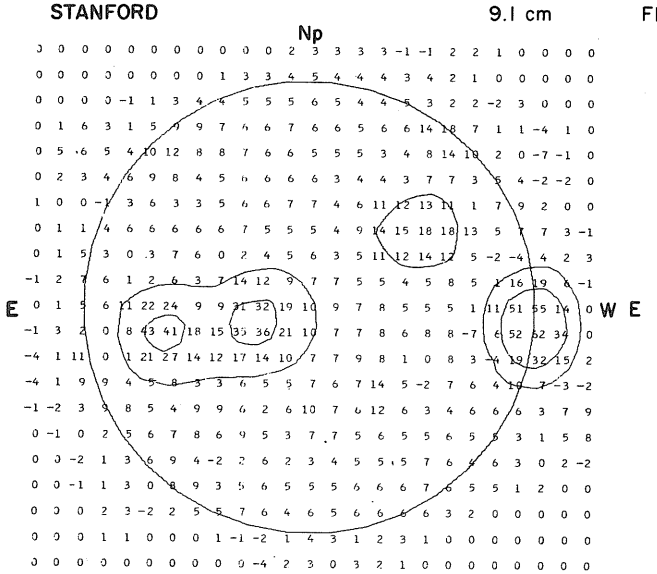


Levels
±5
±10
±20
±40
±80

22.65-23.40 UT

STANFORD

9.1 cm

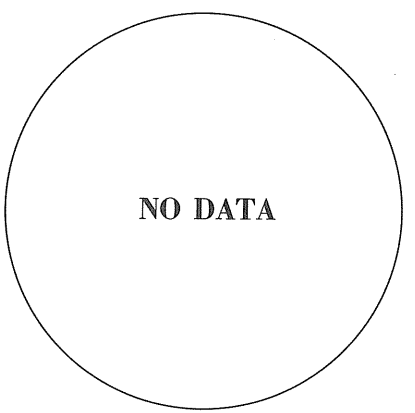


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

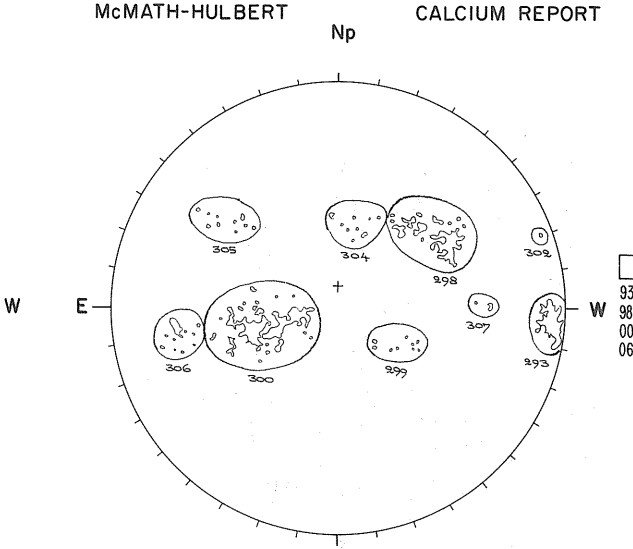


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
93 - 4600	- 4.0
98 - 3500	- 3.5
00 - 5200	- 3.5
06 - 1600	- 3.5

1350 UT

BOULDER
07

Np

Hα

NO DATA

E

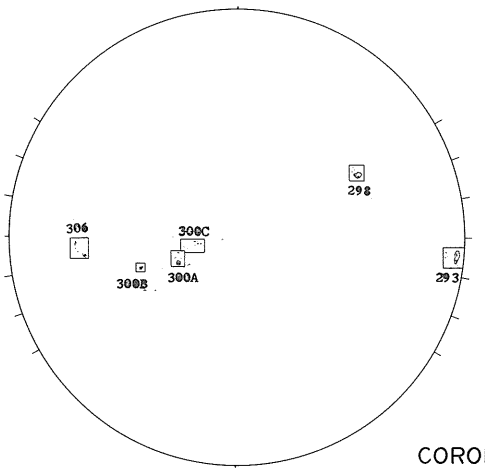
W

Sp

SAC PEAK

Np

SUNSPOTS



E

W

1615 UT

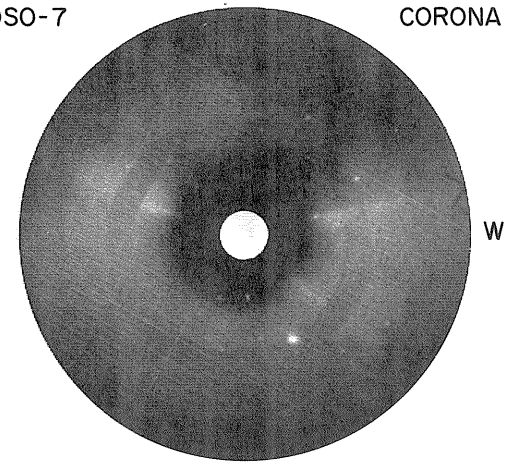
Sp

CORONA

KISLOVODSK

NRL
OSO-7

WHITE-LIGHT
CORONA



E

W

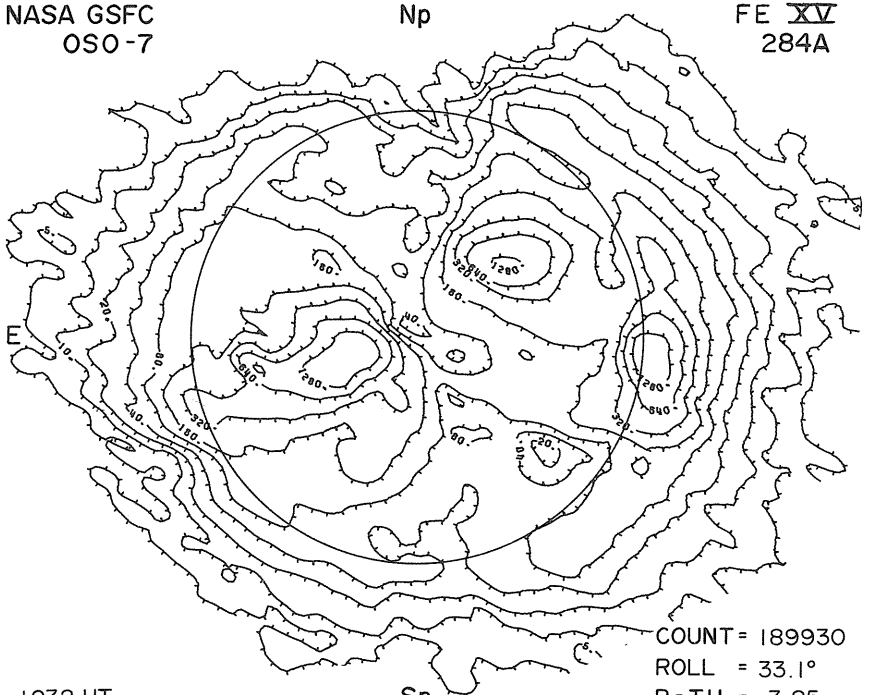
2210 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

COUNT = 189930
ROLL = 33.1°
P-TH = -3.85

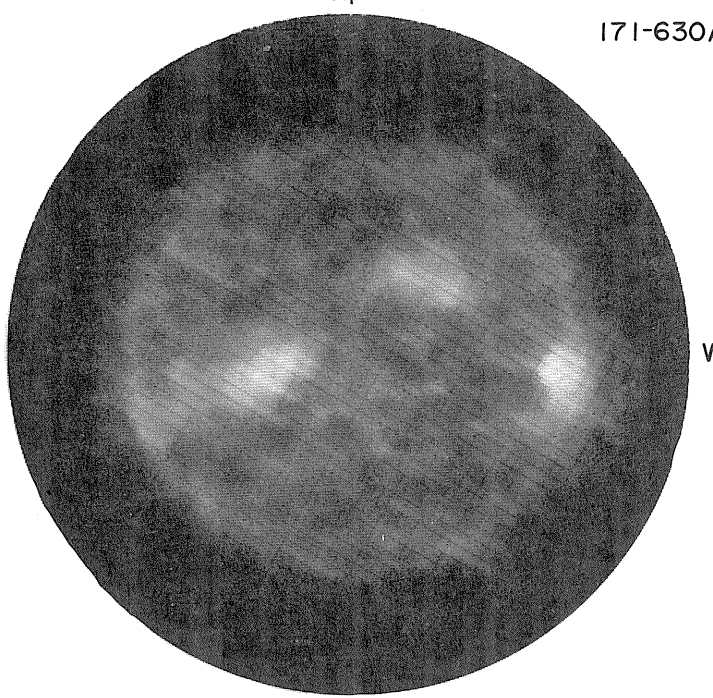
1032 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

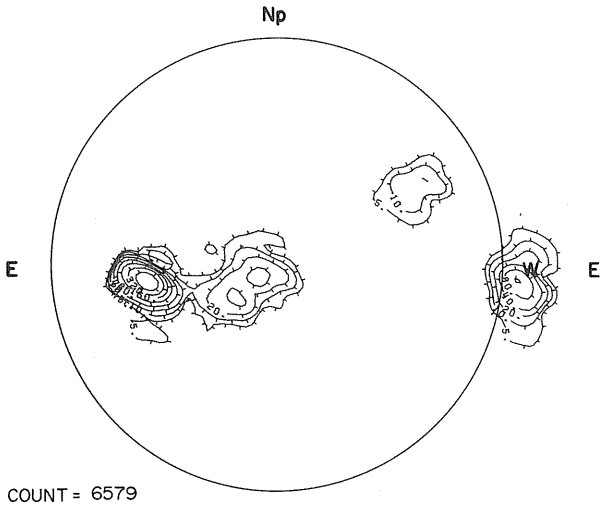
0855 UT
COUNT = 39291

Sp

APRIL 8, 1973 (P = -26.33, B_o = -6.10, L_o = 3.40)

NASA GSFC
OSO-7

X-RAY



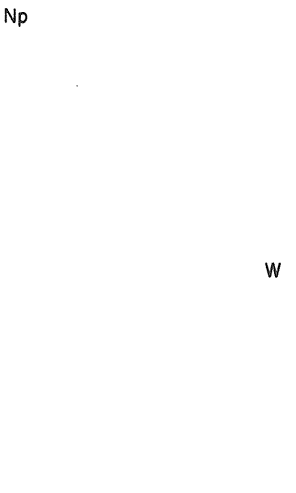
COUNT = 6579
ROLL = 33.5°
P-TH = -3.94

0620 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

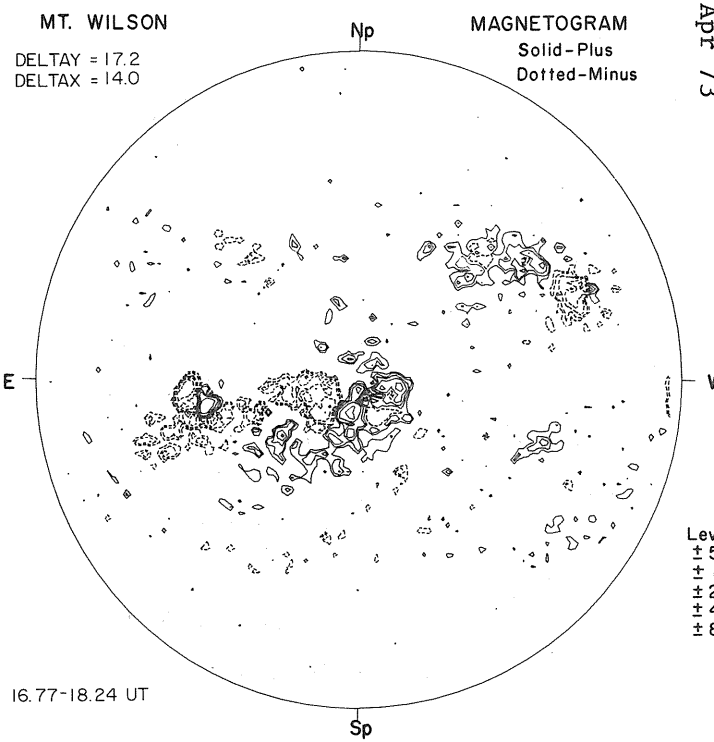


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

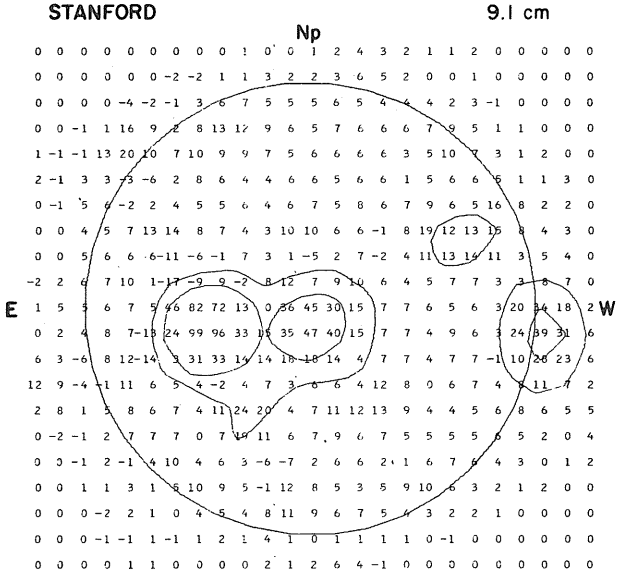


Levels
±5
±10
±20
±40
±80

16.77-18.24 UT

STANFORD

9.1 cm

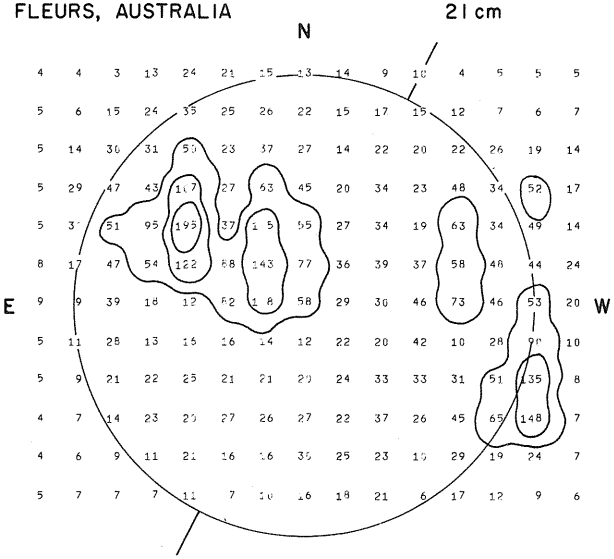


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

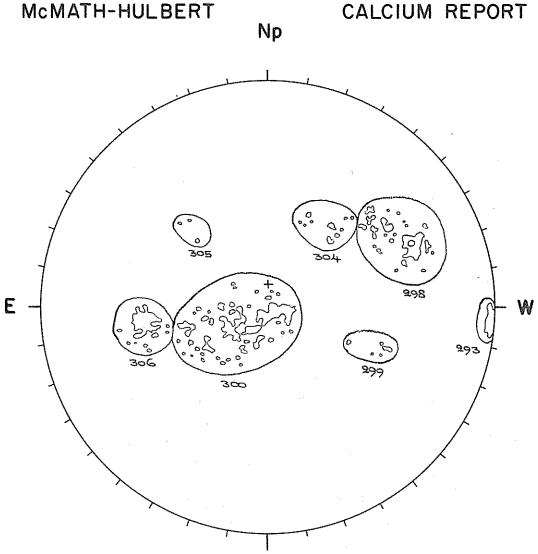


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



FAIR	D
93 - 3200	-3.0
98 - 3300	-3.0
00 - 4800	-3.5
06 - 2500	-4.0

1310 UT

BOULDER
08

Np

Hα

E

NO DATA

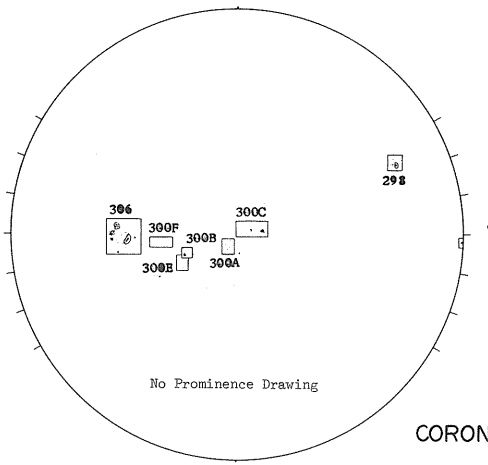
W

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

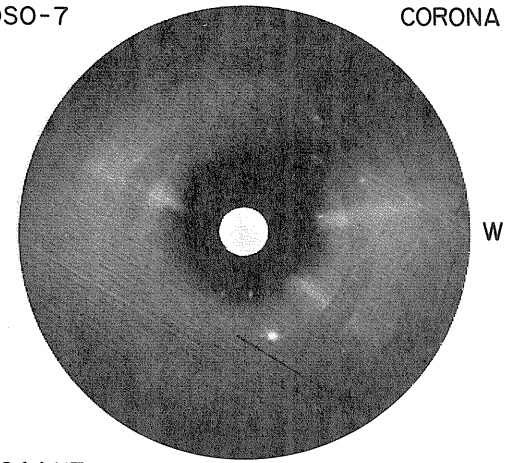
NO DATA

1535 UT

Sp

NRL
OSO-7

WHITE-LIGHT
CORONA



E

W

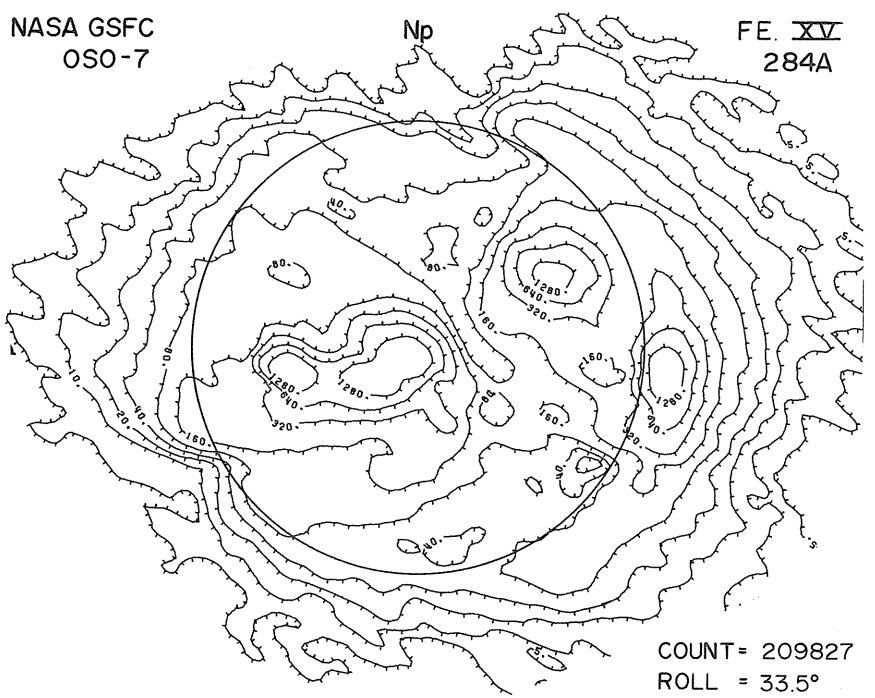
2244 UT

Sp

NASA GSFC
OSO-7

Np

FE. XV
284A



COUNT= 209827
ROLL = 33.5°
P-TH = -3.94

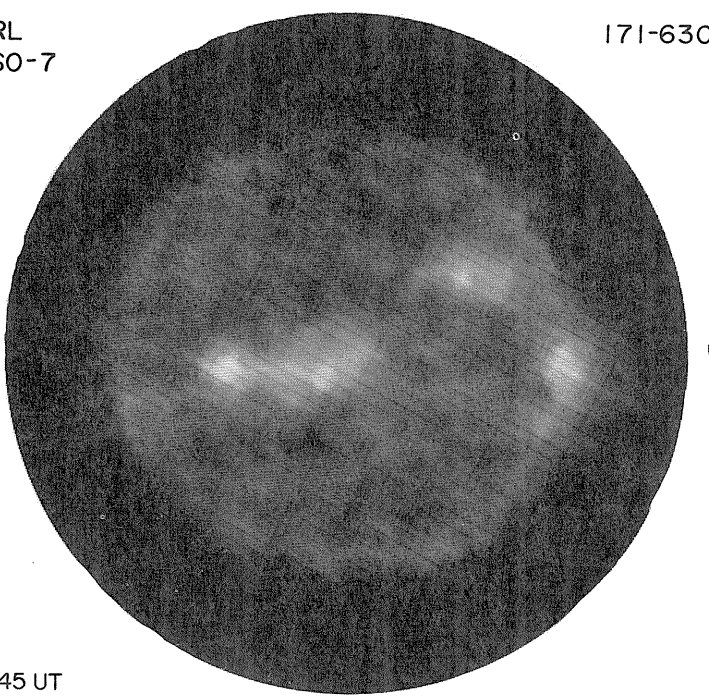
0620 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

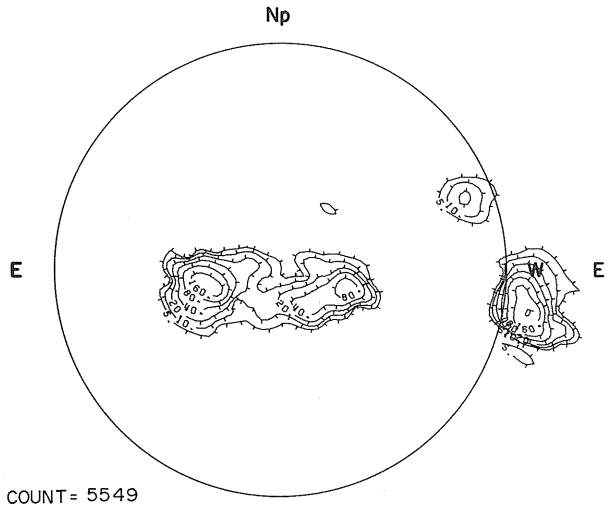
1645 UT
COUNT= 39078

Sp

APRIL 9, 1973 (P = -26.32, B_o = -6.03, L_o = 350.20)

NASA GSFC
OSO-7

X-RAY



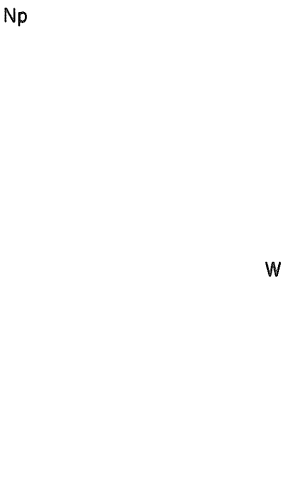
COUNT = 5549
ROLL = 34.5°
P-TH = -4.07

1253 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

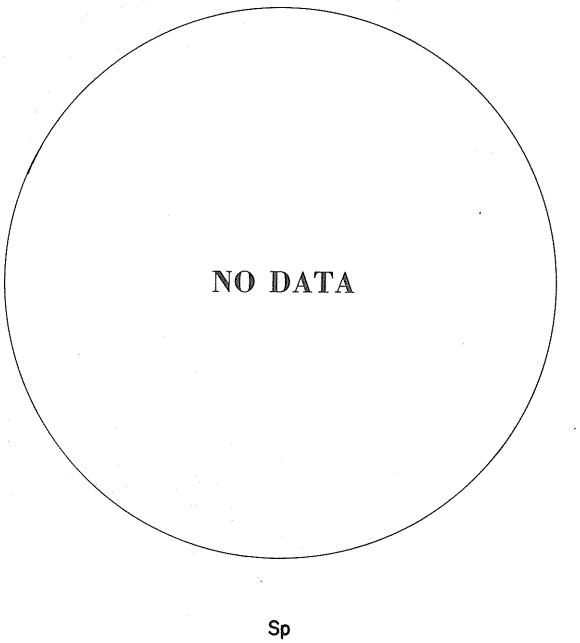
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

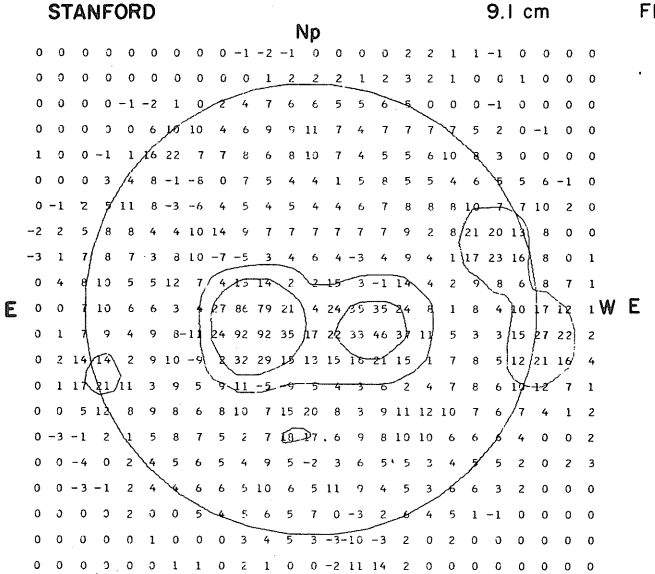
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

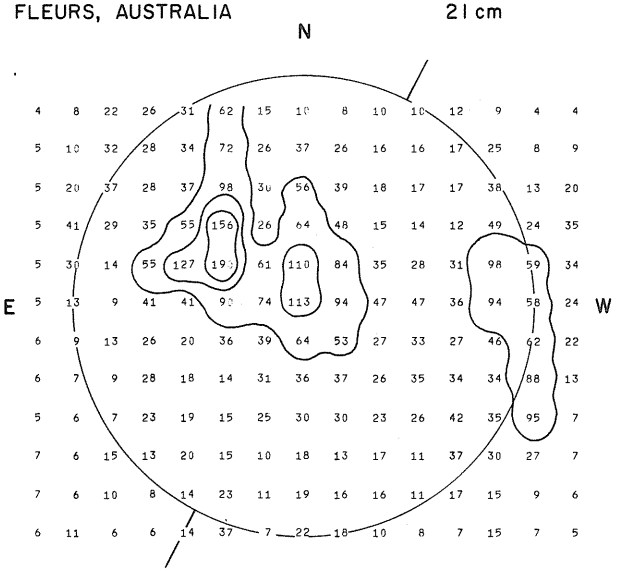


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

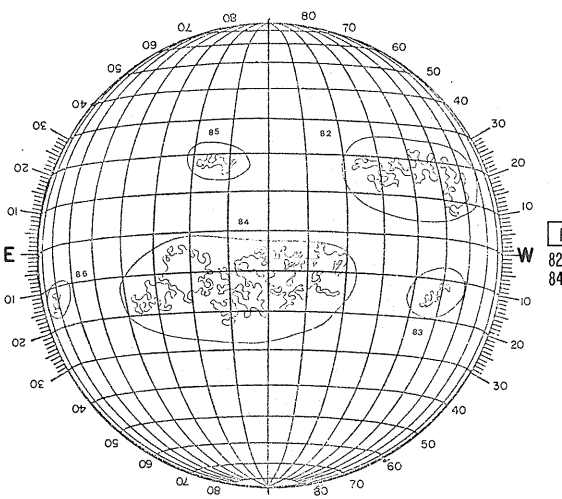


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CALCIUM REPORT

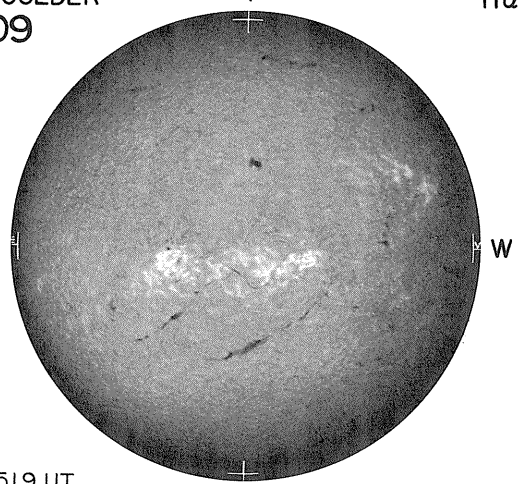
CATANIA



1000 UT

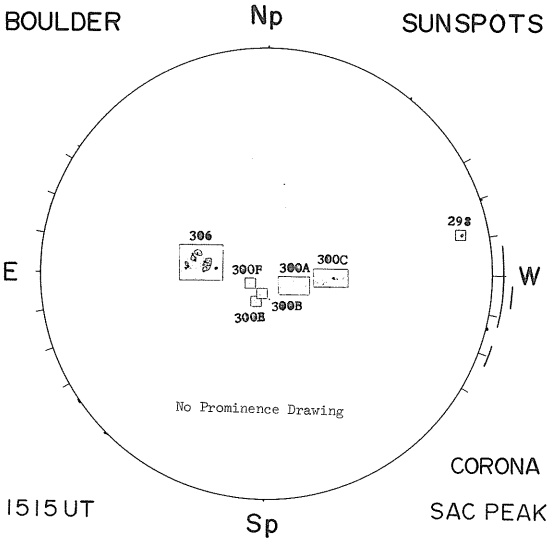
POOR
82-5541 ---
84-15336 ---

BOULDER
09



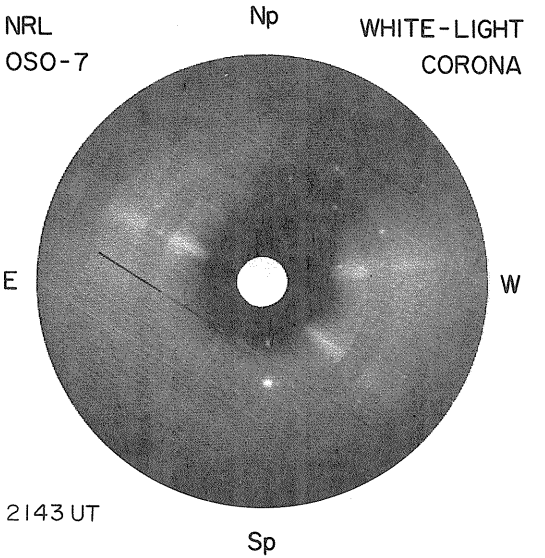
1519 UT

BOULDER



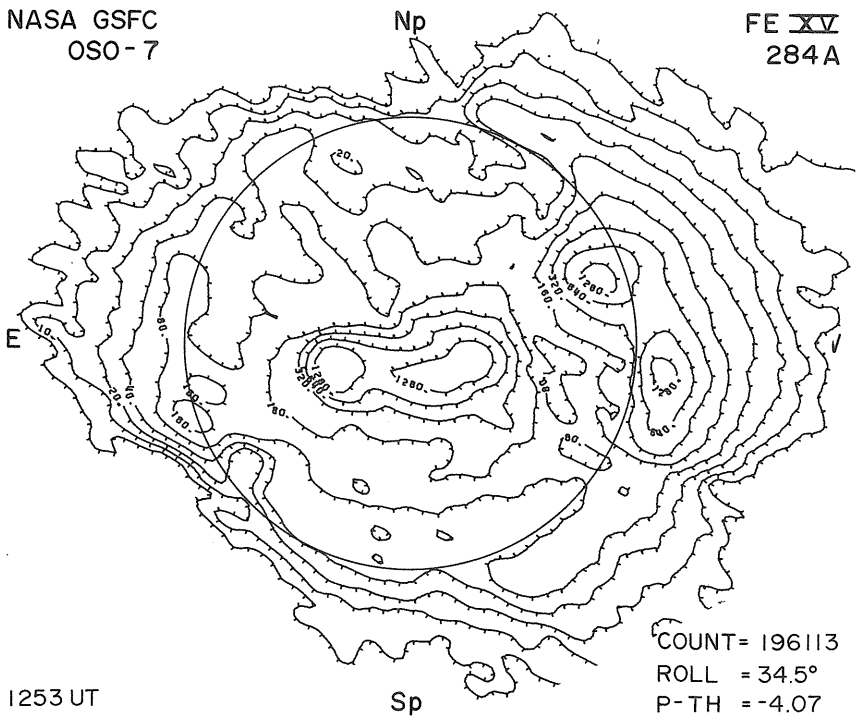
1515 UT

NRL
OSO-7



2143 UT

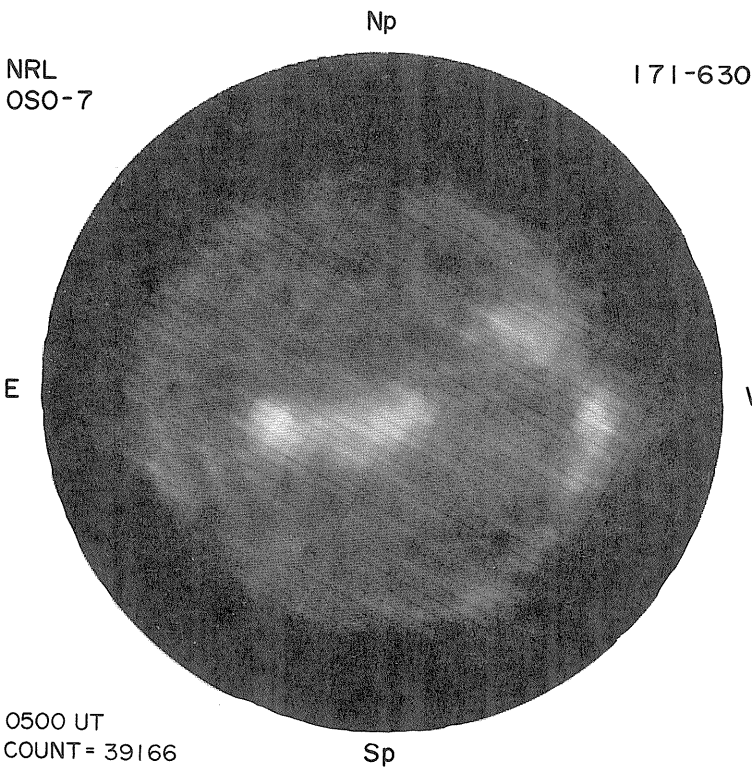
NASA GSFC
OSO-7



1253 UT

COUNT= 196113
ROLL = 34.5°
P-TH = -4.07

NRL
OSO-7

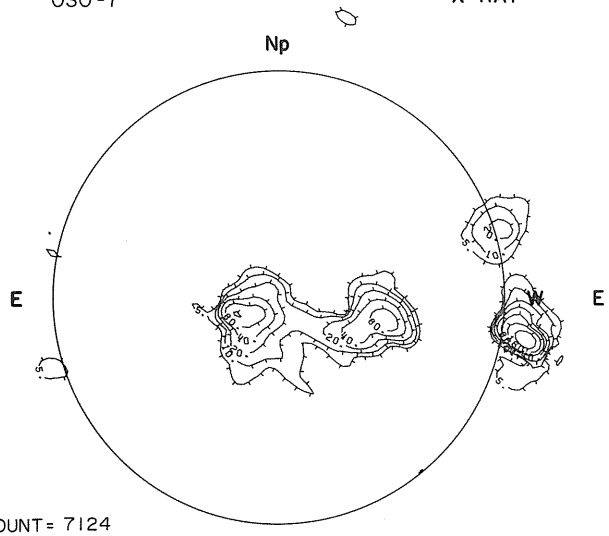


0500 UT
COUNT= 39166

APRIL 10, 1973 (P = -26.30, B_o = -5.96, L_o = 337.00)

NASA GSFC
OSO-7

X-RAY



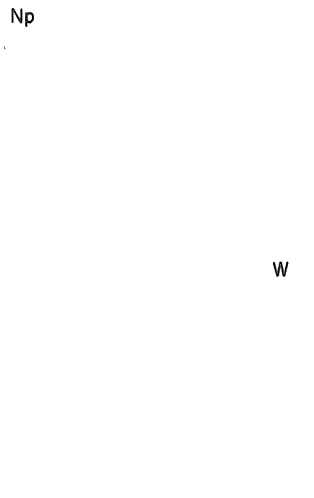
COUNT = 7124
ROLL = 35.5°
P-TH = -4.1.6

0906 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

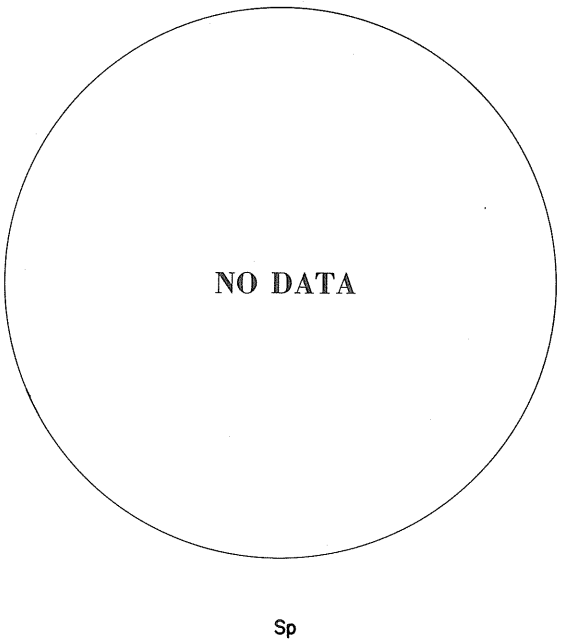
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

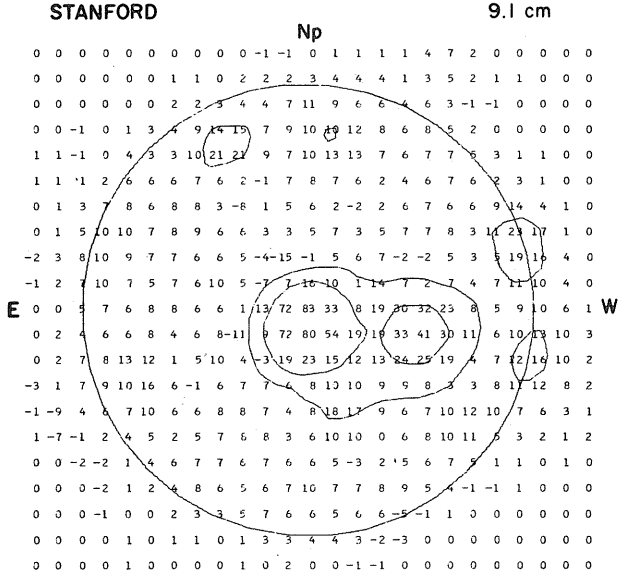
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

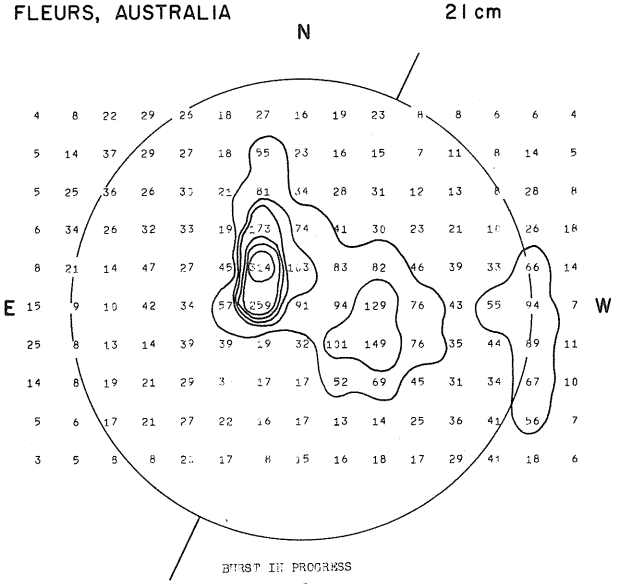


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

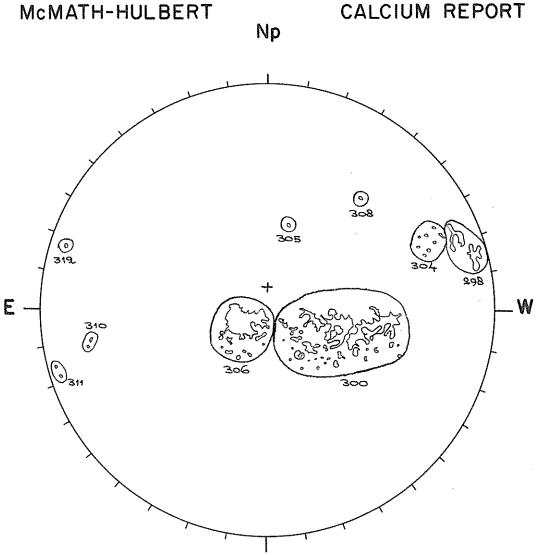


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
98 - 2600	- 2.5
00 - 5000	- 4.0
06 - 3000	- 4.0

1340 UT

BOULDER
10

Np

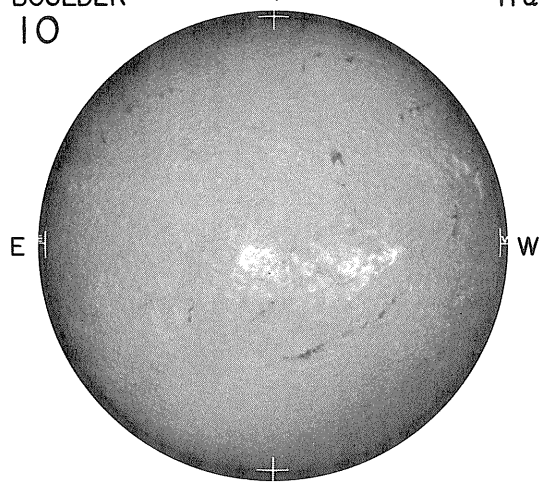
Hα

E

W

Sp

1728 UT



BOULDER

Np

SUNSPOTS

E

W

306

298

300C

300B

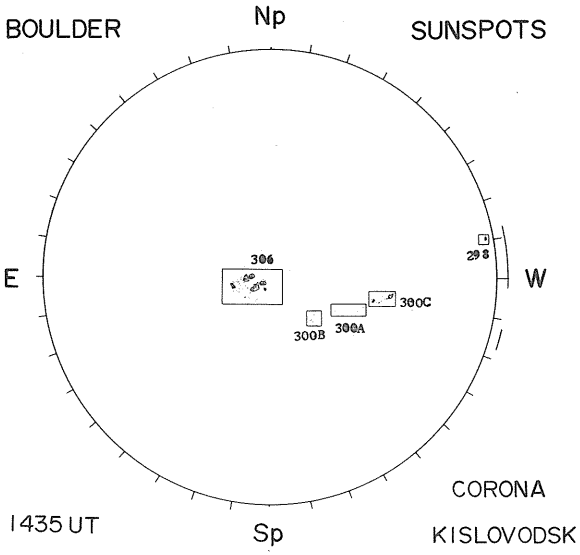
300A

Sp

1435 UT

CORONA

KISLOVODSK



NRL
OSO-7

Np

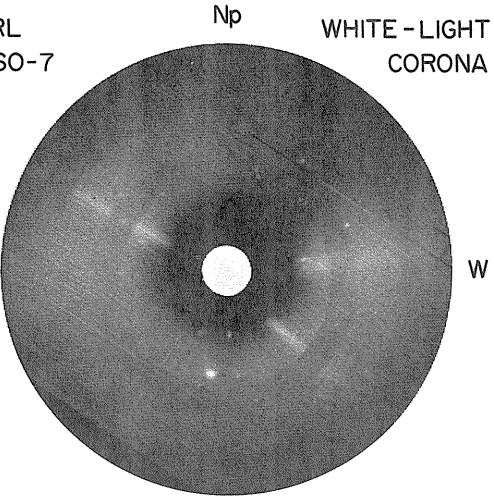
WHITE-LIGHT
CORONA

E

W

Sp

1912 UT



NASA GSFC
OSO - 7

Np

FE XV
284 A

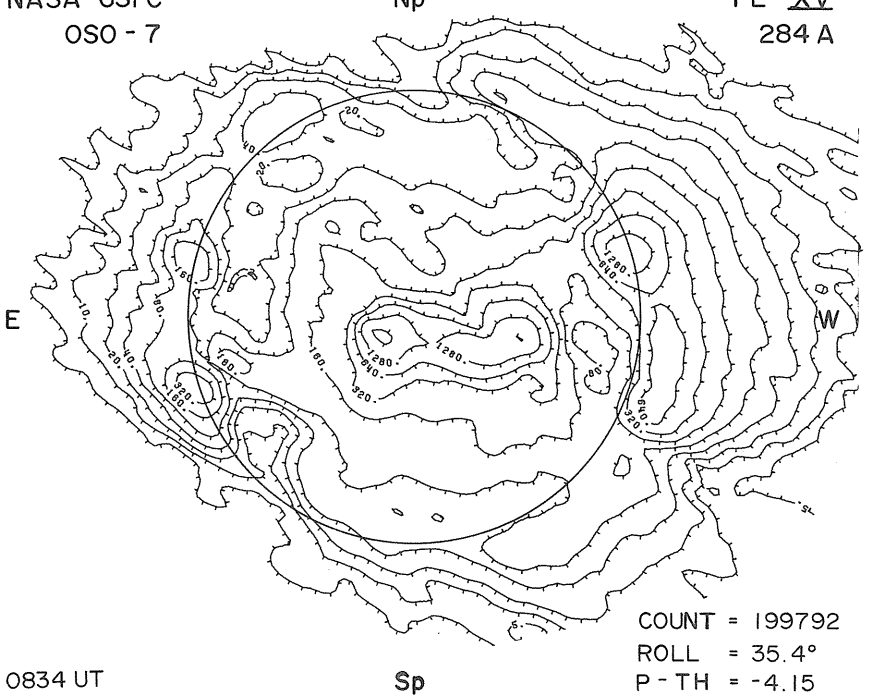
E

W

Sp

0834 UT

COUNT = 199792
ROLL = 35.4°
P - TH = -4.15



NRL
OSO - 7

Np

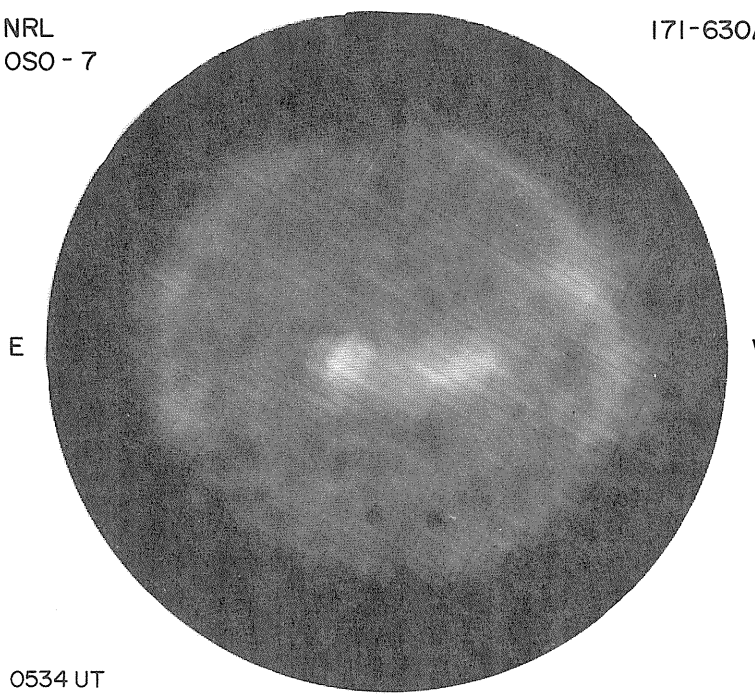
171-630A

E

W

Sp

0534 UT
COUNT = 38829

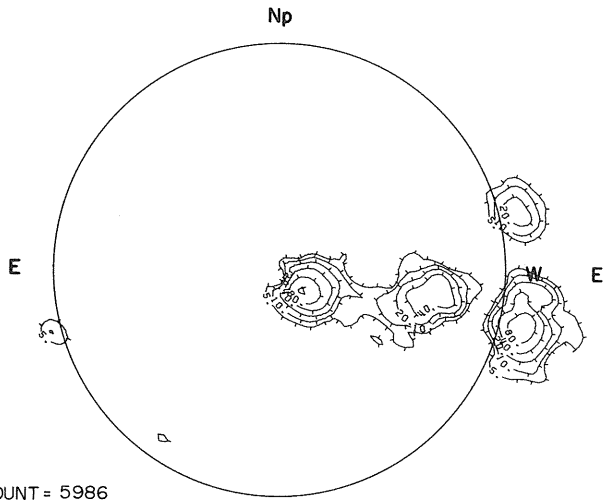


APRIL 11, 1973 (P = -26.28, B_o = -5.89, L_o = 323.80)

50 Apr 73

NASA GSFC
OSO-7

X-RAY



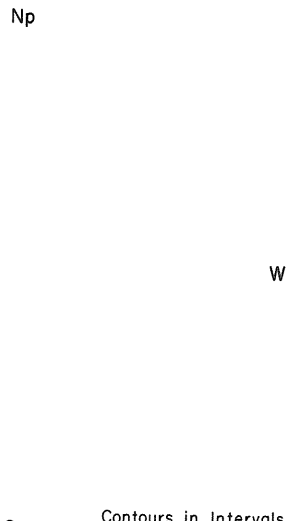
COUNT = 5986
ROLL = 36.5°
P-TH = -4.27

1111 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

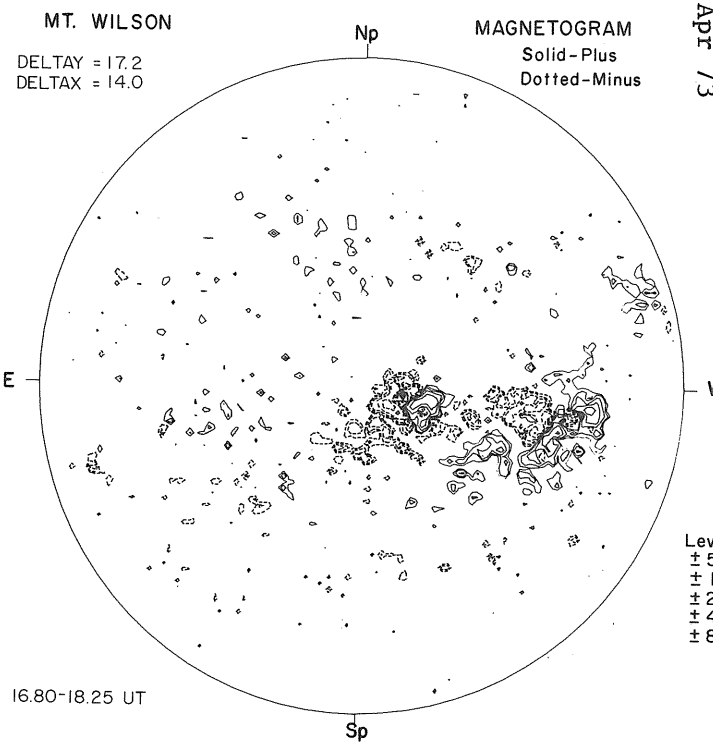


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

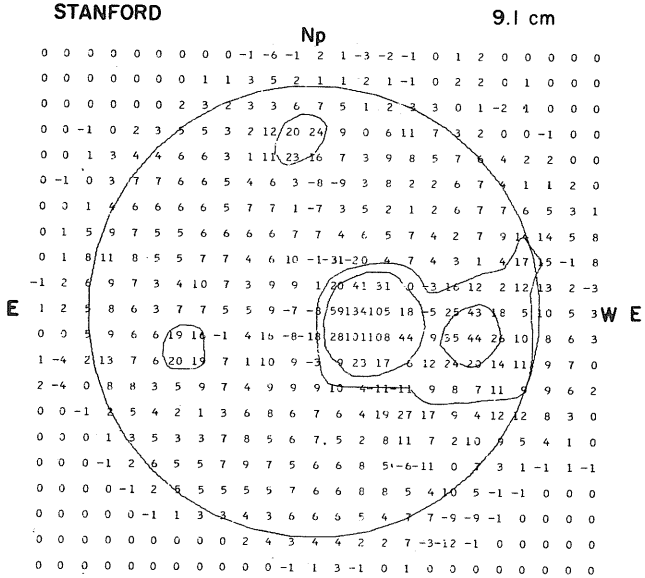


Levels
±5
±10
±20
±40
±80

16.80-18.25 UT

STANFORD

9.1 cm

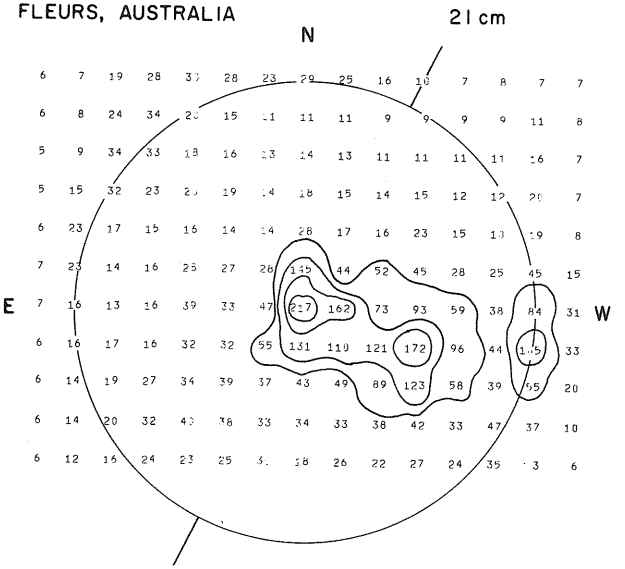


21-22 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

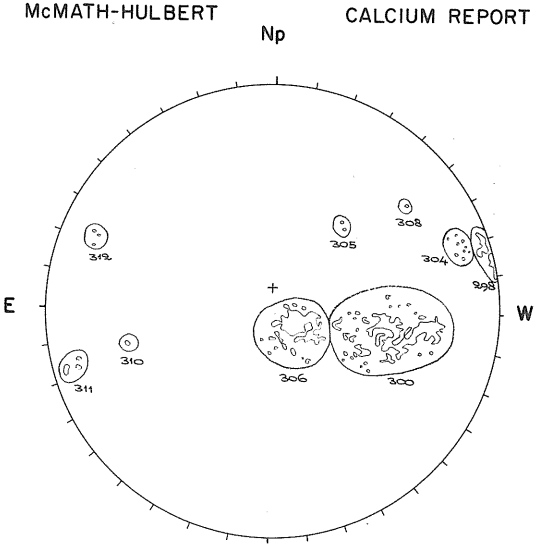


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
00 - 5000	-3.5
06 - 3000	-4.0

1310UT

BOULDER
||

Np

Hα

E

NO DATA

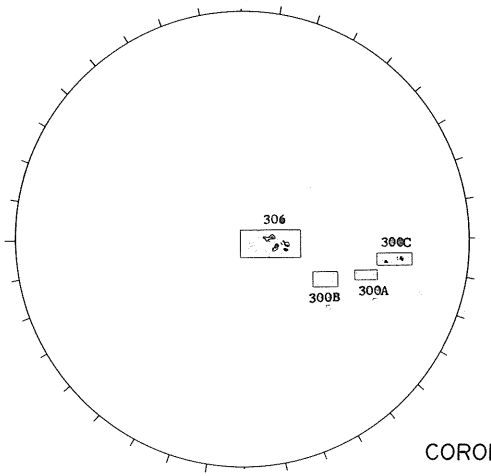
W

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

NO DATA

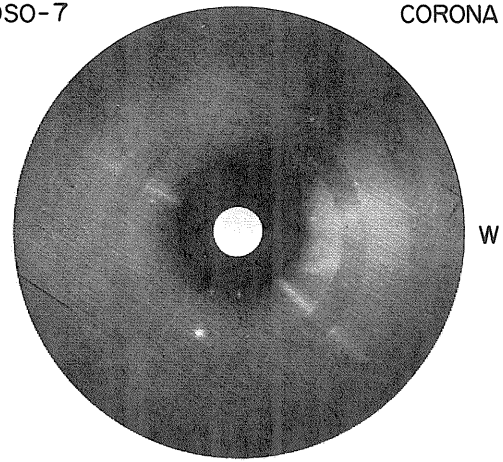
1445 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

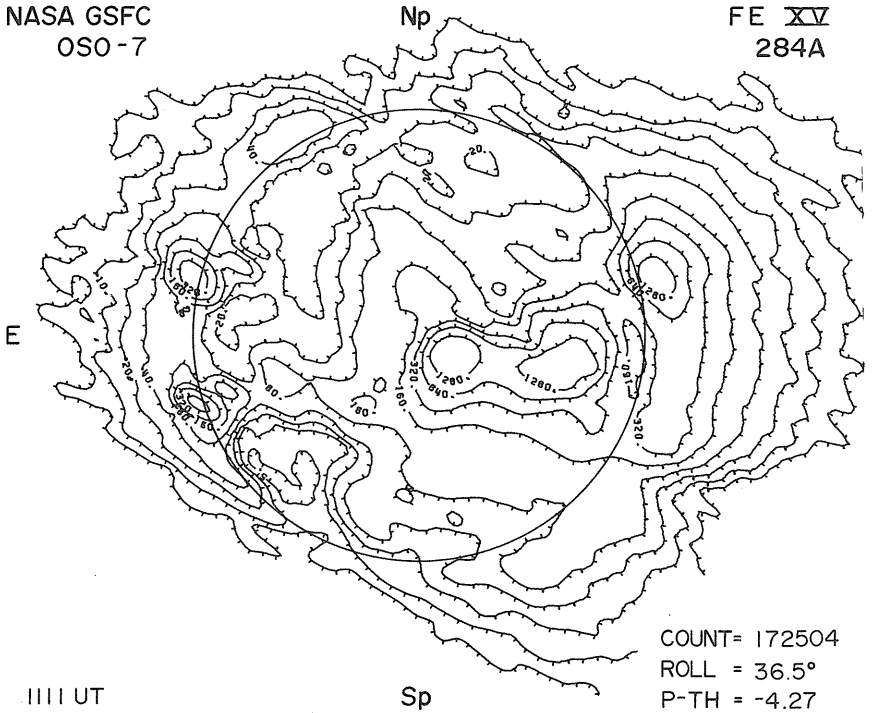
1813 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

COUNT= 172504
ROLL = 36.5°
P-TH = -4.27

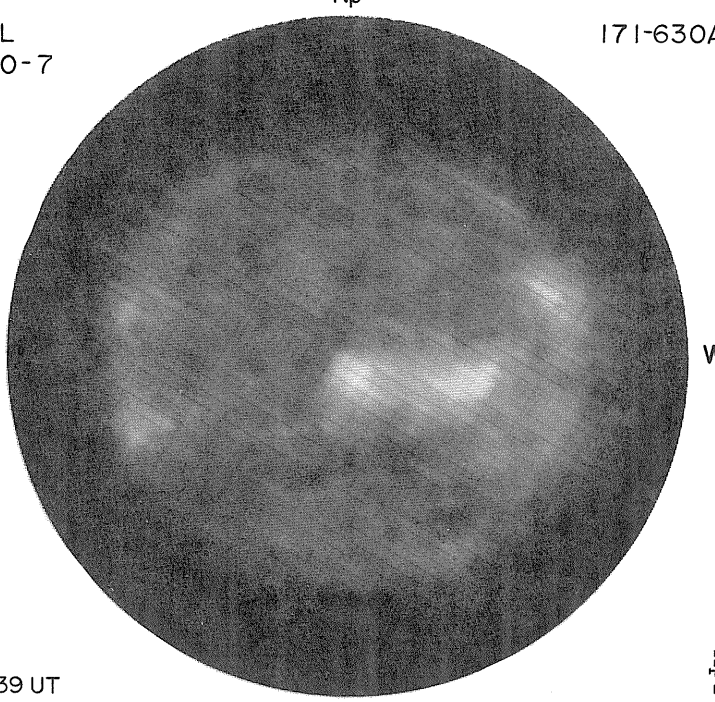
1111 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

0739 UT
COUNT = 38602

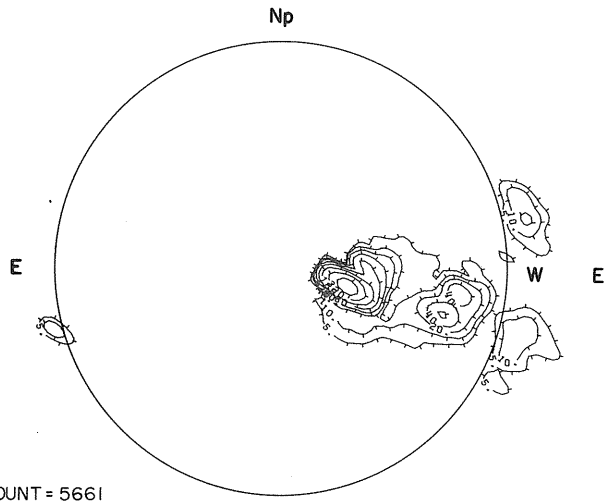
Sp

51
Apr 73

APRIL 12, 1973 (P = -26.24, B_o = -5.82, L_o = 310.60)

NASA GSFC
OSO-7

X-RAY



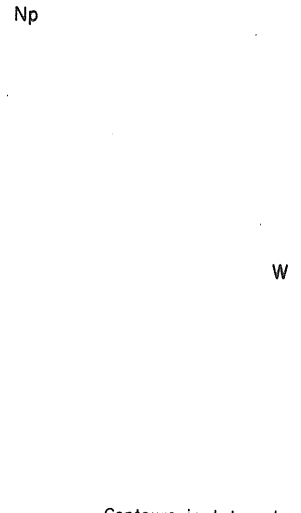
COUNT = 5661
ROLL = 36.7°
P-TH = -4.34

0411 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

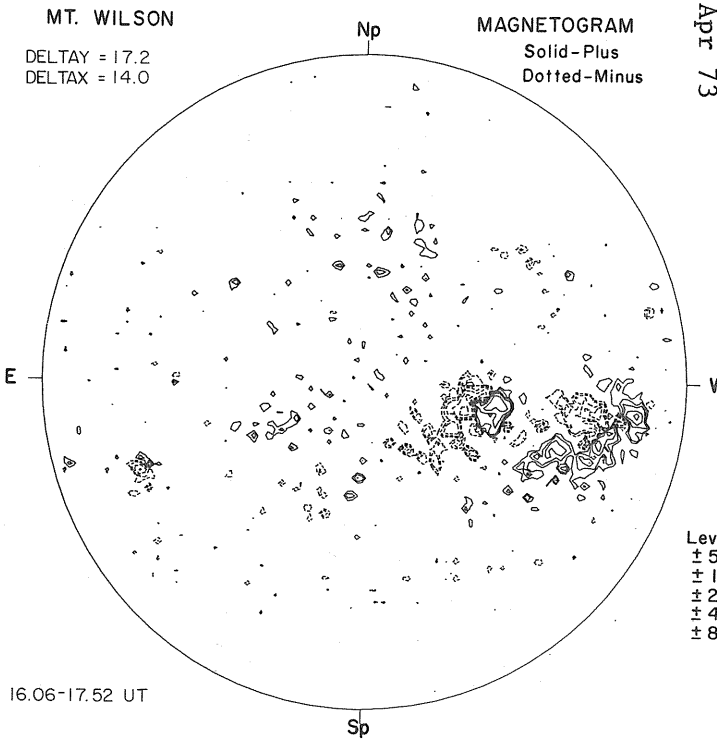


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

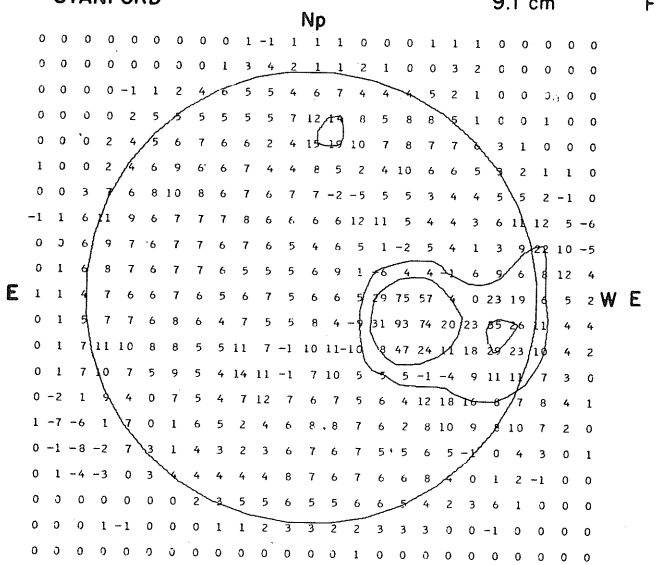


Levels
±5
±10
±20
±40
±80

16.06-17.52 UT

STANFORD

9.1 cm

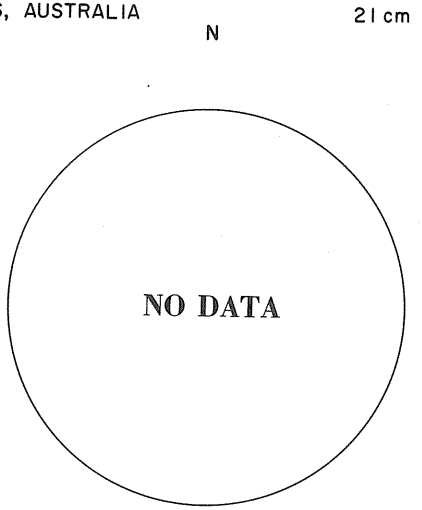


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

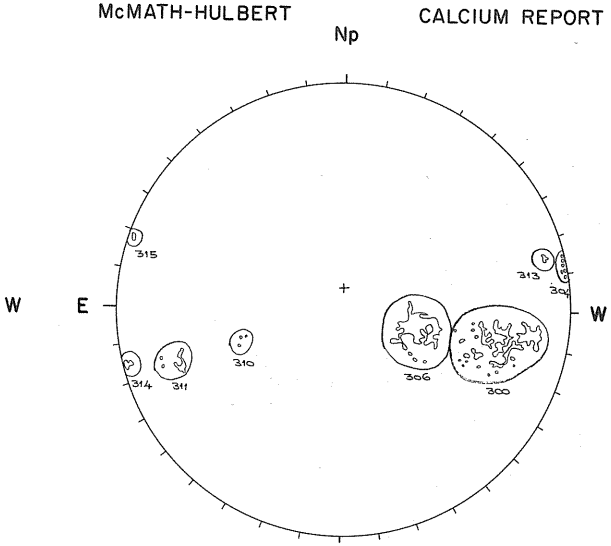


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
00 - 4800	-3.0
06 - 3000	-4.0

1300 UT

BOULDER
12

Np

Hα

E

W

Sp

1550 UT

BOULDER

Np

SUNSPOTS

E

306

300C

W

Sp

CORONA

1930 UT

SAC PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

2322 UT

Sp

NASA GSFC
OSO - 7

Np

FE XV
284A

E

COUNT = 126550
ROLL = 36.7°
P-TH = -4.34

0411 UT

Sp

NRL
OSO-7

Np

171-630A

E

W

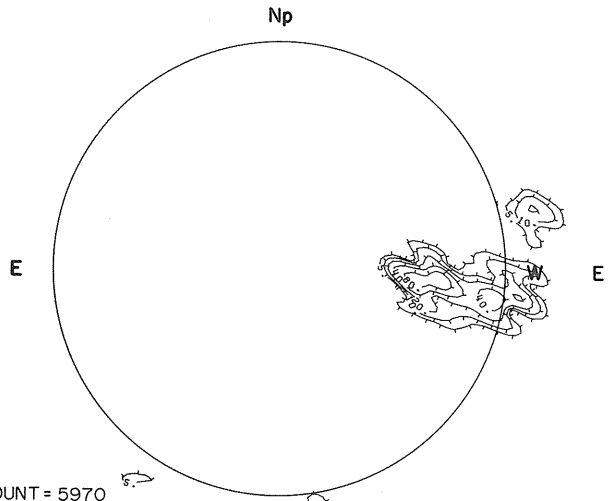
0516 UT
COUNT = 37266

Sp

APRIL 13, 1973 (P = -26.20, B_o = -5.74, L_o = 297.40)

NASA GSFC
OSO-7

X-RAY



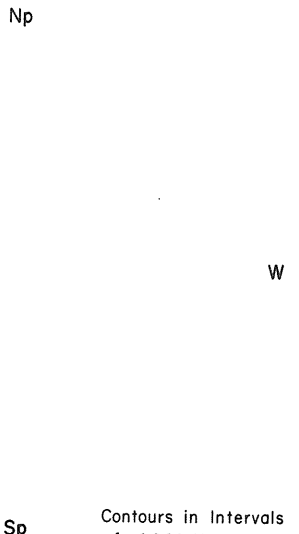
COUNT = 5970
ROLL = 37.0°
P-TH = -4.48

1041 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

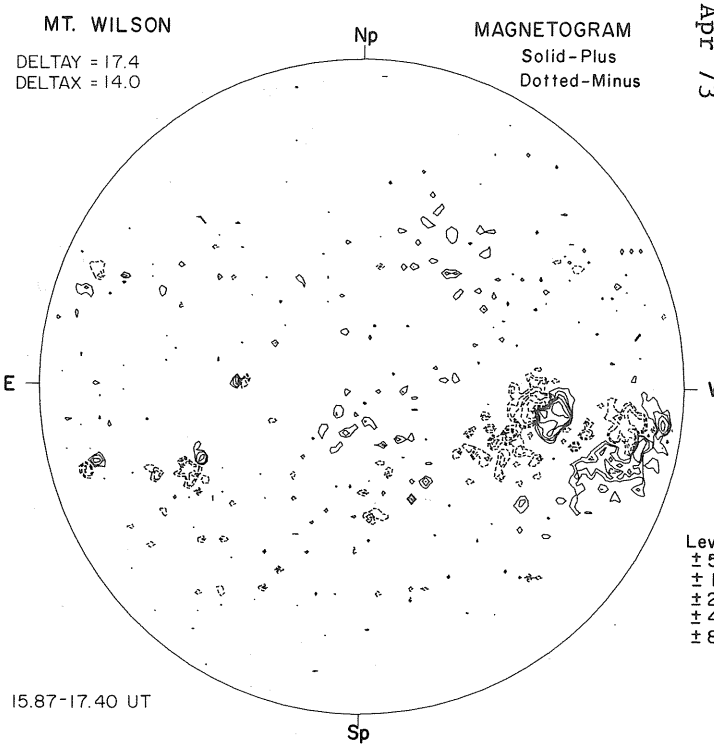


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

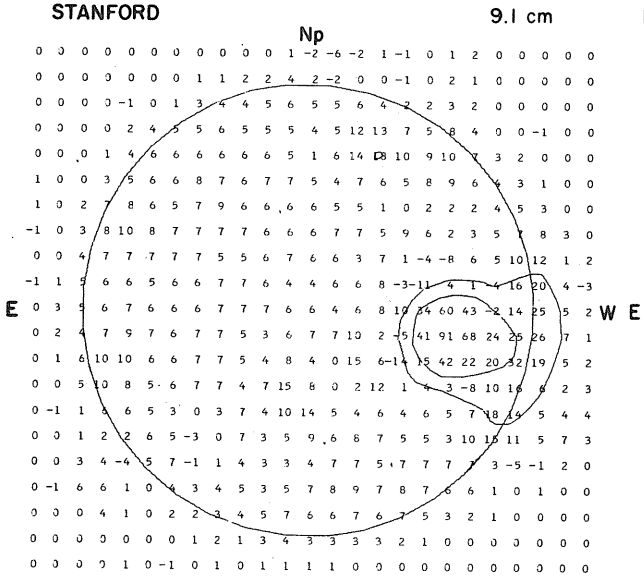


Levels
±5
±10
±20
±40
±80

15.87-17.40 UT

STANFORD

9.1 cm

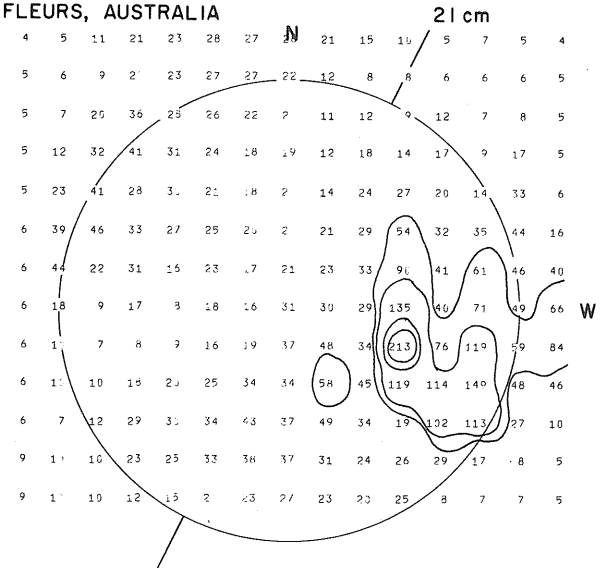


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

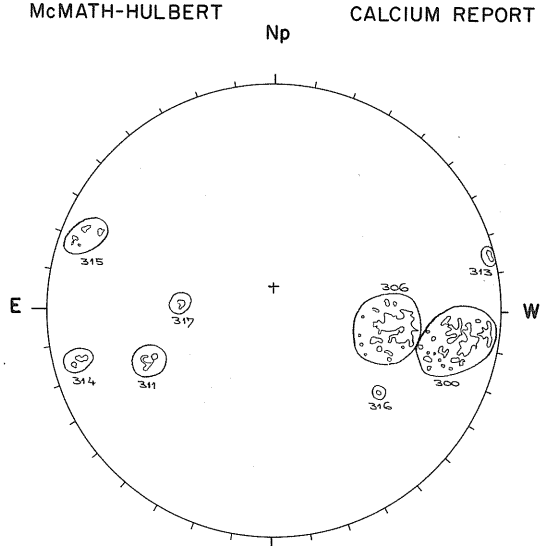


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

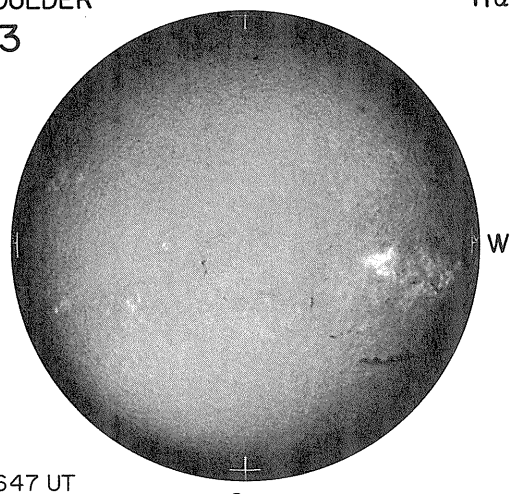
CALCIUM REPORT



FAIR	M
00 - 4700	- 3.0
06 - 2900	- 4.0

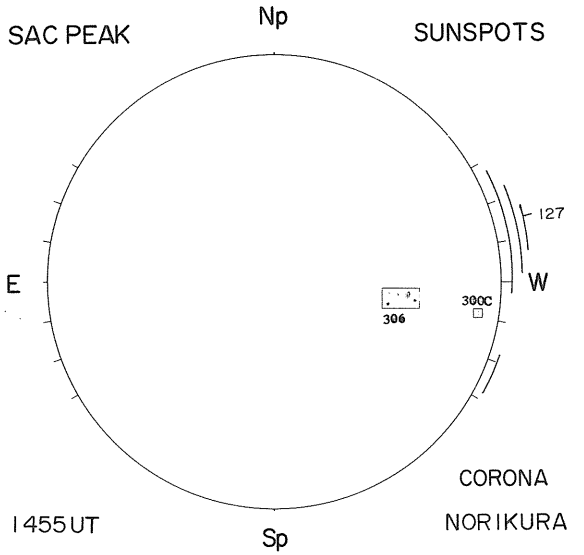
1215 UT

BOULDER
13



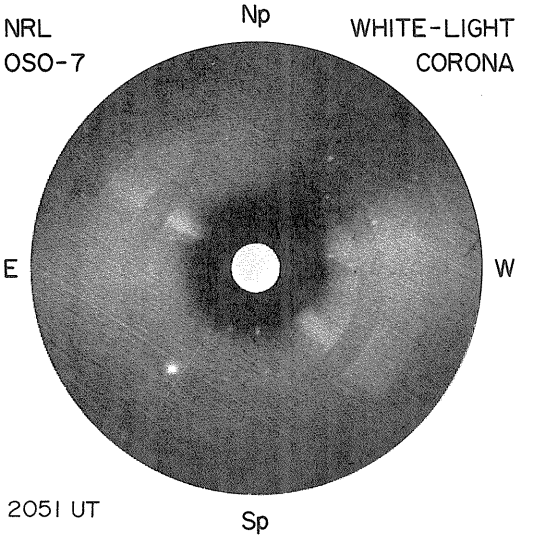
1647 UT

SAC PEAK



1455UT

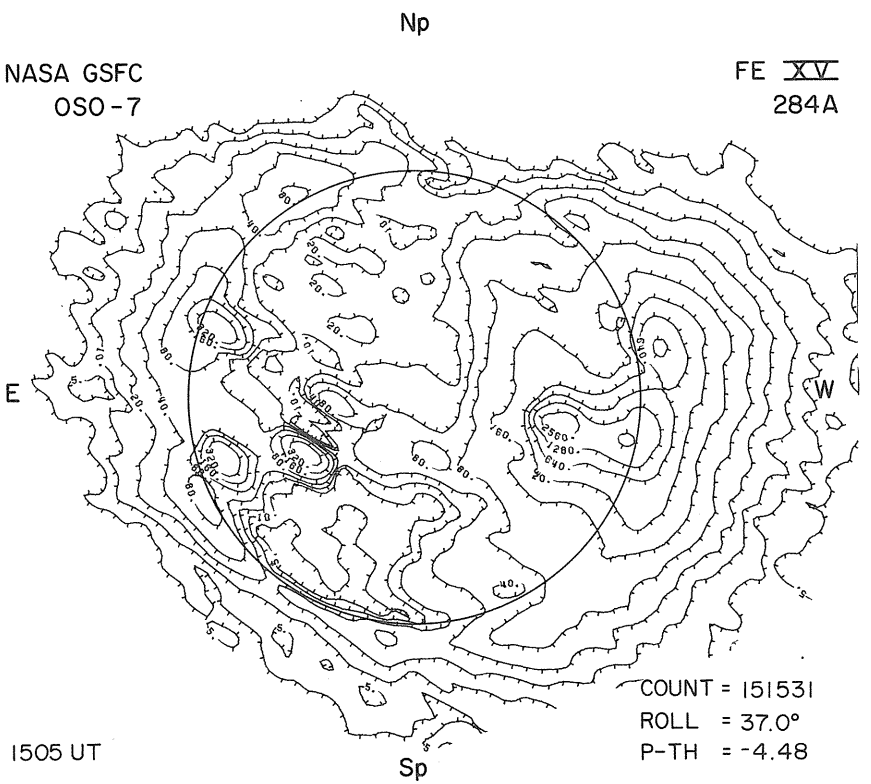
NRL
OSO-7



2051 UT

NASA GSFC
OSO-7

FE XV
284A

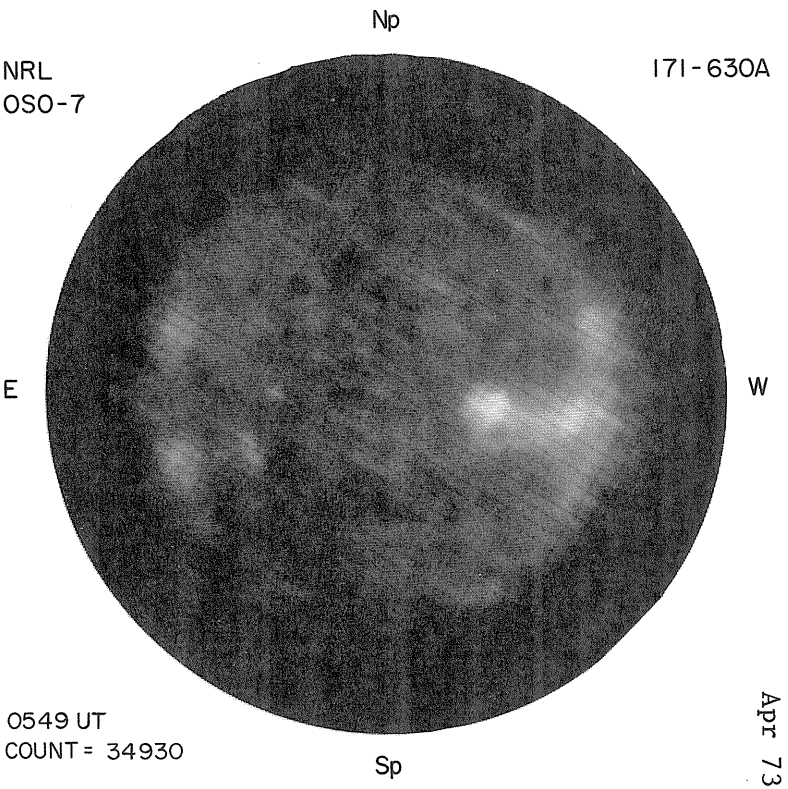


COUNT = 151531
ROLL = 37.0°
P-TH = -4.48

1505 UT

NRL
OSO-7

171-630A

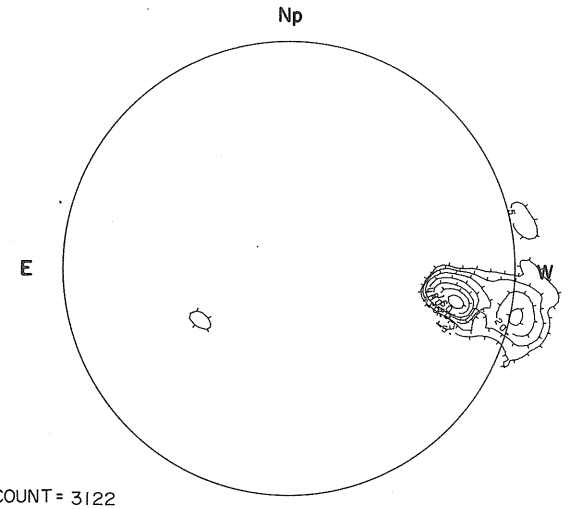


0549 UT
COUNT = 34930

APRIL 14, 1973 (P = -26.15, B_o = -5.67, L_o = 284.20)

NASA GSFC
OSO-7

X-RAY



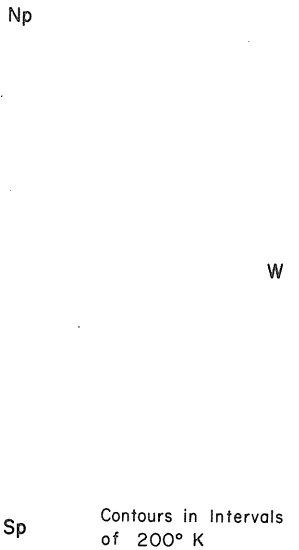
COUNT = 3122
ROLL = 37.7°
P-TH = -4.55

0822 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

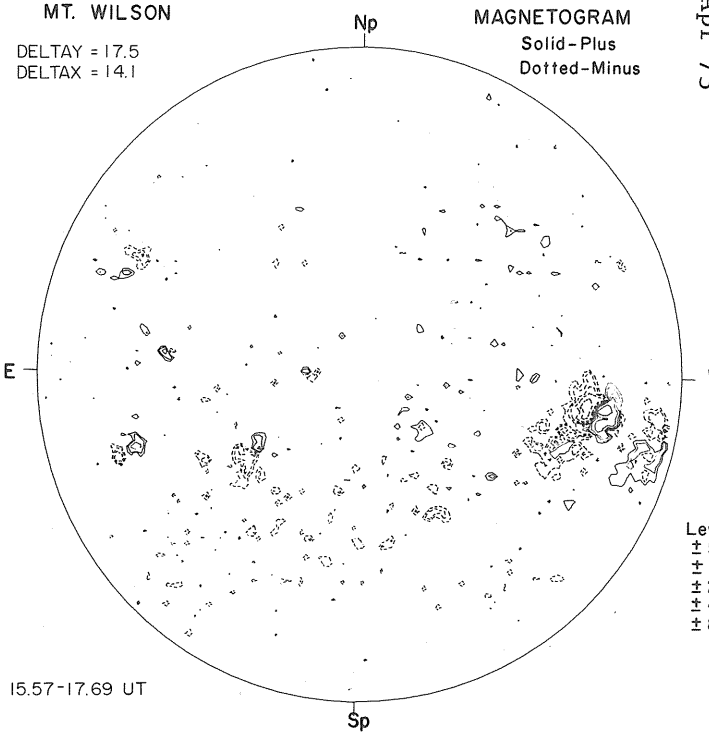


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.5
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

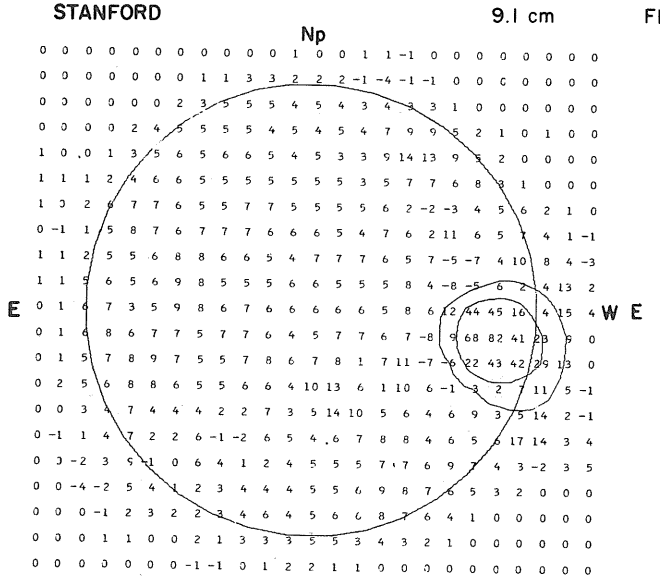


Levels
±5
±10
±20
±40
±80

15.57-17.69 UT

STANFORD

9.1 cm

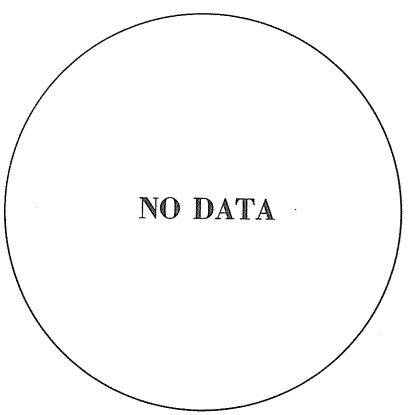


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

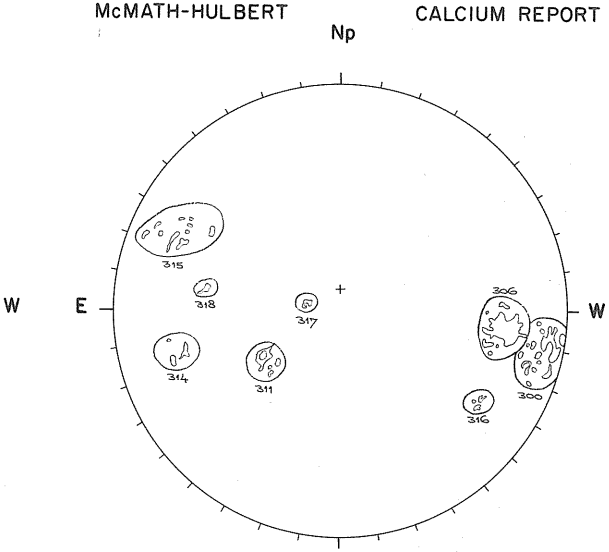


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	S
00 - 4500	-3.5
06 - 3300	-4.5

1345 UT

BOULDER
14

Np

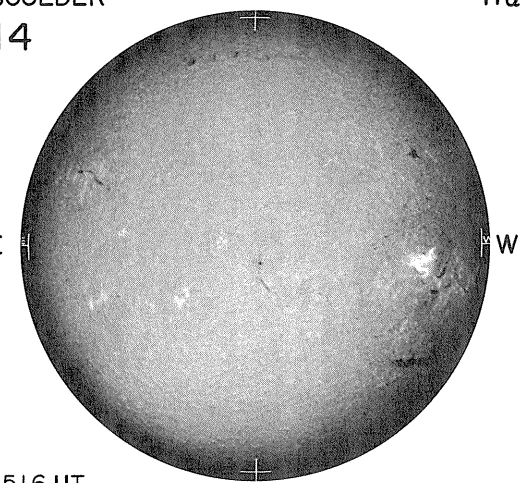
Hα

E

W

Sp

1516 UT



BOULDER

Np

SUNSPOTS

E

W

318

306

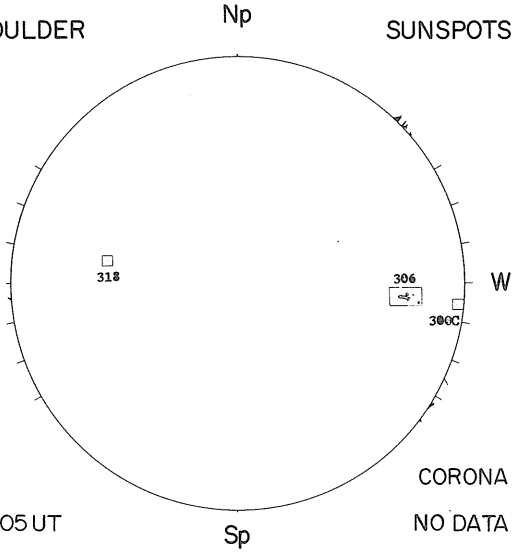
300C

Sp

CORONA

NO DATA

1505 UT



NRL
OSO-7

Np

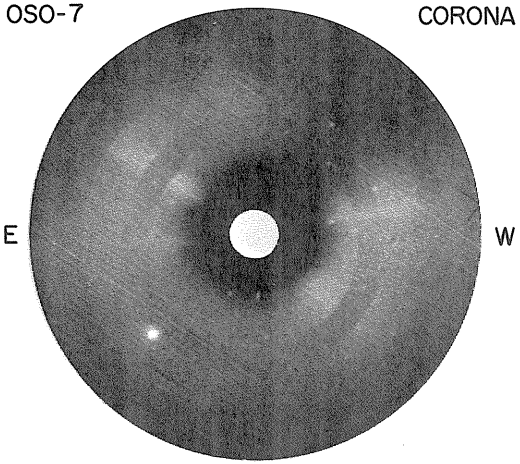
WHITE-LIGHT
CORONA

E

W

Sp

1820 UT



NASA GSFC
OSO-7

Np

FE XV
284A

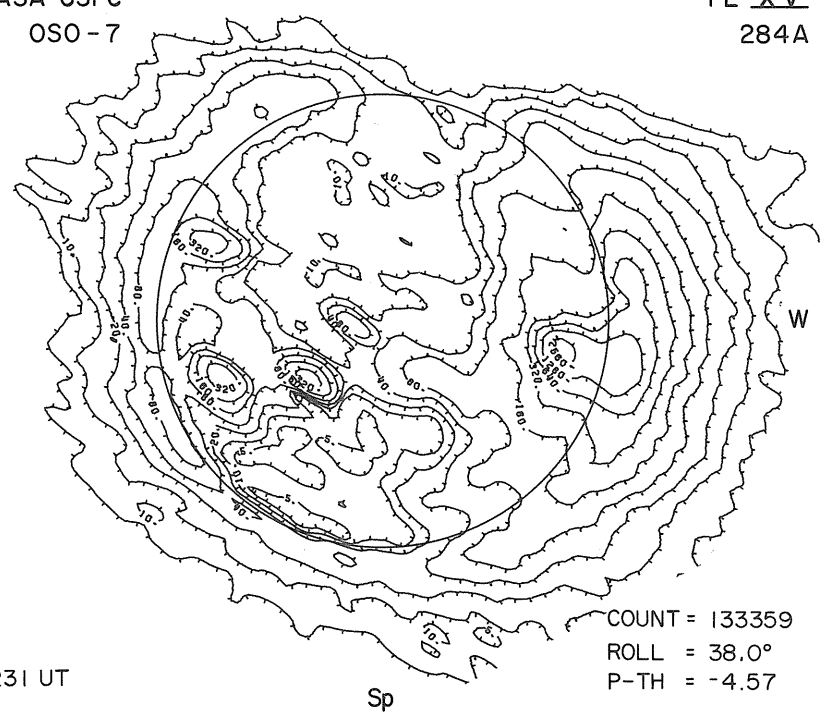
E

W

Sp

COUNT = 133359
ROLL = 38.0°
P-TH = -4.57

1231 UT



NRL
OSO-7

Np

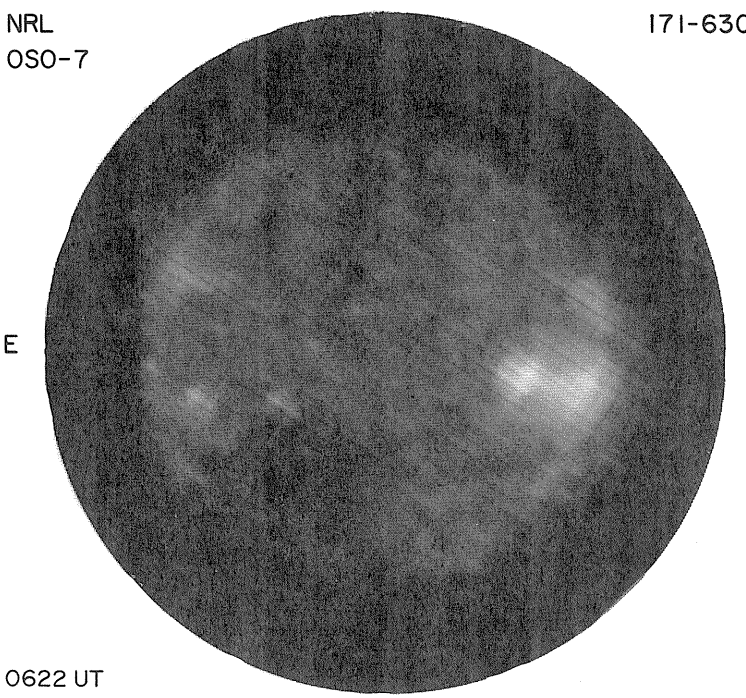
171-630A

E

W

Sp

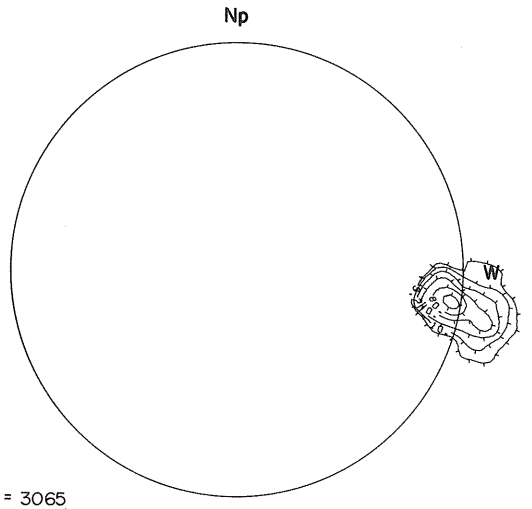
0622 UT
COUNT = 34245



APRIL 15, 1973 (P = -26.10, B_o = -5.59, L_o = 270.99)

NASA GSFC
OSO-7

X-RAY



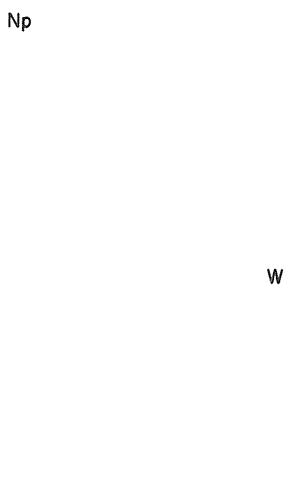
COUNT = 3065
ROLL = 38.2°
P-TH = -4.65

0946 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

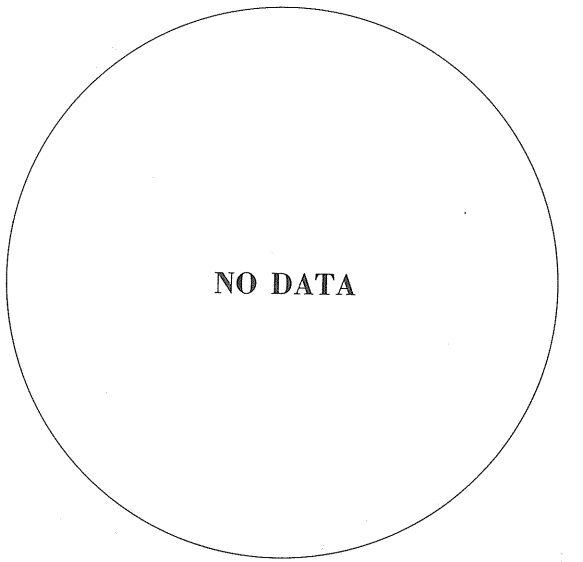
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

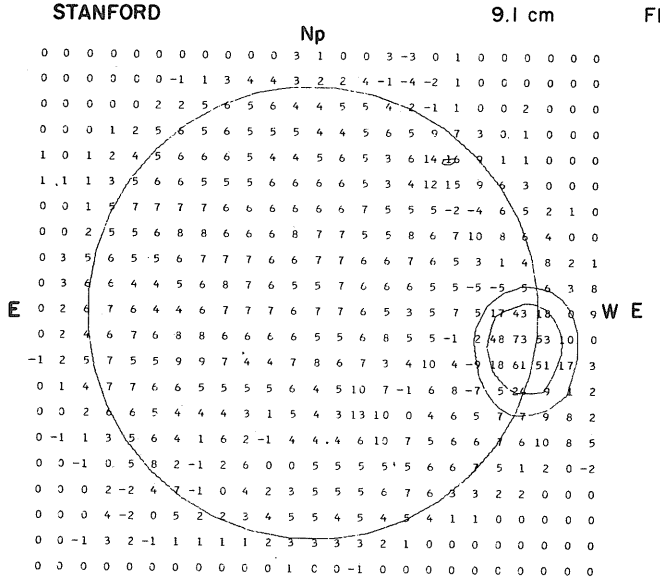
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

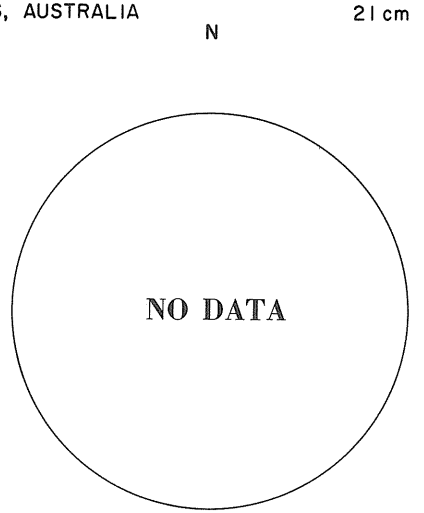


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

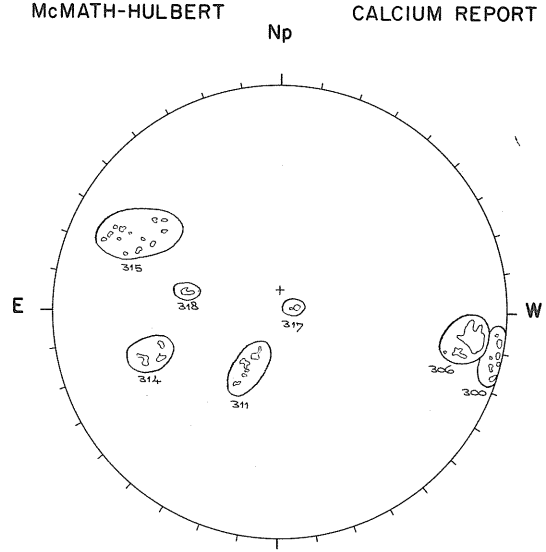


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCULUM REPORT



FAIR | D
06-3400 - 4.0

1250 UT

BOULDER
15

Np

Hα

E

NO DATA

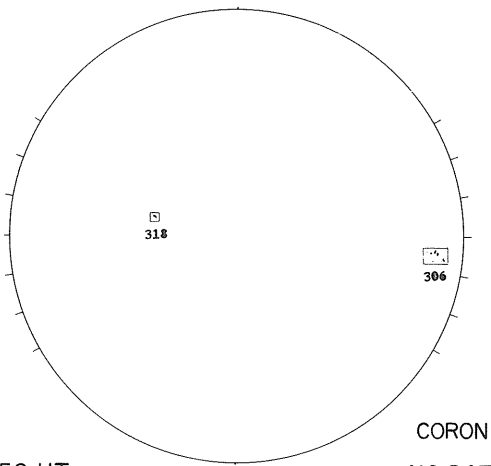
W

Sp

SAC PEAK

Np

SUNSPOTS



E

W

CORONA

NO DATA

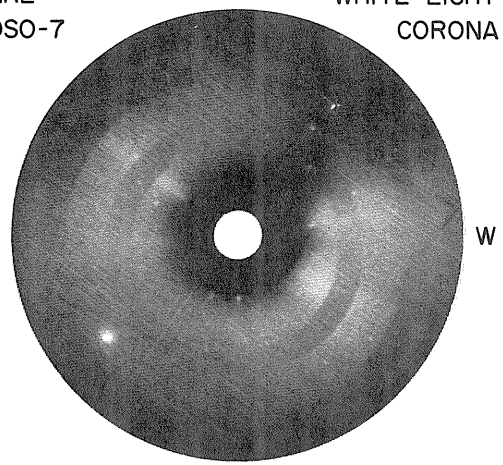
1450 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

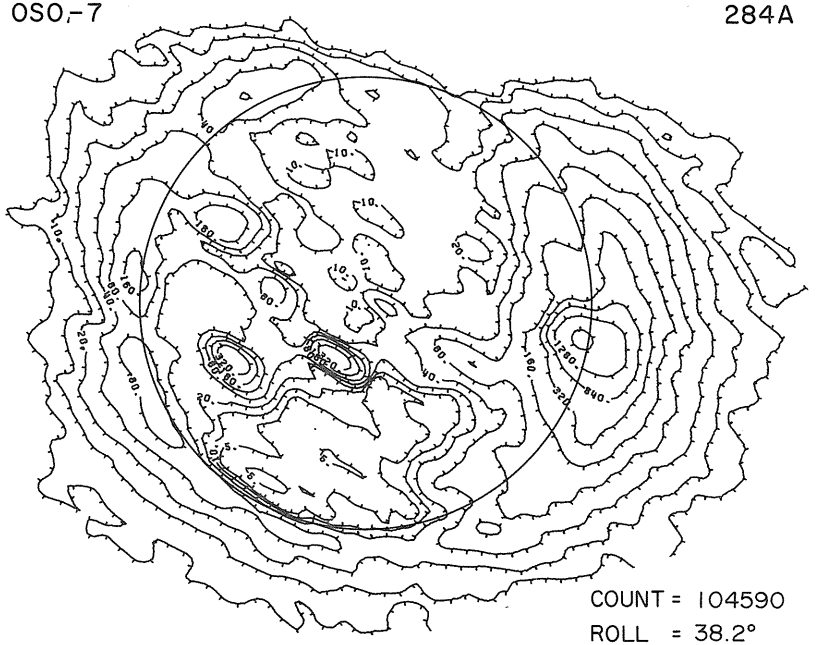
2219 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

COUNT = 104590
ROLL = 38.2°
P-TH = -4.65

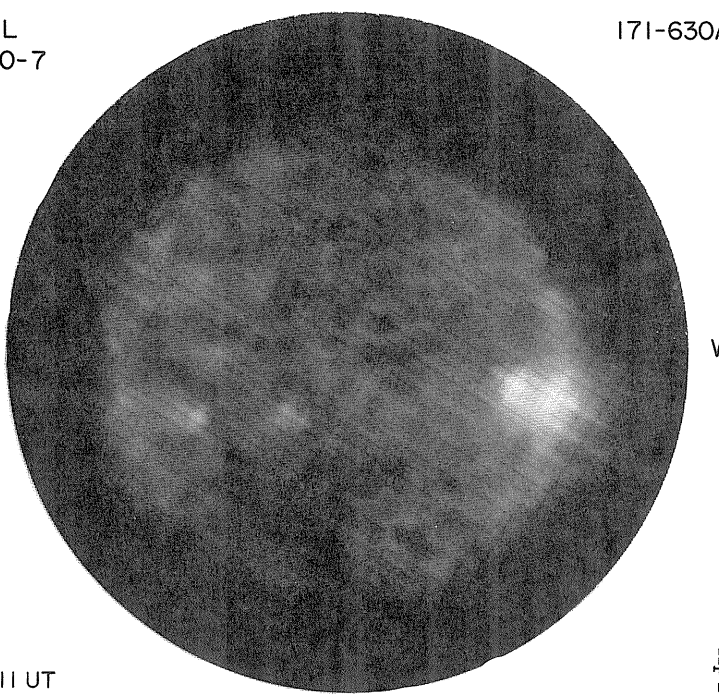
0946 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

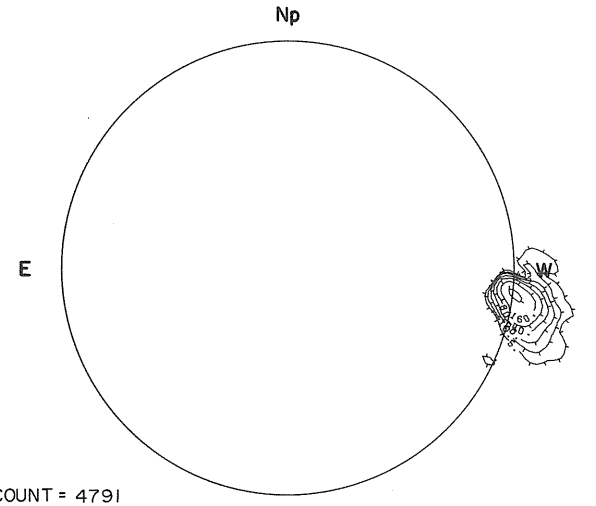
0211 UT
COUNT = 35590

Sp

APRIL 16, 1973 (P = -26.04, B_o = -5.51, L_o = 257.79)

NASA GSFC
OSO-7

X-RAY



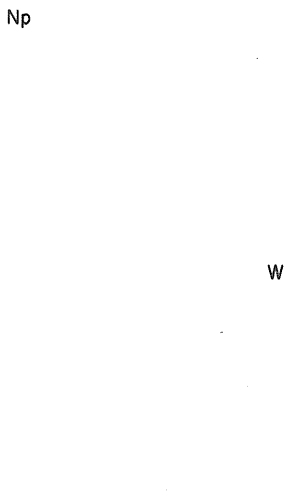
COUNT = 4791
ROLL = 38.7°
P-TH = -4.74

0915 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

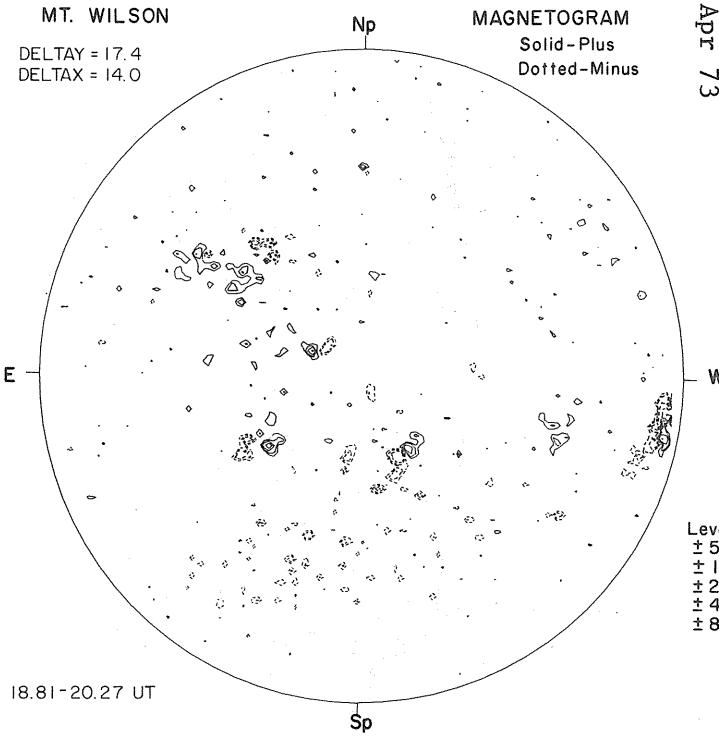


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

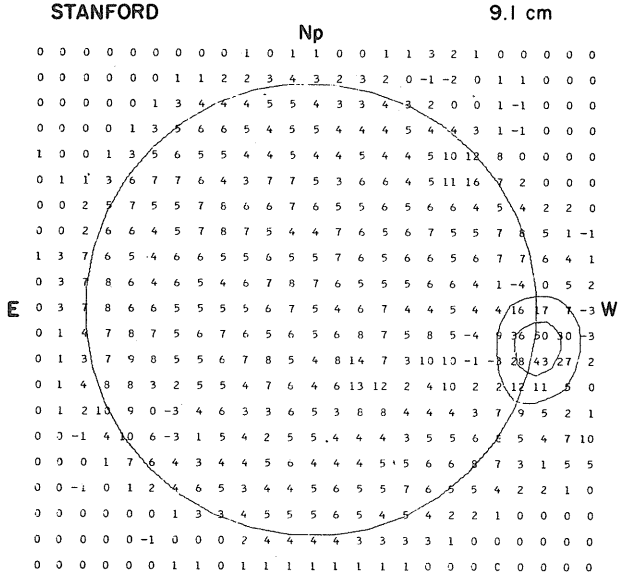


Levels
±5
±10
±20
±40
±80

18.81-20.27 UT

STANFORD

9.1 cm

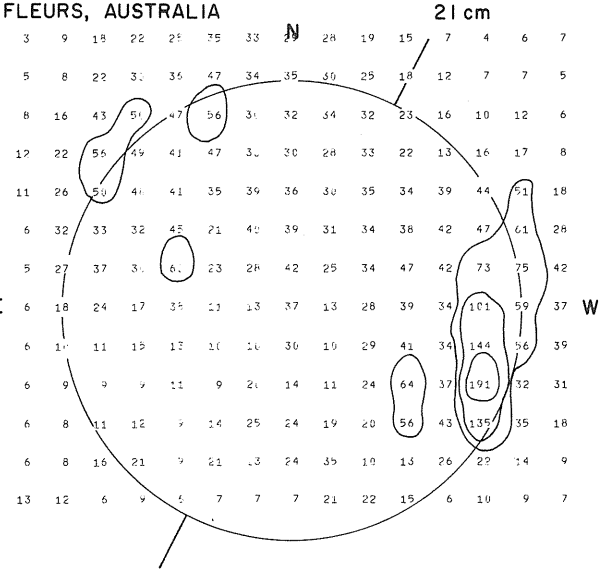


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

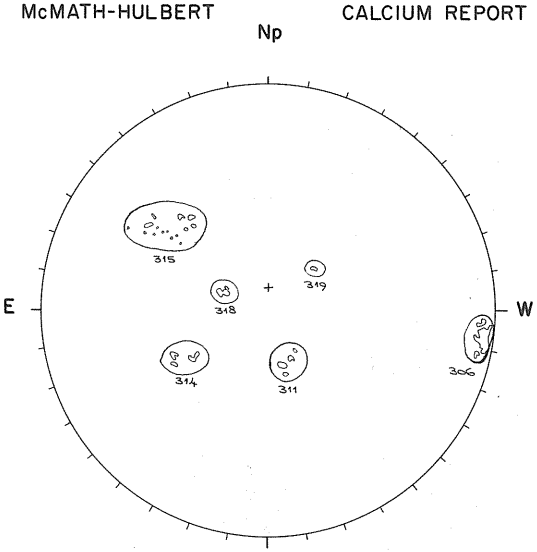


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1250 UT

BOULDER
16

Np

Hα

E

W

Sp

1530 UT

BOULDER

Np

SUNSPOTS

318

306

E

W

CORONA

NO DATA

1516 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

1622 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A

E

COUNT = 85970
ROLL = 38.7°
P-TH = -4.74

0915 UT

Sp

NRL
OSO-7

Np

171-630A

E

W

0919 UT
COUNT= 32645

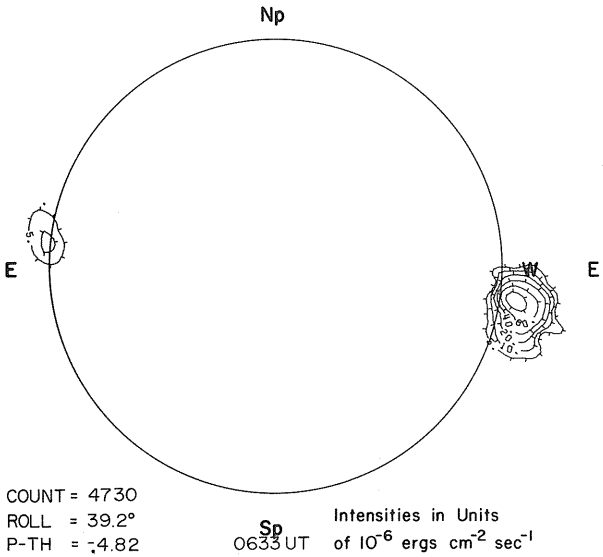
Sp

APRIL 17, 1973 (P = -25.97, B_o = -5.43, L_o = 244.58)

62 Apr 73

NASA GSFC
OSO-7

X-RAY



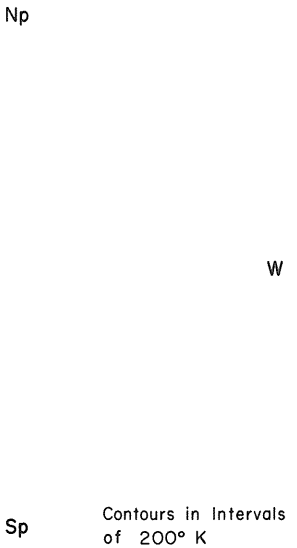
COUNT = 4730
ROLL = 39.2°
P-TH = -4.82

0633 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

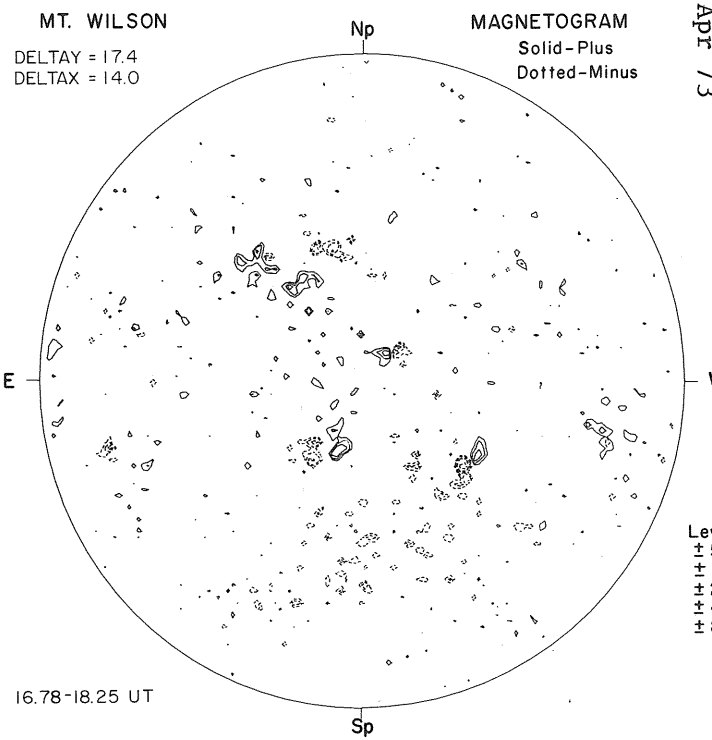


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

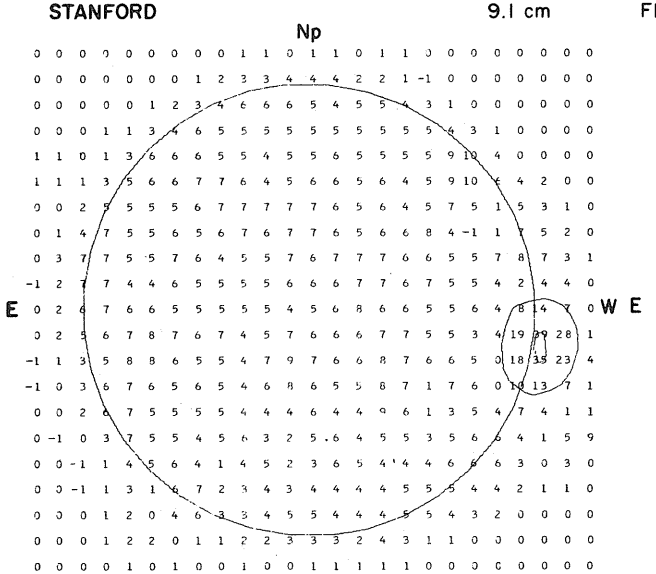


Levels
± 5
± 10
± 20
± 40
± 80

16.78-18.25 UT

STANFORD

9.1 cm

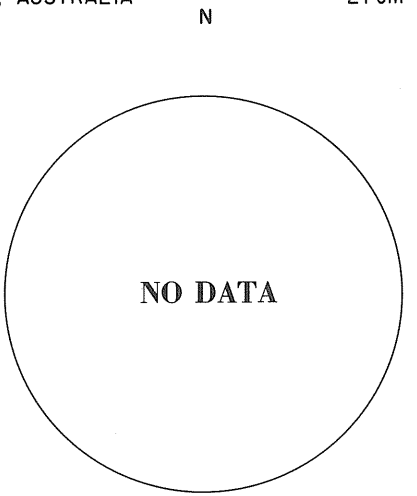


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

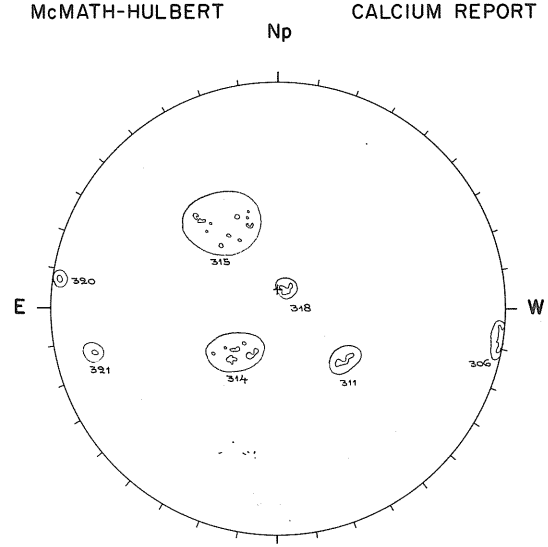


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



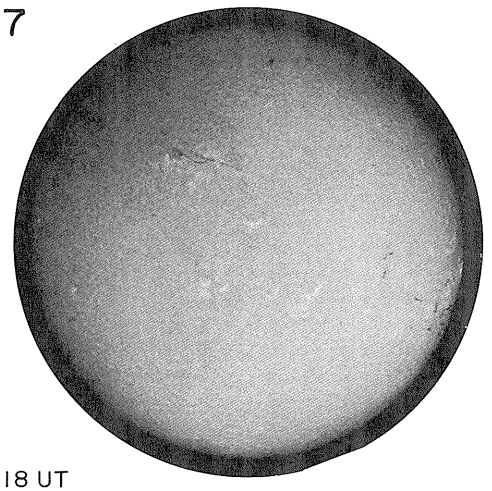
FAIR | M
06 - 1800 - 2.5

1200 UT

RAMEY AFB
17

Np

Hα



E

W

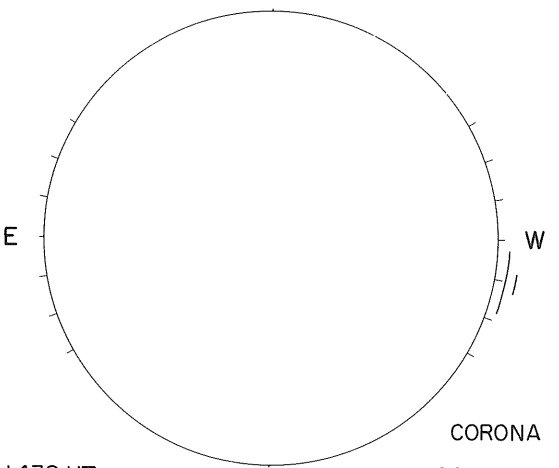
1118 UT

Sp

SAC PEAK

Np

SUNSPOTS



E

W

CORONA

1438 UT

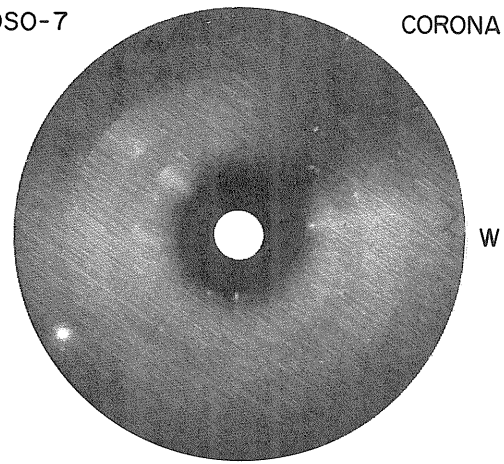
SAC PEAK

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

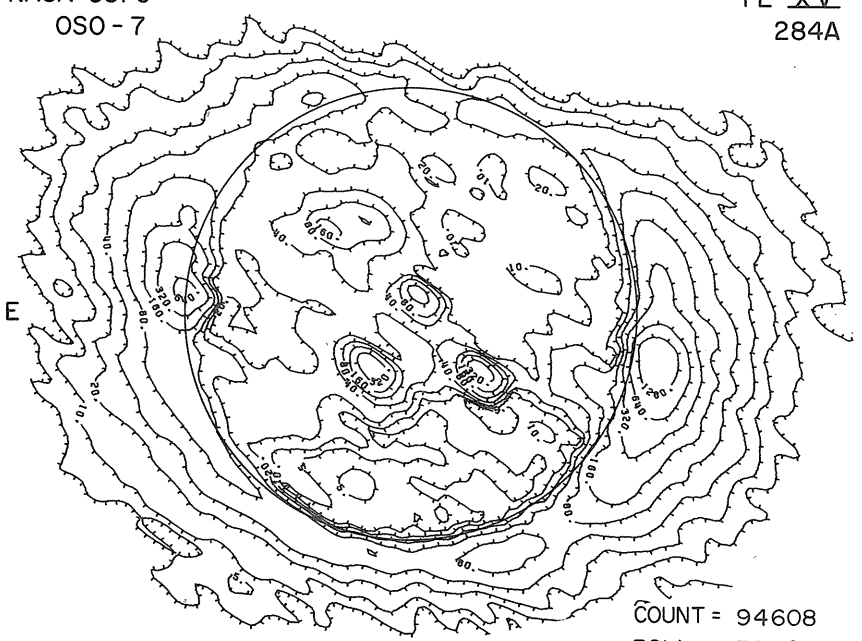
1730 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

COUNT = 94608
ROLL = 39.2°
P-TH = -4.82

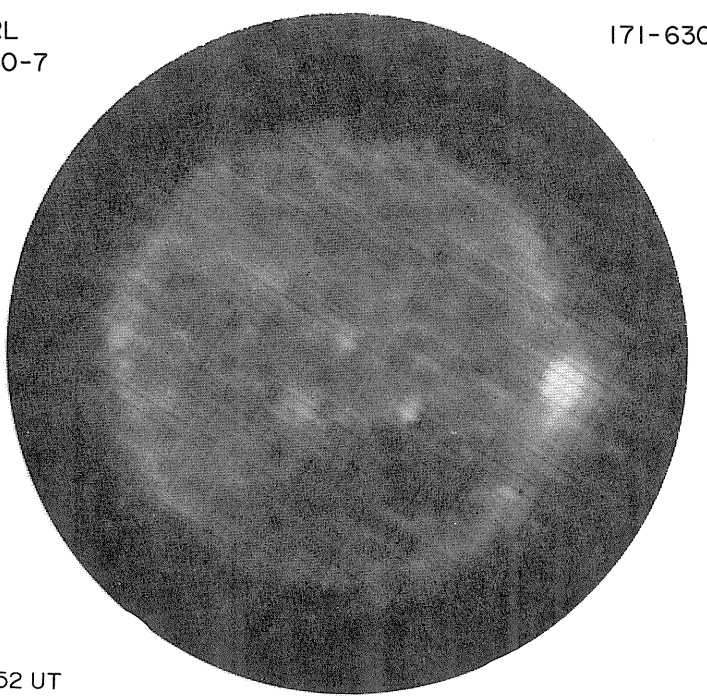
0633 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

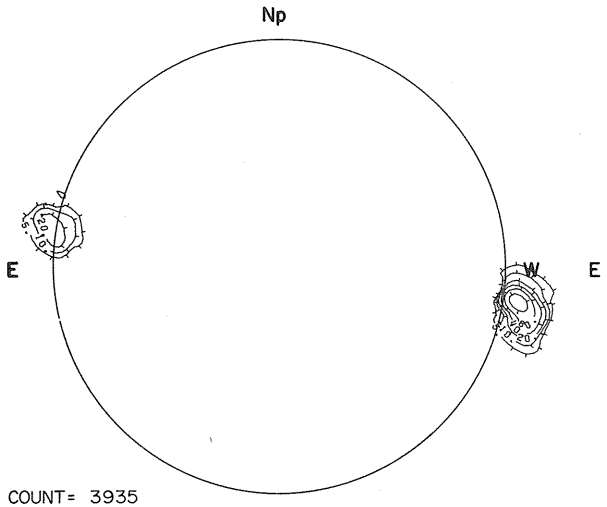
0952 UT
COUNT = 33777

Sp

APRIL 18, 1973 (P=-25.89, B_o=-5.34, L_o=231.38)

NASA GSFC
OSO-7

X-RAY



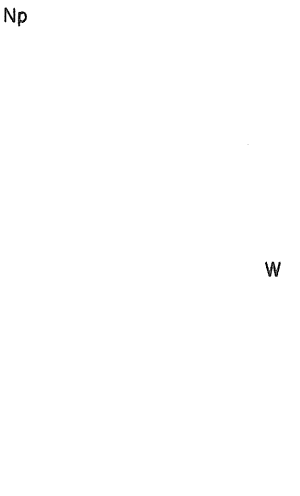
COUNT= 3935
ROLL = 39.4°
P-TH = -4.91

0354 UT

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

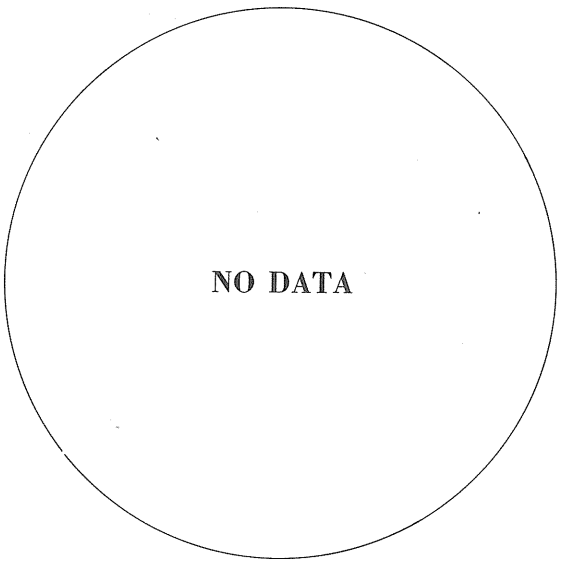
8.6 mm



Contours in Intervals
of 200° K

MT. WILSON

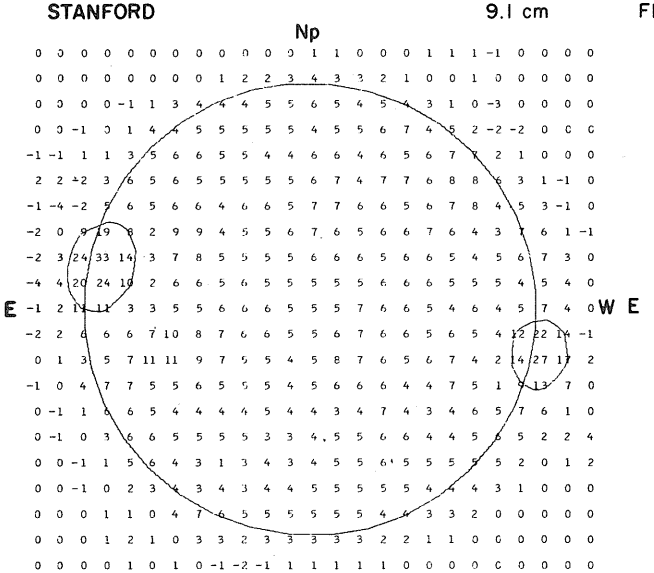
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

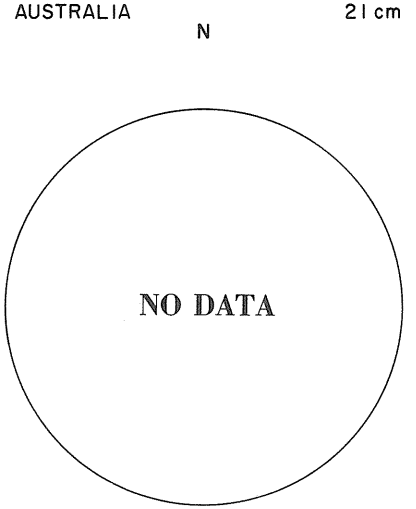


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

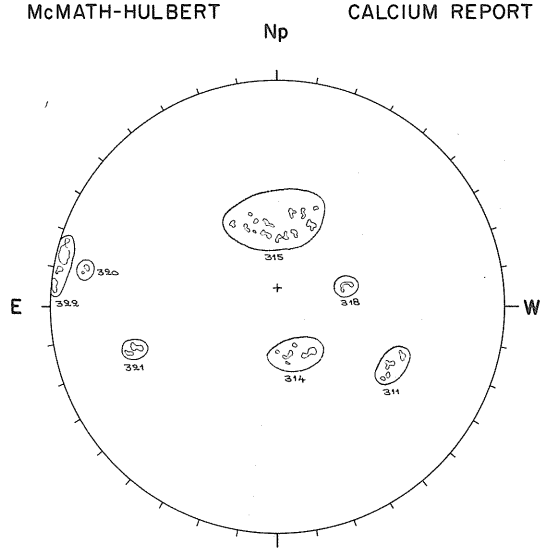


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

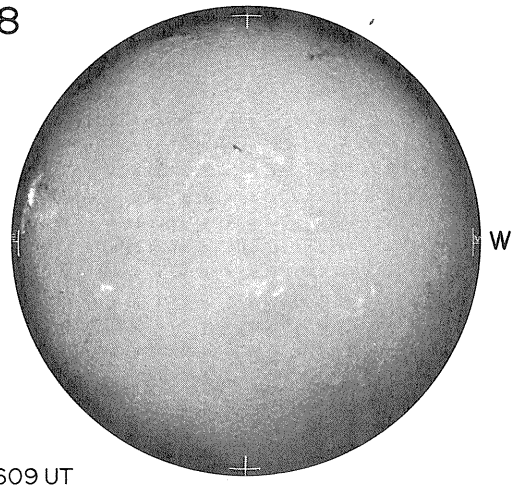
CALCIUM REPORT



FAIR	M
21 - 0300	-3.0
22 - 2200	-3.5

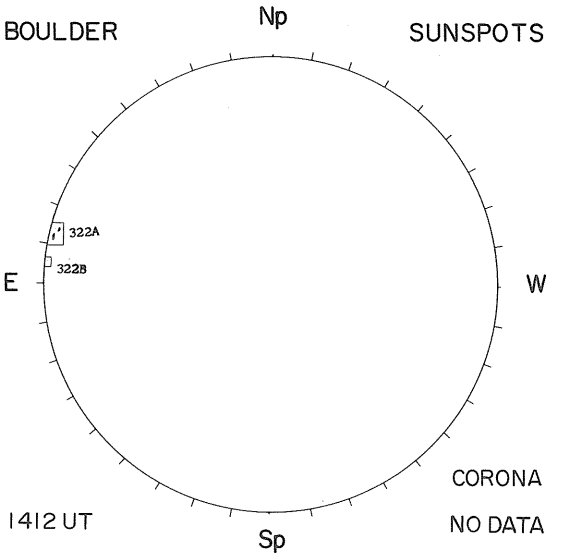
1510 UT

BOULDER
18



1609 UT

BOULDER

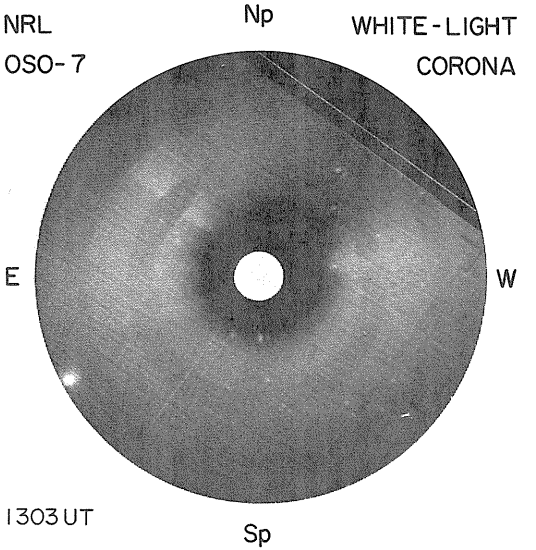


1412 UT

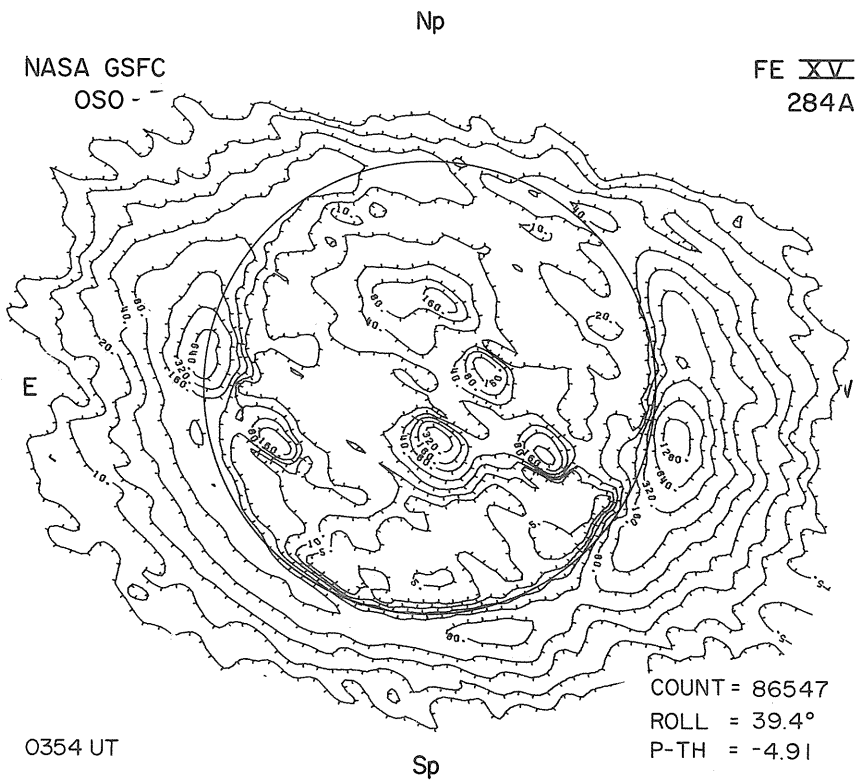
CORONA

NO DATA

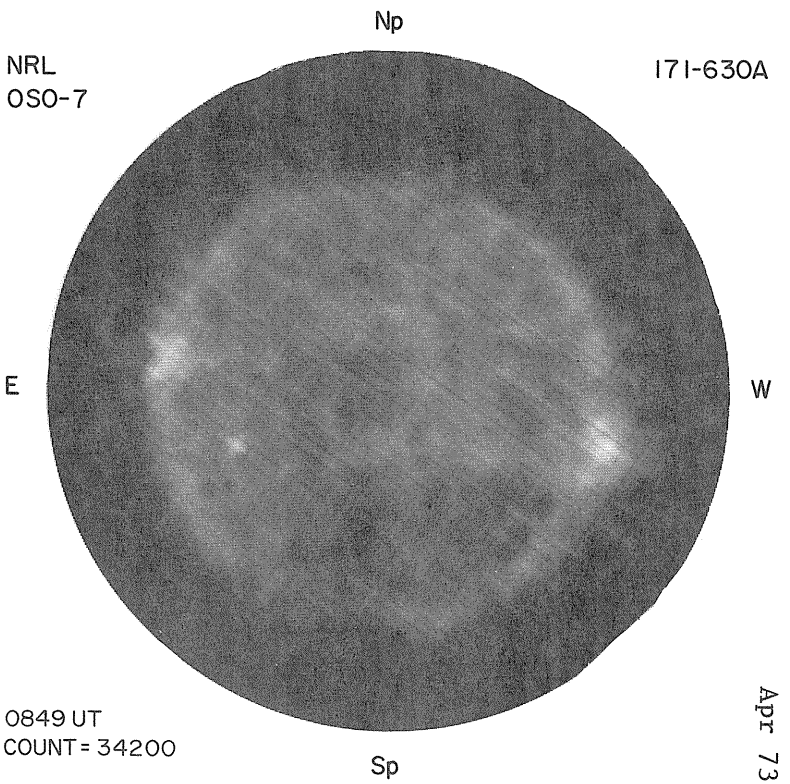
NRL
OSO-7



1303 UT



0354 UT



0849 UT
COUNT = 34200

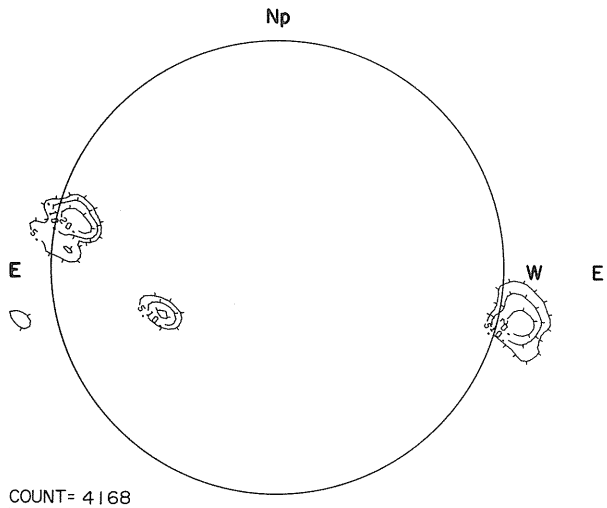
65
Apr 73

APRIL 19, 1973 (P=-25.80, B_o=-5.26, L_o=218.17)

66 Apr 73

NASA GSFC
OSO-7

X-RAY



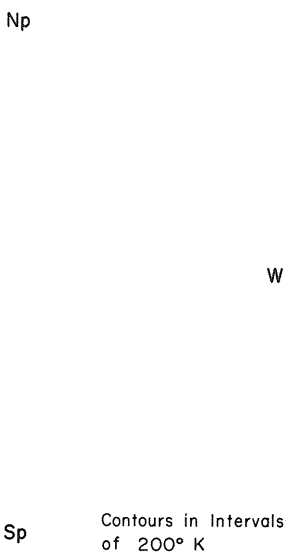
COUNT= 4168
ROLL = 39.4°
P-TH = -5.00

0431 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

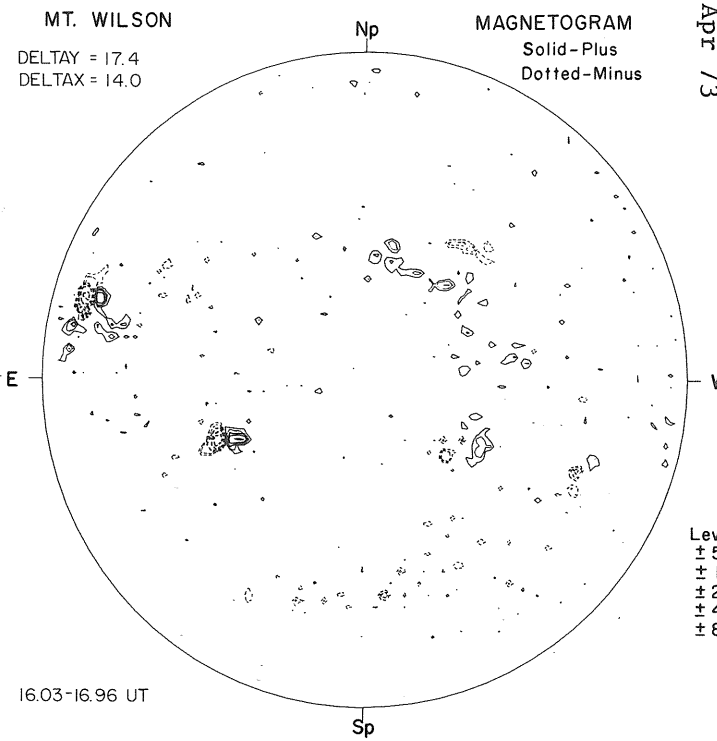


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

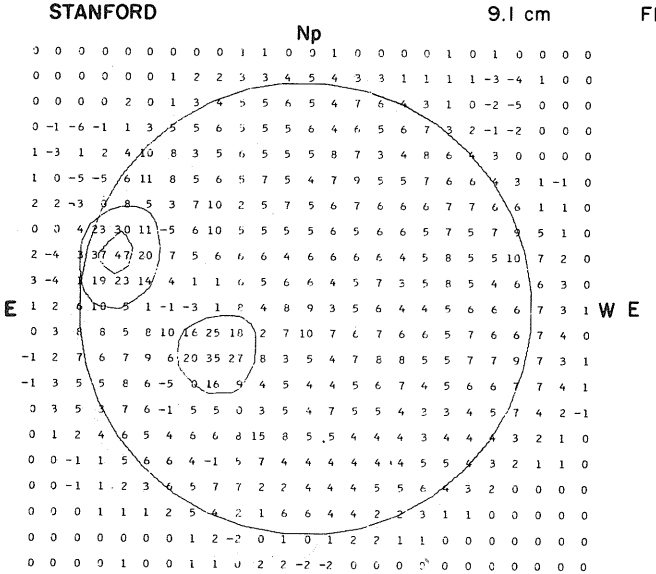


Levels
±5
±10
±20
±40
±80

16.03-16.96 UT

STANFORD

9.1 cm

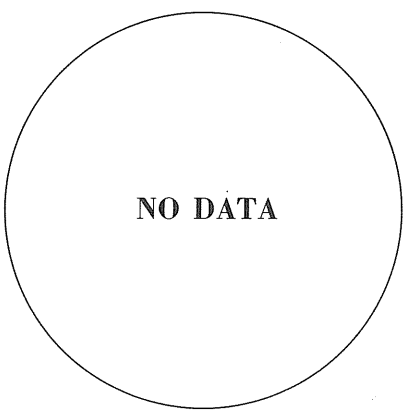


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

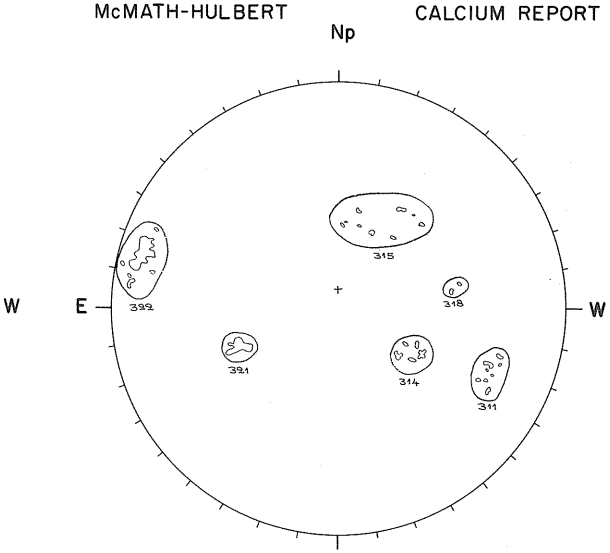


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



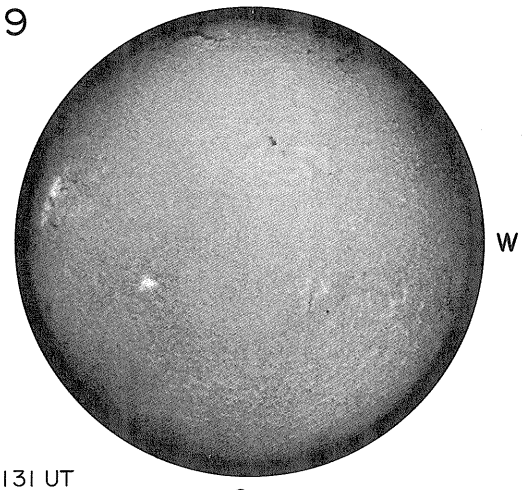
FAIR	M
21 - 1000	- 3.5
22 - 2800	- 3.5

1515 UT

RAMEY AFB
19

Np

Hα



E

W

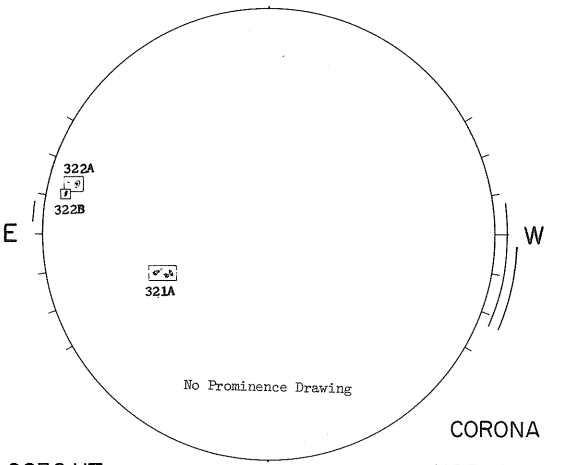
1131 UT

Sp

CANARY IS.

Np

SUNSPOTS



E

W

CORONA

0930 UT

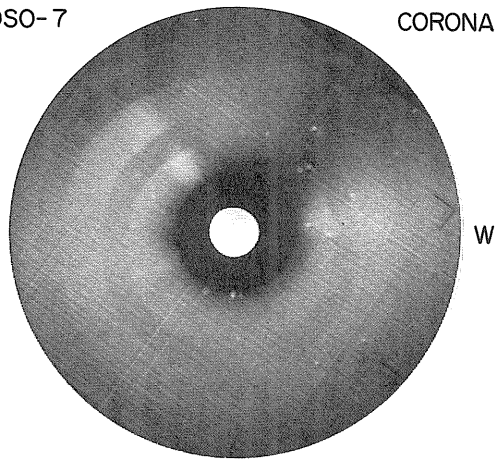
NORIKURA

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

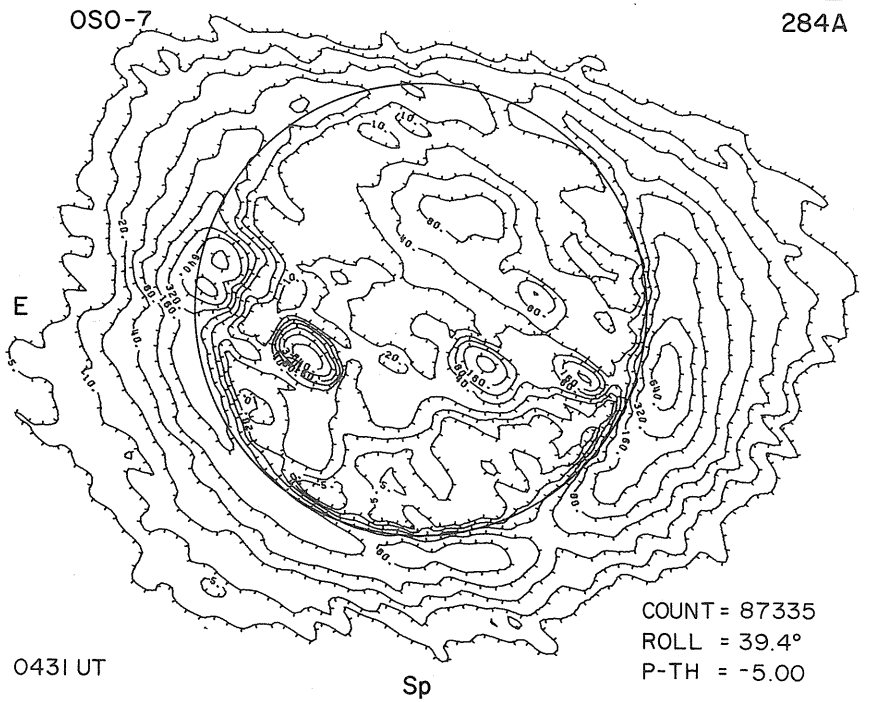
1341 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

COUNT = 87335
ROLL = 39.4°
P-TH = -5.00

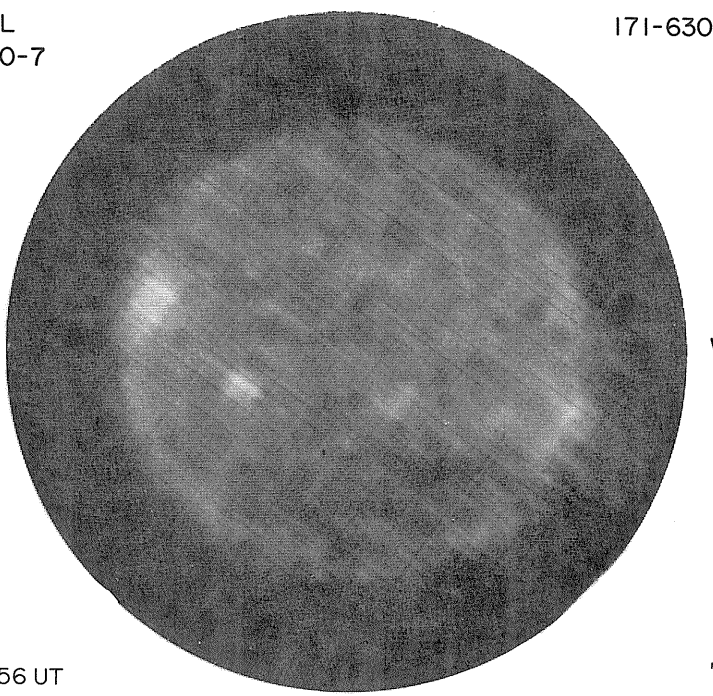
0431 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

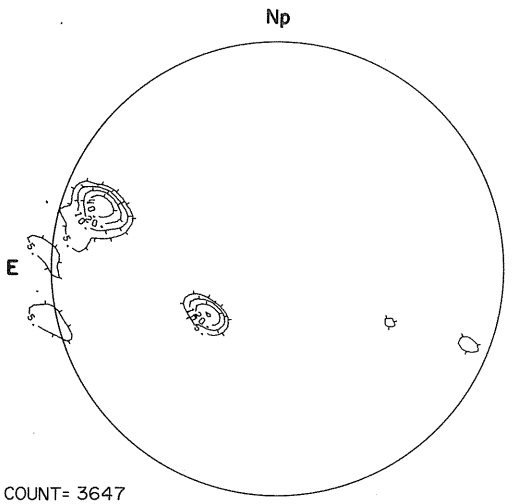
0756 UT
COUNT = 33705

Sp

APRIL 20, 1973 (P=-25.71, B_o=-5.17, L_o=204.96)

NASA GSFC
OSO-7

X-RAY



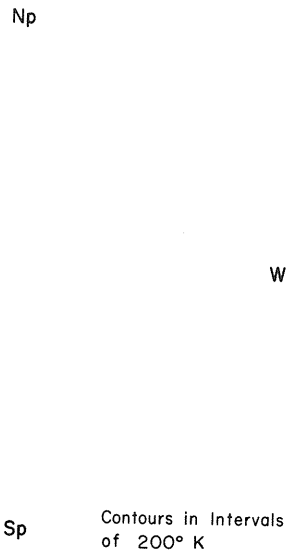
COUNT= 3647
ROLL = 39.5°
P-TH = -5.09

0511 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

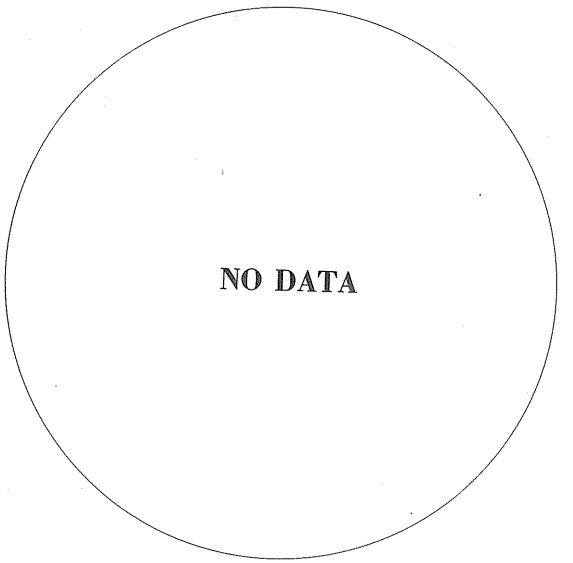
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

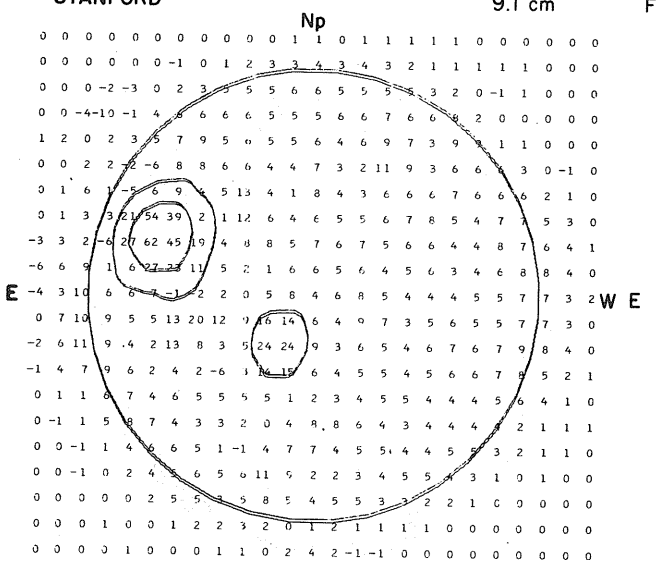
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

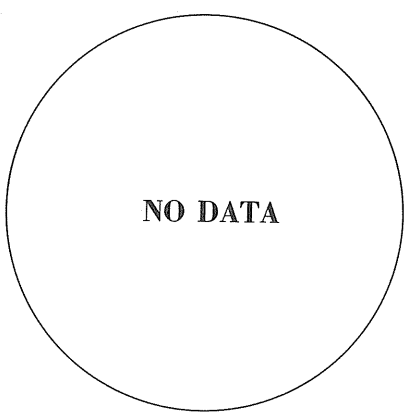


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

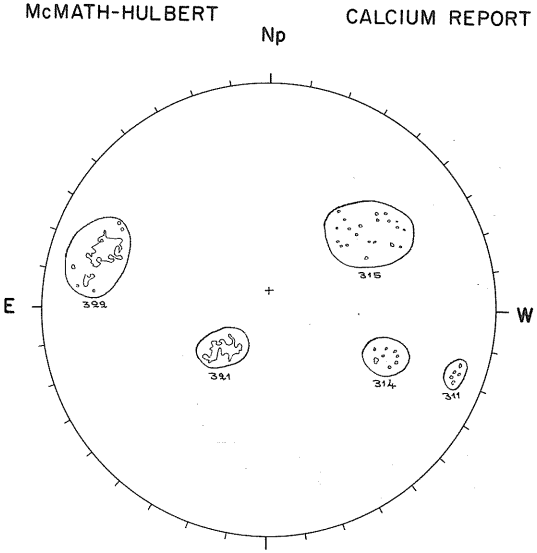


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

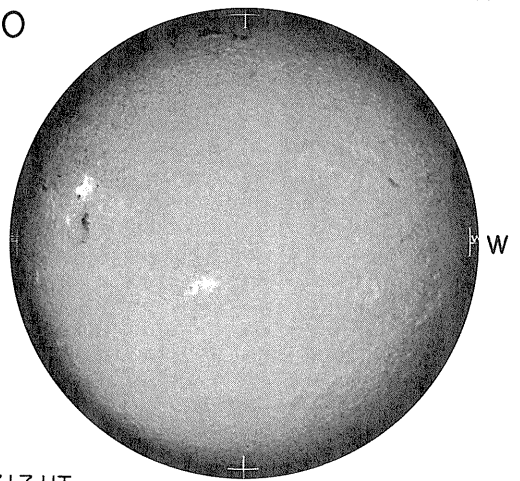
CALCIUM REPORT



FAIR	M
21 - 1200	- 3.0
22 - 3000	- 3.5

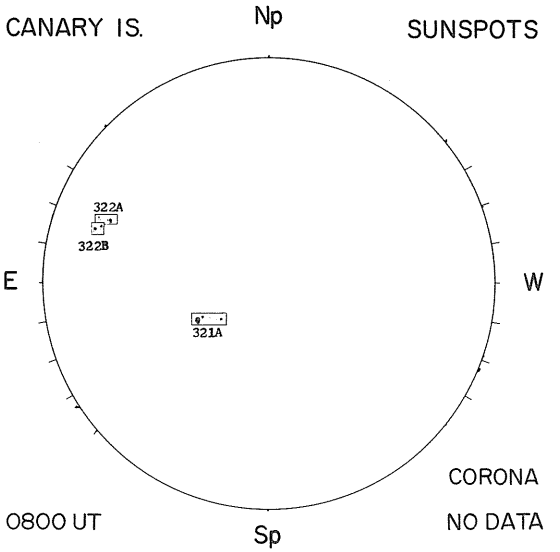
1610UT

BOULDER
20



1717 UT

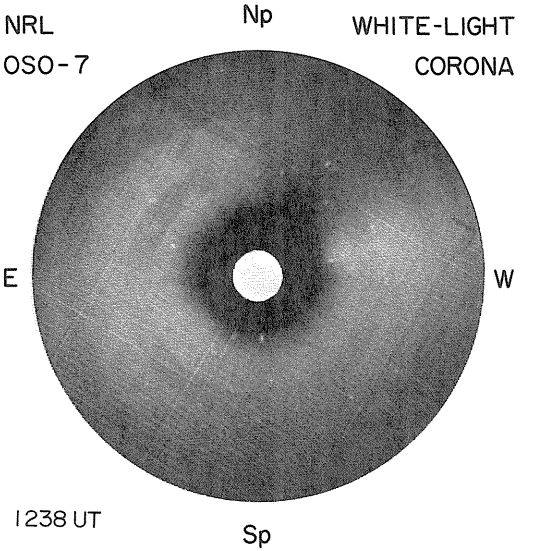
CANARY IS.



CORONA
NO DATA

0800 UT

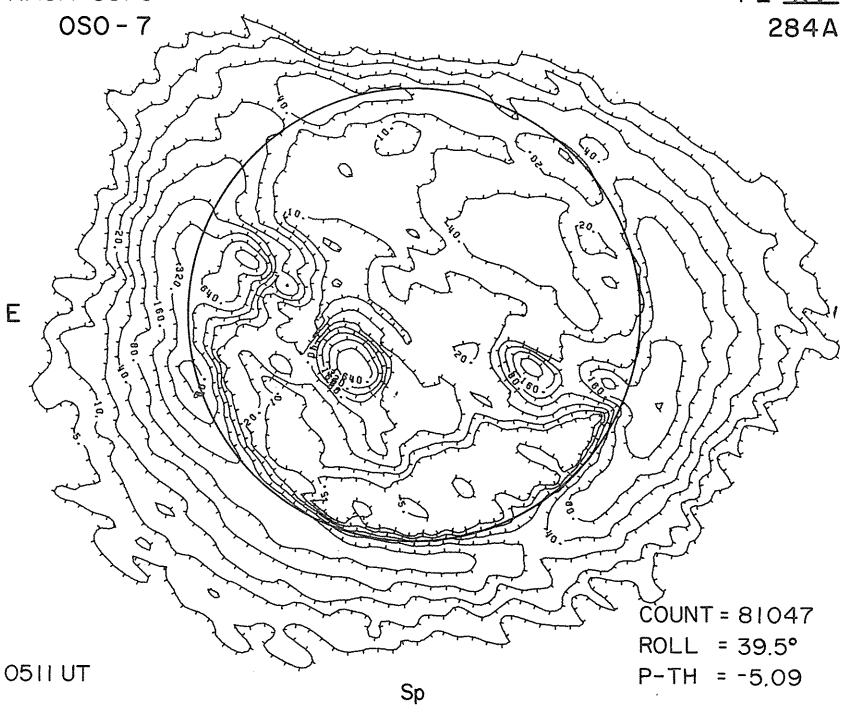
NRL
OSO-7



1238 UT

NASA GSFC
OSO-7

FE XV
284A

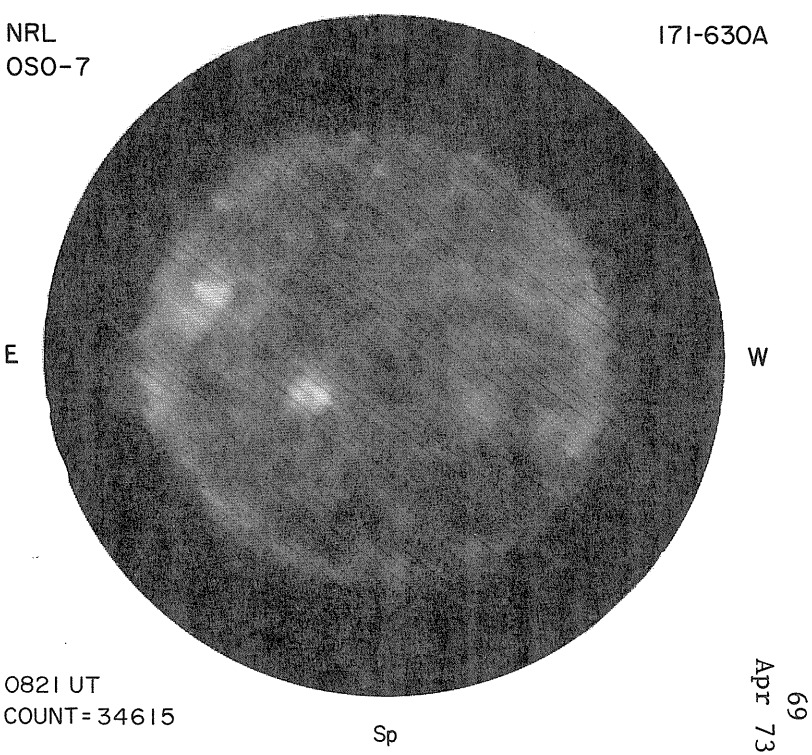


COUNT = 81047
ROLL = 39.5°
P-TH = -5.09

0511 UT

NRL
OSO-7

171-630A

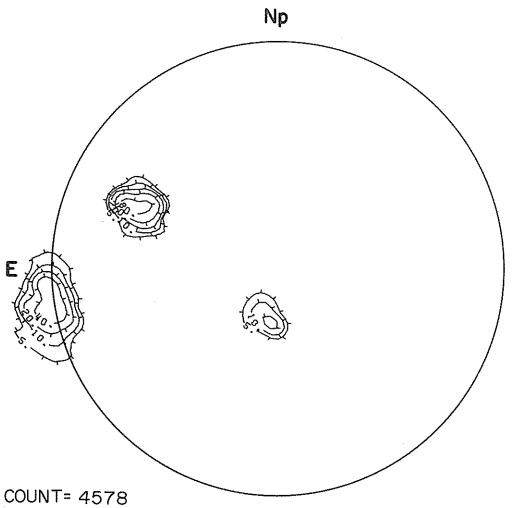


0821 UT
COUNT = 34615

APRIL 21, 1973 (P = -25.61, B_o = -5.09, L_o = 191.75)

NASA GSFC
OSO-7

X-RAY



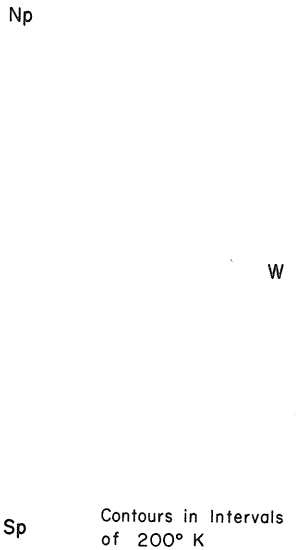
COUNT= 4578
ROLL = 40.0°
P-TH = -5.18

0536 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

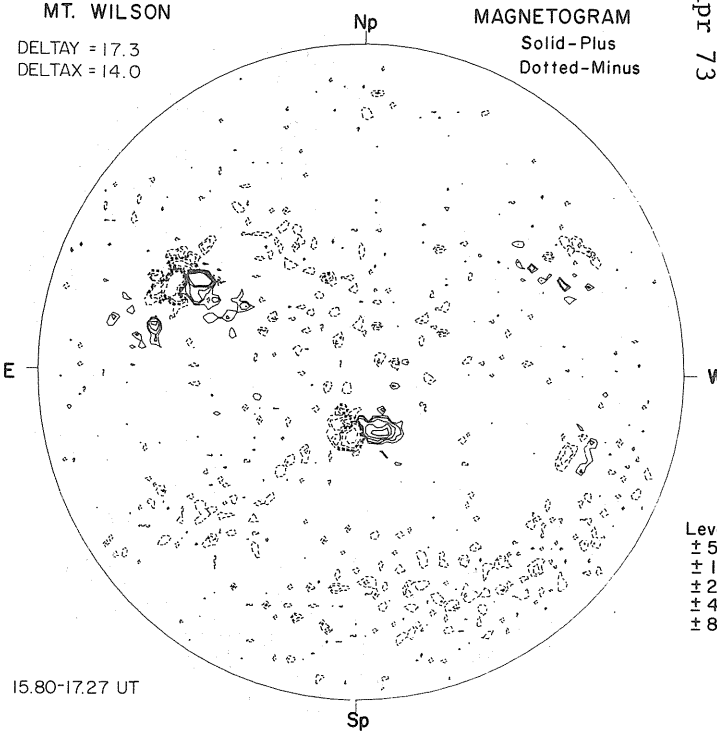


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

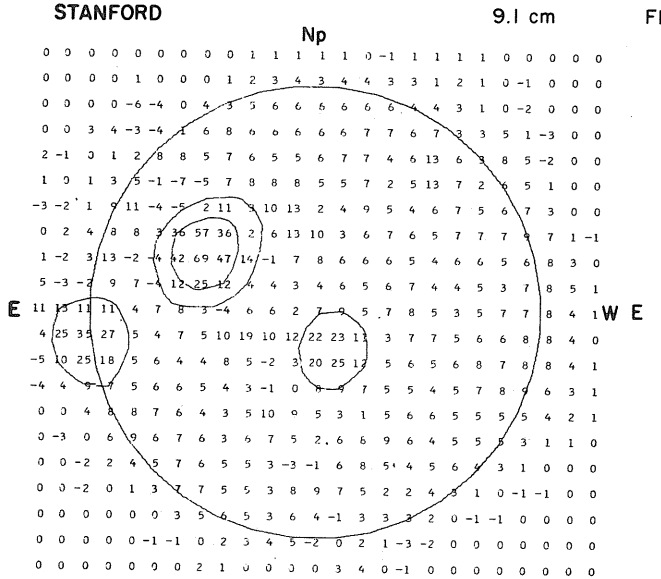


Levels
±5
±10
±20
±40
±80

15.80-17.27 UT

STANFORD

9.1 cm

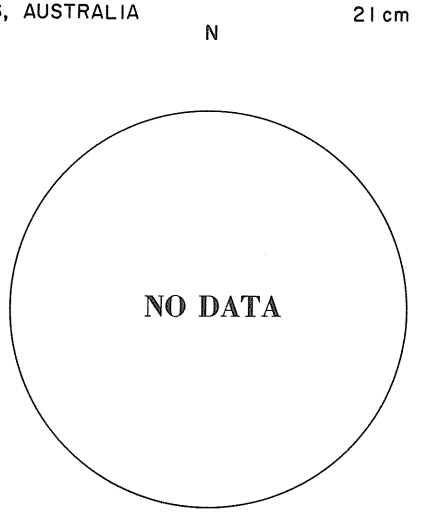


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

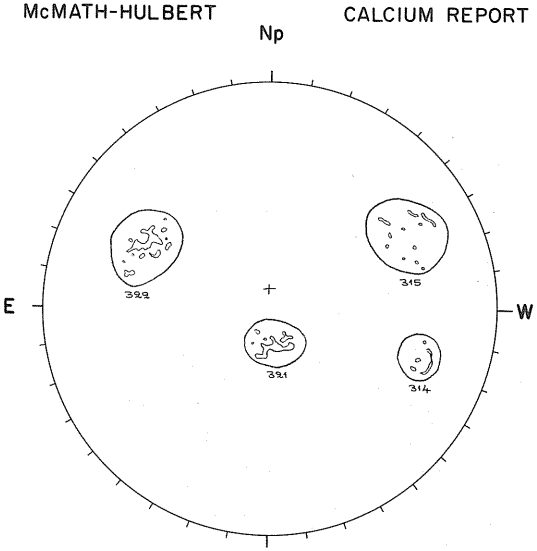


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

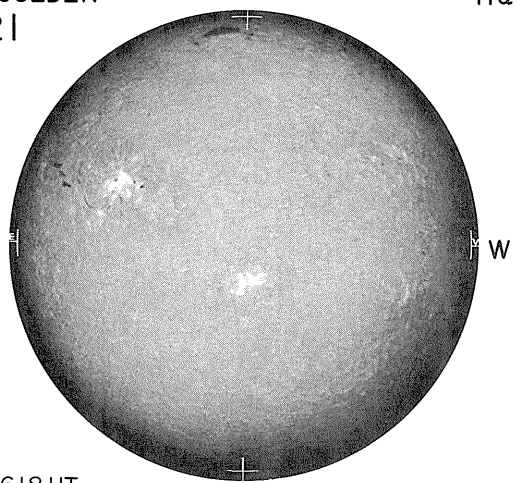
CALCIUM REPORT



POOR	S
21 - 1100	-3.0
22 - 2500	-3.5

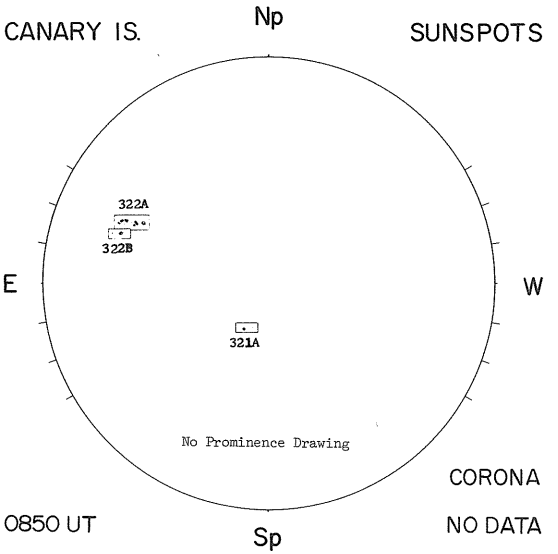
1600 UT

BOULDER
21



1618 UT

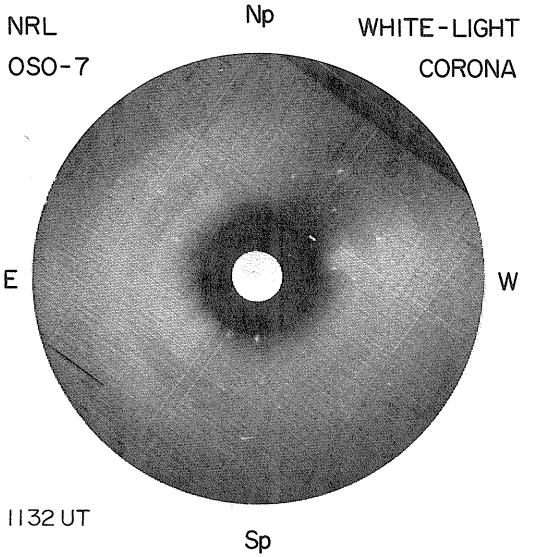
CANARY IS.



CORONA
NO DATA

0850 UT

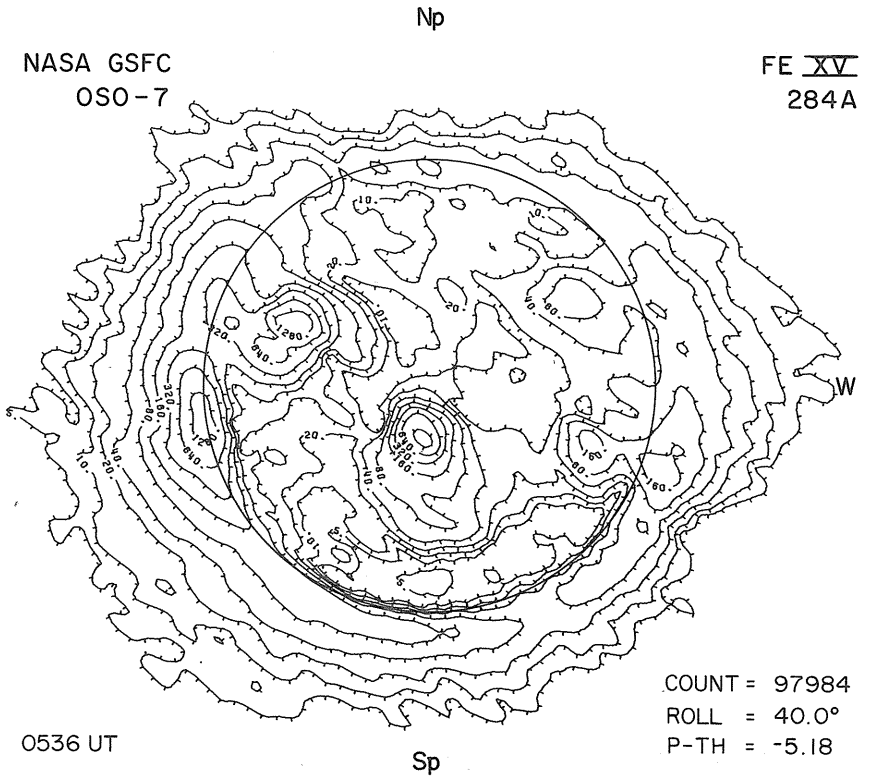
NRL
OSO-7



1132 UT

NASA GSFC
OSO-7

FE XV
284A

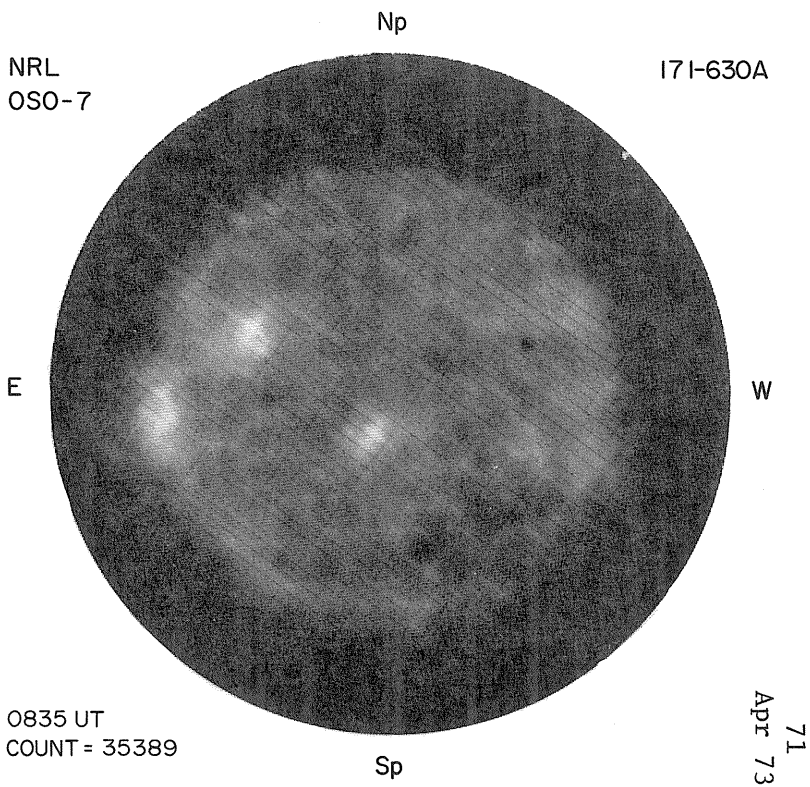


COUNT = 97984
ROLL = 40.0°
P-TH = -5.18

0536 UT

NRL
OSO-7

171-630A

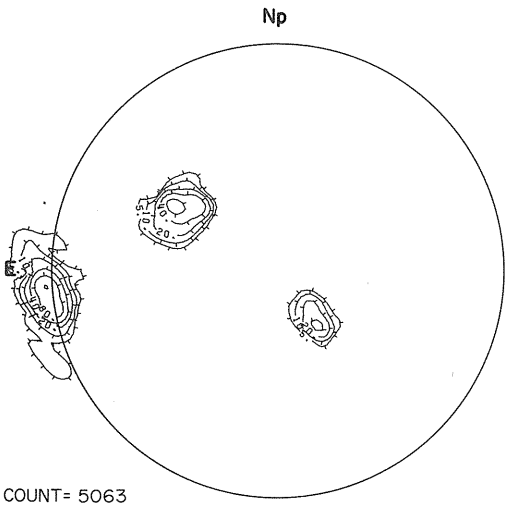


0835 UT
COUNT = 35389

APRIL 22, 1973 (P=-25.50, B_o=-5.00, L_o=178.54)

NASA GSFC
OSO-7

X-RAY



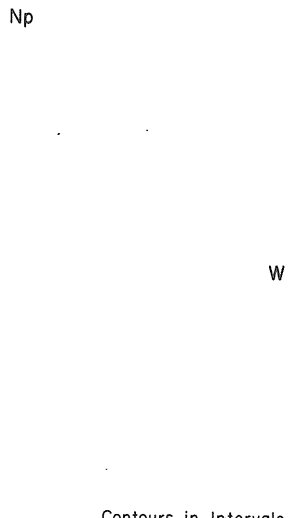
COUNT= 5063
ROLL = 40.6°
P-TH = -5.26

0433 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

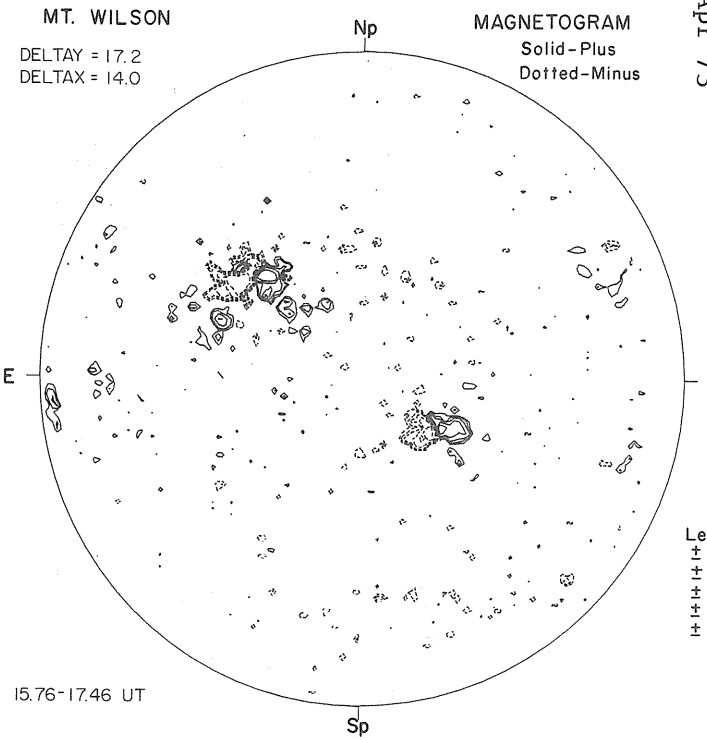


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

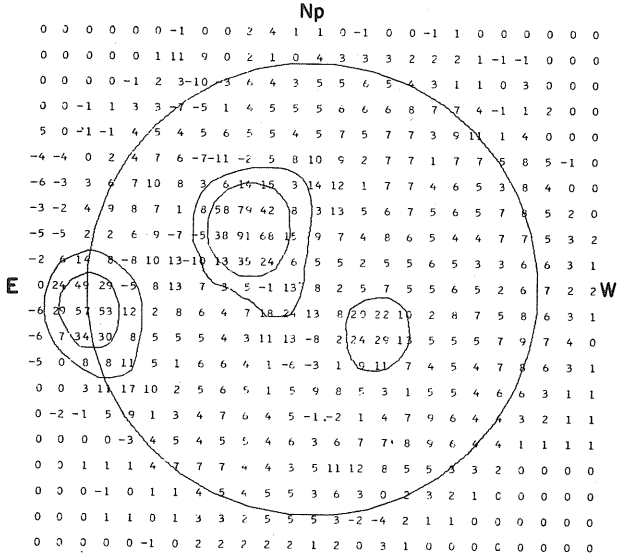


Levels
±5
±10
±20
±40
±80

15.76-17.46 UT

STANFORD

9.1 cm

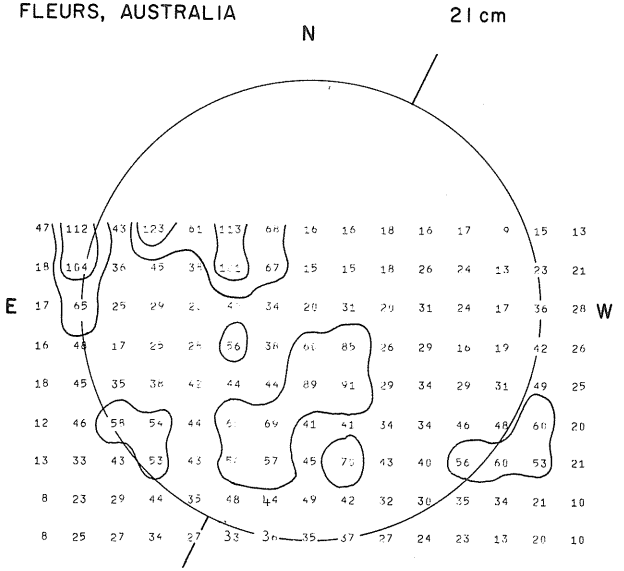


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

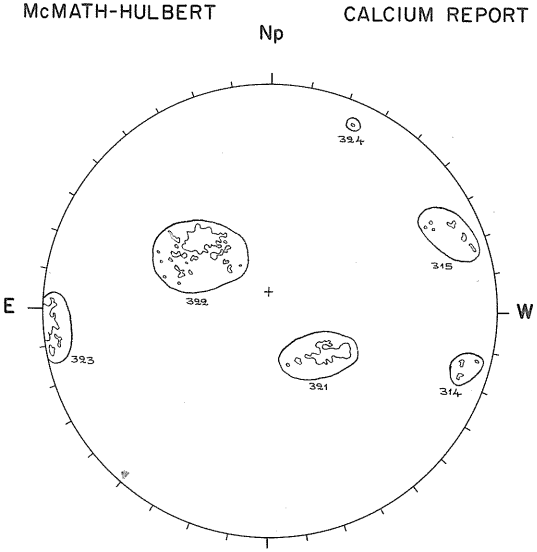


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



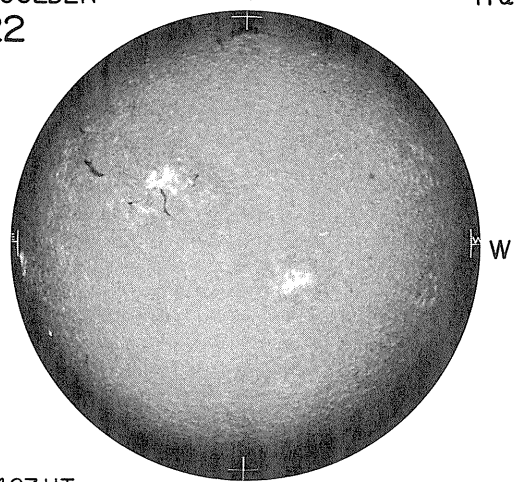
FAIR	D
21 - 1700 - 3.5	
22 - 2700 - 3.5	
23 - 2200 - 3.0	

2000 UT

BOULDER
22

Np

Hα



E W

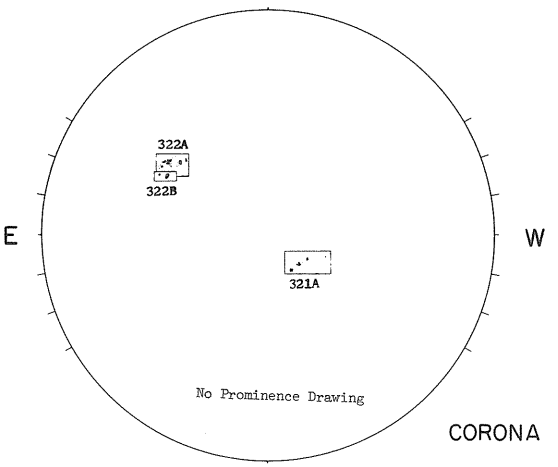
Sp

1407 UT

CANARY IS.

Np

SUNSPOTS



E W

CORONA

NO DATA

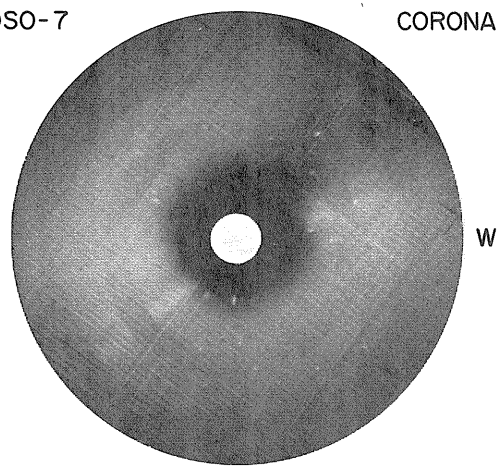
Sp

0815 UT

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E W

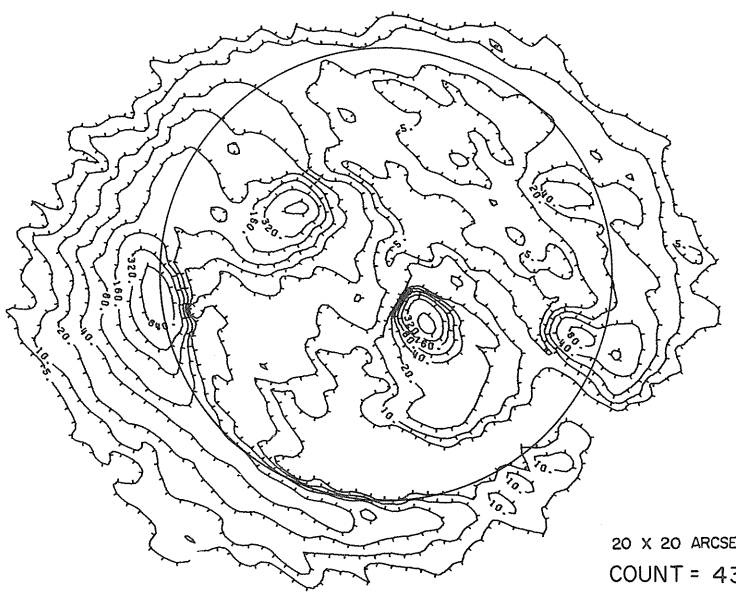
Sp

1206 UT

Np

NASA GSFC
OSO-7

FE XV
284A



E W

20 X 20 ARCSEC APERTURE
COUNT = 43983
ROLL = 40.6°
P-TH = -5.26

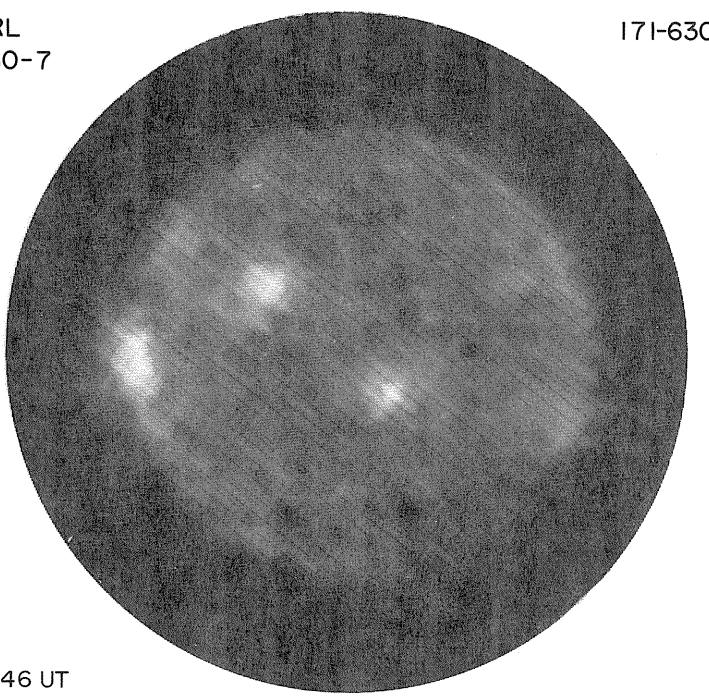
Sp

0433 UT

Np

NRL
OSO-7

171-630A



E W

Sp

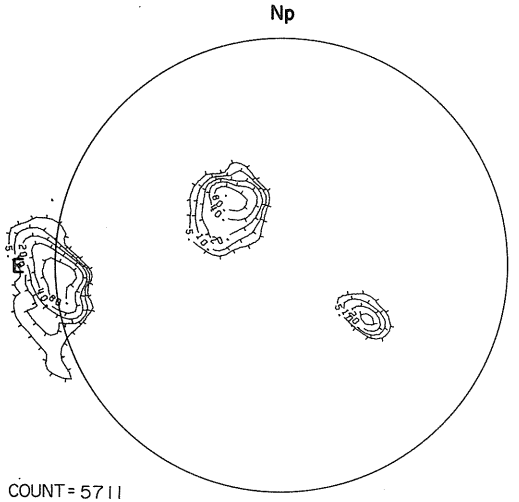
0446 UT
COUNT = 37046

73
Apr 73

APRIL 23, 1973 (P = - 25.39, B_o = - 4.91, L_o = 165.33)

NASA GSFC
OSO-7

X-RAY



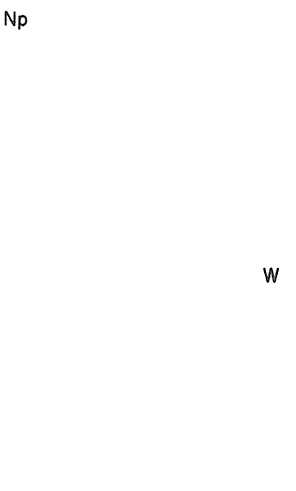
COUNT = 5711
ROLL = 41.5°
P-TH = -5.34

0332 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

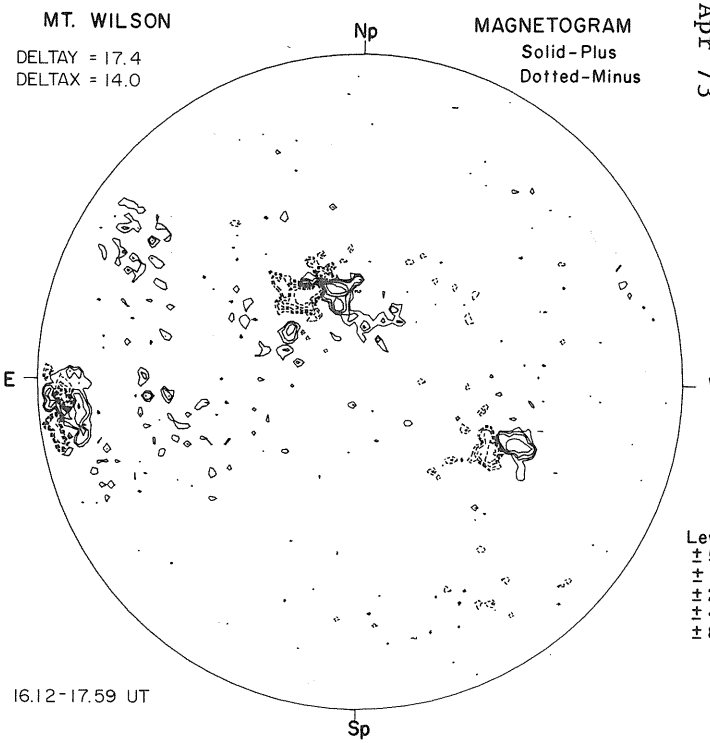


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus

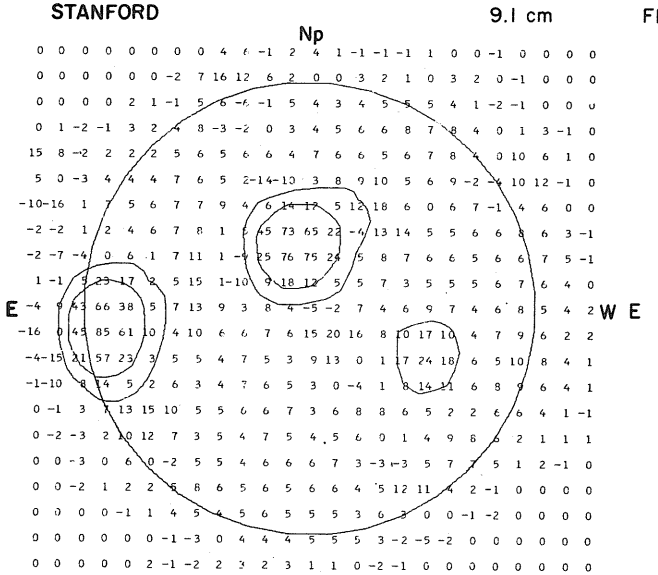


Levels
± 5
± 10
± 20
± 40
± 80

16.12 - 17.59 UT

STANFORD

9.1 cm

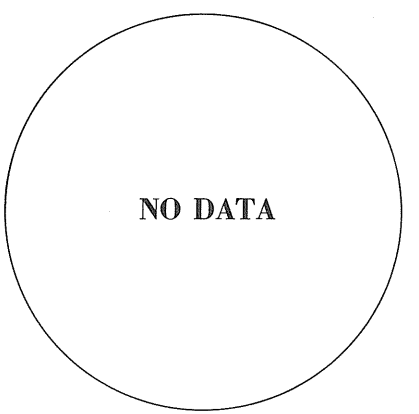


20 - 21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

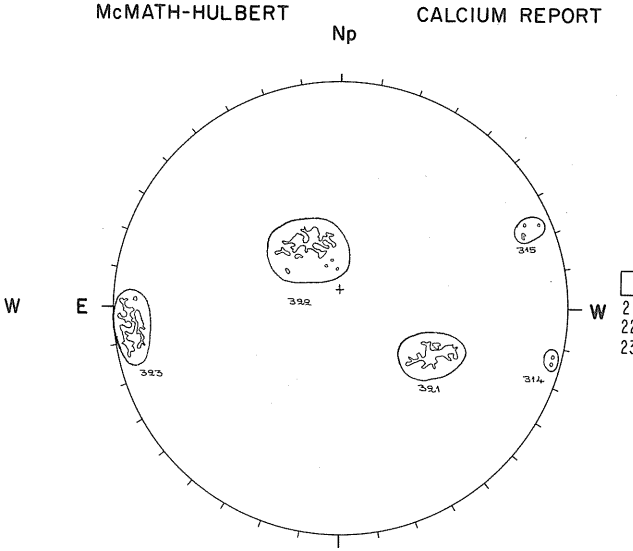


02 - 03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	D
21 - 1700 - 3.5	
22 - 2400 - 3.5	
23 - 4200 - 3.5	

1300 UT

BOULDER
23

Np

Hα

E

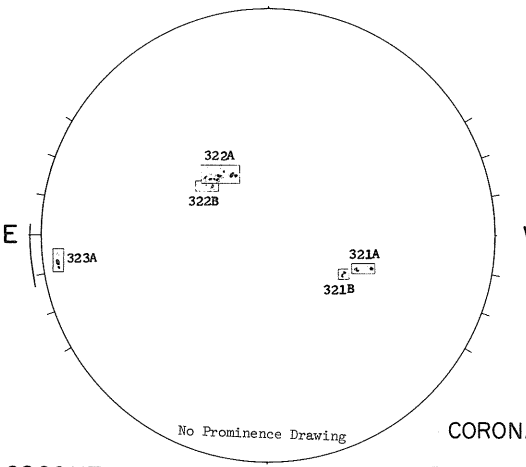
NO DATA

W

Sp

CANARY IS.

Np



E

W

Sp

0900 UT

SUNSPOTS

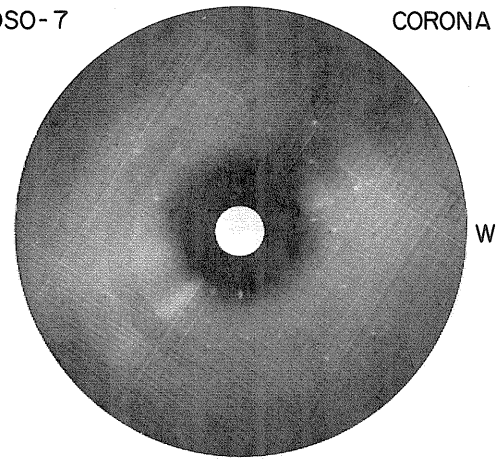
CORONA

WENDELSTEIN

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

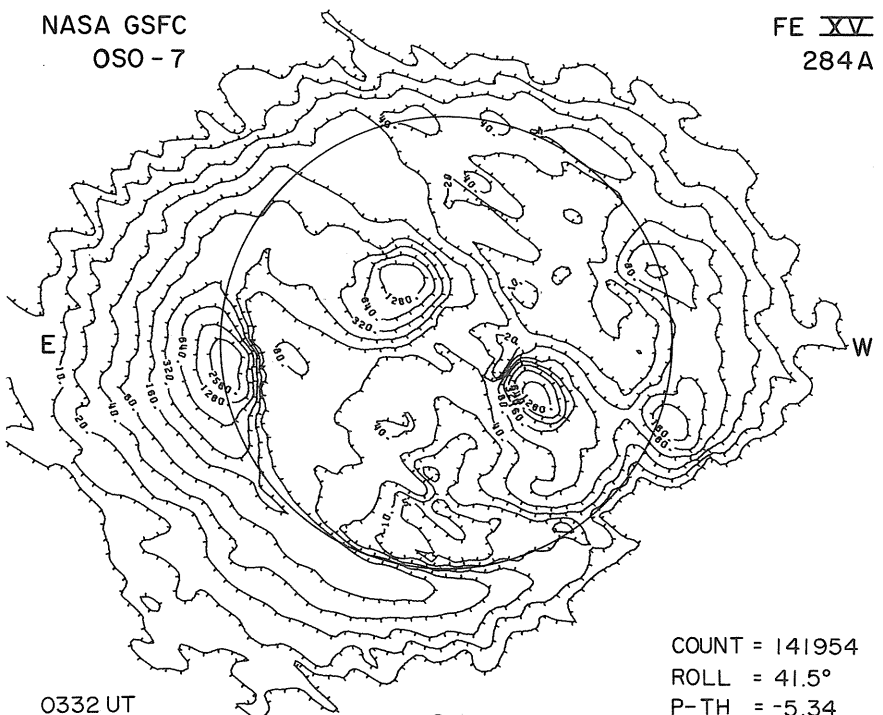
1243 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

0332 UT

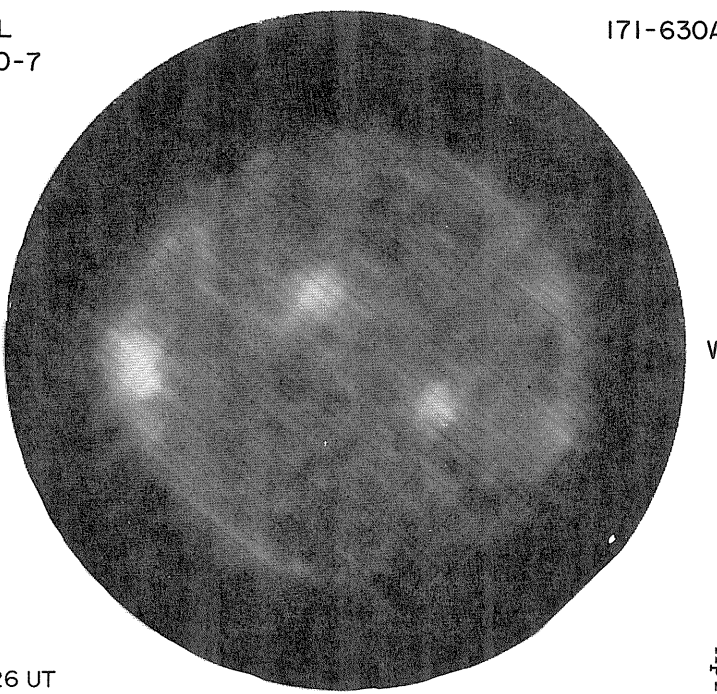
Sp

COUNT = 141954
ROLL = 41.5°
P-TH = -5.34

NRL
OSO-7

Np

171-630A



E

W

0826 UT
COUNT = 38037

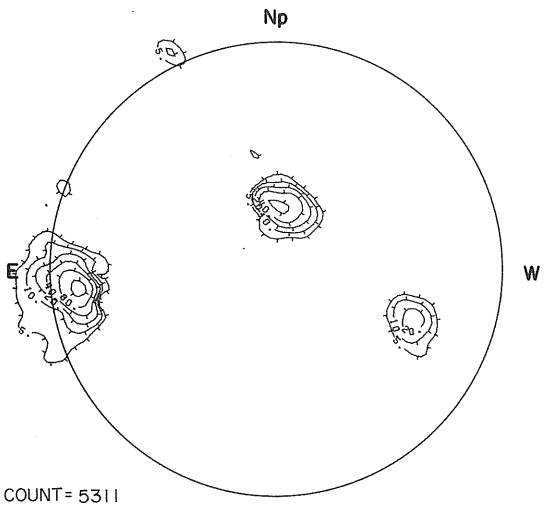
Sp

75
Apr 73

APRIL 24, 1973 (P = - 25.27, B_o = -4.82, L_o = 152.12)

NASA GSFC
OSO-7

X-RAY



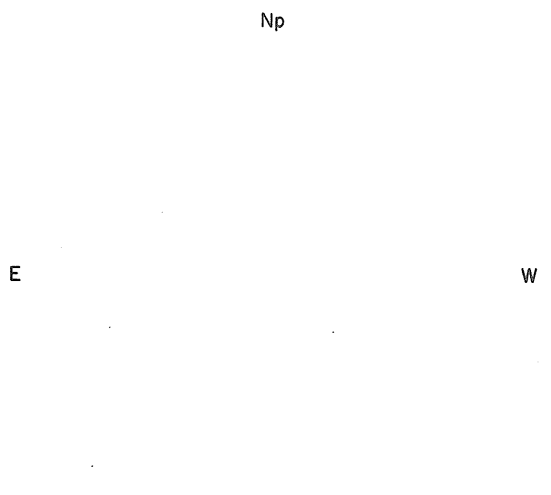
COUNT = 5311
ROLL = 43.3°
P-TH = -5.42

0405 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

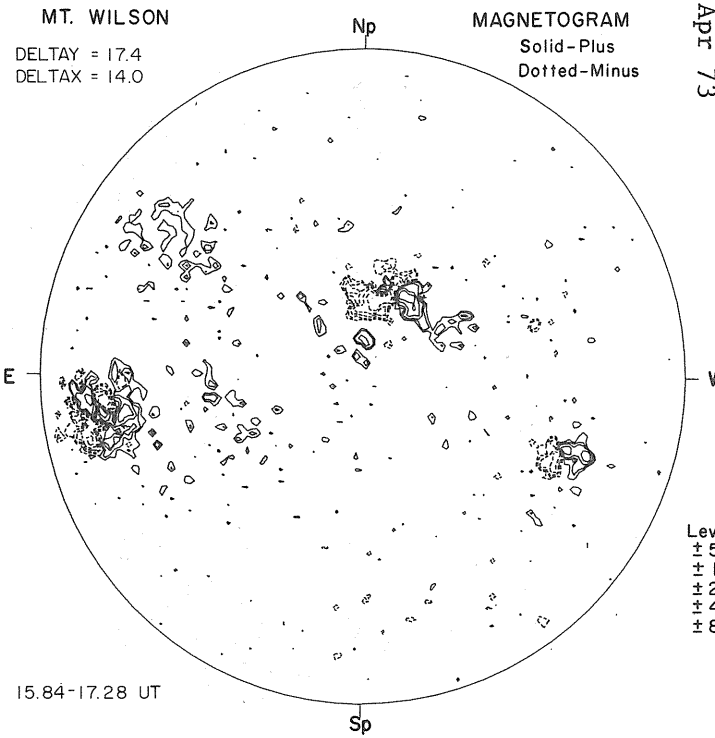


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

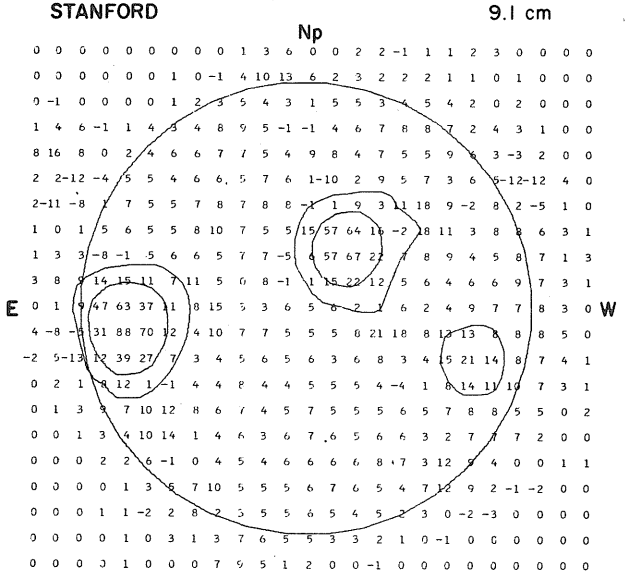


Levels
±5
±10
±20
±40
±80

15.84-17.28 UT

STANFORD

9.1 cm

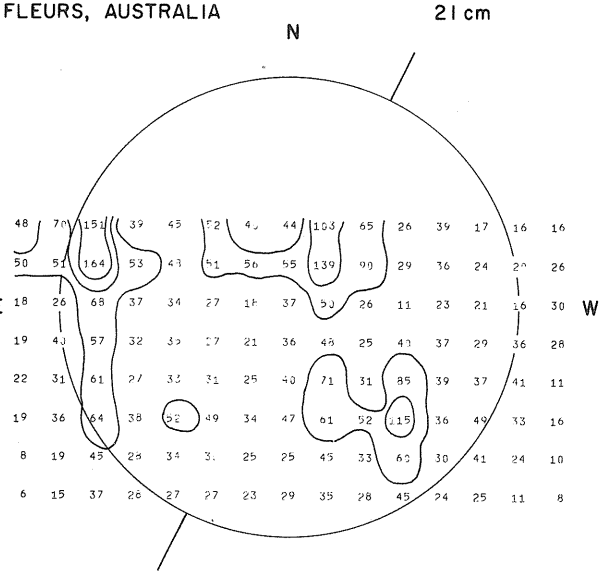


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

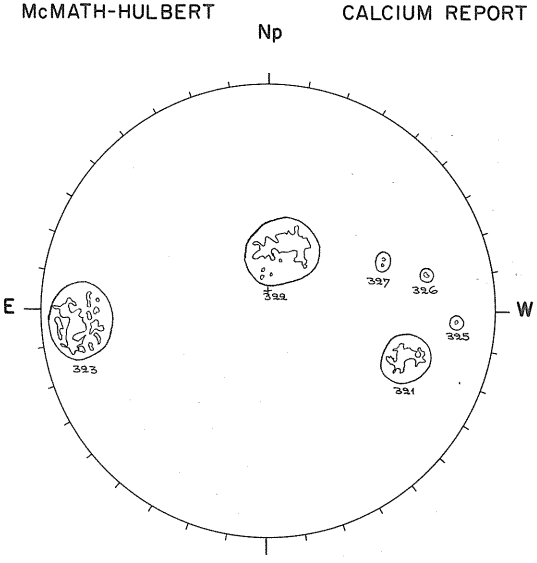


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



FAIR	D
21 - 1700 - 3.0	
22 - 2700 - 3.5	
23 - 4500 - 3.5	

1205 UT

BOULDER
24

Np

Hα

E

W

Sp

1648 UT

CANARY IS.

Np

SUNSPOTS

322A

322B

323B

323A

321A

321B

E

W

No Prominence Drawing

CORONA

0720 UT

Sp

SAC PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

1314 UT

Sp

NASA GSFC
OSO - 7

Np

FE XV
284A

W

0405 UT

Sp

COUNT = 134415
ROLL = 43.3°
P-TH = -5.42

NRL
OSO-7

Np

171-630A

E

W

0726 UT
COUNT = 39183

Sp

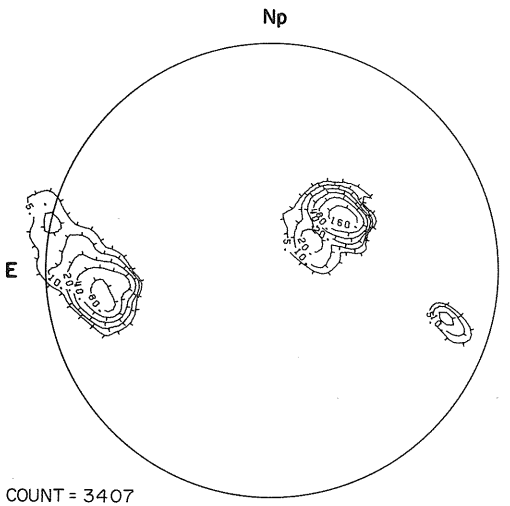
77
Apr 73

APRIL 25, 1973 (P = - 25.14, B_o = - 4.72, L_o = 138.91)

78 Apr 73

NASA GSFC
OSO-7

X-RAY



COUNT = 3407
ROLL = 46.1°
P-TH = -5.51

0625 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

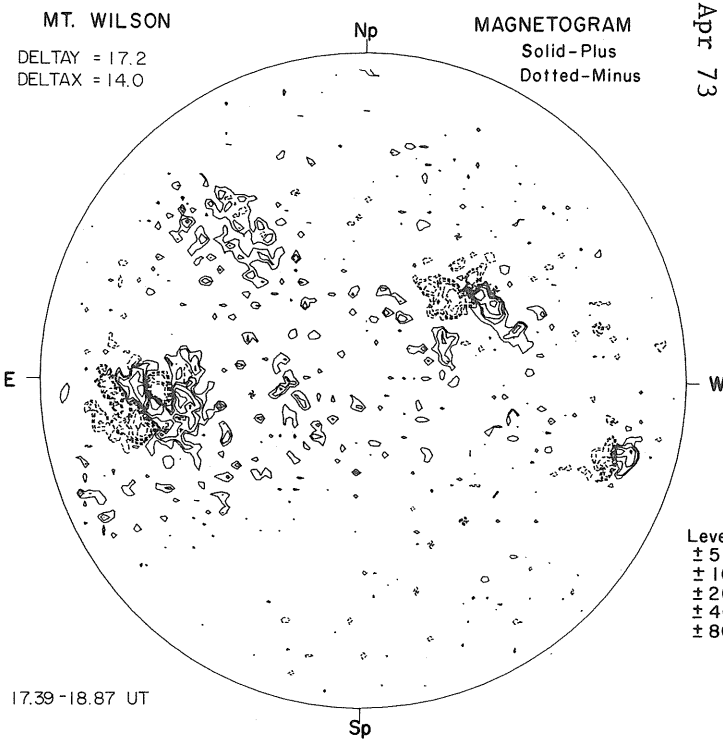
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

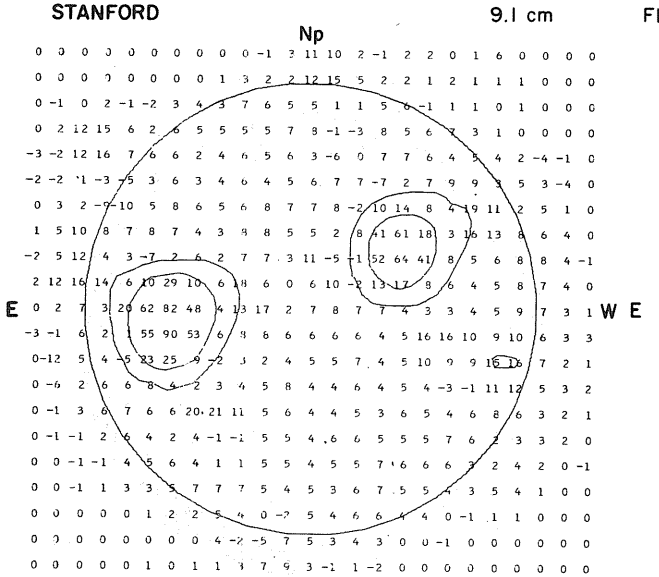


Levels
±5
±10
±20
±40
±80

17.39-18.87 UT

STANFORD

9.1 cm

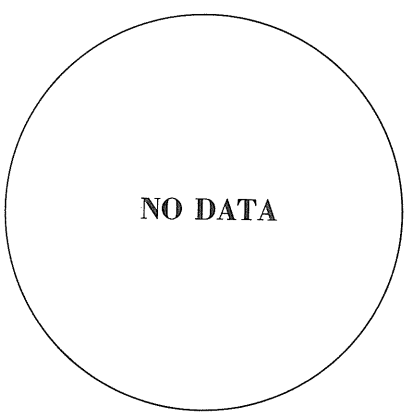


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

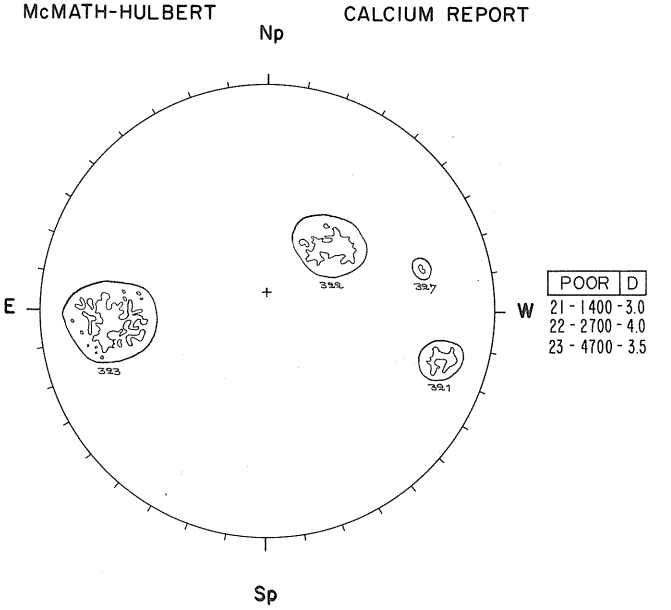


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



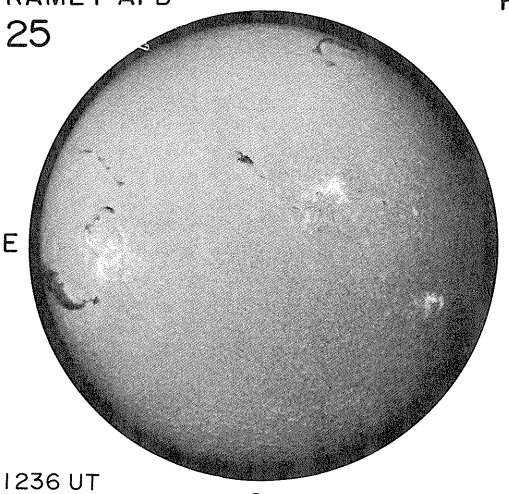
POOR	D
21 - 1400 - 3.0	
22 - 2700 - 4.0	
23 - 4700 - 3.5	

1225 UT

RAMEY AFB
25

Np

Hα



E

W

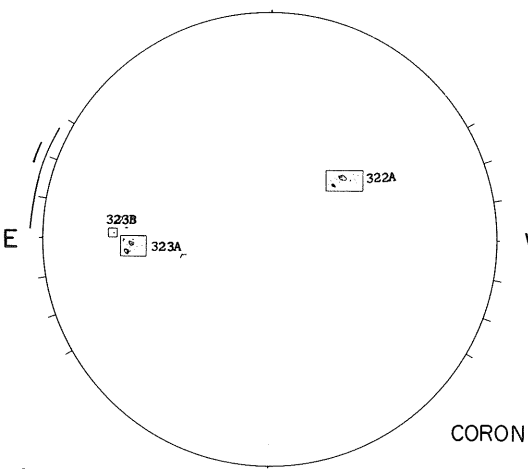
Sp

1236 UT

SAC PEAK

Np

SUNSPOTS



E

W

CORONA

Sp

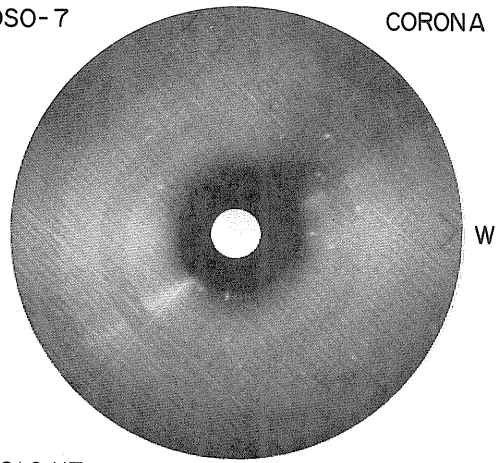
1610 UT

NORIKURA

NRL
OSO-7

Np

WHITE - LIGHT
CORONA



E

W

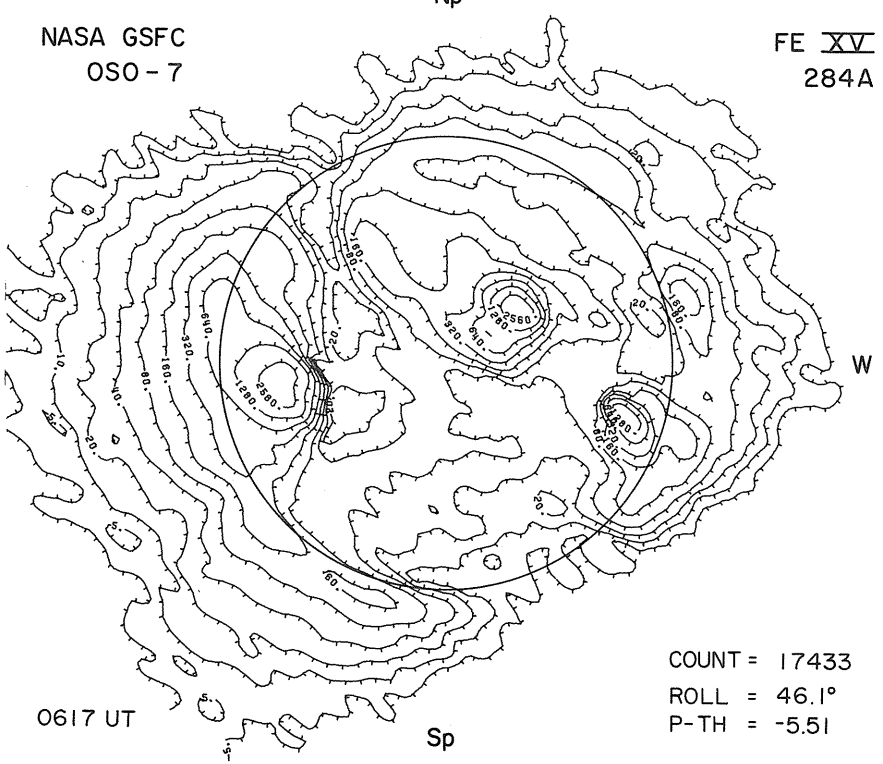
Sp

1816 UT

NASA GSFC
OSO - 7

Np

FE XV
284A



W

Sp

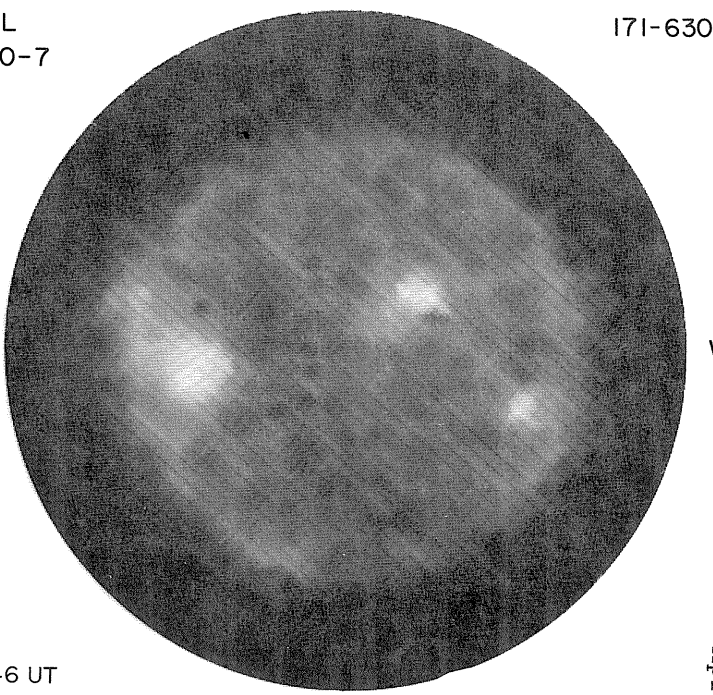
0617 UT

COUNT = 17433
ROLL = 46.1°
P-TH = -5.51

NRL
OSO-7

Np

171-630A



E

W

Sp

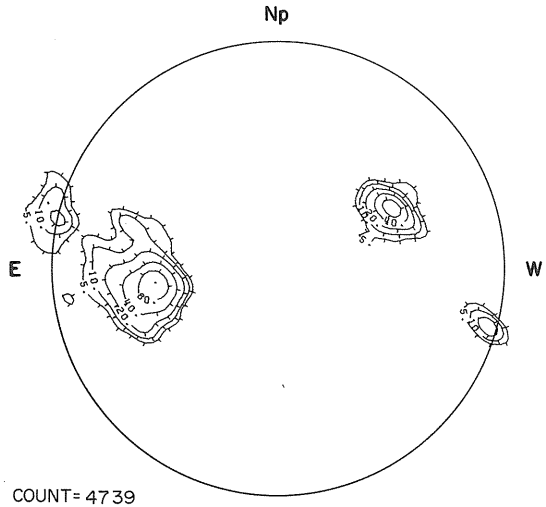
1046 UT
COUNT = 44480

79
Apr 73

APRIL 26, 1973 (P = - 25.00, B_o = - 4.63, L_o = 125.70)

NASA GSFC
OSO-7

X-RAY



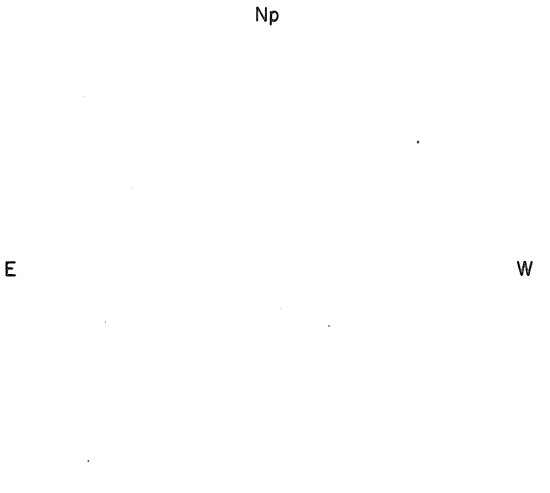
COUNT = 4739
ROLL = 46.1°
P-TH = -5.58

0339 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

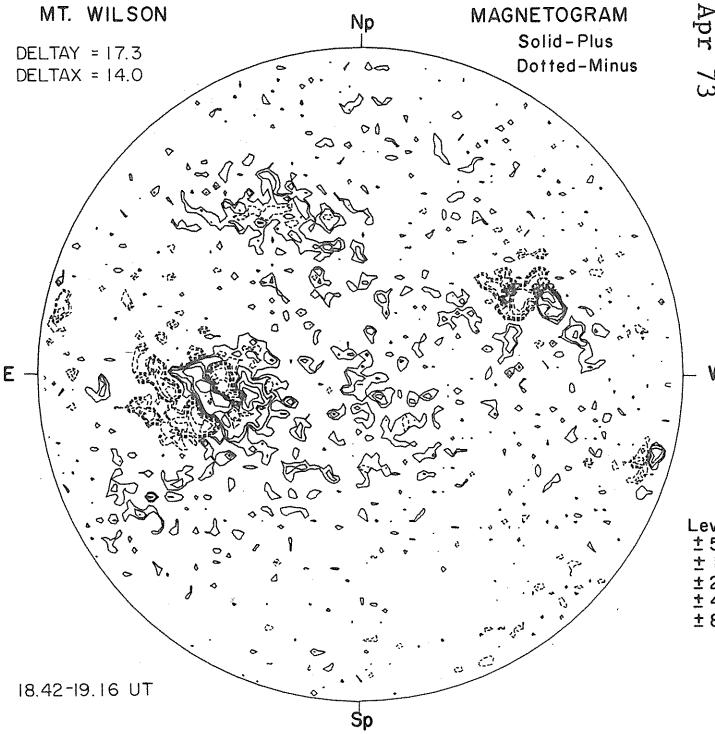


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

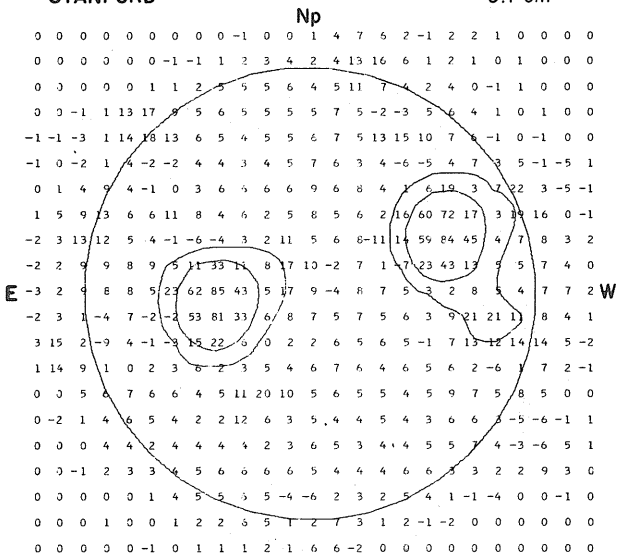


Levels
± 5
± 10
± 20
± 40
± 80

18.42-19.16 UT

STANFORD

9.1 cm

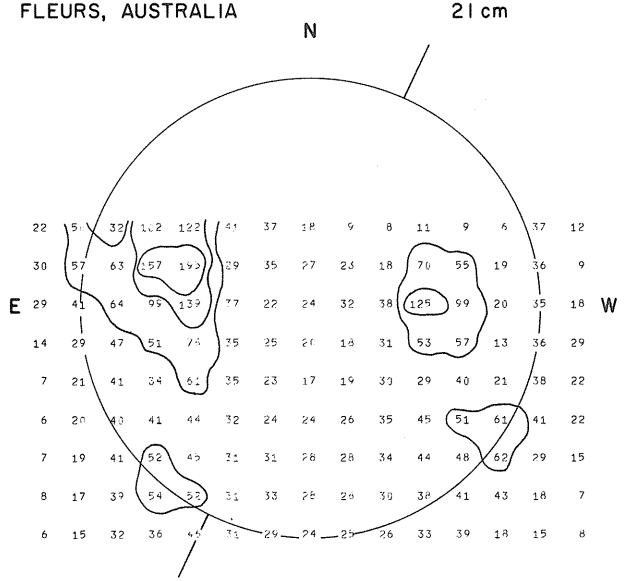


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

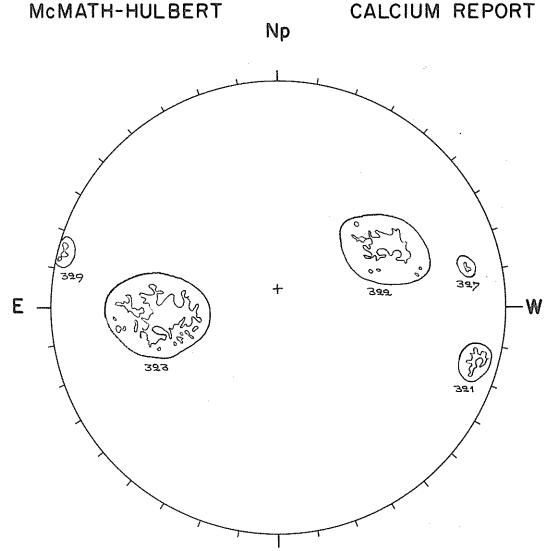


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

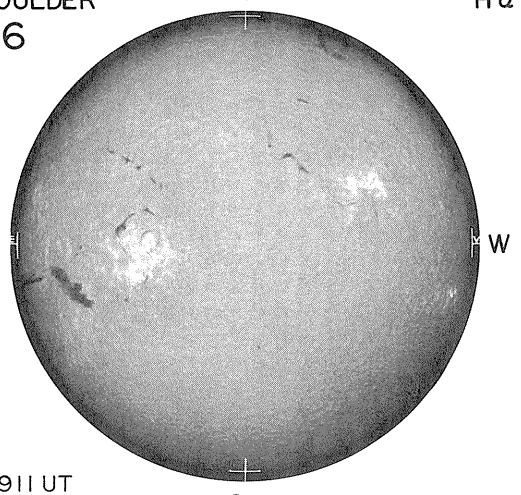
CALCIUM REPORT



FAIR	D
21 - 1500	- 2.5
22 - 2500	- 3.5
23 - 4700	- 3.0

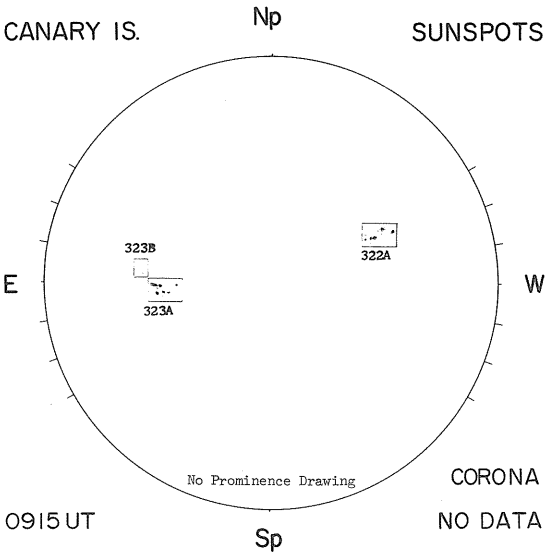
1150 UT

BOULDER
26



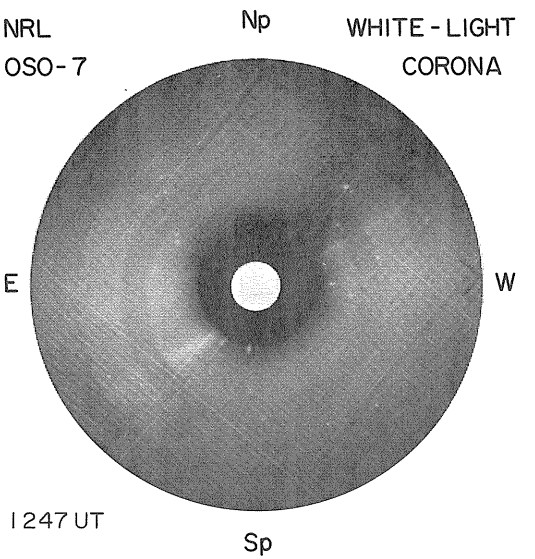
1911 UT

CANARY IS.



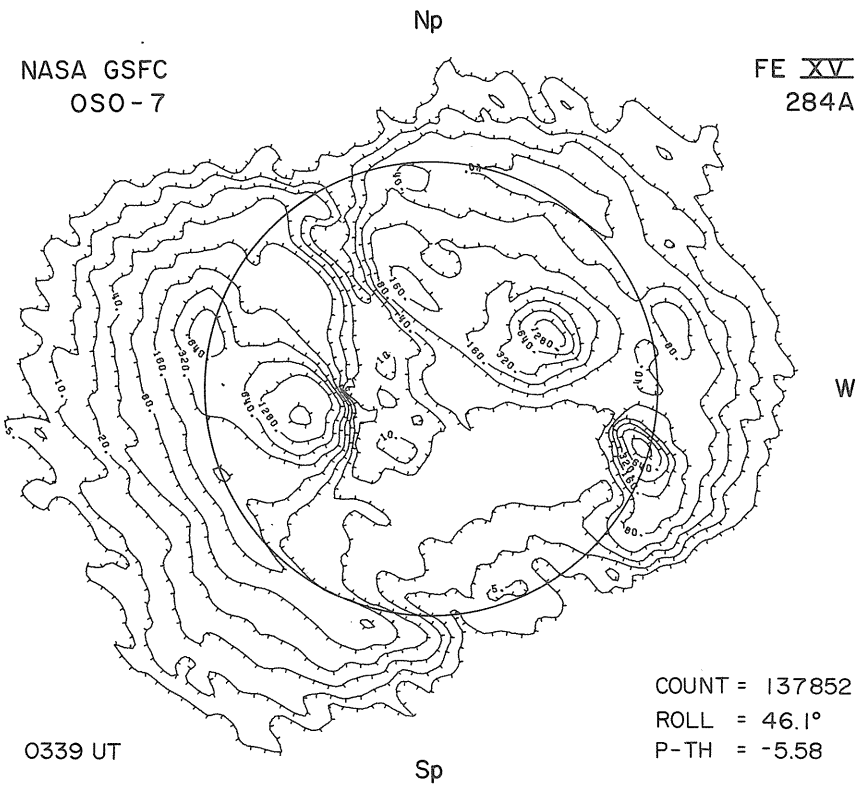
0915 UT

NRL
OSO-7



1247 UT

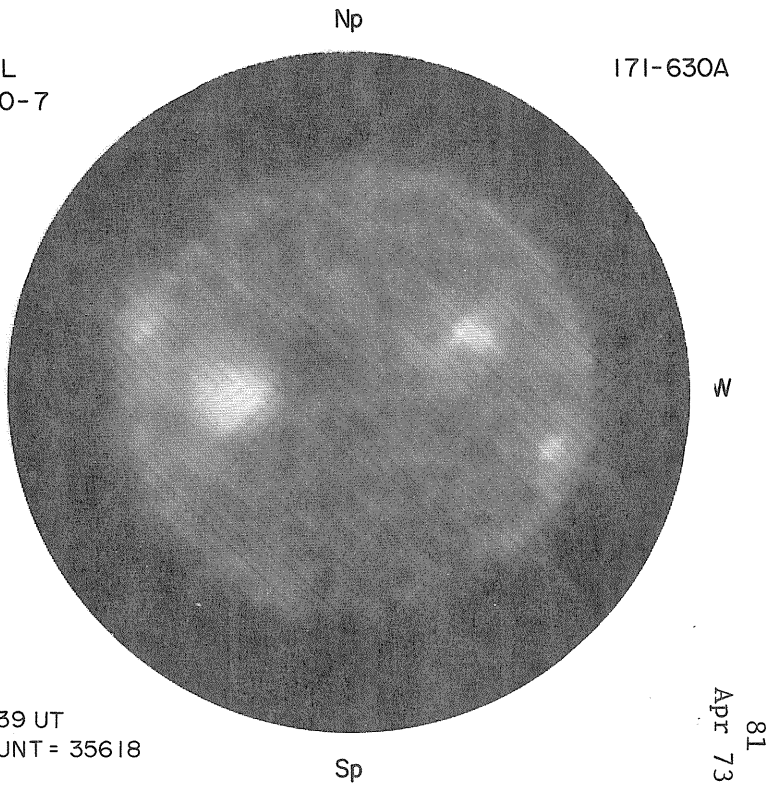
NASA GSFC
OSO-7



0339 UT

COUNT = 137852
ROLL = 46.1°
P-TH = -5.58

NRL
OSO-7

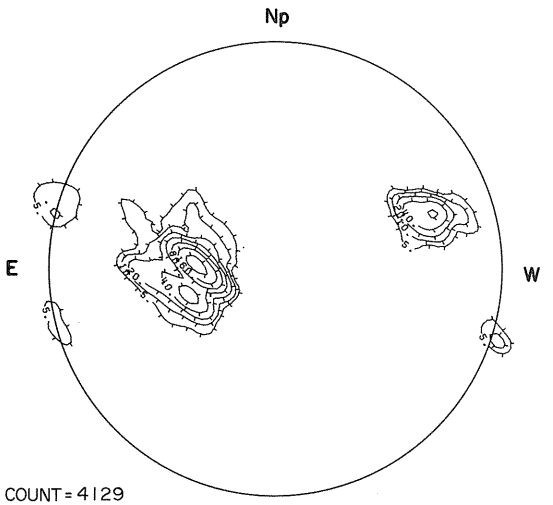


0839 UT
COUNT = 35618

APRIL 27, 1973 (P = - 24.86, B_o = -4.54, L_o = 112.48)

NASA GSFC
OSO-7

X-RAY



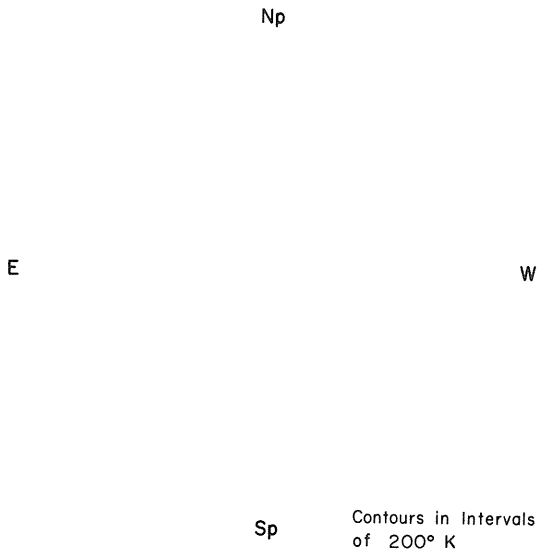
COUNT = 4129
ROLL = 46.3°
P-TH = -5.66

0420 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

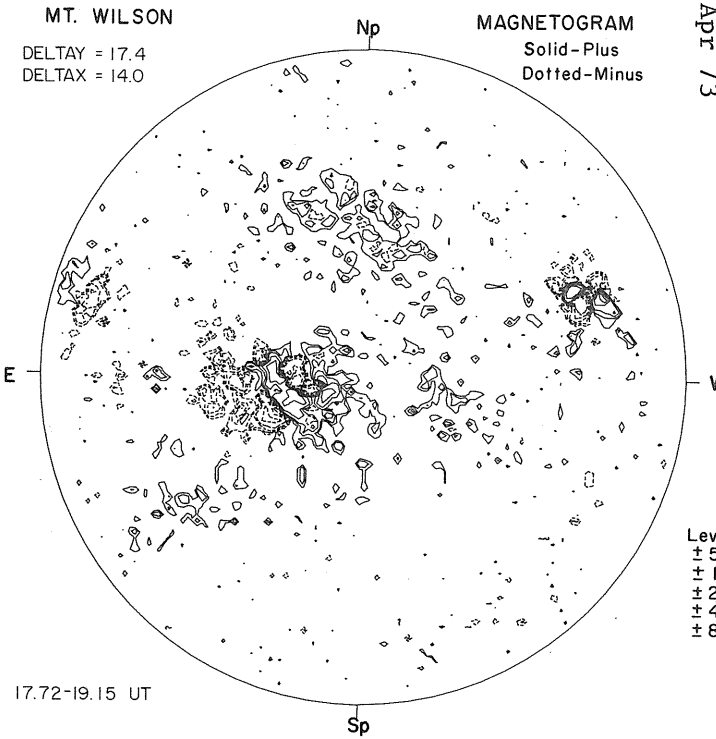


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

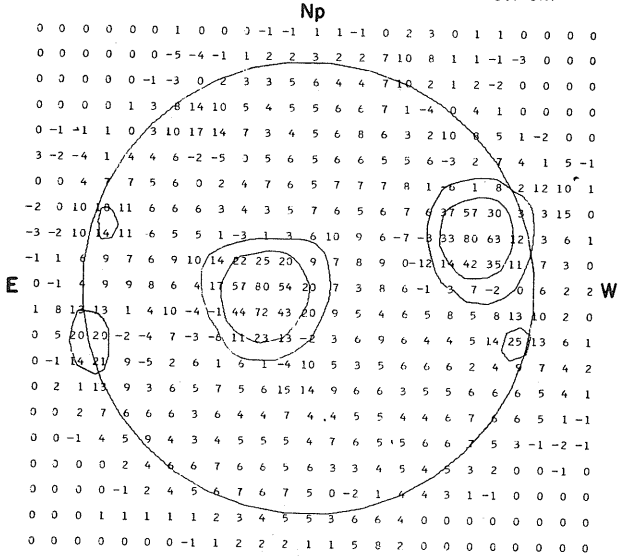


17.72-19.15 UT

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

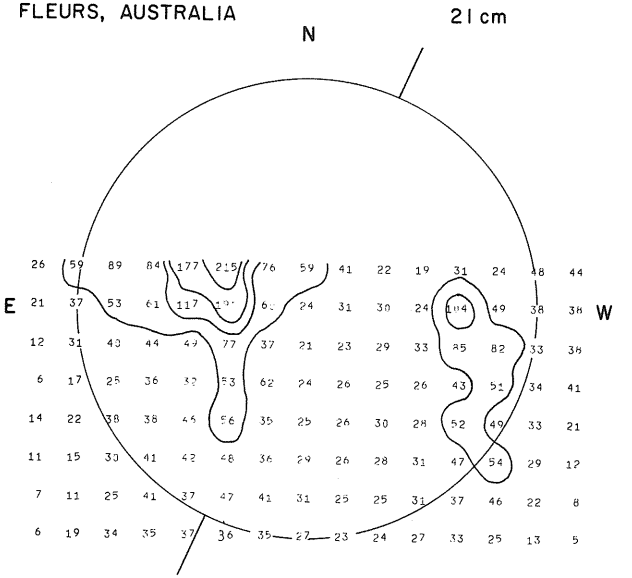


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

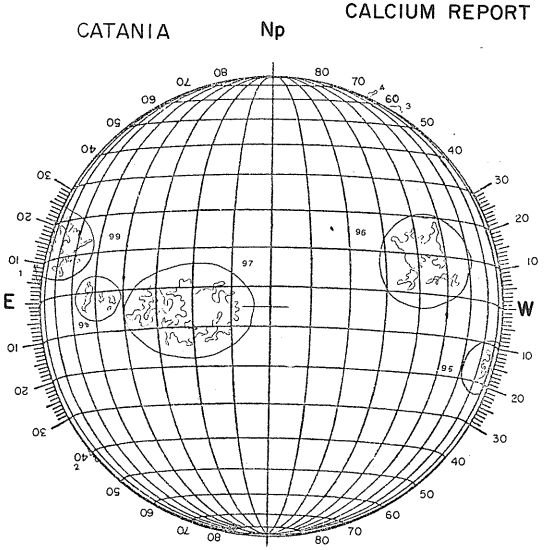


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CALCIUM REPORT

CATANIA



0845 UT

FAIR	
95 - 3208	---
96 - 5125	---
97 - 8637	---
99 - 5722	---

BOULDER
27

Np

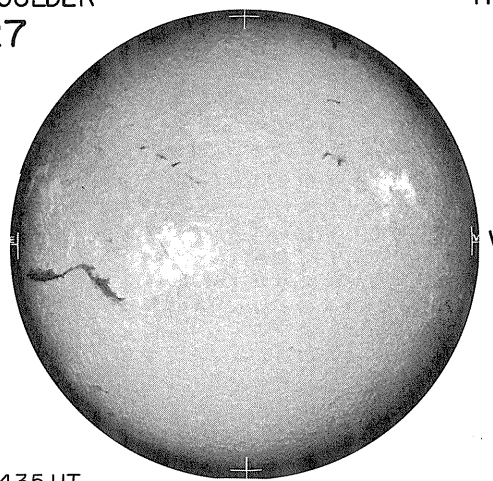
Hα

E

W

Sp

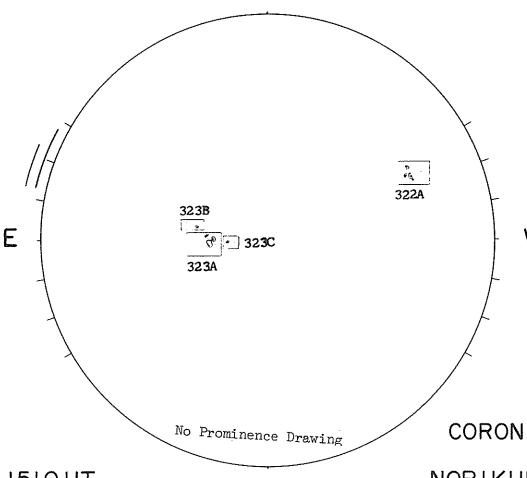
1435 UT



BOULDER

Np

SUNSPOTS



E

W

CORONA

NORIKURA

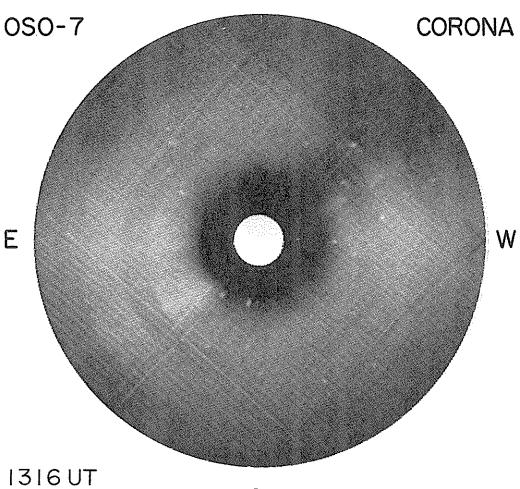
1510 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

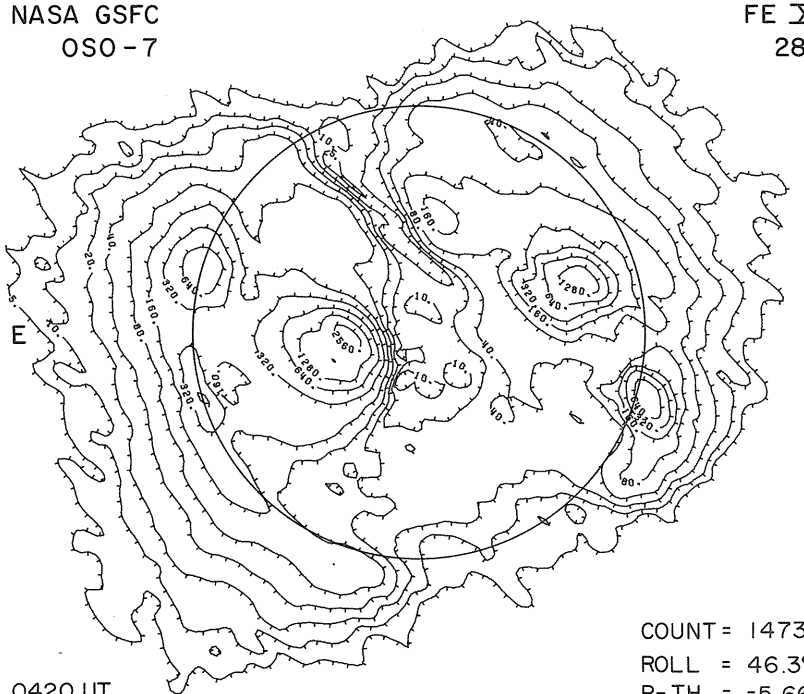
1316 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

COUNT = 147318
ROLL = 46.3°
P-TH = -5.66

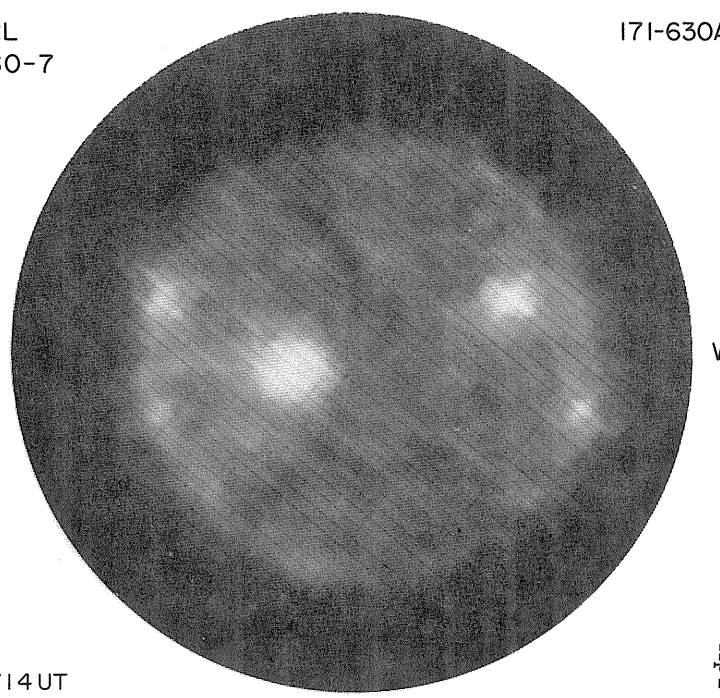
0420 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

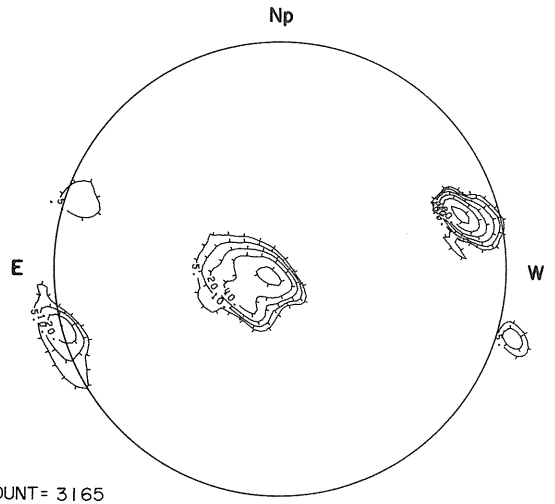
0714 UT
COUNT = 42670

Sp

APRIL 28, 1973 (P = -24.71, B_o = -4.44, L_o = 99.27)

NASA GSFC
OSO-7

X-RAY



COUNT = 3165
ROLL = 47.8°
P-TH = -5.74

0502 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

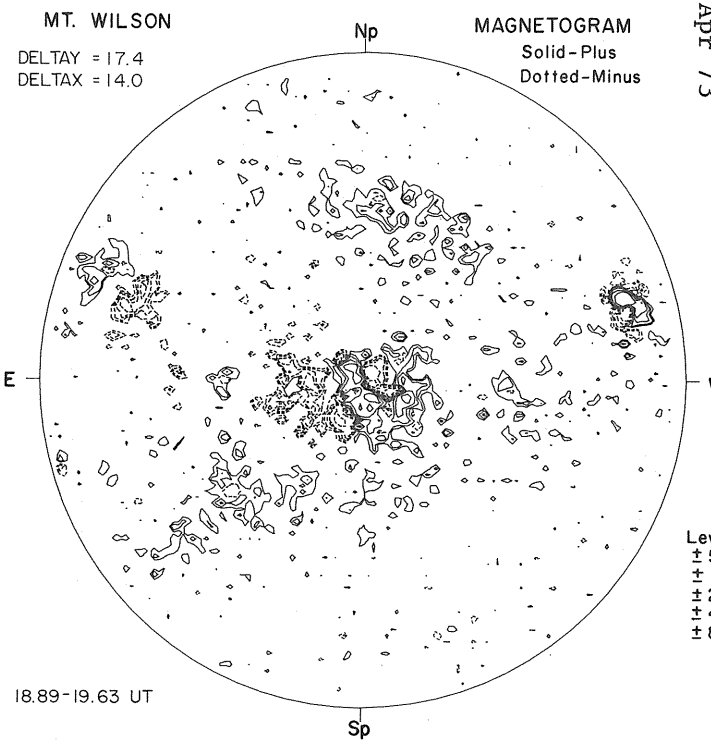
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

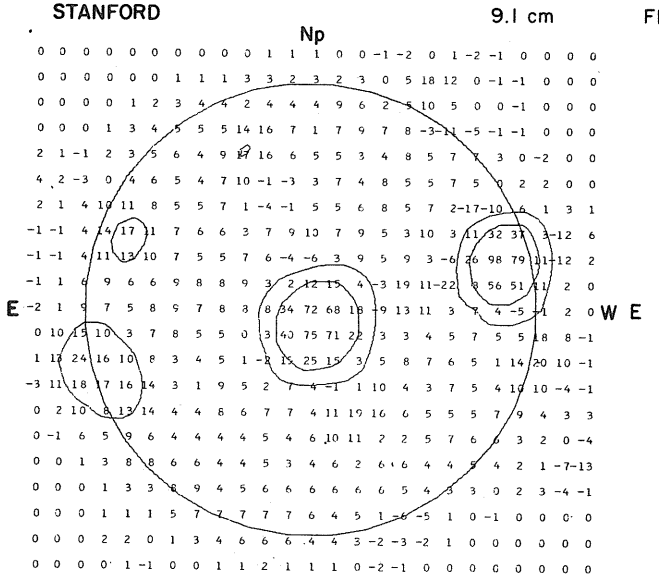


Levels
±5
±10
±20
±40
±80

18.89-19.63 UT

STANFORD

9.1 cm

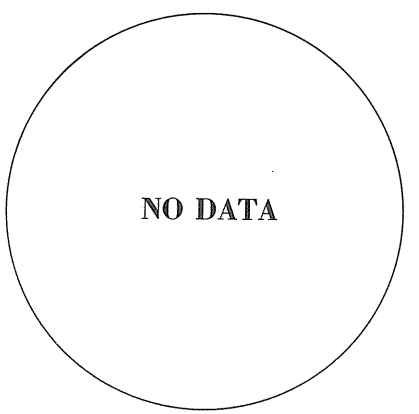


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

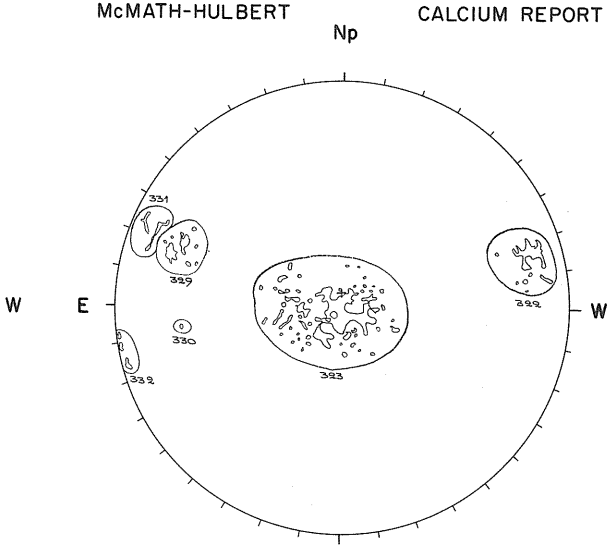


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



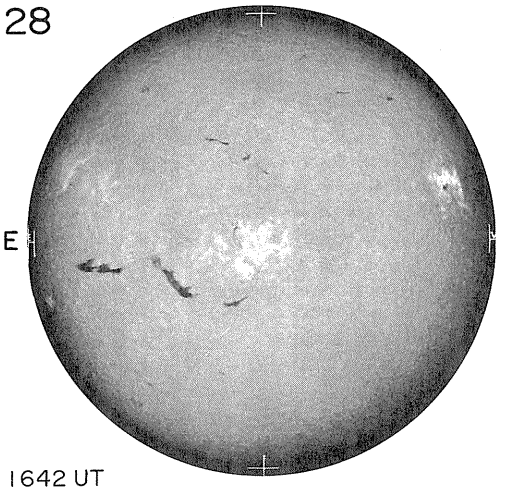
FAIR	S
22 - 2500 - 4.0	
23 - 5500 - 3.5	
32 - 0600 - 2.5	

1620 UT

BOULDER
28

Np

Hα



E

W

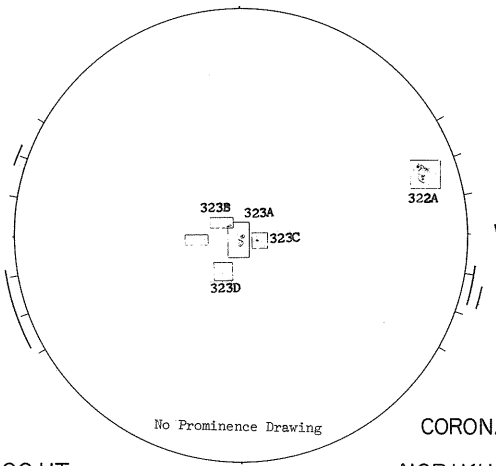
Sp

1642 UT

BOULDER

Np

SUNSPOTS



E

W

Sp

1600 UT

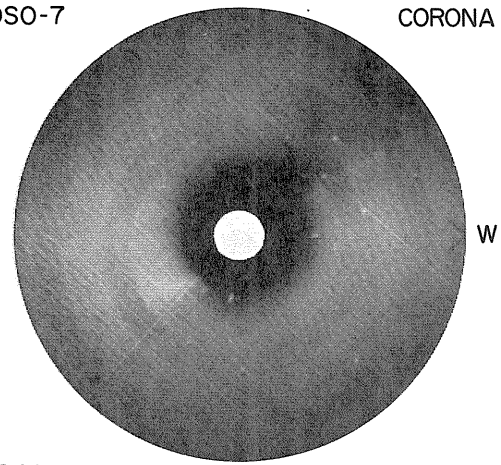
CORONA

NORIKURA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

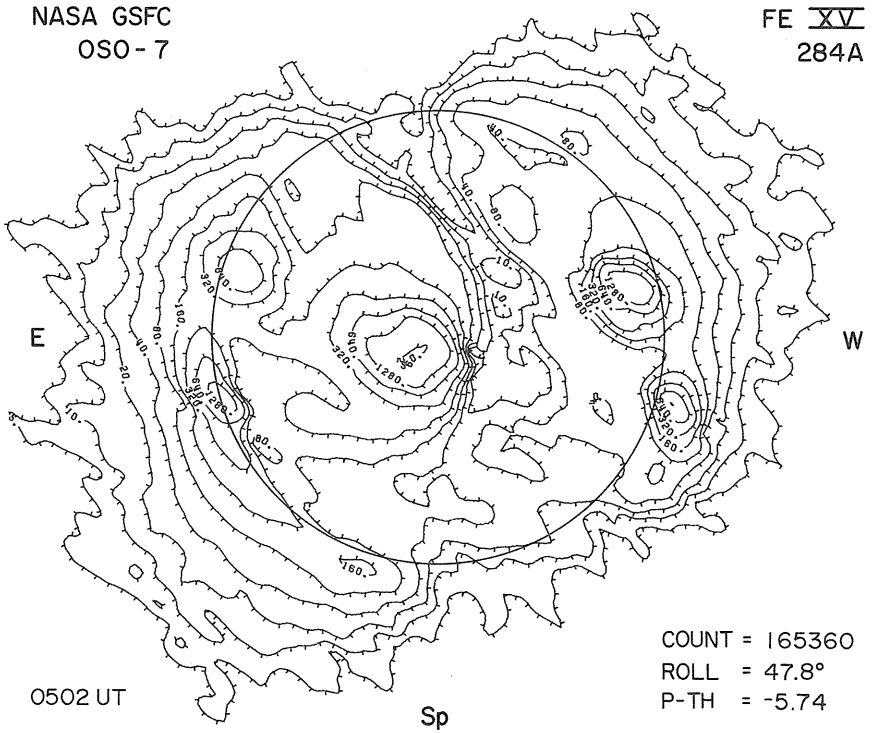
Sp

1040 UT

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

Sp

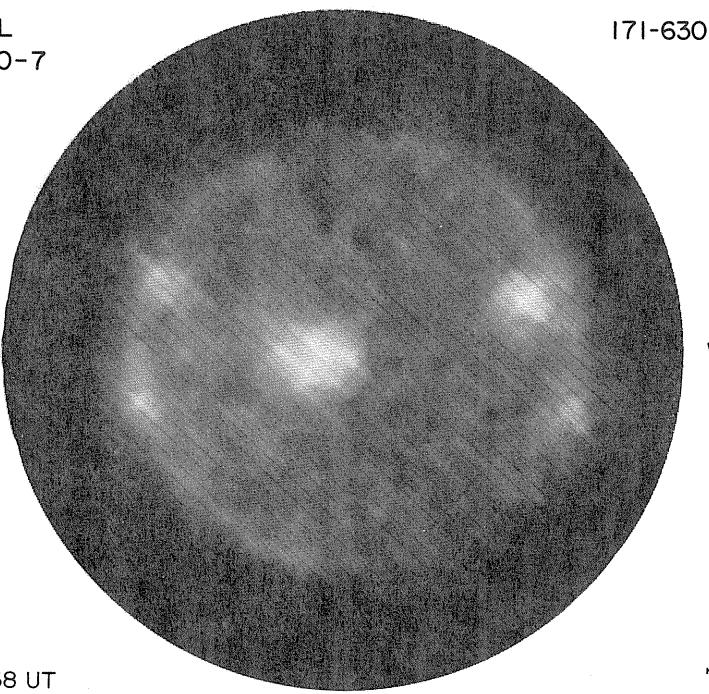
0502 UT

COUNT = 165360
ROLL = 47.8°
P-TH = -5.74

NRL
OSO-7

Np

171-630A



E

W

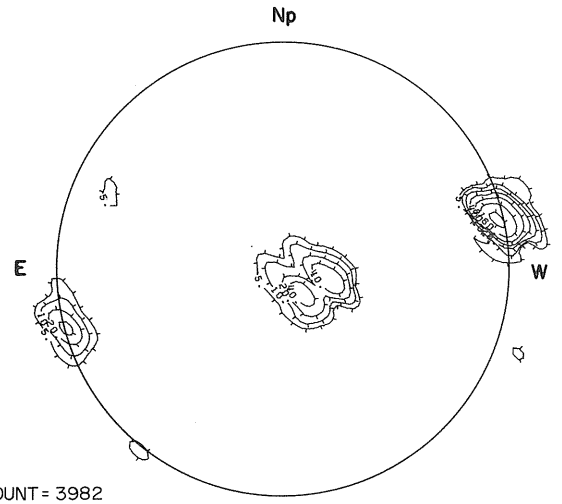
Sp

0138 UT
COUNT = 43345

APRIL 29, 1973 (P = - 24.55, B_o = -4.34, L_o = 86.06)

NASA GSFC
OSO-7

X-RAY



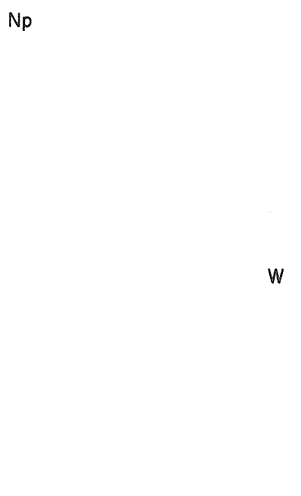
COUNT = 3982
ROLL = 47.0°
P-TH = -5.82

0519 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

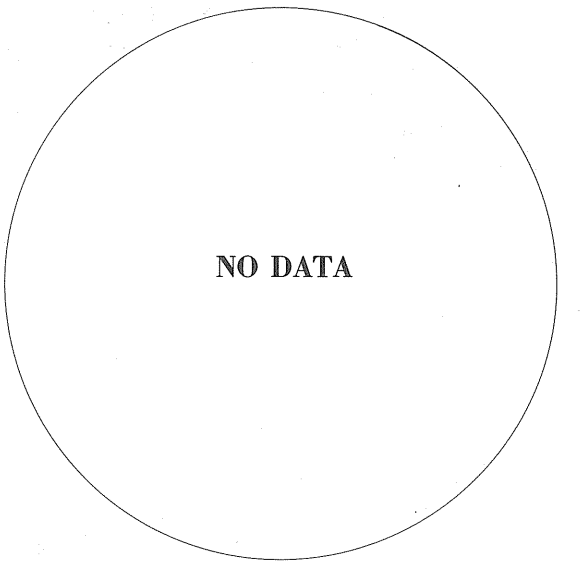
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

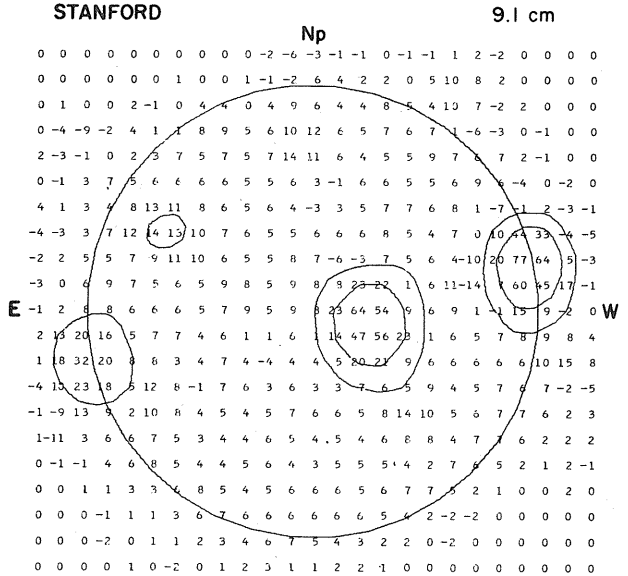
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
± 5
± 10
± 20
± 40
± 80

STANFORD

9.1 cm

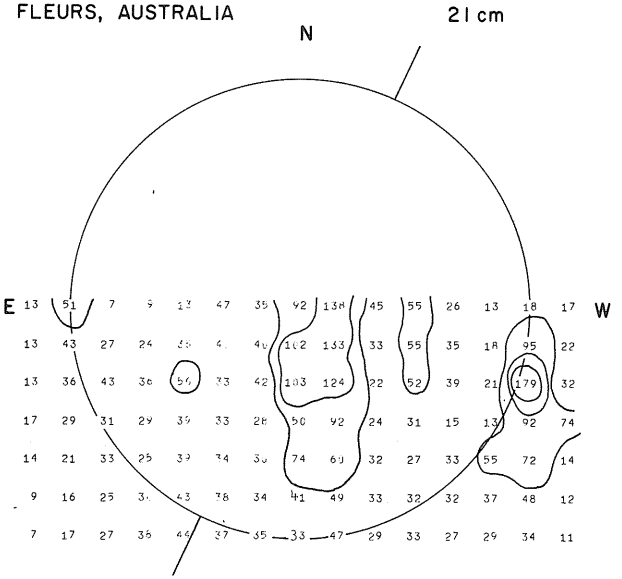


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

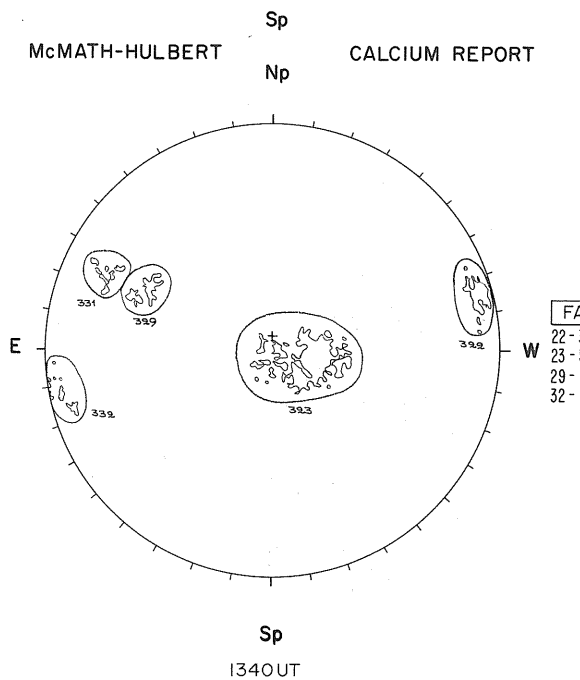


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

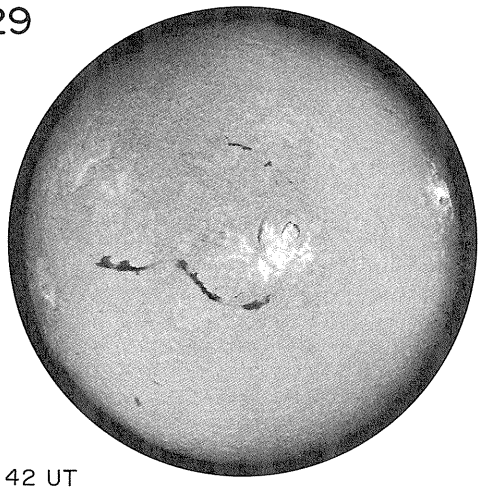
CALCIUM REPORT



FAIR	M
22 - 3000	- 4.0
23 - 5100	- 3.5
29 - 1100	- 2.5
32 - 1800	- 2.5

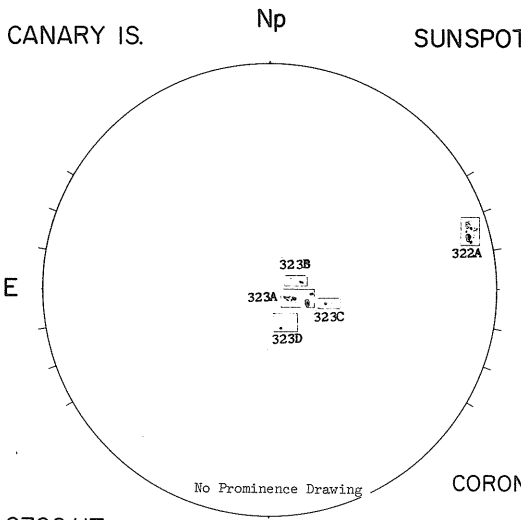
1340 UT

RAMEY AFB
29



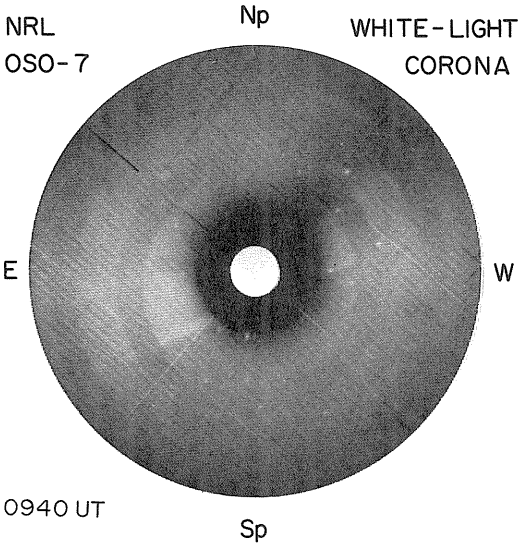
1142 UT

CANARY IS.



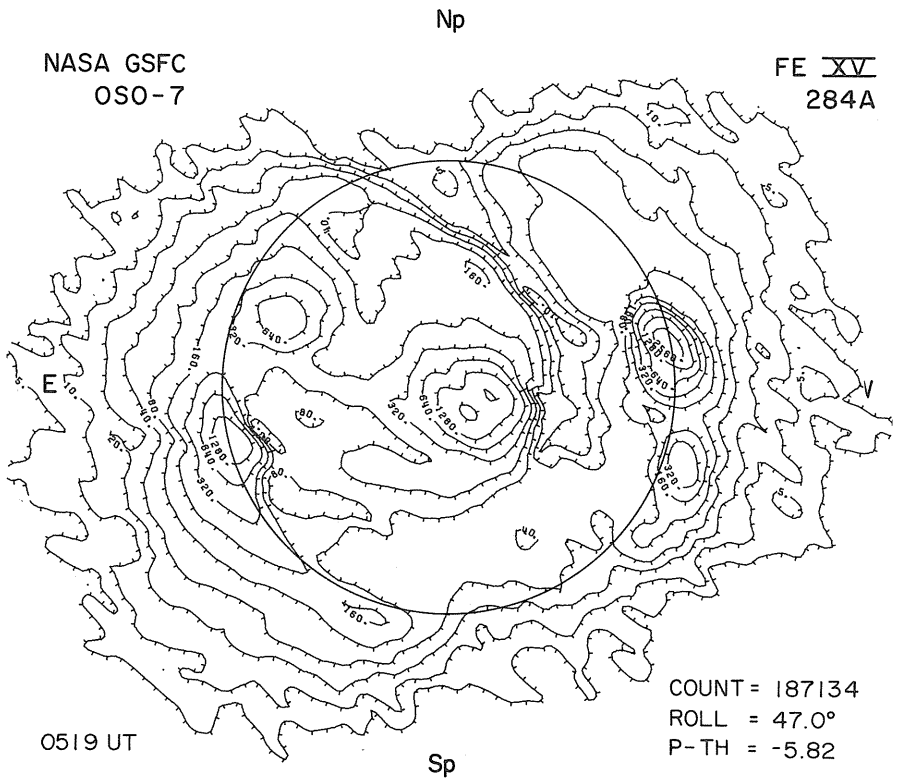
0700 UT

NRL
OSO-7



0940 UT

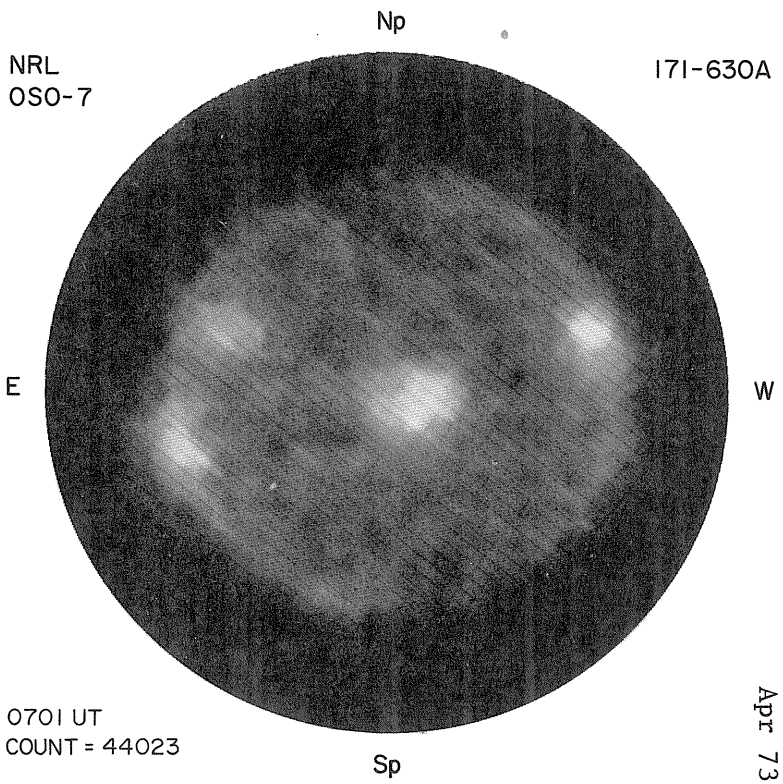
NASA GSFC
OSO-7



0519 UT

COUNT = 187134
ROLL = 47.0°
P-TH = -5.82

NRL
OSO-7

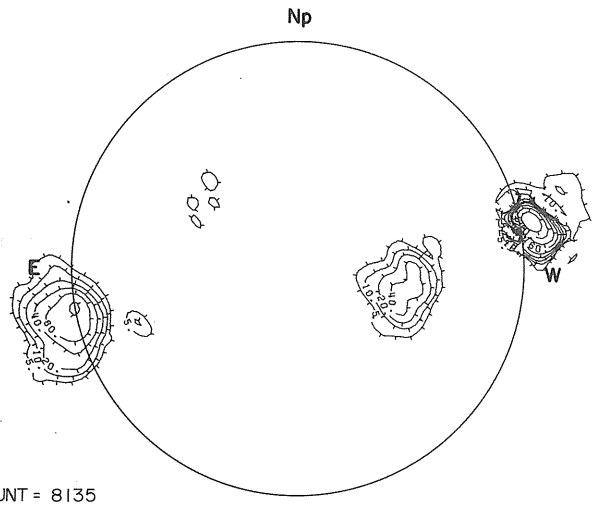


0701 UT
COUNT = 44023

APRIL 30, 1973 (P=-24.38, B_o=-4.24, L_o=72.84)

NASA GSFC
OSO-7

X-RAY



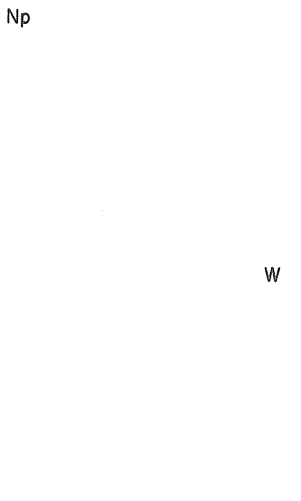
COUNT = 8135
ROLL = 46.7°
P-TH = -5.93

1805 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

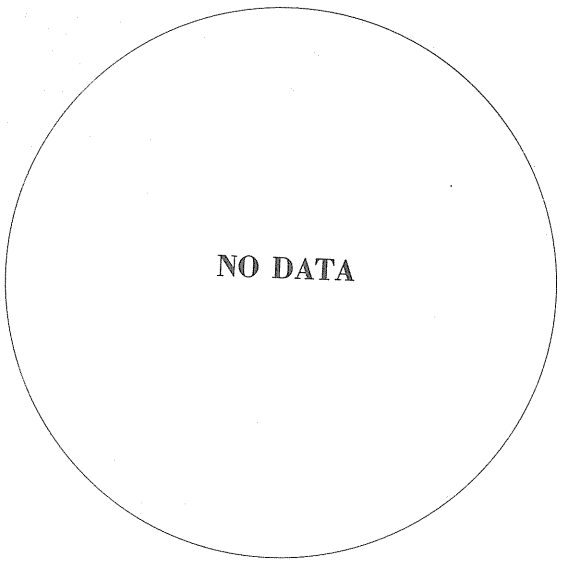
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

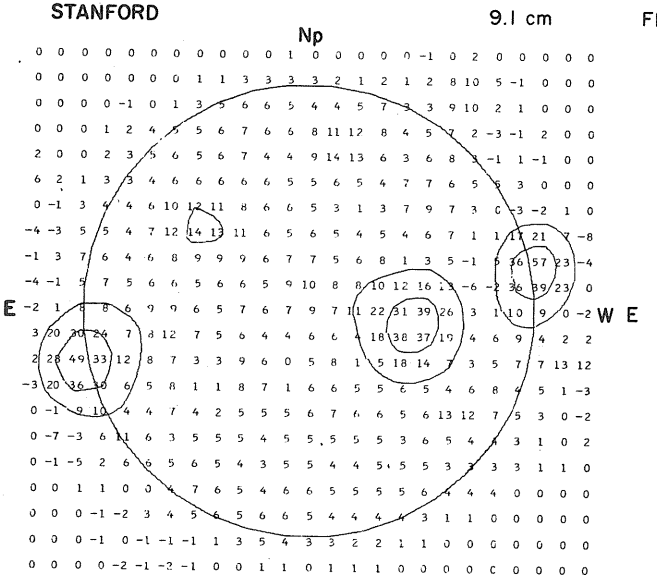
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

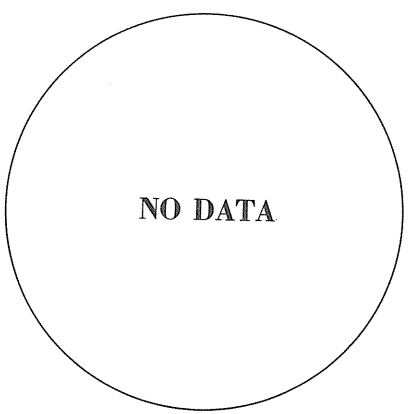


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

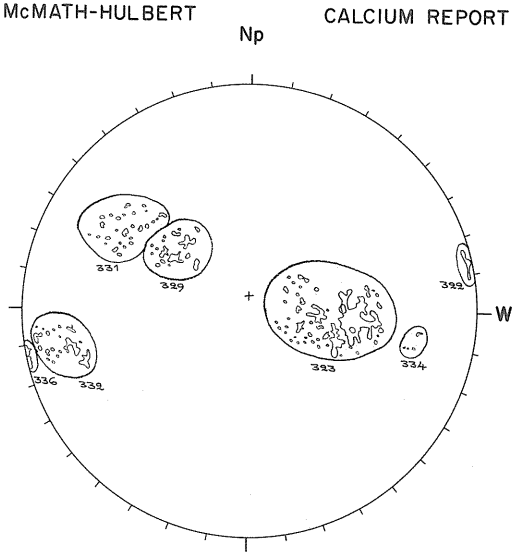


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
22 - 1200 - 2.5	
23 - 5600 - 3.5	
29 - 1200 - 2.5	
32 - 2200 - 2.5	

1920 UT

BOULDER
30

Np

Hα

E

NO DATA

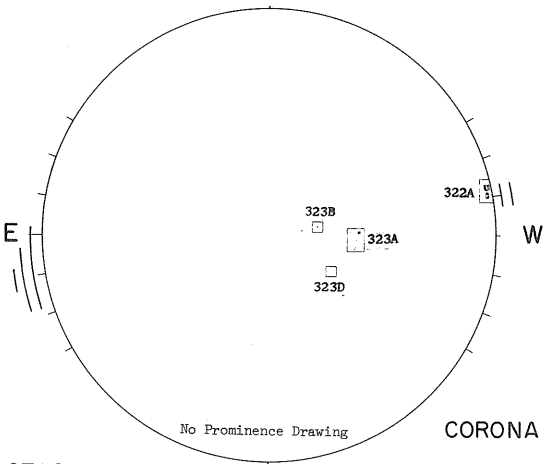
W

Sp

CANARY IS.

Np

SUNSPOTS



0710 UT

Sp

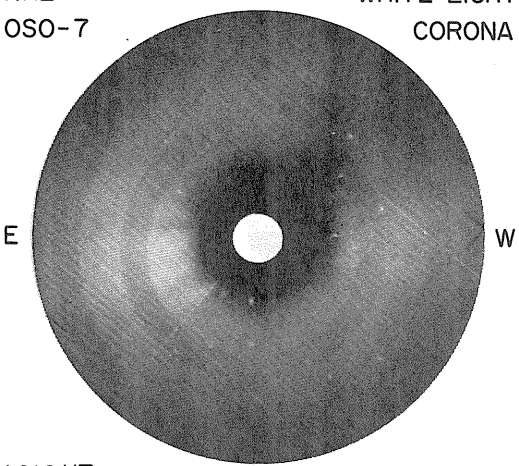
CORONA

NORIKURA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



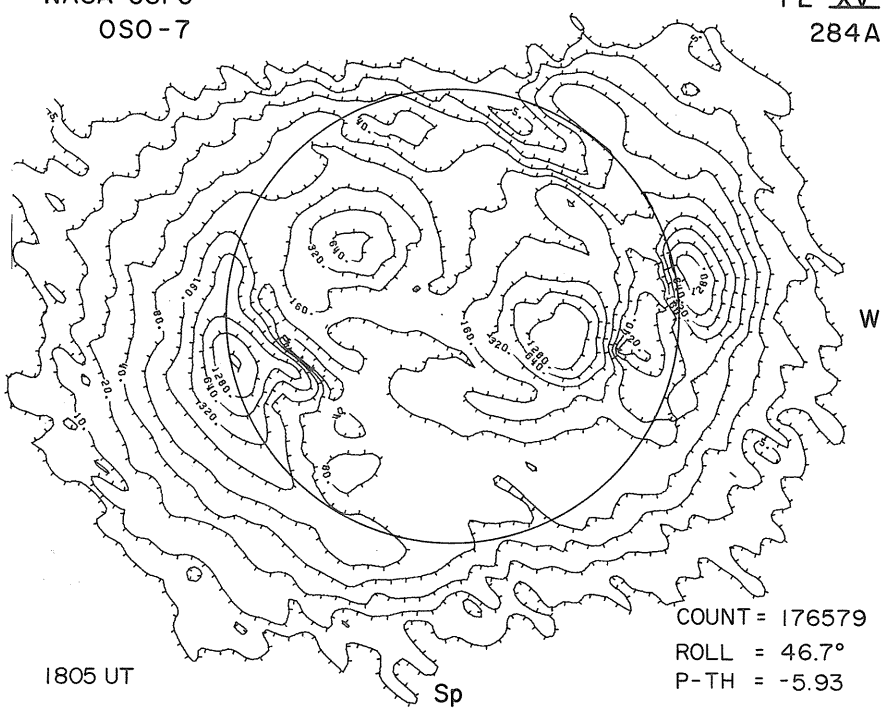
1012 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



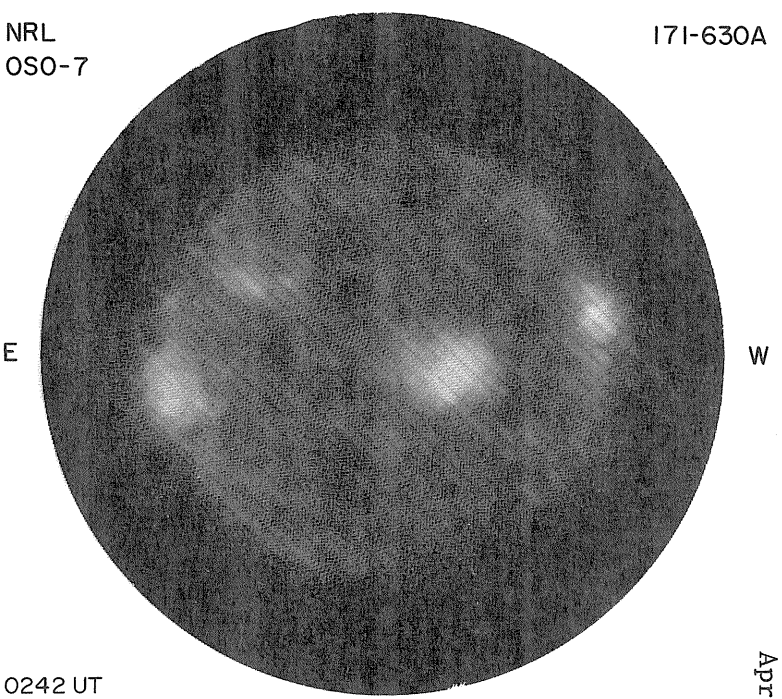
1805 UT

COUNT = 176579
ROLL = 46.7°
P-TH = -5.93

Np

NRL
OSO-7

171-630A



0242 UT
COUNT = 45280

89
Apr 73

REGIONS OF SOLAR ACTIVITY

APRIL 1973

MCMATH REGION 12301 CMP DATE 30.8 MARCH 1973

			CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	5	12301	S03 W77	111	200	2.5											
73	4	6	12301	S04 W89	110	100	1.5											

MCMATH REGION 12303 CMP DATE 31.2 MARCH 1973

			CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	5	12303	S12 W72	106	200	2.5											
73	4	6	12303	S13 W85	106	100	1.0											

MCMATH REGION 12293 CMP DATE 2.3

			CALCIUM PLAGE DATA					SUNSPOT DATA										9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	3	26	12293	S05 E90	76	400	2.0										15	5
73	3	27	12293	S03 E80	74	1500	3.5		S03 E78				G	100	3	DSO	18	6
73	3	28	12293	S04 E66	74	1300	4.0	19138	S05 E60	77	BP		G	280	4	DSO	28	10
73	3	29	12293	S04 E51	76	1500	3.5	19138	S05 E45	77	BP		G	300	16	DSI	31	11
73	3	30						19138	S06 E33	78	(BP)	5	G	410	27	DKI		
73	3	31						19138	S07 E20	77	(D)	5	G	400	35	EAI	39	13
73	4	1	12293	S04 E08	79	2100	3.5	19138	S07 E08	79	(D)	5	M	610	38	EKI	44	15
73	4	2	12293	S04 W04	78	2800	4.0	19138	S05 W07	78	(D)	5	M	420	36	EKI		
73	4	3						19138	S05 W18	78	(D)	5	M	480	26	EKI	60	20
73	4	4						19138	S05 W34	77	BY		M	870	15	EKI	53	18
73	4	5	12293	S04 W45	79	4000	4.0	19138	S05 W50	80	(BP)	4	G	420	36	EKI	46	15
73	4	6	12293	S05 W58	79	4600	4.0	19138	S05 W58	79	(BP)	4	M	820	20	EKI	38	12
73	4	7	12293	S05 W71	79	4600	4.0	19138	S05 W77	80	BP		M	680	24	EKI	27	9
73	4	8	12293	S04 W82	77	3200	3.0										16	5
73	4	9															9	3

MCMATH REGION 12302 CMP DATE 2.3

			CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	5	12302	N18 W44	78	200	2.0											
73	4	6	12302	N18 W56	77	100	2.0											
73	4	7	12302	N18 W70	78	100	1.0											

MCMATH REGION 12307 CMP DATE 4.2

			CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	6	12307	S02 W32	53	200	1.5											
73	4	7	12307	S02 W42	50	200	1.0											

MCMATH REGION 12298 CMP DATE 5.4 RETURN OF REGION 12259 ROTATION 1&3

			CALCIUM PLAGE DATA					SUNSPOT DATA										9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	3	29						19139	N12 E85	37	AP							
73	3	30						19139	N11 E72	39			G	180	1	HSX		
73	3	31						19139	N11 E58	39	(D)	4	G	150	6	DAO		
73	4	1	12298	N12 E50	37	2200	3.5	19139	N11 E47	40	(Y)	4	M	240	9	CKO	19	6
73	4	2	12298	N13 E40	34	2600	3.5	19139	N11 E32	39	(D)	4	M	340	10	DKO	13	4
73	4	3						19139	N11 E21	39	(Y)	4	M	260	11	DKO	11	4
73	4	4						19139	N11 E05	38	Y		M	160	7	DKO	7	2
73	4	5	12298	N13 W03	37	3000	3.5	19139	N11 W10	40	(D)	4	G	170	10	DSO	17	6
73	4	6	12298	N14 W15	36	3500	3.5	19139	N12 W18	39	(Y)	5	M	210	8	DKI	7	2
73	4	7	12298	N13 W26	34	3500	3.5	19139	N12 W37	40	(AP)	4	M	260	10	DAI	6	2
73	4	8	12298	N13 W36	31	3300	3.0	19139	N12 W46	40	(AP)	3	C	40	3	CSO	7	2
73	4	9						19139	N13 W62	43	AP		M	110	3	CAO	9	3
73	4	10	12298	N14 W65	35	2600	2.5	19139	N12 W74	42	(AP)	2	M	50	3	CAO	7	2
73	4	11	12298	N15 W78	34	2600	2.0		N13 W80				M	30	1	AXX	5	2

The new column marked STA is inserted to indicate the source of data for sunspot area, count and classification.
B = Boulder C = Carnarvon G = Gran Canaria (Canary Islands) M = Manila

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MCMATH REGION 12299 CMP DATE 6.2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	1	12299	S13 E60	27	200	2.0
73	4	2	12299	S13 E47	27	500	3.0
73	4	3					
73	4	4					
73	4	5	12299	S13 E07	27	400	2.0
73	4	6	12299	S14 W07	28	400	2.0
73	4	7	12299	S14 W17	25	300	2.0
73	4	8	12299	S14 W28	23	300	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
19142	S14 E44	27	(BF)	3						
19142	S12 E32	28	BF)	3	M	50	3	DRO	9	3
19142	S13 E17	26	A		M	10	1	HRX	6	2
									7	2
									4	1

MCMATH REGION 12304 CMP DATE 7.0 RETURN OF REGION 12259* ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	1	12304	N14 E75	12	500	1.0
73	4	2	12304	N14 E60	14	500	1.5
73	4	5	12304	N16 E15	19	700	2.0
73	4	6	12304	N14 E04	17	600	1.5
73	4	7	12304	N14 W07	15	600	1.5
73	4	8	12304	N14 W17	12	600	1.5
73	4	10	12304	N14 W47	17	500	1.0
73	4	11	12304	N14 W60	16	400	1.0
73	4	12	12304	N14 W75	18	300	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
19147	N15 E06	24	B							
19147	N15 W03	24	(AF)	1						
19147	N15 W19	22	AF							
19147	N15 W28	22	AF							
									8	2

MCMATH REGION 12313 CMP DATE 7.6

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	12	12313	N12 W65	8	300	2.0
73	4	13	12313	N13 W80	11	600	1.5

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
19154	N11 W65	7	(AP)	1						
									3	1

MCMATH REGION 12308 CMP DATE 8.6

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	10	12308	N25 W26	356	100	1.0
73	4	11	12308	N25 W39	355	100	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX

MCMATH REGION 12300 CMP DATE 9.2 RETURN OF REGION 12263 & 12264* ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	1	12300				
73	4	2	12300	S08 E78	357	1400	2.5
73	4	3					
73	4						
73	4						
73	4	4					
73	4						
73	4						
73	4	5	12300	S08 E42	353	4200	3.5
73	4						
73	4						
73	4						
73	4	6	12300	S09 E30	352	5000	3.5
73	4						
73	4						
73	4						
73	4	7	12300	S10 E18	351	5200	3.5
73	4						
73	4						
73	4						
73	4						
73	4	8	12300	S10 E08	348	4800	3.5
73	4						
73	4						
73	4						
73	4						
73	4						

(cont'd)

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
	S12 E84				M	140	3	CAO	10	3
19143	S14 E81	351	(BP	3	M	200	16	EKI	12	4
19144	S16 E67	354	(BF)	2					24	8
19143	S14 E71	350	(BP)	4	M	250	1	HSX		
19145	S15 E80	341	(AP)	3						
19144	S16 E51	353	B		M	140	7	CHO	22	7
19143	S14 E55	349	BP		M	230	7	CHO		
19145	S15 E60	344	AP		M	40	1	HSX		
19148	S08 E35	356	(BP	1	G	0	1	AXX	17	6
19143	S13 E40	351	(BP	4	G	60	6	CSO		
19149	S10 E44	347								
19145	S15 E49	342	(AP)	3						
19148	S09 E25	357	(B)	2	M	20	3	AXX	16	5
19143	S13 E28	354	(AP)	4	M	110	2	HAX		
19149	S10 E32	350	BF							
19145	S15 E40	342	(AP)	3						
19148	S09 E04	-0	(BP)	2	M	50	9	DRO	16	5
19143	S14 E11	353	(AP)	3	M	110	2	HSX		
19144	S16 E12	352	A							
19149	S11 E18	346	BF)	1						
19145	S15 E22	342	(AP)	2						
19148	S09 W04	359	(BP)	3	C	80	11	DSO	22	7
19143	S12 E01	354	(AP)	2	C	40	10	DRO		
19149	S11 E09	346	BF)	1						
19145	S15 E13	342	(AP)	2	C	30	3	CRO		
19152	S17 E14	341	(B)	2	C	40	3	DRO		
19153	S11 E21	334	(B)	2						

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

Note: When there is only one side of the parenthesis around the magnetic type of sunspot it means that only half of the sunspot group was measured. The parenthesis is on whichever half was measured, either the leader or the follower.

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(cont'd)

73	4	9						19148	S07 W20	1	BP		M	100	10	DAI	18	6
73	4							19143	S09 W16	357	AP		M	30	10	BXO		
73	4							19149	S10 W09	350	AF		M	10	1	AXX		
73	4							19145	S13 W02	343	AP		M	30	1	HRX		
73	4	10	12300	S10 W20	350	5000	4.0	19148	S09 W32	0	(BP)	3	M	210	11	DAI	17	5
73	4							19143	S12 W26	354	(AP)	2	M	10	2	AXX		
73	4							19149	S11 W20	348	BF)	1						
73	4							19145	S15 W14	342	(AP)	2	M	10	1	AXX		
73	4							19152	S17 W14	342	(B)	2						
73	4	11	12300	S10 W33	349	5000	3.5	19148	S08 W43	358	(B)	2	M	180	15	DAI	20	7
73	4							19143	S13 W38	353	(AP)	1	M	10	2	AXX		
73	4							19149	S10 W36	351	B							
73	4							19145	S15 W26	341	(AP)	2						
73	4	12	12300	S11 W47	350	4800	3.0	19148	S09 W57	359	(BF)	2	M	90	8	DAI	14	5
73	4	13	12300	S10 W60	351	4700	3.0	19148	S09 W66	355	(AF)	2	M	30	1	HRX	13	4
73	4	14	12300	S11 W72	349	4500	3.5											
73	4	15	12300	S11 W82	346	1800	1.0											

MCMATH REGION 12305 CMP DATE 10.3 RETURN OF REGION 12271 ROTATION 2

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	5	12305	N18 E54	341	500	2.0	19150	N15 E45	346	(AP)	1						
73	4	6	12305	N18 E41	341	500	2.0											
73	4	7	12305	N18 E30	339	500	1.5											
73	4	8	12305	N16 E21	335	200	1.0											
73	4	10	12305	N16 W04	334	100	1.0											
73	4	11	12305	N16 W17	333	100	1.0											

MCMATH REGION 12306 CMP DATE 10.9

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	5	12306	S13 E68	327	600	1.5		S13 E57				G	10	1	HSX		
73	4	6	12306	S12 E58	324	1400	2.0		S15 E49				M	20	1	HRX		
73	4	7	12306	S10 E46	323	1600	3.5	19151	S10 E40	324	(BY)	4	M	30	2	BXO	23	8
73	4								S14 E35				M	20	1	HRX		
73	4	8	12306	S08 E32	324	2500	4.0	19151	S09 E32	323	(B)	4	C	270	29	DAC	52	17
73	4	9						19151	S07 E16	325	B		M	590	21	DKI	6	2
73	4								S10 E12				M	30	5	CRO		
73	4	10	12306	S09 E05	325	3000	4.0	19151	S09 E04	324	(BY)	5	M	640	18	DKI	38	12
73	4								S15 W05				M	10	2	AXX		
73	4								S13 W06				M	10	1	HSX		
73	4	11	12306	S09 W08	324	3000	4.0	19151	S09 W09	324	(B)	4	M	390	42	DKI	66	21
73	4								S15 W19				M	10	2	AXX		
73	4	12	12306	S10 W20	323	3000	4.0	19151	S09 W23	325	(BY)	4	M	360	28	DKC	42	13
73	4	13	12306	S10 W33	324	2900	4.0	19151	S08 W36	325	(BF)	4	M	360	32	DKC	43	14
73	4							19155	S13 W28	317	(AP)	1						
73	4	14	12306	S09 W47	324	3300	4.5	19151	S08 W49	324	BP		M	340	18	DKI	36	12
73	4							19155	S13 W41	316	BF							
73	4	15	12306	S09 W61	325	3400	4.0	19151	S08 W63	326	(BP)	3	M	250	16	DAI	30	10
73	4	16	12306	S09 W75	325	3000	4.0	19151	S08 W77	325	(BP)	4	M	270	17	DAI	29	9
73	4	17	12306	S08 W87	325	1800	2.5	19151	S08 W89	325	AP		M	370	15	DAO	18	6

MCMATH REGION 12316 CMP DATE 11.2

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	13	12316	S26 W31	322	100	1.0											
73	4	14	12316	S27 W43	320	300	1.0											

MCMATH REGION 12310 CMP DATE 14.7

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	10	12310	S12 E55	275	200	1.0										5	2
73	4	11	12310	S13 E42	274	100	1.0										8	2
73	4	12	12310	S13 E28	275	100	1.0										6	2

MCMATH REGION 12317 CMP DATE 15.3

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	13	12317	S04 E25	266	200	2.0											
73	4	14	12317	S04 E10	267	300	1.0											
73	4	15	12317	S04 W03	267	200	1.0											

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MCMATH REGION 12319 CMP DATE 15.6

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	4	16	12319	N05 W12	262	100	1.0										

MCMATH REGION 12312 CMP DATE 15.7

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	4	10	12312	N13 E69	261	100	1.0										
73	4	11	12312	N14 E55	261	200	1.0										

MCMATH REGION 12311 CMP DATE 16.2

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	4	10	12311	S17 E77	253	200	1.0										5 2
73	4	11	12311	S17 E66	250	400	2.0										
73	4	12	12311	S17 E53	250	400	2.0										
73	4	13	12311	S17 E37	254	400	2.0										
73	4	14	12311	S17 E22	255	700	2.0										
73	4	15	12311	S19 E09	255	600	2.0										
73	4	16	12311	S18 W05	255	400	2.0										
73	4	17	12311	S18 W18	256	300	2.0										
73	4	18	12311	S19 W33	256	400	2.0										10 3
73	4	19	12311	S19 W45	255	500	2.0										
73	4	20	12311	S18 W61	258	300	1.0										

MCMATH REGION 12318 CMP DATE 17.4

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	4	14	12318	N01 E36	241	300	2.0										
73	4	15	12318	N00 E24	240	300	2.0	19156	S01 E21	242	(BF)	2	M	20	2	CRO	
73	4	16	12318	S01 E11	239	300	2.0	19156	N01 E06	242	(A)	2	M	10	1	HRX	
73	4	17	12318	S01 W03	241	200	2.0	19156	N01 W06	242	A		M	0	1	AXX	
73	4	18	12318	N01 W18	241	200	1.5										
73	4	19	12318	N01 W31	241	100	1.0										

MCMATH REGION 12314 CMP DATE 18.3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	4	12	12314	S15 E80	223	500	1.5										
73	4	13	12314	S15 E66	225	600	2.0										
73	4	14	12314	S15 E50	227	600	2.0										
73	4	15	12314	S15 E36	228	700	2.0										
73	4	16	12314	S16 E23	227	400	2.0										
73	4	17	12314	S16 E10	228	500	2.0										
73	4	18	12314	S16 W05	228	500	2.0										
73	4	19	12314	S16 W19	229	500	2.0										
73	4	20	12314	S16 W33	230	400	1.0										
73	4	21	12314	S17 W47	230	400	1.0										
73	4	22	12314	S17 W65	233	300	1.0										
73	4	23	12314	S15 W75	233	200	1.0										

MCMATH REGION 12315 CMP DATE 18.7 RETURN OF REGION 12273 ROTATION 3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	4	12	12315	N18 E80	223	300	1.0										
73	4	13	12315	N17 E63	228	500	1.0										
73	4	14	12315	N17 E50	227	800	1.5										
73	4	15	12315	N16 E41	223	1000	1.5										
73	4	16	12315	N17 E28	222	800	1.5										
73	4	17	12315	N17 E15	223	600	1.5		N16 E00			M		20	2	BXO	
73	4	18	12315	N17 E01	222	800	2.0										
73	4	19	12315	N17 W12	222	700	1.5										
73	4	20	12315	N17 W28	225	700	1.0										
73	4	21	12315	N18 W40	223	700	1.0										
73	4	22	12315	N18 W57	225	600	1.0										
73	4	23	12315	N18 W65	223	300	1.0										

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MCMATH REGION 12325 CMP DATE 20.2

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	24	12325	S05 W57	203	100	1.0											

MCMATH REGION 12324 CMP DATE 20.3

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	22	12324	N54 W34	202	100	1.5											

MCMATH REGION 12326 CMP DATE 21.1

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	24	12326	N06 W45	191	100	1.0											

MCMATH REGION 12321 CMP DATE 21.7

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	17	12321	S14 E58	180	100	1.5											
73	4	18	12321	S14 E42	181	300	3.0	19157	S15 E37	186	BF		M	70	9	DAO		
73	4	19	12321	S14 E27	183	1000	3.5	19157	S15 E26	184	(BF)	4	G	100	14	DAI	17	5
73	4	20	12321	S14 E13	184	1200	3.0	19157	S15 E14	184	(BF)	4	M	160	13	DAO	11	3
73	4	21	12321	S15 E00	183	1100	3.0	19157	S15 E00	184	(BF)	3	M	140	10	DAO	11	3
73	4	22	12321	S15 W13	181	1700	3.5	19157	S15 W15	186	(B)	3	M	100	18	CAO	12	4
73	4	23	12321	S15 W25	183	1700	3.5	19157	S15 W28	185	(B)	3	M	80	15	CAO	9	3
73	4								S17 W10				M	10	2	AXX		
73	4	24	12321	S15 W40	186	1700	3.0	19157	S15 W42	187	(BP)	3	M	50	7	CRO	7	2
73	4	25	12321	S15 W54	187	1400	3.0		S17 W53				M	20	4	BXO	6	2
73	4	26	12321	S16 W66	185	1500	2.5										5	1

MCMATH REGION 12327 CMP DATE 22.2

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	24	12327	N08 W31	177	100	1.0											
73	4	25	12327	N08 W44	177	200	1.5											
73	4	26	12327	N08 W57	176	200	1.5											

MCMATH REGION 12320 CMP DATE 23.2

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	17	12320	N06 E79	159	300	2.0											
73	4	18	12320	N07 E60	163	200	1.5											

MCMATH REGION 12322 CMP DATE 24.2 RETURN OF REGION 12280 ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA										9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	4	18	12322	N08 E75	148	2200	3.5	19158	N11 E78	145	(AP)	3	M	400	6	DAO	14	4
73	4							19159	N09 E81	142	(AP)	2						
73	4	19	12322	N10 E62	148	2800	3.5	19158	N12 E63	147	(BP)	3	G	90	2	CSO	21	7
73	4							19159	N10 E65	145	(BP	3	G	60	1	HSX		
73	4	20	12322	N11 E49	148	3000	3.5	19158	N12 E47	151	(BP)	4	M	390	8	DAO	3	1
73	4							19159	N10 E50	148	(AP)	4						
73	4	21	12322	N12 E35	148	2500	3.5	19158	N12 E34	150	(B)	4	M	370	20	DAI	14	4
73	4							19159	N10 E38	146	(AP)	4	M	130	3	HAX		
73	4	22	12322	N11 E19	149	2700	3.5	19158	N13 E22	149	(D)	5	M	480	23	DAI	43	13
73	4							19159	N10 E24	147	(AP)	4	M	100	2	HKX		
73	4	23	12322	N12 E09	149	2400	3.5	19158	N12 E08	149	(D)	4	M	490	24	DAI	40	12
73	4							19159	N10 E11	146	(AP)	3	M	90	2	HKX		
73	4	24	12322	N12 W04	150	2700	3.5	19163	N15 W08	153	(BP)	2					32	10
73	4							19158	N12 W06	151	(BY)	4	M	430	24	DAI		
73	4							19159	N10 W03	148	(AP)	4						
73	4	25	12322	N12 W17	150	2700	4.0	19163	N13 W23	154	BF)	3					31	10
73	4							19158	N12 W19	150	(D)	5	M	400	28	DAI		
73	4							19159	N10 W16	147	(AP)	4						

REGIONS OF SOLAR ACTIVITY

APRIL 1973

73	4	26	12322	N12 W29	148	2500	3.5
73	4						
73	4	27					
73	4						
73	4	28	12322	N12 W58	149	2500	4.0
73	4	29	12322	N12 W70	149	3000	4.0
73	4	30	12322	N12 W83	146	1200	2.5

19158	N11 W32	149	(D)	5	M	190	20	DAI	46	14
19159	N09 W29	146	(AP)	4						
19158	N11 W42	146	(D)	5	B	100	52	DAI	35	11
19159	N10 W40	144	(AP)	4						
19158	N12 W57	148	(D)	5	M	480	8	DKC	40	12
	N11 W62				M	770	12	DKC	38	12
	N10 W80				G	900	6	DKC		

MCMATH REGION 12334 CMP DATE 27.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	30	12334	S09 W50	113	200	1.0
73	5	1	12334	S09 W63	114	200	1.5
73	5	2	12334	S09 W72	110	200	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX

MCMATH REGION 12323 CMP DATE 28.7

RETURN OF REGION 12293 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	4	22	12323	S06 E76	92	2200	3.0
73	4	23	12323	S06 E70	88	4200	3.5
73	4						
73	4						
73	4	24	12323	S06 E60	86	4500	3.5
73	4						
73	4						
73	4	25	12323	S06 E46	87	4700	3.5
73	4						
73	4						
73	4						
73	4	26	12323	S06 E33	86	4700	3.0
73	4						
73	4						
73	4						
73	4	27					
73	4						
73	4						
73	4	28	12323	S06 E00	91	5500	3.5
73	4						
73	4						
73	4						
73	4						
73	4	29	12323	S06 W10	89	5100	3.5
73	4						
73	4						
73	4	30	12323	S06 W25	88	5600	3.5
73	4						
73	4						
73	5	1	12323	S06 W36	87	5800	3.0
73	5		12323				
73	5	2	12323	S06 W47	85	5800	3.0
73	5		12323				
73	5	3	12323	S06 W62	86	5500	3.0
73	5		12323				
73	5	4	12323	S06 W80	89	3800	2.5
73	5		12323				
73	5		12323				
73	5	5	12323	S05 W90	89	800	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
19160	S05 E86	85							32	10
19160	S07 E69	88	(D)	2	M	630	7	DKI	37	12
19161	S12 E73	84	(BF)	2						
19162	S01 E75	82	(AP)	1						
19160	S06 E55	90	(D)	5	M	390	3	DKI	37	12
19161	S11 E58	87	(BF)	3	M	40	2	CRO		
19162	S02 E60	85	(AP)	3	M	10	2	AXX		
19160	S06 E40	91	(D)	5	M	400	13	DKI	49	15
19161	S11 E45	86			M	10	1	AXX		
19164	N02 E44	87	BP							
19162	S02 E45	86	BP		M	20	3	AXX		
19160	S07 E28	89	(D)	5	M	300	18	DAI	50	16
19161	S09 E31	86								
19164	N00 E31	86	AP							
19162	S03 E31	86	AP		M	20	3	AXX		
19160	S07 E12	92	(D)	5	B	190	63	EAI	37	11
19161	S10 E16	88								
19162	S02 E18	86	(B)	3	B	10	11	BXO		
19160	S06 W02	93	(Y)	4	M	250	21	DAI	35	11
19161	S09 E01	90	(A)	3						
19165	S12 E03	88	(BF)	3						
19162	S02 E04	87	(B)	4	M	30	3	CRO		
19166	S05 E10	81	B							
	S02 W02				M	30	5	CRO	34	11
	S12 W03				M	40	5	CRO		
	S06 W06				M	150	19	DAI		
19160	S04 W33	93	(A)	3	G	70	7	CAO		
	S02 W16				G	10	2	BXO		
19161	S09 W32	92	(BP	2	G	10	4	BXO		
19160	S04 W42	93	(A)	2	M	20	5	CAO	18	5
19161	S09 W41	92	(AP)	1						
19160	S05 W56	92	(BP)	3	B	10	1	AXX	22	6
19161	S09 W56	92	(BP)	3	B	20	5	BXO		
19160	S04 W70	94	(A)	2	M	20	1	HRX	19	6
19161	S09 W68	92	(BP)	2	M	100	4	CRO		
19160	S04 W86	94	A						14	4
19161	S09 W84	92	AP		M	120	5	CRO		
	S06 W76				M	20	1	AXX		
									7	2

MCMATH REGION 12337 CMP DATE 30.3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
73	5	3	12337	S16 W44	68	300	2.0
73	5	4	12337	S16 W58	67	300	1.5

SUNSPOT DATA 9.1 CM

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX

Note: Region 12298 is mostly new plage that has formed ahead of old region 12259 of the previous rotation, but it also contains some remnants of old plage 12259.
Region 12299 is a new region, in the position of old 12261 of the previous rotation.
Region 12306 is a resurgence of activity, amongst remnants of old region 12264.
No calcium spectroheliograms were obtained at the McMath-Hulbert Observatory on April 3, 4, 9 and 27, 1973.
No sunspot observations were made at Mt. Wilson Observatory on April 29, 1973.

DAILY CALCIUM PLAGE INDEX

APRIL 1973

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
73	4	1	17.2	73	4	11	27.7	73	4	21	10.9
73	4	2	22.4	73	4	12	21.5	73	4	22	16.2
73	4	3	*	73	4	13	17.9	73	4	23	18.0
73	4	4	*	73	4	14	17.7	73	4	24	20.6
73	4	5	35.3	73	4	15	10.4	73	4	25	23.7
73	4	6	39.7	73	4	16	5.8	73	4	26	20.9
73	4	7	39.1	73	4	17	2.9	73	4	27	*
73	4	8	34.7	73	4	18	5.9	73	4	28	26.1
73	4	9	*	73	4	19	9.9	73	4	29	25.1
73	4	10	33.4	73	4	20	11.0	73	4	30	24.6

* NO OBSERVATIONS

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 10 – EXPLORER 44

APRIL 1973

NAVAL RESEARCH LABORATORY 1 - 8A HOURLY AVERAGES (10^{-3} ergs/cm^2/sec)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.97	0.90	0.32	0.48	0.80	0.78	1.07	0.98	3.83	0.34	0.28	0.43	0.31	0.40	0.85	0.96	0.50	0.69	0.82	0.50	1.38	0.76	4.29	0.64
2	0.44	0.41	0.39	0.32	0.31	0.37	0.34	0.35	0.54	1.45<	0.82	0.43	0.50	0.59	0.98	0.61<	0.69<	0.75<	0.67<	0.96<	0.94<	0.58<	1.08<	1.07<
3	1.04	0.54	0.87	0.71	0.92	1.19	0.66	0.79	3.95	0.46	0.59	0.42	0.56	0.58	1.04	2.09	0.97	0.75	5.23	4.66	1.20	0.98	0.64	0.97
4	0.51	0.47	0.49	0.39	0.34	0.83	0.42	0.29	0.31	0.66	0.45	2.02	5.42	0.86	0.72	0.57	0.45	0.39	0.44	0.42	0.37	0.43	0.81	0.39
5	0.32	0.30	0.32	0.30	0.31	0.30	0.31	0.26	0.27	0.27	0.33	0.29	0.32	0.29	0.28	0.28	0.27	0.25	0.24	0.41	0.97	0.34	0.27	0.28
6	0.31	0.27	0.28	0.24	0.30	0.36	0.34	0.33	0.27	0.26	0.27	0.30	0.32	0.45	0.26	0.28	0.55	1.80	1.64	0.27	0.24	0.23	0.26	0.28
7	0.48<	0.36<	0.30<	0.26<	0.29<	0.28<	0.32<	0.33<	0.32<	0.35	0.30	0.26	0.23	0.27	0.27	0.26	0.34	1.71	0.72	1.22	0.94	0.46	0.84	1.27
8	1.52	0.64	2.23	3.11	1.62	1.82	2.58	6.03	3.11	1.59	1.32	2.53	2.39	1.38	2.46	1.28	1.34	1.47	1.52	1.65	1.58	1.29	1.31	1.73
9	1.94	1.68	1.82	2.35	2.29	1.93	1.31	1.74	1.68	1.73	1.44	1.57<	1.62<	2.77<	1.29	1.52	1.66	4.04	3.91	2.36	2.04	1.17	0.80	0.90
10	3.74	29.6	4.92	2.97	2.48	2.91	1.25	1.74	1.37	2.21	2.38	1.46	14.5	10.1	5.70	1.93	2.56	2.94	1.02	5.31	0.71	2.71	1.41	0.66
11	0.64	0.71	1.38	0.75	0.88	0.64	0.78	2.21	2.08	1.93	1.22	1.06	0.64	0.85	8.05	1.35	2.31	1.97	39.2	14.2	26.9	8.67	5.31	2.95
12	1.49	1.29	1.13	0.95	1.37	0.68	0.64	0.40	0.49	0.33	0.55	1.22	0.37	0.58	0.37	0.44	0.33	0.29	0.26	0.30	0.23	0.22	0.26	0.32
13	0.52	0.20	0.23	0.19	0.19	0.81	0.28	0.56	0.33	0.53	0.25	0.40	0.59	1.09	0.89	0.78	0.95	0.64	0.50	0.77	0.89	0.83	0.81	0.56
14	0.29	0.30	0.25	0.42	0.28	0.28	0.39	0.27	0.32	1.62	0.51	0.44	0.31	0.24	3.91	0.76	0.46	0.34	0.27	0.15	0.15	0.46	0.36	0.27
15	0.22	0.18	0.17	0.55	0.22	0.25	0.28	1.27	0.19	0.42	0.34	0.26	0.22	0.22	0.37	0.64	0.67	1.12	0.47	0.23	0.55	0.28	0.81	0.26
16	0.22	0.18	0.20	0.82	0.70	0.56	0.37	1.30	4.77	0.54	0.74	0.87	0.34	0.88	0.25	0.76	0.24	0.62	0.22	0.28	0.30	0.20	0.17	0.22
17	0.23	0.32	0.15	0.47	0.25	0.21	0.27	0.23	0.16	0.17	0.25	0.20	0.15	0.25	0.26	0.17	0.15	0.18	0.16	0.16	0.18	0.15	0.18	0.17
18	0.21	0.17	0.19	0.18	0.19	0.20	0.32	1.27	0.81	0.32	4.22	3.13	0.31	0.34	1.74	0.52	0.26	1.06	0.24	1.53	1.23	0.16	0.12	0.09
19	2.15	1.08	0.12	0.12	0.10	0.07	0.10	0.09	0.13	0.09	0.09	0.22	0.18	0.14	0.07	0.06	0.09	0.22	0.18	0.18	0.15	0.12	0.09	0.09
20	0.08	0.06	0.07	0.08	0.08	0.10	0.09	0.10	0.11	0.11	0.21	0.10	0.11	0.10	0.11	0.14<	0.19	0.14	0.14	0.16	0.15	0.16	0.28	0.20
21	0.23	0.15	0.17	0.55	0.20	0.23	0.68	0.72	0.64	0.56	0.44	1.05	0.58	1.21	0.59	0.75	1.40	0.68	0.32	0.49	0.32	0.24	0.33	0.32
22	0.28	0.28	0.32	0.30	0.30	0.30	0.97	0.37	0.41	0.37	1.24	0.32	0.38	0.35	4.27	3.06	1.14	1.00	1.74	1.26	1.38	6.12	2.75	0.63
23	0.43	0.68	0.49	0.56	0.35	0.31	0.29	0.32	0.31	0.37	0.97	0.64	0.31	0.68	0.38	0.59	0.93	2.39	0.79	0.64	1.11	0.64	0.66	0.50
24	0.37	0.34	0.34	0.54	0.34	0.36	0.42	0.52	1.04	0.81	0.66	0.38	0.38	0.46	4.71	0.47	0.29	0.42	0.30	2.33	0.48	0.39	0.37	0.36
25	0.33	0.53	1.04	0.72	4.14	1.14	0.64	0.56	0.39	0.34	0.39	0.48	1.86	0.68	0.26	0.48	0.68	0.51	0.29	0.29	0.27	0.35	0.24	0.26
26	0.28	0.43	0.61	0.32	0.37	0.74	19.8	5.19	0.74	0.46	0.37	0.30	0.27	0.53	0.37	0.39	0.34	0.32	0.28	12.5	46.9	0.81	0.45	1.77
27	0.45	0.45	0.35	0.72	1.19	0.69	0.64	0.64	0.75	0.71	2.17	0.49	0.66	0.67	0.47	0.98	0.54	0.29	0.34	0.32	0.27	0.31	0.30	0.44
28	0.84	0.33	0.30	0.28	0.39	0.61	0.44	0.45	0.37	0.34	0.32	0.48	0.68	0.60	1.20	0.80	0.98	1.61	0.93	0.80	1.00	1.00	1.09	0.92
29	0.98	5.99	2.13	1.15	2.78	1.61	13.6	5.80<	1.52<	2.25	22.1	13.9	4.29	1.62<	1.43<	1.16<	1.16	1.38	2.09	3.26<	1.46<	136.<	64.6<	11.4<
30	8.54<	4.49<	2.92	2.61	2.13	6.31	20.3	1.98	1.26	0.94	0.66	0.80	0.74	1.06	3.37	2.59	1.61	8.02	3.59	1.52	2.18	1.96	1.60	32.1

VALUES MARKED WITH (<) WERE CALCULATED FROM DATA PROVIDED BY SOLRAD 9

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 10 – EXPLORER 44

APRIL 1973

NAVAL RESEARCH LABORATORY 8 - 20A HOURLY AVERAGES (10^{-2} ergs/cm^2/sec)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2.13	2.11	1.34	1.44	2.44	2.23	3.06	2.71	4.88	1.31	1.22	1.48	1.36	1.45	2.25	2.63	1.67	2.14	2.79	2.07	2.92	2.50	5.56	2.01
2	1.71	1.67	1.63	1.52	1.46	1.53	1.59	1.66	2.00		2.96	1.73	1.69	1.80	2.51									
3	2.96	2.11	2.91	2.73	2.67	2.93	2.73	2.74	5.54	1.86	1.78	1.66	2.01	2.24	2.96	4.22	2.96	2.96	6.16	6.30	3.41	3.18	2.73	2.49
4	1.70	1.66	1.71	1.59	1.51	2.57	1.60	1.34	1.40	2.13	1.61	2.97	7.56	2.96	2.81	1.73	1.60	1.56	1.64	1.60	1.68	1.63	1.89	3.47
5	1.49	1.48	1.46	1.39	1.42	1.34	1.32	1.34	1.35	1.37	1.44	1.40	1.41	1.39	1.38	1.38	1.29	1.27	1.22	1.44	2.70	1.46	1.59	1.34
6	1.38	1.35	1.33	1.25	1.26	1.46	1.38	1.45	1.35	1.29	1.33	1.34	1.38	1.51	1.26	1.28	1.60	3.39	3.84	1.33	1.62	1.27	1.25	1.30
7												1.21	1.19	1.30	1.28	1.28	1.43	3.43	2.54	2.85	2.87	1.81	2.50	2.98
8	3.61	2.30	4.06	5.33	4.24	3.94	4.87	6.09	5.31	3.96	2.96	5.29	4.19	3.25	5.04	3.55	3.54	4.48	4.44	4.81	4.64	4.54	4.40	4.68
9	4.95	5.35	5.49	5.54	5.88	5.73	4.37	4.93	4.65	4.93	4.44				4.06	4.12	4.15	4.91	5.36	4.86	5.71	4.09	2.96	2.92
10	4.55	23.2	8.88	6.20	5.43	5.68	3.62	3.90	3.61	4.15	5.76	4.58	9.88	12.0	10.1	5.57	4.81	5.78	2.96	5.21	2.96	4.32	3.26	2.37
11	1.78	2.03	2.99	2.41	2.47	1.64	2.04	3.00	3.33	3.67	2.96	2.75	1.87	1.81	6.51	2.65	5.61	4.44	14.5	12.4	20.1	11.2	8.68	6.02
12	4.16	2.96	2.96	2.96	3.33	1.73	1.56	1.45	1.52	1.36	1.43	1.30	1.26	1.45	1.28	1.26	1.22	1.33	1.23	1.16	1.17	1.02	1.01	1.08
13	1.37	0.97	0.99	0.95	0.94	1.78	1.07	1.34	1.18	1.35	1.03	1.12	1.43	1.69	2.35	1.90	2.04	1.85	1.75	1.51	1.62	1.62	1.45	1.27
14	1.00	0.99	0.95	1.13	0.99	0.97	1.02	1.00	1.02	2.37	1.26	1.17	0.93	0.88	4.08	1.83	1.17	0.96	1.11	0.75	0.74	0.96	1.08	0.98
15	0.90	0.76	0.83	1.25	0.84	0.84	0.87	1.81	0.83	0.95	0.94	0.92	0.88	0.92	1.19	1.42	1.56	1.77	1.41	0.93	1.19	0.95	1.24	0.87
16	0.86	0.78	0.84	1.40	1.31	1.23	1.14	2.96	5.60	1.30	1.29	1.54	1.21	1.50	0.95	1.12	1.04	1.24	0.88	1.07	0.93	0.78	0.74	0.80
17	0.83	0.85	0.73	0.98	0.89	0.85	0.97	0.90	0.75	0.73	0.94	0.86	0.75	0.90	0.90	0.82	0.81	0.90	0.69	0.77	0.68	0.67	0.70	0.70
18	0.74	0.71	0.72	0.67	0.73	0.76	0.92	1.73	1.57	1.06	2.66	2.87	0.98	0.89	1.43	1.25	0.84	2.27	0.80	1.87	1.89	0.67	0.56	0.48
19	2.36	1.67	0.49	0.46	0.46	0.39	0.41	0.47	0.46	0.67	0.48	0.60	0.57	0.56	0.46	0.48	0.46	0.72	0.62	0.52	0.55	0.46	0.46	0.49
20	0.39	0.47	0.38	0.42	0.39	0.44	0.45	0.46	0.48	0.46	0.59	0.51	0.73	0.55	0.54	0.70	0.74	0.62	0.75	0.71	0.73	0.77	0.92	0.83
21	0.82	0.73	0.76	1.15	0.87	0.91	1.26	1.49	1.49	1.37	1.37	2.19	1.50	2.58	1.49	2.02	2.87	1.61	1.66	1.37	1.21	1.12	1.29	1.18
22	1.19	1.25	1.26	1.25	1.27	1.26	1.95	1.25	1.32	1.36	2.00	1.35	1.44	1.30	4.10	5.22	2.96	2.96	3.82	2.96	3.30	5.02	4.49	1.78
23	1.60	2.53	1.66	1.67	1.40	1.36	1.29	1.31	1.30	1.45	2.12	1.61	1.32	1.54	1.61	1.91	2.44	4.44	2.96	2.90	3.09	1.76	1.68	1.68
24	1.40	1.44	1.31	1.37	1.30	1.32	1.41	1.61	2.91	2.54	1.95	1.54	1.48	1.47	3.36	1.64	1.26	1.54	1.27	2.96	1.51	1.42	1.29	1.42
25	1.35	1.51	2.56	2.07	5.07	3.37	2.44	1.64	1.57	1.43	1.53	1.47	3.39	2.04	1.31	1.47	1.66	1.66	1.28	1.25	1.29	1.28	1.13	1.17
26	1.20	1.33	1.62	1.38	1.47	2.18	14.5	7.52	1.93	1.64	1.39	1.39	1.21	1.44	1.39	1.46	1.32	1.33	1.25	8.94	28.2	2.19	1.51	3.44
27	1.54	1.59	1.49	2.25	3.37	2.43	2.24	2.15	2.67	2.72	3.76	1.81	2.07	2.21	1.66	2.59	1.77	1.30	1.40	1.42	1.37	1.54	1.36	1.48
28	2.32	1.38	1.35	1.33	1.45	1.61	1.56	1.48	1.49	1.46	1.44	1.60	2.03	1.91	2.99	2.92	2.48	3.17	3.08	2.24	2.93	3.12	2.96	2.51
29	2.96	6.23	4.29	2.96	4.72	2.87	8.28	7.04	5.78	4.53	14.2	11.5	5.81				2.87	3.18	6.61	5.38	4.16	42.9	32.7	11.5
30	7.82	5.90	4.76	4.39	4.33	5.53	17.3	4.79	2.96	2.93	2.87	2.89	2.68	2.88	5.52	5.21	4.35	6.88	6.03	4.35	4.54	4.31	3.54	17.0

SOLAR X-RAYS BY SATELLITE
SOLRAD 10 - EXPLORER 44

APRIL 1973

NAVAL RESEARCH LABORATORY

OUTSTANDING EVENTS

DAY	START TIME	0.5-3A FLUX XE-5	PEAK TIME	1-8A FLUX XE-4	PEAK TIME	8-20A FLUX XE-3	PEAK TIME	END TIME	COMMENTS
1	0812	96.00	0814	216.00	0814	148.00	0816	0824	
1	1532	63.00	1536	180.00	1537	53.00	1538	1545	OBSERVED BY SOLRAD 9
1	1706	41.00	1708	130.00	1710	40.00	1715	1717	OBSERVED BY SOLRAD 9
1	2206E	28.80	2207	144.00	2207	118.00	2209	2227	
3	0801	14.40	0802	51.50	0810	59.20	0802	0822	
3	1526	9.60	1528	58.00	1528	74.00	1528	1533	
3	1840	19.20	1846	93.40	1853	88.80	1850	1930D	
4	1155E	14.40D	1155E	90.20	1156	88.80D	1155E	1248	
6	1758	5.04	1800	41.90	1800	59.20	1758	1804	
7	1906	0.00D	1912D	43.00	1908	24.00	1908	1912	OBSERVED BY SOLRAD 9
8	0215	9.60	0216	45.10	0216	59.20	0218	0224	
8	0308	9.60	0309	67.60	0310	59.20	0309	0325	
8	0636	6.70	0641	41.00	0641	24.00D	0642D	0642	OBSERVED BY SOLRAD 9
8	0656	48.00	0702	144.00	0702	88.80	0703	0715D	
8	0808	14.40	0815	83.70	0815	88.80	0815	0824	
8	1121E	9.60D	1121E	45.10	1122	59.20D	1121E	1128	
8	1250E	4.82	1255	54.70	1251	59.20	1250	1256	
8	1418	6.13	1419	32.20	1418	59.20	1420	1428	
8	1442	4.80	1443	45.10	1444	59.20	1442	1446	
9	0339	3.07	0341	35.40	0342	59.20	0339	0347	
9	0449	4.82	0450	38.60	0449	59.20	0449	0453	
9	1334	5.60	1340	38.00	1340	29.00	1346	1349	OBSERVED BY SOLRAD 9
9	1745	101.00	1747	288.00	1747	118.00	1747	1806D	
9	1930	0.00D	1930D	51.50	1936	59.20	1930	1941D	
10	0016	216.00D	0102E	504.00	0107	326.00	0119	0315	
10	0451	5.69	0458	38.60	0458	59.20	0451	0511D	
10	0944	4.82	0945	32.20	0944	59.20	0948	0956D	
10	1020E	0.00D	1028D	49.00	1021	28.00	1027	1028	OBSERVED BY SOLRAD 9
10	1224	324.00	1228	720.00	1229	311.00	1231	1441D	MULTIPLE PEAKS
10	1654	6.35	1654	38.60	1656	59.20	1654	1719	
10	1910	38.40D	1912D	144.00	1912	104.00	1914	1924D	
10	2138E	6.35	2139	38.60D	2138E	44.40D	2138E	2143	
11	0923	9.60	0924	51.50	0925	59.20	0924	0927	
11	0951	13.00	0954	48.00	0954	24.00	0955	1000	OBSERVED BY SOLRAD 9
11	1405	216.00	1407	288.00	1406	163.00	1407	1417	
11	1622	59.00	1625	180.00	1625	53.00	1625	1629	OBSERVED BY SOLRAD 9
11	1842	1400.00	1845	2090.00	1846	429.00	1845	2320	MULTIPLE PEAKS
12	0005	18.00	0008	74.00	0008	40.00	0015	0016	OBSERVED BY SOLRAD 9
13	1353	14.40D	1355E	54.70	1357	59.20	1356	1357D	
14	1438	28.80	1438	93.40	1446	88.80	1445	1454	
16	0802	19.20	0805	77.30	0808	74.00	0811	0823	
18	0739	24.00	0740	58.00	0741	44.40	0742	0746	
18	1041	38.40	1047	144.00	1048	59.20	1046	1106	
19	0042	9.60	0042	41.90	0045	44.40	0049	0054	
22	1408E	57.60	1408	144.00	1408	88.80	1409	1421	
22	1531E	5.91D	1531E	48.30	1532	59.20	1532	1541D	
22	2151E	67.20	2155	144.00	2153	104.00	2157	2210	
24	1413	0.00D	1413D	83.70	1414	74.00	1415	1421D	
24	1924	130.00D	1931E	270.00	1932	80.00	1934	1950	OBSERVED BY SOLRAD 9
25	0423	9.60D	0436E	93.40	0429	88.80	0429	0441D	
25	1217	0.00D	1217D	32.20	1217	59.20	1222	1232D	
26	0637E	76.80	0648	288.00	0647	207.00	0652	0715	
26	1931	432.00	2002	864.00	2002	429.00	2006	2018D	
26	2021	82.00	2032	360.00D	2021E	160.00	2022	2048	OBSERVED BY SOLRAD 9
26	2305	9.60	2305	48.30	2306	59.20	2306	2310	
27	1014	0.00	1014	38.60	1015	59.20	1014	1026D	
28	1745	5.69	1746	38.60	1748	59.20	1747	1756	
29	0132	38.40	0136	144.00	0136	118.00	0140	0205	
29	0417E	19.20D	0417E	93.40	0419	88.80	0419	0428	
29	0626	216.00	0629	504.00	0631	163.00	0635	0647	
29	0716	8.90	0718	90.00	0717	53.00	0718	0749	OBSERVED BY SOLRAD 9
29	0911	4.82	0912	25.80	0912	44.40	0911	0915	
29	1035	49.00	1059	220.00	1036	80.00	1036	1119D	OBSERVED BY SOLRAD 9
29	1156E	0.00D	1206D	70.00	1200	40.00D	1206D	1206	OBSERVED BY SOLRAD 9
29	1211	6.70	1229	53.00	1213	40.00	1212	1242	OBSERVED BY SOLRAD 9
29	1841	130.00D	1845E	270.00	1844	53.00	1846	1914	OBSERVED BY SOLRAD 9
29	2144E	130.00D	2221E	1700.00	2145	400.00	2145	0201	OBSERVED BY SOLRAD 9
30	0553	139.00	0559	432.00	0558	266.00	0601	0715	
30	1406	3.94D	1425E	45.10	1412	59.20	1407	1434	
30	1522	6.35	1522	38.60	1534	59.20	1522	1542	
30	1728	216.00	1729	360.00	1729	148.00	1730	1832	
30	1838	14.40	1839	61.20	1839	59.20	1838	1848	
30	2050E	0.00D	2050D	32.20	2050	59.20	2050	2057D	
30	2302E	324.00D	2302E	720.00D	2302E	237.00	2303	2358	

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
01	0023	0053	0030	1-	1				1				0022	12280
01	0709	0724	0712	1-	1			1			1		NF	
01	0755	0810	0800	1+	1	1		1			1		0750	12298
01	0813	0830	0816	1+	3	3	1	3			2		0811	12293
01	1209E	1242	1215U	1-	1			1					1215E	12293
01	1330	1340	1332	1-	1					1	2		NF	
01	1404	1415	1408	1-	1	1					2		1402E	12293
01	1532	1551	1536	1+	5	3		5	2	2	9		1532E	12293
01	1703	1740	1709	1-	5			1		2	7		1702	12298
01	1830	1900	1834	1-	5	1					6		1830	12280
01	2201	2313	2215	1-	5			1	2	6	7		2214E	12298
02	0951	1000	0955	1-	1						1		0947	12298
02	1325	1340	1330	1-	1			1			1		1322	12298
02	1359	1423	1410	1-	5			1			1		1353	12293
02	1425	1432	1428	1-	1			1					1426E	12293
03	0502	0637	0550	1-	1				1				0525E	12293
03	0656E	0818	0708	1-	1			1					0711E	12293
03	0757	0825	0806	2	5	2					2		0756	12293
03	0843	0900	0853	1-	1				1				0841E	12293
03	1523	1645	1532	1-	1				1		1		1526	12300
03	1837	2000	1900	1	5	1		1	1				1840	X-RAY
03	2228	2248	2236	2	3				1	1			2221	12293
04	1135	1310	1205	1-	5	3	1	2	2		3		1129	12293
04	1435	1445	1436	1-	1			1					1425	12293
04	2202	2217	2207	1-	1				1				2201	12293
05	2029	2036	2035	1-	1			1					2028E	12298
06	0807	0815	0809	1-	1						1		0805	12293
06	1809	1816	1815	1-	1			1					1759E	12293
07	1722	1724	1725	1-	1			1					1721	12306
07	1905	1954	1912	1	3			1		1			1914E	12306
07	2252	2320	2256	1-	1				1				2253	12306
08	0208	0249	0220	1-	1				1				0208	12306
08	0309	0334	0316	1-	1				1				0309	12306
08	0517	0552	0524	1-	1				1				0515	12306
08	0604	0648	0610	1-	1				1				0603	12306
08	0630	0640	0633	1-	1						1		0633E	12306
08	0657	0723	0703	1	5	3	1	2	3	1	3		0700E	12306
08	0808	0843	0817	1	5	3	1	3	3		2		0800E	12306
08	0852E	0916	0858	1	5	3	1	3	2		2		0857E	12306
08	1120	1200	1127	1-	5	2			1		3		1117	12300
08	1248	1310	1256	1-	5	2		1	2		3		1245	12306
08	1416	1428D	1428	1	5	1		1	2	1	2		1415	12306
08	1519	1546	1520	1-	1					1			1514	12300
08	1738	1756	1742	1-	3			1		1			1727	12300
08	2238	2305	2241	1-	1				1				2240E	12306
09	0126	0255	0208	1-	1				1				0204E	12300
09	1325	1500	1345	1-	1				1		1		1334	X-RAY
09	1541	1543	1545	1-	1			1					1541	12300
09	1623	1645	1626	1-	5			1	1	1	6		1621	12300
09	1746	1845	1751	1+	5	2		4	2	1	10		1751E	12306
09	1932	2030	1942	1+	5	1		4		1	5		1930	X-RAY
09	2312	2336	2316	1-	3				2				2311	12306
10	0016	0211	0115	2-	5	2			2		2		0026E	12306
10	0438	0611	0506	1-	1				1				0451	X-RAY
10	0726	0838	0750	1-	1			1					0732	12306
10	1003	1040	1006	1	3	3		2	2		1		0959	12306
10	1050	1123	1105	1-	1			1					1046E	12306
10	1225	1300	1232	3-	5	4		8	2		8		1223E	12306
10	1331	1325	1317	1-	5				1		2		1312E	12300
10	1648	1800	1705	1-	5			1	1		1		1704	12306
10	1908	2015	1914	2-	5	2		2	2	1	7		1905	12306
10	2136	2215	2140	1-	5				1		7		2134	12306
11	0327	0354	0332	1-	1				1				0327	12306
11	0626	0702	0637	1-	1				1				0623E	12306
11	0800	0810	0805	1-	1						1		0757	12306

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
11	0922	0930	0924	1-	3	1	1		1		2		0920	12306
11	1300	1345	1307	1-	5			1	1		1		1300	12306
11	1407	1445	1410	2	5	5	2	7	3		12		1400	12306
11	1620	1650	1625	1-	5	1		2	1		7		1620	12306
11	1842	2100	1850	2	5	4	2	2	2		9		1836	12306
11	2237	2314	2255	1-	5	1	1		1				2206E	12306
11	2306	2324	2310	1-	1				1				2304	12306
12	0003	0058	0014	1-	3				2				0002	12306
12	0358	0453	0406	1-	3				2				0359	12306
12	0706	0752	0716	1-	1				1				*	
12	2210	2228	2214	1-	1				1				2212	12306
13	0509	0558	0518	1-	1				1				0509	12306
13	1205	1413	1305	1-	5			1		2	3		1201E	12306
13	1355	1500	1404	1	5	3		4	3	3	10		1350	12306
13	1726	1805	1733	1-	5				1	1	9		1715	12306
13	1900	1940	1908	1-	3					1	8		1900	12306
14	0312	0315	0314	1-	3				2	1	1		0311E	12306
14	0622	0658	0632	1-	3				2				0625	12306
14	1052	1100	1058	1-	1	1		1			1		1035	12306
14	1232	1300	1237	1-	5			1	1		2		1227	12306
14	1438	1540	1449	1	5	4	1	4	3	1	13		1437	12306
14	2137	2240	2146	1-	5				1	1	6		2137	12306
15	0329	0341	0333	1-	3				2				0331	12306
15	0657	0750	0708	1-	1						1		0658E	12306
15	0904	0925	0910	1-	1	1		1	1				0900	12306
15	1715	1800	1720	1-	5				1		9		1715	12306
15	2237	2315	2240	1-	5			2	2	4	11		2236E	12306
16	0252	0402	0303	1-	1				1				*	
16	0805	0900	0810	1	5	2	1	2	4	1	2		0802	12306
16	0958	1015	1002	1-	1						1		0955	12306
16	1306	1330	1313	1-	5				1		2		1309E	12306
16	1731	1815	1735	1-	5				1	1	1		1732E	12306
17	2249	2251	2250	1-	1			1					2251	12322
18	0738	0757	0744	1	5	3	1	2	4		2		0739	X-RAY
18	1042	1122	1052	1+	5	3	1	3	4		3		1041	X-RAY
18	1410	1500	1425	1	5	2	1	2	2	1	3		1417U	12322
19	0006	0136	0044	1-	1				1				0006	12322
19	0040	0100	0045	1-	3				2	2	2		0042	X-RAY
20	1357	1515	1430	1-	1				1		1		1405E	12322
20	1644	1659	1651	1-	1			1					*	
20	2059	2117	2108	1-	1		1						*	
21	0716	0838	0732	2-	1				1				0650	12322
21	1012	1033	1023	1-	1			1					1006	12322
21	1559	1700	1607	1-	5			1	1	2	2		1558	12322
22	1000	1018	1008	1-	1						1		0955	12322
22	1225	1245	1230	1-	1						1		1227E	12322
22	1408	1425	1412	1	5	4	1	3	3	1	12		1408E	12323
22	1501	1630	1524	1	5	1		1	2	1	8		1504	12322
22	1819	1823	1826	1-	1			1					1820	12322
22	2149	2330	2159	1	5	1		2	1	3	11		2146E	12322
23	0744E	0849	0754U	1-	1			1					0754E	12323
23	0850	0948	0912	1-	1			1					0925E	12321
23	1705	1820	1720	1-	1				1		1		1703E	12322
24	1208	1400	1227	1-	5			3			5		1314	12322
24	1413	1435	1418	1-	5	2		2	3	1	7		1412	12322
24	1924	2030	1934	1+	5	2	1	5	3	2	11		1924E	12322
25	0420	0453	0428	1-	5	2			2	2	2		0420	12322
25	0514	0550	0528	1-	1				1				0513E	12322
25	0924	0939	0926	1-	1			1					0930	12322
25	1205	1300	1221	1-	5	1		1	1		2		1210E	12322

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
26	0630	0736	0640	1	5	4		3	3	2	4		0624	12322
26	0653E	0705	0653	1-	1		1						0628	12322
26	0839	0857	0843U	1-	1		1						0836	12323
26	1928	2200	2005	1-	5	2	2	2	2	1	8		1916	12322
26	2306	2345	2311	1-	5				2	1	6		2300	12322
27	0931	0942	0936	1-	3			1	1		1		0931	12322
27	1013	1055	1025	2	1	2	1		1		2		1011	12322
27	1201	1258	1204U	1-	1			1					1204	12323
27	1355	1413	1402	1-	1			1					1402	12323
28	0814	0823	0815	1-	1			1					0816	12323
28	1226	1257	1235U	1-	1			1					1230	12323
28	1404	1430	1410	1	5	1		1	2		6		1408E	12322
28	1455	1552	1516U	1-	1			1					1457	12323
28	1741	1855	1753	1	5			1	2	1	9		1740	12323
28	2011	2120	2015	1-	5			1	1	1	9		2012	12322
29	0134	0220	0140	1+	3	2			2				0132	12322
29	0418	0450	0422	1-	3	1			2				0351	12322
29	0626	0730	0633	2	5	4	1	3	4		2		0625E	12322
29	0952	1115	1008	2-	5	3	1	5	3		3		0910	12322
29	1045	1300	1115	1-	1				1				1044E	12323
29	1352	1500	1354	1-	1						1		1335E	12322
29	1628	1745	1637	1-	5	1		2	5		9		1628E	12322
29	1729	1713	1732	1	1					1			1719	12323
29	1840	2010	1848	2-	5	2	1	5	2	1	9		1835	12322
29	2059	2250	2106	3+	5	3		4	4	2	10		2056E	12322
30	0505	0600	0507	1-	1					1	1		0457	12323
30	0554	0650	0602	1+	5	5	1	1	3	1	3		0550	12323
30	0713	0728	0720	1-	1					1	1		0623E	12323
30	0838	0921	0911	1-	1			1					0825E	12332
30	1058	1137	1103U	1-	1			1					1102	12332
30	1300	1317D	1317	1-	1				1		1		1247	12322
30	1533	1650	1545	1-	5			1	1	1	1		1533	12332
30	1729	1900	1736	1+	5	2	2	4	3	1	8		1725	12322
30	1759	1804D	1804	1-	1				1		1		1748E	12332
30	1839	2000	1900	1-	1				1		1		1838	X-RAY
30	2014	2035	2017	1-	3						8		2006	12332
30	2054	2123	2055	1-	1		1						2050E	X-RAY
30	2253	2350	2258	2	5	2	1	2	4	2	8		2247	12322

STATIONS REPORTING FOR APRIL 1973

AAVSO (A1, A8, A17, A23, A26, A32, A34)(SEA)
(A1, A19, A21, A30, A31, A33, A36, A37, A38)(SES)
BOULDER (BO) (SCNA, SEA)
DARMSTADT (DA) (SWF)
ENKOPING (SW) (SWF, SPA)
GESASHI (LORAN-C) (GE) (LF-SPA, SES)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JUPITER (LORAN-C) (JP) (LP-SPA, SES)
KUHLUNGSBORN (KU) (SEA, SPA)
KURE (LORAN-C) (KR) (LF-SPA, SES)
MANILA (MA) (SWF, SCNA, SPA)
MARCUS (LORAN-C) (MR) (LF-SPA, SES)
MCMATH (MC) (SWF, SCNA)
NANTUCKET (LORAN-C) (NT) (LF-SPA, SES)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
SYLT (LORAN-C) (ST) (LF-SPA, SES)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)
UPOLO POINT (LORAN-C) (UP) (LF-SPA, SES)
YAP (LORAN-C) (YP) (LF-SPA, SES)

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-05	0000-2000 A36
01	0436-1249 TM
03	0553-1033 UM (17 kHz), 1008-1336 UM (16 kHz)
04	0800-0950 UM (17 kHz), 1507-1608 UM (13 kHz), 2300-2312 TM
07	2259-2400 TM
08	0000-0910 MA, 1500-1700 UM (13 kHz)
09-15	0500-2000 A34, 2200-2400 TM
10	2055-2216 TM
11	0000-0522 TM
12	0144-0440 TM, 1437-1621 MC, 2318-2326 TM
13	1400-1747 UM (17 kHz)
16-24	0500-0500 A8
16	0757-0826 UM (16 kHz)
17	1215-1338 UM (16 kHz)
18	0745-0829 UM (16 kHz), 1506-1549 UM (13 kHz), 1723-1911 UM (13 kHz)
20	0430-1246 TM, 0730-0835 UM (16 kHz), 1404-1642 UM (17 kHz), 1750-1804 TM
21	0741-0821 UM (16 kHz)
22	1419-1429 TM
23-30	0500-2400 A32
23	0900-2000 PO, 1900-1930 BO
24	0750-0851 UM (16 kHz), 1006-1200 UM (16 kHz), 1225-1327 UM (16 kHz)
25	0735-0803 UM (16 kHz)
26	0751-0852 UM (16 kHz), 2125-2129 TM
27	0741-0832 UM (16 kHz), 1400-1458 UM (17 kHz) 1600-1621 UM (17 kHz), 1711-1752 UM (17 kHz) 1900-2200 TM
28	0741-0850 UM (16 kHz), 2100-2400 A17, 2301-2400 UM (16 kHz)
29	0000-0025 UM (16 kHz), 0000-0800 A17, 0040-0155 UM (16 kHz), 0400-1415 MC
30	0756-0831 UM (16 kHz)

SID's BY McMATH REGION

APRIL 1973

DAY	80	93	98	00	06	21	22	23	32	X-RAY	UN-KNOWN	NO FP
01	2	4	3								2	
02		2	2									
03		5		1						1		
04		3										
05			1									
06		2										
07					3							
08				3	11							
09				3	2					2		
10				1	8					1		
11					10							
12					3							1
13					5							
14					6							
15					5							
16					4							1
17							1					
18							1			2		
19							1			1		
20							1					2
21							3					
22							5	1				
23						1	1	1				
24							3					
25							4					
26							4	1				
27							2	2				
28							2	4				
29							8	2				
30							3	3	5	2		

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1973

APR. 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
01	0000	1300	BOUL										0000	0130	1	CONT
	0000	0048	HARV													
			CULG							0006	0721					IIIN,W
	0000	0736	CULG							0006	0007	1				IIIG,U
			BOUL							0006.5	0007.8	2	0006.5	0007.8	2	IIIG
			CULG							0251.5	0252.5	1				IIIG
			CULG				0610.5	0611.5	1	0610.5	0613	1				IIIG
	0545	1713	WEIS							0610.6	0612.4	1				IIIG
			WEIS							0755.1	0755.6	1				IIIG
			WEIS							0759.1	0759.4	1				IIIG
	1318	2400	HARV							1339	1340	2				IIIGG
	1026	2305	SGMR										1339.2	1339.9	2	III
			WEIS							1339.3	1339.6	1				IIIG
	1230	2400	BOUL							1339.4	1340.0	2	1339.4	1340.0	2	IIIG
			BOUL							1418.3	1422.1	2	1418.3	1422.1	2	IIIGG
			SGMR										1419.8	1421.7	1	CONT
			BOUL							1423.2	1423.5	1	1423.2	1423.5	1	III
			BOUL							1429.0	1429.0	1	1429.0	1429.0	1	III
			HARV							1457	1731	1				IN
			BOUL										1503.1	1503.4	1	III
			HARV				1517	1518	1							I
			BOUL										1610	2400	1	CONT
			BOUL							1700.0	1701.5	2	1700.0	1701.5	2	IIIG
			HARV				1703	1716	3	1703	1712	3				IIIGG,U,V
			BOUL							1703.5	1703.7	1				IIIG
			BOUL							1704.6	1707.3	3	1704.6	1707.3	3	IIIG
			WEIS							1704.9	1705.7	1				IIIG
			SGMR										1705.0	1706.8	3	III
			HARV							1712.0	1732	3	1718	1732	3	II
			BOUL							1712.9	1717.2	3	1712.4	1727.4	3	IIF
			SGMR										1717.2	1724.2	2	II
			BOUL							1718.6	1718.8	2	1718.6	1718.9	2	III
			BOUL							1719.9	1730.8	3	1722.2	1755.0	3	IIH
			SGMR										1720.0	1753.0	2	II
			BOUL							1720.7	1721.8	3	1720.7	1721.8	3	IIIG
			HARV							1737	1738	2				U
			HARV				1747	1748	2	1747	1749	1				IIIG
			HARV							1803	1804	3	1803	1804	3	IIIGG,V
			BOUL							1803.3	1804.1	3	1803.3	1804.1	3	IIIG
			SGMR										1803.3	1804.0	3	III
			BOUL							1832.2	1832.4	2	1832.2	1832.4	2	III
			BOUL							1919.9	1921.3	2	1919.1	1921.3	2	IIIG
			HARV							1920	1921	2	1920	1921	2	IIIG
			SGMR										1920.0	1921.0	2	V
			CULG							2036	2400	1				IS
	2036	2400	CULG							2036	2400	1				IIIS
			HARV							2054	2200	1				IN
			HARV							2127	2128	2				IIIG
			CULG							2127	2128	1				IIIG
			CULG							2143.5	2144	1				IIIG
			CULG							2151		2				IIIB
			CULG				2201.5	2257								IN,W
			HARV				2202	2210	1	2200	2400	1				I
			BOUL							2202.8	2210.0	3	2202.8	2210.0	3	IIIG
			CULG							2203	2209	1	2203	2206	1	IIIGG,V
			HARV							2204	2206	2	2204	2206	2	IIIG
			SGMR										2204.9	2221.4	2	IIIG
			CULG							2212	2255	2				II
			HARV							2212.2	2222	2	2221		2	II
			CULG							2212.5	2215	1				IIIGG
			BOUL							2212.9	2213.4	1	2212.9	2213.4	1	IIIG
			BOUL							2214.0	2220.0	3	2216.2	2230.5	3	IIF
			BOUL							2215.5	2230.0	2	2224.5	2257.2	2	IIH
			CULG							2220.5	2221	1				IIIG,V,U
			BOUL							2220.8	2221.8	3	2220.8	2221.8	3	III
			HARV				2221	2323	1							IN
			CULG							2221.5	2222	1				IIIG
			CULG							2256	2300.5	1				IIIGG,V
			BOUL							2257.4	2257.7	1	2257.4	2257.7	1	IIIG
			BOUL							2259.8	2302.4	2	2259.8	2302.4	2	IIIGG
			HARV							2302	2303	2				IIIGG
			CULG				2302	2303	1	2302	2303	2	2302.5	2303	1	IIIGG,V
			BOUL							2302.5	2303.9	3	2302.5	2303.9	3	IIIG
			CULG							2311		1				IIIB
			HARV							2317	2319	1				IIIG
			CULG							2317.5	2320	1	2318	2319.5	1	IIIGG,V
			BOUL							2318.0	2320.3	3	2318.0	2320.3	3	
02	0000	0130	BOUL							0000	0111.1	1	0000	0111.1	1	CONT
	0000	0050	HARV							0000	0050	1				IN
	0000	0736	CULG							0000	0736					IS,W
			CULG							0011	0736		0016	0655		IIIN,W
			CULG							0508						IIIB,U,W
	0546	0957	WEIS							0641.2	0643.5	1				IIIG
			CULG				0642	0644	1	0641	0643.5	1				IIIGG
	1317	2400	HARV							1317	1534	1				IN
	1000	1716	WEIS							1325.6	1327.5	1				IIIG
			HARV							1327	1328	2				IIIG
	1010	2306	SGMR										1341.0	1344.2	2	III
			HARV							1342	1344	1				UNCLF

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1973

APR. 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
02			WEIS							1530.0	1629.0	1				I
			HARV							1534	1625	1				I
	1600	2400	BOUL										1600	2400	1	CONT
			HARV							1625	2145	1				IN
	2035	2400	CULG							2035	2400	1				IIIS
			CULG				2035	2400		2035	2400					IS,W
			CULG							2141	2142	2				IIIG,U
			HARV							2141		2				IIIG,U
			BOUL							2142.2	2142.4	2	2142.2	2142.4	2	III
			BOUL							2153.7	2154.1	2	2153.7	2154.1	2	IIIG
			HARV							2345	2400	1				I
03	0000	0052	HARV							0000	0051	1				I
	0000	0130	BOUL										0000	0116	1	CONT
			CULG							0000	0735	1				IIIN
	0000	0735	CULG				0000	0724	1	0000	0725	1				IN
			CULG				0118	0557								IIIN,W
			CULG							0211.5	0212.5	1				IIIG
			CULG				0244.5	0245.5	1	0244.5	0246	2				IIIG,V
			CULG				0458	0458.5	1	0458	0458.5	2				IIIG
			CULG							0501	0504.5	2				IIIGG
	0739	1716	WEIS							0747.5	0815.3	1				I
			WEIS							1110.0	1110.0	1				IIIG
			WEIS							1207.6	1208.5	1				IIIG
			WEIS							1213.9	1214.1	1				IIIG
			WEIS							1216.7	1217.3	1				IIIG
	1318	2400	HARV							1328	1605	1				IN
			WEIS							1328.8	1328.9	1				IIIB
	1330	2400	BOUL							1330	2400	1	1330	2400	1	CONT
			BOUL							1351.4	1354.4	2	1351.4	1354.4	2	IIIG
			WEIS							1351.7	1352.5	1				IIIG
	1917	2300	SGMR										1352.0	1354.1	2	V
			HARV				1523	1524	1							IN
			SGMR										1525.2	1530.0	1	CONT
			HARV							1526	1530	2				IIIGG
			WEIS							1528.3	1529.7	1				IIIG
			WEIS							1555.0	1655.0	1				I
			HARV							1605	2102	1				I
			SGMR										1633.0	1633.8	1	III
			HARV							1814	1815	2				IIIG
			SGMR										1814.4	1815.0	1	III
			HARV							1857	1900	3	1857	1900	3	IIIG,V
			SGMR										1857.2	1859.5	2	III
			BOUL							1858.2	1901.4	2	1858.2	1901.4	2	IIIG
			HARV				2003	2010	1							IN
	2035	2400	CULG							2035	2400	1				IIIS
			CULG				2035	2226	1	2035	2240	1				IS
			CULG				2056	2349	1							IIIN
			CULG				2056	2059	1	2056	2059	2	2058.5	2059	1	IIIGG,V
			BOUL							2056.4	2056.9	2	2056.4	2056.9	2	IIIG
			HARV				2058	2059	1	2056	2059	3	2056	2059	3	IIIGG,V
			BOUL							2058.4	2059.4	3	2058.4	2059.4	3	IIIG
			HARV							2102	2345	1				IN
			CULG							2121.5	2124	1				IIIGG
			BOUL							2121.9	2124.1	2	2121.9	2124.1	2	IIIGG
			HARV							2122	2124	1	2122	2124	1	IIIG
			BOUL							2144.2	2144.5	2	2144.2	2144.5	2	III
			CULG							2150	2150.5	2				IIIG
			BOUL							2150.5	2150.8	2	2150.5	2150.8	2	III
			CULG							2155		2				IIIB
			BOUL							2155.2	2155.4	1	2155.2	2155.4	1	III
			CULG							2156	2156.5	2				IIIG
			SGMR										2156.3	2215.0	2	IIIG
			HARV							2215	2216	2				IIIG,U
			CULG							2215.5	2216.5	2				IIIG
			BOUL							2215.6	2216.5	2	2215.6	2216.5	2	IIIG
			BOUL							2256.1	2256.7	2	2256.1	2256.7	2	III
			HARV							2336	2337	1				IIIG
			CULG							2347		1				IIIB,U
04	0000	0735	CULG							0000	0735	1				IIIS
	0000	0130	BOUL													
			CULG				0017.5	0735								IS,W
			CULG				0024	0337	1							IIIN
			CULG				0024	0024.5	1	0024	0024.5	1				IIIG
	0000	0053	HARV							0024	0025	2				IIIG
			CULG				0336.5	0337.5	1	0336.5	0337.5	1				IIIG
			CULG							0342.5	0344	1				IIIG,V
			CULG							0353	0735	1				IS
	0539	0656	WEIS							0558.2	1641.2	2				IN
			CULG							0721	0724	2				IIIGG,U
	0659	1720	WEIS							0814.8	0815.0	1				IIIB
			WEIS							0900.8	0902.5	2				IIIG
			WEIS							0934.5	0934.8	1				UNCLF
			WEIS							1023.1	1023.4	1				IIIG
			WEIS							1109.0	1615					IIIN,W
	1013	2309	SGMR										1154.0	1209.1	2	II
			WEIS							1202.8	1208.8	1				II
			SGMR										1210.0	2309.1	2	CONT
	1230	2400	BOUL							1254	2400	2	1254	2400	2	CONT

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1973

APR. 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
04	1317	2400	HARV													
			HARV							1317	1920	1				IN
			HARV							1348	1559	1				IIIN
			WEIS							1424	1426	1	1424	1426	1	IIIG
			WEIS							1424.5	1425.5	1				IIIG
			HARV							1540.9	1541.1	2				IIIG
			HARV							1541	1542	2	1541	1542	2	IIIG
			HARV							1559	1724	1	1559	1724	1	IIIS
			HARV				1819	1820	2	1724	2316	2	1724	2201	1	IIIS
			HARV				1834	2132	2	1819	1820	3				IIIG
			HARV			1	1842	1843	2							IN
			HARV							1842	1843	2				IIIG
			HARV							1920	2400	1				I
	2035	2400	CULG							1922	1923	3	1922	1923	3	IIIG
			CULG							2035	2400	2				IIIS
			CULG				2037.5	2400	1	2035	2400	1				IS,CONT
			HARV													IIIN
			CULG							2100	2101	2	2100	2101	2	IIIGG
			HARV				2201	2207	2	2100.5	2101.5	2				IIIG,V
			CULG				2201.5	2203	2	2201	2207	2				IIIGG
			HARV							2201.5	2203	2				IIIG,U
			CULG							2211	2212	2				IIIGG
			CULG							2211.5	2212	2				IIIG
			HARV							2315.5	2319	2				IIIGG,V
			HARV				2345	2347	2	2316	2319	2				IIIGG,U
																IIIGG
05	0000	0054	HARV													
	0000	0130	BOUL							0000	0054	1				I
			CULG							0000	0117	2	0000	0117	2	CONT
			CULG				0000	0724	1							IN
	0000	0735	CULG							0000	0735	2				IS,CONT
			CULG				0015	0242	1	0000	0735	2				IIIS
			HARV													IIIN
			CULG							0033	0034	2				IIIGG
			CULG							0033.5	0034.5	2				IIIG
			CULG							0105.5	0735	1				N,RS,DP
			CULG							0238	0240.5	3	0238	0240.5	2	IIIG,V
	0535	1537	WEIS							0241.5	0243	3	0241.5	0243	2	IIIGG,V
			WEIS							0547.0	1604.7	1				IS
			WEIS							0600.8	1703.0	1				IIIN
			WEIS							0703.7	0704.3	1				IIIG
			WEIS							0813.7	0814.8	1				IIIG
	1029	2310	SGMR							0840.0	0840.8	1				IIIG
	1230	2400	BOUL										1029.0	2310.0	2	CONT
			WEIS							1240.5	2400	2	1240.5	2400	2	CONT
	1300	2400	HARV							1247.2	1247.3	1				IIIB
			HARV							1300	2400	1				I
			HARV							1324	1546	1				IIIN
			WEIS							1331	1332	2				IIIG
			SGMR							1331.5	1332.1	2				IIIG
			HARV										1331.5	1332.2	3	III
			HARV										1456	1546	1	IIIN
			HARV							1546	1645	1	1546	1645	1	IIIS
	1541	1721	WEIS							1629	1630	3	1629	1630	3	IIIG
			HARV				1643	1646	1	1629.4	1629.6	2				IIIG
			HARV													IIIG
			HARV				1910	1916	1	1645	2040	2	1645	2040	2	IIIS
			HARV													I
			CULG							2034	2036	3	2034	2036	3	IIIGG
			CULG				2035	2400	1	2035	2400	2				IS
	2035	2400	CULG													IIN
			HARV							2035	2400	2				IIIS
			CULG							2040	2302	1	2040	2231	1	IIIS
			CULG							2101	2344	1				N,RS,DP
			HARV										2144	2343	1	IIIN
			CULG				2147.5		1	2147	2149	3	2147	2149	3	IIIG,V
			CULG							2147	2147.5	2				IIIG
			HARV							2148	2149	2				IIIG,V
			BOUL							2303	2348	1				IIIN
			HARV				2341	2343	1	2340.9	2342.6	2	2340.9	2342.6	2	IIIG
			CULG							2342	2344	2				IIIGG
										2342	2343	2	2342	2343	2	IIIG,V
06			CULG													
	0000	0735	CULG							0000	0735	1				IS
	0000	0130	BOUL							0000	0735	2				IIIS
	0000	0055	HARV							0000	0118.5	2	0000	0118.5	1	CONT
			HARV							0002	0038	1				IN
			CULG							0010	0011	2				IIIG
			CULG							0010.5	0011.5	2				IIIG
			CULG				0058	0735		0048.5	0712	1				N,RS,DP
			CULG													IN,W
			CULG							0339	0340	2				IIIG,V
			CULG							0427	0428	2				IIIG,V,U
			CULG							0542	0543	2				IIIG
	0531	1722	WEIS							0542.4	0543.9	1				IIIG
			CULG				0543	0545	1	0543.5	0548	2				IIIGG
			CULG				0547	0548.5	2							UNCLF
			WEIS							0547.3	0548.3	2				UNCLF
			WEIS							0547.5	0547.6	1				IIIG
			CULG							0658.5	0700.5	2				IIIGG,V
			WEIS							0658.8	0659.7	2				IIIG

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APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
06			WEIS							0716.4	0716.9	1					IIIG
			CULG				0716.5	0717	1								IIIG
			WEIS							0806.1	0806.8	2					IIIG
			WEIS							0851.7	0852.0	2					IIIB
	1024	2311	SGMR										1024.0	2311.0	1		CONT
			SGMR										1134.8	1135.1	2		III
			WEIS							1134.8	1135.0	2					IIIG
	1230	2400	BOUL							1235	2400	1	1235	2400	1		CONT
	1301	2400	HARV							1301	1400	1					I
			HARV							1403	1629	1					IN
			HARV				1516	1756	1								IN
			BOUL							1517.2	1517.6	2	1517.2	1517.6	2		III
			HARV							1522	2024	2	1522	2024	2		IIIN
			BOUL							1522.2	1528.8	2	1522.2	1528.8	2		IIIG
			HARV							1614	1616	3	1614	1616	3		IIIGG,V
			BOUL							1614.1	1616.4	2	1614.1	1616.4	2		IIIG
			WEIS							1614.5	1615.8	1					IIIG
			SGMR										1614.5	1624.8	2		IIIG
			WEIS							1622.9	1623.5	1					IIIG
			BOUL							1622.9	1624.7	2	1622.9	1624.7	2		III
			HARV							1623	1624	3	1623	1624	3		IIIG,V
			BOUL							1812.9	1815.5	3	1812.9	1815.5	3		IIIG
			HARV							1813	1815	3	1813	1815	3		IIIGG,V
			SGMR										1813.0	1825.0	3		IIIG
			BOUL							1817.6	1818.1	2	1817.6	1818.1	2		III
			BOUL							1818.3	1818.5	2	1818.3	1818.5	2		III
			BOUL							1822.4	1823.6	1	1822.4	1823.6	1		III
			BOUL							1823.7	1825.2	2	1823.7	1825.2	2		IIIG
			HARV				2017	2020	2	2017	2020	3	2018	2020	3		IIIGG,V
			BOUL							2018.5	2020.2	2	2018.5	2020.2	2		IIIG
			SGMR										2018.6	2019.8	2		III
	2122	2400	CULG							2126.5	2354.5						IIIN,W
			CULG							2200	2400						IS,W
			BOUL							2340.7	2341.8	2	2340.7	2341.8	2		IIIG
			CULG							2341	2342	1					IIIG
			CULG							2354.5		1					IIIB
07			CULG							0000	0401						IN,W
	0000	0130	BOUL										0000	0112.0	1		CONT
	0000	0734	CULG				0022.5	0652		0000	0708						IIIN,W
			BOUL							0025.9	0027.0	2	0025.9	0027.0	2		IIIG
	0000	0058	HARV							0026	0027	2					IIIG
			CULG				0026	0027	1	0026	0027	2	0027		2		IIIG
			BOUL							0029.4	0031.4	1	0029.4	0031.4	1		IIIG
			CULG							0045	0045.5	1					IIIG
			CULG				0123.5	0125	1	0123.5	0125.5	2	0123.5	0124.5	1		IIIGG
			CULG							0207	0208	1					IIIG,U,V
			CULG							0224	0224.5	1					IIIG
			CULG				0324	0325.5	1	0324	0325.5	1					IIIG
			CULG							0521	0521.5	2					IIIG
			CULG				0526.5	0528.5	1	0526.5	0528.5	1					IIIGG
	0958	2312	SGMR										1138.0	1150.0	1		IIIG
	1230	1700	BOUL							1326.4	1326.9	1	1326.4	1326.9	1		III
			BOUL							1331.6	1345.0	1	1331.6	1345.0	1		IIIG
			BOUL							1355.6	1356.2	1	1355.6	1356.2	1		IIIG
			BOUL							1403.5	1403.5	1					III
			BOUL										1418.2	1418.4	1		III
	1301	1722	WEIS							1428.5	1613.5	1					IIIG,N,W
			BOUL							1428.6	1429.1	2	1428.6	1429.1	2		IIIG
			SGMR										1428.6	1502.2	2		IIIG
			BOUL							1500.8	1503.2	2	1500.8	1503.2	2		IIIG
	1300	2400	HARV							1501	1614	2	1501	1614	2		IIIN
			BOUL										1503.3	1700	1		CONT
			BOUL							1526.2	1526.4	1	1526.2	1526.4	1		III
			BOUL							1544.0	1546.1	2	1544.0	1546.1	2		IIIG
			SGMR										1544.2	1544.7	2		IIIG
			BOUL							1553.5	1555.5	1	1553.5	1555.5	1		IIIG
			BOUL							1613.4	1613.9	2	1613.4	1613.9	2		III
			SGMR										1613.4	1617.0	1		III
			BOUL										1652.1	1654.4	1		IIIG
			HARV							1720	1725	2	1720	1725	2		IIIG
			SGMR										1720.3	1804.1	2		IIIG
			HARV				1730	1731	2								IIIGG
			BOUL							1740.6	1745.0	2	1745.6	1745.0	2		IIIG
			HARV				1743	1744	1	1742	1745	3	1742	1745	3		IIIG,V
			HARV							1800	1801	3	1800	1801	3		IIIG
			BOUL										1800.6	1801.2	1		III
			BOUL										1803.6	1804.1	1		III
			HARV							1804		3	1804		3		IIIG
			HARV							1903	1905	3	1903	1905	3		IIIG,V
			SGMR										1903.0	1905.4	2		IIIG
			BOUL							1903.0	1903.3	1	1903.0	1903.3	1		III
			BOUL										1916.7	1916.8	1		III
			SGMR										1916.8	1917.0	2		III
			HARV							2019	2020	2	2019	2020	2		IIIG
			SGMR										2019.2	2048.0	2		IIIG
	2000	2400	BOUL							2019.3	2020.0	1	2019.3	2020.0	1		IIIG
	2034	2400	CULG							2034	2400						IS,W
			HARV				2036	2037	1	2036	2037	2					IIIG
			CULG				2036.5	2157		2036.5	2400						IIIN,W

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APR. 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
07			CULG				2036.5	2037	1	2036.5	2037	1				IIIG
			BOUL							2036.6	2036.7	1	2036.6	2036.7	1	III
			CULG							2040	2040.5	1				IIIG
			HARV							2040		3	2040		3	IIIG
			BOUL							2040.0	2040.5	1	2040.0	2040.5	1	III
			CULG							2047.5	2048	1				IIIG
			BOUL							2047.8	2048.0	1	2047.8	2048.0	1	III
			HARV							2147	2148	2	2148		1	IIIG
			CULG							2147.5	2148.5	1				IIIG
			BOUL							2147.9	2148.5	1	2147.9	2148.5	1	III
			CULG							2155.5	2156.5	1				IIIG
			BOUL							2155.7	2156.2	1	2155.7	2156.2	1	
08	0000	0130	BOUL													
	0000	0734	CULG							0000	0734	1				IS
			CULG							0000	0115					IIIS,W
	0000	0100	HARV							0032	0052	1				IN
			CULG							0115	0734					IIIN,W
			CULG				0634	0636	1							IIIG
			CULG				0638.5	0641.5	1							IIIG
			CULG				0648	0649.5	1	0648	0649.5	1				IIIG
	0533	1722	WEIS							0648.2	0649.1	1				IIIG
			WEIS				0901.8	0901.9	1							IIIG
			WEIS							0950.4	1345.0	2				IS
	0958	2313	SGMR										0958.0	2313.0	1	CONT
			WEIS							1058.9	1534.2	1				IIIG
			WEIS							1102.5	1102.8	2				IIIG
			WEIS							1231.7	1232.3	1				IIIG
			SGMR										1232.0	1232.5	2	III
	1230	2400	BOUL							1250	1648	1	1250	1648 1	1	CONT
	1301	2400	HARV							1301	1400	2				IC
			HARV							1308	1320	2				IIIS
			WEIS				1330.4	1330.5	2							IIIG
			HARV							1339	1617	1				IIIN
			WEIS							1358.5	1400.6	1				IIIG
			SGMR										1359.0	1401.8	2	IIIG
			HARV							1400	1640	1				I
			HARV				1435	1437	2	1435	1436	2				IIIGG
			WEIS							1435.3	1435.7	1				IIIG
			BOUL							1435.6	1436.2	2	1435.6	1436.2	2	III
			HARV				1443	1446	3	1443	1444	3	1443	1444	3	IIIGG,V
			WEIS							1443.1	1444.1	3				IIIG
			SGMR										1443.2	1444.8	2	V
			BOUL							1443.8	1444.9	2	1443.8	1444.9	2	IIIG
			HARV				1518		1	1518	1519	1				IIIG
			HARV							1640	1742	1				IN
			HARV				1737	1739	2	1737	1739	3				IIIGG
			SGMR										1737.0	1740.1	2	IIIG
			BOUL							1737.2	1740.4	2	1737.2	1740.4	2	IIIG
			HARV				1749	1751	1	1748	1752	2				IV
			HARV							1830	2029	1	1830	2029	1	IIIN
	2034	2400	CULG				2034	2400	1	2034	2400	1				IS,CONT
			CULG							2109.5	2335					IIIN,W
			CULG				2326.5	2327.5	1	2326	2328	1				IIIG
			BOUL							2326.5	2328.4	2	2326.5	2328.4	2	IIIG
			CULG				2330	2331	1	2330	2332	1	2330.5		1	IIIG
			HARV				2330	2331	1	2330	2331	2				IIIGG
			BOUL							2330.2	2332.2	2	2330.2	2332.2	2	IIIG
09	0000	0734	CULG				0000	0545		0000	0545					IS,W
	0000	0102	HARV							0005	0056	1				IN
	0000	0130	BOUL							0023.5	0038.9	1	0023.5	0038.9	1	CONT
			CULG				0032	0420		0023	0601					IIIN,W
			CULG				0033	0038	1	0033	0038	2				IIIGG
			HARV				0033	0038	1	0033	0038	2				IIIGG
			BOUL							0033.4	0037.7	2	0033.4	0033.7	2	IIIGG
			CULG				0207.5	0208	1	0207.5	0208	1				IIIG
			CULG							0342	0342.5	1				IIIG
			CULG							0458	0501	1				IIIG
	0533	0946	WEIS							0536.5	1702.3	2				IN
			CULG				0545	0734	1	0545	0734	2				IS,CONT
			CULG							0601	0734	1				IIIS
			CULG							0721.5	0724.5	1				IIIG,V
	0941	2318	SGMR										0941.0	1525.0	1	CONT
	0951	1727	WEIS							1020.3	1637.7	1				IIIG,N
			WEIS							1031.2	1032.1	1				IIIG
			WEIS							1058.5	1059.8	2				IIIG
			WEIS				1117.7	1117.8	1							IIIG
			WEIS							1206.8	1209.4	2				IIIG
			WEIS							1222.1	1223.4	3				IIIG
			SGMR										1222.5	1223.2	2	III
			SGMR										1234.4	1235.1	2	III
			WEIS							1234.4	1235.0	1				IIIG
	1230	2400	BOUL							1240	2400	2	1240	2400	2	CONT
			WEIS							1251.6	1252.1	2				IIIG
	1301	2400	HARV							1301	2020	1				I
			HARV				1310	1311	3							IIIG
			WEIS							1310.7	1310.9	2				IIIG
			BOUL							1313.7	1316.5	1	1313.7	1316.5	1	III
			WEIS							1313.8	1316.5	2				IIIG

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APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
09			SGMR										1313.9	1317.1	3		V
			HARV				1315	1316	3	1314	1317	2	1314	1315	1		IIIGG
			HARV				1339	2300	1								IN
			HARV				1432	1433	2	1432	1433	2					IIIGG
			WEIS							1432.1	1432.5	2					IIIG
			HARV				1443	1446	2	1443	1444	2					IIIG
			BOUL							1444.9	1445.3	1	1444.9	1445.3	1		III
			HARV				1448	1449	2	1448	1449	3	1448	1449	3		IIIG
			WEIS							1448.8	1449.3	1					IIIG
			SGMR										1449.0	1453.0	3		IIIG
			HARV				1452	1453	3	1452	1453	3	1452	1453	1		IIIGG
			WEIS							1452.1	1452.9	2					IIIG
			BOUL							1452.2	1452.9	1	1452.2	1452.9	1		IIIG
			HARV				1513	1518	1								IIIGG
			HARV				1542	1549	3	1542	1549	3	1543	1544	3		IIIGG,V
			WEIS							1542.1	1544.1	3					IIIG
			SGMR										1543.0	1545.0	3		V
			BOUL							1543.2	1544.3	2	1543.2	1544.3	2		III
			WEIS							1548.6	1722.1	1					IIIG,N
			HARV				1619	1621	2	1619	1620	2					IIIG
			HARV				1622	1627	3	1623	1627	3	1623	1625	3		IIIGG,V
			SGMR										1623.0	1625.6	3		V
			WEIS							1623.4	1624.8	3					IIIG
			BOUL							1623.7	1625.0	3	1623.7	1625.0	3		III
			HARV				1629	1700	2								IIIN
			HARV				1703	1705	3	1703	1704	3					IIIGG
			WEIS							1703.1	1703.9	2					IIIG
			HARV				1710	1715	2	1712		2					IIIGG,RS
			HARV				1721	1723	3	1721	1723	3					IIIGG
			HARV				1725	1728	1								IIIGG
			HARV				1730	1741	3	1732	1739	2	1732	1733	3		IIIGG
			SGMR										1732.1	1749.8	2		IIIG
			HARV				1743	1802	3	1743	1750	3	1743	1750	3		IIIGG,V
			HARV				1803	1911	2	1809	1838	2					IIIN
			HARV				1921	1923	2	1921	1923	3	1922	1923	3		IIIG
			SGMR										1922.7	1923.2	2		III
			HARV				1932	1937	2	1932	1937	2	1936	1937	1		IIIGG
			HARV							2020	2400	1					IN
			HARV				2027	2030	2	2027	2030	2	2029	2030	1		IIIGG
			SGMR										2029.2	2029.8	1		III
			CULG							2034	2400	1					IS,CONT
	2034	2400	CULG				2034	2230									IS,W
			CULG							2044.5	2400	1					IIIS
			CULG				2053	2327	1								IIIN
			HARV				2113	2116	3								IIIGG
			CULG				2113.5	2116.5	2								UNCLF
			CULG				2122.5	2124.5	1	2122.5	2126	1					IIIG
			CULG							2125.5		1					IIIB,U
			HARV				2143	2144	2								IIIG
			CULG				2234.5	2235.5	1	2234.5	2235.5	1					IIIG
			CULG				2254.5	2255	1	2254.5	2255	1					IIIG
			HARV				2255		1	2255		3					IIIG
			CULG							2257.5	2258	1	2257.5	2258.5	1		IIIG,V
			HARV							2302	2308	2					IIIG
			HARV				2310	2311	2	2310	2311	2					IIIGG
			CULG				2310	2311	2	2310	2311.5	2					IIIG,V
			CULG				2314	2315	2	2314	2315	2					IIIG,U
			HARV				2314	2317	3	2314	2318	3					IIIGG
			CULG				2315	2318	1	2315	2318	2					IIIGG,V
			HARV							2323	2327	2					IIIG
			CULG							2323.5	2324.5	1					IIIG
10			CULG							0000	0225						IIIS,W
	0000	0734	CULG							0000	0410	1					IS,CONT
			CULG				0000	0727									IIIN,W
	0000	0103	HARV							0000	0103	1					I
	0000	0130	BOUL							0000	0130	1	0000	0130	1		CONT
			CULG							0011	0011.5	1					IIIG
			HARV				0020	0022	1	0020	0021	2					IIIG
			BOUL							0020.8	0127.6	3	0020.8	0127.6	3		IIIN
			CULG				0021	0021.5	1	0020.5	0021.5	2	0020.5	0021.5	1		IIIG,V
			CULG				0022	0734									IN,W
			HARV				0023	0036	3	0034	0036	2					IIIGG
			CULG							0028	0028.5	1	0028	0028.5	1		IIIB
			CULG				0029	0033	1	0029	0032	1	0029	0030	1		IIIGG
			CULG				0034	0036	1	0034	0036	1					IIIGG
			CULG							0036.5	0038	1	0037		1		IIIG
			CULG				0041	0042	1								IIIG
			HARV				0041	0100	3	0041	0052	3					IIIGG
			CULG							0043.5	0044.5	1	0043.5	0044.5	1		IIIG,V
			CULG				0045	0049	1	0045	0052	2					IIIGG
			CULG				0049	0105	1								FAST DRIFT
			CULG							0107.5	0108	1					IIIG
			CULG							0109.5	0110	1	0109.5	0110	1		IIIG,V
			CULG				0127		1	0127		1	0127		1		IIIB,V
			CULG							0131		1	0131		1		IIIB
			CULG				0134	0242	2								UNCLF,P
			CULG							0225	0734	1					IIIN
			CULG				0246	0246.5	1								FAST DRIFT
			CULG							0321	0321.5	1					IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1973

APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
10			CULG							0336.5	0337	1	0336.5	0337	1		IIIG
			CULG				0346	0346.5	2	0346	0346.5	1					IIIG
			CULG							0410	0734	1					IS
	0522	1705	WEIS							0532.8	1647.9	1					IN
	1710	1730	WEIS							0940.5	1521.7	1					IIIN
			WEIS							1000.9	1008.7	2					IIIGG
			WEIS							1014.0	1056.0	1					IIIG,N
	0947	2314	SGMR										1054.5	1056.0	1		III
			SGMR										1146.0	1147.5	1		IIIG
			SGMR										1221.0	1233.0	3	IV	
			WEIS							1222.5	1249.0	3					IIIGG,CONT
			WEIS							1228.5	1232.1	3				IV	
			SGMR										1233.0	1331.0	2		CONT
	1400	2400	BOUL										1241.0	1241.5	1		III
	1301	2400	HARV							1301	1329	1					I
			HARV							1302	1305	2					IIIGG
			WEIS							1303.4	1312.6	3					IIIGG,CONT
			HARV				1304	1313	3	1306	1313	3				IVP	
			BOUL										1304.5	1307.2	1		IIIG
			WEIS							1309.5	1312.3	3				IV	
			HARV							1310	1313	2	1310	1313	1		IIIGG
			BOUL							1310.5	1312.8	1	1310.5	1312.8	1		IIIG
			HARV							1329	1420	1					IN
			BOUL							1330.9	1400.0	1	1330.9	1400.0	1	IV	
			SGMR										1331.0	1730.0	2	IV	
			HARV				1347	1442	1								IIIN
			BOUL							1400.0	1815	2	1400.0	1815	2	IV	
			HARV							1420	2400	1					I
			SGMR										1730.0	2300.0	1		CONT
			BOUL							1815	2400	1	1815	2400	1		CONT
			SGMR										1826.9	1827.5	2		III
			HARV				1827	1828	1	1827	1828	3	1827	1828	3		IIIG
			BOUL							1907.2	1920.5	3	1907.2	1920.5	3		IIIGG
			HARV				1908	1917	3	1908	1919	3	1908	1919	3		IIIGG
			SGMR										1908.2	1917.8	2		V
			HARV							1928	1929	1	1928	1929	1		IIIG
	2033	2400	CULG							2033	2400	2					IS,CONT
			CULG				2033	2248.5									IN,W
			CULG							2041	2400						IIIN,W
			CULG							2041	2042	1					IIIG
			HARV							2041	2042	3	2041	2042	3		IIIG
			SGMR										2041.2	2041.8	2		III
			HARV				2146	2147	1	2146	2147	1					IIIG
			CULG							2146.5	2147	1					IIIG
			CULG							2237	2238	1					IIIG
			CULG							2312		1					IIIB
11	0000	0656	CULG							0000	0656	1					IS
	0000	0104	HARV							0000	0054						I
	0000	0130	BOUL							0000	0130	1	0000	0130	1		CONT
			CULG							0014	0656						IIIN,W
			CULG				0015	0433									IN,W
			CULG							0221	0221.5	1	0221	0221.5	1		IIIG
			CULG							0257	0302	1					IIIGG
			CULG							0326	0329	2	0326	0328	1		IIIGG,V
			CULG							0331	0334.5	1					IIIG
			CULG							0351	0351.5	1					IIIG
			CULG				0354	0355	1	0354	0355	1					IIIG
			CULG				0540	0543	1	0540	0543	1					IIIGG
			CULG							0626.5	0627.5	1					IIIG
			CULG							0631.5	0632	1					IIIG
			CULG							0650	0659	2					IIIGG
	0520	1732	WEIS							0654.4	0659.3	2					IIIG
			WEIS							1044.6	1044.8	1					IIIG
			WEIS							1146.8	1147.0	1					IIIG
	1001	2316	SGMR										1146.9	1147.2	2		III
			WEIS							1204.8	1207.3	1					IIIG
			SGMR										1207.5	1415.0	1		CONT
			WEIS							1227.2	1227.8	1					IIIG
			WEIS							1231.3	1231.5	1					IIIG
			WEIS							1257.3	1307.1	2					IIIGG
			SGMR										1257.8	1307.3	2		IIIG
	1230	2400	BOUL							1257.8	1258.1	1	1257.8	1258.1	1		III
			BOUL							1300.1	1307.5	1	1300.1	1307.5	1		IIIGG
	1301	2400	HARV							1301	1338	1					I
			HARV				1302	1308	1	1301	1308	2	1301	1305	2		IIIGG
			BOUL							1320	1345	1	1320	1345	1		CONT
			HARV							1340	1700	1					IN
			WEIS							1340.4	1340.8	1					IIIG
			HARV							1411	1414	2	1412	1414	2		IIIGG
			WEIS							1411.4	1413.5	1					IIIG
			SGMR										1412.2	1413.7	3		III
			BOUL							1412.2	1413.8	2	1412.2	1413.8	2		III
			BOUL							1610.3	1900.0	1	1610.3	1900.0	1		CONT
			BOUL							1616.3	1616.7	2	1616.3	1616.7	2		IIIG
			SGMR										1616.4	1617.0	1		III
			HARV				1621	1623	2								I
			BOUL							1638.5	1639.4	2	1638.5	1639.4	2		IIIG
			HARV							1641	1642	2	1641	1642	3		IIIG
			BOUL							1641.1	1641.9	2	1641.1	1641.9	2		IIIG

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APR. 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
11			SGMR										1641.3	1657.9	2	IIIG
			HARV							1653	1654	2	1653	1654	2	IIIG
			HARV							1657	1658	3	1657	1658	3	IIIG,V
			WEIS							1657.1	1657.5	1				IIIG
			BOUL							1657.3	1657.8	2	1657.3	1657.8	2	III
			BOUL							1728.0	1728.8	2	1728.0	1728.8	2	IIIG
			SGMR										1728.4	1728.8	2	III
			HARV							1834	1837	3	1834	1837	3	IIIGG,V
			BOUL							1834.4	1837.2	3	1834.4	1837.2	3	IIIG
			SGMR										1835.0	1851.8	2	IIIG
			BOUL							1840.6	1852.2	3	1840.6	1852.2	3	IIIGG
			HARV				1842	1851	3	1840	1852	3	1840	1852	3	IIIGG,V,U
			HARV				1853	1854	1	1852	2105	1				IN
			BOUL							1900.0	2400	2	1900.0	2400	2	IV
			HARV				1924	1948	1							IVP N
			SGMR										1927.0	2130.0	2	CONT
			HARV				1948	2004	2	1948	2004	2				IVP
			BOUL							1950.9	1951.2	2	1950.9	1951.2	2	III
			HARV							1951		3	1951		3	IIIG
			BOUL							1951.6	1952.1	2	1951.6	1952.1	2	III
			BOUL										1953.3	1953.7	2	III
			HARV							1954	2001	2	1956	2001	2	II
			BOUL							1954.2	1954.7	2	1954.2	1954.7	2	III
			BOUL							1955.5	2005.5	2				IIH
			BOUL										1956.6	2005.5	2	IIF
			HARV				2004	2109	3	2004	2102	3				IVP ,RS
			HARV							2023	2029	2	2023	2028	2	IIIGG
			HARV							2230	2400	1				IN
	2248	2400	CULG							2248	2400	1				IS,CONT
			CULG							2302.5	2303.5	1				IIIG
			BOUL							2302.5	2303.6	2	2302.5	2303.6	2	IIIG
12	0000	0130	BOUL							0000 1	0110	1	0000	0110 1	1	CONT
	0000	0733	CULG							0000	0055	1				IS
	0000	0105	HARV				0004	0005	1							I
			CULG							0055	0148					IN,W
	0517	1153	WEIS							0954.0	1002.5	1				I,DC
	1001	2318	SGMR													
	1156	1733	WEIS													
	1300	2400	HARV													
	1230	2400	BOUL										1318.7	1318.8	1	III
	2033	2400	CULG													
13	0000	0733	CULG													
	0000	0107	HARV													
	0000	0130	BOUL													
	0518	1737	WEIS													
	0957	2319	SGMR													
	1230	2400	BOUL													
	1301	2400	HARV				1354	1355	1							IIIG
	2032	2400	CULG							2038		1				IIIB
14	0000	0733	CULG													
	0000	0109	HARV													
	0000	0130	BOUL													
	0514	0750	WEIS													
	0850	1738	WEIS													
	1003	2320	SGMR													
	1230	2400	BOUL													
	1301	2400	HARV													
	2032	2400	CULG							2103.5		1				IIIB
15	0000	0732	CULG													
	0000	0111	HARV													
	0000	0200	BOUL													
	0515	1630	WEIS													
	0933	2321	SGMR													
	1230	2400	BOUL													
	1301	2400	HARV													
	1655	1738	WEIS													
	2032	2400	CULG													
16	0000	0111	HARV													
	0000	0200	BOUL													
	0000	0732	CULG							0136.5	0137.5	1				IIIG
			CULG							0405		1				IIIB
	0514	1735	WEIS													
	0929	2322	SGMR													
	1230	2400	BOUL													
	1301	2400	HARV													
	2032	2151	CULG							2139		1				IIIB
	2203	2400	CULG													
17	0000	0732	CULG													
	0000	0112	HARV													
	0000	0200	BOUL													
	0512	1219	WEIS													
	1227	1736	WEIS													
	1301	2400	HARV													
	1230	2400	BOUL										1900.0	1900.3	1	III

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APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
17			BOUL										1902.4	1903.1	1	III
	0938	2323	SGMR										1902.7	1903.0	1	III
	2031	2400	CULG							2235.5	2238					IIIG,W
			BOUL										2235.6	2238.2	1	IIIG
			CULG							2250	2253	1				IIIGG,V
			BOUL							2250.0	2252.3	2	2250.0	2252.3	2	III
			BOUL										2252.6	2252.9	1	III
			BOUL										2253.2	2253.6	1	III
18	0000	0200	BOUL													
	0000	0113	HARV													
	0000	0732	CULG				0054.5	0055.5								IIIG,W
			CULG							0054.5	0056	1				IIIG
			CULG							0335.5	0337	1				IIIG
			CULG							0409	0535					IN,W
			CULG							0445	0448					IIIG,W
			CULG							0453						IIIB,W
	0512	1737	WEIS							1213.1	1213.6	1				IIIG
	0950	2324	SGMR										1213.2	1225.7	2	IIIG
			WEIS							1224.5	1225.1	1				IIIG
	1200	2400	BOUL							1224.7	1225.8	1	1224.7	1225.8	1	III
			BOUL							1437.6	1437.8	1	1437.6	1437.8	1	III
			SGMR										1437.9	1527.0	1	IIIG
			BOUL										1441.9	1442.7	1	III
			BOUL							1444.7	1445.0	1	1444.7	1445.0	1	III
			BOUL										1445.7	1446.2	1	III
			BOUL							1527.5	1527.8	1	1527.5	1527.8	1	III
			BOUL										1530.5	1530.9	1	III
			BOUL										1532.6	1533.0	1	III
	1301	2400	HARV				1652	1654	1							IIIG
			BOUL										1654.2	1654.8	1	III
			BOUL							1715.9	1717.5	2	1715.9	1717.5	2	III
			HARV							1716		3	1716		3	IIIG
			SGMR										1716.0	1716.6	2	III
			BOUL										1842.8	1843.0	1	III
			HARV							1848	2209	1	1848	2209	1	IIIN
			BOUL							1919.6	1919.9	2	1919.6	1919.9	2	III
			BOUL										2001.2	2001.4	1	III
			BOUL										2009.5	2010.0	1	III
			BOUL							2027.1	2027.9	2	2027.1	2027.9	2	IIIG
			SGMR										2027.4	2027.7	1	III
			BOUL							2029.3	2029.5	1	2029.3	2029.5	1	III
	2031	2400	CULG							2034.5	2400					IN,W
			CULG							2040	2314					IIIN,W
			BOUL										2046.4	2046.5	1	III
			BOUL										2107.0	2107.4	1	III
			BOUL										2112.4	2112.7	1	III
			BOUL										2117.4	2117.6	1	III
			BOUL							2132.6	2132.8	1	2132.6	2132.8	1	III
			CULG							2133		1				IIIB
			CULG							2137.5	2138.5	1				IIIG
			BOUL							2140.5	2140.8	2	2140.5	2140.8	2	III
			BOUL										2143.0	2143.2	1	III
			CULG							2145.5		1				IIIB
			SGMR										2145.6	2145.9	1	III
			BOUL							2208.0	2208.4	1	2208.0	2208.4	1	III
			CULG							2208.5		1				IIIB
			CULG							2234		1				IIIB
			BOUL							2234.0	2234.3	1	2234.0	2234.3	1	III
			BOUL										2312.4	2313.7	1	III
19	0000	0114	HARV													
	0000	0731	CULG							0040	0254					IN,W
			CULG							0140	0144	1	0141	0143	1	IIIG,V
	0000	0200	BOUL										0140.9	0141.8	1	III
	0514	0631	WEIS													
	0650	1750	WEIS													
	1000	2325	SGMR													
	1301	2400	HARV				1752	1755	2							IIIGG
	2031	2400	CULG							2031	2344					IN,W
			CULG							2041.5	2342					IIIN,W
	1200	2400	BOUL										2131.9	2131.7	1	III
			BOUL							2135.5	2135.7	1	2135.9	2135.7	1	III
			CULG							2135.5		1				IIIB
			BOUL										2348.4	2351.4	1	IIIG
20	0000	0731	CULG							0012	0254	1				IIIN,W
	0000	0200	BOUL							0013.5	0013.7	1	0013.5	0013.7	1	III
			CULG				0051	0052.5	1	0051	0052.5	1				IIIG
	0000	0115	HARV				0053		2	0051	0054	2				IIIGG
			CULG				0450	0503								IN,W
	0502	1412	WEIS													
	1301	2400	HARV							1301	1347	1				IN
	1200	2400	BOUL										1812.5	1813.6	1	IIIG
	0959	2327	SGMR										1812.6	1812.9	1	III
	2031	2400	CULG				2031	2159	1	2031	2400	1				IS,CONT
			HARV							2100	2223	1				IN
			CULG							2103	2300					IIIN,W
			CULG				2117	2119	1	2118	2119	1				IIIG
			BOUL							2118.2	2118.4	1	2118.2	2118.4	1	III

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APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
21	0000	0731	CULG							0000	0655	1					IS
			CULG							0011	0710						IIIN,W
			CULG				0030	0731									IN,W
			CULG				0105.5	0110.5	1	0105.5	0111	2	0106	0110	1		IIIGG,V
	0000	0200	BOUL							0105.8	0110.8	2	0105.8	0110.8	2		IIIGG
	0000	0115	HARV				0107	0108	1	0105	0111	2					IIIGG
			CULG							0655	0731	1					IS,CONT
	0502	1752	WEIS							1042.7	1043.2	1					IIIG
			WEIS							1057.7	1057.8	1					IIIB
	1200	2400	BOUL							1245	1330	1	1245	1330	1		CONT
			WEIS							1305.4	1305.6	1					IIIG
	0958	2328	SGMR										1305.6	1306.1	1		III
	1301	2400	HARV							1435	1809	1					IN
			HARV				1559	1600	2								IIIGG
			BOUL							1744.4	1745.0	2	1744.4	1745.0	2		III
			BOUL										2019.3	2019.6	1		III
			BOUL							2022.8	2023.2	1	2022.8	2023.2	1		III
	2031	2400	CULG							2031	2400	1					IS
			CULG							2049	2050	1					IIIG,U
			CULG							2053	2400						IIIN,W
			SGMR										2112.3	2112.6	1		III
			CULG							2117	2119	1					IIIG
			BOUL							2117.3	2117.5	1	2117.3	2117.5	1		III
			BOUL							2118.8	2119.0	1	2118.8	2119.0	1		III
			HARV							2150	2151	3	2150	2151	3		IIIB
			CULG							2150.5	2151	2	2150.5	2151	1		IIIB,V
			BOUL							2150.6	2150.9	2	2150.6	2150.9	2		III
			BOUL							2210.6	2210.7	1	2210.6	2210.7	1		III
			BOUL							2304.8	2305.1	1	2304.8	2305.1	1		III
			CULG							2346	2348	1					IIIG
			BOUL							2346.8	2347.9	1	2346.8	2347.9	1		IIIG
22	0000	0200	BOUL							0000	0200	2	0000	0200	2		IIIN
			CULG							0000	0731	1					IS
	0000	0731	CULG							0000	0638	1					IIIN
	0000	0115	HARV							0030	0036	1					IIIGG
			CULG							0031	0032.5	2	0031	0031.5	1		IIIG,V
			CULG							0052	0056	2					IIIGG
			HARV							0053	0056	2					IIIGG
			HARV							0105	0107	2					IIIG
			CULG							0105	0106.5	1					IIIG
			CULG							0122	0123	1					IIIG
			CULG							0128	0129	2	0128	0129	1		IIIG,V
			CULG							0145.5	0146.5	2	0146	0146.5	1		IIIG
			CULG							0158	0158.5	1					IIIG
			CULG							0214.5		1					IIIB
			CULG							0234		1					IIIB
			CULG							0240	0244	2					IIIGG
			CULG							0245	0245.5	1					IIIG
			CULG							0249.5	0250	1					IIIG
			CULG							0322	0322.5	2					IIIG
	0505	1220	WEIS							0955.1	1001.8	1					IIIGG
	0955	2328	SGMR										1209.2	1209.6	2		III
			WEIS							1209.3	1209.5	2					IIIG
			SGMR										1221.7	1222.9	1		III
	1200	2400	BOUL										1222.5	1223.1	2		III
			BOUL							1231.7	1232.1	1					III
			BOUL							1232	1400	1	1232	1400	1	IV	
	1300	2400	HARV							1300	2228	1					I
			HARV							1500	1501	2	1500	1501	2		IIIG
			BOUL							1500.1	1501.1	2	1500.1	1501.1	2		IIIG
			BOUL							1500.2	1600	1	1500.2	1600	1		CONT
			SGMR										1500.3	1501.1	2		III
			BOUL										1527.5	1528.0	1		III
			BOUL										1722.1	1722.3	1		III
			BOUL							1810.0	2010	1	1819.0	2010	1		CONT
			HARV							1818	1825	2	1818	1825	2		IIIGG
			BOUL							1818.6	1818.8	1	1818.6	1818.8	1		III
			BOUL							1819.9	1822.5	2	1819.9	1822.5	2		IIIG
			SGMR										1819.9	1825.8	2		IIIG
			SGMR										1830.3	1830.9	1		III
			SGMR										1849.6	1850.2	1		III
	2030	2400	CULG				2030	2155	1	2030	2400	1					IS,CONT
			CULG							2114	2400						IIIN,W
			BOUL							2121.3	2121.4	1	2121.3	2121.4	1		III
			SGMR										2145.8	2152.3	2		III
			BOUL							2146.0	2146.3	2	2146.0	2146.3	2		III
			HARV							2148	2152	3	2148	215.	3		IIIGG
			BOUL							2148.0	2153.3	3	2148.0	2153.3	3		IIIG
			HARV				2149	2154	2							IV	
			CULG				2149	2151	1	2145.5	2153	3	2149	2152	1		IIIGG,V
			CULG							2154		1					IIIB
			CULG							2155	2157	1					IIIG
			CULG							2156	2207	2				II	
			CULG							2158	2158.5	1					IIIG
			HARV							2158	2204	2	2202	2205	2	II	
			BOUL							2158.2	2159.0	2	2158.3	2159.0	2		III
			CULG							2159	2300	1				IV	
			SGMR										2159.5	2205.2	2	II	
			BOUL							2159.5	2206.6	2				IIH	

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APR. 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
22			BOUL							2159.5	2206.7	2	2159.5	2206.7	2	IIF
			BOUL							2206	2400	2	2206	2400	2	IV
			HARV							2228	2400	1				IN
			CULG				2335.5	2337.5	1	2335.5	2338	2				IIIG
23	0000	0730	CULG							0000	0730	1				IS,CONT
	0000	0115	HARV							0000	0115	1				IN
	0000	0200	BOUL							0000	0130	1	0000	0130	1	CONT
			CULG				0002	0730								IS,W
			CULG							0010	0658.5					IIIN,W
			CULG							0011	0012.5	1				IIIG
			CULG							0044	0045	1				IIIG
			CULG							0047	0048	1				IIIG
			CULG							0111.5	0112.5	1				IIIG,V
			CULG							0114	0115.5	1				IIIG
			CULG							0132	0133	1				IIIG
			CULG							0252.5	0253.5	1				IIIG
			CULG							0304.5	0305.5	1				IIIG
			CULG							0306	0310	1				IIIGG
			CULG							0312	0313	1				IIIG
			CULG				0326	0326.5	1	0326	0326.5	1				IIIG
			CULG				0333	0333.5	1	0333	0333.5	1				IIIG
			CULG							0534.5	0535.5	1				IIIG
			CULG							0654	0655	1				IIIG
	0954	2330	SGMR										1219.0	1221.5	2	III
	1200	2400	BOUL							1220.6	2132.5	2	1220.6	2132.5	2	IIIN
			BOUL							1221	2150	1	1221	2150	1	CONT
	1301	2400	HARV							1301	2400	1				I
			SGMR										1315.9	1316.6	2	III
			BOUL							1315.9	1316.7	2	1315.9	1316.7	2	IIIG
			HARV				1339		2							IIIG
			SGMR										1407.0	1407.7	1	III
			SGMR										1423.5	1426.1	1	IIIG
			HARV							1424	1426	1	1424	1426	1	IIIG
			SGMR										1442.2	1442.9	1	III
			HARV							1502	2132	1	1502	2132	1	IIIN
			SGMR										1502.6	1508.1	2	IIIG
			SGMR										1522.5	1528.5	1	IIIG
			HARV							1532	1533	1				IIIG
			SGMR										1615.1	1627.9	1	IIIG
			HARV							1626	1627	2	1626	1627	2	IIIG
			HARV							1700	1701	2	1700	1701	2	IIIG
			SGMR										1700.1	1700.7	2	III
			HARV							1724		3	1724		3	IIIG
			SGMR										1724.4	1724.8	2	III
			SGMR										1738.2	1743.0	2	IIIG
			HARV				1740	1743	1	1740	1743	3	1740	1743	3	IIIGG,V
			BOUL							1740.6	1743.0	3	1740.6	1743.0	3	IIIG
			HARV							1744	1746	1				IIIG
			HARV							1811		3	1811		3	IIIG
			SGMR										1811.0	1811.4	2	III
			HARV							1853	1902	3	1853	1902	3	IIIGG
			SGMR										1853.6	1901.0	2	IIIG
			HARV							1912	1913	3	1912	1913	3	IIIG
			SGMR										1912.0	1921.5	2	IIIG
	2030	2400	CULG				2030	2400	1	2030	2400	1				IS,CONT
			CULG							2036	2337	1				IIIN
			SGMR										2057.9	2105.7	1	IIIG
			CULG				2058	2058.5	1	2058	2059	2				IIIG
			HARV							2058	2059	2	2058	2059	2	IIIG
			CULG							2105	2105.5	2				IIIG
			SGMR										2118.0	2132.4	1	IIIG
			CULG							2118.5	2119	2				IIIB
			CULG				2132	2132.5	1	2132	2132.5	2				IIIG
			CULG				2143.5	2145.5	1	2141	2146	1				IIIGG
			CULG				2215	2216								IIIG,W
			BOUL										2327.6	2327.7	1	III
24	0000	0730	CULG				0000	0650	1	0000	0730	1				IS
	0000	0116	HARV							0000	0114	1				I
			CULG							0008	0010	1				IIIG
			CULG							0008	0729					IIIN,W
	0000	0200	BOUL							0008.3	0012.6	2	0008.3	0012.6	2	IIIG
			CULG							0011.5		1				IIIB
			CULG							0020	0022	1				IIIG
	1200	2400	BOUL							0020.5	0024.7	1	0020.5	0024.7	1	IIIG
			CULG							0024	0025	1				IIIG
			CULG				0240	0241	1	0238	0241	2				IIIG,V
			CULG							0250		1				IIIB
			CULG							0531	0532	1				IIIG
			CULG							0538.5	0539.5	1				IIIG
			CULG							0544	0544.5	3	0544	0544.5	1	IIIG,V
			CULG				0626	0627	1	0626	0628	3				IIIG,V
			CULG							0642.5	0643	1				IIIG
			CULG							0720	0722	1				IIIG
	1301	2400	HARV							1301	1415	1				I
	0952	2331	SGMR										1314.0	1319.1	2	IIIG
			HARV							1316	1319	2	1316	1317	1	IIIGG
			BOUL							1319.1	1324.9	3	1319.1	1324.9	3	IIIGG
			BOUL							1411.3	1416.8	3	1411.3	1416.8	3	IIIGG

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APRIL 1973

APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
24			SGMR										1411.3	1419.2	3	V
			HARV				1412	1415	3	1411	1415	3	1412	1415	3	IIIGG,V
			BOUL							1417	1535	2	1417	1535	2	IV
			BOUL							1421.5	1427.0	1				IIH
			BOUL										1421.5	1426.8	1	IIF
			BOUL							1426.4	1435.7	2	1426.4	1435.7	2	IIIGG
			SGMR										1427.8	1436.0	2	CONT
			HARV							1428	2231	1				IN
			HARV							1431	1436	1				IIIGG
			HARV				1432	1437	1							IV
			BOUL							1445.6	1448.4	3	1445.6	1448.4	3	IIIG
			HARV							1446	1447	2	1446	1447	2	IIIG
			HARV							1518	1936	1	1518	1936	1	IIIN
			BOUL							1535	1923.0	1	1535	1923.0	1	CONT
			HARV				1537	1651	1							IN
			BOUL							1605.5	1607.0	3	1605.5	1607.0	3	IIIG
			SGMR										1605.7	1607.1	3	V
			HARV							1606	1607	3	1606	1607	3	IIIG
			HARV							1650	1654	1	1650	1654	1	IIIGG
			HARV				1923	1930	2	1921	1930	3	1921	1929	3	IIIGG,V
			BOUL							1923.0	1930.2	3	1923.0	1930.2	3	IIIGG
			SGMR										1923.1	1929.9	2	IIIG
			BOUL							1935	2150	2	1935	2150	2	IV
			BOUL										1936.5	1945.3	2	IIF
			BOUL							1936.8	1946.2	3	1936.8	1946.2	3	IIH
			HARV							1937	1946	2	1943	1946	2	II
			SGMR										1938.0	1945.9	2	II
			HARV							2024	2026	1	2025	2026	1	IIIGG
	2030	2400	CULG							2030	2400	1				IS,CONT
			CULG							2149.5	2151	3				IIIGG,V
			BOUL							2149.8	2151.2	3	2149.8	2151.2	3	III
			HARV							2150	2151	2	2150	2151	2	IIIGG
			BOUL							2151	2400	1	2151	2400	1	CONT
			CULG							2155	2350.5					IIIN,W
25	0000	0730	CULG													
	0000	0200	BOUL							0000	0725	1				IS
			CULG							0000	0130	1	0000	0130	1	CONT
			CULG							0016	0515					IIIN,W
	1200	2400	BOUL							0057	0059	2	0057	0058.5	1	IIIG,V
			CULG				0103	0104	1	0057.0	0059.3	3	0057.0	0059.3	3	IIIGG
	0000	0117	HARV				0103	0104	1	0103	0104	2				IIIG,U
			CULG							0103	0104	2				IIIG
			CULG							0148	0149	1	0148	0149	1	IIIG,V
			CULG				0419	0427	1	0323	0325	1				IIIG,V
			CULG							0419	0427.5	2	0423	0426	1	IIIGG,V
			CULG							0441	0442	1				IIIG
	0705	1758	WEIS				0455	0456	1	0454	0456	1				IIIGG
			WEIS							0818.8	0819.3	2				IIIG
			WEIS							0856.7	0858.1	2				IIIG
	0951	2332	SGMR							0931.5	0931.8	1				IIIG
			BOUL										1322.0	1322.9	1	III
			BOUL							1322.1	1322.7	2	1322.1	1322.7	2	IIIG
	1300	2400	HARV							1456.6	1457.1	1	1456.6	1457.1	1	IIIG
			WEIS							1514	1515	3	1514	1515	3	IIIG
			BOUL							1514.4	1514.7	1				IIIG
			SGMR							1514.5	1805.5	2	1514.5	1805.5	2	IIIN
			WEIS										1514.6	1514.8	2	III
			SGMR							1517.5	1517.6	1				IIIB
			SGMR										1556.1	1556.3	1	III
			HARV										1655.5	1701.2	1	IIIG
			HARV							1659	1703	2	1700	1701	2	IIIG
			SGMR							1804	1805	3	1804	1805	3	IIIG
	2030	2400	CULG										1804.7	1805.1	2	III
			CULG							2036.5	2400					IS,W
			CULG							2038	2038.5					IIIG,W
			BOUL							2046	2329					IIIN,W
			CULG							2133.9	2134.7	1	2133.9	2134.7	1	IIIG
			BOUL							2157.5	2158.5	1				IIIG
										2157.9	2158.9	1	2157.9	2158.9	1	IIIG
26	0000	0119	HARV													
	0000	0728	CULG							0028.5	0029.5	1				IIIG
	0000	0200	BOUL							0028.7	0029.5	2	0028.7	0029.5	2	III
			CULG							0031	0527.5					IN,W
			CULG				0055.5	0056								IIIG,W
			CULG							0109.5	0703.5					IIIN,W
			CULG				0214	0216	1							IIIG
	0502	1432	WEIS							0538.5		1				IIIB
			CULG										1348.4	1348.6	1	III
	1200	2400	BOUL													
	1436	1801	WEIS										1654.0	1654.3	1	III
			BOUL							1710	1711	1				IIIG
	1301	2400	HARV							1748.9	1748.6	1	1748.9	1749.6	1	IIIG
			BOUL										1749.0	1749.3	1	III
	0950	2333	SGMR							1800	1801	3	1800	1801	3	IIIG
			HARV							1800.3	1801.0	2	1800.3	1801.0	2	III
			BOUL										1800.4	1800.8	2	III
			SGMR							1808.4	1808.5	1	1808.4	1808.5	1	III
			BOUL													I
			HARV				1942	1944	1							

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APRIL 1973

APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
26			BOUL										1951.8	1952.3	1		III
			HARV				1958	2000	1	1958	1959	2					IIIGG
			BOUL										2000.2	2016.0	1	IIF	
			BOUL							2001.0	2005.7	3				IIH	
			HARV							2001.2	2009	2	2006	2008	2	II	
			SGMR										2002.4	2006.8	2	II	
			BOUL							2003.2	2007.0	3				IIH	
			BOUL										2003.8	2008.3	3	IIF	
			BOUL							2005.6	2006.6	2	2005.6	2006.6	2		IIIG
			BOUL							2017.7	2017.8	1					
	2030	2400	CULG							2037	2400	1					IN
			CULG				2106	2107.5	1	2106	2108.5	2					IIIG,V,U
			HARV				2107	2108	1	2106	2108	2	2107	2108	1		IIIGG
			SGMR										2107.1	2107.7	1		III
			BOUL							2107.2	2107.7	2	2107.2	2107.7	2		III
			SGMR										2124.9	2125.2	1		III
			CULG							2251.5	2254	1					IIIG
			BOUL							2252.4	2252.6	1	2252.4	2252.6	1		III
			BOUL							2253.4	2253.7	2	2253.4	2253.7	2		III
			HARV				2302	2304	1	2302	2308	2	2304	2307	1		IIIGG
			CULG				2302.5	2308.5	1	2302.5	2309	3					IIIGG,V,U
			BOUL							2302.6	2307.7	3	2302.6	2307.7	3		IIIGG
			CULG							2314.5	2320	1				II	
			BOUL							2315.4	2321.4	2	2315.4	2321.4	2	IIF	
			BOUL							2315.6	2320.2	2				IIH	
			CULG							2318.5	2324	1					IIIGG
			BOUL							2321.9	2322.0	1					III
			BOUL							2328.8	2328.8	1					III
27	0000	0739	CULG							0000	0017	1					I
			CULG							0026.5	0608	1					IIIN
			CULG							0032	0033.5	1					IIIG
	0000	0200	BOUL							0032.8	0032.9	1					
			CULG				0038.5	0039	1	0038.5	0041.5	1					IIIG
	1206	2400	BOUL							0038.8	0039.0	1	2038.8	0039.0	1		III
	0000	0120	HARV							0039	0041	1					IIIG
			BOUL							0040.9	0041.1	1	0040.9	0041.1	1		III
			CULG				0117.5	0118	1	0117.5	0119	3	0118	0119	1		IIIG,V
			BOUL							0117.7	0119.0	3	0117.7	0119.0	3		III
			CULG							0209	0210.5	1					IIIG
			CULG							0302	0303.5	1					IIIG
			CULG							0310.5	0311	1					IIIB
			CULG				0342	0343.5	1	0342	0344.5	1					IIIG
			CULG							0456	0459.5	2					IIIGG,V,U
			CULG							0514.5		1					IIIB
			CULG							0516	0517	1					IIIG
			CULG							0520.5	0522	1					IIIG
	0501	1804	WEIS							1012.3	1016.5	2					IIIG
	0949	2334	SGMR										1012.8	1016.0	2		IIIG
			WEIS							1201.0	1229.8	1					IIIG,N
			WEIS							1203.0	1222.0	1					IN
			SGMR										1204.9	1205.1	2		III
			BOUL										1204.9	1205.1	1		III
			SGMR										1213.0	1213.6	2		III
			BOUL										1213.2	1213.6	1		III
	1300	2400	HARV							1300	1417	1					IN
			HARV							1340	1342	2	1340	1342	2		IIIG
			WEIS							1340.5	1341.7	1					IIIG
			BOUL							1340.5	1342.8	3	1340.5	1342.8	3		III
			BOUL							1409.0	1409.2	1	1409.0	1409.2	1		III
			HARV							1518	1757	1					IN
			BOUL							1542.7	1543.1	1	1542.7	1543.1	1		III
			HARV							1556	1557	3	1556	1557	3		IIIG,V
			WEIS							1556.1	1557.1	1					IIIG,V
			SGMR										1556.2	1557.3	2		V
			BOUL							1556.2	1557.4	3	1556.2	1557.4	3		IIIG
			SGMR										1559.1	1559.5	1		III
			BOUL							1605.8	1605.8	1					III
			BOUL							1655.6	1659.2	2	1655.6	1659.2	2		IIIGG
			SGMR										1655.9	1658.7	2		IIIG
			HARV							1656	1659	2	1656	1659	2		IIIGG
			WEIS							1656.0	1657.0	1					IIIG
			BOUL							1700	1745.0	1	1700	1745.0	1		CONT
			BOUL							1745.0	2400	1	1745.0	2400	1		CONT
			BOUL							1903.7	1903.9	1					IIIG
			HARV							1914	1915	3	1914	1915	3		IIIG
			BOUL							1914.2	1915.8	2	1914.2	1915.8	2		III
			SGMR										1914.3	1915.0	2		III
	2030	2400	CULG							2041.5	2400	1					IN
			CULG							2055	2342	1					IIIN
			CULG							2059	2106.5	1					IIIG
			BOUL							2134.6	2134.9	1	2134.6	2134.9	1		III
			BOUL							2139.2	2139.3	1	2139.2	2139.3	1		III
			CULG							2328	2330	1					IIIG,V,U
			BOUL							2328.8	2329.9	2	2328.8	2329.2	1		III
			CULG							2343.5	2344	1					IIIG
			BOUL							2343.7	2344.0	2	2343.7	2344.0	2		III
			CULG							2358		1					IIIB
			BOUL							2358.6	2358.6	1	2358.6	2358.6	1		III
28	0000	0200	BOUL							0000	0200	1	0000	0210	1		CONT

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1973

APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
28	0000	0729	CULG							0000	0425	1				IN
	0000	0121	HARV													
			CULG							0032.5	0034	1				IIIG
			CULG							0049.5	0723.5	1				IIIN
			CULG							0103	0104.5	1				IIIG
			CULG							0117.5	0118.5	1				IIIG,V
			CULG							0200		1				IIIB
			CULG							0203.5	0204.5	1	0203.5	0204.5	1	IIIGG
			CULG							0410.5	0411.5	1				IIIG
			CULG							0425	0723	1				IS
			CULG							0443	0445	1				IIIG
			CULG							0446.5	0450	1				IIIG
			CULG							0452	0708	1				IIIS
			CULG							0453.5	0456.5	2				IIIG,V
	0501	0900	WEIS							0522.0	0727.0	2				IS
			CULG							0533.5		1				IIIB
			CULG				0537.5	0539	1	0537	0539	1				IIIGG
			CULG							0644.5	0646	1				IIIG
			CULG							0648.5	0650.5	1				IIIG
			WEIS							0649.2	0650.0	1				IIIG
			WEIS							0828.1	0826.3	1				IIIG
	1200	2400	BOUL							1440	2400	1	1440	2400	1	CONT
			BOUL							1520.2	1522.4	1	1520.2	1522.4	1	IIIG
	0947	2336	SGMR										1530.3	1530.8	1	III
	1301	2400	HARV							1614	1625	1				I
			BOUL										1627.0	1628.6	1	IIIG
	1722	1805	WEIS													
			BOUL										1722.4	1723.7	1	III
			HARV							1745	2126	1	1745	2126	1	IIIN
			BOUL										1745.2	1747.2	1	IIIG
			HARV							1922	1939	1				IN
			SGMR										1925.6	1931.8	1	IIIG
	2030	2400	CULG							2033	2251	2				IS,CONT
			CULG							2046	2249					IIIS,W
			HARV							2118	2218	1				I
			SGMR										2125.4	2125.8	1	III
			CULG							2125.5	2220	1				IIIG
			HARV				2130	2148	1							IN
			CULG				2131	2157								IIIN,W
			CULG							2220	2400	1				IS
			CULG							2249	2400					IIIN,W
29	0000	0727	CULG							0000	0126	1				IS
	0000	0122	HARV													
	0000	0200	BOUL							0000	0200	1	0000	0200	1	CONT
			CULG				0118	0623.5								IN,W
			CULG							0119	0127	1				IIIGG
	1200	2400	BOUL							0119.8	0128.0	2	0119.8	0128.0	2	IIIGG
			CULG							0131	0137	1				IIIGG
			CULG							0140	0340	1				IV
			CULG							0236	0241	1				IIIGG
			CULG							0255	0727	1				IS
			CULG							0340	0727	1				IIIS
			CULG							0643.5	0645	1				IIIG
			CULG							0648	0655	1				IIIGG
			CULG							0654	0717	1				IV
	0501	1805	WEIS							0959.5		1				IS
	0946	2337	SGMR										1009.0	1309.0	2	IV
			WEIS							1017.4	1110.7	1				IIIN
			WEIS							1048.3	1227.0	1				CONT
			BOUL							1210	1500	1	1210	1500	1	IV
	1301	2400	HARV							1301	1620	1				I
			HARV				1331	1332	2							IIIGG
			SGMR										1505.5	1507.1	1	III
			BOUL							1505.9	1506.8	1	1505.9	1506.8	1	IIIG
			HARV				1725	1728	2							IIIGG
			HARV							1823	1920	1				IN
			BOUL							1830.0	2100.0	1	1830.0	2100.0	1	CONT
	2029	2400	CULG				2034	2055	1	2034	2400	1				IS,CONT
			CULG							2050	2157.5	1				IIIN
			HARV				2055	2100	2	2058	2102	2	2100	2102	3	IIIGG
			HARV				2056	2400	3	2100	2252	3				IVP
			CULG				2056.5	2101	2							II
			CULG	2058	2226	2	2057	2300	3							IV, P
			CULG										2100	2300	1	SWF
			CULG							2100	2248	3				IV
			BOUL							2100.0	2105.8	3	2100.0	2105.8	3	III
			SGMR										2100.5	2337.0	3	V
			HARV							2101	2122	3	2102	2120	3	II
			BOUL							2102.2	2111.5	3	2102.8	2111.5	3	II
			BOUL										2108.2	2127.4	3	II
			BOUL							2115	2400	2	2115	2400	2	IV
			CULG							2117	2119	1				IIIG
			BOUL										2125.2	2110.8	3	II
			HARV							2230	2400	1				I
			CULG							2256	2258	1				UNCLF
			CULG				2300	2352	2							IV
			CULG				2352	2400	3							IV
			HARV				2352	2359	3							IIIGG,V
			CULG							2356.5	2357	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1973

APR. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
30	0000	0729	CULG							0000	0620	1				IS
			CULG				0000	0149	1							IV
	0000	0123	HARV							0000	0116	1				I
			HARV				0000	0025	3							IV
	0000	0200	BOUL							0000	0125	2	0000	0125	2	IV
			CULG							0009	0635					IIIN,W
			CULG				0149	0152	2							IV
			CULG				0152	0247	1							IV
			CULG				0247	0340	3							IV
			CULG				0340	0435	1							IV
			CULG							0550	0551					IIIG,V,W
			CULG				0553.5	0558	1	0552	0604	3				IIIGG
	0501	1139	WEIS							0553.6	0602.4	2				IIIGG
			CULG				0609	0615								IIIN,W
			CULG							0620	0729	1				IS,CONT
	0944	2338	SGMR													
	1142	1809	WEIS							1431.3	1431.6	1				IIIG
	1200	2400	BOUL							1743.9	1744.0	1	1743.9	1744.0	1	III
	1246	2400	HARV				1746	1747	1	1746	1747	1				IIIG
			BOUL							1746.2	1747.2	1	1746.2	1747.2	1	IIIG
			HARV							2032	2036	1				IIIG
	2029	2400	CULG				2117	2136		2117	2400					IN,W
			CULG				2147			2147						IIIB,W
			HARV				2256	2258	2							IIIGG

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

SELECTED SOLAR EVENTS

APRIL 1973

Culgoora

UT Date 1973. APRIL	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
1	2317	2320	80 160	1.0 1.3 0.9	30 20 50	0	2	IIIGG,V	Double source at 80MHz only
3	0244	0246	80 160	1.4 1.1	50 70	0	1	IIIG,V	*
	0404	0407	80 160	1.3 1.0	240 240	0	1	IIIG	*
	0458	0459	80 160	1.2 1.1	20 20	0	3	IIIG	*
	2333	2334	80 160	1.3 0.8	310 280	0	2	IIIG	
4	0004	0006	80 160	1.2 0.9	50 45	0	1	IIIG	*
5	0237	0243	80 160	1.0 1.0	90 90	0	3	IIIGG,V	
7	0207	0209	80 160	1.2 1.0	80 80	0	2	IIIG,V,U	*
9	2309	2312	80 160	1.1 1.0	220 240	0	3	IIIG,V	*
19	0140	0144	80 160	1.3 1.1	70 80	0	2	IIIG,V	
20	0050	0053	160	0.8	120	0	2	IIIG	Bursts not visible at 80MHz

Days without Heliograph observations: .....

* Other type III observed at same position during day.

SELECTED SOLAR EVENTS

APRIL 1973

Culgoora

UT Date 1973. APRIL	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
21	0105	0111	80 160	90 110	0.6 0.6	0	2	IIIG,V	
22	0230	0243	80 160	1.2 0.9	40 40	0	2	IIIGG	*
	2250	2400	80 160	1.3 0.8	20 20	R	2	IVs	Persisted all day as type I storm
26	0028	0031	80 160	1.0 0.7	300 260	0	2	IIIG	
27	0117	0120	80 160	1.2 0.9	300 300	0	3	IIIG,V	Complex source structure
29-30	< 2240	> 0300	80 160	1.7 1.2	240 240	0	1-2	IVs	Began before observing period; intensity decreased during day.

Days without Heliograph observations: ----

* Other type III observed at same positions during day.

COSMIC RAY INDICES

(Neutron Monitors)

APRIL 1973

Apr. 1973	THULE DAILY AVERAGE COUNTS PER HOUR	DEEP RIVER DAILY AVERAGE COUNTS PER HOUR	CALGARY DAILY AVERAGE COUNTS PER HOUR	SULPHUR MT. DAILY AVERAGE COUNTS PER HOUR	CLIMAX DAILY AVERAGE COUNTS PER HOUR	DALLAS DAILY AVERAGE COUNTS PER HOUR
1	4473.8		11665.7	8615.1		6343.8
2	4461.8		11590.9	8545.0		6304.6
3	4439.6		11524.4	8485.0		6246.9
4	4408.4		11424.6	8428.6		6212.5
5	4425.5		11367.2	8453.2		6207.7
6	4456.3		11434.1	8482.1		6213.3
7	4445.5		11518.2	8496.9		6221.6
8	4448.5		11536.9	8501.9(9)		6217.1
9	4459.4		11570.4	-- (0)		6235.6
10	4459.0		11597.6	-- (0)		6227.7
11	4442.5		11540.1	8587.3(5)		6239.9
12	4448.5		11487.2	8563.7		6197.6
13	4393.2		11311.5	8446.8		6131.5
14	4294.3		11054.1	8212.6		6045.6
15	4257.2		10990.4	8153.7		5971.4
16	4376.6		11361.3	8474.6		6161.5
17	4453.9		11475.2	8575.5		6221.1
18	4461.5		11483.7	8597.0		6214.1
19	4448.6		11500.4	8554.2		6210.4
20	4445.4		11461.7	8530.3		6195.8
21	4462.0		11507.8	8556.8		6197.0
22	4449.6		11484.3	8574.8		6186.9
23	4442.7		11476.9	8575.0		6182.2
24	4439.3		11521.2	8601.8		6189.3
25	4452.0		11513.1	8578.6		6202.0
26	4420.0		11415.4	8513.4		6181.9
27	4385.0		11355.9	8481.7(5)		6176.3
28	4433.4		11453.4	-- (0)		6206.9
29	4443.9		11520.7	-- (0)		6228.0
30	4445.8		11528.7	-- (0)		6186.5

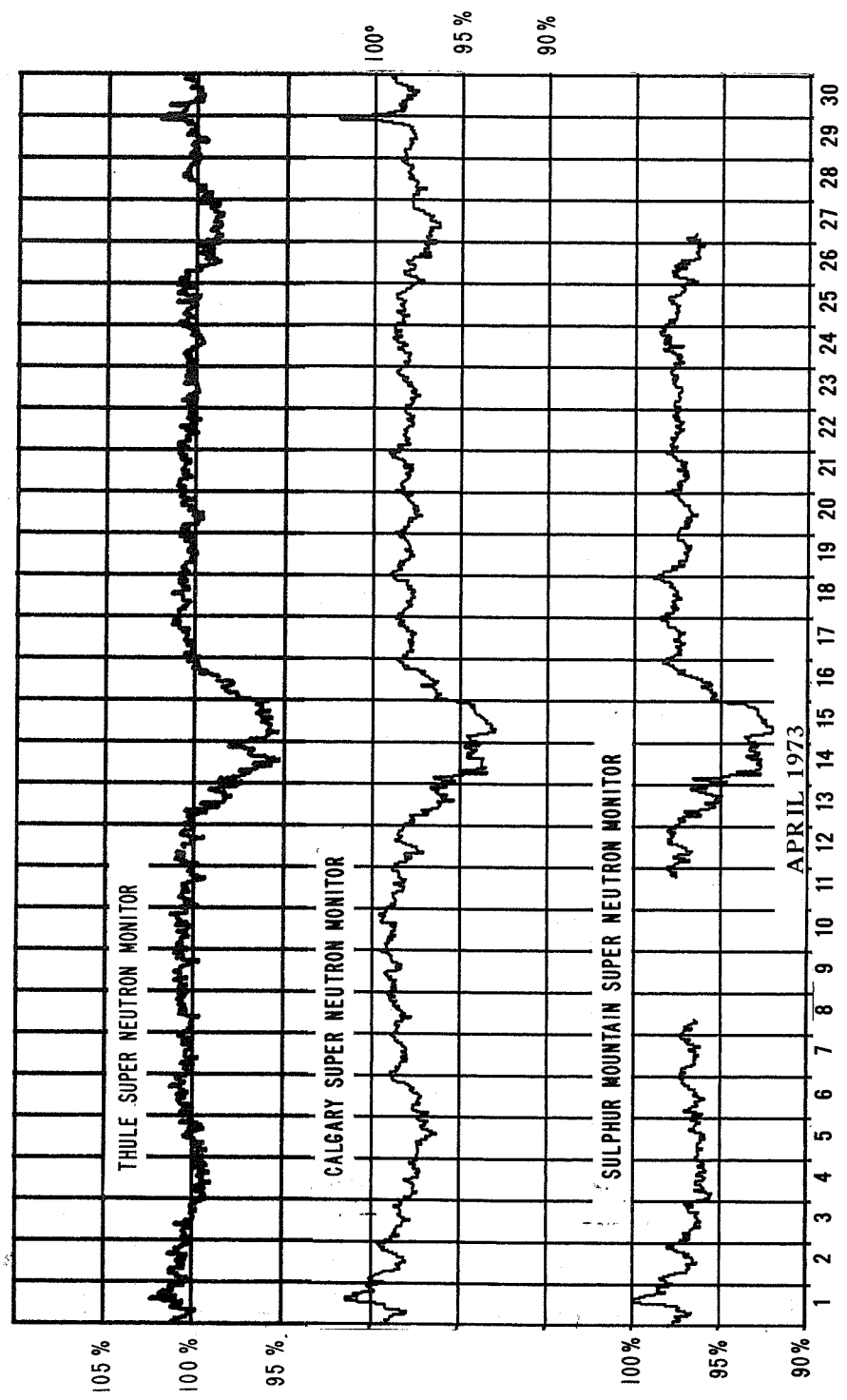
( ) Number of hours for which data are available if less than 24 (or number of section hours if less than 40 for Climax).

Churchill and Dallas Super Neutron Monitors, Scaling Factors 120.

Deep River Super Neutron Monitor, Scaling Factor 300.

Thule, Calgary and Sulphur Mountain Super Neutron Monitors, Scaling Factors 100.

Climax IGC Station B305, Scaling Factor 100.



The Thule nucleonic intensity detector, of standard IQSY design, is located at AFCRL Geopole Station, Greenland: latitude 76°36'N, longitude 68°48'W, altitude 260m, geomagnetic threshold rigidity essentially zero. The data are communicated by Martin A. Pomerantz, Bartol Research Foundation, Swarthmore, Pa. 19081.

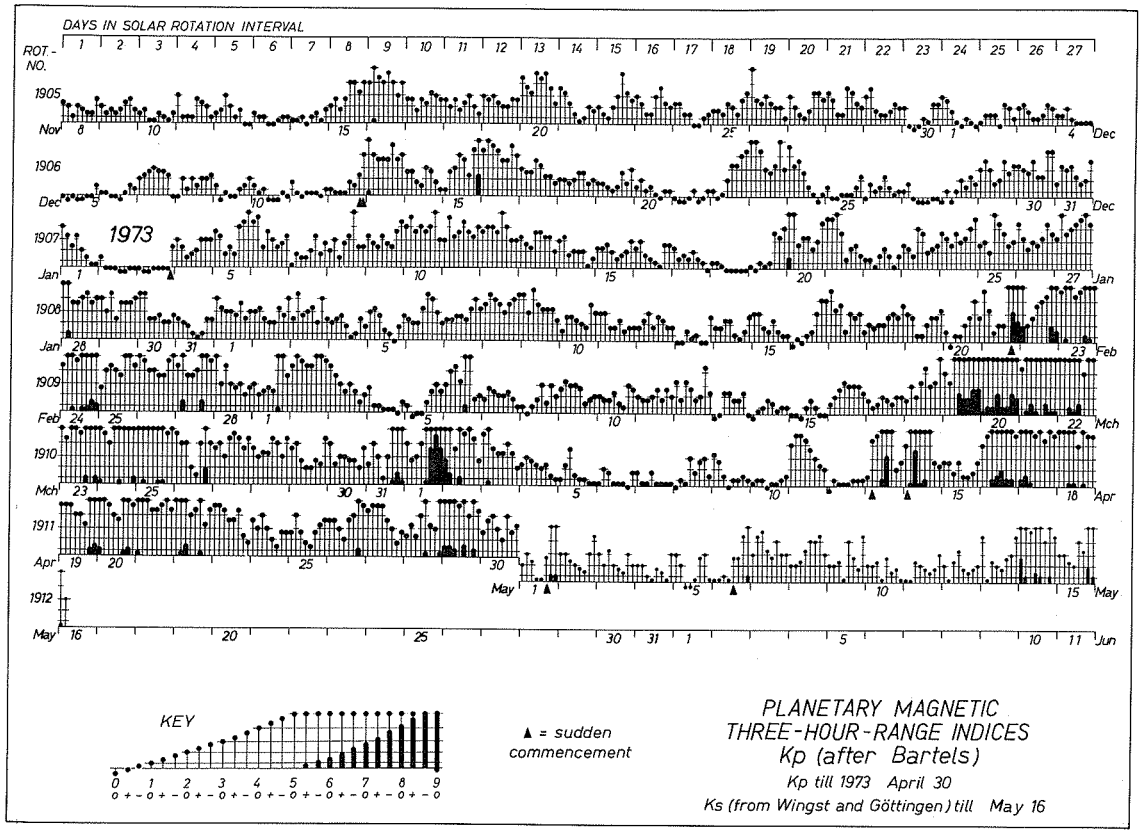
The scaling factor is 100. The plots represent percentage deviations from the monthly mean intensity. The data are corrected to the standard station atmospheric pressure, 730 mm of Hg, with the barometric coefficient - 1.00% per mm of Hg, as determined by regression analysis for the year 1972. Any changes in either the atmospheric attenuation length or in the sensitivity arising from long term drifts are applied retrospectively before the final hourly mean data are routinely distributed to the World Data Centers and to the scientific community.

GEOMAGNETIC ACTIVITY INDICES

APRIL 1973

DAY		K_p THREE-HOUR RANGE INDICES 1	2	3	4	5	6	7	8	SUM	C_i	C_p	A_p
1	D	4	3-	3	4	5+	8-	8+	8-	43-	1.8	1.9	91
2	D	7	6	4-	6-	5-	5	4+	3-	39	1.7	1.6	54
3		5-	5+	4-	3+	3+	4	3+	2	30-	1.1	1.2	26
4	Q	2+	3	3-	2+	2	2+	1+	1	17	0.3	0.5	9
5	QQ	1	2+	4-	1+	1	1	1-	1-	12-	0.3	0.3	7
6	QQ	1-	2	2-	1-	1-	1-	0+	2-	8+	0.0	0.1	4
7	QQ	2-	1-	1-	2-	1-	1-	1-	1-	7+	0.0	0.1	4
8	Q	0+	1	1-	3	2-	3-	3	1+	14-	0.4	0.4	8
9	Q	3+	3-	1+	0+	1	1	1+	1	12	0.2	0.3	7
10	QQ	1-	1	1	0+	1-	1-	1	1+	7-	0.0	0.1	4
11		4	5-	5-	4+	4-	3	2+	2	29-	1.2	1.1	24
12	QQ	0	1	1-	1-	1-	1	1	1	6	0.2	0.1	3
13		1+	4+	5-	6-	7+	5	2	3-	33	1.5	1.5	46
14		4	5+	8-	5+	6-	5	3-	2+	38	1.6	1.7	57
15	Q	3-	3-	2-	3-	1+	1+	2-	3-	17-	0.4	0.5	9
16	D	4	5-	6-	6	6+	6-	6-	5-	43-	1.6	1.7	60
17	D	6-	6	5+	5-	5	4+	5	5-	41-	1.6	1.6	51
18		5	5	5+	5+	4	5+	5-	5-	39+	1.6	1.5	46
19		5-	5-	5-	4	4	3+	6-	6	37	1.5	1.5	42
20		6-	5	5-	4	4-	5+	6-	5-	39-	1.5	1.5	46
21		5+	5	5	4+	4+	5-	5	4+	38	1.6	1.5	42
22		5	5+	6	4	4+	5+	3+	4+	38-	1.4	1.5	44
23		5-	5-	4+	4-	4-	4+	2+	2-	29+	1.1	1.2	25
24		4-	3	4	3	2	1+	3-	3-	22+	0.5	0.8	14
25	Q	3-	4	3-	2-	1+	3-	3+	4-	22	0.8	0.8	14
26		4-	4-	3	2	4-	4	6-	5-	30+	1.2	1.2	28
27		4+	5-	5-	5-	4-	3	2-	3-	29+	1.1	1.2	26
28		2+	3+	2+	4	5+	3+	3	5+	29	1.2	1.2	26
29	D	6	6	6-	5-	6	4	6-	4+	42+	1.6	1.7	59
30		3-	4-	4	3	2	4	3-	3+	25+	1.0	1.0	18
										MEAN	1.00	1.04	30

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

DAY	1972 MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1973 JAN	FEB	MAR	APR
1	18	6	5	10	5	7	98	6	11	17	22	91
2	18	6	7	5	6	5	42	5	2	14	40	54
3	7	12	7	5	5	4	13	6	2	16	14	26
4	5	13	4	132	6	7	6	4	11	7	4	9
5	6	11	3	182	5	2	3	2	21	9	6	7
6	9	7	4	87	10	2	7	3	20	15	28	4
7	3	8	10	20	5	8	7	10	8	14	8	4
8	4	6	10	9	9	4	7	6	15	25	7	8
9	14	4	6	74	8	4	7	4	16	21	11	7
10	9	4	7	18	15	6	4	2	28	11	8	4
11	7	4	6	17	11	19	7	3	24	8	8	24
12	9	3	7	7	5	21	6	8	25	9	14	3
13	8	4	3	5	53	21	4	30	16	4	5	46
14	7	10	3	9	54	26	4	9	8	7	4	57
15	38	11	6	10	24	8	17	29	9	8	3	9
16	18	8	8	6	19	12	31	33	8	10	12	60
17	9	62	8	6	26	2	12	13	5	16	6	51
18	10	126	5	13	14	11	9	8	3	11	20	46
19	4	19	8	14	6	34	11	7	10	10	82	42
20	4	9	5	15	4	14	27	4	29	9	80	46
21	4	5	3	15	2	16	9	2	22	49	58	42
22	5	12	10	8	4	13	13	14	5	46	53	44
23	7	11	10	3	13	18	11	30	13	48	50	25
24	5	14	17	2	16	11	5	13	22	54	49	14
25	5	6	33	5	6	6	8	4	20	31	50	14
26	8	10	17	18	7	8	14	5	20	34	32	28
27	8	17	9	25	8	7	11	2	33	44	28	26
28	22	13	5	8	8	11	12	4	33	20	22	26
29	10	11	4	8	25	21	9	15	22		16	59
30	14	3	4	6	8	20	4	19	15		15	18
31	12		6	7		29		13	6		33	
MEAN	10	14	8	24	13	12	14	10	16	20	25	30

PRINCIPAL MAGNETIC STORMS

APRIL 1973

DATE 1973 MO. DA.	STORM TIME UT START	STORM TIME UT END MO. DA. HR	OBS.	GEO-MAG. LAT.	SUDDEN COMMENCEMENT TYPE	AMPLITUDES D(')	AMPLITUDES H(γ)	AMPLITUDES Z(γ)	C FIGURE DEGREE OF ACTIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9 MO. DA.	3-HOUR PERIOD	K INDEX	RANGES D (')	RANGES H (γ)	RANGES Z (γ)	STORM NUMBERS
03 31	13--	04 02 20	IRKU	40.8N	..	..	..	..	MS	04 01	6,7	7	37	257	166	17
	17--	04 03 11	TUCS	40.4N	..	..	..	..	MS	04 01	6,7	6	22	210	50	17
										04 02	1,2	6				17
	1300	04 02 22	HYDE	7.6N	..	..	..	..	S	04 01	6	8	7	276	30	17
04 01	12--	04 03 07	WITT	54.1N	..	..	..	..	MS	04 01	6,7	7	60	375	375	17
	13--	04 04 09	FRED	49.6N	..	..	..	..	S	04 01	8	8	62	266	328	17
	0631	04 02 20	ALIB	9.5N	SC	0.0	9	- 3	MS	04 01	6	7	6	264	53	17
	1121	04 03 19	GUAM	4.0N	..	..	..	..	MS	04 01	7	6	0	110	20	17
	0631	04 02 20	ANNA	1.5N	SC	- 0.5	15	4	MS	-- --	-	-	6	--	68	17
	0631	04 02 20	TVAN	1.1S	SC	0.0	16	17	MS	-- --	-	-	5	317	144	17
	1241	04 03 12	APIA	16.1S	SC	+ 0	+28	- 8	MS	04 01	7					17
										04 02	2	6	6	211	32	17
	11--	04 02 20	GNAN	43.2S	..	..	..	..	MS	04 01	6,7,8	7	36	150	230	17
	13--	04 03 12	KGLN	57.3S	..	..	..	..	S	04 01	7,8	9	--	--	--	17
										04 02	1	9				17
04 10	2109	04 11 23	HYDE	7.6N	SC	- 0.1	+ 6	- 4	M	04 11	2,3,4,6	4	3	111	17	18
	2109	04 11 18	PMOR	18.6S	SC	+ 0.2	+ 8	+ 5	M	04 11	2,4	5	4	150	70	18
	21--	04 11 22	KGLN	57.3S	..	..	..	..	M	04 11	2	4	--	--	--	18
04 11	00--	04 11 19	COLL	64.6N	..	..	..	..	MS	04 11	4,6	6	140	1070	770	18
	0014	04 11 23	NEWP	55.1N	..	..	..	..	M	04 11	2	5	24	94	115	18
04 13	0438	-- -- --	COLL	64.6N	SC *	-18	+42	-48	-	-- --	-	-	--	--	--	19
	0439	04 13 18	SITK	60.0N	SC *	- 7	+76	+15	S	04 13	5	9	270	1450	1130	19
	0438	04 14 02	NEWP	55.1N	SC *	4	63	--	MS	04 13	5	7	61	368	318	19
	0438	04 13 18	WITT	54.1N	SC *	- 5 *	+30	0	MS	04 13	5	6	20	215	80	19
	0434	04 14 01	FRED	49.6N	SC *	- 2	+55	- 8	MS	04 13	5	6	32	245	80	19
	0439	04 13 20	BOUL	49.0N	SC *	- 3	+54	--	MS	04 13	4,5	6	31	200	90	19
	0440	04 14 18	IRKU	40.8N	SC *	5.0	61	5	MS	04 13	4	7	22	219	90	19
	0438	04 23 09	TUCS	40.4N	SC	- 1	+50	+ 3	MS	04 14	3	7	21	230	20	19
	0438	04 14 01	SJUA	29.9N	SC	+ 0.5	+28	+08	M	04 13	3,4,5,6	5	10	122	31	19
	0438	04 13 18	ALIB	9.5N	SC	- 0.6	48	-10	MS	04 13	4,5	6	4	320	32	19
	0432	04 14 01	HYDE	7.6N	SC	- 0.7	+55	- 7 *	MS	04 13	5	7	5	322	25	19
	0438	04 14 02	GUAM	4.0N	SC *	--	44	14	MS	04 13	4	6	0	170	30	19
	0438	04 13 18	ANNA	1.5N	SC *	- 2.2	94	29	MS	-- --	-	-	5	368	74	19
	0438	04 13 18	TVAN	1.1S	SC *	0.9	90	09	MS	-- --	-	-	3	391	273	19
	0438	04 13 20	APIA	16.1S	SC	0	+30	-11	M	04 13	3,4	5	4	138	32	19
	0438	04 23 18	PMOR	18.6S	SC *	+ 0.9*	+43 *	+42 *	MS	04 14	3	7	10	270	130	19
	0439	04 13 21	HRMN	33.3S	SC *	+ 4 *	+15	+ 8	MS	04 13	5	6	18	186	95	19
	0439	04 13 19	GNAN	43.2S	SC	+ 1	-25	+ 3	MS	04 13	5	6	27	190	200	19
	0439	04 13 18	KGLN	57.3S	SC	--	--	--	MS	04 13	5	7	--	--	--	19
04 14	0243	04 14 22	COLL	64.6N	SC *	-23	+80	-78	S	04 13	5	8	367	2020	1210	20
	0249	04 14 22	SITK	60.0N	SC	- 7	+64	+21	S	04 14	3	9	110	1040	470	20
	0247	04 15 06	NEWP	55.1N	SC	3	55	3	S	04 14	3	9	78	867	452	20
	0247	04 14 18	WITT	54.1N	SC	- 2	+16	0	MS	04 14	3,5	6	20	190	40	20
	0247	04 15 05	FRED	49.6N	SC	+ 1	+50	- 6	MS	04 14	3	6	22	212	180	20
	0247	04 15 07	BOUL	49.0N	SC	+ 1	+48	--	MS	04 14	3	6	29	215	145	20
	0247	04 15 04	SJUA	29.9N	SC	+ 0.1	+28	+10	M	04 14	3	6	10	85	22	20
	0244	04 14 22	ALIB	9.5N	SC	0.0	32	- 5	MS	04 14	3	6	4	207	48	20
	0248	04 15 03	HYDE	7.6N	SC	+ 0.5	+37 *	- 5 *	MS	04 14	3	7	5	225	35	20
	0248	04 23 17	GUAM	4.0N	SC *	--	41	11	MS	04 14	3	7	0	180	30	20
	0244	04 14 22	ANNA	1.5N	SC *	- 1.0	64	16	MS	-- --	-	-	7	338	106	20
	0244	04 14 22	TVAN	1.1S	SC *	0.6	59	67	MS	-- --	-	-	4	411	388	20
	0247	04 15 12	APIA	16.1S	SC	0	+22	- 8	MS	04 14	3	6	5	178	47	20
	0247	04 15 03	HRMN	33.3S	SC	+ 4	+ 3	--	MS	04 14	3	6	21	117	69	20
	0247	04 14 18	GNAN	43.2S	SC *	-01 *	+12 *	- 3 *	MS	04 14	3	6	26	120	120	20
	0249	04 14 21	KGLN	57.3S	SC	--	--	--	M	04 14	3,5	5	--	--	--	20
04 15	20--	04 23 18	NEWP	55.1N	..	..	..	..	MS	04 17	2	7	80	310	299	21
	01--	04 23 12	FRED	49.6N	..	..	..	..	MS	04 21	1	6	30	168	91	21
	20--	04 16 21	IRKU	40.8N	..	..	..	..	MS	04 16	4,5	6	25	125	85	21
	2000	04 19 00	HYDE	7.6N	..	..	..	..	MS	04 16	5	6	6	118	33	21
	20--	04 17 --	KGLN	57.3S	..	..	..	..	MS	04 16	5	7	--	--	--	21
04 16	00--	04 23 18	COLL	64.6N	..	..	..	..	MS	04 16	3,4	7	267	1680	1230	21
										04 17	3,4	7				21
										04 18	4	7				21
										04 19	3	7				21
										04 21	4	7				21
										04 22	3,6	7				21
	00--	04 23 17	SITK	60.0N	..	..	..	..	S	04 22	3	9	120	1580	790	21
	02--	04 23 17	WITT	54.1N	..	..	..	..	MS	04 16	4,5,6	6	35	260	105	21
										04 17	1	6				21
										04 19	7	6				21
										04 20	6,7	6				21
										04 21	6	6				21
	00--	04 24 14	BOUL	49.0N	..	..	..	..	MS	04 17	2	6	35	135	90	21
										04 18	1,4	6				21
										04 21	1	6				21
										04 22	1,2,3	6				21

PRINCIPAL MAGNETIC STORMS

APRIL 1973

DATE 1973 MO DA	STORM TIME UT START	STORM TIME UT END MO DA HR	OBS	GEO-MAG LAT.	SUDDEN COMMENCEMENT TYPE	SUDDEN COMMENCEMENT AMPLITUDES D(')	H(γ)	Z(γ)	C FIGURE DEGREE OF ACTIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9 MO DA	3-HOUR PERIOD	K INDEX	RANGES D (')	H (γ)	Z (γ)	STORM NUMBERS
04 16	23--	04 19 15	IRKU	40.8N	..	..	..	..	MS	04 18	4	6	18	146	34	21
	01--	04 23 17	APIA	16.1S	..	..	..	..	M	04 16	3					21
										04 18	4					21
										04 22	3	5	5	103	26	21
	00--	04 23 17	HRMN	33.3S	..	..	..	..	M	04 16	4	5	29	117	82	21
										04 17	1,7	5				21
										04 18	8	5				21
										04 19	1,7,8	5				21
										04 20	1,2,7	5				21
										04 21	1,7	5				21
	00--	04 23 18	GNAN	43.2S	..	..	..	..	MS	04 16	5,7	6	28	140	170	21
										04 17	5	6				21
										04 21	4,5	6				21
04 19	17--	04 22 18	IRKU	40.8N	..	..	..	..	M	04 19	7,8	5	19	138	53	21
										04 20	2,4,6,7	5				21
										04 21	1,4,5	5				21
										04 22	3,5,6	5				21
	1800	04 22 18	HYDE	7.6N	..	..	..	..	M	04 21	6	5	4	91	28	21
04 25	17--	04 27 15	COLL	64.6N	..	..	..	..	MS	04 27	3	7	149	1240	630	22
	18--	05 01 08	TUCS	40.4N	..	..	..	..	MS	04 29	1,3	6	17	110	20	22
	18--	04 26 07	KGLN	57.3S	..	..	..	..	M	04 25	7,8	4	--	--	--	22
04 26	1225	04 27 15	NEWP	55.1N	..	..	..	..	M	04 27	1,2,3,4	5	29	121	166	22
	12--	05 01 06	FRED	49.6N	..	..	..	..	M	04 26	7	5	17	177	107	22
										04 27	1,2,3	5				22
										04 29	1,2,3	5				22
	19--	04 30 13	HRMN	33.3S	..	..	..	..	M	04 26	7,8	5	28	108	112	22
										04 27	1,5	5				22
										04 28	1,5,7	5				22
										04 29	5,7	5				22
	19--	04 27 17	GNAN	43.2S	..	..	..	..	M	04 26	7	5	15	120	100	22
										04 27	3,4	5				22
	19--	04 27 18	KGLN	57.3S	..	..	..	..	M	04 26	7,8	5	--	--	--	22
04 28	07--	04 30 13	COLL	64.6N	..	..	..	..	MS	04 29	5	7	182	2000	940	23
										04 30	3	7				23
	07--	04 30 12	SITK	60.0N	..	..	..	..	MS	04 29	3,5	7	70	900	760	23
	1153	05 01 08	NEWP	55.1N	SC	4	22	--	MS	04 29	1,2,3,5	6	43	184	261	23
	09--	04 29 23	WITT	54.1N	..	..	..	..	MS	04 28	8	6	35	230	80	23
										04 29	1,7	6				23
	12--	05 01 09	BOUL	49.0N	..	..	..	..	MS	04 29	1,2,3	6	32	105	80	23
	09--	04 29 22	IRKU	40.8N	..	..	..	..	MS	04 28	5	6	30	151	46	23
										04 29	5	6				23
	1000	04 29 23	HYDE	7.6N	..	..	..	..	M	04 28	5	5	5	138	26	23
										04 29	5					23
	07--	04 30 03	APIA	16.1S	..	..	..	..	M	04 29	3	5	5	119	28	23
	0911	04 30 18	PMOR	18.6S	..	..	..	..	M	04 28	5	5	6	100	50	23
										04 29	3	5				23
	10--	04 30 10	GNAN	43.2S	..	..	..	..	MS	04 29	5	6	20	90	110	23
	20--	04 30 00	KGLN	57.3S	..	..	..	..	M	04 28	8	5	--	--	--	23
										04 29	1,6,7,8	5				23

Reports were received from the following observatories:

College Witteveen Fredericksburg Irkutsk San Juan Hyderabad Annamalainagar Apia Hermanus Port-aux-Francais
Sitka Newport Boulder Tucson Alibag Guam Trivandrum Port Moresby Gnangara

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

APRIL 1973

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc, si and bay-commencements are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

10 2110 A: LG; B: MA PM PP; C: WN IK EB PE DU (si: B: FU FR LM; C: TL)

13 0438 A: SO DO NU SI MA VI FU OT LG IK CI FR PE SZ PM HU TN LM KG DU; B: LE ES WN WI NI EB TL KA PP GN

14 0247 A: SO OT LG CI TL FR PE SZ PM LM; B: DO NU LE SI ES WN WI MA VI IK EB PP GN DU; C: KA KG (si: A: FU; B: NI HU)

Sudden impulses found in the magnetograms (si)

none

Rapid variations in form of bays (b, bs, bp, bps)

09 0008 bp: A: LG CI; B: SO WI FU IK EB SZ; C: TL LM

Giant pulsations (pg)

07 0710 - 1300 NUA
09 0800 - 1020 NUA
14 0545 - 0600 SIA

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

02 0824 - 0831 SZ
04 1132 - 1147 MA
09 1745 - 1757 HU
10 1224 - 1242 WN WI IK EB TL PE
11 1053 - 1101 MA (bps: B: PP)
11 1842 - 1900 TL FR HU
23 0751 - 0758 SZ

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

APRIL 1973

North Atlantic

APR. 1973	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC								GEOMAGNETIC INDICES		
			6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				K_{FR}		A_{FR}
			00 TO 06	06 TO 12	12 TO 18	18 TO 24	02	08	14	20	HALF DAY (1)	HALF DAY (2)	OBSERVED
01	5-	6	5o	4+	5-	4+	5	5	6	4	3	(6)	67
02	4+	6	3+	4-	6-	5o	4	4	4	4	(5)	3	37
03	4+	6	4o	3-	5-	5+	5	5	5	6	(4)	3	22
04	6-	6	6-	4+	6o	6+	5	6	6	6	3	2	10
05	6o	6	6+	5-	7-	6o	6	6	6	6	3	1	8
06	6+	6	7-	5o	6+	7o	6	6	7	6	2	1	6
07	6+	6	7-	6-	6+	7-	6	6	7	7	1	1	3
08	7-	6	7-	6o	7-	7-	6	6	6	6	1	2	6
09	7-	6	7-	6+	7-	7-	7	6	7	7	2	1	6
10	7-	6	7-	7-	7-	7-	7	7	7	6	1	1	3
11	6o	6	6+	5+	6o	6+	7	6	6	6	(4)	2	19
12	6+	6	6+	6-	7-	7-	6	6	6	6	1	1	4
13	6-	6	7-	6+	5-	5+	6	6	6	4	(4)	(4)	32
14	5-	5	5+	3o	4+	6-	5	5	5	5	(5)	(4)	33
15	6o	4	6-	5o	7-	6+	4	5	6	6	3	2	9
16	5+	4	6-	4o	6-	6-	6	6	6	5	(4)	(5)	35
17	4+	4	5-	3o	5o	5-	4	4	5	5	(5)	(4)	29
18	4o	4	4o	3+	4o	4+	4	4	4	4	(5)	(4)	35
19	4o	4	4+	3o	5-	4+	4	4	5	5	(5)	(4)	32
20	4+	4	4+	4o	5-	4+	4	4	5	5	(5)	(4)	33
21	4+	4	4+	4-	4+	4+	4	4	5	5	(5)	(4)	34
22	5-	5	4o	4o	5+	5o	4	4	5	4	(5)	(4)	36
23	5o	5	4+	5-	5+	6-	4	4	6	5	(5)	3	26
24	6-	5	6-	5+	6-	6o	5	5	6	6	3	2	13
25	6-	6	6-	5o	6o	6-	5	6	7	6	3	2	14
26	4+	6	4+	4o	5o	4+	6	6	6	5	3	(4)	20
27	4o	5	4o	3-	5-	5o	4	5	6	5	(5)	2	26
28	6-	4	6-	6-	6-	5+	5	5	6	5	3	(4)	19
29	5o	4	5-	4-	5+	6o	6	4	5	4	(5)	(4)	36
30	5+	4	5+	4-	6+	6-	4	4	6	5	3	3	17

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

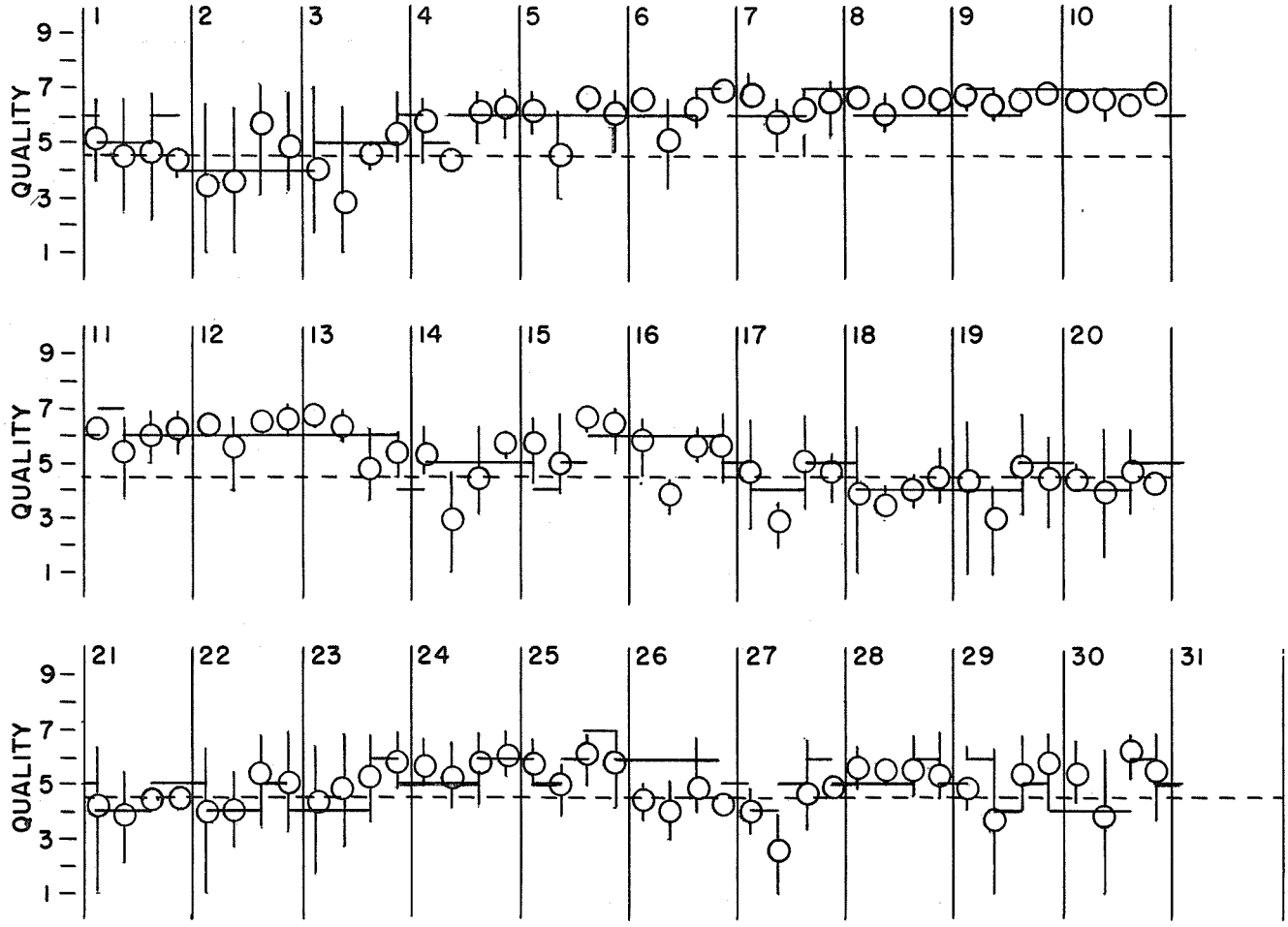
APRIL 1973

North Atlantic

– Short term forecast
o Quality figure

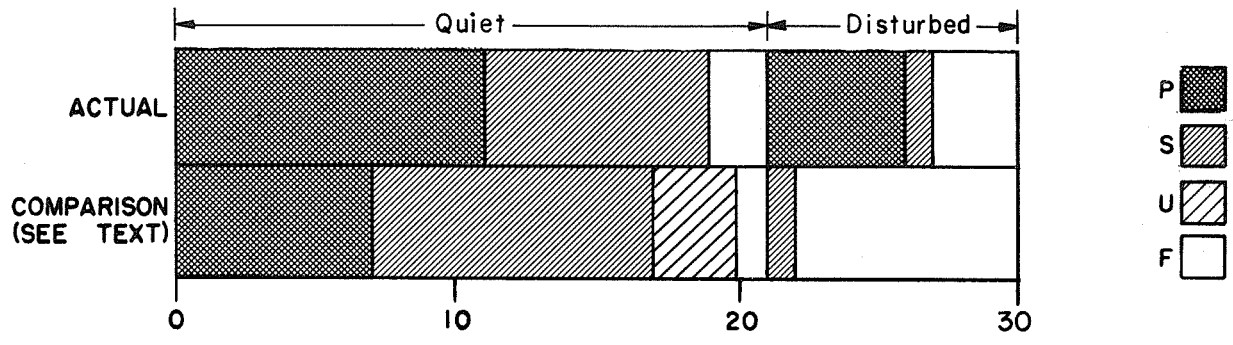
| range of reports

Day



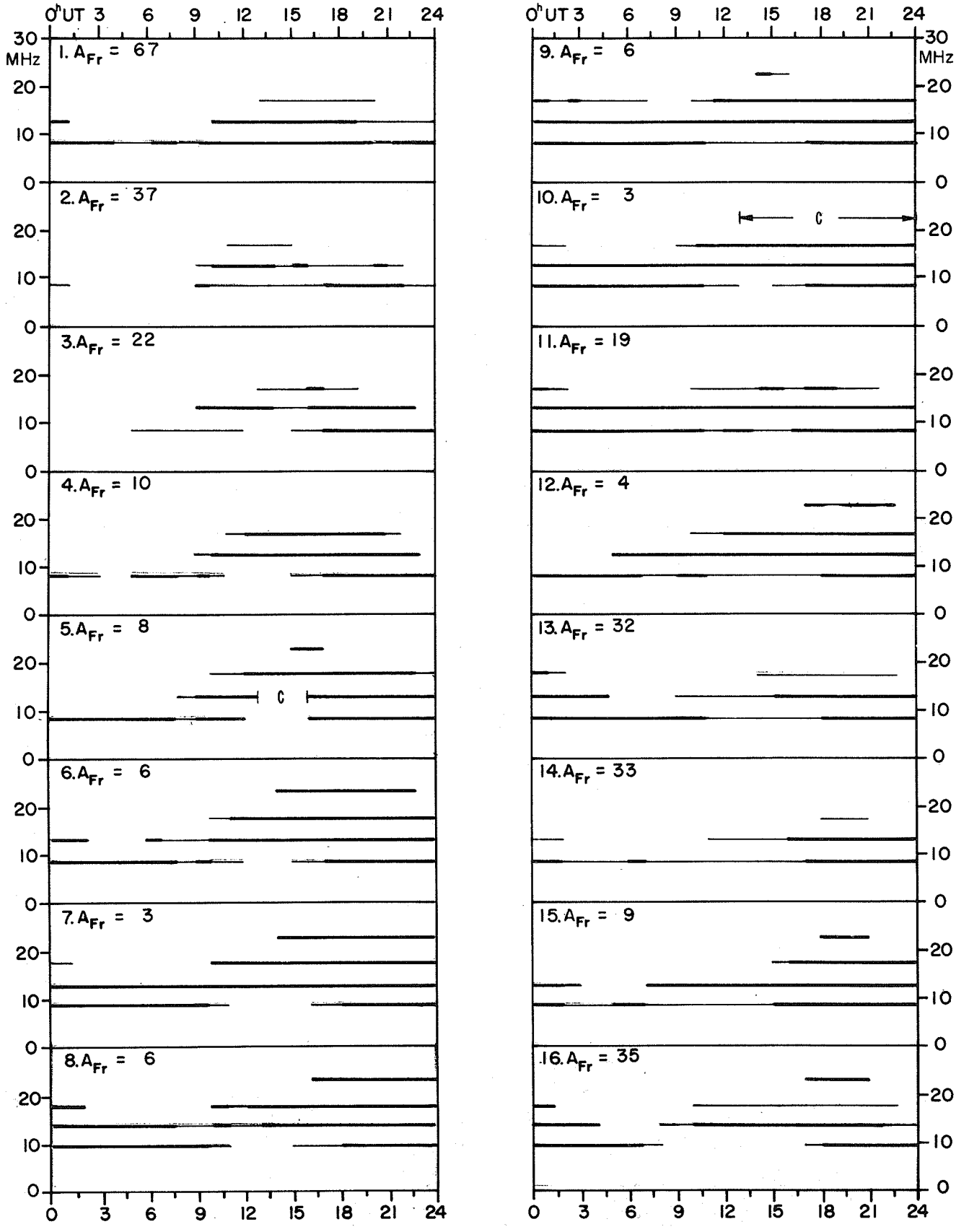
Outcome of advance forecasts of High Latitude radio propagation conditions (scored against observed North Atlantic radio propagation conditions)

HIGH LATITUDE



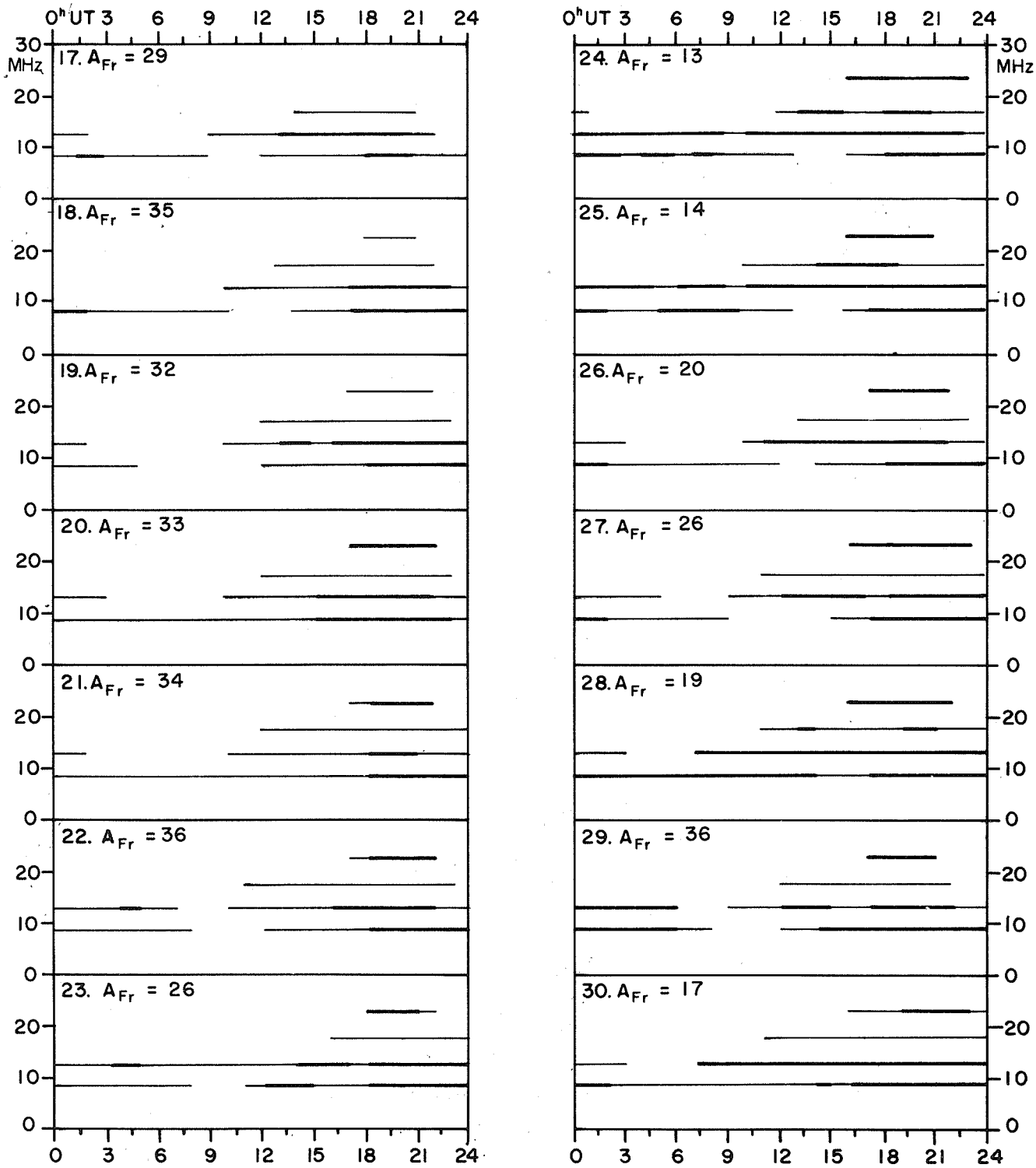
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1973



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1973



Field strengths from four frequencies, 8.542, 12.813, 17.084 and 22.378 MHz, as observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

April 1973

Calculated from the records of four frequencies
on the circuit Lüchow - Halifax (Germany - Canada)

Date	Day	Night	D+N
1	2.6	1.8	2.5
2	1.8	2.0	2.0
3	3.1	3.1	3.2
4	4.9	4.5	4.9
5	7.1	7.3	6.9
6	9.2	10.5	9.3
7	9.3	11.2	9.4
8	7.7	10.0	7.9
9	7.7	9.8	8.0
10	8.5	9.3	8.2
11	5.7	4.8	5.3
12	8.8	8.1	7.9
13	3.9	3.5	3.4
14	3.6	4.8	3.6
15	7.7	6.0	6.4
16	4.4	3.0	3.7
17	2.8	2.3	2.5
18	3.2	2.2	2.6
19	4.5	2.8	3.7
20	4.1	2.4	3.4
21	3.4	2.9	3.2
22	3.6	3.3	3.4
23	4.1	5.7	4.3
24	6.3	5.2	5.7
25	5.7	3.1	4.4
26	4.2	3.0	3.6
27	4.9	4.8	4.6
28	6.7	4.5	5.6
29	3.8	3.0	3.2
30	4.4	4.4	4.0

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The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."