U.S. DEPARTMENT OF COMMERCE
Alexander B. Trowbridge, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
Robert M. White, Administrator
ENVIRONMENTAL DATA SERVICE
Woodrow C. Jacobs, Director

ESSA RESEARCH LABORATORIES

Solar-Geophysical Data

Number 281
for December 1967
November 1967
July 1967
& Miscellanea

DATA COMPILED BY AERONOMY AND SPACE DATA SERVICES
BOULDER, COLORADO

WASHINGTON, D.C.
JANUARY 1968

SOLAR - GEOPHYSICAL DATA

Table of Contents

	Page
Index for 1966 & 1967	2
Data for December 1967	3-36
Data for November 1967	39-91
Data for July 1967	93-146
Miscellaneous Data	149-153
Solar X-ray Radiation - Satellite Explorer 33 May - July 1967.	

For obtaining bulletins on a data exchange basis, send request to World Data Center A, Upper Atmosphere Geophysics, ESSA, Boulder, Colorado, 80302.

For sale through the Superintendent of Documents, Government Printing Office, Washington, D. C., 20402. Subscription price: $8.75 annually for domestic mailing. Add $2.25 for foreign mailing. Single issue price 75 cents.

INDEX FOR 1966-1967 DATA PUBLISHED IN IER-FB

	1966 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1967 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
American Relative Sunspot Numbers R_A,	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
Zürich Provisional Relative Sunspot Numbers R_Z	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
Zürich Final Sunspot Numbers R_Z	271	271	271	271	271	271	271	271	271	271	271	271												
2800 Mc/s-Daily Values of Solar Flux (Ottawa)	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
2800 Mc/s-Daily Values of Solar Flux (Final-Ottawa)	269	269	269	269	269	269	269	269	269	269	269	269												
2800 Mc/s-Daily Values of Adjusted Solar Flux (ARO)	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
2800 Mc/s-Daily Values of Adjusted Solar Flux (Final-Ottawa)	269	269	269	269	269	269	269	269	269	269	269	269												
8800, 4995, 2695, 1415, 606 Mc/s Adjusted Solar Flux (AFCRL)													270	271	272	273	274	275	276	277	278	279	280	281
Mt. Wilson Magnetic Characteristics of Sunspots	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
Mt. Wilson Magnetograms									269	269	269	270	271	272	273	274	275	276	277	278	279	280	281	
Hα Sacramento-Peak													271	272	273	274	275	276	277	278	279	280	281	
Sunspots (Boulder)													271	272	273	274	275	276	277	278	279	280	281	
Calcium Plage Maps (McMath-Hulbert)													271	272	273	274	275	276	277	278	279	280	281	
Calcium Plage and Sunspot Regions	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
Coronal Line Emission Indices	261	261	261	264	264	264	267	267	267	270	270	270	271	272	273	275	275	276	277	278	279	280	281	
Optical Observations Flares	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
Optical Observations Flares [1]	261	262	263	264	265	266	267	268	269	272	273	274	275	276	277	278	279	280	281					
Optical Observations Flares (Addenda)		266		266&268	266			270	271						278									
Flare Patrol Observations	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
Flare Patrol Observations	261	262	263	264	265	266	267	268&270	269&271	272	273	274	275	276	277	278	279	280	281					
Solar X-Ray Radiation (NRL)[2]	276	276	264	276	276	264	265	267	267	269	269	269	271	272	273	274	275	276	277	278	279	280	281	
X-Ray Graphs (NRL)								279		272	273	274	275	276	277	278	279	280	281					
Solar X-Ray Radiation (Aberdeen, S. Dakota)	261	261	261	261	262	263	264	265	266	---	272	---	---	272	273	274	---	276	277	---	279	280		
Solar X-Ray Radiation (France)				267	267																			
Solar X-Ray Radiation (ESSA-Boulder)	270	270	270	270	271	271	271	271	271	271	271	271	271	272	273	274	275	---	---	278	279	280	281	
X-Ray (University of Iowa)							275	275	275	275	275	277	278	278	278	280	280	281	281					
X-Ray (McMath-Hulbert)															278	279	279	280	281					
Ionospheric Effects - (SWF-SCNA-SEA-SPA-SES-SFD-Bursts)[3]	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
30 Mc/s Riometer Events (Great Whale River)	259	260	261	262	263	264	265	266	267	268	269	270	271	272	---	---	---	---	---	---	---	---	---	---
30 Mc/s Riometer Events (South Pole)															273	274	275	276	277	278	279	280	281	
10700, 2700, 960, 328 Mc/s - Outstanding Occurrences (Pennsylvania State University)	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
8800, 4995, 2695, 1415 and 606 Mc/s Outstanding Occurrences (AFCRL, Sagamore Hill)	260	260	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
2800 Mc/s - Outstanding Occurrences (ARO-Ottawa)	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
486 Mc/s - Outstanding Occurrences (Washington State Univ.)							264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281
408 Mc/s - Outstanding Occurrences (San Miguel)																						279	280	281
408 Mc/s - Interferometric Observations (Nançay)	258	259	260	261	262	264	264	265	266	267	268	269	270	271	272	273	275	275	276	277	279	279	280	281
169 Mc/s - Interferometric Observations (Nançay)	258	259	260	261	262	264	264	265	266	267	268	269	270	271	272	273	---	---	277	277	279	279	280	
184 Mc/s - Outstanding Occurrences (Boulder)[4]	258	259	260	261	262	263	---	---	---	---	---	---	---	---	272	273	274	275	276	277	278	279	280	281
107 Mc/s - Outstanding Occurrences (Haleakala)	258	---	261	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10-580 Mc/s - (Fort Davis)[5]	261	261	261	264	264	264	267	267	267	270	270	270	277	277	277	277	277	277	277	278	279	280	281	
10-210 Mc/s - (Culgoora)													277	277	277	277	277	277	277	278	279	280	281	
7.6-41 Mc/s - (University of Colorado - Boulder)	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	278	279	280	281	
9.1 cm Spectroheliograms (Stanford)	258	259	260	261	262	263	264	265	266	267	268	269	271	272	273	274	275	276	277	278	279	280	281	
21 cm Spectroheliograms (Fleurs)	263	263	263	266	266	266	267	267	267	268	---	269	271	272	273	274	275	276	277	278	---	280	281	
21 cm Solar Scans (Fleurs)	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	280	280	281
43 cm Solar Scans (Fleurs)				261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	280	280	281
Cosmic Ray Neutron Counts (Deep River)	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
Cosmic Ray Neutron Counts (Alert)							265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
Cosmic Ray Neutron Counts (Churchill)	259	260	261	274	274	274	274	274	274	274	274	274												
Cosmic Ray Neutron Counts (Climax)	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
Cosmic Ray Neutron Counts (Dallas)	259	260	261	275	275	275	275	275	275													280	281	
Geomagnetic Indices Ci, Cp, Kp, Ap - Selected Days	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
Principal Magnetic Storms							270	270	270	270	270	270	271	272	273	274	275	276	277	278	279	280	281	
Sudden Commencement and Solar Flare Effects	270	270	270	270	270	270	270	270	270	273	273	273	277	277	277	280	280	280						
27-Day Chart of Kp Indices for Year	270	270	270	270	270	270	270	270	270	270	270	270												
27-Day Chart of C9 for Year	270	270	270	270	270	270	270	270	270	270	270	270												
High Latitude Quality Figures and Forecasts	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
High Latitude Comparison Graphs	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
Graphs of Transmission Frequency Range	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	
IUWDS Alert Decisions	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281

NOTES: 1. Includes Standardized Flare Data beginning September 1966.
2. March-October 1965 in FB-279, November-December 1965 in FB-276.
3. No 18 Mc/s Bursts reported beginning December 1966; with outstanding occurrences Nov.-Dec. 1967.
4. 108 Mc/s (Boulder) in 1966.
5. 25-320 Mc/s (Fort Davis) in 1966.

Table of Contents
for December 1967 Data

	Page
Alert Periods	
IUWDS Alert Periods	5
Daily Solar Indices	
12-Month Tables Sunspot Numbers, R_Z, and 2800 Mc/s Flux Adjusted to 1 A. U.	6
Combined Table Sunspot Numbers and Solar Fluxes	7
Graph of Sunspot Cycle	8
Zürich Smoothed Observed Sunspot Numbers	9
Solar Centers of Activity	
Calcium Plages and Sunspots	10
Magnetic Classification of Sunspots - Mt. Wilson	11-13
Solar Flares	
Flares of Numerical Importance 1 or Greater	15-18
Subflares	19-20
No-Flare-Patrol Chart	21
Solar Radio Waves	
Outstanding Occurrences at Fixed Frequencies	23-28
Selected Solar Noise Bursts-AFCRL, Sagamore Hill	29
408 Mc/s Solar Interferometric Chart - Nancay	31
21 cm East-West Solar Scans - Fleurs	32
43 cm East-West Solar Scans - Fleurs	33
Solar Wind	34-36
Solar Proton Events	unnumbered

For explanations of the data contained herein see "Descriptive Text" published in February 1967.

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

DECEMBER 1967

DEC. 1967	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT			
			NO.	TYPE	TIMING	ELABORATION
1	0400		01566	Solar flares	Expected	S09 W69
	0840	Manila soflare 01/0746Z Importance 2B N27 W90				
2	0400		02567	Solar Flares	Expected	S29 W82
3	0400		03568	Solar flares	Ends	
12	0010	Carnarvon tenflare 510% 1123442				
	0045	Toyokawa tenflare 270% 1123XXZ end 120039Z				
15	0600	Stratalert Tokyo 150600Z Stratwarm				
16	0312	Carnarvon soflare 16/0245Z Importance 2B N22 E62				
	0350	Carnarvon tenflare 230% 16/0248Z in progress 16/0347Z				
17	0400		17569	Solar flares	Expected	N18 E03
18	0400		18570	Solar flares	Expected	N20 W10 N26 W49
	0536	Izmiran magstorm				
19	0400		19571	Solar flares	Expected	N19 W22 N26 E28
20	0400		20572	Solar flares	Expected	N19 W35 N26 E15
21	0400		21573	Solar flares	Expected	N19 W46
22	0400		22574	Solar flares	Expected	N19 W62
23	0400		23575	Solar flares	Expected	N19 W75
24	0400		24576	Solar flares	Ends	
25	0600	Stratalert Tokyo Stratwarm exists over eastern Siberia moving NW-ward slowly				
27	0400		27577	Solar flares	Expected	S15 E03
	0900	Carnarvon soflare 27/0838Z Importance 2B S13 E60				
28	0400		28578	Solar flares	Expected	S15 W11 S13 E50
29	0400		29579	Solar flares	Expected	S17 W23 S14 E36
30	0400		30580	Solar flares Stratwarm	Expected Starts	S17 W36 S12 E22 Hudson Bay-Iceland area moving northward slowly
31	0400		31581	Solar flares Stratwarm	Expected Exists	S16 W49 S12 E09 Hudson Bay-Greenland area moving northeastward
	1300	Agiwarn magstorm 3104XX				

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

1967 (PROVISIONAL)

DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	124.4	151.6	194.2	158.6	136.6	174.6	125.0	176.6	160.5	139.7	140.3	140.0
2	143.0*	143.5	197.8*	141.0	131.8	158.0*	125.7	166.7	156.6	135.0	140.9	131.5
3	154.0	138.7	196.4*	133.3	*	150.4	129.6	163.5	147.0	131.5	137.5	120.5
4	160.7	137.3*	205.9*	125.0	125.8	148.4	127.2	149.3*	140.9	129.9	130.5	126.3
5	168.2	146.8*	179.2*	122.1	128.1	138.7	123.7	155.4*	138.7	125.7	121.8	121.6
6	160.5	148.8	177.4*	119.0	122.8	130.5	116.6	155.4	133.8	129.9	119.6	130.3
7	153.6	162.5	163.8	126.2*	119.7	119.1	116.0	150.2	128.4	125.8	113.1	127.6
8	142.9	148.3	156.1	135.7	116.9	110.1	111.8	143.4	133.9	121.5	112.8	129.6
9	144.7	145.9	157.9	133.3	113.6	103.7	109.7	141.2	131.5	122.1	111.1	130.0
10	145.6	140.5	148.4	130.3	109.4	97.1	105.8	136.7	133.6	127.3	117.3	127.7
11	139.8	133.7	141.6	131.1*	106.1	96.9	107.1	136.2	131.8	136.5	124.1*	136.6
12	139.1	132.9	134.3	129.8*	109.7	96.5	106.1	138.9*	131.7*	135.4	132.7	139.1
13	138.1	130.0	129.1	126.8	107.3	99.8	113.8	137.5*	127.6	130.8	134.7	143.0
14	135.2	129.2	127.2	133.5	108.6*	103.8	122.4*	130.0	128.0	127.8	136.9	153.4*
15	126.6	126.4	132.4	124.1	111.0	107.2	127.6	127.4	130.4	122.6	142.9	164.3
16	120.2	124.9	132.1	126.1	113.1	111.8	130.1	132.9	126.4	118.0	151.8	181.3*
17	116.9	122.2*	132.6	125.9	115.4	112.0	129.6	148.3	126.7	117.3	154.9	202.0
18	117.4	124.2	132.2	128.7	124.8	115.4	131.3	157.1	128.7	113.3	156.9	212.4*
19	116.4	121.0	136.0	126.7	135.6*	119.0	128.6	172.3*	127.7	119.3	166.7	205.4
20	127.0	128.6	140.4	127.1	146.3	121.3	135.5	172.9	130.6	131.2	166.0	201.5
21	138.2	131.8*	147.2	134.0	160.3*	122.9	140.2	178.8*	126.6	130.1	161.4	198.0
22	139.9	146.0	149.5*	131.5	182.7	129.6	152.4	178.5	124.6	137.3	159.4	182.3
23	148.8*	149.3*	155.7	128.0	194.0*	133.1*	161.8	178.3*	123.8	139.4	156.6	164.0
24	146.8	162.2	161.9	130.5	200.9	132.4	176.4	169.9	131.8	141.3	152.6	152.9
25	142.7*	159.5*	169.2	132.9	210.7	133.1	195.5	170.8	134.1	142.1	154.7	159.4
26	154.3	173.3*	163.9*	125.4	218.9*	127.8	199.9	172.0	134.4	148.2	157.9	165.3*
27	158.3	176.7	162.8*	129.2	213.8	131.5	213.2	171.2	137.3	161.1*	155.0*	177.0*
28	156.2	180.2	180.7	135.1	202.6	136.7	213.1*	169.9	134.6	177.0	157.2	184.1
29	158.2*		178.4	137.5	188.3	133.4	215.7	172.7	131.7	163.4	150.3*	176.5
30	159.0		175.8	135.3	177.4	126.1	211.6	164.0	131.7	159.5*	144.4*	158.9
31	156.4		167.6*		175.4		188.9	165.7		148.6		154.9
MEAN	143.0	143.4	159.0	130.8	146.9	124.0	144.9	157.5	133.5	135.1	142.1	158.0

1966 Yearly Mean = 47.0

DAILY SOLAR FLUX AT 2800 Mc/s
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1967

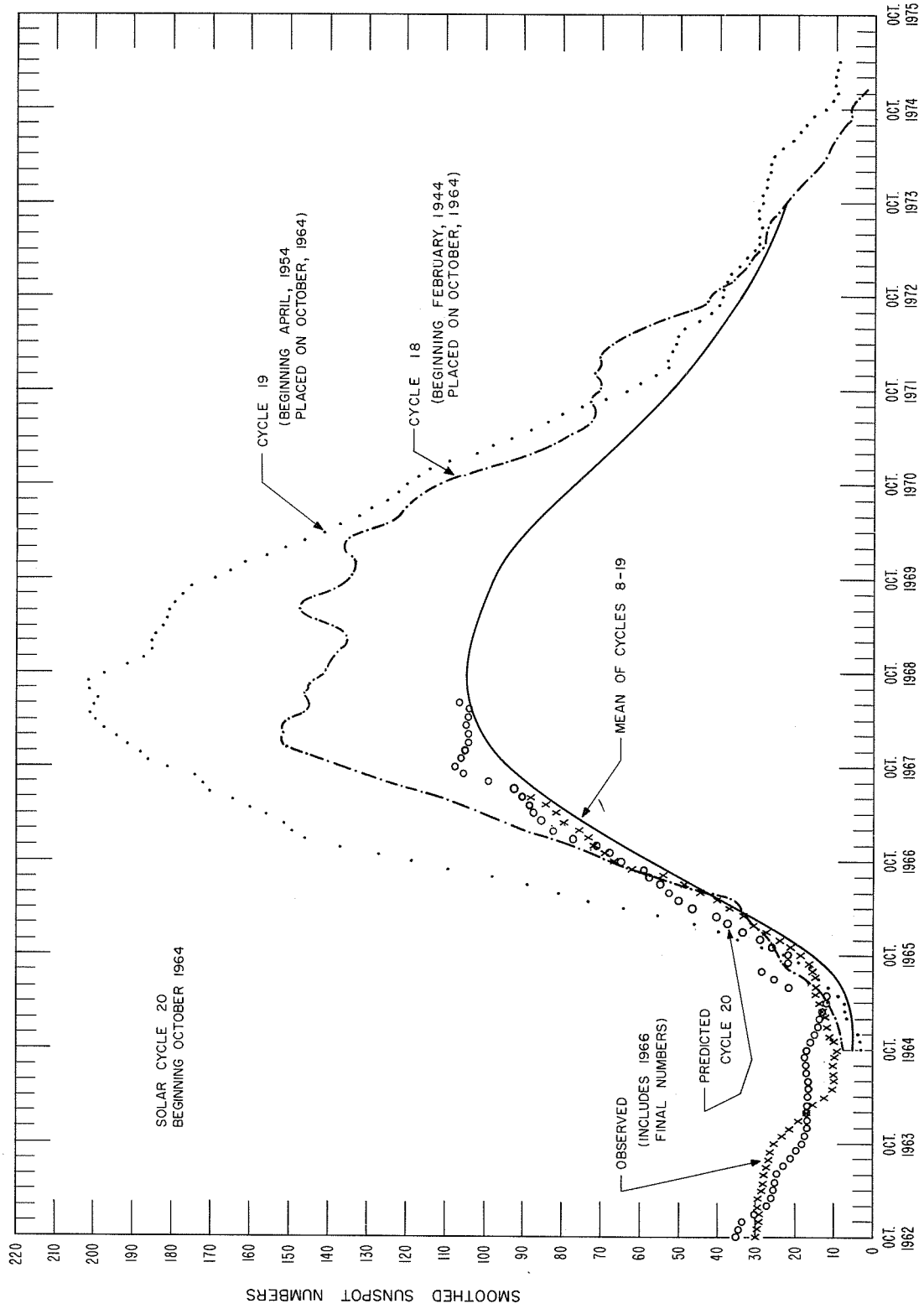
DAY	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	124.4	151.6	194.2	158.6	136.6	174.6	125.0	176.6	160.5	139.7	140.3	140.0
2	143.0*	143.5	197.8*	141.0	131.8	158.0*	125.7	166.7	156.6	135.0	140.9	131.5
3	154.0	138.7	196.4*	133.3	*	150.4	129.6	163.5	147.0	131.5	137.5	120.5
4	160.7	137.3*	205.9*	125.0	125.8	148.4	127.2	149.3*	140.9	129.9	130.5	126.3
5	168.2	146.8*	179.2*	122.1	128.1	138.7	123.7	155.4*	138.7	125.7	121.8	121.6
6	160.5	148.8	177.4*	119.0	122.8	130.5	116.6	155.4	133.8	129.9	119.6	130.3
7	153.6	162.5	163.8	126.2*	119.7	119.1	116.0	150.2	128.4	125.8	113.1	127.6
8	142.9	148.3	156.1	135.7	116.9	110.1	111.8	143.4	133.9	121.5	112.8	129.6
9	144.7	145.9	157.9	133.3	113.6	103.7	109.7	141.2	131.5	122.1	111.1	130.0
10	145.6	140.5	148.4	130.3	109.4	97.1	105.8	136.7	133.6	127.3	117.3	127.7
11	139.8	133.7	141.6	131.1*	106.1	96.9	107.1	136.2	131.8	136.5	124.1*	136.6
12	139.1	132.9	134.3	129.8*	109.7	96.5	106.1	138.9*	131.7*	135.4	132.7	139.1
13	138.1	130.0	129.1	126.8	107.3	99.8	113.8	137.5*	127.6	130.8	134.7	143.0
14	135.2	129.2	127.2	133.5	108.6*	103.8	122.4*	130.0	128.0	127.8	136.9	153.4*
15	126.6	126.4	132.4	124.1	111.0	107.2	127.6	127.4	130.4	122.6	142.9	164.3
16	120.2	124.9	132.1	126.1	113.1	111.8	130.1	132.9	126.4	118.0	151.8	181.3*
17	116.9	122.2*	132.6	125.9	115.4	112.0	129.6	148.3	126.7	117.3	154.9	202.0
18	117.4	124.2	132.2	128.7	124.8	115.4	131.3	157.1	128.7	113.3	156.9	212.4*
19	116.4	121.0	136.0	126.7	135.6*	119.0	128.6	172.3*	127.7	119.3	166.7	205.4
20	127.0	128.6	140.4	127.1	146.3	121.3	135.5	172.9	130.6	131.2	166.0	201.5
21	138.2	131.8*	147.2	134.0	160.3*	122.9	140.2	178.8*	126.6	130.1	161.4	198.0
22	139.9	146.0	149.5*	131.5	182.7	129.6	152.4	178.5	124.6	137.3	159.4	182.3
23	148.8*	149.3*	155.7	128.0	194.0*	133.1*	161.8	178.3*	123.8	139.4	156.6	164.0
24	146.8	162.2	161.9	130.5	200.9	132.4	176.4	169.9	131.8	141.3	152.6	152.9
25	142.7*	159.5*	169.2	132.9	210.7	133.1	195.5	170.8	134.1	142.1	154.7	159.4
26	154.3	173.3*	163.9*	125.4	218.9*	127.8	199.9	172.0	134.4	148.2	157.9	165.3*
27	158.3	176.7	162.8*	129.2	213.8	131.5	213.2	171.2	137.3	161.1*	155.0*	177.0*
28	156.2	180.2	180.7	135.1	202.6	136.7	213.1*	169.9	134.6	177.0	157.2	184.1
29	158.2*		178.4	137.5	188.3	133.4	215.7	172.7	131.7	163.4	150.3*	176.5
30	159.0		175.8	135.3	177.4	126.1	211.6	164.0	131.7	159.5*	144.4*	158.9
31	156.4		167.6*		175.4		188.9	165.7		148.6		152.6*
MEAN	143.0	143.4	159.0	130.8	146.9	124.0	144.9	157.5	133.5	135.1	142.1	157.9

* Adjusted for Burst

DAILY SOLAR INDICES

DECEMBER 1967

DEC. 1967	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX OTTAWA 2800	SOLAR FLUX ADJUSTED TO 1 A.U.					
			R_Z	$R_{A'}$		AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606
01	335	6	131	106	144.0	316	202	140.0	138.1	85.1	61.2
02	336	7	126	103	135.3	305	189	131.5	129.4	80.2	58.1
03	337	8	89	86	124.1	298	176	120.5	113.9	77.6	54.2
04	338	9	75	76	130.1	302	187	126.3	117.4	78.0	54.8
05	339	10	71	77	125.2	295	177	121.6	114.7	73.9	53.3
06	340	11	88	86	134.2	299	185	130.3	120.1	--	54.2
07	341	12	126	101	131.6	300	184	127.6	123.8	--	55.3
08	342	13	131	114	133.6	297	182	129.6	125.0	81.5	58.3
09	343	14	113	102	134.0	302	182	130.0	124.9	83.3	60.1
10	344	15	114	99	131.7	299	180	127.7	123.9	83.1	58.6
11	345	16	112	125	141.0	306	188	136.6	134.1	90.4	62.3
12	346	17	110	130	143.6	309	191	139.1	134.1	93.0	61.7
13	347	18	124	129	147.6	313	195	143.0	137.6	94.6	64.8
14	348	19	140	127	158.3*	323	205	153.4*	146.2	96.9	66.0
15	349	20	151	152	169.6	335	223	164.3	158.1	101.1	67.5
16	350	21	160	143	187.3*	350	253	181.3*	185.8	110.0	70.9
17	351	22	172	135	208.7	353	256	202.0	190.9	110.2	71.1
18	352	23	170	144	219.4*	378	288	212.4*	212.8	122.6	75.0
19	353	24	129	120	212.2	371	282	205.4	200.4	113.4	71.4
20	354	25	141	146	208.2	361	267	201.5	196.1	112.8	72.4
21	355	26	130	144	204.6	358	267	198.0	188.2	109.4	73.4
22	356	27	105	103	188.3	343	243	182.3	170.7	111.0	72.8
23	357	1	101	101	169.6	313	222	164.0	155.0	113.4	72.7
24	358	2	83	100	158.1	309	214	152.9	138.9	100.4	70.8
25	359	3	111	119	164.9	318	216	159.4	156.0	99.7	71.8
26	360	4	142	151	171.0*	335	234	165.3*	160.6	99.9	73.4
27	361	5	140	129	183.1*	335	248	177.0*	168.1	104.7	71.3
28	362	6	165	113	190.4	346	255	184.1	175.9	110.4	72.2
29	363	7	141	132	182.5	333	245	176.5	168.3	110.4	66.7
30	364	8	121	112	164.3	321	228	158.9	154.4	96.7	64.4
31	365	9	108	127	157.8 *	329	221	152.6 *	152.1	97.1	62.5
MEAN			123.2	117.2	163.0	324	219	157.9	152.1	98.0	65.3



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED SUNSPOT NUMBERS
ZURICH, R_Z

	1964	1965	1966	1967
JAN		11.7	27.7	73.1
FEB		12.0	31.3	76.4
MAR		12.5	34.5	79.3
APR		13.6	37.4	81.5
MAY		14.6	40.7	84.2
JUN		15.0	44.6	87.8
JUL		15.5	48.8*	
AUG		16.4	55.0	
SEP		17.4	62.7	
OCT	9.6	19.7	66.8	
NOV	10.2	22.3	69.0	
DEC	11.0	24.5	71.2	

* The smoothed sunspot numbers beginning with July 1966 are calculated using 1967 provisional monthly averages.

CALCIUM PLAGE AND SUNSPOT REGIONS

DECEMBER 1967

DEC. 1967 CMP	LAT.	MCMATH PLAGE NUMBER	RETURN OF REGION	CALCIUM PLAGE DATA						SUNSPOT DATA			
				CMP VALUES		HISTORY	AGE (ROTATIONS)	DATE FIRST SEEN	DURATION (DAYS)	CMP VALUES		HISTORY	MT. WILSON SUNSPOT NO.
				AREA	INT.					AREA	COUNT		
1.5	N24	9100	New	(500)	(2.0)	b / ℓ	1	≤12/3	≥4				
2.0	N11	9095	New	(800)	(2.0)	ℓ L ℓ	1	11/25	12				
2.5	S26	9094	9047	(2200)	(2.5)	ℓ Γ ℓ	4	11/25	>12	10	2	ℓ \ d	16577
4.1	N15	9098	New	800	2.0	ℓ V ?	1	11/28	>9				
4.6	S14	9099	New	800	2.5	ℓ Λ ?	1	11/29	>8	(10)	(2)	b - d	16579
4.7	N27	9105	New	900	3.0	b - ?	1	≤12/3	>4				
7.9	N15	9101	9062	(2400)	(3.0)	ℓ Γ ℓ	2	<12/3	>12	130	8	ℓ - ℓ	16580
9.3	S20	9103	New	(1200)	(2.5)	ℓ Λ ℓ	1	12/3	13				
9.5	N23	9102	New	(1100)	(3.5)	ℓ / ℓ	1	12/3	12	110	34	b Λ ℓ	16595
10.5	S18	9108	9064	(3700)	(3.5)	ℓ Γ ℓ	2&1	12/4	14	110	14	ℓ Λ ℓ	16591
11.8	N17	9107	9065	(3200)	(2.5)	ℓ L ℓ	3&6	12/4	14	(00)	(1)	ℓ - d	16594
12.3	S20	9110	9069	(4400)	(3.0)	ℓ ⅂ ℓ	2&1	12/6	>12	20	2	ℓ - d	16592
										20	4	ℓ Λ d	16598
										10	6	b - d	16598
13.0	S32	9116	New	(1200)	(3.5)	b / ℓ	1	12/14	>4	(60)	(8)	b Γ ℓ	16606
13.4	N12	9111	9067	2000	2.5	ℓ Λ ℓ	2	<12/13	>5	60	4	ℓ ⅂ ℓ	16597
13.4	N26	9112	9066	1300	2.0	ℓ \ ℓ	6	<12/13	>5				
14.5	N23	9113	New	900	2.0	? ⌋ ℓ	1	≤12/13	≥8	30	6	b / ℓ	None
15.0	S21	9119	New	(300)	(2.5)	b - ℓ	1	12/16	5				
15.5	N10	9114	New	1000	2.5	? Λ ℓ	1	≤12/13	≥8	30	3	ℓ \ ℓ	16600
16.2	S18	9117	New	700	2.0	b Λ ℓ	1	12/14	7	10	1	b - d	16612
17.0	N14	9115	9073	7500	3.5	ℓ / ℓ	4	<12/13	>11	600	117	b Γ ℓ	16602
										110	14	b Λ d	16607
21.4	S10	9121	New	(200)	(1.0)	b ⌋ ℓ	1	12/19	9				
22.0	N21	9118	9082 9093	(9100)	(3.0)	ℓ Γ ℓ	4&2	12/14	16	250	14	ℓ ⅂ ℓ	16620
22.2	S16	9125	New	(1000)	(3.0)	b / ℓ	1	12/20	9	70	13	b Λ d	16621
23.7	S14	9122	9087	(700)	(2.0)	ℓ Λ ℓ	4	<12/19	>10				
23.7	S27	9120	9091	4300	2.5	ℓ Λ ℓ	2	12/16	14	(110)	(11)	ℓ \ ℓ	16622
24.9	N16	9123	New	(500)	(1.0)	ℓ - d	1	12/19	5				
25.8	S20	9124	9088 9090	(3100)	(2.5)	ℓ ⌋ ℓ	2&3	12/19	14	(00)	(4)	b - d	None
25.9	N18	9126	9089 9104	(1300)	(2.0)	ℓ \ ℓ	2&3	12/20	>10				
26.3	N08	9130	New	200	2.0	b - d	1	≤12/26	≥1	(00)	(3)	b - d	None
27.0	N26	9131	New	500	1.5	b - ℓ	1	≤12/26	≥7				
27.3	N18	9127	New	2000	2.5	ℓ - ℓ	1	≤12/22	>11	00	4	ℓ - d	16619
28.0	S19	9128	9092 9094	9000	3.0	ℓ Γ ℓ	4&5	<12/22	>13	260	10	ℓ - ℓ	16618
29.4	N21	9129	New	500	1.5	ℓ / ℓ	1	12/23	12				
30.3	N41	9143	New	(200)	(2.0)	b - d	1	1/3	1				
30.7	S27	9134	New	(300)	(2.0)	b V d	1	12/27	6				

No calcium spectroheliograms were obtained at the McMath-Hulbert Observatory on December 1, 2, 5, 7, 8, 9, 10, 11, 12, 18, 21, 24, 25, 30, 31, 1967.

Extremely poor observing conditions during the month of December have made the identification of the plage regions difficult in some cases.

MT. WILSON CLASSIFICATION OF SUNSPOTS

DECEMBER 1967

Dec. 1967	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.
1	2320	N20	W77	(αf)1	16570
		S30	W80	(αp)4	16572
		S20	W51	(βp)4	16573
		N11	W41	(αp)3	16575
		S27	W01	(αp)2	16577
		S20	W17	(βp)3	16578
		S13	E37	(αp)1	16579
		N11	E76	(αp)4	16580
		N14	E72	(αp)2	16581
		N27	E38	(βf)1	16582
		N21	W38	(βf)1	16583
2	1655	N22	W88	αf	16570
		S18	W61	(βp)4	16573
		N14	W51	(βf)1	16575
		S27	W12	(βp)1	16577
		S21	W29	(βp)4	16578
		S15	E27	(βf)1	16579
		N10	E66	(αp)4	16580
		N13	E65	(βp)3	16581
		N26	E29	(β)1	16582
		N22	W48	(βp)3	16583
		N23	W18	(αp)1	16584
		N10	E80	(αp)3	16585
		S16	W26	(β)1	16586
3	1805	S19	W76	(αp)3	16573
		S28	W22	(βp)1	16577
		S21	W42	(βp)3	16578
		N11	E50	(αp)4	16580
		N14	E49	(βp)3	16581
		N25	E13	(βp)1	16582
		N20	W62	(βf)2	16583
		N11	E65	(αp)3	16585
		S30	W08	(αf)1	16587
		N17	W26	(βp)2	16588
		N08	E01	(αf)1	16589
4	2225	S21	W61	(αp)3	16578
		N11	E35	(αp)4	16580
		N14	E35	(βp)3	16581
		N25	W04	(αp)1	16582
		N22	W78	αf	16583
		N11	E50	(αp)2	16585
		S15	W56	(βp)2	16590
		S15	E70	(αp)2	16591
5	No Obs.				
6	1600	N10	E11	(αp)5	16580
		N14	E07	(αp)2	16581
		N12	E27	(αp)3	16585
		S16	E49	(βp)4	16591
		S23	E68	(αp)3	16592
		S28	W44	(αp)2	16593
		N16	E72	β	16594
		N24	E38	(βγ 4	16595
7	No Obs.				
8	1850	N10	W16	(αp)5	16580
		N13	W16	(βp)2	16581
		S17	E22	(βp)4	16591
		S24	E43	(βp)4	16592
		N16	E46	(βf)2	16594
		N23	E10	(δ)4	16595
		N19	E24	(βp)2	16596
		N09	E57	(αp)5	16597
		S17	E48	(βp)3	16598
		N11	W35	(αp)1	16599
9	2305	N10	W32	αp	16580
		S17	E05	βp	16591
		S22	E25	αp	16592
		N15	E32	αp	16594
		N24	W07	δ	16595
		N20	E06	αp	16596
		N10	E40	αp	16597
		S15	E30	βp	16598
10	1855	N10	W43	(αp)4	16580
		S16	W04	(βp)4	16591
		S22	E16	(αp)3	16592
		N23	W17	(δ)	16595
		N10	E30	(αp)5	16597
		S15	E20	(βp)3	16598
		N10	E76	(αp)4	16600
		S24	E04	(β)2	16601
11	No Obs.				
12	0005	N10	W62	(αp)4	16580
		S18	W22	(βp)4	16591
		S24	W0E	(αp)3	16592
		N23	W35	(βf)3	16595
		N09	E13	(αp)4	16597
		S17	E04	(βp)3	16598
		N09	E60	(αp)4	16600
		S25	W13	(βp)4	16601
		N18	E62	(αp)1	16602
		N14	W51	(αp)2	16603

MT. WILSON CLASSIFICATION OF SUNSPOTS

DECEMBER 1967

Dec. 1967	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.
12	2025	N10	W71	(αp)4	16580
		S17	W33	(βp)4	16591
		S24	W12	(αp)2	16592
		N23	W46	(βγ)3	16595
		N08	E02	(αp)4	16597
		S15	W12	(αp)3	16598
		N09	E48	(αp)4	16600
		S25	W25	(βp)4	16601
		N18	E51	(βp)2	16602
		N13	W63	(αp)3	16603
		S19	W04	(βp)2	16604
13	1955	N09	W88	αp	16580
		S15	W49	αp	16591
		S23	W24	αp	16592
		N23	W58	β	16595
		N09	W12	αp	16597
		S14	W25	αp	16598
		N10	E36	αp	16600
		S24	W36	βp	16601
		N20	E37	βp	16602
		N15	W71	αp	16603
		S20	W19	βf	16604
		S18	W17	βf	16605
		S33	W14	αp	16606
		N19	E51	βp	16607
		N26	E10	β	16608
14	No Obs.				
15	1750	S15	W75	(αp)3	16591
		S22	W49	(αp)1	16592
		N09	W37	(αp)3	16597
		N09	E10	(αp)4	16600
		S24	W61	(βf)5	16601
		N20	E13	(βp)3	16602
		S32	W40	(βp)5	16606
		N18	E24	(δ)5	16607
		N20	E59	(αp)1	16609
		N23	E73	(αp)4	16610
		S24	E07	(βp)1	16611
		S16	E04	(αp)1	16612
		N20	W61	(αp)2	16613
		N20	E08	(αp)2	16614
		N11	W02	(βf)2	16615
16					
17					
18	No Obs.				
19					
20					
21	1840	N17	W67	βp	16602
		N20	W56	β	16607
		N23	W04	βf	16610
		S29	E18	αp	16616
		S15	E29	αp	16617
		S21	E85	βp	16618
		N14	E69	αp	16619
		N22	W08	βf	16620
		S17	E05	βp	16621
		S26	E18	αp	16622
22	1900	N16	W87	βp	16602
		N19	W70	βf	16607
		N23	W17	(βp)6	16610
		S28	W07	(β)1	16616*
		S21	E75	(βp)5	16618
		N17	E55	(αp)2	16619
		N22	W24	(βf)3	16620
		S17	W06	(βp)5	16621
		S25	E06	(βγ)5	16622
23	1935	N19	W87	βp	16607
		N22	W28	βf	16610
		S27	W07	β	16616
		S21	E57	βp	16618
		N14	E39	αp	16619
		N22	W37	β	16620
		S17	W22	βp	16621
		S24	W07	αf	16622
		N14	W44	β	16623
		S19	E19	αp	16624
24	1600	N22	W39	αp	16610
		S20	E44	βp	16618
		N16	E27	αp	16619
		S16	W33	βf	16621
		S23	W17	αp	16622
		S18	E08	αp	16624
		S17	E57	αp	16625
		S15	E35	βf	16626
		S19	E17	αp	16627
25	No Obs.				
26	1815	N22	W68	(αp)3	16610
		S21	E16	(βp)5	16618
		N15	W01	(αp)2	16619
		S17	W62	(βp)2	16621
		S25	W45	(αp)4	16622
		S16	E08	(βp)5	16626
		S17	E64	(βf)3	16628
		S14	E67	(αp)4	16629
		S26	E69	(αp)2	16630
		S12	W77	(βf)3	16631

MT. WILSON CLASSIFICATION OF SUNSPOTS

DECEMBER 1967

Dec. 1967	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.		TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.
27	1745	N22	W81	αp	16610						
		S23	E05	(βf)2	16618						
		N14	W08	(αp)1	16619						
		S24	W58	(βp)3	16622						
		S17	W06	(βp)5	16626						
		S18	E50	(βf)3	16628						
30	1850	S22	W39	(αp)5	16618						
		S16	W45	(βγ)5	16626						
		S16	E13	(β)2	16628						
		S13	E14	(βγ)4	16629						
		S28	E17	(βp)4	16630						
		S18	W79	(αp)2	16632						
		S15	W34	(β)3	16633						
		S30	E59	(αp)3	16634						
		S15	E76	(αp)3	16635						
		N09	W12	(αp)1	16636						
31	1625	S22	W50	(αp)5	16618						
		S16	W56	(βγ)5	16626						
		S16	W05	(βp)4	16628						
		S13	E02	(αp)4	16629						
		S28	E05	(βp)4	16630						
		S14	W45	(βf)1	16633						
		S30	E46	(αp)3	16634						
		S15	E63	(αp)3	16635						

*"Reversed polarities for cycle 20".

SOLAR FLARES

Partial Listing

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

DECEMBER 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1967 DEC	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
MANI	01	0317	0422	0346	S27	W68	.945	9091	26.0	65	1B	2		0346	1.75	3.76			
MANI	01	0746E	0746D		N27	W90	1.000	9091	24.6		2B	1		0746	5.16				
HUAN	01	1249	1303D		S30	W72	.966	9091	26.1	14D	1N	1	P	1252	.80				ET
HUAN	01	1249	1303D		S28	W77	.982	9091	25.8	14D	1N	1	P	1303	1.13				
CAPS	01	1251	1325D		S26	W77	.981	9091	25.8	34D	2N	2		1304	4.50			228	F
MONT	01	1250	1405	1252	S29	W70	.957	9091	26.3	75	2B		C	1252	1.55				
MONT	01	1301	1405	1303	S27	W80	.989	9091	25.5	64	2B		C	1303	2.06				
HUAN	01	1439	1450		S29	W72	.965		26.2	11	-F	1	C	1443	.45				E
MONT	01	1441	1500D	1444	S29	W71	.961	9091	26.3	19D	1N		C	1444	.72				
MONT	01	1452	1500D	1453	S27	W81	.991	9091	25.5	8D	1N		C	1453	.83				
HUAN	01	1456	1501	1457	S27	W82	.993		25.5	5	-N	1	C	1457	.25				D
HUAN	01	1744	1751	1746	S27	W85	.998		25.4	7	-N	1	C	1746	.31				D
HUAN	01	1748	1806D	1757	S31	W72	.967		26.3	18D	-N	1	C	1757	.62				E
HALE	01	1748	1811	1754	S30	W73	.969	9091	26.3	23	1B	1	C	1754	.62				
HUAN	01	2056	2106		S30	W74	.973		26.3	10	-B	1	C	2058	.50				E
HALE	01	2057E	2104		S30	W73	.969	9091	26.4	7D	1B	1	P	2057	.57				
MANI	02	0550E	0551D		S25	W83	.995	9091	26.0	1D	1N	1		0550	1.03	2.88			
CAPS	02	0803E	0812D		N20	W90	1.000	9082	25.6	9D	1N	2		0812	1.50			170	Y
NERA	02	0854	0903		S17	W01	.306	9047	2.3	9	2N	2							
MONT	02	0955	1045	0957	S30	W90	1.000	9091	25.7	50	1N		C						
CAPS	04	1033E	1041D		S25	W57	.872	9090	30.2	8D	1N	1		1034	2.00	4.00		170	
CAPS	04	1302E	1323		S19	W90	1.000	9088	27.8	21D	2N	3		1313	4.00			196	CY
SANM	04	1307	1350		S17	W90	1.000	9088	27.8	43	1B		P						
CAPS	05	0808E	0820D		N15	E90	1.000	9107	12.1	12D	1N	1		0810	1.20				
MONT	05	1352	1410	1355	S17	W60	.879	9092	1.1	18	1B		C	1355	1.55				
SANM	05	1353	1405D	1356	S20	W66	.925	9092	30.6	12D	1N		P	1356	1.29	3.04			
CATA	05	1355	1410D	1400	S14	W65	.913		30.7	15D	-F			1400	.23			141	
CAPS	05	1359E	1412		S13	W65	.912		30.7	13D	-N	3		1404	1.20			170	
MONT	05	1443	1447	1445	N25	E57	.868	9102	9.9	4	1N		C	1445	2.06				
CAPS	05	1442E	1507		N21	E51	.807	9102	9.4	25D	1N	3		1445	1.30	2.20		182	E
SANM	05	1443E	1457D	1444	N25	E51	.819	9102	9.4	14D	1F		P	1444	1.29	2.24			
SANM	05	1522	1525D	1524	N22	E80	.987	9107	11.6	3D	1F		P	1524	.48				
HUAN	05	1526E	1536		N22	E84	.995		11.9	10D	-N	1	P	1527	.83				E
CATA	06	0820	0940	0830	S20	E53	.826	9108	10.3	80	1N			0830	1.16	2.07		158	
CAPS	06	0828E	0854D		S16	E52	.807		10.3	26D	-N	3		0832	1.10	2.00		170	
CAPS	06	1158E	1226D		S17	E52	.809	9108	10.4	28D	1N	2		1206	1.70	2.60		170	E
HUAN	06	1616	1643		N23	E37	.676	9102	9.5	27	1F	1	C	1622	1.65	1.90			
BUCA	07	0900	1050D		N23	E26	.560	9102	9.3	110D	1F		P	0956	3.32	4.00			
MONT	07	0930	1005	0945	N27	E27	.607		9.4	35	-N		C	0945	.72				
MONT	09	0935	1045	0950	S17	E16	.392	9108	10.6	70	1N		C	0950	2.06				
WEND	09	0948E	1021D		S18	E14	.384	9108	10.5	33D	1N		V		4.13				
CAPS	10	0808E	0848		S16	E25	.489	9110	12.2	40D	1B	2		0828	2.30	2.50		210	
MANI	10	0810E	0841	0815	S17	E30	.559		12.6	31D	-N	2		0815	1.24	1.50			
CATA	10	0815E	0900	0815	S15	E28	.520	9110	12.4	45D	1B			0815	2.49	2.97		209	
BUCA	10	0825E	0834D		S15	E27	.507	9110	12.4	9D	2F		P	0827	4.87	5.60			
WEND	10	0825E	0852		S17	E01	.289	9108	10.4	27D	1N		V		4.13				
NERA	10	1058	1107		S16	W05	.284	9108	10.1	9	2B	2							
CATA	10	1100	1110D	1102	S15	W03	.260	9108	10.2	10D	1B			1102	2.05	2.14		245	
CAPS	10	1102E	1112		S16	W05	.284		10.1	10D	-B	3		1107	1.60	1.70		204	
ONOR	10	1104E	1110D		S17	W06	.305	9108	10.0	6D	1F		V	1105			1.90		C
HUAN	10	1105E	1114D		S16	W05	.284		10.1	9D	-B	1	P	1105	.88	.88			E
WEND	10	1108E	1121		S17	E05	.300	9108	10.8	13D	1N		V		3.09				
MANI	11	2352E	2512	2357	S20	W17	.434	9108	10.7	80D	1B	1		2357	2.06	2.30			
MANI	13	0051	0108D	0057	N13	W64	.905	9101	8.2	17D	1B	1		0057	1.13	2.23			
MONT	13	0820	0840		N13	W72	.954	9101	7.9	20	1N		C	0830	.83				
ARCE	13	0830E	0835D		N14	W70	.944		8.1	5D	-F		P	0830	.28	.70			
MONT	13	0852	0910	0856	N13	W72	.954	9101	8.0	18	1B		C	0856	1.55				
ARCE	13	0858E	0905		N14	W70	.944		8.1	7D	-N		C	0858	.56	1.30			
CAPF	13	0942E	0950D		N08	W07	.192		12.9	8D	-N		P	0944	1.76	1.79			
CAPS	13	0942E	1000		N09	W07	.206	9111	12.9	18D	1N	2		0951	2.20	2.20		189	E
MONT	13	0945	1005	0947	N09	W09	.228		12.7	20	-B		C	0947	.72				
ARCE	13	0945	1005	0947	N09	W08	.216		12.8	20	-B		C	0947	1.76	1.80			
CATA	13	0945	1005	0947	N09	W07	.206		12.9	20	-B			0947	1.16	1.18		251	
CATA	13	1035	1100	1035	N10	E35	.594	9115	16.1	25	1N			1035	1.74	2.15		162	
MONT	13	1040	1055	1043	N08	E33	.559		15.9	15	-F		C	1043	1.24				
HUAN	13	1340	1422D		S23	W36	.663		10.9	42D	2N	2	C	1359	3.61	4.06			
HUAN	13	1340	1422D		S23	W36	.663	9108	10.9	42D	2N	2	C	1409	4.38	4.93			
CAPS	13	1341	1505D		S20	W37	.657	9108	10.8	84D	2B	3		1358	4.00	5.20		265	
CAPF	13	1342E	1410D		S22	W35	.646	9108	10.9	28D	2N		P	1343	4.22	5.52			H
SANM	13	1342	1507D	1349	S22	W37	.668	9108	10.8	85D	-B		P	1349	1.13	1.50			E
SANM	13	1342	1507D		S22	W37	.668	9108	10.8	85D	1B		P	1352	1.60	2.11			W

SOLAR FLARES

DECEMBER 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1967 DEC	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
SANM	13	1342	1507D		S22	W37	.668	9108	10.8	85D	1N		P	1412	2.58	3.41			W
MCMA	13	1351E	1545D		S23	W35	.652	9108	11.0	114D	1B		C	1351	3.09	4.00			BF
HOUS	13	1445E	1451D	1446U	S19	W39	.674		10.7	6D	-F		C		1.10	1.50		100	
CATA	14	1054	1110D	1054	N14	E40	.673		17.5	16D	-N			1054	.37	.51		162	
CAPS	14	1058	1140		N12	E32	.563	9115	16.9	42	2N	3		1111	5.00	6.00		196	FW
CAPS	14	1058	1140		N12	E32	.563	9115	16.9	42	2N	3		1118	7.00	8.40		164	
CATA	14	1110E	1145	1116	N13	E29	.528		16.6	35D	-N			1116	.70	.81		197	
CATA	14	1110E	1145	1116	N11	E29	.517		16.6	35D	-F			1116	1.11	1.32		138	
CATA	14	1110E	1200D	1116	N13	E34	.594		17.0	50D	-B			1116	1.57	1.96		212	
HUAN	14	1110	1233		N09	E33	.563	9115	16.9	83	2N	1	C	1121	4.26	4.53			I
HUAN	14	1110	1233		N19	E43	.726	9115	17.7	83	2N	1	C	1204	1.51	1.80			
CAPS	14	1110E	1125		N23	E90	1.000	9118	21.2	15D	1N	3		1114	1.00				
CATA	14	1120	1130	1124	N26	E90	1.000	9118	21.2	10	1N			1124	.65			170	
CATA	14	1145	1215D	1200	N20	E43	.731		17.7	30D	-N			1200	1.18	1.69		200	
CATA	14	1156E	1215D	1200	N19	E38	.672		17.3	19D	-B			1200	.51	.69		222	
CAPS	14	1158	1218		N20	E40	.699	9115	17.5	20	1N	3		1206	2.30	3.20		167	
MONT	15	0805E	0820		S18	W40	.680	9110	12.3	15D	1N		C	0805	1.55				
MONT	15	0916	0950	0918	S22	W63	.904	9108	10.7	34	1N		C	0918	1.24				
HUAN	15	1507	1641	1532	S25	W58	.874		11.3	94	1N	2	C	1532	.60	.92			K
HUAN	15	1507	1641	1613	S27	W59	.885	9108	11.2	94	1N	2	C	1613	.86	1.35			
HUAN	15	1507	1641		S27	W59	.885	9108	11.2	94	1N	2	C	1619	1.29	2.03			
MONT	16	0810E	0925		N20	E19	.471	9115	17.8	75D	1N		C	0810	1.55				
MONT	16	0840	0855	0843	N19	E10	.379		17.1	15	-N		C	0843	1.03				
CATA	16	0840	0855	0840	N20	E12	.408		17.3	15	-B			0840	.40	.45		221	
CAPS	16	0841	0852		N20	E12	.408		17.3	11	-N	3		0845	.40	.50		170	E
MONT	16	0905	0920	0908	N18	E17	.428		17.7	15	-N		C	0908	.83				
ARCE	16	0935	1000D		N18	E14	.398		17.4	25D	-N		C	0955	1.79	1.90			
MONT	16	0935	1150	0955	N19	E10	.379	9115	17.1	135	2N		C	0955	4.13				
CAPS	16	0942	1105		N20	E14	.424	9115	17.5	83	1B	3		0957	2.30	2.50		300	
CATA	16	0943	1100D	0945	N20	E11	.401	9115	17.2	77D	1B			0945	2.09	2.28		224	
CATA	16	0943	1100D	1005	N23	E14	.463	9115	17.5	77D	1B			1005	3.49	3.91		216	
CATA	16	0955	1005	0955	N19	E12	.394		17.3	10	-B			0955	1.58	1.72		234	
CAPS	16	1130	1210		N20	E15	.433	9115	17.6	40	1N	3		1142	2.80	2.90		189	EF
MONT	16	1158	1225	1205	N23	E14	.463		17.5	27	-N		C	1205	1.24				
CAPS	16	1248E	1300		N18	E13	.389	9115	17.5	12D	1N	3		1254	2.00	2.10		196	
CATA	16	1251E	1315	1253	N19	E10	.379		17.3	24D	-N			1253	.21	.23		168	
CATA	16	1251E	1335	1255	N23	E15	.471		17.7	44D	1N			1255	2.38	2.68		190	
SANM	16	1253	1259	1255	N19	E10	.379		17.3	6	-N		C	1255	.97	1.05			
MONT	16	1255	1305		N29	E08	.515		17.1	10	-N		C	1257	1.03				
MONT	16	1314	1325		N19	E08	.366		17.2	11	-N		C	1317	.62				
MONT	16	1415	1435D	1420	S17	W90	1.000	9108	9.8	20D	1N		C	1420	2.06				
MCMA	16	1418	1451	1425	S17	W90	1.000	9108	9.8	33	-F		C						DH
HUAN	16	1437E	1439D		S17	W85	.996		10.2	2D	-N	1	P	1437	.31				D
CAPS	16	1450E	1507D		N20	E10	.394		17.4	17D	-N	1		1500	1.50	1.60		170	E
MCMA	16	1452	1504	1455	N20	E02	.360	9115	16.8	12	-F		C	1455	.41	.42			E
SANM	16	1453	1520	1455	N20	W00	.359		16.6	27	-N		C	1455	.32	.34			
MCMA	16	1455	1503D	1457	N20	E09	.387	9115	17.3	8D	-N		C	1457	1.03	1.10			FK
SANM	16	1456	1525	1458	N18	E08	.351		17.2	29	-N		C	1458	.65	.69			
HUAN	16	1500E	1520D		N19	E09	.373	9115	17.3	20D	1N	1	P	1510	1.55	1.55			HL
MCMA	16	1503	1520D	1510	N20	E09	.387	9115	17.3	17D	-N		C						
MCMA	16	1803E	1840		N20	E08	.381	9115	17.4	37D	1N		C	1812	1.91	2.10			E
HUAN	16	1909	1933D		N18	E08	.351	9115	17.4	24D	1N	1	C	1921	1.80	1.80			E
MCMA	16	1910E	1911D		N20	E10	.394	9115	17.5	1D	-N		P	1910	.62	.70			E
MANI	17	0441E	0457		N19	E03	.348	9115	17.4	16D	1F	1		0445	2.06	2.18			
MANI	17	0643E	0716D	0646	N19	E03	.348	9115	17.5	33D	1B	1		0646	1.34	1.42			
MANI	17	0643E	0716D	0702	N19	E03	.348		17.5	33D	1B	1		0702	2.27	2.40			
CAPS	17	0937E	0942D		N19	W00	.344	9115	17.4	5D	1N	1		0937	2.80	2.80		200	FI
CATA	17	0940	0945	0940	N17	W02	.313	9115	17.3	5	1B			0940	1.99	2.10		209	
CATA	17	1242E	1314D	1242	N20	W05	.370		17.2	32D	-N			1242	1.16	1.24		190	
CATA	17	1242E	1314D	1250	N19	W04	.351		17.2	32D	-B			1250	.99	1.06		216	
SANM	17	1247	1330	1312	N21	W07	.394	9115	17.0	43	1N		C	1312	2.27	3.27			
HUAN	17	1632E	1720D		N19	W03	.348	9115	17.5	48D	1N	1	P	1634	2.51	2.50			EI
BUCA	18	0808E	0901D		N19	W15	.423	9115	17.2	53D	1N		P	0819	2.76	3.00			B
CAPS	18	0858E	0916		N24	W52	.833	9113	14.5	18D	1N	3		0908	1.70	2.90		200	
CATA	18	0905	0915	0905	N23	W55	.855		14.3	10	-B			0905	1.03	1.96		219	
CAPS	18	1005E	1050D		N18	W16	.421	9115	17.2	45D	1N	1		1012	3.00	3.30		170	I
CATA	18	1015	1030	1015	N19	W21	.483		16.9	15	-B			1015	1.60	1.84		242	
CATA	18	1030	1100D	1040	N19	W21	.483		16.9	30D	-N			1040	.31	.34		172	
CATA	18	1025	1100D	1035	S37	W76	.978	9116	12.7	35D	1N			1035	.79			168	
CAPS	18	1045E	1050D		S35	W83	.994	9116	12.2	5D	1N	1		1047	1.00				B
CATA	18	1045	1050	1045	S40	W75	.977		12.8	5	-N			1045	.48			178	
MONT	18	1330	1445D	1445	N28	E43	.772	9118	21.8	75D	2B		C	1345	5.16				
CATA	18	1335	1355D	1345	N27	E41	.749		21.6	20D	-N			1345	.57	.85		178	
HUAN	18	1443E	1447D		N21	E32	.621	9118	21.0	4D	1B	1	P	1447	3.71	4.07			
MONT	18	1433	1440		S32	W90	1.000	9116	11.9	7	1N		C						

SOLAR FLARES

DECEMBER 1967

OBSERV-ATORY	OBSERVED UT DATE 1967 DEC	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
HOUS	18	1434E	1515	1434U	N18	W14	.402		17.6	41D	-F		C		.60	.70		100	EI
MONT	18	1436	1455	1445	N20	W27	.558	9115	16.6	19	2N		C	1445	4.13				
HUAN	18	1443E	1447D		N18	W17	.431	9115	17.3	4D	1N	1	P	1447	2.99	3.01			
HOUS	18	1837	1856	1842	N19	W20	.473		17.3	19	-N		C		1.60	1.80		200	EI
HUAN	18	1855E	2025D		N18	W19	.452	9115	17.4	90D	1F	1	P	1855	1.91	1.94			K
HOUS	18	2000	2025	2005	N19	W20	.473		17.3	25	-N		C		1.60	1.80		200	EI
CAPS	19	1114	1130D		N18	W26	.532		17.5	16D	-N	3		1117	.70	.80		190	
CATA	19	1115	1200	1120	N17	W26	.523		17.5	45	-N			1120	.60	.72		188	
CATA	19	1115	1200	1120	N18	W28	.555		17.4	45	-B			1120	.88	1.06		222	
HUAN	19	1122E	1122D		N18	W28	.555	9115	17.4		1N	1	P	1122	2.06	2.18			E
CATA	19	1120	1200	1125	N19	W24	.518		17.7	40	-N			1125	.39	.46		184	
HALE	19	2226	2243	2230	N23	W69	.947	9113	14.8	17	1N	1	C	2230	.62				EZ
ARCE	21	0910	0932	0914	N27	E04	.483	9118	21.7	22	1N		C	0914	2.32	2.60			
CATA	21	0910	0940	0915	N23	E03	.420		21.6	30	-N			0915	.53	.59		170	
CATA	21	0910	1005D	0915	N27	E03	.482	9118	21.6	55D	1B			0915	2.51	2.89		246	
CAPS	21	0912E	0930		N26	E02	.465	9118	21.5	18D	1N	2		0916	4.00	4.60		173	CF
MONT	21	0912	0940	0914	N26	E11	.494		22.2	28	-B		C	0914	1.55				
ISTA	22	0810E	0840		N16	W68	.936	9115	17.2	30D	1N								
MANI	22	0823E	0830	0825	N18	W57	.861		18.1	7D	-N	1		0825	.62	1.12			
BUCA	22	0823	0841		N16	W65	.918	9115	17.5	18	2B		C	0827	2.21	5.60			
BUCA	22	0826	0954		S29	E09	.478	9120	23.0	88	1N		C	0834	2.21	2.50			
ISTA	22	0827	0850D		S30	E10	.497		23.1	23D	-N								
CATA	22	0850E	0920D	0850	S28	E12	.479		23.3	30D	-N			0850	.74	.84		172	
CATA	22	0850E	0920D	0900	S31	E14	.531		23.4	30D	-N			0900	.48	.57		160	
CATA	22	0850E	0920D	0900	S32	E23	.605		24.1	30D	-N			0900	.57	.71		151	
CATA	22	0900	0905	0900	S30	E11	.502		23.2	5	-F			0900	.15	.18		143	
BUCA	22	0935	1005D		S19	E52	.806	9124	26.3	30D	2N		C	0946	3.32	5.60			
HUAN	22	1315	1329	1320	N17	W70	.948	9115	17.3	14	1N	2	C	1320	1.03				
SANM	22	1316E	1331	1320	N16	W75	.971	9115	16.9	15D	1F		P	1320	1.30	4.21			
CATA	23	0905	0915D	0905	N17	W78	.982		17.5	10D	-N			0905	.20			176	
CAPS	23	0906E	0912D		N20	W78	.983	9115	17.5	6D	1N	1		0907	1.00				
SANM	23	1216E	1258	1240	N16	W85	.997	9115	17.1	42D	2F		P	1240	.65	7.45			
HUAN	23	2102E	2112D		N26	W18	.543	9118	22.5	10D	1N	1	P	2108	2.01	2.11			
HOUS	23	2102	2121	2105	N25	W22	.564	9118	22.2	19	1N		C		1.90	2.30		200	E
SANM	24	1321	1453	1345	S18	W32	.577	9125	22.2	92	1F		C	1345	2.59	3.15			
HUAN	25	1333	1412	1348	N22	W56	.864		21.4	39	-B	2	C	1348	.75	1.10			E
SANM	25	1338	1432	1350	N22	W59	.886	9118	21.1	54	2N		C	1350	2.91	5.48			E
HOUS	25	1515	1519	1516	S21	E32	.594		28.0	4	-F		C		.60	.80		100	
HUAN	25	1513	1523	1516	S22	E32	.600	9128	28.0	10	1N	1	C	1516	1.95	2.12			T
ISTA	26	0721	0738		S18	E13	.346	9128	27.3	17	1N								
ISTA	26	0734E	0817D		S14	E12	.287		27.2	43D	-N								
ISTA	26	0758	0817		S17	E17	.379		27.6	19	-N								
HUAN	26	1236E	1247E		S23	E23	.507		28.3	11D	-F	1	P	1237	.50	.51			E
SANM	26	1236	1437	1344	S19	E24	.482	9128	28.3	121	1F		C	1344	2.59	2.99			EFIZ
SANM	26	1234	1457	1406	S12	E10	.240	9128	27.3	143	1F		C	1406	2.59	2.69			FIUZ
HUAN	26	1236E	1423D		S17	E08	.287	9128	27.1	107D	1N	1	P	1240	1.80	1.80			T
HUAN	26	1236E	1423D		S17	E08	.287	9128	27.1	107D	1N	1	P	1400	1.91	1.91			
WEND	26	1255E	1308D		S18	E11	.327	9128	27.4	13D	2N		V		7.22				
HUAN	26	1304	1327		S15	E83	.992	9132	1.8	23	1B	1	C	1310	2.51				
ONDR	26	1311E	1318		S14	E77	.974	9132	1.3	7D	2N		V	1313			3.40		
HUAN	26	1335	1417		S23	E22	.496	9128	28.2	42	1N	1	C	1346	2.17	2.25			
MCMA	26	1346E	1410		S27	E18	.502	9128	27.9	24D	1B		C	1357	3.30	4.00			BEF
MCMA	26	1346E	1500		S18	E05	.284	9128	26.9	74D	1B		C						
HOUS	26	1405	1427	1409	S18	E10	.318		27.3	22	-N		C		.80	.83		200	
HUAN	26	2024	2039		S15	E76	.970	9132	1.5	15	1F	1	C	2027	1.13				E
HOUS	26	2024	2039	2026	S15	E70	.940		1.1	15	-N		C		.60	1.50		200	
HALE	26	2025E	2050	2027	S14	E74	.961	9132	1.4	25D	1B	1	P	2027	.93				
BUCA	27	0837E	0957D	0843	S17	E59	.864	9132	31.8	80D	2B		C	0843	5.54	10.70			AI
ISTA	27	0838E	1000D	0849	S16	E59	.863	9132	31.8	82D	1B								
MANI	27	0840E	0850D		S15	E55	.826	9132	31.5	10D	1N	1		0841	2.58	4.45			
ARCE	27	0840	0915	0840	S17	E60	.872	9132	31.9	35	1N		C	0840	2.54	5.10			
ISTA	27	0906	0919D		S16	E65	.909		1.3	13D	-B								
HALE	27	1943	2055	1948	S16	W10	.291	9128	27.1	72	1B	1	C	1948	2.17	2.30			E
HALE	28	0218	0304	0223	S17	W12	.320	9128	27.2	46	1B	2	C	0223	2.68	2.80			F
MANI	28	0550E	0606D	0553	S17	E56	.837	9132	1.4	16D	1N	2		0553	1.55	2.67			
SANM	28	1327	1533D	1405	S11	W18	.338		27.2	126D	-F		P	1405	1.62	1.80			
CAPS	28	1335	1418D		S21	W18	.430	9128	27.2	43D	1N	1		1415	3.60	4.00		190	
SANM	28	1335	1454	1346	S16	W20	.405		27.1	79	-F		C	1346	.65	.72			
SANM	28	1337	1435	1405	S13	W15	.312	9128	27.4	58	1F		C	1405	1.94	2.18			
MONT	28	1350	1500	1410	S22	W20	.462	9128	27.1	70	1B		C	1410	2.58				
MCMA	28	1410E	1535		S20	W18	.419	9128	27.2	85D	1B		C	1411	2.06	2.30			EF

SOLAR FLARES

DECEMBER 1967

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1967 DEC	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	
HUAN	28	1425E	1533		S21	W19	.441	9128	27.2	68D	1N	1	P	1434	3.76	3.84			
HALE	29	0046	0100	0050	S27	W78	.979	9120	23.2	14	1B	2	C	0050	.72				F
MANI	29	0047	0055D	0050	S25	W73	.959	9120	23.6	8D	1N	1		0050	1.24	2.82			
HALE	29	0106	0149	0110	S15	W22	.422	9128	27.4	43	1B	2	C	0110	2.99	3.30			J
MANI	29	0109	0114D		S16	W21	.417	9120	27.5	5D	-B	1		0111	1.55	1.71			
HALE	29	0126	0147	0132	S11	E33	.556	9132	31.5	21	1B	1	C	0132	2.06	2.50			FHW
HALE	29	0202	0226	0216	S13	E33	.563	9132	31.6	24	1B	2	C	0216	3.09	3.70			
CATA	29	0905	0955D	0920	S16	W28	.510		27.3	50D	-N			0920	1.49	1.74		176	
CATA	29	0920	0935	0920	S17	W23	.451		27.7	15	-N			0920	.39	.44		158	
CATA	29	0935	0955D	0935	S16	W24	.456		27.6	20D	-N			0935	.94	1.06		176	
CAPS	29	0930E	1015D		S15	W26	.477	9128	27.4	45D	1F	2		0937	2.00	2.30		158	
MONT	29	1057	1102D	1100	S14	W15	.320	9128	28.3	5D	1N		C	1100	2.58				
HUAN	29	1100E	1104E		S15	W17	.356		28.2	4D	-N	1	P	1100	.95	.95			
HUAN	29	1145	1220		S15	E32	.558		31.9	35	-N	2	C	1201	1.13	1.19			E
CATA	29	1150	1225	1150	S12	E28	.489		31.6	35	-N			1150	.92	1.06		162	
CAPS	29	1155	1227		S12	E32	.545	9132	31.9	32	1B	2		1201	2.20	2.60		220	F
CATA	29	1150	1230	1150	S15	E27	.490		31.5	40	-N			1150	1.13	1.30		151	
CATA	29	1150	1235	1200	S14	E29	.512		31.7	45	-N			1200	1.37	1.63		190	
CATA	29	1150	1235	1200	S14	E33	.567	9132	1.0	45	1B			1200	1.74	2.13		226	

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.
T = Region active all day.
U = Close and somewhat parallel bright filaments.
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.

SOLAR FLARES

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

1967
DEC

DECEMBER 1967

01 0053	S26 W67	01 0152E	S19 W04	01 0511	S27 W68	01 0655	S28 W69	01 0945	S29 W67	01 1030	S24 W75
01 1323	N13 E82	01 1633E	S30 W72	01 1825	S25 W31	01 1830	N22 W88	02 1144	N22 W46	02 1151	S27 W90
02 1215	S28 W04	02 1218	N22 W46	02 1219	N26 W16	02 1235	N22 W46	02 1237	S29 W88	02 1242	S30 W90
02 1303	N21 W43	02 1305	N22 W47	02 1320	S18 W60	02 1346	S18 W60	02 1407	S29 W88	02 1459	N21 W48
02 1545	S29 W90	02 1558	S29 W90	02 1629	S16 W27	02 1640	N16 E65	02 1757	N20 W90	02 1758	S29 W88
03 0012	N21 W52	03 0303	N26 E22	03 0810	N13 E61	03 0930	N11 W60	03 1130	N20 W56	03 1220	N20 W56
03 1545	N16 E53	03 1549	N17 E52	03 1609	N25 W25	03 1902	S22 W78	03 1915	N21 W66	03 1932	N14 W68
04 0132E	N14 E49	04 0132E	S17 W44	04 0202	N14 E45	04 1425	N20 W80	04 1711	S20 W52	04 1748E	S19 W54
04 1818E	N12 E40	04 2048	S14 E66	05 0139	S15 E66	05 0759	S12 E90	05 0912	N25 E59	05 0915	N26 E55
05 1533	N23 E52	05 1806	N20 E82	05 1856	S32 E50	05 1857	S15 E90	05 1900E	S17 E58	05 1941	S15 E63
06 0955	S20 E53	06 1026	S21 E75	06 1355	S15 E53	06 1736	N13 E12	06 1744	S19 E51	06 1745	S18 E52
06 1915	S15 E48	07 1105E	N11 W16	07 1115	S33 W55	07 1415	N11 W17	07 1925	N11 W48	07 1841	S17 E65
07 1844	N19 E56	07 1944	S17 E24	08 0800E	S19 E30	08 0810E	N19 E32	08 0940	S20 E28	08 0940	S17 E28
08 1312	N22 W13	08 1531	S17 E27	08 2000	S18 E24	08 2020E	S18 E24	08 2022	N24 E08	08 2023	N24 E08
08 2046E	N22 E06	09 0905E	S15 E17	09 1350E	S15 E40	09 1354	S17 E41	10 0329E	S25 E25	10 0716E	S14 W03
10 1015	N17 W40	10 1020E	N12 W42	10 1123E	S19 E27	10 1138E	S16 E01	10 1205	N23 W15	10 1234	S17 E28
10 1235	N05 E80	10 1244	S16 W05	10 1245	S15 W07	10 1245	S15 W07	10 1245	S16 W07	10 1250	S16 W07
10 1308	N23 W16	10 1308	N22 W16	10 1502	S16 E26	10 1753	S17 W09	10 1825	S15 W09	11 0533E	S16 W25
11 1240	S13 E07	11 1247	N17 W11	11 1248	N17 W11	11 1310	S16 W20	11 1311	S17 W20	11 1315	S13 E08
11 1324	S13 E08	11 1329E	S13 E08	11 1442	N15 W44	11 1442	N14 W45	11 1444	S13 E06	11 1523E	N15 W01
11 1623	N17 E00	11 1709	S16 W22	11 1726	S13 E07	11 1756	S13 E04	11 1802	N24 W31	11 1817	N21 W32
11 1826E	S23 W10	11 2211	N15 W48	12 0129	N24 W32	12 0836	S23 W04	12 1118	S26 W16	12 1148	S24 W08
12 1158	S25 W20	12 1234	S25 W08	12 1236	S25 W08	12 1252	S14 W08	12 1307	S23 W08	12 1307	S23 W08
12 1326	N09 E04	12 1327	N10 E03	12 1352	N17 W11	12 1429	S16 W26	12 1451	S23 W09	12 1451	S25 W09
12 1635	S25 W16	12 1638	S25 W18	12 1644	N14 W59	12 1646	N14 W59	12 1655	S14 W07	12 1658	S15 W08
12 1710	S25 W23	12 1759	S14 W10	12 1800	S15 W09	12 1858	N14 W59	12 1911	S26 W42	12 1928	N12 W56
12 2349	S19 E04	13 0409	N18 E60	13 1050	N15 E57	13 1056E	N20 W22	13 1107	S27 W29	13 1113	S20 W12
13 1115	S18 W13	13 1115	S16 W13	13 1115	S20 W10	13 1136	N19 E58	13 1143	S28 W29	13 1212	S18 W13
13 1215	S17 W13	13 1226	S21 W16	13 1237	S20 W13	13 1256	S25 W34	13 1308	S22 W16	13 1333	N19 W25
13 1334	N20 W23	13 1335	N18 W26	13 1404	S18 W13	13 1407	N18 W45	13 1410	S20 W13	13 1432E	N20 E50
13 1439	N20 E55	13 1440	N18 E54	13 1440	N19 E55	13 1445E	N20 E54	13 1509	N08 W72	13 1610E	N14 W73
13 1620E	N14 W75	13 1630	S27 W32	13 1654	N18 E54	13 1701	N14 W74	13 1720	N14 W74	13 1727	N08 W72
13 1727	S25 W35	13 1728	N20 E53	13 1730	N19 E53	13 1732	S22 W17	13 1738	S28 W32	13 1801	N14 W76
13 1802	N08 W73	13 1852	N14 W76	13 1912E	S28 W33	13 2357	N19 E47	14 0431E	N20 E37	14 0814	N21 E43
14 0840E	N18 E39	14 0912	N19 E40	14 0920E	N18 E39	14 0920E	N20 E39	14 0925	N20 E40	14 0930	N20 E43
14 1115	N16 W83	14 1123	S23 W52	14 1125E	N16 W78	14 1129	S25 W52	14 1130	N13 W78	14 1219	S23 W44
14 1235E	S33 W25	14 1244	N16 W83	14 1245	N15 W80	14 1314	S24 W45	14 1324	S14 W32	14 1324E	S33 W27
14 1533	S26 W46	14 1549E	S25 W47	14 1653	S26 W47	14 1748	S25 W47	14 1835	S25 W45	14 1925	S26 W46
15 0914	N22 E25	15 1102	N22 E75	15 1147	S18 W72	15 1152	S16 E08	15 1154	S16 E09	15 1156E	S16 E10
15 1220	S27 W54	15 1220	S15 W55	15 1225E	S26 W57	15 1247	S18 W73	15 1300	N20 E21	15 1308	N20 E25
15 1308	N22 E19	15 1328	N20 E17	15 1345	S17 W74	15 1349	N22 E75	15 1350	N25 E80	15 1411	N18 E26
15 1427	N20 E24	15 1447	N20 E24	15 1512	S17 W73	15 1550	N07 E17	15 1612E	S28 W60	15 1617	S16 W77
15 1625	N19 E22	15 1652	N18 E23	15 1653	S18 W75	15 1710E	S18 W80	15 1733	S26 W60	15 1802	S16 W79
15 1845	N20 E26	15 1907	N20 E26	15 1938	S17 W78	15 2029	S17 W77	15 2110	S17 W78	16 0357E	N23 E64
16 0440E	N20 E07	16 0709	N20 E09	16 0810E	S17 W90	16 1207	N19 W69	16 1208	N20 W70	16 1215E	S19 W90
16 1217	S19 W90	16 1526	N20 E09	16 1526	N19 E07	16 1540	N21 E02	16 1540	N21 E02	16 1555E	N19 E02
16 1615	N20 E10	16 1616E	N20 E08	16 1645	N20 E08	16 1655E	N19 E13	16 1716	N20 E10	16 1732	N20 E10
16 1746E	N12 W15	16 1815	N12 W16	16 1849	N20 E10	17 0040	N20 W72	17 0115	N19 E05	17 0336	N27 W34
17 0505	N19 E03	17 0710	N27 W35	17 0830	N24 W37	17 0835	S23 W60	17 0835	N22 E03	17 0835	N20 E02
17 0835	N17 E01	17 0835	N15 W03	17 0935	S22 W60	17 0937E	N16 W36	17 1045	N21 E03	17 1045	N20 E00
17 1045	N19 W01	17 1314	N25 W46	17 1816	N19 W08	17 2250E	N19 W07	17 2342	N19 W07	18 0029	N20 W05
18 0229	N20 W08	18 0242	N20 W10	18 0816	N22 E30	18 0820E	N24 E27	18 0820E	N25 E30	18 0830	N18 W18
18 0900	N17 W18	18 0910E	N26 W54	18 0925	N23 W55	18 0930	N22 W51	18 0940E	S32 W80	18 0950	N20 W21
18 1030	N25 E35	18 1142E	N19 W18	18 1145E	S35 W80	18 1327	N28 W53	18 1350	S22 W29	18 1351	S22 W30
18 1537E	S35 W80	18 1626	N18 W18	18 1656	S35 W80	18 1720	N18 W19	18 1809	N24 W57	18 2042	N18 W22
18 2055	N21 W21	18 2056	N18 W25	18 2137	S35 W90	18 2156	N21 W18	19 0839	N27 E38	19 0920	N24 E21
19 0920	N08 W40	19 1005	S22 W56	19 1020	N16 W33	19 1040E	N17 W31	19 1040E	N17 W25	19 1406E	N19 W32
19 1523E	N18 W33	19 1540	N22 W36	19 1542	N25 W64	19 1652E	N18 W31	19 1712	N19 W33	19 2217E	N18 W33
19 2307	N23 W69	20 0038	N19 W38	20 0038	N17 W38	20 0103	N16 W38	20 0104	N19 W39	20 0232	N22 W74
20 0245	N15 W40	20 0249	N25 W71	20 0316	N26 E36	20 0351E	N19 W38	20 0418E	N19 W40	20 0910E	N11 W66
20 0945	N18 W37	20 1055E	N13 W47	20 1141E	S16 E22	20 1155	N16 W45	20 1159	N26 W83	20 1252	N18 W44
20 1305	N18 W45	20 1355E	N25 E12	20 1355E	N13 W48	20 1357E	N14 W48	20 1359	N14 W52	20 1434	N16 W43
20 1523	S16 E20	20 1525	S25 E32	20 1539	N16 W46	20 1616	N16 W46	20 1629E	N15 W48	20 1707	N18 W46
20 1719	N18 W46	20 1719	N18 W45	20 1721E	N18 W47	20 1740	N12 E90	20 1824	N16 W45	20 1827	N15 W48
20 1839E	N20 E01	20 1906	N18 W47	20 1906	N18 W46	20 1907	N15 W48	20 1933	N24 W77	20 1943	S24 E29
21 0111E	N18 E01	21 0148	S16 E17	21 0151	N27 W86	21 0151	N20 W57	21 0152	N19 W49	21 0241	N17 W46
21 0304	N17 W46	21 0955E	N16 W61	21 0955E	N15 W55	21 1135E	N16 W53	21 1135E	N15 W63	21 1135	N17 W52
21 1135	N16 W67	21 1215	N18 W52	21 1220	N16 W56	21 1231	N18 W53	21 1345	N18 W58	21 1404	N19 W67
21 1414	N18 W53	21 1430	S16 E09	21 1441	S16 E09	21 1456	N18 W56	21 1617	N17 W59	21 1645	S15 E05
21 1702	N26 E00	21 1728	N20 W06	21 1753	N26 W01	21 1803	N19 W60	21 1805	N17 W61	21 1806	N19 W51

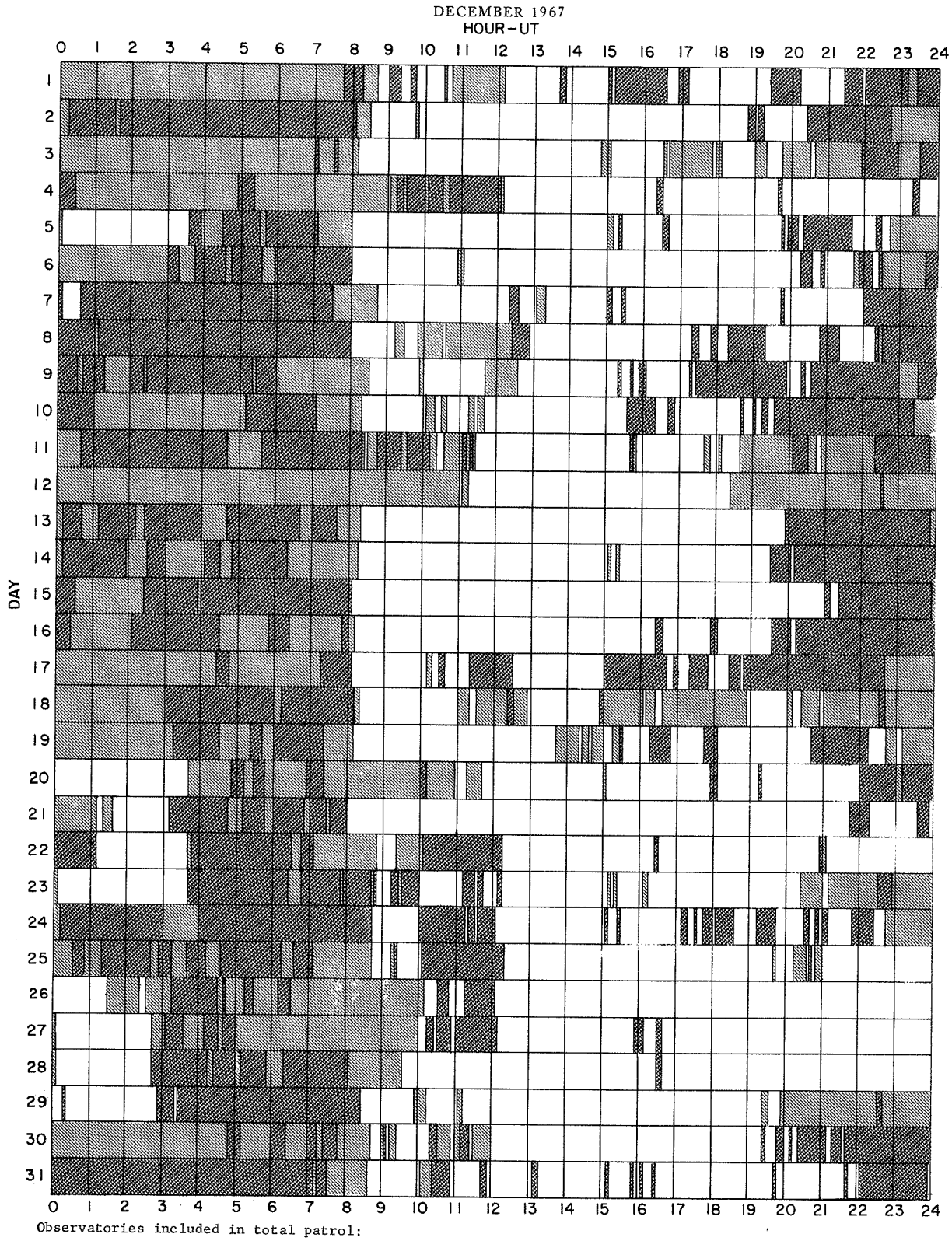
SOLAR FLARES

DECEMBER 1967

1967
DEC

21 1904	N26 W02	21 1929	N16 W63	21 1931	N15 W61	21 1939	N27 W03	21 2015	S16 E04	21 2126	N23 W01
21 2310	N14 W60	21 2343E	S15 E20	22 0110E	N16 W62	22 0216	N16 W62	22 0212	S18 E59	22 0240	S21 E89
22 0310	N15 W64	22 0310	N14 W64	22 0910	S23 E09	22 1231	N17 W68	22 1248	N17 W68	22 1305	N15 W69
22 1358	N22 W80	22 1359	N24 W88	22 1409	N18 W71	22 1418	N17 W69	22 1429	N17 W69	22 1448	N19 W72
22 1526	N17 W70	22 1554	N17 W71	22 1745	N13 W71	22 1808	N27 W04	22 1810	N28 W03	22 1811	N27 W05
22 1825	N17 W72	22 1847	N21 W81	22 1849	N22 W90	22 1916	S24 E71	22 1937	N20 W26	22 1937	N17 W73
22 2000	N16 W73	22 2001E	N17 W73	22 2030	N24 W07	22 2039	S24 E05	22 2040	S22 E04	22 2104E	S22 E04
22 2111	N16 W73	23 0026	N19 W29	23 0105	S23 E01	23 0119	N26 W18	23 0120	N17 W81	23 0146	S23 E69
23 0150	N20 W30	23 0157E	N20 W28	23 0302	N20 W86	23 0302	N17 W81	23 0850E	N27 W89	23 0910E	S28 W02
23 0915	N14 W36	23 1000E	S31 W00	23 1005	N16 W90	23 1030	N18 W90	23 1055	N26 W23	23 1110	N18 W34
23 1130E	N21 W30	23 1358	N18 W88	23 1400F	N15 W90	23 1551	N18 W90	23 1642	N18 W88	23 1753	S20 E25
23 1755	S20 E26	23 1806	S19 E24	23 1810	N18 W88	23 1910	N13 E39	23 1910	N13 E39	23 1913	S20 E26
23 1915	S19 E24	23 2050	N24 W30	24 0845E	N17 E42	24 0850	N20 W90	24 0910	S16 E41	24 0920	S21 E15
24 0920	S20 E13	24 1225E	S17 W32	24 1229	S31 W10	24 1235E	S16 E39	24 1235E	S32 W10	24 1235E	S31 W14
24 1615	S32 W13	24 1719E	S23 E46	24 1833E	S17 W35	24 1946E	S29 W22	24 2346	N20 W52	25 0000E	S30 W16
25 0711	S18 W45	25 0743	N21 W52	25 0746	S16 W90	25 0858	N16 W90	25 1025E	S16 E11	25 1025E	S18 E09
25 1308	S19 E22	25 1433	S18 E22	25 1545	S21 E31	25 1546	S22 E32	25 1615	S18 E24	25 1643	S23 E33
25 1907	S08 W67	25 2100	S18 W21	25 2103	S19 W45	25 2202	S15 E79	25 2249	S18 E16	25 2252	S16 E86
25 2258	S15 E79	26 0017	S18 W52	26 0018	S18 E14	26 0023E	S17 W52	26 0611	S17 E14	26 0704E	S17 E71
26 0718	S27 E81	26 1015E	S11 W72	26 1015E	S17 E12	26 1308	S09 W76	26 1346	S09 W77	26 1606	S08 W80
26 1608	S10 W78	26 1611	S19 W77	26 1649	S17 E07	26 1654E	S15 E05	26 1734	S14 E65	26 1736	S16 E07
26 1806	S19 W77	26 1838	S15 E65	26 1845	S16 E04	26 1903	S19 W77	26 1908E	S09 W80	26 1927	S19 W79
26 2013	S17 E05	26 2014	S17 E07	26 2015	N06 W05	26 2106	S17 E05	26 2109	S15 E04	26 2109	S16 E04
26 2325	S24 E18	26 2327	S24 E17	27 0008E	S16 E08	27 0020	S17 E67	27 0600	S15 E55	27 0919E	S27 E61
27 0923	N78 W75	27 1255	S15 W02	27 1408	S12 W03	27 1653	S15 W05	27 1905	S10 E56	27 1921	S16 W10
27 2041	S11 E52	27 2129	S24 W04	27 2141	S15 E59	27 2159	S18 W11	27 2203	S14 W08	27 2211	S23 W01
27 2259	S17 W08	27 2339	S15 W09	28 0004E	S18 W11	28 0010E	S18 W07	28 0050	S18 W11	28 0119	S11 E51
28 0218	S21 W44	28 0303	S25 E50	28 0324	S22 E01	28 0330	S17 W07	28 0950E	S18 W19	28 1030E	S16 E47
28 1449E	S18 W55	28 1508	S21 W53	28 1548	S14 E44	28 1549	S15 E47	28 1551	S19 W16	28 1552	S18 W18
28 1625	S16 E52	28 1642	S14 E45	28 1755	S12 E38	28 1758	S13 E43	28 1759E	S12 E40	28 1823	S13 E42
28 1823	S11 E38	28 1824	S11 E37	28 1825	S12 E39	28 1858	S11 E37	28 1859	S13 E42	28 1900	S10 E38
28 2034	S11 E36	28 2034	S11 E37	28 2034	S10 E37	28 2037	S16 W21	28 2039	S06 W22	28 2040	S14 W19
28 2041	S11 E36	28 2042	S12 E38	28 2050	S18 W25	28 2053	S18 W24	28 2154	S13 E35	28 2154	S12 E36
28 2202	S14 E33	28 2213E	S14 E37	28 2220	S11 E36	28 2221E	S12 E37	29 0020E	S22 W17	29 0022	S11 E35
29 0022	S11 E35	29 0126	S10 E34	29 0155	S22 W19	29 0236E	S10 E33	29 0243	S19 W20	29 0830E	S14 E30
29 0840	S11 E30	29 0845	S16 W27	29 0845	S17 W31	29 1120	S15 W28	29 1125E	S15 W26	29 1131E	S16 W28
29 1253	S11 E28	29 1252	S04 E18	29 1503	S16 W32	29 1615	S05 W33	29 1615	S15 W32	29 1616	S16 W32
29 1636	S06 W08	29 1637	S14 W18	29 1641	S15 W18	29 1657	S07 E24	29 1658	S15 E33	29 1745E	S14 W18
29 1821	S08 E22	29 1821	S08 E22	29 1822E	S14 E29	29 1833	S14 E24	29 1836	S11 E19	29 1844	S13 E25
29 1845	S17 E32	29 1859	S18 W36	29 1900E	S18 E33	29 2003	S05 W22	29 2052	S05 W22	29 2218	S04 W36
30 0552E	S28 E19	30 0747E	S18 W51	30 1005	S12 E25	30 1035E	S21 W40	30 1036E	S18 W39	30 1307	S17 E10
30 1343	S17 E10	30 1353E	S16 E10	30 1542	S17 E09	30 1650	S14 W33	30 1732	S16 W47	30 1805	S15 E08
30 1823	S19 W44	30 1859	S34 W90	30 1931	S17 E07	30 2113E	S16 E04	31 0745	S16 E08	31 0748	S22 W90
31 0815E	S30 E55	31 0915	S20 W54	31 1402	S19 W90	31 1428	S19 W90	31 1439	S21 W85	31 1532	S31 E04
31 1612	S22 W53	31 1613	S19 E06	31 1645	S22 W54	31 1714	S27 E05	31 1816	S23 W54	31 1922	S14 W49
31 2044	S18 W08	31 2057	S27 E43	31 2112	S28 W00						

INTERVALS OF NO FLARE PATROL OBSERVATION
For Preceding Solar Flare Table



Observatories included in total patrol:

Arcetri	Capri-S (Swedish)	Houston	McMath-Hulbert	Ondrejov
Bucharest	Catania	Huancayo	Manila	San Miguel
Capri-F (German) (1/2 month)	Haleakala	Istanboul	Monte Mario	Wendelstein

The times when there was no cinematographic or visual patrol are shown by the darker areas.
The rest of the shaded areas are times of visual patrol only.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1967

DEC. 1967	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} W_m^{-2} $(c/s)^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	7000	SAOP	45	0940.5	0941.2	2.0	19.2	38.4		
	7000	SAOP	41	1239.5		22.7				
	7000	SAOP	28	1239.5		11.0	9.2	18.4		
	1415	SGMR	20	1249.9	1252.5	8.4	6.0	3.0		
	8800	SGMR	3	1250.7	1251.5	3.7	225.0	50.0		
	7000	SAOP	3	1250.5	1251.9	3.3	161.5	323.0		
	4995	SGMR	3	1250.3	1251.4	5.4	190.0	45.0		
	2800	OTTA		1250	1251.5U	12	75.0U			INCOMPLETE
	2695	SGMR	3	1250.7	1251.3	5.6	67.0	15.0		
	15400	SGMR	3	1251	1251.6	3.6	19.0			PERCENT INCR
	8800	SGMR	29	1254.4	1254.4	6.9	19.0	9.5		
	4995	SGMR	29	1255.7	1255.7	5.5	10.1	5.1		
	2695	SGMR	29	1256.3	1256.3	4.9	9.9	5.0		
	8800	SGMR	3	1301.3	1301.6	.5	9.5	2.5		
	8800	SGMR	29	1301.8	1301.8	17.2	2.9	1.5		
	7000	SAOP	3	1301.8	1302.2	.8	12.5	23.0		
	4995	SGMR	3	1301.2	1301.4	.7	20.9	4.0		
	4995	SGMR	29	1301.9	1301.9	15.1	6.1	3.0		
	2695	SGMR	3	1301.2	1301.5	2.6	55.0	16.0		
	1415	SGMR	20	1301.8	1304	7.1	3.6	2.0		
	2800	OTTA	29	1302		110	12.8			
	2695	SGMR	29	1303.8	1303.8	5.3	4.3	2.0		
	7000	SAOP	21	1451.1		15.4	3.6	7.3		
	8800	SGMR	3	1456.2	1457.5	2.4	14.3	3.6		
	4995	SGMR	3	1456.2	1457.4	2.6	13.7	3.4		
	15400	SGMR	3	1457.3	1457.7	1.8	3.0			PERCENT INCR
	10700	PENN	1	1457	1457.5	1.1				
	7000	SAOP	3	1457.5	1458	1.5	12.8	25.6		
	2800	OTTA	1	1457	1457.5	1	3.4	1.7		
	2700	PENN	1	1457	1457.6	1.8	3.0	2.2		
	2695	SGMR	20	1457.3	1459	11.4	2.2	1.1		
	8800	SGMR	29	1458.6	1458.6	10.1	2.9	1.5		
	4995	SGMR	29	1458.8	1458.8	5.4	2.9	1.5		
	2800	OTTA	20	1502	1509	11	6.0	2.4		
	4995	SGMR	20	1504.2	1508.7	10.3	9.0	4.0		
	8800	SGMR	1	1508.7	1508.8	.3	2.9	1.5		
	2695	SGMR	1	1508.7	1509	1.0	22.0	1.0		
	408	SANM	45	1610	1610.7	.8	96.5	50.5		
	15400	SGMR	3	1706	1707	1.4	2.0			PERCENT INCR
	10700	PENN	3	1706.4	1706.7	1.6	9.2	6.1		
	8800	SGMR	3	1706.2	1706.8	3.3	11.4	5.7		
	4995	SGMR	3	1706.3	1706.8	2.8	10.5	5.2		
	2800	OTTA	1	1706.5	1706.8	.8	2.4	1.2		
	2700	PENN	1	1706	1706.8	1.5	2.0			
	8800	SGMR	29	1709.5	1709.5	9.8	2.9	1.5		
	4995	SGMR	29	1709.1	1709.1	6.9	1.0	.5		
	10700	PENN	3	1715	1715.6	2.4	11.7	5.4		
	4995	SGMR	1	1743.8	1744	5.6	4.8	2.2		
	7000	SAOP	20	1744		57.2	8.4	16.7		
	2800	OTTA	20	1744	1810	70	4.0	2.0		
4	2800	OTTA	26	1825		25	2.8			
5	1415	SGMR	20	1349.1	1353.1	7.6	4.2	1.0		
	2800	OTTA	1	1352.5	1353	1.5	2.8	1.4		
	2695	SGMR	1	1352.6	1352.7	4.4	3.3	1.6		
	15400	SGMR	20	1434	1445	39	1.6			PERCENT INCR
	8800	SGMR	20	1434.6	1445	60.0	14.9	7.5		
	4995	SGMR	20	1440.3	1444.9	56.8	4.0	2.0		
	1415	SGMR	20	1455.5	1459.1	8.9	1.1	.6		
	606	SGMR	3	1457.8	1459.6	7.5	25.0	12.0		
	2700	PENT	4	2152	2153.8	5	11.4	4.0		
6	606	SGMR	20	1615.5	U	145.0	3.2U	1.5U		DURING DRIFT
	2700	PENN	20	1617.1	1618.5	17.3	4.2	2.4		
	2800	OTTA	20	1618	1620.5	12	3.2	1.4		
	2700	PENT	1	2058	2059	3	1.6	0.8		
7	408	SANM	45	1454.5	1458.4	6.6	43.0	19.5		
	2800	OTTA	20	1842	1845	22	2.8	1.4		
8	2800	OTTA	2	1614	1615.2	2	4.0	2.0		
	2700	PENN	20	1833.7	1835.6	131.2	3.0	1.8		
	2800	OTTA	2	1834.5	1835.5	2	2.4	1.2		
	2800	OTTA	21	2015	2025	35	3.0	1.5		
	10700	PENN	20	2022.3	2023.6	18.4	9.2	4.3		
	7000	SAOP	3	2022.8	2023.5	3.0	9.2	18.5		
	4995	SGMR	3	2022.7	2023.4	3.9	16.2	8.1		
	2800	OTTA	3	2022.5	2023.8	2	11.0	5.5		
	2700	PENN	20	2022.3	2023.5	18.3	11.3	2.4		
	8800	SGMR	1	2023.1	2023.5	1.6	6.4	3.2		
	2695	SGMR	1	2023.2	2023.6	3.3	4.3	2.2		
	2800	OTTA	1	2037	2036	2	1.8	0.9		
	2700	PENT	1	2104.2	2105	1.8	1.8	0.9		
9	408	SANM	27	1220	1623.8	370	54.5	21.0		
	7000	SAOP	20	1428	1455	47.0	11.4	22.7		
	184	BOUL	44	1428 E	1520	257 D			1	
10	408	SANM	40	1055	1100.8	28	61.0	15.0		
	184	BOUL	44	1428 E		577 D			1	

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1967

DEC. 1967	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} W_m^{-2} $(c/s)^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
11	7000	SAOP	20	1432		58.0	10.4	20.7		
	4995	SGMR	1	1440.7	1445.1	6.2	7.2	3.6		
	2800	OTTA	40	1440	1441.5	7	12.0			
	2695	SGMR	3	1441.3	1441.4	.4	10.4	5.2		
	1415	SGMR	41	1441.5	1444.6	5.0	19.6	2.0		
	8800	SGMR	1	1444.2	1444.7	2.8	4.8	2.4		
	2800	OTTA	2	1623	1623.7	1.5	4.4	2.2		
	2700	PENT	3	2158	2158.5	1	7.6	3.8		
	2700	PENT	4	2212	2214	5	18.0	8.0		
	486	WASH	45	2344		15	500.0			
12	2700	PENN	45	1612.5	1647.2	41.0	9.8	2.1		
	960	PENN	45	1645.8	1647.1	1.8	2.7	0.7		
13	408	SANM	45	0940	0944.9	10	101.0	28.0		
	7000	SAOP	45	0944.1	0947	7.3	48.6	97.1		
	2700	PENN	24	1337	1420		11,1			
	1415	SGMR	28	1339.2	1343.5	4.3	2.3	.8		
	960	PENN	45	1339.5	1347.9	17.1	6.4	2.6		
	328	PENN	5	1339.2	1347	20.8	13.3	6.6		
	10700	PENN	24	1340	1424		30,7			
	408	SANM	45	1340	1411	65	35.5	16.5		
	606	SGMR	40	1341	1443	79	32.4	10.0		
	2800	OTTA	3	1342	1348	14	60.0	30.0		
	2695	SGMR	20	1342.2	1348.2	77.8	64.4	16.1		
	4995	SGMR	20	1343.7	1348.3	76.3	38.0	9.5		
	1415	SGMR	45	1343.5	1348.4	20.0	58.7	14.7		
	8800	SGMR	20	1344.3	1349.5	75.7	23.9	6.0		
	2700	PENN	45	1345.1	1347.7	15.0	50.3	16.7		
	2800	OTTA	30	1356		145	12.0	6.0		
	960	PENN	29	1356.6	1356.6	31.6	.8	0.4		
	2700	PENN	20	1409.1	1411.3	44.1	3.0D	.*		
	408	SANM	29	1445	1445	105	12.5	10.0		
	2700	PENN	45	1605.6	1605.7	1.2	14.0	4.2		
	606	SGMR	41	1608.5	1611.4	4.3	96.0	20.0		
	8800	SGMR	3	1609.2	1610	1.9	7.5	2.5		
	4995	SGMR	3	1609.3	1610.6	3.5	11.4	3.0		
	2800	OTTA	3	1609	1610	2	7.6	4.0		
	2700	PENN	3	1609.5	1610.4	1.8	7.8	4.6		
	2695	SGMR	1	1609.4	1610.5	1.9	6.9	2.0		
	1415	SGMR	40	1609.3	1609.5	3.4	16.7	4.0		
	960	PENN	45	1609.6	1609.8	1.4	1.0	0.5		
	2800	OTTA	20	1725	1738	25	3.0	1.5		
	4995	SGMR	20	1732.7	1738.3	51.2	7.0	3.5		
	2700	PENN	20	1732.3	1735.9	14.6	4.6	0.9		
	8800	SGMR	20	1733	1738.3	7.4	4.4	2.0		
	606	SGMR	40	1734.5	1734.8	2.5	64.1	20.0		
	1415	SGMR	40	1735.4	1736	8.1	12.0	4.0		
	960	PENN	1	1735.8	1736.3	.9	1.5	0.8		
	486	WASH	41	1736	1736	4	180.0			
	486	WASH	45	1803	1804	2	100.0			
	2700	PENT	2	2129.5	2130.2	2	6.6	3.3		
	486	WASH	41	2129	2131	3	68.0			
14	606	SGMR	20	1507	1544.4	103.0	8.4	4.0		
	2800	OTTA	20	1530	1540	70	3.8	1.9		
	4995	SGMR	20	1531.3	1540	75.2	7.4	3.5		
	1415	SGMR	20	1531.5	1546	75.5	1.6	1.0		
	8800	SGMR	20	1532	1546.5	71.0	13.2	6.0		
	2695	SGMR	20	1533	1546.5	53.6	5.4	2.5		
	408	SANM	45	1735	1752.5	25	43.5	24.5		
	408	SANM	29	1800	1800	70	11.0	8.5		
15	2800	OTTA	1	1331	1331.7	1.5	4.4	2.2		SUNRISE
	2800	OTTA	2	1354.5	1356	2	4.0	2.0		SUNRISE
	2800	OTTA	1	1938	1939.8	4	2.6	1.3		
	408	SANM	41	2024.2	2030 U	17.3	267.0	82.0		
16	408	SANM	41	1255	1304.6	12.6	237.0	43.5		
	408	SANM	41	1319.1	1319.7	1.6	107.0	59.5		
	408	SANM	45	1328.8	1329.1	1.2	33.0	19.0		
	2700	PENN	24	1353.6	1530		10.0			
	10700	PENN	24	1400.2	1607		23.7			
	2800	OTTA	21	1405	1545	175	.9.0	4.8		
	606	SGMR	20	1411.3	1414.1	5.1	7.2	2.4		
	1415	SGMR	20	1412.6	1414.8	14.4	4.0	1.3		
	2700	PENN	20	1413	1423.6	35.2	15.0	3.2		
	4995	SGMR	21	1414.2	1423.6	61.3	33.7	9.9		
	2800	OTTA	1	1414	1414.5	2	5.6	2.8		
	2695	SGMR	20	1414.1	1424	22.9	15.6	5.2		
	8800	SGMR	20	1416.1	1424	39.1	15.6	5.2		
	2800	OTTA	3	1420	1423.8	8	14.2	7.1		
	10700	PENN	20	1421.6	1423.4	12.0	10.8	4.6		
	8800	SGMR	3	1508.8	1509.1	2.2	14.2	7.1		
	4995	SGMR	3	1508.5	1509.1	2.6	19.6	9.8		
	2800	OTTA	1	1508.5	1509	1.5	5.2	3.0		
	2700	PENN	1	1508.4	1509	4.5	7.1	2.2		
	2695	SGMR	1	1508.7	1509.1	1.3	3.6	1.8		
	10700	PENN	3	1509.1E	1509.1	15 D	16.8	5.7		DUR. CAL.
	2700	PENN	20	1538.6	1540.2	56.5	14.3	2.7		
	2800	OTTA	45	1540	1540.2	2.5	7.8	3.9		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1967

DEC. 1967	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} W_m^{-2} (c/s)$^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2700	PENN	26	1635.1	1710		4.3			
	18	BOUL	6	1700	1705	7			1	
	408	SANM	45	1705	1705.9	2.2	114.0	59.5		
	18	BOUL	6	1715	1724	13			3	
	4995	SGMR	3	1718.9	1719.6	2.3	12.4	4.1		
	2700	PENN	1	1718.5	1719.5	2.8	6.5	2.7		
	8800	SGMR	1	1719.3	1719.6	2.7	3.6	1.8		
	2800	OTTA	2	1719	1719.6	2	5.6	2.8		
	2695	SGMR	1	1719.4	1719.9	.9	.6	.3		
	2700	PENN	20	1723.2	1750	76.8	2.9	1.4		
	10700	PENN	3	1732.5	1733.5	6.6	62.0	6.2		
	8800	SGMR	3	1732.7	1733.5	4.3	66.0	33.0		
	5400	SGMR	3	1733.5	1733.7	.8	6.0			PERCENT INCR
	4995	SGMR	3	1733	1733.5	2.0	54.8	27.4		
	2800	OTTA	3	1733	1733.7	1.5	15.6	7.0		
	2700	PENN	3	1733.2	1733.6	1.2	12.9	6.5		
	2695	SGMR	3	1733.2	1733.5	2.3	14.0	7.0		
	10700	PENN	20	1759.6	1804	9.4	8.5	4.3		
	2800	OTTA	1	1759	1800	1.5	2.6	1.3		
	2700	PENN	1	1759.6	1759.9	7.3	5.0D	1.0D		
	2700	PENN	26	1837.4	1924.5		2.9			
	2800	OTTA	1	1909	1910.7	2	2.8	1.4		
	2700	PENN	20	1909.8	1910.5	11.4	4.3	1.0		
	2700	PENN	20	1926.2	1933.8	15.2	2.9	1.4		
	2700	PENN	20	1959.8	2005.2	9.6	4.3	2.2		
	2700	PENN	3	2013	2016.2	12.8	31.8	4.1		
	8800	SGMR	3	2014.1	2016.5	4.2	30.8	15.4		
	4995	SGMR	3	2014.6	2016.2	3.6	50.8	20.4		
	2800	OTTA	3	2014.5	2016	3.5	28.0	8.0		
	2695	SGMR	3	2014.9	2016.3	3.7	42.0	21.0		
	606	SGMR	1	2014.8	2016.5	3.2	2.2	1.1		
	1415	SGMR	1	2015.3	2016.5	2.9	5.7	3.0		
	2700	PENT	20	2047	2051	35	4.8	2.4		
	18	BOUL	6	2117	2125	15			2	
	2700	PENT	1	2158	2158.5	1	5.6	2.8		
17	408	SANM	41	1224	1225.4	2.3	85.0	45.0		
	10700	PENN	24	1356	1525.5		13,2			
	2700	PENN	20	1426.2	1429.1	25.2	5.9	1.4		
	2800	OTTA	21	1427	1505	95	6.8	4.0		
	2800	OTTA	1	1428	1429	2	3.4	1.7		
	7000	SAOP	20	1436		104.0	12.2	24.5		
	2700	PENN	20	1537.5	1549.3	22.9	3.8	2.1		
	2700	PENN	26	1600.4	1827.9		13,6			
	10700	PENN	20	1617.8	1631.4	64.8	11.0	4.7		
	2700	PENN	45	1617.2	1622.8	59.4	9.6	3.4		
	2800	OTTA	24	1618		2	7.6			
	18	BOUL	6	1658 U	1710	14			2	
	2700	PENN	20	1804.5	1819.1	18.8	9.4	7.3		
	18	BOUL	6	1810	1813	5			1	
	10700	PENN	20	1817.9	1822.7	10.0	9.1	4.5		
	2800	OTTA	1	1817	1817.2	1.5	2.8	1.4		
	2700	PENN	45	1828.8	1839.5	16.5	19.6	6.7		
	606	SGMR	20	1831.5	1835	13.1	2.2	.7		
	7000	SAOP	3	1833	1839	12.0	16.0	32.0		
	15400	SGMR	20	1834.8	1839.5	14.2	2.0			PERCENT INCR
	10700	PENN	3	1834.3	1840	12.0	18.1	7.5		
	8800	SGMR	20	1834.7	1839.7	13.8	18.7	6.2		
	4995	SGMR	20	1834.1	1839.1	14.2	38.2	12.7		
	2800	OTTA	4	1834	1839.5	12	28.0	11.0		
	2695	SGMR	20	1834.1	1839.5	17.9	26.5	8.8		
	1415	SGMR	20	1834.1	1839.9	9.9	2.2	.7		
	606	SGMR	22	1853.9	1855.3	29.1	4.9	2.4		
	1415	SGMR	40	1855	1855.2	1.9	7.2	3.0		
	1415	SGMR	45	1923	1925.4	5.2	42.0	12.0		
	606	SGMR	40	1923	1924.7	5.2	7.2	3.0		
	18	BOUL	6	1924	1928	7			1	
	1415	SGMR	1	2020.8	2024	5.7	2.2	1.0		
	606	SGMR	1	2022.4	2024	3.5	1.4	.5		
18	7000	SAOP	21	1000		51.5	8.4	16.7		
	7000	SAOP	45	1017	1017.9	3.0	27.9	55.8		
	10700	PENN	24	1340	1630		33,9			
	2700	PENN	40	1340.2		47,7				
	2700	PENN	24	1340.2	1720		13.8			
	408	SANM	47	1410 E	1437.7	160 D	189.0	36.0		
	606	SGMR	23	1413.2	1443.6	107.6	41.0	20.0		
	2800	OTTA	21	1420	1450	300	26.0	12.0		
	2700	PENN	45	1427.9	1500.1	51.8	30.0D	17.0D		
	15400	SGMR	20	1428	1510	85	4.0			PERCENT INCR
	8800	SGMR	20	1428.2	1512	103.6	57.0	25.0		
	4995	SGMR	20	1428.6	1512.4	106.4	59.0	30.0		
	1415	SGMR	23	1429	1443	65.6	32.0	15.0		
	2695	SGMR	23	1430.7	1459	104.3	29.1	15.0		
	10700	PENN	40	1431.3		100				
	328	PENN	5	1433.3	1508.3	77.6	38.8	14.1		
	606	SGMR	3	1437	1437.6	2.0	115.0	25.0		
	960	PENN	45	1439.3	1511.5	48.7	7.3	2.6		
	184	BOUL	24	1442	1515	33			1	
	2800	OTTA	21	1458	1512	25	23.0	14.0		
	1415	SGMR	45	1458.9	1505.4	24.6	90.0	22.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1967

DEC. 1967	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} W_m^{-2} (c/s)$^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
	606	SGMR	45	1458.2	1501.7	25.8	95.0	26.0		
	2800	OTTA		1459.5	1459.8	1	30.0			SPIKES
	2695	SGMR	45	1459	1459.9	2.0	74.0	22.0		
	2700	PENN	29	1519.7	1519.7	90.3	9.6	4.8		
	328	PENN	5	1608.3	1632.7	49.7	17.5	5.9		
	2800	OTTA	1	1838	1838.8	1	2.2	1.1		
	2700	PENT	20	1950	2005	30	2.8	1.4		
19	2700	PENT	1	2023.2	2023.8	1	2.0	1.0		
20	606	SGMR	20	1248.4	1253.6	9.1	3.9	1.9		
	8800	SGMR	3	1252.4	1252.8	2.1	26.2	13.1		
	7000	SAOP	3	1252.5	1253	4.0	19.4	38.8		
	4995	SGMR	3	1252.3	1252.7	2.2	28.5	14.3		
	2695	SGMR	1	1252.4	1252.8	4.2	5.1	2.6		
	2800	OTTA	21	1354	1401	50	6.2	3.1		
	606	SGMR	40	1354.8	1357.3	6.7	148.8	20.0		
	10700	PENN	20	1356.7	1359.8	33.9	20.6	4.4		
	2700	PENN	45	1356.6	1400.4	4.4	21.2	8.2		
	1415	SGMR	3	1356.6	1356.8	.8	113.3	37.8		
	960	PENN	5	1356.6	1400.1		2.4			
	7000	SAOP	45	1357.5	1400	4.7	24.5	49.0		
	2695	SGMR	3	1357.8	1359.5	4.2	24.5	12.3		
	8800	SGMR	3	1358	1359.6	4.0	25.6	17.8		
	4995	SGMR	3	1358	1359.7	3.9	32.7	16.3		
	2800	OTTA	45	1358	1400.3	3	17.0	8.0		
	1415	SGMR	3	1359.4	1400.3	2.8	21.8	10.9		
	2700	PENN	29	1401	1401	76.8	7.3	3.7		
	7000	SAOP	29	1402.2		9.3	6.9	13.8		
	10700	PENN	3	1705.9	1707.1	14.1	18.7	3.6		
	8800	SGMR	3	1706.8	1707.3	2.2	7.8	3.2		
	4995	SGMR	3	1706.8	1707.3	2.9	39.6	15.8		
	2800	OTTA	1	1706.5	1707.1	1	4.6	2.3		
	2700	PENN	20	1706	1707.2	16.9	5.1	0.9		
	2800	OTTA	29	1707.5		5	2.2	1.1		
	2800	OTTA	20	1905	1910	15	3.8	2.0		
	2800	OTTA	21	1925	1955	75	4.6	2.3		
	1415	SGMR	3	1936.2	1936.4	5.4	15.0	7.5		
	606	SGMR	1	1936	1936.3	2.0	7.2	3.6		
	606	SGMR	1	1941.7	1942.2	1.1	4.4	2.2		
	408	SANM	45	1941.8	1942.7	1.9	136.0	71.0		
	184	BOUL	6	1941	1941	.5			3	
	2800	OTTA	4	2029.3	2030	1	18.0	9.0		
21	7000	SAOP	3	1015.5	1016	1.0	9.5	19.0		
	7000	SAOP	21	1415.6		120.4	8.0	15.9		
	8800	SGMR	3	1456.5	1457.3	1.5	33.8	8.0		
	7000	SAOP	3	1456.6	1457.8	4.9	23.8	47.6		
	4995	SGMR	3	1456.5	1457.3	1.3	15.5	4.0		
	4995	SGMR	29	1457.8	1457.8	14.0	5.0	2.0		
	8800	SGMR	29	1458	1458	4.5	10.3	5.0		
	2700	PENN	20	1611.2	1642.6	156.8	6.6	2.5		
	408	SANM	45	1726.9	1728.4	5.1	40.5	18.0		
	1415	SGMR	3	1734.4	1735.3	1.8	22.9	7.6		
	606	SGMR	3	1734.6	1735.2	1.7	21.7	7.3		
	408	SANM	45	2029.6	2030.2	1.8	93.0	49.0		
	18	BOUL	6	2223	2238	17			3	
	18	BOUL	6	2245	2300	25			3	
22	408	SANM	45	1345	1346	1.9	59.0	32.0		
	4995	SGMR	1	1433.6	1434.1	1.0	5.9	2.9		
	2800	OTTA	1	1433	1434	3	4.0	2.0		
	2695	SGMR	1	1433.4	1434.1	1.0	3.8	1.9		
	1415	SGMR	1	1433.7	1434.1	.8	.2	.1		
	606	SGMR	3	1433.5	1433.8	.7	36.4	18.2		
	184	BOUL	42	1500		45			1	
	2800	OTTA	3	1839	1842	9	8.0	3.7		
	10700	PENN	3	1846.6	1850.6	24.8	30.0	5.0		
	2700	PENN	20	1847	1850.9	13.6	8.1	2.2		
	15400	SGMR	20	1849	1852	9.6	5.0			PERCENT INCR
	8800	SGMR	20	1849.6	1851.7	8.4	32.9	16.5		
	4995	SGMR	20	1849.5	1851.4	7.4	6.4	3.2		
	1415	SGMR	20	1849.5	1852	8.0	3.4	1.7		
	606	SGMR	20	1849.3	1851.4	4.7	3.2	1.6		
	2695	SGMR	20	1850.1	1852	8.0	7.0	3.5		
	1415	SGMR	1	2038.8	2040	2.5	7.2	3.6		
	606	SGMR	1	2040.2	2040.4	1.2	5.4	2.7		
23	408	SANM	3	1240.4	1240.5	1.4	154.0	80.0		
	2800	OTTA	20	1340	1430	155	4.8	2.8		
	408	SANM	3	1706.5	1706.9	1	60.0	32.5		
	2800	OTTA	20	1740	1830	170	4.8	2.4		
	2700	PENT	1	2102.5	2103.5	2	4.0	2.0		
24	2700	PENN	40	1655		240				
	2800	OTTA	20	1715	1720	45	3.2	1.6		
	2800	OTTA	20	1855	1945	120	3.6	1.8		
25	2800	OTTA	21	1425	1515	165	5.4	2.7		
	2700	PENN	20	1510.4	1624.8	139.8	4.6	2.3		
	10700	PENN	3	1515.4	1515.9	4.8	8.7	3.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1967

DEC. 1967	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} W_m^{-2} (c/s)^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
	7000	SAOP	3	1516	1516.8	2.0	15.3	30.6		
	2700	PENN	20	1541.8	1546.4	12.8	8.4	1.8		
	2800	OTTA	20	1545.8	1546.5	2.5	8.6	4.0		
	4995	SGMR	3	1546	1546.4	5.4	13.5	6.7		
	2695	SGMR	1	1546.1	1546.4	1.9	4.7	2.4		
	2800	OTTA	1	1615	1615.5	3	7.0	3.5		
	2700	PENN	1	1643.8	1644.9	3.4	2.3	0.9		
	2800	OTTA	1	1644	1644.8	4	2.6	1.3		
	2700	PENN	1	1817.3	1819.5	3.0	2.3	1.3		
	10700	PENN	20	1819	1824.5	16.5	4.3	2.2		
	2700	PENN	20	1841.5	1950	138.5	4.6	2.3		
26	4995	SGMR	21	1330.4	1407.8	96.6	32.9	15.0		
	1415	SGMR	21	1331.9	1429	88.9	7.8	3.5		
	2695	SGMR	21	1332	1410	82.7	27.5	13.0		
	2800	OTTA	21	1333	1409	130	18.0	11.0		
	8800	SGMR	21	1336.5	1405.7	92.2	22.0	10.0		
	606	SGMR	21	1336.2	1416	94.8	8.4	4.0		
	408	SANM	45	1340	1406.8	30	70.0	22.5		
	1415	SGMR	45	1403.3	1405.5	11.1	210.0	50.0		
	7000	SAOP	28	1404.5		1.5				
	606	SGMR	45	1404.7	1407	16.3	160.0	45.0		
	8800	SGMR	3	1405.7	1406.7	3.*	42.0	10.0		
	4995	SGMR	3	1405.9	1407	1.8	39.0	10.0		
	2695	SGMR	3	1405.5	1407	6.2	70.0	18.0		
	7000	SAOP	3	1406	1407.2	2.2	37.4	74.8		
	2800	OTTA	3	1406.8	1416.8	3 D	60.0			
	7000	SAOP	29	1408.2			20.4	40.8		
	408	SANM	29	1410	1410	20	16.0	13.0		
	2800	OTTA	2	1412.2	1413.1	1.5	5.6	2.8		
	10700	PENN	26	1425.7	2008.2		28.0			
	2700	PENN	26	1434.1	1915.5		15.0			
	2800	OTTA	20	1610	1658	110	7.8	3.9		
	4995	SGMR	1	1928.7	1929.3	1.2	4.7	2.0		
	2800	OTTA	1	1928.5	1929.3	1	3.6	1.8		
	2700	PENN	1	1928.6	1929.1	1.7	3.1	1.9		
	1415	SGMR	1	1928.6	1929.3	1.0	4.6	2.0		
	606	SGMR	1	1928.6	1929	1.1	2.9	1.5		
	2695	SGMR	1	1929.1	1929.3	.7	4.8	2.0		
	2800	OTTA	21	2005	2026	65	5.6	2.8		
	2700	PENN	45	2011	2024.7	15.2	20.4	5.4		
	10700	PENN	20	2013.6	2024.3	41.4	9.2	.*		
	4995	SGMR	3	2023.4	2024.3	3.8	27.3	9.0		
	2800	OTTA	3	2023	2024.2	3	15.0	7.5		
	2695	SGMR	1	2023.6	2024.6	2.5	6.7	2.5		
	1415	SGMR	1	2023.5	2025	4.8	4.1	2.0		
	8800	SGMR	3	2024	2024.7	1.0	9.0	3.5		
	2700	PENN	29	2026.2	2026.2	27.6	5.5	2.7		
	18	BOUL	6	2340	2353	14			3	
27	408	SANM	43	0930 E	1005	190	168.0	26.0		
	2700	PENN	3	1359.2	1409.9	13.3	47.9	10.3		
	10700	PENN	3	1400.7	1409.6	11.7	140.1	26.3		
	8800	SGMR	3	1407	1409.7	9.*	225.0	50.0		
	7000	SAOP	3	1407.5	1410.2	8.0	137.3	274.6		
	4995	SGMR	3	1407	1409.7	9.0	255.0	65.0		
	2800	OTTA	3	1407	1409.7	6	44.0	18.0		
	2695	SGMR	3	1407	1409.7	9.0	65.0	16.0		
	10700	PENN	29	1412.4	1412.4	175.8	28.8	13.3		
	2700	PENN	29	1412.5	1412.5	56.1	13.9	7.0		
	2800	OTTA	29	1413		57	12.0	6.0		
	8800	SGMR	29	1416	1416	48.3	36.0	18.0		
	4995	SGMR	29	1416	1416	52.2	25.0	12.5		
	2695	SGMR	29	1416	1416	51.0	16.0	8.0		
	2800	OTTA	26	1525	1555	60	-5.0	-3.0		
	408	SANM	45	1755	1759	7.7	29.0	14.0		
	8800	SGMR	3	1919.8	1920.5	3.9	12.2	6.1		
	4995	SGMR	3	1919.8	1920.5	9.8	7.2	3.6		
	4995	SGMR	28	1941.8	1944	2.2	7.2	3.0		
	2695	SGMR	28	1941.9	1944.5	2.6	1.3	.5		
	8800	SGMR	28	1942	1943.8	1.8	3.0	1.5		
	8800	SGMR	45	1943.8	1945.5	6.7	50.0	12.0		
	7000	SAOP	3	1944	1945.9	6.6	49.4	98.8		
	4995	SGMR	3	1944	1945.4	6.6	59.0	14.0		
	2800	OTTA	21	1944	2015	120	5.8	2.9		
	2800	OTTA	46	1944	1945.7	6	7.4	3.0		
	2695	SGMR	3	1944.5	1945.5	6.8	14.1	3.5		
	8800	SGMR	29	1950.5	1950.5	25.5	13.7	7.0		
	4995	SGMR	29	1950.6	1950.6	25.4	9.6	4.5		
	2695	SGMR	29	1951.3	1951.3	24.7	11.5	5.5		
	408	SANM	43	2125	2138.3	40	61.0	11.0		
	2700	PENT	4	2127	2127.5	1	16.0	8.0		
	2700	PENT	1	2203.5	2203.8	2	3.6	1.8		
28	408	SANM	42	1122	1122.5	2	292.0	148.0		
	8800	SGMR	21	1327	1439.3	296.3	50.4	25.2		
	606	SGMR	20	1334.5	1504.8	277.0	13.8	6.9		
	4995	SGMR	21	1339.7	1439.4	214.6	41.4	20.7		
	1415	SGMR	20	1339.8	1620.1	212.4	11.4	5.7		
	408	SANM	27	1345 E	1403.4	90 D	61.5	19.0		
	2700	PENN	20	1350.1	1435.7	108.3	10.2	4.9		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1967

DEC. 1967	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} W_m^{-2} $(c/s)^{-1}$ PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2800	OTTA	20	1358	1435	100	16.0	8.0		
	2695	SGMR	20	1408.5	1440	71.5	6.9	3.5		
	4995	SGMR	3	1434.6	1437	6.4	23.0	11.5		
	8800	SGMR	3	1435	1436	4.0	11.3	5.7		
	7000	SAOP	3	1435.2	1436.5	4.8	16.3	32.6		
	8800	SGMR	1	1508.2	1509	1.5	4.4	2.2		
	4995	SGMR	1	1508.3	1508.9	7.2	6.4	3.2		
	2700	PENN	20	1740.2	1857.4	199.8	6.3	3.2		
	10700	PENN	1	1959.2			4.0D			DUR. CAL.
	2800	OTTA	1	1959	2000	3	2.4	1.2		
	2700	PENN	1	1959.2			4.0D			DUR. CAL.
	2700	PENN	3	2037.6	2053	28.4	55.5	20.0		
	2700	PENT	20	2038	2044	12	1.8	0.9		
	10700	PENN	20	2039.5	2040.6	8.0	4.5	3.0		
	2700	PENT	1	2052	2053	2	1.8	0.9		
29	7000	SAOP	3	1121.5	1122	3.0	11.2	22.5		
	7000	SAOP	20	1446.5		34.3	14.6	29.2		
	2700	PENN	20	1817.8	1851.2	84.4	6.6	3.0		
	4995	SGMR	3	1829.5	1830.2	4.1	10.1	5.0		
	8800	SGMR	20	1853	1900.7	32.0	7.8	3.6		
	4995	SGMR	20	1857.5	1904.7	10.5	4.6	2.0		
30	8800	SGMR	3	1824.2	1824.8	5.3	18.3	9.2		
	4995	SGMR	3	1824.3	1824.8	1.1	49.6	24.8		
	2695	SGMR	3	1824.6	1824.9	.7	7.8	3.9		
	1415	SGMR	1	1824.2	1824.9	.9	6.7	3.3		
	606	SGMR	1	1824.5	1824.8	.7	3.8	.9		
31	4995	SGMR	3	1416.2	1418.8	5.8	14.3	7.2		
	1415	SGMR	1	1416.6	1419.4	6.0	3.6	1.8		
	2695	SGMR	1	1417.1	1418.4	5.2	5.6	2.8		
	15400	SGMR	1	1418	1419.5	4.3	3.0			PERCENT INCR
	8800	SGMR	3	1418.1	1419	2.5	21.3	10.7		
	606	SGMR	1	1418.6	1419.4	2.4	4.7	2.3		

Additions to Ottawa 2800 Mc/s Events:

Date Dec. '67	Type	Start	Maximum	Duration	Peak Flux	Mean Flux
29	20	1815	1905	90	5.0	3.0
30	3	1824.3	1824.8	1	10.4	5.2
31	3	1416.5	1418.2	3.5	8.6	6.4
	30	1420	---	5	3.6	1.8
	1	1421	1421.2	1	1.8	0.9
	21	1426	1537	155	6.0	3.0
	1	1426.2	1426.5	6	3.0	1.6

Explanation of Type Code:

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

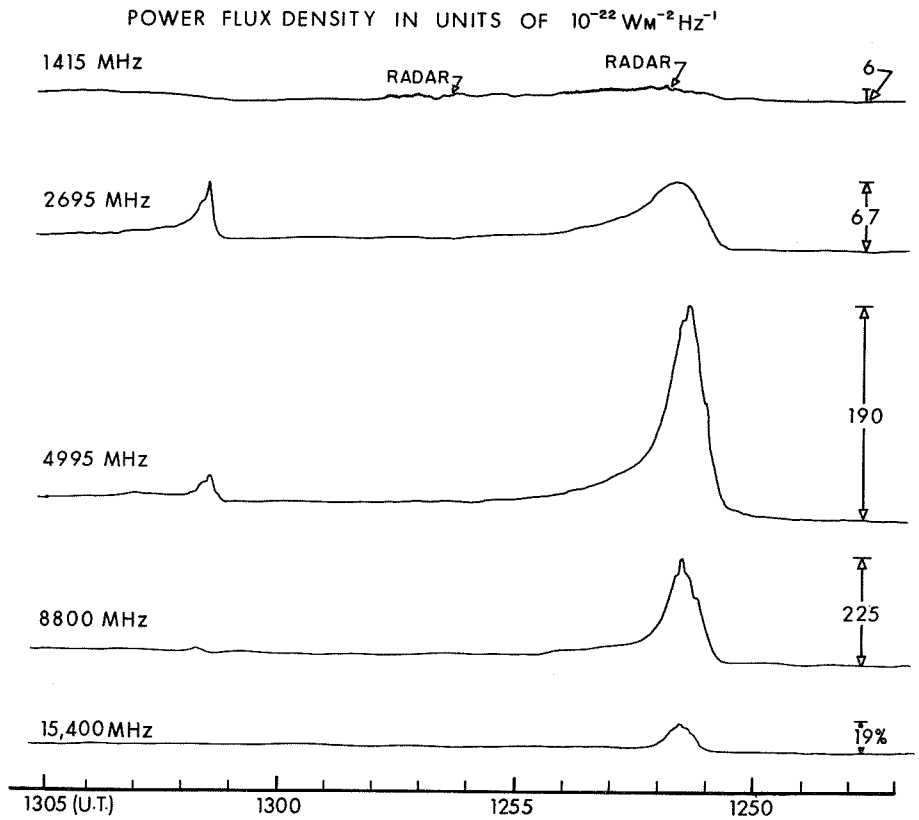
Observatories:

BOUL = Boulder (ESSA-184 Mc/s, U. of Colo.-18 Mc/s)
OTTA = ARO - Ottawa
PENN = Pennsylvania State University
PENT = DRAO - Penticton
SANM = San Miguel, Argentina
SAOP = Sao Paulo, Brazil
SGMR = AFCRL - Sagamore Hill
WASH = Washington State University

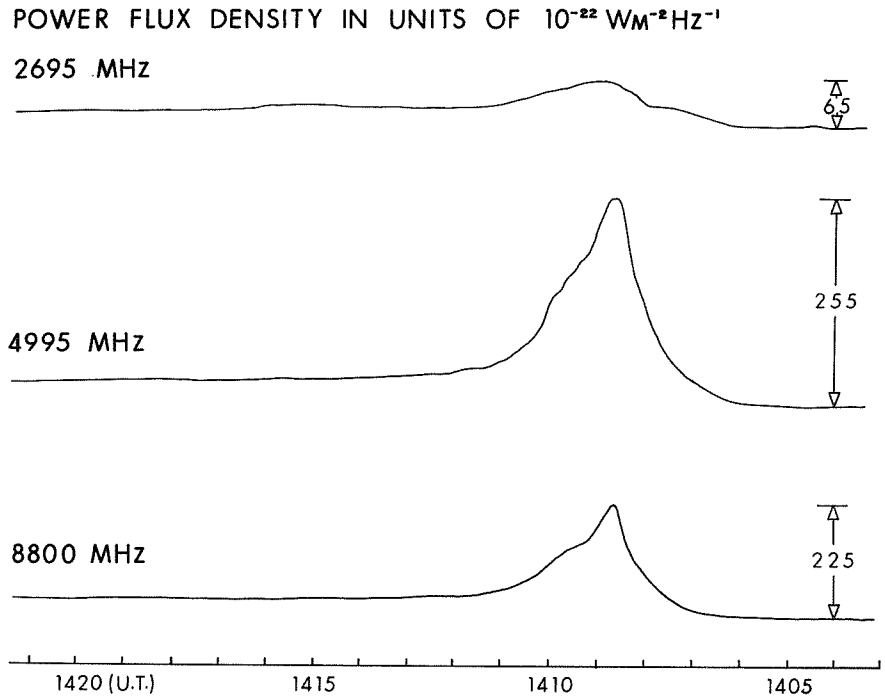
No data is available from Washington State from December 15-31, 1967 because of equipment failure.

SELECTED SOLAR NOISE BURSTS
AFCRL SAGAMORE HILL

DECEMBER 1967



SIMPLE 2* RADIO BURST OBSERVED ON 1 DECEMBER, 1967
AT SAGAMORE HILL RADIO OBSERVATORY
HAMILTON, MASS.

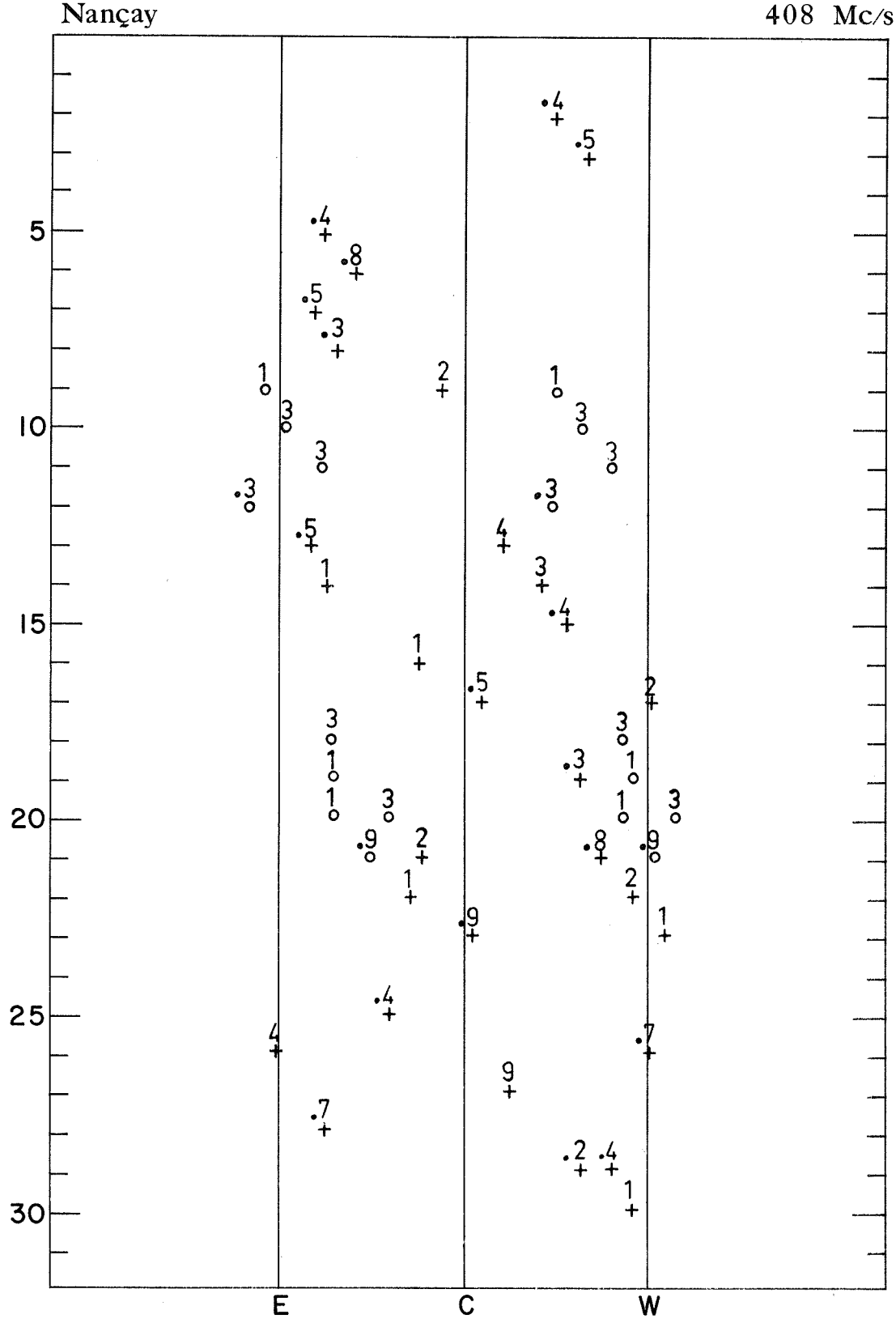


SIMPLE 2 RADIO BURST OBSERVED ON 27 DEC., 1967
AT SAGAMORE HILL RADIO OBSERVATORY
HAMILTON, MASS.

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

DECEMBER 1967

Nançay 408 Mc/s



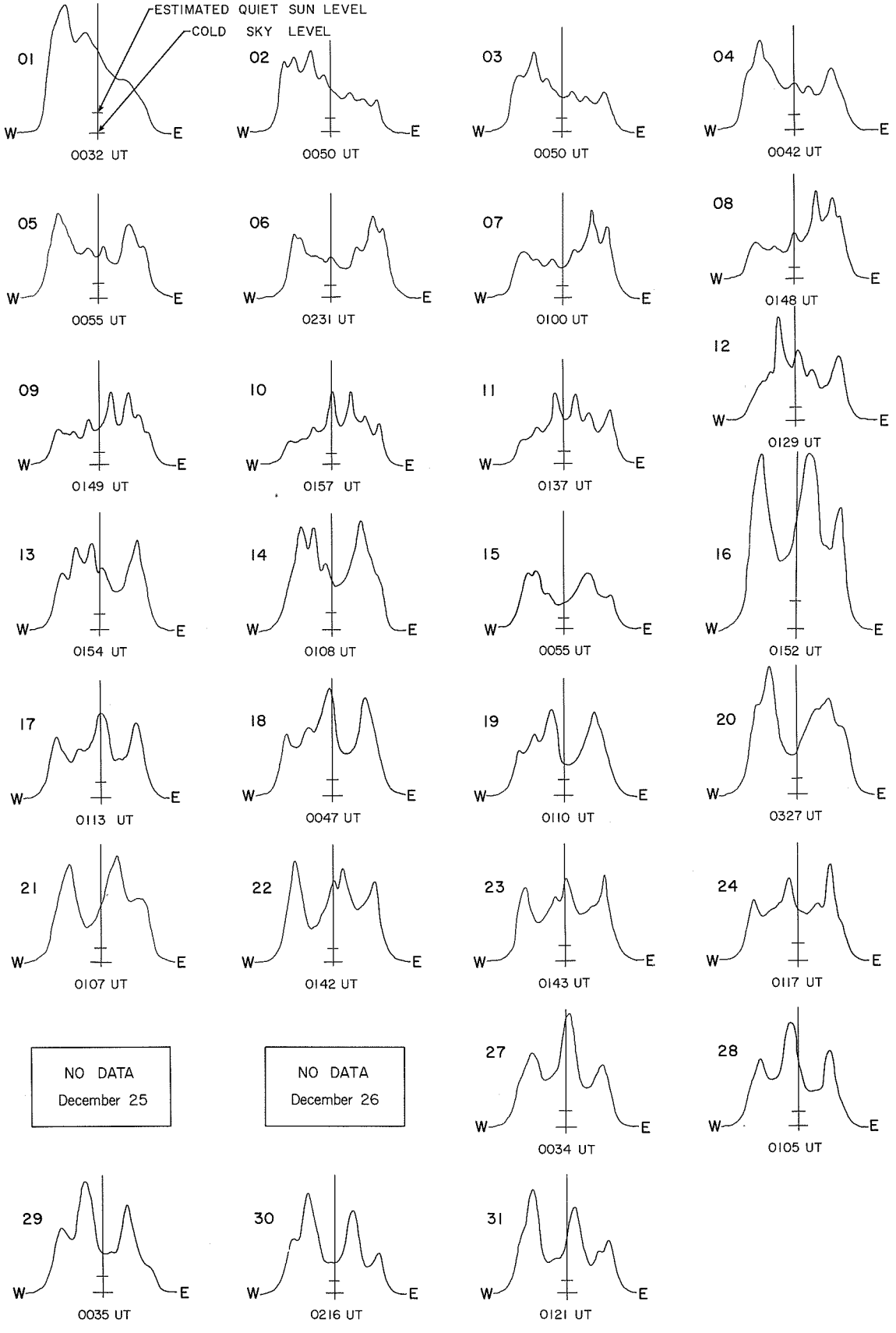
No chart for Nancay 169 Mc/s Interferometric Measurements is available for December 1967 because of equipment difficulties.

EAST-WEST SOLAR SCANS

DECEMBER 1967

Fleurs, Australia

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

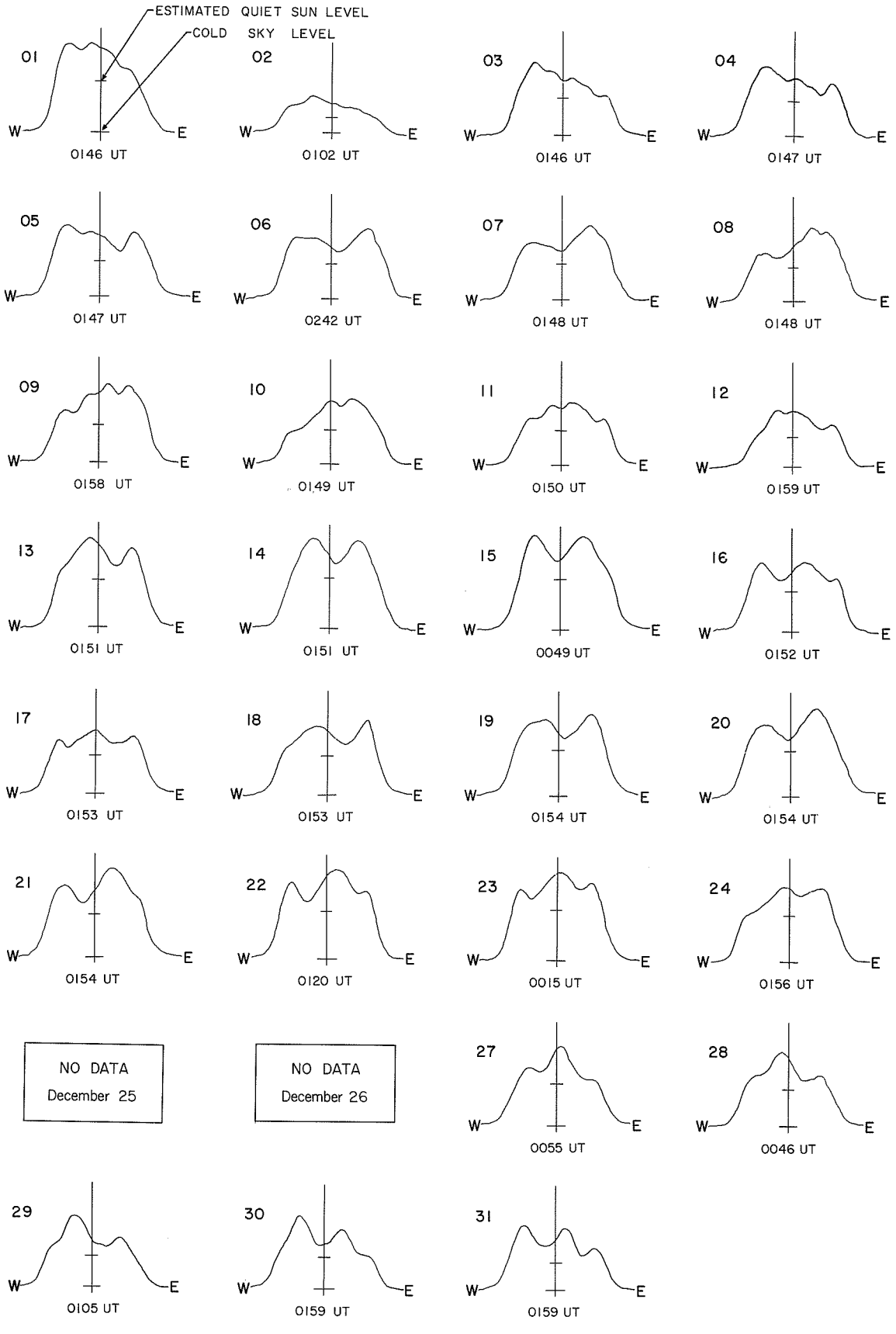


EAST-WEST SOLAR SCANS

DECEMBER 1967

Fleurs, Australia

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



SOLAR WIND VELOCITY
PIONEERS 6 AND 7

The NASA Ames Research Center plasma probe solar wind velocity data from Pioneers 6 and 7 are now being supplied by John H. Wolfe. The data for the months of November and December 1967 are included in this issue of IER-FB. These data include the date and time of observation in UT, the satellite pass number, the solar wind bulk velocity in kilometers per second and the co-rotation delay time in days.

The letter preceding the time of observation denotes the tracking station from which the data were acquired. "J" denotes the 85 foot antenna station at Johannesburg, South Africa and "G" denotes the 85 or 210 foot antenna at Goldstone, California.

The pass number refers to the total number of times since launch that the spacecraft has passed over the tracking station at the particular time of observation.

The solar wind velocity, U_{H+}, is derived by a computer fit of the solar wind proton energy distribution to a Maxwell-Boltzmann distribution in a moving frame of reference. The speed is given in kilometers per second and represents the bulk or convective speed of the solar wind.

The co-rotation delay, TAU, is defined as the time in days required for a steady state solar co-rotating plasma beam to rotate from the spacecraft to earth. A diagram showing the angular positions of Pioneers 6 and 7 with respect to the earth follows. As can be seen from the diagram, Pioneer 7 is lagging the earth and therefore TAU is positive whereas Pioneer 6 is leading the earth and therefore TAU is negative. The co-rotation delay depends on the heliocentric radial distance of the earth and the spacecraft, the angular separation between the earth and the spacecraft, the solar angular velocity and the solar wind bulk speed which defines the degree of the hose angle of the co-rotating interplanetary magnetic field. The equation used to compute the co-rotation delay is as follows:

$$\text{Co-rotation delay (secs)} = \text{TAU} = \frac{\phi}{W} - \frac{1}{U_{H+}} (r_p - r_e)$$

where W = 27 day solar rotation period angular velocity (in radians sec^{-1})

$= 2.6934 \times 10^{-6}$ radians sec^{-1}

ϕ = Ecliptic projection of Earth-Sun-Pioneer angle (in radians)

r_p = Ecliptic projection of Sun-Pioneer distance (in km)

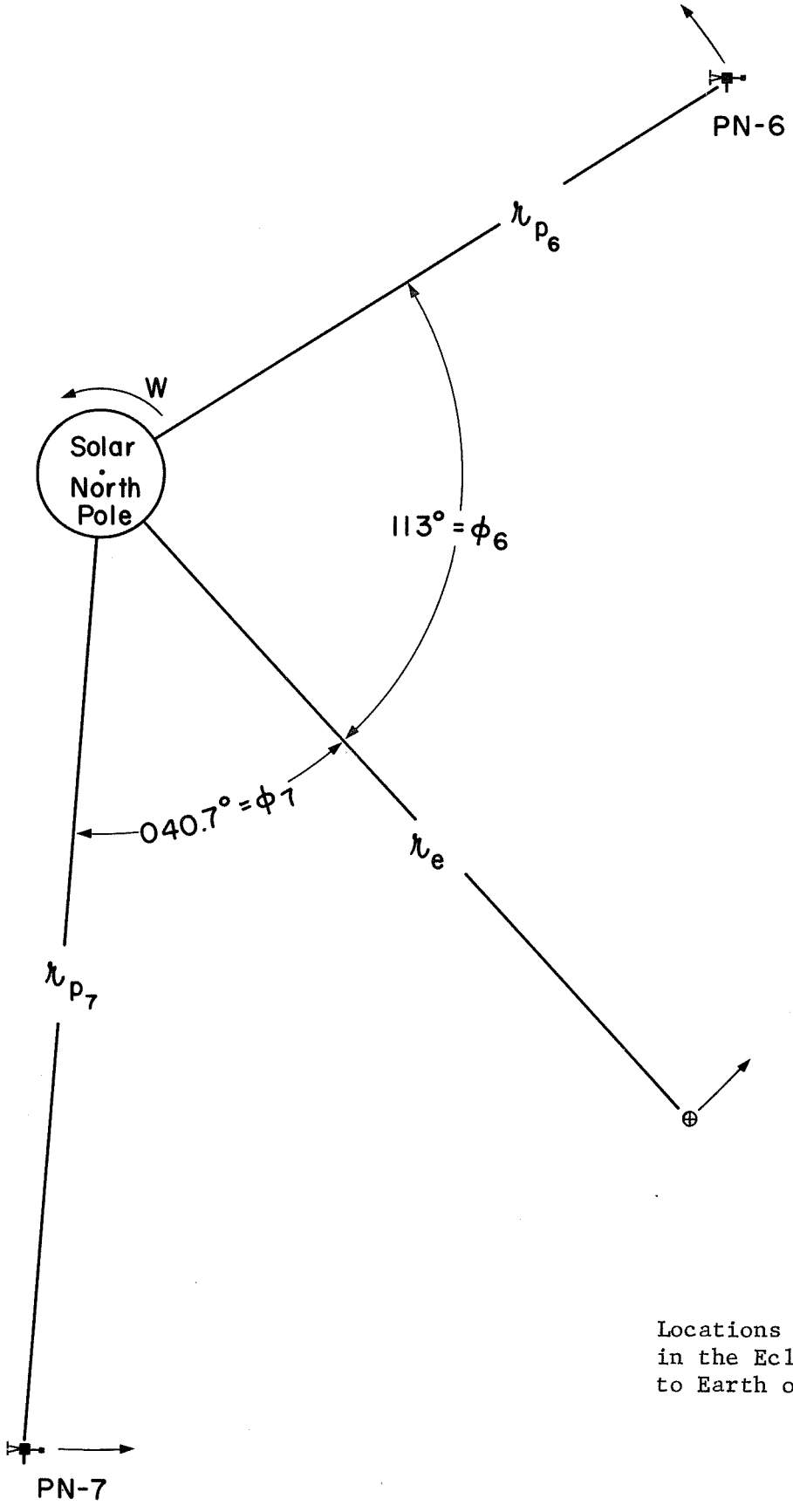
r_e = Sun-Earth distance (in km)

U_{H+} = Solar wind velocity (in km sec^{-1})

ESP = Earth-Sun-Probe angle

The degree of out-of-the-ecliptic of each spacecraft is insignificant and hence is ignored in the above calculation.

SOLAR WIND VELOCITY
PIONEERS 6 AND 7



Locations of Pioneers 6 and 7 in the Ecliptic Plane relative to Earth on December 6, 1967.

SOLAR WIND VELOCITY
PIONEERS 6 AND 7
December 1967

Ames Research Center

Date 1967	PIONEER VI				PIONEER VII			
	Time UT	Pass	U_{H+}	TAU	Time UT	Pass	U_{H+}	TAU
Dec 1					J1227	472	375	+2.63
2					J1238	473	407	+2.67
3					J1330	474	452	+2.71
5					J1347	476	627.2	+2.81
6	G1252	721	616	-8.15	J1250	477	647	+2.82
7					J1254	478	524.2	+2.78
9	G1254	724	488	-8.1				
10	G1345	725	419	-8.04				
11	G1300	726	438	-8.08	G0356	481	409	+2.72
12	G1304	727	362	-8.	G0122	482	331	+2.63
19	G1415	734	787	-8.41	G2114	490	406	+2.77
21	G1326	736	455	-8.23				
23	G1323	738	403	-8.19				
24	G1456	739	456	-8.28	G2130	495	280	+2.61
26	G1330	741	334	-8.11				
27	G1330	742	365	-8.2	J1003	498	449	+2.87
28	G1349	743	400	-8.27	J1247	499	329	+2.73
29	G1637	744	567	-8.48	J1327	500	281	+2.65
30	G1420	745	456	-8.38	G2036	501	422	+2.88
31	G1655	746	452	-8.4	G2045	502	467	+2.92

NOTE: J denotes 85 foot antenna station at Johannesburg, S.A.

G denotes 85 or 210 foot antenna at Goldstone

SOLAR PROTON EVENTS
(Provisional)
December, 1967

Event No.	Date Dec.	Time UT	Detector	Activity
1	3	0915	HF radio paths (Ft. Monmouth)	phase shifts
		0935	Vela satellites	proton flux
		1505	OGO-3 satellite	3x normal >20 Mev proton flux
		1600-2000Z	Ft. Churchill riometer	maximum--2db absorption
		1411-1714Z	OV5 satellite	proton enhancement 12-19 Mev
	4	2100Z	Ft. Monmouth	event still in progress
2	16	0536Z	Vela satellites	proton enhancement
		0600Z	Ft. Monmouth	phase shifts start
	17	--	Ft. Monmouth	maximum
		--	Alaskan riometers	slight absorption VLF phase advances (nighttime effects)
	19	1700Z	Ft. Monmouth	event still in progress

Note: Both of these events were minor in geophysical effects.

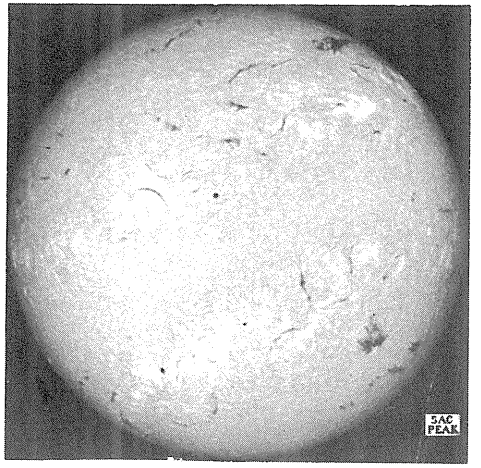
Table of Contents
for November 1967 Data

	Page
Daily Solar Activity Centers	
Hα, Sunspots, 9.1 and 21 cm Spectroheliograms, Magnetograms and Calcium Plages	41-70
Coronal Line Emission Indices	71
Sudden Ionospheric Disturbances	
SWF, SCNA, SEA, SPA, SES, SFD	72-73
Ionospheric Absorption Events	
Riometer - South Pole	74
Solar X-ray Radiation	
Outstanding Events and NRL Daily Averages	75
Observing Times	76
Solar Radio Waves	
Spectral Observations	77-80
Solar Wind	81
Cosmic Rays	
Neutron Monitors Daily Values - Deep River, Climax, Dallas	82
Chart of Variations - Deep River, Alert	83
Geomagnetic Indices	
Table of Indices Kp, Ci, Cp, Ap	84
Chart of Kp by Solar Rotations and 12-Month Table of Daily Averages Ap	85
Principal Magnetic Storms	87
Radio Propagation Indices	
North Atlantic and North Pacific Quality Figures and Forecasts	88
Charts of North Atlantic Short-term Forecasts and Quality and High Latitude Advance Forecasts	89
Transmission Frequency Ranges - North Atlantic Path	90-91

For explanations of the data contained herein see "Descriptive Text" published in February 1967.

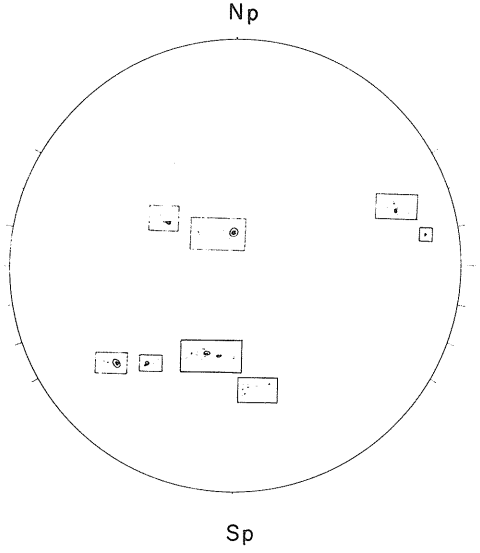
NOVEMBER 1, 1967 (P=24.67, B_o=4.40, L_o=279.38)

SACRAMENTO PEAK Hα



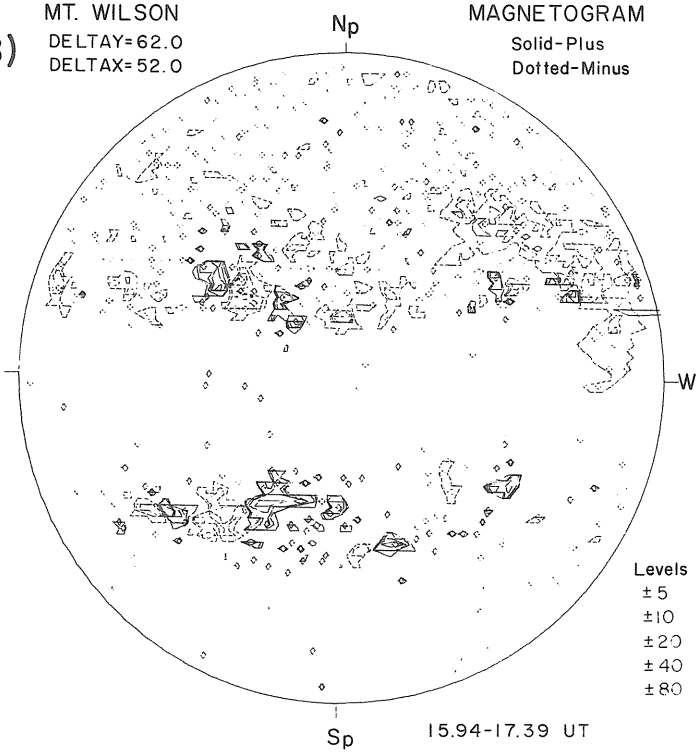
1431 UT

ESSA-BOULDER SUNSPOTS



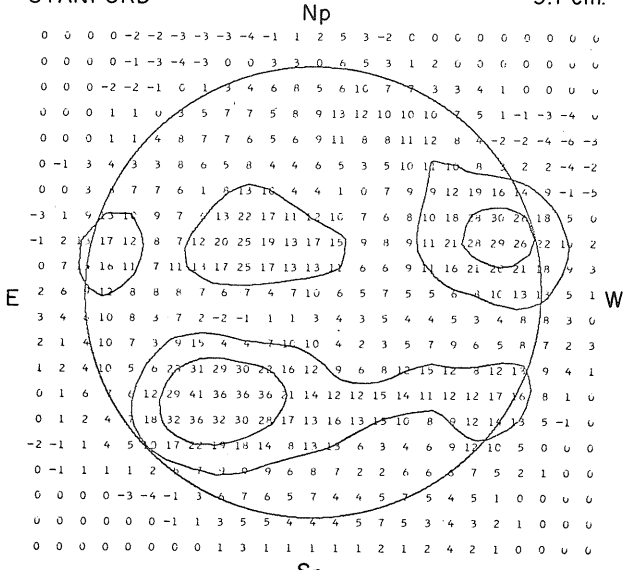
1600 UT

MT. WILSON MAGNETOGRAM
DELTAY=62.0
DELTAX=52.0
Solid-Plus
Dotted-Minus



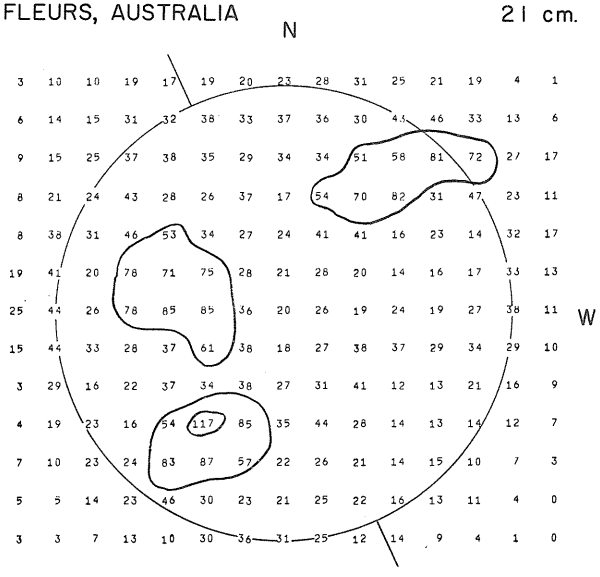
15.94-17.39 UT

STANFORD 9.1 cm.



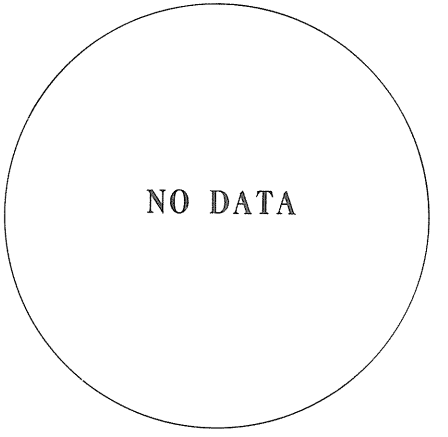
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



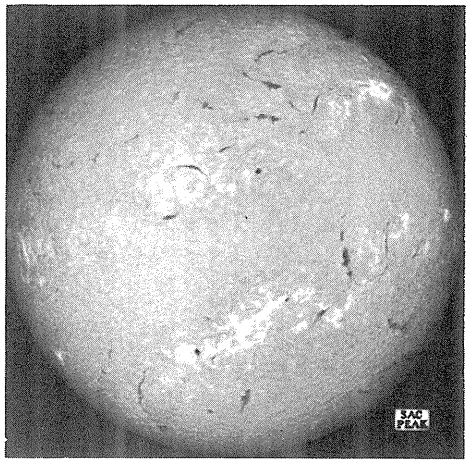
Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



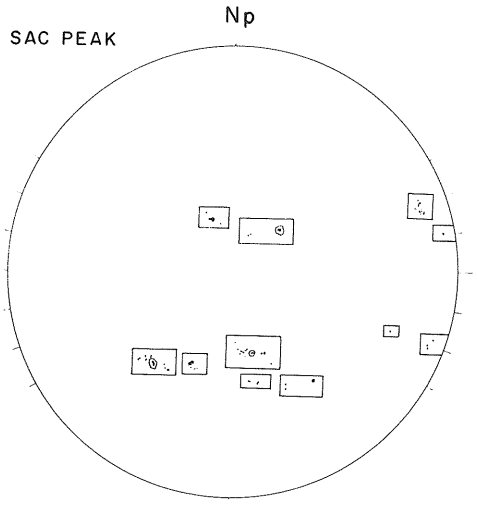
NOVEMBER 2, 1967 (P=24.50, B_o=4.30, L_o=266.19)

SACRAMENTO PEAK Hα



1504 UT

ESSA-BOULDER SUNSPOTS

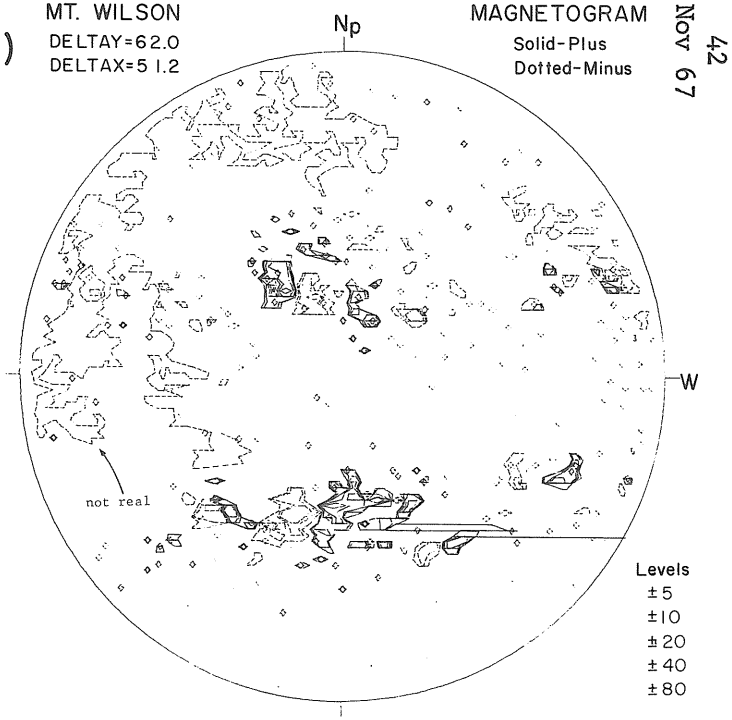


1515 UT

MT. WILSON MAGNETOGRAM

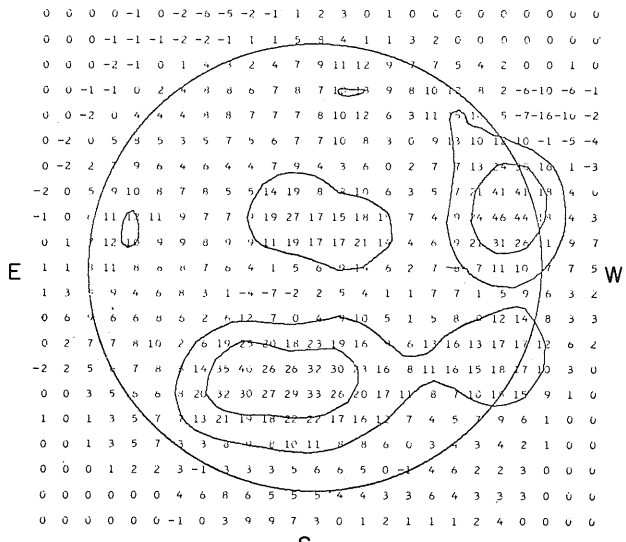
DELTAY=62.0
DELTAX=5 1.2

Solid-Plus
Dotted-Minus



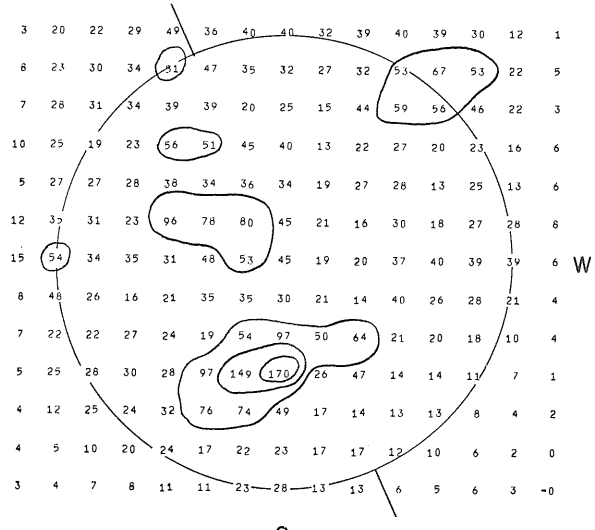
16.32-17.73 UT

STANFORD 9.1 cm.



20-21 UT Brightness Unit 5,000° K

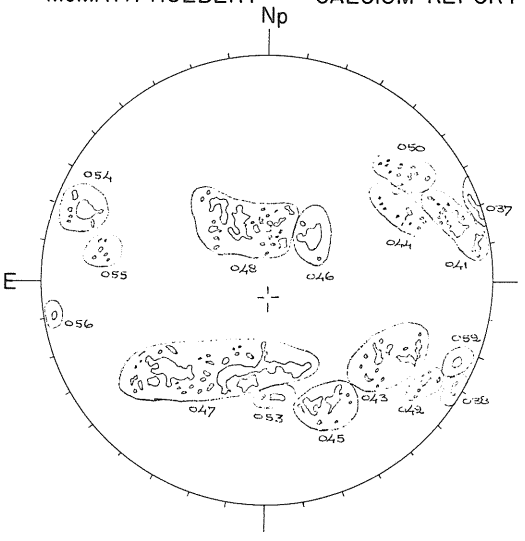
FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

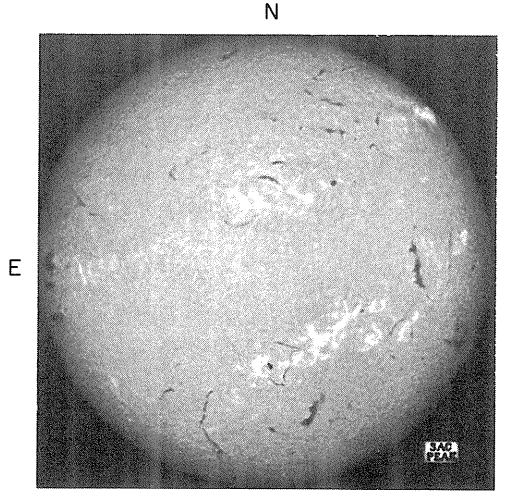


1515 UT

41-39-3.5
44-06-2.5
45-19-3.0
46-11-2.5
47-69-3.5
48-25-3.0
50-05-2.5
52-06-2.5
53-04-3.5
56-03-3.5

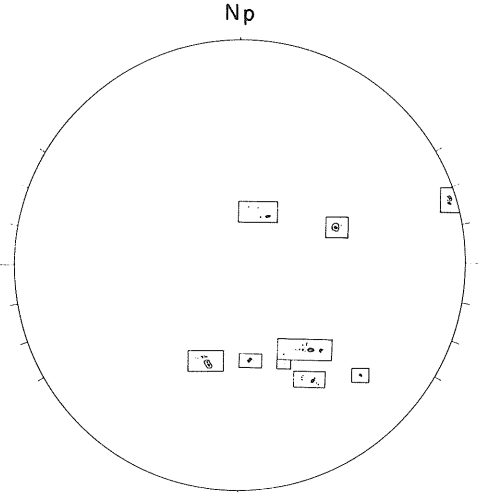
NOVEMBER 3, 1967 (P=24.33, B_o=4.20, L_o=253.00)

SACRAMENTO PEAK Hα



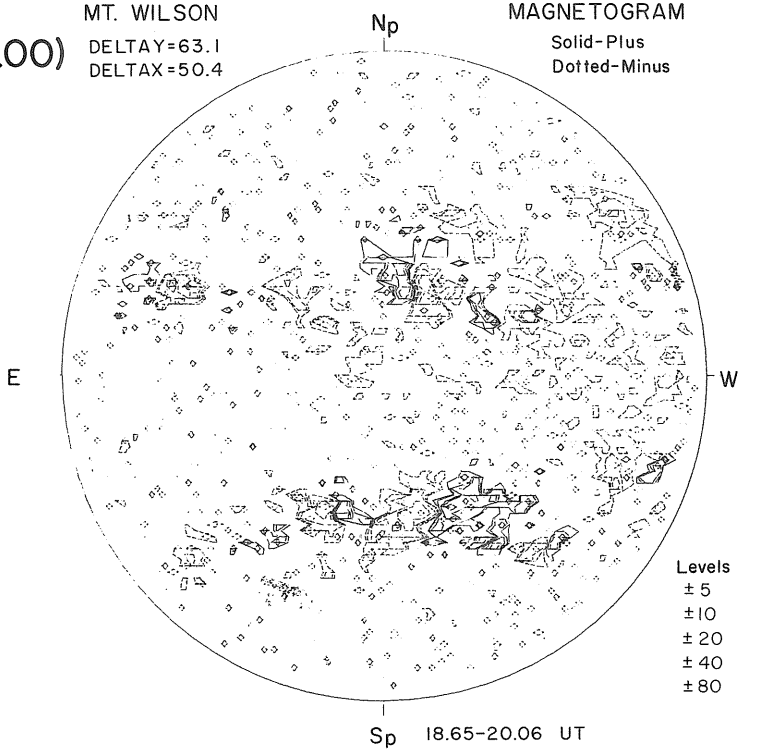
1501 UT

ESSA-BOULDER SUNSPOTS



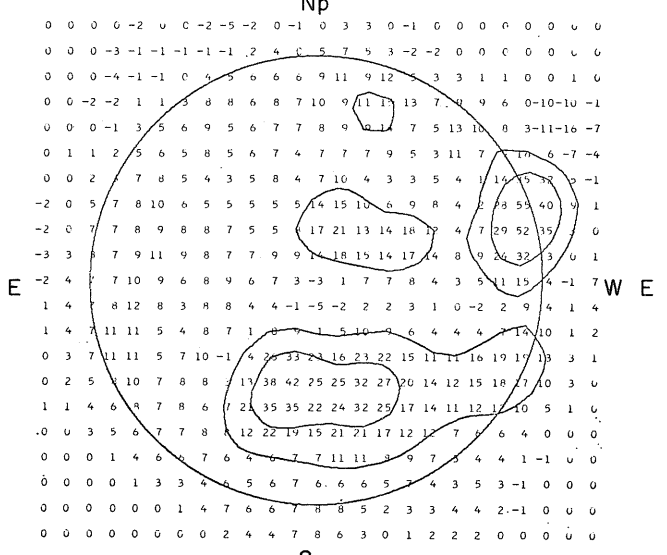
1755 UT

MT. WILSON MAGNETOGRAM
DELTAY=63.1
DELTAX=50.4
Solid-Plus
Dotted-Minus



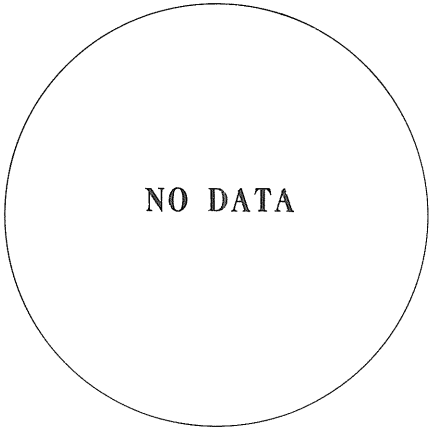
18.65-20.06 UT

STANFORD 9.1 cm.



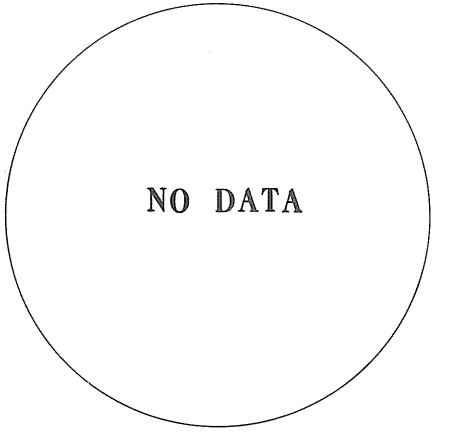
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



02-03 UT Brightness Unit 1,700° K

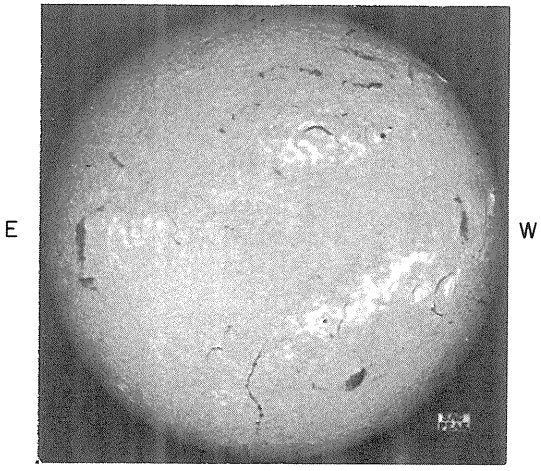
McMATH-HULBERT CALCIUM REPORT



Resolution 3 Minutes of Arc

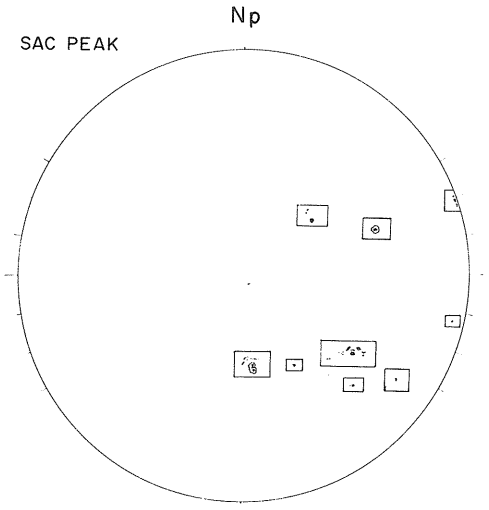
NOVEMBER 4, 1967 (P=24.15, B_o=4.09, L_o=239.82)

SACRAMENTO PEAK Hα



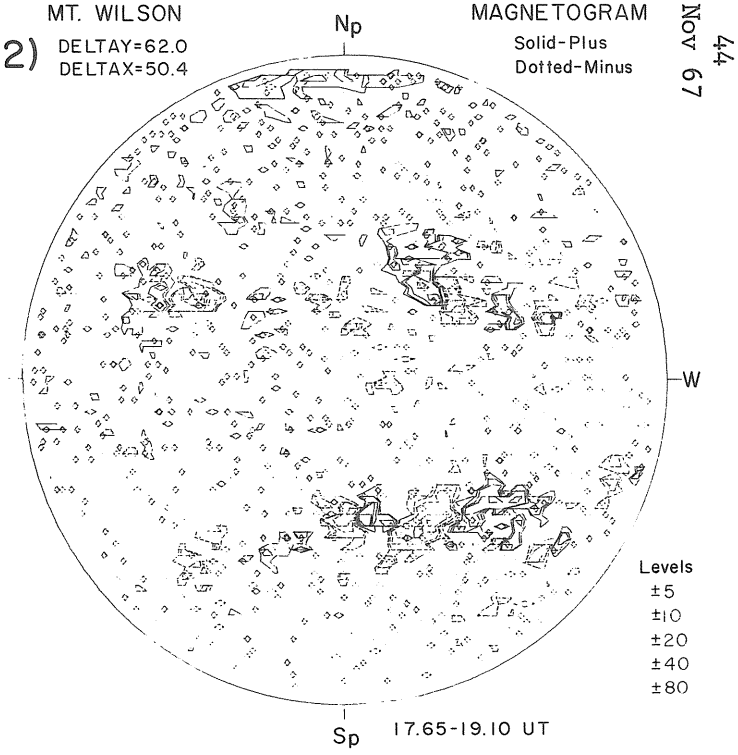
1524 UT

ESSA-BOULDER SUNSPOTS



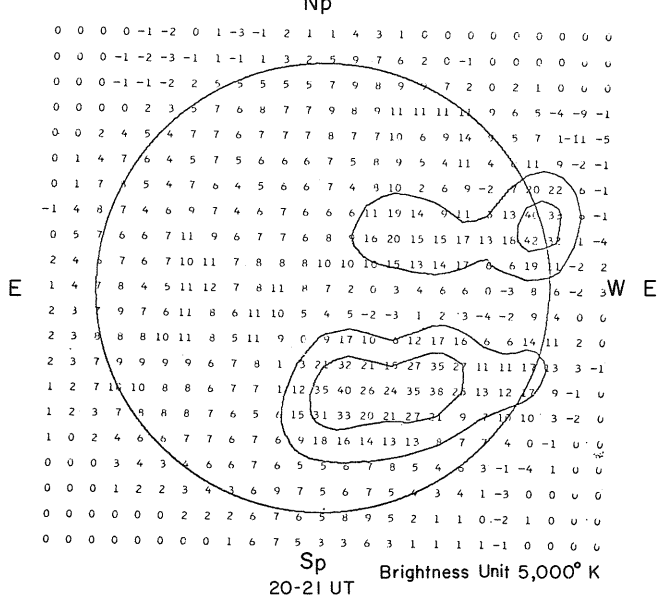
1443 UT

MT. WILSON MAGNETOGRAM
DELTAY=62.0
DELTAX=50.4
Solid-Plus
Dotted-Minus



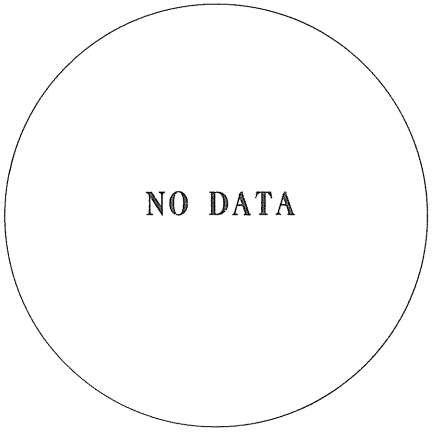
17.65-19.10 UT

STANFORD 9.1 cm.



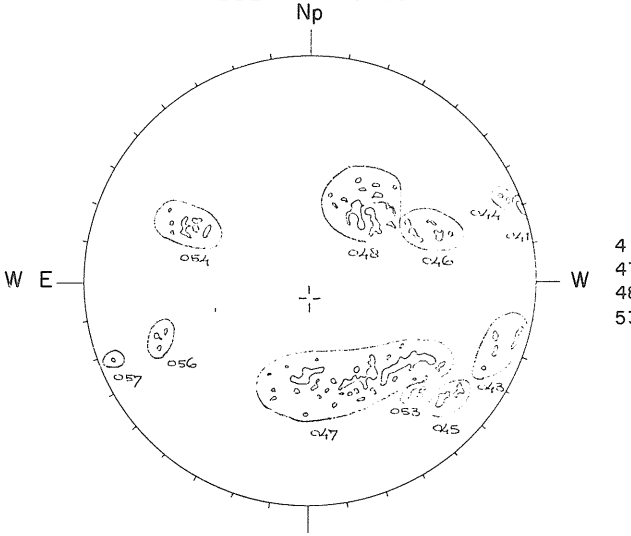
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



41-09-3.0
47-62-3.5
48-23-2.5
53-05-3.0

1320 UT

NOVEMBER 5, 1967 (P=23.96, B_o=3.99, L_o=226.63)

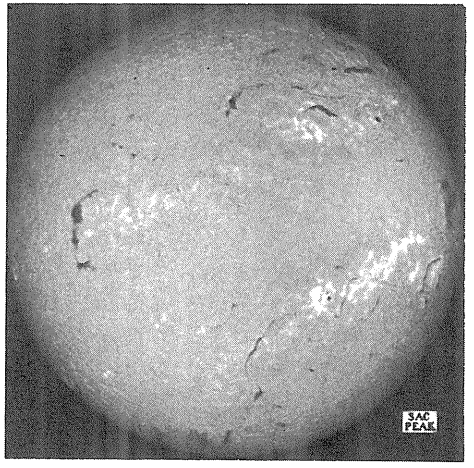
MT. WILSON MAGNETOGRAM

Np

Solid-Plus
Dotted-Minus

SACRAMENTO PEAK Hα

N



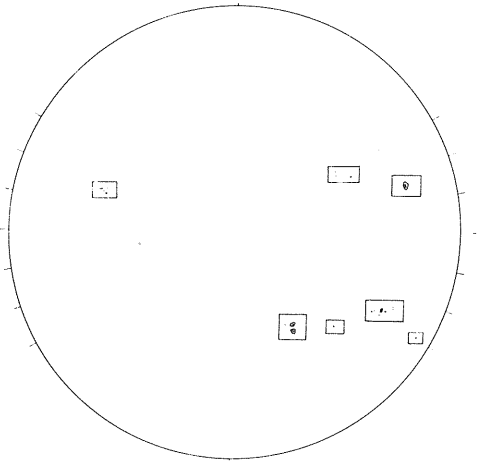
E W

S

1546 UT

ESSA-BOULDER SUNSPOTS

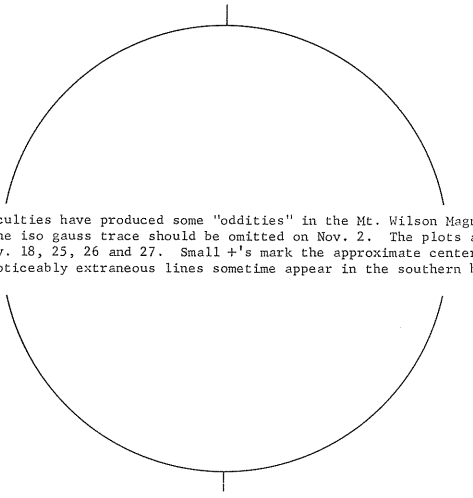
Np



E W

Sp

1845 UT



E W

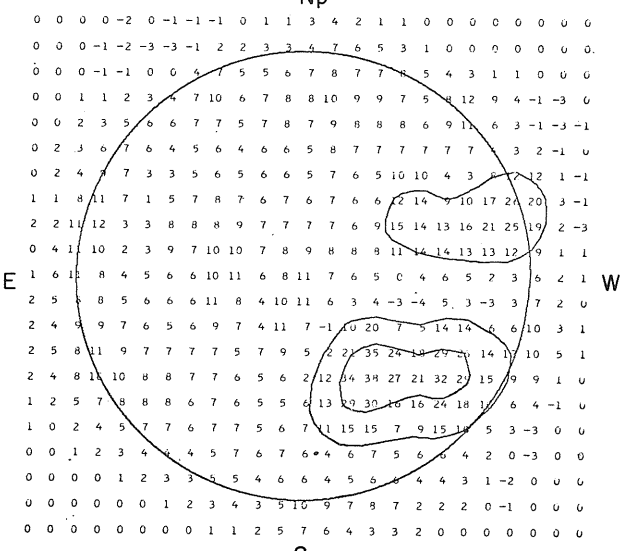
Computer difficulties have produced some "oddities" in the Mt. Wilson Magnetograms this month. One iso gauss trace should be omitted on Nov. 2. The plots are not centered on Nov. 18, 25, 26 and 27. Small +'s mark the approximate center of the solar disk. Noticeably extraneous lines sometime appear in the southern hemisphere.

Levels
±5
±10
±20
±40
±80

Sp

STANFORD 9.1 cm.

Np



E W

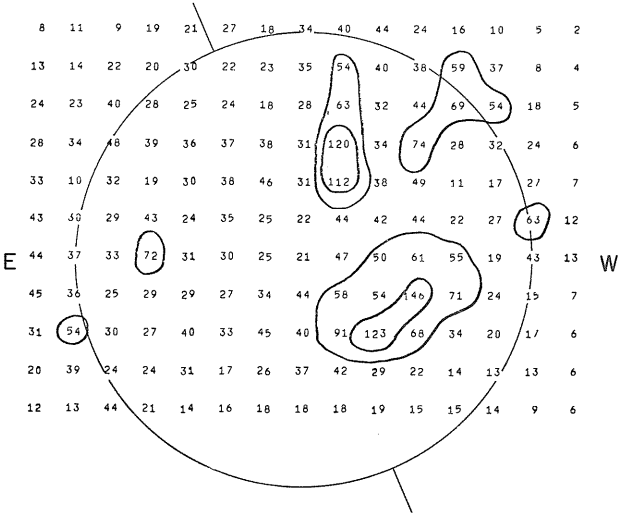
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



E W

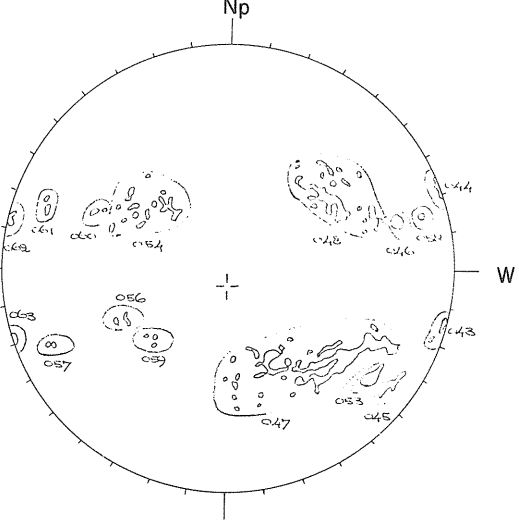
S

Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

Np



W E

Sp

1427 UT

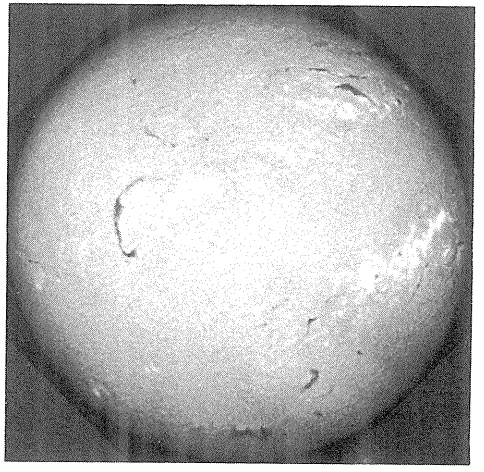
45-11-3.5
46-08-2.5
47-65-3.5
48-35-3.5
53-09-3.5
54-19-2.5
58-03-3.0
59-02-2.5
60-02-2.5

NOVEMBER 6, 1967 (P=23.76, B_o=3.88, L_o=213.45)

MT. WILSON
DELTAY=62.0
DELTAX=50.1

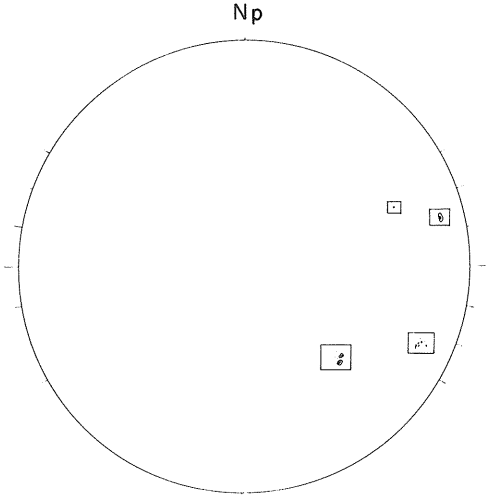
MAGNETOGRAM
Solid-Plus
Dotted-Minus

SACRAMENTO PEAK Hα
BOULDER

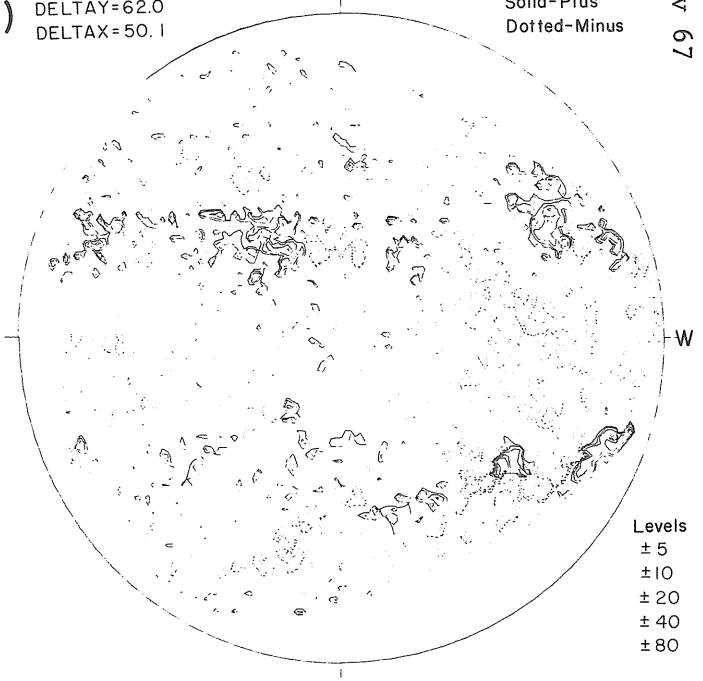


1606 UT

ESSA-BOULDER SUNSPOTS

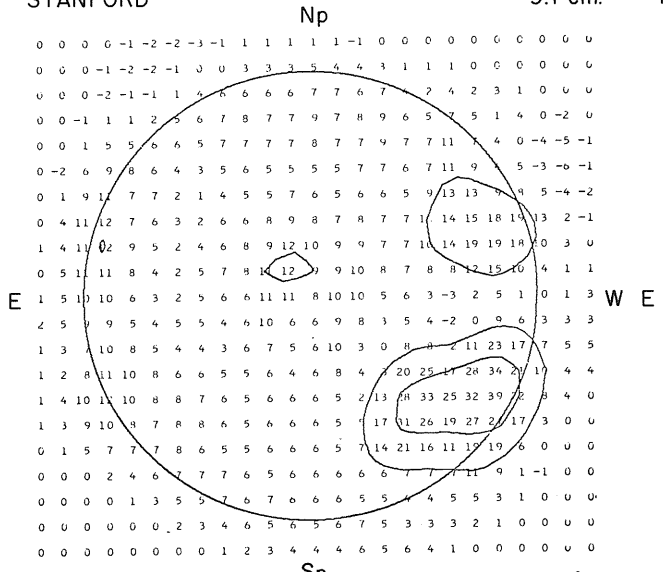


1420 UT



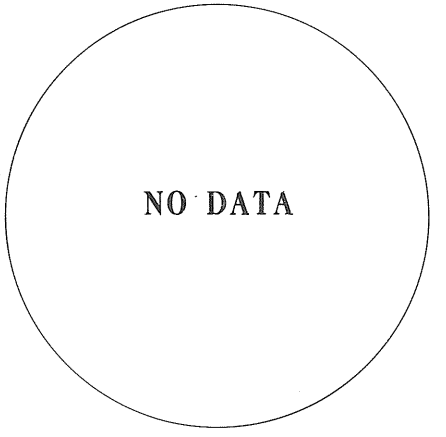
16.26-17.73 UT

STANFORD 9.1 cm.



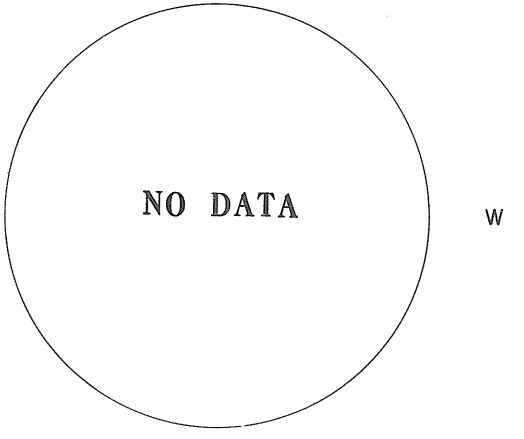
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



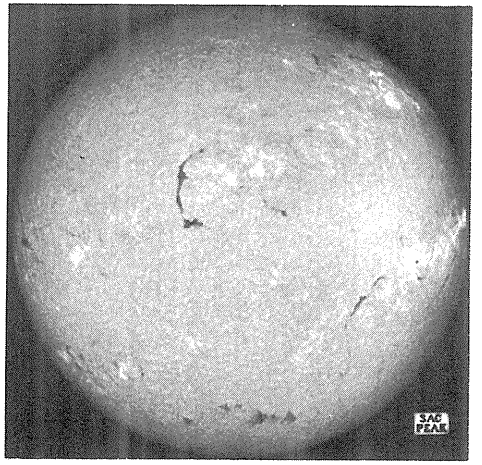
Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



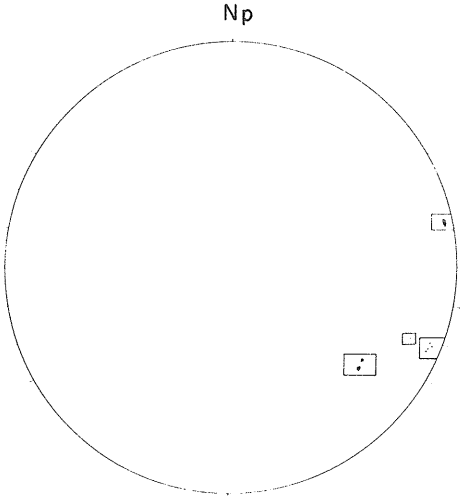
NOVEMBER 7, 1967 (P=23.55, B_o=3.77, L_o=200.26)

SACRAMENTO PEAK Hα



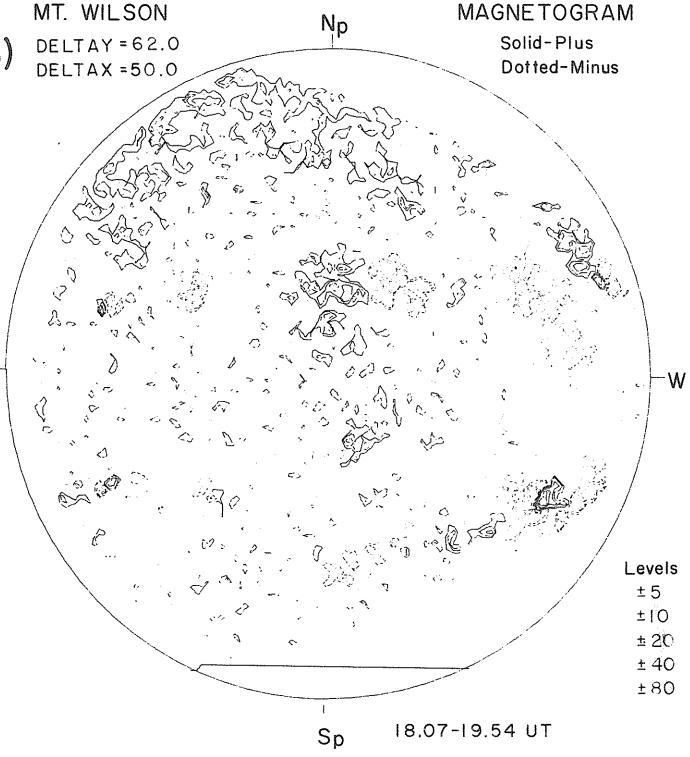
2244 UT

ESSA-BOULDER SUNSPOTS



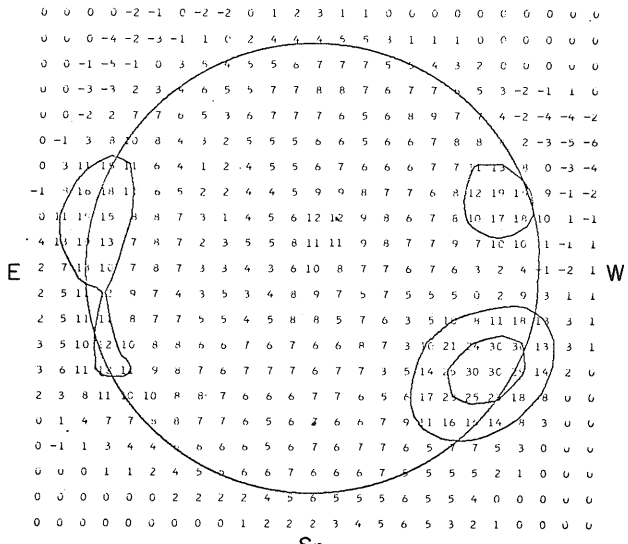
1430 UT

MT. WILSON MAGNETOGRAM
DELTAY = 62.0
DELTAX = 50.0
Solid-Plus
Dotted-Minus



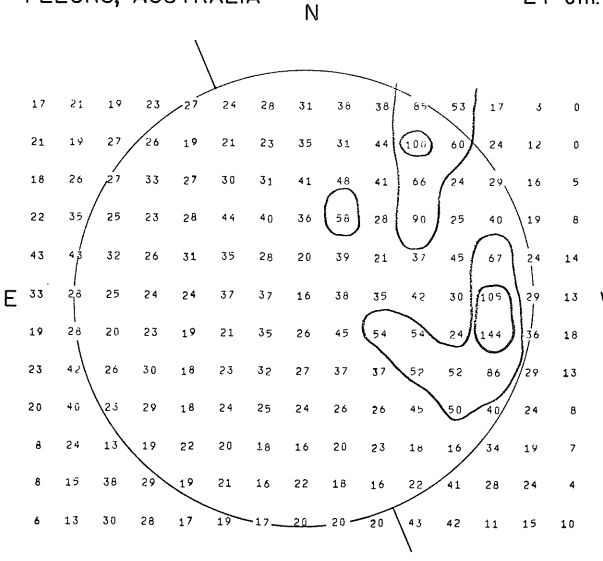
18.07-19.54 UT

STANFORD 9.1 cm.



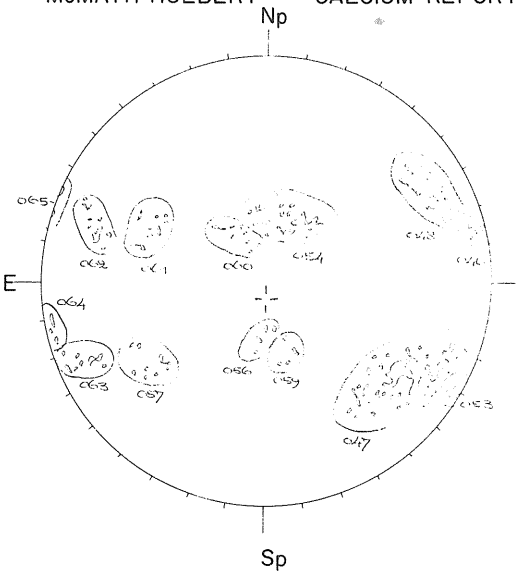
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



47-67-3.5
48-30-3.0
53-08-2.5
54-17-2.5
62-09-2.5

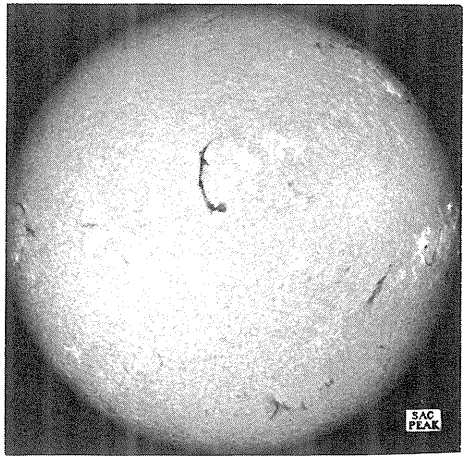
1350 UT

47 Nov 67

NOVEMBER 8, 1967 (P=23.34, B_o=3.66, L_o=187.08)

SACRAMENTO PEAK Hα

N

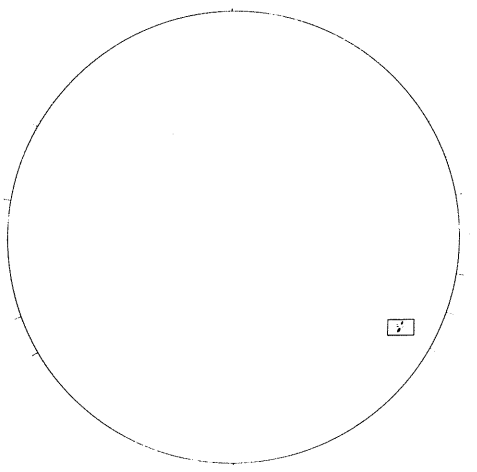


E W E

S

1504 UT

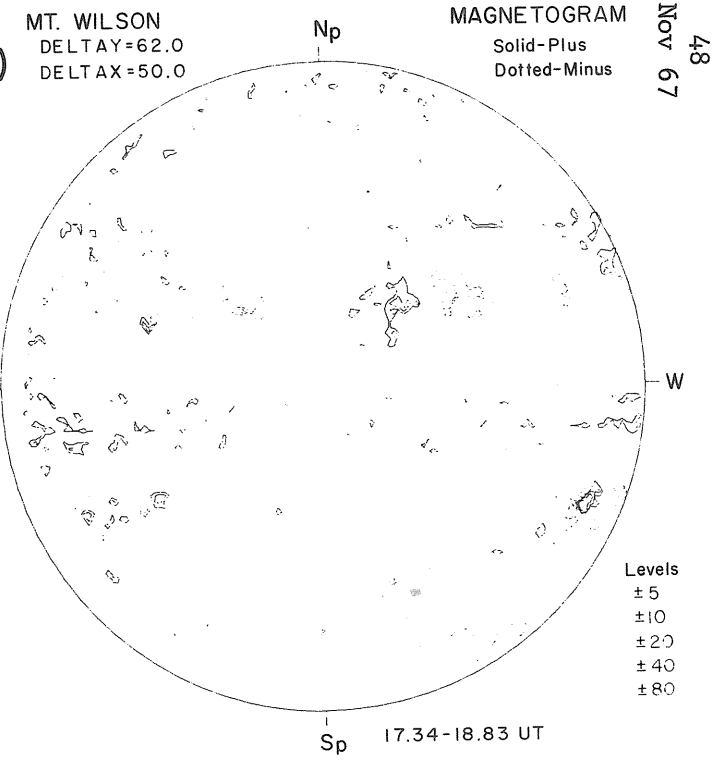
ESSA-BOULDER SUNSPOTS



1450 UT

MT. WILSON
DELTAY=62.0
DELTAX=50.0

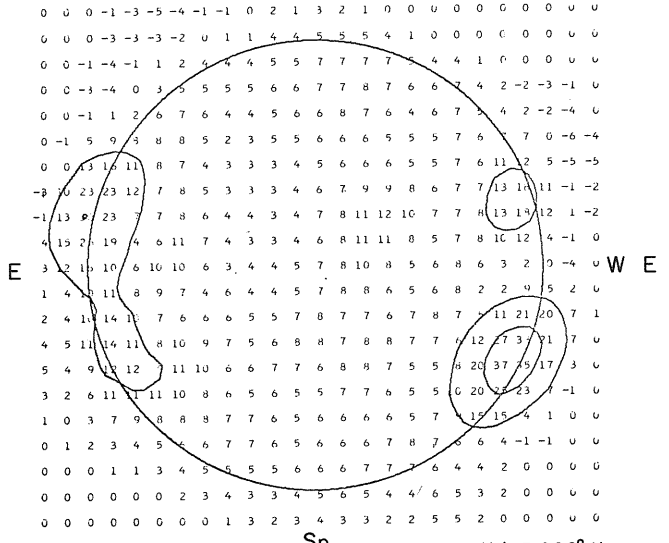
MAGNETOGRAM
Solid-Plus
Dotted-Minus



17.34-18.83 UT

STANFORD 9.1 cm.

Np



20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA

N

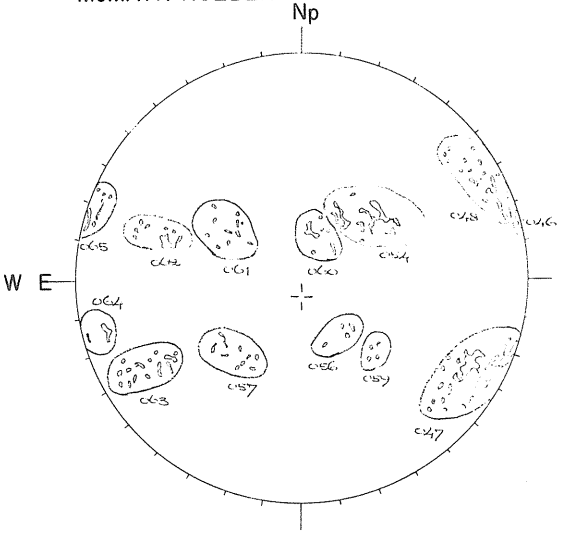
NO DATA

S

02-03 UT

21 cm.

McMATH-HULBERT CALCIUM REPORT



47-58-3.5
48-26-3.0
54-19-2.5
62-09-2.5
64-07-2.5

1430 UT

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

NOVEMBER 9, 1967 (P=23.12, B_o=3.55, L_o=173.90)

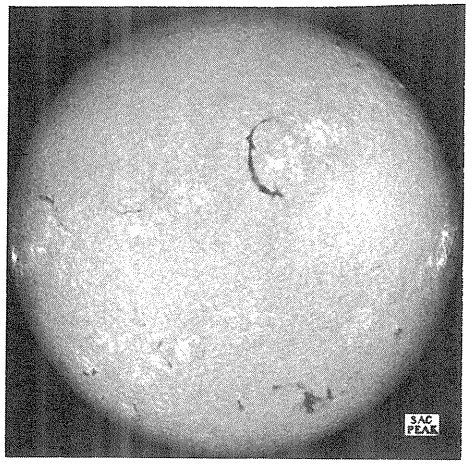
MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

SACRAMENTO PEAK Hα

N



E W

S

1455 UT

ESSA-BOULDER SUNSPOTS

Np

E W

Sp

1830 UT

NO DATA

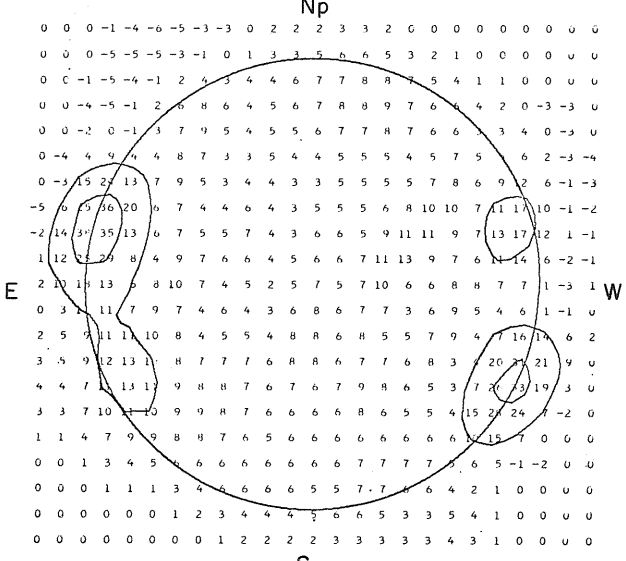
E W

Levels
±5
±10
±20
±40
±80

Sp

STANFORD 9.1 cm.

Np



E W

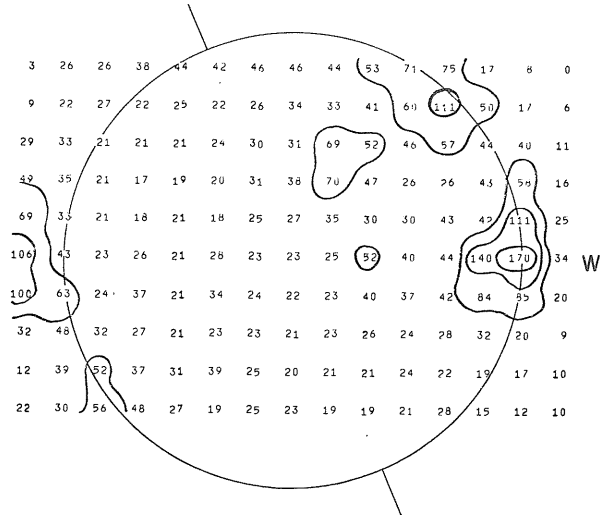
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



E W

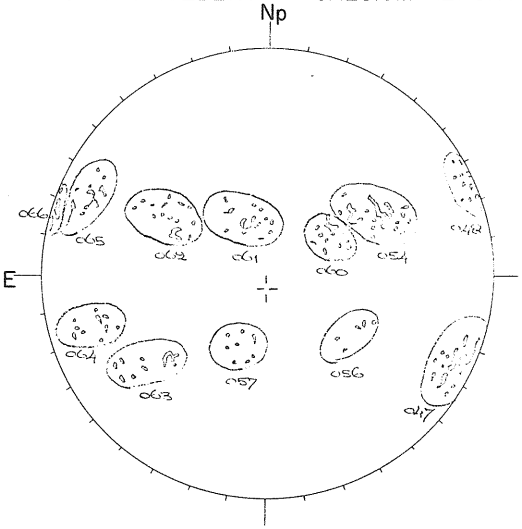
S

Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

Np



E W

Sp

1330 UT

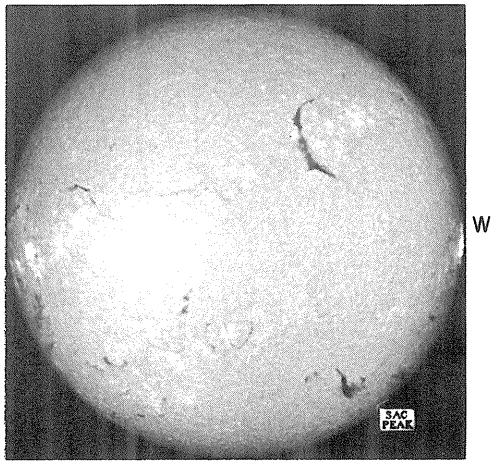
47-35-3.5
48-15-2.5
54-18-2.5
63-09-2.5
65-16-2.5
66-18-3.5

NOVEMBER 10, 1967 (P=22.89, B_o=3.44, L_o=160.71)

MT. WILSON Np MAGNETOGRAM Solid-Plus Dotted-Minus Nov 67 50

SACRAMENTO PEAK Hα

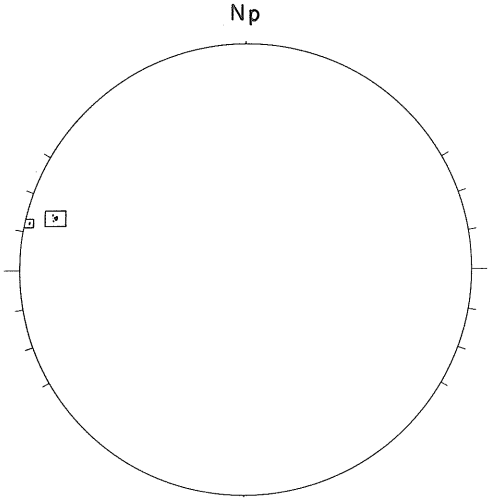
N



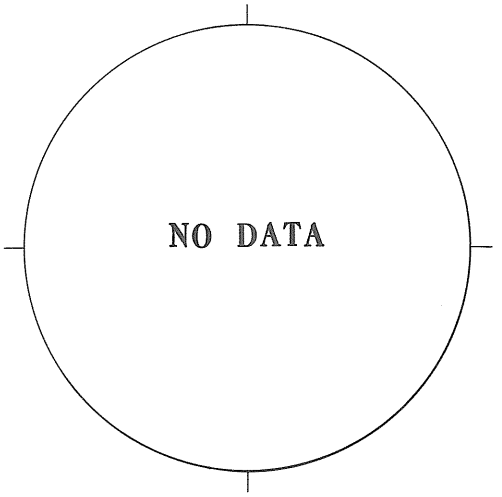
E W S

1515 UT

ESSA-BOULDER SUNSPOTS

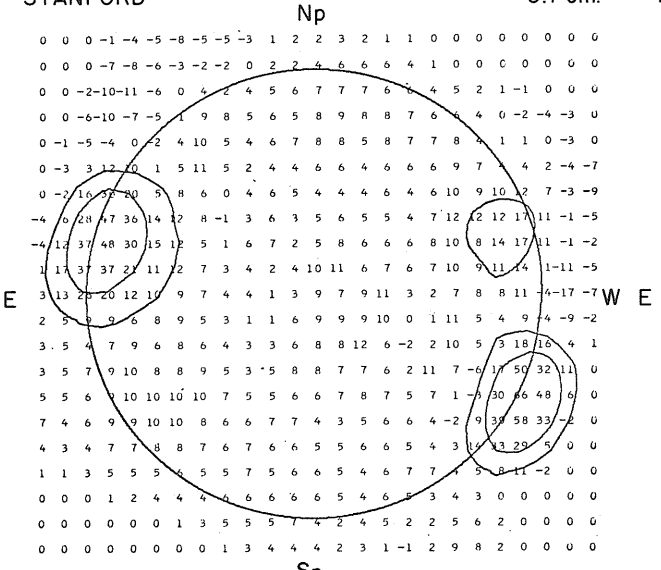


1713 UT



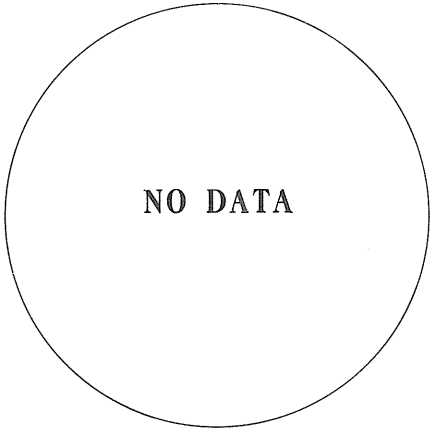
Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.



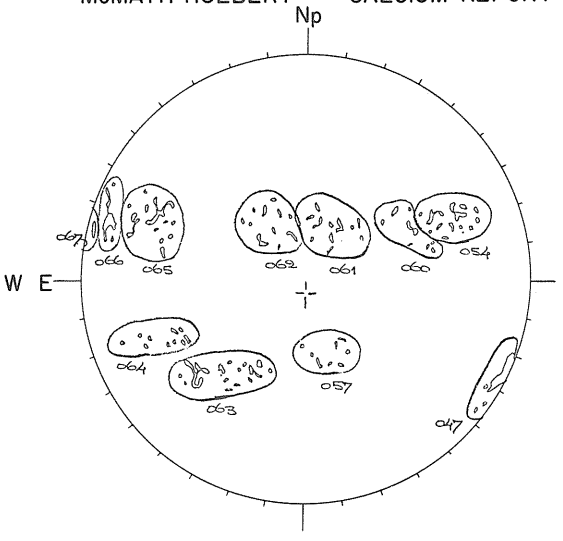
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

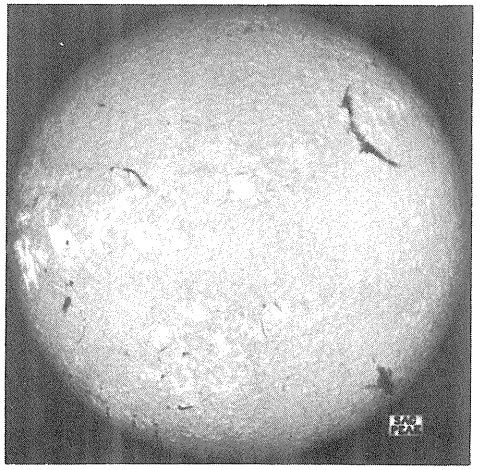
McMATH-HULBERT CALCIUM REPORT



47-32-4.0
63-14-2.5
66-19-3.0
67-11-2.5

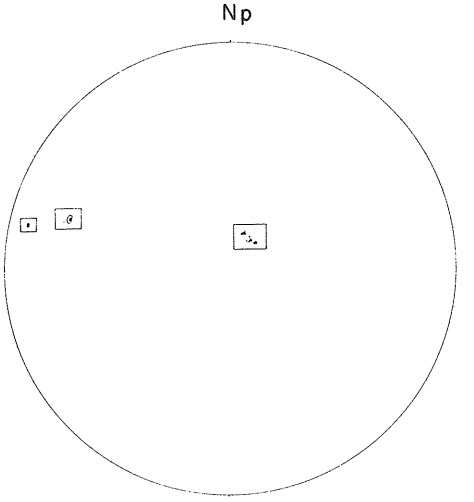
NOVEMBER 11, 1967 (P=22.65, B_o=3.33, L_o=147.53)

SACRAMENTO PEAK Hα



1710 UT

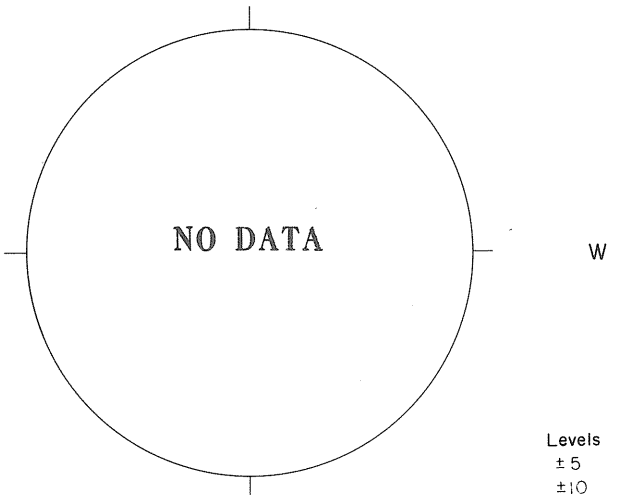
ESSA-BOULDER SUNSPOTS



1620 UT

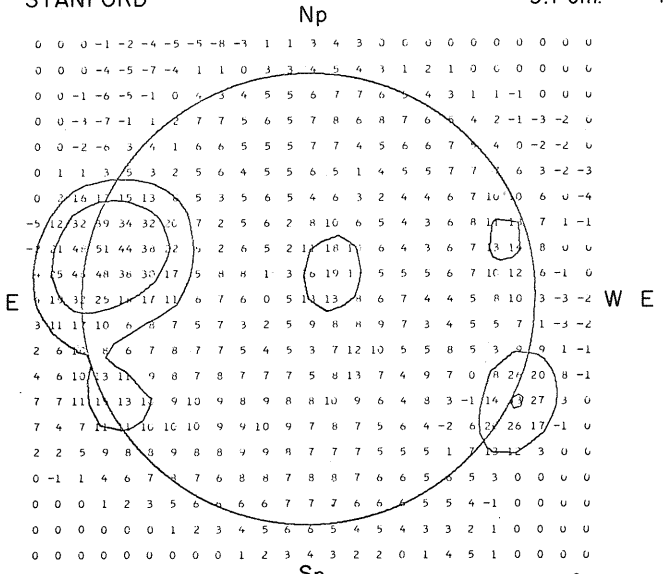
MT. WILSON Np MAGNETOGRAM

Solid-Plus
Dotted-Minus



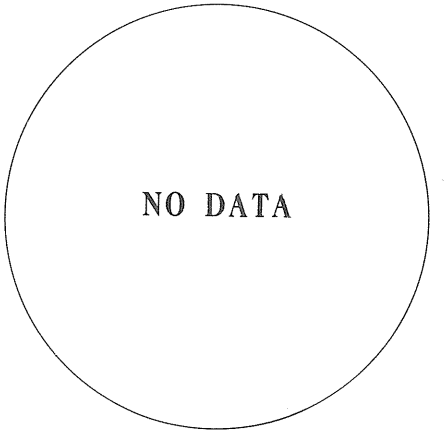
Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.



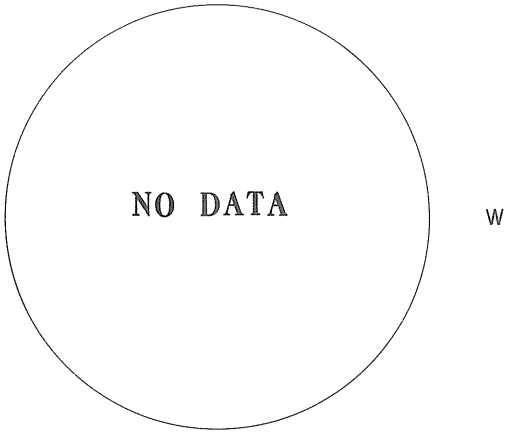
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

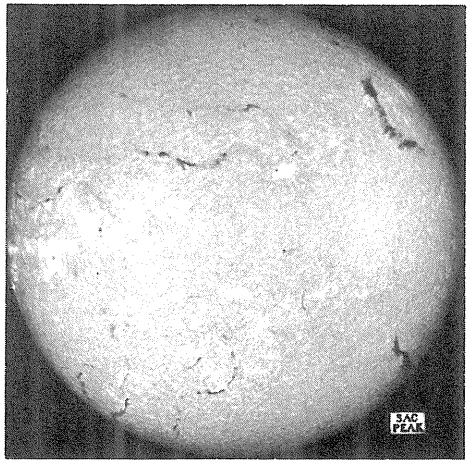
McMATH-HULBERT CALCIUM REPORT



NOVEMBER 12, 1967 (P=22.41, B_o=3.22, L_o=134.34)

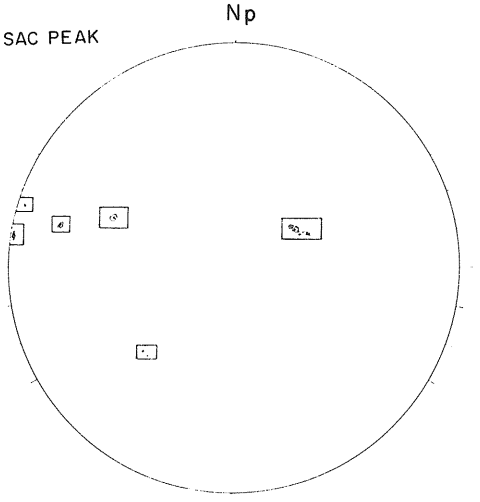
52 Nov 67

SACRAMENTO PEAK Hα



1619 UT

ESSA-BOULDER SUNSPOTS

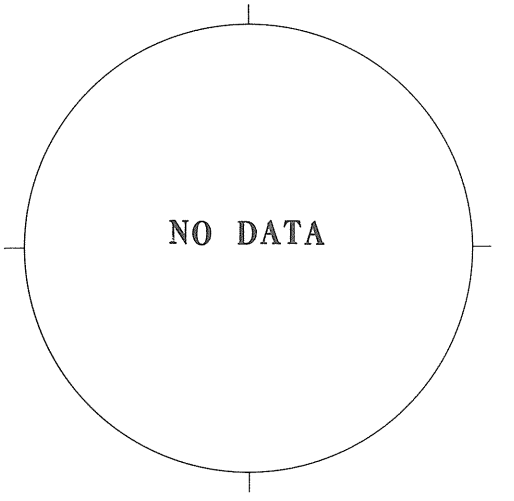


1510 UT

MT. WILSON MAGNETOGRAM

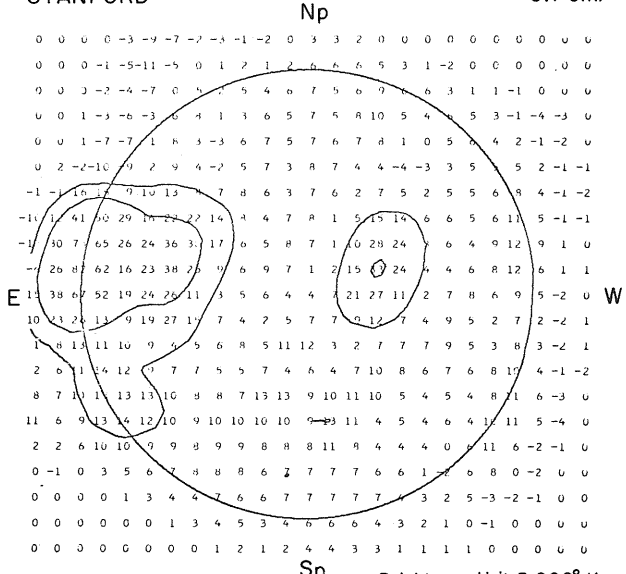
Np

Solid-Plus
Dotted-Minus



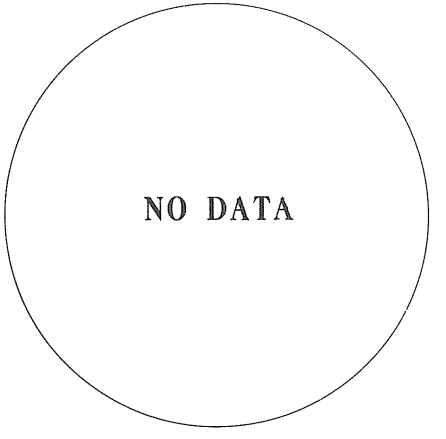
Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.



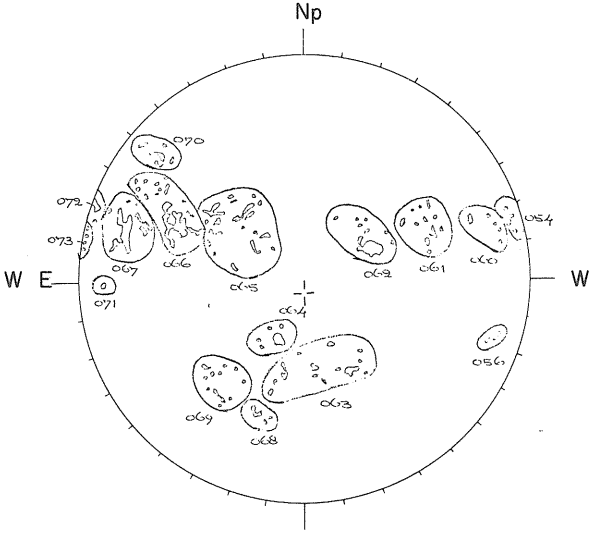
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



62-12-3.5
64-06-2.5
65-18-2.5
66-24-3.5
67-31-3.0
72-12-3.0
73-10-3.5

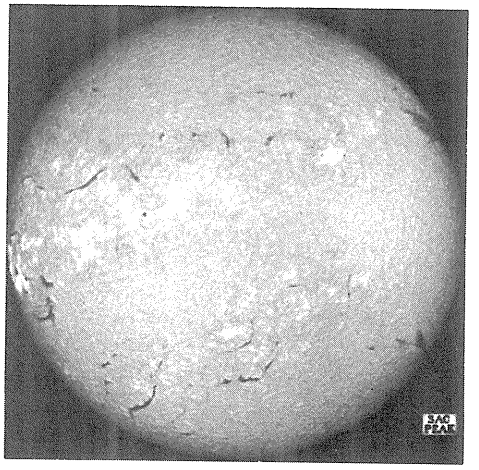
1421 UT

NOVEMBER 13, 1967 (P=22.16, B_o=3.10, L_o=121.16)

MT. WILSON

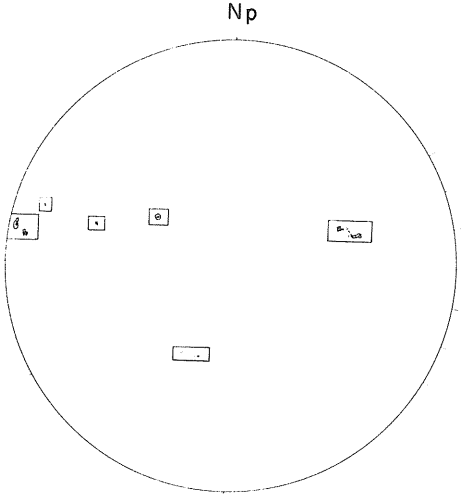
MAGNETOGRAM
Solid-Plus
Dotted-Minus

SACRAMENTO PEAK Hα

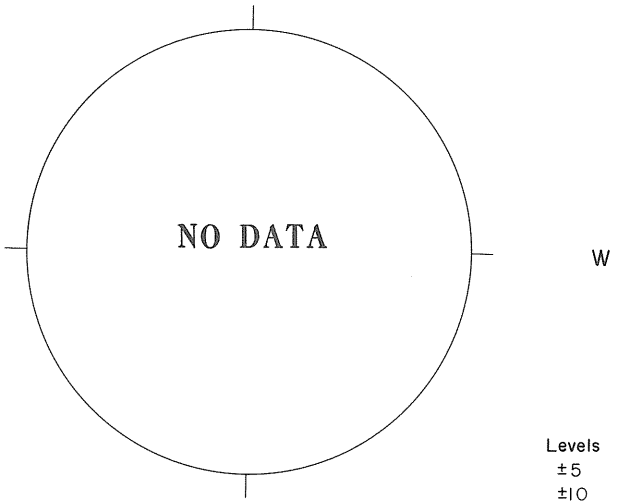


1631 UT

ESSA-BOULDER SUNSPOTS

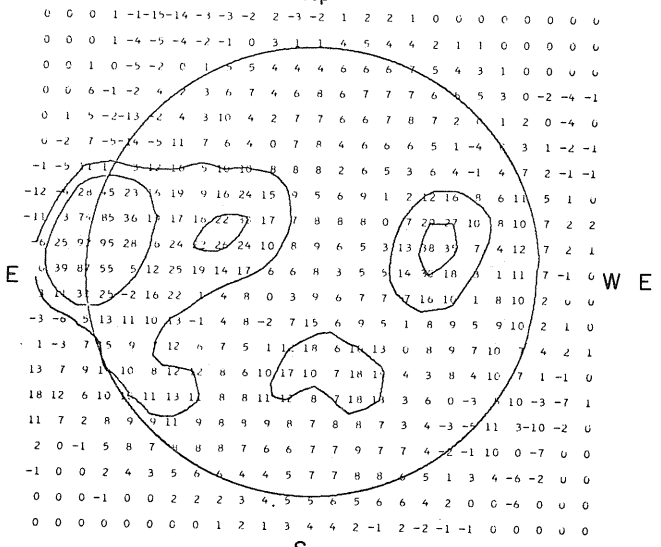


1850 UT



Levels
±5
±10
±20
±40
±80

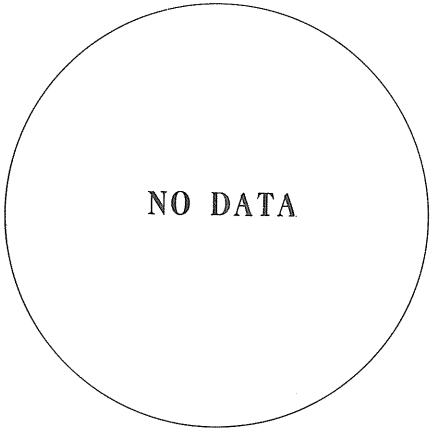
STANFORD 9.1 cm.



20-21 UT

Brightness Unit 5,000° K

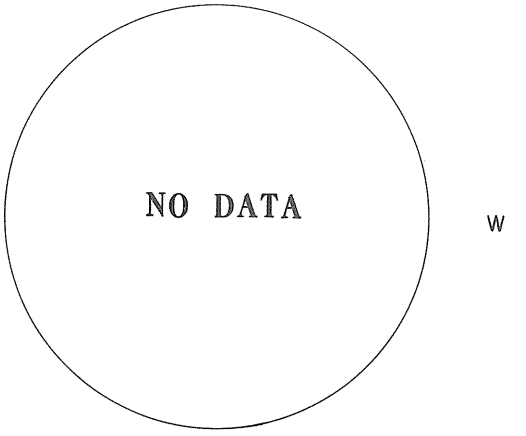
FLEURS, AUSTRALIA 21 cm.



02-03 UT

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

McMATH-HULBERT CALCIUM REPORT

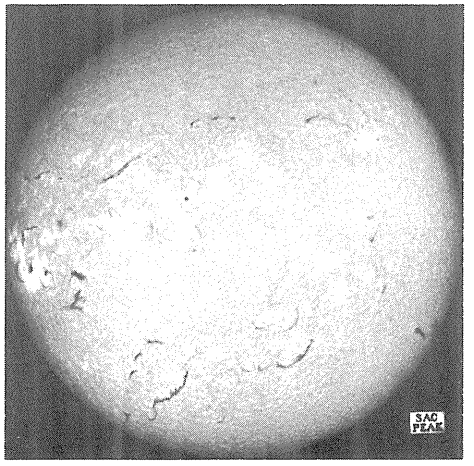


NOVEMBER 14, 1967 (P=21.90, B_o=2.99, L_o=107.98)

MT. WILSON Np MAGNETOGRAM Solid-Plus Dotted-Minus Nov 67 54

SACRAMENTO PEAK Hα

N



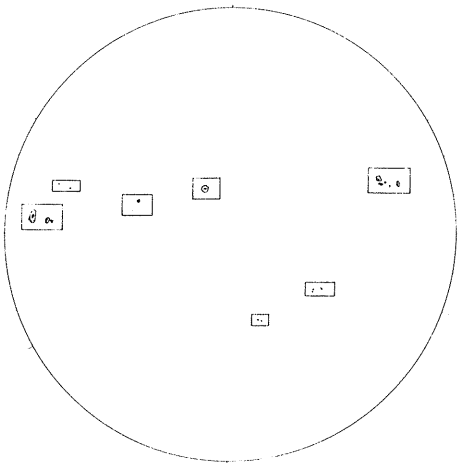
E W

S

1445 UT

ESSA-BOULDER SUNSPOTS

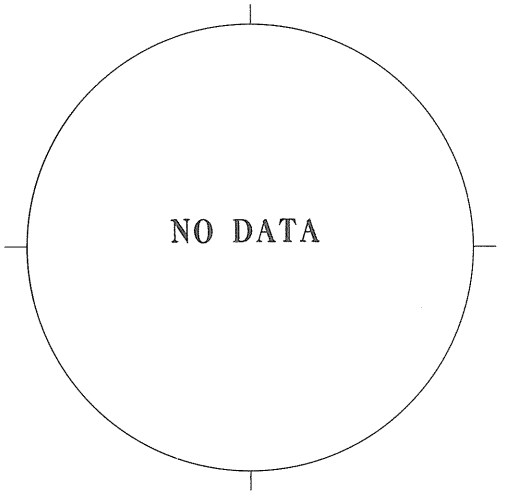
Np



E W

Sp

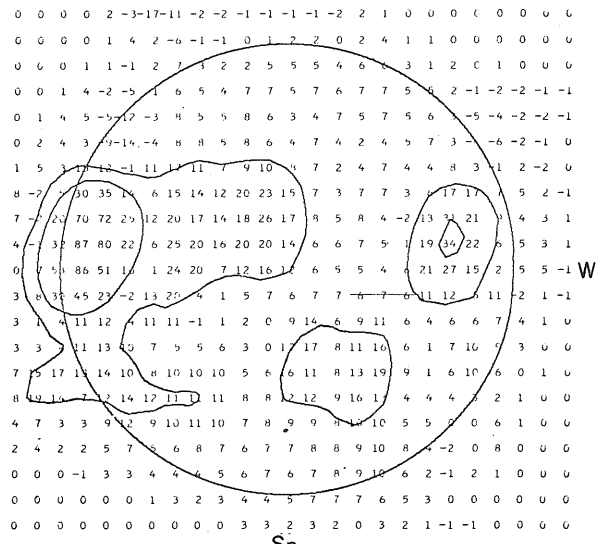
2015 UT



Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.

Np



E W

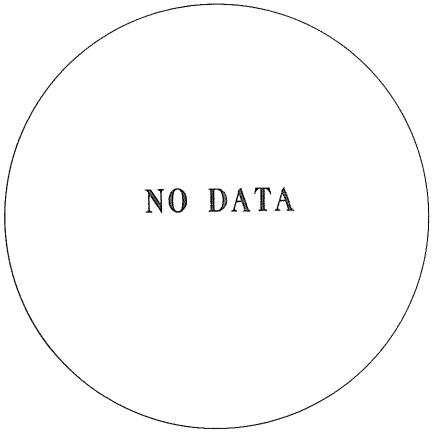
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



W E

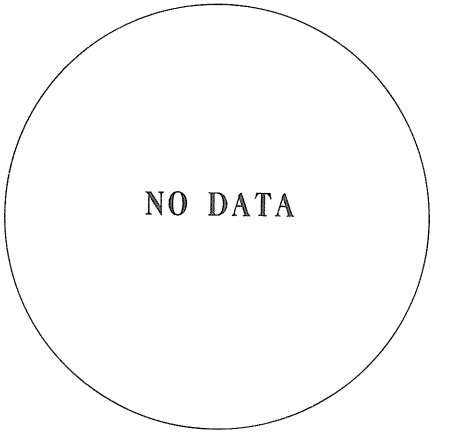
S

Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

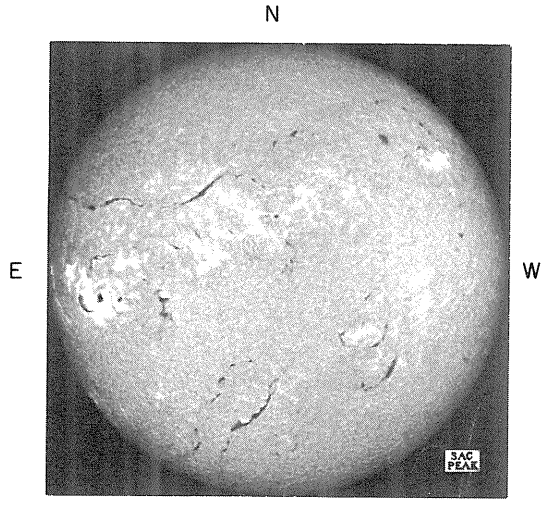
McMATH-HULBERT CALCIUM REPORT

Np



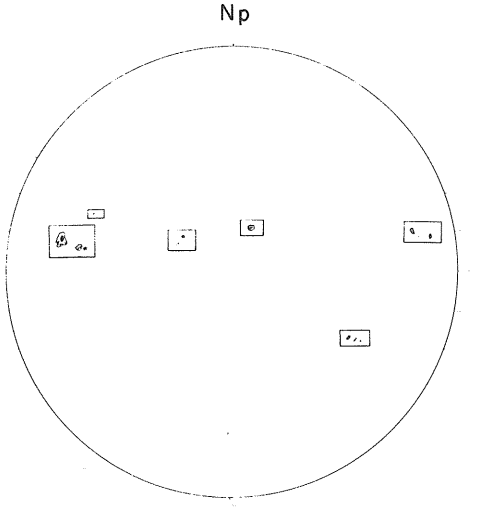
NOVEMBER 15, 1967 (P=21.63, B_o=2.87, L_o=94.79)

SACRAMENTO PEAK Hα



1424 UT

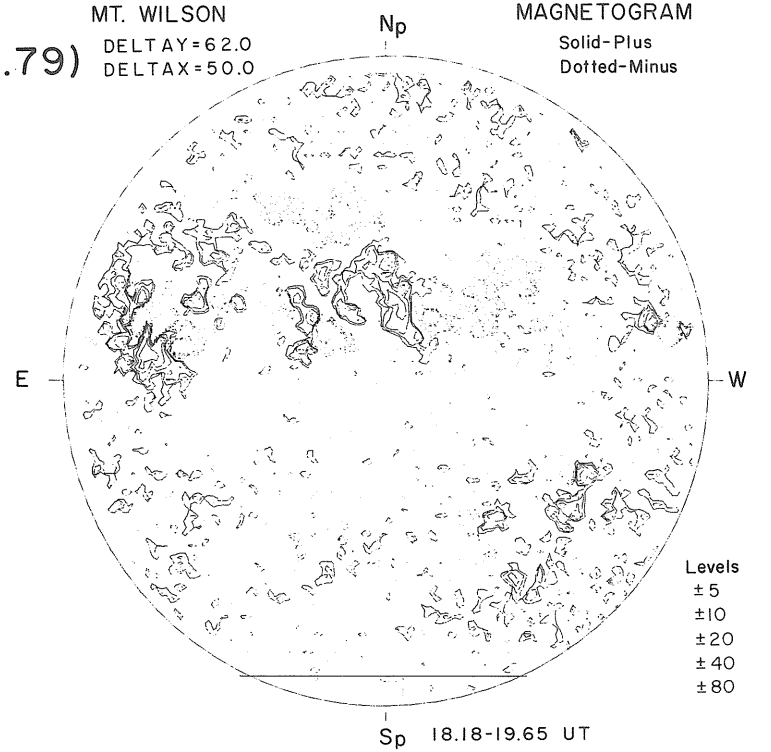
ESSA-BOULDER SUNSPOTS



1600 UT

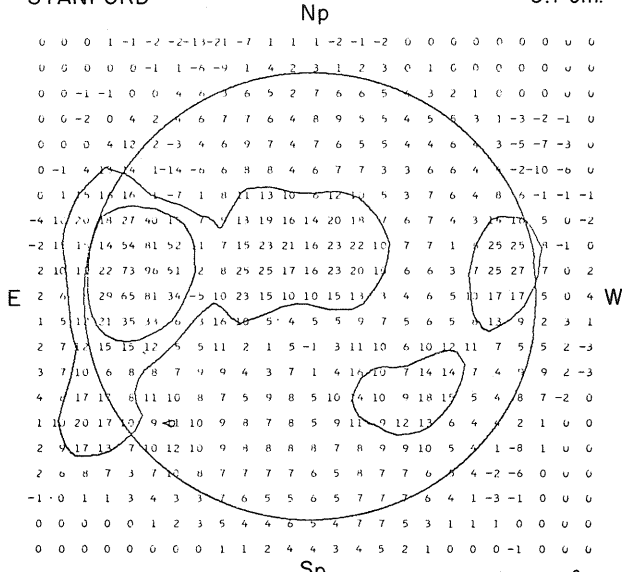
MT. WILSON
DELTAY=62.0
DELTAX=50.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



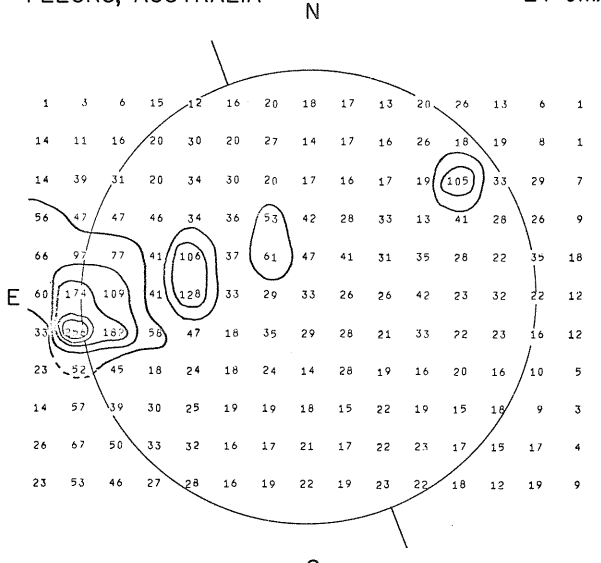
18.18-19.65 UT

STANFORD 9.1 cm.



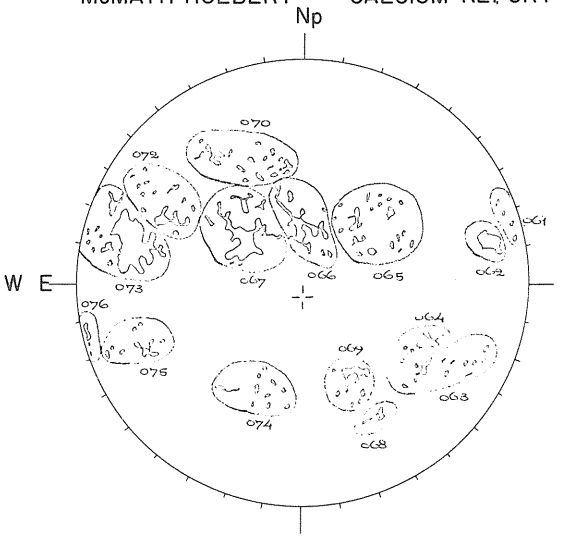
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K.

McMATH-HULBERT CALCIUM REPORT



62-23-3.5
64-09-3.0
66-25-2.5
67-13-2.5
73-77-3.0

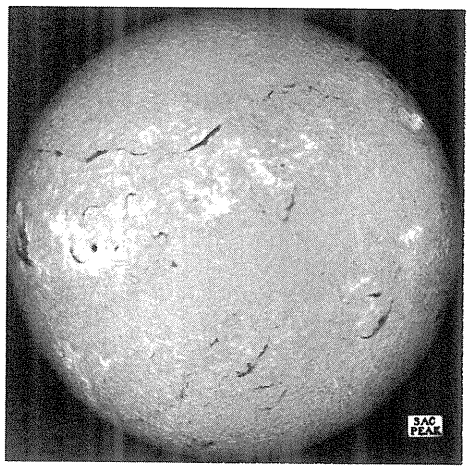
1340 UT

55
Nov 67

NOVEMBER 16, 1967 (P=21.36, B_o=2.75, L_o=81.61)

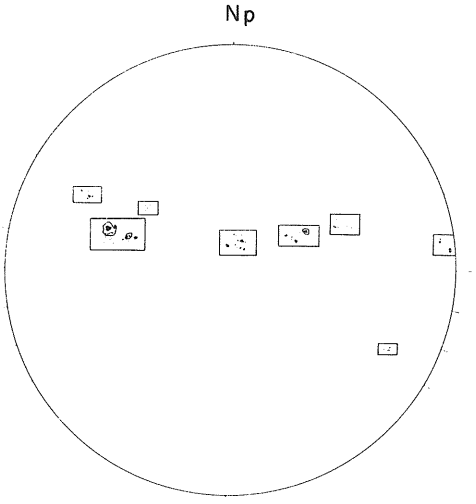
56 Nov 67

SACRAMENTO PEAK Hα



1527 UT

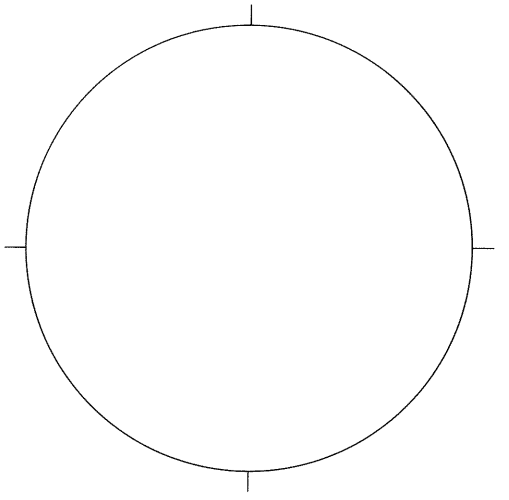
ESSA-BOULDER SUNSPOTS



2115 UT

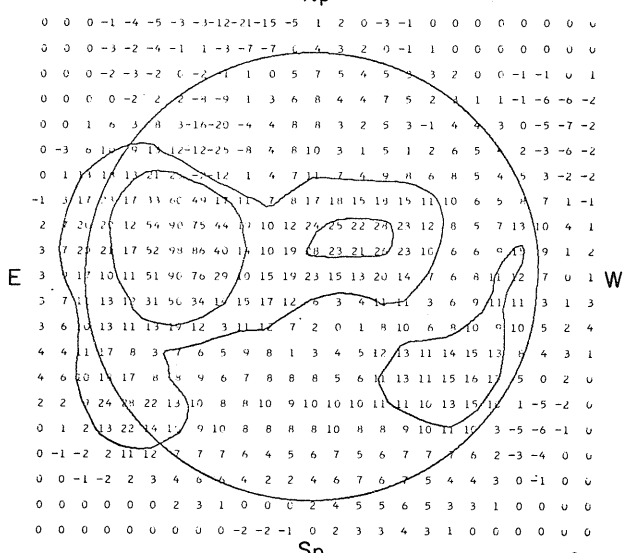
MT. WILSON MAGNETOGRAM

Solid-Plus
Dotted-Minus



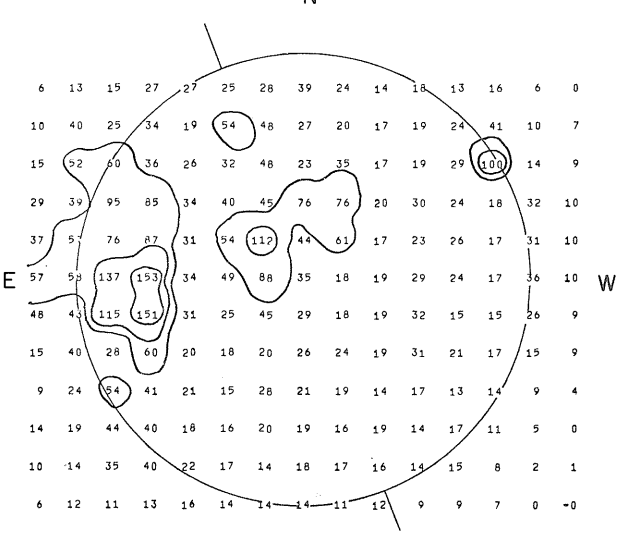
Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.



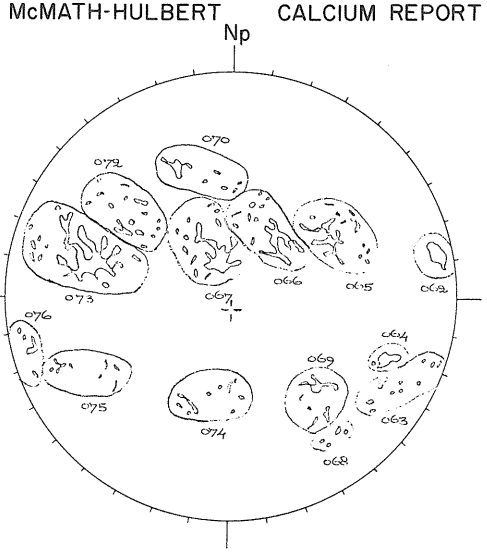
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

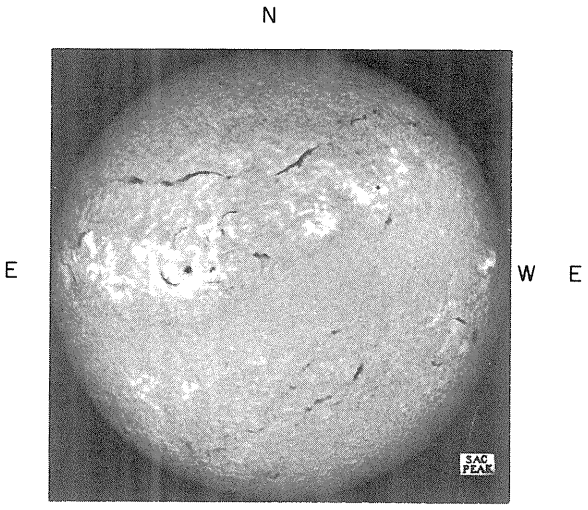


1320 UT

62-24-3.5
64-10-3.5
66-24-2.5
67-32-2.5
73-71-3.0

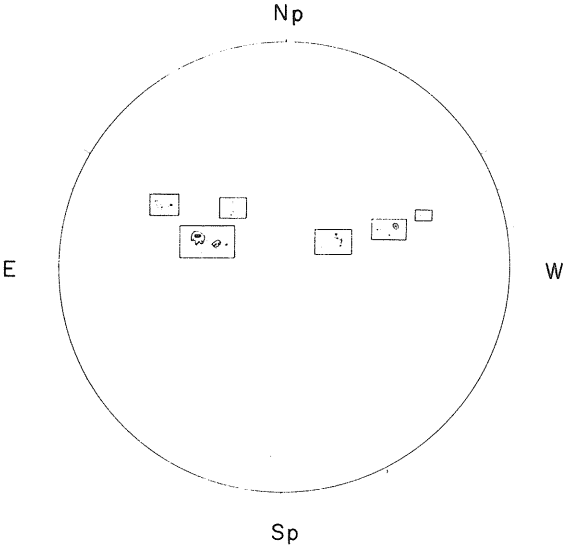
NOVEMBER 17, 1967 (P=21.08, B_o=2.64, L_o=68.43)

SACRAMENTO PEAK Hα



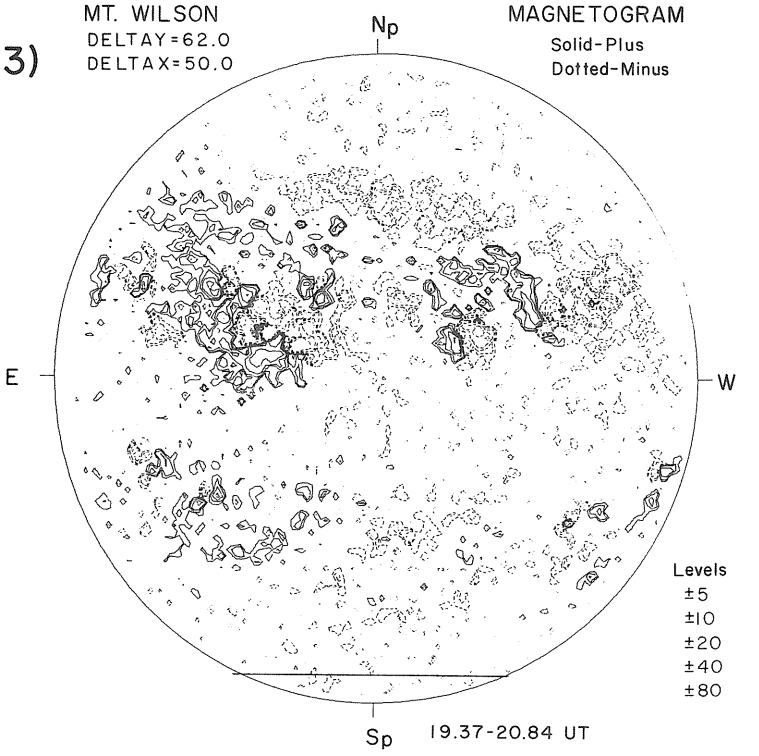
1817 UT

ESSA-BOULDER SUNSPOTS



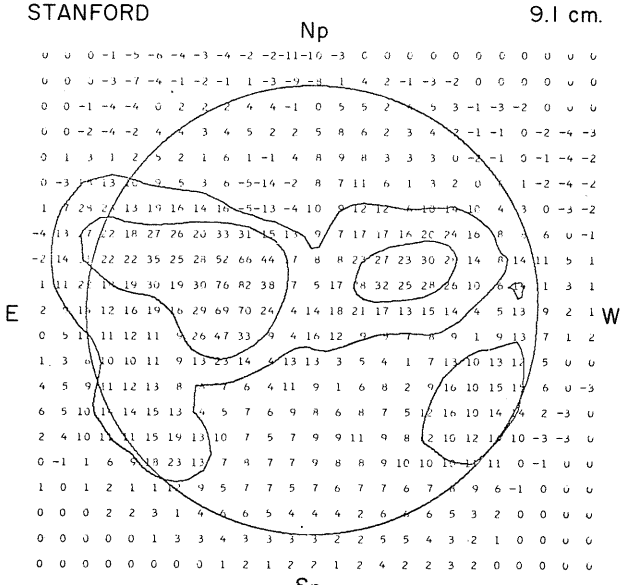
1515 UT

MT. WILSON MAGNETOGRAM
DELTAY=62.0
DELTAX=50.0
Solid-Plus
Dotted-Minus



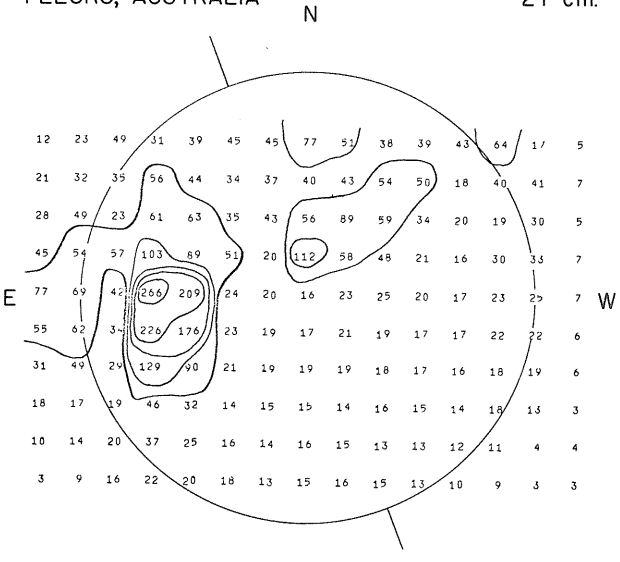
19.37-20.84 UT

STANFORD 9.1 cm.



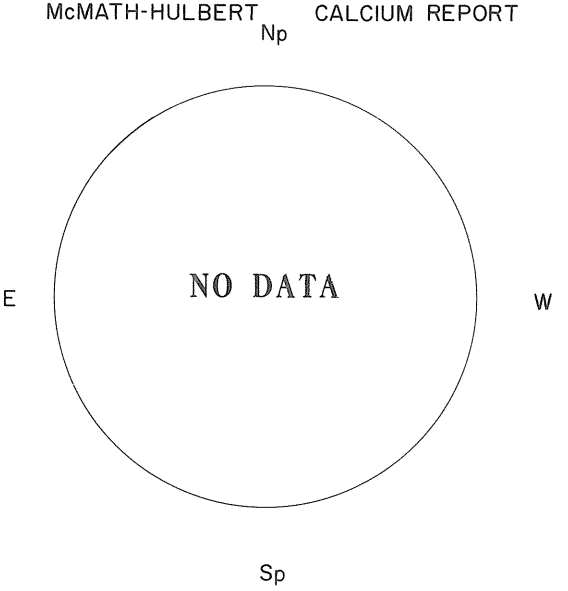
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

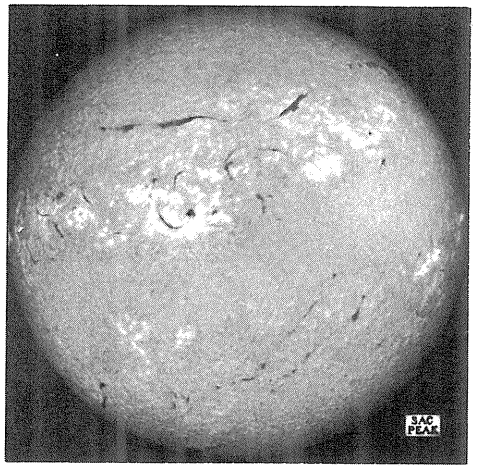
McMATH-HULBERT CALCIUM REPORT



NOVEMBER 18, 1967 (P=20.79, B_o=2.52, L_o=55.25)

SACRAMENTO PEAK Hα

N

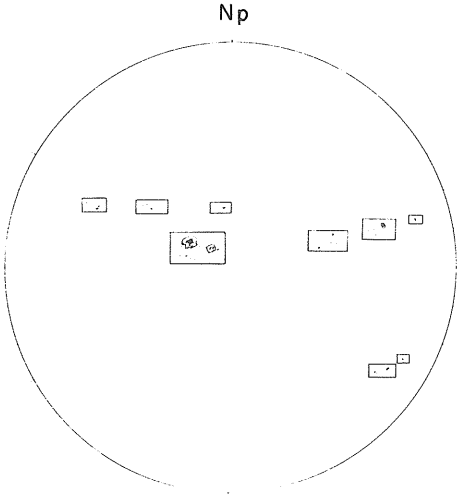


E W E

S

1614 UT

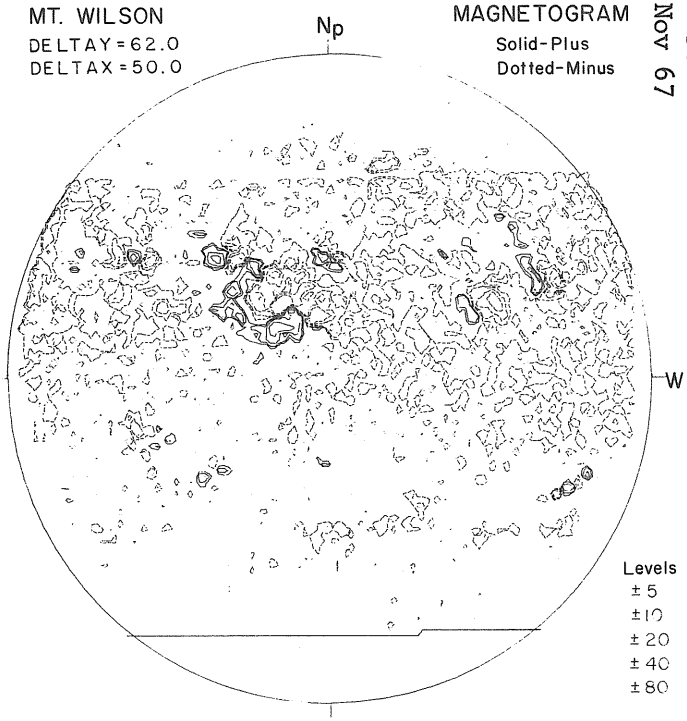
ESSA-BOULDER SUNSPOTS



1540 UT

MT. WILSON
DELTAY=62.0
DELTAX=50.0

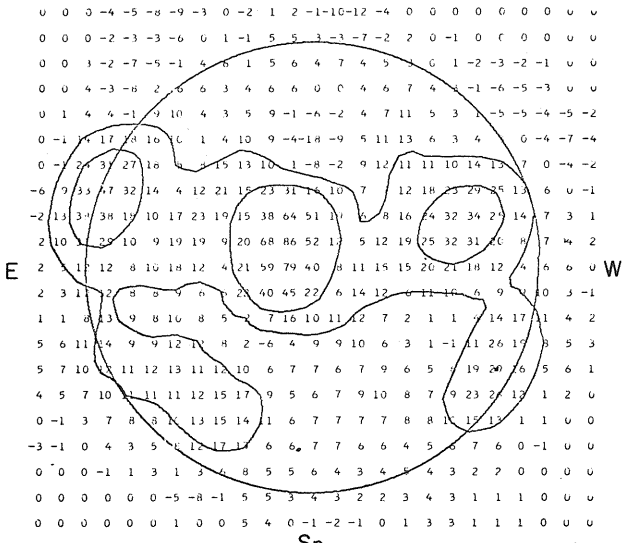
MAGNETOGRAM
Solid-Plus
Dotted-Minus



17.91-19.49 UT

STANFORD 9.1 cm.

Np



E W E

Sp

20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA

N

NO DATA

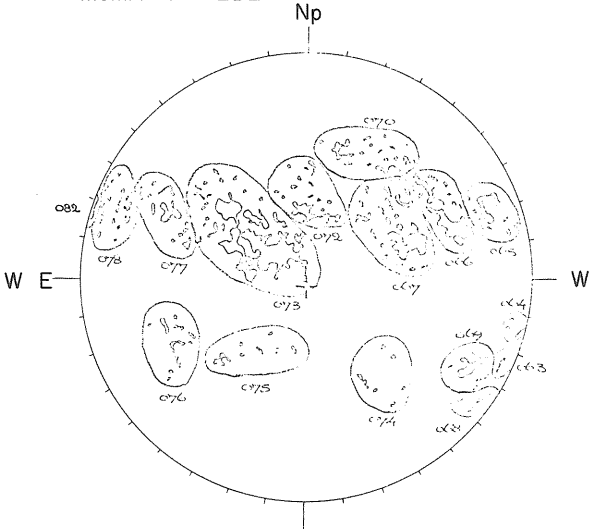
S

02-03 UT

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

21 cm.

McMATH-HULBERT CALCIUM REPORT



1815 UT

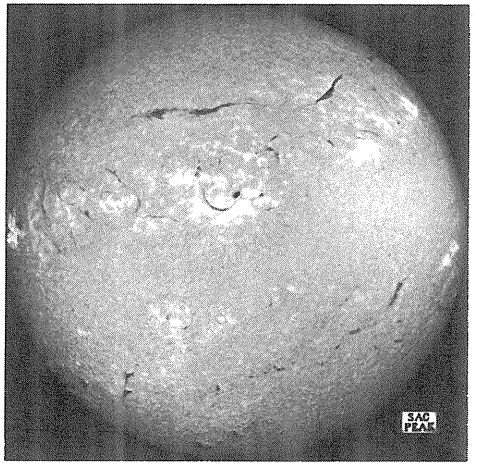
64-11-3.0
65-20-2.5
66-32-2.5
67-40-3.5
69-17-3.5
73-82-3.0
82-16-2.5

NOVEMBER 19, 1967 (P=20.49, B_o=2.40, L_o=42.06)

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus

SACRAMENTO PEAK Hα

N



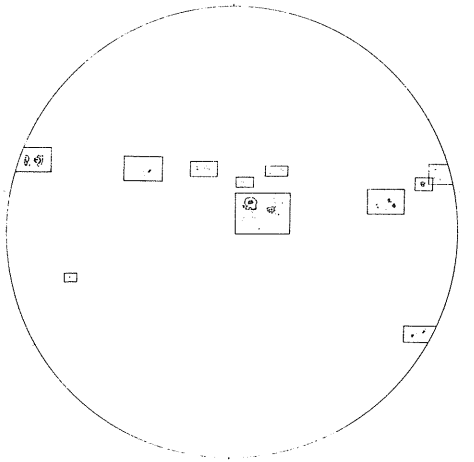
E W E

S

1524 UT

ESSA-BOULDER SUNSPOTS

Np



E W

Sp

2000 UT

NO DATA

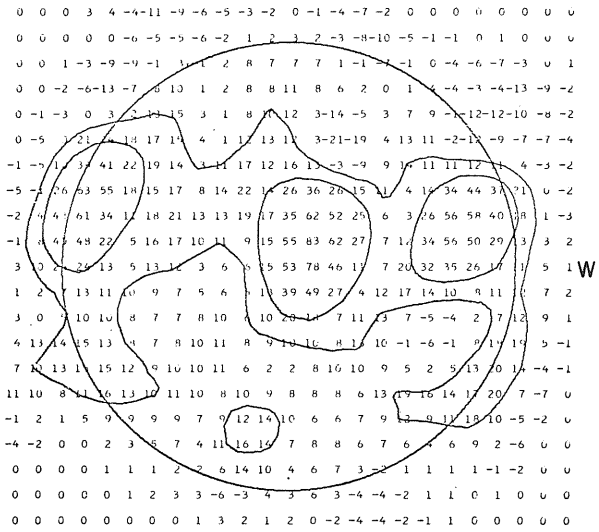
W

Levels
±5
±10
±20
±40
±80

Sp

STANFORD 9.1 cm.

Np



E W E

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N

NO DATA

W E

S

02-03 UT

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

McMATH-HULBERT CALCIUM REPORT

Np

NO DATA

W E W

Sp

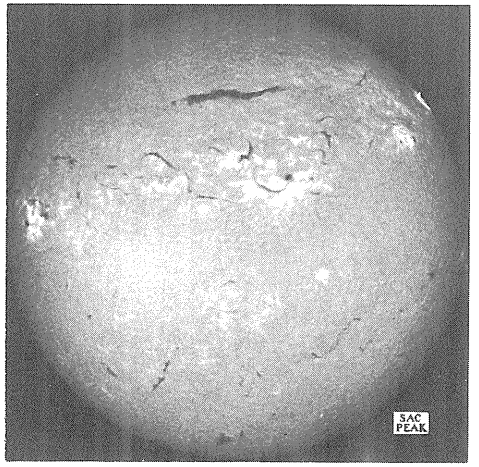
59
Nov 67

NOVEMBER 20, 1967 (P=20.19, B_o=2.28, L_o=28.88)

MT. WILSON Np MAGNETOGRAM Solid-Plus Dotted-Minus Nov 67 60

SACRAMENTO PEAK Hα

N



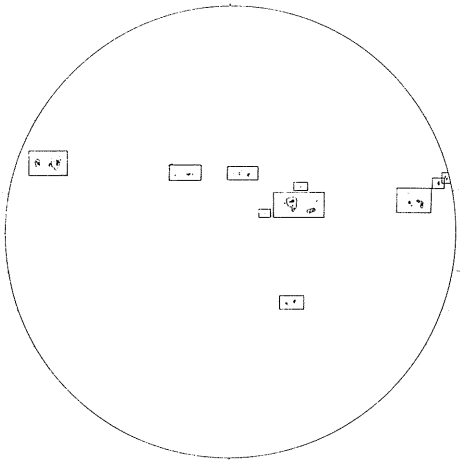
E W E

S

1545 UT

ESSA-BOULDER SUNSPOTS

Np



E W

Sp

1510 UT

NO DATA

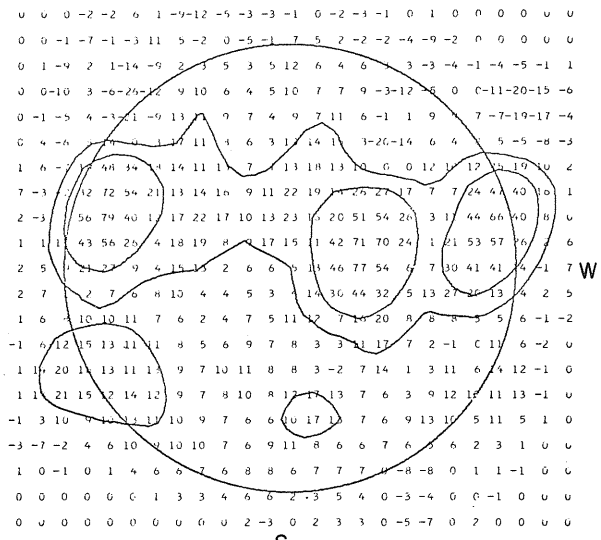
W

Levels
±5
±10
±20
±40
±80

Sp

STANFORD 9.1 cm.

Np



E W E

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N

NO DATA

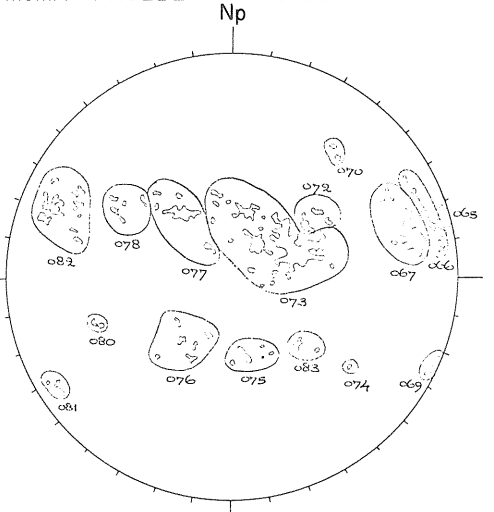
S

02-03 UT

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

McMATH-HULBERT CALCIUM REPORT

Np



W E W

Sp

1630 UT

65-18-3.0
67-30-3.0
73-78-3.5
77-15-2.5
82-34-2.5
83-05-2.5

NOVEMBER 21, 1967 (P=19.88, B_o=2.15, L_o=15.70)

MT. WILSON MAGNETOGRAM

Np

Solid-Plus
Dotted-Minus

SACRAMENTO PEAK Hα

N

E NO DATA W

S

ESSA-BOULDER SUNSPOTS

Np

CULGOORA

E W

Sp

2200 UT

NO DATA

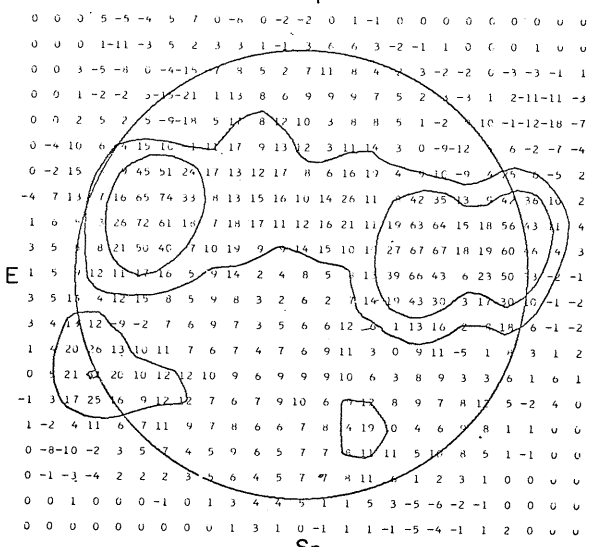
E W

Sp

Levels
± 5
± 10
± 20
± 40
± 80

STANFORD 9.1 cm.

Np



E W E

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N

NO DATA

S

02-03 UT

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

McMATH-HULBERT CALCIUM REPORT

Np

W E NO DATA W

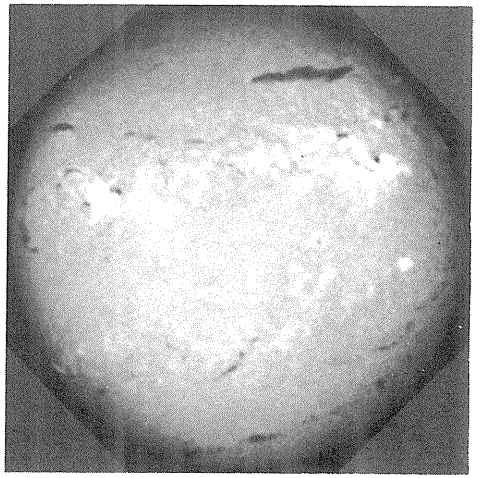
Sp

NOVEMBER 22, 1967 (P=19.56, B_o=2.03, L_o=2.52)

MT. WILSON Np MAGNETOGRAM Solid-Plus Dotted-Minus 62 Nov 67

SACRAMENTO PEAK Hα

BOULDER N



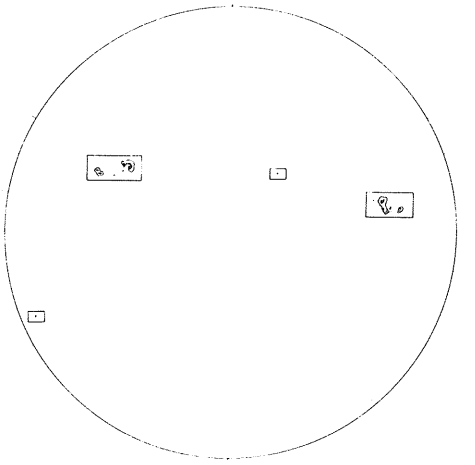
E W E

S

1546 UT

ESSA-BOULDER SUNSPOTS

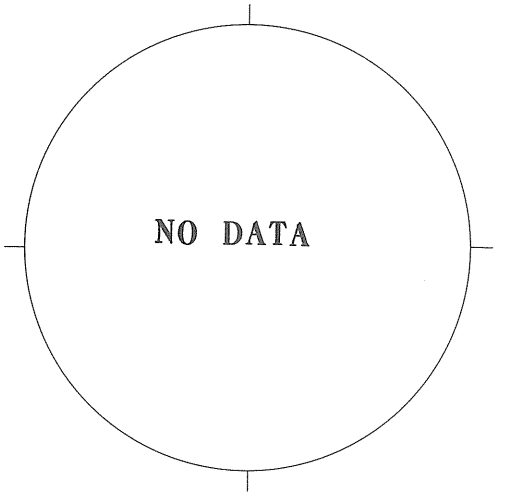
Np



E W

Sp

1650 UT



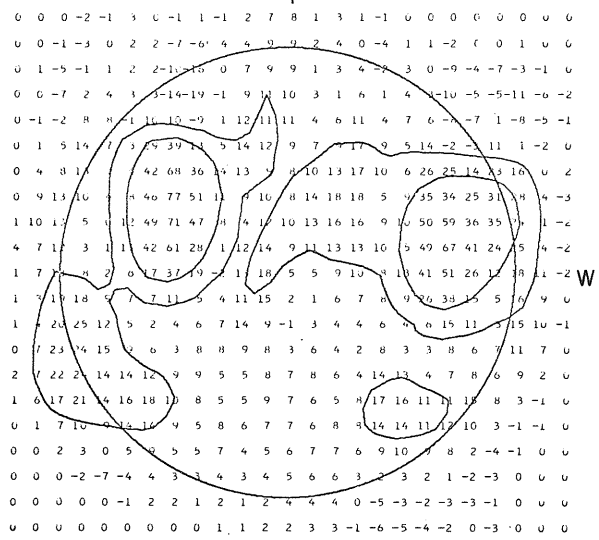
E W

Sp

Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.

Np



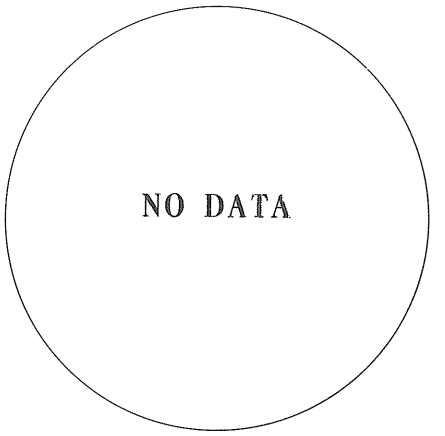
E W E

Sp

20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



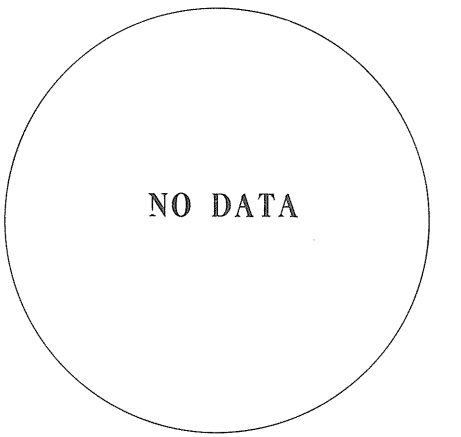
W E

S Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

Np



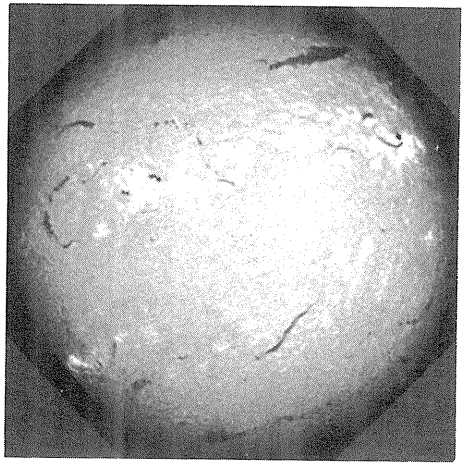
W E

Sp

NOVEMBER 23, 1967 (P=19.23, B_o=1.91, L_o=349.34)

SACRAMENTO PEAK Hα

BOULDER N



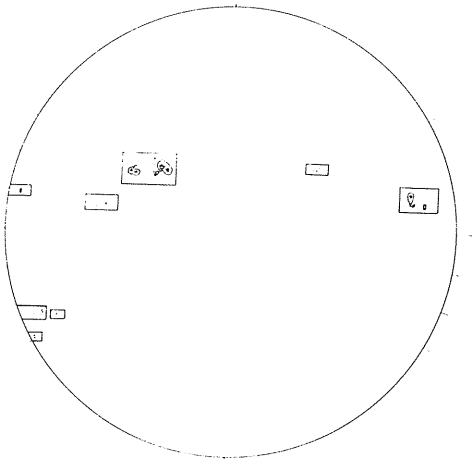
E W

S

1535 UT

ESSA-BOULDER SUNSPOTS

Np



E W

Sp

1515 UT

MT. WILSON MAGNETOGRAM

Np

Solid-Plus
Dotted-Minus

NO DATA

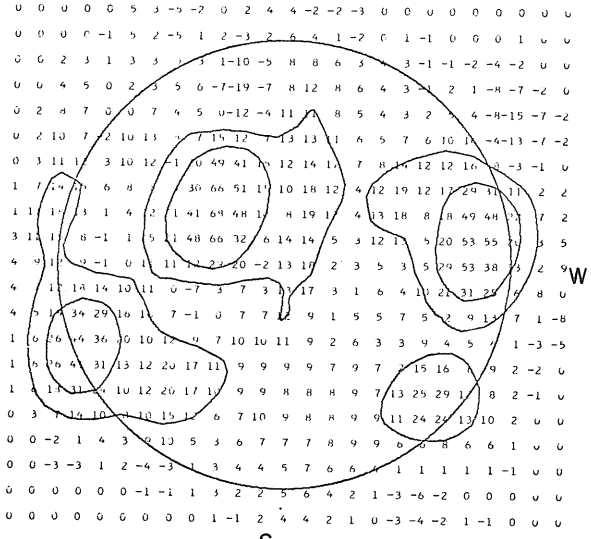
E W

Sp

Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.

Np



E W

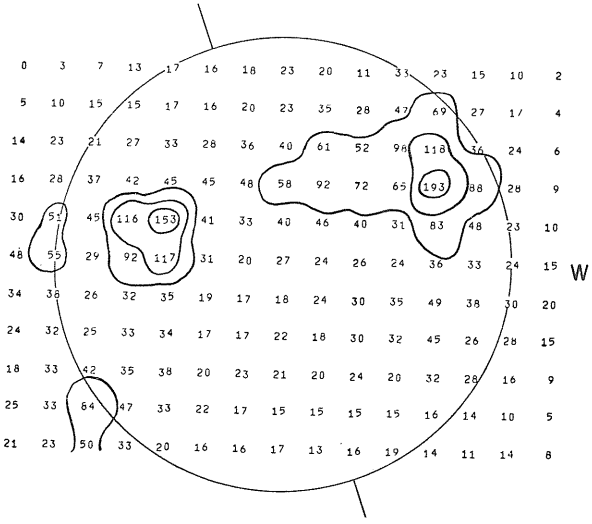
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



E W

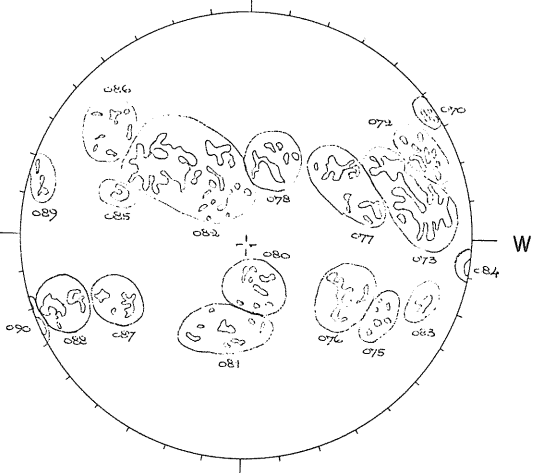
S

02-03 UT

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

McMATH-HULBERT CALCIUM REPORT

Np



E W

Sp

1600 UT

73-90-3.0
77-20-3.0
78-12-2.5
82-55-3.5
83-07-3.0
85-06-3.0
86-08-2.5
87-10-2.5
88 18 3.0
90-10-3.0

NOVEMBER 24, 1967 (P=18.90, B_o=1.79, L_o=336.16)

MT. WILSON

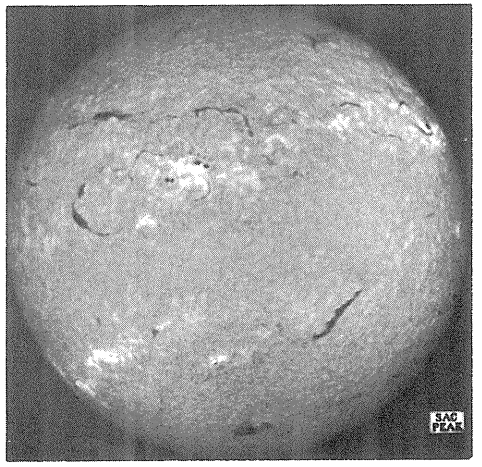
Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Nov 67

SACRAMENTO PEAK Hα

N



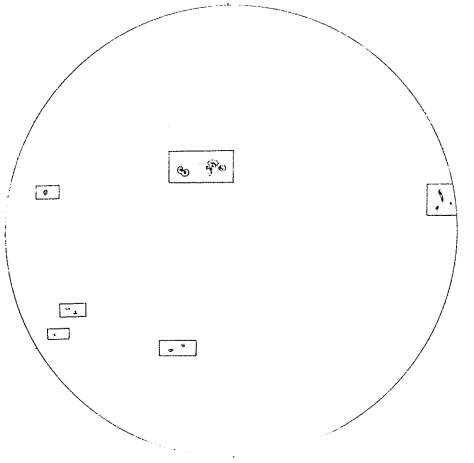
E W E

S

1544 UT

ESSA-BOULDER SUNSPOTS

Np



E W

Sp

1615 UT

NO DATA

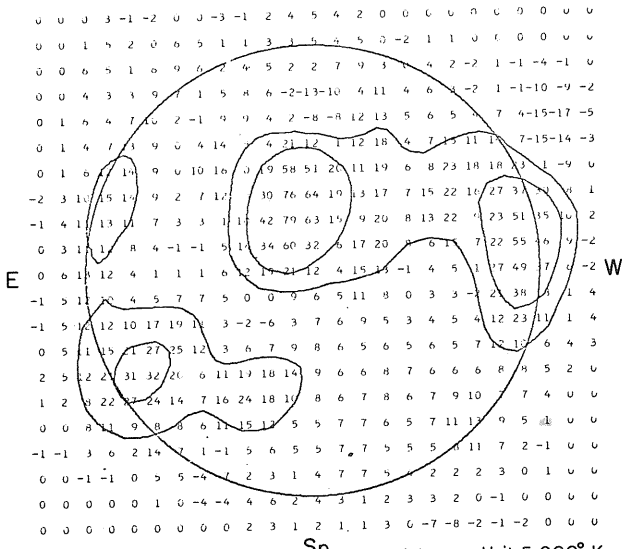
W

Levels
±5
±10
±20
±40
±80

Sp

STANFORD 9.1 cm.

Np



E W

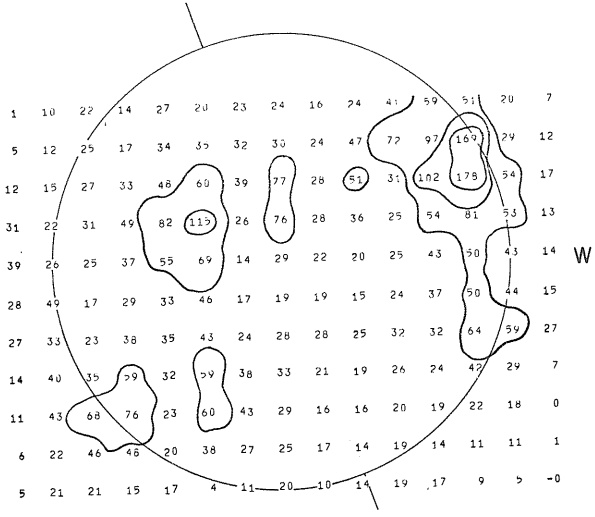
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



W E

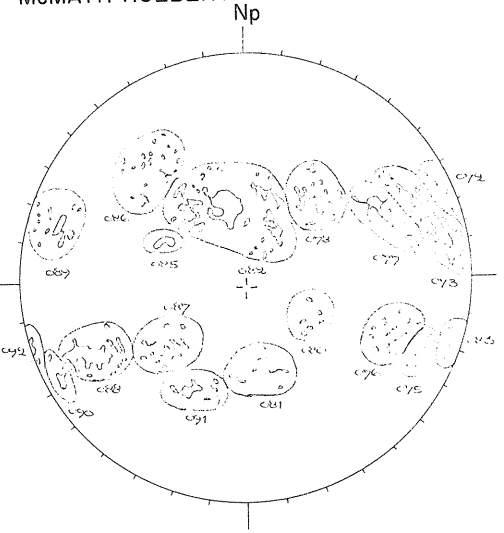
S

Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

Np



W E

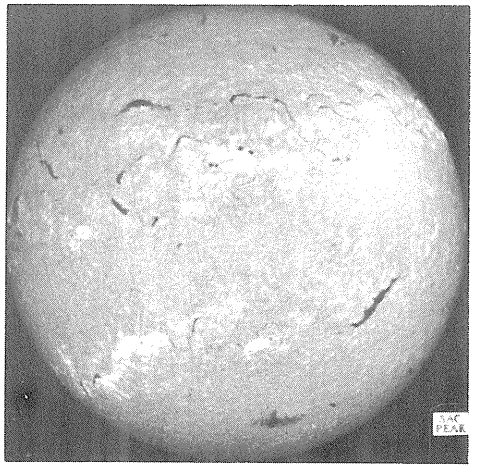
Sp

1715 UT

73-87-3.0
77-19-2.5
82-58-3.5
83-08-3.0
85-05-2.5
88-29-2.5
91-13-2.5

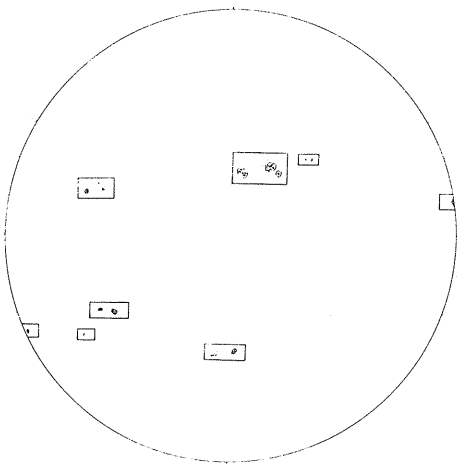
NOVEMBER 25, 1967 (P=18.56, B_o=1.66, L_o=322.98)

SACRAMENTO PEAK Hα



1511 UT

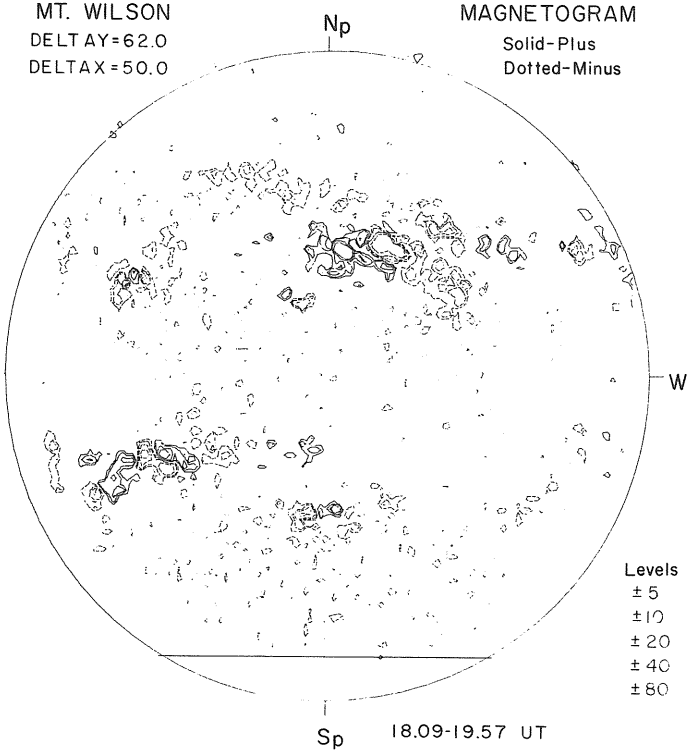
ESSA-BOULDER SUNSPOTS



1905 UT

MT. WILSON
DELTAY=62.0
DELTAX=50.0

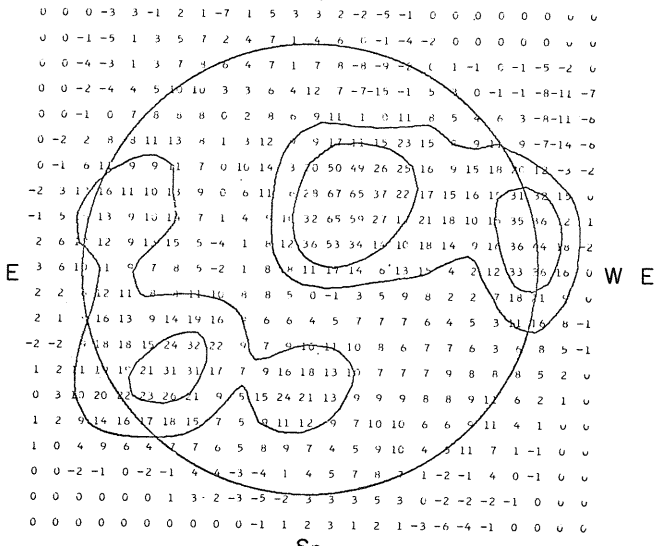
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

18.09-19.57 UT

STANFORD 9.1 cm.



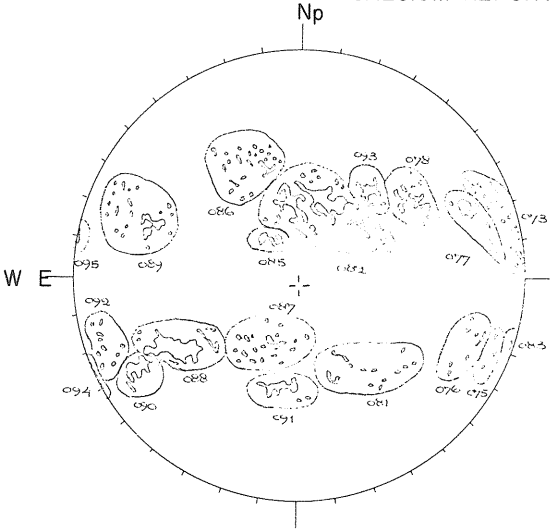
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

NO DATA

02-03 UT Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

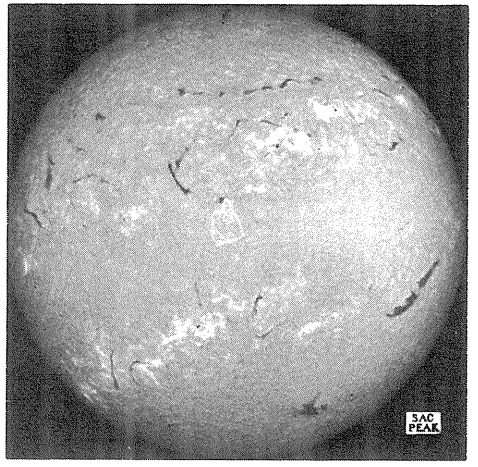


1650 UT

73-37-2.5
77-16-2.5
78-15-2.5
82-59-3.5
83-03-2.5
85-06-3.0
88-37-3.0
89-19-2.5
90-21-2.5
91-14-3.5
93-10-3.0
95-07-2.5

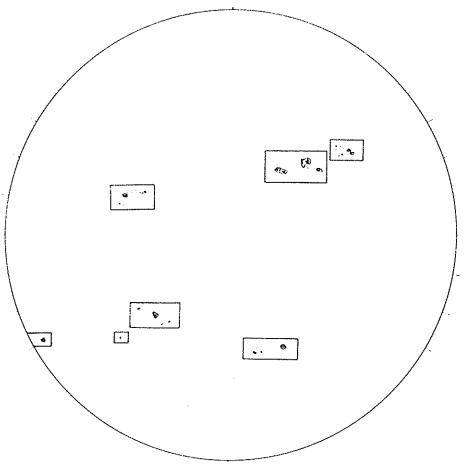
NOVEMBER 26, 1967 (P=18.21, B_o=1.54, L_o=309.80)

SACRAMENTO PEAK Hα



2137 UT

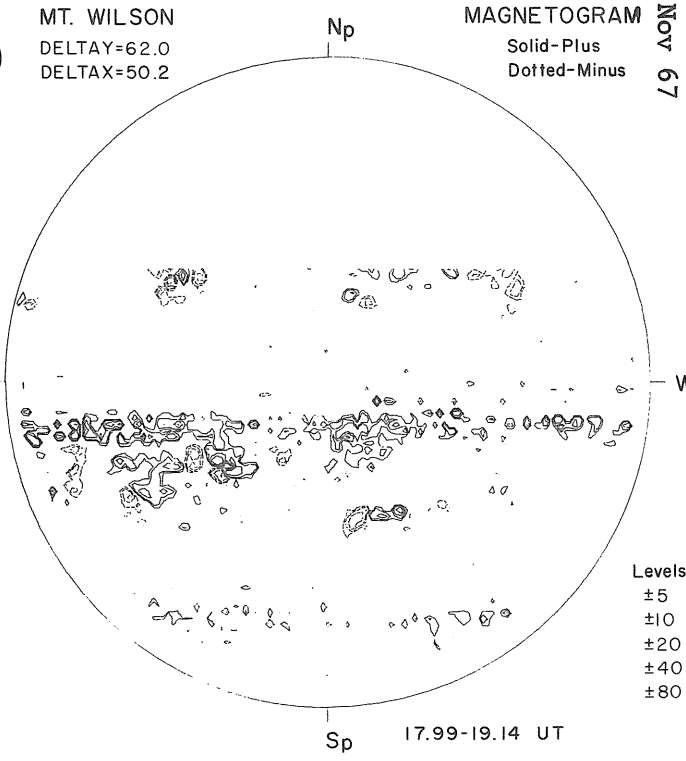
ESSA-BOULDER SUNSPOTS



1820 UT

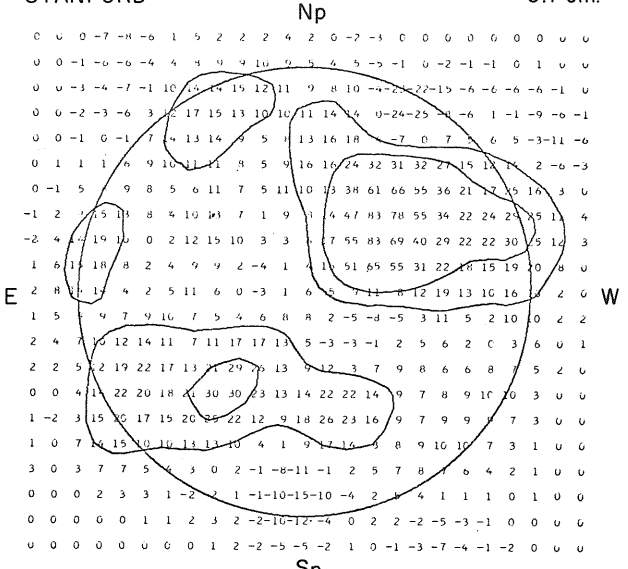
MT. WILSON
DELTAY=62.0
DELTAX=50.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus



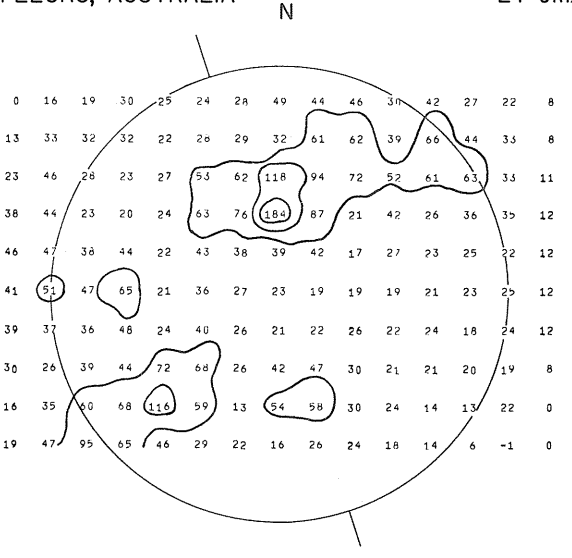
17.99-19.14 UT

STANFORD 9.1 cm.



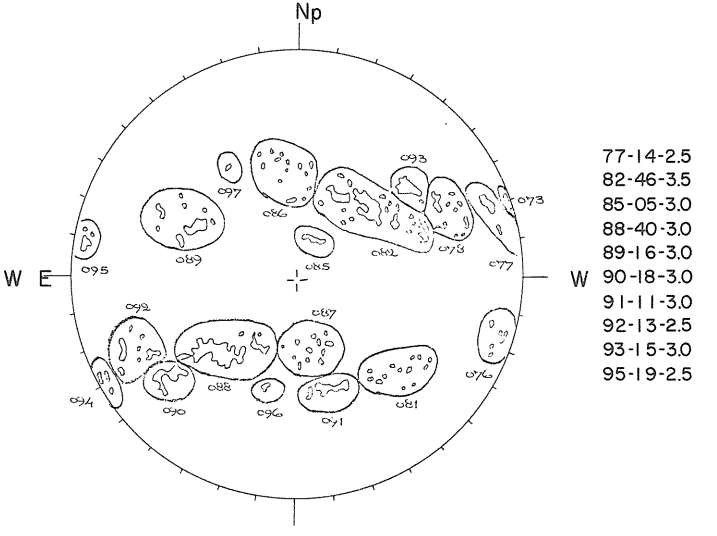
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



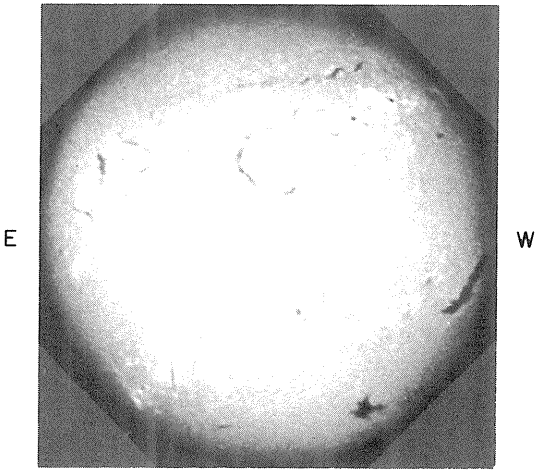
77-14-2.5
82-46-3.5
85-05-3.0
88-40-3.0
89-16-3.0
90-18-3.0
91-11-3.0
92-13-2.5
93-15-3.0
95-19-2.5

1415 UT

NOVEMBER 27, 1967 (P=17.86, B_o=1.41, L_o=296.62)

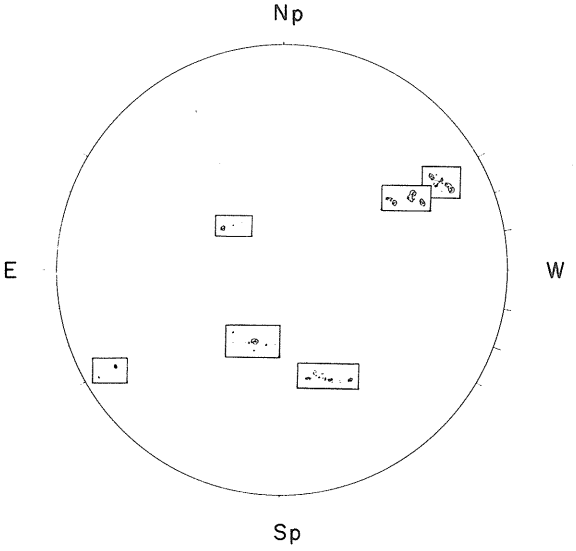
SACRAMENTO PEAK Hα

BOULDER



1409 UT

ESSA-BOULDER SUNSPOTS

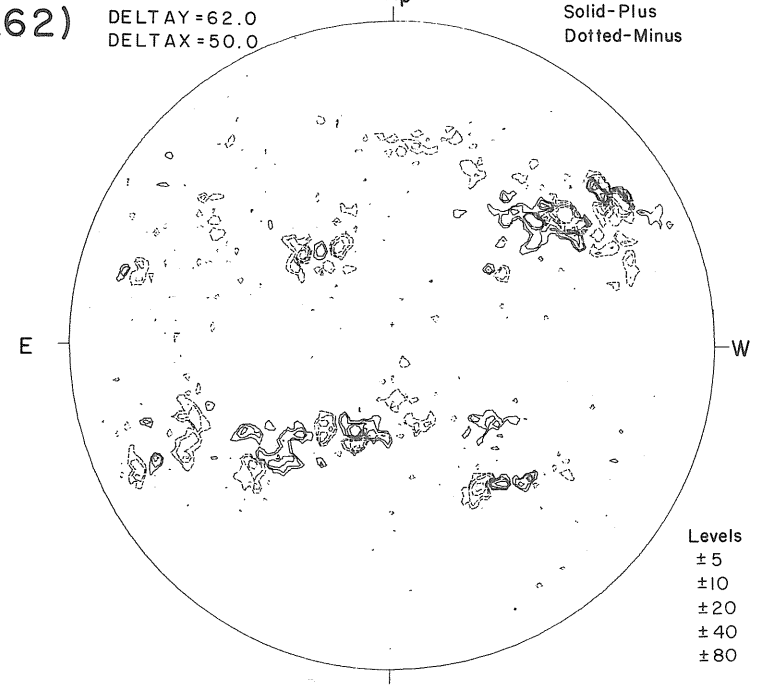


1850 UT

MT. WILSON MAGNETOGRAM

DELTAY=62.0
DELTAX=50.0

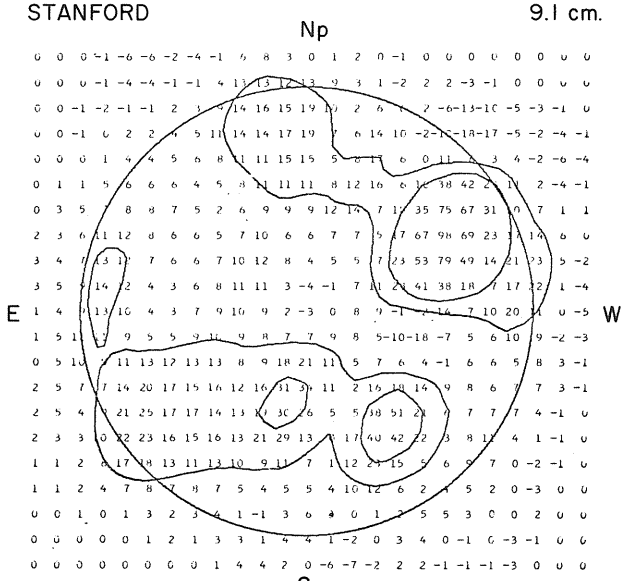
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

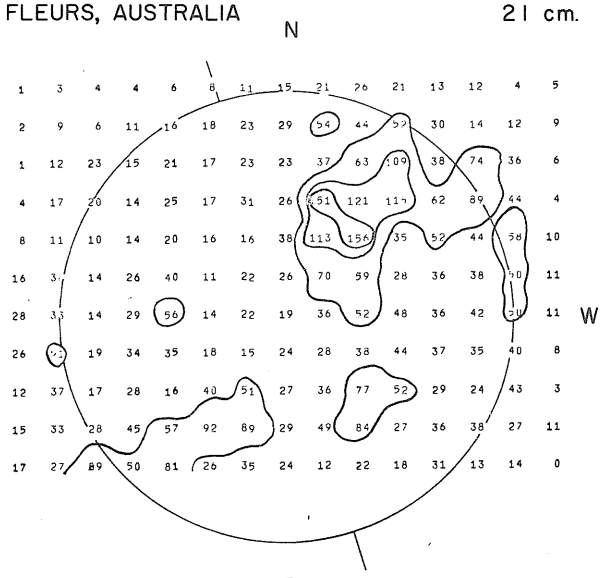
16.75-18.21 UT

STANFORD 9.1 cm.



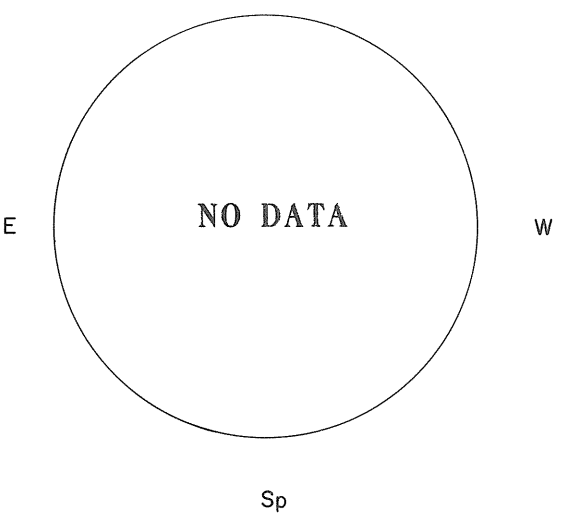
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



67
Nov 67

NOVEMBER 28, 1967 (P=17.50, B_o=1.29, L_o=283.44)

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

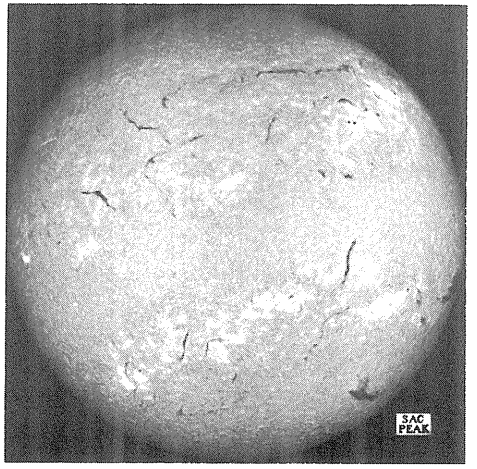
Nov 67 68

SACRAMENTO PEAK Hα

N

E W

S



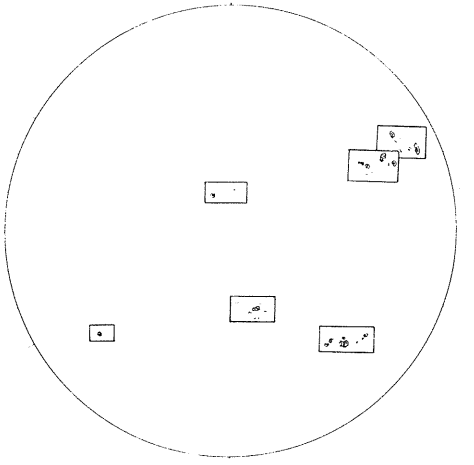
1905 UT

ESSA-BOULDER SUNSPOTS

Np

E W

Sp



1540 UT

E W

NO DATA

Sp

Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.

Np

E W

Sp

20-21 UT

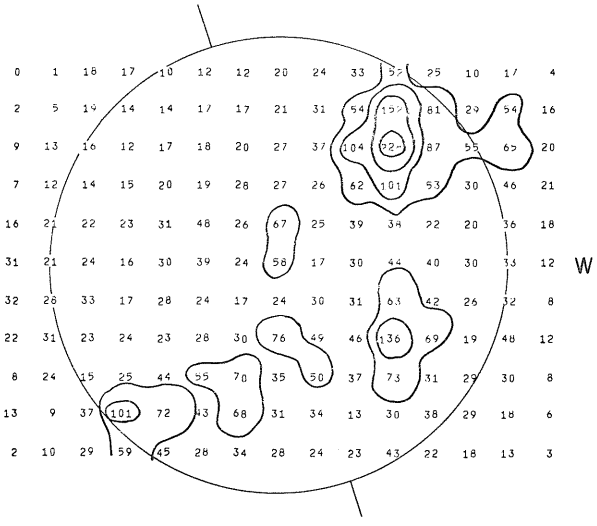
Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N

E W

S



Resolution 3 Minutes of Arc

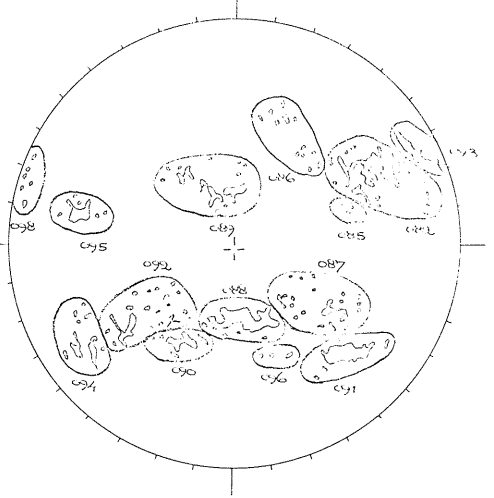
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

Np

E W

Sp

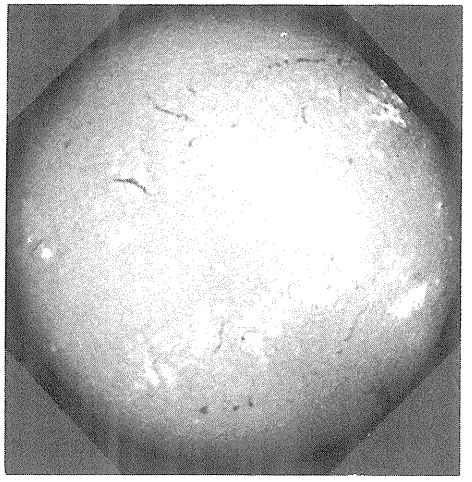


1430 UT

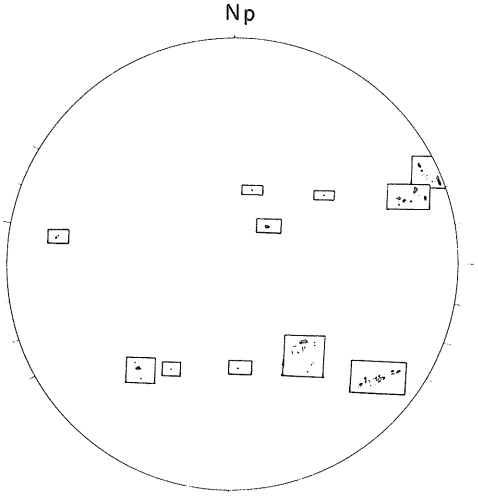
82-47-3.5
85-02-2.5
88-31-3.5
89-20-2.5
90-12-2.5
91-21-3.5
93-23-3.5
94-18-2.5
98-09-2.5

NOVEMBER 29, 1967 (P=17.14, B_o=1.16, L_o=270.26)

SACRAMENTO PEAK Hα
BOULDER
N
E W
S
1530 UT

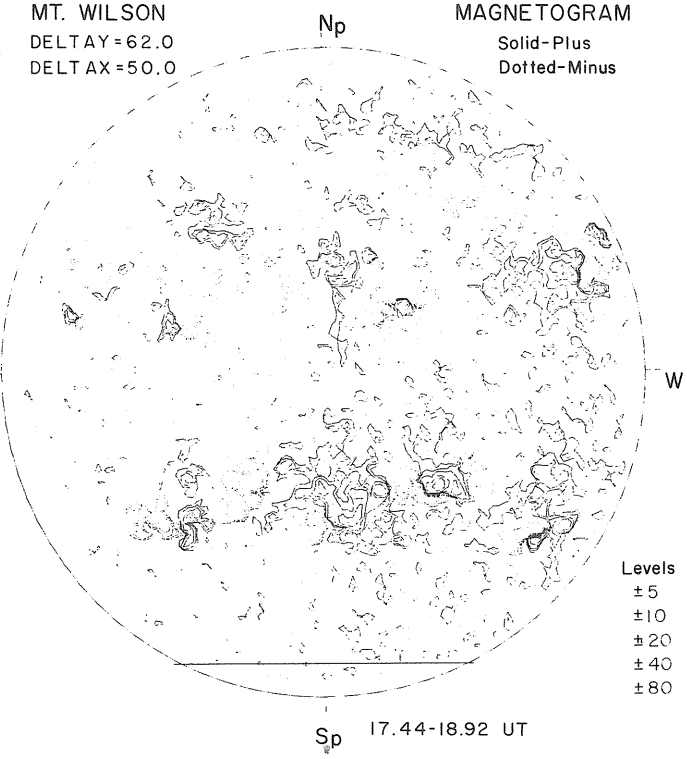


ESSA-BOULDER SUNSPOTS



1600 UT

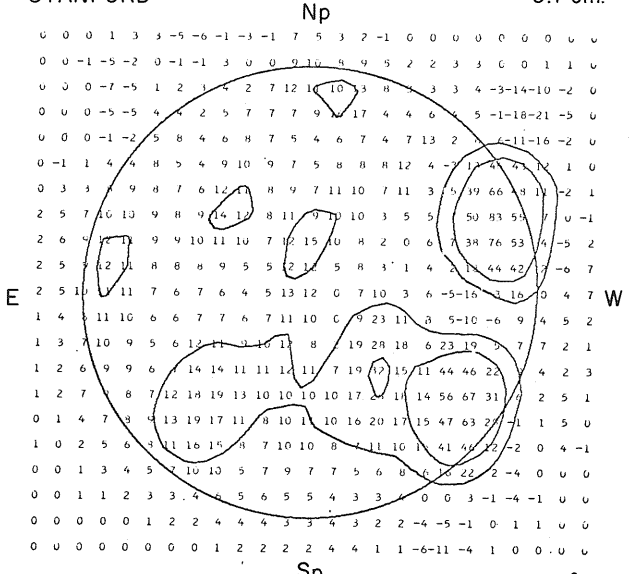
MT. WILSON MAGNETOGRAM
DELTAY=62.0
DELTAX=50.0
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

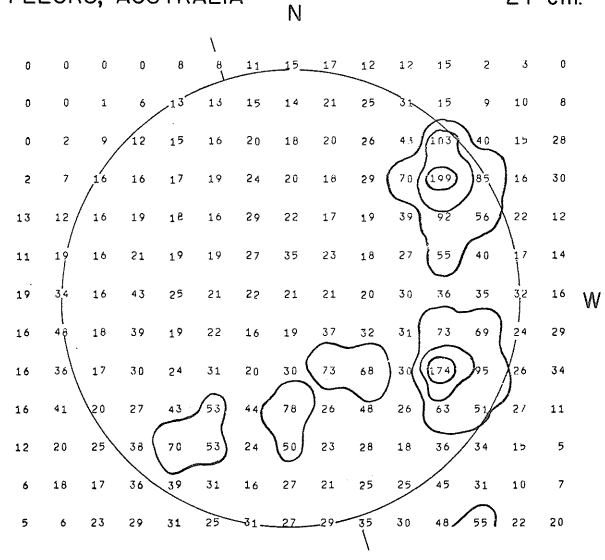
17.44-18.92 UT

STANFORD 9.1 cm.



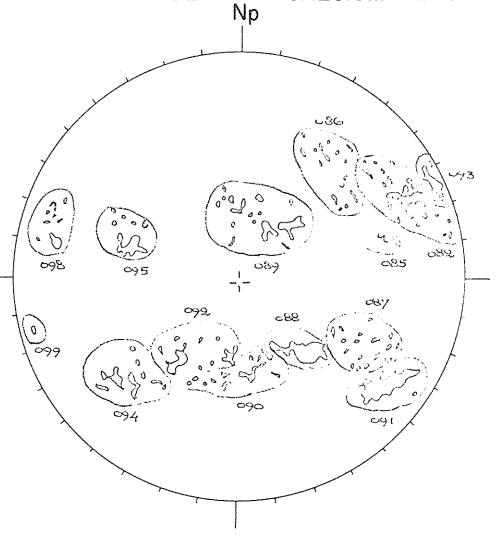
20-21 UT Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.



Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT



1425 UT

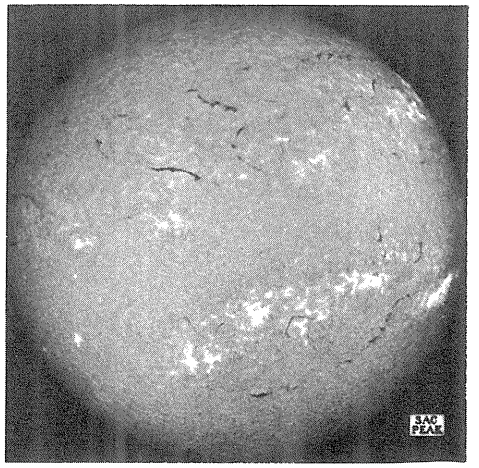
82-39-3.0
88-27-3.0
89-26-2.5
90-17-2.5
91-36-3.5
93-24-3.5
94-17-2.5
98-12-2.5

NOVEMBER 30, 1967 (P=16.76, B_o=1.04, L_o=257.08)

MT. WILSON Np MAGNETOGRAM Solid-Plus Dotted-Minus Nov 67 70

SACRAMENTO PEAK Hα

N



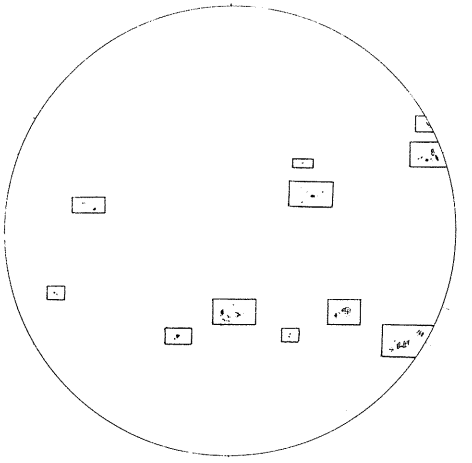
E W

S

1549 UT

ESSA-BOULDER SUNSPOTS

Np



E W

Sp

1740 UT

NO DATA

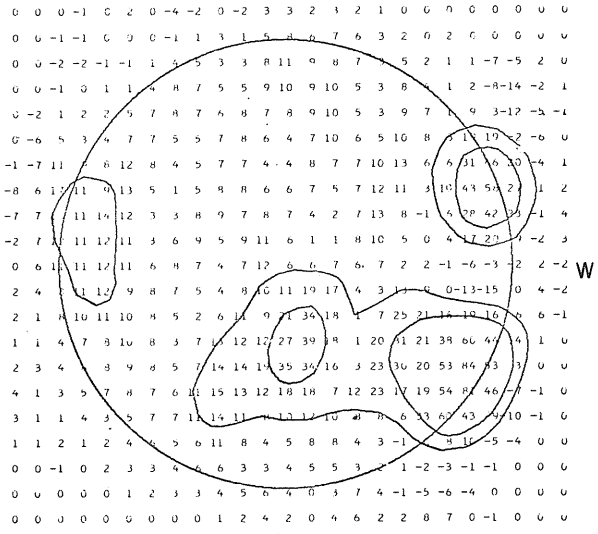
E W

Sp

Levels
±5
±10
±20
±40
±80

STANFORD 9.1 cm.

Np



E W

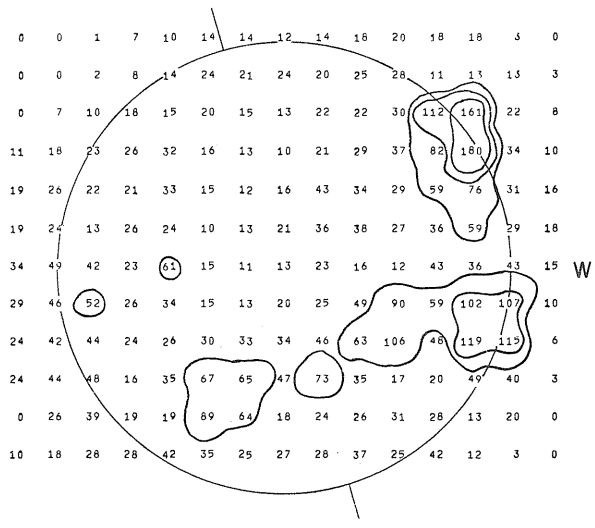
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm.

N



E W

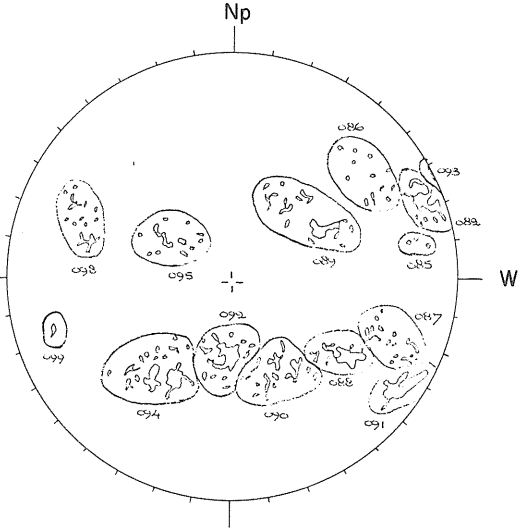
S

Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT CALCIUM REPORT

Np



E W

Sp

1700 UT

82-34-3.0	
88-24-3.5	
89-23-2.5	
90-21-3.0	
91-37-3.5	
92-23-3.0	
93-08-2.5	
94-27-2.5	
99-03-3.0	

Because data did not arrive in time, the coronal indices will not appear this month. The values will be published in the miscellany section as soon as the data arrive and are processed.

SUDDEN IONOSPHERIC DISTURBANCES

SHORT WAVE RADIO FADEOUTS — SUDDEN PHASE ANOMALIES
SUDDEN COSMIC NOISE ABSORPTION — SUDDEN ENHANCEMENTS OF SIGNAL
SUDDEN ENHANCEMENTS OF ATMOSPHERICS — SUDDEN FREQUENCY DEVIATIONS

NOVEMBER 1967

NOV 1967	UNIVERSAL TIME START	END	MAX	WIDE SPREAD INDEX	SWF TYPE	IMP	IMPORTANCE ABS	SCNA	SEA	SPA	SES	SFD	STATIONS	KNOWN FLARE
02	0711		0735	1						99			UM(NWC22-104)	*
02	0758	0834	0808	1						32			UM(NWC22-32)	0742E
02	0758	0834	0808	1							2		UM	
02	0855	0918	0900	5							1+		ND UM	0852
02	0856	0950	0901	5					1-				RO KE ND PO	
02	0856	0955	0900	1						64			UM(NWC22-64,OMEGA13-30)	
02	0857	0916	0900	5			35	2					RO CR ND	
02	0857	0920		1		2+							JU	
02	1319	1350U	1323	5	S	1-							HU MC	1317
02	1335	1405	1348	1							1		A3	
03	1159	1255	1208	5						99			SL(GBR16-252) UM(OMEGA13-147, NWC22-56)	1159
03	1200	1300		1					2+				KE	
03	1204			1		1+							JU	
03	1204	1305	1211	5							2		UM A3	
03	1205	1234	1207	3			18	1					RO JU	
03	1628	1631	1629	1								02	BO(WWI13-0.2)	1627
03	1629	1657	1631	1							1-		A3	
04	1148	1228	1201	1							3		UM	1125
04	1150	1220	1159	5						72			SL(GBR16-72) UM(OMEGA13-54,NWC22-24)	
04	1157	1232		1		1-							JU	
04	1157	1248		1				1-					JU	
04	1652	1658	1653	1								03	BO(WWI8-0.3)	1644
06	0220	0320	0229	1						72			MA(NPG18-72)	
06	0221	0315	0230	1	SL	1-							MA	
06	2130	2136	2132	1								02	BO(WWI8-0.2)	2130
06	2132	2133	2132	1								06	HA(WWVH5-0.6, WWVH10-0.3)	
06	2138	2155	2143	1							1		A3	
08	1050	1110	1054	1						99			SL(GBR16-108)	*
08	1051	1056		1					1				KU	
08	1051	1066		1		1-							KU	
08	1255	1418	1312	1						34			UM(OMEGA13-34)	*
08	1255	1418	1312	1							2		UM	
10	0855	0920	0900	5						99			SL(GBR16-137) UM(NWC15-89)	0845
10	0855	0930	0903	1					2				LO RO	
10	0855	0950	0905	5							1+		ND UM	
10	0856	0915	0900	1			16	1					RO	
10	1332		1350	1					1-				RO	1320
10	1332U	1405U		1	G	1							HU	
10	1333	1402	1337	1			9	1					RO	
10	1339	1437	1342	1							1		A3	
10	1519	1600	1525	1					1				A8	1517
10	1526	1533	1528	1								06	BO(WWI8-0.6)	
10	1527	1615	1535	5							1+		A1 UM	
10	1529	1542	1535	4	G	1-							TR HU	
10	1530	1606	1535	5						22			UM(NWC15-22) BO(OMEGA10-20)	
10	1821	1930	1845U	5	G	1							MC BO HU WS	1756E
10	2129	2140	2132	1								04	HA(WWVH10-0.4, WWVH5-0.3)	2130
11	1055	1118	1103	1							2		UM	
11	1057	1117	1109	1						20			UM(OMEGA13-20,NWC15-17)	
11	1117	1214	1130	1						34			UM(OMEGA13-34,NWC15-17)	
11	1117	1214	1330	1							2+		UM	
11	1742	1752		1	SL	1-							MC	1742
11	1743	1830	1751	5						25			BO(OMEGA10-25) HA(WWVL20-22)	
12	0944		0946	1			4	1-					RO	0943
12	0944		0957	1					1				RO	
12	0945	1050	0950	1							1		ND	
12	1337		1347	1					1-				RO	1340
12	1338	1404	1345	1			16	1					RO	
12	1338	1428	1358	1							2+		UM	
12	1338	1515	1401	1						86			UM(OMEGA13-86,NWC15-39)	
12	1342	1359	1357	1	G	1-							BE	
12	1645	1715	1647	5						99			HA(WWVB60-169, WWVL20-31) BO(OMEGA10-54,NBA24-26) UM(OMEGA13-44,NWC15-22)	1648
12	1648	1653	1649	1								03	BO(WWI11-0.3)	
12	1648	1659	1651	5	S	1-							BE BO HU MC TR WS	
12	1650	1740	1659	5							2		A1 UM	
13	1807	1900	1822	5	G	2							BE HU TR	1805D
13	1811	1837	1822	1							3		UM	
13	1811	1850	1818	5						65			BO(OMEGA10-65)	

SUDDEN IONOSPHERIC DISTURBANCES

NOVEMBER 1967

NOV 1967	UNIVERSAL TIME START	END	MAX	WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE ABS	SCNA	SEA	SPA	SES	SFD	STATIONS	KNOWN FLARE
13	1811	1850	1818									HA(WWVL20-40) UM(NWC15-20,OMEGA13-15)	
16	0340	0359	0354	1	SL 1-							OK	*
16	0400	0500		1				*				TA	*
16	1000	1110		1				3				KE	1004E
16	1007	1136	1020	1					78			UM(OMEGA13-78,NWC19-46)	
16	1008	1116	1015	1						3		UM	
16	2002	2010	2003	1							03	BO(WWI8-0.3)	2003
16	2007	2055	2014	1					26			BO(OMEGA10-26)	
16	2010	2032	2016	5	SL 1-							MC AN WS	
16	2134	2155	2138	5							08	BO(WWI8-0.8) HA(WWVH5-0.7, WWVH10-0.7)	2124
16	2135	2233	2145	3						3-		A3 A1	
16	2137	2215	2150U	5	S 2-							WS BE BO HU MC TO GH	
16	2138	2338	2150	5					99			HA(WWVB60-405, WWVL20-119) AN(NPM23-108,WWVL20-58) BO(OMEGA10-158, NBA24-33) MA(NPG18-133, NPM23-132)	
16	2139	2200	2142	1		13	1					BO	
17	0820	0928	0833	5					99			SL(GBR16-250) MA(NPG18-15) UM(NWC19-75)	0820E
17	0820	0950	0830	1						3		UM	
17	0821	0925	0824	1			*					CR	
17	1528	1555	1540	5	SL 1							BE HU MC TR	1532
17	1530	1645	1548	5					64			UM(OMEGA13-64,NWC19-61) BO(OMEGA10-30,NBA24-25)	
17	1531	1541	1533	1							04	BO(WWI11-0.4)	
17	1532	1600	1538	5						2		A20 A1 A3 UM	
18	1838	1912	1843	1						2		A3	1833
18	1841	1951	1848	5					90			HA(WWVB60-90,WWVL20-36) BO(NBA24-26,OMEGA10-43)	
18	1850E	1902	1855	5	G 1-							WS HU	
18	2252	2253	2252	1							06	HA(WWVH5-0.6, WWVH10-0.2)	*
19	1214	1225	1218	1					20			UM(OMEGA13-20,NWC19-8)	1214E
19	1215	1225	1218	1						1+		UM	
19	1517	1536U	1522	4	SL 1-							HU TR	1517
19	1518	1555	1524	1					29			UM(NWC19-29)	
19	1518	1555	1524	1						2		UM	
21	1452	1530	1456	3						1+		A1 A3	1450
21	1455	1520U	1503	1	SL 1							HU	
21	1648	1657	1649	1							04	BO(WWI11-0.4)	1648
21	1650U	1659	1653	1	S 1-							TR	
21	1650	1710	1654	1					30			BO(OMEGA10-30)	
22	1912	2015	1926	1					76			UM(NWC22-76)	1916
22	1912	2015	1926	1						2		UM	
23	1858	1859	1858	1							06	BO(WWI8-0.6)	1855
23	1900	1920	1906	1					10			BO(OMEGA10-10)	
25	0705	0826	0727	1					54			MA(NPG18-54,GBR16-27)	*
27	0228	0240	0232	1	S 1-							OK	*
27	0236	0255	0245	1					20			MA(NPG18-20)	
28	0052	0054	0053	1							04	HA(WWVH5-0.4)	*
29	1159	1243	1207	1						2+		UM	*
29	1202	1252	1212	1					37			UM(OMEGA13-37,NWC15-22)	
29	1611	1651	1623	1						2		UM	1607
29	1611	1705	1623	5					39			UM(OMEGA13-39,NWC15-25) BO(OMEGA10-20)	
29	1614	1635	1618	5	S 1-							MC HU TR	
29	1737	1800	1738	1						1-		A3	1742
29	1744	1810U	1748	5					25			BO(OMEGA10-25) HA(WWVL20-14)	
29	1949	2025	2000	5					25			BO(OMEGA10-25) HA(WWVL20-11)	1947
30	1335	1418	1342	1					20			UM(OMEGA13-20,NWC15-14)	1333
30	1938	2135	2005	5					72			BO(OMEGA10-72) AN(NPM23-43) HA(WWVL20-50)	
30	1944	2050	2005	3						1+		A1 A3	
30	1945	2048	2010	5	G 1+							AN MC TR WS	

CR = Carnarvon, Australia.

Rome SCNA-SEA out of operation 27-29 November 1967.

RIOMETER EVENTS

NOVEMBER 1967

South Pole

30 Mc/s

NOV. 1967	START UT	END UT	MAX UT	MAX. ABS. .1DB	NO. OF PKS	NOV. 1967	START UT	END UT	MAX UT	MAX. ABS. .1DB	NO. OF PKS
02	0833		2018			07	0448	0821	0615	5	3
04		0040		63	3	08	0123	0315	0136	7	3
04	1140		1408			09	1121	1817	1506	16	4
05		0206		9	3	10	1304	1756	1346	9	1
05	0809	1953	1040	7	6	12	0527	1226	0628	7	4
06	0121	0209	0136	9	2						

THIS TABULATION SHOWS ALL EVENTS STARTING ON ANY DAY OF THIS MONTH.
SEE PREVIOUS MONTH TABLE FOR EVENTS WHICH MAY NOT HAVE ENDED BY THE FIRST DAY OF THIS MONTH.
MAX IS THE TIME OF EVENT MAXIMUM.
ABS IS ABSORPTION.
PKS IS PEAKS.

NO DATA ZEROS FOR ALL VALUES OF A DAY.

No data are available November 13-31, 1967 because of equipment changes in progress at South Pole.

SOLAR RADIATION MONITORING SATELLITE
X-RAY

NOVEMBER 1967

NRL

DAILY AVERAGES FOR NOVEMBER 1967

DATE	44-60 XE-1	8-20 XE-3	0-8 XE-4
1		8.26	4.34
2		8.54	5.98
3		7.50	4.56
4		7.62	7.32
5		9.44	7.13
6		4.94	4.26
7		6.15	5.47
8		6.29	2.65
9		5.48	3.60
10		7.97	5.09
11		15.76	15.26
12		11.69	7.90
13		9.07	4.85
14		6.07	3.66
15		7.99	4.71
16		10.95	5.64
17		15.39	9.67
18		11.95	6.70
19		18.53	10.50
20		19.88	12.24
21		15.56	7.44
22		17.86	12.07
23		13.30	6.28
24		11.76	4.85
25		15.30	6.69
26		14.25	8.63
27		13.76	7.30
28		17.87	10.00
29		22.10	15.62
30		22.04	14.50

OUTSTANDING EVENTS FOR NOVEMBER 1967

DATE	STA	START UT	END UT	8-20 XE-3	0-8 XE-4	0-3 XE-5	COMMENTS
1	NRL	2310	2356	14.93	12.27	4.15	PEAK 2321
2	NRL	0035	0134	11.57	11.49	3.55	INCREASING
2	NRL	0845	0857	13.46D	136.63D	18.68D	
4	NRL	0145	0244	23.61D	19.85D	12.61	
4	NRL	1447	1502	14.79	61.90	11.31	DECREASING
5	NRL	0006	0102	23.61D	19.85D	2.52	
5	NRL	1234	1244	9.01	20.26	3.24	
6	NRL	0138	0237	16.79	19.85D	13.51D	INCREASING
7	NRL	2358	0057	16.79	19.85	8.71	PEAK 0022
7	NRL	2358	0057	10.49	11.47	1.80	PEAK 0047
7	NRL	0134	0234	19.94	19.41	6.90	PEAK 0200
10	NRL	1330	1344		145.42	19.47	
10	NRL	2120	2129	23.29	19.85D	4.14	
10	NRL	2205	2256	23.61	19.85D	3.90	DECREASING
11	NRL	0556	0704	28.41	32.58	1.44	PEAK 0648
11	NRL	1720	1813	41.69	126.78	28.15	PEAK 1743
11	NRL	2112	2124	22.56	19.59	1.44	
11	NRL	2201	2251	23.61D	19.85D	4.38	PEAK 2219
12	NRL	1415	1426	23.17	31.26	6.00	
16	NRL	1827	1902	23.61D	17.20	3.60	PEAK 1842
16	NRL	1923	2024	49.71	91.84	15.35	PEAK 2010
17	NRL	1823	1858	23.61D	19.85D	1.20	DECREASING
17	NRL	1823	1858	20.79	19.85D	3.48	INCREASING
18	NRL	0159	0312	21.67	24.77	4.45	PEAK 0250
18	NRL	1818	1857	22.67	19.85D	13.51D	
20	NRL	1809	1846	23.61D	19.85D	3.12	
21	NRL	1629	1702	22.04	19.85D	13.51D	PEAK 1650
25	NRL	1325	1446	25.66	18.91	2.05	PEAK 1420
25	NRL	1610	1643	23.61D	18.97	4.20	PEAK 1620
26	NRL	1410	1455	36.27	66.88	5.96	PEAK 1425
27	NRL	1602	1633	23.61D	19.85D	2.88	PEAK 1610
27	NRL	2215	2340	26.16	29.45	3.25	
28	NRL	1423	1447	23.61D	15.00	1.08	PEAK 1433
28	NRL	1559	1628	23.61D	17.64		PEAK 1603
28	NRL	2302	2400	29.67	21.96	1.14	DECREASING
29	NRL	0845	0950	30.65	31.94	1.74	DECREASING
29	NRL	1125	1218	23.61D	19.85D	13.51D	
29	NRL	1305	1354	23.61D	19.85D	13.51D	INCREASING
30	NRL	1241	1258	23.61D	16.76	1.50	PEAK 1258
30	NRL	1301	1351	23.61D	19.85D	13.51D	PEAK 1335
30	NRL	1340	1500		66.88	8.96	DECREASING
30	NRL	1340	1500	34.02	66.88	8.96	PEAK 1448
30	NRL	1417	1438	23.61D	19.85D	4.80	PEAK 1428
30	NRL	2104	2138	57.73	96.83	8.66	DECREASING
30	NRL	2146	2315	36.27	56.90	6.82	INCREASING
30	NRL	2331	2400	65.75	176.69	36.68	PEAK 2333

SOLAR RADIATION MONITORING SATELLITE
X-RAY

NOVEMBER 1967

NRL

OBSERVING TIMES FOR NOVEMBER 1967

DATE	STA	START UT	END UT	ASPECT ANGLE	DATE	STA	START UT	END UT	ASPECT ANGLE	DATE	STA	START UT	END UT	ASPECT ANGLE
1	NRL	0333	0432	0.0	7	NRL	2312	2317	0.0	19	NRL	1228	1323	0.0
1	NRL	0730	0744	-3.5	7	NRL	2353	0050	0.0	19	NRL	1714	1738	0.0
1	NRL	0915	0927	-3.5						19	NRL	1813	1914	0.0
1	NRL	1041	1055	0.0	8	NRL	0213	0238	0.0	19	NRL	1949	2032	0.0
1	NRL	1104	1111	-3.5	8	NRL	0615	0723	0.0	19	NRL	2133	2154	0.0
1	NRL	1134	1232	0.0	8	NRL	0915	0923	-31.9	19	NRL	2214	2333	0.0
1	NRL	1250	1252	-3.0	8	NRL	1103	1111	-30.8					
1	NRL	1310	1347	0.0	8	NRL	1249	1258	-30.2	20	NRL	1529	1558	0.0
1	NRL	1434	1440	-3.0	8	NRL	1434	1445	-29.1	20	NRL	1633	1707	0.0
1	NRL	1618	1633	-3.0	8	NRL	1616	1625	-28.5	20	NRL	1708	1734	0.0
1	BOUL	1800	1813	-2.75	8	NRL	2128	2137	0.0	20	NRL	1809	1846	0.0
1	NRL	1804	1814	-3.0	8	NRL	2213	2305	0.0					
1	BOUL	1946	1955	-2.75	8	NRL	2349	0046	0.0	21	NRL	1524	1554	0.0
1	NRL	2310	2356	0.0						21	NRL	1629	1702	0.0
					9	NRL	1401	1414	-20.2	21	NRL	1703	1730	0.0
2	NRL	0035	0134	0.0	9	NRL	1546	1555	-19.3	21	NRL	1804	1842	0.0
2	NRL	0153	0248	0.0	9	NRL	2123	2133	0.0					
2	NRL	0505	0604	0.0	9	NRL	2209	2302	0.0	22	NRL	0135	0250	0.0
2	NRL	0704	0805	0.0	9	NRL	2345	0042	0.0	22	NRL	0312	0340	0.0
2	NRL	0845	0857	-5.5						22	NRL	1527	1656	0.0
2	BOUL	1013	1019	-3.25	10	NRL	0531	0637	0.0	22	NRL	1658	1726	0.0
2	NRL	1032	1040	-5.0	10	NRL	1001	1009	-12.3	22	NRL	1800	1837	0.0
2	BOUL	1212	1219	-5.0	10	NRL	1146	1158	-10.6					
2	NRL	1221	1228	-3.0	10	NRL	1330	1344	-8.9	23	NRL	0102	0226	0.0
2	NRL	1405	1416	-1.5	10	NRL	1515	1526	-8.5	23	NRL	0244	0404	0.0
2	NRL	1423	1434	0.0	10	NRL	2120	2129	0.0	23	NRL	0934	1034	0.0
2	NRL	1510	1603	0.0	10	NRL	2205	2256	0.0	23	NRL	1050	1150	0.0
2	BOUL	1546	1555	-0.7	10	NRL	2341	0037	0.0	23	NRL	1514	1547	0.0
2	BOUL	1730	1742	0.7						23	NRL	1619	1650	0.0
2	NRL	1734	1745	1.0	11	NRL	0556	0704	0.0	23	NRL	1655	1722	0.0
					11	NRL	1306	1313	-8.8	23	NRL	1755	1833	0.0
3	NRL	0149	0516	0.0	11	NRL	1444	1456	-9.5					
3	NRL	0814	0827	3.5	11	NRL	1638	1648	0.0	24	NRL	0446	0607	0.0
3	NRL	1002	1010	5.5	11	NRL	1720	1813	0.0	24	NRL	1328	1407	0.0
3	NRL	1342	1345	9.1	11	NRL	1935	1949	0.0	24	NRL	1439	1507	0.0
3	NRL	1458	1510	0.0	11	NRL	2025	2124	0.0	24	NRL	1510	1543	0.0
3	BOUL	1515	1526	10.5	11	NRL	2201	2251	0.0	24	NRL	1615	1725	0.0
3	NRL	1518	1532	10.5						24	NRL	1728	1733	0.0
3	NRL	1536	1617	0.0	12	NRL	0938	1046	0.0	24	NRL	1750	1900	0.0
3	NRL	1702	1715	11.2	12	NRL	1051	1055	-23.6	24	NRL	2203	2222	0.0
3	BOUL	1703	1712	11	12	NRL	1113	1122	0.0	24	NRL	2240	2400	0.0
3	BOUL	1844	1855	11.5	12	NRL	1230	1235	-24.4					
					12	NRL	1250	1344	0.0	25	NRL	1255	1308	0.0
4	NRL	0010	0106	0.0	12	NRL	1415	1426	-25.2	25	NRL	1324	1606	0.0
4	NRL	0120	0244	0.0	12	NRL	1929	1944	0.0	25	NRL	1610	1643	0.0
4	NRL	0930	0940	14.8	12	NRL	2021	2120	0.0	25	NRL	2330	2400	0.0
4	NRL	1119	1124	16.0	12	NRL	2157	2247	0.0					
4	NRL	1305	1311	17.0						26	NRL	0000	0026	0.0
4	NRL	1424	1506	0.0	13	NRL	1407	1426	0.0	26	NRL	1320	1401	0.0
4	NRL	1637	1645	19.0	13	NRL	1448	1551	0.0	26	NRL	1410	1457	0.0
4	NRL	2322	2330	0.0	13	NRL	1913	1922	0.0	26	NRL	1500	1537	0.0
					13	NRL	1924	1940	0.0	26	NRL	1606	1637	0.0
5	NRL	0006	0102	0.0	13	NRL	1950	2102	0.0					
5	NRL	0141	0240	0.0	13	NRL	2105	2116	0.0	27	NRL	0420	0547	0.0
5	NRL	0900	0910	13.0	13	NRL	2152	2242	0.0	27	NRL	1314	1358	0.0
5	NRL	1049	1053	13.3						27	NRL	1427	1452	0.0
5	NRL	1123	1222	0.0	14	NRL	1913	1935	0.0	27	NRL	1454	1534	0.0
5	NRL	1234	1244	13.7	14	NRL	2012	2050	0.0	27	NRL	1602	1633	0.0
5	NRL	1300	1342	0.0	14	NRL	2058	2111	0.0	27	NRL	2132	2202	0.0
5	NRL	1418	1431	14.0	14	NRL	2148	2238	0.0	27	NRL	2215	2340	0.0
5	NRL	1601	1615	13.4										
5	NRL	2110	2203	0.0	15	NRL	0110	0215	0.0	28	NRL	1309	1356	0.0
5	NRL	2319	2326	0.0	15	NRL	0242	0354	0.0	28	NRL	1423	1447	0.0
					15	NRL	1908	1931	0.0	28	NRL	1451	1532	0.0
6	NRL	0002	0056	0.0	15	NRL	2007	2052	0.0	28	NRL	1559	1628	0.0
6	NRL	0138	0237	0.0	15	NRL	2055	2107	0.0	28	NRL	2302	2400	0.0
6	NRL	0829	0840	-3.5	15	NRL	2145	2234	0.0					
6	NRL	1018	1024	-3.0						29	NRL	0845	0950	0.0
6	BOUL	1158	1204	-2.75	16	NRL	0306	0421	0.0	29	NRL	1000	1109	0.0
6	NRL	1205	1212	-3.0	16	NRL	1713	1720	0.0	29	NRL	1125	1218	0.0
6	NRL	1340	1423	0.0	16	NRL	1723	1902	0.0	29	NRL	1244	1303	0.0
6	NRL	1531	1544	-3.5	16	NRL	1907	2047	0.0	29	NRL	1305	1354	0.0
06	BOUL	1712	1725	-4.75						29	NRL	1420	1442	0.0
6	NRL	2318	2322	0.0	17	NRL	1318	1409	0.0	29	NRL	2046	2107	0.0
6	NRL	2358	0057	0.0	17	NRL	1720	1747	0.0	29	NRL	2115	2245	0.0
					17	NRL	1823	1858	0.0					
7	NRL	0134	0234	0.0	17	NRL	1902	1922	0.0	30	NRL	0045	0200	0.0
7	NRL	0947	0953	-22.0	17	NRL	1958	2040	0.0	30	NRL	1121	1215	0.0
7	NRL	1133	1142	-22.0						30	NRL	1241	1258	0.0
7	NRL	1315	1331	-22.2	18	NRL	0159	0312	0.0	30	NRL	1301	1500	0.0
7	NRL	1400	1442	0.0	18	NRL	1717	1742	0.0	30	NRL	2104	2138	0.0
7	NRL	1501	1516	-23.0	18	NRL	1818	1857	0.0	30	NRL	2146	2315	0.0
7	NRL	2134	2141	0.0	18	NRL	1858	1918	0.0	30	NRL	2331	2400	0.0
7	NRL	2217	2311	0.0	18	NRL	1954	2040	0.0					

Satellites 1965-93A, OGO-4 and OSO-4 were used as data sources. The 44-60A° detectors on all three satellites ceased to function before November 1, 1967. Satellite 1965-93A ceased to function on November 12, 1967.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1967

DATE	TIMES OF OBSERVATION		STATION	IMPORTANT BURSTS									SPECTRAL TYPE
				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.	
11 01	1332	2336	HARV				1413	1422	2				IIIG
	1255	2347	BOUL							1817	1817.4	1	III
			BOUL							1834.2	1834.6	1	III
			HARV				2012	2055	1				IN
			BOUL							2017.7	2020.3	1	IIIG
			CULG										
			HARV				2118	2122	2				IIIG
			BOUL							2120.5	2121.3	2	IIIG
			HARV	2140	2225	1							IN
	2234	0000	CULG										
			HARV				2304	2316	2				IIIG
			BOUL							2338.4	2342 D	1	CONT.
11 02	0000	0054	CULG										
	0115	0129	CULG				0115		1				IIIB,U
	0129	0651	CULG										
	1332	2336	HARV				1332	2110	1				I
			HARV				1337	1339	2				IIIG
	1301	2357	BOUL							1337.3	1340.1	2	IIIG
			BOUL							1346.6	1346.8	2	III
			HARV				1417	1420	1				IIIG
			BOUL							1417.3	1420.3	2	IIIG
			BOUL							1451.3	1451.6	2	III
			BOUL							1519.6	1519.9	2	III
			HARV				1614	1615	2				IIIG
			BOUL							1614.3	1614.5	1	III
	2058	2316	CULG										
			HARV				2118	2119	1				IIIG
			BOUL							2119	2119.4	1	III
			HARV				2234	2247	1				I
11 03	0000	0115	CULG										
	0122	0659	CULG										
	1332	2336	HARV				1540	1541	1				IIIG
			HARV	1630		1	1628	1630	3				IIIGG
	1257	2350	BOUL							1714.1	1714.9	1	IIIG
			HARV				1938	1939	1				IIIG
			BOUL							1938.1	1938.5	2	III
			HARV				2327	2329	2				IIIG,V
	2106	0000	CULG				2328	2328.5	1	2328	2329	1	IIIG,U
			BOUL							2328.1	2328.4	2	III
11 04	0000	0638	CULG										
	1332	2336	HARV				1332	1605	1				I
			HARV				1653	1654	1				IIIG
			HARV				1700	1706	2				IIIGG
	1532	0000	BOUL							1742.9	1743.2	1	III
			BOUL							2049	2049.2	1	III
			BOUL							2148.8	2151	3	IIIG
	2046	0000	CULG							2149	2150	1	IIIG
11 05	0000	0700	CULG				0143.5	0145	1	0143.5	0145	2	IIIG
	1345	2336	HARV										
	1258	0000	BOUL							1911	1912.1	2	IIIG
			BOUL							2029.4	2029.6	2	III
			BOUL							2034.4	2034.6	2	III
	2058	0000	CULG										
			BOUL							2121.1	2121.5	1	III
11 06	0000	0700	CULG										
	1345	2333	HARV				1420		2				IIIG
	1256	2350	BOUL							1642.6	1643	2	III
			HARV				1746	1749	2				IIIG
			BOUL							2210.5	2211.5	1	IIIG
			HARV				2220	2221	1				IIIG
			BOUL							2227.8	2230	2	IIIG
	2057	0000	CULG							2229		1	IIIG
11 07	0000	0647	CULG				0026.5	0027	1	0026.5	0027	1	IIIG
			CULG							0108		1	IIIB
			CULG				0305		1	0305		1	IIIB
			CULG							0354		1	IIIB
	1345	2333	HARV				1418	1421	2				IIIG
			HARV				1940	2103	1				IN
	1348	2350	BOUL							1958.8	2005	2	IIIG
	2057	0000	CULG										
			BOUL							2058	2320	1	CONT.
			HARV				2326		1				IIIG
11 08	0000	0703	CULG				0208	0210	1	0208	0210	1	IIIG
			CULG							0211	0220	2	UNCLF
			CULG				0222	0227	2	0222	0227.5	2	IIH
	1345	2333	HARV										
	2054	0000	CULG										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1967

DATE	TIMES OF OBSERVATION		STATION	IMPORTANT BURSTS									SPECTRAL TYPE
				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.	
11 09	0000	0652	CULG										
	1345	1737	HARV				1722		1				IIIG
	1742	2333	HARV										
	2059	0000	CULG										
11 10	0000	0652	CULG										
	1359	2350	BOUL							1749	1834.2	1	IV
			BOUL							1816.6	1825.2	2	IIIG
	1345	2330	HARV				1826	1833	3	1828	1833	3	IIIGG,V
			BOUL							1827.5	1834.2	3	IIIG
	1345	2330	HARV				1831	1835	2				UNCLF
			HARV				1833	1848	3				II
			BOUL							1834.2	1912	2	IV
			BOUL							1834.6	1840.2	3	II
			BOUL							1843.4	1848.5	3	IIIG
			HARV				1852	1854	1				UNCLF
			BOUL							1852.5	1857.1	2	IIIG
	2049	0000	CULG										
11 11	0000	0652	CULG										
	1345	2330	HARV				1542	1543	1				IIIG
	1717	2350	BOUL							2017.9	2018.3	1	III
			BOUL							2022.2	2022.4	1	III
			BOUL							2053.6	2054.3	1	IIIG
	2055	0000	CULG										
11 12	0000	0657	CULG							0432	0437	1	IIIG
	1345	2330	HARV										
	1348	2359	BOUL							1535.8	1536.2	1	III
			BOUL							1634.4	1635.7	2	IIIG
	2057	0000	CULG										
			BOUL							2109.8	2112.1	2	IIIG
11 13	0000	0712	CULG							0233	0234	1	IIIG
			CULG				0250		1	0250		1	IIIB,U
	1345	2330	HARV										
	2022	0000	CULG										
	1345	2350	BOUL							2223.3	2223.6	1	III
			BOUL							2237.6	2237.8	1	III
11 14	1352	2350	BOUL							1847.8	1848.2	1	III
			BOUL							2100.6	2100.9	1	III
	1345	2330	HARV				2144		2	2144		2	IIIG
	0000	0640	CULG				2144	2147	2	2144	2147	2	IIIG,U
			BOUL							2144.1	2148.1	2	IIIG
			HARV				2147		2	2147		2	UNCLF
			BOUL							2232.6	2239.9	2	IIIG
			HARV				2237	2239	2	2237		2	IIIG
	2058	0000	CULG							2237	2239	1	IIIG
11 15	0000	0702	CULG				0007	0014	1	0007	0014	1	IIIN
			CULG				0039	0044	2	0039	0044	2	IIIG
			CULG				0311		1				IIIB
			CULG				0609		1	0609		1	IIIB
	1345	2330	HARV										
	1344	2355	BOUL							2027.2	2030.6	3	IIIG
	2049	0000	CULG							2104.5		1	IIIB
11 16	0000	0702	CULG										
	1347	2350	BOUL							1744.7	1745	2	III
	1345	2330	HARV				1814	1816	2				IIIGG
			BOUL							1901.2	1901.5	2	III
			BOUL							1939.5	1939.9	1	III
			CULG							2104.5		1	IIIB
			BOUL							2104.5	2104.8	2	III
			CULG							2134		2	IIIB
			BOUL							2134.2	2134.4	2	III
			BOUL							2200.4	2203.9	2	IIIG
			HARV				2323	2324	1				IIIG
	2047	0000	CULG				2323.5		1	2323.5		1	IIIB
			CULG				2336.5	2338	2	2336.5	2338	2	IIIG,V
			BOUL							2336.5	2338.3	2	IIIG
			BOUL							2343.4	2343.6	1	III
11 17	0000	0700	CULG							0047	0048	2	IIIG
			CULG							0317.5		1	IIIB
			CULG							0521	0558	1	IIIN
			CULG							0556.5		2	IIIB
			CULG							0643	0649	2	IIIG
	1346	2350	BOUL							1521.4	1523.7	3	IIIG
	1345	2330	HARV				1522	1523	1				IIIG
			BOUL							1525.4	1530	2	IIIG
			BOUL							1747	1851	1	CONT.
			BOUL							1839.3	1843	2	IIIG
			BOUL							2131.3	2131.6	1	III
			BOUL							2147.1	2157.2	2	IIIG
	2323	0000	CULG				2350		1				UNCLF

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1967

DATE	TIMES OF OBSERVATION		STATION	IMPORTANT BURSTS									SPECTRAL TYPE
				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.	
11 18	0000	0731	CULG				0024.5		1	0024.5		2	IIIB
	1345	2330	HARV										
	1347	2355	BOUL							1514.2	1514.4	1	III
			BOUL							1650.2	1650.9	1	IIIG
			BOUL							1706	1706.6	2	III
			BOUL							1732	1738.7	1	IIIG
			BOUL							1819.1	1819.3	1	III
			BOUL							1951.9	1954.3	1	IIIG
			BOUL							2040.2	2040.6	1	III
			BOUL							2148.2	2149.5	1	IIIG
	2329	0000	CULG										
11 19	0000	0814	CULG							0156		1	IIIB
			CULG							0208		1	IIIB
			CULG				0254.5		1				IIIB
	1345	2330	HARV										
	1351	2350	BOUL							1456.3	1456.7	2	III
			BOUL							1541.1	1541.5	2	III
			BOUL							1639.7	1640	1	III
			BOUL							1650.7	1651.1	2	III
			BOUL							1716	2115	1	CONT.
			BOUL							1833.5	1840.7	2	IIIG
			BOUL							1906.9	1907.1	2	III
			BOUL							1921.5	1921.8	2	III
			BOUL							2004.8	2013.1	2	IIIG
			BOUL							2028.6	2030	2	IIIG
			BOUL							2206.6	2206.8	1	III
	2237	0000	CULG										
			BOUL							2238	2244.5	1	IIIG
11 20	0000	0707	CULG							0049.5	0051	2	IIIG,V
			CULG							0124		1	IIIB
			CULG				0143		1	0143		2	IIIB
			CULG							0259		1	IIIB
	1342	2345	BOUL							1516.8	2320 D	1	CONT.
			BOUL							1712.9	1713.8	3	III
	1345	2330	HARV				1713		1	1713		2	IIIG
			BOUL							1721.5	1722.2	3	III
			BOUL							1835.5	1836.5	3	IIIG
			BOUL							2139.2	2141.1	3	IIIG
	2128	0000	CULG							2202		1	IIIB
			CULG				2256	2256.5	1	2256	2256.5	1	IIIG
			HARV				2308	2324	1				IN
11 21	0000	0334	CULG				0131.5		1	0131.5		1	IIIB
			CULG							0225	0228	2	IIIG
	0508	0700	CULG										
	1345	2330	HARV	1345	1521	1							IN
			HARV				1430	1432	1				IIIG
	1347	2347	BOUL							1445 E	2320 D	1	CONT.
			HARV	1649	1650	1	1649	1650	1				IIIG
			HARV				1821	1822	1				IIIG
			HARV				1850	2100	1				IN
			HARV	1854	1855	2	1854	1855	2				IIIG
			HARV				1955	1959	2				IIIGG
	2058	0000	CULG										
			HARV				2100	2330	2				I
11 22	0000	0703	CULG				0005	0110	1				I
			CULG				0150	0154	1				I
	1345	2330	HARV				1430	1436	1				I
	1348	2345	BOUL							1603	2245 D	1	CONT.
			HARV				1720	1953	1				I
	2057	0000	CULG										
11 23	0000	0700	CULG							0027.5		1	IIIB
	1345	2330	HARV				1350	1900	1				IN
	1345	2345	BOUL							1414.1E	1615	1	CONT.
			BOUL							1615	2135 D	1	CONT.
	2057	0000	CULG										
11 24	0000	0442	CULG							0024	0100.5	1	IIIN
			CULG				0034	0124	1				I
			CULG							0220		1	IIIB
	0500	0700	CULG										
	1345	2330	HARV										
	1349	2345	BOUL							1407 E	2130	1	CONT.
	2057	0000	CULG										
11 25	0000	0700	CULG							0146.5		1	IIIB
			CULG				0206		1				IIIB
	1400	2330	HARV				1418	1420	2				IIIG
	1347	2350	BOUL							1759.7	1801.4	2	IIIG
			BOUL							1959.8	2004.8	2	IIIG
			HARV	2039		2	2039		2				IIIG
	2103	0000	CULG										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1967

DATE	TIMES OF OBSERVATION		STATION	IMPORTANT BURSTS									SPECTRAL TYPE
				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.	
11 26	0000	0700	CULG										
	1400	2330	HARV				1400	2000	1				I
	1347	2345	BOUL							1408.5E	1452.1	1	CONT.
			HARV	1444	1504	1							IVN *
			BOUL							1452.1	1547	3	CONT.
			HARV	1508	1610	3	1511		1				IVN
			BOUL							1547	2059.7	1	CONT.
			HARV	1617	1649	1	1617	1649	1				IVN
			HARV				2000	2330	1				IN
			BOUL							2059.7	2123	2	CONT.
			BOUL							2123	2235 D	1	CONT.
	2059	0000	CULG				2303		1	2303		1	IIIB
11 27	0000	0506	CULG							0127	0128.5	1	IIIG
			CULG				0253.5		1	0253.5		1	IIIB
			CULG							0335.5	0339.5	1	IIIG
			CULG							0502		1	IIIB
	0510	0706	CULG							0516		1	IIIB
	1400	2330	HARV				1400	1600	1				I
	1347	2345	BOUL							1430.9	1432.8	1	IIIG
			BOUL							1559	1930	1	CONT.
			HARV	1922	2044	1	1722	2044	2				I
			BOUL							1930	2045	2	CONT.
			BOUL							1930.7	1933.8	3	IIIG
			HARV				1932	1933	1				IIIG
			BOUL							1935.4	1939.4	3	IIIG
			HARV				1936	1941	2				IIIGG
			HARV	2040	2044	2							IIIGG
			BOUL							2040.4	2041.8	3	IIIG
			BOUL							2045	2330 D	1	CONT.
			HARV	2052	2248	1	2044	2330	1				IN
			BOUL							2114.8	2115.4	3	III
	2058	0000	CULG							2248	2400	1	IIIS
			CULG				2324.5	2325	1	2324.5	2325.5	2	IIIG
			CULG							2345		1	IIIB
			CULG				2350	2400	1				IIIS
11 28	0000	0701	CULG				0000	0233	1	0000	0233	1	IIIS
			CULG				0644	0652.5	1	0643.5	0652.5	1	IIIG
	1352	2345	BOUL							1350 E	1610.6	1	CONT.
	1400	2330	HARV				1400	1700	1				IN
			BOUL							1428.1	1444.1	3	II
			BOUL							1526.8	1610.6	3	IV
			HARV	1536	1539	2	1527	1544	2	1531	1539	1	IIIGG
			BOUL							1610.6	1655	2	CONT.
			BOUL							1655	2005	1	CONT.
			HARV				1715		1	1715		1	IIIG
			BOUL							2020.6	2020.8	1	III
			HARV				2100	2330	1				I
	2108	0000	CULG							2119.5	2400	1	IIIS
			BOUL							2147.2	2148.3	1	IIIG
			BOUL							2257.8	2258	1	III
			CULG							2301	2320	1	DP
11 29	0000	0643	CULG							0000	0642	1	IIIS,DP
			CULG				0250		1				IIIG
			CULG				0530		1				IIIB
	1347	2345	BOUL							1505	2204	1	CONT.
	1400	2330	HARV				1945	2110	1				IN
			HARV				2153	2155	1				IIIG
			BOUL							2204	2307 D	1	CONT.
	2101	0000	CULG							2258	2302	1	IIIG
			HARV				2300		1				IIIG
11 30	0000	0540	CULG										
	1346	2349	BOUL							1416	1705	1	CONT.
			BOUL							1624.4	1625.4	2	IIIG
			BOUL							1804	1845	1	CONT.
	1400	2330	HARV				1850	1953	1				IN
			HARV	1958		2							IIIG
			HARV				2141	2142	1				IIIG
			BOUL							2141.2	2142.7	2	IIIG
	2113	0000	CULG							2141.5	2142	2	IIIG,V

* 1444-1456: Horizontal Structure

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
CONT = Continuum
UNCLF = Unclassified activity

SOLAR WIND VELOCITY
PIONEERS 6 AND 7
November 1967

Ames Research Center

Date 1967	PIONEER VI				PIONEER VII			
	Time UT	Pass	U_{H^+}	TAU	Time UT	Pass	U_{H^+}	TAU
Nov 1	G1513	686	738.3	-7.96	J1241	442	459.1	+2.62
3	G1207	688	560.8	-7.92				
4	G1305	689	623.4	-7.94	G0105	444	400	+2.6
6	G1219	691	597.7	-7.94	G0228	446	511.7	+2.62
8	G1309	693	417.1	-7.86				
10	G1216	695	427.5	-7.87	G2133	451	630.6	+2.69
11					G2207	452	446.6	+2.63
12					J1225	453	404.7	+2.61
13					J1224	454	600.	+2.69
14					G0154	454	524.4	+2.67
15	G1227	700	321.	-7.77	G2202	456	422	+2.62
16	G1220	701	343	-7.8	J1223	457	450	+2.64
17					G0155	457	465	+2.65
18	G1219	703	520	-7.96	G0215	458	410	+2.62
19					G0157	459	355	+2.58
20	G1230	705	699	-8.04				
22	G1232	707	494	-7.96	J1223	463	423	+2.64
23					G0159	463	391	+2.61
					J1218	464	342	+2.57
24	G1413	709	383	-7.88	J1223	465	393	+2.63
25					G0100	465	411	+2.64
					J1202	466	365	+2.6
26					G2148	467	316.5	+2.55
27	G1233	712	331	-7.82	J1126	468	375	+2.62
29	G1923	714	567	-8.06	J1150	470	393	+2.64
30	G1326	715	567	-8.07	J1153	471	352	+2.61

For explanation see pp 34-35.

COSMIC RAY INDICES
(Neutron Monitors)

NOVEMBER 1967

NOV. 1967	CHURCHILL	DEEP RIVER	CLIMAX	DALLAS
	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR
1	*	6431.3	3833.3	5967.29
2		6462.0	3868.2	5988.00
3		6488.8	3882.4	6003.91(22)
4		6528.6	3905.3	6022.04
5		6560.1	3908.1	6025.58
6		6587.4	3908.9	6036.79
7		6600.9	3906.4	6047.63
8		6622.1	3937.2	6070.37
9		6631.5	3968.5	6092.00
10		6635.9	3969.0	6069.87
11		6614.4	3952.7	6075.46
12		6638.5	3965.2	6113.42
13		6625.7	3940.0	6087.41
14		6650.0	3952.1	6096.21
15		6659.0	3953.2	6093.50
16		6611.7	3924.2	6069.33
17		6618.8	3939.8	6076.79
18		6618.7	3933.7	6093.21
19		6632.2	3953.7	6105.29
20		6683.0	3984.8	6119.13
21		6697.2	3987.0	6138.96
22		6581.2	3936.7	6073.16
23		6555.7	3918.8	6105.08
24		6536.3	3914.7	6045.62
25		6532.9	3902.8	6008.41
26		6534.0	3905.0	5932.04
27		6499.0	3864.1	5941.12
28		6531.9	3892.2	6023.04
29		6522.6	3882.5	5989.87
30		6512.0	3880.3	5996.79

* The data for November 1967 from Churchill has not been processed. It will be published when it becomes available.

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

Deep River Neutron Monitor, Scaling Factor 300.

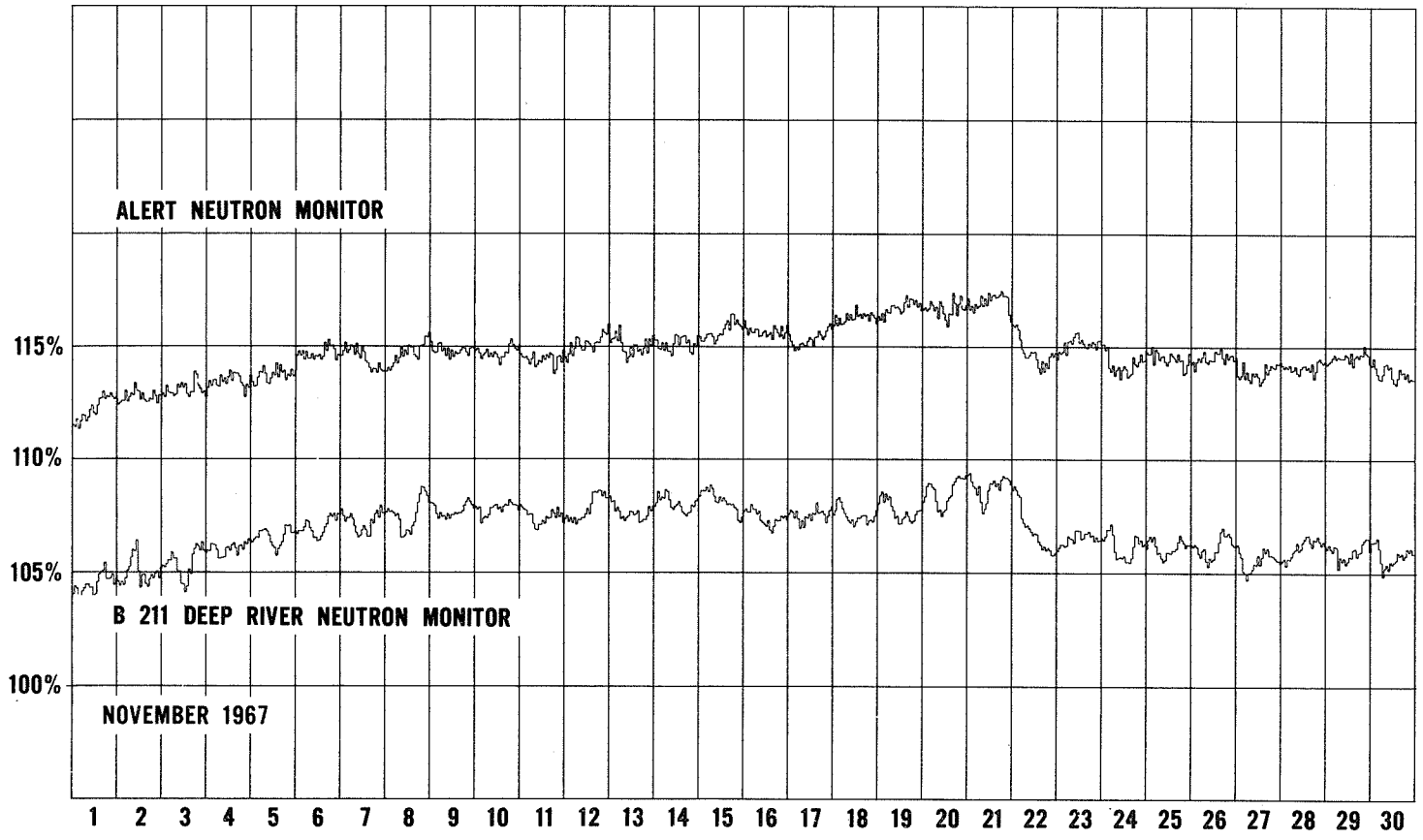
Climax IGC Station B305, Scaling Factor 100.

Dallas Super Neutron Monitor, Scaling Factor 120.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

NOVEMBER 1967



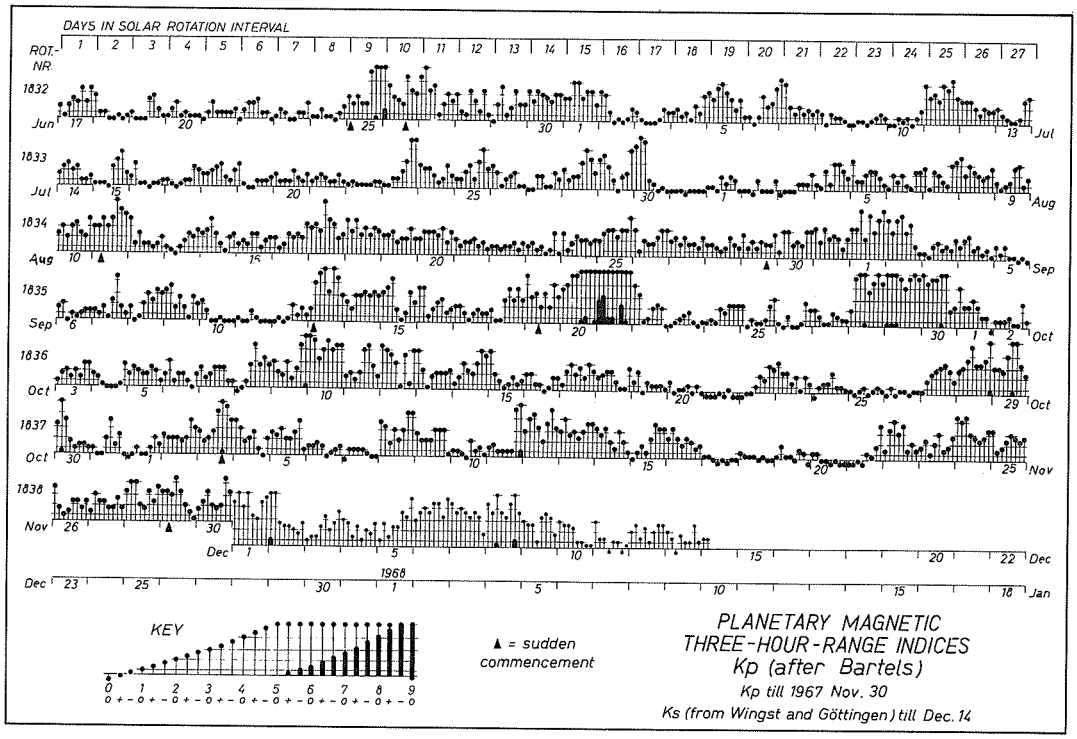
GEOMAGNETIC ACTIVITY INDICES

NOVEMBER 1967

DAY		Kp THREE-HOUR RANGE INDICES 1	2	3	4	5	6	7	8	SUM	Ci	Cp	Ap
1	Q	0	0+	1	0+	0+	1	2	1+	6+	0.1	0.1	3
2		2+	2	2	2	2-	2	4-	3	19-	0.8	0.6	10
3	D	3-	2-	2	3-	4+	5+	5-	4-	27	1.2	1.1	23
4		4-	3	2-	2	3-	1	0+	2	16+	0.5	0.5	9
5		3-	2+	3	2	2	3-	4-	1	19+	0.8	0.6	11
6	Q	1+	1+	2-	1+	0+	1-	1	1+	9	0.1	0.2	4
7	QQ	0	1	1	1	1	1-	0+	0+	5+	0.0	0.1	3
8	D	4-	3+	2-	3	2	3	4+	4+	25+	1.2	1.0	18
9		3-	2	2	2	3	3	3	1-	18+	0.7	0.6	10
10	Q	1	1	1-	0+	2	1	1+	1-	8	0.1	0.1	4
11		1+	2-	1	1	1	1	5-	6-	17+	1.0	0.9	17
12	D	3	4	4+	3+	2	4-	5-	3+	28+	1.2	1.1	22
13	D	3	4	3-	3	2+	3	4-	4-	25+	0.9	0.9	17
14		3+	3-	3+	2	1+	3	2	1	19-	0.6	0.6	11
15		0+	1	2-	1	2+	4-	3+	3+	17-	0.8	0.6	10
16		2+	3+	2+	2-	2+	2	1+	2-	17	0.4	0.5	9
17	QQ	1-	1-	0+	0	0+	0	0+	0+	3-	0.0	0.0	2
18	QQ	1	1-	1-	1-	0+	1-	0+	0+	5-	0.1	0.0	3
19	QQ	1-	2-	1-	1-	0+	1+	1	0	6+	0.1	0.1	3
20	QQ	1	1	0+	0+	0	0+	0	0	3	0.0	0.0	2
21	Q	0	0	0+	0	1	1-	2-	4-	7+	0.5	0.2	5
22		1+	3+	4	3	4-	1+	2	1+	20	0.8	0.7	13
23	Q	2-	2+	1	2	3	1+	2-	3-	16-	0.5	0.4	8
24	D	4+	4	4+	3	3-	2+	3-	3+	27-	0.9	1.0	20
25		3+	1+	2-	2+	3	3-	2+	3-	19+	0.7	0.6	11
26		4-	2-	1	1+	2+	2+	2-	2+	16+	0.5	0.5	9
27		1+	3	2+	2+	2-	2-	3-	2-	17-	0.6	0.5	8
28		3+	4	4	2	2-	3+	2+	4-	24+	1.0	0.9	17
29		3+	3+	3	4+	3+	2	1+	1-	21+	0.9	0.8	15
30		2-	2+	3+	2	2-	2	4+	3+	21-	0.9	0.7	13
										MEAN	0.60	0.53	10

Preliminary sudden commencements (ssc) occurred November 3, 1967 at 1627UT and November 29 at 0512UT.

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

1966 1967

DAY	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.
1	17	18	4	5	18	14	4	17	4	25	10	3
2	6	7	2	4	12	25	9	7	2	22	5	10
3	4	10	2	8	5	87	7	4	3	6	7	23
4	19	2	11	6	15	12	13	6	8	6	4	9
5	20	3	15	11	11	10	36	16	8	4	7	11
6	7	6	7	8	12	6	46	8	6	4	6	4
7	4	28	30	5	8	16	22	12	9	9	7	3
8	4	60	46	2	5	5	15	4	11	9	12	18
9	3	12	8	12	5	5	14	3	7	11	18	10
10	4	4	2	8	5	7	7	3	13	3	33	4
11	3	16	11	2	4	10	6	21	24	3	13	17
12	2	2	2	2	4	13	5	8	8	4	19	22
13	20	26	4	5	2	14	6	7	6	29	9	17
14	48	61	4	5	3	10	14	7	10	14	13	11
15	18	9	7	2	4	6	9	8	6	14	8	10
16	8	9	64	3	10	6	6	4	8	11	5	9
17	9	4	15	4	10	11	9	4	19	5	10	2
18	5	5	5	23	7	7	4	7	14	12	7	3
19	3	5	5	26	20	8	5	4	9	18	4	3
20	7	13	5	13	7	6	4	5	11	44	3	2
21	12	9	6	10	7	6	4	5	6	85	1	5
22	14	4	7	4	18	3	5	3	5	10	6	13
23	8	5	14	4	21	9	4	14	5	4	8	8
24	12	2	4	3	29	11	4	8	7	6	4	20
25	14	5	15	4	8	130	24	11	14	6	3	11
26	24	4	11	4	3	146	24	6	10	4	3	9
27	34	4	5	18	3	20	19	4	7	5	10	8
28	14	12	4	8	3	55	10	12	6	36	25	17
29	7	4		6	5	45	9	12	8	45	25	15
30	6	3		11	3	42	14	17	10	35	15	13
31	3	2		3		43		2	11		7	
MEAN	11	11	11	7	9	25	12	8	9	16	10	10

PRINCIPAL MAGNETIC STORMS

NOVEMBER 1967

DATE 1967 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
11 03	08--	11 04 01	COLL	64.6N	..	..	..	..	MS	11 03	5,6	6	116	930	500	51
	12--	11 03 24	WITT	54.1N	..	..	..	..	MS	11 03	6,7	6	40	180	50	51
	09--	11 03 24	IRKU	40.8N	..	*..	..	..	M	11 03	5,6,7	5	19	92	29	51
	0914	11 04 01	ALIB	9.6N	SC	- 0.2	+ 9	- 3	M	11 03	5,6,7	5	3	66	21	51
	0914	11 04 01	HYDE	7.6N	SC	- 0.2	+10	- 1	M	11 03	5,6,7	5	3	66	14	51
	1626		HYDE	7.6N	SI	- 0.2	+ 7	- 1								51
	1633		HYDE	7.6N	SI	+ 0.3	-15	+ 3								51
	0914	11 04 01	GUAM	4.0N	SC	--	08	05	M	11 03	6,7	5	--	50	10	51
	0914	11 04 01	ANNA	1.5N	SC	- 0.5	+17	+ 7	M	-- --	-	-	2	77	60	51
	09--	11 03 22	HUAN	0.6S	..	..	..	..	MS	11 03	5	7	10	310	24	51
	0914	11 04 01	TVAN	1.1S	SC	0.0	+15	+20	M	-- --	-	-	2	91	92	51
	0914	11 04 06	PMOR	18.6S	SC	0.1	10	7	M	11 03	6,7	5	8	62	45	51
	09--	11 03 24	HRMN	33.3S	BAY	--	--	--	M	11 03	5,6	5	17	71	89	51
	1439	11 03 24	GNAN	43.2S	SC	+ 1	+ 2	+ 2	M	11 03	6,7	5	10	74	63	51
11 05	05--	11 05 21	COLL	64.6N	..	..	..	..	M	11 05	3,4	5	81	540	330	52
11 08	13--	11 08 24	IRKU	40.8N	..	..	..	..	M	11 08	7,8	5	12	75	31	53
	0100	11 09 03	TUCS	40.4N	..	*..	..	..	M	11 08	1,7,8	5	12	90	10	53
	0000	11 09 20	HYDE	7.6N	..	..	..	..	M	11 08	7	5	4	97	17	53
	10--	11 08 23	HUAN	0.6S	..	..	..	..	MS	11 08	6	6	6	263	37	53
	00--	11 09 03	HRMN	33.3S	BAY	--	--	--	M	11 08	7	5	20	77	96	53
	00--	-- -- --	KGLN	57.3S	..	..	..	..	MS	11 08	7,8	6	--	--	--	53
11 10	1205	11 14 23	KGLN	57.3S	SC	--	--	--	MS	11 11	8	6	--	--	--	54
11 11	19--	11 14 19	COLL	64.6N	..	..	..	..	MS	11 13	4	6	112	660	420	54
	19--	11 13 24	HRMN	33.3S	BAY	--	--	--	M	11 11	8	5	18	59	69	54
11 12	11--	11 12 23	HUAN	0.6S	..	..	..	..	MS	11 12	6	5	8	160	40	54
11 15	1400	11 16 23	HYDE	7.6N	..	..	..	..	M	11 15	6	4	2	101	17	55
	15--	11 15 24	HRMN	33.3S	..	..	..	..	M	11 15	6	5	9	51	52	55
11 21	1400	11 22 15	HYDE	7.6N	..	..	..	..	M	11 21	8	4	3	95	17	56
	09--	11 25 02	KGLN	57.3S	..	..	..	..	M	11 21	8	4	--	--	--	56
11 23	0115	11 24 22	HYDE	7.6N	..	..	..	..	M	11 23	1,2	3	3	118	18	56
										11 24	2,4,6,7	3				56
11 27	23--	11 29 02	COLL	64.6N	..	..	..	..	M	11 28	2,3,4	4	64	540	230	57
										11 28	5,6	4				57
11 28	1300	11 29 13	HYDE	7.6N	..	..	..	..	M	11 28	6,8	3	2	91	14	57
										11 29	1,2,3,4	3				57
11 29	0512	11 29 20	COLL	64.6N	SC *	- 4	-11	-19	MS	11 29	3,4,5	5	80	670	300	57
	0512	11 29 19	ALIB	9.6N	SC	+ 0.3	+22	- 3	M	11 29	1,2,4,6	3	2	78	25	57
	0512	11 29 19	ANNA	1.5N	SC	0.0	+35	+ 9	M	-- --	-	-	3	84	31	57
	0512	11 29 19	TVAN	1.1S	SC	0.0	+33	+35	M	-- --	-	-	2	102	86	57
	0512	12 02 06	GNAN	43.2S	SC	- 1	+ 2	- 2	M	12 01	7,8	5	13	72	117	57
	0512	12 02 23	KGLN	57.3S	SC	--	--	--	MS	12 01	7	6	--	--	--	57
11 30	06--	12 02 15	COLL	64.6N	..	..	..	..	MS	12 01	4	7	180	1500	750	57

The following observatories reported that no principal magnetic storms were observed during the month of November 1967:

Apia Boulder Fredericksburg Honolulu M'Bour San Juan Sitka Toolangi

The sudden commencement reported on October 28, 1967 in IER-FB-280, page 85, should have shown the H-component with a positive (+) sign at M'Bour.

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NOVEMBER 1967

North Atlantic, North Pacific

NOV. 1967	WHOLE DAY INDICES: NORTH ATLANTIC	WHOLE DAY INDICES: NORTH PACIFIC	WHOLE DAY INDICES: AVERAGE HIGH LATITUDE	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC: 6-HOURLY QUALITY FIGURES: 00 TO 06	06 TO 12	12 TO 18	18 TO 24	NORTH ATLANTIC: SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF: 00	06	12	18	NORTH PACIFIC: 6-HOURLY QUALITY FIGURES: 00 TO 06	06 TO 12	12 TO 18	18 TO 24	GEOMAGNETIC INDICES: K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED	PREDICTED	K_{SI} HALF DAY (1)	(2)	A_{SI}
01	7-	6	6	7	7-	7-	7-	7-	6	6	7	7	6	6	6	6	1	1	3	6	0	1	2
02	6+	6	6	7	7-	6+	6+	6o	7	7	7	7	6	6	6	6	2	3	10	7	2	1	7
03	7-	6	6	7	7-	6o	7-	7-	6	6	7	6	6	6	5	6	2	(4)	18	7	2	(4)	18
04	6+	6	6	7	6o	6+	7-	7-	6	6	7	7	6	6	6	6	3	2	12	7	2	1	7
05	6+	6	6	7	6o	6o	7-	6+	6	6	7	7	6	6	6	6	2	2	9	15	2	2	9
06	7-	6	6	6	6+	6+	7-	7-	6	6	7	7	6	6	6	6	1	1	3	20	1	1	3
07	7-	6	6	6	7-	6+	7o	6+	6	6	7	7	6	6	6	6	1	1	3	20	0	0	2
08	6+	6	6	6	6o	6+	7-	6o	7	6	7	6	6	6	6	6	3	(4)	18	11	2	2	10
09	7-	6	6	6	6+	6+	7-	7-	6	6	7	6	6	6	6	6	2	3	11	11	2	2	10
10	6+	6	6	6	6o	6+	7-	6+	6	6	7	7	6	6	6	6	0	1	2	11	0	1	2
11	6+	6	6	6	6-	6+	7-	6o	6	6	7	7	6	6	6	6	1	3	9	7	0	2	6
12	6-	6	6	7	5+	5o	7-	6+	6	6	6	6	6	6	6	6	(4)	3	19	7	(4)	2	24
13	6+	6	6	7	6-	6o	7-	6+	6	6	6	7	6	6	6	6	3	3	11	7	3	2	12
14	6+	6	6	7	6o	6-	7-	7-	6	6	7	7	6	6	6	6	3	1	8	5	3	1	10
15	6o	6	6	7	6o	6-	7-	6o	6	6	7	7	6	6	6	6	1	3	7	5	1	3	9
16	6+	6	6	7	6-	6+	7o	7-	6	5	7	7	6	6	6	6	2	2	8	4	2	1	6
17	7-	6	6	7	6+	7-	7o	7-	6	6	7	7	6	6	6	6	1	1	2	4	0	0	0
18	6+	6	6	6	6o	6+	7-	7-	7	7	7	7	6	6	6	6	1	0	2	7	0	0	1
19	7-	6	6	6	7-	7-	7-	7-	7	6	7	7	6	6	6	6	1	1	3	10	0	0	2
20	7-	6	6	6	7-	6+	7-	7-	6	6	7	7	6	6	6	6	1	0	2	7	0	0	0
21	7-	6	7	7	7-	6+	7-	7-	7	6	7	7	6	7	6	6	0	2	4	5	0	1	2
22	7-	6	7	7	7-	7-	7-	7-	6	6	7	6	6	7	6	6	2	2	9	5	2	2	14
23	7-	6	6	6	7-	6+	7-	7-	6	6	7	6	6	6	6	6	2	2	8	18	2	1	6
24	6o	6	6	6	6-	6-	7-	6+	6	6	7	7	6	6	6	6	(4)	2	15	15	(4)	2	16
25	6+	6	6	6	6+	6+	7-	6o	6	6	7	7	6	6	6	6	2	3	10	10	1	2	8
26	7-	6	6	6	6+	6+	7-	6+	6	6	7	6	6	6	6	6	2	2	8	7	1	2	6
27	6+	6	6	6	6o	6o	7-	6+	6	6	7	7	6	6	6	6	2	2	8	7	2	2	6
28	6-	6	6	7	6-	6-	6+	6-	6	5	7	6	6	6	6	6	3	2	11	4	3	1	9
29	6o	6	6	7	6-	5+	7-	6o	6	5	6	6	6	6	6	6	3	2	10	4	3	1	12
30	6o	6	6	6	6o	6-	7-	6o	6	6	7	6	6	6	6	6	2	2	9	11	2	2	9

QUIET	P	17	21 21 25 16
	S	13	9 9 5 14
	U	0	0 0 0 0
	F	0	0 0 0 0
DISTURBED	P	0	0 0 0 0
	S	0	0 0 0 0
	U	0	0 0 0 0
	F	0	0 0 0 0

1) THE ADVANCE JC-FORECASTS ARE SCORED AGAINST THE AVERAGE HIGH LATITUDE WHOLE-DAY INDICES.

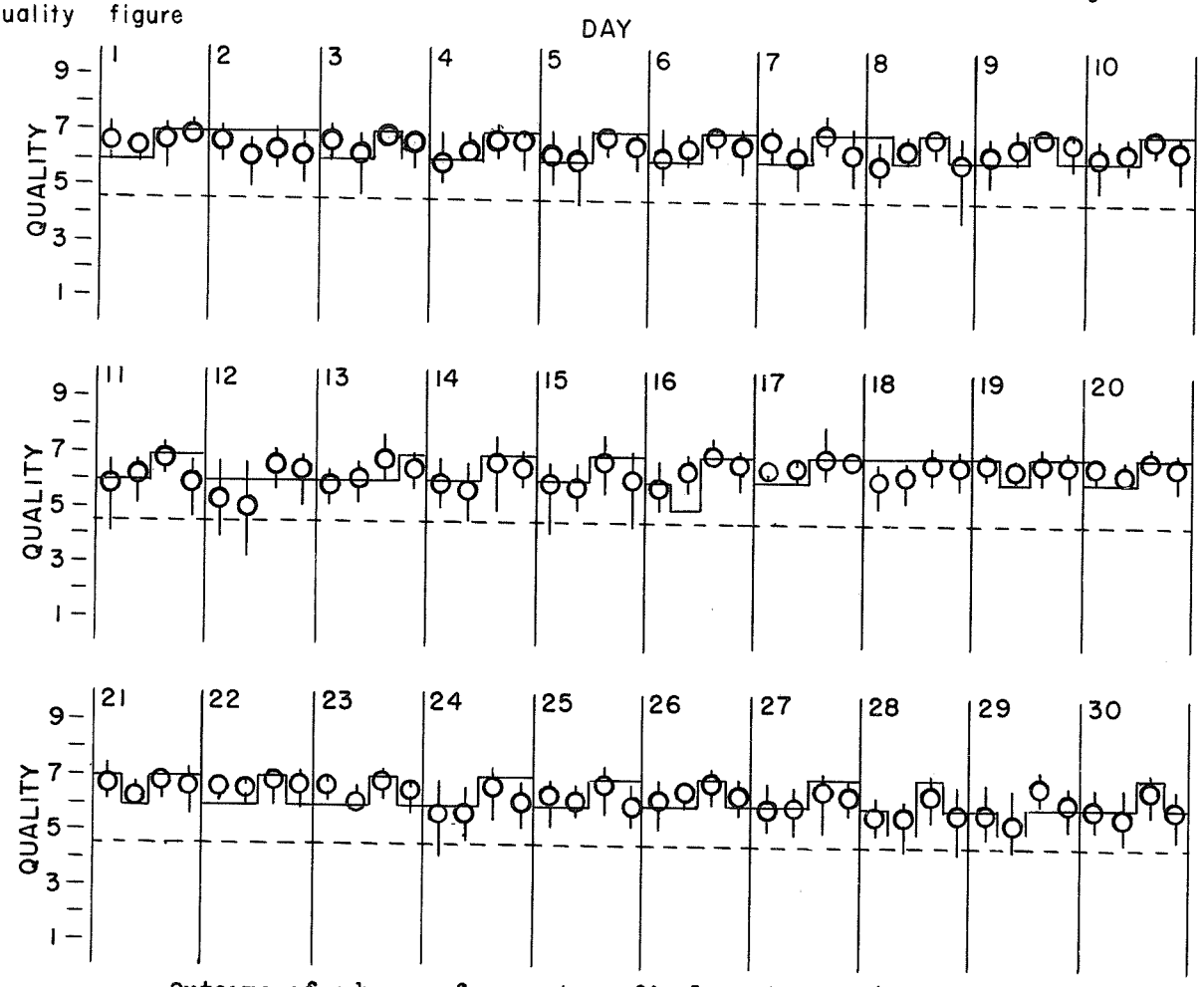
2) THE PREDICTED AFR INDICES ARE ISSUED EACH WEDNESDAY FOR THE COMING SEVEN DAYS. THE VALUE FOR THE FIRST DAY OF EACH PREDICTION PERIOD IS UNDERSCORED.

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

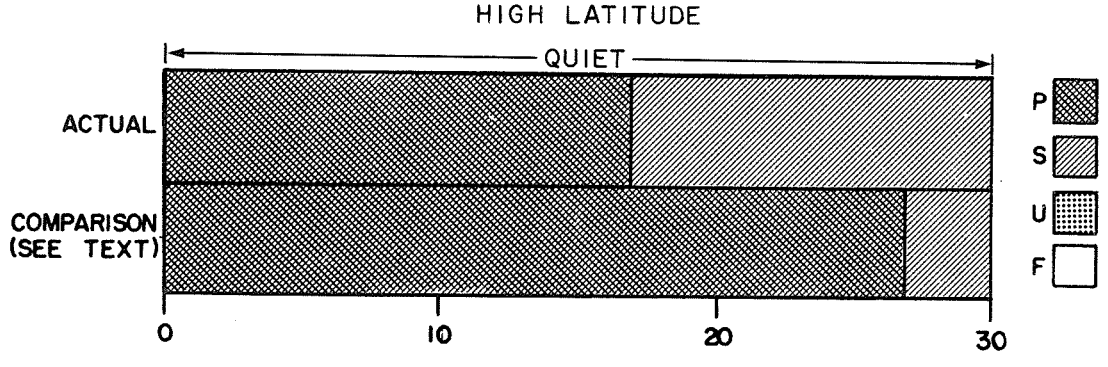
NOVEMBER 1967

North Atlantic

—Short-term forecast
o Quality figure
I range of reports

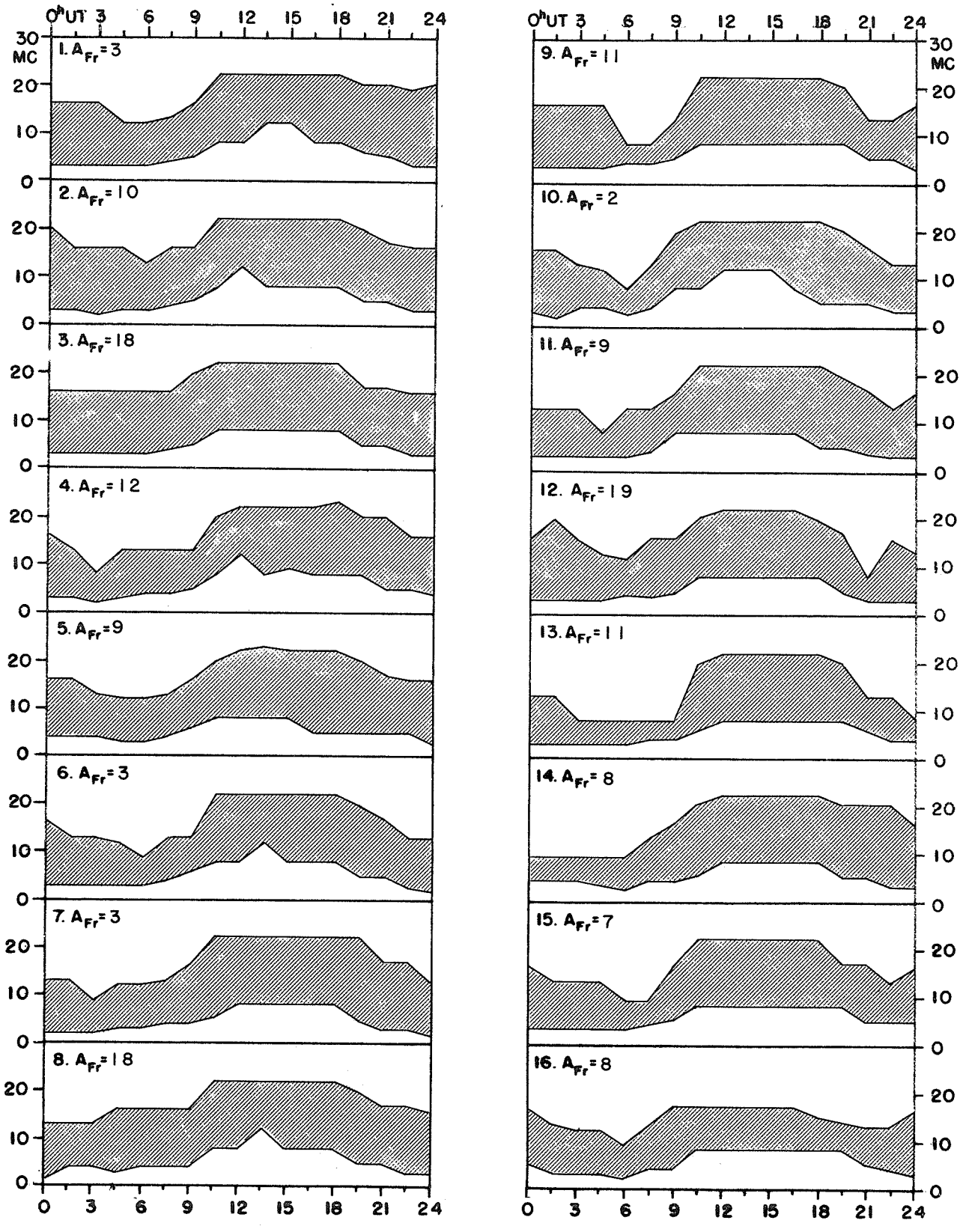


Outcome of advance forecasts - final estimates (1 to 7 days ahead) - High Latitude radio propagation conditions



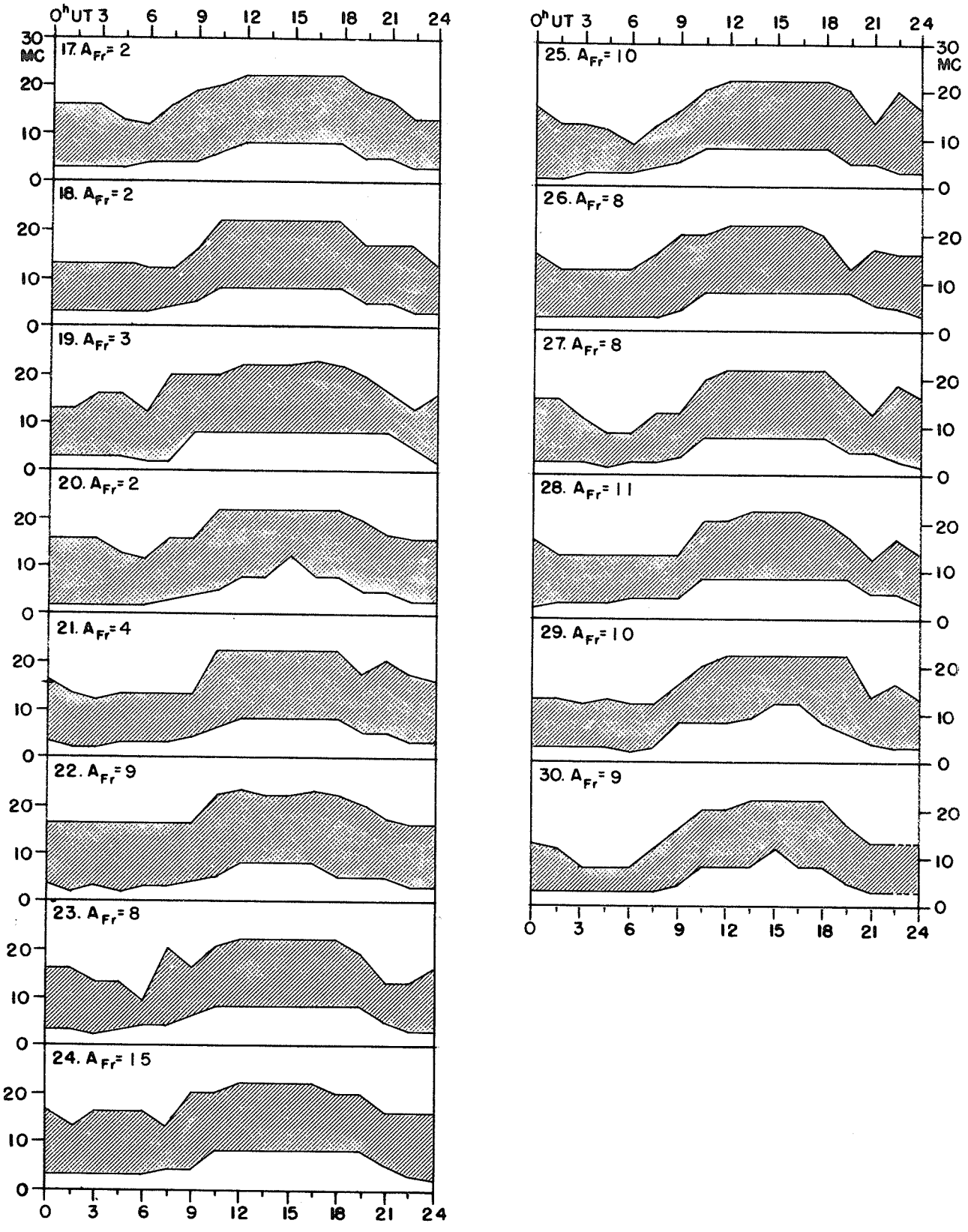
TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

NOVEMBER 1967



TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

NOVEMBER 1967



Adapted from Observations by Deutsches Bundespost

Table of Contents
for July 1967 Data

	Page
Solar Flares	
Standardized Data and Individual Reports	95-140
No-Flare-Patrol Chart	141
Solar X-ray Radiation	
NRL Chart of X-ray Flux	142-143
McMath-Hulbert -- OSO-III	144-146

For explanations of the data contained herein see "Descriptive Text" published in February 1967.

SOLAR FLARES

Original Reports and Statistical Summaries

JULY 1967

OBSERV-ATORY		OBSERVED UT			LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS		
		DATE 1967 JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. 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.			
GRP	6838	01	0645	0736		S17	E64	.915	8877	6.1	51	-F				.33				1	1	1
	BUCA	01	0645	0736		S17	E64	.915	8877	6.1	51	-F		C	0657	.33				D		
GRP	6839	01	0651	0656	0652	N18	W84	.993	8863	25.0	5	-N				.38				2	2	2
	CRON	01	0651	0656	0652	N18	W85	.995	8863	24.9	5	-F		C		.20	.70		100			
	BUCA	01	0651	0656		N17	W83	.991	8863	25.1	5	-B		C	0652	.55						
GRP	6838	01	0719	0822		S14	E63	.904	8877	6.0	63	-F				.43				1	1	1
	BUCA	01	0719	0822		S14	E63	.904	8877	6.0	63	-F		C	0738	.43						
GRP	6840	01	0754	0901	0827	N19	W82	.989	8863	25.2	67	-N				.51				2	2	2
	BUCA	01	0750	0908		N19	W81	.986	8863	25.3	78	-F		P	0827	.55						
	CAPE	01	0814	0854	0827	N18	W82	.989	8863	25.2	40	-N		C	0827	.46				F		
	CAPE	01	0758	0806	0800	N18	W82	.989	8863	25.2	8	-F		C	0800	.14						
GRP	6841	01	0808	0856	0819	N18	W73	.956	8863	25.9	48	1N				.86				2	2	2
	CATA	01	0810	0900	0815	N16	W75	.965	8863	25.7	50	-N			0815	.70			151			
	CAPE	01	0805	0839	0822	N21	W70	.942	8863	26.1	34	-F			0822	.64	1.92					
	CAPE	01	0805	0839	0827	N20	W71	.947	8863	26.0	34	-F			0827	.23	.70					
	CAPE	01	0805	0839	0808	N20	W70	.941	8863	26.1	34	-F		C	0808	.18	.50			FK		
	CAPE	01	0812	0852	0822	N11	W76	.969	8863	25.6	40	1N			0822	1.01	4.20					
	CAPE	01	0812	0828	0819	N12	W66	.913	8863	26.4	16	1F		C	0819	.92	2.30			C		
	CAPE	01	0812	0852	0819	N12	W75	.965	8863	25.7	40	-N		C	0819	.46	1.90			K		
GRP	6842	01	0814	0900	0844	N12	W76	.969	8863	25.6	46	-N				.59				2	2	2
	CAPE	01	0812	0852	0844	N11	W75	.965	8863	25.7	40	-N			0844	.52	2.10					
	BUCA	01	0815	0908		N12	W76	.969	8863	25.6	53	-F		P	0835	.66						
GRP	6843	01	0822	0829	0824	N20	E30	.558	8876	3.6	7	-F				1.10				1	1	1
	CAPE	01	0822	0829	0824	N20	E30	.558	8876	3.6	7	-F		C	0824	1.10	1.30			C		
GRP	6844	01	0835	0850	0840	S26	E80	.991	8877	7.4	15	-F				.35				1	1	1
	CATA	01	0835	0850	0840	S26	E80	.991	8877	7.4	15	-F			0840	.35			138			
GRP	6845	01	0923	0927	0924	N22	W70	.942	8863	26.1	4	-F				.18				1	1	1
	CAPE	01	0923	0927	0924	N22	W70	.942	8863	26.1	4	-F		C	0924	.18	.60					
GRP	6846	01	1016	1027	1017	N18	W85	.995	8863	25.1	11	1F				.78				1	1	1
	CAPE	01	1016	1027	1017	N18	W85	.995	8863	25.1	11	1F		C	1017	.78						
GRP	6847	01	1023	1033	1028	N12	W80	.984	8863	25.4	10	-F				.23				1	1	1
	CAPE	01	1023	1033D	1028	N12	W80	.984	8863	25.4	10D	-F		C	1028	.23	1.30			C		
GRP	6848	01	1050	1135	1055	S20	E60	.892	8877	6.0	45	-F				.44				1	1	1
	CATA	01	1050	1135	1055	S20	E60	.892	8877	6.0	45	-F			1055	.44			142			
GRP	6849	01	1058	1115		N18	W83	.991	8863	25.2	17	1N				1.43				1	1	1
	CAPE	01	1058E	1115		N18	W83	.991	8863	25.2	17D	1N			1113	1.43						
	CAPE	01	1058E	1115		N18	W83	.991	8863	25.2	17D	1N		P	1109	1.29						
GRP	6850	01	1123	1231	1205	N25	W74	.963	8863	25.9	68	1N				.51				2	2	2
	CAPE	01	1124	1232D		N18	W84	.993	8863	25.2	68D	1N			1211	.84						
	CATA	01	1205	1230	1205	N23	W85	.995	8863	25.1	25	-F			1205	.18			141			
	CAPE	01	1124	1232D		N18	W82	.989	8863	25.3	68D	1N			1134	1.10						
	CAPE	01	1124	1232D		N18	W82	.989	8863	25.3	68D	1N			1150	1.01						
	CAPE	01	1124	1232D		N18	W82	.989	8863	25.3	68D	1N		P	1129	1.01				K		
	CAPE	01	1121	1232	1222	N30	W59	.882	8863	27.0	71	-F			1222	.52	1.10					
	CAPE	01	1121	1232	1136	N30	W58	.876	8863	27.1	71	-F		C	1136	.41	.80			K		
	CAPE	01	1231	1302	1242	N27	W61	.891	8863	26.9	31	-F		C	1242	.46	1.10					
GRP	6851	01	1221	1235	1222	N20	E50	.784	8876	5.3	14	-N				1.68				3	3	2
	SACP	01	1220	1225U	1222	N21	E50	.787	8876	5.3	5U	-N		C		1.05	1.34					
	CAPE	01	1221	1233	1222	N20	E49	.774	8876	5.2	12	1N		C	1222	2.30	3.70					
	MCMA	01	1221	1237	1223	N20	E50	.784	8876	5.3	16	-N		C	1223	.41	.70			E		
GRP	6852	01	1230	1405	1239	N23	E39	.679	8876	4.4	95	-N				.97				2	2	2
	CATA	01	1230	1405	1235	N18	E52	.800	8876	5.4	95	-N			1235	.96	1.63		166			
	CAPE	01	1240E	1253	1243	N28	E26	.578	8876	3.5	13D	-F		C	1243	.97	1.20			F		
GRP	6853	01	1237	1251	1240	S15	E58	.867	8877	5.9	14	-N				.20				1	1	1
	CANA	01	1237	1251	1240	S15	E58	.867	8877	5.9	14	-N		C		.20	.40		200			
GRP	6854	01	1242	1302	1252	N25	W70	.944	8863	26.3	20	1F				1.47				1	1	1
	CAPE	01	1242	1302	1252	N25	W70	.944	8863	26.3	20	1F		C	1252	1.47	4.40			F		
GRP	6855	01	1310	1342	1321	N19	W84	.993	8863	25.2	32	1N				1.21				1	1	1
	CAPE	01	1310	1342	1321	N19	W84	.993	8863	25.2	32	1N		C	1321	1.21						
GRP	6856	01	1314	1332	1316	S19	E60	.890	8877	6.1	18	-N				.28				2	2	2
	SACP	01	1312	1344	1316	S17	E59	.879	8877	6.0	32	-N		C		.31	.46					
	CATA	01	1315	1320	1315	S20	E60	.892	8877	6.1	5	-F			1315	.25			138			
GRP	6857	01	1351	1356	1352	N11	W84	.994	8863	25.3	5	1F				.69				1	1	1
	CAPE	01	1351	1356	1352	N11	W84	.994	8863	25.3	5	1F		C	1352	.69				C		
GRP	6858	01	1408	1440	1414	N26	W64	.910	8863	26.8	32	-F				.18				1	1	1
	CAPE	01	1408	1440	1414	N26	W64	.910	8863	26.8	32	-F		C	1414	.18	.40			K		
GRP	6858	01	1408	1440	1430	N26	W64	.910	8863	26.8	32	-F				.28				1	1	1
	CAPE	01	1408	1440	1430	N26	W64	.910	8863	26.8	32	-F			1430	.28	.70					
GRP	6859	01	1528	1542	1532	N18	W78	.977	8863	25.8	14	-F				.20				1	1	1
	LOCK	01	1528	1542	1532	N18	W78	.977	8863	25.8	14	-F		C	1532	.20	.60		10	H		

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS				REMARKS		
	DATE 1967 JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.			
GRP 6860	01	1547	1610	1553	N32	W64	.918	8863	26.9	23	-N				.57				4	4	4
LOCK	01	1545	1620	1553	N32	W63	.912	8863	26.9	35	-N		C	1553	.70	1.50		10			
SACP	01	1546	1604	1551	N32	W63	.912	8863	26.9	18	-N		C		.61	1.02					
HUAN	01	1546	1611	1553	N32	W64	.918	8863	26.9	25	-N	1	C	1553	.67				E		
MCMA	01	1550	1605	1555	N32	W66	.929	8863	26.7	15	-N		C	1555	.31	.70			E		
GRP 6861	01	1625	1708	1647	N20	W80	.984	8863	25.7	43	1N				1.02				2	2	2
LOCK	01	1625	1705	1645	N20	W78	.977	8863	25.8	40	1N		C	1645	1.00	3.10		10			
HALE	01	1648E	1710D	1648U	N20	W82	.989	8863	25.5	22D	1N	2	P	1648	1.03				BF		
GRP 6862	01	1627	1649	1633	N18	W86	.997	8863	25.2	22	-N				.68				4	4	3
ATHN	01	1626	1654	1631	N18	W86	.997	8863	25.2	28	1N	3		1631	1.29		1.80				
SACP	01	1626	1659	1638	N18	W82	.989	8863	25.5	33	-N		C		.51						
MCMA	01	1628	1641	1631	N18	W90	1.000	8863	24.9	13	-N		C	1631					D		
HUAN	01	1628	1643		N19	W85	.995	8863	25.3	15	-F	1	C	1631	.25				D		
GRP 6863	01	1927	1945	1932	S22	E34	.662	8875	4.4	18	-N				.51				2	2	2
LOCK	01	1925	1950	1934	S22	E32	.642	8875	4.2	25	-F		C	1934	.40	.50		10			
MCMA	01	1928	1939	1930	S22	E36	.683	8875	4.5	11	-N		C	1930	.62	.80			E		
GRP 6864	01	2110	2125	2115	S22	E33	.652	8875	4.4	15	-B				.41				2	2	2
LOCK	01	2108	2125	2115	S21	E31	.624	8875	4.2	17	-N		C	2115	.40	.50		10			
MCMA	01	2111	2122D	2114	S22	E34	.662	8875	4.4	11D	-B		C	2114	.41	.60			E		
GRP 6865	01	2138	2143	2139	S24	W63	.919	8867	27.2	5	-B				.21				1	1	1
HALE	01	2138	2143	2139	S24	W63	.919	8867	27.2	5	-B	1	C	2139	.21				JV		
GRP 6866	01	2302	2320	2310	S24	E72	.965	8877	7.4	18	-N				.30				1	1	1
LOCK	01	2302	2320	2310	S24	E72	.965	8877	7.4	18	-N		C	2310	.30	.80		10			
GRP 6867	02	0002	0051	0005	N16	E84	.993	8880	8.3	49	-F				.30				1	1	1
LOCK	02	0002	0051	0005	N16	E84	.993	8880	8.3	49	-F		C	0005	.30	1.00		10	K		
GRP 6868	02	0048	0057	0051	S15	E56	.850	8877	6.2	9	-N				.41				2	2	2
SACP	02	0047	0056	0050	S14	E55	.840	8877	6.2	9	-N		C		.52	.72					
LOCK	02	0048	0057	0051	S15	E56	.850	8877	6.2	9	-F		C	0051	.30	.50		10			
GRP 6869	02	0119	0150	0125	S22	W68	.945	8867	27.0	31	-N				.70				2	1	1
LOCK	02	0119	0148D	0125	S22	W69	.950	8867	26.9	29D	-N		C	0125	.70	1.70		10			
SACP	02	0141	0152	0144	S22	W67	.940	8867	27.0	11	-F		C		.62	1.17					
GRP 6870	02	0400	0404		S19	W69	.947	8867	27.0	4	2F				2.19				1	1	1
TACH	02	0400	0404		S19	W69	.947	8867	27.0	4	2F		V	0400	2.19		1.80	60	E		
GRP 6871	02	0410	0416	0410	S17	E53	.829	8877	6.1	6	-B				1.09				1	1	1
TACH	02	0410	0416	0410	S17	E53	.829	8877	6.1	6	-B		V	0410	1.09	1.30	2.50	80	D		
GRP 6872	02	0645	0650	0645	N17	W45	.723	8878	28.9	5	-F				.13				1	1	1
CATA	02	0645	0650	0645	N17	W45	.723	8878	28.9	5	-F			0645	.13	.20		145			
GRP 6873	02	0822	0845	0828	N18	E90	1.000	8880	9.1	23	1N								1	1	0
AROS	02	0822	0845	0828	N18	E90	1.000	8880	9.1	23	1N		V								
GRP 6874	02	0848	0902	0855	N33	W15	.547	8871	1.2	14	-F				.74				1	1	1
CAPE	02	0848	0902	0855	N33	W15	.547	8871	1.2	14	-F		C	0855	.74	.90			CH		
GRP 6875	02	0920	0944	0928	N19	W90	1.000	8863	25.6	24	1B				1.19				6	6	3
CATA	02	0920	0935	0931	N23	W90	1.000	8863	25.6	15	1N			0931	.55			178			
MONT	02	0920	0945	0930	N20	W90	1.000	8863	25.6	25	1B										
ATHN	02	0921E	0940D	0922	N20	W90	1.000	8863	25.6	19D	1B	2		0922			2.00				
MANI	02	0922E	0938	0928	N15	W90	1.000	8863	25.6	16D	-B	2		0928	.52	1.60					
KHAR	02	0924E	0956D		N17	W90	1.000	8863	25.6	32D	2N		P	0931			7.50		QX		
CAPS	02	0935E	0950		N20	W90	1.000	8863	25.6	15D	1N	2		0940	2.50				A		
GRP 6876	02	1118	1128		N17	W50	.777	8878	28.7	10	1N				3.09				1	1	1
WEND	02	1118E	1128D		N17	W50	.777	8878	28.7	10D	1N		V		3.09						
GRP 6877	02	1149	1158	1151	N16	W50	.776	8878	28.7	9	-F				.50				1	1	1
HUAN	02	1149	1158	1151	N16	W50	.776	8878	28.7	9	-F	2	C	1151	.50	.62			ET		
GRP 6878	02	1234	1241	1236	S23	E24	.573	8875	4.3	7	-F				.21				1	1	1
HUAN	02	1234	1241	1236	S23	E24	.573	8875	4.3	7	-F	2	C	1236	.21	.22			D		
GRP 6879	02	1302	1315	1305	N16	W51	.786	8878	28.7	13	-N				.73				2	2	2
HUAN	02	1300	1315	1305	N16	W52	.796	8878	28.6	15	-N	2	C	1305	.45	.58			E		
CAPS	02	1303	1312D		N16	W50	.776	8878	28.8	9D	-F	2		1307	1.00	1.50		158			
GRP 6880	02	1334	1353	1339	N22	W90	1.000	8863	25.8	19	1N				.31				2	2	1
ATHN	02	1329	1358	1335	N20	W90	1.000	8863	25.8	29	1N	2		1335			2.00				
HUAN	02	1338	1347	1343	N23	W90	1.000	8863	25.8	9	-F	2	C	1343	.31				D		
GRP 6881	02	1349	1415	1400	N16	E91	1.000	8880	9.4	26	1N				1.94				1	1	1
SACP	02	1349	1415	1400	N16	E91	1.000	8880	9.4	26	1N		C		1.94						
GRP 6882	02	1450	1459	1453	S21	E23	.543	8875	4.3	9	-F				.36				1	1	1
HUAN	02	1450	1459	1453	S21	E23	.543	8875	4.3	9	-F	2	C	1453	.36	.38			E		
GRP 6883	02	1506	1531	1513	N16	E91	1.000	8880	9.5	25	1N				1.85				1	1	1
SACP	02	1506	1531	1513	N16	E91	1.000	8880	9.5	25	1N		C		1.85						
GRP 6884	02	1546	1558	1548	S24	W85	.998	8867	26.3	12	-N								1	1	0
MCMA	02	1546	1558D	1548	S24	W85	.998	8867	26.3	12D	-N		C	1548					D		
GRP 6885	02	1640	1710	1656	N34	W74	.966	8863	27.1	30	-F				.70				1	1	1
LOCK	02	1640	1710	1656	N34	W74	.966	8863	27.1	30	-F		C	1656	.70	2.00		10			
GRP 6886	02	1647	1722	1707	N19	E90	1.000	8880	9.4	35	1N				1.52				3	3	2
SACP	02	1647	1725	1707	N17	E91	1.000	8880	9.5	38	1N		C		1.54						
LOCK	02	1647	1725	1707	N13	E90	1.000	8880	9.4	38	2N		C	1707	1.50	6.00		20			
MCMA	02	1657E	1715	1706	N27	E90	1.000	8880	9.5	18D	1F		C	1706							
GRP 6887	02	1734	1737		N20	W90	1.000	8863	26.0	3	-F				.21				1	1	1
HUAN	02	1734E	1737		N20	W90	1.000	8863	26.0	3D	-F	1	P	1734	.21				D		

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT DATE 1967 JULY	START	END	MAX. PHASE	LOCATION APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 6888	02	1746	1802	1748	S18	W67	.935	8867	27.7	16	-F				.20				1 1 1
LOCK	02	1746	1802	1748	S18	W67	.935	8867	27.7	16	-F		C	1748	.20	.50		10	
GRP 6889	02	1903	1925	1908	N11	E90	1.000	8880	9.5	22	1F				.70				1 1 1
LOCK	02	1903	1925	1908	N11	E90	1.000	8880	9.5	22	1F		C	1908	.70	2.80		10	
GRP 6890	02	2042	2120	2044	N15	W57	.842	8878	28.6	38	-B				.10				1 1 1
HALE	02	2042E	2120	2044U	N15	W57	.842	8878	28.6	38D	-B	1	P	2044	.10	.20			
GRP 6891	02	2239	2255	2244	N31	W79	.982	8863	27.0	16	-N				.21				2 2 2
SACP	02	2238	2259	2243	N31	W80	.985	8863	26.9	21	-F		C		.21				
HALE	02	2240	2250	2244	N31	W78	.979	8863	27.1	10	-B	2	C	2244	.21				
GRP 6892	03	0138	0144	0139	N15	W61	.876	8878	28.5	6	-F				.10				1 1 1
HALE	03	0138	0144	0139	N15	W61	.876	8878	28.5	6	-F	1	C	0139	.10	.20			
GRP 6893	03	0145	0155	0148	N14	W59	.859	8878	28.6	10	-F				.15				1 1 1
HALE	03	0145	0155	0148	N14	W59	.859	8878	28.6	10	-F	1	C	0148	.15	.30			E
GRP 6893	03	0154	0222	0213	N15	W58	.851	8878	28.7	28	-F				.15				1 1 1
HALE	03	0154	0222	0213	N15	W58	.851	8878	28.7	28	-F	1	C	0213	.15	.30			K
GRP 6894	03	0430	0443	0435	N20	E88	.999	8880	9.8	13	-B				.99				1 1 1
ATHN	03	0430	0443	0435	N20	E88	.999	8880	9.8	13	-B	2		0435	.99		2.00		
GRP 6895	03	0749	0803	0753	N17	W60	.870	8878	28.8	14	-N				.46				1 1 1
CAPE	03	0749	0803	0753	N17	W60	.870	8878	28.8	14	-N		C	0753	.46	1.00			J
GRP 6896	03	0752	0843	0757	S22	E14	.478	8875	4.4	51	1B				2.45				5 5 5
MONT	03	0749	0830	0755	S22	E12	.465	8875	4.2	41	1N			0755	3.61				H
CATA	03	0750	0855	0755	S23	E14	.491	8875	4.4	65	1B			0755	2.36	2.71		301	
CAPE	03	0753	0850	0759	S22	E14	.478	8875	4.4	57	1N		C	0759	2.22	2.50			FVH
CAPS	03	0754	0836		S20	E16	.468	8875	4.5	42	1B	3		0757	1.80	2.00		312	
ABST	03	0755E	0759D	0759D	S21	E15	.473	8875	4.5	4D	1B		P		2.24	2.70			EJ
GRP 6896	03	0758	0835	0810	S22	E15	.485	8875	4.5	37	1N				2.61				6 6 5
SALO	03	0755E	0825D	0810	S23	E13	.485	8875	4.3	30D	-N		V	0810	.54	.60	.16		
BUCA	03	0757	0848		S22	E15	.485	8875	4.5	51	1B		P	0806	2.88	3.20			
ARCE	03	0758E	0825		S20	E15	.460	8875	4.5	27D	-N		C	0800	1.52	1.70			
MANI	03	0803E	0823D	0806	S21	E15	.473	8875	4.5	20D	-N	1		0806	1.50	1.70			
ATHN	03	0812	0836D	0815	S21	E15	.473	8875	4.5	24D	1B	2		0815	1.98	2.20	1.80		
WEND	03	0815E	0840		S23	E16	.506	8875	4.5	25D	1N		V		5.16				
SALO	03	0755E	0825D	0810	S22	E12	.465	8875	4.2	30D	-N		V	0810	.37	.40	.16		
GRP 6897	03	0829	0905		N34	W84	.993	8863	27.1	36	1N				.34				2 2 2
SALO	03	0825E	0835D		N34	W82	.989	8863	27.2	10D	1N		V	0830	.25	1.80	.16		
BUCA	03	0833	0905		N34	W86	.996	8863	26.9	32	-F		C	0835	.43				
GRP 6898	03	1000	1013	1001	S25	E53	.853	8877	7.4	13	-N				.47				2 2 2
ATHN	03	1000	1005	1001	S24	E53	.850	8877	7.4	5	-N	2		1001	.33	.60	1.60		
CATA	03	1000	1020	1000	S26	E53	.856	8877	7.4	20	-N			1000	.60	1.15		174	
GRP 6899	03	1027	1037		N16	W64	.900	8878	28.6	10	-N				.80				1 1 1
CAPS	03	1027	1037		N16	W64	.900	8878	28.6	10	-N	3		1030	.80			170	
GRP 6900	03	1040	1055	1040	S25	E50	.829	8877	7.2	15	1N				.88				2 2 2
CATA	03	1040	1045	1040	S26	E50	.833	8877	7.2	5	-N			1040	.11	.21		158	
ATHN	03	1045	1104D	1052	S24	E49	.817	8877	7.1	19D	1F	2		1052	1.65	2.80	1.15		
GRP 6901	03	1105	1115	1105	S26	E50	.833	8877	7.2	10	-N				.09				1 1 1
CATA	03	1105	1115	1105	S26	E50	.833	8877	7.2	10	-N			1105	.09	.18		158	
GRP 6902	03	1120	1125	1120	S26	E51	.841	8877	7.3	5	-N				.40				1 1 1
CATA	03	1120	1125	1120	S26	E51	.841	8877	7.3	5	-N			1120	.40	.76		186	
GRP 6903	03	1138	1147	1139	S26	E52	.849	8877	7.4	9	-N				.46				2 2 2
CANA	03	1136	1143	1137	S24	E52	.842	8877	7.4	7	-F		C		.30	.50		100	
CATA	03	1140	1150	1140	S27	E51	.844	8877	7.3	10	-N			1140	.62	1.15		162	
GRP 6904	03	1315	1321	1320	N19	W61	.880	8878	29.0	6	-N				.36				2 2 2
MEUD	03	1314	1317		N17	W61	.878	8878	29.0	3	-F		C	1316	.31	.60			D
CATA	03	1315	1325	1320	N20	W61	.881	8878	29.0	10	-N			1320	.40			155	
GRP 6905	03	1340	1355	1340	N20	W61	.881	8878	29.0	15	-B				.40				1 1 1
CATA	03	1340	1355	1340	N20	W61	.881	8878	29.0	15	-B			1340	.40			218	
GRP 6906	03	1405	1415	1410	N18	W62	.887	8878	28.9	10	-N				.39				3 3 3
HOUS	03	1401	1413U	1409U	N17	W62	.886	8878	28.9	12U	-F		C		.20	.40		100	I
CATA	03	1405	1415	1410	N20	W61	.881	8878	29.0	10	-B			1410	.39			204	
HUAN	03	1409	1414	1411	N16	W64	.900	8878	28.8	5	-N	1	C	1411	.57	.87			DT
GRP 6907	03	1529	1534	1532	S23	E51	.830	8877	7.5	5	-N				.41				1 1 1
SACP	03	1529	1534	1532	S23	E51	.830	8877	7.5	5	-N		C		.41	.56			
GRP 6908	03	1552	1606	1555	N22	E79	.980	8880	9.6	14	-F				.20				1 1 1
HOUS	03	1552	1606	1555	N22	E79	.980	8880	9.6	14	-F		C		.20	.60		100	
GRP 6909	03	1553	1603	1555	N18	W63	.894	8878	28.9	10	-N				.35				6 6 6
LOCK	03	1552	1604	1556	N17	W62	.886	8878	29.0	12	-N		C	1556	.40	.80		20	
HOUS	03	1552	1606	1555	N17	W62	.886	8878	29.0	14	-F		C		.20	.40		100	I
SACP	03	1553	1556	1554	N15	W63	.892	8878	28.9	3	-F		C		.31	.48			
HUAN	03	1553E	1557		N17	W65	.908	8878	28.8	4D	-N	1	C	1554	.45	.73			D
MCMA	03	1553	1603	1555	N17	W65	.908	8878	28.8	10	-F		V	1555	.31	.80			D
CATA	03	1555	1610	1555	N23	W63	.899	8878	28.9	15	-N			1555	.42			188	
GRP 6910	03	1605	1624	1607	N19	E21	.438	8876	5.2	19	-N				.10				1 1 1
HALE	03	1605	1624	1607	N19	E21	.438	8876	5.2	19	-N	1	C	1607	.10	.10			E

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 6911	03	1624	1638	1628	N16	W63	.893	8878	29.0	14	-N				.66				7 7 6
LOCK	03	1620	1640	1630	N17	W62	.886	8878	29.0	20	-N		C	1630	.60	1.30		20	
HOUS	03	1624	1632D	1628	N17	W63	.893	8878	29.0	8D	-N		C		.20	.40		200	I
MCMA	03	1624	1633	1628	N17	W65	.908	8878	28.8	9	-N		V	1628	.41	1.00			D
HALE	03	1624	1635	1628	N16	W61	.877	8878	29.1	11	-B	3	C	1628	.26	.50			
HUAN	03	1625	1632	1627	N17	W65	.908	8878	28.8	7	-N	2	C	1627	.50	.80			
SACP	03	1625	1635	1628	N15	W63	.892	8878	29.0	10	-F		C		.30	.48			
MONT	03	1625	1700	1630	N16	W64	.900	8878	28.9	35	1N			1630	1.86				
GRP 6912	03	1652	1732	1701	S22	E10	.453	8875	4.5	40	-N				.37				4 4 4
LOCK	03	1651	1724	1700	S23	E09	.462	8875	4.4	33	-F		C	1700	.50	.60		10	
HALE	03	1651	1730	1703	S22	E09	.447	8875	4.4	39	-N	1	C	1703	.21	.20			
MCMA	03	1652	1725	1700	S22	E10	.453	8875	4.5	33	-N		C	1700	.26	.30			D
HUAN	03	1653	1750	1700	S22	E10	.453	8875	4.5	57	-N	2	C	1700	.50	.50			D
GRP 6913	03	1700	1727	1707	N15	W65	.907	8878	28.8	27	-F				1.43				4 4 3
HALE	03	1658	1729	1710	N15	W67	.921	8878	28.7	31	-N	1	C	1710	.15				
LOCK	03	1700	1730	1705	N15	W67	.921	8878	28.7	30	-F		C	1705	.70	1.60		10	J
HUAN	03	1703	1723	1706	N15	W67	.921	8878	28.7	20	-F	2	C	1706	.50				E
WEND	03	1708E	1721D		N13	W58	.849	8878	29.4	13D	1F		V		3.09				
HALE	03	1720	1732	1726	N16	W67	.921	8878	28.7	12	-N	1	C	1726	.10				
GRP 6914	03	1828	1846	1832	S21	W90	1.000	8867	27.0	18	-N				.10				1 1 1
LOCK	03	1828	1846	1832	S21	W90	1.000	8867	27.0	18	-N		C	1832	.10	.40		10	
GRP 6915	03	1834	1940	1837	N17	W67	.921	8878	28.7	66	-N				.58				2 2 2
HOUS	03	1834E	1940	1837	N16	W67	.921	8878	28.7	66D	-N		C		.70	1.60		200	IJ
MCMA	03	1835	1940	1848	N17	W67	.921	8878	28.7	65	-N		V	1848	.46	1.40			EF
GRP 6916	03	2042	2059	2047	N16	W68	.927	8878	28.8	17	-N				.10				1 1 1
HALE	03	2042	2059	2047	N16	W68	.927	8878	28.8	17	-N	1	C	2047	.10				
GRP 6917	03	2236	2310	2242	N11	E18	.334	8876	5.3	34	-N				.51				2 2 2
LOCK	03	2234	2305	2242	N11	E18	.334	8876	5.3	31	-F		C	2242	.80	.90		10	L
HALE	03	2237	2315	2241	N11	E18	.334	8876	5.3	38	-N	1	C	2241	.21	.20			S
GRP 6918	03	2242	2331	2250	S21	E01	.408	8875	4.0	49	-N				.88				3 3 3
LOCK	03	2240	2325	2249	S20	E01	.392	8875	4.0	45	-N		C	2249	1.00	1.10		20	
HALE	03	2243	2335	2247	S21	E00	.408	8875	3.9	52	-N	1	C	2247	.31	.30			
SACP	03	2250E	2334U	2254	S21	E01	.408	8875	4.0	44U	-N		C		1.32	1.33			
GRP 6919	04	0115	0200	0126	S22	E05	.433	8875	4.4	45	-N				.68				3 3 3
LOCK	04	0114	0145	0121	S22	E04	.430	8875	4.4	31	-N		C	0121	.80	.90		20	
MITK	04	0115	0200	0127	S23	E05	.448	8875	4.4	45	-F		C	0127	.83	.90			D
HALE	04	0115	0215	0130	S22	E05	.433	8875	4.4	60	-B	1	C	0130	.41	.50			
GRP 6920	04	0430	0520	0437	S22	E04	.430	8875	4.5	50	1B				2.31				2 2 1
ATHN	04	0430	0520	0435	S20	E06	.405	8875	4.6	50	1B	2		0435	2.31	2.60	2.00		
HALE	04	0438E	0455D	0438	S23	E02	.442	8875	4.3	17D	-N	1	P	0438	.31	.30			
GRP 6920	04	0450	0551	0532	S21	E01	.410	8875	4.3	61	-N				.74				2 2 2
CATA	04	0450	0600	0535	S21	E00	.410	8875	4.2	70	-N			0535	1.01	1.15		182	
MANI	04	0522E	0542	0528	S21	E01	.410	8875	4.3	20D	-N	2		0528	.46	.51			
GRP 6921	04	0643	0704	0648	S21	E00	.410	8875	4.3	21	1N				2.29				7 7 6
BUCA	04	0625	0725		S21	W02	.411	8875	4.1	60	1N		P	0648	3.32	3.60			
CATA	04	0635	0710	0646	S21	E01	.410	8875	4.3	35	-B			0646	1.11	1.24		204	
ATHN	04	0643	0700	0650	S20	E05	.402	8875	4.7	17	1N	2		0650	4.29	4.80	2.00		
CAPS	04	0644E	0703		S20	W01	.394	8875	4.2	19D	1N	1		0649	2.00	2.20		185	
IKOM	04	0645	0700D		S22	W01	.426	8875	4.2	15D	1N		V	0645	2.27	2.50			E
MEUD	04	0647	0655		S22	W02	.427	8875	4.1	8	-N		C	0647	.72	.80			E
MANI	04	0652E	0658D		S21	E00	.410	8875	4.3	6D	-F	1		0653	.62	.68			
GRP 6922	04	0709	0734	0713	N16	W80	.983	8878	28.3	25	-N				.23				1 1 1
CAPE	04	0709	0734	0713	N16	W80	.983	8878	28.3	25	-N		C	0713	.23				KTV
GRP 6922	04	0709	0734	0723	N16	W80	.983	8878	28.3	25	-F				.23				1 1 1
CAPE	04	0709	0734	0723	N16	W80	.983	8878	28.3	25	-F			0723	.23				
GRP 6923	04	0731	0748	0733	N26	W43	.733	8871	1.1	17	-F				1.21				1 1 1
CAPE	04	0731	0748	0733	N26	W43	.733	8871	1.1	17	-F		C	0733	1.21	1.80			F
GRP 6924	04	0756	0808	0759	N17	W83	.991	8878	28.1	12	-N				.43				2 2 2
CAPE	04	0752	0810	0757	N17	W80	.983	8878	28.3	18	-N		C	0757	.55				KT
CRON	04	0759	0805	0801	N17	W85	.995	8878	28.0	6	-F		C		.30	1.00		100	
CAPE	04	0752	0810	0801	N17	W80	.983	8878	28.3	18	-N			0801	.46				
GRP 6925	04	0811	0832	0814	S21	E00	.410	8875	4.3	21	-N				.61				4 4 4
CATA	04	0805	0845	0810	S21	W03	.412	8875	4.1	40	-N			0810	.23	.26		166	
CAPE	04	0811	0826	0815	S21	W01	.410	8875	4.3	15	-N		C	0815	.84	.90			F
ATHN	04	0811	0830	0815	S20	E01	.394	8875	4.4	19	-N	2		0815	.99	1.10	1.70		
ARCE	04	0815	0825	0815	S21	E02	.411	8875	4.5	10	-N		C	0815	.36	.40			
GRP 6926	04	0818	0834	0821	N17	W81	.986	8878	28.3	16	-N				.18				1 1 1
CAPE	04	0818	0834	0821	N17	W81	.986	8878	28.3	16	-N		C	0821	.18	1.20			T
GRP 6927	04	0913	0922	0917	N16	W75	.965	8878	28.8	9	-F				.37				1 1 1
CAPE	04	0913	0922	0917	N16	W75	.965	8878	28.8	9	-F		C	0917	.37	1.30			T

SOLAR FLARES

JULY 1967

OBSERV-ATORY		OBSERVED UT DATE 1967 JULY	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
GRP	6928	04	0941	1003	0945	S21	E00	.410	8875	4.4	22	1N				2.40				8 8 7
	CAPE	04	0933	1107	0945	S22	W02	.427	8875	4.2	94	1N		C	0945	2.35	2.60			KV
	ATHN	04	0938E	0953D	0945	S20	E01	.394	8875	4.5	15D	1N	2		0945	2.97	3.20			
	KHAR	04	0940	1028		S22	E01	.426	8875	4.5	48	1F		P	0951	3.74	4.10	2.10		EQZ
	CAPS	04	0940	1045		S20	E00	.394	8875	4.4	65	1B	2		0944	2.50	2.70		220	EK
	CANA	04	0941	0952	0942	S23	W02	.442	8875	4.3	11	-N		C		.50	.60		200	
	ARCE	04	0943	1000	0947	S21	E02	.411	8875	4.6	17	1N		C	0947	1.97	2.20			
	CATA	04	0944	1010	0947	S21	W02	.411	8875	4.3	26	1B			0947	2.17	2.42		275	
	MEUD	04	0948	0953		S22	W01	.426	8875	4.3	5	-N		C	0948	1.13	1.20			
GRP	6928	04	0958	1059	1017	S21	W01	.410	8875	4.3	61	1B				3.68				4 4 4
	CAPE	04	0933	1107	1018	S21	W01	.410	8875	4.3	94	2N			1018	5.71	6.30			
	CATA	04	0957	1105	1015	S22	W01	.426	8875	4.3	68	1B			1015	1.97	2.18		240	
	MEUD	04	0958	1030		S21	E01	.410	8875	4.5	32	-N		C	1013	1.75	1.90			
	ATHN	04	1015E	1112		S20	W02	.395	8875	4.3	57D	2B	1		1028	5.28	5.70	2.00		
GRP	6928	04	1003	1050	1005	S22	W01	.426	8875	4.3	47	1N				1.77				2 2 2
	LOCA	04	0940	1050	1000	S23	E00	.441	8875	4.4	70	1N		V	1000	2.53	2.80			K
	CANA	04	1003	1034D	1010	S21	W01	.410	8875	4.3	31D	-N		C		1.00	1.10		200	EI
GRP	6929	04	1142	1147	1143	N17	E05	.253	8876	4.9	5	-F				1.08				2 2 2
	CANA	04	1141	1146	1142	N17	E05	.253	8876	4.9	5	-F		C		.50	.50		100	
	CAPE	04	1143	1147	1144	N17	E04	.248	8876	4.8	4	-F		C	1144	1.66	1.70			H
GRP	6930	04	1152	1210	1159	N17	W82	.989	8878	28.3	18	1N				.82				3 3 3
	CAPE	04	1150	1214	1200	N17	W88	.999	8878	27.9	24	1N		C	1200	.92				CFT
	ATHN	04	1154	1206	1157	N19	W75	.965	8878	28.9	12	-N	2		1157	.66		1.90		
	CAPF	04	1155E	1210D		N16	W82	.989	8878	28.3	15D	1N		P	1201	.88				
GRP	6931	04	1211	1236	1215	S21	W05	.417	8875	4.1	25	-N				1.62				7 7 7
	CAPE	04	1207	1243	1217	S21	W07	.425	8875	4.0	36	1N		C	1217	4.24	4.70			
	CANA	04	1208	1238	1212	S22	W07	.440	8875	4.0	30	-N		C		.90	1.00		200	EI
	ATHN	04	1209	1227	1212	S21	E01	.410	8875	4.6	18	-N	2		1212	1.32	1.40	1.60		
	CAPF	04	1212E	1225D		S21	W02	.411	8875	4.4	13D	-N		P	1215	1.76	1.96			
	CAPS	04	1212	1228		S20	W08	.414	8875	3.9	16	-B	2		1220	.70	.80		204	EJ
	CATA	04	1215	1245	1215	S21	W08	.429	8875	3.9	30	-B			1215	1.44	1.62		212	
	SACP	04	1219E	1221D	1220	S21	W07	.425	8875	4.0	2D	-N		C		.95	.95			
GRP	6932	04	1306	1317	1308	S21	W06	.421	8875	4.1	11	-N				1.48				5 5 5
	SANM	04	1304	1313	1305	S20	W07	.410	8875	4.0	9	-F		C	1305	.65	.70			
	CAPE	04	1306	1320	1309	S21	W07	.425	8875	4.0	14	1N		C	1309	3.23	3.60			V
	ATHN	04	1307E	1317	1307	S20	E00	.394	8875	4.5	10D	-N	2		1307	1.65	1.80	1.70		
	CATA	04	1308	1316	1308	S21	W08	.429	8875	3.9	8	-N			1308	.90	1.00		195	
	HUAN	04	1309E	1320		S21	W07	.425	8875	4.0	11D	-N	1	P	1309	.95	.96			E
GRP	6933	04	1526	1543	1528	S22	W04	.430	8875	4.3	17	-N				1.02				7 7 7
	LOCK	04	1524	1538	1527	S22	W07	.440	8875	4.1	14	-N		C	1527	.80	.90		20	
	HOUS	04	1524U	1544	1526	S22	W05	.433	8875	4.3	20U	-N		C		.50	.60		200	E
	ATHN	04	1525	1542	1528	S22	W02	.427	8875	4.5	17	-B	1		1528	1.65	1.80	2.00		
	HUAN	04	1526E	1528D		S22	W04	.430	8875	4.3	2D	-N	1	P	1526	.57	.57			E
	CAPS	04	1526E	1543		S20	W03	.397	8875	4.4	17D	-N	2		1534	.50	.50		182	
	ZURI	04	1528E	1545	1528	S22	W02	.427	8875	4.5	17D	1N		P	1528	2.10	2.30			
	CATA	04	1530	1545	1530	S21	W07	.425	8875	4.1	15	-N			1530	.99	1.11		178	
GRP	6934	04	1618	1638	1622	S22	W04	.430	8875	4.4	20	-N				.74				5 5 5
	ATHN	04	1615	1634	1619	S22	W02	.427	8875	4.5	19	-N	1		1619	1.16	1.20	1.70		
	LOCK	04	1616	1635	1622	S22	W07	.440	8875	4.2	19	-N		C	1622	1.00	1.10		20	
	SALO	04	1620E	1650D		S22	W02	.427	8875	4.5	30D	-B		V	1630	.66	.80	.12		
	HALE	04	1621	1640	1624	S23	W06	.451	8875	4.2	19	-N	1	C	1624	.46	.50			F
	HUAN	04	1627E	1632		S22	W04	.430	8875	4.4	5D	-F	1	P	1628	.43	.44			E
GRP	6935	04	1623	1650	1630	N15	E04	.216	8876	5.0	27	-F				.50				1 1 1
	LOCK	04	1623	1650	1630	N15	E04	.216	8876	5.0	27	-F		C	1630	.50	.50		10	
GRP	6936	04	1657	1803	1725	S22	W05	.433	8875	4.3	66	-B				1.40				3 3 3
	LOCK	04	1656	1800	1724	S22	W06	.436	8875	4.3	64	1B		C	1724	2.10	2.30		30	
	HALE	04	1657	1806	1725	S22	W04	.430	8875	4.4	69	-B	1	C	1725	.72	.80			F
	HUAN	04	1712E	1750D		S21	W05	.417	8875	4.3	38D	-B	1	P	1722	1.39	1.40			E
GRP	6936	04	1721	1744	1729	S21	W07	.425	8875	4.2	23	-N				.87				2 2 2
	SACP	04	1731E	1753	1732	S21	W04	.415	8875	4.4	22D	-N		C		1.43	1.44			
	HALE	04	1721	1735	1725	S21	W09	.434	8875	4.0	14	-N	1	C	1725	.31	.30			
GRP	6937	04	1922	1935	1926	S21	W07	.425	8875	4.3	13	-F				.40				1 1 1
	LOCK	04	1922	1935	1926	S21	W07	.425	8875	4.3	13	-F		C	1926	.40	.40		10	
GRP	6938	04	1949	2005	1953	N15	W04	.216	8876	4.5	16	-N				.60				2 2 2
	LOCK	04	1947	2005	1953	N15	W04	.216	8876	4.5	18	-N		C	1953	.70	.70		20	
	HUAN	04	1951	1955D		N14	W03	.195	8876	4.6	4D	-F	1	P	1952	.50	.50			E
GRP	6939	04	2111	2128	2117	S22	W08	.444	8875	4.3	17	-F				.90				1 1 1
	LOCK	04	2111	2128	2117	S22	W08	.444	8875	4.3	17	-F		C	2117	.90	1.00		10	
GRP	6940	04	2320	2347	2327	N17	W01	.239	8876	4.9	27	-N				.41				1 1 1
	HALE	04	2320	2347	2327	N17	W01	.239	8876	4.9	27	-N	1	C	2327	.41	.40			H
GRP	6941	05	0017	0033	0019	S21	W09	.436	8875	4.3	16	-N				.31				1 1 1
	HALE	05	0017	0033	0019	S21	W09	.436	8875	4.3	16	-N	1	C	0019	.31	.30			
GRP	6942	05	0107	0117	0109	S20	W08	.416	8875	4.4	10	-N				.31				1 1 1
	HALE	05	0107	0117	0109	S20	W08	.416	8875	4.4	10	-N	1	C	0109	.31	.30			
GRP	6943	05	0306	0325	0309	S21	W09	.436	8875	4.5	19	-B				.83				1 1 1
	HALE	05	0306	0325	0309	S21	W09	.436	8875	4.5	19	-B	1	C	0309	.83	.90			
GRP	6944	05	0441	0446	0441	S21	W11	.447	8875	4.4	5	-B				.21				1 1 1
	HALE	05	0441	0446	0441	S21	W11	.447	8875	4.4	5	-B	1	C	0441	.21	.20			E

SOLAR FLARES

JULY 1967

OBSERVATORY	OBSERVED UT DATE 1967 JULY	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 6945	05	0602	0622	0605	S23	W13	.488	8875	4.3	20	-N				1.06				3 3 3
BUCA	05	0600	0633		S23	W14	.494	8875	4.2	33	-N		C	0608	1.66	1.90			
CAPS	05	0601E	0624		S22	W14	.481	8875	4.2	23D	-N	3		0606	.60	.70		179	
CATA	05	0605	0610	0605	S23	W10	.470	8875	4.5	5	-N			0605	.92	1.04		162	
GRP 6946	05	0653	0713	0700	N14	W09	.241	8876	4.6	20	-F				1.05				3 3 3
BUCA	05	0649	0713		N14	W09	.241	8876	4.6	24	-F		C	0701	.88	.90			
CAPE	05	0657	0715	0700	N14	W10	.252	8876	4.5	18	-N		C	0700	1.57	1.60			T
CAPS	05	0701E	0712		N14	W07	.221	8876	4.8	11D	-F	3		0707	.70	.80		142	
GRP 6947	05	0920	0944	0922	N14	E70	.939	8880	10.6	24	1F				1.16				1 1 1
CAPE	05	0920	0944	0922	N14	E70	.939	8880	10.6	24	1F		C	0922	1.16	3.40			C
GRP 6948	05	1240	1245	1240	S21	W25	.566	8875	3.7	5	-N				.48				1 1 1
CATA	05	1240	1245	1240	S21	W25	.566	8875	3.7	5	-N			1240	.48	.59		151	
GRP 6949	05	1320	1401	1330	N28	W67	.929	8871	30.5	41	-F				.18				1 1 1
CAPE	05	1320	1401	1330	N28	W67	.929	8871	30.5	41	-F		C	1330	.18	.50			
GRP 6950	05	1340	1350	1343	N16	W13	.310	8876	4.6	10	-N				.10				1 1 1
CANA	05	1340	1350	1343	N16	W13	.310	8876	4.6	10	-N		C		.10	.10		100	L
GRP 6951	05	1458	1512		S21	W21	.527	8875	4.0	14	-F				.55				1 1 1
HUAN	05	1458	1512D		S21	W21	.527	8875	4.0	14D	-F	1	P	1500	.55	.58			E
GRP 6952	05	1533	1558		N26	E40	.702	8880	8.6	25	1B				1.05				1 1 1
SALO	05	1533E	1558D		N25	E40	.697	8880	8.6	25D	1B		P	1540	1.05	2.00	.12		
SALO	05	1533E	1558D		N28	E40	.712	8880	8.6	25D	1N		P	1540	.66	1.10	.12		
GRP 6953	05	1533	1558		N17	W13	.321	8876	4.7	25	-N				.99				1 1 1
SALO	05	1533E	1558D		N16	W16	.346	8876	4.4	25D	-N		P	1540	.99	1.10	.12		
SALO	05	1533E	1558D		N18	W11	.313	8876	4.8	25D	-N		P	1540	.66	.70	.12		
GRP 6954	05	1533	1558		N10	E01	.118	8876	5.7	25	-F				.41				1 1 1
SALO	05	1533E	1558D		N10	E01	.118	8876	5.7	25D	-F		P	1540	.41	.50	.12		
GRP 6955	05	1533	1558		S23	W22	.558	8875	4.0	25	-B				1.05				1 1 1
SALO	05	1533E	1558D		S23	W21	.549	8875	4.1	25D	-B		P	1540	1.05	1.40	.13		
SALO	05	1533E	1558D		S22	W19	.521	8875	4.2	25D	-B		P	1540	.74	.90	.13		
SALO	05	1533E	1558D		S25	W25	.605	8875	3.8	25D	-F		P	1540	.33	.40	.13		
GRP 6956	05	1533	1558		S13	W10	.327	8875	4.9	25	-N				.66				1 1 1
SALO	05	1533E	1558D		S13	W10	.327	8875	4.9	25D	-N		P	1540	.66	.70	.13		
GRP 6957	05	1621	1626	1624	S22	W18	.512	8875	4.3	5	-F				.31				1 1 1
HUAN	05	1621	1626	1624	S22	W18	.512	8875	4.3	5	-F	2	C	1624	.31	.32			D
GRP 6958	05	1718	1725	1720	N19	E50	.780	8880	9.5	7	-B				.31				1 1 1
HALE	05	1718	1725	1720	N19	E50	.780	8880	9.5	7	-B	1	C	1720	.31	.50			
GRP 6959	05	1745	1750	1747	S23	W20	.541	8875	4.2	5	-N				.40				3 3 3
SACP	05	1744	1751	1747	S24	W20	.552	8875	4.2	7	-N		C		.62	.65			
HUAN	05	1745	1749	1746	S23	W20	.541	8875	4.2	4	-F	2	C	1746	.36	.38			E
HALE	05	1746	1751	1748	S22	W20	.529	8875	4.2	5	-N	1	C	1748	.21	.20			
GRP 6960	05	1812	1841	1823	N15	W16	.336	8876	4.6	29	-N				.86				4 4 4
HUAN	05	1811	1836		N14	W16	.327	8876	4.6	25	-N	1	C	1823	.88	.88			E
SACP	05	1811	1838	1825	N14	W16	.327	8876	4.6	27	-N		C		1.23	1.21			
HALE	05	1815	1845	1825	N15	W15	.323	8876	4.6	30	-B	1	C	1825	.31	.30			EH
LOCK	05	1820E	1845	1820U	N15	W17	.349	8876	4.5	25D	-N		C	1820	1.00	1.10		20	
GRP 6961	05	1837	1939	1855	S21	W18	.500	8875	4.4	62	1B				1.84				5 5 5
LOCK	05	1830	1940	1855	S20	W19	.497	8875	4.3	70	1B		C	1855	2.20	2.60		30	
HUAN	05	1834	1930		S21	W18	.500	8875	4.4	56	-B	1	C	1857	1.44	1.50			E
SACP	05	1840	1932	1856	S21	W18	.500	8875	4.4	52	1N		C		2.05	2.12			
HALE	05	1843	1921D	1854	S21	W18	.500	8875	4.4	38D	-B	1	P	1854	1.44	1.70			E
MCMA	05	1901E	1954D		S21	W19	.509	8875	4.4	53D	1B		V	1901	2.06	2.40			BFH
GRP 6962	05	2218	2250	2228	S23	W26	.595	8875	4.0	32	-F				.30				1 1 1
LOCK	05	2218	2250	2228	S23	W26	.595	8875	4.0	32	-F		C	2228	.30	.40		10	
GRP 6963	05	2248	2303	2251	S16	E01	.331	8877	6.0	15	-N				.60				1 1 1
LOCK	05	2248	2303	2251	S16	E01	.331	8877	6.0	15	-N		C	2251	.60	.70		20	
GRP 6964	06	0434	0630	0434	N25	E48	.776	8880	9.8	116	-B				.33				2 1 1
ATHN	06	0434E	0550D	0434	N25	E47	.767	8880	9.7	76D	-B	2		0434	.33	.50	2.00		
CATA	06	0525	0710	0525	N25	E49	.786	8880	9.9	105	-B			0525	.18	.28		234	
GRP 6965	06	0734	0749	0739	N25	E46	.757	8880	9.8	15	1N				1.66				1 1 1
CAPE	06	0734	0749	0739	N25	E46	.757	8880	9.8	15	1N		C	0739	1.66	2.50			
GRP 6966	06	0846	0858	0851	N25	E46	.757	8880	9.8	12	1N				1.12				2 2 2
ARCE	06	0845	0855	0850	N25	E46	.757	8880	9.8	10	-N		C	0850	.66	1.00			
CAPE	06	0847	0901	0851	N25	E45	.747	8880	9.7	14	1N		C	0851	1.57	2.40			J
GRP 6967	06	0919	0953	0925	N27	W79	.980	8871	30.5	34	1F				.60				1 1 1
CAPE	06	0919	0953	0925	N27	W79	.980	8871	30.5	34	1F		C	0925	.60	3.50			T
GRP 6968	06	0953	1003	0956	N17	E41	.675	8880	9.5	10	-N				.57				5 5 5
CATA	06	0950	1010	0955	N16	E41	.672	8880	9.5	20	-B			0955	.42	.60		214	
CANA	06	0953	0959	0955	N17	E40	.663	8880	9.4	6	-N		C		.30	.40		200	
ARCE	06	0955	1000	0957	N18	E41	.678	8880	9.5	5	-N		C	0957	.53	.70			D
CAPE	06	0955	1005	0958	N18	E41	.678	8880	9.5	10	-N		C	0958	.60	.80			CV
CAPS	06	0957E	1003		N18	E42	.690	8880	9.6	6D	-F	3		0959	1.00	1.40		147	C
GRP 6969	06	1002	1017	1005	N27	W61	.889	8871	1.8	15	-N				.78				1 1 1
CAPE	06	1002	1017	1005	N27	W61	.889	8871	1.8	15	-N		C	1005	.78	1.80			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 6970	06	1255	1318	1258	N27	W78	.977	8871	30.7	23	-N				.38				2 2 2
MONT	06	1255	1310		N27	W72	.953	8871	1.1	15	-N			1300	.52				
CAPE	06	1255	1325	1258	N28	W81	.986	8871	30.5	30	-N		C	1258	.23				
CAPE	06	1255	1325	1318	N27	W85	.995	8871	30.2	30	1N			1318	.74				JKT
GRP 6971	06	1329	1357	1333	N28	W80	.984	8871	30.6	28	-N				1.38				7 7 3
LOCA	06	1315E	1405	1335	N28	W80	.984	8871	30.6	50D	1N		V						AH
ATHN	06	1328	1345	1330	N26	W80	.983	8871	30.6	17	-N	2		1330	.17		1.70		
HOUS	06	1330	1345	1332	N28	W83	.991	8871	30.3	15	-F		C		.40	1.40		100	
MCMA	06	1330	1348	1332	N27	W88	.998	8871	30.0	18	-N		V	1332					D
CATA	06	1330	1405	1335	N32	W80	.984	8871	30.6	35	-N			1335	.37			153	
MONT	06	1330	1410	1335	N27	W80	.983	8871	30.6	40	1B			1335	3.09				
CAPE	06	1327	1350	1338	N27	W83	.991	8871	30.3	23	1N			1338	1.66				
CAPE	06	1327	1350	1331	N27	W83	.991	8871	30.3	23	1N		C	1331	.64				KV
CAPE	06	1351	1400	1354	N27	W83	.991	8871	30.4	9	-N		C	1354	.37				
CAPE	06	1346	1358	1348	N29	W63	.905	8871	1.8	12	-F		C	1348	.46	1.10			
CAPE	06	1409	1426	1411	N29	W63	.905	8871	1.9	17	-N		C	1411	.52	1.30			
GRP 6972	06	1820	1849	1830	N18	W78	.976	8871	30.9	29	1N				.56				2 2 2
LOCK	06	1816	1850	1830	N17	W74	.960	8871	1.2	34	1N		C	1830	.80	2.20		20	HL
MCMA	06	1823	1847	1830	N15	W78	.976	8871	30.9	24	-N		C	1830	.31	.70			DH
LOCK	06	1800	1835	1816	N26	W82	.989	8871	30.6	35	-F		C	1816	.50	1.70		10	
GRP 6973	06	2116	2124	2120	N28	W67	.928	8871	1.9	8	-F				.20				1 1 1
LOCK	06	2116	2124	2120	N28	W67	.928	8871	1.9	8	-F		C	2120	.20	.50		10	
GRP 6974	06	2309	2316	2312	N26	W82	.989	8871	30.8	7	-N				.20				1 1 1
LOCK	06	2309	2316	2312	N26	W82	.989	8871	30.8	7	-N		C	2312	.20	.70		20	
GRP 6975	06	2359	0023	0003	N27	W82	.989	8871	30.8	24	1B				.80				1 1 1
LOCK	06	2359	0023	0003	N27	W82	.989	8871	30.8	24	1B		C	0003	.80	2.70		30	H
GRP 6976	07	0219	0238	0222	N28	E36	.671	8880	9.8	19	-N				.76				2 2 2
LOCK	07	0218	0222D	0222U	N26	E36	.659	8880	9.8	4D	-N		C	0222	.90	1.20		20	
HALE	07	0220	0238	0222	N29	E35	.667	8880	9.7	18	-N	2	C	0222	.62	.80			
GRP 6977	07	0419	0425	0421	N26	W88	.998	8871	30.6	6	-N				.31				1 1 1
HALE	07	0419	0425	0421	N26	W88	.998	8871	30.6	6	-N	2	C	0421	.31				ARCH
GRP 6978	07	0635	0855	0823	N28	W70	.944	8871	2.0	140	-F				.55				3 1 1
CATA	07	0635	0850	0755	N30	W73	.959	8871	1.8	135	-F			0755	.55			148	
MEUD	07	0827	0837		N29	W67	.929	8871	2.3	10	-F		C	0832	.21				D
ATHN	07	0850E	0900D	0850	N25	W70	.942	8871	2.1	10D	-N	2		0850	.33		1.60		
GRP 6979	07	0826	0910	0845	N23	E69	.936	8883	12.5	44	1N				1.29				2 2 2
CAPE	07	0826	0915D	0850	N24	E68	.930	8883	12.5	49D	1N		C	0850	2.03	5.70			H
CATA	07	0840	0905	0840	N22	E71	.946	8883	12.7	25	-N			0840	.55			174	
CATA	07	0635	0835	0755	N22	E68	.929	8883	12.4	120	-N			0755	.64			156	
GRP 6979	07	0849	0903	0853	N24	E69	.936	8883	12.5	14	-N				5.13				6 5 2
CANA	07	0848	0911	0858U	N24	E69	.936	8883	12.5	23	-F		C		.50	1.10		100	I
CRON	07	0849	0856	0851	N24	E71	.947	8883	12.7	7	-F		C		.40	1.00		100	
MEUD	07	0849	0856	0850	N23	E68	.930	8883	12.5	7	-N		C	0850	.52				
CAPS	07	0852E	0904		N23	E70	.941	8883	12.6	12D	1F	3		0856	2.00			150	G
ARCE	07	0854E	0857D		N24	E69	.936	8883	12.5	3D	-N		P	0854	.56	1.30			
WEND	07	0848E	0912		N24	E67	.925	8883	12.4	24D	2N		V		8.25				
GRP 6980	07	0911	0934	0915	N28	W74	.962	8871	1.8	23	-N				.56				3 3 3
CATA	07	0910	0935	0915	N29	W75	.967	8871	1.8	25	1N			0915	.92			178	
CANA	07	0911	0934U	0915	N28	W78	.977	8871	1.5	23U	-N		C		.40	1.10		200	HI
MEUD	07	0913	0933		N28	W69	.939	8871	2.2	20	-F		C	0923	.36				E
GRP 6981	07	0945	0955	0955	N24	E70	.942	8883	12.7	10	2N				4.05				1 1 1
ABST	07	0945E	0955D	0955D	N24	E70	.942	8883	12.7	10D	2N		P		4.05				DGJ
GRP 6982	07	1015	1022	1018	N27	W70	.943	8871	2.2	7	-F				.21				1 1 1
MEUD	07	1015	1022	1018	N27	W70	.943	8871	2.2	7	-F		C	1018	.21				D
GRP 6983	07	1033	1101	1044	N29	W75	.967	8871	1.8	28	-N				.34				3 3 3
MEUD	07	1035	1054		N28	W70	.944	8871	2.2	19	-N		C	1044	.26				
CANA	07	1035	1108	1044	N28	W78	.977	8871	1.6	33	-N		C		.40	1.10		200	HI
CATA	07	1030	1100	1030	N32	W76	.971	8871	1.7	30	-N			1030	.37			199	
GRP 6984	07	1155	1235	1155	N32	W75	.968	8871	1.9	40	-N				.09				1 1 1
CATA	07	1155	1235	1155	N32	W75	.968	8871	1.9	40	-N			1155	.09			186	
GRP 6985	07	1209	1218	1214	N23	E67	.924	8883	12.5	9	-N				.30				1 1 1
CANA	07	1209	1218	1214	N23	E67	.924	8883	12.5	9	-N		C		.30	.70		200	I
GRP 6986	07	1255	1400		N29	E76	.971	8883	13.2	65	1N				2.06				1 1 1
MONT	07	1255	1400		N29	E76	.971	8883	13.2	65	1N			1310	2.06				
GRP 6987	07	1332	1400	1335	N29	W75	.967	8871	1.9	28	-N				.60				3 3 3
MEUD	07	1341	1345		N29	W72	.954	8871	2.2	4	-N		C	1344	.26				D
CATA	07	1332	1515	1335	N32	W75	.968	8871	1.9	103	-B			1335	.25			219	
SANM	07	1255	1415	1301	N27	W79	.980	8871	1.6	80	1N		C	1301	1.29				
MEUD	07	1331	1332		N27	W72	.953	8871	2.2	1	-N		C	1332	.21				D
GRP 6988	07	1332	1415	1335	N21	E32	.583	8880	10.0	43	-N				.37				1 1 1
CATA	07	1332	1415	1335	N21	E32	.583	8880	10.0	43	-N			1335	.37	.45		178	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS		
	DATE 1967 JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %			
GRP 6989	07	1527	1546	1531	N28	W80	.983	8871	1.6	19	1N				.66				6	6	6
CATA	07	1525	1545	1530	N33	W85	.994	8871	1.3	20	-N			1530	.35			172			
SACP	07	1526	1538	1531	N26	W77	.974	8871	1.9	12	1N		C		.92	2.19					
SANM	07	1527	1537D	1531	N27	W79	.980	8871	1.7	10D	1N		P	1531	.52						
CANA	07	1528	1540	1533	N28	W81	.986	8871	1.6	12	1N		C		.70	2.40		200	I		
HUAN	07	1534E	1550D		N26	W82	.988	8871	1.5	16D	1F	1	P	1535	.88				ET		
LOCK	07	1540E	1555	1547	N29	W74	.963	8871	2.1	15D	-F		C	1547	.60	1.70		10	HJ		
GRP 6990	07	1529	1553	1536	N33	E32	.669	8880	10.0	24	-F				.41				1	1	1
SACP	07	1529	1553	1536	N33	E32	.669	8880	10.0	24	-F		C		.41	.46					
GRP 6991	07	1559	1633	1603	N28	W82	.988	8871	1.5	34	-F				.41				2	1	1
SACP	07	1559	1629	1603	N31	W84	.993	8871	1.4	30	-F		C		.41						
HUAN	07	1625	1637	1629	N25	W80	.983	8871	1.7	12	-F	2	C	1629	.25				D		
GRP 6992	07	1627	1642	1629	N24	E28	.558	8880	9.8	15	-F				.25				1	1	1
HUAN	07	1627	1642	1629	N24	E28	.558	8880	9.8	15	-F	2	C	1629	.25	.26			D		
GRP 6993	07	1653	1712	1658	N24	E26	.536	8880	9.7	19	-F				.50				1	1	1
LOCK	07	1653	1712	1658	N24	E26	.536	8880	9.7	19	-F		C	1658	.50	.60		10			
GRP 6994	07	1712	1734	1717	N27	W80	.983	8871	1.7	22	-N				.46				2	2	2
LOCK	07	1712	1724	1717	N28	W74	.962	8871	2.2	12	-F		C	1717	.30	.80		10	J		
MCMA	07	1724E	1743D		N25	W85	.995	8871	1.4	19D	-N		S	1724	.62				E		
GRP 6995	07	1800	1817	1807	S24	W02	.463	8877	7.6	17	-F				.20				1	1	1
LOCK	07	1800	1817	1807	S24	W02	.463	8877	7.6	17	-F		C	1807	.20	.20		10			
GRP 6996	07	1850	1920	1905	N28	W74	.962	8871	2.2	30	1F				.80				1	1	1
LOCK	07	1850	1920	1905	N28	W74	.962	8871	2.2	30	1F		C	1905	.80	2.20		10	J		
GRP 6997	07	1925	2002	1943	S24	W46	.793	8875	4.4	37	-N				.86				3	2	2
LOCK	07	1925	2005	1945	S26	W45	.794	8875	4.4	40	-F		C	1945	.80	1.30		10			
SACP	07	1939E	1959	1940	S23	W46	.789	8875	4.4	20D	-N		C		.92	1.19					
MCMA	07	1959E	1959D		S24	W47	.802	8875	4.3		-F		S	1959	.52	.90			E		
GRP 6998	07	1946	2017	1954	N27	E24	.542	8880	9.6	31	1N				2.31				3	3	3
LOCK	07	1946	2020	1955	N26	E25	.543	8880	9.7	34	1N		C	1955	2.00	2.40		20			
SACP	07	1949E	2013	1952	N27	E23	.533	8880	9.6	24D	1N		C		2.34	2.46					
MCMA	07	1959E	2159D		N27	E24	.542	8880	9.6	120D	1F		S	1959	2.58	3.00			FI		
GRP 6999	07	1959	2103	2012	N26	W83	.991	8871	1.6	64	-N				.46				3	2	2
MCMA	07	1959E	2100D		N25	W87	.997	8871	1.3	61D	-N		S	1959	.52				E		
LOCK	07	2008	2030	2012	N26	W78	.977	8871	2.0	22	-F		C	2012	.40	1.20		10	J		
HUAN	07	2054E	2105		N26	W85	.994	8871	1.5	11D	-N	1	P	2056	.31				D		
GRP 7000	07	2041	2123	2057	N25	E24	.523	8880	9.7	42	1F				1.60				3	3	3
SACP	07	2043	2128	2058	N26	E23	.523	8880	9.6	45	1F		C		2.13	2.23					
LOCK	07	2050	2117	2056	N25	E23	.513	8880	9.6	27	-F		C	2056	.50	.60		10			
HUAN	07	2054E	2106D		N25	E24	.523	8880	9.7	12D	1F	1	P	2057	1.96	2.06			E		
LOCK	07	2038	2054	2046	N22	E25	.508	8880	9.7	16	-F		C	2046	.70	.80		10			
GRP 7001	07	2118	2142	2126	N19	W38	.646	8876	5.0	24	-F				.81				3	3	3
LOCK	07	2118	2135	2124	N19	W39	.658	8876	5.0	17	-F		C	2124	.80	1.10		10			
MCMA	07	2118	2150D		N20	W37	.638	8876	5.1	32D	-F		S	2125	.72	.90			E		
SACP	07	2128E	2141	2128E	N19	W39	.658	8876	5.0	13D	-N		C		.92	1.03					
GRP 7002	07	2119	2148	2124	N26	W83	.991	8871	1.7	29	-N				.51				2	2	2
LOCK	07	2119	2137	2124	N26	W78	.977	8871	2.0	18	-F		C	2124	.30	.90		10	J		
MCMA	07	2130E	2159D		N25	W88	.998	8871	1.3	29D	-N		V	2135	.72				E		
GRP 7003	07	2205	2215	2210	N26	W83	.991	8871	1.7	10	-F				.30				1	1	1
LOCK	07	2205	2215	2210	N26	W83	.991	8871	1.7	10	-F		C	2210	.30	1.00		10	J		
GRP 7004	07	2240	0000	2245	N26	W83	.991	8871	1.7	80	-F				.30				1	1	1
LOCK	07	2240	0000	2245	N26	W83	.991	8871	1.7	80	-F		C	2245	.30	1.00		10	JK		
GRP 7004	07	2240	0000	2315	N26	W83	.991	8871	1.7	80	-F				.30				1	1	1
LOCK	07	2240	0000	2315	N26	W83	.991	8871	1.7	80	-F		C	2315	.30	1.00		10	JK		
GRP 7005	08	0002	0025	0012	N23	E21	.471	8880	9.6	23	-F				.50				1	1	1
LOCK	08	0002	0025	0012	N23	E21	.471	8880	9.6	23	-F		C	0012	.50	.60		10			
GRP 7006	08	0107	0142	0120	N12	W32	.541	8876	5.6	35	-F				1.02				3	3	3
LOCK	08	0107	0145	0114	N12	W32	.541	8876	5.6	38	-F		C	0114	1.00	1.20		10	L		
MANI	08	0117E	0133	0119	N12	W31	.527	8876	5.7	16D	-F	2		0119	1.24	1.46					
SACP	08	0123E	0147D	0126	N13	W34	.572	8876	5.5	24D	-N		C		.83	.87					
GRP 7007	08	0142	0155	0147	N23	E20	.460	8880	9.6	13	-F				.30				1	1	1
LOCK	08	0142	0155	0147	N23	E20	.460	8880	9.6	13	-F		C	0147	.30	.30		10			
GRP 7008	08	0330	0337	0330	N25	E85	.994	8886	14.5	7	1F				1.29				1	1	1
KODA	08	0330E	0337	0330	N25	E85	.994	8886	14.5	7D	1F		P	0336	1.29		1.84		D		
GRP 7009	08	0537	0546	0539	N27	W90	1.000	8871	1.5	9	-N				.30				1	1	1
CRON	08	0537	0546	0539	N27	W90	1.000	8871	1.5	9	-N		C		.30	1.00		200			
GRP 7010	08	0639	0705	0647	N24	E19	.461	8880	9.7	26	-N				1.46				4	4	4
BUCA	08	0633	0710		N23	E16	.420	8880	9.5	37	-N		C	0649	1.76	1.90					
MANI	08	0639	0706	0644	N23	E14	.401	8880	9.3	27	-F	2		0644	1.75	1.90					
ATHN	08	0640	0655	0642	N24	E27	.546	8880	10.3	15	-F	2		0642	1.65	1.80	1.40				
CATA	08	0645	0710	0655	N24	E18	.451	8880	9.6	25	-N			0655	.66	.74		170			
GRP 7011	08	0731	0738	0732	N27	W89	.999	8871	1.6	7	-N				.21				3	3	3
CATA	08	0730	0735	0730	N27	W88	.998	8871	1.7	5	-N			0730	.15			151			
CRON	08	0731	0739	0733	N27	W90	1.000	8871	1.6	8	-N		C		.30	1.00		200			
CAPE	08	0731	0741	0733	N26	W89	.999	8871	1.6	10	-F		C	0733	.18						
GRP 7012	08	0803	0809	0804	N26	W89	.999	8871	1.7	6	-F				.23				1	1	1
CAPE	08	0803	0809	0804	N26	W89	.999	8871	1.7	6	-F		C	0804	.23						

SOLAR FLARES

JULY 1967

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. 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. %	
	1967 JULY																		
GRP 7013	08	0813	0823	0816	N27	W90	1.000	8871	1.6	10	-N				.27				2 2 2
CRON	08	0813	0821	0815	N27	W90	1.000	8871	1.6	8	-N		C		.30	1.00		200	
CAPE	08	0813	0824	0817	N26	W90	1.000	8871	1.6	11	-N		C	0817	.23				
GRP 7014	08	0823	0842	0827	S21	W13	.465	8877	7.4	19	-F				1.33				1 1 1
CAPE	08	0823	0842	0827	S21	W13	.465	8877	7.4	19	-F		C	0827	1.33	1.50			
GRP 7015	08	0909	0947	0921	N26	W90	1.000	8871	1.6	38	-N				.19				2 2 2
CAPE	08	0909	0944	0921	N26	W90	1.000	8871	1.6	35	-F		C	0921	.14				
ARCE	08	0930E	0950D	0940	N25	W90	1.000	8871	1.6	20D	-N		C	0940	.23	1.30			
GRP 7016	08	1021	1036	1028	S24	W16	.525	8877	7.2	15	-N				.44				3 3 3
CAPE	08	1015	1047	1029	S21	W14	.472	8877	7.4	32	-N		C	1029	.52	.60			H
CANA	08	1024	1032	1030	S22	W15	.493	8877	7.3	8	-N		C		.40	.50		200	
CATA	08	1025	1030	1025	S30	W18	.612	8877	7.1	5	-N			1025	.40	.47		162	
GRP 7017	08	1056	1111	1101	N27	E17	.477	8880	9.7	15	-N				1.04				2 2 2
CAPE	08	1053	1112	1059	N27	E16	.469	8880	9.7	19	-F		C	1059	1.38	1.60			F
CANA	08	1058	1110	1102	N26	E17	.465	8880	9.7	12	-N		C		.70	.80		200	
GRP 7018	08	1154	1217	1200	S22	W08	.450	8877	7.9	23	-N				.69				1 1 1
CAPE	08	1154	1217	1200	S22	W08	.450	8877	7.9	23	-N		C	1200	.69	.80			F
GRP 7019	08	1311	1328	1314	N29	W89	.999	8871	1.9	17	-N				.65				5 5 4
CAPS	08	1309	1325		N26	W90	1.000	8871	1.8	16	1N	2		1314	1.20			168	
CAPE	08	1309	1328	1314	N29	W90	1.000	8871	1.8	19	-N		C	1314	.52				AC
SACP	08	1310	1325	1314	N29	W86	.996	8871	2.1	15	-N		C		.52				
MCMA	08	1311	1325	1314	N26	W90	1.000	8871	1.8	14	-N		V	1314					E
CATA	08	1315	1335	1315	N33	W90	.999	8871	1.8	20	-N			1315	.35			162	
GRP 7020	08	1319	1331	1322	S23	W21	.553	8877	7.0	12	-F				1.38				1 1 1
CAPE	08	1319	1331	1322	S23	W21	.553	8877	7.0	12	-F		C	1322	1.38	1.70			CL
GRP 7021	08	1415	1423	1416	S23	W56	.872	8875	4.4	8	-N				.20				1 1 1
CANA	08	1415	1423	1416	S23	W56	.872	8875	4.4	8	-N		C		.20	.40		200	
GRP 7022	08	1416	1421	1418	N31	W89	.999	8871	1.9	5	-F				.15				3 3 3
CATA	08	1415	1420	1415	N37	W90	.999	8871	1.8	5	-N			1415	.13			155	
HUAN	08	1416	1420D		N28	W90	1.000	8871	1.8	4D	-F	1	C	1417	.21				D
SACP	08	1416	1422	1418	N28	W87	.997	8871	2.1	6	-F		C		.10				
GRP 7023	08	1600	1645	1612	N27	W90	1.000	8871	1.9	45	-F				.30				1 1 1
LOCK	08	1600	1645	1612	N27	W90	1.000	8871	1.9	45	-F		C	1612	.30	1.20		10	H
GRP 7024	08	1642	1658	1648	N27	E12	.439	8880	9.6	16	-N				.76				4 4 4
LOCK	08	1640	1700	1646	N27	E12	.439	8880	9.6	20	-N		C	1646	1.00	1.10		20	
MCMA	08	1642	1700	1649	N27	E12	.439	8880	9.6	18	-N		C	1649	.77	.90			E
HUAN	08	1645	1654	1647	N27	E12	.439	8880	9.6	9	-F	1	C	1647	.75	.77			E
SACP	08	1651E	1658U	1651E	N27	E13	.446	8880	9.7	7U	-F		C		.52	.51			
GRP 7025	08	1710	1721	1713	N28	W88	.998	8871	2.1	11	-N				.16				2 2 2
LOCK	08	1710	1725	1712	N28	W90	1.000	8871	2.0	15	-N		C	1712	.10	.40		20	
SACP	08	1712E	1716	1713	N28	W85	.994	8871	2.3	4D	-F		C		.21				
GRP 7026	08	1753	1835	1804	S23	W23	.571	8877	7.0	42	-N				.83				5 5 5
LOCK	08	1751	1830	1803	S23	W24	.580	8877	6.9	39	-N		C	1806	1.20	1.40		20	
HUAN	08	1753	1814D		S23	W23	.571	8877	7.0	21D	-N	1	C	1758	.80	.87			E
MCMA	08	1753	1835	1801	S22	W23	.560	8877	7.0	42	-F		C	1801	.72	.90			E
HALE	08	1754	1841	1804	S23	W22	.562	8877	7.1	47	-N	1	C	1804	.62	.70			G
SACP	08	1803E	1826D	1806U	S23	W23	.571	8877	7.0	23D	-N		C		.83	.88			
GRP 7027	08	1854	2000	1911	S15	W34	.622	8877	6.2	66	-N				.89				4 4 4
LOCK	08	1845	2000	1912	S15	W34	.622	8877	6.2	75	1N		C	1912	1.60	2.10		20	
HALE	08	1856	1946	1912	S16	W34	.628	8877	6.2	50	-N	1	C	1912	.52	.70			G
MCMA	08	1900	2015	1910	S15	W33	.610	8877	6.3	75	-N		C	1910	.62	.80			E
HUAN	08	1909E	2000D		S15	W36	.646	8877	6.1	51D	-F	1	P	1911	.83	.91			E
HALE	08	1905	1946	1919	S18	W32	.619	8877	6.4	41	-N	1	C	1919	.15	.20			G
HUAN	08	1909E	2000D		S17	W32	.612	8877	6.4	51D	-F	1	P						
HALE	08	2005	2017	2007	S13	W35	.623	8877	6.2	12	-N	1	C	2007	.10	.10			G
GRP 7028	08	1951	2009	1958	N30	E24	.571	8880	10.6	18	-F				.34				3 3 3
HALE	08	1948	2009	1958	N30	E24	.571	8880	10.6	21	-N	1	C	1958	.21	.30			G
LOCK	08	1952	2010	2000	N29	E23	.552	8880	10.6	18	-F		C	2000	.40	.50		10	
MCMA	08	1954	2007	1956	N31	E25	.590	8880	10.7	13	-F		C	1956	.41	.50			D
GRP 7029	08	2004	2028	2007	S20	W59	.887	8875	4.4	24	-N				.10				1 1 1
HALE	08	2004	2028	2007	S20	W59	.887	8875	4.4	24	-N	1	C	2007	.10	.20			
GRP 7030	08	2031	2047	2035	N27	E11	.433	8880	9.7	16	-N				.47				3 3 3
LOCK	08	2030	2047	2035	N27	E11	.433	8880	9.7	17	-F		C	2035	.70	.80		10	
MCMA	08	2032	2045	2033	N28	E10	.441	8880	9.6	13	-N		C	2033	.41	.50			E
HALE	08	2032	2050	2036	N26	E11	.419	8880	9.7	18	-N	1	C	2036	.31	.30			E
GRP 7031	08	2117	2135	2122	N14	W41	.666	8876	5.8	18	-F				.10				1 1 1
HALE	08	2117	2135	2122	N14	W41	.666	8876	5.8	18	-F	1	C	2122	.10	.10			G
GRP 7032	08	2202	2218	2204	N14	W41	.666	8876	5.8	16	-F				.10				1 1 1
HALE	08	2202	2218	2204D	N14	W41	.666	8876	5.8	16	-F	1	P	2204	.10	.10			
GRP 7033	08	2237	2330	2244	N30	W90	1.000	8871	2.2	53	1F				.80				1 1 1
LOCK	08	2237	2330	2244	N30	W90	1.000	8871	2.2	53	1F		C	2244	.80	3.20		10	H
GRP 7034	08	2336	2355	2339	N14	W57	.840	8876	4.7	19	-F				.50				1 1 1
LOCK	08	2336	2355	2339	N14	W57	.840	8876	4.7	19	-F		C	2339	.50	1.40		10	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION MCMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7035	09	0110	0234	0204	S23	W64	.926	8875	4.2	84	1B				1.94				3 2 2
LOCK	09	0110	0205D	0142	S23	W66	.937	8875	4.1	55D	1N		C	0142	1.70	3.90		20	
MANI	09	0115E	0230		S23	W64	.926	8875	4.3	75D	1B	1		0144	2.17	4.50			
HALE	09	0203E	0237D	0226U	S23	W63	.920	8875	4.4	34D	-N	1	P	0226	.10				BF
GRP 7036	09	0314	0333	0318	N27	E10	.425	8880	9.9	19	1N				2.99				2 2 2
MANI	09	0313	0335	0318	N28	E10	.440	8880	9.9	22	1F	1		0318	2.37	2.61			
TACH	09	0315	0330		N26	E09	.405	8880	9.8	15	1N		V	0315	3.61	3.90	1.90	60	BE
GRP 7037	09	0433	0442	0435	N04	W31	.514	8877	6.9	9	-N				.15				1 1 1
MANI	09	0433E	0442	0435	N04	W31	.514	8877	6.9	9D	-N	2		0435	.15	.18			
GRP 7038	09	0435	0438	0436	N22	E11	.361	8880	10.0	3	-N				.26				1 1 1
HALE	09	0435	0438D	0436U	N22	E11	.361	8880	10.0	3D	-N	2	P	0436	.26	.30			F
GRP 7039	09	0615	0623	0616	N22	E41	.691	8883	12.3	8	-N				.33				1 1 1
ATHN	09	0615	0623	0616	N22	E41	.691	8883	12.3	8	-N	2		0616	.33	.50	1.70		
GRP 7040	09	0755	0815	0758	N16	W62	.884	8876	4.7	20	1N				1.08				2 2 2
CATA	09	0755	0805	0755	N18	W62	.885	8876	4.7	10	-N			0755	.92			158	
CAPE	09	0755	0825	0800	N14	W62	.883	8876	4.7	30	1N		C	0800	1.24	2.80			HV
GRP 7041	09	0807	0828	0814	N24	E38	.667	8883	12.2	21	-F				.69				1 1 1
CAPE	09	0807	0828	0814	N24	E38	.667	8883	12.2	21	-F		C	0814	.69	.90			H
GRP 7042	09	0920	0940	0924	N16	W63	.891	8876	4.7	20	-F				.52				1 1 1
CAPE	09	0920	0940	0924	N16	W63	.891	8876	4.7	20	-F		C	0924	.52	1.20			
GRP 7043	09	1014	1027	1020	N24	E37	.656	8883	12.2	13	-F				.10				1 1 1
CANA	09	1014	1027	1020	N24	E37	.656	8883	12.2	13	-F		C		.10	.10		100	
GRP 7044	09	1100	1120	1103	N24	E37	.656	8883	12.2	20	-F				.10				1 1 1
CANA	09	1100	1120	1103	N24	E37	.656	8883	12.2	20	-F		C		.10	.10		100	
GRP 7045	09	1446	1502	1455	N23	E33	.606	8883	12.1	16	-F				.50				1 1 1
HUAN	09	1446	1502	1455	N23	E33	.606	8883	12.1	16	-F	2	C	1455	.50	.54			D
GRP 7046	10	0452	0517	0500	N24	W09	.374	8880	9.5	25	1N				3.63				2 2 1
HALE	10	0451	0502D	0456	N24	W10	.381	8880	9.5	11D	-N	1	P	0456	.31	.30			
ATHN	10	0452	0517	0503	N23	W08	.353	8880	9.6	25	1N	2		0503	3.63	3.80	1.70		
GRP 7047	10	0645	0704	0649	S17	W54	.841	8877	6.2	19	-F				.90				1 1 1
CRON	10	0645	0704	0649	S17	W54	.841	8877	6.2	19	-F		C		.90	1.60		100	
GRP 7048	10	0854	0912	0858	N22	E28	.540	8883	12.5	18	1F				4.05				1 1 1
CAPE	10	0854	0912	0858	N22	E28	.540	8883	12.5	18	1F		C	0858	4.05	4.80			H
GRP 7049	10	1110	1130	1115	S20	W90	1.000	8875	3.7	20	-F				.09				1 1 1
CATA	10	1110	1130	1115	S20	W90	1.000	8875	3.7	20	-F			1115	.09			126	
GRP 7050	10	1432	1438	1433	S17	W59	.882	8877	6.2	6	-F				.21				1 1 1
MEUD	10	1432	1438	1433	S17	W59	.882	8877	6.2	6	-F		C	1433	.21	.40			D
GRP 7051	10	1502	1525	1508	S15	E67	.933	8887	15.7	23	-N				.30				2 2 2
CANA	10	1501	1526	1504	S16	E67	.934	8887	15.7	25	-N		C		.30	.70		200	
HOUS	10	1503	1524	1512	S14	E66	.926	8887	15.6	21	-F		C		.30	.70		100	
GRP 7052	10	1606	1639	1612	N24	W12	.395	8880	9.8	33	-F				.62				1 1 1
HALE	10	1606E	1639	1612	N24	W12	.395	8880	9.8	33D	-F	2	P	1612	.62	.70			E
GRP 7053	10	1717	1733	1724	N23	W12	.382	8880	9.8	16	-N				.34				3 3 3
LOCK	10	1717	1738	1724	N23	W13	.390	8880	9.7	21	-F		C	1724	.40	.40		10	
MEUD	10	1722	1728		N23	W10	.366	8880	10.0	6	-F		C	1723	.41	.40			E
HALE	10	1713	1846	1713	N23	W12	.382	8880	9.8	93	-B	1	C	1713	.21	.20			EK
LOCK	10	1755	1815	1800	N23	W13	.390	8880	9.8	20	-F		C	1800	.30	.30		10	
GRP 7054	10	1734	1757	1739	N24	E17	.439	8883	12.0	23	-N				.64				5 5 5
LOCK	10	1732	1800	1740	N24	E15	.420	8883	11.9	28	-N		C	1740	.90	1.00		20	
HALE	10	1732	1819	1744	N24	E18	.448	8883	12.1	47	-N	2	C	1744	.52	.60			
HOUS	10	1734	1753U	1737	N24	E17	.439	8883	12.0	19U	-N		C		.50	.60		200	
MEUD	10	1735	1745	1737	N23	E20	.458	8883	12.2	10	-N		C	1737	.77	.80			E
HUAN	10	1735	1750	1739	N23	E17	.427	8883	12.0	15	-N	1	C	1739	.50	.50			E
GRP 7055	10	1915	1950	1919	S14	E65	.920	8887	15.7	35	-N				.21				2 2 2
HALE	10	1915	1950	1919	S14	E64	.913	8887	15.6	35	-N	1	C	1919	.21				
MCMA	10	1917E	1930D		S14	E65	.920	8887	15.7	13D	-F		S	1917	.21	.50			D
GRP 7056	10	2039	2045	2040	N23	W14	.399	8880	9.8	6	-F				.25				1 1 1
HUAN	10	2039	2045	2040	N23	W14	.399	8880	9.8	6	-F	1	C	2040	.25	.25			D
GRP 7057	10	2054	2113	2100	N23	E15	.408	8883	12.0	19	-N				.67				3 3 3
LOCK	10	2050	2125	2103	N24	E15	.420	8883	12.0	35	-N		C	2103	.90	1.00		20	
HUAN	10	2056	2108	2059	N24	E15	.420	8883	12.0	12	-N	2	C	2059	.70	.71			E
HOUS	10	2057	2107	2058	N20	E16	.382	8883	12.1	10	-N		C		.40	.40		200	
GRP 7058	10	2113	2122	2115	N24	W14	.411	8880	9.8	9	-F				.25				1 1 1
HUAN	10	2113	2122	2115	N24	W14	.411	8880	9.8	9	-F	2	C	2115	.25	.25			D
GRP 7059	10	2146	2205	2148	N24	W14	.411	8880	9.9	19	-N				.58				2 2 2
HUAN	10	2145E	2158D		N24	W14	.411	8880	9.9	13D	-N	1	P	2155	.75	.76			
HALE	10	2146	2205	2148	N24	W13	.403	8880	9.9	19	-N	1	P	2148	.41	.50			
GRP 7060	11	0115	0200	0140	N24	W18	.447	8880	9.7	45	-F				.80				1 1 1
LOCK	11	0115	0200	0140	N24	W18	.447	8880	9.7	45	-F		C	0140	.80	.90		10	
GRP 7061	11	0326	0344		N23	W18	.436	8880	9.8	18	-B				.26				1 1 1
HALE	11	0326E	0344D		N23	W18	.436	8880	9.8	18D	-B	1	P	0344	.26	.30			
GRP 7062	11	0423	0438		N29	W17	.497	8880	9.9	15	-N				.15				1 1 1
HALE	11	0423E	0438		N29	W17	.497	8880	9.9	15D	-N	1	P	0423	.15	.20			
GRP 7063	11	0613	0636		N25	W19	.468	8880	9.8	23	-F				1.55				1 1 1
BUCA	11	0613	0636		N25	W19	.468	8880	9.8	23	-F		C	0618	1.55	1.70			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7064	11	1027	1049	1035	S18	W70	.953	8875	6.2	22	2N				1.98				1 1 1
CAPE	11	1027	1049	1035	S18	W70	.953	8875	6.2	22	2N		C	1035	1.98	6.40			
GRP 7065	11	1114	1151	1122	S06	W67	.925	8877	6.4	37	2F				1.98				1 1 1
CAPE	11	1114	1151	1122	S06	W67	.925	8877	6.4	37	2F		C	1122	1.98	5.40			
GRP 7066	11	2145	2155	2147	N24	W28	.554	8880	9.8	10	-N				.28				3 3 3
LOCK	11	2144	2156	2147	N24	W28	.554	8880	9.8	12	-F		C	2147	.50	.60		10	
HUAN	11	2144	2156		N25	W29	.573	8880	9.7	12	-F	1	C	2148	.25	.26			D
HALE	11	2146	2154	2147	N24	W28	.554	8880	9.8	8	-B	1	P	2147	.10	.10			
GRP 7067	11	2240	2305	2255	N25	E21	.488	8886	13.5	25	-F				.40				1 1 1
LOCK	11	2240	2305D	2255	N25	E21	.488	8886	13.5	25D	-F		C	2255	.40	.50		10	
	11	2355	0000	NO FLARE PATROL															
GRP 7068	12	0104	0138	0106	N24	E00	.342	8883	12.0	34	-N				.31				2 2 2
HALE	12	0104E	0133D	0106	N24	E01	.342	8883	12.1	29D	-B	2	P	0106	.21	.20			
LOCK	12	0110	0142	0125	N24	W01	.342	8883	12.0	32	-F		C	0125	.40	.40		10	
	12	0250	0300	NO FLARE PATROL															
	12	0320	0330	NO FLARE PATROL															
GRP 7069	12	0417	0425	0421	S21	E53	.845	8888	16.2	8	-B				.31				1 1 1
HALE	12	0417E	0425D	0421	S21	E53	.845	8888	16.2	8D	-B	2	P	0421	.31	.60			
GRP 7070	12	0417	0425	0423	S19	E71	.959	8889	17.5	8	-B				.31				1 1 1
HALE	12	0417E	0425D	0423	S19	E71	.959	8889	17.5	8D	-B	2	P	0423	.31				
GRP 7071	12	0420	0433	0424	N23	E17	.424	8886	13.5	13	-F				.41				1 1 1
MANI	12	0420	0433	0424	N23	E17	.424	8886	13.5	13	-F	2		0424	.41	1.45			
GRP 7072	12	0438	0504	0443	S05	E18	.344	8887	13.5	26	-B				.31				1 1 1
HALE	12	0438E	0504D	0443	S05	E18	.344	8887	13.5	26D	-B	2	P	0443	.31	.30			
GRP 7073	12	0438	0447	0445	N25	E20	.477	8886	13.7	9	-N				.21				1 1 1
HALE	12	0438E	0447	0445	N25	E20	.477	8886	13.7	9D	-N	2	P	0445	.21	.20			
GRP 7074	12	0526	0550	0534	S18	E50	.809	8889	16.0	24	-B				.66				1 1 1
ATHN	12	0526	0550	0534	S18	E50	.809	8889	16.0	24	-B	2		0534	.66	1.00	2.00		
GRP 7075	12	0535	0554	0538	S23	W70	.958	8877	7.0	19	-N				.66				1 1 1
ATHN	12	0535	0554	0538	S23	W70	.958	8877	7.0	19	-N	2		0538	.66		1.90		
GRP 7076	12	0600	0654		S22	E55	.864	8889	16.4	54	-N				.66				1 1 1
BUCA	12	0600	0654		S22	E55	.864	8889	16.4	54	-N		C	0615	.66	1.20			
GRP 7077	12	0656	0740	0724	N03	W80	.984	8876	6.3	44	-F				.32				2 2 2
BUCA	12	0656	0750		N02	W80	.984	8876	6.3	54	-F		P	0730	.43				
CRON	12	0722	0730	0724	N04	W79	.981	8876	6.4	8	-F		C		.20	.60		100	
GRP 7078	12	0826	0835	0827	N06	W80	.984	8876	6.4	9	-N				.29				2 2 2
CATA	12	0825	0835	0825	N08	W80	.983	8876	6.4	10	-N			0825	.37			158	
CRON	12	0827	0834	0829	N04	W79	.981	8876	6.4	7	-F		C		.20	.60		100	
GRP 7079	12	0830	1000	0835	N25	E18	.457	8886	13.7	90	-N				.41				1 1 1
SALO	12	0830E	1000D	0835	N24	E19	.456	8886	13.8	90D	-N		P	0840	.41	.50	.14		
SALO	12	0830E	1000D	0835	N26	E18	.469	8886	13.7	90D	-N		P	0840	.41	.50	.14		
GRP 7080	12	0830	1000	0835	S18	E66	.931	8889	17.3	90	1N				.83				1 1 1
SALO	12	0830E	1000D	0835	S18	E66	.931	8889	17.3	90D	1N		P	0840	.83	2.10	.15		
GRP 7081	12	0830	1000	0835	S19	E50	.812	8889	16.1	90	-N				.50				1 1 1
SALO	12	0830E	1000D	0835	S19	E50	.812	8889	16.1	90D	-N		P	0840	.50	.90	.13		
GRP 7082	12	0922	0939	0928	N17	W37	.623	8880	9.6	17	-N				.54				2 2 2
CAPE	12	0920	0946	0928	N17	W37	.623	8880	9.6	26	-N		C	0928	.87	1.10			
MEUD	12	0923	0932		N17	W37	.623	8880	9.6	9	-F		C	0927	.21	.30			D
GRP 7083	12	0945	1010	0955	N17	E45	.719	8885	15.8	25	-B				.33				1 1 1
SALO	12	0945E	1010D	0955	N17	E45	.719	8885	15.8	25D	-B		P	0955	.33	.50	.16		
GRP 7084	12	1011	1026	1016	S21	E49	.810	8888	16.1	15	1N				1.29				1 1 1
CAPE	12	1011	1026	1016	S21	E49	.810	8888	16.1	15	1N		C	1016	1.29	2.30			
GRP 7085	12	1252	1307	1256	N30	W34	.660	8880	10.0	15	-F				.46				1 1 1
CAPE	12	1252	1307	1256	N30	W34	.660	8880	10.0	15	-F		C	1256	.46	.60			
GRP 7086	12	1543	1552	1545	S15	E36	.648	8887	15.4	9	-F				.62				2 2 2
MCMA	12	1542	1556	1545	S15	E36	.648	8887	15.4	14	-F		C	1545	.52	.70			EH
MEUD	12	1543	1548		S14	E35	.631	8887	15.3	5	-F		C	1545	.72	.90			
GRP 7087	12	1611	1644	1612	N23	W35	.626	8880	10.0	33	-B				.41				1 1 1
HALE	12	1611	1644	1612	N23	W35	.626	8880	10.0	33	-B	2	C	1612	.41	.50			
GRP 7088	12	1741	1746	1743	S23	E49	.818	8888	16.4	5	-N				.31				1 1 1
HALE	12	1741	1746	1743	S23	E49	.818	8888	16.4	5	-N	2	C	1743	.31	.50			
GRP 7089	12	1750	1756	1753	S15	E34	.625	8887	15.3	6	-N				.35				4 4 4
LOCK	12	1749	1758	1753	S15	E34	.625	8887	15.3	9	-F		C	1753	.30	.40		10	
MCMA	12	1750	1755	1752	S15	E35	.637	8887	15.4	5	-F		C	1752	.31	.40			D
MEUD	12	1751	1755		S14	E33	.607	8887	15.2	4	-F		C	1752	.36	.40			
HALE	12	1751	1757	1753	S14	E33	.607	8887	15.2	6	-B	2	C	1753	.41	.50			
GRP 7090	12	1802	1803		S14	E33	.607	8887	15.2	1	-F				.26				1 1 1
MEUD	12	1802	1803		S14	E33	.607	8887	15.2	1	-F		C	1802	.26	.30			D
GRP 7091	12	1905	1925	1915	S20	E64	.922	8889	17.6	20	-N				.52				1 1 1
MCMA	12	1905	1925	1915	S20	E64	.922	8889	17.6	20	-N		V	1915	.52	1.30			E
GRP 7092	12	1933	1941	1937	S20	E64	.922	8889	17.6	8	-N				.42				2 2 2
MCMA	12	1930	1940	1935	S20	E64	.922	8889	17.6	10	-N		V	1935	.52	1.30			E
HALE	12	1935	1941	1938	S20	E64	.922	8889	17.6	6	-N	2	C	1938	.31				

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
	1967 JULY																		
GRP 7093	12	1947	1956	1949	S15	E34	.625	8889	15.4	9	-N				.26				2 2 2
LOCK	12	1945	1955	1948	S15	E34	.625	8889	15.4	10	-F		C	1948	.30	.40		10	
HALE	12	1948	1956	1950	S14	E33	.607	8889	15.3	8	-N	2	C	1950	.21	.30			
GRP 7094	12	2044	2052	2046	S14	E34	.619	8887	15.4	8	-N				.36				3 3 3
LOCK	12	2042	2052	2046	S15	E34	.625	8887	15.4	10	-F		C	2046	.40	.50		10	
MCMA	12	2044	2048D	2046	S15	E36	.648	8887	15.6	4D	-N		C	2046	.36	.50			D
HALE	12	2045	2051	2046	S13	E31	.576	8887	15.2	6	-B	2	C	2046	.31	.40			
GRP 7095	12	2047	2051	2048	N22	W43	.712	8880	9.6	4	-N				.21				1 1 1
HALE	12	2047	2051	2048	N22	W43	.712	8880	9.6	4	-N	2	C	2048	.21	.30			
GRP 7096	12	2211	2223	2217	S15	E33	.613	8889	15.4	12	-F				.41				2 2 2
LOCK	12	2210	2222	2213	S15	E34	.625	8889	15.5	12	-F		C	2213	.40	.50		10	
HALE	12	2212	2224D	2221	S14	E31	.583	8889	15.3	12D	-F	2	P	2221	.41	.50			
	12	2255	2300	NO FLARE PATROL															
GRP 7097	12	2309	2318	2312	S18	E60	.892	8889	17.5	9	-F				.21				1 1 1
HALE	12	2309	2318	2312	S18	E60	.892	8889	17.5	9	-F	2	C	2312	.21	.50			
	12	2355	0000	NO FLARE PATROL															
GRP 7098	13	0110	0142	0117	S13	E28	.540	8887	15.1	32	-B				.52				1 1 1
HALE	13	0110	0142	0117	S13	E28	.540	8887	15.1	32	-B	1	C	0117	.52	.60			
GRP 7099	13	0224	0230	0226	N20	E05	.286	8886	13.5	6	-B				.31				1 1 1
HALE	13	0224	0230	0226	N20	E05	.286	8886	13.5	6	-B	1	C	0226	.31	.30			
GRP 7100	13	0237	0252	0239	S13	E28	.540	8887	15.2	15	-B				.41				1 1 1
HALE	13	0237	0252	0239	S13	E28	.540	8887	15.2	15	-B	1	C	0239	.41	.50			
GRP 7101	13	0428	0443	0428	S18	E70	.953	8889	18.4	15	-N				.99				1 1 1
ATHN	13	0428E	0443	0428	S18	E70	.953	8889	18.4	15D	-N	2		0428	.99		1.80		
GRP 7102	13	0633	0656	0635	S20	E57	.874	8889	17.5	23	-N				.47				2 2 2
CATA	13	0625	0655	0635	S22	E56	.872	8889	17.5	30	-N			0635	.51	1.02		190	
BUCA	13	0640	0657		S18	E58	.877	8889	17.6	17	-N		C	0645	.43	.80			
GRP 7103	13	0725	0745	0725	S17	W79	.987	8877	7.4	20	-N				.21				1 1 1
CATA	13	0725	0745	0725	S17	W79	.987	8877	7.4	20	-N			0725	.21			166	
GRP 7104	13	0749	0757		S20	W75	.976	8877	7.7	8	-F				.10				1 1 1
MEUD	13	0749	0757		S20	W75	.976	8877	7.7	8	-F		C	0752	.10				D
GRP 7105	13	0820	0830		S19	E52	.830	8889	17.2	10	1N				.83				1 1 1
SALO	13	0820E	0830D		S20	E54	.850	8889	17.4	10D	1N		S	0820	.83	1.50	.13		
SALO	13	0820E	0830D		S19	E51	.822	8889	17.2	10D	-N		S	0820	.50	.90	.13		
GRP 7106	13	1129	1215	1140	S17	W82	.994	8877	7.3	46	1N				.72				4 4 3
CAPE	13	1127	1210	1140	S18	W83	.996	8877	7.3	43	-N		C	1140	.46				T
MONT	13	1129	1215	1140	S20	W78	.985	8877	7.6	46	1N			1140	1.03				
MCMA	13	1130	1150D	1141	S18	W88	1.000	8877	6.9	20D	-N		V	1141					D
SALO	13	1130E	1220D		S13	W80	.988	8877	7.5	50D	1B		S	1150	.66	3.30	.14		
GRP 7107	13	1258	1454	1342	N23	W48	.766	8880	9.9	116	2N				3.39				3 2 2
CAPE	13	1250	1432	1344	N23	W48	.766	8880	9.9	102	1N			1344	1.61	2.50			
MONT	13	1305	1500	1340	N22	W47	.753	8880	10.0	115	2F			1340	5.16				
SALO	13	1430E	1510D	1440	N23	W50	.786	8880	9.9	40D	-N		S	1440	.50	.80	.13		
GRP 7107	13	1315	1403	1318	N26	W47	.766	8880	10.0	48	-N				1.30				3 3 3
CAPE	13	1250	1432	1318	N23	W48	.766	8880	9.9	102	1N		C	1318	2.07	3.20			FK
CANA	13	1315	1339	1318	N31	W44	.758	8880	10.3	24	-N		C		.80	1.20		200	E
MCMA	13	1318E	1357D		N23	W49	.776	8880	9.9	39D	-N		V	1327	1.03	1.70			F
GRP 7108	13	1339	1351	1343	S17	W83	.995	8877	7.3	12	-F				.23				1 1 1
CAPE	13	1339	1351	1343	S17	W83	.995	8877	7.3	12	-F		C	1343	.23				T
GRP 7107	13	1351	1421	1357	N27	W46	.760	8880	10.1	30	1N				1.48				2 2 2
CAPE	13	1250	1432	1359	N23	W48	.766	8880	9.9	102	1N			1359	2.26	3.60			
CANA	13	1351	1410	1355	N31	W44	.758	8880	10.3	19	-N		C		.70	1.10		200	EIJ
GRP 7109	13	1430	1510	1440	S13	W80	.988	8877	7.6	40	1B				.66				1 1 1
SALO	13	1430E	1510D	1440	S13	W80	.988	8877	7.6	40D	1B		S	1440	.66	3.30	.14		
GRP 7110	13	1520	1524	1520	S16	W85	.998	8877	7.3	4	-N				.05				1 1 1
CATA	13	1520	1524	1520	S16	W85	.998	8877	7.3	4	-N			1520	.05			155	
	13	1920	1925	NO FLARE PATROL															
	13	1930	1940	NO FLARE PATROL															
	13	2045	2150	NO FLARE PATROL															
GRP 7111	14	0408	0417	0413	N24	W56	.842	8880	10.0	9	-F				.20				1 1 1
CRON	14	0408	0417	0413	N24	W56	.842	8880	10.0	249	-F		C		.20	.40		100	
GRP 7112	14	0549	0629		N23	W58	.857	8880	9.9	40	1F				2.55				1 1 1
BUCA	14	0549	0629		N23	W58	.857	8880	9.9	40	1F		P	0602	2.55	4.90			
GRP 7113	14	0553	0643		N25	W08	.377	8883	13.6	50	-F				.88				1 1 1
BUCA	14	0553	0643		N25	W08	.377	8883	13.6	50	-F		C	0611	.88	1.60			
GRP 7114	14	0708	0750	0737	S19	E41	.726	8889	17.4	42	-N				.65				2 2 2
BUCA	14	0708	0755		S19	E41	.726	8889	17.4	47	-F		C	0736	.88	1.30			
CAPE	14	0733	0744	0737	S19	E40	.716	8889	17.3	11	-N		C	0737	.41	.60			
CAPE	14	0720E	0731	0722	S19	E41	.726	8889	17.4	11D	-F		P	0722	1.06	1.60			B
GRP 7115	14	0745	0800	0745	N24	W60	.874	8880	9.8	15	-B				.07				1 1 1
CATA	14	0745	0800	0745	N24	W60	.874	8880	9.8	15	-B			0745	.07	.16		214	
GRP 7116	14	0758	0803	0759	S19	E40	.716	8889	17.3	5	-F				.37				1 1 1
CAPE	14	0758	0803	0759	S19	E40	.716	8889	17.3	5	-F		C	0759	.37	.50			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %			
	1967 JULY																			
GRP 7117	14	0930	1000	0935	N27	W60	.879	8880	9.9	30	-N				±07				1	1	1
CATA	14	0930	1000	0935	N27	W60	.879	8880	9.9	30	-N			0935	±07			170			
GRP 7118	14	1205	1235	1215	S22	E40	.732	8889	17.5	30	-N				±23				1	1	1
CATA	14	1205	1235	1215	S22	E40	.732	8889	17.5	30	-N			1215	±23	.34		182			
GRP 7119	14	1324	1337	1326	N25	E83	.990	8895	20.8	13	-F				±51				1	1	1
SACP	14	1324	1337	1326	N25	E83	.990	8895	20.8	13	-F		C		±51						
GRP 7120	14	1530	1620	1535	S18	E33	.635	8889	17.1	50	1F				±83				1	1	1
SALO	14	1530E	1620D	1535	S18	E33	.635	8889	17.1	50D	1F		V	1535	±83	1.20	±12				
GRP 7121	14	1550	1615	1556	N25	W65	.911	8880	9.8	25	-N				±60				4	4	4
SANM	14	1547	1602D	1555	N24	W67	.923	8880	9.6	15D	-F		P	1555	±65	1.65					
CANA	14	1548	1557D	1551	N26	W65	.912	8880	9.8	9D	-F		C		±40	.90		100			
HOUS	14	1554	1609	1603	N25	W65	.911	8880	9.8	15	-N		C		±50	1.10		200	I		
SALO	14	1530E	1620D	1535	N24	W64	.903	8880	9.8	50D	1B		V	1535	±83	1.90	±14				
GRP 7120	14	1620	1650	1630	S20	E37	.690	8889	17.5	30	1F				±66				1	1	1
SALO	14	1620E	1650D	1630	S20	E37	.690	8889	17.5	30D	1F		V	1630	±66	.90	±13				
GRP 7122	14	1620	1650	1630	N26	W14	.432	8883	13.6	30	-B				1±16				1	1	1
SALO	14	1620E	1650D	1630	N26	W14	.432	8883	13.6	30D	-B		V	1630	1±16	1.30	±14				
GRP 7123	14	1659	1722	1704	S16	E34	.633	8889	17.3	23	-N				±87				3	3	3
LOCK	14	1658	1722	1706	S14	E36	.644	8889	17.4	24	-N		C	1706	±80	1.00		20			
ATHN	14	1659	1705D	1702	S17	E31	.605	8889	17.0	6D	-B	2		1702	1±32	1.70	2±00				
HOUS	14	1700	1721	1704	S18	E34	.646	8889	17.3	21	-N		C		±50	.70		200			
GRP 7124	14	2142	2155	2144	N24	W67	.923	8880	9.9	13	-N				±61				1	1	1
SACP	14	2142E	2155	2144	N24	W67	.923	8880	9.9	13D	-N		C		±61	1.06					
GRP 7125	15	0225	0246	0227	N21	W72	.949	8880	9.7	21	1N				1±34				1	1	1
MITK	15	0225	0246	0227	N21	W72	.949	8880	9.7	21	1N		C	0227	1±34						
GRP 7126	15	0309	0310		N24	W19	.452	8883	13.7	1	-N				±62				1	1	1
MANI	15	0309E	0310D		N24	W19	.452	8883	13.7	1D	-N	1		0309	±62	.70					
GRP 7127	15	0555	0625	0610	N20	E85	.994	8895	21.6	30	-F				±07				1	1	1
CATA	15	0555	0625	0610	N20	E85	.994	8895	21.6	30	-F			0610	±07			135			
GRP 7128	15	0620	0635		N26	W19	.474	8883	13.8	15	-N				±55				1	1	1
BUCA	15	0620	0635		N26	W19	.474	8883	13.8	15	-N		C	0623	±55	.60					
GRP 7129	15	0730	0815	0740	N27	W20	.495	8883	13.8	45	1N				2±06				1	1	1
MONT	15	0730E	0815	0740	N27	W20	.495	8883	13.8	45D	1N			0745	2±06						
GRP 7130	15	0745	0805	0755	S19	E28	.589	8889	17.4	20	-N				±18				1	1	1
CATA	15	0745	0805	0755	S19	E28	.589	8889	17.4	20	-N			0755	±18	.22		162			
GRP 7131	15	0850	0923	0852	S19	E25	.558	8889	17.2	33	-N				±21				2	2	2
CANA	15	0850	0911	0853	S19	E25	.558	8889	17.2	21	-F		C		±20	.20		100			
CATA	15	0850	0935	0850	S18	E25	.548	8889	17.2	45	-N			0850	±21	.26		174			
GRP 7132	15	0939	0958	0946	S18	E26	.559	8889	17.4	19	-N				±90				2	2	2
CAPS	15	0939	0953		S18	E26	.559	8889	17.4	14	-F	3		0944	±50	.60		152	J		
CAPE	15	0939	1002	0946	S18	E26	.559	8889	17.4	23	-N		C	0946	1±29	1.50			T		
GRP 7133	15	1005	1025	1011	S19	E27	.579	8889	17.4	20	-N				1±47				1	1	1
CAPE	15	1005	1025	1011	S19	E27	.579	8889	17.4	20	-N		C	1011	1±47	1.80			T		
GRP 7134	15	1005	1047	1013	N25	W77	.972	8880	9.6	42	-N				±18				1	1	1
CAPE	15	1005	1047	1013	N25	W77	.972	8880	9.6	42	-N		C	1013	±18	.80			T		
GRP 7135	15	1158	1204	1200	N26	W79	.979	8880	9.6	6	-N				±26				3	3	3
CANA	15	1156	1202	1159	N26	W80	.982	8880	9.5	6	-F		C		±20	.60		100			
CAPE	15	1158	1205	1200	N25	W78	.976	8880	9.6	7	-N		C	1200	±37	1.80					
MCMA	15	1159	1204	1201	N26	W78	.976	8880	9.6	5	-N		V	1201	±21				D		
GRP 7136	15	1254	1314	1258	S17	E24	.528	8889	17.3	20	1N				1±62				2	2	2
SACP	15	1254	1313	1259	S17	E23	.517	8889	17.3	19	-F		C		±92	.96					
ATHN	15	1254	1315	1257	S17	E25	.539	8889	17.4	21	1N	1		1257	2±31	1.60	2±50				
GRP 7137	15	1527	1601	1531	S18	E23	.527	8889	17.4	34	-N				1±46				7	7	7
SALO	15	1520E	1630D		S18	E23	.527	8889	17.4	70D	1B		S	1520	1±65	2.10	±16				
CATA	15	1525	1615	1530	S19	E23	.537	8889	17.4	50	-B			1530	1±37	1.60		234			
SACP	15	1528	1546	1531	S17	E22	.507	8889	17.3	18	1N		C		2±15	2.21					
ATHN	15	1529	1553	1532	S17	E23	.517	8889	17.4	24	-N	1		1532	1±65	1.70	1±90				
CAPS	15	1530	1546		S18	E23	.527	8889	17.4	16	-N	3		1532	1±50	1.70		176	J		
MCMA	15	1530	1554	1531	S18	E22	.517	8889	17.3	24	-N		V	1531	1±03	1.20			E		
LOCA	15	1535E	1605		S18	E25	.548	8889	17.5	30D	-N		S	1535	±85	1.00					
GRP 7138	15	1608	1626	1612	N26	W27	.556	8883	13.6	18	-N				±80				4	4	4
MCMA	15	1606	1625	1610	N26	W26	.545	8883	13.7	19	-N		V	1610	±62	.80			E		
SACP	15	1607	1622	1612	N26	W27	.556	8883	13.6	15	-N		C		1±23	1.29					
ATHN	15	1610E	1620		N25	W28	.558	8883	13.6	10D	-F	1		1610	±66	1.40	1±40				
CATA	15	1610	1635	1615	N27	W25	.544	8883	13.8	25	-B			1615	±68	.82		219			
GRP 7139	15	1758	1807	1801	S17	E22	.507	8889	17.4	9	-F				±61				1	1	1
SACP	15	1758	1807	1801	S17	E22	.507	8889	17.4	9	-F		C		±61	.63					
GRP 7140	15	2151	2215	2155	S17	E18	.466	8889	17.3	24	-N				1±30				1	1	1
LOCK	15	2151	2215	2155	S17	E18	.466	8889	17.3	24	-N		C	2155	1±30	1.40		20			
GRP 7141	15	2235	2312	2241	S17	E18	.466	8889	17.3	37	-N				1±25				3	3	3
SACP	15	2232	2315	2236	S17	E18	.466	8889	17.3	43	-N		C		1±52	1.55					
LOCK	15	2233	2310	2242	S17	E18	.466	8889	17.3	37	-N		C	2242	1±20	1.30		20			
MANI	15	2240	2312	2246	S17	E18	.466	8889	17.3	32	-N	2		2246	1±03	1.17					
GRP 7142	15	2309	2324	2317	S29	E80	.993	8894	22.0	15	-N				±61				1	1	1
SACP	15	2309	2324	2317	S29	E80	.993	8894	22.0	15	-N		C		±61						

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7143	16	0017	0043	0027	S17	E17	.457	8889	17.3	26	-N				.81				2 2 2
LOCK	16	0017	0050	0027	S17	E18	.467	8889	17.4	33	-F		C	0027	1.00	1.10		10	
MANI	16	0023E	0036		S16	E16	.436	8889	17.2	13D	-N	1		0025	.62	.67			
	16	0410	0420	NO FLARE PATROL															
	16	0440	0445	NO FLARE PATROL															
GRP 7144	16	0614	0643	0618	S17	E14	.430	8889	17.3	29	-N				1.12				4 4 4
BUCA	16	0610	0700		S16	E12	.400	8889	17.2	50	1N		C	0616	2.21	2.40			
MITK	16	0615	0624D	0617	S16	E15	.426	8889	17.4	9D	-N		C	0617	.62	.70			E
CATA	16	0615	0640	0620	S16	E13	.409	8889	17.2	25	-B			0630	.37	.41		204	
ATHN	16	0616	0628	0618	S17	E13	.422	8889	17.2	12	-N	2		0618	.99	1.10	1.80		
CATA	16	0535	0615	0540	S18	E15	.452	8889	17.4	40	-N			0540	.66	.75		186	
GRP 7145	16	0730	0845		S28	E90	1.001	8899	23.1	75	-N								1 1 0
ISTA	16	0730E	0845		S28	E90	1.001	8899	23.1	75D	-N								
GRP 7146	16	0734	0800		N25	W33	.613	8883	13.8	26	1N				2.06				1 1 1
MONT	16	0734E	0800		N25	W33	.613	8883	13.8	26D	1N			0743	2.06				
GRP 7147	16	0815	0830	0819	N23	W33	.600	8883	13.9	15	-N				1.03				1 1 1
MONT	16	0815	0830	0819	N23	W33	.600	8883	13.9	15	-N			0819	1.03				
GRP 7148	16	0947	1000	0948	N19	E70	.938	8895	21.7	13	-F				.38				2 2 2
CANA	16	0946	0951	0947	N18	E70	.937	8895	21.7	5	-F		C		.30	.70		100	
CAPE	16	0947	1008	0949	N20	E70	.938	8895	21.7	21	-F		C	0949	.46	1.30			
GRP 7149	16	1533	1544	1535	S21	E51	.830	8894	20.5	11	-N				.48				5 5 5
HOUS	16	1532	1542	1534	S23	E52	.845	8894	20.5	10	-N		C		.30	.50		200	E
LOCK	16	1532	1544	1535	S20	E50	.817	8894	20.4	12	-N		C	1535	.80	1.40		20	
HUAN	16	1533	1538D		S21	E52	.838	8894	20.5	5D	-F	1	P	1534	.31	.32			D
SANM	16	1534	1536D		S21	E51	.830	8894	20.5	2D	-F		P	1536	.48	.90			
MCMA	16	1534	1545	1536	S21	E50	.821	8894	20.4	11	-N		V	1536	.52	1.00			EH
GRP 7150	16	1723	1747		N25	W42	.710	8883	13.6	24	-F				.21				1 1 1
HUAN	16	1723	1747		N25	W42	.710	8883	13.6	24	-F	1	C	1727	.21	.25			D
GRP 7151	16	1918	1940	1925	S18	E90	1.000	8899	23.6	22	-F				.30				1 1 1
LOCK	16	1918	1940	1925	S18	E90	1.000	8899	23.6	22	-F		C	1925	.30	1.20		10	H
GRP 7152	16	2020	2041	2027	S18	E90	1.000	8899	23.6	21	-F				.20				1 1 1
LOCK	16	2020	2041	2027	S18	E90	1.000	8899	23.6	21	-F		C	2027	.20	.80		10	H
GRP 7153	16	2115	2140	2122	S18	E90	1.000	8899	23.6	25	-N				.30				1 1 1
LOCK	16	2115	2140	2122	S18	E90	1.000	8899	23.6	25	-N		C	2122	.30	1.20		10	
GRP 7154	16	2135	2151	2141	S28	E77	.987	8899	22.7	16	-F				.50				1 1 1
LOCK	16	2135	2151	2141	S28	E77	.987	8899	22.7	16	-F		C	2141	.50	1.60		10	
GRP 7155	16	2147	2205	2152	S18	E90	1.000	8901	23.7	18	-F				.20				1 1 1
LOCK	16	2147	2205	2152	S18	E90	1.000	8901	23.7	18	-F		C	2152	.20	.80		10	H
GRP 7155	16	2205	2242	2215	S18	E90	1.000	8901	23.7	37	-F				.30				1 1 1
LOCK	16	2205	2242	2215	S18	E90	1.000	8901	23.7	37	-F		C	2215	.30	1.20		10	H
GRP 7155	16	2205	2242	2237	S18	E90	1.000	8901	23.7	37	-F				.30				1 1 1
LOCK	16	2205	2242	2237	S18	E90	1.000	8901	23.7	37	-F		C	2237	.30	1.20		10	H
GRP 7156	16	2340	0010	2350	S18	E90	1.000	8901	23.7	30	-F				.40				1 1 1
LOCK	16	2340	0010	2350	S18	E90	1.000	8901	23.7	30	-F		C	2350	.40	1.60		10	
GRP 7157	17	0601	0715		S19	E42	.738	8894	20.4	74	1F				2.88				1 1 1
BUCA	17	0601	0715		S19	E42	.738	8894	20.4	74	1F		P	0601	2.88	4.20			
GRP 7158	17	0605	0645	0605	S22	E03	.449	8889	17.5	40	-N				.11				1 1 1
CATA	17	0605	0645	0605	S22	E03	.449	8889	17.5	40	-N			0605	.11	.13		191	
GRP 7159	17	0650	0750		S15	E90	1.000	8901	24.0	60	-N								1 1 0
ISTA	17	0650E	0750		S15	E90	1.000	8901	24.0	60D	-N								
GRP 7160	17	0952	1030		S22	E84	.998	8899	23.7	38	-N								1 1 0
LOCA	17	0952E	1030		S22	E84	.998	8899	23.7	38D	-N		V						AH
GRP 7161	17	1055	1125	1058	S20	E89	1.000	8901	24.1	30	-B				.99				1 1 1
ATHN	17	1055E	1125	1058	S20	E89	1.000	8901	24.1	30D	-B	2		1058	.99		1.90		
GRP 7162	17	1140	1157	1144	S19	W20	.510	8888	16.0	17	-N				.41				2 2 2
CAPE	17	1137	1200	1143	S18	W20	.499	8888	16.0	23	-N		C	1143	.46	.50			
MCMA	17	1142	1153	1144	S19	W19	.501	8888	16.1	11	-F		C	1144	.36	.40			E
GRP 7163	17	1229	1247	1238	N20	E55	.826	8895	21.6	18	1F				1.16				1 1 1
CAPE	17	1229	1247	1238	N20	E55	.826	8895	21.6	18	1F		C	1238	1.16	2.10			
GRP 7164	17	1430	1444	1432	S20	E88	1.000	8901	24.2	14	-B				.99				1 1 1
ATHN	17	1430E	1444	1432	S20	E88	1.000	8901	24.2	14D	-B	2		1432	.99		1.80		
GRP 7165	17	1511	1529	1516	N25	W53	.817	8886	13.7	18	-N				.85				6 6 6
HUAN	17	1509	1525		N26	W53	.819	8886	13.7	16	-N	1	C	1515	.75	1.00			E
SACP	17	1510	1529	1516	N25	W52	.808	8886	13.7	19	-N		C		.92	1.23			
CATA	17	1510	1535	1510	N24	W53	.815	8886	13.7	25	-B			1510	.60	1.09		224	
MCMA	17	1512	1532	1515	N26	W53	.819	8886	13.7	20	-N		V	1515	.93	1.70			E
CAPS	17	1513	1530		N25	W51	.799	8886	13.8	17	1B	3		1518	1.30	2.10		216	G
MEUD	17	1514	1520		N23	W54	.822	8886	13.6	6	-N		C	1514	.62	1.00			
GRP 7166	17	1836	1907	1845	S12	E90	1.000	8901	24.5	31	-F				.30				1 1 1
LOCK	17	1836	1907	1845	S12	E90	1.000	8901	24.5	31	-F		C	1845	.30	1.20		10	H
GRP 7167	17	2300	2325	2314	S30	E65	.945	8899	22.8	25	1N				.53				2 2 2
LOCK	17	2300	2330	2315	S30	E69	.963	8899	23.1	30	1F		C	2315	.80	2.20		10	
MANI	17	2311E	2319	2312	S29	E60	.917	8899	22.5	8D	-N	2		2312	.26	.52			
GRP 7168	18	0041	0052	0044	S27	E62	.925	8899	22.7	11	-N				.30				1 1 1
LOCK	18	0041	0052	0044	S27	E62	.925	8899	22.7	11	-N		C	0044	.30	.70		20	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7169	18	0105	0122	0115	S23	E82	.995	8901	24.2	17	-F				.40				1 1 1
LOCK	18	0105	0122	0115	S23	E82	.995	8901	24.2	17	-F		C	0115	.40	1.40		10	
GRP 7170	18	0407	0414		N25	W59	.867	8886	13.7	7	1N				1.84				1 1 1
TACH	18	0407	0414		N25	W59	.867	8886	13.7	7	1N		V	0407	1.84	3.50	2.60	84	
GRP 7171	18	1108	1122	1111	N09	E34	.560	8895	21.0	14	-F				.61				2 2 2
CANA	18	1107	1123	1112	N08	E34	.559	8895	21.0	16	-F		C		.30	.40		100	
CAPE	18	1108	1121	1110	N10	E34	.561	8895	21.0	13	-F		C	1110	.92	1.10			
GRP 7172	18	1602	1636	1617	S25	E73	.973	8901	24.1	34	-N				.51				2 2 2
LOCK	18	1600	1635	1615	S25	E72	.969	8901	24.1	35	-N		C	1615	.50	1.40		20	
SACP	18	1603	1637	1618	S24	E73	.972	8901	24.1	34	-N		C		.52	1.18			
GRP 7173	19	0248	0256	0248	S23	E63	.923	8901	23.8	8	-N				.47				2 2 2
IKOM	19	0248	0253D		S23	E60	.904	8901	23.6	5D	-F		V	0248	.31				D
MITK	19	0248	0256	0248	S22	E66	.939	8901	24.1	8	-N		C	0248	.62				E
	19	0335	0345	NO FLARE PATROL															
GRP 7174	19	0351	0359		S12	E49	.783	8899	22.8	8	1N				1.64				1 1 1
TACH	19	0351	0359		S12	E49	.783	8899	22.8	8	1N		V	0351	1.64	2.60	2.10	75	
GRP 7175	19	0403	0430	0414	N08	E25	.424	8895	21.0	27	-F				.72				1 1 1
MANI	19	0403	0430	0414	N08	E25	.424	8895	21.0	27	-F	2		0414	.72	.80			
GRP 7176	19	0930	0952		S26	E76	.984	8901	25.1	22	1F				.50				2 1 1
KHAR	19	0930E	0946D		S27	E90	1.001	8901	26.1	16D	1F		V	0932			2.80		DH
CAPS	19	0944	0957		S24	E61	.913	8901	24.0	13	-F	3		0947	.50			152	
GRP 7177	19	1145	1215	1200	S18	W30	.606	8889	17.2	30	1N				2.06				1 1 1
MONT	19	1145	1215	1200	S18	W30	.606	8889	17.2	30	1N			1200	2.06				
GRP 7178	19	1242	1300	1251	S31	E45	.827	8899	22.9	18	-F				.41				1 1 1
MCMA	19	1242	1300D	1251	S31	E45	.827	8899	22.9	18D	-F		C	1251	.41	.90			EJ
GRP 7179	19	1510	1520	1510	S22	E60	.902	8901	24.1	10	-N				.07				1 1 1
CATA	19	1510	1520	1510	S22	E60	.902	8901	24.1	10	-N			1510	.07			199	
GRP 7180	19	1617	1630	1619	N29	W17	.487	8891	18.4	13	-N				.48				5 5 5
CATA	19	1615	1630	1615	N28	W16	.467	8891	18.5	15	-N			1615	.59	.68		178	
SACP	19	1616	1632	1620	N29	W17	.487	8891	18.4	16	-F		C		.31	.31			
LOCK	19	1617	1628	1621	N30	W18	.507	8891	18.3	11	-N		C	1621	.60	.70		10	
HUAN	19	1618	1628	1620	N30	W17	.500	8891	18.4	10	-N	2	C	1620	.50	.50			E
MCMA	19	1619	1630	1620	N30	W18	.507	8891	18.3	11	-F		C	1620	.41	.50			E
GRP 7181	19	1730	1736	1732	N24	W80	.982	8886	13.7	6	-F				.25				1 1 1
HUAN	19	1730	1736	1732	N24	W80	.982	8886	13.7	6	-F	2	C	1732	.25				D
GRP 7182	19	1818	1819		S30	E41	.792	8899	22.8	1	-F				.25				1 1 1
HUAN	19	1818E	1819D		S30	E41	.792	8899	22.8	1D	-F	1	P	1818	.25	.32			D
GRP 7183	19	1915	1916		S23	E63	.923	8901	24.5	1	-F				.25				1 1 1
HUAN	19	1915E	1916D		S23	E63	.923	8901	24.5	1D	-F	1	P	1915	.25	.40			D
GRP 7184	19	2011	2021	2015	S23	E50	.830	8899	23.6	10	-F				.40				1 1 1
LOCK	19	2011	2021	2015	S23	E50	.830	8899	23.6	10	-F		C	2015	.40	.70		10	
GRP 7185	19	2039	2055	2043	S22	E10	.476	8894	20.6	16	-F				.50				1 1 1
LOCK	19	2039	2055	2043	S22	E10	.476	8894	20.6	16	-F		C	2043	.50	.60		10	
GRP 7186	19	2043	2103	2048	S25	E56	.882	8901	24.1	20	-F				.80				1 1 1
LOCK	19	2043	2103	2048	S25	E56	.882	8901	24.1	20	-F		C	2048	.80	1.60		10	
GRP 7187	19	2151	2210	2158	S31	E38	.776	8899	22.8	19	-F				.60				1 1 1
LOCK	19	2151	2210	2158	S31	E38	.776	8899	22.8	19	-F		C	2158	.60	1.00		10	
GRP 7188	19	2303	2313	2307	S24	E46	.801	8899	23.4	10	-N				.70				1 1 1
LOCK	19	2303	2313	2307	S24	E46	.801	8899	23.4	10	-N		C	2307	.70	1.20		20	
GRP 7189	19	2320	0000	2334	S31	E38	.776	8899	22.8	40	-F				.40				1 1 1
LOCK	19	2320	0000	2334	S31	E38	.776	8899	22.8	40	-F		C	2334	.40	.60		10	J
GRP 7190	20	0017	0030	0020	S24	E46	.801	8899	23.5	13	-B				.80				1 1 1
LOCK	20	0017	0030	0020	S24	E46	.801	8899	23.5	13	-B		C	0020	.80	1.40		30	
GRP 7191	20	0052	0101	0056	S23	E47	.805	8899	23.6	9	-F				.46				2 2 2
SACP	20	0050	0102	0056	S22	E47	.801	8899	23.6	12	-F		C		.31	.40			
LOCK	20	0053	0100	0056	S24	E46	.801	8899	23.5	7	-F		C	0056	.60	1.00		10	
GRP 7192	20	0549	0625	0553	S22	E50	.827	8901	24.0	36	1N				2.88				9 9 8
CATA	20	0540	0640	0545	S23	E50	.830	8901	24.0	60	1B			0545	1.94	3.66		308	
ATHN	20	0547	0621	0551	S21	E52	.840	8901	24.1	34	1N	2		0551	1.98	3.60	1.80		
MITK	20	0547	0639	0551	S22	E50	.827	8901	24.0	52	2F		C	0551	3.40	6.30			
KIEV	20	0548	0610	0549	S23	E51	.839	8901	24.1	22	1N		C	0549	3.09			70	I
MANI	20	0548	0624D		S20	E49	.810	8901	23.9	36D	-N	1		0553	.83	1.38			
CAPS	20	0550E	0628		S22	E50	.827	8901	24.0	38D	1B	3		0555	2.00	3.40		288	
TACH	20	0555	0614	0559	S22	E52	.843	8901	24.1	19	2F		V	0555	3.20	6.10	2.40	75	
BUCA	20	0557	0710		S21	E47	.797	8901	23.8	73	2N		P	0558	3.32	5.40			
WEND	20	0601E	0624		S22	E49	.818	8901	23.9	23D	1N		V		4.13				
GRP 7193	20	0716	0813	0724	S22	E49	.818	8901	24.0	57	1N				3.45				5 5 5
MONT	20	0715	0800	0725	S22	E47	.801	8901	23.8	45	2N			0725	5.16				
CATA	20	0715	0825	0724	S23	E50	.830	8901	24.1	70	1B			0724	1.35	2.55		324	
CAPS	20	0717	0813		S22	E49	.818	8901	24.0	56	2N	3		0727	3.00	5.10		220	
MITK	20	0718	0733D	0722	S22	E50	.827	8901	24.1	15D	1N		C	0722	2.58	4.50			
WEND	20	0723E	0815		S22	E48	.810	8901	23.9	52D	1N		V		5.16				

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7193	20	0725	0808	0739	S21	E52	.840	8901	24.2	43	1N				2.80				5 4 3
BUCA	20	0719	0828		S21	E47	.797	8901	23.8	69	2N		P	0737	4.65	7.60			
KIEV	20	0721	0800	0738	S22	E50	.827	8901	24.1	39	1N		C	0738	2.06			75	I
KHAR	20	0735E	0806D		S21	E53	.848	8901	24.3	31D	1F		V	0738	1.70	3.20	1.50		D
CATA	20	0740	0757	0740	S20	E57	.876	8901	24.6	17	-N			0740	.66			178	
CAPF	20	0753E	0801D		S21	E52	.840	8901	24.2	8D	-N		P	0759	1.18	2.28			
GRP 7194	20	1030	1110	1035	S26	E47	.819	8901	24.0	40	-N				.21				1 1 1
CATA	20	1030	1110	1035	S26	E47	.819	8901	24.0	40	-N			1035	.21	.38		182	
GRP 7195	20	1224	1335	1234	S23	E48	.814	8901	24.1	71	-B				.75				2 2 2
CATA	20	1220	1335	1230	S23	E47	.805	8901	24.0	75	-B			1230	.88	1.54		204	
MCMA	20	1227	1305D	1237	S23	E48	.814	8901	24.1	38D	-N		V	1237	.62	1.10			EK
GRP 7195	20	1244	1328	1252	S22	E46	.792	8901	24.0	44	-N				1.08				3 3 3
CAPF	20	1244E	1248D		S22	E48	.810	8901	24.1	4D	-N		P	1245	1.18	2.06			
SACP	20	1247E	1303D	1250	S22	E46	.792	8901	24.0	16D	-N		P		.41	.53			
ATHN	20	1247E	1328	1254	S23	E45	.788	8901	23.9	41D	1N	1		1254	1.65	2.70	2.00		
GRP 7195	20	1303	1325	1311	S23	E48	.814	8901	24.1	22	-N				1.51				6 6 5
HUAN	20	1258E	1327		S23	E47	.805	8901	24.1	29D	-N	1	C	1308	.70	.90			E
SALO	20	1300E	1330D	1310	S22	E46	.792	8901	24.0	30D	1B		V	1310	.99	1.60	.26		
MCMA	20	1305	1330	1309	S23	E48	.814	8901	24.1	25	-N		V	1309	1.03	1.80			EK
CATA	20	1310	1325	1315	S24	E52	.850	8901	24.4	15	-N			1315	.68	1.29		186	
WEND	20	1230	1320D		S22	E46	.792	8901	24.0	50D	1N		V		4.13				
MEUD	20	1310	1315		S23	E46	.796	8901	24.0	5	-F		C						C
GRP 7196	20	1451	1454		S31	E32	.732	8899	23.0	3	-F				.25				1 1 1
HUAN	20	1451	1454D		S31	E32	.732	8899	23.0	3D	-F	2	P	1453	.25	.30			D
GRP 7197	20	1501	1513	1504	S31	E31	.725	8899	23.0	12	-N				1.09				4 4 4
CANA	20	1458	1513	1502	S32	E30	.726	8899	22.9	15	-F		C		.90	1.30		200	
CATA	20	1500	1515	1505	S30	E32	.724	8899	23.0	15	1N			1505	1.82	2.67		195	
MEUD	20	1503	1507	1504	S31	E30	.717	8899	22.9	4	-N		C	1504	.62	.80			
MCMA	20	1503E	1517		S31	E31	.725	8899	23.0	14D	-B		P	1503	1.03	1.50			E
GRP 7198	20	1523	1529	1525	S31	E31	.725	8899	23.0	6	-F				.72				1 1 1
MCMA	20	1523	1529	1525	S31	E31	.725	8899	23.0	6	-F		C	1525	.72	1.00			E
GRP 7199	20	1535	1546	1536	S31	E32	.732	8899	23.0	11	-N				.51				2 2 2
MCMA	20	1535	1542	1536	S31	E31	.725	8899	23.0	7	-F		C	1536	.62	.90			E
CATA	20	1535	1550	1535	S30	E32	.724	8899	23.0	15	-N			1535	.39	.59		186	
GRP 7200	20	1547	1601	1553	N24	E90	.999	8905	27.4	14	1F				.60				1 1 1
LOCK	20	1547	1601	1553	N24	E90	.999	8905	27.4	14	1F		C	1553	.60	2.40		10	H
GRP 7201	20	1553	1630	1604	S23	E46	.796	8901	24.1	37	-N				.77				3 3 3
LOCK	20	1551	1625	1605	S22	E45	.783	8901	24.0	34	-F		C	1605	1.10	1.80		10	
CATA	20	1555	1635	1602	S23	E47	.805	8901	24.2	40	-B			1602	.48	.92		234	
MCMA	20	1556E	1630	1605	S23	E46	.796	8901	24.1	34D	-N		C	1605	.72	1.20			FL
GRP 7202	20	1715	1723	1718	S22	E38	.717	8899	23.6	8	-F				.40				1 1 1
LOCK	20	1715	1723	1718	S22	E38	.717	8899	23.6	8	-F		C	1718	.40	.60		10	
GRP 7203	20	1733	1750	1741	N24	E90	.999	8905	27.5	17	-F				.30				1 1 1
LOCK	20	1733	1750	1741	N24	E90	.999	8905	27.5	17	-F		C	1741	.30	1.20		10	H
GRP 7204	20	1806	1828	1811	N24	E90	.999	8905	27.5	22	-F				.30				1 1 1
LOCK	20	1806	1828	1811	N24	E90	.999	8905	27.5	22	-F		C	1811	.30	1.20		10	H
GRP 7205	20	1839	1848	1841	S17	W48	.790	8889	17.2	9	-F				.25				1 1 1
HUAN	20	1839	1848	1841	S17	W48	.790	8889	17.2	9	-F	2	C	1841	.25	.31			D
GRP 7206	20	1848	1925	1900	N24	E90	.999	8905	27.5	37	-F				.30				1 1 1
LOCK	20	1848	1925	1900	N24	E90	.999	8905	27.5	37	-F		C	1900	.30	1.20		10	H
GRP 7207	20	1919	1940	1926	S20	W47	.792	8889	17.3	21	-N				.53				2 2 2
HUAN	20	1918	1943	1927	S17	W48	.790	8889	17.2	25	-N	2	C	1927	.45	.58			E
LOCK	20	1919	1937	1924	S22	W46	.792	8889	17.4	18	-F		C	1924	.60	1.00		10	
GRP 7208	20	1925	1941	1931	N24	E90	.999	8905	27.6	16	-F				.30				1 1 1
LOCK	20	1925	1941	1931	N24	E90	.999	8905	27.6	16	-F		C	1931	.30	1.20		10	H
GRP 7209	20	2206	2230	2212	S21	W50	.823	8889	17.2	24	1N				1.70				1 1 1
LOCK	20	2206	2230	2212	S21	W50	.823	8889	17.2	24	1N		C	2212	1.70	2.90		20	
GRP 7210	21	0049	0059	0051	S17	E52	.827	8901	24.9	10	-N				.61				3 3 3
LOCK	21	0048	0102	0052	S18	E52	.830	8901	24.9	14	-N		C	0052	.60	1.10		20	
SACP	21	0049	0100	0051	S17	E52	.827	8901	24.9	11	-N		C		.41	.56			
MITK	21	0051	0056	0051	S17	E53	.836	8901	25.0	5	-F		C	0051	.83	1.50			EG
GRP 7211	21	0059	0113	0103	S23	W49	.823	8889	17.4	14	1N				1.37				2 2 2
LOCK	21	0058	0114	0103	S23	W49	.823	8889	17.4	16	-N		C	0103	1.10	1.90		20	
SACP	21	0059	0112	0103	S22	W48	.810	8889	17.4	13	1N		C		1.64	2.18			
GRP 7212	21	0531	0609	0539	S14	E23	.494	8899	23.0	38	-F				1.92				4 3 3
MITK	21	0527	0600	0531	S13	E22	.473	8899	22.9	33	-F		C	0531	1.44	1.60			G
ATHN	21	0531	0551	0535	S15	E30	.584	8899	23.5	20	-N	2		0535	.99	1.20	1.60		
BUCA	21	0536	0634		S13	E21	.461	8899	22.8	58	1F		P	0538	3.32	3.70			
CATA	21	0550	0610	0550	S14	E20	.460	8899	22.7	20	-N			0550	.55	.62		195	
GRP 7213	21	0631	0644	0631	N23	E90	.999	8905	28.0	13	1N				.71				3 3 2
CATA	21	0610	0647	0630	N21	E90	1.000	8905	28.0	37	1B			0630	.59			246	
MITK	21	0626	0639	0631	N24	E90	.999	8905	28.0	13	1F		C	0631	.83				A
CAPS	21	0636	0645		N23	E90	.999	8905	28.0	9	1N	3							H
GRP 7214	21	0715	0745	0715	N20	E90	1.000	8905	28.1	30	-F				.09				1 1 1
CATA	21	0715	0745	0715	N20	E90	1.000	8905	28.1	30	-F			0715	.09			133	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7215	21	0757	0801	0755	N23	E90	.999	8905	28.1	4	-B				.27				2 2 1
CATA	21	0755	0800	0755	N21	E90	1.000	8905	28.1	5	-N			0755	.27			186	
ISTA	21	0758	0802		N24	E90	.999	8905	28.1	4	-B								
GRP 7216	21	0943	0957	0949	N23	E89	.999	8905	28.1	14	1N				.85				4 4 3
CATA	21	0915	0955	0949	N21	E90	1.000	8905	28.1	40	1N			0949	.88			199	
CAPE	21	0943	0955	0949	N23	E90	.999	8905	28.2	12	1F		C	0949	.78				A
HERS	21	0944	0958	0949U	N26	E85	.993	8905	27.8	14	1N		P	0949	.89	4.40			D
MONT	21	0942	1000		N22	E90	.999	8905	28.2	18	1N								
GRP 7217	21	1016	1020	1016	S19	E19	.505	8899	22.9	4	-N				.99				1 1 1
ATHN	21	1016E	1020D	1016	S19	E19	.505	8899	22.9	4D	-N	2		1016	.99	1.40	1.70		
GRP 7218	21	1035	1105	1035	S16	E40	.704	8901	24.4	30	-N				.18				2 1 1
CATA	21	1035	1055	1035	S09	E41	.684	8901	24.5	20	-N			1035	.18	.26		162	
KHAR	21	1055	1115D		S22	E39	.727	8901	24.4	20D	-F		V	1108			2.10		DL
GRP 7219	21	1134	1214	1140	N32	E90	.999	8905	28.2	40	1B				.99				1 1 1
ATHN	21	1134	1214	1140	N32	E90	.999	8905	28.2	40	1B	2		1140	.99		2.00		
GRP 7220	21	1216	1228	1219	S08	E40	.668	8901	24.5	12	1F				2.12				1 1 1
CAPE	21	1216	1228D	1219	S08	E40	.668	8901	24.5	12D	1F		C	1219	2.12	2.90			
GRP 7221	21	1306	1315	1308	N24	E86	.995	8905	28.0	9	-N				.26				3 3 2
MCMA	21	1306	1314	1307	N24	E88	.998	8905	28.1	8	-N		C	1307	.10				D
CAPE	21	1306	1316	1308	N26	E81	.984	8905	27.6	10	-F		C	1308	.41	2.60			C
MONT	21	1307	1315		N22	E90	.999	8905	28.3	8	-N								
GRP 7222	21	1315	1340	1320	S08	E40	.668	8904	24.6	25	-N				.31				1 1 1
MCMA	21	1315E	1340D	1320	S08	E40	.668	8904	24.6	25D	-N		V	1320	.31	.40			EH
GRP 7223	21	1552	1616	1556	N29	E81	.984	8905	27.7	24	-F				.30				1 1 1
LOCK	21	1552	1616	1556	N29	E81	.984	8905	27.7	24	-F		C	1556	.30	1.00		10	
GRP 7224	21	1618	1710	1636	S08	E40	.668	8904	24.7	52	-N				.28				2 2 2
MCMA	21	1610	1700D	1636	S08	E40	.668	8904	24.7	50D	-N		C	1636	.31	.40			D
HUAN	21	1625	1710		S08	E39	.656	8904	24.6	45	-F	2	P	1645	.25	.28			D
GRP 7225	21	1650	1703	1656	N27	E87	.996	8905	28.2	13	-N				.30				4 3 4
LOCK	21	1649	1705	1655	N29	E81	.984	8905	27.8	16	-F		C	1655	.30	1.00		10	
SALO	21	1650E	1705D	1700	N24	E88	.998	8905	28.3	15D	2B		V	1700	.50	3.80	.17		
MCMA	21	1651	1659	1654	N25	E88	.998	8905	28.3	8	-F		C	1654	.15				D
HUAN	21	1651	1702		N28	E90	.999	8905	28.5	11	-F	1	C	1653	.25				D
GRP 7226	21	1717	1800	1725	N26	E82	.987	8905	27.9	43	-F				.80				1 1 1
LOCK	21	1717	1800	1725	N26	E82	.987	8905	27.9	43	-F		C	1747	.80	1.40		10	K
GRP 7226	21	1717	1800	1747	N26	E82	.987	8905	27.9	43	-F				.80				1 1 1
LOCK	21	1717	1800	1747	N26	E82	.987	8905	27.9	43	-F		C	1747	.80	1.40		10	K
GRP 7227	21	1740	1811	1749	S22	E33	.669	8901	24.2	31	-N				.31				4 4 4
MCMA	21	1735	1823	1745	S23	E36	.705	8901	24.4	48	-B		C	1745	.26	.30			D
LOCK	21	1740	1806	1752	S19	E33	.647	8901	24.2	26	-F		C	1752	.40	.50		10	
MEUD	21	1742	1756		S22	E30	.640	8901	24.0	14	-F		C	1747	.21	.30			D
HUAN	21	1743	1820	1750	S22	E33	.669	8901	24.2	37	-N	2	C	1750	.36	.41			D
GRP 7228	21	1827	1837	1830	N23	E78	.975	8905	27.6	10	-F				.60				1 1 1
LOCK	21	1827	1837	1830	N23	E78	.975	8905	27.6	10	-F		C	1830	.60	1.80		10	
GRP 7229	21	1954	2012	1958	N25	E81	.984	8905	27.9	18	-F				.36				3 3 2
LOCK	21	1952	2014	1957	N25	E76	.967	8905	27.5	22	-N		C	1957	.40	1.20		20	
HUAN	21	1954	2012		N25	E79	.978	8905	27.8	18	-F	1	C	2000	.31				D
MCMA	21	1955	2010	1958	N25	E88	.998	8905	28.4	15	-F		V						D
GRP 7230	21	2020	2040	2034	N25	E78	.975	8905	27.7	20	-F				.50				1 1 1
LOCK	21	2020	2040	2034	N25	E78	.975	8905	27.7	20	-F		C	2034	.50	1.60		10	
GRP 7231	21	2058	2106	2100	N11	W12	.231	8895	21.0	8	-N				.39				2 2 2
HUAN	21	2058	2100D		N11	W13	.246	8895	20.9	2D	-F	1	P	2059	.25	.25			D
MCMA	21	2058	2106	2100	N11	W10	.202	8895	21.1	8	-N		C	2100	.52	.60			E
GRP 7232	21	2142	2145	2143	N21	E83	.990	8905	28.1	3	-F				.30				1 1 1
LOCK	21	2142	2145	2143	N21	E83	.990	8905	28.1	3	-F		C	2143	.30	1.00		10	
GRP 7232	21	2145	2233	2205	N26	E82	.987	8905	28.1	48	-F				.60				1 1 1
LOCK	21	2145	2233	2205	N26	E82	.987	8905	28.1	48	-F		C	2205	.60	2.00		10	
GRP 7233	21	2159	2222	2202	S19	W61	.903	8889	17.3	23	-N				.61				1 1 1
SACP	21	2159	2222	2202	S19	W61	.903	8889	17.3	23	-N		C		.61	.99			
GRP 7232	21	2217	2230	2222	N21	E79	.978	8905	27.9	13	-F				.50				1 1 1
LOCK	21	2217	2230	2222	N21	E79	.978	8905	27.9	13	-F		C	2222	.50	1.60		10	
GRP 7234	21	2250	2340	2303	N25	E82	.987	8905	28.1	50	1F				.71				2 2 2
LOCK	21	2250	2340	2303	N24	E82	.987	8905	28.1	50	1F		C	2303	1.00	3.40		10	
IKOM	21	2302E	2306D		N25	E82	.987	8905	28.1	4D	1F		V	2302	.41				D
GRP 7235	21	2323	2332	2325	N12	E90	1.000	8907	28.7	9	-F				.30				1 1 1
LOCK	21	2323	2332	2325	N12	E90	1.000	8907	28.7	9	-F		C	2325	.30	1.20		10	
GRP 7236	22	0005	0034	0018	S20	E28	.604	8901	24.1	29	-F				.90				1 1 1
LOCK	22	0005	0034	0018	S20	E28	.604	8901	24.1	29	-F		C	0018	.90	1.20		10	
GRP 7237	22	0020	0035	0024	N18	E90	1.000	8905	28.8	15	-F				.30				1 1 1
LOCK	22	0020	0035	0024	N18	E90	1.000	8905	28.8	15	-F		C	0024	.30	1.20		10	
GRP 7238	22	0114	0121	0118	N18	E90	1.000	8905	28.8	7	-F				.30				1 1 1
LOCK	22	0114	0121	0118	N18	E90	1.000	8905	28.8	7	-F		C	0118	.30	1.20		10	
GRP 7239	22	0150	0155	0155	N21	E06	.293	8895	22.5	5	-F				.30				1 1 1
LOCK	22	0150	0155D	0155U	N21	E06	.293	8895	22.5	5D	-F		C	0155	.30	.30		10	
	22	0155	0200	NO FLARE PATROL															
	22	0205	0220	NO FLARE PATROL															

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7240	22	0509	0522	0511	S21	E28	.613	8901	24.3	13	-F				.21				1 1 1
MANI	22	0509	0522	0511	S21	E28	.613	8901	24.3	13	-F	2		0511	.21	.26			
GRP 7241	22	0600	0629	0606	S21	E26	.593	8901	24.2	29	-N				1.48				5 5 4
CATA	22	0555	0625	0605	S22	E26	.603	8901	24.2	30	-B			0605	.96	1.19		251	
BUCA	22	0600	0655		S20	E20	.527	8901	23.8	55	1F		C	0608	2.65	3.20			
MANI	22	0601	0624	0605	S21	E30	.633	8901	24.5	23	-N	2		0605	.31	.40			
ATHN	22	0602	0619	0608	S20	E27	.594	8901	24.3	17	-N	1		0608	.99	1.20	1.70		
CAPS	22	0604E	0623		S22	E26	.603	8901	24.2	19D	-B	3		0612	1.30	1.60		199	
GRP 7242	22	0730	0741		N13	E90	1.000	8907	29.1	11	1N				1.76				1 1 1
CAPF	22	0730E	0741D		N13	E90	1.000	8907	29.1	11D	1N		P	0735	1.76				
GRP 7243	22	0816	0845		N13	E90	1.000	8907	29.1	29	-N				.20				3 2 1
ARCE	22	0814E	0859D		N13	E90	1.000	8907	29.1	45D	-N		C	0819	.20	1.10			
MONT	22	0817	0830		N12	E90	1.000	8907	29.1	13	-N								
CAPF	22	0840E	0916D		N13	E90	1.000	8907	29.1	36D	1N		P	0848	1.18				
GRP 7244	22	0820	0845	0835	N23	E73	.953	8905	27.8	25	-F				.13				1 1 1
CATA	22	0820	0845	0835	N23	E73	.953	8905	27.8	25	-F			0835	.13			145	
GRP 7245	22	0908	0928	0911	S15	E24	.516	8901	24.2	20	1N				1.90				6 6 6
MONT	22	0906	0930	0910	S24	E22	.588	8901	24.0	24	1B			0910	2.06				
ARCE	22	0908	0920	0908	S21	E25	.584	8901	24.3	12	1N		C	0908	1.60	2.00			
CAPS	22	0909	0920D		S22	E24	.584	8901	24.2	11D	-B	3		0912	1.00	1.20		191	E
KHAR	22	0909E	0932D		S21	E27	.603	8901	24.4	23D	1F		P	0914	1.70	2.10	1.80		DL
CATA	22	0910	0935	0915	S23	E24	.595	8901	24.2	25	-B			0915	.90	1.10		257	
WEND	22	0907	0932		N22	E24	.482	8901	24.2	25	1N		V		4.13				
GRP 7246	22	0910	0950	0930	N23	E80	.981	8905	28.4	40	-F				.35				1 1 1
CATA	22	0910	0950	0930	N23	E80	.981	8905	28.4	40	-F			0930	.35			135	
GRP 7247	22	0944	1004	0949	N12	E90	1.000	8907	29.2	20	1B				.34				5 5 3
CATA	22	0940	1010	0950	N12	E90	1.000	8907	29.2	30	-B			0950	.43			347	
ARCE	22	0945E	0947D		N13	E90	1.000	8907	29.2	2D	-N		C	0947	.33	1.90			
MANI	22	0947	1002D	0948	N12	E90	1.000	8907	29.2	15D	-B	2		0948	.26	.84			
MONT	22	0945	1000		N12	E90	1.000	8907	29.2	15	1B								
CAPS	22	0948E	1058		N13	E90	1.000	8907	29.2	70D	2N	3							
GRP 7248	22	1023	1053	1010	N13	E90	1.000	8907	29.2	30	1N				.79				2 2 1
MONT	22	1040	1050		N12	E90	1.000	8907	29.2	10	-N								
CATA	22	1005	1055	1010	N13	E90	1.000	8907	29.2	50	1F			1010	.79			148	
GRP 7249	22	1100	1130	1110	S21	W90	1.000	8889	15.7	30	-F				.48				1 1 1
CATA	22	1100	1130	1110	S21	W90	1.000	8889	15.7	30	-F			1110	.48			117	
GRP 7250	22	1112	1116	1115	N16	E90	1.000	8907	29.2	4	1N				.57				2 2 2
ATHN	22	1109	1116	1110	N20	E90	1.000	8907	29.2	7	-N	2		1110	.33		1.80		
CATA	22	1115	1130	1120	N12	E90	1.000	8907	29.2	15	1N			1120	.81			170	
CATA	22	1055	1115	1055	N11	E90	1.000	8907	29.2	20	-N			1055	.49			195	
GRP 7249	22	1130	1410	1140	S21	W90	1.000	8889	15.7	160	-F				.42				1 1 1
CATA	22	1130	1410	1140	S21	W90	1.000	8889	15.7	160	-F			1140	.42			117	
GRP 7251	22	1135	1235	1135	N13	E90	1.000	8907	29.2	60	-N				.43				1 1 1
CATA	22	1135	1235	1135	N13	E90	1.000	8907	29.2	60	-N			1135	.43			174	
GRP 7252	22	1135	1248	1150	N32	W13	.495	8897	21.5	73	-B				.78				2 2 2
MONT	22	1135	1235	1150	N32	W08	.470	8897	21.9	60	-B			1150	.52				
MCMA	22	1200E	1300		N32	W18	.528	8897	21.1	60D	-N		C	1215	1.03	1.20			BF
GRP 7253	22	1154	1255	1225	N31	E85	.993	8905	28.9	61	2N				2.11				1 1 1
CATA	22	1154	1255	1225	N31	E85	.993	8905	28.9	61	2N			1225	2.11			178	
GRP 7254	22	1240	1310	1300	N14	E90	1.000	8907	29.3	30	-N				.21				1 1 1
CATA	22	1240	1310	1300	N14	E90	1.000	8907	29.3	30	-N			1300	.21			162	
GRP 7255	22	1315	1324	1319	N12	E90	1.000	8907	29.3	9	-N				1.18				4 4 1
CATA	22	1315	1410	1320	N12	E90	1.000	8907	29.3	55	-N			1320	.05			158	
MCMA	22	1316	1322	1318	N12	E90	1.000	8907	29.3	6	-N		C	1318					
CAPF	22	1318E	1323D		N13	E90	1.000	8907	29.3	5D	1N		S	1320	1.18				
CAPS	22	1315	1327		N12	E90	1.000	8907	29.3	12	-B	3							D
GRP 7256	22	1354	1410	1358	N28	E80	.981	8905	28.6	16	-F								1 1 0
MCMA	22	1354	1410	1358	N28	E80	.981	8905	28.6	16	-F		C	1358					D
GRP 7257	22	1359	1408	1401	N13	E90	1.000	8907	29.3	9	-N				.70				3 3 1
SANM	22	1357	1409	1400	N14	E90	1.000	8907	29.3	12	-N		C						
MCMA	22	1400	1405	1401	N12	E90	1.000	8907	29.3	5	-N		C	1401					D
CAPS	22	1400E	1410		N12	E90	1.000	8907	29.3	10D	1N	3		1404	.70				CD
GRP 7258	22	1419	1457	1422	N14	E90	1.000	8907	29.3	38	1B				.68				6 6 2
ATHN	22	1417	1453	1420	N20	E90	1.000	8907	29.3	36	1B	2		1420	.66		2.00		
MCMA	22	1419	1545	1421	N12	E90	1.000	8907	29.3	86	1B		V	1421					K
CATA	22	1420	1430	1420	N14	E90	1.000	8907	29.3	10	1B			1420	.70			246	
AROS	22	1420	1500	1428	N12	E90	1.000	8907	29.3	40	1N		V						
MONT	22	1418	1440		N12	E90	1.000	8907	29.3	22	-N								
CAPS	22	1418	1456		N13	E90	1.000	8907	29.3	38	2N	3							H
GRP 7259	22	1459	1600	1531	N14	E90	1.000	8907	29.4	61	1N				.11				2 2 1
SANM	22	1418	1525D	1521	N14	E90	1.000	8907	29.3	67D	1N		C						
CATA	22	1540	1600	1540	N13	E90	1.000	8907	29.4	20	-F			1540	.11			123	
GRP 7260	22	1515	1540	1525	S21	W90	1.000	8889	15.9	25	-F				.11				1 1 1
CATA	22	1515	1540	1525	S21	W90	1.000	8889	15.9	25	-F			1525	.11			126	
GRP 7261	22	1540	1620	1545	S32	E02	.602	8899	22.8	40	1B				.66				1 1 1
SALO	22	1540E	1620D	1545	S32	E02	.602	8899	22.8	40D	1B		S	1545	.66	.80	.15		

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT DATE 1967 JULY	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
GRP 7262	22	1540	1620	1545	N24	E67	.920	8905	27.7	40	-N				.25				1 1 1
SALO	22	1540E	1620D	1545	N24	E67	.920	8905	27.7	40D	-N		S	1545	.25	.60	.12		
GRP 7263	22	1600	1640	1605	S22	W90	1.001	8889	15.9	40	-F				.13				1 1 1
CATA	22	1600	1640	1605	S22	W90	1.001	8889	15.9	40	-F			1605	.13			112	
GRP 7264	22	1610	1625	1617	N16	E90	1.000	8907	29.4	15	-F				.30				1 1 1
LOCK	22	1610	1625	1617	N16	E90	1.000	8907	29.4	15	-F		C	1617	.30	1.20		10	H
GRP 7265	22	1634	1658	1639	N28	E77	.971	8905	28.5	24	-N				.81				6 6 4
MONT	22	1628	1640D	1635	N26	E73	.954	8905	28.2	12D	1B			1635	1.03				
LOCK	22	1632	1655	1640	N30	E75	.964	8905	28.3	23	-F		C	1640	.60	1.70		10	H
SACP	22	1635	1713U	1640U	N30	E79	.978	8905	28.6	38U	1N		C		1.23	3.01			
MCMA	22	1636	1652D	1640	N28	E80	.981	8905	28.7	16D	-N		C						EK
CATA	22	1640	1645	1640	N30	E78	.975	8905	28.5	5	-B			1640	.39			209	
HUAN	22	1646E	1705D		N25	E77	.971	8905	28.5	19D	-N	1	P						
GRP 7265	22	1649	1710	1655	N28	E80	.981	8905	28.7	21	-N				.62				2 2 2
HUAN	22	1646E	1705D		N28	E80	.981	8905	28.7	19D	-N	1	P	1649	.62				E
MCMA	22	1652	1710D	1655	N28	E80	.981	8905	28.7	18D	-N		C	1655	.62	1.00			
GRP 7266	22	1750	1814	1757	N16	E90	1.000	8907	29.5	24	-F				.30				1 1 1
LOCK	22	1750	1814	1757	N16	E90	1.000	8907	29.5	24	-F		C	1757	.30	1.20		10	H
GRP 7267	22	1820	1846	1840	N15	E90	1.000	8907	29.5	26	1F				1.00				1 1 1
LOCK	22	1820	1846	1840	N15	E90	1.000	8907	29.5	26	1F		C	1840	1.00	4.00		10	H
GRP 7268	22	1848	1908	1851	N14	E90	1.000	8907	29.5	20	1B				1.00				2 2 1
LOCK	22	1847	1911	1853	N15	E90	1.000	8907	29.5	24	1N		C	1853	1.00	4.00		20	H
MCMA	22	1848	1905	1849	N12	E90	1.000	8907	29.5	17	-B		V	1849					
GRP 7269	22	2010	2037	2011	S30	E00	.573	8899	22.8	27	-N				.83				1 1 1
SACP	22	2010	2037E	2011	S30	E00	.573	8899	22.8	27D	-N		C		.83	.87			
GRP 7270	22	2019	2040	2025	N15	E90	1.000	8907	29.6	21	1B				.90				2 2 1
LOCK	22	1940	2042	2024	N15	E90	1.000	8907	29.6	62	1N		C		.90	3.60		20	HK
MCMA	22	2019	2037	2025	N12	E90	1.000	8907	29.6	18	-B		V	2025					
LOCK	22	1940	2042	2001	N15	E90	1.000	8907	29.6	62	1N		C		.90	3.60		20	HK
LOCK	22	1920	1945	1927	N21	E90	1.000	8907	29.6	25	-N		C	1927	.30	1.20		20	H
GRP 7271	22	2054	2144	2100	N13	E90	1.000	8907	29.6	50	1B				.90				2 2 1
LOCK	22	2052	2144	2102	N14	E90	1.000	8907	29.6	52	1N		C	2102	.90	3.60		20	H
MCMA	22	2055	2114D	2058	N12	E90	1.000	8907	29.6	19D	-B		V	2058					
GRP 7272	22	2152	2227	2211	N14	E90	1.000	8907	29.7	35	1F				.80				1 1 1
LOCK	22	2152	2227	2211	N14	E90	1.000	8907	29.7	35	1F		C	2211	.80	3.20		10	H
GRP 7273	22	2315	2349	2322	N14	E89	.999	8907	29.6	34	-N				.56				2 2 2
LOCK	22	2315	2350	2322	N15	E90	1.000	8907	29.7	35	-F		C	2322	.50	2.00		10	H
MANI	22	2330E	2348		N12	E87	.998	8907	29.5	18D	-N	2		2332	.62	1.85			
GRP 7274	23	0010	0145	0032	N16	E90	1.000	8907	29.8	95	1F				.70				1 1 1
LOCK	23	0010	0145	0032	N16	E90	1.000	8907	29.8	95	1F		C		.70	2.80		10	
GRP 7274	23	0010	0145	0115	N16	E90	1.000	8907	29.8	95	1F				.70				1 1 1
LOCK	23	0010	0145	0115	N16	E90	1.000	8907	29.8	95	1F		C		.70	2.80		10	
GRP 7275	23	0143	0200	0151	S17	E26	.557	8901	25.0	17	-N				1.00				1 1 1
LOCK	23	0143	0200D	0151	S17	E26	.557	8901	25.0	17D	-N		C	0151	1.00	1.20		20	
	23	0235	0245	NO FLARE PATROL															
GRP 7276	23	0438	0445	0439	N27	E70	.939	8905	28.4	7	-F				.52				1 1 1
MITK	23	0438	0445	0439	N27	E70	.939	8905	28.4	7	-F		C	0439	.52				
GRP 7277	23	0441	0449	0443	N12	E80	.982	8907	29.2	8	1B				.93				2 2 2
MANI	23	0440E	0448		N12	E80	.982	8907	29.2	8D	1B	1		0441	.93	2.40			
MITK	23	0442	0450	0443	N12	E80	.982	8907	29.2	8	1N		C	0443	.93				H
GRP 7278	23	0541	0554	0544	N13	E86	.996	8907	29.7	13	1N				.68				4 3 3
MITK	23	0538	0557	0543	N12	E90	1.000	8907	30.0	19	1F		C	0543	.52				A
TACH	23	0540	0550	0543	N12	E86	.996	8907	29.7	10	1N		V	0540	1.19		4.80	75	
CATA	23	0545	0655	0545	N09	E87	.998	8907	29.8	70	-B			0545	.33			209	
BUCA	23	0600	0629		N17	E82	.987	8907	29.4	29	2N		P	0610	2.65				
GRP 7279	23	0641	0651	0644	N28	E67	.923	8905	28.3	10	1N				2.01				4 4 4
CATA	23	0625	0745	0640	N27	E68	.928	8905	28.4	80	1B			0640	.96			246	
BUCA	23	0642	0655		N28	E66	.917	8905	28.2	13	1N		C	0644	2.21				
MITK	23	0644	0646	0644	N29	E65	.912	8905	28.2	2	-N		C	0644	.72				E
MONT	23	0636E	0800		N26	E67	.922	8905	28.3	84D	2N			0710	4.13				
GRP 7280	23	0713	0905		N18	E86	.996	8907	29.8	112	-B				.44				3 2 1
ARCE	23	0845	0900D		N13	E85	.995	8907	29.7	15D	-N		C	0845	.44	1.60			
ISTA	23	0710E	0905		N24	E90	.999	8907	30.0	115D	-B								
ISTA	23	0715	0905		N22	E83	.989	8907	29.5	110	-N								
MONT	23	0636E	0750		N11	E80	.982	8907	29.3	74D	1N			0710	.77				
GRP 7281	23	0735	0825		N22	E64	.899	8905	28.1	50	-B				.20				2 1 1
ISTA	23	0735	0825		N27	E68	.928	8905	28.4	50	-F								
CATA	23	0605	0745	0620	N23	E68	.926	8905	28.4	100	-B			0620	.20			229	
CATA	23	0805	0825	0810	N22	E61	.877	8905	27.9	20	-F			0810	.33			138	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7282	23	0925	1001	0936	N24	E59	.863	8905	27.8	36	-N				.34				6 6 5
CATA	23	0915	1030	0935	N29	E60	.878	8905	27.9	75	-N			0935	.33			199	
ARCE	23	0925	1000D	0945	N24	E60	.871	8905	27.9	35D	-N		C	0945	.34	.70			D
ATHN	23	0926	0948	0929	N22	E60	.869	8905	27.9	22	-N	2		0929	.33	.70	1.70		
CANA	23	0930	0947	0934	N24	E56	.839	8905	27.6	17	-F		C		.20	.40		100	
SALO	23	0935E	1000D		N23	E56	.837	8905	27.6	25D	1B		V	0940	.50	.80	.13		
CAPS	23	0927E	1002D		N21	E62	.884	8905	28.0	35D	-F	3							C
GRP 7283	23	0945	1026	0956	N11	E80	.982	8907	29.4	41	-F				.47				4 4 4
MONT	23	0945	1040	1000	N11	E79	.979	8907	29.3	55	1F			1000	1.03				
CANA	23	0948	1004	0954	N11	E80	.982	8907	29.4	16	-F		C		.20	.60		100	
CATA	23	0950	1007	0955	N09	E79	.979	8907	29.3	17	-N			0955	.33			164	
CATA	23	0915	0940	0920	N14	E90	1.000	8907	30.1	25	-F			0920	.13			123	
SALO	23	0935E	1005D		N12	E75	.963	8907	29.0	30D	-F		V	0940	.33	1.50	.12		
CANA	23	1012	1030	1015	N11	E80	.982	8907	29.4	18	-F		C		.20	.60		100	
GRP 7284	23	1045	1105	1045	N18	E76	.967	8907	29.1	20	-F				.23				1 1 1
CATA	23	1045	1105	1045	N18	E76	.967	8907	29.1	20	-F			1045	.23			138	
GRP 7285	23	1131	1138	1134	S23	W11	.500	8899	22.7	7	-N				.48				2 2 2
CANA	23	1131	1135	1132	S24	W12	.520	8899	22.6	4	-F		C		.30	.40		100	
ATHN	23	1134E	1141	1135	S22	W10	.481	8899	22.7	7D	-N	2		1135	.66	.70	1.60		
GRP 7286	23	1210	1230	1210	N09	E80	.983	8907	29.5	20	-N				.11				1 1 1
CATA	23	1210	1230	1210	N09	E80	.983	8907	29.5	20	-N			1210	.11			159	
GRP 7287	23	1248	1309	1301	N12	E76	.967	8907	29.2	21	1B				2.23				8 8 8
CATA	23	1240	1415	1303	N12	E76	.967	8907	29.2	95	1B			1303	2.01			436	
SACP	23	1244	1311	1303	N13	E74	.958	8907	29.1	27	2B		C		3.37	6.94			
CAPS	23	1251	1307		N11	E75	.963	8907	29.2	16	1N	3		1302	2.50				H
CANA	23	1255	1306	1258	N11	E78	.975	8907	29.4	11	1N		C		1.10	3.30		200	
ATHN	23	1257E	1310	1259	N15	E76	.967	8907	29.2	13D	1B	1		1259	1.32		2.00		
SANM	23	1300E	1310	1301	N12	E75	.963	8907	29.2	10D	1B		P	1301	1.65				
CAPF	23	1303E	1308D		N11	E80	.982	8907	29.5	5D	1		P	1304	1.76				
WEND	23	1233	1251D		N12	E74	.958	8907	29.1	18D	1N		V		4.13				
GRP 7288	23	1320	1337	1320	N26	E63	.896	8905	28.3	17	-N				.22				2 2 2
CATA	23	1320	1335	1320	N23	E58	.854	8905	27.9	15	-N			1320	.18	.35		162	
HUAN	23	1326E	1338		N29	E68	.929	8905	28.7	12D	-F	1	P	1326	.25				D
GRP 7289	23	1331	1358	1341	N13	E78	.975	8907	29.4	27	-N				.39				2 2 2
HUAN	23	1331	1356		N12	E85	.995	8907	29.9	25	-N	1	C	1345	.45				E
SANM	23	1331	1400	1341	N13	E75	.963	8907	29.2	29	-N		C	1341	.32				
HUAN	23	1331	1356		N13	E78	.975	8907	29.4	25	-N	1	C						
GRP 7290	23	1445	1452	1447	N13	E85	.995	8907	30.0	7	-F				.41				1 1 1
HUAN	23	1445	1452	1447	N13	E85	.995	8907	30.0	7	-F	1	C	1447	.41				E
GRP 7291	23	1553	1606	1555	N11	E74	.958	8907	29.2	13	-B				.76				6 6 6
HUAN	23	1551	1608	1554	N10	E77	.972	8907	29.4	17	-N	2	C	1554	.41				D
SACP	23	1552	1604	1557	N12	E73	.953	8907	29.1	12	-N		C		.81	1.63			
LOCK	23	1552	1613	1555	N13	E72	.948	8907	29.1	21	1B		C		1.00	2.50		30	HK
CAPS	23	1553E	1600		N11	E74	.958	8907	29.2	7D	-N	3		1555	1.50			189	
MCMA	23	1553	1610	1555	N11	E74	.958	8907	29.2	17	-B		V	1605	.41	1.50			DK
CATA	23	1555	1600	1555	N07	E76	.968	8907	29.4	5	-B			1555	.40			338	
GRP 7291	23	1553	1612	1606	N12	E73	.953	8907	29.1	19	1B				1.00				2 2 1
LOCK	23	1552	1613	1606	N13	E72	.948	8907	29.1	21	1B		C		1.00	2.50		30	HK
MCMA	23	1553	1610	1605	N11	E74	.958	8907	29.2	17	-B		V						
GRP 7292	23	1619	1626	1622	N12	E81	.985	8907	29.8	7	-N				.31				5 5 5
HUAN	23	1618	1626	1621	N12	E81	.985	8907	29.8	8	-N	2	C	1621	.31				D
LOCK	23	1618	1627	1622	N12	E79	.979	8907	29.6	9	-F		C	1622	.30	.90		10	
ATHN	23	1619	1626	1621	N15	E79	.978	8907	29.6	7	-B	1		1621	.33		2.00		
MCMA	23	1619	1627	1622	N13	E80	.982	8907	29.7	8	-B		V	1622	.41	1.50			DH
CATA	23	1620	1625	1625	N09	E85	.995	8907	30.1	5	-B			1625	.20			229	
GRP 7293	23	1625	1657	1648	S17	E16	.456	8901	24.9	32	-F				.30				1 1 1
LOCK	23	1625	1657	1648	S17	E16	.456	8901	24.9	32	-F		C	1648	.30	.30		10	
GRP 7294	23	1636	1645	1638	S07	E07	.241	8901	24.2	9	-F				.30				1 1 1
LOCK	23	1636	1645	1638	S07	E07	.241	8901	24.2	9	-F		C	1638	.30	.30		10	
GRP 7295	23	1639	1645	1640	N16	E76	.967	8907	29.4	6	-F				.30				1 1 1
LOCK	23	1639	1645	1640	N16	E76	.967	8907	29.4	6	-F		C	1640	.30	.90		10	H
GRP 7296	23	1717	1725	1719	N28	E65	.911	8905	28.6	8	-F				.26				2 2 2
HUAN	23	1716	1723	1718	N28	E65	.911	8905	28.6	7	-F	2	C	1718	.31	.50			D
LOCK	23	1717	1726	1720	N28	E64	.904	8905	28.5	9	-F		C	1720	.20	.40		10	
GRP 7297	23	1727	1740	1731	S08	E08	.264	8901	24.3	13	-N				.38				2 2 2
LOCK	23	1726	1740	1730	S08	E08	.264	8901	24.3	14	-N		C	1730	.50	.50		20	
HUAN	23	1727	1739	1732	S08	E07	.255	8901	24.3	12	-N	2	C	1732	.25	.25			D
GRP 7298	23	1810	1840	1814	N12	E73	.953	8907	29.2	30	1B				1.13				2 2 2
LOCK	23	1809	1847	1813	N12	E71	.942	8907	29.1	38	1B		C	1825	2.00	4.80		30	
HUAN	23	1810	1833	1815	N11	E74	.958	8907	29.3	23	-B	2	C	1815	.25				D
GRP 7298	23	1810	1840	1825	N12	E73	.953	8907	29.2	30	1B				1.42				2 2 2
LOCK	23	1809	1847	1825	N12	E71	.942	8907	29.1	38	1B		C	1825	2.00	4.80		30	
HUAN	23	1810	1833	1825	N11	E74	.958	8907	29.3	23	-B			1825	.83				
GRP 7299	23	1853	1906	1857	S07	E06	.233	8901	24.2	13	-N				.40				1 1 1
LOCK	23	1853	1906	1857	S07	E06	.233	8901	24.2	13	-N		C	1857	.40	.40		20	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION 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
GRP 7300	23	1902	1915	1906	S34	W15	.663	8899	22.7	13	-F				.70				1 1 1
LOCK	23	1902	1915	1906	S34	W15	.663	8899	22.7	13	-F		C	1906	.70	.90		10	
GRP 7301	23	1920	1926	1923	N11	E73	.953	8907	29.3	6	-F				.21				1 1 1
HUAN	23	1920	1926	1923	N11	E73	.953	8907	29.3	6	-F	2	C	1923	.21				D
GRP 7302	23	2009	2020	2012	N12	E75	.963	8907	29.5	11	1N				1.50				2 2 1
HUAN	23	2011	2017	2014	N12	E72	.948	8907	29.2	6	-N	2	C	2014	.25				D
LOCK	23	2010E	2022U	2010U	N12	E74	.958	8907	29.4	12U	1N		C	2010	1.50	4.10		20	H
HUAN	23	2009	2013	2010	N10	E80	.983	8907	29.8	4	-F	2	C	2010	.25				D
GRP 7303	23	2113	2137	2116	N23	E54	.819	8905	27.9	24	-N				.61				2 2 2
LOCK	23	2112	2140	2116	N23	E53	.810	8905	27.9	28	-N		C	2116	.90	1.50		20	
HUAN	23	2114	2134	2115	N23	E54	.819	8905	27.9	20	-N	2	C	2115	.31	.42			D
GRP 7304	23	2226	2232		N10	E67	.917	8907	29.0	6	-N				.21				1 1 1
MANI	23	2226E	2232		N10	E67	.917	8907	29.0	6D	-N	2		2228	.21	.43			
	23	2235	2315	NO FLARE PATROL															
GRP 7305	23	2331	0010	2340	N15	E68	.924	8907	29.1	39	-F				.80				1 1 1
LOCK	23	2331	0010	2340	N15	E68	.924	8907	29.1	39	-F		C	2340	.80	1.80		10	H
GRP 7306	24	0025	0050	0036	N11	E66	.910	8907	29.0	25	1N				2.10				3 3 3
LOCK	24	0024	0050	0034	N10	E66	.910	8907	29.0	26	1B		C	0034	1.50	3.30		30	H
SACP	24	0025	0049	0037	N12	E67	.917	8907	29.0	24	2N		C		3.25	5.59			
MANI	24	0038E	0051		N10	E66	.910	8907	29.0	13D	1N	1		0040	1.55	3.15			
GRP 7307	24	0036	0052	0049	S24	W18	.559	8899	22.7	16	-F				.70				1 1 1
LOCK	24	0036U	0052D	0049U	S24	W18	.559	8899	22.7	16D	-F		C	0049	.70	.80		10	
GRP 7308	24	0040	0050	0042	N25	E55	.831	8905	28.2	10	-F				.60				1 1 1
LOCK	24	0040U	0050U	0042	N25	E55	.831	8905	28.2	10U	-F		C	0042	.60	1.10		10	
GRP 7309	24	0054	0145	0118	N11	E68	.924	8907	29.1	51	-F				.41				1 1 1
SACP	24	0054	0145	0118	N11	E68	.924	8907	29.1	51	-F		C		.41	.71			
GRP 7310	24	0307	0327		N25	E51	.796	8905	28.0	20	1N				2.73				1 1 1
TACH	24	0307	0327		N25	E51	.796	8905	28.0	20	1N		V	0322	2.73	4.90	2.00	57	
GRP 7311	24	0419	0430	0422	N10	E66	.910	8907	29.1	11	1N				1.31				2 2 2
MANI	24	0415E	0432	0421	N10	E64	.895	8907	29.0	17D	1B	2		0421	1.24	2.44			
TACH	24	0422	0428	0423	N10	E67	.917	8907	29.2	6	-F		V	0424	1.37		2.40	69	
GRP 7312	24	0453	0458	0454	N14	E76	.967	8907	29.9	5	-N				.24				2 2 2
ATHN	24	0452	0458	0453	N14	E78	.975	8907	30.1	6	-N	2		0453	.27		1.80		
HALE	24	0454	0457D	0454	N14	E74	.958	8907	29.8	3D	-N	1	P	0454	.21				
GRP 7313	24	0545	0554	0548	N14	E76	.967	8907	29.9	9	-N				.22				3 3 3
ATHN	24	0545	0553	0546	N15	E77	.971	8907	30.0	8	-N	2		0546	.33		1.80		
CATA	24	0545	0555	0550	N13	E80	.982	8907	30.2	10	-B			0550	.18			324	
MANI	24	0548E	0555D		N14	E72	.947	8907	29.6	7D	-N	2		0549	.15	.34			
GRP 7314	24	0557	0658	0620	N16	E78	.975	8907	30.1	61	2N				5.54				2 1 1
BUCA	24	0557	0658		N16	E75	.962	8907	29.9	61	2N		P	0600	5.54				
CATA	24	0620	0625	0620	N16	E80	.982	8907	30.3	5	-F			0620	.20			148	
GRP 7315	24	0607	0647	0615	N26	E61	.881	8905	28.8	40	-N				1.09				3 3 2
CATA	24	0605	0640	0615	N25	E65	.908	8905	29.1	35	-B			0615	.13			282	
BUCA	24	0608	0705		N27	E68	.928	8905	29.4	57	1F		C	0619	1.66				
MANI	24	0620E	0631D		N27	E62	.889	8905	28.9	11D	-N	1		0621	.52	1.00			
BUCA	24	0637	0654		N23	E47	.751	8905	27.8	17	-F		C	0640	.66	1.00			
GRP 7316	24	0739	0756	0740	N11	E69	.930	8907	29.5	17	-N				.20				2 2 1
KHAR	24	0737	0747	0739	N12	E73	.953	8907	29.8	10	-F		V	0739			2.10		DH
CATA	24	0740	0805	0740	N10	E65	.903	8907	29.2	25	-B			0740	.20			204	
GRP 7317	24	0757	0813	0801	N26	E58	.858	8905	28.7	16	1N				1.29				8 8 5
KHAR	24	0754	0812		N29	E58	.863	8905	28.7	18	1F		V	0801			1.80		D
MEUD	24	0755	0803	0757	N26	E58	.858	8905	28.7	8	-N		C	0757	.52	1.10			E
SALO	24	0755E	0810D		N27	E55	.835	8905	28.5	15D	1N		V	0800	.83	1.50	.14		
BUCA	24	0755	0828		N27	E66	.916	8905	29.3	33	1N		C	0759	1.10				
CAPS	24	0757E	0811		N26	E59	.866	8905	28.8	14D	1N	3		0800	2.00	4.00		189	EJ
CATA	24	0800	0820	0800	N26	E63	.895	8905	29.1	20	-B			0800	.29			224	
ATHN	24	0802	0824	0805	N27	E56	.844	8905	28.5	22	1N	2		0805	1.98	3.60	1.90		
ISTA	24	0755E	0815		N27	E58	.860	8905	28.7	20D	-N								
BUCA	24	0735	0800		N11	E52	.785	8905	28.2	25	-N		C	0740	.55	1.10			
ISTA	24	0755E	0806		N25	E60	.872	8905	28.8	11D	-F								
SALO	24	0755E	0815D		N27	E47	.763	8905	27.9	20D	1N		V	0800	.83	1.50	.14		
ISTA	24	0755E	0806		N26	E57	.850	8905	28.6	11D	-F								
SALO	24	0820E	0830D		N28	E54	.829	8905	28.4	10D	1N		V	0825	.50	.90	.11		
ISTA	24	0755E	0809		N25	E58	.857	8905	28.7	14D	-F								
GRP 7318	24	0825	0929	0830	N12	E73	.953	8907	29.8	64	1N				1.66				3 3 1
MEUD	24	0828	0837		N10	E64	.895	8907	29.2	9	-F		C	0832	.31	.70			E
CATA	24	0830	0935	0830	N08	E65	.903	8907	29.2	65	-B			0830	.25			229	
BUCA	24	0816	0830		N16	E84	.992	8907	30.6	14	2F		C	0818	1.66				
MEUD	24	0920	0922	0921	N14	E76	.967	8907	30.1	2	-F		C	0921	.21				D

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7319	24	0929	1015	0933	N27	E54	.827	8905	28.4	46	1N				2.07				8 8 5
CANA	24	0925	0954	0931	N27	E57	.852	8905	28.7	29	-N		C		.50	.90		200	I
KHAR	24	0928E	1025		N29	E57	.856	8905	28.7	57D	2N		P	0939	2.84	5.30	3.20		ELO
MEUD	24	0929	1010		N26	E53	.816	8905	28.4	41	1N		C	0940	1.34	2.30			C
CAPS	24	0929E	1018		N27	E54	.827	8905	28.4	49D	1B	3		0933	2.00	3.40		237	EJ
ATHN	24	0930	1023	0934	N27	E54	.827	8905	28.4	53	1B	2		0934	2.31	4.20	2.00		
CATA	24	0930	1100	0935	N28	E52	.812	8905	28.3	90	-B			0935	.60	1.11		316	
ARCE	24	0931E	1005D		N28	E58	.861	8905	28.7	34D	1N		P	0931	1.88	3.60			
ONDR	24	0931E	1011		N29	E52	.815	8905	28.3	40D	2N		V	0937			2.20		CHJ
CATA	24	1025	1030	1025	N21	E47	.746	8905	28.0	5	-N			1025	.35	.54		170	
GRP 7320	24	0955	1008	1000	N10	E64	.895	8907	29.2	13	1B				1.42				8 8 7
KHAR	24	0949E	1010D	1000	N12	E72	.948	8907	29.8	21D	1B		V	1000			6.10		DHQX
CATA	24	0950	1050	1000	N08	E63	.888	8907	29.1	60	1B			1000	1.66			363	
MONT	24	0953	1005	0958	N10	E63	.887	8907	29.1	12	-B			0958	.77				H
CANA	24	0956	1004	0957	N09	E63	.888	8907	29.1	8	1B		C		1.60	3.20		300	
CAPS	24	0956E	1008		N10	E64	.895	8907	29.2	12D	-B	3		1000	.90			220	H
MEUD	24	0959	1008	1000	N10	E62	.879	8907	29.1	9	1N		C	1000	1.96	3.80			V
ATHN	24	0959	1016	1002	N12	E63	.887	8907	29.1	17	1N	2		1002	1.32	3.90	1.90		
ARCE	24	1000	1005D		N12	E65	.903	8907	29.3	5D	1N		P	1003	1.76	4.20			
GRP 7321	24	1055	1120	1100	N20	E50	.775	8905	28.2	25	-B				.25				1 1 1
CATA	24	1055	1120	1100	N20	E50	.775	8905	28.2	25	-B			1100	.25	.41		214	
GRP 7322	24	1109	1125	1113	N16	W26	.465	8897	22.5	16	-F				.92				3 3 2
CANA	24	1106	1131U	1109	N15	W25	.446	8897	22.6	25U	-F		C		.60	.70		100	
CATA	24	1110	1225	1120	N16	W25	.451	8897	22.6	75	-N			1120	1.23	1.38		195	
MEUD	24	1111	1118	1111	N17	W27	.484	8897	22.4	7	-F		C	1111	.21	.20			D
GRP 7323	24	1130	1228	1135	N10	E68	.924	8907	29.6	58	-N				.25				2 1 1
CATA	24	1130	1225	1135	N07	E64	.896	8907	29.3	55	-N			1135	.25			174	
CANA	24	1215	1230	1218	N12	E71	.942	8907	29.8	15	-F		C		.10	.20		100	I
GRP 7324	24	1148	1211	1153	S23	W03	.474	8901	24.3	23	1N				1.73				8 8 8
ATHN	24	1146	1208	1150	S26	W01	.517	8901	24.4	22	1N	2		1150	2.77	3.10	1.70		
MONT	24	1146	1215	1154	S22	W08	.473	8901	23.9	29	1N			1154	2.06				H
SALO	24	1147E	1210D		S23	E04	.476	8901	24.8	23D	-B		V	1200	.83	1.00	.15		
CANA	24	1147	1210	1152	S23	W04	.476	8901	24.2	23	-N		C		1.50	1.70		200	E
MCMA	24	1148E	1155D		S24	W04	.491	8901	24.2	7D	1B		V	1155	1.80	2.10			F
HUAN	24	1148	1214	1155	S23	W04	.476	8901	24.2	26	1N	1	C	1155	2.73	2.81			E
MEUD	24	1150	1206	1154	S23	W07	.484	8901	24.0	16	-N		C	1154	1.34	1.50			F
CAPS	24	1154	1210D		S17	W01	.377	8901	24.4	16D	-N	3		1207	.80	.90		175	F
GRP 7325	24	1149	1224	1200	N27	E53	.818	8905	28.5	35	1N				1.28				10 10 9
SALO	24	1145E	1215D		N27	E52	.810	8905	28.4	30D	1N		V	1200	.83	1.50	.11		
HUAN	24	1146E	1225	1203	N27	E54	.827	8905	28.5	39D	1N	1	C	1203	1.75	2.33			ET
MCMA	24	1148E	1232D		N28	E55	.838	8905	28.6	44D	-B		V	1155	.72	1.30			E
ATHN	24	1150	1224	1155	N27	E54	.827	8905	28.5	34	1B	2		1155	1.65	3.10	2.00		
CAPS	24	1154	1216		N27	E55	.835	8905	28.6	22	1N	3		1207	1.80	3.20		181	FH
MEUD	24	1154	1218		N26	E52	.807	8905	28.4	24	-N		C	1202	1.03	1.70			
CANA	24	1156	1218	1201	N27	E52	.810	8905	28.4	22	-N		C		.70	1.20		200	EI
ONDR	24	1157E	1234		N29	E51	.806	8905	28.3	37D	1N		V	1201			2.30		CHJ
CAPF	24	1202E	1210D		N28	E53	.821	8905	28.5	8D	1N		P	1204	2.35	4.10			
CATA	24	1140	1305	1144	N25	E55	.831	8905	28.6	85	-B			1144	.66	1.19		240	
GRP 7326	24	1238	1255	1244	N27	E60	.875	8905	29.0	17	-N				.62				7 7 7
CANA	24	1235	1250	1236	N26	E61	.881	8905	29.1	15	-N		C		.30	.60		200	I
SACP	24	1236	1301	1242	N28	E60	.876	8905	29.0	25	-N		C		.63	.95			
HUAN	24	1237	1256		N27	E61	.882	8905	29.1	19	-F	2	C	1249	.31	.47			D
MEUD	24	1238	1248		N26	E60	.874	8905	29.0	10	-N		C	1240	.41				E
ATHN	24	1239	1249	1241	N29	E59	.871	8905	29.0	10	-N	2		1241	.66	1.30	1.80		
HERS	24	1240	1252	1241U	N27	E57	.852	8905	28.8	12	-B		P	1241	.89	1.70			BE
CATA	24	1240	1310	1250	N26	E61	.881	8905	29.1	30	-B			1250	1.11			240	
GRP 7327	24	1243	1315	1249	S24	W05	.493	8901	24.2	32	-N				1.17				5 5 5
HUAN	24	1240	1321		S22	W05	.463	8901	24.2	41	1F	2	C	1257	2.63	2.70			E
CANA	24	1250	1315	1254	S21	W07	.454	8901	24.0	25	-N		C		.70	.80		200	E
MEUD	24	1244	1310	1247	S23	W08	.488	8901	23.9	26	-N		C	1247	.62	.70			EK
ATHN	24	1245	1251	1246	S26	W02	.518	8901	24.4	6	-N	2		1246	.83	.90	1.90		
CATA	24	1245	1340	1250	S24	W05	.493	8901	24.2	55	-N			1250	1.05	1.22		178	
CANA	24	1242	1258	1243	S25	W04	.506	8901	24.2	16	-F		C		.70	.80		100	
MEUD	24	1244	1310	1258	S23	W08	.488	8901	23.9	26	-N								
GRP 7328	24	1257	1312	1302	N27	E51	.801	8905	28.4	15	-N				.85				7 7 7
SACP	24	1254	1309	1302	N29	E50	.798	8905	28.3	15	-N		C		1.55	2.03			
CANA	24	1255	1307	1258	N26	E50	.789	8905	28.3	12	-N		C		.70	1.10		200	I
HUAN	24	1255	1312	1301	N27	E52	.810	8905	28.4	17	-B	2	C	1301	.75	.99			D
MEUD	24	1256	1310		N26	E51	.798	8905	28.4	14	-N		C	1301	.72	1.10			
ATHN	24	1257	1314	1301	N28	E48	.776	8905	28.1	17	-N	2		1301	1.16	1.80	1.80		
SANM	24	1300E	1318	1302	N28	E50	.795	8905	28.3	18D	-B		P	1302	.65	.90			
CATA	24	1305	1410	1310	N26	E52	.807	8905	28.4	65	-B			1310	.44	.78		263	
SANM	24	1303	1410	1335	N29	E54	.832	8905	28.6	67	-F		C	1335	.65	1.15			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS				REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. 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.			
	1967 JULY																			
GRP 7329	24	1307	1332	1310	N12	E61	.871	8907	29.1	25	-N				.32				5	5	5
SACP	24	1304	1345	1310	N13	E60	.863	8907	29.0	41	-N		C		.52	.75					
CANA	24	1305	1322	1308	N11	E61	.871	8907	29.1	17	-N		C		.20	.40		200	J		
HUAN	24	1308	1316	1311	N12	E61	.871	8907	29.1	8	-F	2	C	1311	.25	.37			D		
SANM	24	1310	1335	1312	N13	E60	.863	8907	29.0	25	-F		C	1312	.32	.60					
CATA	24	1310	1340	1310	N10	E61	.871	8907	29.1	30	-N			1310	.33			174			
CANA	24	1305	1322	1316	N11	E61	.871	8907	29.1	17	-N										
GRP 7330	24	1338	1351	1343	N16	E73	.952	8907	30.0	13	-N				.29				4	4	4
SACP	24	1322	1350	1342	N16	E72	.947	8907	30.0	28	-N		C		.31	.60					
SANM	24	1335	1400	1344	N16	E76	.967	8907	30.3	25	-F		C	1344	.32						
CANA	24	1336	1345	1341	N13	E73	.953	8907	30.0	9	-N		C		.20	.50		200			
ATHN	24	1342	1348	1343	N17	E72	.947	8907	30.0	6	-N	2		1343	.33		1.80				
GRP 7331	24	1406	1411	1411	N27	E52	.810	8905	28.5	5	1N				1.37				2	2	1
CATA	24	1310	1635	1415	N27	E55	.835	8905	28.7	205	1B			1415	1.37	2.52		269			
CANA	24	1406	1411	1407	N26	E49	.779	8905	28.3	5	-F		C		.20	.30		100			
GRP 7332	24	1444	1449	1446	N15	E72	.947	8907	30.0	5	-N				.40				5	5	5
CANA	24	1442	1448	1443	N14	E73	.953	8907	30.1	6	-N		C		.30	.80		200			
HUAN	24	1444	1450	1446	N15	E75	.962	8907	30.2	6	-N	1	C	1446	.25				D		
MCMA	24	1445	1451	1447	N15	E70	.936	8907	29.9	6	-N		C	1447	.31	.90			D		
MEUD	24	1446	1450	1447	N15	E73	.953	8907	30.1	4	-N		C	1447	.52				D		
SACP	24	1425	1445	1426	N17	E71	.942	8907	29.9	20	-F		C		.61	1.17					
GRP 7333	24	1507	1532	1514	N13	E66	.910	8907	29.6	25	-N				.50				7	7	7
SACP	24	1504	1530	1520	N15	E66	.910	8907	29.6	26	-N		C		.92	1.52					
CANA	24	1505	1527	1510	N11	E66	.910	8907	29.6	22	-N		C		.30	.70		200			
CATA	24	1505	1535	1510	N13	E70	.936	8907	29.9	30	-B			1510	.21			240			
HUAN	24	1509	1532	1513	N14	E72	.947	8907	30.0	23	-N	1	C	1513	.75				E		
MCMA	24	1510	1535	1514	N15	E68	.924	8907	29.7	25	-N		C	1514	.52	1.50			E		
MEUD	24	1512	1520		N13	E65	.903	8907	29.5	8	-N		C	1514	.41				E		
LOCK	24	1515	1533	1517	N13	E61	.871	8907	29.2	18	-N		C	1517	.40	.80		10	K		
LOCK	24	1504E	1514	1504E	N12	E61	.871	8907	29.2	10D	-F		C	1504	.30	.60		10			
CATA	24	1505	1535	1510	N11	E65	.903	8907	29.5	30	-N			1510	.13			191			
MEUD	24	1528	1530	1529	N10	E59	.854	8907	29.1	2	-F		C	1529	.21	.40			D		
GRP 7334	24	1536	1602	1542	N28	E49	.785	8905	28.3	26	-N				.55				3	3	3
ATHN	24	1534	1605	1544	N28	E46	.757	8905	28.1	31	-N	1		1544	.66	1.00	1.50				
HUAN	24	1537	1551	1540	N28	E50	.795	8905	28.4	14	-F	2	C	1540	.50	.65			E		
SALO	24	1540E	1610D		N27	E50	.792	8905	28.4	30D	1N		V	1600	.50	.90	.15				
GRP 7335	24	1551	1603	1556	N11	E61	.871	8907	29.2	12	-N				.34				10	9	9
LOCK	24	1544	1640	1558	N14	E59	.855	8907	29.1	56	-N		C	1558	.70	1.30		10	K		
SALO	24	1545E	1555D		N10	E67	.917	8907	29.7	10D	-F		V	1550	.33	.60	.13				
SACP	24	1546	1612	1556	N12	E61	.871	8907	29.2	26	-N		C		.51	.75					
CANA	24	1551	1558	1554	N10	E60	.863	8907	29.2	7	-N		C		.20	.40		200	H		
HUAN	24	1552	1559	1554	N11	E62	.879	8907	29.3	7	-F	2	C	1554	.21				DH		
SANM	24	1554	1604	1557	N11	E60	.863	8907	29.2	10	-F		C	1557	.32	.65					
MEUD	24	1555	1601	1557	N10	E59	.854	8907	29.1	6	-N		C	1557	.26	.50			DH		
ATHN	24	1555E	1602	1555	N13	E61	.871	8907	29.2	7D	-B	1		1555	.33	.70	2.00				
CATA	24	1555	1605	1555	N11	E62	.879	8907	29.3	10	-B			1555	.18			302			
HALE	24	1631E	1650	1634	N11	E60	.863	8907	29.2	19D	-N	2	P	1634	.21	.40					
GRP 7336	24	1623	1722	1628	N26	E52	.807	8905	28.6	59	2B				2.69				2	2	2
MCMA	24	1621E	1722D	1624	N27	E53	.818	8905	28.7	61D	1B		V	1624	1.24	2.20			EK		
MONT	24	1625	1711D	1632	N25	E50	.786	8905	28.4	46D	2N			1632	4.13				L		
GRP 7336	24	1640	1652	1644	N26	E50	.789	8905	28.4	12	-N				.34				3	3	3
HUAN	24	1637	1705		N25	E50	.786	8905	28.4	28	-F	1	C	1641	.62	.79					
HALE	24	1643	1655	1644	N25	E48	.767	8905	28.3	12	-N	2	C	1644	.15	.20					
CATA	24	1505	1635	1515	N28	E52	.812	8905	28.5	90	-B			1515	.25	.43		224			
GRP 7336	24	1720	1731	1725	N23	E54	.819	8905	28.8	11	-N				.84				4	3	3
LOCK	24	1718	1726	1722	N14	E57	.836	8905	29.0	8	-N		C	1722	.40	.80		10			
HUAN	24	1721	1736		N27	E51	.801	8905	28.5	15	-N	1	C	1727	.57	.73			E		
MCMA	24	1722	2015	1727	N27	E53	.818	8905	28.7	173	1B		V	1727	1.55	2.80			EK		
HALE	24	1855	1906	1858	N26	E46	.750	8905	28.2	11	-N	1	C	1858	.10	.20					
GRP 7337	24	1727	1736	1731	N16	E65	.903	8907	29.6	9	-F				.38				4	4	4
LOCK	24	1726	1734	1729	N16	E66	.910	8907	29.7	8	-F		C	1729	.60	1.30		10			
HALE	24	1730	1739	1734	N13	E67	.917	8907	29.8	9	-N	1	C	1734	.21						
HUAN	24	1728	1733	1729	N12	E68	.924	8907	29.8	5	-F	1	C	1729	.25				D		
MCMA	24	1729	1738	1731	N15	E67	.917	8907	29.8	9	-F		V	1731	.31	.90			D		
HALE	24	1726	1750	1730	N28	E47	.767	8907	28.3	24	-N	2	C	1730	.15	.20					
GRP 7338	24	1811	1820	1813	N13	E66	.910	8907	29.7	9	-N				.50				4	4	4
SACP	24	1808	1823	1813	N13	E66	.910	8907	29.7	15	-N		C		.92	1.54					
HUAN	24	1810	1817	1812	N12	E68	.924	8907	29.9	7	-F	1	C	1812	.31				E		
MCMA	24	1810	1819	1812	N15	E65	.903	8907	29.6	9	-N		V	1812	.52	1.50			E		
HALE	24	1814	1820	1815	N12	E67	.917	8907	29.8	6	-N	1	C	1815	.26						
HALE	24	1754	1814	1757	N11	E60	.863	8907	29.2	20	-N	1	C	1757	.21	.40			H		

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7339	24	1822	1835	1827	N16	E61	.872	8907	29.3	13	-N				.58				5 5 5
SACP	24	1820	1835	1829	N15	E62	.880	8907	29.4	15	-N		C		.92	1.40			
LOCK	24	1820	1839	1827	N15	E58	.846	8907	29.1	19	-N		C	1827	.90	1.70		10	
HUAN	24	1821	1833	1826	N16	E62	.880	8907	29.4	12	-N	2	C	1826	.41	.63			E
MCMA	24	1822	1834	1824	N18	E63	.889	8907	29.5	12	-N		V	1824	.26	.70			DH
HALE	24	1826	1834	1827	N15	E62	.880	8907	29.4	8	-N	1	C	1827	.41	.90			
GRP 7340	24	1850	1857	1852	N14	E57	.836	8907	29.1	7	-F				.30				1 1 1
LOCK	24	1850	1857	1852	N14	E57	.836	8907	29.1	7	-F		C	1852	.30	.60		10	
GRP 7341	24	1904	1913	1907	N12	E58	.845	8907	29.1	9	-N				.41				3 3 3
LOCK	24	1900	1914	1908	N13	E56	.827	8907	29.0	14	-N		C	1908	.70	1.40		10	
MCMA	24	1904	1909	1905	N12	E60	.863	8907	29.3	5	-F		V	1905	.31	.70			D
HALE	24	1907	1915	1908	N11	E57	.835	8907	29.1	8	-N	1	C	1908	.21	.40			H
GRP 7342	24	1920	1938	1922	N12	E57	.836	8907	29.1	18	-N				.51				2 2 2
LOCK	24	1919	1946	1922	N13	E56	.827	8907	29.0	27	-F		C	1922	.60	1.10		10	K
SACP	24	1920	1930	1922	N11	E58	.845	8907	29.2	10	-N		C		.41	.58			
GRP 7343	24	2016	2032	2020	N25	E43	.716	8905	28.1	16	-N				.44				4 4 4
MCMA	24	2015	2026	2018	N24	E43	.712	8905	28.1	11	-N		V	2018	.21	.30			D
LOCK	24	2015	2038	2020	N24	E40	.680	8905	27.8	23	-F		C	2020	.50	.70		10	
HALE	24	2018	2047	2021	N23	E40	.676	8905	27.8	29	-N	1	C	2021	.21	.30			
HUAN	24	1944	2017		N27	E50	.792	8905	28.6	33	-F	1	C	1955	.83	1.06			E
GRP 7343	24	2020	2150	2104	N28	E48	.776	8905	28.4	90	2B				4.30				2 2 2
SACP	24	2013	2140	2105	N29	E48	.780	8905	28.4	87	2B		C		5.51	6.98			
MCMA	24	2027	2200D	2103	N27	E48	.773	8905	28.5	93D	2B		V	2103	3.09	5.10			E
GRP 7343	24	2028	2105	2051	N27	E48	.773	8905	28.5	37	1B				2.27				2 2 2
HUAN	24	2025	2105D		N27	E49	.782	8905	28.5	40D	1B	1	P	2052	2.99	3.83			
HALE	24	2030	2059D	2051	N27	E47	.763	8905	28.4	29D	1B	1	P	2051	1.55	2.40			FJK
GRP 7344	24	2045	2102	2054	N11	E57	.835	8907	29.1	17	-B				.92				5 5 5
LOCK	24	2040	2105	2054	N13	E57	.836	8907	29.1	25	-N		C	2054	.90	1.70		10	
SACP	24	2041	2103	2052	N11	E57	.835	8907	29.1	22	-N		C		1.42	1.96			
MCMA	24	2049	2100	2053	N10	E58	.845	8907	29.2	11	-B		V	2053	.83	1.60			EH
HALE	24	2050	2059D	2056	N11	E57	.835	8907	29.1	9D	-B	1	P	2056	.46	.90			
HUAN	24	2051E	2101		N10	E58	.845	8907	29.2	10D	-B	1	P	2052	1.00	1.43			
GRP 7345	24	2111	2145	2116	S28	W31	.702	8899	22.6	34	-F				.41				1 1 1
MCMA	24	2111	2145D	2116	S28	W31	.702	8899	22.6	34D	-F		C	2116	.41	.50			E
GRP 7346	24	2139	2147	2142	N14	E59	.855	8907	29.3	8	-N				.30				1 1 1
LOCK	24	2139	2147	2142	N14	E59	.855	8907	29.3	8	-N		C	2142	.30	.50		10	
GRP 7347	24	2230	2247	2235	N24	E63	.893	8907	29.7	17	-F				.80				1 1 1
LOCK	24	2230	2247	2235	N24	E63	.893	8907	29.7	17	-F		C	2235	.80	1.70		10	
GRP 7348	24	2300	2315	2303	N27	E47	.763	8905	28.5	15	-F				.31				1 1 1
IKOM	24	2300	2315D	2303	N27	E47	.763	8905	28.5	15D	-F		V	2303	.31	.50			E
GRP 7349	24	2320	2355	2321	N31	E41	.723	8905	28.0	35	-F				.30				1 1 1
LOCK	24	2320	2355	2321	N31	E41	.723	8905	28.0	35	-F		C	2321	.30	.50		10	K
GRP 7350	25	0023	0100	0038	N29	E44	.742	8905	28.3	37	1N				1.57				3 3 3
IKOM	25	0035E	0055D	0037	N28	E46	.757	8905	28.5	20D	1N		V	0037	1.55	2.30		100	E
MANI	25	0036E	0100	0039	N27	E46	.753	8905	28.5	24D	1N	1		0039	1.96	2.98			
LOCK	25	0010	0059	0014	N31	E41	.723	8905	28.1	49	-F		C	0014	1.20	1.80		20	K
GRP 7351	25	0034	0059	0039	N13	E56	.826	8907	29.2	25	-N				.30				1 1 1
LOCK	25	0034	0059	0039	N13	E56	.826	8907	29.2	25	-N		C	0039	.30	.50		10	
GRP 7352	25	0121	0132	0123	N14	E56	.827	8907	29.3	11	-N				.20				1 1 1
LOCK	25	0121	0132	0123	N14	E56	.827	8907	29.3	11	-N		C	0123	.20	.40		10	
GRP 7353	25	0144	0200	0148	S21	W08	.460	8901	24.5	16	-N				1.10				1 1 1
LOCK	25	0144	0200	0148	S21	W08	.460	8901	24.5	16	-N		C	0148	1.10	1.30		10	
GRP 7354	25	0218	0223	0221	N29	E48	.779	8905	28.7	5	-N				.31				1 1 1
HALE	25	0218	0223D	0221U	N29	E48	.779	8905	28.7	5D	-N	1	P	0221	.31	.50			JT
GRP 7355	25	0324	0332	0327	N29	E43	.732	8905	28.4	8	-B				1.06				2 2 2
TACH	25	0324	0328	0326	N29	E44	.742	8905	28.4	4	-B		V	0326	1.29	2.00	4.50	84	
HALE	25	0328E	0336	0328U	N29	E42	.722	8905	28.3	8D	-N	2	P	0328	.83	1.20			JT
GRP 7356	25	0354	0406		N28	E44	.738	8905	28.5	12	2F				5.93				1 1 1
TACH	25	0354	0406		N28	E44	.738	8905	28.5	12	2F		V	0354	5.93	9.20	2.10	90	
GRP 7357	25	0403	0413	0408	N11	E53	.796	8907	29.1	10	-N				1.10				4 4 3
MITK	25	0403	0406D		N12	E54	.806	8907	29.2	3D	-N		C	0406	.83	1.40			E
HALE	25	0403	0418	0409	N12	E53	.796	8907	29.1	15	1B	2	C	0409	1.24	2.10			
CRON	25	0404	0410	0406	N09	E54	.806	8907	29.2	6	-F		C		.30	.50		100	
MANI	25	0406E	0411D		N11	E52	.785	8907	29.1	5D	-N	1		0406	1.24	1.97			
GRP 7358	25	0420	0423		N29	E44	.742	8905	28.5	3	-N				.93				1 1 1
TACH	25	0420	0423		N29	E44	.742	8905	28.5	3	-N		V	0420	.93	1.40	1.60	57	
GRP 7359	25	0515	0519		N27	E44	.734	8905	28.5	4	-B				.93				1 1 1
TACH	25	0515	0519		N27	E44	.734	8905	28.5	4	-B		V	0518	.93	1.40	1.80	81	
GRP 7360	25	0524	0526		N30	E46	.765	8905	28.7	2	1N				1.45				1 1 1
TACH	25	0524	0526		N30	E46	.765	8905	28.7	2	1N		V	0525	1.45	2.40	1.90	63	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT DATE 1967 JULY	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
GRP 7361	25	0615	0630	0619	N26	E43	.719	8905	28.5	15	-N				.79				7 7 4
CATA	25	0605	0625	0615	N20	E40	.664	8905	28.3	20	-B			0615	.21	.29		209	
MITK	25	0616	0633	0621	N28	E44	.738	8905	28.6	17	-N		C	0621	.72	1.10			E
MANI	25	0617	0628	0620	N27	E44	.734	8905	28.6	11	-N	1		0620	.83	1.23			
CAPS	25	0618	0624		N28	E48	.776	8905	28.9	6	-N	3		0618	.60	.90			F
ATHN	25	0620E	0631	0620	N26	E42	.709	8905	28.4	11D	-B	3		0620	.99	1.40	2.00		
MEUD	25	0617	0625		N26	E43	.719	8905	28.5	8	-N		C						
WEND	25	0617	0643		N27	E42	.713	8905	28.4	26	1F		V		5.16				
GRP 7362	25	0642	0700		N27	E46	.753	8905	28.7	18	-B				.23				2 2 2
MEUD	25	0654	0655		N26	E39	.678	8905	28.2	1	-N		C	0654	.26	.30			D
CATA	25	0630	0705	0640	N27	E52	.809	8905	29.2	35	-B			0640	.20	.35		240	
GRP 7363	25	0707	0729		N28	E41	.708	8905	28.4	22	1N				.83				3 3 1
MONT	25	0707	0720		N28	E47	.766	8905	28.8	13	-N			0713	.83				
ONDR	25	0707E	0721		N28	E36	.657	8905	28.0	14D	1N		V	0711			2.20		CJ
AROS	25	0718E	0746D		N27	E41	.703	8905	28.4	28D	1B		V						
GRP 7364	25	0738	0751	0743	N09	E57	.835	8907	29.6	13	-N				.32				4 4 2
MEUD	25	0737	0748		N09	E55	.816	8907	29.4	11	-F		C	0739	.31	.50			D
AROS	25	0738	0745	0741	N10	E58	.845	8907	29.7	7	1N		V						
CATA	25	0740	0800	0745	N08	E57	.835	8907	29.6	20	-B			0745	.33	.65		204	
ISTA	25	0735E	0750		N10	E58	.845	8907	29.7	15D	-N								
GRP 7365	25	0815	0835	0825	N27	E43	.724	8905	28.6	20	1N				2.43				5 4 2
ARCE	25	0810	0935	0815	N29	E40	.703	8905	28.3	85	1N		C	0815	2.79	3.90			F
MONT	25	0815	0840		N28	E47	.766	8905	28.9	25	1N			0820	2.06				
ISTA	25	0735E	0840		N26	E45	.740	8905	28.7	65D	1N								
MEUD	25	0820	0825		N26	E41	.699	8905	28.4	5	-N		C						C
CATA	25	0835	0855	0835	N26	E49	.779	8905	29.0	20	-B			0835	.39	.65		204	
CATA	25	0840	0900	0850	N23	E48	.761	8905	29.0	20	-N			0850	.35	.56		158	
GRP 7366	25	0858	0922		N28	E42	.718	8905	28.5	24	1N				1.25				4 4 3
MONT	25	0858	0910D		N28	E47	.766	8905	28.9	12D	1N			0903	1.86				
ONDR	25	0858E	0916		N28	E35	.646	8905	28.0	18D	1F		V	0902			2.20		CJ
SALO	25	0900E	0920D		N27	E36	.651	8905	28.1	20D	-N		V	0910	.83	1.20	.15		
CATA	25	0535	0930	0545	N27	E45	.744	8905	28.6	235	-B			0545	1.05	1.58		331	
SALO	25	0900E	0920D		N29	E45	.751	8905	28.8	20D	-N		V	0910	.66	1.00	.15		
GRP 7367	25	0936	0950	0942	N24	E37	.646	8905	28.2	14	-N				.64				6 6 6
CANA	25	0934	0946	0935	N22	E37	.636	8905	28.2	12	-F		C		.50	.70		100	I
CATA	25	0935	0950	0935	N23	E38	.652	8905	28.2	15	-B			0935	.81	1.09		342	
MANI	25	0936E	0945D		N21	E36	.620	8905	28.1	9D	-B	1		0938	.26	.33			
SALO	25	0937E	0950D		N24	E35	.623	8905	28.0	13D	-N		V	0940	.83	1.20	.15		
ARCE	25	0937	0955D	0945	N25	E36	.640	8905	28.1	18D	-N		P	0945	.69	.90			
ATHN	25	0938E	0948	0938	N22	E35	.613	8905	28.0	10D	-N	3		0938	.72	.90	1.90		
CATA	25	0940	1005	0945	N28	E45	.747	8905	28.8	25	-B			0945	.18	.27		240	
CANA	25	0956	1005	1000	N28	E43	.728	8905	28.6	9	-F		C		.70	1.00		100	I
GRP 7368	25	1021	1028		N30	E39	.698	8905	28.4	7	2F								1 1 0
ONDR	25	1021E	1028D		N30	E39	.698	8905	28.4	7D	2F		V	1022			2.10		CJ
GRP 7369	25	1055	1112	1058	N26	E39	.678	8905	28.4	17	-N				1.17				3 3 3
CANA	25	1052	1117	1054	N27	E38	.672	8905	28.3	25	-N		C		.70	1.00		200	IJ
MEUD	25	1055	1107		N26	E36	.645	8905	28.2	12	-N		C	1058	1.13	1.50			
CATA	25	1058	1200	1058	N25	E44	.726	8905	28.8	62	1B			1058	1.68	2.47		346	
GRP 7369	25	1058	1155	1117	N28	E40	.698	8905	28.5	57	1B				3.72				8 5 4
CANA	25	1052	1117	1110	N27	E38	.672	8905	28.3	25	-N								
MONT	25	1055	1145	1120	N28	E47	.766	8905	29.0	50	2B			1120	4.13				
CAPS	25	1057E	1210		N28	E42	.718	8905	28.6	73D	1B	3		1109	2.50	3.80		234	FK
ATHN	25	1108	1153	1120	N28	E41	.708	8905	28.5	45	2B	2		1120	4.62	6.30	2.00		
MCMA	25	1109E	1210		N28	E40	.698	8905	28.5	61D	2B		V	1114	3.61	5.00			BF
MEUD	25	1133	1140		N26	E38	.667	8905	28.3	7	-N		C						E
ONDR	25	1141	1146		N30	E38	.689	8905	28.3	5	1F		V	1142			1.70		CJ
SALO	25	1155E	1200D		N28	E38	.677	8905	28.3	5D	-N		V	1155	.66	.90	.15		
GRP 7370	25	1213	1235	1216	N27	E40	.693	8905	28.5	22	1N				1.63				7 7 5
CANA	25	1210	1220	1211	N22	E36	.624	8905	28.2	10	-N		C		1.00	1.40		200	EI
HUAN	25	1212	1230	1215	N27	E40	.693	8905	28.5	18	1N	1	C	1215	1.86	2.14			T
MCMA	25	1212	1255	1217	N28	E40	.698	8905	28.5	43	1B		V	1217	1.44	2.10			F
MONT	25	1213	1240	1218	N28	E45	.747	8905	28.9	27	1N			1218	2.06				
MEUD	25	1214	1220	1215	N26	E37	.656	8905	28.3	6	-N		C						
ONDR	25	1214E	1226		N30	E38	.689	8905	28.4	12D	2N		V	1214			2.40		J
CAPS	25	1214	1257		N28	E42	.718	8905	28.7	43	1B	3		1222	1.80	2.70		225	F

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7371	25	1303	1312	1307	N28	E39	.688	8905	28.5	9	-N				1.17				8 8 7
ATHN	25	1301	1306	1302	N28	E38	.677	8905	28.4	5	-B	2		1302	.99	1.40	2.00		
CANA	25	1301	1308	1304	N28	E37	.667	8905	28.3	7	-N		C		.50	.70		200	I
HUAN	25	1303	1314	1308	N28	E39	.688	8905	28.5	11	-N	2	C	1308	1.00	1.16			E
MEUD	25	1304	1312		N26	E35	.634	8905	28.2	8	-N		C	1304	.36	.50			
MCMA	25	1304	1314	1306	N28	E40	.698	8905	28.5	10	-B		C	1306	.41	.60			E
SACP	25	1304	1317	1306	N28	E38	.677	8905	28.4	13	1N		C		2.56	2.93			
MONT	25	1305	1400	1315	N28	E44	.738	8905	28.8	55	1N			1315	2.06				
SANM	25	1307E	1314	1309	N28	E37	.667	8905	28.3	7D	-N		C	1309	.65	.85			
SANM	25	1307E	1513	1314	N30	E41	.718	8905	28.6	126D	-F		C	1314	.32	.45			
GRP 7372	25	1319	1330	1321	N27	E38	.672	8905	28.4	11	-N				.50				4 4 4
MCMA	25	1318	1333	1321	N28	E40	.698	8905	28.6	15	-B		V	1321	.83	1.20			E
SANM	25	1318	1335	1320	N28	E39	.688	8905	28.5	17	-F		C	1320	.32	.45			
HUAN	25	1319	1330	1321	N27	E39	.683	8905	28.5	11	-F	2	C	1321	.57	.65			E
MEUD	25	1322	1323		N26	E34	.623	8905	28.1	1	-N		C	1322	.26	.30			CD
GRP 7373	25	1340	1413	1349	N27	E40	.693	8905	28.6	33	1N				1.89				6 6 6
CAPS	25	1307E	1428		N27	E41	.703	8905	28.6	81D	1B	3		1345	2.50	3.70		237	F
SACP	25	1337	1408	1350	N27	E38	.672	8905	28.4	31	1N		C		2.44	2.81			
SANM	25	1338	1410	1350	N28	E39	.688	8905	28.5	32	1N		C	1350	1.94	2.60			
MCMA	25	1339	1427D	1348	N28	E40	.698	8905	28.6	48D	1B		V	1348	1.55	2.10			ELRV
CANA	25	1343	1355	1349	N27	E39	.683	8905	28.5	12	-F		C		1.40	1.90		100	I
HUAN	25	1343	1407	1349	N27	E40	.693	8905	28.6	24	-B	2	C	1349	1.50	1.73			E
GRP 7374	25	1424	1456	1428	N28	E39	.688	8905	28.5	32	1B				3.25				8 8 6
MONT	25	1415	1500	1425	N28	E44	.738	8905	28.9	45	2B			1425	5.16				
HUAN	25	1423	1500	1429	N28	E39	.688	8905	28.5	37	1B	2	C	1429	2.37	2.70			
CANA	25	1424	1436	1426	N27	E38	.672	8905	28.5	12	-N		C		.80	1.10		200	I
SACP	25	1425	1444	1430	N28	E38	.677	8905	28.5	19	1N		C		3.56	4.06			
ATHN	25	1426	1456	1429	N27	E35	.640	8905	28.2	30	1B	2		1429	2.31	3.20	2.00		
MCMA	25	1427	1500	1429	N28	E40	.698	8905	28.6	33	1B		V	1429	3.09	4.30			ELRV
CAPS	25	1428	1509		N27	E41	.703	8905	28.7	41	1B	3		1433	3.00	4.30		354	F
SANM	25	1435E	1500		N28	E36	.657	8905	28.3	25D	-N		P	1436	.98	1.25			
GRP 7375	25	1449	1457	1451	N11	E47	.729	8907	29.1	8	-N				.56				6 6 6
ATHN	25	1447	1456	1449	N10	E48	.741	8907	29.2	9	-N	2		1449	.66	.90	1.70		
CANA	25	1448	1453	1449	N11	E46	.718	8907	29.1	5	-F		C		.40	.60		100	
SANM	25	1449	1458	1452	N10	E47	.729	8907	29.1	9	-N		C	1452	.67	.90			
MCMA	25	1450	1456	1452	N11	E48	.741	8907	29.2	6	-B		V	1456	.52	.80			D
HUAN	25	1450	1457	1452	N10	E48	.741	8907	29.2	7	-N	2	C	1452	.50	.60			D
SACP	25	1450	1459	1452	N11	E46	.718	8907	29.1	9	-N		C		.61	.72			
GRP 7376	25	1510	1550		S29	W39	.774	8899	22.7	40	-N				.33				1 1 1
SALO	25	1510E	1550D		S29	W39	.774	8899	22.7	40D	-N		V	1520	.33	.60	.15		
GRP 7377	25	1537	1545	1539	N27	E36	.651	8905	28.4	8	-F				.50				3 3 3
CANA	25	1535	1540	1537	N26	E36	.645	8905	28.3	5	-F		C		.50	.70		100	I
HUAN	25	1537	1549	1540	N28	E37	.667	8905	28.4	12	-N	2	C	1540	.50	.56			D
SACP	25	1540	1546	1541	N28	E36	.657	8905	28.4	6	-F		C		.51	.57			
GRP 7378	25	1550	1600	1553	N12	E82	.988	8913	31.8	10	-N				.20				1 1 1
LOCK	25	1550	1600	1553	N12	E82	.988	8913	31.8	10	-N		C	1553	.20	.70		10	
GRP 7379	25	1620	1701	1628	N28	E37	.667	8905	28.5	41	-N				2.37				7 7 4
HUAN	25	1612	1713	1628	N27	E38	.672	8905	28.5	61	1N	2	C	1628	2.73	3.11			
MCMA	25	1616	1717D	1628	N28	E38	.677	8905	28.5	61D	1B		V	1628	2.58	3.50			EH
LOCK	25	1622	1702	1627	N29	E34	.643	8905	28.2	40	-F		C	1627	.40	.50		10	
ATHN	25	1625	1651D	1627	N27	E33	.619	8905	28.2	26D	-B	2		1627	1.32	1.80	2.00		
HALE	25	1628	1644	1632	N28	E37	.667	8905	28.5	16	-B	1	C	1632	.62	.80			EJT
MEUD	25	1623	1640		N26	E37	.656	8905	28.5	17	-N		C						E
SACP	25	1614	1706	1650	N30	E40	.708	8905	28.7	52	1N		C		2.85	3.34			
MEUD	25	1643	1653		N26	E38	.667	8905	28.5	10	-N		C						
GRP 7380	25	1645	1652	1647	N16	E45	.712	8907	29.1	7	-F				.20				1 1 1
LOCK	25	1645	1652	1647	N16	E45	.712	8907	29.1	7	-F		C	1647	.20	.30		10	
GRP 7381	25	1723	1743	1728	N28	E37	.667	8905	28.5	20	1N				2.04				5 5 4
MEUD	25	1720	1735	1720	N26	E33	.612	8905	28.2	15	-N		C						
HUAN	25	1720	1749	1728	N27	E37	.662	8905	28.5	29	1N	2	C	1728	2.01	2.26			
HALE	25	1723	1738	1731	N28	E36	.657	8905	28.4	15	1N	1	C	1731	1.75	2.30			JT
MCMA	25	1724E	1749	1726	N28	E38	.677	8905	28.6	25D	1B		V	1726	2.27	3.00			EH
SACP	25	1726	1742D	1729	N30	E40	.708	8905	28.7	16D	1N		C		2.13	2.50			
MEUD	25	1720	1735	1728	N26	E33	.612	8905	28.2	15	-N								
GRP 7382	25	1828	1850	1842	N28	E36	.657	8905	28.5	22	-N				.71				2 2 2
HUAN	25	1828	1847		N27	E37	.662	8905	28.5	19	-F	2	C	1840	.50	.56			E
SACP	25	1840E	1853D	1842	N28	E34	.636	8905	28.3	13D	-N		C		.92	1.01			
GRP 7383	25	1910	1925	1914	N28	E34	.636	8905	28.3	15	1N				1.86				1 1 1
HALE	25	1910	1925	1914	N28	E34	.636	8905	28.3	15	1N	1	C	1914	1.86	2.40			JT
GRP 7384	25	1937	1946	1939	N28	E34	.636	8905	28.4	9	-N				.41				1 1 1
HALE	25	1937	1946	1939	N28	E34	.636	8905	28.4	9	-N	1	C	1939	.41	.50			JT
GRP 7384	25	1944	1945	1944	N28	E33	.626	8905	28.3	1	-N				.31				1 1 1
HALE	25	1944	1945	1944	N28	E33	.626	8905	28.3	1	-N	1	C	1944	.31	.40			JT

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION 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
GRP 7385	25	2019	2028	2022	N28	E36	.657	8905	28.5	9	-N				1.06				2 2 2
HALE	25	2019	2029	2022	N28	E34	.636	8905	28.4	10	-N	1	C	2022	1.08	1.40			JT
HUAN	25	2021E	2027		N28	E37	.667	8905	28.6	6D	-F	1	P	2022	1.03	1.16			
GRP 7386	25	2100	2216	2101	N28	E36	.657	8905	28.6	76	1N				1.44				3 2 2
HALE	25	2100	2111	2101	N29	E35	.653	8905	28.5	11	-N	1	C	2101	.62	.80			EJT
HUAN	25	2105E	2216D		N28	E37	.667	8905	28.7	71D	1F	1	P	2107	2.25	2.56			E
MCMA	25	2132E	2157D		N28	E35	.646	8905	28.5	25D	1B		C	2140	1.34	2.00			BF
GRP 7387	25	2222	2239	2230	N14	W82	.988	8897	19.8	17	-N				.20				1 1 1
LOCK	25	2222	2239	2230	N14	W82	.988	8897	19.8	17	-N		C	2230	.20	.70		10	
GRP 7388	25	2252	2305	2255	N22	E37	.636	8905	28.7	13	-N				.67				2 2 1
HALE	25	2250	2306	2254	N28	E34	.636	8905	28.5	16	-B	1	C	2254	.67	.90			JT
LOCK	25	2254	2304	2256	N18	E42	.681	8905	29.1	10	-F		C	2256	.10	.10		10	
HALE	25	2258	2315	2304	N23	E29	.547	8905	28.1	17	-B	1	C	2304	.46	.60			JT
GRP 7389	25	2317	2337	2320	N24	E28	.542	8905	28.1	20	-N				.73				4 3 3
MITK	25	2314E	2335		N23	E29	.547	8905	28.1	21D	-N		C	2321	.62	.70			D
LOCK	25	2316	2337	2318	N26	E28	.557	8905	28.1	21	-N		C	2318	.90	1.00		10	
HALE	25	2320	2339	2322	N23	E28	.535	8905	28.1	19	-B	1	C	2322	.67	.80			JTZV
MANI	25	2331E	2332D		N23	E27	.523	8905	28.0	1D	-N	1		2331	.41	.48			
GRP 7390	26	0042	0104	0044	N29	E33	.632	8905	28.5	22	-N				1.12				2 2 2
HALE	26	0037	0058	0040	N29	E34	.642	8905	28.6	21	-N	1	C	0040	.41	.50			T
SACP	26	0046	0109D	0048	N28	E31	.604	8905	28.4	23D	-N		C		1.82	1.97			
GRP 7391	26	0059	0113	0103	N27	E27	.554	8905	28.1	14	-N				1.12				4 4 4
SACP	26	0056	0108	0059	N26	E24	.514	8905	27.8	12	-N		C		1.11	1.15			
LOCK	26	0057	0117	0101	N29	E22	.523	8905	27.7	20	-N		C	0101	1.00	1.20		10	H
HALE	26	0100	0116	0103	N26	E23	.503	8905	27.8	16	-B	1	C	0103	.93	1.10			T
MANI	26	0103	0113D	0109	N25	E33	.605	8905	28.5	10D	-N	2		0109	1.44	1.81			
HALE	26	0105	0114	0109	N27	E31	.597	8905	28.4	9	-F	1	C	0109	.26	.30			T
GRP 7392	26	0225	0300	0231	N27	E33	.618	8905	28.6	35	1N				1.83				4 4 4
MITK	26	0224	0258	0226	N27	E32	.607	8905	28.5	34	1N		C	0226	1.65	2.10			E
HALE	26	0226	0302	0228	N28	E33	.625	8905	28.6	36	-B	2	C	0228	1.29	1.60			T
MANI	26	0230E	0258	0233	N25	E32	.594	8905	28.5	28D	1N	2		0233	2.06	2.58			
SIBE	26	0235E	0300D	0235	N26	E33	.612	8905	28.6	25D	1N		C	0235	2.31	3.10		82	BET
GRP 7393	26	0303	0304		N27	E26	.544	8905	28.1	1	-B				1.55				1 1 1
TACH	26	0303	0304		N27	E26	.544	8905	28.1	1	-B		V	0303	1.55	1.90	2.00	75	
GRP 7394	26	0334	0409	0337	N13	E39	.632	8907	29.1	35	-N				.26				2 2 2
MANI	26	0333	0430D	0336	N12	E39	.631	8907	29.1	57D	-N	2		0336	.21	.27			
HALE	26	0335	0348	0337	N14	E39	.634	8907	29.1	13	-F	1	C	0337	.31	.40			T
GRP 7395	26	0412	0430	0414	N13	E38	.619	8907	29.0	18	1B				1.33				3 2 2
TACH	26	0412	0417	0412	N13	E39	.632	8907	29.1	5	1B		V	0413	2.09	2.70	4.60	102	
HALE	26	0412	0442D	0416	N13	E38	.619	8907	29.0	30D	-B	1	D	0412	.57	.70			KTW
MANI	26	0435	0505	0442	N13	E37	.606	8907	29.0	30	-N	3		0442	.31	.39			
GRP 7396	26	0451	0505	0457	N28	E35	.646	8905	28.8	14	-B				1.37				2 2 1
MANI	26	0450	0514	0500	N28	E33	.625	8905	28.7	24	-N	3		0500	.21	.26			
TACH	26	0451	0455	0454	N27	E36	.650	8905	28.9	4	-B		V	0455	1.37	1.90	2.80	84	
GRP 7397	26	0525	0527		N27	E36	.650	8905	28.9	2	-N				.91				1 1 1
TACH	26	0525	0527		N27	E36	.650	8905	28.9	2	-N		V	0525	.91	1.20	2.80	66	
GRP 7398	26	0603	0725	0635	N13	E37	.606	8907	29.0	82	-N				.78				2 2 2
CATA	26	0603	0658	0635	N12	E38	.617	8907	29.1	55	-N			0635	.46	.60		191	
BUCA	26	0608	0751		N14	E36	.595	8907	29.0	103	-F		P	0613	1.10	1.40			
GRP 7399	26	0608	0851	0754	N26	E33	.612	8905	28.7	163	2F				4.19				2 2 2
BUCA	26	0608	0851		N27	E30	.586	8905	28.5	163	2F		P	0759	4.42	5.60			
SIBE	26	0742E	0802D	0754	N25	E36	.639	8905	29.0	20D	2F		P	0754	3.96	5.50		61	CJT
GRP 7399	26	0653	0722	0701	N26	E30	.579	8905	28.5	29	1B				2.74				8 8 7
CAPS	26	0625E	0805		N27	E30	.586	8905	28.5	100D	1B	3		0658	1.70	2.10		339	FK
KIEV	26	0651	0720	0700	N27	E32	.607	8905	28.7	29	2B		C	0700	3.61	5.50		105	I
MITK	26	0652	0706D	0701	N28	E30	.594	8905	28.5	14D	1N		C	0701	2.17	2.70			F
MANI	26	0655	0721	0700	N25	E30	.572	8905	28.5	26	1B	3		0700	1.96	2.38			
ATHN	26	0655	0722	0659	N27	E27	.554	8905	28.3	27	1B	2		0659	3.30	3.90	2.00		
SIBE	26	0656E	0722D	0706	N26	E30	.579	8905	28.5	26D	2F		P	0706	4.13	5.50		73	CEJT
MEUD	26	0654	0710		N26	E30	.579	8905	28.5	16	-N		C						
CATA	26	0535	0735	0615	N25	E31	.583	8905	28.6	120	1B			0615	2.31	2.86		380	
GRP 7400	26	0712	0726	0716	N14	E37	.608	8907	29.1	14	1N				1.69				8 8 7
KIEV	26	0710	0720	0715	N12	E37	.604	8907	29.1	10	1B		C	0715	2.58	3.00		85	HI
CATA	26	0710	0730	0715	N12	E37	.604	8907	29.1	20	1B			0715	2.05	2.61		302	
SIBE	26	0711E	0722D	0718	N21	E38	.643	8907	29.1	11D	1F		P	0718	1.03	1.60		70	CDJT
MANI	26	0711	0727	0715	N13	E35	.579	8907	28.9	16	-B	3		0715	1.03	1.28			
CAPE	26	0711	0727D	0717	N12	E37	.604	8907	29.1	16D	1B		C	0717	3.14	3.90			CHT
ATHN	26	0712	0721	0714	N13	E36	.592	8907	29.0	9	-N	2		0714	.99	1.20	1.80		
CAPS	26	0713	0731		N12	E38	.617	8907	29.2	18	-N	3		0719	.50	.70		182	H
MEUD	26	0716	0728		N13	E38	.619	8907	29.2	12	-N		C	0718	1.03	1.20			C
GRP 7401	26	0753	0808		N11	E45	.705	8907	29.7	15	1F				1.66				1 1 1
BUCA	26	0753	0808		N11	E45	.705	8907	29.7	15	1F		C	0755	1.66	2.40			

SOLAR FLARES

JULY 1967

OBSERVATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS		
GRP 7399	26	0836	0842	0839	N25	E33	.605	8905	28.8	6	-N				1.12				3	3	3
SALO	26	0835E	0845D		N24	E35	.622	8905	29.0	10D	-N		V	0840	.66	.80	.15				
CATA	26	0835	0950	0840	N25	E36	.639	8905	29.1	75	-B			0840	.37	.49		214			
MEUD	26	0826	0830		N26	E29	.568	8905	28.5	4	-F		C	0826	.41	.50			E		
CATA	26	0740	0840	0740	N26	E30	.579	8905	28.6	60	1B			0740	2.29	2.79		219			
MEUD	26	0837	0842	0837	N25	E35	.628	8905	29.0	5	-F		C	0837	.21	.30			E		
GRP 7399	26	0848	0856	0854	N22	E35	.612	8905	29.0	8	-N				.95				2	2	2
CATA	26	0845	1102	0855	N28	E31	.604	8905	28.7	137	-N			0855	1.11	1.39		191			
CAPE	26	0851	0856	0852	N16	E38	.626	8905	29.2	5	-F		C	0852	.78	1.00			C		
GRP 7402	26	0915	0941	0921	N14	E35	.581	8907	29.0	26	1N				2.36				6	6	5
CATA	26	0905	0935	0919	N12	E35	.577	8907	29.0	30	1B			0919	2.05	2.58		257			
CANA	26	0915	0924	0918	N13	E34	.565	8907	28.9	9	-F		C		.60	.70		100	HI		
ARCE	26	0915	0958	0923	N14	E35	.581	8907	29.0	43	1N		C	0923	2.27	2.80			H		
CAPE	26	0916	0935	0919	N13	E35	.579	8907	29.0	19	1N		C	0919	3.88	4.80			TH		
MONT	26	0918	1008	0925	N18	E33	.568	8907	28.9	50	1N			0925	2.58				H		
MEUD	26	0919	0928	0921	N13	E37	.606	8907	29.2	9	-N		C	0921	1.03	1.20			H		
GRP 7402	26	0933	0957	0937	N13	E36	.592	8907	29.1	24	-N				1.41				3	3	2
CANA	26	0931	0950	0934	N14	E36	.595	8907	29.1	19	-F		C		.30	.40		100	I		
CATA	26	0935	1005	0940	N13	E37	.606	8907	29.2	30	-N			0940	.92	1.17		182			
LOCA	26	0938E	0955		N13	E36	.592	8907	29.1	17D	1N		S	0938	1.89	2.40			H		
GRP 7403	26	1010	1027	1016	N25	E31	.583	8905	28.7	17	-N				.72				4	3	3
CANA	26	1006	1021	1009	N27	E30	.586	8905	28.7	15	-N		C		.30	.40		100			
SALO	26	1010E	1020D		N26	E28	.557	8905	28.5	10D	-F		V	1015	.99	1.20	.13				
CAPE	26	1014	1025	1016	N28	E31	.604	8905	28.8	11	-N		C	1016	.87	1.10			T		
MONT	26	1030	1035	1032	N18	E33	.568	8905	28.9	5	-N			1032	1.03				H		
GRP 7404	26	1022	1038	1028	N21	W64	.898	8897	21.6	16	1N				.72				2	2	2
CAPE	26	1021	1043	1031	N13	W64	.895	8897	21.6	22	1N		C	1031	.92	2.10					
MEUD	26	1022	1032	1025	N29	W63	.898	8897	21.7	10	-F		C	1025	.52	1.10					
GRP 7405	26	1028	1033	1030	N16	E35	.587	8907	29.1	5	-F				.55				3	3	3
CANA	26	1027	1031	1028	N16	E35	.587	8907	29.1	4	-F		C		.30	.40		100	I		
MEUD	26	1029	1034	1031	N15	E35	.584	8907	29.1	5	-F		C	1031	.26	.30			E		
CAPE	26	1029	1034	1032	N16	E35	.587	8907	29.1	5	-F		C	1032	1.10	1.40			CH		
GRP 7406	26	1110	1123		S23	W38	.727	8899	23.6	13	-F				.41				1	1	1
MEUD	26	1110	1123		S23	W38	.727	8899	23.6	13	-F		C	1114	.41	.60					
GRP 7407	26	1123	1140	1135	N11	E34	.561	8907	29.0	17	-F				.40				1	1	1
CANA	26	1123	1140	1135	N11	E34	.561	8907	29.0	17	-F		C		.40	.50		100	I		
GRP 7408	26	1146	1216	1151	S23	W33	.681	8901	24.0	30	-N				1.62				6	6	5
CANA	26	1140	1148U	1144	S23	W34	.690	8901	23.9	8U	-F		C		.40	.50		100			
ATHN	26	1142	1206	1146	S22	W33	.673	8901	24.0	24	1N	2		1146	1.98	2.40	1.70				
HUAN	26	1144	1222	1154	S22	W34	.683	8901	23.9	38	-N	2	C	1154	1.64	1.88			E		
MCMA	26	1146	1236	1154	S24	W33	.688	8901	24.0	50	-N		V	1154	1.03	1.40			EL		
MEUD	26	1148	1210		S24	W35	.707	8901	23.9	22	-N		C	1153	.83	1.10					
CAPS	26	1148E	1215		S24	W30	.661	8901	24.2	27D	1F	2		1152	2.60	3.40		157	FJ		
CANA	26	1145	1207	1150	S24	W33	.688	8901	24.0	22	-F		C		.30	.40		100			
GRP 7409	26	1157	1208	1202	N13	E34	.565	8907	29.0	11	-N				.83				8	8	8
CAPE	26	1151	1209	1202	N12	E34	.563	8907	29.0	18	-F		C	1202	.84	1.00			C		
CANA	26	1154	1203	1159U	N10	E34	.559	8907	29.0	9	-F		C		.50	.60		100	I		
HUAN	26	1157	1207	1203	N11	E35	.575	8907	29.1	10	-N	2	C	1203	.75	.80			H		
MCMA	26	1157	1209	1202	N14	E36	.595	8907	29.2	12	-B		V	1202	.83	1.00			EH		
ATHN	26	1158	1204	1200	N11	E34	.561	8907	29.0	6	-N	2		1200	.66	.80	1.60				
MEUD	26	1159	1208	1202	N13	E35	.579	8907	29.1	9	-N		C	1202	.67	.80					
CAPS	26	1200E	1211		N12	E35	.577	8907	29.1	11D	-B	2		1201	1.60	1.90		216	HJ		
MONT	26	1200	1215	1205	N18	E32	.555	8907	28.9	15	-F			1205	.77						
MCMA	26	1213	1218	1215	N16	E36	.600	8907	29.2	5	-N		V	1215	.36	.40			EH		
GRP 7410	26	1224	1234	1229	N13	W67	.917	8897	21.5	10	-N				.41				1	1	1
CAPE	26	1224	1234	1229	N13	W67	.917	8897	21.5	10	-N		C	1229	.41	1.10					
GRP 7411	26	1252	1254	1253	N13	W65	.902	8897	21.7	2	-N				.60				1	1	1
CAPE	26	1252	1254	1253	N13	W65	.902	8897	21.7	2	-N		C	1253	.60	1.50					
GRP 7412	26	1255	1329	1306	N27	E27	.554	8905	28.6	34	-N				1.80				3	3	3
CAPS	26	1252E	1435		N27	E27	.554	8905	28.6	103D	1B	3		1314	3.50	4.20		189	JK		
HUAN	26	1256	1322		N27	E27	.554	8905	28.6	26	-F	2	C	1305	.86	.93			ET		
MCMA	26	1256	1335	1306	N28	E26	.552	8905	28.5	39	-N		C	1306	1.03	1.30			F		
GRP 7413	26	1342	1347	1343	N13	E34	.565	8907	29.1	5	-F				.46				1	1	1
CAPE	26	1342	1347	1343	N13	E34	.565	8907	29.1	5	-F		C	1343	.46	.60			C		
GRP 7414	26	1343	1420	1346	N26	E27	.546	8905	28.6	37	1N				1.78				9	9	8
CANA	26	1340	1400	1343	N28	E27	.563	8905	28.6	20	-N		C		1.50	1.80		200	E		
HUAN	26	1341	1433	1347	N27	E27	.554	8905	28.6	52	1N	2	C	1347	2.11	2.25					
CAPE	26	1343	1348D	1345	N27	E28	.565	8905	28.7	5D	1N		P	1345	2.62	3.20			T		
ATHN	26	1344	1428D	1347	N29	E23	.532	8905	28.3	44D	1N	2		1347	2.64	3.10	1.80				
MCMA	26	1344	1434	1347	N28	E26	.552	8905	28.5	50	1B		V	1347	1.65	2.00			EK		
MONT	26	1345	1400	1349	N18	E31	.542	8905	28.9	15	-N			1349	.77						
MEUD	26	1345	1420		N26	E26	.535	8905	28.5	35	-N		C	1350	.62	.70					
LOCA	26	1350E	1415D		N27	E27	.554	8905	28.6	25D	1N		S	1350	2.31	2.80					
ONDR	26	1317E	1429		N27	E27	.554	8905	28.6	72D	2N		V	1359			3.60		JK		

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT DATE 1967 JULY	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
GRP 7415	26	1345	1400		N21	E80	.981	8913	1.6	15	-N				.40				1 1 1
CAPS	26	1345	1400		N21	E80	.981	8913	1.6	15	-N	3		1347	.40				E
GRP 7416	26	1358	1411	1401	N13	E34	.565	8907	29.1	13	-F				.38				2 2 2
CANA	26	1355	1414	1400	N13	E33	.551	8907	29.1	19	-F		C		.30	.40		100	HI
HUAN	26	1401	1408	1402	N12	E35	.577	8907	29.2	7	-F	2	C	1402	.45	.48			EH
GRP 7417	26	1359	1410	1405	N13	W69	.930	8897	21.4	11	-F				.25				1 1 1
HUAN	26	1359	1410	1405	N13	W69	.930	8897	21.4	11	-F	2	C	1405	.25				E
GRP 7418	26	1408	1429	1415	N15	E33	.557	8907	29.1	21	-N				2.58				5 4 1
HOUS	26	1410	1417	1413	N13	E33	.551	8907	29.1	7	-F		C		.30	.40		100	H
MCMA	26	1410	1418	1414	N15	E35	.584	8907	29.2	8	-N		C	1414	.36	.40			E
MONT	26	1410	1450	1418	N18	E31	.542	8907	28.9	40	1N			1418	2.58				H
CAPS	26	1400	1418		N12	E34	.563	8907	29.1	18	-N	3							H
SACP	26	1434E	1442D	1435	N15	E32	.543	8907	29.0	8D	-F		C		1.21	1.27			
GRP 7419	26	1526	1532	1528	N14	E33	.554	8907	29.1	6	-F				.32				5 5 5
CANA	26	1524	1529	1526	N13	E32	.537	8907	29.0	5	-F		C		.30	.40		100	I
HOUS	26	1525	1533	1527	N13	E32	.537	8907	29.0	8	-F		C		.40	.50		100	H
HUAN	26	1526	1531	1528	N13	E32	.537	8907	29.0	5	-F	2	C	1528	.36	.38			EH
MEUD	26	1527	1532	1529	N13	E33	.551	8907	29.1	5	-F		C	1529	.21	.20			
MCMA	26	1527	1533	1528	N16	E36	.600	8907	29.3	6	-N		C	1528	.31	.40			D
GRP 7420	26	1535	1551	1539	N28	E34	.635	8905	29.2	16	-N				.77				8 8 8
CANA	26	1532	1544	1533	N28	E32	.614	8905	29.0	12	-N		C		.50	.60		200	
HUAN	26	1535	1546	1537	N28	E34	.635	8905	29.2	11	-N	2	C	1537	.75	.85			E
HOUS	26	1535	1552	1536	N28	E33	.625	8905	29.1	17	-N		C		.70	.90		200	
MEUD	26	1536	1548		N28	E34	.635	8905	29.2	12	-N		C	1537	.41	.50			E
MCMA	26	1536	1549	1537	N28	E35	.646	8905	29.3	13	-B		V	1537	.62	.80			E
CAPS	26	1538	1559		N27	E35	.640	8905	29.3	21	-N	2		1542	1.10	1.40		170	
SACP	26	1540E	1551	1542	N30	E33	.639	8905	29.1	11D	-N		C		1.21	1.34			
ATHN	26	1544E	1555	1544	N28	E33	.625	8905	29.1	11D	-N	2		1544	.83	1.10	1.60		
GRP 7421	26	1559	1610	1602	N13	E33	.551	8907	29.1	11	-N				.52				7 7 7
CANA	26	1555	1607	1559	N13	E34	.565	8907	29.2	12	-N		C		.30	.40		200	I
SACP	26	1556	1610	1600	N12	E32	.534	8907	29.1	14	-N		C		.91	.95			
HOUS	26	1559	1612	1603	N11	E32	.532	8907	29.1	13	-N		C		.50	.60		200	
MONT	26	1600	1610	1605	N18	E30	.529	8907	28.9	10	-N			1605	.52				
MCMA	26	1601	1609	1603	N14	E34	.568	8907	29.2	8	-B		V	1603	.41	.50			E
HUAN	26	1601	1610	1602	N11	E33	.547	8907	29.1	9	-N	2	C	1602	.70	.74			E
MEUD	26	1603	1610		N13	E33	.551	8907	29.1	7	-N		C	1603	.31	.40			E
GRP 7422	26	1617	1628	1620	S28	W58	.906	8899	22.3	11	-N				.49				5 5 5
MEUD	26	1617	1627	1620	S30	W60	.923	8899	22.2	10	-F		C	1620	.31	.70			E
SACP	26	1617	1628	1619	S31	W57	.909	8899	22.4	11	-F		C		.80	1.34			
HOUS	26	1617	1628	1619	S29	W58	.909	8899	22.3	11	-N		C		.30	.50		200	
HUAN	26	1617	1629	1620	S29	W58	.909	8899	22.3	12	-N	2	C	1620	.36	.60			E
ATHN	26	1620E	1630	1620	S22	W58	.891	8899	22.3	10D	-N	2		1620	.66	1.50	1.60		
GRP 7423	26	1624	1653	1626	N27	E24	.523	8905	28.5	29	-N				1.33				4 4 4
CANA	26	1617	1627	1621	N27	E25	.533	8905	28.6	10	-F		C		1.10	1.30		100	I
SACP	26	1622	1711	1627E	N28	E24	.532	8905	28.5	49	-N		C		1.82	1.90			
HUAN	26	1623	1657	1625	N28	E25	.542	8905	28.6	34	1F	2	C	1625	1.86	1.96			
CANA	26	1615	1619	1616	N26	E17	.443	8905	28.0	4	-F		C		.30	.30		100	
MCMA	26	1707	1729D		N26	E26	.535	8905	28.7	22D	-N		V	1720	.62	.80			EK
MCMA	26	1632	1655	1639	N28	E25	.542	8905	28.6	23	-N		C	1639	.52	.70			E
GRP 7424	26	1722	1732	1725	S23	E78	.988	8912	1.6	10	-N				.41				4 4 3
LOCK	26	1719	1732	1725	S21	E77	.984	8912	1.5	13	-F		C	1725	.30	.90		10	
HOUS	26	1722	1726U	1723	S24	E80	.993	8912	1.7	4U	-F		C		.30	1.00		100	
MCMA	26	1722	1730	1724	S24	E80	.993	8912	1.7	8	-F		C	1724	.10				E
HALE	26	1725	1733	1727	S22	E75	.979	8912	1.4	8	1B	1	C	1727	.62				
GRP 7425	26	1731	1739	1733	N13	E32	.537	8907	29.1	8	-F				.29				2 2 2
MCMA	26	1729	1733	1731	N14	E34	.568	8907	29.3	4	-F		C	1731	.31	.40			EH
HALE	26	1732	1744	1734	N12	E30	.506	8907	29.0	12	-F	1	C	1734	.26	.30			T
GRP 7426	26	1741	1800	1747	N25	E20	.462	8905	28.2	19	-N				.80				5 5 5
HUAN	26	1741	1753		N23	E19	.430	8905	28.2	12	-B	1	P	1745	.70	.71			E
MCMA	26	1738E	1746D		N27	E23	.513	8905	28.5	8D	-B		V	1746	.83	.90			E
HALE	26	1745	1806	1747	N24	E17	.420	8905	28.0	21	-B	1	C	1747	.31	.30			T
HOUS	26	1742	1801	1746	N24	E20	.451	8905	28.2	19	-N		C		1.20	1.50		200	E
LOCK	26	1743	1807	1747	N25	E15	.413	8905	27.9	24	-N		C	1747	.90	1.00		10	
HUAN	26	1737	1744		N27	E23	.513	8905	28.5	7	-N	1	C	1739	.45	.47			E
HALE	26	1740	1800	1742	N28	E22	.513	8905	28.4	20	-N	1	C	1742	.36	.40			T
GRP 7427	26	1745	1805	1748	N14	E31	.526	8907	29.1	20	-N				1.41				5 5 4
LOCK	26	1730	1835	1749	N14	E29	.498	8907	28.9	65	1F		C	1749	1.80	2.20		10	K
HOUS	26	1744	1752	1747U	N13	E31	.523	8907	29.1	8	1F		C		2.10	2.50		100	IL
MCMA	26	1745	1746D		N16	E34	.574	8907	29.3	1D	-B		V	1746	.36	.40			DH
HUAN	26	1745E	1753		N13	E32	.537	8907	29.1	8D	-B	1	P	1749	1.03	1.08			H
HALE	26	1747	1758	1749	N14	E31	.526	8907	29.1	11	-B	1	C	1749	.72	.80			TW
GRP 7427	26	1801	1814	1805	N14	E30	.512	8907	29.0	13	-N				.35				2 2 2
LOCK	26	1759	1814	1803	N13	E28	.480	8907	28.8	15	-F		C	1803	.40	.50		10	
HOUS	26	1803	1814	1806	N14	E32	.540	8907	29.2	11	-N		C		.30	.40		200	H

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7428	26	1809	1826	1813	N27	E24	.523	8905	28.6	17	-N				.95				2 2 2
HALE	26	1811	1826	1813	N28	E26	.552	8905	28.7	15	-N	1	C	1813	.52	.60			T
HUAN	26	1806E	1823D		N28	E27	.563	8905	28.8	17D	-N	1	P	1808	1.37	1.44			E
HALE	26	1757	1818	1803	N27	E22	.503	8905	28.4	21	-N	1	C	1803	.26	.30			T
HUAN	26	1806E	1823D		N27	E22	.503	8905	28.4	17D	-N	1	P						
GRP 7429	26	1836	1842	1838	N11	E78	.975	8913	1.6	6	-F				.10				1 1 1
HOUS	26	1836	1842	1838	N11	E78	.975	8913	1.6	6	-F		C		.10	.30		100	
GRP 7430	26	1926	1954	1941	N22	E12	.348	8905	27.7	28	-F				.30				1 1 1
LOCK	26	1926	1954	1941	N22	E12	.348	8905	27.7	28	-F		C	1941	.30	.30		10	
GRP 7431	26	2000	2010	2002	N13	E30	.509	8907	29.1	10	-N				.54				2 2 2
HOUS	26	1959U	2007	2000	N12	E30	.506	8907	29.1	8U	-N		C		.40	.50		200	HI
HALE	26	2000	2012	2004	N13	E30	.509	8907	29.1	12	-N	1	C	2004	.67	.80			T
GRP 7432	26	2016	2027	2022	N16	E34	.574	8907	29.4	11	-N				1.03				1 1 1
HALE	26	2016	2027	2022	N16	E34	.574	8907	29.4	11	-N	1	C	2022	1.03	1.30			T
GRP 7433	26	2048	2056		N27	E28	.565	8905	29.0	8	-F				.31				1 1 1
MCMA	26	2048	2056		N27	E28	.565	8905	29.0	8	-F		V	2051	.31	.40			D
GRP 7434	26	2113	2128	2117	N16	E34	.574	8907	29.4	15	-N				.74				4 4 4
LOCK	26	2110	2140	2118	N18	E32	.555	8907	29.3	30	-F		C	2118	.80	1.00		10	
HUAN	26	2114	2122	2116	N15	E34	.571	8907	29.4	8	-N	2	C	2116	.55	.58			E
HOUS	26	2114	2124	2117	N15	E33	.557	8907	29.4	10	-N		C		1.10	1.30		200	H
MCMA	26	2114	2125	2118	N16	E36	.600	8907	29.6	11	-N		C	2118	.52	.70			EH
GRP 7435	26	2114	2120	2116	N23	E30	.558	8905	29.1	6	-N				.26				1 1 1
MCMA	26	2114	2120	2116	N23	E30	.558	8905	29.1	6	-N		C	2116	.26	.30			D
GRP 7436	26	2135	2146	2137	N24	E29	.553	8905	29.1	11	-N				.76				4 4 4
MCMA	26	2133	2138D	2135	N23	E30	.558	8905	29.1	5D	-N		C	2135	.52	.70			E
HALE	26	2134	2148	2138	N25	E30	.572	8905	29.1	14	-F	1	C	2138	.93	1.10			TK
SACP	26	2136	2143D	2138	N25	E28	.549	8905	29.0	7D	-N		C		1.21	1.27			
HUAN	26	2136	2144	2138	N24	E29	.553	8905	29.1	8	-F	2	C	2138	.36	.39			E
GRP 7437	26	2150	2158	2153	N28	E23	.522	8905	28.6	8	-F				.74				1 1 1
HUAN	26	2150	2158	2153	N29	E26	.561	8905	28.9	8	-F	2	C	2153	.74	.79			E
HUAN	26	2150	2158	2153	N28	E21	.503	8905	28.5	8	-F	2	C						
GRP 7438	26	2208	2218	2214	N11	E30	.503	8907	29.2	10	-F				.25				1 1 1
HUAN	26	2208	2218	2214	N11	E30	.503	8907	29.2	10	-F	2	C	2214	.25	.26			DH
GRP 7439	26	2213	2223	2217	N26	E18	.453	8905	28.3	10	-N				.71				2 2 2
LOCK	26	2210	2217	2212	N24	E10	.359	8905	27.7	7	-F		C	2212	1.00	1.10		10	
HUAN	26	2216	2229D	2221	N28	E25	.542	8905	28.8	13D	-N	2	C	2221	.41	.44			E
GRP 7440	26	2244	2257	2249	N14	E28	.483	8907	29.0	13	1N				2.05				4 4 4
SACP	26	2240	2248	2243	N15	E28	.488	8907	29.0	8	-F		C		.71	.73			
HOUS	26	2242	2300	2246	N13	E27	.465	8907	29.0	18	1N		C		4.20	4.80		200	I
HALE	26	2244	2300	2251	N14	E28	.483	8907	29.0	16	1N	2	C	2251	2.58	3.00			TK
IKOM	26	2251	2300D		N14	E29	.498	8907	29.1	9D	-N		V	2251	.72	.80			D
GRP 7441	26	2250	2303	2253	N27	E14	.430	8905	28.0	13	-B				.87				2 2 2
SACP	26	2249	2300	2253	N27	E13	.422	8905	27.9	11	-N		C		.91	.91			
IKOM	26	2251	2305D		N26	E15	.426	8905	28.1	14D	-B		V	2255	.83	.90			D
GRP 7441	26	2252	2317	2307	N27	E13	.422	8905	27.9	25	-N				.87				2 2 2
HALE	26	2252	2317	2310	N27	E14	.430	8905	28.0	25	-B	1	C	2310	1.03	1.10			T
LOCK	26	2258E	2316	2304	N27	E11	.408	8905	27.8	18D	-F		C	2304	.70	.80		10	
GRP 7442	26	2306	2325	2311	N28	E22	.513	8905	28.6	19	-N				.64				5 5 5
SACP	26	2302	2323	2309	N28	E18	.476	8905	28.3	21	-N		C		1.53	1.55			
MANI	26	2305	2322	2310	N26	E21	.482	8905	28.5	17	-F	2		2310	.31	.35			
MITK	26	2307	2319	2310	N28	E24	.532	8905	28.8	12	-N		C	2310	.62	.70			E
IKOM	26	2313E	2335D		N28	E25	.542	8905	28.8	22D	-N		V	2313	.31	.40			D
HALE	26	2311	2328	2313	N28	E23	.522	8905	28.7	17	-F	1	C	2313	.41	.50			T
GRP 7443	26	2330	2345	2332	N28	E20	.494	8905	28.5	15	-N				1.58				6 6 5
LOCK	26	2305	2356	2333	N31	E20	.527	8905	28.5	51	-N		C	2333	1.40	1.70		10	K
MANI	26	2325	2343	2332	N26	E21	.482	8905	28.6	18	-N	2		2332	.36	.41			
MITK	26	2329	2338	2331	N28	E20	.494	8905	28.5	9	-B		C	2331	1.55	1.80			
SACP	26	2329	2346	2332	N28	E19	.485	8905	28.4	17	1N		C		2.23	2.29			
IKOM	26	2333E	2339D		N28	E18	.476	8905	28.3	6D	-N		V	2333	1.44	1.60		120	D
HALE	26	2333	2346	2334	N28	E20	.494	8905	28.5	13	-B	1	C	2334	1.29	1.50			T
GRP 7444	26	2340	0024	2351	N24	E34	.611	8907	29.5	44	-N				1.52				2 2 2
LOCK	26	2336	0052	2355	N21	E32	.570	8907	29.4	76	-F		C	2355	1.40	1.70		10	
SACP	26	2344	2355	2347	N27	E36	.650	8907	29.7	11	-N		C		1.63	1.82			
GRP 7445	27	0003	0023	0007	N23	E14	.379	8905	28.1	20	-N				1.06				6 6 6
LOCK	26	2357	0035	0009	N23	E11	.352	8905	27.8	38	-N		C	0009	.70	.80		10	
SACP	27	0000E	0027	0007	N23	E12	.360	8905	27.9	27D	-N		C		1.53	1.52			
HALE	27	0002B	0005D	0005D	N22	E12	.346	8905	27.9	3D	-N	2	D	0005	.36	.40			
MITK	27	0005	0016	0008	N22	E12	.346	8905	27.9	11	-N		C	0008	.93	1.00			
MANI	27	0006E	0017D		N21	E11	.324	8905	27.8	11D	-F	1		0006	.93	.98			
IKOM	27	0010	0018D		N23	E14	.378	8905	28.1	8D	-N		V	0010	1.03	1.10		95	D
HALE	27	0002B	0205	0027U	N27	E32	.607	8905	29.4	123B	-B	2	P	0027	1.24	1.50			IF
GRP 7446	27	0117	0137	0119	N14	E26	.454	8907	29.0	20	-N				.20				1 1 1
LOCK	27	0117	0137D	0119	N14	E26	.454	8907	29.0	20D	-N		C	0119	.20	.20		10	K

SOLAR FLARES

JULY 1967

OBSERVATORY	DATE	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
	1967 JULY																		
GRP 7447	27	0154	0225	0159	N28	E18	.475	8905	28.4	31	-F				.21				1 1 1
HALE	27	0154	0225	0159	N28	E18	.475	8905	28.4	31	-F	2	C	0159	.21	.20			JT
GRP 7448	27	0154	0232	0220	N13	E25	.435	8907	29.0	38	-B				.46				1 1 1
HALE	27	0154	0232	0220	N13	E25	.435	8907	29.0	38	-B	2	C	0220	.46	.50			JT
GRP 7449	27	0256	0313	0301	N28	E22	.512	8905	28.8	17	-N				.84				6 6 6
HALE	27	0252	0327	0301	N29	E22	.522	8905	28.8	35	-B	2	C	0301	.31	.40			JT
MITK	27	0251	0307	0254	N29	E23	.532	8905	28.8	16	-N		C	0254	.72	.90			E
IKOM	27	0255E	0302		N28	E25	.541	8905	29.0	7D	-F		V	0255	.72	.90			D
MANI	27	0258E	0310D		N24	E20	.450	8905	28.6	12D	-F	1		0300	.77	.86			
SIBE	27	0300E	0314	0301	N28	E25	.541	8905	29.0	14D	-F		P	0301	.66	.90		73	DT
TACH	27	0301	0320		N29	E18	.487	8905	28.5	19	-B		V	0302	1.65	1.80	3.00	102	
HALE	27	0248	0342	0258	N27	E17	.454	8905	28.4	54	-N	2	C	0258	.52	.60			JT
GRP 7450	27	0345	0442	0402	N14	E24	.425	8907	29.0	57	-B				.67				1 1 1
HALE	27	0345	0442	0402	N14	E24	.425	8907	29.0	57	-B	2	C	0402	.67	.70			IJT
GRP 7451	27	0358	0451	0442	N27	E16	.445	8905	28.4	53	-N				.65				2 2 2
HALE	27	0358	0455	0443	N27	E17	.454	8905	28.4	57	-N	2	C	0443	.31	.30			JTK
ATHN	27	0440E	0447	0440	N27	E15	.437	8905	28.3	7D	-N	2		0440	.99	1.10	1.80		
GRP 7451	27	0400	0435	0406	N28	E18	.475	8905	28.5	35	1N				4.02				2 2 1
HALE	27	0358	0455	0406	N27	E17	.454	8905	28.4	57	-N	2	C	0406	.31	.30			JTK
TACH	27	0402	0415		N29	E18	.487	8905	28.5	13	1F		V	0403	4.02	4.40	2.00	57	
GRP 7452	27	0516	0524	0518	N27	E17	.454	8905	28.5	8	-N				2.02				4 4 3
ATHN	27	0514	0522	0516	N27	E16	.445	8905	28.4	8	-N	2		0516	1.65	1.80	1.80		
CRON	27	0517	0521	0518	N26	E15	.424	8905	28.3	4	-F		C		.40	.40		100	
MITK	27	0517	0523	0518	N28	E16	.458	8905	28.4	6	-N		C	0518	.93	1.00			D
SIBE	27	0517E	0530	0519	N27	E20	.482	8905	28.7	13D	1F		P	0519	3.47	4.60		77	ET
GRP 7453	27	0608	0640	0610	N28	E15	.450	8905	28.4	32	-N				.39				2 2 1
ISTA	27	0605E	0615		N27	E12	.414	8905	28.2	10D	-N								
CATA	27	0610	0640	0610	N27	E14	.429	8905	28.3	30	-N			0610	.39	.44		195	
ISTA	27	0620	0640		N29	E19	.495	8905	28.7	20	-N								
GRP 7454	27	0608	0651	0615	N18	E79	.978	8913	2.2	43	-N				1.28				3 3 2
CATA	27	0610	0645	0615	N14	E80	.982	8913	2.3	35	-N			0615	.55			174	
CAPS	27	0614E	0627		N19	E77	.970	8913	2.0	13D	1F	2		0617	2.00				CE
ISTA	27	0605E	0720		N22	E80	.981	8913	2.3	75D	-N								
GRP 7454	27	0645	0713	0652	N21	E79	.977	8913	2.2	28	1F				1.75				3 3 3
CAPS	27	0639	0719		N21	E78	.974	8913	2.1	40	1F	2		0658	1.00				D
ATHN	27	0650	0708	0652	N20	E80	.981	8913	2.3	18	-N	2		0652	.50		1.80		
KHAR	27	0700E	0713		N22	E78	.974	8913	2.1	13D	2F		V	0707	3.74	12.20	2.40		DH
GRP 7455	27	0702	0708	0704	N13	E24	.420	8907	29.1	6	1F				1.93				1 1 1
CAPE	27	0702	0708	0704	N13	E24	.420	8907	29.1	6	1F		C	0704	1.93	2.10			CH
GRP 7456	27	0714	0731		N23	E12	.360	8905	28.2	17	-N				2.11				6 5 3
CATA	27	0545	0740	0720	N22	E13	.356	8905	28.2	115	-N			0720	.44	.48		195	
ATHN	27	0712	0726	0713	N23	E12	.360	8905	28.2	14	-N	2		0713	1.65	1.80	1.90		
CAPS	27	0713	0732		N22	E13	.356	8905	28.3	19	-B	2		0714	1.20	1.30		196	E
ONDR	27	0714E	0730		N23	E10	.343	8905	28.1	16D	-F		V	0716			1.60		CJ
KHAR	27	0715	0735		N23	E11	.351	8905	28.1	20	1F		V	0724	2.50	2.70	2.10		D
ISTA	27	0638	0730		N22	E13	.356	8905	28.3	52	-B								
ATHN	27	0658	0712	0702	N27	E14	.429	8905	28.3	14	1B	2		0702	2.64	3.00	2.00		
ISTA	27	0715	0725		N23	E14	.378	8905	28.4	10	-B								
CATA	27	0735	0835	0745	N26	E15	.424	8905	28.4	60	-N			0745	.21	.24		182	
GRP 7457	27	0750	0850	0750	N30	E27	.579	8905	29.4	60	-B				.11				1 1 1
CATA	27	0750	0850	0750	N30	E27	.579	8905	29.4	60	-B			0750	.11	.14		219	
GRP 7458	27	0809	0818	0814	N15	E23	.416	8907	29.1	9	1F				2.59				1 1 1
CAPE	27	0809	0818	0814	N15	E23	.416	8907	29.1	9	1F		C	0814	2.59	2.80			CH
GRP 7459	27	0857	0911	0901	N28	E16	.458	8905	28.6	14	-F				2.35				5 5 3
MEUD	27	0852	0858	0852	N27	E17	.454	8905	28.6	6	-F		C	0852	.41	.40			D
CANA	27	0858	0905D	0859	N28	E08	.405	8905	28.0	7D	-F		C		.30	.30		100	
CAPE	27	0859	0916	0902	N29	E19	.495	8905	28.8	17	1N		C	0902	1.93	2.20			KTV
KHAR	27	0900	0916		N28	E17	.466	8905	28.6	16	1F		V	0908	3.97	4.60	1.60		DH
SALO	27	0902E	0920D		N27	E17	.454	8905	28.7	18D	-N		P	0910	1.16	1.30	.14		
GRP 7459	27	0857	0914	0904	N27	E19	.473	8905	28.8	17	-N				1.62				3 3 2
CAPS	27	0851	0913		N28	E19	.484	8905	28.8	22	1N	2		0903	1.80	2.10		182	J
CAPE	27	0859	0916	0907	N28	E19	.484	8905	28.8	17	-N			0907	1.43	1.60			
MEUD	27	0901	0912	0901	N26	E18	.452	8905	28.7	11	-N		C	0901	.21	.20			
GRP 7460	27	0915	0919	0915	N17	E48	.747	8911	31.0	4	-N				.27				2 2 2
MEUD	27	0915	0918	0915	N18	E48	.749	8911	31.0	3	-F		C	0915	.26	.40			
CATA	27	0915	0920	0915	N16	E48	.746	8911	31.0	5	-B			0915	.27	.43		219	
GRP 7461	27	0923	0937	0932	N29	E18	.487	8905	28.7	14	1N				2.35				1 1 1
CAPE	27	0923	0937D	0932	N29	E18	.487	8905	28.7	14D	1N		C	0932	2.35	2.70			T
GRP 7462	27	0928	0937		N18	W75	.962	8895	21.8	9	-N				.92				1 1 1
CAPE	27	0928	0937		N18	W75	.962	8895	21.8	9	-N		P	0937	.92	3.30			F

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION MCMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7463	27	0929	0946	0930	N15	E69	.929	8913	1.6	17	-N				1.00				3 3 3
MEUD	27	0929	0940		N18	E73	.952	8913	1.9	11	-N		C	0930	.46				E
CAPS	27	0929	0950		N17	E70	.936	8913	1.6	21	1F	2		0935	1.50			158	E
CATA	27	0930	0945	0930	N16	E75	.962	8913	2.0	15	-B			0930	.62			246	
MEUD	27	0934	0942		N13	E62	.879	8913	1.0	8	-F		C	0936	.41	.90			E
CATA	27	0935	0950	0935	N12	E65	.902	8913	1.3	15	-B			0935	.51			219	
GRP 7464	27	0929	0942	0940	N13	E24	.420	8907	29.2	13	1N				2.54				7 6 3
CANA	27	0923	0929	0926	N12	E25	.432	8907	29.3	6	-N		C		.20	.20		200	
CAPS	27	0927E	0933		N11	E26	.443	8907	29.3	6D	-F	2		0928	.70	.80		152	CDH
KHAR	27	0931	0946		N15	E23	.416	8907	29.1	15	1F		V	0939			1.80		DH
CAPE	27	0932	0937		N15	E22	.401	8907	29.0	5	1N		P	0937	4.61	5.00			C
MONT	27	0933	1000	0940	N10	E23	.395	8907	29.1	27	1N			0940	2.32				H
MEUD	27	0936	0945		N15	E22	.401	8907	29.0	9	-F		C	0937	.57	.60			H
CAPE	27	0923	0934	0929	N11	E26	.443	8907	29.3	11	-F		C	0929	.37	.40			C
MEUD	27	0928	0931	0928	N12	E24	.416	8907	29.2	3	-F		C	0928	.26	.30			
CAPS	27	0937	0948		N15	E24	.430	8907	29.2	11	-F	2							DH
CATA	27	1000	1005	1000	N15	E23	.416	8907	29.1	5	-B			1000	.27	.30		234	
GRP 7465	27	0941	0946	0941	N26	E14	.416	8905	28.5	5	-F				.41				1 1 1
MEUD	27	0941	0946	0941	N26	E14	.416	8905	28.5	5	-F		C	0941	.41	.40			E
GRP 7466	27	1025	1029		N28	E20	.493	8905	28.9	4	-F								1 1 0
MEUD	27	1025	1029		N28	E20	.493	8905	28.9	4	-F		C						D
GRP 7467	27	1101	1109	1103	N28	E14	.442	8905	28.5	8	-N				.60				1 1 1
CANA	27	1101	1109	1103	N28	E14	.442	8905	28.5	8	-N		C		.60	.70		200	I
GRP 7468	27	1112	1133	1117	N25	E13	.395	8905	28.4	21	1N				1.71				4 4 2
CANA	27	1110	1124	1111	N22	E09	.322	8905	28.1	14	-F		C		.40	.40		100	
ATHN	27	1110	1140	1118	N25	E15	.412	8905	28.6	30	1B	2		1118	2.64	3.00	2.00		
MCMA	27	1112E	1121	1115	N27	E13	.421	8905	28.4	9D	-N		C	1115	.77	.80			E
ONDR	27	1116	1145		N27	E14	.429	8905	28.5	29	2F		V	1125			2.00		CJ
GRP 7469	27	1140	1147	1143	N28	E08	.405	8905	28.1	7	-B				.49				4 4 4
CATA	27	1135	1150	1145	N28	E10	.415	8905	28.2	15	-B			1145	.60	.69		229	
CANA	27	1139	1144	1140	N29	E07	.415	8905	28.0	5	-N		C		.20	.20		200	
HUAN	27	1143	1146	1144	N27	E07	.385	8905	28.0	3	-N	2	C	1144	.88	.88			
MCMA	27	1143	1147	1144	N29	E06	.411	8905	27.9	4	-B		C	1144	.26	.30			D
GRP 7470	27	1151	1214	1159	N22	E79	.977	8913	2.4	23	-N				.36				2 2 2
MCMA	27	1145	1214D		N22	E78	.974	8913	2.3	29D	-N		S	1200	.31	1.00			E
HUAN	27	1157	1213	1159	N21	E80	.981	8913	2.5	16	-F	1	C	1159	.41				ET
GRP 7471	27	1159	1218	1203	N25	E16	.421	8905	28.7	19	1B				1.49				2 2 2
CAPS	27	1159	1217		N23	E18	.418	8905	28.8	18	1N	2		1202	2.20	2.40		170	E
MCMA	27	1159	1219D	1203	N27	E13	.421	8905	28.5	20D	-B		S	1203	.77	.90			E
GRP 7472	27	1210	1217	1212	N15	E25	.444	8907	29.4	7	-N				.26				2 2 2
MCMA	27	1209	1219D		N13	E27	.465	8907	29.5	10D	-N		C	1213	.21	.20			EH
CANA	27	1210	1215	1212	N16	E22	.408	8907	29.2	5	-F		C		.30	.30		100	
GRP 7473	27	1225	1237	1230	N13	E20	.361	8907	29.0	12	-F				.75				3 3 3
MONT	27	1222	1240	1230	N10	E21	.363	8907	29.1	18	-N			1230	1.24				H
CANA	27	1225	1235	1228	N14	E19	.352	8907	28.9	10	-F		C		.50	.50		100	H
HUAN	27	1229	1236	1231	N14	E20	.366	8907	29.0	7	-F	2	C	1231	.50	.50			EH
CANA	27	1236	1245	1239	N16	E21	.394	8907	29.1	9	-F		C		.40	.40		100	
GRP 7474	27	1323	1328	1324	N15	E26	.459	8907	29.5	5	-F				.45				2 2 2
HOUS	27	1322	1328	1324	N14	E26	.454	8907	29.5	6	-F		C		.40	.50		100	
HUAN	27	1323	1327	1324	N15	E26	.459	8907	29.5	4	-F	2	C	1324	.50	.50			E
GRP 7475	27	1346	1405	1349	N21	E76	.966	8913	2.3	19	-N				.56				6 6 6
CANA	27	1341	1359	1347	N19	E78	.974	8913	2.4	18	-N		C		.20	.60		200	
CAPS	27	1346	1410		N21	E75	.962	8913	2.2	24	-N	2		1352	1.00			176	
HUAN	27	1347	1400	1350	N20	E78	.974	8913	2.4	13	-N	1	C	1350	.36				D
SACP	27	1347	1404	1349	N22	E74	.957	8913	2.1	17	-N		C		.61	1.27			
HOUS	27	1347	1405	1351	N21	E77	.970	8913	2.3	18	-N		C		.20	.40		200	I
ATHN	27	1350	1410	1350	N21	E75	.962	8913	2.2	20	-B	2		1350	.99		1.80		
GRP 7476	27	1400	1422	1403	N27	E14	.429	8905	28.6	22	-N				1.42				6 6 6
CANA	27	1357	1419	1400	N27	E15	.437	8905	28.7	22	-N		C		.60	.70		200	EI
CAPS	27	1359	1414		N28	E16	.458	8905	28.8	15	1N	2		1409	2.00	2.20		196	EJ
HOUS	27	1359	1422	1403	N23	E11	.351	8905	28.4	23	-N		C		1.30	1.30		200	I
HUAN	27	1359	1426	1401	N28	E16	.458	8905	28.8	27	-N	2	C	1401	1.24	1.26			ET
SACP	27	1402	1419	1404	N29	E15	.463	8905	28.7	17	-N		C		1.41	1.44			
ATHN	27	1402	1433	1405	N25	E10	.372	8905	28.3	31	-B	2		1405	1.98	2.60	2.00		
HUAN	27	1419	1424	1421	N28	E16	.458	8905	28.8	5	-F	2	C	1421	.90	.91			
GRP 7477	27	1412	1423	1415	N12	E20	.356	8907	29.1	11	-N				.69				4 4 4
CANA	27	1410	1418	1414	N13	E19	.346	8907	29.0	8	-F		C		.40	.40		100	
SACP	27	1413	1422	1415	N12	E20	.356	8907	29.1	9	-F		C		1.11	1.10			
HUAN	27	1413	1425	1415	N11	E21	.367	8907	29.2	12	-N	2	C	1415	.55	.55			E
HOUS	27	1413	1426	1414	N12	E19	.340	8907	29.0	13	-N		C		.70	.70		200	EI

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7478	27	1500	1509	1503	N20	E75	.962	8913	2.3	9	-N				.34				3 3 3
CANA	27	1457	1505	1500	N19	E72	.947	8913	2.0	8	-F		C		.30	.80		100	
HUAN	27	1501	1510	1504	N20	E76	.966	8913	2.3	9	-N	1	C	1504	.31				D
HOUS	27	1501	1512U	1504	N21	E76	.966	8913	2.3	11U	-N		C		.40	.90		200	I
GRP 7479	27	1510	1516	1512	N28	E12	.428	8905	28.5	6	-N				1.50				1 1 1
HUAN	27	1510	1516	1512	N28	E12	.428	8905	28.5	6	-N	2	C	1512	1.50	1.51			
GRP 7480	27	1529	1542	1533	N12	E20	.356	8907	29.1	13	-F				.51				5 5 5
CANA	27	1524	1532	1527	N14	E17	.323	8907	28.9	8	-F		C		.20	.20		100	
HOUS	27	1528	1545	1532	N13	E19	.346	8907	29.1	17	-N		C		.80	.80		200	EI
HUAN	27	1529	1546	1534	N11	E20	.351	8907	29.1	17	-F	2	C	1534	.75	.75			E
MEUD	27	1534	1540	1534	N12	E19	.340	8907	29.1	6	-F		C	1534	.46	.50			E
SALO	27	1535E	1545D		N10	E24	.410	8907	29.4	10D	-F		P	1540	.33	.40	.11		
GRP 7481	27	1543	1549	1546	N29	E16	.470	8905	28.9	6	-N				.78				2 2 2
SACP	27	1543	1549	1546	N29	E14	.455	8905	28.7	6	-N		C		.81	.83			
HUAN	27	1543	1549	1546	N28	E17	.466	8905	28.9	6	-F	2	C	1546	.75	.76			
GRP 7482	27	1607	1620	1609	N24	E07	.339	8905	28.2	13	-N				1.01				8 8 8
SALO	27	1540E	1620D		N23	E11	.351	8905	28.5	40D	-B		P	1600	.99	1.10	.15		
HUAN	27	1553	1620	1609	N24	E08	.344	8905	28.3	27	-B	2	C	1609	1.39	1.39			E
ATHN	27	1605E	1620	1607	N25	E05	.345	8905	28.0	15D	-N	2		1607	.99	1.10	1.86		
HOUS	27	1607	1615	1608	N23	E07	.323	8905	28.2	8	-N		C		1.20	1.20		200	E
SACP	27	1607	1619	1609	N24	E07	.339	8905	28.2	12	-N		C		1.84	1.82			
MEUD	27	1608	1616	1609	N24	E07	.339	8905	28.2	8	-N		C	1609	.72	.70			
LOCK	27	1608E	1625	1609	N24	E05	.329	8905	28.0	17D	-N		C	1609	.50	.60		10	
HALE	27	1610B	1627	1612	N23	E05	.313	8905	28.0	178	-B	2	D	1612	.46	.50			JT
GRP 7483	27	1618	1632	1623	N21	E74	.957	8913	2.2	14	-F				.73				3 3 3
HOUS	27	1618	1631	1621	N21	E74	.957	8913	2.2	13	-N		C		.80	1.20		200	I
HALE	27	1618	1632	1625	N21	E75	.962	8913	2.3	14	-F	2	C	1625	.36				
SACP	27	1618	1632	1623	N22	E72	.947	8913	2.1	14	-F		C		1.02	2.00			
GRP 7484	27	1719	1726	1721	N11	E22	.382	8907	29.4	7	-N				.41				4 4 4
SACP	27	1718	1724	1720	N12	E21	.371	8907	29.3	6	-N		C		.71	.71			
HUAN	27	1718	1724	1720	N11	E22	.382	8907	29.4	6	-F	2	C	1720	.36	.36			D
LOCK	27	1720E	1726	1720	N11	E21	.367	8907	29.3	6D	-N		C	1720	.30	.30		10	
HALE	27	1721	1730	1722	N11	E22	.382	8907	29.4	9	-N	3	C	1722	.26	.30			J
GRP 7485	27	1733	1746	1736	N29	E13	.448	8905	28.7	13	1N				2.48				3 2 2
HALE	27	1718	1802	1739	N28	E14	.442	8905	28.8	44	-B	2	C	1739	1.39	1.50			JTU
SACP	27	1731	1744	1736	N29	E13	.448	8905	28.7	13	1N		C		2.45	2.49			
HUAN	27	1734	1748	1736	N29	E13	.448	8905	28.7	14	1N	2	C	1736	2.51	2.54			
HUAN	27	1650	1721	1653	N28	E13	.435	8905	28.7	31	-F	2	C	1653	1.24	1.26			
HALE	27	1718	1722	1720	N28	E09	.410	8905	28.4	4	-B	2	C	1720	.21	.20			JT
GRP 7486	27	1804	1825	1809	N11	E20	.351	8907	29.3	21	-N				1.04				6 6 6
SACP	27	1800	1819	1804	N12	E21	.371	8907	29.3	19	1N		C		2.65	2.63			
HUAN	27	1812	1816	1814	N10	E21	.363	8907	29.3	4	-N	1	C	1814	1.00	1.00			EH
LOCK	27	1802	1830	1803	N12	E20	.356	8907	29.3	28	-N		C	1803	.60	.70		10	
MCMA	27	1805E	1815D		N11	E20	.351	8907	29.3	10D	-N		V	1812	.41	.40			EH
HALE	27	1805	1843	1816	N11	E21	.367	8907	29.3	38	-B	3	C	1816	.36	.40			TK
HOUS	27	1810	1817	1812	N11	E19	.336	8907	29.2	7	-N		C		1.10	1.10		300	EHI
HUAN	27	1801	1807	1804	N10	E22	.379	8907	29.4	6	-N	1	C	1804	.83	.83			H
HALE	27	1805	1843	1807	N11	E21	.367	8907	29.3	38	-N	3	C	1807	.46	.50			TK
GRP 7487	27	1858	1908	1902	N12	E17	.310	8907	29.1	10	-F				.50				2 2 2
HUAN	27	1858	1907	1901	N11	E18	.320	8907	29.1	9	-F	2	C	1901	.50	.50			E
LOCK	27	1858	1909	1902	N12	E15	.279	8907	28.9	11	-F		C	1902	.50	.60		10	
GRP 7488	27	1902	1915	1903	N25	E11	.379	8905	28.6	13	-N				1.13				2 2 1
HUAN	27	1859	1916	1901	N23	E12	.360	8905	28.7	17	-N	2	C	1901	1.13	1.14			E
HALE	27	1904	1913	1904	N27	E09	.395	8905	28.5	9	-N	2	C	1904	.21	.20			BJT
HALE	27	1846	1901	1850	N28	E11	.421	8905	28.6	15	-B	2	C	1850	.72	.80			JTI
GRP 7489	27	1927	2011	1945	N27	E11	.407	8905	28.6	44	-N				.71				3 3 3
HALE	27	1925	2027	1946	N28	E12	.428	8905	28.7	62	-N	2	C	1946	.52	.60			JTIF
LOCK	27	1926	1952	1945	N24	E07	.339	8905	28.3	26	-F		C	1945	.60	.70		10	K
HUAN	27	1930	2014	1943	N28	E13	.435	8905	28.8	44	-N	1	C	1943	1.00	1.01			
GRP 7490	27	1952	2006	1954	N13	E23	.406	8907	29.6	14	-N				.35				2 2 2
LOCK	27	1950	2001	1951	N13	E19	.346	8907	29.3	11	-F		C	1951	.50	.60		10	K
HOUS	27	1954	2010	1956	N13	E27	.465	8907	29.9	16	-N		C		.20	.30		200	
GRP 7491	27	1952	2026	1958	N16	E35	.587	8911	30.5	34	-N				.26				2 2 2
HALE	27	1951	2035	1958	N15	E36	.597	8911	30.5	44	-N	2	C	1958	.21	.30			
LOCK	27	1952	2016	1958	N17	E34	.577	8911	30.4	24	-F		C	1958	.30	.40		10	
GRP 7492	27	2013	2024	2015	N23	E05	.313	8905	28.2	11	-N				.49				3 3 3
LOCK	27	2011	2018	2013	N24	E04	.326	8905	28.1	7	-N		C	2013	.40	.40		10	
HUAN	27	2013	2023	2014	N22	E05	.298	8905	28.2	10	-N	1	C	2014	.75	.75			
HALE	27	2014	2031	2018	N23	E05	.313	8905	28.2	17	-N	2	C	2018	.31	.30			FJT
GRP 7493	27	2037	2054	2045	N14	E17	.323	8907	29.1	17	-N				.52				3 3 3
HUAN	27	2035	2052	2043	N14	E17	.323	8907	29.1	17	-N	1	C	2043	.50	.50			H
HALE	27	2038	2057	2046	N15	E17	.330	8907	29.1	19	-N	2	C	2046	.46	.50			TJ
HOUS	27	2043E	2052	2046	N14	E16	.308	8907	29.1	9D	-N		C		.60	.60		200	HI

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT DATE 1967 JULY	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7494	27	2058	2108	2100	N29	E13	.448	8905	28.8	10	-F				.31				1 1 1
HUAN	27	2058	2108	2100	N29	E13	.448	8905	28.8	10	-F	1	C	2100	.31	.31			D
GRP 7495	27	2103	2138	2112	N14	E15	.294	8907	29.0	35	-N				1.05				2 2 2
LOCK	27	2032	2200	2116	N13	E14	.272	8907	28.9	88	-N		C	2116	1.50	1.70		10	K
HOUS	27	2103	2115	2107	N14	E16	.308	8907	29.1	12	-N		C		.60	.60		200	HI
GRP 7495	27	2120	2204	2135	N12	E15	.279	8907	29.0	44	-N				1.09				4 4 4
HALE	27	2105	2219	2138	N11	E15	.273	8907	29.0	74	-N	2	C	2138	1.13	1.20			FIJT
HUAN	27	2114	2202	2134	N12	E14	.264	8907	28.9	48	-B	1	C	2134	1.50	1.50			H
MCMA	27	2119E	2137D		N11	E16	.289	8907	29.1	18D	-N		V	2132	.41	.40			E
HOUS	27	2128	2151	2134	N12	E16	.295	8907	29.1	23	-N		C		1.30	1.30		200	EI
GRP 7496	27	2152	2230	2155	N26	E05	.361	8905	28.3	38	-F				.25				1 1 1
HUAN	27	2152	2230D	2155	N26	E05	.361	8905	28.3	38D	-F	2	C	2155	.25	.25			D
GRP 7497	27	2221	2244	2226	N12	E18	.325	8907	29.3	23	-N				.26				2 2 2
LOCK	27	2220	2243	2224	N12	E17	.310	8907	29.2	23	-N		C	2224	.30	.30		10	K
HALE	27	2221	2229	2227	N11	E19	.336	8907	29.4	8	-N	2	C	2227	.21	.20			T
HALE	27	2235	2245	2239	N11	E18	.320	8907	29.3	10	-N	2	C	2239	.21	.20			T
GRP 7498	27	2223	2230	2225	S30	W69	.965	8899	22.8	7	-F				.10				1 1 1
HOUS	27	2223	2230U	2225	S30	W69	.965	8899	22.8	7U	-F		C		.10	.30		100	
GRP 7499	27	2255	2306	2258	N13	E16	.301	8907	29.2	11	-N				.36				2 2 2
LOCK	27	2253	2304	2255	N12	E16	.295	8907	29.2	11	-N		C	2255	.50	.60		10	K
HALE	27	2257	2307	2301	N14	E15	.294	8907	29.1	10	-N	2	C	2301	.21	.20			TJ
HALE	27	2257	2308	2301	N15	E17	.330	8907	29.2	11	-N	2	C	2301	.21	.20			TJ
GRP 7500	27	2311	2327	2317	N27	E07	.385	8905	28.5	16	-N				.15				1 1 1
HALE	27	2311	2327	2317	N27	E07	.385	8905	28.5	16	-N	2	C	2317	.15	.20			JT
GRP 7501	27	2335	2342	2337	N17	E16	.334	8907	29.2	7	-N				.61				2 2 2
LOCK	27	2332	2342	2335	N17	E17	.347	8907	29.3	10	-N		C	2335	.60	.70		10	
HALE	27	2337	2342	2338	N16	E15	.311	8907	29.1	5	-N	2	C	2338	.62	.70			TJ
GRP 7502	28	0008	0038	0014	N29	E09	.423	8905	28.7	30	1N				1.55				2 2 2
HALE	28	0006	0041	0015	N28	E09	.408	8905	28.7	35	-N	2	C	0015	.83	.90			
MITK	28	0009	0034	0012	N29	E08	.418	8905	28.6	25	1N		C	0012	2.27	2.50			
GRP 7503	28	0020	0028	0023	N19	E43	.695	8911	31.2	8	-N				.52				1 1 1
HALE	28	0020	0028	0023	N19	E43	.695	8911	31.2	8	-N	2	C	0023	.52	.70			
GRP 7504	28	0035	0043	0039	N15	E13	.275	8907	29.0	8	-N				.46				2 2 2
LOCK	28	0034	0041	0039	N15	E13	.275	8907	29.0	7	-F		C	0039	.50	.60		10	
HALE	28	0035	0044	0039	N15	E13	.275	8907	29.0	9	-B	1	C	0039	.41	.40			
GRP 7505	28	0055	0103	0056	N23	E03	.305	8905	28.3	8	-N				.31				2 2 2
LOCK	28	0053	0103	0055	N23	E01	.302	8905	28.1	10	-F		C	0055	.40	.40		10	
HALE	28	0056	0103	0056	N23	E04	.308	8905	28.3	7	-N	2	C	0056	.21	.20			
GRP 7506	28	0057	0145	0119	N21	E16	.374	8907	29.2	48	1N				1.72				2 2 2
LOCK	28	0050	0145	0115	N24	E18	.428	8907	29.4	55	1F		C	0115	2.10	2.30		10	
HALE	28	0104	0300	0123	N23	E19	.428	8907	29.5	116	-N	1	C	0123	1.34	1.50			EFI
HALE	28	0115	0118	0117	N15	E12	.262	8907	29.0	3	-F	1	C	0117	.15	.20			
HALE	28	0120	0124	0122	N15	E12	.262	8907	29.0	4	-F	1	C	0122	.15	.20			
GRP 7507	28	0118	0138	0118	N17	E37	.616	8911	30.8	20	-F				.21				1 1 1
HALE	28	0118	0138	0118	N17	E37	.616	8911	30.8	20	-F	1	C	0118	.21	.30			
GRP 7508	28	0120	0142	0128	N26	E06	.364	8905	28.5	22	-N				1.83				7 7 7
SACP	28	0114	0139D	0126	N28	E07	.399	8905	28.6	25D	-N		C		1.93	1.93			
LOCK	28	0117	0150	0127	N16	E06	.209	8905	28.5	33	-N		C	0127	1.00	1.00		20	
HALE	28	0118	0229	0131	N29	E05	.407	8905	28.4	71	-N	1	C	0131	1.24	1.30			F
MANI	28	0119	0140	0129	N26	E04	.357	8905	28.4	21	-N	2		0129	1.03	1.11			
MITK	28	0122E	0154D	0127	N28	E06	.395	8905	28.5	32D	1N		C	0127	2.17	2.40			
SIBE	28	0123	0140D	0126	N27	E08	.388	8905	28.7	17D	1F		C	0126	3.30	3.90		61	F
IKOM	28	0125	0130		N28	E07	.399	8905	28.6	5	1B		V	0125	2.17	2.40	1.74	140	D
GRP 7509	28	0140	0154	0148	S23	E88	1.000	8914	3.7	14	-N				.21				1 1 1
HALE	28	0140	0154	0148	S23	E88	1.000	8914	3.7	14	-N	2	C	0148	.21				
GRP 7510	28	0144	0257	0152	N24	E04	.324	8905	28.4	73	-N				1.09				2 2 2
HALE	28	0144	0211	0152	N22	E01	.285	8905	28.1	27	-N	1	C	0152	.52	.50			
IKOM	28	0145E	0155D		N23	E02	.303	8905	28.2	10D	-F		V	0145	1.65	1.70		70	D
HALE	28	0159	0257	0203	N26	E10	.385	8905	28.8	58	-N	1	C	0203	.21	.20			
GRP 7511	28	0150	0205		N13	E13	.257	8907	29.1	15	-N				.57				2 2 2
IKOM	28	0204E	0205		N13	E15	.286	8907	29.2	1D	-F		V	0204	.52	.50			D
HALE	28	0135	0201	0146	N12	E11	.220	8907	28.9	26	-N	1	C	0146	.62	.60			
GRP 7512	28	0210	0233	0215	S23	E88	1.000	8914	3.7	23	-F				.15				1 1 1
HALE	28	0210	0233	0215	S23	E88	1.000	8914	3.7	23	-F	2	C	0215	.15				K
GRP 7513	28	0210	0233	0228	S23	E88	1.000	8914	3.7	23	-N				.21				1 1 1
HALE	28	0210	0233	0228	S23	E88	1.000	8914	3.7	23	-N	2	C	0228	.21				K
GRP 7514	28	0240	0247	0242	N17	E37	.616	8911	30.9	7	-N				.52				1 1 1
HALE	28	0240	0247	0242	N17	E37	.616	8911	30.9	7	-N	1	C	0242	.52	.70			
GRP 7515	28	0241	0250	0243	N14	E12	.252	8907	29.0	9	-N				.52				2 2 2
MANI	28	0240	0251	0242	N13	E13	.257	8907	29.1	11	-N	2		0242	.41	.43			
HALE	28	0242	0248	0244	N15	E11	.249	8907	28.9	6	-N	1	C	0244	.62	.60			
GRP 7516	28	0301	0312	0301	N13	E18	.330	8907	29.5	11	-F				.15				1 1 1
HALE	28	0301	0312	0301	N13	E18	.330	8907	29.5	11	-F	2	C	0301	.15	.20			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7517	28	0305	0314	0307	N15	E11	.249	8907	29.0	9	-F				.31				1 1 1
HALE	28	0305	0314	0307	N15	E11	.249	8907	29.0	9	-F	1	C	0307	.31	.30			
GRP 7518	28	0406	0411	0407	N15	E10	.237	8907	28.9	5	-N				.21				1 1 1
HALE	28	0406	0411	0407	N15	E10	.237	8907	28.9	5	-N	3	C	0407	.21	.20			
GRP 7519	28	0428	0440	0435	N16	E09	.238	8907	28.9	12	-N				.41				1 1 1
HALE	28	0428	0440	0435	N16	E09	.238	8907	28.9	12	-N	2	C	0435	.41	.40			
GRP 7520	28	0530	0537	0531	N16	E24	.435	8907	30.0	7	-N				.66				1 1 1
ATHN	28	0530	0537	0531	N16	E24	.435	8907	30.0	7	-N	3		0531	.66	.70	1.70		
GRP 7521	28	0535	0542	0536	N16	E12	.272	8907	29.1	7	-N				.83				1 1 1
ATHN	28	0535	0542	0536	N16	E12	.272	8907	29.1	7	-N	3		0536	.83	.90	1.70		
GRP 7522	28	0555	0620	0555	N16	E40	.651	8911	31.2	25	-N				.84				1 1 1
CATA	28	0555	0620	0555	N16	E40	.651	8911	31.2	25	-N			0555	.84	1.12		178	
GRP 7523	28	0734	0826	0830	N30	E07	.429	8905	28.8	52	-N				1.57				3 3 2
CAPE	28	0828	0838	0830	N30	E07	.429	8905	28.9	10	-N		C	0830	.92	1.00			
ISTA	28	0803	0820		N30	E07	.429	8905	28.9	17	-N								
CATA	28	0640	0820	0645	N29	E08	.418	8905	28.9	100	1B			0645	2.21	2.44		309	
GRP 7523	28	0758	0847	0805	N29	E02	.401	8905	28.5	49	-B				.33				3 2 1
CATA	28	0755	0850	0805	N28	E01	.384	8905	28.4	55	-B			0805	.33	.36		219	
ISTA	28	0800	0825		N30	W01	.416	8905	28.3	25	-N								
CAPE	28	0847	0907	0853	N30	E07	.429	8905	28.9	20	-N		C	0853	.92	1.00			J
GRP 7524	28	0810	0828	0813	N26	E62	.887	8913	2.0	18	-F				.60				1 1 1
CAPE	28	0810	0828	0813	N26	E62	.887	8913	2.0	18	-F		C	0813	.60	1.30			C
GRP 7525	28	0820	0935		N18	E35	.593	8911	31.0	75	-F								1 1 0
ISTA	28	0820	0935		N18	E35	.593	8911	31.0	75	-F								
GRP 7526	28	0849	0904	0853	N11	E11	.212	8907	29.2	15	-N				.77				8 8 6
MONT	28	0846	0900		N12	E09	.191	8907	29.0	14	-B			0850	.77				
ATHN	28	0846	0900	0847	N11	E12	.227	8907	29.3	14	-N	3		0847	.66	.70	1.70		
CAPE	28	0848	0914	0854	N13	E11	.229	8907	29.2	26	-N		C	0854	.97	1.00			F
SALO	28	0850E	0900D		N12	E12	.234	8907	29.3	10D	-F		V	0850	.33	.40	.13		
CATA	28	0850	0915	0850	N10	E12	.220	8907	29.3	25	-B			0850	1.07	1.11		302	
KHAR	28	0851E	0859		N09	E13	.231	8907	29.3	8D	1F		V	0854			1.80		D
ARCE	28	0851	0900	0855	N12	E10	.205	8907	29.1	9	-N		C	0855	.83	.80			E
ISTA	28	0850	0905		N11	E11	.212	8907	29.2	15	-N								
GRP 7527	28	0932	0950	0937	S30	W79	.993	8899	22.5	18	-F				.37				1 1 1
CAPE	28	0932	0950	0937	S30	W79	.993	8899	22.5	18	-F		C	0937	.37	2.10			T
GRP 7528	28	0955	1018	1000	N12	E09	.191	8907	29.1	23	-F				.87				1 1 1
CAPE	28	0955	1018	1000	N12	E09	.191	8907	29.1	23	-F		C	1000	.87	.90			F
GRP 7529	28	1014	1033	1022	S22	W60	.905	8899	23.9	19	2F				3.64				1 1 1
CAPE	28	1014	1033	1022	S22	W60	.905	8899	23.9	19	2F		C	1022	3.64	8.60			
GRP 7530	28	1018	1056	1029	N19	E33	.572	8911	30.9	38	-N				1.35				4 4 4
CATA	28	1015	1110	1030	N15	E32	.542	8911	30.8	55	-B			1030	.79	.97		240	
CAPS	28	1019E	1044		N26	E34	.621	8911	31.0	25D	-F	3		1027	1.00	1.20		158	E
CAPE	28	1019	1101	1027	N18	E32	.554	8911	30.8	42	-N		C	1027	.78	.90			
KHAR	28	1027E	1055D		N16	E31	.532	8911	30.8	28D	1F		V	1035	2.84	3.40	1.50		DH
CATA	28	1045	1105	1045	N16	E36	.599	8911	31.1	20	-N			1045	1.07	1.35		174	
GRP 7531	28	1029	1036	1029	N30	E07	.429	8905	29.0	7	-N				.84				1 1 1
CAPE	28	1029	1036	1029	N30	E07	.429	8905	29.0	7	-N		C	1029	.84	.90			
GRP 7532	28	1041	1052	1044	S22	W62	.918	8899	23.8	11	-N				.69				1 1 1
CAPE	28	1041	1052	1044	S22	W62	.918	8899	23.8	11	-N		C	1044	.69	1.80			
GRP 7533	28	1107	1122	1112	S24	E80	.993	8914	3.5	15	1F				1.10				1 1 1
CAPE	28	1107	1122	1112	S24	E80	.993	8914	3.5	15	1F		C	1112	1.10	7.00			C
GRP 7534	28	1128	1153	1138	N17	E32	.550	8911	30.9	25	1N				2.90				7 7 4
CAPE	28	1123	1206	1136	N17	E32	.550	8911	30.9	43	2N		C	1136	5.17	6.10			V
KHAR	28	1130	1147		N16	E31	.532	8911	30.8	17	1N		V	1139	3.74	4.40	2.40		DH
MONT	28	1130	1210	1142	N18	E35	.593	8911	31.1	40	1B			1142	1.86				H
CATA	28	1135	1155	1135	N14	E32	.539	8911	30.9	20	-B			1135	.64	.77		240	
ONDR	28	1137E	1144		N17	E30	.523	8911	30.7	7D	1N		V	1144			3.30		CJ
HUAN	28	1143E	1146		N15	E31	.529	8911	30.8	3D	-F	1	P	1144	.25	.26			D
ATHN	28	1120	1143	1125	N19	E35	.597	8911	31.1	23	-N	2		1125	.83	1.10	1.90		
GRP 7535	28	1158	1215	1201	N28	E03	.386	8905	28.7	17	-N				1.04				3 3 3
CAPE	28	1157	1217	1201	N29	E02	.401	8905	28.6	20	-N		C	1201	1.80	2.00			F
HUAN	28	1159	1214	1201	N28	E03	.386	8905	28.7	15	-F	2	C	1201	.45	.45			E
ATHN	28	1200E	1213	1200	N27	E05	.376	8905	28.9	13D	-N	2		1200	.86	.90	1.70		
GRP 7536	28	1205	1232	1216	S30	W80	.995	8899	22.5	27	-F				.41				1 1 1
CAPE	28	1205	1232	1216	S30	W80	.995	8899	22.5	27	-F		C	1216	.41				T
GRP 7537	28	1244	1259	1249	N17	E31	.537	8911	30.9	15	1N				2.07				2 2 2
CAPE	28	1243	1302	1249	N18	E31	.541	8911	30.9	19	1N		C	1249	3.83	4.50			
HUAN	28	1244	1255	1248	N15	E30	.515	8911	30.8	11	-F	2	C	1248	.31	.32			D
GRP 7538	28	1258	1311	1301	N13	E08	.189	8907	29.1	13	1F				2.59				1 1 1
CAPE	28	1258	1311	1301	N13	E08	.189	8907	29.1	13	1F		C	1301	2.59	2.60			C
GRP 7539	28	1259	1334	1320	N18	E31	.541	8911	30.9	35	-N				1.00				2 2 2
MCMA	28	1246	1335		N18	E32	.554	8911	30.9	49	-F		C	1309	1.03	1.20			E
CAPE	28	1311	1332	1320	N17	E30	.523	8911	30.8	21	-N		C	1320	.97	1.10			
GRP 7540	28	1300	1421		S22	W70	.960	8899	23.3	81	1N								1 1 0
MONT	28	1300	1421D		S22	W70	.960	8899	23.3	81D	1N								

SOLAR FLARES

JULY 1967

OBSERVATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION MCMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7541	28	1312	1321	1315	N13	E07	.177	8907	29.1	9	-F				.64				1 1 1
CAPE	28	1312	1321	1315	N13	E07	.177	8907	29.1	9	-F		C	1315	.64	.70			
GRP 7542	28	1318	1341	1333	S24	E79	.991	8914	3.5	23	-F				.37				1 1 1
CAPE	28	1318	1341	1333	S24	E79	.991	8914	3.5	23	-F		C	1333	.37	2.10			C
GRP 7543	28	1322	1327	1324	N16	E07	.218	8907	29.1	5	-F				.37				1 1 1
CAPE	28	1322	1327	1324	N16	E07	.218	8907	29.1	5	-F		C	1324	.37	.40			C
GRP 7544	28	1348	1356	1351	N17	E29	.510	8911	30.8	8	-N				.29				2 2 2
CAPE	28	1347	1358	1351	N18	E30	.528	8911	30.8	11	-N		C	1351	.37	.40			
MCMA	28	1349	1354	1351	N16	E28	.491	8911	30.7	5	-N		C	1351	.21	.20			E
GRP 7545	28	1418	1425	1421	N17	E28	.496	8911	30.7	7	-N				.51				3 3 3
CAPE	28	1417	1423D	1421	N18	E29	.515	8911	30.8	6D	-N		C	1421	.92	1.10			
HOUS	28	1419	1424	1420	N16	E28	.491	8911	30.7	5	-N		C		.40	.50		200	I
MCMA	28	1419	1425	1421	N16	E28	.491	8911	30.7	6	-N		C	1421	.21	.20			D
GRP 7546	28	1427	1440	1429	S29	W88	1.000	8899	22.0	13	-F				.31				1 1 1
HUAN	28	1427	1440	1429	S29	W88	1.000	8899	22.0	13	-F	1	C	1429	.31				D
GRP 7547	28	1430	1457	1435	N20	E33	.577	8911	31.1	27	-N				.99				1 1 1
ATHN	28	1430E	1457	1435	N20	E33	.577	8911	31.1	27D	-N	2		1435	.99	1.30	1.80		
GRP 7548	28	1440	1505	1445	N25	E05	.344	8905	29.0	25	-N				.66				1 1 1
ATHN	28	1440E	1505	1445	N25	E05	.344	8905	29.0	25D	-N	2		1445	.66	.70	1.80		
GRP 7549	28	1501	1506	1502	S29	W90	1.001	8899	21.9	5	-N				.23				2 2 2
HOUS	28	1500	1505	1501	S29	W90	1.001	8899	21.9	5	-N		C		.20	.80		200	I
HUAN	28	1501	1507	1502	S29	W90	1.001	8899	21.9	6	-N	1	C	1502	.25				D
GRP 7550	28	1502	1510	1504	N16	E28	.491	8911	30.7	8	-N				.40				1 1 1
HOUS	28	1502	1510U	1504	N16	E28	.491	8911	30.7	8U	-N		C		.40	.50		200	I
GRP 7551	28	1507	1511	1509	N22	W04	.292	8905	28.3	4	-F				.45				1 1 1
HUAN	28	1507	1511	1509	N22	W04	.292	8905	28.3	4	-F	2	C	1509	.45	.45			D
GRP 7552	28	1517	1615		N30	E01	.416	8905	28.7	58	-N				.51				2 2 2
MCMA	28	1517	1615D		N30	E01	.416	8905	28.7	58D	-N		V	1540	.52	.50			EL
HUAN	28	1516	1614		N30	E03	.418	8905	28.9	58	-N	2	C	1527	.50	.50			E
HUAN	28	1516	1614		N29	W02	.401	8905	28.5	58	-N	2	C						
GRP 7553	28	1520	1532	1525	S29	W90	1.001	8899	21.9	12	-N				.20				1 1 1
HOUS	28	1520	1532	1525	S29	W90	1.001	8899	21.9	12	-N		C		.20	.80		200	I
GRP 7554	28	1600	1606	1601	S31	W80	.995	8899	22.7	6	-F				.20				1 1 1
HOUS	28	1600U	1606U	1601	S31	W80	.995	8899	22.7	6U	-F		C		.20	.60		100	
GRP 7555	28	1619	1635	1623	N30	E00	.415	8905	28.7	16	-N				.52				1 1 1
MCMA	28	1619	1635	1623	N30	E00	.415	8905	28.7	16	-N		V	1623	.52	.50			E
GRP 7556	28	1625	1640		S32	W80	.995	8899	22.7	15	3B				.83				1 1 1
SALO	28	1625E	1640D		S32	W80	.995	8899	22.7	15D	3B		V	1630	.83	5.20	.16		
GRP 7557	28	1652	1656	1653	N27	W09	.394	8905	28.0	4	-F				.25				1 1 1
HUAN	28	1652	1656	1653	N27	W09	.394	8905	28.0	4	-F	2	C	1653	.25	.25			D
GRP 7558	28	1702	1706	1704	N15	E03	.173	8907	28.9	4	-N				.15				1 1 1
HALE	28	1702	1706	1704	N15	E03	.173	8907	28.9	4	-N	3	C	1704	.15	.20			
GRP 7559	28	1743	1800	1747	S29	W90	1.001	8899	22.0	17	-N				.20				1 1 1
HOUS	28	1743	1800	1747	S29	W90	1.001	8899	22.0	17	-N		C		.20	.80		200	I
GRP 7560	28	1748	1752	1749	N18	E29	.515	8911	30.9	4	-N				.15				1 1 1
HALE	28	1748	1752	1749	N18	E29	.515	8911	30.9	4	-N	3	C	1749	.15	.20			
GRP 7561	28	1812	1843	1817	N17	E21	.400	8911	30.3	31	-F				.29				3 3 3
MCMA	28	1811	1845	1815	N18	E22	.421	8911	30.4	34	-F		C	1815	.31	.30			D
HUAN	28	1812	1834	1815	N17	E22	.414	8911	30.4	22	-F	2	C	1815	.25	.25			D
HALE	28	1814	1851	1822	N17	E20	.386	8911	30.3	37	-N	2	C	1822	.31	.30			F
GRP 7561	28	1835	1844	1836	N16	E26	.463	8911	30.7	9	-N				.31				2 2 2
HOUS	28	1834	1847	1836	N15	E25	.444	8911	30.6	13	-N		C		.30	.40		200	H
HUAN	28	1835	1840	1836	N16	E27	.477	8911	30.8	5	-F	2	C	1836	.31	.31			D
GRP 7562	28	1845	1930	1905	S33	W90	1.001	8899	22.0	45	-F				.50				1 1 1
LOCK	28	1845E	1930	1905	S33	W90	1.001	8899	22.0	45D	-F		C	1905	.50	2.00		10	
GRP 7563	28	1849	1912	1855	N12	E03	.125	8907	29.0	23	1N				2.82				6 6 6
LOCK	28	1847	1932	1855	N12	E02	.119	8907	28.9	45	1N		C	1855	3.10	3.10		20	H
HUAN	28	1849	1904	1854	N11	E02	.102	8907	28.9	15	1N	2	C	1854	2.73	2.73			H
MCMA	28	1849	1910	1854	N13	E03	.141	8907	29.0	21	-B		V	1854	1.55	1.50			HV
HOUS	28	1851	1904	1853	N11	E03	.109	8907	29.0	13	1N		C		3.80	3.80		200	H
HALE	28	1851	1912	1857	N11	E03	.109	8907	29.0	21	1B	2	C	1857	2.68	2.70			
SACP	28	1854E	1857D	1854U	N12	E02	.119	8907	28.9	3D	1N		P		3.03	2.98			
GRP 7564	28	1935	2045	1945	S33	W90	1.001	8899	22.1	70	1F				.70				1 1 1
LOCK	28	1935	2045	1945	S33	W90	1.001	8899	22.1	70	1F		C		.70	2.80		10	
GRP 7564	28	1935	2045	2017	S33	W90	1.001	8899	22.1	70	1F				.70				1 1 1
LOCK	28	1935	2045	2017	S33	W90	1.001	8899	22.1	70	1F		C		.70	2.80		10	
GRP 7565	28	1953	1959	1955	N17	E25	.455	8911	30.7	6	-N				.41				1 1 1
HALE	28	1953	1959	1955	N17	E25	.455	8911	30.7	6	-N	2	C	1955	.41	.50			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7566	28	2040	2045	2044	N26	W09	.379	8905	28.2	5	-N				.79				5 5 5
LOCK	28	2030	2047	2039	N24	W12	.372	8905	28.0	17	-N		C	2039	1.00	1.10		20	
MCMA	28	2044	2145	2050	N30	W05	.422	8905	28.5	61	-N		V	2050	1.13	1.10			EHK
HUAN	28	2038	2044	2040	N24	W11	.364	8905	28.0	6	-N	2	C	2040	.70	.70			H
HOUS	28	2038	2044	2039	N25	W11	.378	8905	28.0	6	-N		C		.50	.60		200	H
HALE	28	2041	2048	2042	N25	W11	.378	8905	28.0	7	-N	2	C	2042	.62	.70			
MCMA	28	2038	2044	2040	N27	W13	.420	8905	27.9	6	-N		V	2040	.52	.50			EHK
HUAN	28	2044	2112	2048	N28	W05	.391	8905	28.5	28	-N	2	C	2048	.55	.55			E
LOCK	28	2045	2105	2049	N27	W04	.373	8905	28.6	20	-F		C	2049	.70	.80		10	
GRP 7567	28	2115	2132	2130	S33	W90	1.001	8899	22.1	17	-F				.50				1 1 1
LOCK	28	2115	2132D	2130	S33	W90	1.001	8899	22.1	17D	-F		C	2130	.50	2.00		10	
GRP 7568	28	2118	2146	2122	N29	W03	.402	8905	28.7	28	-N				.85				2 2 2
HUAN	28	2116	2137	2119	N29	W02	.401	8905	28.7	21	-N	2	C	2119	.45	.45			E
HALE	28	2119	2155	2125	N29	W04	.404	8905	28.6	36	-N	1	C	2125	1.24	1.30			F
GRP 7569	28	2139	2146	2141	N24	E11	.364	8907	29.7	7	-F				.25				1 1 1
HUAN	28	2139	2146	2141	N24	E11	.364	8907	29.7	7	-F	2	C	2141	.25	.25			D
GRP 7570	28	2231	2255	2234	N28	W04	.388	8905	28.6	24	-N				.86				4 4 4
HUAN	28	2228	2230D		N29	W02	.401	8905	28.8	2D	-F	1	P	2229	.31	.31			E
LOCK	28	2229	2255	2233	N29	W04	.404	8905	28.6	26	-F		C	2233	1.60	1.80		30	
HOUS	28	2231	2249	2234	N27	W04	.373	8905	28.6	18	-N		C		.70	.80		200	E
HALE	28	2234	2300	2235	N29	W03	.402	8905	28.7	26	-B	1	C	2235	.83	.90			F
HUAN	28	2228	2230D		N28	W06	.395	8905	28.5	2D	-F	1	P						
LOCK	28	2231	2247	2235	N28	W04	.388	8905	28.6	16	-F		C	2235	.60	.60		10	
GRP 7571	28	2236	2249	2239	N12	E03	.125	8907	29.2	13	-N				.31				1 1 1
HALE	28	2236	2249	2239	N12	E03	.125	8907	29.2	13	-N	2	C	2239	.31	.30			
GRP 7572	28	2237	2247	2239	N13	E43	.683	8913	1.2	10	-B				.51				2 2 2
LOCK	28	2235	2247	2238	N12	E41	.656	8913	1.0	12	-N		C	2238	.50	.60		20	
HALE	28	2238	2246	2239	N14	E44	.696	8913	1.2	8	-B	2	C	2239	.52	.70			
GRP 7573	28	2300	2310	2310	N15	E26	.458	8911	30.9	10	-F				.40				1 1 1
LOCK	28	2300	2310	2310	N15	E26	.458	8911	30.9	10	-F		C	2310	.40	.40		10	
GRP 7574	28	2331	2345	2334	S31	W90	1.001	8899	22.2	14	-N				.40				2 2 2
LOCK	28	2330	2347	2334	S33	W90	1.001	8899	22.2	17	-N		C	2334	.50	2.00		20	
HOUS	28	2331	2342	2333	S28	W90	1.001	8899	22.2	11	-N		C		.30	1.20		200	
GRP 7575	29	0002	0014	0006	N19	E27	.493	8911	31.0	12	-F				.66				2 2 2
SACP	29	0002	0013U	0005	N19	E27	.493	8911	31.0	11U	-F		C		.71	.72			
LOCK	29	0002	0014	0006	N18	E27	.487	8911	31.0	12	-F		C	0006	.60	.70		10	
GRP 7576	29	0011	0026	0015	N26	W14	.414	8905	28.0	15	-N				1.36				4 4 4
HOUS	29	0010	0020	0014	N27	W12	.412	8905	28.1	10	-N		C		1.30	1.50		200	HI
LOCK	29	0010	0035	0014	N27	W16	.443	8905	27.8	25	-B		C	0014	1.50	1.70		30	H
SACP	29	0011	0023E	0014	N25	W14	.401	8905	28.0	12D	-N		C		1.40	1.41			
HALE	29	0013	0025	0017	N24	W13	.379	8905	28.0	12	-N	1	C	0017	1.24	1.30			
HOUS	29	0021	0039	0026	N27	W12	.412	8905	28.1	18	-N		C		1.30	1.50		200	HI
GRP 7577	29	0045	0059	0049	S33	W90	1.001	8899	22.3	14	1F				.90				1 1 1
LOCK	29	0045	0059	0049	S33	W90	1.001	8899	22.3	14	1F		C	0049	.90	3.60		10	H
GRP 7578	29	0103	0110	0110	N18	W45	.715	8902	25.7	7	2F				4.13				1 1 1
SIBE	29	0103E	0110D	0110	N18	W45	.715	8902	25.7	7D	2F			0110	4.13	6.00		55	E
GRP 7579	29	0115	0158	0123	N18	E22	.420	8911	30.7	43	-N				1.42				2 2 2
LOCK	29	0113	0155	0121	N19	E20	.402	8911	30.6	42	-N		C	0121	1.60	1.80		20	
HALE	29	0116	0200	0124	N17	E23	.427	8911	30.8	44	-N	1	C	0124	1.24	1.40			
GRP 7580	29	0207	0302	0217	N17	E25	.454	8911	31.0	55	-N				1.89				3 3 3
HALE	29	0202	0248	0221	N17	E26	.468	8911	31.0	46	-N	1	C	0221	1.44	1.60			
LOCK	29	0205	0215D	0215U	N17	E24	.440	8911	30.9	10D	-N		C	0215	1.00	1.10		20	
KODA	29	0215	0316	0215	N18	E25	.460	8911	31.0	61	1N		V	0217	3.22	3.60	2.00		E
GRP 7581	29	0222	0228	0224	N24	W13	.379	8905	28.1	6	-F				.31				1 1 1
HALE	29	0222	0228	0224	N24	W13	.379	8905	28.1	6	-F	2	C	0224	.31	.30			
GRP 7582	29	0230	0237	0233	N24	W13	.379	8905	28.1	7	-F				.41				1 1 1
HALE	29	0230	0237	0233	N24	W13	.379	8905	28.1	7	-F	2	C	0233	.41	.40			
GRP 7583	29	0242	0258		N17	E08	.240	8907	29.7	16	1B				3.30				1 1 1
MITK	29	0242E	0258		N17	E08	.240	8907	29.7	16D	1B		C	0242	3.30	3.50			FH
GRP 7584	29	0247	0256	0253	N29	W84	.990	8897	22.8	9	-F				.21				1 1 1
HALE	29	0247	0256	0253	N29	W84	.990	8897	22.8	9	-F	2	C	0253	.21				G
GRP 7585	29	0249	0356		N16	E19	.364	8911	30.5	67	2N				8.10				2 2 2
HALE	29	0242	0326	0246	N16	E19	.364	8911	30.5	44	1B	2	C	0246	3.30	3.60			
TACH	29	0256	0400		N16	E20	.378	8911	30.6	64	3F		V	0256	12.89	14.30	1.90	63	
HALE	29	0344	0352	0344	N16	E18	.351	8911	30.5	8	-B	2	C	0344	.36	.40			E
GRP 7586	29	0326	0338	0328	S20	E79	.989	8914	4.1	12	-N				.26				1 1 1
HALE	29	0326	0338	0328	S20	E79	.989	8914	4.1	12	-N	2	C	0328	.26				
GRP 7587	29	0401	0426	0403	N28	W06	.393	8905	28.7	25	-F				.31				1 1 1
HALE	29	0401	0426	0403	N28	W06	.393	8905	28.7	25	-F	3	C	0403	.31	.30			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION MCMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS
GRP 7588	29	0405	0438	0415	S29	W63	.937	8901	24.4	33	2F				1.53				2 2 2
MITK	29	0404	0446D		S28	W63	.935	8901	24.4	42D	2F		C	0414	2.06				GH
CRON	29	0406	0429	0415	S29	W63	.937	8901	24.4	23	1F		C		1.00	2.40		100	H
GRP 7588	29	0421	0453	0429	S24	W66	.944	8901	24.2	32	3N				5.96				3 2 2
HALE	29	0400	0458D	0432	S26	W63	.931	8901	24.4	58D	2B	3	P	0432	2.89				CGSU
CRON	29	0421	0429	0423	S21	W71	.963	8901	23.9	8	-F		C		.20	.50		100	
KODA	29	0431E	0511	0433	S26	W63	.931	8901	24.5	40D	3N		P	0431	9.02	26.40	2.00		GHC
GRP 7589	29	0434	0452	0439	N25	W16	.419	8905	28.0	18	-F				.26				1 1 1
HALE	29	0434	0452	0439	N25	W16	.419	8905	28.0	18	-F	3	C	0439	.26	.30			
GRP 7590	29	0440	0458	0450	N17	E23	.427	8911	30.9	18	-F				.26				1 1 1
HALE	29	0440	0458D	0450	N17	E23	.427	8911	30.9	18D	-F	2	P	0450	.26	.30			
GRP 7591	29	0545	0555	0550	N12	E00	.113	8907	29.2	10	-B				.76				1 1 1
CATA	29	0545	0555	0550	N12	E00	.113	8907	29.2	10	-B			0550	.76	.77		214	
GRP 7592	29	0545	0620	0550	N17	E22	.413	8911	30.9	35	-N				.90				1 1 1
CATA	29	0545	0620	0550	N17	E22	.413	8911	30.9	35	-N			0550	.90	.99		162	
GRP 7593	29	0555	0635	0610	N29	W08	.417	8905	28.6	40	-B				.46				1 1 1
CATA	29	0555	0635	0610	N29	W08	.417	8905	28.6	40	-B			0610	.46	.52		243	
GRP 7594	29	0615	0650	0630	N25	W14	.401	8905	28.2	35	-B				.40				1 1 1
CATA	29	0615	0650	0630	N24	W14	.388	8905	28.2	35	-B			0630	.40	.45		214	
CATA	29	0620	0635	0630	N26	W14	.414	8905	28.2	15	-F			0630	.21	.24		126	
GRP 7595	29	0625	0640	0625	N17	E22	.413	8911	30.9	15	-N				1.29				1 1 1
CATA	29	0625	0640	0625	N17	E22	.413	8911	30.9	15	-N			0625	1.29	1.40		174	
GRP 7596	29	0645	0720	0645	N19	E18	.376	8911	30.6	35	1B				3.05				1 1 1
CATA	29	0645	0720	0645	N19	E18	.376	8911	30.6	35	1B			0645	3.05	3.27		269	
GRP 7597	29	0715	0915		S21	E61	.909	8914	2.9	120	-N								1 1 0
ISTA	29	0715E	0915D		S21	E61	.909	8914	2.9	120D	-N								
GRP 7598	29	0805	0826	0818	N21	E47	.744	8913	1.9	21	-F								1 1 0
ISTA	29	0805	0826	0818	N21	E47	.744	8913	1.9	21	-F								
GRP 7599	29	0820	0844	0827	N25	E17	.429	8911	30.6	24	-N				.99				1 1 1
ARCE	29	0820	0844	0827	N25	E17	.429	8911	30.6	24	-N		C	0827	.99	1.10			
GRP 7600	29	0823	0845	0827	N24	W15	.398	8905	28.2	22	-N				1.54				8 8 6
MONT	29	0755	0850	0825	N25	W12	.384	8905	28.4	55	1B			0825	2.58				E
KIEV	29	0820	0849	0829	N25	W16	.419	8905	28.1	29	1B		C	0829	2.06	2.00		120	I
CATA	29	0820	0855	0826	N24	W15	.398	8905	28.2	35	-B			0826	.78	.86		331	
SALO	29	0825E	0840D		N24	W14	.388	8905	28.3	15D	-N		P	0830	.66	.70	.14		
ATHN	29	0826	0838	0829	N26	W16	.431	8905	28.2	12	1N	2		0829	1.98	2.20	1.80		
CAPF	29	0829E	0836D		N24	W17	.417	8905	28.1	7D	-N		P	0830	1.18	1.25			
ONDR	29	0831E	0840D		N19	W18	.376	8905	28.0	9D	-N		V	0832			1.50		CJ
ISTA	29	0825	0842		N28	W11	.419	8905	28.5	17	-N								
ISTA	29	0840	0858		N29	W07	.413	8905	28.8	18	-N								
GRP 7601	29	0854	0910		N16	E10	.248	8907	30.1	16	-N								1 1 0
ISTA	29	0854	0910		N16	E10	.248	8907	30.1	16	-N								
GRP 7602	29	0943	1030	1005	S25	W90	1.001	8899	22.7	47	1B				.28				2 2 1
MONT	29	0943	1030	1005	S22	W90	1.001	8899	22.7	47	1B								
ARCE	29	0946	1005D		S28	W90	1.001	8899	22.7	19D	-N		C	0946	.28	1.60			
GRP 7603	29	0954	1017	0959	N26	W15	.422	8905	28.3	23	1N				2.39				5 5 5
LOCA	29	0945	1015		N25	W18	.439	8905	28.1	30	-F		V	1000	1.05	1.20			H
MONT	29	0953	1015	0958	N26	W15	.422	8905	28.3	22	1B			0958	1.86				H
ATHN	29	0955E	1025D	1000	N25	W05	.343	8905	29.0	30D	-B	2		1000	.99	1.10	2.00		
ARCE	29	0957	1013	0957	N27	W18	.461	8905	28.1	16	1N		C	0957	3.24	3.60			H
CATA	29	1000	1017	1000	N26	W19	.460	8905	28.0	17	2B			1000	4.80	5.49		219	
GRP 7604	29	1033	1056	1044	N29	W03	.401	8905	29.2	23	-N				.74				3 3 3
ARCE	29	1031	1047	1042	N29	E00	.398	8905	29.4	16	-F		C	1042	.90	1.00			
CATA	29	1035	1055	1040	N30	E00	.414	8905	29.4	20	-N			1040	.33	.36		186	
ATHN	29	1042E	1105D	1050	N28	W10	.413	8905	28.7	23D	-N	2		1050	.99	1.10	1.80		
GRP 7605	29	1038	1130	1052	N17	E10	.260	8907	30.2	52	1N				1.86				1 1 1
MONT	29	1038	1130	1052	N17	E10	.260	8907	30.2	52	1N			1052	1.86				
GRP 7606	29	1041	1130	1045	N18	E12	.294	8911	30.3	49	1N				1.35				2 2 2
CATA	29	1040	1130	1045	N17	E12	.283	8911	30.3	50	1N			1045	1.94	2.02		166	
ARCE	29	1042	1047D		N19	E12	.306	8911	30.3	5D	-N		C	1047	.76	.80			
GRP 7607	29	1105	1200	1130	S22	W90	1.001	8899	22.7	55	1N								1 1 0
MONT	29	1105	1200	1130	S22	W90	1.001	8899	22.7	55	1N								
GRP 7608	29	1106	1135	1122	N29	W13	.446	8905	28.5	29	-N				.99				4 4 4
CATA	29	1100	1145	1130	N30	W11	.447	8905	28.6	45	-B			1130	1.18	1.31		214	
CAPF	29	1128E	1136D		N28	W12	.426	8905	28.6	8D	-N		P	1130	1.18	1.31			
CAPS	29	1128E	1139		N27	W10	.398	8905	28.7	11D	-B	3		1135	1.20	1.30		210	
MONT	29	1112	1120	1114	N29	W17	.476	8905	28.2	8	-F			1114	.41				
GRP 7609	29	1128	1149	1131	N27	W08	.387	8905	28.9	21	1N				2.04				2 2 2
ATHN	29	1127	1148	1130	N27	W10	.398	8905	28.7	21	-N	2		1130	.99	1.10	1.80		
MONT	29	1128	1150	1132	N27	W06	.378	8905	29.0	22	1N			1132	3.09				
GRP 7610	29	1147	1203	1150	N29	W90	.999	8897	22.7	16	-F				.21				1 1 1
HUAN	29	1147	1203	1150	N29	W90	.999	8897	22.7	16	-F	1	C	1150	.21				DT
GRP 7611	29	1245	1317	1253	N16	E14	.297	8911	30.6	32	-N				1.30				2 2 2
HUAN	29	1245	1312	1255	N16	E13	.284	8911	30.5	27	-N	2	C	1255	.95	.97			E
ATHN	29	1245	1321	1250	N15	E15	.301	8911	30.7	36	-N	2		1250	1.65	1.80	2.00		

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7612	29	1331	1406	1337	N18	E13	.306	8911	30.5	35	-F				.25				1 1 1
HUAN	29	1331	1406	1337	N18	E13	.306	8911	30.5	35	-F	2	C	1337	.25	.25			D
GRP 7613	29	1342	1401	1348	N23	W20	.439	8905	28.1	19	-F				.31				1 1 1
HUAN	29	1342	1401	1348	N23	W20	.439	8905	28.1	19	-F	2	C	1348	.31	.31			D
GRP 7612	29	1344	1354	1346	N17	E18	.359	8911	30.9	10	-F				.25				1 1 1
HUAN	29	1344	1354	1346	N17	E18	.359	8911	30.9	10	-F	2	C	1346	.25	.25			D
GRP 7614	29	1443	1505	1447	S16	W52	.827	8904	25.7	22	-N				.66				1 1 1
ATHN	29	1443	1505	1447	S16	W52	.827	8904	25.7	22	-N	2		1447	.66	1.10	1.90		
GRP 7615	29	1454	1551	1508	N25	W14	.401	8905	28.6	57	1N				2.29				5 5 5
LOCA	29	1452	1514D	1507	N25	W11	.377	8905	28.8	22D	1N		S	1507	2.10	2.30			
SANM	29	1454	1550	1510	N26	W12	.398	8905	28.7	56	-N		C	1510	.98	1.10			
HUAN	29	1453	1553	1508	N25	W13	.392	8905	28.6	60	1N	2	C	1508	1.80	1.84			E
MONT	29	1458	1521D		N26	W17	.440	8905	28.3	23D	2B			1505	5.16				E
CAPS	29	1500E	1550D		N27	W14	.427	8905	28.6	50D	-B	3		1510	1.40	1.50		195	FK
SANM	29	1452	1525	1507	N23	W13	.366	8905	28.6	33	-N		C	1507	.80	.85			
SANM	29	1516	1540	1517	N24	W20	.449	8905	28.1	24	-F		C	1517	.67	.70			
GRP 7615	29	1500	1559	1525	N25	W18	.439	8905	28.3	59	1N				1.73				5 5 4
HUAN	29	1453	1553	1531	N24	W20	.449	8905	28.1	60	1N	2	C						
SACP	29	1455E	1529D	1522U	N25	W16	.419	8905	28.4	34D	1N		C						
LOCK	29	1505E	1600	1525	N26	W16	.431	8905	28.4	55D	1N		C	1525	2.53	2.55			
SANM	29	1505	1619D	1520	N27	W19	.471	8905	28.2	74D	-B		C	1520	2.00	2.20		20	
HOUS	29	1526E	1544	1529	N25	W18	.439	8905	28.3	18D	-N		C		.98	1.10			F
GRP 7616	29	1525	1605	1535	S29	W90	1.001	8899	22.9	40	1F				1.40	1.60		200	E
LOCK	29	1525	1605	1535	S29	W90	1.001	8899	22.9	40	1F		C		.60				1 1 1
GRP 7616	29	1525	1605	1553	S29	W90	1.001	8899	22.9	40	1F				.60	2.40		10	H
LOCK	29	1525	1605	1553	S29	W90	1.001	8899	22.9	40	1F		C		.60				1 1 1
GRP 7617	29	1547	1614	1602	N13	E01	.131	8907	29.7	27	-N				.60	2.40		10	H
LOCK	29	1547	1614	1602	N13	W04	.147	8907	29.4	27	-F		C	1602	.53				2 2 2
SALO	29	1600E	1610D		N12	E06	.152	8907	30.1	10D	-N		P	1600	.40	.40		10	
GRP 7618	29	1600	1610		S22	E60	.905	8914	3.2	10	-F				.66	.70	.14		
SALO	29	1600E	1610D		S22	E60	.905	8914	3.2	10D	-F		P	1600	.58				1 1 1
GRP 7619	29	1608	1655	1642	S29	W90	1.001	8899	22.9	47	1N				.58	1.30	.11		
LOCK	29	1608	1655	1642	S29	W90	1.001	8899	22.9	47	1N		C	1642	1.10				1 1 1
GRP 7620	29	1609	1631	1613	N28	W08	.402	8905	29.1	22	-N				1.10	4.40		20	L
HALE	29	1608	1645	1616	N28	W06	.393	8905	29.2	37	-F	2	C	1616	1.04				4 4 4
SANM	29	1609	1619D	1612	N29	W07	.413	8905	29.1	10D	-F		P	1612	1.03	1.10			
LOCK	29	1609	1622	1612	N30	W06	.424	8905	29.2	13	-F		C	1612	.32	.35			
SALO	29	1610E	1625D		N27	W04	.371	8905	29.4	15D	1B		P	1620	1.00	1.10		10	
SANM	29	1516	1619D	1535	N22	W23	.464	8905	27.9	63D	-B		C	1535	1.32	1.40	.14		
GRP 7621	29	1610	1618	1612	N29	W90	.999	8897	22.9	8	-F				.80	.90			
HUAN	29	1610	1618	1612	N29	W90	.999	8897	22.9	8	-F	2	C	1612	.25				1 1 1
GRP 7622	29	1629	1653	1634	N29	W90	.999	8897	22.9	24	-N				.25				D
HUAN	29	1629	1653	1634	N29	W90	.999	8897	22.9	24	-N	1	C	1634	.50				1 1 1
GRP 7623	29	1640	1704	1648	N26	W23	.500	8905	28.0	24	-N				.50				
LOCK	29	1639	1700	1645	N26	W23	.500	8905	28.0	21	-F		C	1645	.71				2 2 2
HALE	29	1640	1708	1651	N26	W23	.500	8905	28.0	28	-N	3	C	1651	1.00	1.20		10	
GRP 7624	29	1645	1652	1647	N12	W06	.152	8907	29.2	7	-N				.41	.50			
LOCK	29	1644	1649	1646	N12	W06	.152	8907	29.2	5	-F		C	1646	.21				2 2 2
HALE	29	1645	1654	1648	N12	W06	.152	8907	29.2	9	-N	1	C	1648	.20	.20		10	
GRP 7625	29	1701	1715	1707	N16	E11	.259	8911	30.5	14	-N				.21	.20			
LOCK	29	1659	1709	1702	N16	E12	.271	8911	30.6	10	-F		C	1702	.36				2 2 2
HALE	29	1702	1721	1712	N16	E10	.248	8911	30.5	19	-N	1	C	1712	.40	.40		10	
GRP 7626	29	1710	1807	1740	S29	W90	1.001	8899	23.0	57	-N				.31	.30			
LOCK	29	1710	1807	1740	S29	W90	1.001	8899	23.0	57	-N		C		.50				1 1 1
GRP 7626	29	1710	1807	1753	S29	W90	1.001	8899	23.0	57	-N				.50	2.00		20	
LOCK	29	1710	1807	1753	S29	W90	1.001	8899	23.0	57	-N		C		.50				1 1 1
GRP 7627	29	1726	1748	1730	N15	E11	.248	8911	30.6	22	-N				.50	2.00		20	
LOCK	29	1724	1750	1730	N16	E12	.271	8911	30.6	26	-F		C	1730	.61				4 4 4
HOUS	29	1725	1744	1728	N15	E12	.261	8911	30.6	19	-N		C		.80	.80		10	
HUAN	29	1726	1736	1729	N15	E11	.248	8911	30.6	10	-F	2	C	1729	.70	.70		200	E
HALE	29	1727	1800	1733	N15	E10	.236	8911	30.5	33	-N	1	C	1733	.52	.52			E
GRP 7628	29	1736	1811	1742	N15	W01	.165	8907	29.7	35	-N				.41	.40			
LOCK	29	1735	1812	1742	N14	W01	.148	8907	29.7	37	-N		C	1742	1.82				4 4 4
HUAN	29	1736	1806	1741	N15	E00	.164	8907	29.7	30	1N	2	C	1741	2.00	2.00		20	
HALE	29	1738	1823	1744	N15	W02	.168	8907	29.6	45	-B	2	C	1744	2.01	2.00			
HOUS	29	1739E	1801	1740	N16	W02	.185	8907	29.6	22D	-N		C		1.55	1.60			
GRP 7629	29	1744	1818	1758	N29	W06	.409	8905	29.3	34	-N				1.70	1.70		200	E
HALE	29	1730	1835	1800	N32	W02	.447	8905	29.6	65	-N	2	C	1800	.68				4 4 4
LOCK	29	1735	1815	1755	N29	W07	.413	8905	29.2	40	-F		C	1755	.72	.80			
HOUS	29	1749	1806	1755	N30	W03	.417	8905	29.5	17	-N		C		1.00	1.10		10	
HUAN	29	1754	1814	1800	N29	W02	.399	8905	29.6	20	-F	2	C	1800	.70	.80		200	
HALE	29	1738	1746	1743	N27	W22	.500	8905	28.1	8	-N	2	C	1743	.31	.31			D
GRP 7630	29	1750	1758	1753	N29	W90	.999	8897	23.0	8	-N				.21	.20			
HUAN	29	1750	1758	1753	N29	W90	.999	8897	23.0	8	-N	2	C	1753	.41				1 1 1
															.41				D

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7631	29	1815	1845	1830	S29	W90	1.001	8899	23.0	30	1F				.90				1 1 1
LOCK	29	1815	1845	1830	S29	W90	1.001	8899	23.0	30	1F		C	1830	.90	3.60		10	L
GRP 7632	29	1820	1836	1827	N25	W90	.999	8897	23.0	16	-F				.41				1 1 1
HUAN	29	1820	1836	1827	N25	W90	.999	8897	23.0	16	-F	1	C	1827	.41				
GRP 7633	29	1823	1837	1832	N15	E10	.236	8911	30.5	14	-F				.52				1 1 1
HALE	29	1823	1837	1832	N15	E10	.236	8911	30.5	14	-F	1	C	1832	.52	.50			
GRP 7634	29	1835	1851	1840	N26	W25	.522	8905	27.9	16	-N				.66				2 2 2
LOCK	29	1830	1900	1839	N26	W27	.543	8905	27.7	30	-F		C	1839	.90	1.10		10	
HALE	29	1839	1841	1840	N26	W23	.500	8905	28.1	2	-N	2	C	1840	.41	.50			E
GRP 7635	29	1913	1926	1916	N31	W04	.434	8905	29.5	13	-F				.40				1 1 1
LOCK	29	1913	1926	1916	N31	W04	.434	8905	29.5	13	-F		C	1916	.40	.40		10	
GRP 7636	29	1915	1928	1925	N16	E10	.248	8911	30.6	13	-F				.56				2 2 2
HALE	29	1914	1933	1925	N15	E10	.236	8911	30.6	19	-F	1	C	1925	.62	.60			
HUAN	29	1915	1923		N16	E10	.248	8911	30.6	8	-F	1	C	1920	.50	.50			E
GRP 7637	29	1935	2020	1950	N15	E09	.224	8911	30.5	45	1N				2.16				5 5 5
LOCK	29	1933	2048	1950	N16	E09	.237	8911	30.5	75	1N		C	1950	3.00	3.00		20	
HUAN	29	1935	2003		N15	E10	.236	8911	30.6	28	-B	1	C	1948	1.50	1.50			
HALE	29	1937	2025	1954	N15	E10	.236	8911	30.6	48	-B	1	C	1954	1.55	1.60			
HOUS	29	1938U	2010U	1947	N15	E09	.224	8911	30.5	32U	1N		C		2.20	2.20		200	EJ
SACP	29	1941E	2015D	1947	N15	E09	.224	8911	30.5	34D	1N		C		2.53	2.47			
GRP 7638	29	1939	2022	1948	N23	W21	.450	8905	28.2	43	1B				2.52				5 5 5
LOCK	29	1930	2025	1947	N20	W18	.386	8905	28.5	55	1B		C	1947	2.30	2.50		30	
HUAN	29	1931E	2017		N24	W22	.471	8905	28.2	46D	-B	1	P	1949	1.60	1.63			E
HOUS	29	1943	2010U	1945	N24	W23	.482	8905	28.1	27U	1N		C		3.40	3.90		200	E
SACP	29	1943	2014E	1947	N23	W22	.461	8905	28.2	31D	1N		C		3.23	3.28			
HALE	29	1946	2024	1951	N23	W22	.461	8905	28.2	38	1B	1	C	1951	2.06	2.30			E
HALE	29	2017	2038	2023	N25	W14	.401	8905	28.8	21	-N	1	C	2023	.52	.60			
GRP 7639	29	1942	2005	1951	S30	W90	1.001	8899	23.1	23	-F				.20				1 1 1
LOCK	29	1942	2005	1951	S30	W90	1.001	8899	23.1	23	-F		C	1951	.20	.80		10	
GRP 7640	29	1946	1957	1950	S35	W32	.772	8903	27.4	11	-F				.30				1 1 1
LOCK	29	1946	1957	1950	S35	W32	.772	8903	27.4	11	-F		C	1950	.30	.50		10	
GRP 7641	29	1955	2003	1958	N13	E04	.147	8907	30.1	8	-F				.21				1 1 1
HALE	29	1955	2003	1958	N13	E04	.147	8907	30.1	8	-F	1	C	1958	.21	.20			
GRP 7642	29	2145	2218	2148	N27	W19	.471	8905	28.5	33	-F				.71				2 2 2
LOCK	29	2143	2157	2147	N28	W18	.473	8905	28.6	14	-F		C	2147	1.00	1.10		10	
HALE	29	2146	2233	2149	N29	W17	.476	8905	28.6	47	-F	1	C	2149	.41	.50			
HALE	29	2147	2238	2204	N23	W23	.473	8905	28.2	51	-F	1	C	2204	.52	.60			
HALE	29	2151	2219	2200	N27	W20	.480	8905	28.4	28	-F	1	C	2200	.26	.30			
GRP 7643	29	2153	2200	2155	N14	E03	.156	8907	30.1	7	-F				.15				1 1 1
HALE	29	2153	2200	2155	N14	E03	.156	8907	30.1	7	-F	1	C	2155	.15	.20			
GRP 7642	29	2213	2226	2216	N24	W24	.493	8905	28.1	13	-N				.51				2 2 2
LOCK	29	2213	2223	2216	N24	W24	.493	8905	28.1	10	-F		C	2216	.70	.80		10	
HUAN	29	2218E	2228		N23	W24	.485	8905	28.1	10D	-N	1	P	2219	.31	.32			D
GRP 7644	29	2221	2239	2230	N15	E04	.178	8907	30.2	18	-N				.26				1 1 1
HALE	29	2221	2239D	2230	N15	E04	.178	8907	30.2	18D	-N	1	P	2230	.26	.30			
GRP 7645	29	2239	2318	2246	N27	W26	.541	8905	28.0	39	-N				1.36				2 2 2
LOCK	29	2239	2318	2246	N27	W27	.552	8905	27.9	39	-N		C	2246	1.20	1.40		20	
SACP	29	2244E	2249D	2245U	N26	W25	.522	8905	28.1	5D	-N		C		1.52	1.59			
GRP 7646	29	2250	2327	2314	N27	W18	.461	8905	28.6	37	-N				.62				2 2 2
LOCK	29	2250	2325	2305	N28	W09	.407	8905	29.3	35	-F		C	2305	.30	.30		10	
HALE	29	2322E	2328D	2322	N26	W27	.543	8905	27.9	6D	-N	1	P	2322	.93	1.10			
GRP 7647	29	2303	2325	2308	S28	W77	.988	8899	24.2	22	-F				.50				1 1 1
LOCK	29	2303	2325	2308	S28	W77	.988	8899	24.2	22	-F		C	2308	.50	1.60		10	
GRP 7648	29	2340	0040	0011	N15	W01	.165	8907	29.9	60	-F				.80				1 1 1
LOCK	29	2340	0040	0011	N15	W01	.165	8907	29.9	60	-F		C	0011	.80	.80		10	
GRP 7649	29	2350	0020	2353	S20	W86	.999	8899	23.5	30	-N				.45				2 2 2
LOCK	29	2347	0030	2351	S20	W82	.995	8899	23.8	43	-F		C	2351	.60	2.00		10	
HOUS	29	2352	0010	2354	S20	W90	1.001	8899	23.2	18	-N		C		.30	1.20		200	
GRP 7650	30	0022	0039	0025	N24	W25	.504	8905	28.1	17	-N				.55				2 2 2
HOUS	30	0022	0028	0023	N26	W23	.500	8905	28.3	6	-N		C		.30	.30		200	
LOCK	30	0022	0050	0027	N22	W26	.500	8905	28.1	28	-F		C	0027	.80	1.00		10	
GRP 7651	30	0023	0036	0027	S22	W70	.960	8901	24.8	13	-F				.70				1 1 1
LOCK	30	0023	0036	0027	S22	W70	.960	8901	24.8	13	-F		C	0027	.70	1.90		10	
GRP 7652	30	0151	0200	0156	N24	W18	.426	8905	28.7	9	-N				.67				1 1 1
HALE	30	0151	0200D	0156	N24	W18	.426	8905	28.7	9D	-N	1	D	0156	.67	.70			
GRP 7653	30	0245	0309	0251	N27	W27	.551	8905	28.1	24	1N				1.25				3 2 2
HALE	30	0245	0330	0250	N27	W26	.540	8905	28.2	45	-N	2	C	0250	.57	.70			
KODA	30	0249E	0253	0252	N27	W28	.562	8905	28.0	4D	1N		P	0249	1.93	2.40	1.60		EL
TACH	30	0303	0305		N26	W26	.532	8905	28.2	2	-F		V	0303	1.03	1.20	1.30	54	
GRP 7654	30	0250	0305	0250	N13	W02	.133	8907	30.0	15	-N				2.45				3 3 2
HALE	30	0245E	0301	0247	N13	W02	.133	8907	30.0	16D	-N	1	P	0247	.52	.50			
KODA	30	0248E	0254	0250	N12	W02	.116	8907	30.0	6D	-F		P	0249	1.29	1.30	1.52		EL
TACH	30	0258	0320		N14	W02	.150	8907	30.0	22	1N		V	0258	3.61	3.60	2.00	66	

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT.	REMARKS
GRP 7655	30	0322	0330	0325	N12	E83	.990	8915	5.4	8	-F				.21				1 1 1
HALE	30	0322	0330	0325	N12	E83	.990	8915	5.4	8	-F	2	C	0325	.21				
GRP 7656	30	0348	0515	0357	N17	E08	.239	8911	30.8	87	-N				1.04				2 2 2
HALE	30	0342	0500D	0355	N14	E04	.161	8911	30.5	78D	-F	2	P	0355	.52	.50			K
TACH	30	0354	0515	0359	N16	E04	.192	8911	30.5	81	-N		V	0354	1.55	1.50	1.80	60	
HALE	30	0342	0500D	0450	N17	E10	.259	8911	30.9	78D	-N	2	P	0450	.57	.60			K
HALE	30	0429	0500D	0439	N22	E15	.373	8911	31.3	31D	-F	2	P	0439	.21	.20			
GRP 7657	30	0409	0432	0412	S25	E19	.584	8912	31.6	23	-F				.31				1 1 1
HALE	30	0409	0432	0412	S25	E19	.584	8912	31.6	23	-F	1	C	0412	.31	.40			
GRP 7658	30	0441	0500	0447	N15	W06	.192	8907	29.7	19	-F				.21				1 1 1
HALE	30	0441	0500D	0447	N15	W06	.192	8907	29.7	19D	-F	2	P	0447	.21	.20			F
GRP 7659	30	0447	0500	0451	S26	E18	.590	8912	31.5	13	-B				.31				1 1 1
HALE	30	0447	0500D	0451	S26	E18	.590	8912	31.5	13D	-B	2	P	0451	.31	.40			
GRP 7660	30	0515	0532	0519	N24	W26	.515	8905	28.3	17	1B				3.80				8 8 6
MANI	30	0508E	0520D	0513	N25	W29	.557	8905	28.0	12D	1B	2		0513	1.86	2.25			
ATHN	30	0508	0530	0512	N25	W21	.469	8905	28.6	22	2B	2		0512	4.95	5.50	2.00		
KIEV	30	0509	0523	0517	N23	W28	.531	8905	28.1	14	1B		C	0517	2.58	3.50		110	HI
TACH	30	0517	0532		N24	W24	.492	8905	28.4	15	2B		V	0517	7.22	8.40	3.20	156	
CRON	30	0518E	0528	0521	N24	W28	.539	8905	28.1	10D	-F		C		.80	.90		100	
ONDR	30	0520E	0546D		N20	W28	.512	8905	28.1	26D	1N		V	0520			2.40		J
IKOM	30	0522	0530D		N25	W26	.523	8905	28.3	8D	1B		V	0522	2.06	2.40			
WEND	30	0516E	0535		N23	W27	.519	8905	28.2	19D	1N		V		4.13				
GRP 7661	30	0622	0642	0628	N26	W28	.554	8905	28.2	20	1B				5.25				7 7 4
BUCA	30	0615	0725		N28	W30	.591	8905	28.0	70	2B		C	0627	6.64	8.20			
ATHN	30	0616E	0640D	0620	N25	W22	.479	8905	28.6	24D	2B	2		0620	8.25	9.20	2.00		
CRON	30	0622	0638	0625	N25	W29	.557	8905	28.1	16	-N		C		1.30	1.60		200	E
ONDR	30	0624E	0635D		N22	W32	.574	8905	27.9	11D	2N		V	0627			3.20		HJ
CAPS	30	0624E	0643		N27	W28	.562	8905	28.2	19D	1B	3		0629	2.00	2.40		294	H
CATA	30	0631	0700	0631	N29	W28	.578	8905	28.2	29	1B			0631	4.11	5.09		363	
ISTA	30	0635E	0700		N27	W30	.583	8905	28.0	25D	1N								
CATA	30	0540	0634	0545	N30	W23	.539	8905	28.5	54	-B			0545	.23	.28		257	
GRP 7662	30	0635	0910		N18	E08	.253	8911	30.9	155	1F								1 1 0
ISTA	30	0635E	0910D		N18	E08	.253	8911	30.9	155D	1F								
GRP 7663	30	0728	0730		N28	W33	.622	8905	27.8	2	-N				.83				3 1 1
MONT	30	0702E	0730		N28	W33	.622	8905	27.8	28D	-N			0704	.83				H
ISTA	30	0635E	0910D		N23	W28	.531	8905	28.2	155D	1F								
CATA	30	0725	0750	0725	N29	W24	.538	8905	28.5	25	-N			0725	.88	1.04		174	
ISTA	30	0730	0900		N27	W28	.562	8905	28.2	90	-N								
ISTA	30	0810	0835		N29	W12	.438	8905	29.4	25	-N								
ISTA	30	0815	0830		N27	W17	.451	8905	29.1	15	-F								
GRP 7664	30	0810	0800		N12	W05	.140	8907	30.0	-10	1B								3 1 0
BUCA	30	0600	0800		N14	W04	.161	8907	30.0	120	1F		P	0625	2.21	2.20			
ISTA	30	0635E	0910D		N14	W03	.154	8907	30.0	155D	1B								
CATA	30	0540	0805	0545	N15	W02	.166	8907	30.1	145	-B			0545	.70	.71		214	
CATA	30	0810	0920	0810	N13	W05	.154	8907	30.0	70	-N			0810	1.19	1.20		178	
ISTA	30	0825	0845		N15	W10	.235	8907	29.6	20	-N								
ISTA	30	0840	0850		N10	W04	.103	8907	30.1	10	-F								
GRP 7665	30	0940	1050	1020	N28	W33	.622	8905	27.9	70	1B				2.06				1 1 1
MONT	30	0940	1050	1020	N28	W33	.622	8905	27.9	70	1B			1020	2.06				E
GRP 7666	30	1000	1050	1028	N15	W02	.166	8911	30.3	50	2B				5.16				1 1 1
MONT	30	1000	1050	1028	N15	W02	.166	8911	30.3	50	2B			1028	5.16				
GRP 7667	30	1045	1128	1051	N13	W07	.175	8907	29.9	43	1N				2.44				6 6 5
SALO	30	1040E	1115		N13	W04	.146	8907	30.1	35D	1B		P	1100	1.32	1.40	.15		
LOCA	30	1045	1130	1056	N14	W06	.178	8907	30.0	45	-N		V	1056	1.26	1.30			
KHAR	30	1046	1130	1047	N14	W07	.188	8907	29.9	44	2F		V	1052	6.24	6.20	2.80		EH
ATHN	30	1047	1125	1050	N15	W08	.212	8907	29.8	38	-B	2		1050	1.98	2.00	2.00		
CAPS	30	1048	1135		N15	W07	.202	8907	29.9	47	-B	3		1054	1.40	1.40		196	
ONDR	30	1049E	1134D		N10	W09	.172	8907	29.8	45D	1N		V	1052			2.00		CJ
SALO	30	1040E	1115D		N12	W05	.140	8907	30.1	35D	-B		P	1100	.66	.70	.15		
GRP 7668	30	1139	1155		N13	W08	.187	8907	29.9	16	1F				2.73				1 1 1
HUAN	30	1139E	1155		N13	W08	.187	8907	29.9	16D	1F	1	C	1140	2.73	2.73			
GRP 7669	30	1257	1311	1301	N16	W10	.247	8907	29.8	14	-N				1.10				5 5 4
SACP	30	1254	1320D	1300	N15	W10	.235	8907	29.8	26D	-N		C		1.23	1.20			
CAPS	30	1256	1307		N17	W10	.259	8907	29.8	11	-F	3		1302	.80	.80		150	
ATHN	30	1258	1314	1300	N16	W11	.258	8907	29.7	16	-N	2		1300	1.32	1.40	1.80		
HUAN	30	1259	1308	1301	N16	W12	.270	8907	29.6	9	-F	2	C	1301	1.03	1.03			E
AHOS	30	1300	1308	1302	N16	W06	.207	8907	30.1	8	-N		V						
GRP 7670	30	1306	1311	1307	N30	W20	.512	8905	29.0	5	-N				.33				1 1 1
ATHN	30	1306	1311	1307	N30	W20	.512	8905	29.0	5	-N	2		1307	.33	.40	1.50		
GRP 7671	30	1336	1350	1338	N23	W31	.567	8905	28.2	14	-N				1.23				2 2 2
HUAN	30	1336	1350	1337	N23	W31	.567	8905	28.2	14	-N	2	C	1337	1.24	1.32			E
SACP	30	1337E	1347E	1338U	N23	W30	.555	8905	28.3	10D	-N		C		1.22	1.29			

SOLAR FLARES

JULY 1967

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
	1967 JULY																		
GRP 7672	30	1355	1401	1356	S25	E13	.547	8912	31.6	6	-N				.45				2 2 2
HOUS	30	1354	1400	1355	S24	E12	.528	8912	31.5	6	-N		C		.40	.50		200	H
HUAN	30	1355	1401	1356	S25	E13	.547	8912	31.6	6	-N	2	C	1356	.50	.52			D
GRP 7673	30	1411	1446	1417	N14	W09	.211	8907	29.9	35	1B				2.91				7 7 6
HUAN	30	1409	1447	1418	N15	W08	.212	8907	30.0	38	1B	2	C	1418	3.76	3.75			
LOCA	30	1410	1432D	1418	N14	W08	.199	8907	30.0	22D	-B		V	1418	1.68	1.70			
CAPS	30	1411	1443		N15	W09	.223	8907	29.9	32	1B	2		1418	2.00	2.00		220	
HOUS	30	1411	1500	1417	N14	W08	.199	8907	30.0	49	1B		C		2.50	2.50		300	
ATHN	30	1412	1440D	1416	N16	W10	.247	8907	29.8	28D	1B	2		1416	3.63	3.70	2.00		
SACP	30	1414	1446U	1417	N14	W10	.224	8907	29.8	32U	1B		C		3.87	3.79			
ONDR	30	1421E	1438		N10	W11	.204	8907	29.8	17D	1F		V	1424			1.60		CJ
GRP 7674	30	1415	1436	1419	N20	E06	.268	8911	31.0	21	-F				.31				1 1 1
HUAN	30	1415	1436	1419	N20	E06	.268	8911	31.0	21	-F	2	C	1419	.31	.31			D
GRP 7675	30	1504	1529	1507	N23	W32	.579	8905	28.2	25	-N				.79				6 6 6
HOUS	30	1451	1532	1507	N22	W31	.561	8905	28.3	41	-N		C		.60	.70		200	
SACP	30	1502E	1524U	1508	N22	W33	.586	8905	28.2	22U	-N		C		1.02	1.09			
CAPS	30	1504	1524		N24	W31	.574	8905	28.3	20	-N	2		1508	1.00	1.20		173	E
ATHN	30	1505E	1524	1505	N23	W33	.591	8905	28.2	19D	-N	2		1505	.66	.90	1.90		
LOCK	30	1505E	1535	1508U	N23	W32	.579	8905	28.2	30D	-N		C	1508	.90	1.10		20	
HUAN	30	1506	1532	1509	N24	W33	.597	8905	28.2	26	-N	2	C	1509	.57	.61			D
GRP 7676	30	1520	1548	1533	S42	E10	.749	8912	31.4	28	-N				.40				1 1 1
HOUS	30	1520	1548	1533	S42	E10	.749	8912	31.4	28	-N		C		.40	.60		200	
GRP 7677	30	1545	1642	1601	N14	W01	.147	8911	30.6	57	1B				2.25				2 2 2
HOUS	30	1545	1710E	1601	N14	E02	.150	8911	30.8	85D	-B		C		1.40	1.40		300	
WEND	30	1603E	1614		N13	W04	.146	8911	30.4	11D	1N		V		3.09				
GRP 7678	30	1555	1619	1602	N13	W07	.175	8907	30.1	24	-B				2.28				6 6 4
LOCK	30	1554	1618	1601	N13	W06	.164	8907	30.2	24	-B		C	1601	1.30	1.30		30	K
HUAN	30	1555	1611	1601	N13	W07	.175	8907	30.1	16	1B	2	C	1601	2.78	2.78			
SACP	30	1555	1617U	1601	N13	W06	.164	8907	30.2	22U	1B		C		3.05	2.99			
ONDR	30	1602E	1610		N11	W08	.166	8907	30.1	8D	-N		V	1604			1.80		CJ
ATHN	30	1602E	1615	1602	N15	W09	.223	8907	30.0	13D	-B	2		1602	1.98	2.00	2.00		
HALE	30	1604E	1641	1604E	N12	W06	.151	8907	30.2	37D	-B	1	P	1604	.57	.60			
GRP 7679	30	1617	1657	1636	N26	W36	.642	8905	28.0	40	1N				2.59				6 6 6
SACP	30	1611	1654U	1634	N26	W36	.642	8905	28.0	43U	1N		C		2.24	2.50			
HUAN	30	1612	1654	1636	N28	W37	.664	8905	27.9	42	1N	2	C	1636	2.27	2.56			
LOCK	30	1612	1700	1636	N25	W37	.648	8905	27.9	48	-N		C	1636	1.30	1.70		20	
HALE	30	1615	1710	1639	N26	W35	.631	8905	28.1	55	-B	2	C	1639	.93	1.20			
ATHN	30	1625	1651	1635	N28	W36	.654	8905	28.0	26	1N	2		1635	3.63	4.70	1.90		
WEND	30	1626	1651		N25	W35	.626	8905	28.1	25	1N		V		5.16				
GRP 7680	30	1722	1748	1727	N26	W31	.587	8905	28.4	26	-N				1.05				6 6 6
LOCK	30	1717	1750	1724	N24	W35	.620	8905	28.1	33	-N		C	1724	.80	1.00		20	
HOUS	30	1720	1750	1730	N39	W12	.575	8905	29.8	30	-N		C		.90	1.10		200	
SACP	30	1723E	1744	1724	N23	W34	.603	8905	28.2	21D	-N		C		.71	.77			
HUAN	30	1723	1747	1726	N24	W35	.620	8905	28.1	24	-F	2	C	1726	.41	.45			E
HALE	30	1723	1753	1732	N23	W33	.591	8905	28.2	30	-N	3	C	1732	.41	.50			
WEND	30	1723	1744		N22	W35	.610	8905	28.1	21	1N		V		3.09				
GRP 7681	30	1802	1820	1807	N13	W10	.213	8907	30.0	18	-F				.77				4 4 4
HOUS	30	1802	1815	1805	N13	W07	.175	8907	30.2	13	-N		C		.60	.60		200	
LOCK	30	1746	1830	1806	N14	W09	.211	8907	30.1	44	-N		C	1806	1.00	1.00		20	K
HALE	30	1801	1828	1811	N13	W07	.175	8907	30.2	27	-N	2	C	1811	.26	.30			
HUAN	30	1804	1813	1806	N13	W08	.187	8907	30.2	9	-F	2	C	1806	.75	.75			E
HOUS	30	1743	1806	1758	N14	W11	.237	8907	29.9	23	-F		C		.90	.90		100	
HALE	30	1802	1820	1806	N14	W15	.292	8907	29.6	18	-F	2	C	1806	.41	.40			
HOUS	30	1743	1806	1803	N14	W11	.237	8907	29.9	23	-F								
GRP 7682	30	1836	1858	1843	N17	E64	.895	8915	4.6	22	-N				.24				3 3 3
HOUS	30	1835	1856	1843U	N16	E65	.902	8915	4.6	21	-N		C		.20	.40		200	
LOCK	30	1836	1848	1839	N18	E63	.888	8915	4.5	12	-F		C	1839	.30	.60		10	
HALE	30	1838	1911	1846	N17	E63	.888	8915	4.5	33	-N	2	C	1846	.21	.50			
GRP 7683	30	1855	1922	1859	N13	W08	.187	8907	30.2	27	-N				.69				4 4 4
LOCK	30	1855	1920	1900	N13	W08	.187	8907	30.2	25	-N		C	1900	1.00	1.00		20	K
HUAN	30	1855	1924	1858	N13	W08	.187	8907	30.2	29	-N	2	C	1858	.75	.75			E
SACP	30	1858E	1914D	1858	N13	W08	.187	8907	30.2	16D	-N		C		.71	.70			
HALE	30	1856	1922	1914	N12	W08	.176	8907	30.2	26	-N	2	C	1914	.31	.30			
GRP 7684	30	1945	2029	1948	N19	W10	.285	8907	30.1	44	-F				.38				2 2 2
LOCK	30	1944	2000	1947	N20	W08	.281	8907	30.2	16	-F		C	1947	.50	.50		10	
HALE	30	1945	2022	1949	N19	W08	.267	8907	30.2	37	-F	1	C	1949	.26	.30			
LOCK	30	2020	2035	2024	N16	W17	.336	8907	29.6	15	-F		C	2024	.50	.60		10	
GRP 7685	30	1946	2021	1955	N30	W33	.636	8905	28.3	35	-N				1.04				5 5 5
LOCK	30	1944	2015	1957	N26	W38	.664	8905	28.0	31	-N		C	1957	1.10	1.40		20	
HOUS	30	1945	2030	1957	N45	W12	.653	8905	29.9	45	-N		C		1.20	1.60		200	L
SACP	30	1946	2016U	1953	N26	W38	.664	8905	28.0	30U	-N		C		1.63	1.85			
HUAN	30	1947	2021	1950	N27	W38	.669	8905	28.0	34	-N	2	C	1950	.88	.99			E
HALE	30	1949	2023	1959	N26	W37	.653	8905	28.1	34	-N	1	P	1959	.41	.50			
GRP 7686	30	2018	2055	2026	S24	E44	.789	8914	3.1	37	-N				.68				2 2 2
LOCK	30	2018	2050	2026	S23	E45	.793	8914	3.2	32	-F		C	2026	1.00	1.60		10	
HALE	30	2032E	2100	2046	S24	E43	.781	8914	3.1	28D	-N	2	P	2046	.36	.60			

SOLAR FLARES

JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
	1967 JULY																		
GRP 7687	30	2019	2028	2022	N23	W06	.314	8911	30.4	9	-N				.60				1 1 1
HOUS	30	2019	2028	2022	N23	W06	.314	8911	30.4	9	-N		C		.60	.60		200	L
GRP 7688	30	2027	2059	2047	N29	W36	.660	8905	28.2	32	-N				.49				3 3 3
LOCK	30	2036	2058	2044	N22	W38	.645	8905	28.0	22	-F		C	2044	.60	.80		10	
HALE	30	2045E	2109D	2050	N22	W36	.622	8905	28.2	24D	-B	1	D	2050	.26	.30			
HOUS	30	2017	2050	2032	N44	W35	.756	8905	28.2	33	-F		C		.60	.90		100	
GRP 7689	30	2120	2130	2124	N19	E02	.234	8911	31.0	10	-F				.70				1 1 1
LOCK	30	2120	2130	2124	N19	E02	.234	8911	31.0	10	-F		C	2124	.70	.70		10	
GRP 7690	30	2200	2238	2211	N22	W36	.622	8905	28.2	38	-N				.94				3 3 3
HOUS	30	2200	2236	2216	N20	W33	.576	8905	28.4	36	-N		C		.90	1.10		200	L
LOCK	30	2200	2240	2209	N22	W38	.645	8905	28.1	40	-N		C	2209	1.50	2.00		20	
HUAN	30	2201	2232D	2209	N23	W38	.650	8905	28.1	31D	-N	1	C	2209	.41	.46			D
GRP 7691	30	2225	2246	2236	S26	E10	.546	8912	31.7	21	-F				.80				1 1 1
LOCK	30	2225	2246	2236	S26	E10	.546	8912	31.7	21	-F		C	2236	.80	1.00		10	
GRP 7692	30	2234	2247	2238	N14	W06	.178	8911	30.5	13	-F				.60				1 1 1
LOCK	30	2234	2247	2238	N14	W06	.178	8911	30.5	13	-F		C	2238	.60	.60		10	
GRP 7693	30	2311	2327	2315	N17	E26	.467	8913	1.9	16	-F				.70				1 1 1
LOCK	30	2311	2327	2315	N17	E26	.467	8913	1.9	16	-F		C	2315	.70	.80		10	
GRP 7694	30	2339	2354	2342	N17	W04	.209	8911	30.7	15	-F				.40				1 1 1
LOCK	30	2339	2354	2342	N17	W04	.209	8911	30.7	15	-F		C	2342	.40	.40		10	
GRP 7695	31	0015	0056	0031	N23	W36	.626	8905	28.3	41	-N				1.26				2 2 2
LOCK	31	0012	0050D	0034	N19	W38	.634	8905	28.2	38D	-F		C	0034	1.50	1.70		10	
SACP	31	0018	0056	0028	N27	W33	.615	8905	28.5	38	-N		C		1.02	1.11			
GRP 7696	31	0023	0048	0038	N14	W15	.291	8907	29.9	25	-F				1.02				1 1 1
SACP	31	0023	0048	0038	N14	W15	.291	8907	29.9	25	-F		C		1.02	1.00			
GRP 7695	31	0045	0132	0056	N22	W39	.657	8905	28.1	47	1B				2.01				2 2 2
SACP	31	0045	0140	0055	N22	W39	.657	8905	28.1	55	1B		C		1.95	2.18			
HALE	31	0057E	0123	0057	N22	W38	.645	8905	28.2	26D	1B	1	C	0057	2.06	2.70			T
GRP 7697	31	0054	0112	0057	N18	W26	.473	8907	29.1	18	-F				.40				1 1 1
CRON	31	0054E	0112	0057	N18	W26	.473	8907	29.1	18D	-F		C		.40	.50		100	
GRP 7698	31	0119	0145	0130	N12	E12	.232	8913	1.0	26	-N				1.03				3 3 3
SACP	31	0112	0141	0126	N13	E13	.255	8913	1.0	29	-N		C		1.64	1.61			
HALE	31	0125	0135D	0134	N12	E13	.247	8913	1.0	10D	-N	1	P	0134	.72	.70			T
MANI	31	0131E	0148		N12	E11	.218	8913	31.9	17D	-N	1		0132	.72	.74			
GRP 7699	31	0208	0233	0212	N15	W19	.356	8907	29.7	25	-B				.44				2 2 2
MANI	31	0208E	0215D		N14	W19	.350	8907	29.7	7D	-N	1		0210	.62	.64			
HALE	31	0208	0233	0212	N15	W18	.342	8907	29.7	25	-B	1	C	0212	.26	.30			THL
GRP 7700	31	0240	0258	0244	N24	E80	.980	8916	6.1	18	1F				.72				1 1 1
HALE	31	0240	0258	0244	N24	E80	.980	8916	6.1	18	1F	1	C	0244	.72				TC
GRP 7701	31	0315	0323	0320	N27	W26	.540	8905	29.2	8	-N				.26				1 1 1
HALE	31	0315	0323	0320	N27	W26	.540	8905	29.2	8	-N	1	C	0320	.26	.30			T
GRP 7702	31	0354	0412	0358	N13	E14	.269	8913	1.2	18	-N				.21				1 1 1
HALE	31	0354	0412	0358	N13	E14	.269	8913	1.2	18	-N	1	C	0358	.21	.20			T
GRP 7703	31	0452	0459	0454	N13	E13	.255	8913	1.2	7	-B				.21				1 1 1
HALE	31	0452	0459D	0454	N13	E13	.255	8913	1.2	7D	-B	1	P	0454	.21	.20			T
GRP 7704	31	0637	0659		N23	W40	.672	8905	28.3	22	-N				1.02				3 3 3
CATA	31	0630	0655	0635	N24	W40	.676	8905	28.3	25	-N			0635	.60	.83		195	
CAPS	31	0639	0650		N21	W37	.629	8905	28.5	11	-N	3		0642	.80	1.00			
BUCA	31	0641	0712		N23	W43	.706	8905	28.1	31	1F		C	0646	1.66	2.30			
GRP 7705	31	0638	0708		N20	W12	.317	8911	30.4	30	-N				1.23				4 4 4
CATA	31	0635	0720	0635	N21	W12	.329	8911	30.4	45	-B			0635	.59	.62		219	
CAPS	31	0638	0658		N19	W10	.284	8911	30.5	20	-N	3		0642	1.50	1.60			E
BUCA	31	0641	0741		N18	W14	.316	8911	30.2	60	1F		P	0645	2.21	2.30			
MANI	31	0648E	0658		N19	W13	.315	8911	30.3	10D	-F	1		0649	.62	.65			
BUCA	31	0641	0715		N20	W09	.289	8911	30.6	34	-N		P	0643	1.10	1.10			
GRP 7706	31	0713	0753	0745	N25	W28	.545	8905	29.2	40	-N								1 1 0
ISTA	31	0713	0753	0745	N25	W28	.545	8905	29.2	40	-N								
GRP 7707	31	0730	0757		N10	E21	.362	8913	1.9	27	-N				.58				2 2 2
BUCA	31	0720	0806		N04	E19	.326	8913	1.7	46	-F		C	0744	.55	.60			
CAPS	31	0739	0748		N16	E23	.419	8913	2.0	9	-N	3		0742	.60	.70			D

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION McMATH PLAGE REGION	LOCATION CMP DAY	DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME — UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT.	REMARKS		
GRP 7708	31	0816	0844	0829	N26	W42	.706	8905	28.2	28	1N				3.42				11	11	8
CATA	31	0805	0845	0815	N28	W45	.744	8905	28.0	40	1B			0815	2.62	3.92		240			
ATHN	31	0810E	0858	0815	N30	W35	.655	8905	28.7	48D	1N	2		0815	3.30	4.50	1.90				
CAPS	31	0807	0853		N23	W41	.683	8905	28.3	46	1B	3		0827	2.80	3.60		204	FHK		
ARCE	31	0825	0855	0828	N22	W45	.724	8905	28.0	30	1N		C	0828	2.18	3.00					
MONT	31	0810	0900	0830	N28	W45	.744	8905	28.0	50	2B			0830	5.16				H		
CRON	31	0813	0819	0814	N27	W46	.750	8905	27.9	6	-F		C		1.00	1.50		100			
KODA	31	0824E	0843	0831	N24	W39	.665	8905	28.4	19D	1B		C	0832	3.54	4.80	2.36		EHL		
ONDR	31	0826	0841		N25	W42	.702	8905	28.2	15	1N		V	0827			2.40		CJL		
KIEV	31	0826	0854	0828	N24	W41	.687	8905	28.3	28	1N		C	0828	3.61			75	I		
ISTA	31	0808	0819		N26	W43	.717	8905	28.1	11	1B										
WEND	31	0820	0838		N28	W45	.744	8905	28.0	18	1N		V		4.13						
ARCE	31	0810	0836	0825	N27	W46	.750	8905	27.9	26	1N		C	0825	1.40	2.10					
ISTA	31	0811	0822		N26	W44	.727	8905	28.0	11	-B										
CRON	31	0815	0831	0821	N27	W46	.750	8905	27.9	16	-F		C		1.00	1.50		100			
CATA	31	0815	0855	0820	N24	W42	.698	8905	28.2	40	1N			0820	1.53	2.16		191			
ISTA	31	0813	0822		N24	W44	.720	8905	28.0	9	-B										
GRP 7708	31	0830	0851	0837	N24	W42	.698	8905	28.2	21	1N				1.84				6	6	6
SALO	31	0830E	0845D		N23	W39	.661	8905	28.4	15D	1N		P	0840	1.16	1.60	.13				
ZURI	31	0832E	0850	0835	N24	W45	.730	8905	28.0	18D	1N		P	0835	2.10	3.00					
CRON	31	0826	0834	0828	N24	W43	.709	8905	28.1	8	-N		C		.70	1.00		200	E		
LOCA	31	0832E	0853		N22	W43	.702	8905	28.1	21D	-N		V	0832	.73	1.00			H		
CAPF	31	0834E	0845D		N28	W40	.694	8905	28.4	11D	-N		P	0837	1.18	1.65					
WEND	31	0825	0851		N23	W40	.672	8905	28.4	26	1N		V		5.16						
CRON	31	0832	0850	0838	N24	W42	.698	8905	28.2	18	-N		C		.50	.70		100			
SALO	31	0830E	0845D		N27	W40	.690	8905	28.4	15D	-N		P	0840	.50	.70	.13				
GRP 7709	31	0848	0950	0900	S26	W01	.526	8912	31.3	62	2B				5.16				1	1	1
MONT	31	0848	0950	0900	S26	W01	.526	8912	31.3	62	2B			0900	5.16						
GRP 7710	31	0856	0925	0858	N14	E11	.236	8913	1.2	29	1N				2.82				9	9	8
KIEV	31	0854	0918	0859	N14	E12	.249	8913	1.3	24	1B		C	0859	3.61	4.00		120	I		
CAPS	31	0855	0933		N15	E12	.259	8913	1.3	38	1B	3		0900	3.00	3.10		256			
ARCE	31	0855	0940	0855	N13	E10	.213	8913	1.1	45	1N		C	0855	5.01	5.10					
CATA	31	0855	0945	0855	N15	E12	.259	8913	1.3	50	1B			0855	2.75	2.86		288			
MEUD	31	0856	0910	0857	N13	E13	.255	8913	1.3	14	1N		C	0857	2.37	2.40			F		
ZURI	31	0856	0928	0858	N13	E09	.199	8913	1.0	32	1N		P	0858	3.57	3.60					
CRON	31	0857	0915	0859	N14	E09	.210	8913	1.0	18	-N		C		1.10	1.10		200	E		
ONDR	31	0857E	0922		N12	E06	.151	8913	31.8	25D	1N		V	0858			2.00		C		
CAPF	31	0907E	0916D		N13	E09	.199	8913	1.1	9D	-N		P	0907	1.18	1.20					
CAPS	31	0918	0930		N16	E22	.405	8913	2.0	12	-F	3							DF		
GRP 7711	31	0859	0922	0905	N15	W20	.370	8907	29.9	23	1B				3.30				1	1	1
ATHN	31	0859E	0922	0905	N15	W20	.370	8907	29.9	23D	1B	2		0922	3.30	3.50	2.00				
GRP 7712	31	0943	1013	0951	N24	W37	.642	8905	28.6	30	1N				.96				4	4	3
CATA	31	0940	1040	0955	N25	W38	.659	8905	28.6	60	1B			0955	1.86	2.50		209			
ATHN	31	0945	0959	0947	N20	W40	.661	8905	28.4	14	-N	2		0947	.66	.90	1.60				
ARCE	31	0945	1005D		N26	W38	.663	8905	28.6	20D	-N		C	0945	.36	.50					
AROS	31	0946E	1006		N25	W30	.568	8905	29.2	20D	1N		V								
GRP 7713	31	1021	1040	1024	N13	E11	.226	8913	1.3	19	-N				.94				2	2	1
CATA	31	1020	1050	1025	N13	E12	.240	8913	1.3	30	-N			1025	.94	.97		199			
MEUD	31	1022	1030	1023	N13	E10	.213	8913	1.2	8	-F		C								
GRP 7714	31	1114	1153	1120	S25	E38	.743	8918	3.3	39	1B				2.33				7	6	6
CATA	31	1110	1143	1115	S26	E37	.742	8918	3.2	33	1B			1115	1.66	2.40		263			
MONT	31	1115	1130	1125	S25	E56	.887	8918	4.7	15	-N			1125	1.03						
ATHN	31	1115	1157	1120	S26	E32	.699	8918	2.9	42	1B	2		1120	2.31	2.90	2.00				
MEUD	31	1116	1129D		S23	E34	.693	8918	3.0	13D	-N		C	1122	1.34	1.80					
CAPS	31	1117E	1155		S23	E34	.693	8918	3.0	38D	1B	3		1121	2.50	3.50		246			
WEND	31	1113	1206		S23	E37	.721	8918	3.2	53	1B		V		5.16						
HUAN	31	1139E	1207		S26	E35	.725	8918	3.1	28D	-B	2	P	1140	.75	.98			E		
GRP 7715	31	1115	1145	1115	N26	W42	.706	8905	28.3	30	-N				.55				1	1	1
CATA	31	1115	1145	1115	N26	W42	.706	8905	28.3	30	-N			1115	.55	.79		170			
GRP 7716	31	1224	1252	1229	N24	W44	.720	8905	28.2	28	1B				3.08				8	8	6
MONT	31	1224	1255	1228	N28	W47	.764	8905	28.0	31	1B			1228	3.09				L		
ONDR	31	1225E	1244		N25	W44	.723	8905	28.2	19D	2N		V	1228			2.50		C		
ATHN	31	1225	1252	1229	N21	W43	.699	8905	28.3	27	2B	2		1229	4.29	6.30	2.00				
HUAN	31	1225	1255	1228	N23	W46	.738	8905	28.1	30	1B	2	C	1228	3.76	4.53			H		
CAPF	31	1229E	1237D		N28	W44	.735	8905	28.2	8D	-N		P	1229	.59	.86					
CAPS	31	1229E	1248		N22	W40	.668	8905	28.5	19D	-B	3		1234	1.30	1.80		288			
SACP	31	1231E	1300	1231	N22	W43	.702	8905	28.3	29D	1N		C		1.90	2.22					
WEND	31	1221	1250		N21	W41	.676	8905	28.4	29	1N		V		4.13						
GRP 7716	31	1230	1320		N23	W43	.706	8905	28.3	50	-N				.48				2	2	2
SALO	31	1230E	1320D		N23	W42	.695	8905	28.4	50D	-N		P	1250	.33	.50	.12				
MEUD	31	1240E	1242D		N23	W44	.716	8905	28.2	2D	-N		C	1242	.62	.90					

SOLAR FLARES

JULY 1967

OBSERV-ATORY	DATE 1967 JULY	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
GRP 7717	31	1240	1320		S22	E48	.814	8918	4.1	40	-F				.33				1 1 1
SALO	31	1240E	1320D		S22	E48	.814	8918	4.1	40D	-F		P	1250	.33	.60	.11		
GRP 7718	31	1328	1333	1330	N30	W38	.685	8905	28.7	5	-N				.41				2 2 2
HOUS	31	1327	1334	1330	N30	W38	.685	8905	28.7	7	-N		C		.40	.60		200	
MEUD	31	1329	1332		N29	W37	.669	8905	28.8	3	-F		C	1330	.41	.60			
GRP 7719	31	1344	1350	1346	N13	E07	.175	8913	1.1	6	-F				.57				1 1 1
HUAN	31	1344	1350	1346	N13	E07	.175	8913	1.1	6	-F	2	C	1346	.57	.57			E
GRP 7720	31	1416	1437	1421	N22	E75	.961	8915	6.2	21	-F				.21				1 1 1
SACP	31	1416	1437	1421	N22	E75	.961	8915	6.2	21	-F		C		.21	.42			
GRP 7721	31	1434	1440	1435	N14	E04	.160	8913	31.9	6	-F				.28				2 2 2
MEUD	31	1433	1434D		N13	E07	.175	8913	1.1	1D	-F		C	1434	.31	.30			D
HUAN	31	1434	1440	1435	N14	E01	.146	8913	31.7	6	-F	2	C	1435	.25	.25			D
GRP 7722	31	1459	1539	1514	N25	W47	.754	8905	28.1	40	-N				1.29				9 9 9
SACP	31	1450	1552	1512	N25	W47	.754	8905	28.1	62	1N		C		1.94	2.38			
HOUS	31	1455	1535	1516	N27	W49	.779	8905	27.9	40	-N		C		.90	1.40		200	HJL
MEUD	31	1502	1528		N27	W48	.770	8905	28.0	26	-N		C	1513	.72	1.10			E
ATHN	31	1503E	1530D		N24	W47	.751	8905	28.1	27D	1B	1		1506	1.65	2.70	2.00		
HUAN	31	1503	1538	1514	N27	W49	.779	8905	28.0	35	-N	2	C	1514	.75	.94			E
CAPS	31	1504E	1531		N23	W44	.716	8905	28.3	27D	-N	3		1507	.80	1.10			E
LOCK	31	1505E	1535	1514	N17	W49	.757	8905	28.0	30D	-N		C	1514	1.20	1.80		20	
LOCA	31	1510E	1540	1512	N27	W45	.741	8905	28.3	30D	-N		V	1512	1.05	1.50			H
MONT	31	1512	1600D		N28	W45	.744	8905	28.3	48D	1B			1530	2.58				E
GRP 7723	31	1516	1544	1522	N13	E08	.187	8913	1.2	28	-N				1.32				8 8 8
SACP	31	1502	1557	1526	N13	E08	.187	8913	1.2	55	1N		C		2.55	2.50			
HOUS	31	1513	1542	1520	N14	E07	.187	8913	1.2	29	-F		C		1.00	1.00		100	
LOCK	31	1515	1542	1524	N14	E05	.168	8913	1.0	27	-N		C	1524	1.30	1.30		20	
ATHN	31	1516E	1535		N12	E06	.151	8913	1.1	19D	-N	1		1519	1.98	2.00	1.80		
LOCA	31	1516	1545D	1519	N12	E10	.203	8913	1.4	29D	-N		V	1519	1.05	1.10			
MEUD	31	1517	1529D		N12	E09	.189	8913	1.3	12D	-N		C	1520	.62	.60			
HUAN	31	1517	1551	1521	N13	E07	.175	8913	1.2	34	-N	2	C	1521	1.39	1.39			E
CAPS	31	1520E	1538		N15	E09	.222	8913	1.3	18D	-N	3		1523	.70	.70			
HUAN	31	1517	1551	1521	N13	E12	.240	8913	1.5	34	-N	2	C						
GRP 7724	31	1549	1555	1551	N10	W28	.470	8907	29.6	6	-F				.50				1 1 1
LOCK	31	1549	1555	1551	N10	W28	.470	8907	29.6	6	-F		C	1551	.50	.60		10	
GRP 7725	31	1559	1628	1620	S26	W04	.529	8912	31.4	29	-F				.71				1 1 1
SACP	31	1559	1628	1620	S26	W04	.529	8912	31.4	29	-F		C		.71	.74			
GRP 7726	31	1600	1627	1609	N14	W20	.364	8907	30.2	27	-F				.31				1 1 1
HUAN	31	1600	1627	1609	N14	W20	.364	8907	30.2	27	-F	2	C	1609	.31	.31			D
GRP 7727	31	1649	1722	1655	N26	W40	.685	8905	28.7	33	-F				.25				1 1 1
HUAN	31	1649	1722	1655	N26	W40	.685	8905	28.7	33	-F	2	C	1655	.25	.29			D
GRP 7728	31	1659	1737	1724	N13	W21	.374	8907	30.1	38	-N				1.28				5 5 5
HOUS	31	1655	1739	1722	N14	W22	.394	8907	30.1	44	-N		C		1.30	1.40		200	
LOCK	31	1700	1737	1723	N10	W21	.362	8907	30.1	37	-F		C	1723	1.50	1.60		30	K
HUAN	31	1701	1734	1722	N14	W20	.364	8907	30.2	33	-B	2	C	1722	1.34	1.34			
SACP	31	1701	1736	1728	N13	W21	.374	8907	30.1	35	-B		C		1.53	1.51			
MEUD	31	1716	1727D		N13	W20	.359	8907	30.2	11D	-N		C	1722	.72	.70			E
GRP 7728	31	1702	1729	1708	N12	W21	.369	8907	30.1	27	-N				.77				3 3 3
LOCK	31	1700	1737	1707	N10	W21	.362	8907	30.1	37	-F		C	1723	1.50	1.60		30	K
MEUD	31	1702	1712		N13	W20	.359	8907	30.2	10	-N		C	1704	.41	.40			E
HALE	31	1705	1739	1708	N13	W21	.374	8907	30.1	34	-B	2	C	1708	.41	.40			TKW
GRP 7729	31	1822	1849	1829	N14	E04	.160	8913	1.1	27	-F				.78				2 2 2
LOCK	31	1820	1845	1826	N14	E02	.148	8913	31.9	25	-F		C	1826	1.00	1.00		10	
HUAN	31	1823	1853	1831	N13	E04	.144	8913	1.1	30	-F	2	C	1831	.55	.55			E
HUAN	31	1823	1853	1831	N13	E08	.187	8913	1.4	30	-F	2	C						
GRP 7729	31	1829	1856	1840	N14	E07	.187	8913	1.3	27	-N				.51				3 2 2
HALE	31	1835	1857	1839	N13	E09	.199	8913	1.4	22	-N	1	C	1839	.52	.50			T
HALE	31	1828	1913	1836	N13	E04	.144	8913	1.1	45	-N	1	C	1836	.31	.30			T
LOCK	31	1830	1855	1840	N14	E08	.198	8913	1.4	25	-F		C	1840	.50	.50		10	
SACP	31	1901E	1930D	1910	N13	E07	.175	8913	1.3	29D	-N		C		1.62	1.59			
GRP 7730	31	1833	1840	1836	S17	E35	.661	8918	3.4	7	-F				.70				1 1 1
LOCK	31	1833	1840	1836	S17	E35	.661	8918	3.4	7	-F		C	1836	.70	.90		10	
GRP 7731	31	1835	1851	1838	N16	W27	.476	8907	29.7	16	-N				.52				1 1 1
HALE	31	1835	1851	1838	N16	W27	.476	8907	29.7	16	-N	2	C	1838	.52	.60			T
GRP 7732	31	1853	1900	1857	N20	W17	.372	8911	30.5	7	-F				.41				1 1 1
HALE	31	1853	1900	1857	N20	W17	.372	8911	30.5	7	-F	1	C	1857	.41	.40			
GRP 7733	31	1948	2008	1950	N14	W22	.394	8907	30.2	20	-F				.45				1 1 1
HUAN	31	1948	2008	1950	N14	W22	.394	8907	30.2	20	-F	2	C	1950	.45	.45			E
GRP 7734	31	1952	2039	2004	N25	W46	.744	8905	28.4	47	1N				1.72				5 5 5
HUAN	31	1949	2042	2003	N27	W45	.741	8905	28.5	53	1N	2	C	2003	1.89	2.28			E
HOUS	31	1950	2028	2002	N28	W47	.764	8905	28.3	38	-B		C		1.10	1.70		300	L
HALE	31	1952	2056	2005	N27	W45	.741	8905	28.5	64	1N	1	C	2005	1.65	2.50			T
LOCK	31	1955	2030	2004	N17	W48	.746	8905	28.2	35	-N		C	2004	1.10	1.60		20	
SACP	31	2014E	2040	2020	N26	W44	.727	8905	28.5	26D	1N		C		2.86	3.44			

SOLAR FLARES

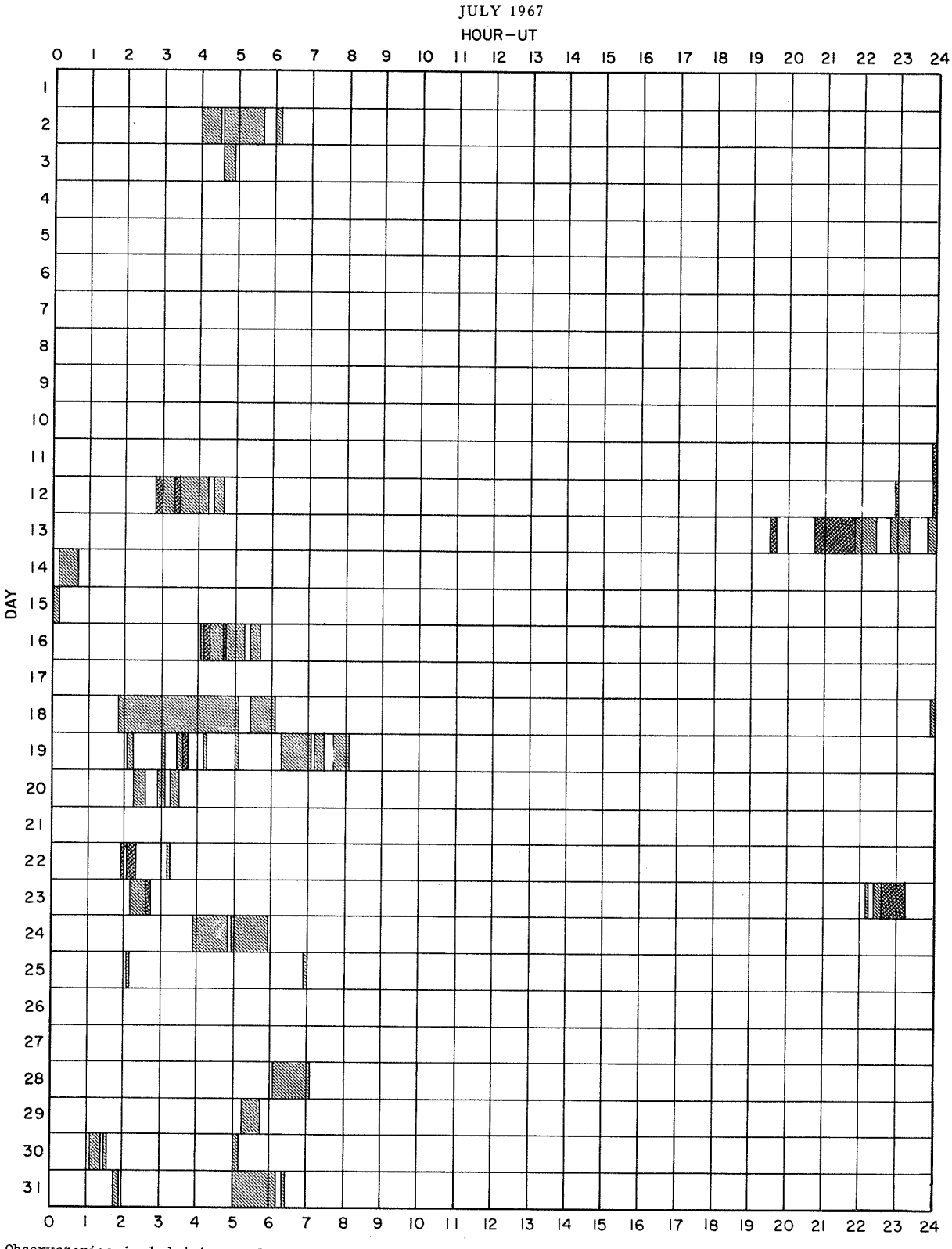
JULY 1967

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS				REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. 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. %			
	1967 JULY																			
GRP 7735	31	2044	2118	2054	N13	E03	.137	8913	1.1	34	-F				.71				2	2	2
SACP	31	2042	2116	2052	N13	E05	.153	8913	1.2	34	-F		C		.61	.59				
LOCK	31	2045	2120	2055	N12	E01	.111	8913	31.9	35	-F		C	2055	.80	.80		10		
GRP 7736	31	2047	2140	2115	N20	W50	.773	8905	28.1	53	2B				4.61				4	4	3
SACP	31	2046	2141	2115	N22	W48	.756	8905	28.3	55	2B		C		7.13	8.86				
LOCK	31	2047	2140	2115	N11	W51	.774	8905	28.0	53	1B		C	2115	3.20	5.10		30	HK	
HOUS	31	2047	2140	2115	N23	W50	.779	8905	28.1	53	2B									
HUAN	31	2048	2140	2113	N23	W50	.779	8905	28.1	52	1B	2	C	2113	3.51	4.42			H	
GRP 7736	31	2048	2143	2057	N19	W50	.771	8905	28.1	55	1B				3.60				3	3	2
LOCK	31	2047	2140	2058	N11	W51	.774	8905	28.0	53	1B		C	2115	3.20	5.10		30	HK	
HOUS	31	2047	2140	2100	N23	W50	.779	8905	28.1	53	2B		C		4.00	6.40		300	HJL	
HALE	31	2051	2148	2052	N24	W49	.771	8905	28.2	57	-B	1	C	2052	.52	.80			TKW	
GRP 7737	31	2056	2110	2103	N23	E15	.384	8913	2.0	14	-F				.77				2	2	2
LOCK	31	2056	2107	2101	N24	E14	.386	8913	1.9	11	-F		C	2101	.60	.70		10		
HALE	31	2100E	2112	2105	N22	E16	.382	8913	2.1	12D	-F	1	P	2105	.93	1.00			T	
GRP 7738	31	2105	2119	2109	N11	W23	.396	8907	30.2	14	-N				.48				2	2	2
HUAN	31	2104	2116	2107	N14	W23	.409	8907	30.2	12	-F	2	C	2107	.45	.45			E	
LOCK	31	2106	2122	2110	N07	W22	.373	8907	30.2	16	-N		C	2110	.50	.60		20		
GRP 7739	31	2207	2243	2214	N13	E04	.144	8913	1.2	36	-N				.95				3	3	3
LOCK	31	2204	2240	2211	N13	E01	.128	8913	1.0	36	-N		C	2211	1.10	1.10		20		
HUAN	31	2205	2222D		N13	E03	.137	8913	1.1	17D	-N	1	C	2210	1.03	1.03			E	
HALE	31	2212	2246	2218	N13	E08	.187	8913	1.5	34	-B	1	C	2218	.72	.70			TW	
HUAN	31	2205	2222D		N13	E07	.175	8913	1.4	17D	-N	1	C							
HALE	31	2213	2229	2216	N13	E03	.137	8913	1.2	16	-B	1	C	2216	.72	.70			T	
GRP 7740	31	2212	2224	2216	N07	W22	.373	8907	30.3	12	-F				.40				1	1	1
LOCK	31	2212	2224	2216	N07	W22	.373	8907	30.3	12	-F		C	2216	.40	.40		10		
GRP 7741	31	2304	2318	2310	N13	E01	.128	8913	1.0	14	-F				.80				1	1	1
LOCK	31	2304	2318	2310	N13	E01	.128	8913	1.0	14	-F		C	2310	.80	.80		10		
GRP 7742	31	2334	2348	2339	N10	W23	.394	8907	30.3	14	-N				.46				2	2	2
LOCK	31	2331	2345	2337	N07	W22	.373	8907	30.3	14	-N		C	2337	.50	.60		20		
HALE	31	2336	2351	2340	N13	W24	.419	8907	30.2	15	-N	1	C	2340	.41	.50			T	
GRP 7743	31	2342	2359	2345	N21	W56	.832	8905	27.8	17	-N				.76				2	2	2
LOCK	31	2339	2358	2344	N15	W57	.836	8905	27.7	19	-N		C	2344	.90	1.60		20		
HALE	31	2345	0000D	2346	N27	W54	.824	8905	27.9	15D	-N	1	C	2346	.62	1.10			T	
GRP 7744	31	2350	0020	0000	S22	E30	.648	8918	3.2	30	-F				.92				2	2	2
LOCK	31	2347	0020	0000	S19	E32	.643	8918	3.4	33	-F		C	0000	.90	1.20		10		
HALE	31	2352	0000D	0000	S25	E28	.656	8918	3.1	8D	-F	1	P	0000	.93	1.20			T	

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.
T = Region active all day.
U = Close and somewhat parallel bright filaments.
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.

INTERVALS OF NO FLARE PATROL OBSERVATION
For Preceding Solar Flare Table



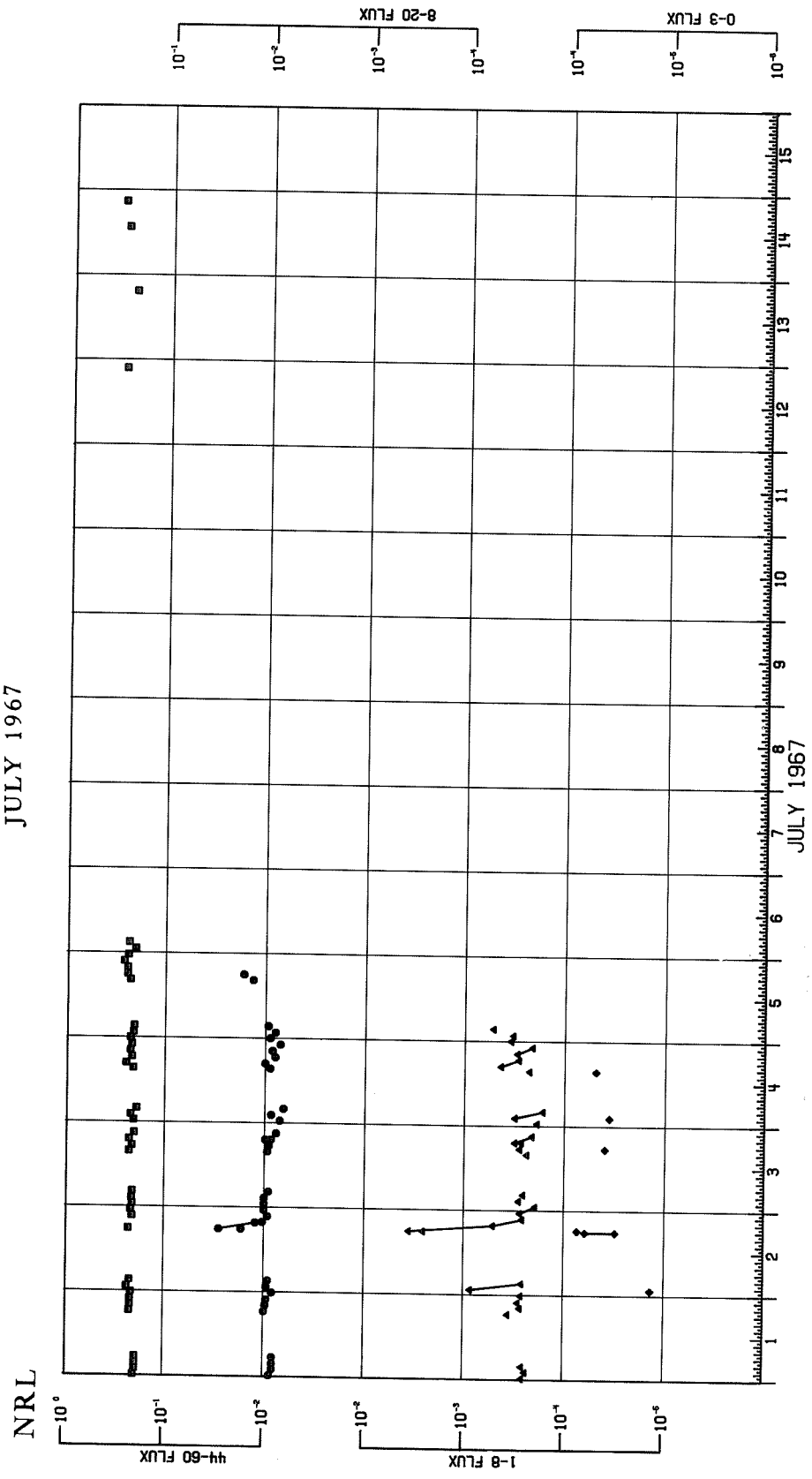
Observatories included in total patrol:

Abastumani	Capetown	Herstmonceux	Kiev	Meudon	San Miguel
Arcetri	Capri-F (German)	Houston	Kodaikanal	Mitaka	Siberie
Arosa	Capri-S (Swedish)	Huancayo	Locarno	Monte Mario	Tachkent
Athenes	Carnarvon	Ikomasan	Lockheed	Ondrejov	Wendelstein
Bucharest	Catania	Istanboul	Manila	Sacramento Peak	Zürich
Canary Islands	Haleakala	Kharkov	McMath-Hulbert	Salonique	

The times when there was no cinematographic or visual patrol are shown by the darker areas.
The rest of the shaded areas are times of visual patrol only.

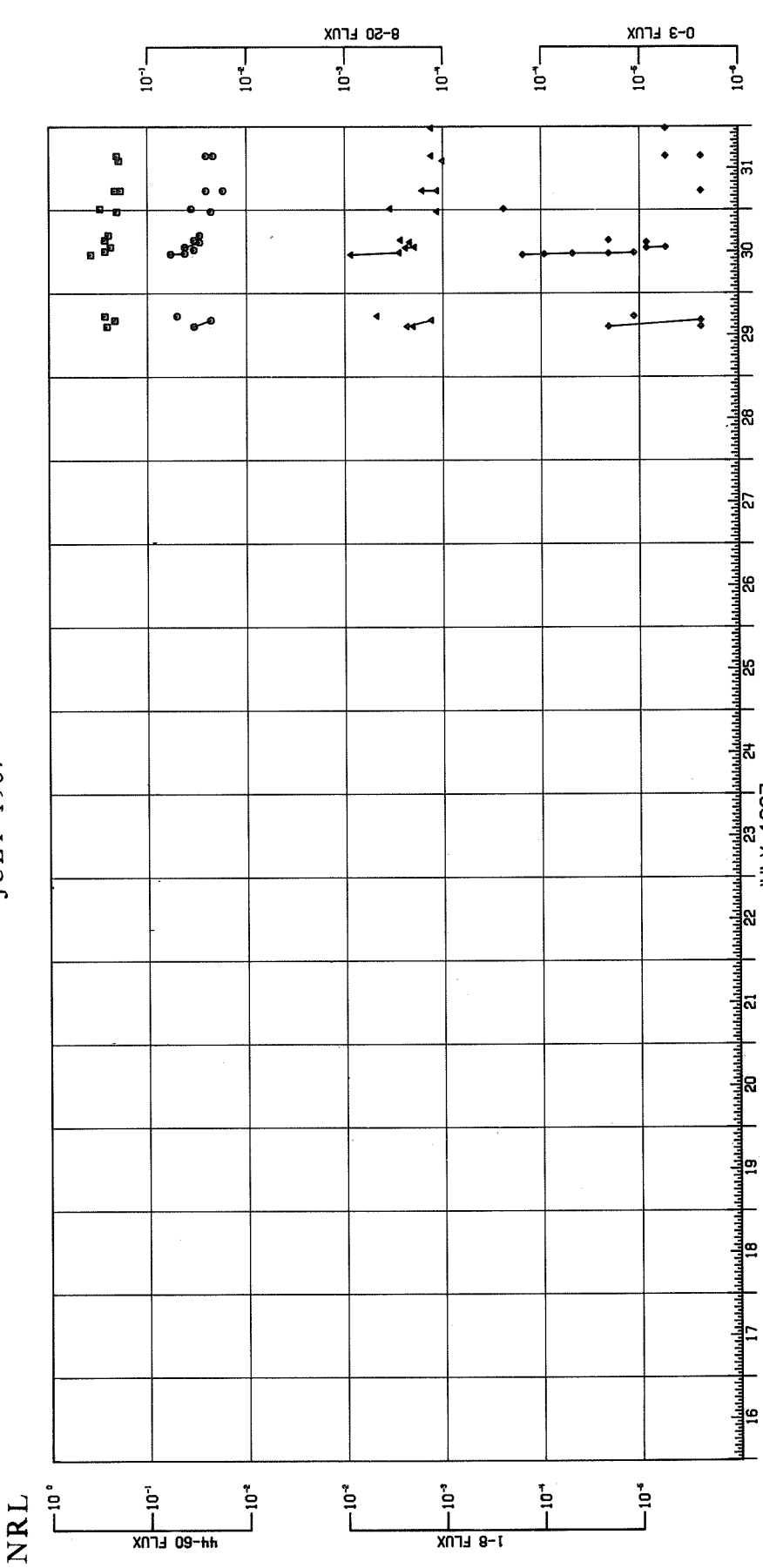
SOLAR RADIATION MONITORING SATELLITE
X-RAY

JULY 1967



SOLAR RADIATION MONITORING SATELLITE
X-RAY

JULY 1967



SATELLITE OSO-III, X-RAY

JULY 1967

McMath-Hulbert

Date	Observing Hours Start U.T.	Observing Hours End U.T.	Lowest Flux Reached E(8,12) ergs cm^{-2} sec^{-1}	Remarks*
July 1	0203	0313	0.0022	
1	0339	0449	.0022	
1	0515	0625	.0021	
1	0650	0800	.0022	(8)
1	0826	0936	.0026	(8)
July 2	0023	0133	.0024	
2	0158	0309	.0026	
2	0334	0445	.0026	
2	0510	0621	.0028	
2	0645	0756	.0028	(8)
2	0821	0931	.0029	(8, 9)
July 3	0018	0128	.0027	
3	0154	0305	.0028	
3	0330	0441	.0026	
3	0505	0616	.0024	
3	0641	0752	.0029	(8)
3	0816	0928	.0031	(6, 8)
July 4	0014	0125	.0022	
4	0148	0301	.0023	(4)
4	0325	0436	.0020	
4	0501	0612	.0022	(6)
4	0630	0748	.0022	(7)
4	0812	0923	.0025	(8)
July 5	0009	0120	.0020	
5	0145	0256	.0022	
5	0321	0431	.0027	
5	0457	0609	.0022	
5	0632	0743	.0020	(8)
5	2230	2339	.0017	
July 6	0005	0115	.0017	
6	0141	0250	.0017	
6	0317	0426	.0018	
6	0452	0602	.0017	
6	0628	0737	.0017	(8)
6	2225	2334	.0020	
July 7	0001	0109	.0018	
7	0137	0245	.0016	(8)
7	0312	0421	.0015	
7	0448	0556	.0015	(8)
7	0624	0732	.0018	(8)
7	2221	2328	.0028	
7	2357	2504	.0022	
July 8	0132	0239	0.0021	
8	0308	0415	.0019	(8)
8	0444	0550	.0018	(8, 9)
8	0619	0726	.0017	(8)
8	2216	2322	.0020	
8	2352	2458	.0025	
July 9	0128	0233	.0084	(1)
9	0303	0409	.0037	(8)
9	0439	0544	.0028	(8)
9	0615	0720	.0020	(8)
9	2211	2316	.0018	
9	2347	2452	.0018	
July 10	0123	0227	.0020	(8)
10	0258	0403	.0019	
10	0434	0537	.0018	(8)
10	2206	2310	.0016	(8)
10	2342	2445	.0017	(8)
July 11	0117	0221	.0017	
11	0253	0356	.0016	(8)
11	0429	0532	.0019	(8)
11	1927	1951	.0015	
11	2025	2128	.0038	(4)
11	2201	2303	.0030	
11	2336	2439	.0021	(8)
July 12	0112	0215	.0019	(8)
12	0248	0350	.0018	(8)
12	0423	0526	.0020	(8)
12	2028	2122	.0024	
12	2155	2257	.0020	
12	2331	2433	.0021	
July 13	0106	0208	.0022	(8)
13	0242	0344	.0020	(8)
13	0418	0519	.0021	(8)
13	1915	1940	.0019	
13	2014	2115	.0018	
13	2149	2251	.0017	(8)
13	2325	2425	.0026	(8)
July 14	0101	0202	.0022	(8)
14	0236	0321	.0022	(8)
14	2013	2108	.0027	
14	2144	2245	.0031	(8)
14	2319	2420	.0029	(8)
July 15	0055	0156	0.0026	(8)
15	0230	0331	.0043	
15	1725	1752	.0030	
15	1827	1926	.0032	
15	2002	2103	.0032	
15	2138	2238	.0032	(7)
15	2313	2414	.0038	(2, 8)
July 16	0049	0149	.0032	(8)
16	0225	0325	.0028	(8)
16	1718	1745	.0029	
16	1821	1921	.0035	
16	1956	2056	.0037	
16	2132	2232	.0038	
16	2307	2408	.0038	(3)
July 17	0043	0143	.0167	(1, 2)
17	0219	0319	.0043	(2, 8)
17	1709	1739	.0035	
17	1815	1915	.0033	
17	1950	2050	.0032	
17	2126	2226	.0030	
17	2301	2401	.0029	(8)
July 18	0037	0137	.0030	
18	0213	0313	.0030	(8)
18	1702	1733	.0030	
18	1808	1908	.0027	
18	1943	2043	.0028	
18	2120	2220	.0027	(8)
18	2255	2355	.0027	
July 19	0031	0120	.0028	(8)
19	1517	1551	.0027	
19	1627	1727	.0027	
19	1802	1902	.0031	
19	1938	2038	.0032	
19	2114	2214	.0034	
19	2249	2349	.0030	(8)
July 20	0025	0115	.0029	
20	1510	1545	.0036	
20	1621	1721	.0035	
20	1756	1856	.0035	
20	1932	2032	.0035	
20	2108	2208	.0037	
20	2243	2343	.0036	(8)
July 21	0019	0110	0.0037	
21	1505	1539	.0043	
21	1615	1715	.0043	
21	1750	1850	.0052	(2)
21	1926	2026	.0042	
21	2102	2202	.0052	
21	2237	2337	.0062	(9)
July 22	0013	0106	.0062	(4)
22	1457	1534	.0073	(4)
22	1609	1709	.0084	(4)
22	1744	1844	.0073	(4)
22	1920	2020	.0095	(7)
22	2056	2156	.0095	
22	2231	2331	.0084	(5)
July 23	0007	0058	.0095	(4)
23	1451	1527	.0116	(1)
23	1603	1703	.0084	(7)
23	1737	1837	.0062	(7)
23	1914	2014	.0062	
23	2050	2150	.0062	(6)
23	2225	2309	.0062	
July 24	1302	1346	.0095	(4)
24	1421	1521	.0084	(4)
24	1557	1657	.0084	(2)
24	1732	1833	.0084	(5)
24	1908	2008	.0073	(7)
24	2044	2144	.0127	(1, 4, 9)
24	2219	2229	.0073	
July 25	1257	1340	.0095	(7)
25	1415	1516	.0145	(4)
25	1551	1651	.0136	(7)
25	1727	1827	.0177	(1, 4)
25	1902	2002	.0177	(1, 6)
25	2038	2138	.0198	(1, 7)
25	2213	2300	.0198	(1, 7)
July 26	1251	1334	.0105	(4)
26	1410	1510	.0116	(7)
26	1545	1645	.0105	(7)
26	1721	1821	.0127	(7)
26	1856	1957	.0084	(7)
26	2032	2132	.0095	(6)
26	2208	2253	.0095	(6)

SATELLITE OSO-III, X-RAY

JULY 1967

McMath-Hulbert

Date	Observing Start U.T.	Hours End U.T.	Lowest Flux Reached E(8,12) ergs cm^{-2} sec^{-1}	Remarks*
July 27	1244	1328	0.0116	(6)
27	1404	1504	.0105	(7)
27	1539	1640	.0116	(6)
27	1715	1815	.0116	(7)
27	1850	1950	.0084	(7)
27	2025	2103	.0095	
July 28	1058	1147	.0084	(7)
28	1222	1323	.0073	
28	1358	1458	.0073	
28	1534	1634	.0145	(1, 7)
28	1709	1809	.0136	(1, 6)
28	1845	1945	.0116	(4)
28	2020	2056	.0105	(6)
July 29	1059	1141	.0105	(7)
29	1217	1317	.0084	(5)
29	1352	1453	.0095	(6)
29	1528	1628	.0073	(2)
29	1703	1804	.0073	(4)
29	1839	1939	.0116	(4, 9)
29	2015	2045	.0116	(5)
July 30	1046	1136	.0084	(7)
30	1211	1311	.0095	
30	1346	1447	.0095	(4)
30	1522	1622	.0095	(7)
30	1658	1758	.0095	
30	1834	1934	.0084	
30	2010	2047	.0084	
July 31	1040	1130	.0063	(9)
31	1205	1305	.0063	(4)
31	1341	1441	.0063	(2)
31	1517	1617	.0063	(2)
31	1652	1752	.0052	(7)
31	1828	1928	.0063	(6)
31	2003	2039	.0074	(7)

Remarks*

1. High flux level during entire interval ≥ 0.005 ergs $cm^{-2}sec^{-1}$ above daily base level.
2. Flux decreasing during at least part of interval. Decreases by ≥ 0.002 ergs $cm^{-2}sec^{-1}$.
3. Flux increasing during at least part of interval. Increases by ≥ 0.002 ergs $cm^{-2}sec^{-1}$.
4. Flux increases and then decreases during interval, with amplitude ≥ 0.002 ergs $cm^{-2}sec^{-1}$.
5. Flux decreases and then increases during interval, with amplitude ≥ 0.002 ergs $cm^{-2}sec^{-1}$.
6. Moderate flux variations during interval, with total amplitude between 0.002 and 0.005 ergs $cm^{-2}sec^{-1}$.
7. Strong flux variations during interval, with total amplitude greater than 0.005 ergs $cm^{-2}sec^{-1}$.
8. Record marred by particle interference.
9. Flux increases sharply at end of interval, amplitude ≥ 0.002 ergs $cm^{-2}sec^{-1}$.
10. Flux decreases sharply at beginning of interval, amplitude ≥ 0.002 ergs $cm^{-2}sec^{-1}$.

SATELLITE OSO-III, X-RAY
July 1967
Outstanding Events (Preliminary)

McMath-Hulbert

Date 1967	Start U.T.	Max. U.T.	End U.T.	Base Level at Start E(8,12) ergs $cm^{-2}sec^{-1}$	Max. Flux E(8,12) ergs $cm^{-2}sec^{-1}$
July 2	0918	0931D	0931D	0.0030	≥0.0084
July 4	0630U	0642	0748D	≤ .0022	.0073
July 11	2035E	2106	2439D	≤ .0038	.0095
July 15	2150	2159			
		2220	2414D	.0032	.0105
July 16	2332	2404U	2656D	.0038	.0401U
July 22	1652	1658	1709D	.0084	.0199
22	1920E	1920E	2003	-	≥.0145
22	2004	2014	2020D	.0095	.0167
July 23	1618	1622	1634	.0095	.0156
23	1821	1823	1830	.0072	.0127
July 24	1302E	1304	1332U	-	.0188
24	1952E	1959	2008D	.0095	.0184
24	2044E	2058	2144D	-	.1140
July 25	1305	1307	1313D	.0095	.0211
25	1314	1325	1340D	.0127	.0211
25	1424	1429	1516D	.0145	.1017
25	1612	1630	1644D	.0136	.0390
25	1645	1647	1651D	.0295	.0362
25	1727E	1734	1754	-	.0295
25	2038E	2050	2055D	≤.0198	.0273
25	2056	2103	2111D	.0252	.0390
25	2112	-	2138D	.0302	≥.0382
25	2224	2238	2246	.0198	.0262
25	2255E	2258D	2258D	.0198	≥.0372
July 26	1253U	1312	1334D	≤.0105	.0156
26	1410E	1410E	1440	-	≥.0262
26	1622	1629		.0105	.0178
		1635	1645D		.0199
26	1734	1747U		.0127	≥.0295
		1809	1821D		.0319
July 27	1404E	1408	1426	-	.0199
27	1735	1737	1807	.0116	.0199
July 28	1135	1138	1147D	.0084	.0167
28	1605	1610		.0145	.0361
		1622	1634D		.0283
July 29	1131	1134	1141D	0.0105	0.0251
29	1255	1317D	1317D	.0084	≥.0167
29	1528E	1533E	1624U	-	≥.0178
29	1727	1751U	1804D	.0072	.0136
July 30	1052	1108	1136D	.0084	.0167
30	1415U	1419	1447D	.0095	.0283
30	1557	1602	1611	.0095	.0211
July 31	1118	1124D	1130D	.0063	≥.0188
31	1226	1228	1241	.0075	.0211
31	1517E	1521E	1555	-	≥.0178
31	1719D				
	1726E	1726E	1732	.0063	≥.0283
31	2003E	2003E		-	≥.0310
		2024	2039D		.0156

IER-FB-281

Table of Contents
for Miscellaneous Data

Page

Solar X-ray Radiation - Satellite Explorer 33
May - July 1967 151-153

For explanations of the data contained herein see "Descriptive Text" published in February 1967.

SATELLITE EXPLORER 33
SOLAR X-RAY FLARES (2 - 12 A°)

Date 1967	Onset UT	Maximum UT	Peak-Ratio to Quiet Sun	Remarks
No observations from 0130 to 0452 UT of 22 May.				
Intermittent observations from 0320 to 1135 UT of 23 May.				
23 May	1758	1816	4	
	1834	1846	27	Maximum flux F (2 - 12 A°) = 0.65 erg $(cm^2\ sec)^{-1}$ Most intense flare observed by Explorer 33 to date
	1934	1952	4⁻	Maximum flux F (2 - 12 A°) = 0.28 erg $(cm^2\ sec)^{-1}$
24 May	0254	0330	4	
No observations from 0456 to 0949 UT of 25 May.				
25 May	1035	1100	8	
No observations from 2158 UT of 25 May to 0006 UT of 26 May nor from 0200 to 0654 UT of 26 May.				
26 May	1235	1240	4⁻	
No observations from 0159 to 0542 UT of 27 May.				
28 May	0028	0037	5	
	0528	0551	94	Maximum flux F (2 - 12 A°) = 0.32 erg $(cm^2\ sec)^{-1}$
30 May	1728	1736	4⁻	
No observations 1729 UT of 31 May to 0104 UT of 1 June due to magnetospheric traversal.				
1 June	0701	0856	4	Slow rise. Complex structure
	--	--	--	Also numerous small flares
2 June	0155	0157	4⁻	
	~ 0754	0853	5	Complex structure
	1623	1709	4⁻	Complex structure
	--	--	--	Also numerous small flares

SATELLITE EXPLORER 33
SOLAR X-RAY FLARES (2 - 12 A°)

Date 1967	Onset UT	Maximum UT	Peak-Ratio to Quiet Sun	Remarks
3 June	0228	0326	4	Slow rise, slow decay
	0554	0645	4⁻	Slow rise, slow decay
5 June	1839	1945	5	Complex structure
No observations from 0259 to 0628 UT of 6 June.				
6 June	--	1220	5	Onset not observed. Complex structure
No observations from 1154 to 2335 UT of 13 June due to magnetospheric traversal.				
14 June	1334	1352	≳ 5	
	~ 1719	~ 1727	≳ 4	
	2237	2247	≳ 5	
No observations from 15 June to 10 July due to unfavorable aspect.				
11 July	0124	0132	4⁻	
	1948	2102	5	Slow rise, slow decay
15 July	1528	1532	4⁻	
	2154	2250	4	Complex structure
16 July	2334	2347	7	
No observations from 1535 UT of 18 July to 2351 UT of 19 July due to magnetospheric traversal.				
19 July	0547	0555	4	
	0717	0739	5	Complex structure
22 July	--	--	--	Several small flares
23 July	0439	0444	4	Rapid rise, rapid decay
	0535	0542	4⁻	
	0945	1007	4⁻	Complex structure
	1256	1300	4	Rapid rise, rapid decay
24 July	0031	0037	8	Rapid rise, rapid decay
	0924	1000	7	Complex structure
	1146	1202	7	Complex structure
	2026	2055	12	Complex structure
	2324	2347	4	Complex structure

SATELLITE EXPLORER 33
SOLAR X-RAY FLARES (2 - 12 A°)

Date 1967	Onset UT	Maximum UT	Peak-Ratio to Quiet Sun	Remarks
25 July	0026	0038	8	Complex structure
	1039	1057	7	Complex structure
	1212	1216	5	
	1423	1430	9	
	1621	1628	4-	Complex structure
	--	2102	4	Complex structure
	2249	2257	4-	
	--	--	--	Also numerous small flares
26 July	0223	0228	6	
	0653	0659	4	
	1343	1348	4	
	2328	2332	4	
	--	--	--	Also numerous small flares
28 July	0105	0128	5	Complex structure
	~ 1523	1607	5	Complex structure
	2229	2233	5	
29 July	2126	2136	4-	
30 July	0507	0512	4	
	0619	0627	6	
	1412	1418	4-	
No observations from 1746 UT of 30 July to 0649 UT of 31 July due to magnetospheric traversal.				
31 July	1720	1723	5	Rapid rise, rapid decay
	1949	2003	6	Complex structure
	--	--	--	Also numerous small flares

Notes:

1. Observations are essentially continuous with 163.6 sec (22 May to 15 June) or 81.8 sec (10 July to 31 July) time resolution except as noted.

2. Only flares whose peak intensity exceeds that of the ambient quiet sun by a factor greater than four are listed.

3. Detailed tabulations and plots of the absolute intensity F (2 - 12 A°) as a function of time for specific events will be supplied by the University of Iowa upon request (see IER-FB-275 and J. Geophysical Research 72, 5903-5911, 1967).

   X-ray data from Explorer 33 have been published in the Miscellanea Section of IER-FB-275 pp 125-128, IER-FB-277 pp 135-136, IER-FB-278 pp 118-120 and IER-FB-280 pp 131-134.

USCOMM - ESSA - ASHEVILLE - - 1/31/68 - - 1000