



U.S. DEPARTMENT OF COMMERCE

Maurice H. Stans, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

Robert M. White, Administrator

ENVIRONMENTAL DATA SERVICE

Woodrow C. Jacobs, Director

ESSA RESEARCH LABORATORIES

Solar-Geophysical Data

Number 296

for March 1969

February 1969

October 1968

& Miscellanea

DATA COMPILED BY AERONOMY AND SPACE DATA SERVICES

BOULDER, COLORADO

WASHINGTON, D.C.

APRIL 1969

S O L A R - G E O P H Y S I C A L D A T A

Table of Contents

	Page
Index for 1968 & 1969	2
Data for March 1969	4-56
Data for February 1969	59-117
Data for October 1968	119-166
Miscellaneous Data	167-171
Sudden Commencements and Solar Flare Effects	
October 1968 - December 1968	
Solar Radio Spectral Observation - Weissenau - January 1969	

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 1968 - 1969 DATA PUBLISHED IN IER-FB

	1968						1969		
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
American Relative Sunspot Numbers RA'	288	289	290	291	292	293	294	295	296
Zürich Provisional Relative Sunspot Numbers RZ	288	289	290	291	292	293	294	295	296
Zürich Final Sunspot Numbers RZ	295	295	295	295	295	295			
2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	288	289	290	291	292	293	294	295	296
2800 MHz - Daily Values of Adjusted Solar Flux (ARO-Ottawa)	288	289	290	291	292	293	294	295	296
8800, 4995, 2695, 1415, 606 MHz Adjusted Solar Flux (AFCRL)	288	289	290	291	292	293	294	295	296
Mt. Wilson Magnetic Characteristics of Sunspots	288	289	290	291	292	293	295	296	
Mt. Wilson Magnetograms	289	290	291	292	293	294	295	296	
H α (Sacramento-Peak or Boulder)	289	290	291	292	293	294	295	296	
Sunspots (Boulder or Sacramento Peak)	289	290	291	292	293	294	295	296	
Calcium Plage Maps (McMath-Hulbert or Catania)	289	290	291	292	293	294	295	296	
Calcium Plage and Sunspot Regions	288	289	290	291	292	293	295	296	
Coronal Line Emission	289	290	291	292	293	294	295	296	
Optical Observations Flares	288	289	290	291	292	293	294	295	296
Optical Observations Flares (Including Standardized Data)	293	294	295	296					
Flare Patrol Observations	288	289	290	291	292	293	294	295	296
Flare Patrol Observations	293	294	295	296					
Solar X-ray Radiation (Explorer 37)	289	290	291	292	293	294	295	296	
Solar X-ray Radiation (Explorers 33 & 35)	293	294	295	296					
Solar Protons (Explorer 34)	293								
Solar Proton Events (Riometer)									
Cosmic Ray Protons (Pioneers 6 & 7)	---	---	---	---	---	---	---	---	296
Cosmic Ray Protons (Pioneers 8 & 9)									
Solar Wind (Pioneers 6 & 7)	288	289	290	291	292	293	294	295	296
Solar Wind (Vela 2, 3 & 4)							294	295	296
Magnetic Field (Pioneer 9)									
Sudden Ionospheric Disturbances (SWF-SCNA-SEA-SPA-SES-SFD)	288	289	290	291	292	293	294	295	296
Sudden Ionospheric Disturbances (Addenda)	293	294	295	296					
10700, 2700, 960, 328 MHz - Outstanding Occurrences (Pennsylvania State University)	288	289	290	291	292	293	294	295	296
15400, 8800, 4995, 2695, 1415, and 606 MHz Outstanding Occurrences (AFCRL, Sagamore Hill)	288	289	290	291	292	293	294	295	296
7000 MHz - Outstanding Occurrences (Sao Paulo)	288	289	290	291	292	293	294		296
2800 MHz - Outstanding Occurrences (ARO-Ottawa)	288	289	290	291	292	293	294	295	296
486 MHz - Outstanding Occurrences (Washington State Univ.)	---	---	290	291	---	293			
408 MHz - Outstanding Occurrences (San Miguel)	288	289	290	291	292	293	294	295	296
408 MHz - Interferometric Observations (Nançay)	288	289	290	291	292	293	294	295	296
169 MHz - Interferometric Observations (Nançay)	288	289	290	291	292	293	294	295	296
184 MHz - Outstanding Occurrences (Boulder)	288	289	290	291	292	293	294	295	296
18 MHz - Bursts (Boulder)	288	289	290	291	292	293	294	295	296
18 MHz - Bursts (McMath)	288	289	290	291	292	293	294	295	296
30-1000 MHz - (Weissenau, G.F.R.)	289	290	292	292	293	294	296	296	
10-580 MHz - (Fort Davis)	289	290	291	292	293	294	295	296	
10-210 MHz - (Culgoora)	289	290	291	292	293	294	295	296	
7.6-80 MHz - (University of Colorado)	289	290	291	292	293	294	295	296	
19-41 MHz - (AFCRL, Sagamore Hill)	289	290	291	292	293	294	295	296	
9.1 cm Spectroheliograms (Stanford)	289	290	291	292	293	294	295	296	
21 cm Spectroheliograms (Fleurs)	289	290	291	292	293	294	295	296	
10.7 cm Solar Scans (Ottawa-ARO)	288	289	290	291	292	293	294	295	296
21 cm Solar Scans (Fleurs)	288	289	290	291	292	293	294	295	296
43 cm Solar Scans (Fleurs)	288	289	290	291	292	293	294	295	296
Cosmic Ray Neutron Counts (Deep River)	289	290	291	292	293	294	295	296	
Cosmic Ray Neutron Counts (Alert)	289	290	291	292	293	294	295	296	
Cosmic Ray Neutron Counts (Churchill)	289	290	291	292	293	294	295	296	
Cosmic Ray Neutron Counts (Climax)	289	290	291	292	293	294	295	296	
Cosmic Ray Neutron Counts (Dallas)	289	290	291	292	293	294	295	296	
Geomagnetic Indices Ci, Cp, Kp, Ap - Selected Days	289	290	291	292	293	294	295	296	
Principal Magnetic Storms	289	290	291	292	293	294	295	296	
Reduced Magnetograms	---	---	---	296					
Sudden Commencement and Solar Flare Effects	295	295	295	296	296	296			
27-Day Chart of Kp Indices for Year	294	294	294	294	294	294			
27-Day Chart of C9 for Year	294	294	294	294	294	294			
High Latitude Quality Figures and Forecasts	289	290	291	292	293	294	295	296	
High Latitude Comparison Graphs	289	290	291	292	293	294	295	296	
Graphs of Transmission Frequency Range	289	290	291	292	293	294	295	296	
IUWDS Alert Decisions	288	289	290	291	292	293	294	295	296

* 7.6 - 41 MHz before FB-291

Table of Contents
for March 1969 Data

	Page
<u>Alert Period</u>	
IUWDS Alert Periods	4-5
<u>Daily Solar Indices</u>	
12-Month Tables Sunspot Numbers, R_z , and 2800 MHz Flux Adjusted to 1 A.U.	6
Combined Table Sunspot Numbers and Solar Fluxes	7
Graphs of Sunspot Cycle	8
Zürich Smoothed Observed and Predicted Sunspot Numbers	9
<u>Solar Flares</u>	
Flares of Numerical Importance 1 or Greater	10-13
Subflares	14-15
No-Flare-Patrol Chart	16
<u>Sudden Ionospheric Disturbances</u>	
SWF, SCNA, SEA, SPA, SES, SFD	17-29
Selected SID Events	30
<u>Solar Radio Waves</u>	
Outstanding Occurrences at Fixed Frequencies	31-46
Selected Solar Noise Bursts	47
408 MHz Solar Interferometric Chart - Nancay	48
169 MHz Solar Interferometric Chart - Nancay	49
10.7 cm East-West Solar Scans - ARO, Ottawa	50
21 cm East-West Solar Scans - Fleurs	51
43 cm East-West Solar Scans - Fleurs	52
<u>Solar Wind</u>	
Pioneer 6 and 7	53-54
Vela 3 and 4	55
<u>Cosmic Ray Protons</u>	
Pioneers 6 and 7	56
<u>Solar Proton Event</u>	Unnumbered

For explanations of the data contained herein see "Descriptive Text" published in February 1969.

4
Mar 69

ALERT PERIODS
INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MARCH 1969

MAR 1969	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT			
			NO.	TYPE	TIMING	ELABORATION
01	0400		01771 01772	Soflare Flares Magstorm	Expected Expected	S20E09 Minor
02	0400		02773 02774	Soflare Flares Magstorm	Expected Ends	S15W02
03	0400		03775	Soflare Flares	Expected	S22W18
04	0400		04776	Soflare Alert	Ends	
12	0715 1750 1801	Boulder Magstorm 12/0030Z Sac Peak Soflare 12/1738Z Importance 2B. N12W68 in progress 12/1742Z Corona Tenflare 1872 Flux Units 12/1740Z, ends 12/1759Z.				
13	0400			Stratwarm	Thursday	Stratwarm starts North Central Siberia moving generally Northward Moderate Increasing
14	0400			Stratwarm	Friday	Stratwarm exists Northern Siberia moving Poleward. Moderate.
15	0400			Stratwarm	Saturday	Stratwarm exists. Spreading across Pole to North America.
16	0400			Stratwarm	Sunday	Stratwarm exists Arctic Basin of Alaska.
17	0400		17777	Soflare Flares Stratwarm	Expected Monday	N22E80, N22E70, N13E50 Stratwarm exists Eastern Arctic Siberia
18	0613 0400	Kakioka Magstorm 17/0030Z	18778 18779	Soflare Flares Magstorm Stratwarm	Expected Begins Tuesday	N14E20, N22E55 17/0031Z Minor Stratwarm exists East Siberian Sea - Beaufort Sea
19	1009 0400	Mitaka Soflare 18/0627Z Importance 2B N13E17	19780 19781	Soflare Flares Magstorm Stratwarm	Expected Ends Wednesday	N14E07, N22E42 Stratwarm exists Beaufort Sea Moderate Decreasing.
20	0032 0400	Kakioka Magstorm 19/1958Z	20782 20783	Soflare Flares Magstorm Stratwarm	Expected Begins Thursday	N14W06, N22E29 19/1949Z Minor Stratwarm exists Beaufort Sea Moderate Decreasing.
21	0202 0251 0400	Carnarvon suspected Proton Flare 12X 21/0143Z Importance 2B N22E08 umbral coverage in progress 21/0202Z Carnarvon Tenflare 476% 21/0152Z in progress 21/0200Z end 21/0251Z	21784 21785	Soflare Flares Magstorm Stratwarm	Expected Exists Friday	N22E16 Delta Resurgence in disturbance ex- pected. Stratwarm exists Bering Strait Weak
	0500	Toyokawa Tenflare 570% 21/0122Z in progress 21/0320Z				

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MARCH 1969

MAR. 1969	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT			
			NO.	TYPE	TIMING	ELABORATION
22	0400		22786	Soflare Flares	Expected	N22E07
	0656	Carnarvon Tenflare 257% 22/0644Z in progress 22/0656Z end 22/0701Z	22787	Magstorm Stratwarm	Exists Saturday	Minor Stratwarm ends
	1631	Toyokawa Tenflare 240% 22/0643Z end 22/0654Z.				
23	0400		23788	Soflare Flares	Expected	N20W08
			23789	Magstorm	Exists	Minor
24	0049	Kakioka Magstorm 23/1828Z				
	0200	Boulder Magstorm 23/1825Z				
	0400		24790	Soflare Flares	Expected	N20W20 Delta
	1400	Izmiran Magstorm 23/1830Z	24791	Magstorm	Exists	Moderate
	1500	Irkutsk Magstorm 23/1830Z Major				
	2040	Deep River Forbush decrease in progress 24/2015Z.				
25	0400		25792	Soflare Flares	Expected	N20W33 Delta
			25793	Magstorm	Ends	
	1423	Izmiran Magstorm ends 24/1900Z	25794	Cosmic Event	Exists	Forbush decrease
26	0400		26795	Soflare Flares	Expected	N20W46
			26796	Cosmic Event	Exists	Approximately 7.5% Forbush de- crease
27	0400		27797	Soflare Flares	Expected	N20W60
	1348	Canaries suspected proton flare 123XX 27/1313Z. Importance 2B N21W70 Ten- flare 490%. Umbral coverage End 27/1346Z	27798	Cosmic Event	Exists	Forbush decrease
	1426	Ottawa Tenflare 470% 27/1315Z in progress 27/1404Z				
28	0400		28799	Soflare Flares	Expected	N20W73 N11E77
			28800	Cosmic Event	Exists	Forbush decrease
29	0400		29801	Soflare Flares	Expected	N13E79
			29802	Cosmic Event	Ends	
30	0310	Carnarvon Tenflare 6650% 30/0248Z in progress 30/0250Z				
	0400		30803	Soflare Flares	Expected	N10E51
	1512	Boulder small proton event exists 30/0700Z				
31	0245	Toyokowa Tenflare end 30/0400Z, starting time 30/0247Z, max. time 30/0248Z, max. flux 32,000. West Limb.				
	0400		31804	Soflare Flares	Expected	N10E40
			31805	Magstorm	Begins	30/2120Z

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

1968 FINAL

1969 PROVISIONAL

DAY	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.
1	122	126	139	55	98	78	75	89	104	68	92	113
2	108	144	134	37	91	82	73	76	109	75	96	111
3	98	143	121	30	92	119	108	76	113	72	98	110
4	96	138	114	26	94	118	119	81	116	98	86	110
5	89	127	115	28	94	111	118	97	118	117	94	111
6	85	142	129	41	95	96	126	92	117	128	101	112
7	79	135	138	54	100	90	135	92	116	146	122	111
8	82	128	119	89	113	106	112	89	122	150	101	110
9	94	122	103	91	98	128	87	105	130	152	108	111
10	104	117	99	99	90	138	70	111	117	154	85	110
11	95	106	87	124	104	145	95	106	101	138	74	110
12	83	82	105	152	116	150	99	94	68	137	64	110
13	60	91	108	147	142	153	70	94	75	124	55	110
14	96	80	114	138	165	113	76	85	81	119	54	110
15	110	95	107	123	172	88	90	84	84	116	70	111
16	114	103	103	129	170	84	88	84	67	116	87	115
17	91	114	113	117	160	81	82	82	77	100	104	117
18	63	136	121	96	148	85	108	77	93	85	101	121
19	53	138	107	102	136	88	112	80	101	73	126	119
20	63	140	103	93	122	84	114	92	102	76	142	119
21	64	142	108	93	138	90	122	84	107	85	169	20
22	68	143	94	86	143	99	134	81	114	105	213	20
23	50	149	101	93	126	118	136	76	114	88	208	15
24	48	165	113	101	108	149	139	67	125	103	201	14
25	64	146	111	124	86	187	138	80	131	102	198	15
26	50	121	107	130	77	184	133	89	140	99	196	14
27	57	139	102	127	67	176	138	87	148	78	182	15
28	82	133	111	118	49	149	118	73	139	79	159	14
29	71	135	94	129	64	137	114	73	139	82		14
30	96	126	88	115	68	91	112	83	119	80		15
31		136		93	63		99		117	95		13
MEAN	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	104.5	120.9	138.5

1968 yearly mean = 105.9

DAILY SOLAR FLUX AT 2800 MHz OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1968

1969

DAY	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.
1	143.8*	144.8	152.0*	128.3	134.2	129.5*	136.5	153.4*	140.2	139.9	129.8	165.6
2	144.1	148.2	145.4	120.3	134.2	134.2	136.3	151.5*	149.9	142.1	139.0	152.0
3	137.1	156.3	143.8	117.2	140.9*	142.8*	145.2	146.1	149.6	144.1	139.1	147.8
4	131.7	154.5*	144.0	116.0	135.6	145.2	146.1	140.3	147.9	154.5	137.8	143.9
5	129.1*	156.0*	138.3	119.4	135.9	139.6	147.9	132.9	146.6*	162.5	138.9	135.9*
6	125.1	148.5	145.5	120.1	148.0	136.0	145.3	131.4	142.9	178.9	138.5	139.4
7	124.7	145.4	152.2*	135.0	139.8	141.1	146.9	129.1	140.2	183.0	140.3	138.1
8	130.7	141.6	154.6	147.1*	141.8	149.4	141.6	133.1	141.8	183.1	134.3	137.3
9	141.1	139.8	149.0	153.6	146.7	149.4	137.3	135.4	145.6	183.3	133.3	141.8
10	142.8	139.7	147.9	157.0	146.6	156.2	134.6	135.2	148.0	169.3	129.6	137.8
11	138.4	133.5	146.5*	162.8	150.7	152.5	133.9	132.6*	143.6	168.5*	128.9	136.0
12	142.7	127.3	143.4	166.1	161.6	156.0	136.8	129.3*	139.0	163.1	124.6	138.5
13	141.9	128.3	143.4	155.6	170.8	150.6	127.2	131.5	131.5	157.2*	126.2	134.0
14	138.3	138.2	139.5	155.9	185.1*	146.7	132.1	131.3	134.3	153.3	125.0	139.0
15	140.0	141.8	139.7	147.9	185.7	135.7	137.0	133.5	134.1	154.1	124.8	161.8
16	141.0	150.7	138.2*	149.5	179.0	132.0	137.2	127.6	127.0	152.8	128.0	174.9
17	132.2	166.5*	139.6	143.6	169.2	131.5	142.5	140.5	130.2	149.1	134.3	200.1
18	127.7	178.4	143.2*	135.2	164.8	128.7	149.6	148.0	133.9	144.3	139.4	210.9
19	125.3*	185.3*	147.5	135.3	159.8	127.3	153.7	141.3	141.9	131.6	150.0	208.5
20	122.8	193.6	151.5	133.9	159.9	127.4	155.5	139.1	144.7*	128.0	159.1	213.7*
21	123.4	194.6	157.2	133.0	158.6	133.6*	163.3	133.8	147.1*	131.9	169.2	230.8*
22	115.6	190.3	154.6	139.0	153.8*	127.5	164.8*	131.0	147.3	133.9	184.7	222.5
23	111.7	185.7	163.8	146.1	137.7	126.8	167.0	132.3	146.3	124.8*	201.4*	205.8*
24	117.5	182.6*	157.5	152.7	130.8	143.0	173.3	134.2	154.0	130.8	205.8	195.4
25	119.9	181.0	154.0	158.2	124.2	158.1*	171.7	135.3	155.3	134.1	207.1	181.1
26	114.3	177.1	146.2	154.4	118.0	160.0*	172.5	135.2	154.0	142.2	194.7	191.2*
27	119.1	170.9	147.6	146.8	114.5	157.8	172.8*	134.1	163.5	131.5	197.1	177.7*
28	128.4	158.1	142.8	143.6	119.4	158.8	171.0	129.6	150.7*	129.6	180.5	177.5
29	128.0	150.9	139.1	144.3*	121.7	154.0*	191.1	128.2	147.2	129.2		181.9*
30	132.8	151.3*	135.9	138.6	125.5	144.3	163.9*	128.6	144.2	126.1		182.9*
31		148.9		134.7	123.5		159.5		139.6	126.4		185.5
MEAN	130.4	158.4	146.8	141.7	145.7	142.5	151.4	135.5	143.9	154.4	151.5	170.6

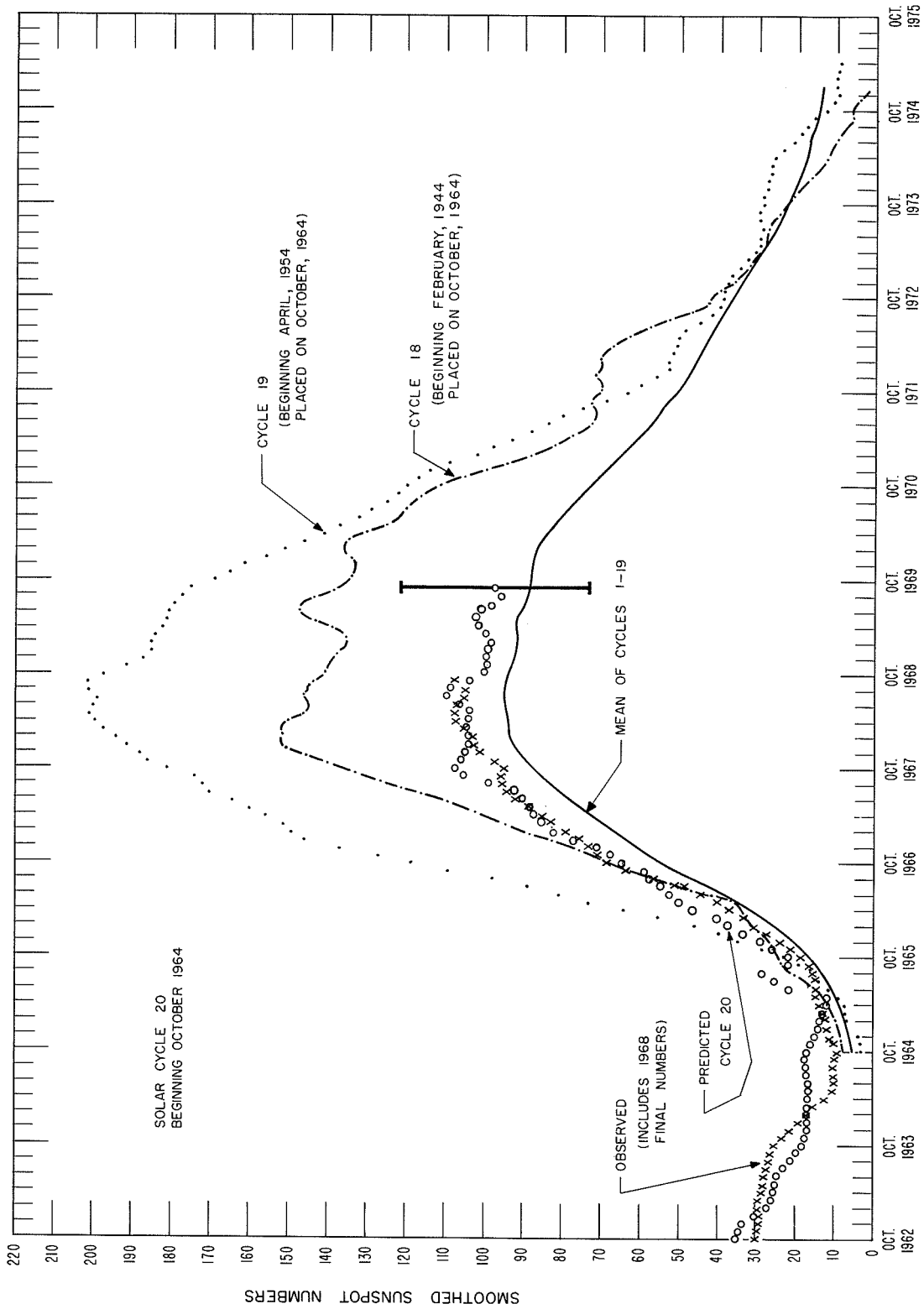
* adjusted for burst

DAILY SOLAR INDICES

MARCH 1969

MAR 1969	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	60	3	13.2	13.1	168.6	304	259	165.6	154.9	106.6	65.0
02	61	4	11.1	11.7	154.6	285	243	152.0	144.6	102.1	64.8
03	62	5	10.3	11.4	150.4	288	230	147.8	138.0	96.8	64.2
04	63	6	10.8	11.5	146.2	293	228	143.9	137.0	96.5	63.1
05	64	7	11.7	11.2	138.1*	292	225	135.9*	136.3	99.5	65.4
06	65	8	12.3	10.1	141.5	288	225	139.4	133.0	94.8	64.3
07	66	9	11.5	9.2	140.2	285	221	138.1	129.3	94.6	64.5
08	67	10	10.8	8.8	139.3	286	222	137.3	132.2	95.2	62.6
09	68	11	11.3	11.2	143.8	287	221	141.8	133.3	97.8	62.6
10	69	12	10.7	10.6	139.6	281	213	137.8	129.3	90.0	63.1
11	70	13	10.1	8.4	138.2	282	216	136.0	129.0	93.2	62.8
12	71	14	8.5	8.4	140.2	283	220	138.5	131.8	94.1	64.0
13	72	15	8.8	9.1	135.6	281	217	134.0	126.5	91.0	63.6
14	73	16	9.0	10.8	140.5	286	217	139.0	130.3	92.4	66.4
15	74	17	11.4	12.2	163.6	315	257	161.8	150.1	103.6	67.6
16	75	18	15.8	16.7	176.7	317	262	174.9	163.0	107.3	67.2
17	76	19	17.0	20.1	202.1	334	297	200.1	190.5	124.5	72.3
18	77	20	21.1	22.4	212.8	329	294	210.9	192.3	126.9	70.8
19	78	21	19.2	20.3	210.2	337	302	208.5	195.8	142.3	74.4
20	79	22	19.6	19.8	215.4*	353	317	213.7*	204.5	146.9	76.8
21	80	23	20.4	21.4	232.4*	353	326	230.8*	218.2	145.0	78.4
22	81	24	20.7	20.0	224.1	354	317	222.5	208.0	136.3	77.8
23	82	25	15.7	15.4	207.0*	339	300	205.8*	197.2	120.1	71.0
24	83	26	14.6	13.7	196.6	333	290	195.4	184.6	116.4	67.5
25	84	27	15.2	13.0	182.0	340	280	181.1	171.1	110.4	65.9
26	85	1	14.9	12.0	192.0*	348	303	191.2*	184.8	117.4	68.9
27	86	2	15.6	12.6	178.4*	337	274	177.7*	164.3	105.1	73.9
28	87	3	14.1	12.5	178.0	340	279	177.5	160.5	109.1	69.0
29	88	4	14.2	11.9	182.5*	350	299	181.9*	168.2	100.2	68.3
30	89	5	15.8	12.8	183.3*	338	304	182.9*	174.5	103.0	68.4
31	90	6	13.8	13.1	185.9	336	302	185.5	171.7	101.1	66.4
MEAN			138.5	134.0	172.3	315	263	170.6	160.8	108.4	67.8

* Adjusted for Burst



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.1	105.9 (4)	105.0 (9)	103.8 (12)
1969	103.1 (15)	102.7 (16)	102.3 (18)	102.3 (20)	102.1 (23)	101.1 (23)	99.4 (22)	98.0 (22)	97.2 (24)	96.3 (25)	95.7 (25)	95.5 (25)
1970	94.6 (25)	93.5 (25)	92.1 (25)	90.1 (25)	88.1 (23)	86.1 (22)	84.1 (22)	82.1 (21)	80.2 (20)	78.2 (20)	75.4 (19)	72.7 (18)
1971	70.3 (17)	68.1 (16)	66.0 (16)	63.5 (16)	60.9 (18)	58.9 (19)	57.5 (20)	55.9 (21)	53.9 (21)	52.0 (20)	50.6 (21)	49.3 (22)
1972	48.2 (23)	47.1 (24)	46.0 (25)	45.0 (24)	44.0 (25)	42.9 (24)	41.2 (24)	39.5 (24)	38.0 (25)	36.9 (27)	36.0 (28)	34.5 (28)
1973	32.9 (28)	31.8 (27)	30.5 (27)	29.2 (27)	28.0 (27)	26.7 (26)	25.5 (25)	24.8 (25)	24.1 (25)	23.2 (24)	22.4 (23)	21.6 (21)
1974	20.7 (21)	19.7 (21)	19.0 (21)	18.4 (20)	18.1 (20)	17.7 (19)	17.0 (19)	16.4 (18)	15.9 (18)	15.4 (18)	15.0 (18)	14.7 (18)
1975	14.7 (18)	14.7 (19)										

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

10
Mar 69

SOLAR FLARES

PARTIAL LISTING

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

~~FEBRUARY~~ 1969

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM- PORTANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS						
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hr	MAX. INT. %							
	1969																							
	MAR																							
MANI	01	0650	0725	0659	S19	E00	.204	9957	1.3	35	1N	2	P	0659	3.20	3.63								
WEND	01	0922E	0948		S16	E03	.161	9957	1.6	26D	1N	2	P	0948	4.13									
HALE	01	2149	2203	2152	N11	W89	1.000	9946	23.2	14	2B	3	C	2152	.41						A			
[	MANI	02	0251	0331	0256	S25	W06	.320	9957	1.7	40	2N	2	P	0256	6.19	6.54						
HALE	02	0253	0352D	0256	S26	W05	.332	9957	1.7	59D	2R	2	P	0256	6.70	7.10					H			
[	CATA	02	1110	1135D	1115	N11	E67	.934		7.5	25D	-B			1115	.40			251				
WEND	02	1112F	1132		N11	E68	.940	9966	7.6	20D	1N				3.09									
[	MANI	02	2247	2323	2300	N16	E39	.708	9966	5.9	36	1F	2	V	2300	1.65	2.30						
SACP	02	2249	2344	2300	N15	E37	.681		5.7	55	-N				1.26	1.45								
MANI	03	0324E	0332	0327	N11	W90	1.000	9946	24.4	8D	1N	2		0327	2.06	6.60								
[	CAPS	03	1319	1344D	N16	E33	.644		6.0	25D	-R	2		1322	.60	.90					256		
WEND	03	1321	1342		N15	E27	.571	9966	5.6	21	1F				3.09									
[	MCMA	03	1322	1350	1330	N17	E28	.599	9966	5.7	28	-N		V	1330	.52	.60						
SACP	03	2217	2256	2227	N12	E46	.762	9966	7.4	39	1R			C	2225	3.43	4.31				E			
[	MANI	03	2223E	2302	2225	N12	E48	.782	9966	7.5	39D	1N	1		2225	2.58	4.00						
[	ONDR	04	0823E	0907		N17	E14	.468	9966	5.4	44D	1F		V	0834			1.60			CFHJK		
MANI	04	0849	0903	0852	N17	E20	.519		5.9	14	-F	2		0852	.83	1.00								
[	ONDR	04	1048	1105	1052	N15	E12	.426	9966	5.3	17	1F		V	1052			1.70			CFJ		
ARCE	04	1058E	1058D		N16	E14	.455		5.5		-N		P	1058	.69	.80								
[	MANI	05	0633	0651	0636	N17	E74	.974		10.8	18	-N	2		0636	.72	1.80						
ONDR	05	0633	0657	0637	N12	E65	.923	9976	10.1	24	1N		V	0637			2.60				CDJ			
[ONDR	05	0806	0844	0813	N12	E64	.917	9976	10.1	38	1N		V	0813			2.40				CDJ		
[MANI	05	0808	0835	0811	N17	E74	.974		10.9	27	-F	2		0811	.52	1.20					CDHJ		
ONDR	05	0910E	1000		N12	E63	.910	9976	10.1	50D	1N		V	0936			2.30				A			
CAPS	05	1537E	1630D		N14	E90	1.000	9980	12.4	53D	1N	3			1624	.83	.90				EL			
[	MCMA	05	1619	1659	1624	N13	E26	.542	9966	7.6	40	-R		C	1626	1.80	2.10				190		
CAPS	05	1624	1630D		N11	E25	.513	9966	7.6	6D	1N	2			1626	1.80	2.10							
MANI	07	0213E	0245D	0223	N13	W03	.350	9970	6.9	32D	1N	2		0223	2.27	2.40								
[ARCE	07	0942E	1005		N19	E55	.868		11.5	23D	-N		C	1003	.37	.70					E		
ONDR	07	0956E	1010		N17	E51	.828	9984	11.2	14D	1F		V	0959			2.00				CJ			
[MONT	07	1023	1104	1033	N13	W06	.360	9966	7.0	41	1N		C	1033	2.78								
[ARCE	07	1026	1101D	1033	N13	W08	.371		6.8	35D	-N		C	1033	1.88	2.00					H		
[HERS	07	1042E	1052D	1045	N13	W10	.384		6.7	10D	-N		P	1045	1.75	1.90	1.60			55	D		
WEND	07	1050E	1122		N12	W08	.356	9966	6.9	32D	1N		V		5.16									
[MCMA	07	1537	1555	1541	N12	W10	.369	9966	6.9	18	-N		C	1541	.62	.70					E		
WEND	07	1540E	1603		N13	W10	.384	9966	6.9	23D	1F		V		4.13									
HALE	07	2105	2116	2107	S12	E88	.998	9986	14.5	11	1N	2	C	2107	.57									
[HALE	08	1805	1818	1806	N14	W24	.529		7.0	13	-N	3	C	1806	.46	.50							
[MCMA	08	1806	1850	1813	N11	W22	.477	9966	7.1	44	-R		C	1813	.62	.70					E		
[SACP	08	1806	1849	1816U	N11	W21	.466	9966	7.2	43	1N		C		2.16	2.21							
HALE	08	1807	1855D	1817	N12	W20	.465	9966	7.3	48D	1R	3	C	1817	2.42	2.70					F			
[WEND	09	1012E	1028		N13	W39	.691	9966	6.5	16D	1N		V		4.13								
[HTPR	09	1015	1025	1017	N15	W40	.713		6.4	10	-R		C	1017	.62	.90							
[HTPR	09	1202	1215	1207	N15	W40	.713		6.5	13	-R		C	1207	.52	.70							
[CAPS	09	1213E	1227D		N11	W50	.799	9966	5.8	14D	1R	2		1214	1.70	2.70					237		
[SACP	09	1912	1936	1921	N14	W45	.760	9966	6.4	24	1R		C		2.51	3.13							
[HALE	09	1919E	1936	1920	N21	W46	.801	9966	6.4	17D	1R	2	P	1920	2.27	3.50							
[SACP	09	2232	2253	2236	N15	W46	.774	9966	6.5	21	1R		C		1.98	2.50							
[MANI	09	2232	2253	2236	N14	W44	.750	9966	6.6	21	1N	2		2236	1.65	3.01							
ARCE	10	0705E	0710		S19	E90	.999	9988	17.0	5D	1R		C	0705	.46	2.70								
[ARCE	10	0818	0825	0823	S22	E90	.999	9988	17.1	7	1N		C	0823	.40	2.20							
WEND	10	1325	1333		N16	W54	.851	9966	6.5	8	1F		V		2.58									
[HALE	11	0151	0157		S15	E88	.998	9988	17.7	6	1N	2	P	0154	.36								
[MONT	11	1303	1315D	1314	N14	W57	.870	9966	7.3	12D	1N		C	1314	2.37								
CAPS	11	1318E	1322		N12	W51	.811		7.7	4D	-F	3		1319	.80	1.30					152			
[MCMA	12	1735	1808	1741	N10	W80	.989	9966	6.7	33	2R		C	1741		6.00						AFILV	
[SACP	12	1739	1800	1742	N12	W78	.984	9966	6.9	21	3R		C		5.04							VZ	
[HALE	12	1747E	1849		N14	W76	.979	9966	7.0	62D	3R	2	P	1747	4.69								
[SACP	12	1954	2031	2006	N12	W70	.952	9966	7.6	37	1R		C		1.62	3.26							
[HOUT	12	1955U	2007	2000	N13	W70	.953	9966	7.6	12U	1R		C		.90	2.30						HI	
[MCMA	12	1958	2022	2008	N12	W81	.992	9966	6.8	24	1R		C	2008								EL	
[HALE	12	2000	2031	2007	N14	W70	.954	9966	7.6	31	1R	1	C	2007	1.60							HI	
[HOUT	12	2220	2229	2223	N13	W70	.953	9966	7.7	9	1R		C		1.60	4.40							
[SACP	12	2221	2236	2230	N13	W73	.967	9966	7.5	15	2R		C		3.83	8.48							
[HALE	12	2225	2250	2234	N15	W73	.969	9966	7.5	25	2R	1	C	2234	2.68								
[HALE	13	0035	0107	0041	N15	W74	.973	9966	7.5	32	1R	1	C	0041	1.44								
[SACP	13	0037	0053	0043	N13	W71	.958	9966	7.7	16	1N		C		1.55	3.26							
[ISTA	13	0734	0744	0739	N13	W72	.963		7.9	10	-R												
[ONDR	13	0739E	0749	0743	N12	W82	.994	9966	7.2	10D	1N		V	0743			2.50					ACEJ	

SOLAR FLARES

MARCH 1969

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS	
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MC MATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %		
1969				LAT.	MER. DIST.															
HOUT	13	1701	1709	1703	N13	W90	1.000	9966	7.0	8	1R									HI
HALE	13	1704	1731	1709	N16	W88	1.000	9966	7.1	27	1R	2	C	1709	1.24	2.80				DX
MCMA	13	1705	1720	1708	N12	W90	1.000	9966	7.0	15	-R			1708						
SACP	13	1705	1716	1709	N13	W84	.997	9966	7.4	11	1R				1.01					
SACP	13	2035	2045	2041	N13	W88	1.000		7.3	10	-R				.71					
HOUT	13	2036E	2040	2036U	N13	W90	1.000		7.1	4D	-N				.50	2.00				HI
MCMA	13	2038	2110	2043	N12	W90	1.000	9966	7.1	32	-R			2043						X
HALE	13	2039	2102	2042	N15	W88	1.000	9966	7.3	23	1R	1	C	2042	1.03					
SACP	13	2247	2327	2256	S16	E47	.729	9988	17.5	40	1N				2.02	2.42				
MANI	15	2246	2259	2254	N20	E88	1.000	9994	22.5	13	1F	1		2254	.83	2.60				
MCMA	16	1405	1425	1408	N15	E35	.658	9994	19.2	20	-R			1408	1.29	1.70				E
HTRP	16	1405	1430	1408	N14	E34	.640	9994	19.1	25	1N			1408	1.65	2.10				
SACP	16	1406E	1424	1409	N15	E35	.658		19.2	18D	-N				.71	.81				
CAPS	16	1407	1422		N15	E37	.680		19.4	15	-R	2		1409	1.30	1.70			277	
SACP	16	2111	2135	2118	N23	W11	.530	9995	16.1	24	1R				3.96	4.15				
SACP	16	2332	2400	2340	N16	E30	.611	9994	19.2	28	1R				2.73	2.98				
WEND	17	0832	0856		N12	E41	.708	9994	20.4	24	1N				4.13					
WEND	17	0928	0953		N21	W14	.520	9995	16.3	25	1N				3.09					
SACP	17	1830	1920	1843	N19	E60	.903	9994	22.3	50	1N				1.73	2.83				
HTRP	18	0636E	0700	0638	N13	E17	.442	9994	19.5	240	1R			0638	2.06	2.20				
MONT	18	1153E	1241D	1159	N11	E28	.548	9994	20.6	480	1R			1159	2.37					
HTRP	18	1155	1210	1158	N12	E30	.580	9994	20.7	15	1N			1158	1.86	2.20				
HOUT	18	1907	1938	1914	S13	E45	.703	9999	22.2	31	2N				3.80	5.30				E
SACP	18	1909	2026	1935	N19	E44	.773	9994	22.1	77	1N				2.24	2.84				
MANI	19	0105	0124	0113	S26	E36	.631		21.7	19	1F	2		0113	2.06	2.70				
WEND	19	1101E	1130D		N18	E47	.796	9994	23.0	29D	1F				2.58					
HOUT	19	1450	1505	1454	N04	E18	.360	9994	21.0	15	1N				2.10	2.30				E
SACP	19	1705	1724U	1709	N16	E49	.806		23.4	19U	-N				.81	1.09				
HALE	19	1706	1719	1709	N16	E50	.815	9994	23.5	13	1F	2		1709	2.22	3.80				FL
MANI	19	2224E	2335		N15	W10	.410	9994	19.2	71D	1F	2		2225	2.27	2.50				
HOUT	19	2318E	2335	2318U	S13	E48	.738	9999	23.6	17D	1N				1.60	2.40				E
SACP	19	2318	2357U	2323U	N16	W10	.424	9994	19.2	39U	1N				3.45	3.49				
SACP	20	1449	1645	1557	N19	E19	.531	9994	22.0	116	1N				2.34	2.47				
CAPS	20	1451	1510D		N20	E22	.568		22.3	19D	-R	1		1505	1.50	1.80			210	
HTRP	20	1504	1537D		N20	E23	.577		22.4	33D	-N			1520	1.65	1.90				
HOUT	20	1551	1620	1556	N01	E29	.501	9994	22.8	29	1R				3.10	3.60				E
HTRP	20	1558	1635D		N20	E20	.551	9994	22.2	37D	1N			1558	2.27	2.60				BE
CAPS	20	1625E	1631D		N18	E28	.606	9994	22.8	6D	1N	1		1629	2.10	2.70			182	F
SACP	20	1628	1700	1634	N13	W08	.368	9994	20.1	32	1N				2.12	2.12				
CAPS	20	1629	1631D		N12	W07	.347		20.2	2D	-R	1								
HTRP	20	1631	1645D		N14	W10	.395	9994	19.9	14D	1R			1633	3.09	3.20				
HALE	20	1634E	1651D		N12	W09	.359	9994	20.0	17D	1R	1		1634	3.09	3.30				F
HALE	21	0125	0340	0147	N19	E10	.467	9994	21.8	135	1R	2		0147	4.43	5.00				FZ
MANI	21	0138	0420	0202	N18	E15	.486	9994	22.2	162	2R	2		0202	5.16	5.96				
HALE	21	0144	0352D	0220	N20	E20	.551	9994	22.6	128D	2R	2		0220	3.76	4.50				WFZ
ARCE	21	0820	0848	0820	N10	W10	.337		20.6	28	-N			0820	1.26	1.30				
CAPS	21	0821	0839		N09	W07	.300		20.8	18	-R	3		0824	.60	.60			270	
MANI	21	0821	0847	0825	N11	W07	.331		20.8	26	-N	2		0825	.62	.65				
HTRP	21	0821	0837	0825	N11	W08	.337		20.7	16	-N			0825	.93	1.10				
NERA	21	0821	0827		N12	W04	.333	9994	21.0	6	1N	3								
ONDR	21	0822E	0841		N12	W08	.352	9994	20.7	19D	1N			0823					2.10	CH
CATA	21	0825	0835D	0825	N11	W07	.331		20.8	10D	-R			0825	.98	1.04			275	
MANI	21	0843	0854	0848	N20	E16	.519		22.6	11	-N	2		0848	.93	1.10				
HTRP	21	0845	0852		N20	E12	.492	9994	22.3	7	1N			0849	2.06	2.30				
CAPS	21	0846	0852		N18	E12	.465		22.3	6	-N	3		0849	.90	1.00			175	
HTRP	21	0913	0950	0930	N20	E20	.551		22.9	37	-N			0930	1.13	1.30				E
MONT	21	0913	0942	0927	N20	E19	.543	9994	22.8	29	1N			0927	2.68					
ARCE	21	0920	1000	0926	N20	E18	.534	9994	22.7	40	1N			0926	1.79	2.10				F
MANI	21	0922	0947D	0928	N19	E19	.531		22.8	25D	-N	2		0928	1.55	1.85				
NERA	21	0923	0928		N16	E20	.505	9994	22.9	5	1N	3								
CAPS	21	0925E	0953		N19	E29	.625		23.6	28D	-R	3		0928	1.30	1.60			256	C
ONDR	21	0935E	0953		N18	E21	.537	9994	23.0	18D	2F			0937					1.90	J
CAPS	21	0938	1027D	0952	S30	E21	.504		23.0	49D	-R	3		0952	1.20	1.40			430	H
HTRP	21	0950	1011	0953	S32	E19	.509		22.8	21	-R			0953	1.03	1.20				
ONDR	21	0952E	1012		S31	E25	.552	1	23.3	20D	-N			0953					2.50	CJ
ARCE	21	0952E	1045		S30	E21	.504		23.0	53D	-N			0952	1.58	1.80				HF
MONT	21	1106	1112	1110	N21	E13	.512	9994	22.4	6	1N			1110	2.37					
CAPS	21	1109	1113		N19	E14	.492		22.5	4	-R	3		1110	1.00	1.20			237	
NERA	21	1302	1348		N18	E08	.442	9994	22.1	46	3F									
CAPS	21	1332E	1512D		N19	E11	.472	9994	22.4	100D	3R	3		1333	12.00	13.00			580	
ONDR	21	1334E	1351D		N20	E08	.472	9994	22.2	17D	2B			1335					3.10	F
CAPF	21	1345E	1500D		N20	E07	.468	9994	22.1	75D	2N			1351	7.22	8.40				
CATA	21	1353E	1420D	1405	N20	E10	.481	9994	22.3	27D	1R			1405	2.61	3.01			327	EFZ

SOLAR FLARES

MARCH 1969

OBSERVATORY	OBSERVED UT			LOCATION					DURATION MIN.	IM- POR- TANCE	OBS.		MEASUREMENTS				REMARKS		
	DATE 1969	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MC MATH PLAGE REGION			CMP DAY	COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH H α	MAX. INT. %
					LAT.	MER. DIST.													
ARCE	21	1426E	1548		N20	E12	.492	9994	22.5	82D	1B	P	1426	2.62	3.00			FZ	
ARCE	21	1513	1522D		S32	E19	.509	1	23.1	90	1N	C	1514	2.18	2.50				
ARCE	21	1540	1548D		S31	E19	.498	1	23.1	80	1N	P	1548	1.79	2.10				
SACP	21	1821	1910U	1824	N20	E10	.481		22.5	49U	-N	C		1.85	1.90				
SACP	21			1832															
HALE	21	1821	1837	1823	N23	E00	.500		21.8	16	-N	2	C	1823	.77	.90			
HALE	21	1821	1935	1829	N21	E16	.532	9994	23.0	74	1B	2	C	1829	1.86	2.20			
SACP	21	1943	2018	1945	N21	E05	.476	9994	22.2	35	1B	2	C		2.77	2.84			
HALE	21	1943	2026	1945	N21	E05	.476	9994	22.2	43	1B	2	C	1945	2.06	2.30			
MANI	22	0429	0448D	0434	N22	E05	.491	9994	22.6	19D	1N	2		0434	2.68	3.09			
MANI	22	0608	0644	0612	N21	E01	.470	9994	22.3	36	1N	2		0612	2.22	2.54			
ONDR	22	0611E	0642		N19	W02	.439	9994	22.1	31D	1F	V	V	0612			1.80		
ONDR	22	0642	0700	0646	N09	W21	.444	9994	20.7	18	1B	V	V	0646			6.60		
MANI	22	0643	0659	0645	N10	W19	.429	9994	20.9	16	1N	2		0645	3.71	4.10			
WEND	22	0645E	0706		N10	W20	.441	9994	20.8	21D	1B	P	P		5.16				
MANI	22	0741	0834D	0748	S25	W09	.341		21.6	53D	1N	2		0748	2.06	2.20			
CATA	22	0755E	0810D	0755	S25	W08	.335		21.7	15D	-B		V	0755	1.79	1.91		211	
WEND	22	1058	1108D		N20	W07	.467	9994	21.9	10D	1N	V	V		3.09				
CAPS	22	1059	1115		N18	W04	.427		22.2	16	-N	3		1102	1.70	1.90	182		
CAPS	22	1210E	1229D		N20	E04	.458		22.8	19D	-B	3		1214	1.60	.70	200		
WEND	22	1228E	1242		N18	W14	.478	9994	21.5	14D	1N	V	V		2.58				
WEND	22	1329E	1356		N16	W13	.444	9994	21.6	27D	1R	P	P		5.16				
CAPS	22	1329F	1358		N18	W08	.442		22.0	29D	-B	3		1334	1.40	1.50	250		
MONT	22	1343E	1349D	1345	N18	W15	.486		21.4	6D	-N	C	C	1345	1.44				
HALE	22	2100	2120	2103	S12	W71	.940	9988	17.5	20	1F	1	C	2103	.62				
HALE	23	0016	0054	0019	S31	E01	.408		23.1	38	-N	1	C	0019	1.75	1.90			
MANI	23	0016	0040	0020	S32	E01	.424	0001	23.1	24	1B	2		0020	1.86	2.15			
MANI	23	0250	0335	0254	N19	W20	.539	9994	21.6	45	1R	2		0254	2.06	2.50			
HALE	23	0251	0342D	0255	N18	W22	.546	9994	21.5	51D	1R	2	C	0255	2.37	2.80			
MANI	23	0621	0805	0631	N21	W10	.494		22.5	104	-B	2		0631	1.34	1.53			
ONDR	23	0650E	0721D		N18	W16	.493	9994	22.1	31D	1N	V	V	0650			2.30		
WEND	23	0715E	0750D		N19	W12	.477	9994	22.4	35D	1N	V	V		5.16				
WEND	23	0741	1052		N18	W05	.429	9994	22.9	191	3N	P	P		19.59				
MANI	23	0750	0935	0806	N17	W07	.422	9994	22.8	105	1F	2		0806	3.09	3.40			
ONDR	23	0805E	0914D		N16	W12	.436	9994	22.4	69D	2F	V	V	0908			2.20		
WEND	23	1224E	1238		N17	W06	.417	9994	23.1	14D	1F	V	V		3.09				
SACP	24	1448	1504	1450	N18	W43	.757	9994	21.4	16	1N	C	C		1.94	2.40			
MONT	24	1449	1522	1451	N19	W41	.743	9994	21.5	33	1N	C	C	1451	2.37				
HOUT	24	1450	1456	1451	N15	W41	.721	9994	21.5	6	1N	C	C		1.70	2.60			
MANI	25	0548	0719	0600	N22	W40	.751	9994	22.2	91	1B	2		0600	2.68	4.08			
MANI	25																		
HTRP	25	0619E	0730		N21	W40	.745	9994	22.3	71D	1N	C	C	0625	2.89	4.50			
HTRP	25	0753	0830	0820	N15	W45	.762	9994	22.0	37	1F	C	C	0820	1.44	2.20			
MANI	25	0813	0847	0821	N18	W45	.776	9994	22.0	34	1N	2		0821	2.27	3.61			
NERA	25	1445	1447		N14	W65	.926	9994	20.7	2	1	3							
SACP	25	1454	1458	1455	N21	W59	.901		21.2	4	-N	C	C		.52	.83			
MONT	25	1455	1458	1456	N21	W58	.894		21.3	3	-N	C	C	1456	.77				
SACP	25	1811	1911	1839	N20	W39	.729	9994	22.8	60	1N	C	C		1.73	2.09			
HALE	25	1825E	1916	1835	N21	W39	.736	9994	22.8	51D	1R	2	P	1835	2.27	3.30			
HALE	25	1911	1942	1915	S10	E76	.966	0012	31.5	31	1F	2	C	1915	.62				
MANI	26	0155E	0307	0209	N21	W40	.745	9994	23.1	72D	1N	2		0209	1.75	2.70			
HALE	26	0240E	0316		N21	W37	.716	9994	23.3	36D	1N	2	P	0240	1.65	2.40			
MANI	26	0525	0550	0532	N20	W45	.785	9994	22.9	25	1F	2		0532	1.65	2.54			
MANI	26	0547	0628	0604	N22	W57	.890	9994	22.0	41	1N	2		0604	2.17	4.26			
HTRP	26	0608E	0612D		N20	W60	.905		21.8	4D	-N	C	C	0612	1.13				
MANI	26	0705	0743	0723	N20	W67	.946	9994	21.3	38	1N	2		0723	1.34	2.69			
HTRP	26	0706	0741	0724	N19	W70	.959	9994	21.0	35	1B	C	C	0724	1.44				
CAPS	26	0707E	0743		N18	W67	.943	9994	21.3	36D	1R	3		0722	1.80				
HTRP	26	1640	1707D		N24	E68	.957	0011	31.8	27D	1N	C	C	1643	.93		354		
SACP	26	1641	1714	1645	N24	E65	.942		31.6	33	-N	C	C		1.02	1.93			
HALE	26	1958	2114	2025	N17	W55	.860	9994	22.7	76	1N	2	C	2025	1.13	2.20			
MANI	27	0032E	0050	0040	N25	E65	.944		31.9	18D	-F	2		0040	1.03	2.10			
SACP	27	0039	0056	0044	N25	E66	.949	0011	1.0	17	1N	C	C		1.34	2.68			
HALE	27	0040	0059	0043	N25	E70	.966	0011	1.3	19	1B	1	C	0043	.62				
SACP	27	0109U	0115D	0111U	N22	W51	.845		23.2	6D	-N	P	P		.87	1.23			
MANI	27	0118	0315	0143	N20	W65	.935	9994	22.2	117	1N	2		0143	1.55	3.30			
HALE	27	0123	0229	0128	N23	W76	.985		21.4	66	-B	1	C	0128	.31				
HALE	27			0148	N21	W64	.931	9994	22.3	66	1R	1	C	0148	1.13				
NERA	27	1115	1132		N24	W65	.942	9994	22.6	17	1F	2	3						
NERA	27	1303	1306		N24	W70	.965	9994	22.3	3	1N	3							
NERA	27	1315	1429		N22	W70	.963	9994	22.3	74	2R	3							
SACP	27	1320E	1500U	1327	N19	W70	.959	9994	22.3	100U	2R	C	C		2.50	5.26			
HOUT	27	1334E	1415	1344	N18	W67	.943	9994	22.5	41D	2R	C	C		3.60	9.70			
HERS	27	1337E	1430	1337U	N22	W67	.949	9994	22.5	53D	3N	C	C	1348	3.25	14.00	5.90	125	

SOLAR FLARES
MARCH 1969

OBSERVATORY	OBSERVED UT				LOCATION				DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE 1969 MAR	START	END	MAX. PHASE	APPROX. LAT. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %	
NERA	27	1406	1411		N20 W90	1.001	9994	20.8	5	1R	3						
NERA	27	1412	1421		N24 E65	.942	0011	1.5	9	1N	3						
SACP	27	1412	1431	1415	N25 E60	.917		1.1	19	-N				.41	.70		
ARCE	27	1416E	1425		N23 E58	.899		31.9	9D	-N		C	1416	.38	.80		
ARCE	27	1416F	1447D		N21 W71	.966	9994	22.3	31D	2N		C	1416	3.44	9.20		
SACP	27	1630	1641	1631	N07 E78	.982		2.5	11	-N		C		.51			
HALE	27	1630E	1636		N08 E79	.985	0014	2.6	6D	1R	2	P	1631	.52			FV
MANI	28	0213	0235	0217	N17 E90	1.001	0014	3.8	22	1N	2		0217	.83	2.70		
HALE	28	0231	0250	0237	N18 E77	.984		2.9	19	-F	3	C	0237	.46			
MANI	28	0421	0448	0428	N22 W90	1.001	9994	21.4	27	1N	1		0428	.72	2.30		
MANI	28	0610	0644	0626	N24 W78	.990	9994	22.4	34	1N	2		0626	1.03	2.60		
CAPS	28	1321E	1342		N06 E65	.914	0014	2.4	21D	1N	2		1322	.60			170
CAPS	28	1440	1444D		N06 E65	.914	0014	2.5	4D	1F	2		1442	.80			158
CATA	28	1450E	1505D	1450	N03 E63	.896		2.3	15D	-N			1450	.63			199
HALE	28	1910	1953	1919	N13 E70	.953	0014	3.0	43	1N	3	C	1919	1.13			
SACP	28	1913	1937	1920	N14 E70	.954		3.1	24	-N		C		.72	1.45		
MANI	29	0328E	0353D		S10 E05	.104	0016	29.5	25D	1N	1		0329	2.06	2.10		
ARCE	29	0846	0858D		N07 E53	.815	0014	2.3	12D	1N		C	0846	1.42	2.40		
MONI	29	1434	1521	1454	N16 E58	.881		3.0	47	-N		C	1454	2.06			H
CAPS	29	1440	1525	1454	N13 E57	.866		2.9	45	-R	3		1454	1.00	2.00		220
SACP	29	1444	1530	1455	N16 E56	.865		2.8	46	-N		C		.83	1.21		
CAPF	29	1459E	1510D		N15 E51	.819	0014	2.4	11D	1N		S	1500	1.18	2.17		BH
SACP	29	1911	1943U	1923	N10 E54	.832	0014	2.8	32U	1R		C		2.15	2.99		
HOUT	29	1920	1943	1923U	N09 F54	.830	0015	2.9	23	1N		C		1.50	2.60		
HALE	29	1942E	2034	2001	N09 E53	.820	0014	2.8	52D	1R	2	P	2001	2.89	5.10		E
SACP	29	2000	2040	2006	N10 E53	.823	0014	2.8	40	1R		C		2.98	4.08		
HOUT	29	2005E	2023	2007U	N08 E54	.827	0015	2.9	18D	1N		C		2.10	3.60		
HALE	30	0322	0403	0331	N26 E21	.623		31.7	41	-F	1	C	0331	1.24	1.60		
MANI	30	0332E	0440	0337	N26 E27	.668	0011	1.2	68D	1N	1		0337	2.58	3.40		
MANI	30	0332E	0400	0331	N19 W90	1.001	9994	23.4	28D	1N	1		0331	.62	2.60		
SACP	30	2143	2222	2153	N09 E41	.692		3.0	39	-N		C		.92	1.07		
HALE	30	2155E	2219	2200	N09 E40	.680	0014	2.9	24D	1N	1	P	2200	1.86	2.50		F

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 D₃ in emission.
- Q = Flare shows the Balmer continuum in emission.
- R = Marked asymmetry in H α line.
- S = Brightening follows disappearance of filament (same position).
- T = Region active all day.
- U = Close and somewhat parallel bright filaments (|| or Y shape).
- V = Occurrence of an explosive phase.
- W = Great increase in area after time of maximum intensity.
- X = Unusually wide H α 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 preceding table.

MARCH 1969

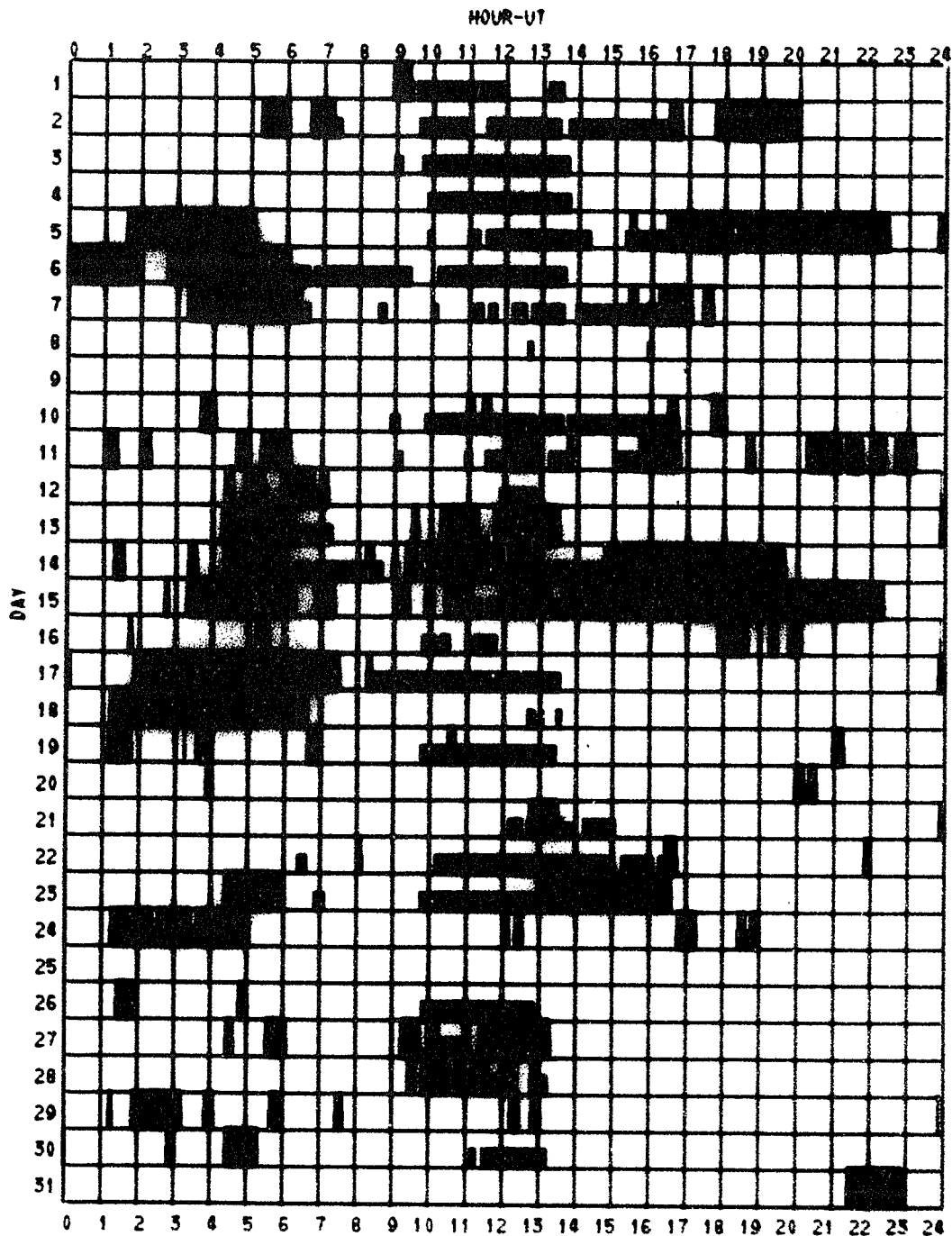
01 0720 S17 E07	01 1507 N12 W85	01 0159 S16 E07	01 0202E S16 E09	01 0442 N21 W68	01 0653 S20 E00
01 1858 S17 W04	01 1858 N13 W75	01 1608 S18 W02	01 1710 S19 W04	01 1714E S20 W06	01 1844 N11 W89
01 2213 S18 W07	01 2214E S18 W06	01 1906 N16 E51	01 1904E N15 E53	01 2032 S29 W90	01 2106 N11 W90
02 0251 N15 E46	02 0504E S26 W07	01 2253 S18 W04	01 2254 S17 W07	02 0020 N13 E55	02 0251 N16 E47
02 1849 N19 E56	02 2000E N13 E65	02 1413 N13 E68	02 1438 S20 W17	02 1450 N13 E68	02 1532 N19 E58
03 1148 N12 E54	03 1616 S14 E15	02 2118 S14 E24	02 2119 S13 E25	03 0122 S19 W19	03 0124 S18 W19
03 1749 S19 W29	03 1910 S16 E13	03 1617 S14 E14	03 1717 N16 W43	03 1728 N11 E53	03 1739 S19 W29
04 1434 N23 E02	04 1440 N02 E04	03 2100 S17 E10	03 2100 S18 E10	04 0551 S29 W31	04 1407 S17 W42
04 1532 N12 E40	04 1621 N17 E78	04 1443 N02 E00	04 1444 N02 F05	04 1531 N13 E36	04 1532 N11 E40
04 2253 S18 W45	05 0546 N17 E74	04 1627 N19 E87	04 2051 N12 E32	04 2054 N12 E38	04 2152 N02 E01
05 1438 N01 W13	05 1506 N03 W13	05 0551 S19 W06	05 0800E N16 E02	05 1222E N15 E73	05 1246 N15 E73
05 1649 S15 W12	06 1451E N14 E06	05 1510 N05 W10	05 1516E N17 W16	05 1539 N10 E16	05 1606 N11 E26
06 2235 N18 E01	06 2342 N13 W73	06 1706 N16 W16	06 1748 N11 W02	06 2057 S24 W74	06 2221 N13 W00
07 0904 N19 E56	07 1022 N19 E56	07 0000E N13 W00	07 0029 N07 W30	07 0705E N12 W15	07 0757 N12 W04
08 1232 N14 W25	08 1251E N33 E72	07 1212F N13 W12	07 1426E N17 W27	07 2124 N10 W18	08 1230E N14 W19
08 1425 S20 W93	08 1441 S17 W90	08 1257 S12 E88	08 1310 N33 E72	08 1400 N33 E72	08 1424 N33 E71
08 2047 S09 E75	08 2206 N13 W33	08 1455 N14 W23	08 2011 N13 W32	08 2013 N12 W33	08 2013E N12 W32
09 0015E N12 W30	09 0028 N13 W35	08 2204 N12 W34	08 2355 N12 W34	09 0000E N13 W35	09 0012 N12 W35
09 0708 N13 W25	09 0741 N08 W63	09 0240 N11 W49	09 0455 N13 W35	09 0635 N13 W37	09 0707 N12 W35
09 0925 N16 W41	09 0935 S11 E65	09 0829E N10 W50	09 0856 N12 W32	09 0910E N12 W54	09 0918 N14 W40
09 1448 N14 W42	09 1450 N15 W42	09 1217 S10 E70	09 1250E S10 E65	09 1321 N15 W42	09 1324E N14 W42
09 1619 N14 W43	09 1635E N33 E53	09 1452 N14 W42	09 1551E N15 W70	09 1617 N14 W43	09 1618 N15 W44
10 0621 N18 W59	10 0808 S22 E90	09 1640F N09 W56	09 1836 N30 E54	09 1844E N35 E58	09 2110 N10 W31
10 1025E N13 W44	10 1040 S11 W58	10 0809E S17 E89	10 0812 N20 E19	10 0815 N20 E16	10 0900 N12 W46
11 1019 S13 E88	11 1045 N12 W51	10 2323 S12 E92	11 0340 S05 E49	11 0750E S15 E43	11 0959 S15 E85
11 1544 N12 W55	11 1651E S11 E34	11 1355E S19 E78	11 1448 N15 W50	11 1448 N15 W53	11 1451E N17 W48
11 1952E S12 E33	12 0012 N11 W62	11 1653E S12 E34	11 1705E N12 W56	11 1752 S11 E34	11 1753E S12 E34
12 0334 N30 E20	12 0336 N31 E25	12 0050E N11 W63	12 0050E S13 E73	12 0228 N11 W64	12 0235 S16 E70
12 0730 N12 W64	12 1435 S14 E65	12 0346 N14 W61	12 0352 N09 W65	12 0554 N10 W66	12 0710E N16 W66
13 0735 S14 E56	13 1307 N12 W88	12 1444 S12 E70	12 2141 N12 W82	13 0234 N15 W74	13 0615 N10 W78
13 1521 N09 W22	13 1528 N31 E04	13 1333 N10 W88	13 1333E N11 W86	13 1418 N12 W90	13 1521 N09 W22
13 2117 S14 E50	13 2118 S14 E44	13 1629 S11 E11	13 1808 S11 E53	13 2023 N12 W90	13 2046 N21 E81
14 0850E S16 E48	14 1953 N24 E19	13 2118 S14 F44	14 0030E N16 W90	14 0154 S14 E50	14 0303 N11 E89
14 2222E S15 E34	14 2227 S31 E30	14 2211 S20 E38	14 2219 S16 E34	14 2220E S16 E34	14 2221 S27 E34
15 2030E N20 E90	15 2224E S17 E21	15 0840E N11 E62	15 1253 N12 E65	15 1445 N12 E64	15 1629 N13 E62
16 1158 N24 W04	16 1300 S12 W35	16 0000 N12 E60	16 0122 N17 E90	16 0447E N12 E60	16 0825E N17 E41
16 1456 N24 W08	16 1457 N25 W05	16 1326 N12 F62	16 1327 N12 E60	16 1328 N12 E64	16 1455 N23 W06
16 1935E N16 E31	17 0050 N22 W12	16 1705 N14 E38	16 1736 N15 E32	16 1753E N16 E33	16 1932E N16 E31
17 2127 N13 E20	17 2335 N13 E19	17 1358 N24 W20	17 1404 S12 W01	17 1816 S12 W44	17 1918 N12 E38
18 0810E N11 E31	18 0810E N12 E23	18 0002E N14 E17	18 0028 N19 E66	18 0048E N12 E35	18 0810E N21 E54
18 0950 N16 E48	18 0950 N20 E54	18 0810E N12 E15	18 0810E N17 E14	18 0853 S32 E61	18 0935 N14 W12
18 1340E N19 E51	18 1339 N19 E55	18 1059 N10 E20	18 1200 N13 E20	18 1200E N12 E22	18 1200E N10 E30
18 1538 N19 E57	18 1630 N12 E10	18 1343E N15 E50	18 1345E N17 F48	18 1400 S31 E60	18 1453 N23 E66
18 2016 N11 E08	18 2059 S25 E37	18 1707 N12 E25	18 1754 N20 E53	18 2014 S49 E23	18 2015 N07 E29
19 0150 N12 E19	19 0152 N12 E20	19 0010 N12 E21	19 0020 N19 F48	19 0039 N13 E07	19 0040 N14 E07
19 1530 N22 E33	19 1851 N21 E33	19 0602 N12 E05	19 0900 N20 E50	19 0940 N12 E03	19 1447 N13 E06
19 2306 N20 E38	19 2321 S17 E09	19 1858 S06 F43	19 1900E N21 F33	19 2018 S05 E36	19 2306 N19 E37
20 0716E N20 E29	20 0830E N11 W38	20 0034 S16 W27	20 0322 S18 E42	20 0705 N12 W05	20 0710 N20 E25
20 1138 S17 E30	20 1312 S25 E12	20 0845 N19 E35	20 0858E N21 F27	20 1006 N20 E29	20 1016E N11 W38
20 1351 S30 E33	20 1410 S31 E33	20 1327 N13 W08	20 1335E N13 E01	20 1335E N18 E25	20 1335E S13 W06
20 1508 N25 E39	20 1508 N12 E02	20 1410E S30 E39	20 1505 N13 W02	20 1505E N20 E42	20 1507 N13 W03
20 1630 N13 E06	20 1634E N19 E14	20 1510 N26 E46	20 1537E N15 E18	20 1537E N20 E40	20 1537E N18 E23
20 2316 N12 E04	20 2326 N21 E20	20 1818 S13 W42	20 2122 N13 W11	20 2146 N13 W11	20 2303 N23 E21
21 0241 N14 W14	21 0529 N11 W04	20 2348 N23 E21	21 0013 N11 W01	21 0015 N11 W03	21 0240 N12 W12
21 0717 N13 W24	21 0740E N17 E12	21 0625E N20 E20	21 0704 N20 E00	21 0710 N13 W25	21 0713 N14 W22
21 0828 N13 W24	21 0829 N12 W23	21 0745E N18 E12	21 0750 S31 E22	21 0806 N19 E16	21 0820 N13 W25
21 1016 N21 E05	21 1017 N10 W06	21 0830 N15 W25	21 0832E N11 W24	21 0839 N21 E12	21 0840 S32 E24
21 1435 S32 E19	21 1704 S11 W56	21 1212E S30 E18	21 1353E N17 E16	21 1415 S33 E16	21 1415 S30 E20
21 2135 S31 E16	21 2137 N20 E09	21 1847 S31 E17	21 1848 S33 E17	21 1917 S31 E14	21 1944 N10 E24
21 2334 N10 W16	22 0032 S30 E11	21 2140 S33 F16	21 2159 N13 W32	21 2310 S32 E11	21 2334 N11 W16
22 0203 N13 W32	22 0310 N12 W17	22 0034 S33 E11	22 0037E S32 E10	22 0134 N12 W16	22 0134 N13 W27
22 0359 N20 W01	22 0402 N20 W10	22 0310 N11 W18	22 0328 N11 W18	22 0355 N16 W01	22 0359 N23 E07
22 0810E N21 E02	22 0855 S30 E09	22 0505E N11 W18	22 0535E N21 F08	22 0550 N22 E12	22 0601 N11 W19
22 1452E N19 E11	22 1504E S30 E10	22 0858 S30 E12	22 0926E N14 W27	22 1000 N16 W50	22 1015 N17 W10
22 1843 N20 W03	22 1911 N19 W03	22 1504E N20 E07	22 1515 S09 W71	22 1738 N13 W34	22 1811 N19 W03
22 2024 N19 W19	22 2032 N22 W05	22 1943 N19 W18	22 1948E N18 W19	22 2023 N18 W19	22 2023 S07 W71
22 2242 S08 W80	22 2243 S09 W77	22 2107 N14 W44	22 2116 N22 W08	22 2123 N15 W50	22 2218E N20 W18
23 0049 N20 E08	23 0316 N17 W14	22 2320 N18 W20	22 2321 N19 W20	22 2354 S29 E01	23 0048 N20 W10
23 1819E S31 W08	23 1910 S12 W15	23 0413E S31 W03	23 0405 N20 W05	23 1639E S32 W07	23 1816 S32 W07
		23 1922 N20 W16	23 1924 S32 W12	23 1936 N05 W64	23 2146 S33 W13

SOLAR FLARES

MARCH 1969

23 2256 N13 W54	23 2328 S32 W13	23 232A S17 W26	24 0032 N21 W10	24 0036 N20 W14	24 0050 N12 W53
24 0506 N21 W14	24 055AE N21 W20	24 0726 N15 W57	24 0756 N17 W56	24 0845 N18 W42	24 0850 N18 W30
24 0947 N20 W43	24 1002 S22 W16	24 1142 N20 W45	24 1154 N21 W20	24 1320E N20 W39	24 1325 N19 W41
24 1358 N14 W61	24 1417 N18 W45	24 1419 N19 W43	24 1420 N19 W45	24 1455E N17 W40	24 1638 N18 W47
24 1900E N18 W48	24 1925 N12 W66	24 2013 N26 W07	24 2111 N18 W50	24 2113 N13 W67	25 0205 N22 W37
25 0403 S30 W30	25 0541 S31 W32	25 0639 S08 E85	25 0710 S08 E85	25 0948 N12 W60	25 1000E N13 W53
25 1114 N19 W58	25 1241 N19 W59	25 1245F N25 W55	25 1430 N19 W59	25 1440E N22 W58	25 1440 N19 W60
25 1442 N50 W28	25 1538 N20 W59	25 1540 N19 W61	25 1547 S28 W58	25 1736 N20 W60	25 1740 N50 W28
25 1806 N51 W63	25 1816 N24 W04	25 1816 N24 W04	25 1845 S29 W60	25 2158 N23 W55	25 2205 S29 W53
26 0006 S22 E84	26 0102 S12 E69	26 0103 S24 E53	26 0105 S25 E51	26 0708 S24 E42	26 0710 S23 E43
26 0809E N18 W46	26 0820E N21 W60	26 0820 N21 W58	26 0821 N21 W59	26 0826E S10 E07	26 0826E N21 W58
26 0832 N23 E75	26 1026E N16 W90	26 1251 S13 W46	26 1303 S08 E64	26 1313 N20 W45	26 1327 N05 E90
26 1452 N21 W63	26 1452 N22 W62	26 1453 N18 W55	26 1824 N20 W63	26 1825 N21 W62	26 1857 N17 W59
26 1907 S23 E42	26 2031 N21 W65	26 2032 N22 W65	26 2107 S18 E31	26 2108 S18 E31	26 2229 N23 W62
26 2237 N11 E90	26 2317 N22 W61	26 2326 S19 W30	26 2327 S18 E30	27 0000E S19 E30	27 0000E N30 E75
27 0216 N24 W69	27 0356 N22 W74	27 0740E N20 W70	27 0816 N12 W34	27 0906E N11 W34	27 0911 N25 W66
27 0941E N23 W67	27 0953E N18 E90	27 0955F N22 W65	27 1010E S33 E39	27 1016E S34 E38	27 1505 N10 E30
27 1711 N27 W69	27 1712 N24 W70	27 1712 S24 E30	27 1809U S34 W74	27 1809 S31 W68	27 2001 N13 E76
27 2002 N13 E75	27 2110 N25 E51	27 2145 N07 E73	27 2241 N22 W79	27 2241 N22 W85	27 2246 N14 E80
27 2344 N04 E72	28 0058E N19 W90	28 0330 N19 W72	28 0334 N09 E22	28 0357E N22 W90	28 0433 N22 W70
28 0520 N19 W73	28 0535 N21 W70	28 0758 N12 E78	28 0825 N24 W80	28 0940E N09 E18	28 1147 N08 E72
28 1203 N20 W80	28 1356 N13 E73	28 1447 S14 W70	28 1518 N21 W73	28 1527 N14 E67	28 1808 N14 E71
28 1837 S30 W72	28 1838 S32 W76	28 2106 N13 E66	28 2243 N13 E70	28 2254 N15 E68	28 2256E N12 E66
29 0013 N09 E63	29 0027 N17 E80	29 0042 N06 E58	29 0045E N06 E60	29 0353E N06 E58	29 0423 N07 E60
29 0458E N09 E04	29 0725 N16 E62	29 0730E N17 E57	29 0745E N16 E60	29 0816E S09 E02	29 0816E N16 E65
29 0830 N10 E02	29 0832 N09 E01	29 0854 N10 E59	29 0910E S09 E02	29 1010 N08 E52	29 1130 N18 E61
29 1235 N08 W01	29 1237E N09 W01	29 1335 N18 W88	29 1357 S10 W00	29 1414 N12 E54	29 1415 N12 E57
29 1439E N08 E56	29 1556 S33 W87	29 1557 S32 W88	29 1631 N09 W03	29 1815 N16 E53	29 2114 N19 W09
29 2206 N10 E54	29 2206 N09 E54	29 2212 S09 W06	29 2248 N09 W07	29 2251 N09 W07	29 2347 N17 E51
29 2348 N17 E50	30 0005 N10 E50	30 0008 N09 E51	30 0008 N09 E50	30 0030 S10 W07	30 0040 N06 E43
30 0041 N06 E45	30 0042 N07 E43	30 0059 N10 W08	30 0059 N09 W08	30 0121 N09 E51	30 0122 N10 E49
30 0155 N10 E49	30 0228 S08 W07	30 0249E N09 E50	30 0310 N10 E52	30 0312 N09 E53	30 1014 N11 E48
30 1057E N07 E39	30 1259E N11 E48	30 1553E S11 W12	30 1641 N09 W18	30 1731 N17 E40	30 2000 N12 E41
30 2150 S26 E20	30 2155E S24 E20	30 2215E S13 W44	31 0529 N23 E07	31 0609 N20 E07	31 0720 N13 E37
31 0722 S10 W22	31 0728E S10 W26	31 0728F N13 E36	31 0849E N26 W01	31 0942E S10 W23	31 1158 N14 E35
31 1203E N14 E38	31 1218 N26 E00	31 1304 N25 E13	31 1346 N25 E00	31 1346 N25 W00	31 1401 N25 W01
31 1439 N19 E49	31 1448 N24 E51	31 1512 N06 E34	31 1514 N05 E35	31 1522 N30 E50	31 1612 N10 E32
31 1617 N08 E35	31 1751 N12 E24	31 1855 S14 W73	31 1940 N12 F23	31 1948 N09 E19	31 2032 N26 W05
31 2337E N07 E23					

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE MARCH 1969



Observatories included in total patrol:

Arcetri	Catania	Houston	Ondrejov
Bucharest	Haleakala	Istanbul	Sacramento Peak
Capri-F (German)	Haute Provence	Manila	Wendelstein
Capri-S (Sweden)	Herstmonaux	Monte Mario	

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

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

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
01	0912	0934	0923	1	S 1-						AT	
01	0911	0930	0917	1				40			SL (R16-40)	0922E
01	0915	0928		1						1	PIJ	
01	0940	1018	0947	5	S 1						AT PU	NF
01	0941	0954	0944	1			1				PIJ	
01	0936	1024	0942	1				80			SL (R16-80)	
01	0938	0950		1						1	PU	
01	1618	1621	1620	1	S 1-						WS	NF
01	1553	1620	1558	1				5			HN (013-5)	NF
01	2000	2050	2012	3	SL 2-						HN WS MC	NF
01	2001	2056	2015	3		27 1					BO MC	
01	2006	2130	2020	3			3				A19 A22 A1 BO	
01	2000	2141	2019	5				72			HN (M23-72)	
01	2000		2015					151			HA (L20-68)	
01	2005	2050	2009	3							NT-JP/ 151	
01	2141	2230	2142	5	S 2-					1	A1 DV A21	
01	2141	2325	2146	3		75 2					HN WS TO MC CA	2149
01	2145	2300	2150	3							BO MC	
01	2141	2245	2149	5			3+				A19 A22 BO	
01	2142	2300	2150	3						2	HN (M23-129)	
01	2140	2144	2141	5				129			MA (K18-172)	
										14	HA (L20-104)	
											A1 DV A21	
											HA (WWWVH10-1.4,	
											WWWVH5-1.4)	
											BO (WWI13-0.9)	
01	2212	2215	2213	1	S 1-					10	BO (WWI13-1.0)	2213
01	2253	2300	2258	1							WS	2253
01	2252	2317	2254	5				7			HN (M23-7)	
01	2250		2255					277			MA (K18-21)	
01	2250		2255							34	MR-GE/ 277	
01	2253	2255	2253	1							HO-YP/ 180	
01	2317	2325	2319	1				3		09	MR-GE/ 34	
											HO-YP/ 11	
											BO (WWI13-0.9)	NF
											HN (M23-3)	
02	0253	0321	0255	5	S 1						MA CA	0251
02	0254	0310	0259	5				7			HN (M23-7)	
02	0248		0257					241			MA (K18-28,R16-32)	
02	0249		0255							3	HO-YP/ 241	
02	0252	0256	0254	1						18	HO-YP/ 180	
02	1532	1600	1542	1				3			MR-GE/ 118	
02	1808	1825	1810	1				3			MR-GE/ 3	
03	0128	0149	0133	5	S 1-						HO-YP/ 3	
03	0129	0139	0131	5							HO-YP/ 2	
03	0123	0124	0124	1							HA (WWWVH5-1.8,	
03	2223	2250	2224	5	S 1						WWWVH10-1.2)	
03	2220	2251	2226	1		6 1					WWWVH10-1.2)	1532
03	2221	2314	2237	1							HN (013-3)	*
03	2218	2320	2230	5				2			HN (M23-3)	
03	2215		2232					72			MA OK HN	0122
03	2215		2237								HN (M23-5)	
03	2225	2300	2230	3							MA (K18-30,R16-14)	
03	2218	2229	2220	1							HA (L20-54)	
04	1532	1539	1534	1	S 1-						HO-YP/ 342	
											MR-GE/ 288	
											TT-PC/ 165	
											TT-PC/ 22	
											HO-YP/ 16	
											MR-GE/ 14	
											A1 A21	
											BO (WWI13-0.2)	
											WS	1532

18
Mar 69

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE	
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD			
05	0220	0230		1			1+						
05	0200	0245	0206	1									*
05	0635	0646	0638	3	S 1-								0633
05	0635	0710	0642	1				43					
05	0637		0639					216					
05	0632		0700							13			
05	1652	1710	1654	1				4					1649
06	1730	1740	1731	1				3					NF
06	1802	1810	1803	1				3					NF
06	1828	1838	1833	1				4					NF
06	2006	2015	2012	1	SL 1-								NF
06	2012	2020	2014	1				2					NF
06	2058	2138	2101	3	S 1								2057
06	2058	2105	2101	1				4					
06	2226	2300	2244	5				15					2221
06	2225		2240					54					
06	2230		2235							4			
07	0214	0252	0225	1	S 1								
07	0210	0310	0223	5									0213E
07	0217		0222					28					
07	0217		0222					259					
07	0207		0215							5			
07	1030	1115	1038	1	S 2								
07	1828	1840	1830	1				3					1026
07	1932	1940	1935	1				4					NF
08	1814	1828	1824	3	G 1-								NF
08	1814	1840	1822	5									1807
08	1815		1822					25					
08	1815		1818					39					
08	1815	1850	1822	1						2			
08	2012	2045	2017	1						1			
08	2207	2207	2207	1				4			02		2011 2206
09	0828	0910	0836	5	S 2-								0829E
09	0827	0900	0829	1		20 1							
09	0827		0829	1			1-						
09	0825	0914	0846	1									
09	0828	0916		1				90					
09	1018	1929	1019	5	S 2-					1			1015
09	1018	1041		1									
09	1206	1218	1209	5	S 1-					1			1202
09	1207	1225		1									
09	1621	1640	1624	1						1			
09	1620		1627					46					1619
09	1620		1627					75					
09	1758	1815	1805	1									
09	1917	2005	1923	3	SL 2			10		4			NF
09	1918	1937	1923	1									1912
09	1920	2000	1925	3		10 1							
09	1918	2030	1926	1									
09	1917		1926					79					
09	1917		1919					162					
09	1921	1950	1926	3						2			
09	1916	1927	1920	1						1			
09	1939	2059	1947	1							06		
09	2236	2308	2244	1				68					NF
09	2236	2320	2241	5				1					2232
09	2240		2250										
09	2242		2245										
09	2251	2320	2255	1						6			
09	2235	2238	2235	5						2			
											12		

20
Mar 69

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ARS SCNA	SEA	SPA	SES	SFD		
13	0045	0102	0051	1	SL 1						MA TA HN(M23-36) MA(R16-32,K18-72) AN(C22-108) HA(L20-29) TT-PC-TT/ 219 PC-TT/ 18	0035
13	0045	0145		1			*					
13	0044	0120	0048	5				36				
13	0039		0045						219			
13	0038		0043							18		
13	0451	0510	0501	1	SL 1-							*
13	0510	0600		1			*					
13	0445	0523	0502	1				50				
13	0445		0502					216				
13	0447		0450							3		
13	0742	0750	0745	5	S 2+							
13	0740	0820	0745	5				40				0739E
13	0740	0752		1						1		
13	1318	1335	1325	5	S 3-							
13	1305	1405	1310	1				25				1307
13	1320	1350	1325	1						1+		
13	1515	1537	1522	1				46				1521
13	1708	1714	1710	1				5				1705
13	1714	1728	1716	1				20				1705
13	1714		1716					86				
13	1714		1715							3		
13	1941	2010	1949	5				15				
13	1944		1947						122			
13	1944		1945							4		
13	2042	2056	2048	5				195				2035
13	2036		2043					86				
13	2037		2039							5		
13	2042	2110	2043	1						1-		
13	2040	2054	2041	1								
13	2113	2115	2114	1							04	
13	2254U	2315	2305	5	G 1						03	NF
13	2254	2400	2313	5				50				2247
13	2250		2255					255				
13	2252		2255									
13	2256	2330	2300	3						16		
13	2248	2307	2254	1						1+		
14	0022	0050	0027	5				7				NF
14	0018		0023					14				
14	0018		0030							10		
14	0200	0218	0205	1	S 1-							0154
14	0156	0220	0201	1				28				
14	2010	2014	2011	1	S 1-							NF
14	2011	2045	2021	5				125				
14	2227	2300	2235	5				20				2211
14	2228	2250	2233	1						1+		
14	2308	2327	2309	1	S 1-							
14	2301	2400	2321	5				25				NF
14	2255		2323					349				
14	2300		2307							20		
14	2305	2350	2215	1						1+		

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE		
	START	END	MAX			ABS	SCNA	SEA	SPA	SER			SFD	
15	1459	1530	1512	5	SL 1							NU WS AT DA PU LO PO PU UC HN(L20-280) DE(AA17-110) SI (R16-144) NT-JP/ 223	1445	
	1505	1540	1510	3			1+	280						
	1458	1535	1517	5										
	15	1501		1510					223				A20 DV A1 PU HN(L20-110) NT-JP/ 72 NT-JP/ 2 HN(M23-5,L20-110) HN(M23-4) HA(L20-11)	1629
		1501		1506						13				
		1508		1513	5					1+				
		1629	1710	1644	1				110					
		1635		1637					72					
		1635		1636						2				
		1812	1825	1815	1				5					
		2154	2217	2159	5				4					
	16	0124	0157	0129	1	S 1							MA HN(M23-21) MA(K18-32,R16-18) HA(L20-7) HO-YP/ 198 MR-GE/ 82 HO-YP/ 18 MR-GE/ 11 TT-PC/ 169 PC-TT/ 72 TT-PC/ 20 PC-TT/-15 NJ NJ MC SL (R16-30) DE(AA17-25) BO(WWI11-0.3) HN(L20-70) BO(WWI11-0.2) HN MC BO BO HN(L20-75,M23-55) HA(L20-47) TT-PC/ 237 PC-TT/ 129 TT-PC/ 28 PC-TT/ -8 HA(WWVH10-0.8, WWVH5-0.2) BO(WWI13-0.6) HN(M23-3) MA(K18-83) MA CA TO HN(L20-70) MA(R16-30) HA(L20-43) HO-YP/ 262 MR-GE/ 169 TT-PC-TT/ 108 PC-TT/ 33 TT-PC/ 12 MR-GE/ 8 HO-YP/ 2 HA(WWVH10-1.1, WWVH5-0.4) BO(WWI11-0.5) HN(M23-14,L20-72) NT-JP/ 36 NT-JP/ 4 HN(O13-3,L20--70) WS HN(L20-43,M23-36) NT-JP/ 36 NT-JP/ 3 HN WS BO BO HN(L20-35,M23-30) HA(L20-22) BO(WWI13-0.7) HA(WWVH10-0.3, WWVH5-0.5) HN WS HN(L20--20, M23-33) HA(L20-29) NT-JP/ 50 NT-JP/ 7 HN(L20-7,013-4) MA HN(L20-7,013-28) HA(L20-29)	0122
		0124	0138	0128	5				21					
		0122		0132					198					
		0124		0128						18				
0834			0846					169						
0821			0828						20					
1057		1105	1056	1	S 0									
1407		1430	1412	5	S 1									
1406		1430	1413	5				30						
1405		1409	1407	1						03				
1458		1500	1459	1				70						
1458		1501	1458	1						02				
2111	2138	2116	1	S 1										
2115	2142	2119	3			10 1								
2115	2140	2126	1				1							
2110	2200	2114	5					75						
2110		2116						237						
2108		2112							28					
2112	2115	2113	5							0R				
16	2320	2339	2333	5								HA(WWVH10-1.1, WWVH5-0.4) BO(WWI11-0.5) HN(M23-14,L20-72) NT-JP/ 36 NT-JP/ 4 HN(O13-3,L20--70) WS HN(L20-43,M23-36) NT-JP/ 36 NT-JP/ 3 HN WS BO BO HN(L20-35,M23-30) HA(L20-22) BO(WWI13-0.7) HA(WWVH10-0.3, WWVH5-0.5) HN WS HN(L20--20, M23-33) HA(L20-29) NT-JP/ 50 NT-JP/ 7 HN(L20-7,013-4) MA HN(L20-7,013-28) HA(L20-29)	NF	
	2338	2402	2346	5	SL 1-									
	2339	2400	2345	5										
	2335		2347					70						
	2335		2347					262						
	2338		2345						33					
	2337	2340	2338	5						11				
	1633	1652	1640	1				14						
	1634		1639					36						
1634		1640						4						
1655	1720	1705	1				3							
1830	1912	1850	1	G 1+										
1830	1920	1850	1											
1830		1839					43							
1830		1835					36							
1830		1835						3						
1920	1936	1923	3	S 1										
1920	1933	1922	1			1								
1922	1938	1931	1											
1920	1950	1923	5					35						
1919	1929	1920	5							07				
17	2049	2103	2052	3	S 1							HN(L20-35,M23-30) HA(L20-22) BO(WWI13-0.7) HA(WWVH10-0.3, WWVH5-0.5) HN WS HN(L20--20, M23-33) HA(L20-29) NT-JP/ 50 NT-JP/ 7 HN(L20-7,013-4) MA HN(L20-7,013-28) HA(L20-29)	NF	
	2050	2110	2055	5										
	2047		2049											
	2047		2050					50						
	2222	2240	2224	1				7						
	2338	2354	2341	1	S 1-				7					
	2335	2400	2237	5				7						

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE	
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD			
1969													
17	2337		2343					266				MA(R16-13,K18-60) HO-YP/ 266 MR-GE/ 136	
17	2322		2325						12			MR-GE/ 12 HO-YP/ 8	
17	2335	2336	2335	1						04		HA(WVH5-0.4, WVH10-0.3)	
18	0032	0047	0038	1	SL 1-							MA	0028
18	0034	0056	0039	5				5				HN(O13-5) MA(K18-30) HA(L20-14)	
18	0305	0320	0308	1	S 1-							MA	*
18	0258	0333	0308	1				26				MA(K18-26)	
18	0628	0655	0633	5	S 1							MA AT DA NU TO PU RO	0636E
18	0629	0644	0634	1		24 1						PU AT A17 RO	
18	0632	0707	0638	5			3					SL(R16-242) MA(R16-206, K18-86,AA17-66) DE(AA17-175)	
18	0633	0705	0637	5				242				MA(R16-18)	
18	0700	0800	0705	5				175				AT	
18	0815	0830	082011	1	S 1-							DA NU AT	0810E
18	1153	1221	1158	5	S 1							PU AT	1153E
18	1200	1237	1211	5				2				SL(R16-115)	
18	1155	1245	1204	5				115				DE(AA17-90) PU	
18	1155	1242		1					1			AT	
18	1334	1356	1346	1	S 1-							AT	1330E
18	1331	1356	1354	1								SL(R16-30)	
18	1337	1400	1344	1			1+					NT-JP/ 36	
18	1340		1344	1								NT-JP/ 3	
18	1340		1345					30				HN(O13-18,L20-43)	1538
18	1340		1345					36				BO(WMI13-0.2)	
18	1540	1625	1600	1				18		3		HN(L20-58,013-12)	1630
18	1540	1544	1540	1								WS	1754
18	1634	1706	1653	1	S 1-			58			02	HN(M23-15, L20-174) HA(L20-14)	
18	1758	1804	1801	1								HN	NF
18	1756	1810	1759	5				15				HN(L20-72,M23-52)	
18	1855	2036	1920	1	G 3-							WS	1907
18	1842	1954	1924	1				72				DV	
18	1910U		1932	1	G 3							WS	1909
18	1914	2016	1919	1						1+		HN(M23-5,L20-12)	
18	1952		1956	1	S 1+							BO(WMI13-0.2)	2014
18	1954	2018	1958	1				5				WS	
18	1950	1956	1950	1						02		HN(M23-14,L20-14)	
18	2013U	2030	2023	1	SL 1							DV	
18	2018	2058	2023	1				14				BO(WMI13-0.3)	NF
18	2021	2050	2022	1								NT-JP/ 100	
18	2016	2021	2017	1								NT-JP/ 5	
18	2031	2040	2035	1	S 1							HN(M23-3)	0040
18	2031		2046					100				RO	NF
18	2037		2043						5			KE	
19	0049	0105	0052	1				3				KF	0900
19	0829	0855	0835	1								WS	1858
19	0830	0845		1								HN(M23-5)	
19	0850	0905		1								HA(WVH10-0.2, WVH5-0.2)	
19	1900U	1908	1902	1	S 1-							HN(M23-3)	2018
19	1900	1910	1903	1				5				MA	2306
19	1859	1901	1900	1								HN(M23-14)	
19	2019	2050	2023	1								MA(K18-30)	
19	2310	2335	2314	1	G 1							HA(L20-18)	
19	2310	2400	2315	5								HO-YP/ 151	
19	2308		2315									MR-GE/ 82	
19	2307		2315							7		MR-GE/ 7	
19												HO-YP/ 4	
20	1320	1400	1338	1								HN(O13-10)	1327
20	1502	1508	1503	5	S 1-							WS NU	1451
20	1509E	1545	1518	1				2				UC	
20	1452	1550	1519	5								HN(O13-36)	
20	1502		1519									DE(AA17-55)	
20	1502		1508					133				NT-JP/ 133	
20	1550	1617	1604	1						4		NT-JP/ 4	
20	1617	1632	1619	1								HN(O13-14)	1551
20	1630	1650	1632	5	S 1+							HN(O13-14)	NF
20	1632	1651D	1635	5								HN WS NU MC PU	1628
20	1633	1700		3								BO MC	
20	1632	1720	1636	5								PU A22 UC A19	
20								2				HN(M23-50, L20-101)	
20												DE(AA17-55)	
20												HA(L20-43)	

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
20	1625		1628					97			SL(R16-178) NT-JP/ 97	
20	1625		1627							4	NT-JP/ 4	
20	1633	1715	1638	5						2+	A1 PU	
20	1629	1647	1632	1							BO(WWI11-1.4)	
20	2149	2210	2155	5	SL 1						HN TO WS	2146
20	2150	2204	2152	3		1					BO MC	
20	2151	2222	2205	1			2				BO	
20	2149	2248	2155	5				64			HN(M23-64, L20-330)	
											HA(L20-54)	
											MA(K18-82)	
20	2145		2148					108			NT-JP/ 108	
20	2146		2148							3	NT-JP/ 3	
20	2146	2205	2149	1							BO(WWI11-0.7)	
20	2148	2152	2149	1							HA(WWVH10-0.7)	
21	0016	0050	0026	5				5			HN(M23-5)	0013
21	0015		0038					154			HA(L20-7)	
21	0015		0032							10	HO-YP/ 154 MR-GE/ 79	
21	0127	0515	0147	5	SL 3						MR-GE/ 10	
21	0155	0248	0207	1		50 2					HO-YP/ 4	0125
21	0147	0300	0210	1			2				MA CA TO	
21	0139	0250	0202	5				102			MA	
											HN(M23-102)	
											MA(AA17-215, K18-265,R16-140)	
											HA(L20-79)	
21	0136		0150					356			MR-GE/ 356	
21	0130		0143							6	MR-GE/ 6	
21	0143	0316	0154	1							DV	
21	0149	0153	0150	1						3+	HA(WWVH10-0.5, WWVH5-0.5)	
21	0242	0243	0242	1							HA(WWVH10-0.2)	0241
21	0824	0840	0828	5	S 1						NU AT	0825
21	0925	0937	0928	5	S 1-						AT NU DA PU	0923
21	0924	0937		1							PU	
21	0951	1010	0956	5	S 1					1	NU AT DA PU	0950
21	0952	1015		1							PU	
21	1258		1300	1	S 1						NU	1302
21	1258	13210	1311	1			1				UC	
21	1330	1500	1338	5	G 3						HN AT DA NU MC WS	1332E
											PU TO	
21	1326	1455	1333	1		93 2					RO	
21	1330	1430	1335	5			2+				LO RO A17 AT PO A22	
21	1320	1530	1342	5				160			A19 PU UC	
											HN(013-160, L20-650)	
											SL(R16-345)	
											MA(R16-108)	
											DE(AA17-310)	
21	1320		1337					36			NT-JP/ 36	
21	1328		1334							7	NT-JP/ 7	
21	1330	1421	1335	5							DV A1 PU	
21	1328	1410	1332	1						3	BO(WWI11-0.5)	
21	1550E	1602	1550U	1	1-						WS	1540
21	1545	1630	1552	5			1				A19 UC	
21	1541	1822	1551	1				400			HN(L20-400, 013-20)	
21	1541		1547					136			NT-JP/ 136	
21	1541		1547							8	NT-JP/ 8	
21	1538	1555	1543	3							BO(WWI13-0.2)	
21	1822	1910	1842	3	G 2-					02	HN WS	1821
21	1822	1920	1850	5				45			HN(M23-45,L20-72)	
21	1828		1842					108			HA(L20-43)	
21	1828		1842								NT-JP/ 108	
21	1837	1910	1839	1						4	NT-JP/ 4	
21	1848	1849	1848	1						1-	DV	
										02	HA(WWVH10-0.2, WWVH5-0.2)	1848
21	1920	1935	1925	1				14			HN(M23-14,L20-20)	1917
21	1917		1920					90			NT-JP/ 90	
21	1917		1920							10	NT-JP/ 10	
21	1944	2010	1946	3	S 1+						HN MC WS	1943
21	1946	2030	1949	3		25 1					BO MC	
21	1946	2032	1959	1			2				BO	
21	1944	2045	1950	5				57			HN(M23-57,L20-70)	
21	1943		1946					176			HA(L20-47)	
21	1943		1946								NT-JP/ 176	
21	1944	2025	1949	1							NT-JP/ 17	
21	1942	1952	1944	5							DV	
											BO(WWI11-1.7)	
											HA(WWVH10-1.0, WWVH5-0.7)	
21	2122	2138	2128	1				3			HN(M23-3,L20-220)	NF
21	2138	2203	2142	5				12			HN(M23-12,L20-75)	2135
											HA(L20-11)	

24
Mar 69

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE	
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD			
21	2135		2138					111				HO-YP/ 111	
21	2135		2138							7		HO-YP/ 7	
21	2138	2138	2138	1							05	HA(WWVH10-0.5)	
21	2210	2225	2214	1								HN(M23-3)	NF
21	2336	2400	2339	5					3			HN(M23-5)	2334
21	2335		2338						5			MA(K18-18)	
21	2334		2336					79				HO-YP/ 79	
21										4		HO-YP/ 4	
22	0022	0034	0024	1					3			HN(M23-3)	NF
22	0020		0043						194			HO-YP/ 194	
22	0021		0036							4		HO-YP/ 4	
22	0034	0048	0038	5								HN(M23-5)	0032
22	0435	0505	0437	1	S 1							MA(K18-20)	
22	0434	0515	0440	1								MA	0429
22	0430		0440					18				MA(K18-18)	
22	0433		0445					223				HO-YP/ 223	
22	0610	0631	0614	5	S 1-							MR-GE/ 64	
22	0616	0643	0617	1			1*					MR-GE/ 9	
22	0609	0645	0615	1								HO-YP/ 1	0608
22	0607		0615					50				MA AT	
22	0607		0611					176				MA(K18-50)	
22	0645	0703	0650	5	S 1							HO-YP/ 176	
22	0645	0750	0643	1						2		HO-YP/ 2	
22	0640	0740	0643	5								AT NU MA DA TO PU	0642
22	0645		0650									TA	
22	0645		0649									DE(AA17-80)	
22	0645	0708	0649	1								MA(K18-47)	
22	1331	1400	1336	5	S 2-							HO-YP/ 226	
22	1337	1410	1341	3						14		HO-YP/ 14	
22	1330	1352	1338	5			1			1		PU	1329E
22	1333		1337									NU DA AT PU	
22	1333		1337									LO PU UC	
22	1332	1406	1337	1								HN(O13-24, L20-100)	
22	1632	1655	1638	1	SL 1							SL(R16-132)	
22	1844	1854	1846	1								DE(AA17-70)	
22	1918	1930	1919	1								NT-JP/ 100	
22	1913	1935	1914	1								NT-JP/ 10	
22	1943	2024	2001	3	G 1+							PII	
22	1943	2020	1949	5								HN	NF
22	1945		2000									HN(M23-5)	1843
22	1945		2000									HN(M23-3)	1911
22	1945	2029	1950	1								DV	
22	2023	2033	2025	1	G 1-							HN WS	1943
22	2028	2108	2040	1								HN(L20-30,M23-40)	
22	2031	2045	2032	1								HA(L20-36)	
23	0017	0045	0026	5								NT-JP/ 100	
23	0014		0025									NT-JP/ 10	
23	0018		0022									DV	
23	0253	0341	0257	1	S 1							HO-YP/ 7	
23	0250	0315	0253	5								MA	0250
23	0250		0255									HN(M23-12)	
23	0250		0255									MA(R16-47,K18-72)	
23	0250	0252	0251	1								HO-YP/ 266	
23	0411	0425	0414	1	S 1-							HO-YP/ 6	
23	0617		0630									HA(WWVH5-0.9, WWVH10-0.8)	
23	0617		0630									MA	0413E
23	0630	0755	0642	5	SL 2							HO-YP/ 212	0605
23	0635	0740	0644	1								HO-YP/ 2	
23	0624	0740	0644	1								MA AT NU TO PU	0621
23	0625		0658									PU AT	
23	0625		0630									MA(K18-64)	
23	0806	0817	0809	5	S 1-							HO-YP/ 75	
23	1228	1245	1236	1	S 0							HO-YP/ 60	
23	1555	1620	1620	1								MA NU	0750
23	1559		1613									NU	1224E
23	1559		1610									HN(L20-250, O13-18)	*
23	1620	1730	1640	1								NT-JP/ 115	
23	1634	1653	1638	1	S 1-							NT-JP/ 7	
23	1821	1840	1827	1	SL 1							HN(O13-20,L20-72)	NF
23	1820U		1824	3								WS	1639E
23	1821	1846	1830	1			10 1					WS	1816
23	1819	1845	1828	5								BO MC	
23												BO	
23												HN(M23-21,L20-35)	
23												HA(L20-25)	

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
23	1822	1901	1823	1					1-		DV	
23	1826	1828	1826	1						10	HA(WWVH10-1.0, WWVH5-0.4) WS	
23	1925	1930U	1928	1	S 1-						HN(M23-5)	1924
23	1924	1835	1826	5			5				HA(L20-11) BO(WWI13-1.2) HA(WWVH10-0.8, WWVH5-1.1)	
23	1924	1926	1924	5						12	HN(L20-230,M23-5)	
23	2116	2330	2142	1			230				WS	NF
23	2202	2209	2205	1	S 1-						DV	NF
23	2209	2245	2210	1					1		HN(M23-10)	2328
23	2330	2400	2332	1				10				
24	0034	0035	0035	1						02	HA(WWVH5-0.2, WWVH10-0.2)	0032
24	0351		0404								TT-PC-TT/ 144	*
24	0345		0459						17		TT-PC/ 17 PC-TT/-14	
24	0518	0545	0530	1	G 1						MA	0506
24	0507	0526	0513	1				16			MA(R16-16,K18-14)	
24	1449	1505	1455	5	S 3-						NU AT	1448
24	1452	1515	1458	5			1				A22 PU UC	
24	1450	1505	1454	5				72			HN(L20-72,013-21)	
24	1449		1457					129			DE(AA17-35)	
24	1449		1455						19		NT-JP/ 129	
24	1453	1522	1459	5					1-		NT-JP/ 19	
24	2012	2018	2015	1	S 1-						DV PU WS	2013
25	0204	0230	0208	1				14			MA(K18-14)	0205
25	0553	0635	0605	5	SL 1						NU MA CA AT	0548
25	0610	0700		1			*				TA	
25	0550	0707	0603	1				139			MA(R16-139, K18-83)	
25	0550		0555					324			HO-YP/ 324	
25	0550		0553						9		HO-YP/ 9	
25	0814	0845	0829	1	SL 0						NU	0813
25	0935	0950	0941	1	SL 0						NU	0948
25	1445	1455	1448	5	SL 2+						NU WS	1439
25	1445	1502	1448	1			1				UC	
25	1444	1500	1447	5				42			HN(L20-42,013-15)	
25	1445		1448					100			DE(AA17-25)	
25	1445		1448						5		NT-JP/ 100	
25	1443	1449	1445	1						02	BO(WWI8-0.2)	
25	1548	1630	1605	1			2				LO	1547
25	1818		1828	1	SL 1-						WS	1816
25	1816	1830	1826	1				14			HN(M23-14)	
25	1832	1859	1838	1	SL 1						WS	1825E
25	1830	1910	1839	1				25			HN(M23-25)	
25	1831	1841	1832	1						03	BO(WWI11-0.3)	
25	1850	1901	1851	1					1-		DV	1845
25	1916		1918					115			NT-JP/ 115	1911
25	1914		1916						15		NT-JP/ 15	
26	0200	0304	0213	1	S 1						MA	0155E
26	0206	0230	0212	5				10			HN(M23-10)	
26	0158		0222					198			MA(K18-58,R16-82)	
26	0155		0206						6		HO-YP/ 198 MR-GE/ 79	
26	0320	0350	0334	1				22			MR-GE/ 6 HO-YP/ 1	NF
26	0355	0418	0400	1				25			MA(K18-22, AA17-18,R16-20)	
26	0418	0511	0430	1				45			MA(R16-25,K18-14)	NF
26	0529	0546	0534	1	S 1						MA(K18-45,R16-25)	NF
26	0530	0600		1							MA	0525
26	0528	0554	0537	1				61			TA	
26	0600	0635	0612	1				36			MA(R16-61,K18-37)	
26	0722	0809	0728	5	SL 1+						MA(R16-36,K18-18)	0608E
26	0722	0752	0730	5						2	MA NU DA AT TO PU PU TA	0710
26	0722	0812	0728	5				126			MA(R16-126, K18-29,AA17-54)	
26	0720	0740		1							DE(AA17-90)	
26	0807	0810	0810	1	SL 0				2		PU	
26	0825	0840	0830	5	SL 3-						NU	0809E
26	0827	0904		1						2	NU PU	0826E
26	0850	1008	0902	5	SL 3-						PU	
26	0900	1200	0905	1				175			DA AT NU	NF
26	1131	1207	1145	5	SL 1						DE(AA17-175)	
26	1230	1620U	1308	5	SL 3						AT NU	NF
26	1234	1257D	1250	1			1				AT NU	NF
26	1240		1250	1				125			UC	
26	1239	1300		1					1		DE(AA17-125)	
26	1257	1339D	1308	1			1				PU	
26	1301	1323	1304	5	S 1+						UC	1251
26											DA NU	1303

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
26	1304	1337	1307	3			1				PU PO	
26	1303	1332	1310	1				32			MA(R16-32)	
26	1304	1329		1					1		PU	
26	1345	1425	1355	1	SL 1						NU	1327
26	1346		1400D	3			1+				PO UC	
26	1344	1600	1404	5				40			HN(O13-40, L20-430)	
26	1625	1645	1628	3	SL 1						DE(AA17-60)	
26	1628	1700D	1632	3			1-				HN WS	NF
26	1624	1646	1629	5				43			PO PU UC	
26	1624		1628								HN(M23-43, L20-580)	
26	1626		1629					180			SL(R16-75)	
26	1627	1644		1					20		HA(L20-29)	
26	1650E		1652	1	S 1				1		NT-JP/ 180	
26	1648	1712	1652	1				4			NT-JP/ 20	
26	1807	1822	1811	1	S 1-						PU	1641
26	1808	1825	1811	1							WS	NF
26	1853	1856	1855	5				3			HN(M23-3)	
26	1858		1900								HN(M23-3,M23-7, L20-15)	1857
26	1857		1900					115			HA(L20-72)	
26	1909	2006U	1925	3	G 2-				5		NT-JP/ 115	
26	1908	1918	1916	1				30			NT-JP/ 5	
26	1916	2001	1922	1							WS MC	1907
26	1918	1940	1919	1	S 1+						HN(M23-30,L20-30)	
26	1918	1936	1923	1					2-		DV	
26	1940	2000	1942	1	S 1			36			HN	
26	1936	1950	1942	1							HN(M23-36,L20-50)	
26	2011	2045D	2018	3	SL 1+			3			HN	NF
26	2011	2036	2019	1							HN(M23-3)	
26	2012	2042	2019	1				22			WS HN	NF
26	2036	2045	2038	1							HN(M23-22,L20-15)	
26	2103	2113	2106	1				5			DV	
26	2156	2212	2201	1				5			HN(M23-5)	2032
26	2216	2249	2221	1				3			HN(M23-5)	2107
26	2249	2305	2251	5				20			HN(M23-3)	NF
26	2250		2251					5			HN(L20-20,M23-5)	NF
27	0012	0049	0021	5					3		HN(M23-5,L20-7)	2237
27	0050	0228		1	G 2			126			MA(K18-11)	
27	0049	0105	0058	1							HO-YP/ 126	
27	0118	0330D		1	S 1-						HO-YP/ 3	
27	0111	0230	0147	5				10			HN(M23-10)	NF
27	0107	0255	0155	1							MA(K18-18)	
27	0138	0218		1	G 1						CA	0040
27	0350	0413	0353	1				5			HN(M23-5)	
27	0952	1035	0957	5	S 2-						MA	0109U
27	0952	1015	0957	5				36			HN(M23-36)	
27	0951	1005		1							MA(K18-138)	
27	1113	1142	1115	5	S 3-						DV	
27	1117	1203	1127	3							TO	0123
27	1115	1155	1122	5							MA(K18-10)	0356
27	1117	1152		1				10			SL(R16-127)	0953E
27	1205	1220	1210	1	S 0						MA(R16-76)	
27	1204	1226	1214	1							DE(AA17-80)	
27	1203	1223	1208	1							PU	
27	1318	1400	1334	5	G 2-			57			DA AT NU PU	1115
27	1322	1428	1329	5							PU LO PO UC	
27	1327	1358	1348	5							SL(R16-230)	
27	1318	1600	1334	5							DE(AA17-140)	
27	1318		1332								MA(R16-99)	
27	1319		1321								PU	
27	1326	1520	1333	5							NU	*
27	1323	1410	1326	1							UC	
27			1328	1							SL(R16-57)	
27			1330	1							HN NU AT DA MC AN	1315
27			1335	1							WS PU	
27			1340	1							RO MC BO AN	
						99 2					BO RO AT PO PU A22	
											LO UC	
											HN(O13-168, L20-316)	
											AN(R16-210, O12-123)	
											SL(R16-374)	
											DE(AA17-320)	
											MA(R16-140)	
											NT-JP/ 331	
											NT-JP/ 9	
											A1 DV PU	
											BO(WW18-0.5)	
											BO(WW18-0.4)	
											BO(WW18-0.8)	
											BO(WW18-0.5)	
											BO(WW18-0.7)	

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
29	0030	0055	0050	5				10			HN(M23-10) MA(K18-31) MA(K18-14) MA TA MA(R16-60, AA17-36,K18-58) MA(K18-13) MA NU AT NU NU NU NU DA PU PU UC AT HN(O13-18) SL(R16-120) DE(AA17-55) NT-JP/ 72 NT-JP/ 8 PU NU DA AT PU PU AT UC HN(O13-42, L20-305) SL(R16-207) MA(R16-50) DE(AA17-90) NT-JP/ 216 NT-JP/ 43 PU HN(O13-3) NT-JP/ 165 NT-JP/ 18 UC HN(O13-9) WS UC HN(O13-7) NT-JP/ 100	0027 * 0328E
29	0244	0305	0251	1				14				
29	0341	0359	0349	1	SL 1-							
29	0330	0430		1			*					
29	0335	0412	0351	1				60				
29	0456	0515	0507	1				13				
29	0726	0738	0731	5	SL 1-							0458E
29	0748	0820	0805	1	SL 2							0725
29	0828	0840	0838	1	SL 0							0745E
29	0851	0900	0857	1	SL 0							0830
29	1253	1215	1300	5	SL 2+							0854
29	1255	1322		5								*
29	1252	1330	1257	5			1					
29								18				
29	1246		1300					72				
29	1246		1300									
29	1253	1313		1					8			
29	1330	1405	1343	5	SL 2-				1			
29	1334	1422	1347	5			2					1335
29	1330	1412	1342	5				42				
29												
29	1332		1338					216				
29	1332		1338									
29	1330	1412		1								
29	1422	1432	1426	1								
29	1417		1442					3				
29	1418		1442					165				1414
29	1418		1442									
29	1434	1448	1436	1			1					
29	1432	1453	1439	1				9				1434
29	1452	1505	1459	1	SL 1-							
29	1448	1512D	1456	1			1					1459E
29	1453	1513	1458	1				7				
29	1452		1457					100				
29	1454		1459	1								
29	1516		1522	5	SL 2+					11		
29	1515	1603		3			2					NF
29	1513	1532	1522	5				35				
29												
29	1513		1518					64				
29	1513		1517									
29	1514	1554		1								
29	1531	1558	1536	5	S 1+							
29	1532	1700	1538	1			2					NF
29	1532	1614	1540	5				45				
29												
29	1650E	1655	1651	1	S 1-							
29	1630	1658	1637	1				5				
29	1631		1632					61				1631
29	1631		1634									
29	1634	1637	1635	1						26		
29	1658	1736	1710	1								
29	1709	1717U	1712	1	S 1-			30				NF
29	1706	1806	1713	1								NF
29	1704		1710					25				
29	1705		1711					82				
29	1705		1711							10		
29	1756	1816	1802	1				5				
29	1816	1835	1822	1				3				NF
29	1918U	1956	1940	3	G 2-							1815
29	1923	1948	1927	1			17 1					1911
29	1922U	1958	1937	3								
29	1911	1959	1930	5				90				
29												
29	1914		1927									
29	1914		1927					183				
29	1922	1950	1930	3						10		
29	1921	1927	1923	1						1+		
29	2000	2020	2005	3	S 1							
29	2000	2028	2005	3			54 2					2000
29	2000	2037	2005	1								
29	1959	2003	2000	5				3				
29												
29	2000		2005									
29	2000		2003					79				
29	2000	2030	2005	3								
29	2000	2004	2001	5						5		
29												
29	2035	2104	2041	1	SL 2							
29	2037	2108	2041	1			7 1					
29	2037	2108	2048	1				1				NF

SUDDEN IONOSPHERIC DISTURBANCES

MARCH 1969

29
Mar 69

MAR 1969	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
29	2036	2110	2042	5				35			HN(L20-35,M23-15) HA(L20-11) DV	
29	2035	2108	2042	1					1		WS	2114
29	2116	2130	2121	1	SL 1+						HN(M23-7)	
29	2110	2140	2116	1				7			DV	
29	2110	2135	2113	1					1-		HN(L20--150, M23-13)	NF
29	2140	2204	2150	1				-150			HA(M23-3) HA(WMVH10-0.2)	2206
29	2204	2225	2208	1				3		02	WS	NF
29	2206	2207	2206	1							WS	2251
29	2220	2230	2225	1	S 1-						WS	NF
29	2300	2309	2304	1	S 1-						WS	NF
29	2325	2331	2327	1	S 1-						WS	2348
29	2350E	2401		1	1-						WS	
30	0017	0025	0019	1	S 1-						MA	NF
30	0015	0200	0018	5				100			HN(L20-100, M23-10)	
30	0013		0018								MA(K18-18) HO-YP/ 136	
30	0008		0015							10	MR-GE/ 82 HO-YP/ 10	
30	0124	0133	0127	1	S 1-						MR-GE/ 10	0122
30	0124	0140	0128	1							MA	
30	0122		0124					11			MA(K18-11,R16-11)	
30	0122		0123					97			HO-YP/ 97	
30	0123	0125	0124	1						3	HO-YP/ 3	
30	0248	0545	0249	5	S 2-					11	HA(WMVH10-1.1)	
30	0247	0400	0256	5							MA TO	0249E
30	0246		0250								HN(M23-75) MA(AA17-136, K18-198,R16-198)	
30	0248		0300								AN(C22-309, O12-43)	
30	0247	0325	0252	3							HA(L20-43) MR-GE/ 356	
30	1017	1030	1024	1	SL 0						HO-YP/ 248	
30	1015	1025		1							HO-YP/ 14	
30	1245	1300	1250	5	SL 2-						MR-GE/ 8	
30	1247	1320	1251	5							DV A21	1014
30	1244		1250								NU	
30	1244		1250								PU	
30	1245	1300		1							NU DA AT	1259E
30	1245										HN(O13-12)	
30	1245										DE(AA17-60)	
30	1245	1300		1							NT-JP/ 57	
30	2153	2209	2159U	1	SL 1						NT-JP/ 4	
30	2148	2245	2158	5							PU	2150
30	2153	2230	2156	1							HN(M23-21, L20-300)	
31	1515	1610	1526	1							HA(L20-18)	
31	1516		1531								A21	
31	1515		1529								HN(M23-13)	
31	2014	2130	2026	1							HN(O13-10)	1514
											NT-JP/ 75	
											NT-JP/ 12	
											HN(M23-13)	NF

STATIONS REPORTING FOR MARCH 1969:

AAVSO	Hawaii	Neustrelitz
Anchorage	Hiraiso	Okinawa
Athens	Hokkaido	Paterson
Attu	Juhlesruh	Poitiers
Boulder	Kerguelen Is.	Port Clarence
Canberra	Manila	Prague
Darmstadt	Marcus	Preston
Debre Zeit	McMath	Tasmania
HANDS	Nantucket	Uccle
Rome	Slough	White Sands

PERIODS OF NO OBSERVATIONS

DATE	TIME (UT)	STATION
01	0000-0602	HN
04	0229-0339	HN
05	1310-1341	SL
06	0337-0422, 1300-2400	HN, DV
07	0000-2400, 0319-0358	DV, HN
08	0000-2400, 2256-2400	DV, HN
09	0000-0455	HN
09-10	0000-2400	OK
11	0303-0355, 0845-1545	HN, SL
12	0247-0357	HN
13	0307-0402	HN
14	1410-1540	SL
15	0258-0419	HN
17	1255-1329, 1345-2400, 1920-2203	SL, DV, HN
18	0000-1250, 0246-0421, 0743-1348	DV, HN, HN
19	2102-2400	HN
20	0000-0026, 0501-0920, 1430-2400	HN, HN, DV
21	0000-0100, 0247-0410, 0850-1100	DV, HN, SL
22	0332-0400	HN
25	0320-0356	HN
26	0336-0418	HN
27	0356-0416	HN

Notes:

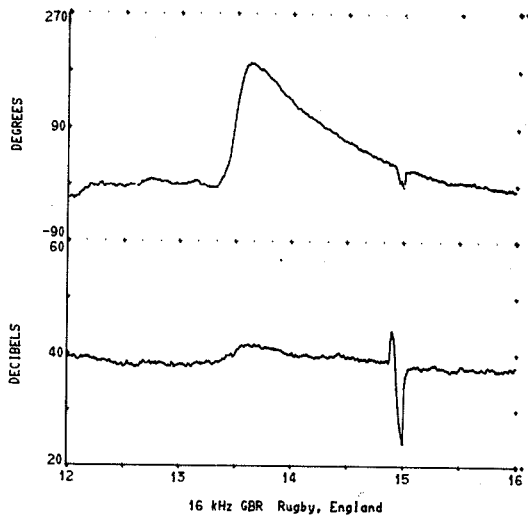
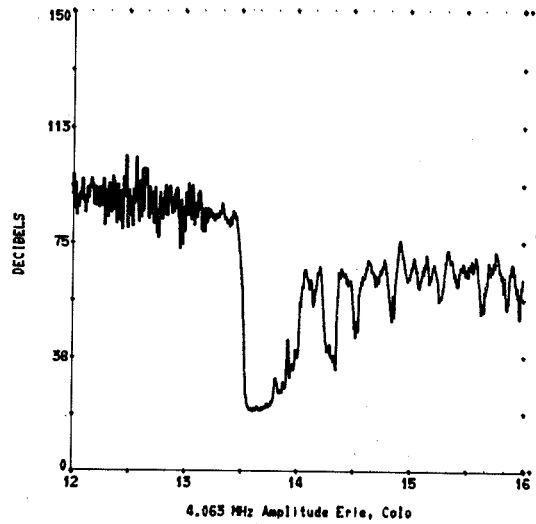
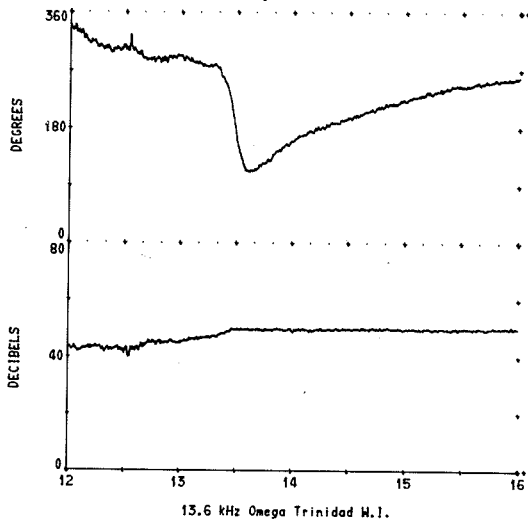
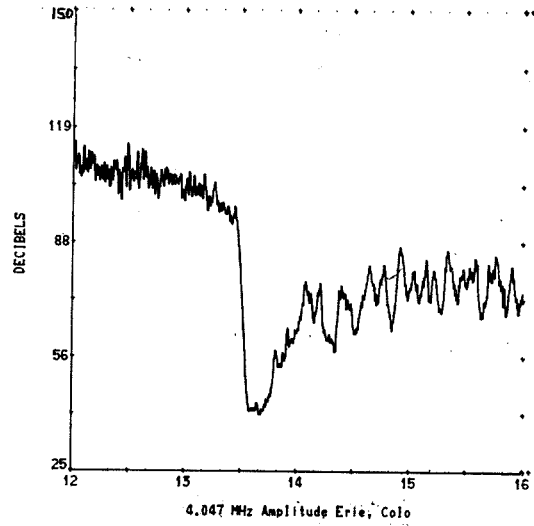
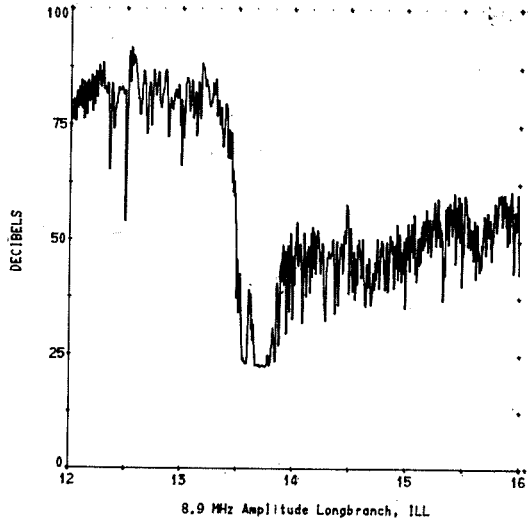
JU is Juhlesruh reporting by telegraphic means. A23 is a new AAVSO observer in St. Joseph, Missouri, recording SEA. UC is Uccle, Belgium, recording SEA. Okinawa SWF report for 01-15 March 1969 only received in time for publication. March 16-31 not received in time.

The following stations were received too late for inclusion in this table:

New Delhi
Sao Paulo
Trinidad

SELECTED SID EVENTS
27 MARCH 1969

Table Mountain Geophysical Monitoring Station



SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING	TIME OF	DURATION	FLUX DENSITY		INT	REMARKS	
			TIME	MAXIMUM		$10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$				
			UT	UT	MINUTES	PEAK	MEAN			
1	606 SGMR	4	1703.5	1703.7	.4	16.8	5.0	2		
	606 SGMR	40	1908.7	1909.6	1.1	6.7	3.0			
	184 BOUL	6	1908	1909	1					
	2800 OTTA	28	1954	1954	12	7.4	3.4			
	2700 PENN	45	1954.6	2021.4	56.8	62.1	19.6			
	2695 SGMR	28	1954	2002	12.4	9.6	3.5			
	1415 SGMR	22	1954.5	2021.5	54.5	11.6	3.0			
	606 SGMR	22	1956.7	1959.2	14.5	8.6	2.0			
	960 PENN	20	1957	1958.2	42.2	3.4	1.5			
	408 SANM	45	1957	2001.8	13	26.5	12.0			
	4995 SGMR	3	2000.7	2002	3.2	8.2	3.0			
	184 BOUL	48	2001	2007	11			1		
	10700 PENN	3	2006.4	2009.9	43.6	155.0	42.0			
	4995 SGMR	45	2006.2	2008.5	40.8	245.0	45.0			
	2800 OTTA	46	2006	2021	46	75.0	30.0			
				2006	2021	24	75.0			
				2030	2033	22	37.0			
	2695 SGMR	45	2006.4	2021.5	35.2	69.0	12.0			
	35000 SGMR	20	2007.1	2009	8.9	125.0	30.0			
	15400 SGMR	3	2007.1	2009.8	10.9	135.0	35.0			
	8800 SGMR	3	2007	2009.8	9	185.0	35.0			
	15400 SGMR	29	2018	2023.5	12.5	38.2	9.5			
	15400 SGMR	46	2136.4	2141.1	8.1	130.0	28.0			
	2700 PENN	45	2139.1	2143.4	10.5	59.6	26.0			
	10700 PENN	45	2140.6	2143.1	9.2	157.0	62.3			
	2800 OTTA	46	2140	2143	10	74.0	33.0			
				2140	2143	5	74.0			
				2145	2147.5	5	35.0			
	1415 SGMR	46	2140.3	2142.1	9.2	12.6	4.0			
	960 PENN	45	2140.4	2142.1	10	92.0D	12.0D			
	606 SGMR	46	2141.8	2142	10	28900.0	104.0			
	606 SGMR	46	2141.8	2142.4	10	28900.0	104.0			
	184 BOUL	48	2141	2146	10			3		
	328 PENN	45	2142	2144.6	3.3	252.0D	76.3			
	10700 PENN	29	2149.8	2149.8	19	19.6				
	2700 PENN	29	2149.6	2149.6	16.6	6.7	3.4			
	2800 OTTA	29	2150	2150	100	4.8	2.4			
	10700 PENN	5	2212	2212.4						
	2	606 SGMR	2	2018	2019.4	2.4	6.6		2.1	
		606 SGMR	2	2058.4	2059.7	4	5.0		2.0	
		606 SGMR	2	2134.6	2136.3	1.9	4.4		2.2	
		2695 PENT	20	2225	2310	95	3.2		1.6	
		3	2800 OTTA	20	1320	1328	40	6.0	3.0	1
	606 SGMR		40	1426.2	1428.7	3.4	33.4	16.7		
	184 BOUL		6	1835	1836	2				
	2800 OTTA		20	2100	2102	17	3.0	1.5		
2695 PENT	4		2208.2	2221	5	25.0	12.5			
2695 PENT	28		2216.2		2	2.0	1.4			
960 PENN	45		2217			300.0D				
606 SGMR	4		2217.8	2219	5.2	300.0	60.0			
1415 SGMR	45		2218.7	2220.4	3.9	21.5	10.6			
10700 PENN	45		2219							
2700 PENN	5		2220							
184 BOUL	48		2221	2223	8			3		
2695 PENT	29		2223.2		60	8.0	4.0			
4	2800 OTTA	24	1531		5	2.4				
	5	2800 OTTA	20	1410	1700	340	8.6	4.3	2	
184 BOUL		6	2141	2142	1					
6	2800 OTTA	24	1540		35	3.0				
	10700 PENN	1	1542.4	1542.9	1.3	8.2	2.5			
	10700 PENN	3	1732.4	1732.9	.9	13.4	5.5			
	15400 SGMR	2	2011.9	2012.5	1.4	3.2	1.6			
	10700 PENN	1	2011.2	2012.2	3.2	8.9	2.4			
	8800 SGMR	4	2011.6	2012	5.4	17.6	5.9			
	4995 SGMR	4	2011.4	2012.1	2.8	13.6	6.5			
	2800 OTTA	21	2055	2117	55	2.4	1.2			
	2700 PENN	20	2055.8	2058.7	54	6.2	3.1			
	2800 OTTA	1	2057	2058.5	5	3.4	1.7			
	2695 PENT	20	2225	2235	35	2.4	1.2			
	7	2800 OTTA	20	1535	1540	25	2.0	1.0		
2800 OTTA		20	1710	1805	130	2.4	1.4			
18 BOUL		42	1957	2007	27			1		
18 MCMA		42	1957	1959	23					
8	15400 SGMR	3	1438.3	1438.7	2.5	14.4	4.0			
	10700 PENN	3	1438.2	1438.6	11.3	28.2	6.8			
	8800 SGMR	3	1438.1	1438.5	3.9	25.2	5.0			
	7000 SAOP	3	1438.5	1439	1.2	19.5	9.7			
	4995 SGMR	1	1438.1	1438.7	1.1	3.2	1.0			
	7000 SAOP	29	1439.7		6.5					
	2800 OTTA	23	1440	1600	145	4.0	2.4			
	4995 SGMR	3	1453.7	1454.2	1	8.0	3.0			
	2800 OTTA	1	1453.5	1454	1	4.0	2.0			
	2695 SGMR	1	1453.7	1454.3	.7	4.3	2.0			
	8800 SGMR	22	1459.1	1500.2	11.2	11.2	3.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	7000 SAOP	4	1459.5	1500.5	2.8	17.7	8.8		
	4995 SGMR	1	1459.3	1500.2	1.3	4.0	2.0		
	4995 SGMR	22	1805.5	1812.9	20.1	18.9	6.0		
	2800 OTTA	28	1805		5	2.4	1.8		
	2700 PENN	20	1805.3	1813	48.6	21.4	3.4		
	960 PENN	20	1805.3	1813	33.4	4.5	1.4		
	1415 SGMR	22	1806.5	1813	11.2	15.0	5.0		
	606 SGMR	20	1807	1813	10	2.2	1.0		
	2695 SGMR	22	1809	1812.9	13	24.2	8.0		
	8800 SGMR	22	1810.5	1813.3	15	7.4	3.0		
	2800 OTTA	4	1810	1813	9	19.0	9.0		
	15400 SGMR	20	1813	1824.6	29	4.9	2.0		
	2800 OTTA	29	1819		80	3.6	1.8		
	4995 SGMR	20	1825.6	1830.5	18.9	7.8	2.0		
	2800 OTTA	20	1825	1831	20	3.2	1.6		
	1415 SGMR	22	1825.8	1831.3	7.8	5.0	2.0		
	606 SGMR	20	1825.7	1832.5	11.3	1.7	1.0		
	8800 SGMR	20	1826	1830.5	10	2.9	1.0		
	2695 SGMR	20	1826	1831.3	8	3.8	1.5		
	2800 OTTA	20	2050	2052	12	2.4	1.2		
	10700 PENN	1	2206.9	2207.1	.4	8.6	4.1		
	2700 PENN	1	2206.9	2207.1	.5	5.0	2.9		
	1415 SGMR	1	2206.9	2207.1	.6	3.6	1.0		
	960 PENN	1	2206.9	2207.1	.5	2.7	1.7		
	606 SGMR	1	2206.9	2207.4	2.6	2.2	1.0		
	245 SGMR	45	2206.4	2207.2	1.4	430.0	215.0		
	184 BOUL	6	2206	2206	2			3	
	2800 OTTA	1	2207	2207.2	1.2	5.4	2.7		
	328 PENN	5	2207	2207.1	.4	19.8	7.9		
	184 BOUL	6	2357	2357	2			2	
9	184 BOUL	6	0015	0015	1			2	
	15400 SGMR	21	1145.5	1159	28.5	12.8	4.0		
	245 SGMR	45	1200.5	1208.4	12	50.0	17.1		
	7000 SAOP	45	1201.4	1205.5	8.9	40.6	40.6		
	4995 SGMR	23	1201.2	1208.5	12.8	12.8	4.0		
	1415 SGMR	22	1201.4	1207.6	11.9	6.0	2.0		
	15400 SGMR	45	1202.5	1208	8.5	32.4	6.0		
	8800 SGMR	23	1202.5	1204	12.1	8.2	3.0		
	2695 SGMR	23	1202.1	1208	7.9	4.3	1.5		
	4995 SGMR	45	1203.1	1205.4	3.2	32.0	6.0		
	8800 SGMR	45	1204.5	1205.4	5.1	42.2	8.0		
	2695 SGMR	3	1207.8	1207.9	.2	7.7	3.0		
	606 SGMR	1	1207	1207.7	2	3.0	1.0		
	606 SGMR	40	1321.5	1324.7	5.5	1.7	.5		
	245 SGMR	45	1321	1324.8	4	61.0	4.0		
	4995 SGMR	22	1322.2	1323.8	13.2	11.6	3.0		
	2800 OTTA	1	1322	1323	4	2.4	1.2		
	2695 SGMR	1	1322.5	1323.4	2	3.8	1.0		
	1415 SGMR	20	1322	1328.8	7.8	3.4	1.0		
	8800 SGMR	22	1323.5	1324.9	10.1	7.4	2.0		
	7000 SAOP	20	1323		3	6.1	3.0		
	8800 SGMR	20	1444.5	1450.7	15.3	7.8	2.1		
	2695 SGMR	20	1445	1450.7	13.5	4.1	1.2		
	15400 SGMR	20	1447.5	1452	12.9	4.8	1.5		
	2800 OTTA	22	1447	1450.5	12	3.0	1.5		
	10700 PENN	1	1449.9	1450.7	4.2	6.2	1.5		
	4995 SGMR	3	1450.3	1450.7	4.1	12.0	4.0		
	2700 PENN	1	1450.2	1450.7	2.5	3.2	1.0		
	4995 SGMR	22	1619	1622.1	13.1	10.4	3.0		
	2800 OTTA	20	1620	1622	15	2.4	1.2		
	1415 SGMR	20	1620.5	1623	8.9	2.4	1.0		
	15400 SGMR	20	1621	1625.8	14	4.0	1.0		
	8800 SGMR	22	1621.6	1625.5	10.7	6.6	2.0		
	2800 OTTA	40	1814	1817	6	2.4			
	7000 SAOP	3	1815.9	1817.2	4.2	16.2	8.1		
	15400 SGMR	1	1816.5	1817	3.9	4.4	1.5		
	8800 SGMR	3	1816.5	1817	4	8.6	2.0		
	4995 SGMR	3	1816.5	1817	4	14.8	3.5		
	2695 SGMR	1	1816.7	1817	1.6	5.0	1.5		
	4995 SGMR	21	1915.8	1921.2	18.2	8.8	2.0		
	2800 OTTA	21	1915	1919	11	2.4	1.2		
	7000 SAOP	3	1916.1	1916.8	1.8	16.2	8.1		
	15400 SGMR	20	1916.7	1920.7	9	8.0	2.0		
	8800 SGMR	21	1916.7	1921.2	13.5	8.6	2.0		
	8800 SGMR	1	1916.7	1917.1	1	6.2	2.0		
	4995 SGMR	4	1916.5	1917.1	1.1	14.0	5.0		
	2800 OTTA	1	1916.5	1917.2	1	2.4	1.2		
	2695 SGMR	1	1916.5	1917.2	1.1	6.0	2.0		
	1415 SGMR	20	1916.5	1920.6	14.5	2.0	.5		
	606 SGMR	40	1920.5	1924.4	5	12.8	2.0		
	2800 OTTA	20	2110	2111	15	1.8	0.9		
	2800 OTTA	3	2234.6	2235.1	2.4	44.0	11.0		
	2800 OTTA	30	2237		40	4.6	2.0		
	2800 OTTA	2	2237.5	2237.8	1	2.2	1.1		
10	2800 OTTA	45	1325	1327.5	5	3.8	1.6		
	2700 PENN	41	1325.4	1326.2	3.8	4.2			
	960 PENN	41	1325.5	1327.6	3.8	4.0			
	4995 SGMR	1	1853.8	1854.2	1.8	4.9	2.5		
	2800 OTTA	1	1853.5	1854	2	4.8	2.4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS	
			UT	UT	MINUTES	PEAK	MEAN			
11	2700 PENN	1	1853.5	1854.1	2	4.2	1.3			
	2695 SGMR	1	1853.7	1854.3	1.9	4.8	2.4			
	1415 SGMR	1	1853.7	1854.6	1.8	2.0	1.0			
	18 BOUL	6	1916	1917	2			1		
	18 MCMA	6	1916	1917	2			1		
	2700 PENN	1	1448	1448.2	1.4	2.8	0.7			
	960 PENN	1	1448	1448.1	.2	1.8	0.8			
	1415 SGMR	1	1652	1654.6	5.5	3.0	1.5			
	606 SGMR	40	1652.6	1658.2	6.8	5.6	2.8			
	245 SGMR	40	1652.1	1654.9	7.4	20.0	3.1			
	18 BOUL	41	1652	1957	6			1		
	18 MCMA	41	1652	1656	6			3		
	18 MCMA	41	1750	1801	13			3		
	245 SGMR	7	1751	1803	16	324.0	20.0			
	18 BOUL	41	1751	1803 E	15			3		
	4995 SGMR	20	1752.8	1801.6	21	6.0	3.0			
	2800 OTTA	8	1753.7	1753.7		4.6				
	2700 PENN	1	1753.4	1754	1	4.6	1.1			
	2695 SGMR	20	1753.4	1801.6	12.5	5.0	2.5			
	1415 SGMR	20	1753	1801.5	15.1	3.0	1.5			
	606 SGMR	40	1753.4	1802.4	11.6	57.0	22.6			
	408 SANM	45	1755	1800.8	12	3530.0	29.0			
	18 BOUL	6	1756	1803 E	7			3		
	18 MCMA	6	1759	1801	4			3		
	8800 SGMR	20	1800.5	1801	15.1	2.5	1.8			
	2800 OTTA	2	1800	1801.5	4	4.0	2.0			
	184 BOUL	6	1800	1800	3			2		
	18 BOUL	6	1946	1947	2			1		
	960 PENN	20	1947.1	1951.5	12.9	5.3	0.9			
	18 MCMA	6	1947	1948	1			1		
	2700 PENN	20	1948.3	1951.7	26.3	7.3	1.4			
	245 SGMR	7	1949	1958	11	61.0	10.0			
	18 BOUL	41	1949	1951	12			1		
	2695 SGMR	3	1950.6	1951.7	2.5	9.7	4.8			
	1415 SGMR	3	1950.6	1951.7	1.9	11.3	5.6			
	18 MCMA	41	1950	1951	9			1		
	4995 SGMR	1	1951.4	1951.6	1.9	5.0	2.5			
	2800 OTTA	1	1951.3	1951.7	1.5	7.2	2.4			
	606 SGMR	1	1951.3	1951.5	.8	4.0	2.0			
	328 PENN	5	1951.3	1951.7	1.5	21.0	6.6			
	408 SANM	45	1955	1956	3.5	39.0	13.5			
	606 SGMR	2	1956.3	1957.3	4.3	5.6	1.9			
	606 SGMR	1	2158.5	2159.4	1.3	5.6	1.9			
	12	2800 OTTA	25	1445		15	5.0			
		245 SGMR	22	1456.6	1503.9	11.1	36.0	6.0		
		2800 OTTA	1	1457	1458.5	3	2.4	1.2		
		606 SGMR	22	1457.5	1504.2	20.5	5.6	2.0		
		2800 OTTA	1	1500.5	1504	7	4.6	2.3		
		1415 SGMR	22	1501.8	1504.2	11.8	10.8	3.0		
		4995 SGMR	20	1502.8	1503.8	9.2	4.1	1.5		
2695 SGMR		22	1503	1503.8	9.3	4.8	1.5			
18 MCMA		42	1724	1727	85			3		
18 MCMA		41	1724	1727	16			1		
408 SANM		47	1737.9	1741.8	12.1	318.0	130.0			
15400 SGMR		46	1738.8	1740.7	11	5000.0	1330.0			
10700 PENN		47	1738.7	1740.5	11.8	2410.0	932.0			
8800 SGMR		46	1738.6	1741.4	17.6	4000.0	700.0			
4995 SGMR		46	1738.6	1740.3	17.6	2100.0	430.0			
2800 OTTA		47	1738	1740.2	14	1560.0	540.0			
2700 PENN		47	1738.7	1740.3	11.8	872.0	234.0			
2695 SGMR		46	1738.6	1740.3	13	1600.0	375.0			
960 PENN		45	1738.7	1741	54.3	60.0	25.0			
328 PENN		45	1738.7	1740.9		64.1				
35000 SGMR		46	1739.2	1740.8	6.1	2700.0	1900.0			
1415 SGMR		46	1739	1741.3	12.8	910.0	198.0			
606 SGMR		46	1739	1741.5	17	550.0	110.0			
245 SGMR		46	1740.3	1741.5	58 D	1770.0	68.0			
184 BOUL		48	1740	1743	98			3		
18 MCMA		41	1742	1802	21			1		
35000 SGMR		29	1745.3	1745.3	53.2	290.0	145.0			
15400 SGMR		29	1749.8	1749.8	53.9	125.0	63.0			
10700 PENN		29	1750.5	1750.5	250	110.0	13.8			
2700 PENN		29	1750.5	1750.5	61.2	18.6	6.1			
408 SANM		29	1750	1800	57.5	32.0	17.0			
2695 SGMR		29	1751.6	1751.6	39.4	14.4	7.0			
1415 SGMR		30	1751.8	1751.8	42	9.0	4.0			
2800 OTTA		29	1752		100	16.0	5.4			
18 BOUL		42	1753	1846	76			1		
8800 SGMR		29	1756.2	1756.2	89.8	67.0	30.0			
4995 SGMR		29	1756.2	1756.2	97.8	43.9	18.0			
1415 SGMR		40	1756.5	1800.4	23.8	106.0	18.0			
18 BOUL		6	1757	1814	18			1		
18 MCMA		6	1800	1802	4			3		
606 SGMR	29	1801.4	1806.2	90.6	28.0	10.0				
18 BOUL	41	1818	1830	16			1			
18 BOUL	6	1818	1820	3			1			
18 BOUL	6	1828	1831	4			1			
960 PENN	29	1833	1833	207	2.9	1.5				
18 BOUL	6	1842	1846	5			1			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	18 MCMA	42	1919	1956	48			1	
	2700 PENN	1	1952.9	1954.5	3.6	6.9	2.1	1	
	18 MCMA	6	1955	1956	2				
	2700 PENN	41	2000	2010.7	13 D	6.8			
	960 PENN	41	2000	2006	10 D	5.9			
	4995 SGMR	21	2001.2	2009.2	14.8	10.7	5.0		
	2695 SGMR	22	2001.2	2002.6	12.8	7.2	3.0		
	1415 SGMR	22	2001.8	2002.6	12.5	4.0	2.0		
	15400 SGMR	21	2002.8	2008.9	10.9	11.6	5.8		
	8800 SGMR	21	2002.6	2009	13.8	9.4	4.0		
	2800 OTTA	41	2002		12				
	2800 OTTA	1	2002	2002.5	2	5.8	2.9		
	606 SGMR	46	2004.4	2005.3	2.9	20.7	1.7		
	10700 PENN	3	2005.3	2010.6	9.9	23.9	6.8		
	2800 OTTA	1	2005.8	2006	1	4.6	2.3		
	15400 SGMR	3	2010.1	2010.4	1.9	15.1	7.5		
	8800 SGMR	3	2010	2010.4	2.8	23.4	4.0		
	4995 SGMR	3	2010.1	2010.4	2.7	20.5	4.0		
	2800 OTTA	1	2010	2011	4	6.2	3.1		
	2695 PENT	4	2226	2228	4	23.0	11.0		
	1415 SGMR	1	2227.2	2228.5	2.2	7.0	3.0		
	606 SGMR	4	2227.8	2228	.7	745.0	200.0		
	2695 PENT	31	2230	2242	45	-5.6	-2.8		
13	2695 PENT	1	0040.5	0041	1	3.0	1.5		
	4995 SGMR	1	1228.6	1229.4	2.9	3.7	1.5		
	2695 SGMR	1	1228.6	1229.4	2.9	1.6	1.0		
	15400 SGMR	1	1316.8	1317.8	2.2	3.4	1.5		
	10700 PENN	1	1316	1316.9	3	8.9	3.4		
	8800 SGMR	4	1316.5	1316.9	2.4	12.6	3.0		
	4995 SGMR	45	1316.4	1316.9	3.7	36.1	6.0		
	2800 OTTA	4	1316	1317	3.5	22.0	6.0		
	2700 PENN	3	1316	1316.9	3.7	18.7	3.5		
	2695 SGMR	45	1316.5	1316.9	2.5	22.5	4.0		
	1415 SGMR	4	1316.6	1316.9	3.1	84.0	16.0		
	960 PENN	45	1316.5	1316.9	3.6	6.5	1.7		
	606 SGMR	45	1316.6	1318.6	2.6	345.0	20.0		
	328 PENN	5	1316.7E	1316.7	5 E	11.0E			
	4995 SGMR	1	1521.3	1521.5	1	2.1	1.0		
	2800 OTTA	1	1521.2	1521.7	3	4.8	1.6		
	2700 PENN	1	1521.2	1521.5	1.2	3.8	1.6		
	2695 SGMR	1	1521.2	1521.5	.6	5.5	2.0		
	1415 SGMR	1	1521.3	1521.5	.5	1.6	.5		
	15400 SGMR	3	1705	1707	3.6	12.9	3.0		
	10700 PENN	3	1705.2	1706.9	4.2	13.1	3.1		
	8800 SGMR	1	1705 U	1707	3.7U	4.3D	2.0D		
	4995 SGMR	3	1705 U	1707.4	3.7U	9.0D	3.0D		
	2800 OTTA	1	1705	1707	5	9.8	2.9		
	2700 PENN	1	1705.2	1706.9	4.4	7.4	1.5		
	2695 SGMR	1	1705 U	1707.4	3.7U	2.9D	1.0D		
	1415 SGMR	3	1705	1706.9	3.7	12.0	3.0		
	960 PENN	1	1705.2	1706.9	6.5	2.5	0.5		
	606 SGMR	46	1705.6	1706.7	2.9	86.0	17.0		
	328 PENN	5	1707 E	1707	5 E	9.0E			
	2700 PENN	8	1852.9	1852.9	.2	33.3			
	18 MCMA	6	1911	1913	3			1	
	18 BOUL	41	1918	1921	5			1	
	4995 SGMR	40	2039.4	2041.3	3.1	3.3	1.0		
	2695 SGMR	40	2039.4	2039.5	2.5	1.0	.5		
	1415 SGMR	41	2039.5	2041.3	6.2	9.4	1.5		
	606 SGMR	41	2039.3	2042	4.5	155.0	10.0		
	2800 OTTA	32	2040		60	-2.8	-1.4		
	245 SGMR	45	2041	2041.8	.8	4.2	1.0		
	18 BOUL	41	2047	2056	14			1	
	2800 OTTA	21	2112	2120	14	4.0	2.0		
	18 MCMA	6	2113	2117	5			1	
	606 SGMR	1	2116.9	2117	1.1	1.7	.5		
	1415 SGMR	1	2117.4	2118.9	3.2	4.0	1.5		
	245 SGMR	46	2117.3	2118.6	2.9	95.0	15.0		
	245 SGMR	46	2117.3	2118.7	2.9	95.0	15.0		
	2800 OTTA	3	2118.5	2118.9	1	16.0	7.0		
	2700 PENN	3	2118.3	2118.9	2.8	14.6	2.3		
	18 BOUL	6	2118	2121	5			3	
	2695 PENT	21	2248	2258	90	7.6	3.8		
	2695 PENT	4	2252	2255	6	15.0	7.5		
	2695 PENT	2	2306.5	2307.5	5	7.0	3.5		
14	18 MCMA	41	1536	1537	9			1	
	18 BOUL	41	1545	1554	35			1	
	18 MCMA	6	1852	1855	6			2	
	18 BOUL	6	1853	1856	5			1	
	2695 PENT	21	2210	2245	160	6.0	3.0		
	2695 PENT	22	2225	2228	13	8.0	4.0		
15	2800 OTTA	24	1500		60	12.0			
	10700 PENN	20	1631	1641	68.6	8.7	5.4		
	2700 PENN	20	1631	1634	19	3.1	1.6		
	184 BOUL	6	1809	1809	1			2	
	2800 OTTA	24	1850		30	3.8			
	2695 PENT	24	2200		25	4.2			
	18 BOUL	6	2249	2250	3			1	

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR. 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
16	18 MCMA	41	2249	2252	5			2	
	2800 OTTA	25	1320		20	4.8			
	2800 OTTA	1	1326.5	1327.7	5	3.0	1.5		
	4995 SGMR	22	1401	1410.3	17	5.7	2.0		
	2800 OTTA		1401	1409	25	8.6			
	2695 SGMR	22	1403.5	1410.3	15	18.0	8.0		
	8800 SGMR	20	1404.7	1410.3	21.5	5.6	2.0		
	2700 PENN	45	1404.4	1410.6	22.4	9.9	1.7		
	960 PENN	45	1404.2	1405.8	12.1	14.3	3.1		
	15400 SGMR	20	1405	1410.4	17.8	6.2	2.0		
	328 PENN	45	1405.7	1410.3		63.8			
	245 SGMR	46	1406.4	1406.9	6.6	940.00	90.00		
	184 BOUL	6	1406	1406	1			1	
	1415 SGMR	20	1449.8	1454	9.2	1.9	1.0		
	4995 SGMR	21	1451.1	1456.6	16.3	5.3	2.0		
	8800 SGMR	21	1455.9	1459	13.1	3.4	1.0		
	2700 PENN	3	1456.2	1457.7	4.4	15.7	2.4		
	8800 SGMR	1	1457.6	1457.7	.2	3.9	1.5		
	4995 SGMR	3	1457.6	1457.7	1.4	13.1	3.0		
	2800 OTTA	3	1457.5	1457.9	2	17.0	4.4		
	2695 SGMR	3	1457.7	1457.8	.4	9.4	3.0		
	2700 PENN	1	1704	1705.6	3	2.6			
	2800 OTTA	1	1705.5	1705.8	1	3.4	1.7		
	2800 OTTA	21	1745	1800	25	2.4	1.2		
	2800 OTTA	1	1752	1753	2	1.6	0.8		
	4995 SGMR	1	1831.6	1832.1	1.6	3.7	1.0		
	2800 OTTA	1	1831.5	1832	1.5	6.8	2.3		
	2700 PENN	1	1831.6	1832.1	1.2	5.5	1.8		
	2695 SGMR	1	1832	1832.1	1	3.6	1.0		
	1415 SGMR	1	1832	1832.1	2.6	1.9	.5		
	328 PENN	45	1832.4	1832.6	.8	26.5	9.4		
	8800 SGMR	1	1907.8	1910	8.4	2.6	1.0		
	4995 SGMR	1	1907.8	1908.5	5	4.1	1.5		
	18 BOUL	41	1924	1930	14			2	
	18 MCMA	41	1926	1932	13			3	
	18 BOUL	6	1928	1930	4			3	
	2700 PENN	45	1929.5	1930.3	6.1	59.3	3.6		
	960 PENN	45	1929.8	1930.6	1.8	18.4	5.4		
	184 BOUL	6	1929	1929	1			2	
	8800 SGMR	1	1930.2	1930.4	.7	3.9	1.5		
	4995 SGMR	4	1930	1930.4	1.5	9.0	4.0		
	2800 OTTA	4	1930	1930.5	1.5	30.0	15.0		
	2695 SGMR	3	1930.1	1930.4	1.5	77.0	15.0		
	1415 SGMR	4	1930	1930.4	1.3	20.5	4.0		
	606 SGMR	46	1930	1930.4	2.3	28.5	5.0		
328 PENN	5	1930.2	1930.4	.6	82.0	15.2			
245 SGMR	46	1930	1930.4	1.2	2250.0	200.0			
18 MCMA	6	1930	1932	3			3		
4995 SGMR	20	1936	2010.5	51	8.2	2.0			
2695 SGMR	22	1938.4	2021.2	48.6	9.6	3.0			
8800 SGMR	20	1943.2	2019.3	43.8	3.9	1.5			
960 PENN	24	1946.6	2049.6		4.5				
2700 PENN	24	1952.6	2053.8		5.7				
2800 OTTA	21	1953	2125	130	15.6	7.8			
1415 SGMR	22	1957	2113.8	133.5	10.5	3.0			
2800 OTTA	4	2108	2113.5	11	80.0	14.0			
10700 PENN	3	2109.6	2113.2	4.7	19.7	6.8			
2700 PENN	3	2109.2	2113.5	6.8	61.3	17.3			
1415 SGMR	1	2112.1	2113.8	2.6	3.8	1.0			
960 PENN	1	2112.4	2113.8	3.8	1.3	0.8			
2700 PENN	29	2116	2116	14.2	3.8	1.9			
2695 PENT	4	2337	2338	3	78.0	29.0			
184 BOUL	6	2337	2337	2			3		
2695 PENT	30	2340	2340	15	4.0	2.0			
2800 OTTA	1	2343.5	2344.5	1.2	2.2	1.1			
17	8800 SGMR	20	1245.4	1247.3	10.5	9.0	3.0		
	4995 SGMR	3	1245.6	1247.3	7.4	8.4	3.0		
	2695 SGMR	1	1246.3	1247.3	1.7	4.8	1.5		
	7000 SAOP	3	1246.5	1248.6	37.1	18.5	9.2		
	15400 SGMR	1	1247.1	1247.3	.8	4.4	2.0		
	2800 OTTA	20	1450	1510	80	2.4	1.8		
	1415 SGMR	20	1516.8	1546	95.2	4.0	1.5		
	4995 SGMR	20	1517.2	1524	17.8	4.0	1.5		
	2695 SGMR	20	1519	1526	45	4.8	1.5		
	8800 SGMR	20	1521.7	1524	14.6	4.3	1.5		
	245 SGMR	4	1525.7	1525.8	.6	20.0	4.0		
	2800 OTTA	24	1610		40	8.8			
	10700 PENN	24	1724.6	1934		28.6			
	18 MCMA	6	1751	1753	3			1	
	18 BOUL	6	1753	1754	1			1	
	4995 SGMR	22	1804.2	1835.5	73.8	10.8	3.5		
	2800 OTTA	1	1809.1	1809.5	1	4.2	2.1		
	2700 PENN	1	1809.3	1809.5	.7	5.9	2.2		
	2695 SGMR	23	1809.1	1838	68.2	4.6	1.5		
	2695 SGMR	1	1809.1	1809.4	.7	7.0	3.0		
2800 OTTA	21	1815	1838	130	7.8	3.9			
18 MCMA	6	1906	1907	3			1		
18 BOUL	6	1907	1909	4			1		
18 MCMA	24	1912	1928	33			1		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR. 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	4995 SGMR	3	1918.8	1919.8	3.3	19.6	4.0		
	15400 SGMR	3	1919.3	1919.8	5.7	11.3	3.0		
	10700 PENN	3	1919.3	1919.7	1.7	16.5	5.8		
	8800 SGMR	3	1919.3	1919.8	5.5	12.0	3.0		
	2800 OTTA	3	1919.2	1920	2.8	24.0	8.0		
	2700 PENN	3	1919.3	1919.8	2.3	20.3	5.6		
	2695 SGMR	3	1919.2	1919.9	3.2	19.0	4.0		
	1415 SGMR	1	1919.2	1919.9	3.8	4.0	1.5		
	18 BOUL	6	1936	1937	4			1	
	18 BOUL	6	2009	2012	4			1	
	18 MCMA	6	2010	2011	1			1	
	2800 OTTA	26	2100	2100	90	8.0			
	10700 PENN	1	2127.6	2128	3	4.8	1.7		
	2800 OTTA	1	2127.8	2128	2	2.8	1.2		
	2700 PENN	1	2127.5	2128	2.2	6.3	1.5		
	1415 SGMR	46	2127.7	2128	2.1	22.0	4.0		
	960 PENN	46	2127.8	2128	1.1	45.7	13.5		
	606 SGMR	46	2127.7	2128	1.9	67.0	16.0		
	606 SGMR	46	2127.7	2128.2	1.9	67.0	16.0		
	245 SGMR	46	2127.7	2128	1.8	26.0	6.0		
	2695 PENT	4	2330	2331	5	18.0	9.0		
	184 BOUL	6	2339	2339	2			2	
18	15400 SGMR	1	1155.6	1155.9	.7	3.6	1.8		
	8800 SGMR	3	1155.7	1155.8	1.2	8.2	3.2		
	4995 SGMR	3	1155.7	1155.8	1.2	20.8	9.4		
	2695 SGMR	3	1155.5	1155.7	.5	19.2	9.6		
	1415 SGMR	1	1155.5	1155.7	1.1	3.8	1.7		
	2800 OTTA	20	1230	1230	45	3.2	1.6		
	2700 PENN	20	1324.9	1339.9	28.7	3.7	1.8		
	2800 OTTA	20	1332	1340	45	2.2	1.1		
	10700 PENN	20	1336.2	1341.1	20.1	7.5	3.5		
	10700 PENN	1	1516.8	1517.4	1.2	4.8	2.1		
	2800 OTTA	32	1603	1616	21	-2.4	-1.2		
	4995 SGMR	22	1622.1	1637	27.1	11.6	5.8		
	2695 SGMR	22	1623.3	1635.2	25.2	4.8	2.4		
	1415 SGMR	22	1626.2	1635.1	16.1	1.5	.8		
	18 MCMA	42	1632	1633	18			1	
	18 BOUL	42	1636	1649	20			1	
	2800 OTTA	1	1643	1646.5	7	5.2	2.6		
	2700 PENN	1	1643.8	1645.9	4.4	7.8	3.2		
	2800 OTTA	32	1743	1754	15	-2.2	-1.1		
	10700 PENN	1	1756.4	1757	1	7.9	3.1		
	2800 OTTA	1	1756.8	1757	1	2.2	1.1		
	10700 PENN	20	1831.8	2018.1	204	45.7	26.6		
	15400 SGMR	20	1854.1	1933.3	102.4	9.9	5.0		
	2700 PENN	20	1857.8	1946.6	107	6.5	3.2		
	4995 SGMR	21	1900.8	1929.5	104.2D	20.0	10.0		
	2800 OTTA	21	1900	1923	130	15.0	7.5		
	2695 SGMR	23	1901.8	1931	100.5D	12.0	6.0		
	8800 SGMR	21	1905	1929.6	92.7D	12.9	6.5		
	1415 SGMR	23	1905	1930.5	138.7	5.7	2.8		
	245 SGMR	40	1918.6U	1925	31.9U	58.0	4.1		
	2800 OTTA	4	2010.8	2011.2	1.2	7.0	3.5		
	2700 PENN	1	2010.7	2011.3	1.4	6.8	3.8		
	2695 SGMR	46	2010.9	2011.3	1.7	8.4	2.9		
	1415 SGMR	46	2010.8	2011.8	3.3	16.5	4.6		
	606 SGMR	2	2010.9	2011.4	2.1	6.6	3.3		
	960 PENN	1	2011.2	2012.5	1.8	7.5	1.6		
	1415 SGMR	4	2015.4	2017.5	7.1	13.1	2.7		
	8800 SGMR	3	2016.8	2017.8	2.2	8.2	4.7		
	4995 SGMR	4	2016.4	2018	7.4	13.6	6.0		
	2800 OTTA	21	2016	2016	25	3.8	2.0		
	2800 OTTA	3	2016.9	2018	4	20.0	7.5		
	2700 PENN	3	2016.8	2017.9	3.2	18.3	6.2		
	2695 SGMR	3	2016.2	2018	5.3	19.7	6.0		
	960 PENN	20	2016	2017.4	18	6.3	2.5		
	606 SGMR	46	2016.3	2017.7	4.5	54.7	10.3		
	245 SGMR	6	2016.5	2016.9	2.4	5.9	1.0		
	18 BOUL	6	2016	2017	3			1	
	18 MCMA	6	2016	2017	3			1	
	1415 SGMR	22	2023.2	2029.3	9.4	5.7	1.8		
	2800 OTTA	45	2025	2027	8	9.2	3.6		
			2025	2027	3	9.2			
			2028	2029	5	5.6			
	2700 PENN	1	2025.4	2026.8	2	9.1	3.6		
	2695 SGMR	2	2025.2	2026.9	2.3	7.2	3.6		
	2700 PENN	1	2028.3	2028.7	2	4.6	1.3		
	10700 PENN	1	2111.3	2111.4	1.4	9.6	2.7		
19	8800 SGMR	1	1306.5	1306.9	.9	6.2	3.1		
	4995 SGMR	1	1306.4	1306.8	1	7.2	3.6		
	18 BOUL	41	1516	1518	11			1	
	18 MCMA	42	1516	1521	16			1	
	2700 PENN	8	1526.8	1526.9	.2	7.7			
	10700 PENN	1	1529.4	1530.2	2.6	10.0	3.8		
	8800 SGMR	4	1529.6	1530.5	5.5	9.2	3.1		
	7000 SAOP	4	1529.5	1530.5	2.2	15.9	7.9		
	4995 SGMR	4	1529.1	1530.3	6.5	21.2	7.0		
	15400 SGMR	2	1530	1530.5	1.3	4.7	2.3		
	18 BOUL	41	1552	1554	11 U			1	

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR. 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS	
			UT	UT	MINUTES	PEAK	MEAN			
19	18 MCMA	6	1552	1553	3			1		
	2800 OTTA	23	1655	2020	355	13.4	6.8			
	2700 PENN	3	1715	1715.1	.3	12.4	5.5			
	245 SGMR	43	1741	1818.8	290.5D	63.0	27.1			
	184 BOUL	43	1754		409 D			1		
	606 SGMR	20	1804	1816.6	16.8	4.6	2.3			
	4995 SGMR	22	1805.8	1818.5	37.2	8.6	4.3			
	2695 SGMR	22	1815.4	1822	12.1	5.0	2.5			
	8800 SGMR	1	1816.6	1818.8	5.3	3.4	1.7			
	7000 SAOP	4	1858.2	1858.9	1.2	25.0	12.5			
	15400 SGMR	3	1858.9	1859	5.1	13.6	3.2			
	10700 PENN	3	1858.6	1859	8.4	25.8	3.7			
	8800 SGMR	3	1858.9	1859	5.8	23.1	2.9			
	4995 SGMR	3	1858.9	1900.1	4.3	7.8	2.8			
	10700 PENN	24	1910.4	2010		20.8				
	2700 PENN	20	1911.9	1916.7	17	7.8	2.1			
	2695 SGMR	20	1915.5	1916.5	9.8	7.0	3.5			
	4995 SGMR	1	1916.3	1916.6	2.2	4.1	2.0			
	2800 OTTA	1	1916	1916.5	1.5	3.0	1.5			
	606 SGMR	4	2116	2118.9	5.8	23.2	2.3			
	2695 PENT	1	2305	2308	7	3.4	2.6			
	20	245 SGMR	44	1123 E	1956.3	676.8D	710.0	34.2		
		184 BOUL	44	1310 E	1805	495 D			1	
		10700 PENN	20	1323.7	1327.7	29	9.8	6.6		
		2800 OTTA	20	1323	1330	14	4.6	2.3		
		10700 PENN	20	1354.4	1359.2	10.7	7.4	3.7		
		15400 SGMR	1	1446.9	1447	.3	2.8	1.4		
		8800 SGMR	1	1446.7	1447	.6	4.7	2.4		
		4995 SGMR	3	1446.7	1446.9	.6	11.3	5.7		
		2695 SGMR	1	1446.8	1447	1	4.5	2.3		
		1415 SGMR	1	1446.9	1447	.3	2.3	1.2		
		2800 OTTA	1	1447.8	1447.9	1	5.6	2.8		
		4995 SGMR	22	1458.9	1509.5	41.1	19.5	9.8		
		8800 SGMR	22	1459	1513	41.1	17.2	8.6		
		2695 SGMR	22	1459.1	1508	41.1	12.5	6.3		
		1415 SGMR	20	1459.8	1510.3	27.5	1.8	1.0		
2800 OTTA		21	1500	1555	250	11.6	7.2			
15400 SGMR		20	1501.5	1512	37.6	10.1	5.0			
2695 SGMR		23	1541.3	1558.9	75.7	7.5	2.5			
1415 SGMR		23	1545	1549.9	14.6	4.4	1.5			
4995 SGMR		23	1547.7	1554.8	75.3	14.4	4.0			
15400 SGMR		23	1548.1	1601.3	75	9.2	3.0			
8800 SGMR		23	1548.6	1554.8	74.4	24.1	6.0			
10700 PENN		1	1554.8	1555.6	9.2	9.8	4.9			
606 SGMR		22	1555	1626	130.3	10.8	3.0			
18 BOUL		42	1610	1729 E	88			3		
408 SANM		27	1620	1715.6	90	50.5	23.0			
8800 SGMR		46	1628.7	1633.3	14.1	75.7	20.0			
4995 SGMR		46	1628.6	1630.4	12.9	111.5	25.0			
2800 OTTA		40	1628	1630	20	35.0				
2700 PENN		45	1628.4	1629.9	13	26.3	7.9			
2695 SGMR		46	1628.2	1629	9.3	30.0	7.0			
15400 SGMR		46	1629.7	1633.3	14.1	55.0	10.0			
10700 PENN		45	1629.4	1634.1	20.3	75.6	16.9			
7000 SAOP		45	1630.2	1634.4	9.2	68.3				
1415 SGMR		40	1630.2	1633.2	5.6	23.0	4.0			
7000 SAOP		22	1650	1655.5	10.2	27.3	13.6			
10700 PENN	1	1654.8	1655.2	1.7	7.6	3.4				
18 BOUL	48	1706	1729 E	32			3			
18 MCMA	42	1715	1723	24			1			
15400 SGMR	1	1754	1754.4	3	4.6	2.0				
8800 SGMR	3	1754	1754.5	2.5	8.6	3.0				
4995 SGMR	20	1817.5	1820.3	14.1	7.2	2.0				
2800 OTTA	20	2025	2030	30	3.8	1.9				
8800 SGMR	20	2028	2028.2	8.4	7.9	2.0				
4995 SGMR	1	2028	2028.2	.4	4.4	2.0				
2695 SGMR	1	2028	2028.2	.4	4.8	2.0				
1415 SGMR	1	2059.3	2059.7	4.2	6.4	2.0				
2800 OTTA	21	2125	2131	15	3.8	1.9				
1415 SGMR	46	2125	2126.7	11	15.0	3.0				
245 SGMR	46	2125		4						
2800 OTTA	1	2126.5	2127	2	9.4	4.7				
2700 PENN	1	2126.2	2126.9	2.6	8.4	2.6				
960 PENN	1	2126.6	2127	2.2	3.9	1.6				
606 SGMR	22	2126.3	2126.8	9.7	5.7	2.0				
2800 OTTA	21	2140	2155	75	5.0	2.5				
2800 OTTA	1	2145	2146	1.5	7.4	3.7				
2700 PENN	20	2145.4	2148.7	33.6	19.0	4.2				
15400 SGMR	46	2148.6	2148.8	6.2	51.0	10.0				
10700 PENN	4	2148.1	2149	15.3	86.0	9.6				
2800 OTTA	4	2148	2148.7	2	18.0	8.0				
1415 SGMR	46	2148.6	2148.7	1.5	44.0	6.0				
21	7000 SAOP	3	1108.5	1608.9	1.6	41.0	20.5			
	245 SGMR	3	1218.6	1218.7	.3	68.0	15.0			
	2800 OTTA	21	1240	1400	290	46.0	20.0			
	408 SANM	43	1240	1321.7	45	57.5	12.0			
	7000 SAOP	28	1257.9	1301.2	20.7	27.3				
	1415 SGMR	2	1259.3	1301.2	4	6.9	2.0			
	8800 SGMR	4	1300.3	1301.2	5.6	20.2	4.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
21	4995 SGMR	4	1300.3	1301.2	4.7	20.8	4.0		
	2800 OTTA	4	1300	1305	5	17.0	6.0		
	2695 SGMR	4	1300.3	1301.2	3.8	20.0	4.0		
	15400 SGMR	20	1306	1309.6	7.8	9.4	3.2		
	8800 SGMR	1	1306.4	1309.5	6.3	6.5	2.2		
	4995 SGMR	1	1306.8	1309.4	5	6.0	2.0		
	2800 OTTA	1	1306	1309	4	3.4	1.7		
	2695 SGMR	1	1306.8	1309.4	3.8	7.5	2.5		
	2695 SGMR	28	1315	1326.3	12.8	113.0	30.0		
	2800 OTTA	47	1316	1334	40	1875.0	255.0		
	4995 SGMR	28	1317.2	1327.8	10.6	100.0	32.0		
	606 SGMR	28	1317	1324.2	7.2	39.9	20.0		
	1415 SGMR	46	1318.2	1329.3	13.8	3450.0	400.0		
	7000 SAOP	47	1318.6						
	15400 SGMR	28	1319.6	1327.9	8.3	42.3	16.0		
	8800 SGMR	28	1319.5	1327.9	8.4	60.0	17.2		
	606 SGMR	46	1324.2	1328.5	18.6	5600.0	600.0		
	10700 PENN	47	1325 E	1333.6	17 D	2500.0D			
	2700 PENN	47	1325 E	1334	19 D	690.0D			
	960 PENN	45	1325 E		15 D	105.0D			
	408 SANM	47	1325		30	561.0D	51.5		
	15400 SGMR	4	1327.9	1333.6	17.1	3980.0	400.0		
	8800 SGMR	4	1327.9	1333.6	16	8000.0	840.0		
	4995 SGMR	3	1327.8	1333.8	16.4	4900.0	640.0		
	2695 SGMR	3	1327.8	1334	14.7	1520.0	300.0		
	184 BOUL	48	1327	1333	14				
	35000 SGMR	3	1328.5	1333.6	16.5	4730.0	600.0	2	
	10700 PENN	29	1341.8	1341.8	150 D	100.0D	30.0D		
	2695 SGMR	29	1342.5	1342.5	98.5	64.0	30.0		
	1415 SGMR	29	1342	1342	17.2	45.6	22.0		
	606 SGMR	29	1342.8	1342.8	67.2	16.0	7.0		
	8800 SGMR	29	1343.9	1343.9	92.1	140.0	70.0		
	4995 SGMR	29	1344.2	1344.2	97.2	115.0	55.0		
	2700 PENN	29	1344.4	1344.4	175 D	40.0D	10.0D		
	15400 SGMR	29	1345	1345	91	120.0	60.0		
	7000 SAOP	20	1402.7		84.5	104.7	52.3		
	408 SANM	45	1415	1419.1	10	32.0	11.0		
	18 MCMA	6	1650	1651	2			1	
	18 BOUL	6	1651	1653	3			1	
	2800 OTTA	23	1815	1950	180	15.0	7.5		
	2700 PENN	24	1815.6	1931		11.3			
	10700 PENN	24	1816.2	1841.6		30.3			
	8800 SGMR	23	1816.2	1840.3	42.8	12.3	6.2		
	4995 SGMR	23	1816.5	1836.2	35.6	21.7	10.3		
	2695 SGMR	22	1816.2	1830.7	41.8	13.8	7.9		
	2800 OTTA	23	1820	1825	30	12.0	6.0		
	4995 SGMR	1	1824.8	1825.3	1.1	6.2	3.1		
	8800 SGMR	41	1826.4	1826.5	.7	23.3	7.9		
	1415 SGMR	40	1829.2	1835.3	42.8	4.8	1.8		
	2800 OTTA	1	1830	1831	2	3.4	1.7		
	10700 PENN	3	1844.5	1846.1	8.5	19.1	9.0		
	8800 SGMR	4	1844.5	1845.2	4.4	15.0	6.6		
	4995 SGMR	4	1914.6	1918.9	8.3	93.0	16.4		
	2800 OTTA	4	1915	1918.9	8	38.0	7.0		
	2695 SGMR	4	1915.4	1918.7	6.8	35.3	6.0		
	1415 SGMR	4	1915	1918.9	6.8	45.5	7.5		
	606 SGMR	3	1916.1	1918.6	3.2	27.4	9.7		
	10700 PENN	3	1917.9	1919	6	22.4	7.1		
	7000 SAOP	22	1917.9	1918.8	3.7	43.2	21.6		
	2700 PENN	3	1917.7	1918.7	6.8	29.6	6.5		
	960 PENN	3	1917.8	1918.7	4.6	19.9	2.4		
	18 BOUL	6	1917	1919	4			1	
	15400 SGMR	4	1918.3	1919.3	2.7	12.7	6.3		
	8800 SGMR	4	1918.3	1919	2.6	31.7	11.9		
	18 MCMA	6	1918	1919	2			1	
	10700 PENN		1934.8	1936.7	6.4	10.0	5.0		
	10700 PENN	47	1941.2	1944.3	7.5	997.0	236.0		
	8800 SGMR	3	1941	1944.3	7.9	950.0	232.0		
	15400 SGMR	4	1942.3	1944.3	5.5	875.0	170.0		
	4995 SGMR	3	1942.3	1944.4	6.2	343.0	113.0		
	2800 OTTA	3	1942	1944.9	5	21.0	7.0		
	2695 SGMR	3	1942.8	1944.7	13	16.8	6.3		
	2700 PENN	3	1943.5	1944.7	5.8	12.9	6.5		
	606 SGMR	1	1944.7	1944.8	.4	6.0	3.0		
	328 PENN	8	1944.8	1944.9	.2	75.9			
	245 SGMR	5	1944.9	1944.9	.3	342.0	170.0		
	15400 SGMR	29	1947.8	1947.8	20.4	30.8	15.4		
	10700 PENN	29	1948.7	1948.7	41.7	54.8	27.4		
	8800 SGMR	29	1948.9	1948.9	20.1	52.8	26.4		
	4995 SGMR	29	1948.5	1948.5	11.5	18.9	9.9		
	2700 PENN	1	1951.6	1952.8	4.6	3.7	1.8		
	10700 PENN	3	2118.6	2119.1	1.2	15.0	7.5		
	2800 OTTA	21	2120	2150	90	8.4	4.2		
	2800 OTTA	1	2123.5	2124.5	2.5	5.6	2.8		
	2700 PENN	1	2123.6	2124.8	3.4	7.3	3.0		
	960 PENN	1	2123.4	2123.5	2.4	5.4	1.6		
	10700 PENN	3	2137.7	2138	2.7	62.3	20.0		
	2695 PENT	4	2333.8	2335	2.2	62.0	24.0		
22	7000 SAOP	23	1208.6		20.5				
	15400 SGMR	3	1211.6	1212.8	.9	92.0	23.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
22	8800 SGMR	3	1211.6	1211.8	2.2	140.0	35.0		
	7000 SAOP	3	1211.6	1211.9	.9	100.0	50.0		
	4995 SGMR	3	1211.6	1211.8	.9	84.0	21.0		
	2800 OTTA	3	1211.8	1212	1	17.4	8.7		
	2695 SGMR	3	1211.6	1211.8	.8	17.8	5.0		
	1415 SGMR	3	1211.6	1211.8	2	13.1	3.5		
	606 SGMR	45	1211.2	1211.5	2.8	195.0	30.0		
	15400 SGMR	21	1230.5	1237.2	15.2	8.5	4.2		
	8800 SGMR	21	1230	1234	9.5	4.7	2.3		
	4995 SGMR	21	1230	1234	10	5.2	2.6		
	2695 SGMR	21	1231	1233.9	11.9	4.0	2.0		
	2800 OTTA	21	1235	1334	175	10.4	5.2		
	8800 SGMR	1	1241.2	1243.2	4.4	4.7	2.4		
	1415 SGMR	1	1242.9	1243.2	.6	5.8	2.9		
	606 SGMR	1	1242.6	1242.8	.9	1.7	.8		
	4995 SGMR	1	1243.1	1243.2	.5	3.0	1.5		
	2800 OTTA	1	1243	1243.2	1	3.4	1.7		
	2695 SGMR	1	1243	1243.2	.6	7.2	3.6		
	7000 SAOP	22	1324.3		50.9	22.4	11.2		
	4995 SGMR	20	1330.8	1336.3	17.2	8.0	3.0		
	2695 SGMR	20	1330.9	1334.3	8.3	2.5	.5		
	1415 SGMR	20	1330.9	1334.2	12.1	3.0	1.0		
	408 SANM	44	1355	1355	270	144.0	14.5		
	4995 SGMR	21	1425	1431	15	4.0	1.5		
	4995 SGMR	1	1426	1426.2	.4	4.0	2.0		
	8800 SGMR	20	1429.5	1434.8	14.6	4.7	2.0		
	2800 OTTA	20	1443	1452	30	5.2	2.6		
	7000 SAOP	22	1443.6	1457.9	18.1	17.2	8.6		
	4995 SGMR	20	1444.5	1453.2	18.7	7.2	2.0		
	8800 SGMR	20	1448.2	1457	12.2	8.6	3.0		
	7000 SAOP	21	1514.1		9.9				
	15400 SGMR	21	1516.7	1519.2	8.4	12.7	4.0		
	8800 SGMR	21	1516.4	1519.3	7.8	8.2	2.5		
	7000 SAOP	3	1517.9	1519.5	1.8	13.8	6.9		
	15400 SGMR	1	1518.3	1519.2	2.1	7.0	3.3		
	10700 PENN	1	1518.4	1519.3	2.6	7.2	3.4		
	8800 SGMR	1	1518.8	1519.2	2.2	6.0	3.0		
	4995 SGMR	3	1518.4	1519.3	5.8	12.3	6.2		
	10700 PENN	1	1548.4	1549.8	3.8	7.2	2.1		
	7000 SAOP	22	1611.6		23.2	15.5	7.7		
	18 BOUL	41	1712	1714	16				1
	10700 PENN	3	1841.7	1844.1	11.2	32.9	9.3		
	4995 SGMR	4	1841.9	1844	6.9	38.5	7.0		
	18 BOUL	42	1841	1851	50				1
	15400 SGMR	4	1842.7	1844.6	4.7	29.1	7.1		
	8800 SGMR	4	1842.1	1844	6.2	22.8	7.3		
	2800 OTTA	4	1843	1844	3	66.0	2.0		
	2700 PENN	3	1843.1	1844.1	10.6	46.4	6.8		
	2695 SGMR	4	1843.3	1844.1	5.3	64.0	9.3		
	2800 OTTA	29	1846	1846	8	5.0	2.5		
18 MCMA	42	1908	1915	20				1	
4995 SGMR	2	1918.4	1919.5	4.2	4.1	2.0			
10700 PENN	3	1942.3	1946.5	7.8	12.3	6.1			
2800 OTTA	22	1942	1946	40	3.6	1.8			
1415 SGMR	4	1943.3	1943.7	.5	12.9	6.4			
606 SGMR	4	1943.7	1944	2.2	15.7	2.9			
408 SANM	43	2005	2005	50 D		10.0			
606 SGMR	1	2014.9	2015.1	1.3	6.3	3.1			
2700 PENN	45	2022.7	2022.9	1.1	62.8	10.8			
2800 OTTA	8	2023		1	50.0				
15400 SGMR	45	2031.7	2032.8	6.5	120.0	37.6			
10700 PENN	3	2031.3	2032.6	4.6	226.0	68.9			
8800 SGMR	45	2031.7	2032.7	5.8	255.0	72.0			
4995 SGMR	45	2031.7	2032.8	7.4	160.0	41.0			
2800 OTTA	45	2032	2032.8	3	14.0	6.0			
2700 PENN	3	2032.1	2032.6	5.1	11.1	2.9			
2695 SGMR	45	2032.1	2032.7	2.3	13.0	5.0			
10700 PENN	29	2035.9	2035.9	12.2	22.1	11.1			
23	606 SGMR	22	1130.3	1140.5	20	4.0	2.0		
	2695 SGMR	22	1133.6	1142.3	15.3	6.7	3.3		
	15400 SGMR	22	1134.4	1138.4	10.1	5.1	2.5		
	8800 SGMR	1	1134.3	1136.5	5.3	3.3	1.6		
	1415 SGMR	22	1135.8	1139.6	13.8	8.6	4.3		
	4995 SGMR	22	1140	1144.5	7.9	7.0	3.5		
	2695 SGMR	20	1215.2	1233.5	53.4	8.4	4.2		
	4995 SGMR	20	1218.5	1228.1	44.9	27.7	13.8		
	2800 OTTA	20	1220	1230	140	7.6	3.8		
	18 MCMA	42	1445	1447	18				1
	18 BOUL	42	1456	1507	21				1
	4995 SGMR	20	1520.6	1521.4	9.4	7.8	3.9		
	2800 OTTA	21	1525		190	8.0	4.0		
	15400 SGMR	22	1624	1650.2	42.8	9.0	4.5		
	1415 SGMR	22	1629.2	1651	37.6	4.6	2.3		
	2700 PENN	20	1632.3	1650.4	22.4	13.8	4.9		
	8800 SGMR	22	1634 E	1650.4	29.1D	11.2	5.6		
	4995 SGMR	22	1634 E	1650.4	28 D	24.4	12.2		
	2695 SGMR	22	1634 E	1650.4	29.1D	13.8	6.9		
	606 SGMR	22	1634.4	1653.8	33.4	4.1	2.0		
	960 PENN	20	1641.9	1652.1	24.7	3.9	1.1		
	10700 PENN	3	1645.1	1650.4	9	10.1	5.4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS	
			UT	UT	MINUTES	PEAK	MEAN			
23	2800 OTTA		1650 E	1650.5	8 D		16.0			
	8800 SGMR	1	1731.3	1731.6	1.3		4.3	2.2		
	4995 SGMR	1	1731	1731.5	1.7		4.0	2.0		
	18 MCMA	41	1800	1812	10					
	18 BOUL	41	1801	1812	21					
	4995 SGMR	20	1813.6	1826	45.3		12.0	6.0		
	2800 OTTA	21	1816	1826	55		6.4	3.2		
	2695 SGMR	20	1816.7	1826	29.3		7.3	3.6		
	2800 OTTA	1	1817	1817.5	1		2.0	1.0		
	2800 OTTA	20	1915	1925	30		3.4	1.7		
	7000 SAOP	3	1923.5	1923.8	1.1		73.0	36.0		
	15400 SGMR	3	1924.2	1924.4	2.6		70.0	28.0		
	10700 PENN	3	1924	1924.2	11.6		125.0	8.5		
	8800 SGMR	3	1924	1924.4	1.9		135.0	68.0		
	4995 SGMR	3	1924	1924.4	1.7		25.6	12.8		
	7000 SAOP	29	1924.6	1924.6	3.5					
	8800 SGMR	29	1925.9	1925.9	12.9		9.5	4.8		
	4995 SGMR	29	1925.7	1925.7	15.1		3.2	1.6		
	2800 OTTA	22	2035		75		3.0	1.5		
	15400 SGMR	1	2040.4	2041.2	2.6		5.4	2.7		
	8800 SGMR	3	2040.4	2041.4	2.6		9.5	4.8		
	4995 SGMR	3	2040.1	2041	2.1		11.6	5.8		
	24	2695 PENT	4	0034.2	0034.5	1.5		14.0	7.0	
		4995 SGMR	1	1158.8	1200.4	3.4		3.3	1.6	
		2695 SGMR	1	1158.2	1200.6	5.8		5.2	2.6	
		1415 SGMR	1	1159.7	1200.8	3.3		.9	.5	
		4995 SGMR	1	1209.4	1213.9	7		4.9	2.4	
		1415 SGMR	20	1209.3	1210.4	9.1		2.3	1.1	
		2695 SGMR	20	1210.1	1213.5	9.6		7.8	3.9	
		2800 OTTA	23	1350	1358	90		3.8	2.0	
		8800 SGMR	1	1422.7	1423.8	2.1		.9	.5	
		4995 SGMR	2	1422.7	1423.8	2.1		4.5	2.3	
		2800 OTTA	46	1422.8	1422.9	2		10.0	5.0	
		2700 PENN	1	1422.7	1422.8	3.3		9.8	2.5	
2695 SGMR		1	1422.7	1423.2	2.1		6.6	3.3		
1415 SGMR		3	1422.7	1422.8	1.4		8.1	4.0		
960 PENN		1	1422.7	1422.8	.8		4.2	1.7		
606 SGMR		4	1422.6	1422.7	1.6		33.5	5.4		
245 SGMR		5	1422.6	1422.7	.2		75.0	35.5		
15400 SGMR		20	1448.1	1453	13.4		8.3	4.1		
2700 PENN		3	1448.8	1450.2	4.3		13.0	3.6		
8800 SGMR		1	1449.6	1449.7	4.5		3.4	1.7		
4995 SGMR		4	1449.6	1450.2	6.8		37.7	11.5		
2800 OTTA		3	1449	1450	3		15.0	6.0		
2695 SGMR		4	1449.2	1450.2	1.7		8.3	4.0		
328 PENN			1638.9	1642.9	7.6		182.0	6.0		
2800 OTTA		3	1639.8	1640	1		10.0	2.4		
2700 PENN		3	1639.4	1640	7.8		11.3	3.6		
1415 SGMR		3	1639.7	1640	.8		12.4	6.2		
7000 SAOP		4	1642.4	1643.6	1.3		10.1	5.0		
2800 OTTA		2	1642.8	1644	3		6.4	3.2		
606 SGMR		45	1642.8	1643.5	1.7		175.0	8.3		
1415 SGMR		2	1643	1643.9	2.2		6.9	3.4		
7000 SAOP		29	1644.3		2.7					
2800 OTTA		21	1725	1800	85		4.6	2.3		
4995 SGMR		20	1755.5	1756	9.9		2.5	1.3		
2800 OTTA		1	1755.5	1756	1		2.8	1.4		
2695 SGMR		20	1755.4	1755.9	10.8		3.6	1.8		
1415 SGMR		22	1804.7	1804.9	20.7		5.7	2.8		
2800 OTTA		20	1822	1823	17		3.4	1.7		
2800 OTTA		40	1856	1859.2	5		42.0			
2700 PENN		45	1856.3	1859.2	3.7		32.9	5.0		
2695 SGMR		4	1856.3	1859.3	4.7		45.5	10.0		
4995 SGMR		4	1857.4	1859.2	3.8		21.0	7.0		
606 SGMR		45	1857.2	1859	3		240.0	35.0		
8800 SGMR		1	1859.3	1859.5	.8		2.2	1.0		
1415 SGMR		3	1859	1859.2	1.8		9.7	4.0		
4995 SGMR		2	2015.5	2017.7	5.9		6.3	2.1		
1415 SGMR		2	2016.5	2016.7	4.9		7.4	2.5		
606 SGMR		45	2016.7	2017	4.3		155.0	35.0		
8800 SGMR		1	2017.5	2018.1	2		4.4	2.0		
2800 OTTA		3	2017	2017.5	1		18.0	9.0		
2700 PENN		3	2017.3	2017.8	2.1		22.4	5.2		
2695 SGMR		4	2017.5	2017.8	1		18.2	9.1		
960 PENN		45	2017.3	2018.1	2.3		7.8	1.5		
2800 OTTA	21	2035	2100	160		6.2	4.4			
2700 PENN	4	2110.9	2114.7	7		10.7	4.2			
606 SGMR	45	2113.8	2114.3	1.2		115.0	46.8			
2800 OTTA	21	2114	2116	8		3.6	1.8			
2800 OTTA	1	2114	2114.8	1.5		9.8	4.9			
1415 SGMR	45	2114.3	2114.6	2.7		8.2	4.1			
960 PENN	1	2114.3	2114.7	3.8		3.1	1.0			
25	2695 PENT	1	0014.3	0014.9	1		8.2	4.1		
	2695 PENT	1	0017.8	0017.9	1		9.6	4.8		
	7000 SAOP	3	1146.9	1147.4	1.4		19.2	8.6		
	1415 SGMR	46	1217.7	1218.4	2.3		84.0	16.0		
	7000 SAOP	45	1228.8	1229	1.4		32.0	12.0		
	606 SGMR	46	1228.8	1230.2	1.7		56.0	7.0		
	15400 SGMR	4	1229	1229.3	4.2		30.4	6.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR. 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS	
			UT	UT	MINUTES	PEAK	MEAN			
25	10700 PENN	3	1229.2	1229.4	1.6	25.8	7.6			
	8800 SGMR	4	1229	1229.3	2.6	33.9	6.5			
	4995 SGMR	4	1229	1229.3	8.7	50.0	8.0			
	2800 OTTA	4	1229	1229.2	3	47.0	17.0			
	2700 PENN	3	1229.2	1229.4	8	37.2	5.6			
	2695 SGMR	4	1229	1229.3	12	48.0	8.0			
	1415 SGMR	4	1229	1229.4	4.5	16.7	3.0			
	960 PENN	45	1229.1	1229.2	5.9	9.4	2.5			
	7000 SAOP	29	1230.4		37.1					
	2800 OTTA	29	1232		10	4.4	2.2			
	7000 SAOP	41	1344.1							
	7000 SAOP	21	1344.1		7.8					
	7000 SAOP	3	1344.1	1344.2	1.1	27.7	13.8			
	7000 SAOP	3	1345.4		.7	12.8	6.4			
	7000 SAOP	21	1351.9		7.6					
	7000 SAOP	3	1354.6	1355	9	17.1	8.5			
	15400 SGMR	4	1443.9	1444.1	1.1D	18.6	6.0			
	8800 SGMR	4	1443.9	1444.1	1.1D	23.8	8.0			
	4995 SGMR	4	1443.9	1444.1	1.1D	29.4	9.0			
	2695 SGMR	3	1443.9	1444.1	1.1D	31.0	10.0			
	1415 SGMR	4	1443.9	1444.1	1.1D	12.5	4.0			
	606 SGMR	4	1443.8	1443.8	1.2D	14.0	4.0			
	2800 OTTA	45	1444	1444.1	2	34.0	9.0			
	2800 OTTA	29	1446		4	3.4	1.7			
	10700 PENN	3	1454.1	1454.7	2.1	13.4	5.8			
	2800 OTTA	1	1454	1454.6	2	7.3	2.4			
	2700 PENN	1	1454.3	1454.7	1.7	5.2	2.4			
	2800 OTTA	21	1517	1520	30	3.4	1.7			
	10700 PENN	3	1527	1530.5	7.5	10.4	3.3			
	2800 OTTA	20	1532	1533	.8	2.4	1.2			
	2800 OTTA	21	1705	1725	130	5.2	2.6			
	7000 SAOP	20	1717		15.2	8.2	4.1			
	7000 SAOP	20	1748.5	1751.8	9.9	14.9	7.4			
	10700 PENN	3	1750.7	1751.2	2.3	20.0	5.8			
	10700 PENN	3	1809.9	1810.5	2.5	12.4	5.5			
	2700 PENN	20	1814.3	1819.8	39.5	9.2	4.9			
	7000 SAOP	3	1814.7	1815.8	3.9	12.8	6.4			
	2800 OTTA	22	1815	1820	45	14.6	7.3			
	7000 SAOP	22	1832.7		10.6	12.8	6.4			
	10700 PENN	3	1840.8	1841.4	2.4	12.4	6.5			
	26	7000 SAOP	20	1125.7		9.6	5.5	2.7		
		7000 SAOP	1	1144.4	1145	.8	7.3	3.6		
		7000 SAOP	41	1155		19.7				
		7000 SAOP	20	1155		4.4	7.3	3.6		
		7000 SAOP	22	1159.4	1206.1	11.8	14.6	7.3		
		7000 SAOP	4	1211.2		4.9	14.6	7.3		
		2800 OTTA	21	1240	1348	350	22.0	11.0		
		4995 SGMR	1	1248.9	1249.9	4.9	20.7	10.0		
7000 SAOP		3	1249.5	1250	1.8	23.7	11.8			
15400 SGMR		3	1249.6	1249.9	2	8.6	4.3			
8800 SGMR		3	1249.4	1250	2.2	12.6	6.3			
2800 OTTA		1	1249.5	1250	1.5	3.6	1.8			
2695 SGMR		1	1249.3	1249.8	1	6.5	3.2			
1415 SGMR		1	1249.4	1249.8	.7	.4	.2			
7000 SAOP		29	1251.3		5.7					
606 SGMR		20	1254.1	1305.3	25.6	4.3	2.1			
15400 SGMR		4	1256.6	1303.6	10.3	351.0	95.0			
2695 SGMR		3	1256.3	1303.8	10.7	89.0	33.6			
7000 SAOP		23	1257		27.8					
8800 SGMR		4	1257.3	1303.5	9	325.0	76.0			
2700 PENN		4	1257.8	1300	21	226.0	22.6			
4995 SGMR		4	1258.4	1303.2	8.1	290.0	94.0			
1415 SGMR		45	1258.1	1304.4	8.2	54.6	12.6			
7000 SAOP		3	1302.3	1303.6	5.5	113.0	56.0			
35000 SGMR		4	1302.4	1304.5	12.9	320.0	100.0			
10700 PENN			1302		20	200.0D				
2800 OTTA		3	1302.2	1304	13	86.0	22.0			
15400 SGMR		29	1306.9	1306.9	19.2	33.1	16.2			
8800 SGMR		29	1306.3	1306.3	23	42.0	21.0			
4995 SGMR		29	1306.5	1306.5	12.8	35.1	17.5			
1415 SGMR		29	1306.3	1306.3	13	6.3	3.1			
2695 SGMR		29	1307	1307	34	26.4	13.2			
10700 PENN		3	1330.9	1331.6	2.5	20.6	7.2			
15400 SGMR		3	1331.3	1331.7	2	30.1	15.0			
8800 SGMR		3	1331.3	1331.6	2.5	8.4	4.2			
4995 SGMR		1	1331.4	1331.5	5.3	3.1	1.5			
15400 SGMR		23	1342.6	1448.2	111.7	22.4	11.2			
4995 SGMR		20	1343.1	1410	89.1	45.2	21.2			
8800 SGMR		20	1344.2	1439.5	114.6	16.8	8.4			
1415 SGMR		20	1345.6	1413	62.4	6.3	3.2			
15400 SGMR		3	1418.7	1419	1.8	34.4	17.0			
8800 SGMR		23	1623.6	1625.6	33	11.8	4.2			
4995 SGMR		23	1623.6	1628	19.7	12.1	3.9			
7000 SAOP		3	1624.1	1624.6	1.2	31.0	15.5			
10700 PENN		3	1624.4	1624.9	4.8	11.9	6.0			
8800 SGMR		3	1624.4	1624.9	1.1	16.4	4.2			
4995 SGMR		3	1624.4	1624.9	1.1	24.6	8.0			
2800 OTTA		1	1639	1640.5	4	4.4	2.2			
15400 SGMR		1	1640.7	1641	.9	4.3	2.2			
8800 SGMR		1	1640.7	1641.6	1.2	2.1	1.1			

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
			26	4995 SGMR	3	1640.3	1640.8			1.9	7.8	3.9
	2695 SGMR	1	1640.7	1641	2.8	3.8	1.9		
	1415 SGMR	1	1640.5	1642	2	5.7	2.1		
	15400 SGMR	3	1649.5	1650.6	5.9	8.6	4.3		
	4995 SGMR	1	1649.5	1650.6	5.3	3.5	2.0		
	8800 SGMR	1	1650.3	1651	6	5.5	2.1		
	15400 SGMR	3	1801.4	1801.6	1.2	19.4	6.5		
	15400 SGMR	3	1842.6	1842.7	.9	13.9	4.0		
	15400 SGMR	3	1856.7	1857	4	100.0	21.0		
	10700 PENN	3	1856.5	1856.9	8.9	92.1	11.9		
	8800 SGMR	3	1856.5	1856.9	3.8	92.0	17.2		
	4995 SGMR	3	1856.6	1857	2	10.8	4.0		
	2700 PENN	1	1856.3	1856.9	1.7	5.3	2.5		
	7000 SAOP	3	1856.4	1857	1.3	51.0	25.5		
	2695 SGMR	1	1856.5	1856.9	.8	7.2	2.4		
	15400 SGMR	30	1900.7	1900.7	222.3D	4.2	2.1		
	8800 SGMR	30	1900.3	1900.3	209.7D	6.8	2.1		
	15400 SGMR	46	1901.5	1902.1	2.5	12.2	4.2		
	8800 SGMR	3	1902	1902.1	2.5	9.0	4.0		
	4995 SGMR	3	1902	1902.2	2.5	8.0	4.0		
	606 SGMR	40	1903.5	1904.3	14.7	6.2	2.0		
	15400 SGMR	46	1904.6	1908.9	10.9	365.0	60.0		
	10700 PENN	45	1905.8	1908.9	14.7	223.0	54.0		
	2800 OTTA	21	1905	1905	115	7.2	3.6		
	2700 PENN	20	1905	1910.4	95.1	10.9	6.7		
	8800 SGMR	4	1906	1908.8	8.7	225.0	40.0		
	4995 SGMR	3	1906	1908.8	7.9	77.0	16.0		
	7000 SAOP	21	1906.2	1906.2	27.7				
	7000 SAOP	3	1906.2	1908.8	6	105.7	52.8		
	2695 SGMR	3	1906.5	1908.4	4	12.2	3.6		
	1415 SGMR	40	1906	1908.9	5	26.3	5.3		
	2800 OTTA	4	1907	1908.3	3	11.0	5.5		
	2800 OTTA	30	1910	1910	18	6.0	3.0		
	2695 SGMR	30	1910.5	1910.5	58.7	3.6	1.2		
	4995 SGMR	30	1913.9	1920	68.1	33.2	16.0		
	8800 SGMR	30	1914.7	1920	78.3	26.7	12.9		
	8800 SGMR	45	1914.9	1916.5	7.8	82.0	10.8		
	15400 SGMR	30	1915.5	1915.5	67.5	21.0	10.5		
	7000 SAOP	45	1915.6	1916.3	24.8	76.6	38.3		
	4995 SGMR	45	1915.7	1916.6	10.1	47.6	12.0		
	15400 SGMR	40	1916	1919.8	38.5	14.3	4.2		
	2800 OTTA	21	1916	1920	7	3.6	1.8		
	2695 SGMR	1	1916.9	1917.4	1.3	4.8	2.4		
	2800 OTTA	1	1917	1917.5	1	4.2	2.1		
	1415 SGMR	1	1917.2	1917.4	3.8	2.1	1.0		
	10700 PENN	29	1920.5	1920.5	39.5	19.2	10.1		
	408 SANM	43	2005	2037.3	45 D	94.5	10.0		
	4995 SGMR	40	2009.8	2014.3	8.7	20.0	8.0		
	2695 SGMR	40	2009.5	2010.2	7	5.5	2.4		
	1415 SGMR	1	2009.7	2010.4	3	2.5	1.0		
	606 SGMR	3	2009	2009.7	2	215.0	50.0		
	8800 SGMR	3	2010	2014	8	8.6	4.3		
	2800 OTTA	45	2010	2010.5	8	6.0	2.8		
	15400 SGMR	4	2034.6	2035.1	4.6	26.5	8.4		
	15400 SGMR	4	2102	2102.2	2.8	36.5	8.4		
	15400 SGMR	3	2216.8	2217	1.8	16.8	4.0		
27	2800 OTTA	1	0011.2	0012	1	3.2	1.6		
	15400 SGMR	45	1108.9	1110.4	2.6	25.8	8.2		
	15400 SGMR	46	1113.8	1117.6	9.4	165.0	28.0		
	8800 SGMR	46	1114.3	1118.8	10.4	58.0	10.0		
	7000 SAOP	22	1116.8	1116.8	26	20.0	10.0		
	15400 SGMR	22	1125.7	1127.2	11.3	17.6	6.2		
	8800 SGMR	22	1125.9	1131.9	12.3	15.2	6.0		
	15400 SGMR	3	1154	1156.7	5.9	9.4	2.5		
	8800 SGMR	1	1154	1154.9	3.5	4.0	1.5		
	4995 SGMR	3	1154	1154.8	3.4	8.0	2.0		
	4995 SGMR	21	1200.5	1208.2	15.2	8.0	3.5		
	15400 SGMR	21	1201.3	1208.3	13.7	16.4	7.0		
	8800 SGMR	21	1201.2	1208.7	16.8	12.8	5.0		
	15400 SGMR	3	1203.9	1205.4	4.4	24.6	6.0		
	8800 SGMR	4	1205.7	1207.4	2.6	9.6	3.0		
	4995 SGMR	3	1207	1207.5	1.2	9.2	3.5		
	2695 SGMR	1	1207	1207.4	1.5	5.6	2.0		
	15400 SGMR	22	1228.5	1231.5	15.6	16.4	8.0		
	7000 SAOP	22	1228.8	1237.4	21.3	21.9	10.8		
	8800 SGMR	23	1230	1231.5	14.5	4.0	2.0		
	4995 SGMR	20	1233.6	1237.6	17.4	16.0	7.0		
	8800 SGMR	1	1239.7	1240.1	1.5	6.8	3.0		
	7000 SAOP	23	1254.6	1254.6	15.4				
	8800 SGMR	4	1255.2	1257.8	5.8	9.6	2.0		
	4995 SGMR	1	1255	1258	5.5	2.4	1.0		
	15400 SGMR	4	1256.4	1257.5	4.7	20.5	4.0		
	10700 PENN	1	1256.7	1257.5	3.3	9.4	4.7		
	15400 SGMR	3	1302	1303.5	2.6	110.0	40.0		
	10700 PENN	3	1302	1302	3.9	18.0D			
	8800 SGMR	3	1302.7	1303.5	1.6	29.6	12.0		
	4995 SGMR	3	1302.6	1303.4	1.6	8.4	4.0		
	2695 SGMR	1	1303.2	1303.4	1.9	2.0	1.0		
	15400 SGMR	29	1304.6	1304.6	11.4	16.4	8.0		
	8800 SGMR	29	1304.3	1304.3	10.6	6.4	3.2		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR. 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY		INT	REMARKS	
			UT	UT	MINUTES	$10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$ PEAK	MEAN			
27	4995 SGMR	29	1304.2	1304.2	10.6	4.0	2.0	2		
	184 BOUL	6	1311	1312	1					
	328 PENN	45	1312.4	1312.6	.8	104.0	29.4			
	10700 PENN	28	1315.4	1321.1	6.7	227.0	76.3			
	4995 SGMR	46	1315.5	1326.6	35.8	1980.0	220.0			
	7000 SAOP	47	1316.1							
	15400 SGMR	46	1316.5	1326.6	32.5	6100.0	1230.0			
	8800 SGMR	46	1316	1330.1	37.3	4050.0	420.0			
	2700 PENN	28	1316.8	1321	6	17.8	6.1			
	2800 OTTA	47	1318	1326	38	895.0	164.0			
	2695 SGMR	46	1318	1328.4	33	950.0	175.0			
	35000 SGMR	46	1320	1326.5	20	4390.0	820.0			
	408 SANM	45	1320	1331.2	65	42.0	16.0			
	10700 PENN	47	1322.1	1330.4	25.7	3030.0	947.0			
	2700 PENN	47	1322.8	1326.4	52.5	497.0	92.0			
	960 PENN	3	1322.3	1328.7	14.3	91.0	29.1			
	1415 SGMR	46	1323.7	1328.3	12.3	370.0	60.0			
	606 SGMR	22	1323.8	1330.6	10.2	47.0	24.0			
	184 BOUL	48	1324	1328	23				3	
	7000 SAOP	3	1324.5	1334.8	1.8	12.8	6.4			
	606 SGMR	30	1334	1334	98.2	10.4	5.2			
	1415 SGMR	46	1336.3	1341.7	18.7	1190.0	200.0			
	960 PENN	29	1336.6	1336.6	86.4	6.4	3.2			
	960 PENN	45	1336.8	1341.4	34	147.0	21.7			
	606 SGMR	22	1336.1	1341	13.8	4.9	2.5			
	35000 SGMR	29	1340	1340	100	238.0	116.0			
	10700 PENN	29	1347.8	1348.8	80	197.0	56.4			
	15400 SGMR	30	1349	1349	101.5	185.0	90.0			
	4995 SGMR	30	1351.3	1351.3	98.2	110.0	55.0			
	2695 SGMR	30	1351	1351	35	75.0	35.0			
	606 SGMR	23	1352.8	1403	24.4	23.2	11.0			
	8800 SGMR	30	1353.3	1353.3	96.7	100.0	50.0			
	2800 OTTA	30	1356		90	25.0	12.0			
	2800 OTTA	4	1358	1359	20	27.0	13.5			
	2695 SGMR	46	1412.4	1412.7	1.3	135.0	8.0			
	606 SGMR	46	1412.5	1412.6	1.5	165.0	10.0			
	2700 PENN	29	1415.3	1415.3	57.5	24.3	12.1			
	606 SGMR	2	1418.8	1424	6.7	4.9	2.3			
	15400 SGMR	1	1505.7	1506.1	.7	6.3	3.0			
	15400 SGMR	3	1513.3	1513.7	1.2	21.7	9.0			
	10700 PENN	3	1513.9	1514.9	3.7	16.6	5.4			
	8800 SGMR	3	1513.4	1513.9	2.5	8.0	4.0			
	15400 SGMR	3	1523.7	1524.6	5.3	8.2	4.1			
	8800 SGMR	1	1524.5	1525	5.4	2.3	1.0			
	4995 SGMR	1	1524.1	1526	3.3	2.4	1.0			
	15400 SGMR	20	1536.6	1537.3	8.9	14.0	4.1			
	8800 SGMR	1	1536.9	1537.5	3	2.0	1.0			
	4995 SGMR	1	1537.1	1537.4	4	2.4	1.0			
	15400 SGMR	3	1551.4	1551.4	.8	12.3	6.2			
	8800 SGMR	1	1551.4	1551.5	1.5	1.8	.8			
	10700 PENN	3	1552.2	1552.4	1.2	14.2	6.7			
	15400 SGMR	3	1559.4	1559.7	1.7	9.0	4.0			
	15400 SGMR	3	1610.6	1610.8	1.6	8.2	4.1			
	10700 PENN	3	1611.2	1616.1	5.5	16.7	7.9			
	15400 SGMR	3	1614.5	1615.2	1.2	8.6	4.1			
	10700 PENN	3	1628.8	1630.4	8	47.8	8.8			
	8800 SGMR	3	1628.9	1630.5	1.9	48.6	8.0			
	4995 SGMR	3	1628.9	1630.5	3.4	92.0	12.0			
	2695 SGMR	3	1628.9	1630.6	6.6	41.3	7.5			
	1415 SGMR	46	1628.9	1630.3	2.9	52.0	6.0			
	2800 OTTA	3	1629	1629.5	3	42.0	8.0			
	7000 SAOP	3	1629.2	1630.5	1.8	65.6	32.8			
	2700 PENN	3	1629.2	1630.5	6.6	32.9	5.5			
	7000 SAOP	29	1630		3.5					
	15400 SGMR	3	1630	1630.5	1.4	26.7	12.3			
	960 PENN		1630.2	1630.6	.6	9.0	4.6			
	2800 OTTA	29	1632		30	4.4	2.2			
18 BOUL	6	1711	1713	3			1			
18 MCMA	6	1712	1713	2						
2700 PENN	8	1727.6	1727.6	.2	89.6		1			
15400 SGMR	3	1800	1800.5	9.5	12.7	6.3				
4995 SGMR	3	1851.8	1853.3	4.2	20.0	8.0				
7000 SAOP	4	1852.1	1853.5	2.4	32.8	16.4				
15400 SGMR	3	1852.7	1853.3	2	8.2	6.2				
10700 PENN	3	1852.6	1853.3	2.5	21.5	10.7				
8800 SGMR	45	1852.7	1853.3	1.7	21.1	8.8				
2695 SGMR	1	1852.4	1853.1	1.6	2.5	1.2				
15400 SGMR	4	1932.1	1932.5	4.8	51.7	10.3				
10700 PENN	3	1932.2	1932.4	3.2	48.2	5.9				
8800 SGMR	3	1932.4	1932.5	.8	24.2	7.9				
4995 SGMR	1	1951.8	1952	1	3.2	1.6				
2695 SGMR	1	1951	1951.5	1.2	2.5	1.3				
4995 SGMR	1	1954.9	1955.5	1.8	4.0	2.0				
2800 OTTA	32	2000	2025	45	-3.2	-1.6				
28	2695 PENT	1	0058.5	0059.1	1.5	6.4	3.2			
	7000 SAOP	22	1122.7	1135.7	17.2	10.9	5.4			
	15400 SGMR	22	1144.8	1146	8.2	13.2	4.0			
	8800 SGMR	22	1145.2	1146.6	7.8	15.4	4.4			
	4995 SGMR	22	1145.4	1146.6	8.3	10.4	4.0			
	7000 SAOP	4	1145.6	1146.4	4.8	14.5	7.2			

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
28	1415 SGMR	1	1145.6	1145.9	.4	4.2	2.1		
	15400 SGMR	3	1201.8	1203.8	6.2	30.8	8.0		
	7000 SAOP	22	1240.6		18.4	10.9	5.4		
	15400 SGMR	3	1254	1254.6	3.4	14.4	4.4		
	4995 SGMR	1	1254	1254.4	4	6.4	2.0		
	2695 SGMR	1	1254	1254.4	.6	2.5	1.3		
	10700 PENN	40	1311.7		48.3				
	15400 SGMR	3	1324.3	1324.5	.5	8.0	4.0		
	15400 SGMR	3	1333.6	1333.6	2.5	12.4	4.0		
	15400 SGMR	3	1337.5	1337.9	.7	8.0	4.0		
	10700 PENN	40	1429.8		40.2				
	184 BOUL	6	1441	1441	1				1
	15400 SGMR	4	1449.3	1449.5	11.5	18.8	6.0		
	4995 SGMR	23	1514.8	1519.2	43.2	21.2	8.0		
	2700 PENN	20	1514.2	1519.2	42	12.6	4.2		
	15400 SGMR	23	1515.8	1529	42.2	13.6	6.0		
	7000 SAOP	4	1515.8	1516.6	1.8	20.0	10.0		
	10700 PENN	20	1515.4	1528.8	39.4	19.4	10.2		
	8800 SGMR	23	1515.5	1519	39.5	11.4	4.4		
	8800 SGMR	3	1515.8	1516.5	1.4	16.3	4.4		
	4995 SGMR	3	1515.8	1516.5	1.7	20.0	6.0		
	2800 OTTA	1	1515.5	1516.3	1.5	9.6	4.8		
	2695 SGMR	23	1515.4	1519.3	41.6	11.3	5.3		
	2695 SGMR	3	1516	1516.3	1.4	8.0	2.4		
	1415 SGMR	1	1517.7	1519.2	3.8	3.2	1.1		
	2800 OTTA	2	1518	1519	3	8.0	4.4		
	4995 SGMR	3	1526.7	1528.6	6.6	19.6	8.0		
	2695 SGMR	1	1526.8	1528.6	3.7	6.5	2.5		
	8800 SGMR	3	1527.3	1528.6	7.3	11.9	4.4		
	2800 OTTA	1	1527	1529	3	6.8	3.4		
	15400 SGMR	3	1541.7	1542	.8	12.0	6.0		
	15400 SGMR	3	1551.8	1552	1.2	12.4	6.0		
	2800 OTTA	21	1551	1536	50	8.2	6.2		
	18 MCMA	41	1723	1725	7				1
	7000 SAOP	4	1804.4	1807.6	1.4	34.5	17.2		
	15400 SGMR	45	1807.4	1807.8	6.4	115.0	7.4		
	10700 PENN	45	1807.5	1807.8	3	115.0	24.5		
	8800 SGMR	45	1807.5	1807.8	1.9	88.0	25.3		
	4995 SGMR	3	1807.6	1807.8	1.2	7.6	3.6		
	15400 SGMR	45	1915.1	1918.5	14	63.0	10.3		
	10700 PENN	3	1915	1918.5	16.2	70.3	11.7		
	8800 SGMR	4	1915.2	1918.5	6	37.3	11.5		
	4995 SGMR	20	1915.3	1918.4	15.6	6.4	4.0		
	7000 SAOP	4	1916.1	1918.4	4.4	29.1	14.5		
	10700 PENN	40	1936		164				
	15400 SGMR	3	1947.4	1948	.8	8.2	4.1		
	15400 SGMR	3	2005.9	2006.1	.8	20.5	10.2		
	15400 SGMR	4	2106.5	2106.8	2.6	21.3	8.2		
	15400 SGMR	3	2144.5	2144.7	1.3	21.7	12.3		
	29	7000 SAOP	21	1222		16.3			
7000 SAOP		3	1222		3	15.5	7.7		
8800 SGMR		1	1222.2	1222.6	2.1	4.6	2.3		
4995 SGMR		3	1222.1	1222.4	2.4	7.6	3.8		
8800 SGMR		23	1225.5	1226.4	11	5.9	2.9		
15400 SGMR		3	1232.3	1232.5	5.5	12.3	5.3		
8800 SGMR		1	1232.3	1232.5	3.1	3.4	1.7		
7000 SAOP		4	1249.7		4.1				
15400 SGMR		28	1250.5	1250.7	1.4	13.2	6.6		
10700 PENN		3	1250.7	1252.8	4.2	270.0	59.1		
8800 SGMR		28	1250.6	1250.9	1.4	18.1	11.8		
4995 SGMR		28	1250.3	1250.6	1.7	7.6	4.6		
15400 SGMR		45	1251.9	1253	3.1	250.0	83.0		
1415 SGMR		2	1251.8	1252	.3	7.4	3.7		
8800 SGMR		4	1252	1253.1	3.1	265.0	63.0		
4995 SGMR		3	1252	1253	3	105.0	22.8		
2800 OTTA		1	1252.5	1253	1.5	2.4	1.2		
10700 PENN		29	1254.9	1254.9	22.1	34.4	17.2		
15400 SGMR		29	1255	1255	13.7	17.6	8.8		
8800 SGMR		29	1255.1	1255.1	16.5	6.7	3.3		
4995 SGMR		29	1255	1255	11.9	7.6	3.8		
2800 OTTA		20	1327	1330	8	5.0	2.5		
7000 SAOP		3	1328.4	1330	2.1	50.5	25.2		
10700 PENN		3	1328.8	1330	5.2	36.9	10.9		
4995 SGMR		3	1328.9	1330	12.8	42.2	7.2		
15400 SGMR		3	1329.6	1330.1	1	8.8	4.4		
8800 SGMR		3	1329.4	1330.1	3.4	37.8	14.7		
7000 SAOP		29	1330.5		15.4				
15400 SGMR		22	1335	1340.3	14.8	17.6	8.8		
2800 OTTA		1	1423	1424.5	4	3.6	1.8		
10700 PENN		40	1424		114				
15400 SGMR		45	1433.8	1434.3	7.9	35.2	16.7		
8800 SGMR		45	1433.9	1434.3	7.5	17.2	8.8		
7000 SAOP		41	1434	1435.1					
7000 SAOP		3	1434	1435.1					
7000 SAOP		4	1436.1	1437.5	2.1	11.6	5.8		
4995 SGMR		4	1436.1	1436.9	3.4	15.5	7.7		
2800 OTTA		21	1440	1500	150	8.2	4.1		
7000 SAOP		22	1440.1		10.6	54.4	27.2		
15400 SGMR		22	1443.1	1451.3	87.9	38.7	19.3		
8800 SGMR	22	1443.4	1452	80.6U	16.8	8.4			

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
29	4995 SGMR	22	1443.2	1451.5	92.1	17.1	8.5		
	2700 PENN	20	1443	1451.9	69.6	7.1	3.1		
	2800 OTTA	1	1451	1452	5	2.8	1.4		
	1415 SGMR	22	1454.4	1500.9	63.2	3.6	1.8		
	606 SGMR	22	1506.2	1527.7	51.3	3.3	1.6		
	10700 PENN	3	1626.1	1631	31.8	42.4	9.3		
	7000 SAOP	4	1630	1630.7	2.1	64.1	32.0		
	15400 SGMR	4	1630.2	1631.1	8.6	28.6	10.6		
	8800 SGMR	3		1631.4	7.4D	30.7U	15.3U		
	4995 SGMR	3		1631.3	7.7D	12.2U	6.1U		
	15400 SGMR	22	1703.7	1704.3	7.8	10.3	5.1		
	4995 SGMR	22	1703.9	1704.4	7.4	4.6	2.3		
	8800 SGMR	1	1704.2	1704.5	1.6	1.3	.6		
	2800 OTTA	20	1720	1758	100	4.2	1.9		
	18 BOUL	42	1720	1723	52				1
	18 MCMA	42	1720	1740	26				1
	10700 PENN	40	1732		55				
	2700 PENN	40	1751		60				
	7000 SAOP	22	1751.8		44	21.4	10.7		
	8800 SGMR	22	1755.7	1758.5	11.9	8.8	4.4		
	4995 SGMR	22	1755.3	1800.1	16.3	8.7	4.4		
	15400 SGMR	22	1757	1757.8	9.8	9.9	4.8		
	10700 PENN	3	1836.5	1837.7	6.9	19.4	6.0		
	15400 SGMR	3	1837.3	1837.7	.7	36.6	18.3		
	8800 SGMR	3	1837.5	1837.8	1.6	8.8	4.4		
	18 MCMA	41	1842	1844	9				1
	18 BOUL	41	1843	1844	10				1
	10700 PENN	3	1849	1855.6	8	17.0	8.5		
	10700 PENN	3	1857.8	1905.5	9.2	12.1	6.7		
	10700 PENN	28	1907.9	1916.3	13.1	48.5	25.6		
	2700 PENN	8	1908.3	1908.3	.1	5.7			
	960 PENN	8	1908.2	1908.3	.2	17.1			
	7000 SAOP	21	1909.9	1911.5	2.5	42.7	21.3		
	15400 SGMR	21	1910.6	1911.7	27.8	30.1	15.0		
	8800 SGMR	21	1910.8	1911.9	31	39.6	19.8		
	4995 SGMR	21	1910.4	1911.7	31.7	14.4	7.2		
	15400 SGMR	3	1915.9	1916.4	1.9	25.8	12.8		
	15400 SGMR	4	1919.2	1923	15.1	710.0	110.0		
	8800 SGMR	4	1919.6	1922.9	10.9	960.0	120.0		
	4995 SGMR	4	1919.5	1922.9	12.5	560.0	65.0		
	7000 SAOP	4	1919.6			128.8	64.4		
	2700 PENN	45	1920.1	1923.1	3.8	92.0	14.3		
	10700 PENN	47	1921	1922.9	6.9	1025.0	155.0		
	2800 OTTA	4	1921	1923	3	120.0	30.0		
	2695 SGMR	4	1921.5	1923	21.6	85.0	9.1		
	2700 PENN	29	1923.9	1923.9	29	9.6	4.8		
	2800 OTTA	29	1924		30	5.4	2.4		
	10700 PENN	29	1927.9	1927.9	26.6	43.6	21.8		
	2800 OTTA	20	1930	1932	8	4.6	2.3		
	15400 SGMR	3	1949	1949.3	2.3	9.9	4.8		
10700 PENN	47	1955.9	2000.6	16.1	494.0	72.8			
2700 PENN	3	1956.3	2000.3	18.4	24.9	3.5			
8800 SGMR	45	1957.8	2000.4	8	540.0	190.0			
4995 SGMR	45	1957.5	2000.5	8	230.0	73.0			
15400 SGMR	45	1958	2000.9	7.6	275.0	125.0			
2800 OTTA	4	1959.5	2000.2	3.5	28.0	14.0			
2695 SGMR	4	1959.6	2000.3	2.2	20.8	10.4			
960 PENN	1	2000.3	2000.5	2	3.6	1.1			
2695 SGMR	29	2001.8	2001.8	8.4	7.8	3.8			
2800 OTTA	29	2003		25	5.4	2.7			
15400 SGMR	29	2005.6	2005.6	19.1	31.4	15.7			
8800 SGMR	29	2005.8	2005.8	17.6	43.1	21.6			
4995 SGMR	29	2005.5	2005.5	16.5	20.1	10.0			
10700 PENN	29	2012	2012	53	24.2	12.1			
10700 PENN	3	2034.7	2035.8	10.4	33.9	5.1			
4995 SGMR	3	2034.1	2035.8	4.2	30.4	14.2			
15400 SGMR	3	2035	2035.8	2	27.1	13.6			
8800 SGMR	3	2035.1	2035.9	5.7	32.6	13.0			
2800 OTTA	1	2035	2036	1.5	2.4	1.2			
2695 SGMR	1	2035.2	2036	1.7	1.1	.6			
960 PENN		2056.5	2057.5	1.3	46.4	5.4			
328 PENN		2057.2	2057.5	.7	73.3	19.6			
10700 PENN	3	2205.3	2206.3	2.6	40.9	10.0			
15400 SGMR	4	2206	2206.4	2.6	19.4	9.7			
30	7000 SAOP	1	1053.9	1054.2	.9	7.8	3.9		
	4995 SGMR	22	1228.4	1230.5	33.5	18.7	9.3		
	2695 SGMR	21	1228.6	1230.3	21.1	2.7	1.3		
	1415 SGMR	1	1228.9	1230.3	5.5	6.1	3.0		
	606 SGMR	1	1228.9	1230.6	5.6	.7	.3		
	8800 SGMR	1	1229.2	1229.2	.7	2.6	1.3		
	2695 SGMR	45	1229.8	1230.3	1.9	16.2	6.8		
	2800 OTTA	3	1230	1230.5	3	12.0	3.0		
	7000 SAOP	21	1231.2	1235.6	2.1	26.9	13.4		
	8800 SGMR	3	1235.8	1236.6	2.1	26.4	13.2		
	10700 PENN	3	1236	1236.6	7.3	27.9	5.1		
	7000 SAOP	3	1244.6	1245.4	2.5	32.3	16.1		
	10700 PENN	3	1244.6	1245.7	14.7	34.9	10.9		
	15400 SGMR	3	1245	1245.6	3.5	14.6	6.4		
	8800 SGMR	3	1245.2	1245.7	2.8	27.7	13.6		
	8800 SGMR	32	1248	1302.2	52 D	72.0	36.1		

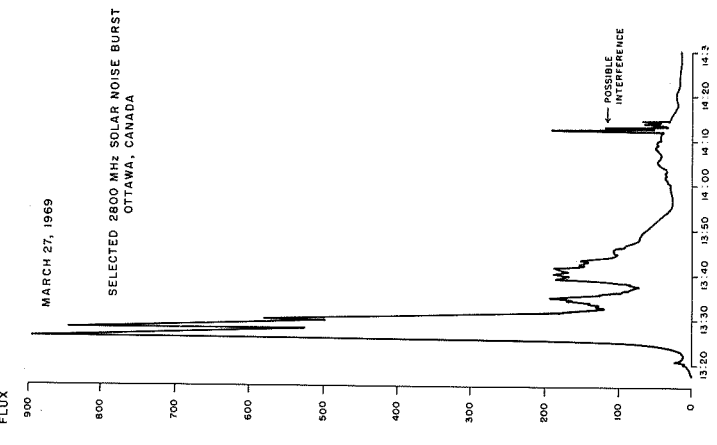
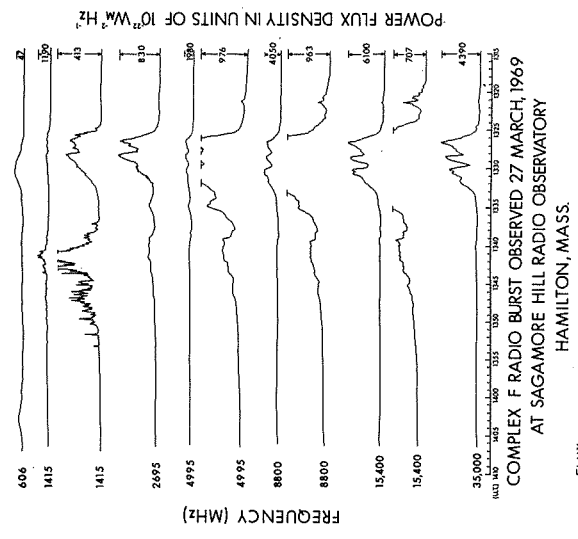
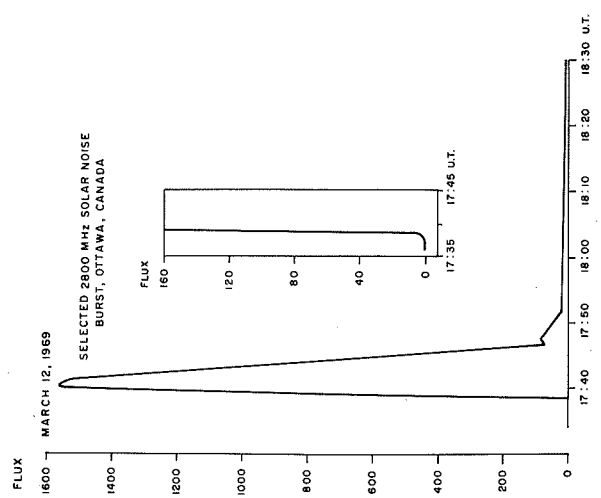
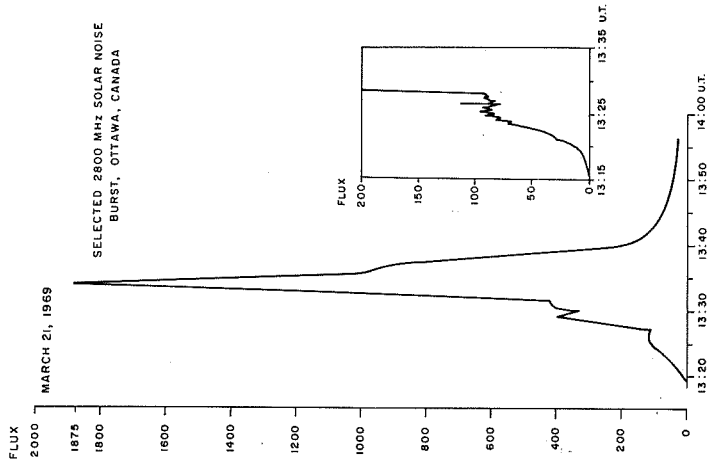
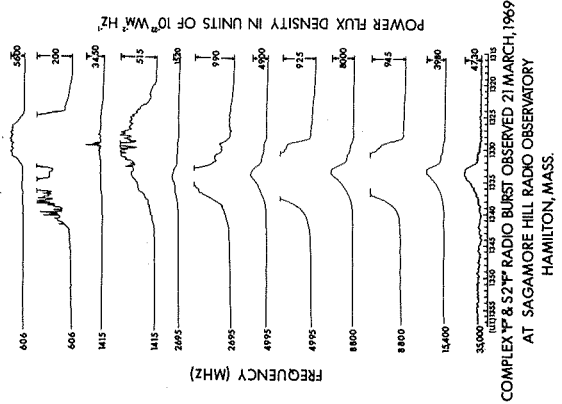
SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

Western Hemisphere

MARCH 1969

MAR. 1969	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY		INT	REMARKS	
			UT	UT	MINUTES	$10^{22} \text{ Wm}^{-2} \text{ Hz}^{-1}$				
						PEAK	MEAN			
30	2695 SGMR	32	1251.9	1259.5	23.3	8.4	4.2			
	4995 SGMR	32	1301.9	1306.1	8.4	6.2	3.1			
	2800 OTTA	20	1309	1315	100	7.8	3.9			
	7000 SAOP	22	1310.1	1313.2	6.5	7.8	3.9			
	7000 SAOP	22	1336.3	1337.4	4.5	10.8	5.4			
	8800 SGMR	3	1336.8	1337.5	1.5	8.8	4.4			
	10700 PENN	1	1337	1337.3	1.3	9.3	4.5			
	18 BOUL	41	1450	1453	6			1		
	18 MCMA	41	1451	1456	24			1		
	2800 OTTA	21	1550	1615	90	5.0	2.5			
	18 MCMA	6	1640	1643	7			3		
	2800 OTTA	1	1641.5	1643	1	1.8	0.9			
	2695 SGMR	1	1641.3	1641.9	1.1	2.7	1.4			
	245 SGMR	7	1641	1645.5	5	560.0	225.0			
	184 BOUL	6	1641	1641	1			1		
	18 BOUL	6	1641	1643	6			2		
	606 SGMR	45	1644.5	1644.6	.8	10.4	4.3			
	4995 SGMR	3	1737.5	1738.5	9.7	28.9	9.6			
	2695 SGMR	3	1738	1738.6	6.3	15.7	7.1			
	2800 OTTA	20	1825	1835	50	3.2	1.6			
	184 BOUL	6	2005	2005	1			3		
	10700 PENN	3	2148.5	2153.1	9	53.8	17.2			
	2800 OTTA	21	2150	2205	60	2.8	1.4			
	2800 OTTA	1	2151	2153.5	4	2.8	1.4			
	2700 PENN	1	2151.9	2152.4	3	3.7	1.9			
	2695 PENT	20	2310	2335	100	3.0	1.5			
	31	7000 SAOP	21	1158		28.8				
		15400 SGMR	4	1158.5	1159.4	3.8	62.0	25.0		
		8800 SGMR	4	1158.5	1159.4	5.9	84.0	24.5		
		7000 SAOP	3	1158.9	1159.7	11.2	71.9	35.8		
4995 SGMR		4	1158.9	1159.3	7.5	55.0	15.6			
2800 OTTA		3	1159	1159.5	1.5	34.0	17.0			
2695 SGMR		4	1159	1159.4	3.5	35.6	10.9			
1415 SGMR		1	1159	1159.4	2.3	2.2	1.1			
2800 OTTA		29	1200.5		6	6.8	3.4			
7000 SAOP		3	1207.1	1208.6	2	20.5	10.2			
8800 SGMR		3	1207.7	1208.5	4.7	12.3	4.1			
4995 SGMR		1	1207.8	1208.4	1.7	4.7	2.2			
7000 SAOP		3	1215.9	1216.4	.7	6.8	3.4			
15400 SGMR		1	1402.8	1403.1	1.1	5.7	2.8			
8800 SGMR		3	1402.3	1403.1	1.5	9.8	4.9			
7000 SAOP		22	1506.7		42.8	27.4	13.7			
2800 OTTA		22	1510	1520	30	11.0	5.5			
10700 PENN		20	1511.1	1538.2	123	14.0	6.1			
2700 PENN		20	1512.6	1519	45.7	9.4	4.9			
8800 SGMR		22	1513.5	1536	35.5	9.8	4.9			
4995 SGMR		22	1513	1519.4	35.7	18.3	9.2			
2695 SGMR		22	1513.2	1519.3	46.3	13.5	6.8			
1415 SGMR		20	1514.3	1519.9	18.7	4.8	2.4			
10700 PENN		3	1613.3	1614.3	4.8	19.1	5.1			
8800 SGMR		3	1613.9	1614.5	.8	11.8	3.0			
4995 SGMR		1	1613.8	1614.4	1.2	4.7	2.0			
15400 SGMR		3	1614.1	1614.3	.5	9.0	4.1			
18 BOUL		6	1625	1626	2			1		
18 MCMA		6	1625	1627	3			1		
18 BOUL		6	1651	1654	6			1		
18 MCMA		6	1651	1654	6			1		
4995 SGMR		20	1715.4	1719.5	8.4	3.6	1.5			
2695 SGMR		20	1718.1	1719.5	7.9	2.8	1.0			
4995 SGMR		20	1724.5	1731.2	18.5	3.2	1.5			
2695 SGMR		20	1731	1735	14	3.0	1.5			
18 BOUL		6	1752	1755	6			1		
18 MCMA		6	1752	1754	3			1		
10700 PENN		1	1824.5	1825.2	3.7	9.6	4.8			
15400 SGMR		1	1833.5	1833.6	.4	5.2	2.0			
10700 PENN		3	1833	1833.4	6.6	31.3	7.5			
7000 SAOP		3	1833	1833.6	1.6	65.1	32.5			
8800 SGMR		3	1833.1	1833.5	1.7	45.5	15.0			
4995 SGMR		3	1833.1	1833.5	1.3	14.8	5.0			
18 BOUL		42	1839	2003	102			1		
18 MCMA		42	1839	1942	75			1		
2800 OTTA		20	1840		35	3.6	2.0			
4995 SGMR		20	1841.8	1847.7	13.2	8.4	3.5			
2695 SGMR		20	1842.4	1851.5	18.4	2.5	1.0			
8800 SGMR		20	1843.1	1847.7	11.2	3.5	1.5			
18 BOUL		6	1902	1905	5			1		
18 MCMA		6	1903	1904	3			1		
10700 PENN		40	1908		53			1		
18 BOUL		6	2001	2003	5			1		
18 MCMA		6	2001	2003	3			1		
2800 OTTA		21	2010	2020	120	7.0	3.5			
8800 SGMR		20	2011.4	2017	11.1	8.5	3.0			
1415 SGMR		20	2011.3	2018.3	15.1	2.7	1.0			
4995 SGMR		20	2012.3	2014	11.7	16.0	5.0			
2700 PENN		20	2012	2014.2	61	10.7	4.0			
2695 SGMR		20	2012	2014.3	8	5.5	2.0			
2800 OTTA	1	2013.5	2014	2.5	4.4	2.2				
15400 SGMR	3	2014.7	2017.3	6.5	9.9	3.0				
15400 SGMR	4	2101.7	2101.9	1.3	19.7	8.6				
10700 PENN	3	2126	2126.9	3	11.7	4.1				

SELECTED SOLAR NOISE BURSTS

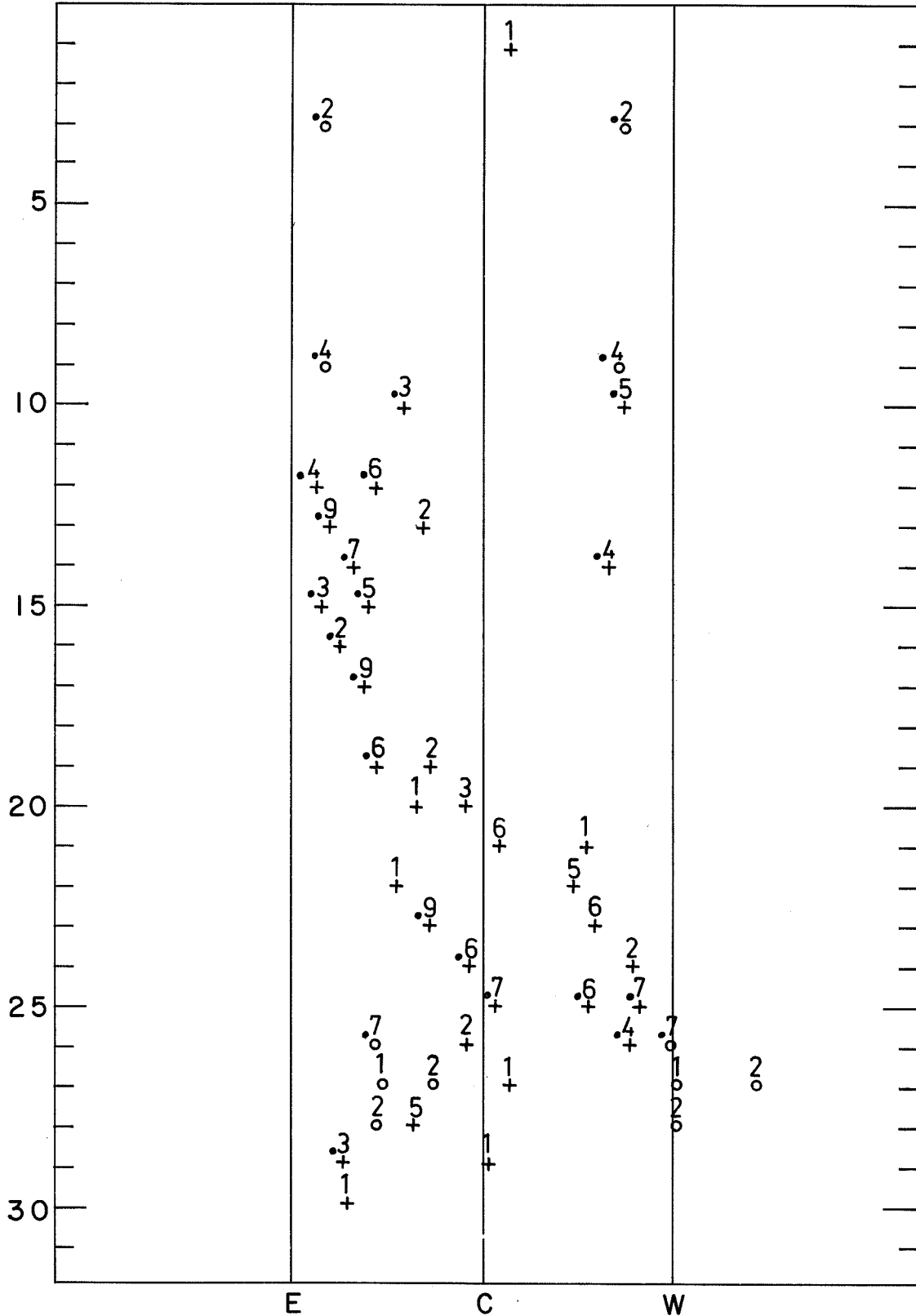


SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATION

MARCH 1969

Nançay

408 MHz



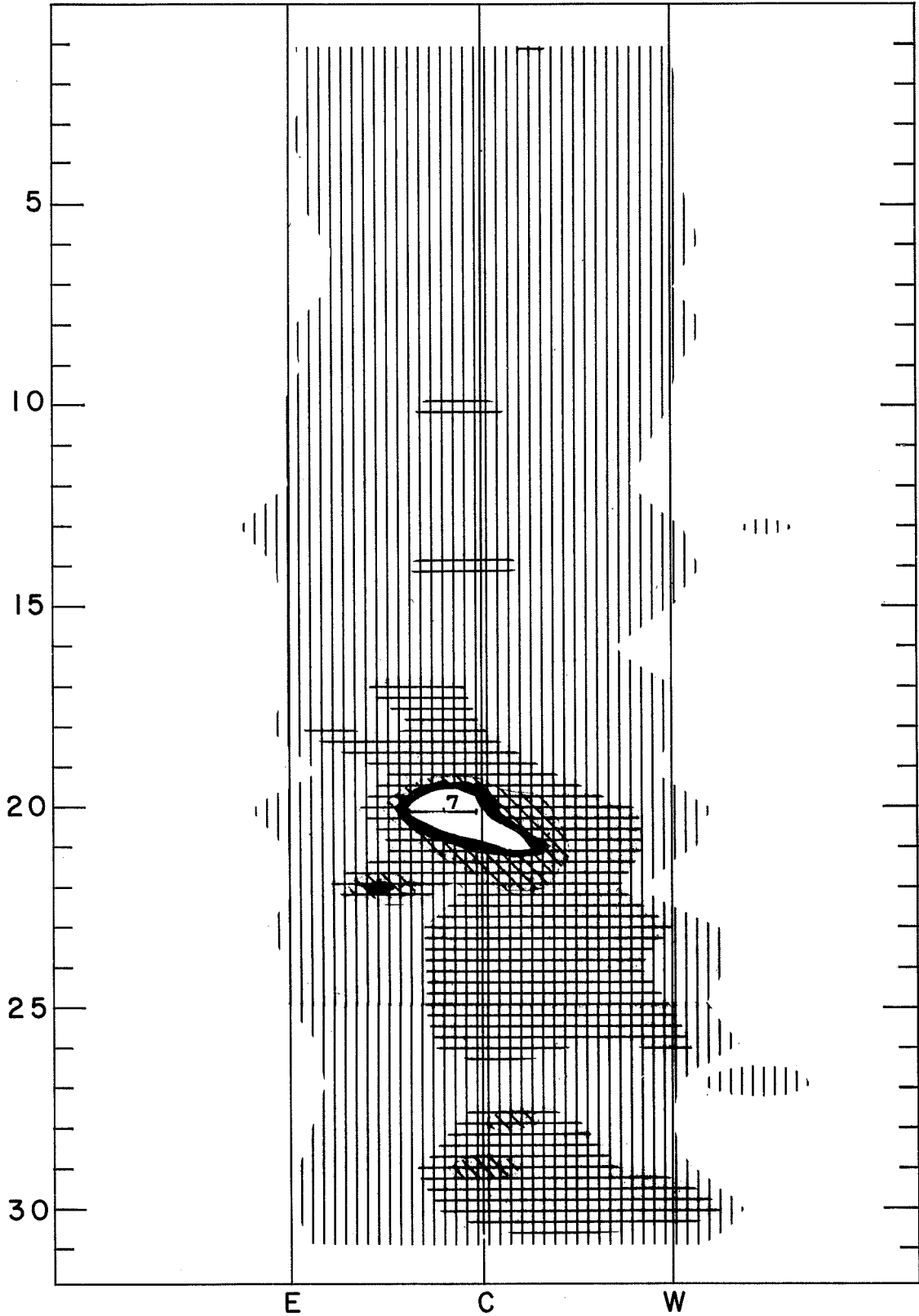
Because of the distance between the main lobes there is sometimes an ambiguity about the position East or West of the Center of Activity. The two possible positions are indicated by circles on the chart.

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATION

MARCH 1969

Nançay

169 MHz

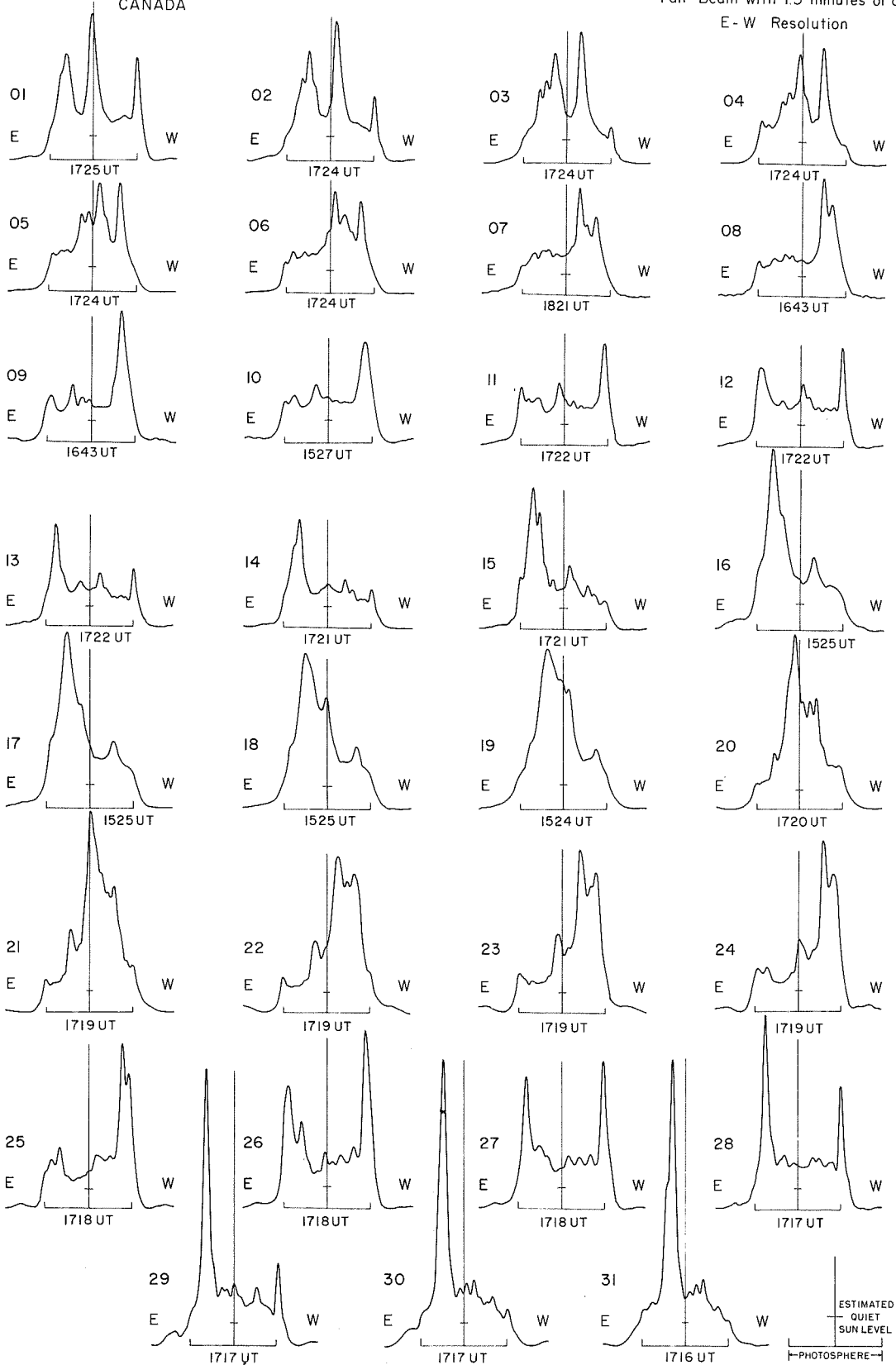


EAST-WEST SOLAR SCANS

ALGONQUIN RADIO OBSERVATORY
CANADA

March 1969

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

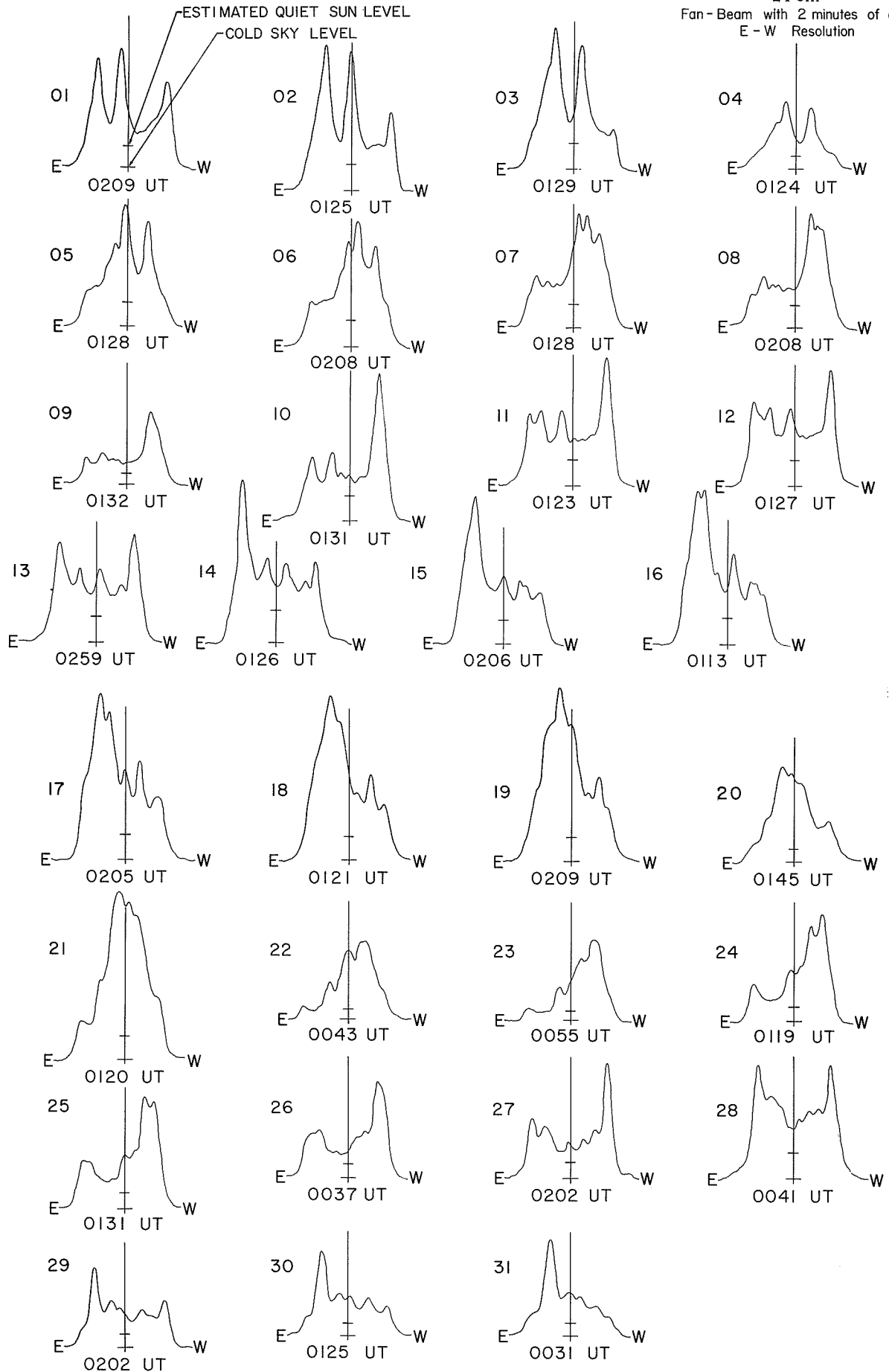


ESTIMATED
QUIET
SUN LEVEL
PHOTOSPHERE

EAST-WEST SOLAR SCANS

Fleurs, Australia

MARCH 1969



EAST-WEST SOLAR SCANS

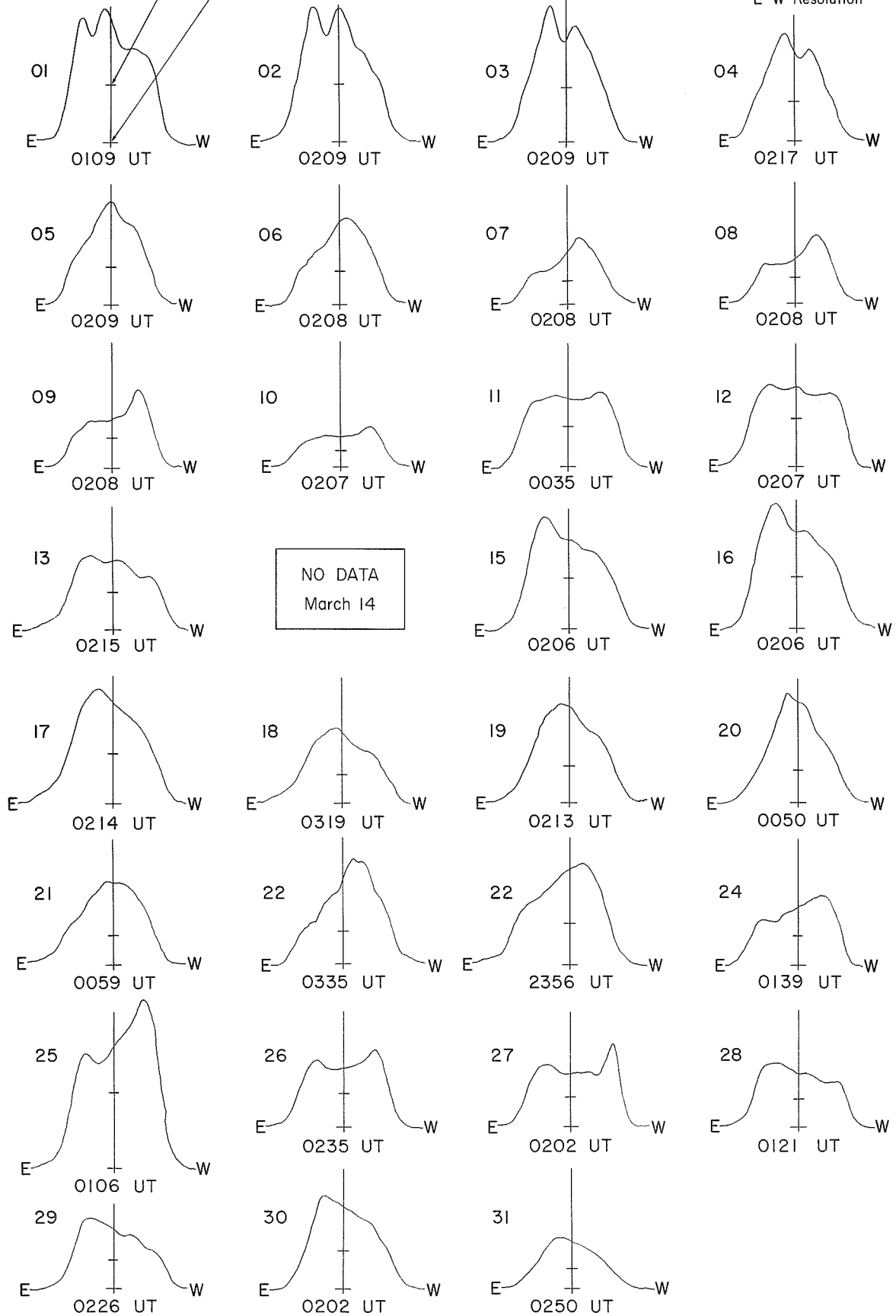
MARCH 1969

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

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



SOLAR WIND VELOCITY
and
CO-ROTATION DELAY TIMES

March 1969

WJK

NASA - Ames Research Center

DATE	PIONEER VI				PIONEER VII			
	Time (Z)	Pass	U_H^+	TAU	Time (Z)	Pass	U_H^+	TAU
1969								
Mar. 1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								
22.					G0127	948	546.7	6.39
23.	G2334	1193	470.3	-11.51	G0110	949	612.0	6.44
24.	G2257	1194	555.4	-11.47	G0109	950	526.8	6.41
25.	G2315	1195	421.6	-11.54	G0144	951	440.	6.33
26.					G0131	952	472.7	6.38
27.	G2004	1191	387.8	-11.56				
28.					G0137	954	422.0	6.35
29.					G0120	955	434.6	6.38
30.	G1931	1200	326.5	-11.62	G0107	956	400.7	6.35
31.	G1452	1201	281.0	-11.68	G0130	957	340.3	6.27
	G1745	1202	265.7	-11.71				

54
Mar 69

SOLAR WIND
PIONEER VI

MARCH 1969

Massachusetts Institute of Technology

March 1969	Hour (UT)	Velocity (km/sec)	σ	Density (protons/cm ³)	σ	Delay (days)	March 1969	Hour (UT)	Velocity (km/sec)	σ	Density (protons/cm ³)	σ	Delay (days)	
6	18	357	-	8	-	11.4	19	15	493	-	3	-	11.3	
	19	362	-	9	-			16	502	8	3.1	.1		
8	15	354	-	12	-	11.4	17	489	1	3.0	.3	11.3		
	16	350	4	13.4	1.0		18	505	4	2.9	.1			
	17	356	3	11.1	1.1		19	503	9	2.9	0			
	18	361	5	21	15		20	509	13	3.0	.3			
	19	348	5	12.0	.4		20	15	401	2	4.0		.4	
	20	342	3	12.2	1.0			16	385	18	3.1		.9	
	21	352	2	10.1	4.6			17	403	-	4		-	
	22	325	1	11.3	.9			18	402	3	4.8		.4	
	23	340	7	13.9	2.6			19	400	2	4.9		.1	
	20	396	1	4.8	.6			21	395	2	4.4		.1	
9	00	343	4	14.4	.7	11.3	23	378	7	4.4	.5	11.3		
	01	346	7	13.6	.9		21	00	392	-	5		-	
	15	341	3	3.2	.8			22	15	381	5		12.7	.4
	16	335	6	5.1	.3				16	349	69		13.1	1.9
	17	336	32	5.7	.8				17	382	8		10.6	1.0
	18	322	-	7	-				18	388	1		10.0	.3
	19	313	-	5	-				19	391	3		12.5	1.2
	20	291	4	4.5	.9				20	443	42		10	7
	21	289	7	6.0	.3				21	429	-		14	-
	22	312	22	3.9	.7				23	00	496		-	8
23	278	-	5	-	15	594				3	3.0	.2		
10	00	279	4	5.2	.4	11.3	16			579	2	2.8	.2	
	01	277	-	7	-		17	600		10	2.3	.8		
	15	359	1	76	12		18	582		28	3.1	.1		
	16	350	10	67	17		19	554		3	3.0	.4		
	17	383	33	36	30		20	592		8	2.5	.4		
	18	363	5	46	24		21	563		8	2.4	.2		
	19	369	3	41	6		22	600		16	2.3	.2		
12	20	364	1	60	8	11.3	24	16		480	7	1.9	.1	
	21	372	4	43	3		17	476	2	2.0	.2			
	15	401	-	8	-		20	470	23	2.5	.6			
	16	395	6	8.7	.5		21	486	-	3	-			
	17	392	2	11.3	1.1		22	462	29	2.4	.7			
	18	395	-	12	-		23	422	33	2.6	.5			
	19	388	4	14.3	1.4		27	15	365	1	8.5	1.7		
	20	375	10	15.7	.4			16	384	2	9.8	.5		
21	378	-	17	-	17	368		7	11.1	.1				
22	396	12	15	7	18	370		15	10.0	.1				
13	15	344	8	32.8	4.8	11.3		19	370	4	10.1	.4		
	17	342	-	25	-			20	364	5	10.1	2.1		
	18	357	3	23.0	6.3			21	395	-	10	-		
	19	355	1	14.7	3.3			22	388	7	9.6	.2		
	20	363	9	12.6	3.3		23	389	5	9.7	.5			
	21	381	-	13	-		28	00	376	-	10	-		
22	398	13	8.6	2.3	14	327		21	8.9	.1				
23	384	2	10.8	.8	15	297		-	9	-				
14	00	381	6	11.5	5.0	11.3		16	275	-	2	-		
	15	467	-	1	-			17	343	28	5	4		
	16	483	-	1	-			18	336	1	7.9	.5		
	17	488	7	.7	0		19	342	3	6.5	1.4			
	18	490	4	2.0	.4		20	332	-	5	-			
	19	484	1	3.2	.3		21	340	12	4.4	.3			
15	20	477	-	2	-	11.3	22	341	2	5.9	.7			
	21	480	5	1.8	.3		23	338	8	6.1	.7			
	15	449	3	3.3	.2		29	00	341	-	7	-		
	16	487	13	3.1	.1			30	14	315	-	8	-	
	17	483	12	2.4	1.0				15	307	23	7.7	.2	
	19	493	22	3.8	.3				16	316	29	6.5	.4	
20	483	1	3.6	.1	17	332			-	6	-			
21	488	-	4	-	18	316			10	5.1	.5			
16	22	432	48	3.5	2.9	11.3	19		306	26	5.6	1.0		
	23	512	13	4.5	.4		20	304	15	6.0	1.0			
	00	501	-	6	-		21	323	2	5.4	.7			
	15	548	17	2.8	.4		22	333	3	6.5	.8			
	16	575	51	2.4	.1		23	329	1	7.2	.1			
	17	559	20	2.1	.2		31	00	293	-	7	-		
	18	509	-	2	-			11.3	15	548	17	2.8	.4	
	19	533	8	2.3	.2				16	575	51	2.4	.1	
	20	591	6	2.0	.2				17	559	20	2.1	.2	
	21	615	38	2.0	.2				18	509	-	2	-	
22	573	12	1.9	.2	19	533			8	2.3	.2			
23	512	13	4.5	.4	20	591	6		2.0	.2				

SOLAR WIND
VELA 3 & 4

March 1969

Wagner (Bauer)

Date Mar 1969	UT	Spacecraft	Velocity V_{H^+} (km/sec)	Density N_{H^+} (cm^{-3})
02	2200	VELA-4	477	--
03	0400	3	330	--
	0700	3	455	--
	1000	3	433	--
	1300	4	412	--
	1700	3	455	--
04	0400	3	380	--
	0700	3	380	--
	1000	3	361	--
06	1200	4	478	--
07	1500	3	455	--
	1800	3	455	--
12	2000	3	454	--
	0900	4	478	3.3
	1400	3	455	--
	1800	3	432	--
13	1200	3	380	--
	1600	3	344	--
	1800	3	304	--
13	2100	3	380	--
14	0000	3	317	--
	0400	3	327	--
	0700	3	317	--
	1000	3	326	--
15	1400	4	412	--
17	0000	4	398	--
18	0000	3	455	--
	0300	3	455	--
	0600	3	455	--
	0900	3	455	--
	1200	3	455	--
	1500	3	455	--
21	1800	3	361	--
	2100	3	412	--
22	0000	3	380	--
	0300	3	380	--
	0600	3	380	--
	0900	3	380	--
	1200	3	380	--
	1500	3	380	--
24	1300	3	471	--
23	1300	3	361	--
	1500	3	380	--
	1800	3	380	--
26	2300	3	455	--
27	0200	3	541	--
	0500	3	432	4.0
28	0000	3	380	--
	0300	3	380	--
	0600	3	380	--
	0900	3	380	--
31	1500	3	455	--
	1900	3	471	--

COSMIC RAY PROTONS

March 1969

Counting Rate (protons/sec)

Pioneer VI						Pioneer VII				
Date Mar.	Time (UT)	0.6-13 Mev	13-70 Mev	70-190 Mev	>190 Mev	Time (UT)	0.6-13 Mev	13-70 Mev	70-190 Mev	>190 Mev
7	1523	43.0	.018	.06	.26	0008	5.66	.016	.068	.5
8	2354	159.2	.0168	.0572	.310	0002	4.90	.01	.044	.49
9	1600 2317	66.8 73.6	.0264 .0241	.0620 .0601	.201 .273					
10	1548 2328	81.2 50.0	.005 .019	.044 .050	.373 .294					
12	1557	60.4	.012	.044	.268					
13	1513 2332	126.7 151.22	.406 .514	.079 .196	.290 .263					
15	1600 2306	267.0 229.0	.0643 .0619	.0489 .0420	.218 .192	0418	392.17	.142	.053	.491
16	1600	152.6	.0341	.0493	.208					
17	1610	35.1	.023	.044	.211					
18						0044	35.25	.008	.058	.642
20	1550	.62	.001	.048	.277					
21						0141	77.35	.023	.048	.546
22	1600 2334	1.74 1.57	.022 .019	.060 .052	.28 .26	0127	24.38	.632	.066	.492
23	2336	1.39	.024	.062	.28	0110	10.16	.16	.063	.53
24	1745	4.3	.016	.057	.304	0109	4.876	.046	.059	.547
25						0144	3.368	.022	.063	.522
26						0131	1.508	.006	.058	.522
27	1542 2004	.79 .701	.028 .013	.050 .046	.265 .301					
28						0137 0201	1.78 1.789	.005 .006	.054 .054	1.89 .497
29	1500 2336	.410 1.10	.0174 .013	.0434 .060	.235 .242	0143	1.18	.003	.055	.477
30	1600 2335	84.5 239.6	1.19 2.61	.732 .962	1.93 2.12	0149	.457	.003	.066	.480
31	1745	189.8	4.38	.831	1.44	0201	14.6	.212	.152	.571

Note: It is expected that the Proton Counts as observed by Pioneers VI and VII will continue to be published each month. The data are received routinely when available on a day-to-day basis and may be subject to transmission or recording errors. Also please note:

- (1) Data is subject to future determination of possible saturation during enhanced flux observations.
- (2) Pioneer heliographic longitude is given in the solar wind tabulations in terms of "co-rotation" delay time (days).
- (3) Geometric factors (as given in J. Geophys. Res. 73, 5, 1555-1582, 1968, by Fran, Pyle, Pyle, Simpson, and Smith) are 5.8×10^{-4} , 1.15×10^{-4} , 1.15×10^{-4} , and 1.7×10^{-4} m²/ster for the four ascending particle ranges given above in the table.
- (4) Background levels are approximately 0.2, 4×10^{-3} , 6×10^{-2} , and 0.6 counts/sec for these respective channels.

SOLAR PROTON EVENT (PROVISIONAL)

MARCH 1969 →

Date Mar.	Time UT	Detector	Activity	
30	0400	Aldra, Norway to Ft. Monmouth VLF Path Pioneer 8 Spacecraft*	Evidence of event beginning >13.9 Mev H ⁺ initial increase	
	0530	Deep River, Ontario Neutron Monitor (Lat. 45° N; Σ cut off \sim 500 Mev)	Counting rate began gradual rise	
	0746	Alaskan Solar Cosmic Ray Network	PCA effects first observed	
	0800	Pioneer 9 Spacecraft**	>40 Mev H ⁺ channel saturated	
	0900	VELA Satellite	3-20 Mev H ⁺ \sim 100 times quiet day counting rate	
	1530	Deep River	4.5% rise above background, i.e. background just prior to event (770 counts/10 ^m)	
	1615	OGO-5 (Alt. \sim 21 earth radii)	>20 Mev H ⁺ increased 3 times background	
	1700	VELA Satellite Thule 30 MHz Riometer	Proton flux of >25 Mev reached max. of \sim 8 times background Midday absorption value \sim 1.1 db	
	2000	VELA Satellite Forward Scatter (Barrow to Anchorage \sim 23 kHz)	Proton flux of 3-20 Mev reached Max. of 10 ³ times background 1.0 db absorption	
	2200	Alaskan Riometer Chain (30 MHz; Midday values) Fort Yukon (L = 6.5) College (L = 5.5) Paxson (L = 5.1)	\sim 2.4 db \sim 0.57 \sim 0.86	
	31	0030	Pioneer 8	>13.9 Mev H ⁺ enhanced by one order of magnitude
		0037	Pioneer 9	>13.9 Mev H ⁺ enhanced by two orders of magnitude
		1000	Deep River	Neutron counting rate stabilized
1200		VELA	>25 Mev H ⁺ 5 times background 3-20 Mev H ⁺ 600 background	
1700		Thule	1.2 db	
2200		Alaskan Riometer Chain (Midday values) Fort Yukon College Paxson	\sim 0.88 db \sim 0.68 \sim 0.47	
Apr. 1	1200	VELA Satellite	3-20 and >25 Mev H ⁺ counting rates declining	
	1551	Pioneer 9	>13.9 Mev H ⁺ counting rate reduced by approx. $\frac{1}{2}$	
	1549	Pioneer 8	>13.9 Mev H ⁺ Max. value received (not necessarily true Max.)	
	1700	Thule	0.48 db	
	2200	Alaskan Riometer Chain VELA Satellite	Magnetic disturbance obscuring true absorption High energy particle flux smoothly approaching quiet day value	
	1800	Thule	0.5 db	

Remark: The low energy channel on board the VELA Satellite remained enhanced, but reduced by about one order of magnitude from the level observed during the above described events for approximately 11.5 days. Shortly thereafter the most energetic PCA of the current solar cycle began.

* Pioneer 8 is in a heliocentric orbit \sim 1.04 A.U. in radius lagging the earth in its orbit by 25°.
** Pioneer 9 is in a heliocentric orbit \sim 0.87 A.U. in radius leading the earth in its orbit by 30°.

Table of Contents
for February 1969 Data

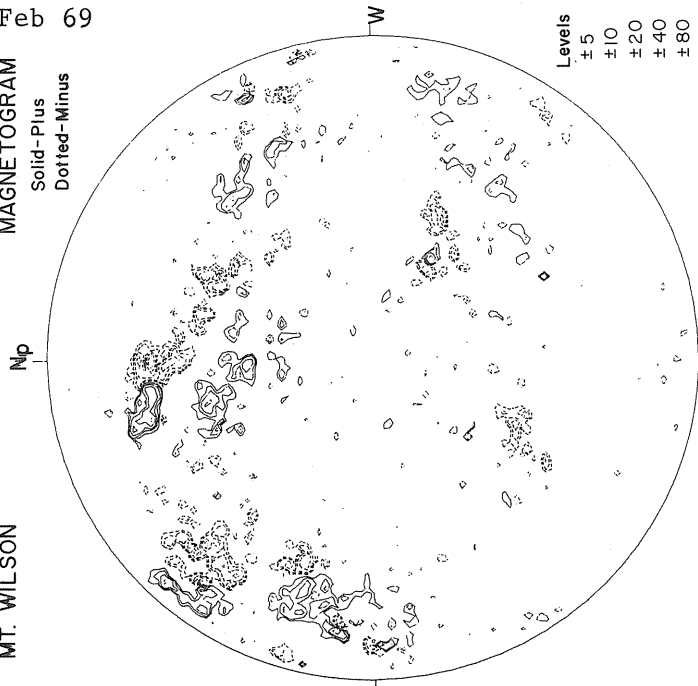
	Page
<u>Daily Solar Activity Centers</u>	
HQ, Sunspots, Corona, 9.1 and 21 cm Spectro- heliograms, Magnetograms and Calcium Plages	60-87
Individual Regions of Solar Activity	88-97
<u>Solar X-ray Radiation</u>	
Naval Research Laboratory - Explorer 37	98-100
<u>Solar Radio Waves</u>	
Spectral Observations	101-107
<u>Cosmic Rays</u>	
Neutron Monitors Daily Values - Deep River, Churchill, Climax, Dallas	108
Chart of Variations - Deep River, Alert	109
Chart of Variations - 5 minute intervals - February 25	110
<u>Geomagnetic Indices</u>	
Table of Indices Kp, Ci, Cp, Ap	111
Chart of Kp by Solar Rotations and 12-Month Table of Daily Average Ap	112
Principal Magnetic Storms	113
<u>Radio Propagation Indices</u>	
North Atlantic and North Pacific Quality Figures and Forecasts	114
Charts of North Atlantic Short-term Forecasts and Quality and High Latitude Advance Forecasts	115
Transmission Frequency Ranges - North Atlantic Path	116-117

For explanations of the data contained herein see "Descriptive Text" published in February 1969.

FEBRUARY 1, 1969 (P = -12.17, B₀ = -6.05, L₀ = 356.55)

MAGNETOGRAM
Solid-Plus
Dotted-Minus

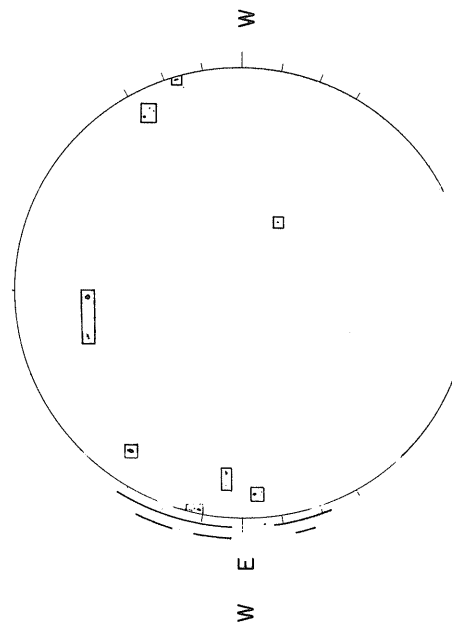
MT. WILSON



Levels
±5
±10
±20
±40
±80

H α SUNSPOTS

ESSA-BOULDER



CORONA
NO WEST LIMB DATA

PIC-DU-MIDI

1800 UT

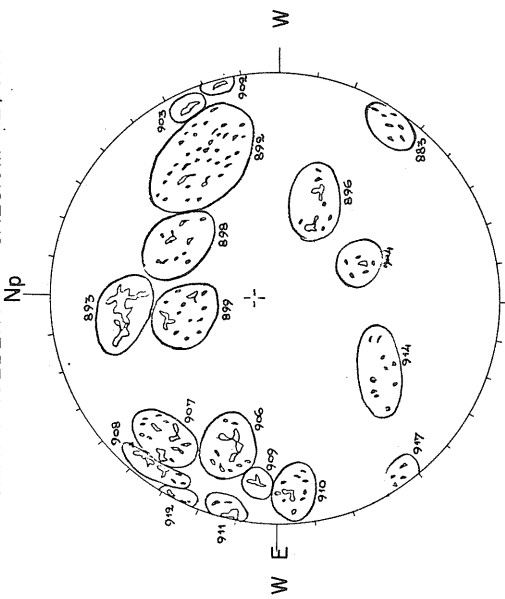
FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT

16.37-17.84 UT

CALCIUM REPORT

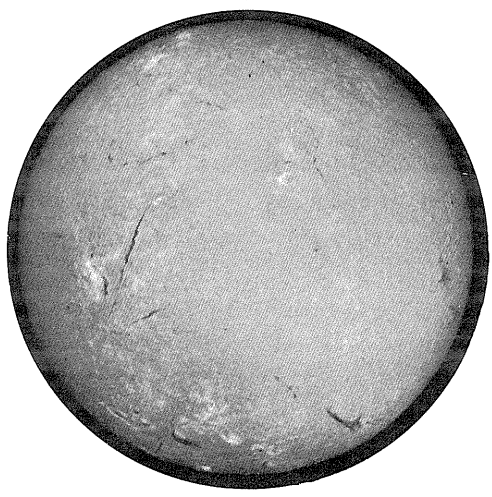


[FOOL] O
93-27-2.5
96- 8-2.5
02-10-3.0
03-12-3.5
09- 6-2.5
10-12-2.5
11-18-3.0
12-10-2.5

BOULDER

Np

H α



Sp

1736 UT

STANFORD

9.1 cm.

Np

1800 UT

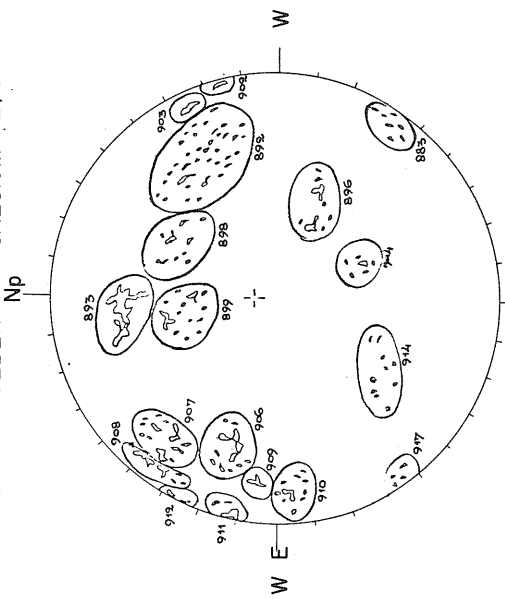
FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT

16.37-17.84 UT

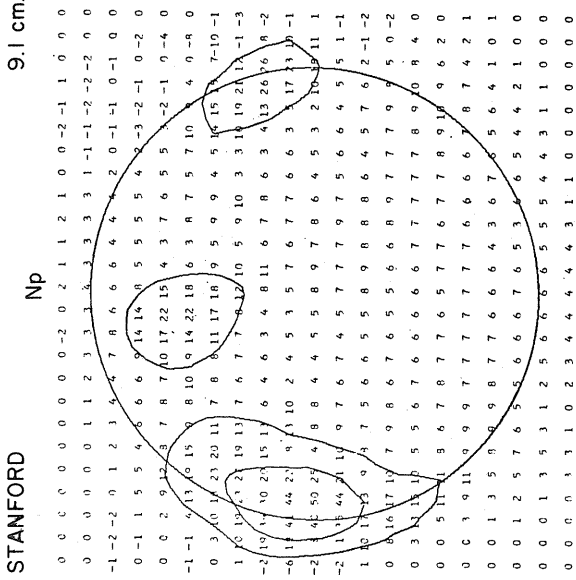
CALCIUM REPORT



[FOOL] O
93-27-2.5
96- 8-2.5
02-10-3.0
03-12-3.5
09- 6-2.5
10-12-2.5
11-18-3.0
12-10-2.5

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

Sp
20-21 UT
Brightness Unit 5000° K



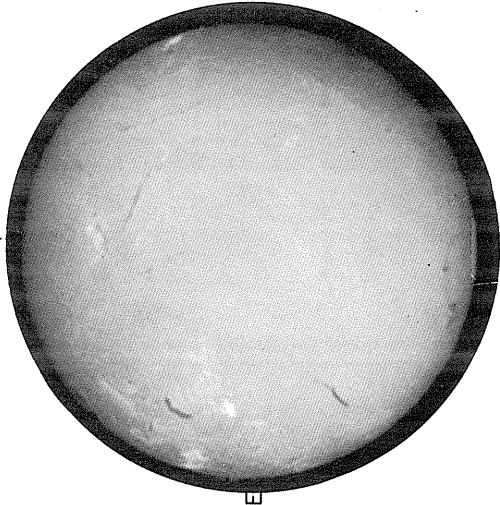
Sp
2:15 UT

FEBRUARY 2, 1969 ($P = -12.57$, $B_0 = -6.12$, $L_0 = 343.39$)

BOULDER

H α

Np



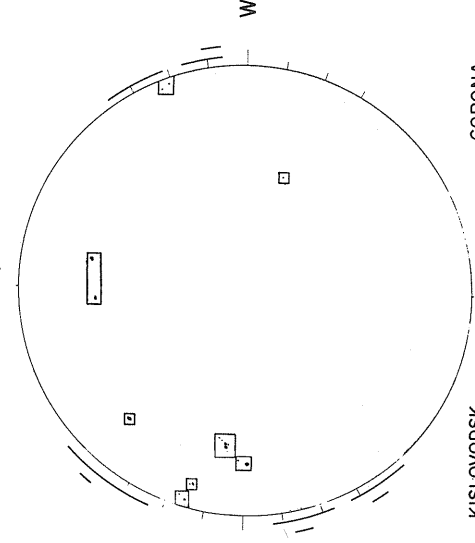
Sp

1541 UT

ESSA-BOULDER

SUNSPOTS

Np



KISLOVODSK

CORONA

Sp

1510 UT

STANFORD

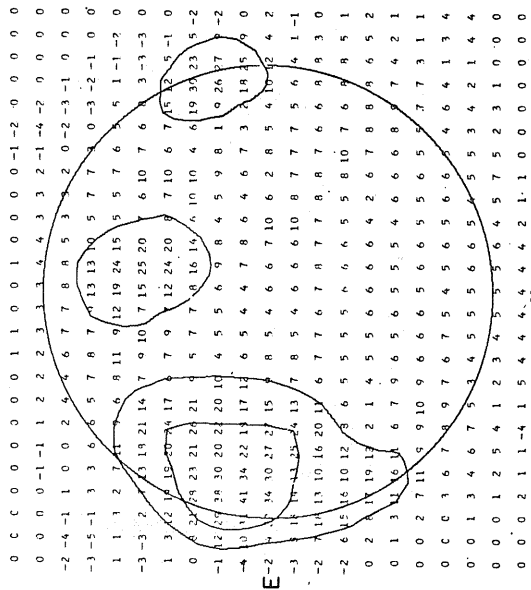
9.1 cm.

FLEURS, AUSTRALIA

21 cm.

18.30-19.80 UT

Np



Sp

20-21 UT

Brightness Unit 5000° K

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

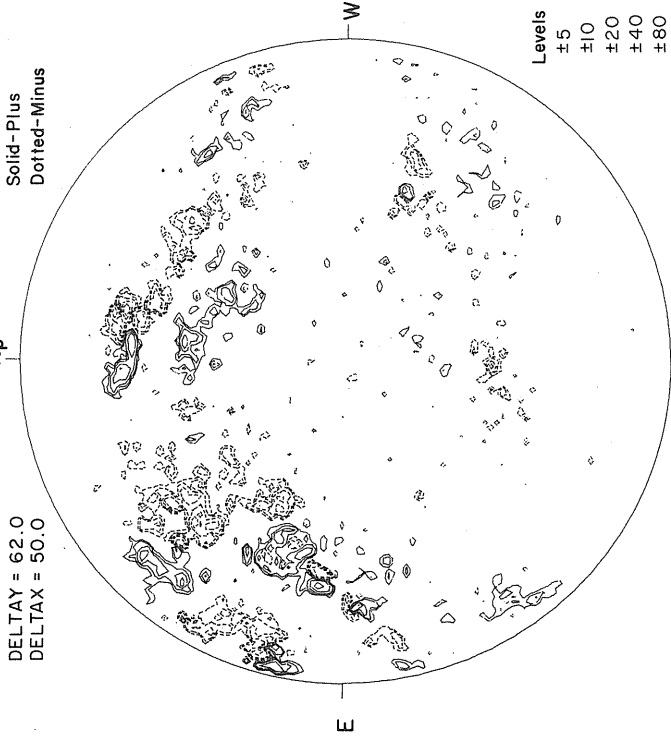
MT. WILSON

DELTA Y = 62.0
DELTA X = 50.0

MAGNETOGRAM

Solid-Plus
Dotted-Minus

Np



E

W

Levels
±5
±10
±20
±40
±80

18.30-19.80 UT

Sp

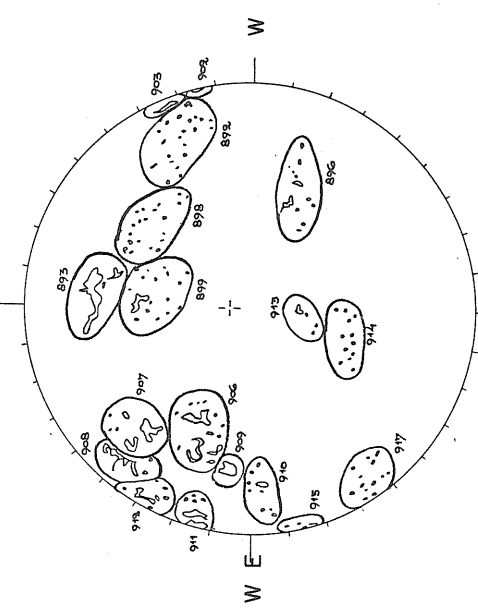
-DATA INCOMPLETE

McMATH-HULBERT

CALCIUM REPORT

Np

W



NO DATA

W

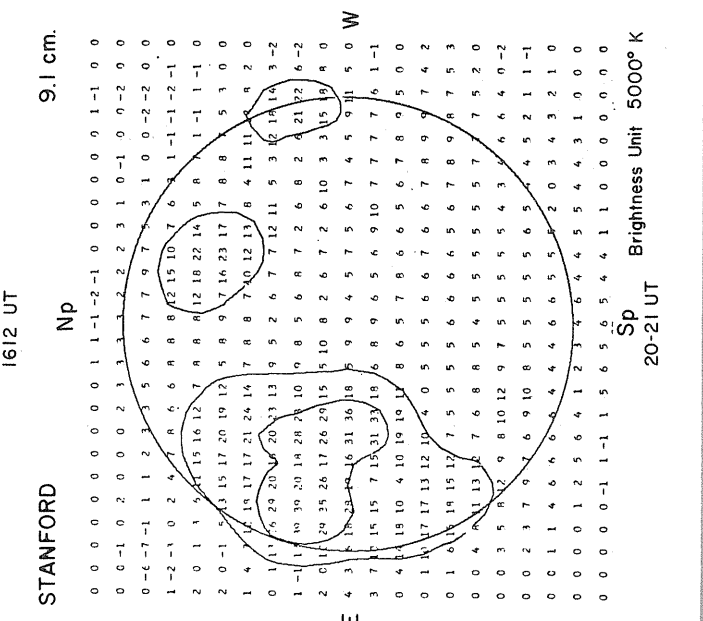
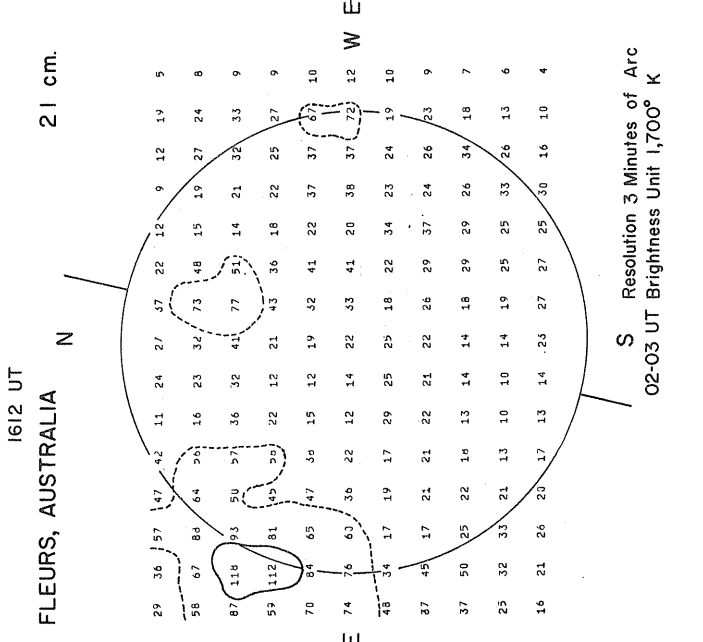
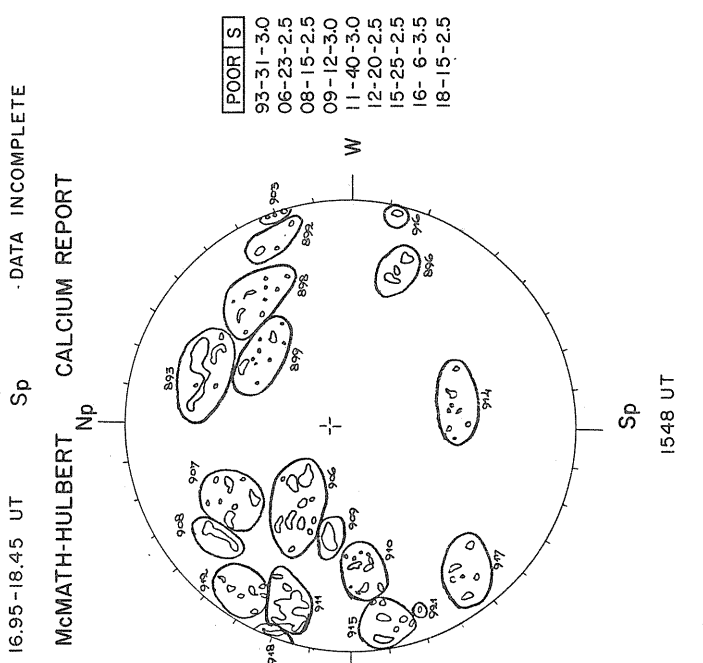
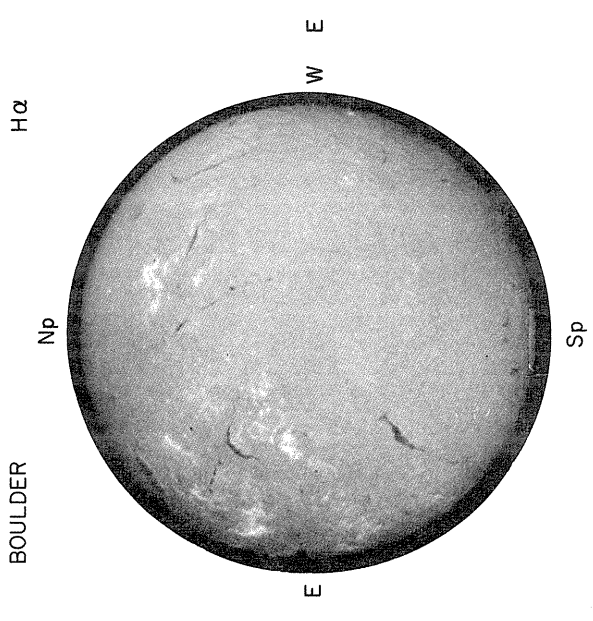
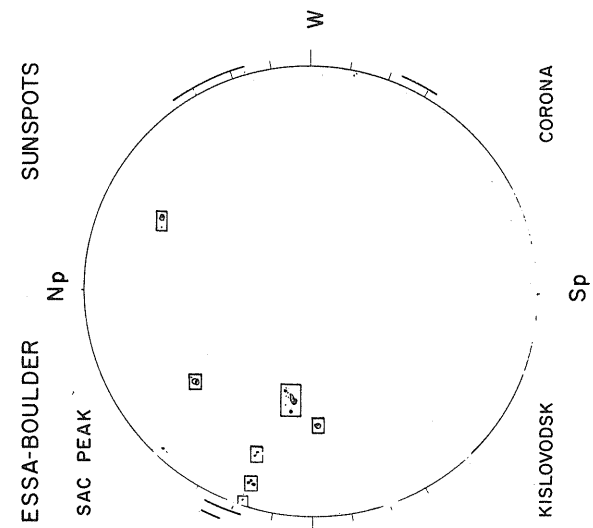
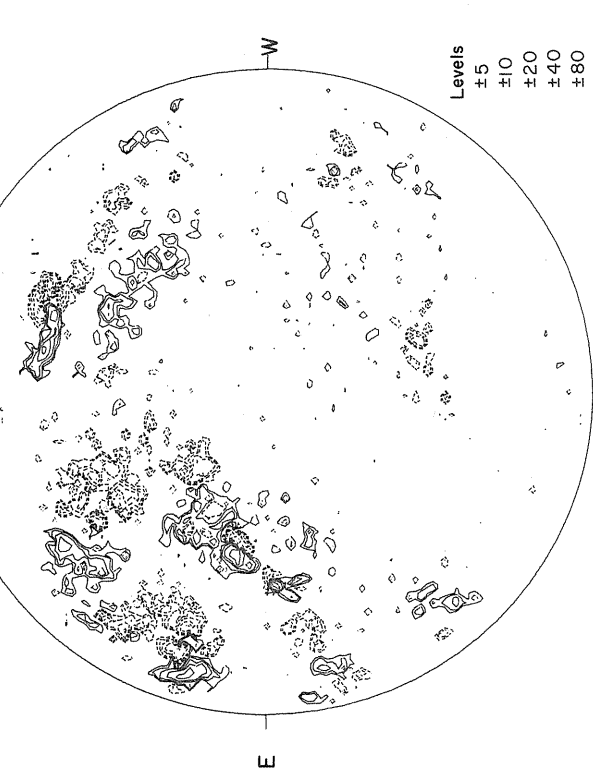
E

POOR 0
93-26-2.5
03-13-3.5
06-20-2.5
08-17-2.5
09-8-3.5
11-28-3.0

MT. WILSON
DELTA Y = 62.0
DELTA X = 49.9

FEBRUARY 3, 1969 (P = -12.98, B₀ = -6.19, L₀ = 330.22)

MAGNETOGRAM
Solid-Plus
Dotted-Minus



POOR S
93-31-3.0
06-23-2.5
08-15-2.5
09-12-3.0
11-40-3.0
12-20-2.5
15-25-2.5
16-6-3.5
18-15-2.5

16.95-18.45 UT Sp DATA INCOMPLETE

1612 UT Sp 21 cm.

1612 UT Sp 9.1 cm.

1548 UT Sp

20-21 UT Sp

Brightness Unit 5000° K

Resolution 3 Minutes of Arc

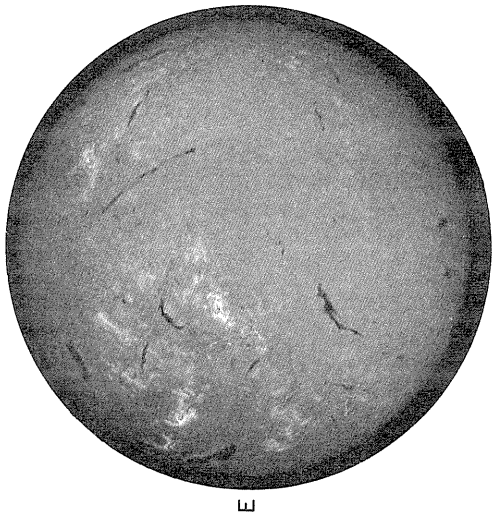
02-03 UT Brightness Unit 1,700° K

FEBRUARY 4, 1969 (P = -13.37, B₀ = -6.25, L₀ = 317.05)

BOULDER

H α

Np

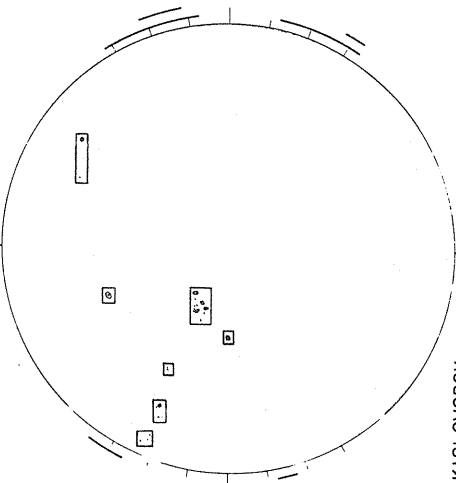


Sp

1529 UT

ESSA-BOULDER

Np



KISLOVODSK

Sp

1610 UT

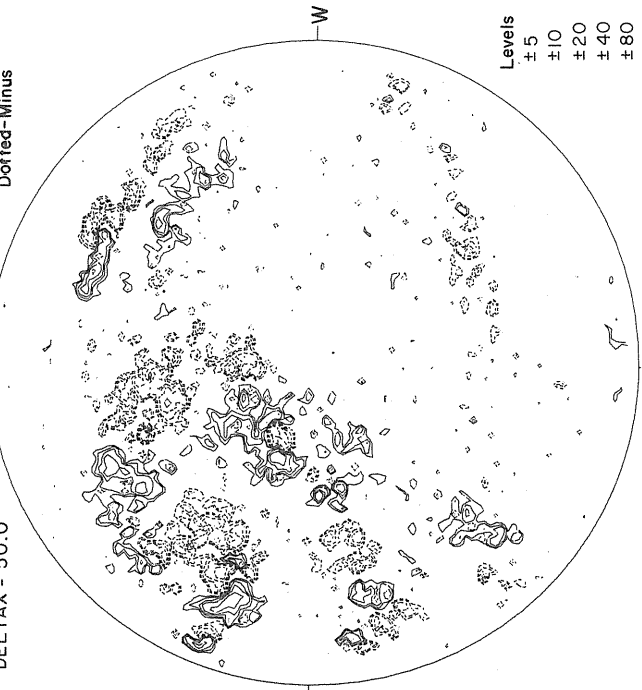
CORONA

MT. WILSON
DELTA = 62.0
DELTA = 50.0

MAGNETOGRAM

Solid-Plus
Dotted-Minus

Np



Levels
±5
±10
±20
±40
±80

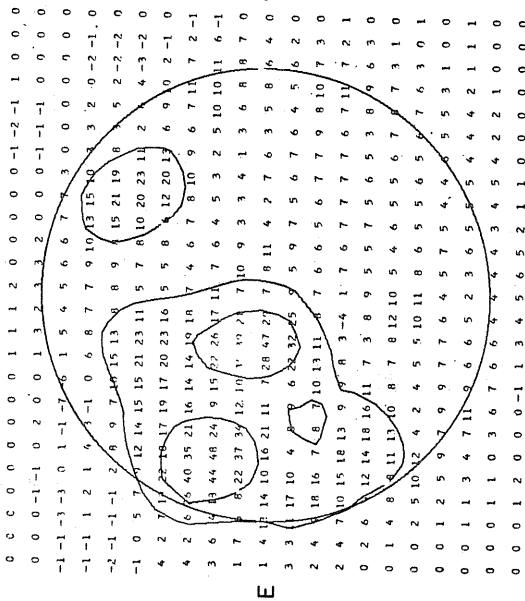
17:28-18:79 UT

STANFORD

9.1 cm.

FLEURS, AUSTRALIA

21 cm.



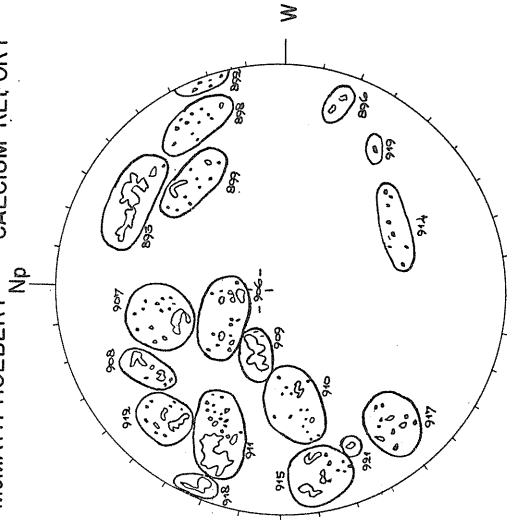
Sp
20-21 UT
Brightness Unit 5000° K

1610 UT

21 cm.

McMATH-HULBERT

CALCIUM REPORT



Sp
1545 UT

POOR M
93-31-2.5
08-14-2.5
09-12-3.0
11-43-3.0
12-17-2.5
18-17-2.5

63
Feb 69

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

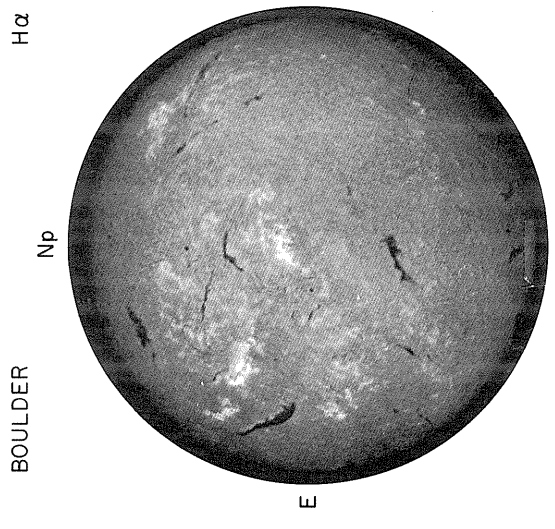
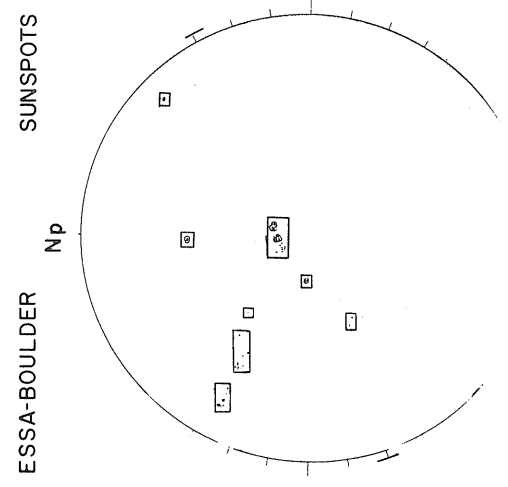
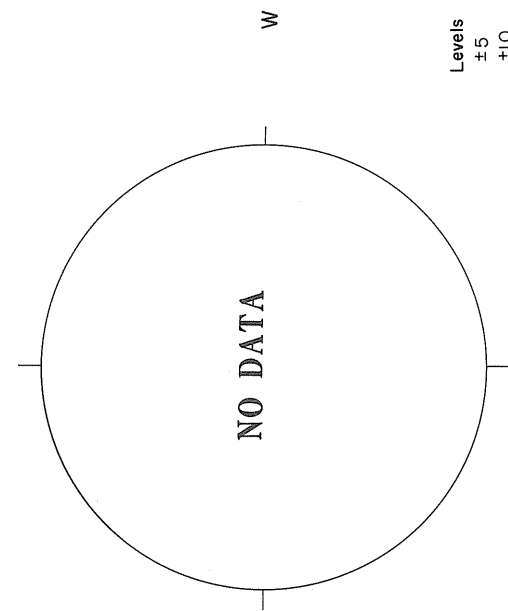
MAGNETOGRAM
 Solid-Plus
 Dotted-Minus

Np

MT. WILSON

FEBRUARY 5, 1969 (P = -13.77, B₀ = -6.32, L₀ = 303.89)

±5
 ±10
 ±20
 ±40
 ±80



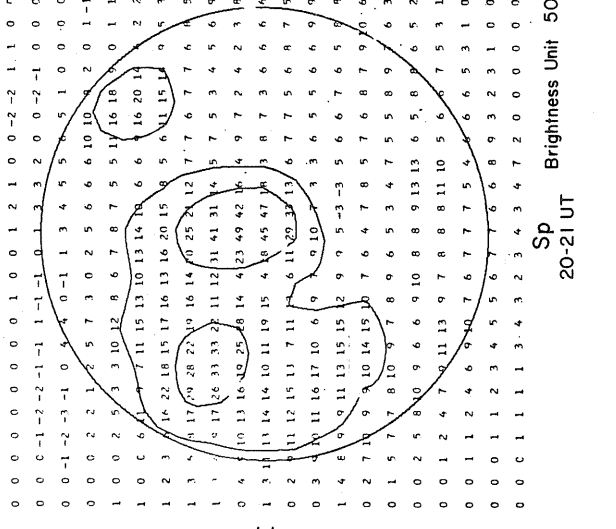
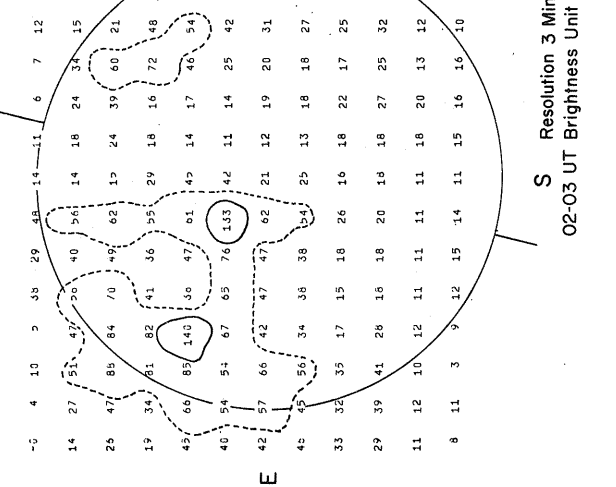
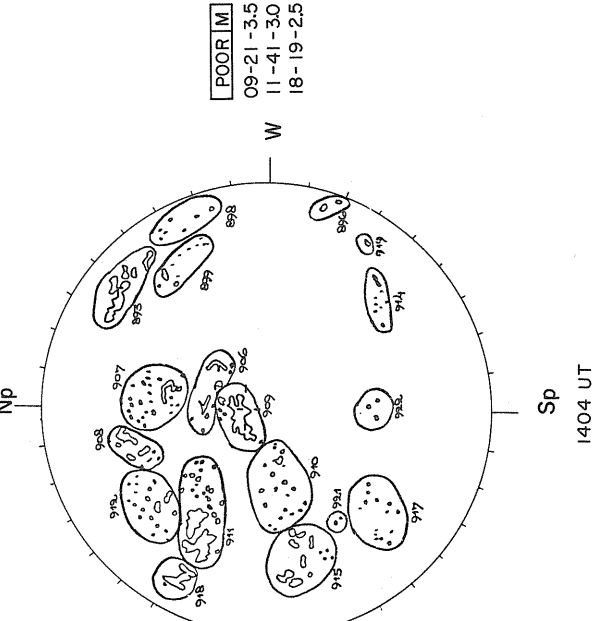
Levels
 ±5
 ±10
 ±20
 ±40
 ±80

Np

McMATH-HULBERT

1654 UT
 Sp
 STANFORD

Brightness Unit 5000° K



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

Brightness Unit 5000° K
 Sp
 20-21 UT

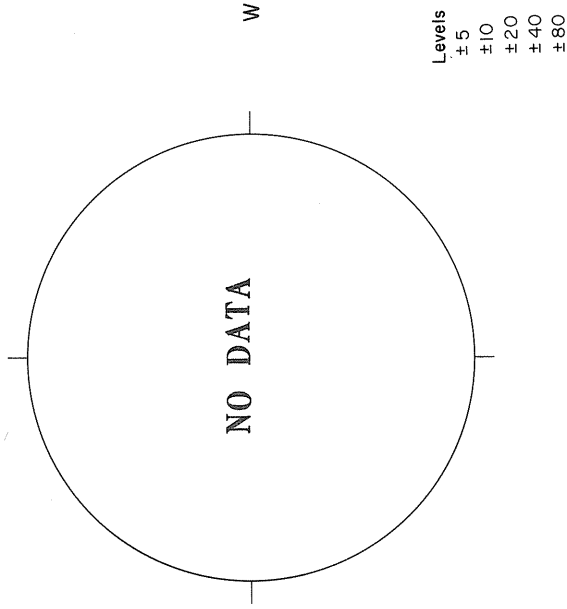
±5
 ±10
 ±20
 ±40
 ±80

±5
 ±10
 ±20
 ±40
 ±80

FEBRUARY 6, 1969 (P = -14.15, B₀ = -6.38, L₀ = 290.72)

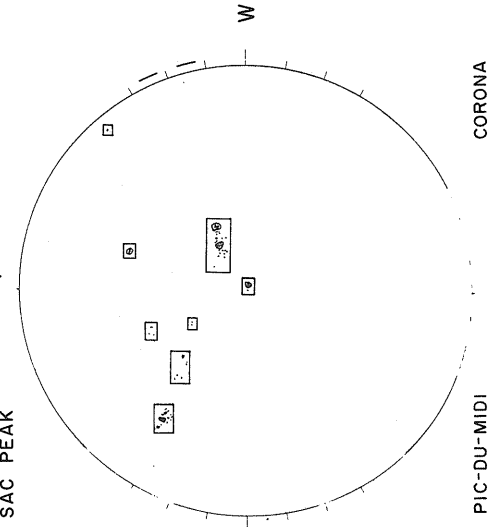
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np



Levels
± 5
± 10
± 20
± 40
± 80

BOULDER
H α
ESSA-BOULDER
SAC PEAK
Np



CORONA

PIC-DU-MIDI

Sp

1623 UT

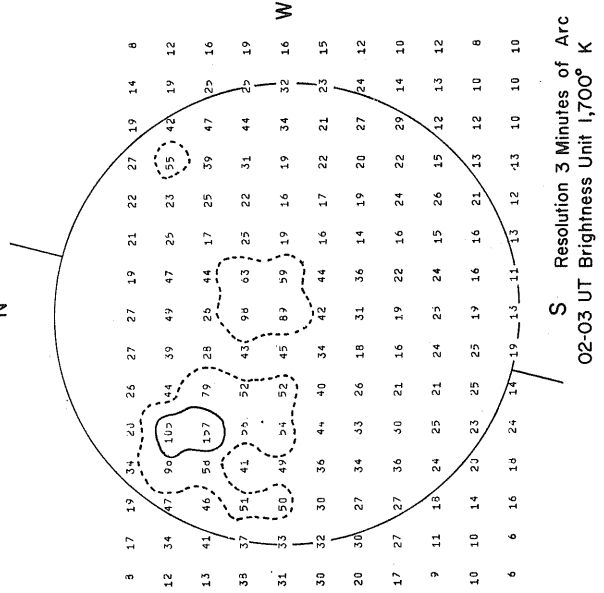
FLEURS, AUSTRALIA

21 cm.

N

Sp

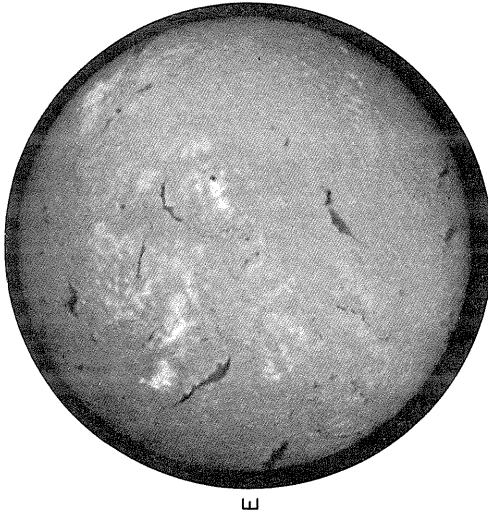
McMATH-HULBERT
CALCIUM REPORT



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

H α

Np



Sp

1617 UT

9.1 cm.

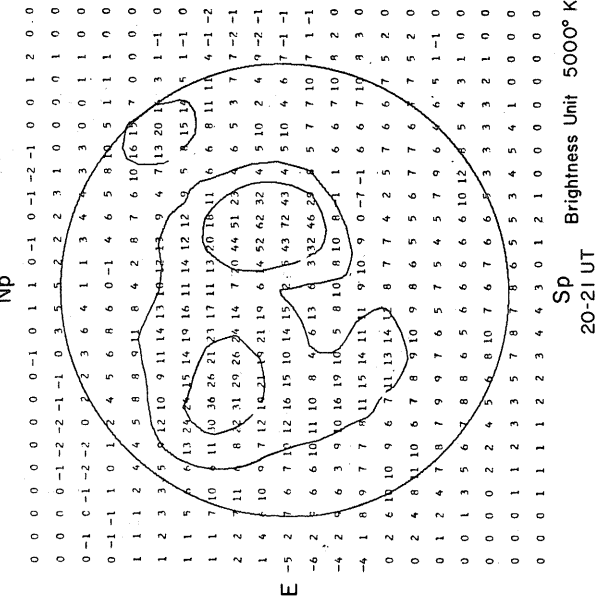
Np

STANFORD

9.1 cm.

Np

20-21 UT



Sp
Brightness Unit 5000° K

FEBRUARY 7, 1969 (P = -14.54, B₀ = -6.44, L₀ = 277.55)

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

MT. WILSON

±5
±10
±20
±40
±80

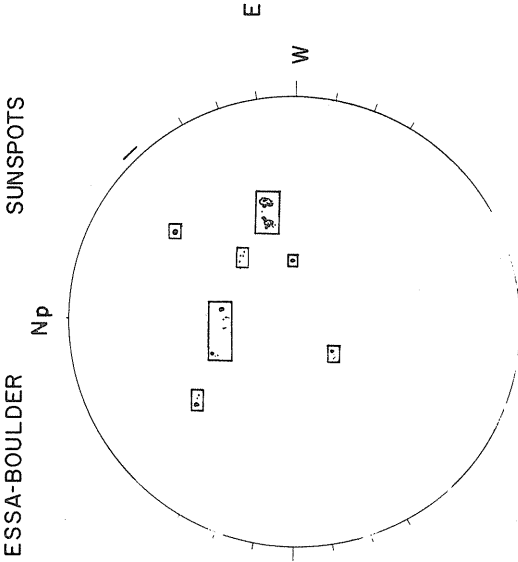
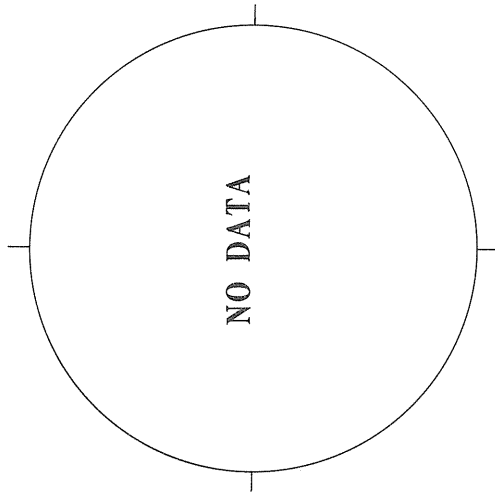
BOULDER

H α

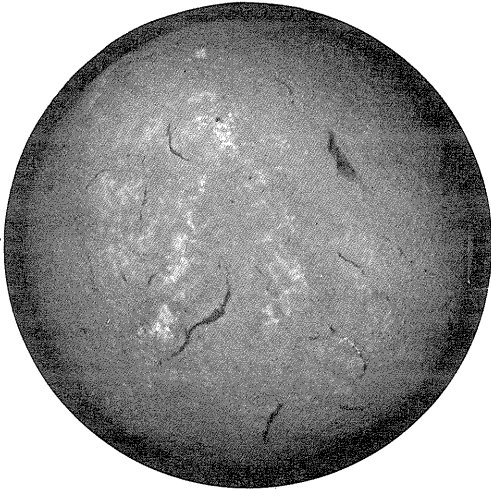
ESSA-BOULDER

SUNSPOTS

Np



Np



PIC-DU-MIDI

CORONA

Sp

Sp

2008 UT

2015 UT

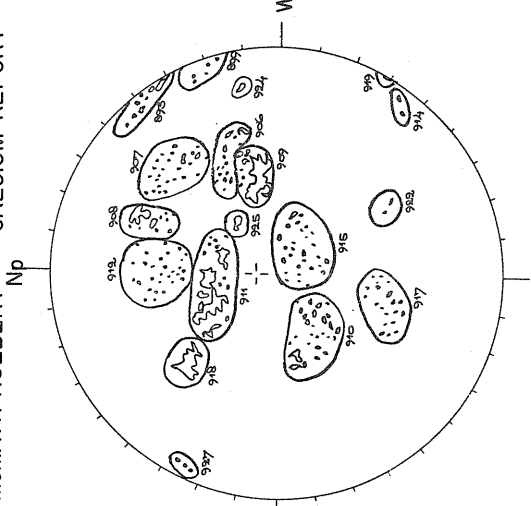
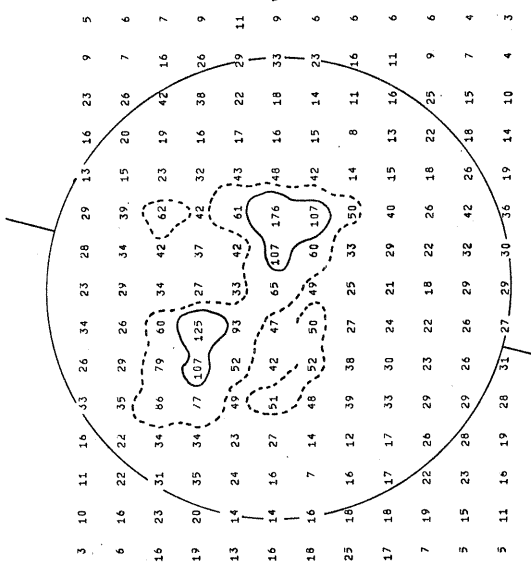
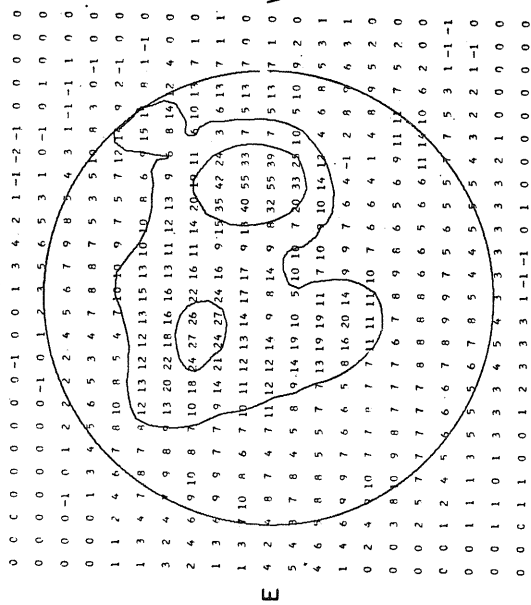
STANFORD

9.1 cm.

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT
CALCIUM REPORT



Sp
20-21 UT
Brightness Unit 5000° K

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

Sp
1515 UT

POOR IM
93-30-20
09-24-35
11-42-30
15-21-25
18-19-30

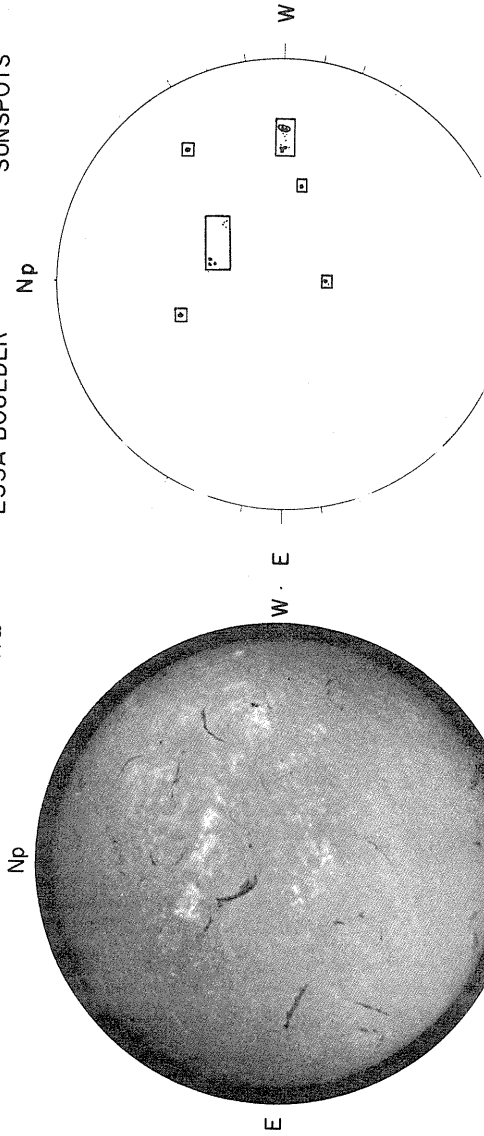
FEBRUARY 8, 1969 ($P = -14.91$, $B_0 = -6.50$, $L_0 = 2.64.39$)

BOULDER

H α

ESSA-BOULDER

SUNSPOTS



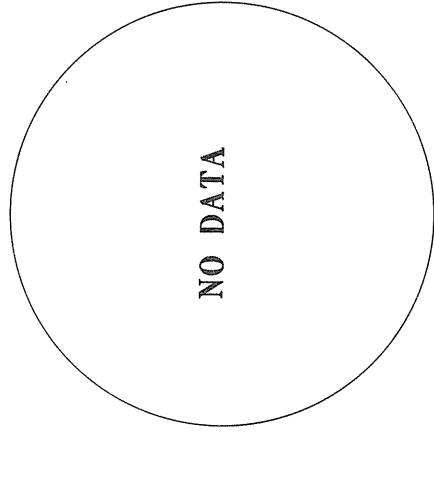
CORONA
NO DATA

Sp

1630 UT

FLEURS, AUSTRALIA

21 cm.

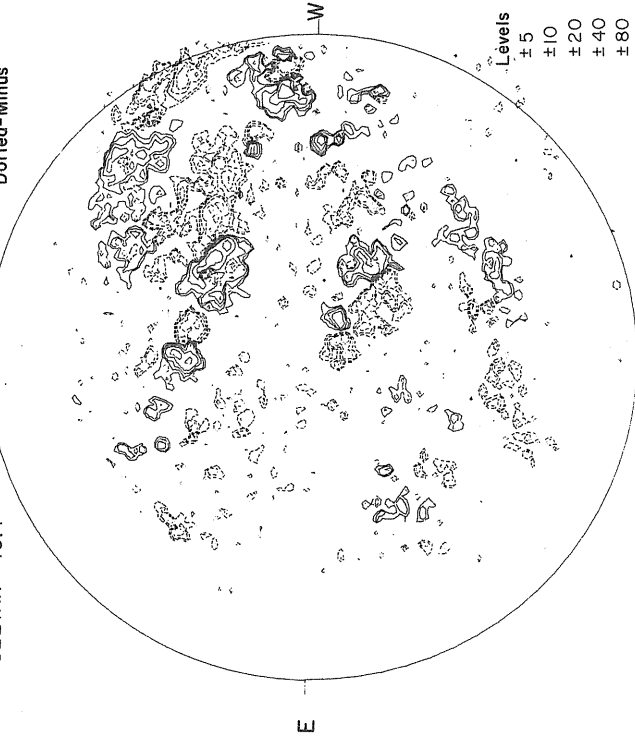


S Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

MT. WILSON
DELTA Y = 60.4
DELTA X = 45.4

MAGNETOGRAM

Solid-Plus
Dotted-Minus



Levels
 ± 5
 ± 10
 ± 20
 ± 40
 ± 80

22.64-0.21 UT

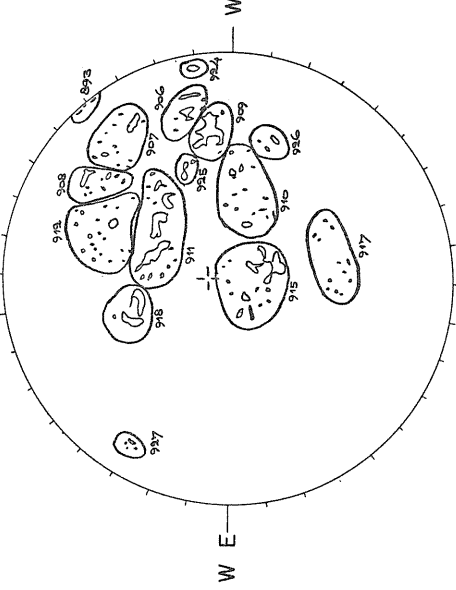
McMATH-HULBERT

Sp

DATA INCOMPLETE

CALCIUM REPORT

Np



BAD O
09-23-2.5
11-33-3.0
15-20-2.5
18-16-3.0
24- 5-3.0

67
Feb 69

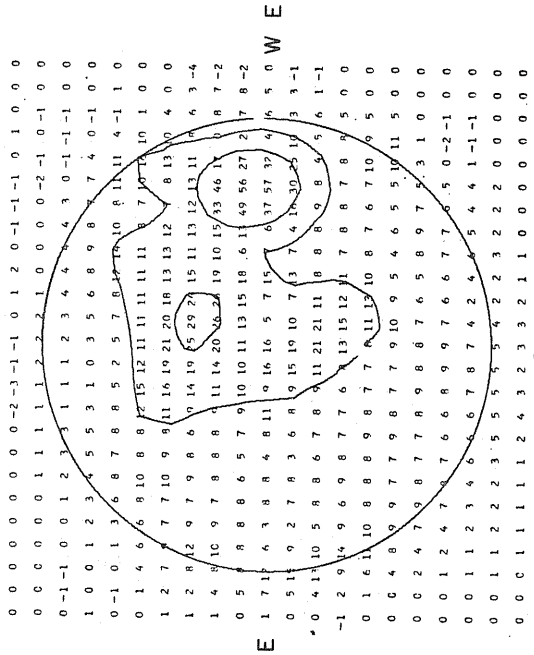
Sp
2005 UT

1540 UT

9.1 cm.

STANFORD

Np



Brightness Unit 5000° K

Sp
20-21 UT

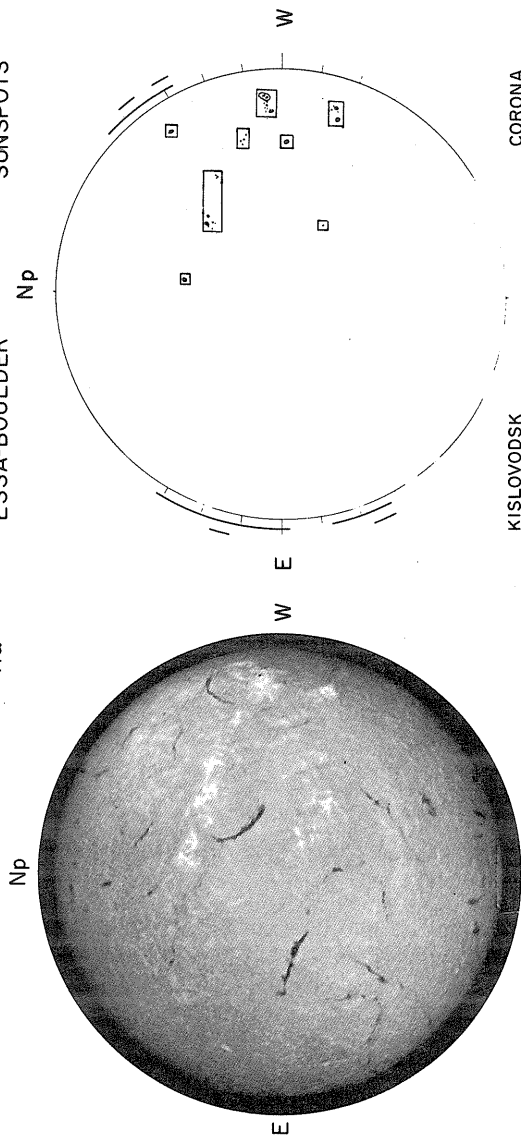
FEBRUARY 9, 1969 (P = -15.29, B₀ = -6.55, L₀ = 251.22)

BOULDER

H α

ESSA-BOULDER

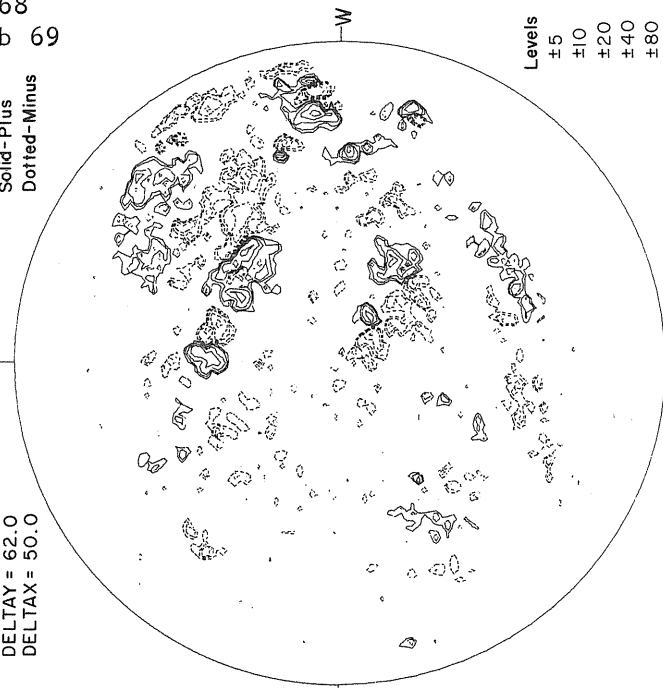
SUNSPOTS



MT. WILSON
DELTA X = 62.0
DELTA Y = 50.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

F 68
E 69
Np



Levels
±5
±10
±20
±40
±80

2234 UT

2220 UT

17.81-19.31 UT

STANFORD

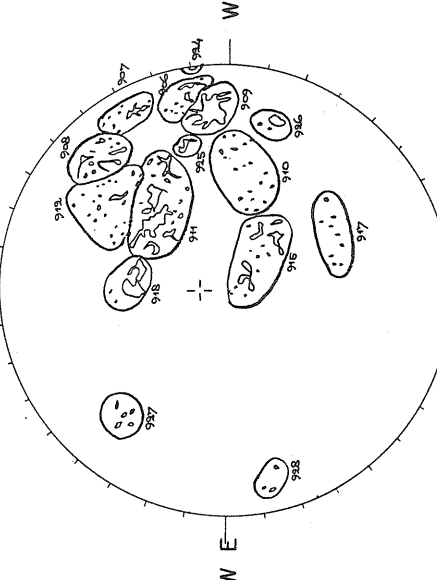
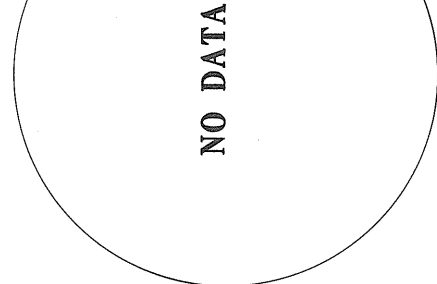
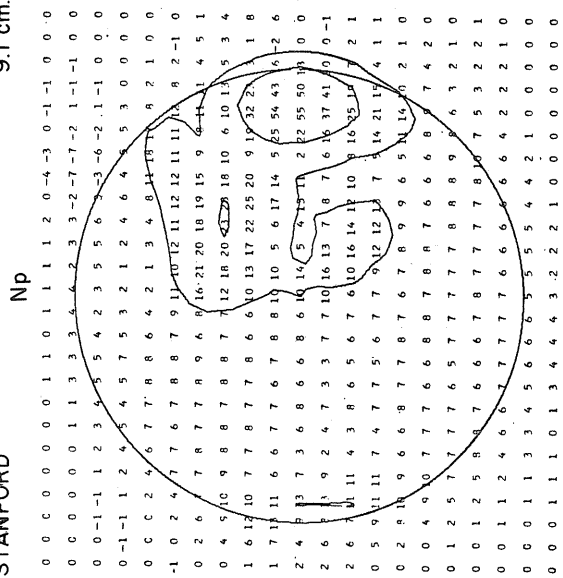
FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT

CALCIUM REPORT

DATA INCOMPLETE



FAIR O
08-16-2.5
09-28-2.5
11-36-3.0
12-16-2.5
15-17-2.5
18-18-3.5
24-3-2.5
25-4-3.0
26-8-3.5

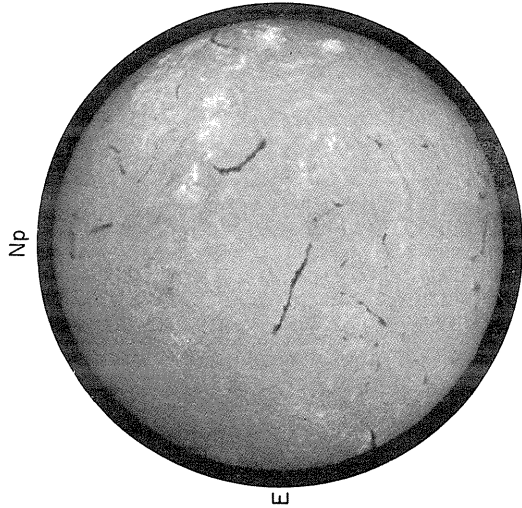
Sp
20-21 UT
Brightness Unit 5000° K

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

Sp
1700 UT

FEBRUARY 10, 1969 (P = -15.65, B₀ = -6.6 I, L₀ = 238.05)

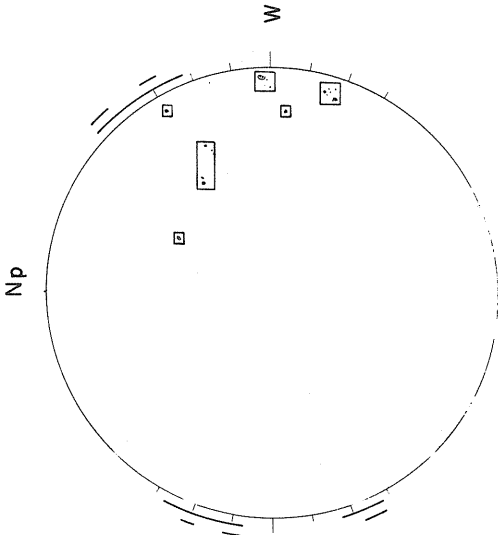
BOULDER



H α

ESSA-BOULDER

SUNSPOTS



CORONA

PIC-DU-MIDI

1721 UT

1735 UT

STANFORD

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT

18.89-20.38 UT

DATA INCOMPLETE

0	0	0	0	0	0	0	1	0	1	2	2	0	-1	1	3	2	-1	0	0	0	0		
0	0	0	1	1	3	3	3	4	4	3	2	2	-1	-5	-4	0	1	0	0	0	0		
0	-1	0	0	2	3	5	5	4	4	4	4	4	5	4	3	-6	-7	-1	2	0	0		
-1	-1	-1	1	3	6	6	5	6	7	6	5	3	2	3	6	6	-2	1	0	0	0		
-1	-1	0	1	4	6	8	7	8	7	5	3	3	4	4	5	10	3	-2	-2	0	0		
-2	0	3	4	5	7	7	8	8	7	6	7	10	8	7	10	8	11	19	11	8	3	-3	
0	3	5	6	7	9	8	7	6	7	7	12	17	16	14	18	16	11	6	1	0	0	0	
0	7	13	12	8	7	7	7	7	9	8	7	10	14	17	20	23	19	15	15	2	-1	0	
0	10	15	11	6	7	8	9	8	6	8	6	10	12	15	19	22	20	20	24	22	0	0	
-1	10	12	8	8	7	7	7	7	7	7	9	8	10	7	5	11	14	9	26	47	2	1	
E	1	7	11	5	7	6	7	8	6	7	11	10	5	10	8	3	4	50	19	8	1	4	
-3	7	11	9	9	6	5	8	4	4	9	7	11	11	8	9	6	37	39	19	10	-1	1	
-6	6	9	10	5	9	7	4	6	8	7	10	12	12	9	7	13	30	25	8	2	0	0	
-7	3	13	15	9	8	7	8	6	6	8	7	6	8	11	6	20	24	12	-1	0	0	0	
-1	-3	10	10	7	6	7	7	7	7	6	7	7	6	7	6	6	6	5	11	11	2	-1	
0	-2	5	11	2	8	6	5	4	5	7	7	7	6	5	7	8	7	11	8	6	4	0	
0	0	3	4	7	9	7	6	5	6	7	6	7	7	7	8	9	6	6	1	1	5	3	
0	0	2	1	5	3	6	6	5	6	7	7	7	7	7	8	7	7	5	1	0	1	3	
0	0	1	1	4	5	6	6	6	7	6	6	6	5	6	5	6	5	6	5	3	2	0	-1
0	0	0	1	2	3	3	4	5	5	5	5	5	4	3	2	1	0	0	0	0	0	0	
0	0	0	1	0	0	3	3	3	4	2	2	3	2	1	0	0	0	0	0	0	0	0	

Brightness Unit 5000° K

Sp 20-21 UT

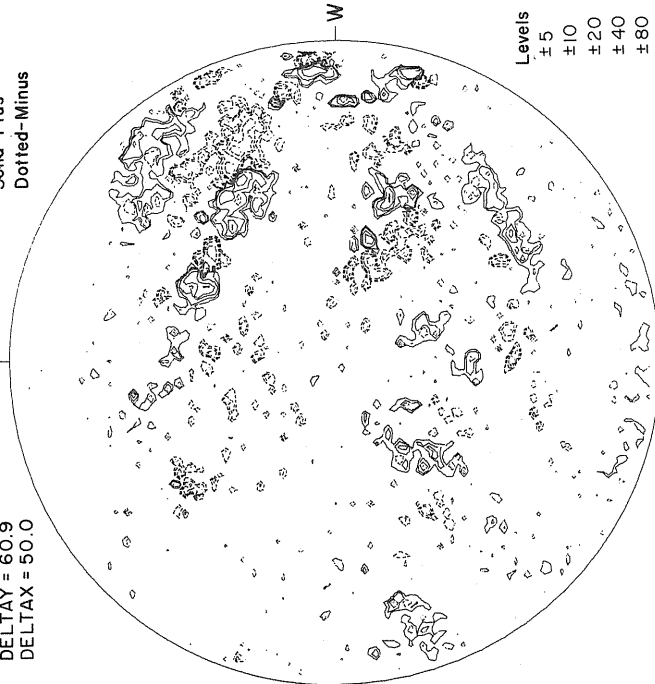
S Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

MAGNETOGRAM

Solid-Plus
Dotted-Minus

Np

MT. WILSON
DELTA_T = 60.9
DELTA_X = 50.0



Levels
± 5
± 10
± 20
± 40
± 80

18.89-20.38 UT

DATA INCOMPLETE

McMATH-HULBERT

DATA INCOMPLETE

18.89-20.38 UT

21 cm.

McMATH-HULBERT

DATA INCOMPLETE

0	0	0	0	0	0	0	1	0	1	2	2	0	-1	1	3	2	-1	0	0	0	0		
0	0	0	1	1	3	3	3	4	4	3	2	2	-1	-5	-4	0	1	0	0	0	0		
0	-1	0	0	2	3	5	5	4	4	4	4	4	5	4	3	-6	-7	-1	2	0	0		
-1	-1	-1	1	3	6	6	5	6	7	6	5	3	2	3	6	6	-2	1	0	0	0		
-1	-1	0	1	4	6	8	7	8	7	5	3	3	4	4	5	10	3	-2	-2	0	0		
-2	0	3	4	5	7	7	8	8	7	6	7	10	8	7	10	8	11	19	11	8	3	-3	
0	3	5	6	7	9	8	7	6	7	7	12	17	16	14	18	16	11	6	1	0	0	0	
0	7	13	12	8	7	7	7	7	9	8	7	10	14	17	20	23	19	15	15	2	-1	0	
0	10	15	11	6	7	8	9	8	6	8	6	10	12	15	19	22	20	20	24	22	0	0	
-1	10	12	8	8	7	7	7	7	7	7	9	8	10	7	5	11	14	9	26	47	2	1	
E	1	7	11	5	7	6	7	8	6	7	11	10	5	10	8	3	4	50	19	8	1	4	
-3	7	11	9	9	6	5	8	4	4	9	7	11	11	8	9	6	37	39	19	10	-1	1	
-6	6	9	10	5	9	7	4	6	8	7	10	12	12	9	7	13	30	25	8	2	0	0	
-7	3	13	15	9	8	7	8	6	6	8	7	6	8	11	6	20	24	12	-1	0	0	0	
-1	-3	10	10	7	6	7	7	7	7	6	7	7	6	7	6	6	6	5	11	11	2	-1	
0	-2	5	11	2	8	6	5	4	5	7	7	7	6	5	7	8	7	11	8	6	4	0	
0	0	3	4	7	9	7	6	5	6	7	6	7	6	7	7	8	9	6	6	1	1	5	3
0	0	2	1	5	3	6	6	5	6	7	7	7	7	7	8	7	7	5	1	0	1	3	
0	0	1	1	4	5	6	6	6	7	6	6	6	5	6	5	6	5	6	5	3	2	0	-1
0	0	0	1	2	3	3	4	5	5	5	5	4	3	2	1	0	0	0	0	0	0	0	
0	0	0	1	0	0	3	3	3	4	2	2	3	2	1	0	0	0	0	0	0	0	0	

Brightness Unit 5000° K

Sp 20-21 UT

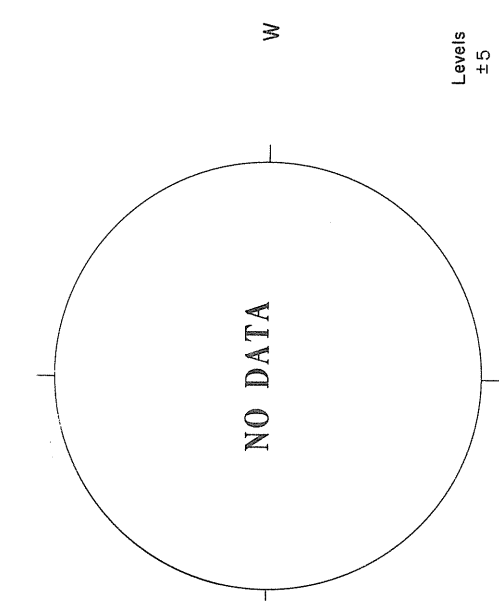
FAIR M
08-17-25
09-30-30
11-40-30
15-15-25
18-18-30
25-6-30
26-12-30

F 69
E 69

Sp 1420 UT

MT. WILSON

Np



Levels
 ±5
 ±10
 ±20
 ±40
 ±80

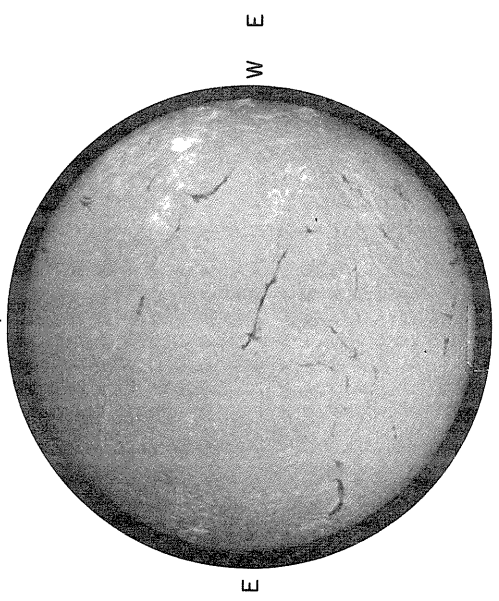
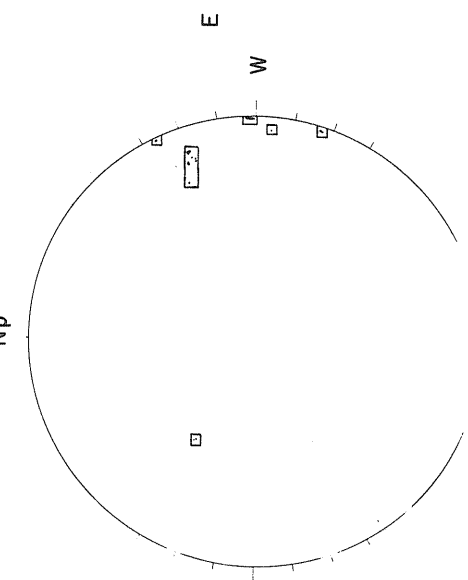
FEBRUARY 11, 1969 (P = -16.02, B₀ = -6.66, L₀ = 224.88)

SUNSPOTS

ESSA-BOULDER

Hα

BOULDER



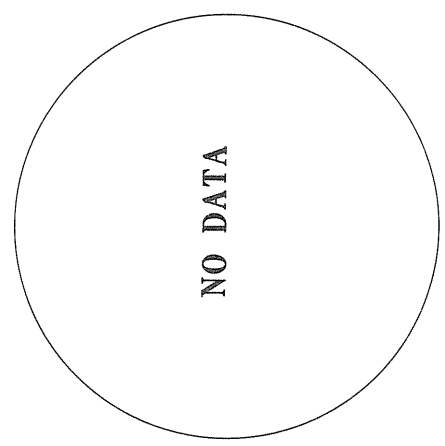
CORONA
 NO DATA

Sp

2135 UT

FLEURS, AUSTRALIA

21 cm.

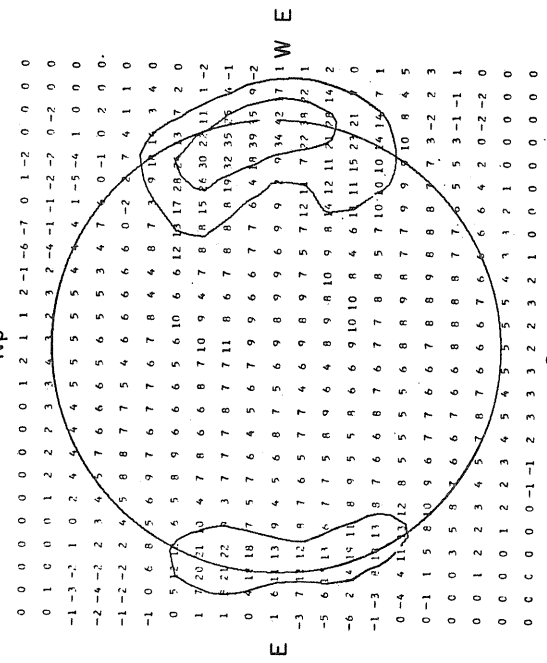


S Resolution 3 Minutes of Arc
 02-03 UT Brightness Unit 1,700° K

9.1 cm.

2056 UT

STANFORD

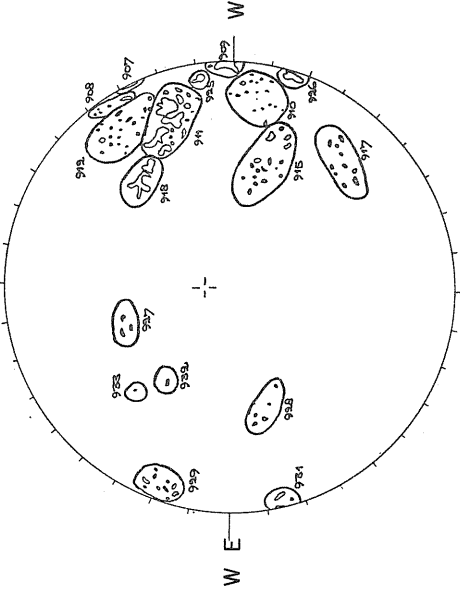


Sp Brightness Unit 5000° K

McMATH-HULBERT
 Sp

21 cm.

CALCIUM REPORT



POOR M
 09-25-30
 11-38-35
 15-14-25
 18-17-30
 25-6-25
 26-12-30

Sp
 1820 UT

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

MT. WILSON

FEBRUARY 13, 1969 (P = -16.72, B₀ = -6.76, L₀ = 198.55)

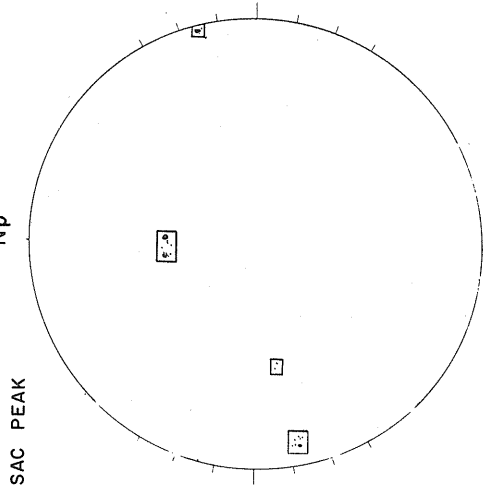
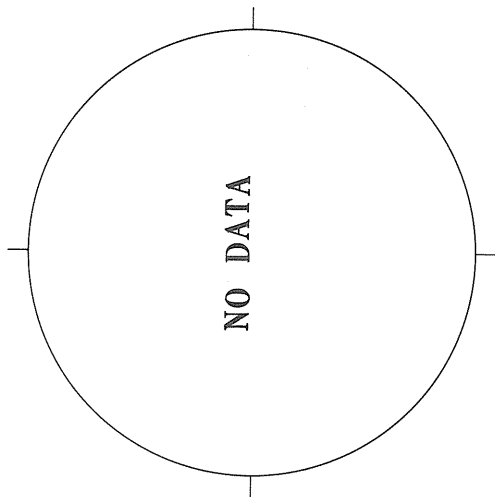
BOULDER

H α

ESSA-BOULDER

SUNSPOTS

Np



CORONA
NO DATA

Levels
±5
±10
±20
±40
±80

Sp
1524 UT

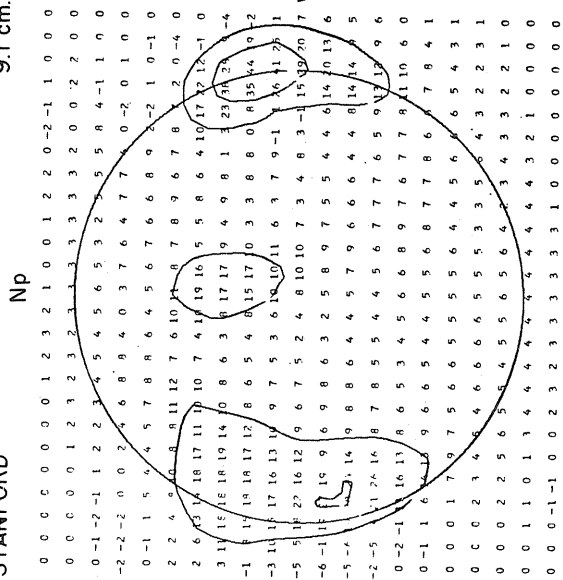
STANFORD

9.1 cm.

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT
CALCIUM REPORT

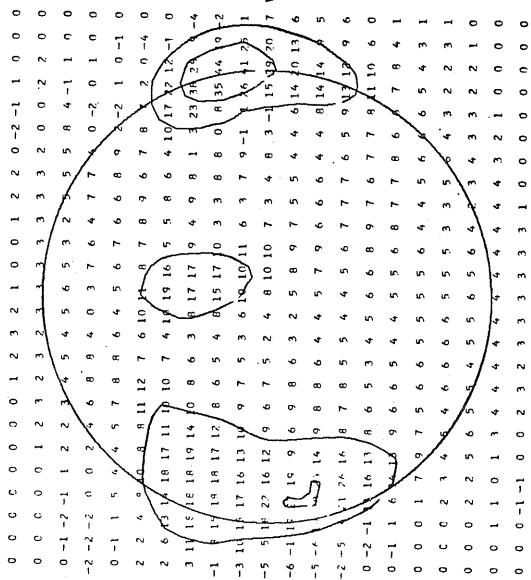


Sp
1506 UT

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT
CALCIUM REPORT



Sp
1400 UT

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT
CALCIUM REPORT

POOR IM
11-33-3.5
15-14-2.5
18-16-3.0
33-7-3.5
36-14-3.5

Sp
20-21 UT

Sp
1400 UT

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

Sp
Brightness Unit 5000° K

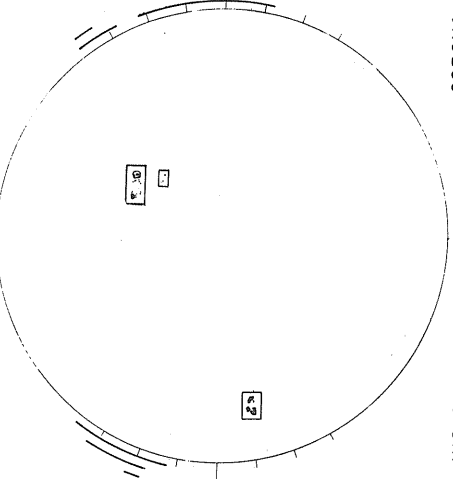
FEBRUARY 14, 1969 (P = -17.07, B₀ = -6.80, L₀ = 185.38)

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

BOULDER
H α

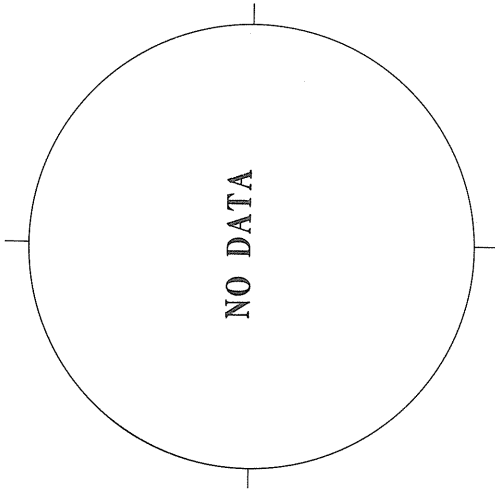


ESSA-BOULDER
SAC PEAK
Np



SUNSPOTS

NO DATA



Levels
±5
±10
±20
±40
±80

KISLOVODSK
CORONA

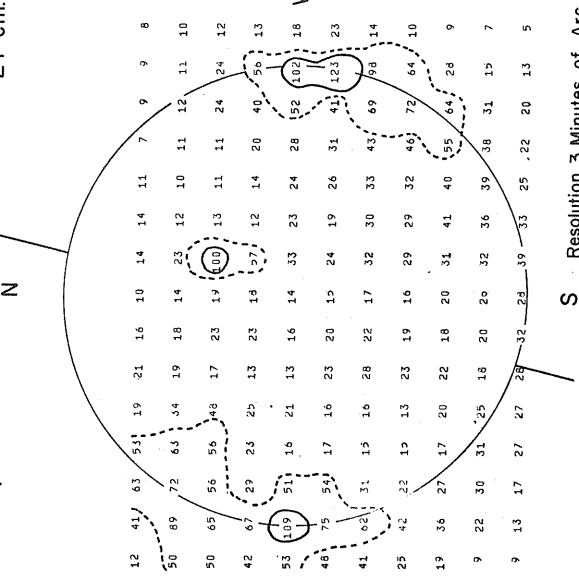
Sp

1808 UT

FLEURS, AUSTRALIA

21 cm.

N



McMATH-HULBERT
Np

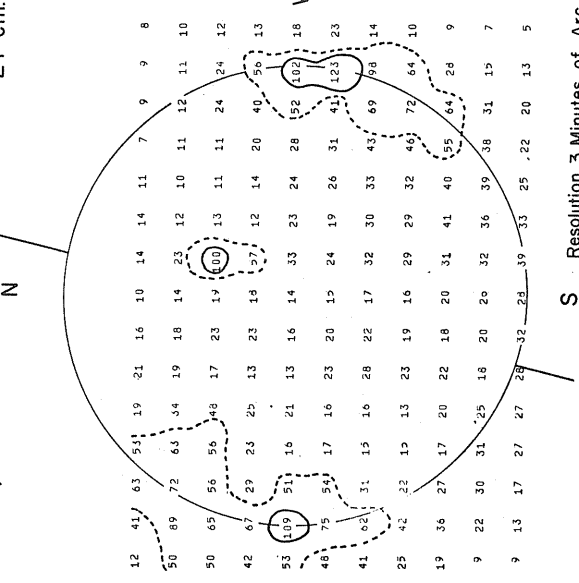
Sp

CALCIUM REPORT

Sp

21 cm.

N

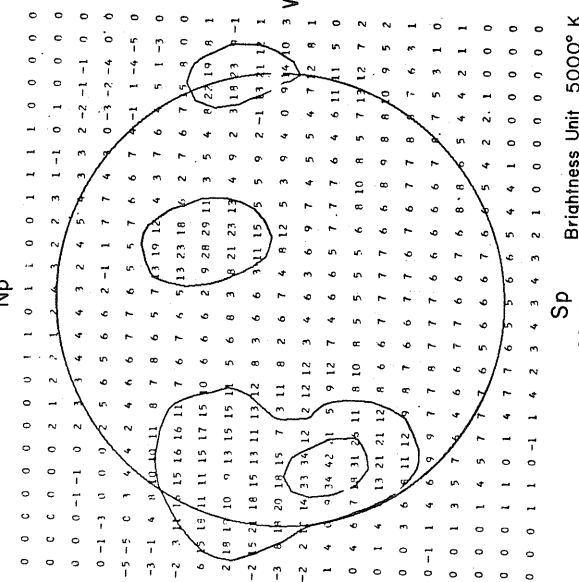


STANFORD
Np

1500 UT

9.1 cm.

Np



Brightness Unit 5000° K

20-21 UT

Resolution 3 Minutes of Arc

02-03 UT Brightness Unit 1,700° K

FAIR M
11-6-25
18-18-25
32-3-30
33-10-35
36-17-35

Np

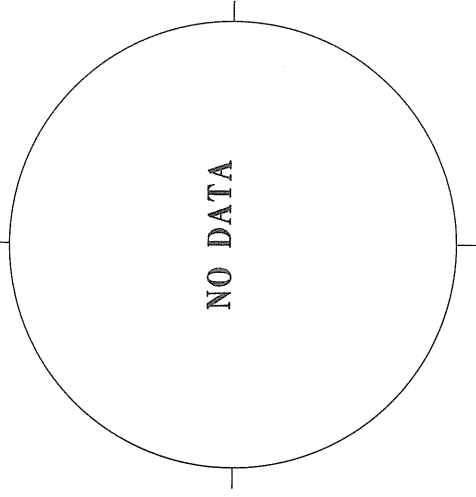
MT. WILSON

BOULDER

H α

ESSA-BOULDER

SUNSPOTS

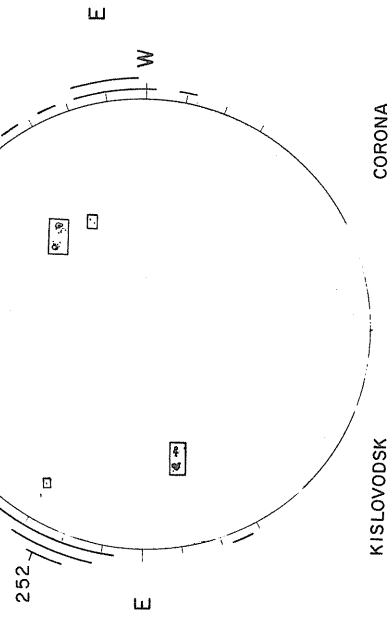


Levels
±5
±10
±20
±40
±80



Np

SAC PEAK



CORONA

KISLOVODSK

Sp

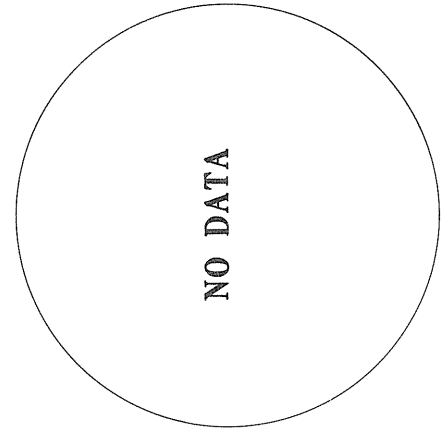
1519 UT

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT

CALCIUM REPORT



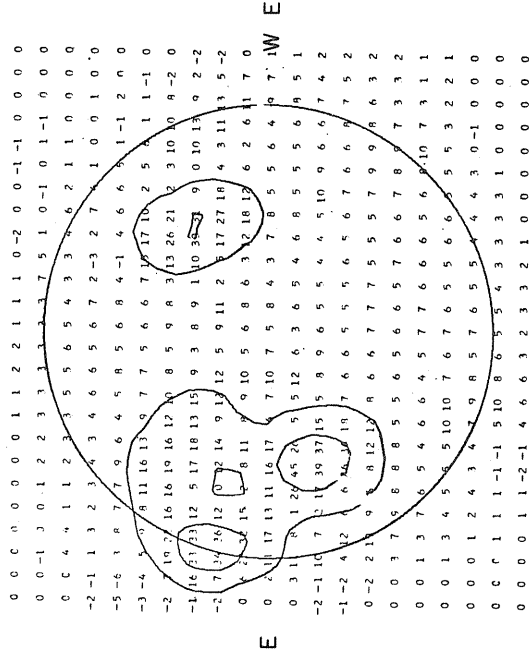
S Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

9.1 cm.

STANFORD

Np

1955 UT



Brightness Unit 5000° K

Sp

20-21 UT

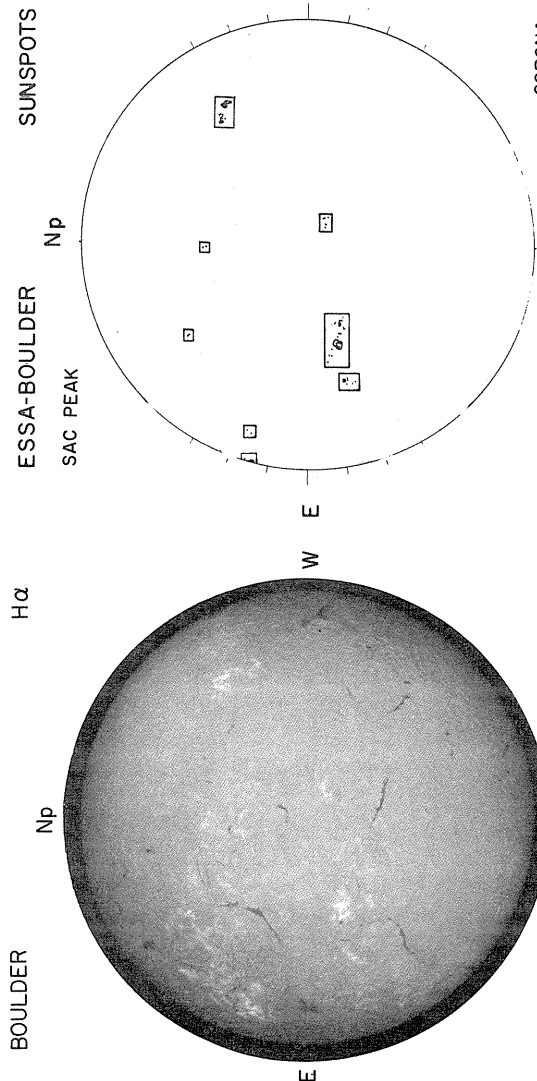
1740 UT

FEBRUARY 16, 1969 (P = -17.74, B₀ = -6.89, L₀ = 159.05)

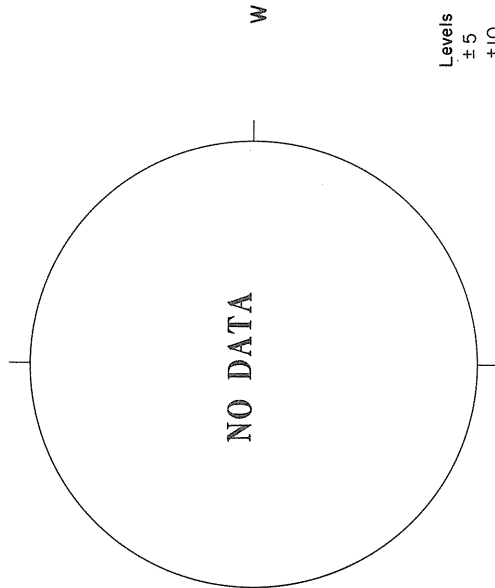
MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80



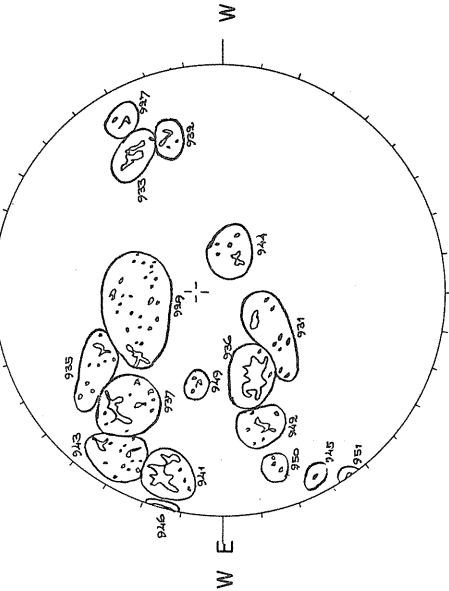
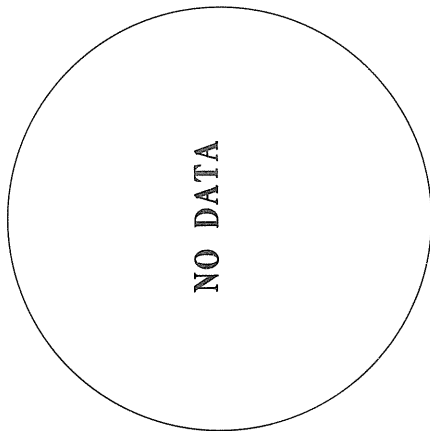
CORONA
NO DATA

STANFORD 1615 UT

FLEURS, AUSTRALIA 1545 UT

21 cm.

McMATH-HULBERT CALCIUM REPORT

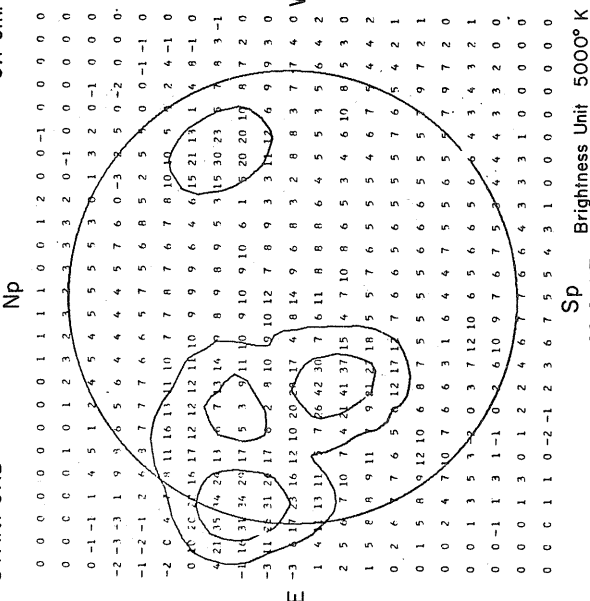


FAIR O
32 - 4-2.5
33 - 14-3.5
36 - 22-3.0
37 - 15-2.5
41 - 26-2.5
44 - 5-2.5
46 - 12-3.0

75
Feb 69

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

STANFORD 1615 UT

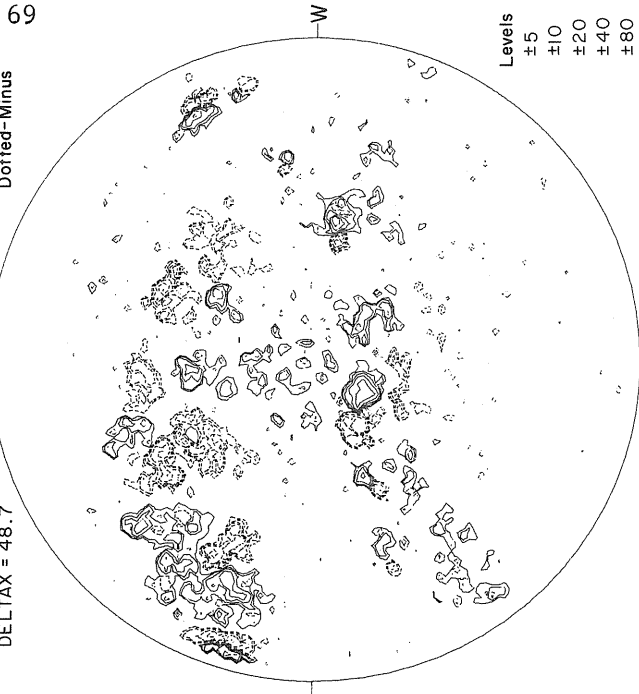


SP 20-21 UT
Brightness Unit 5000° K

Sp 1825 UT

MAGNETOGRAM
Solid-Plus
Dotted-Minus

MT. WILSON
DELTA_T = 62.0
DELTA_X = 48.7



Levels
±5
±10
±20
±40
±80

FAIR M
33-14-3.5
36-22-3.5
37-15-2.5
41-25-2.5
44-7-3.0
46-40-3.0

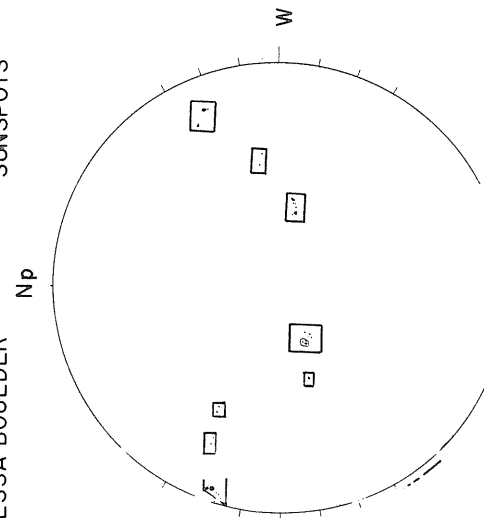
FEBRUARY 17, 1969 ($P = -18.07$, $B_0 = -6.93$, $L_0 = 145.88$)

SUNSPOTS

ESSA-BOULDER

H α

BOULDER

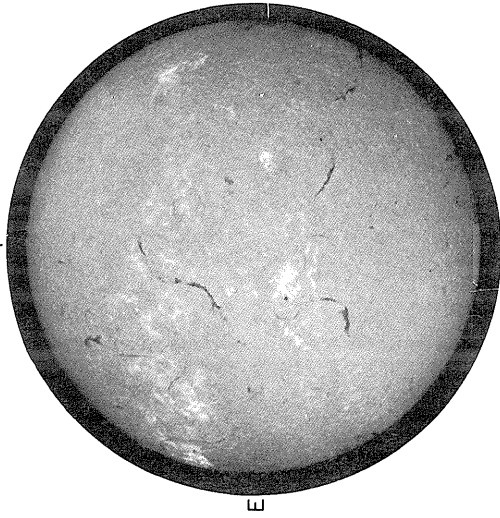


CORONA

KISLOVODSK

Sp

Sp



McMATH-HULBERT CALCIUM REPORT

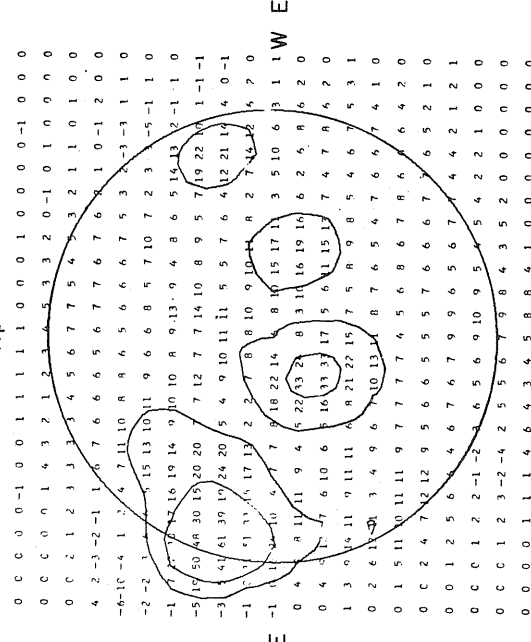
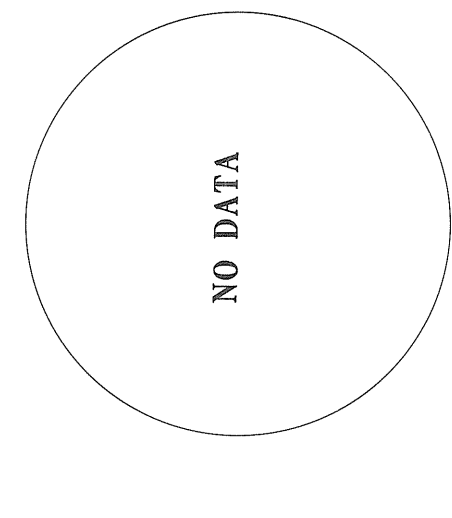
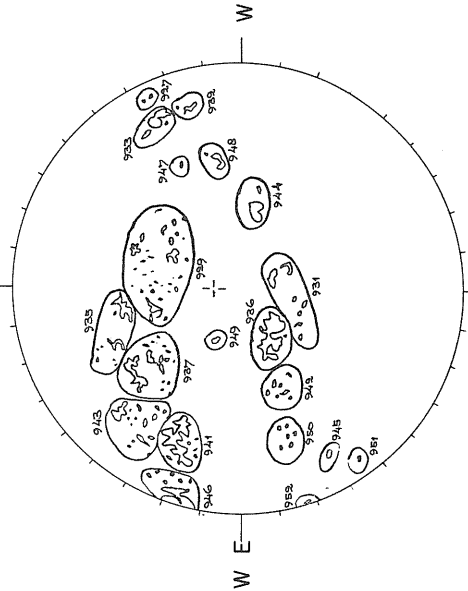
17.74-19.25 UT
21 cm.

1740 UT
FLEURS, AUSTRALIA
N

1810 UT
STANFORD
Np

9.1 cm.

5000° K
Sp
20-21 UT



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

Brightness Unit 5000° K
Sp
20-21 UT

1400 UT
Sp

FEBRUARY 18, 1969 (P = -18.40, B₀ = -6.96, L₀ = 132.71)

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

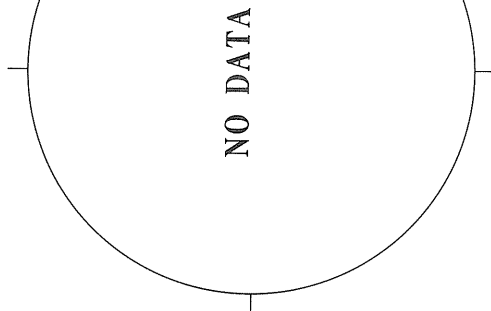
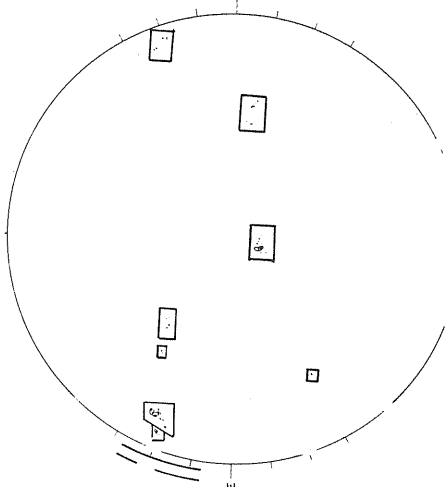
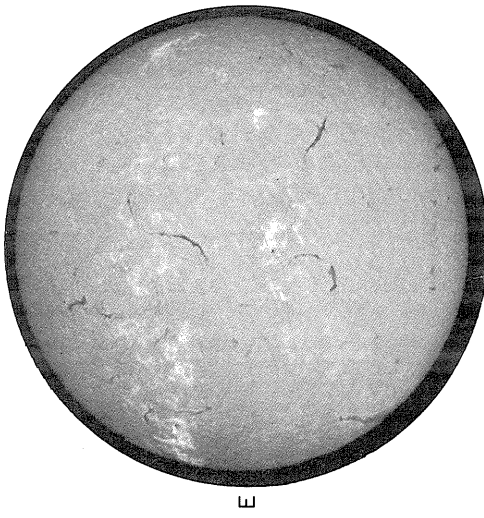
BOULDER

H α

ESSA-BOULDER

SUNSPOTS

Np



Levels
±5
±10
±20
±40
±80

WENDELSTEIN

CORONA

Sp

Sp

1511 UT

1540 UT

STANFORD

9.1 cm.

FLEURS, AUSTRALIA

21 cm.

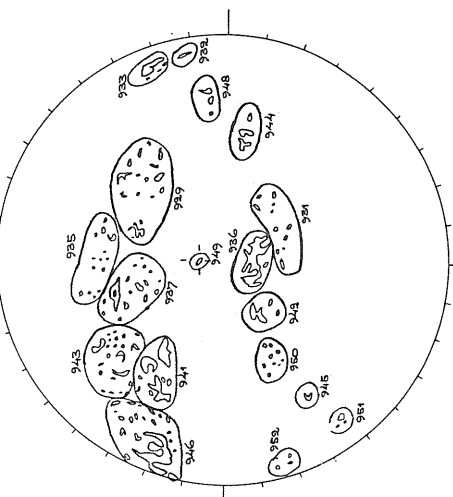
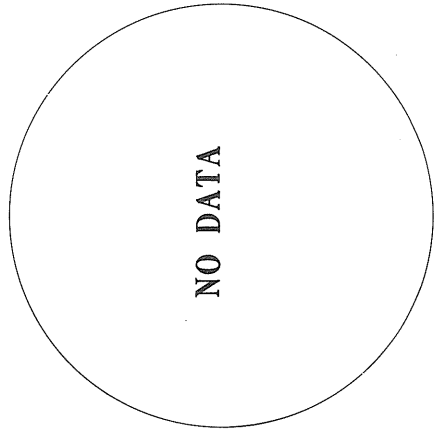
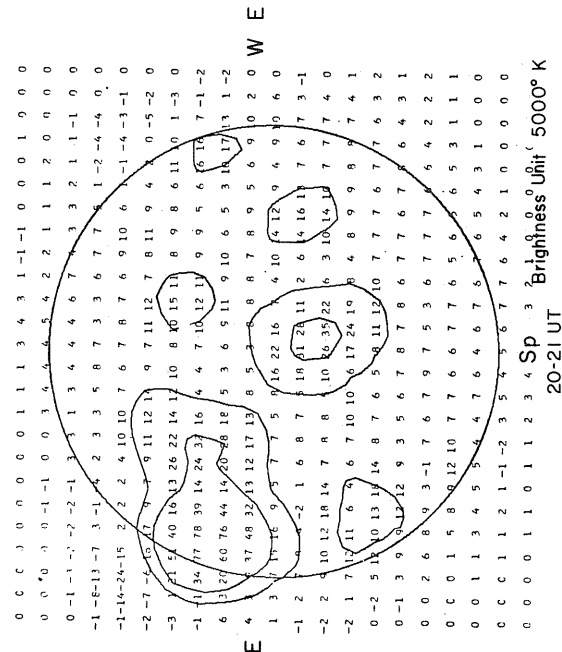
McMATH-HULBERT
CALCIUM REPORT

Np

N

Np

Sp



FAIR M
33-16-3.5
36-22-3.5
41-25-2.5
44-7-3.0
46-50-4.0

77
Feb 69

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

Sp 3 Brightness Unit 5000° K
20-21 UT

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

MT. WILSON

FEBRUARY 19, 1969 (P = -18.7l, B₀ = -7.00, L₀ = 119.54)

BOULDER

H α

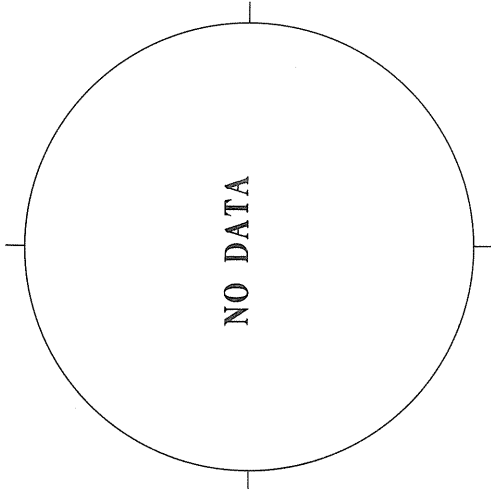
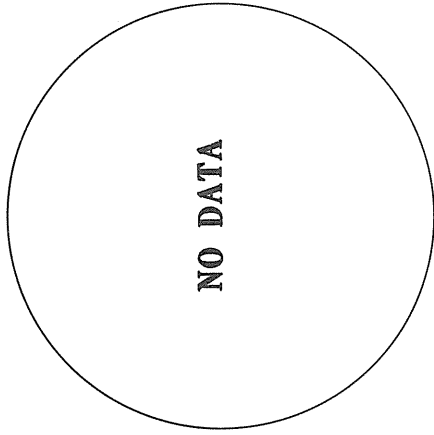
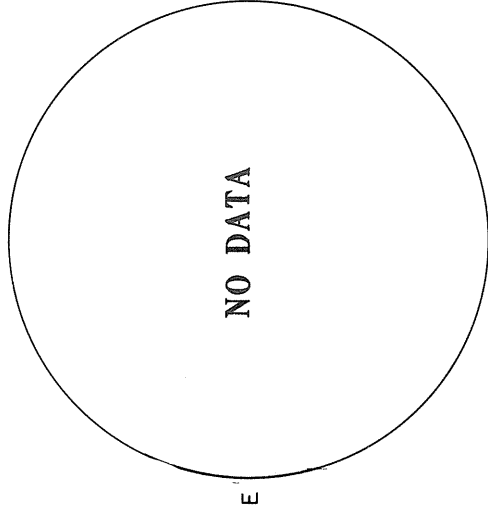
ESSA-BOULDER

Np

SUNSPOTS

Np

W



Levels
±5
±10
±20
±40
±80

STANFORD

FLEURS, AUSTRALIA

21 cm.

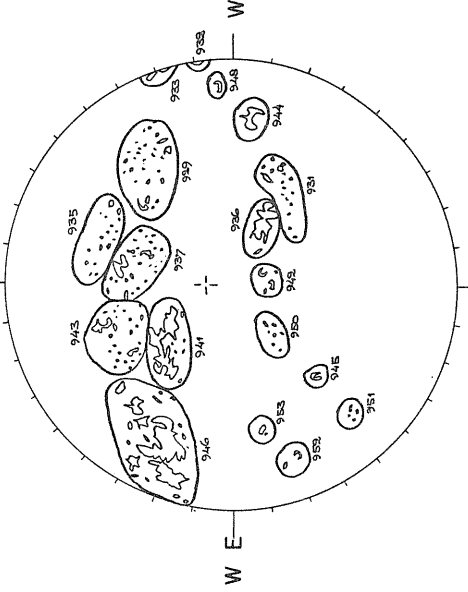
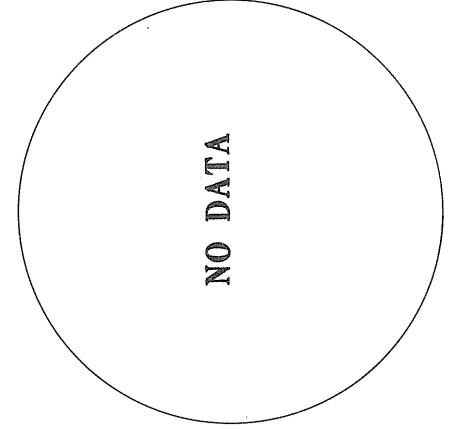
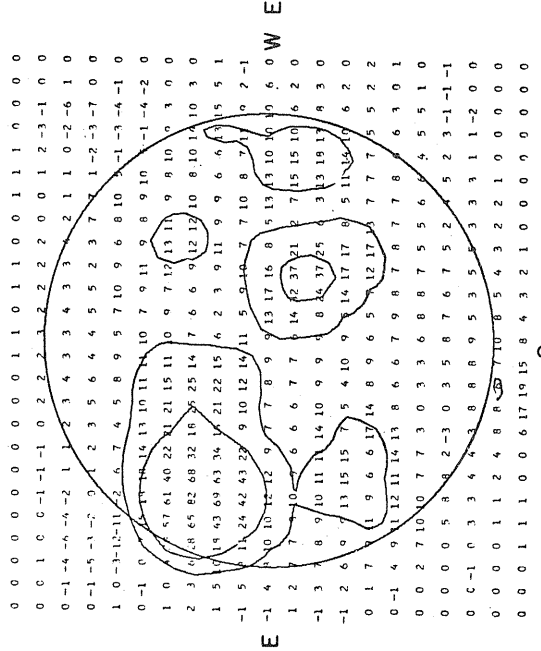
McMATH-HULBERT

N

Np

CALCIUM REPORT

FAIR | M |
36-20-35
41-26-30
44-10-35
46-68-40



Sp
20-21 UT
Brightness Unit 5000° K

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

Sp
1715 UT

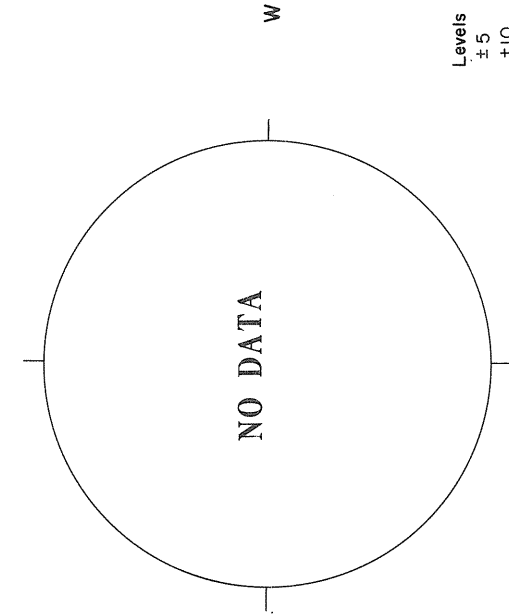
FEBRUARY 20, 1969 (P = -19.02, B₀ = -7.03, L₀ = 106.37)

MT. WILSON

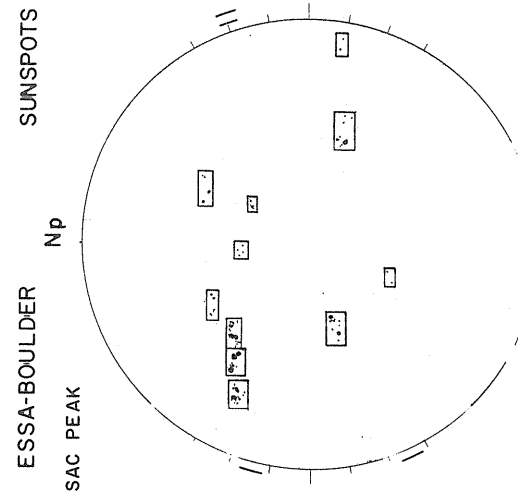
Np

MAGNETOGRAM

Solid - Plus
Dotted - Minus



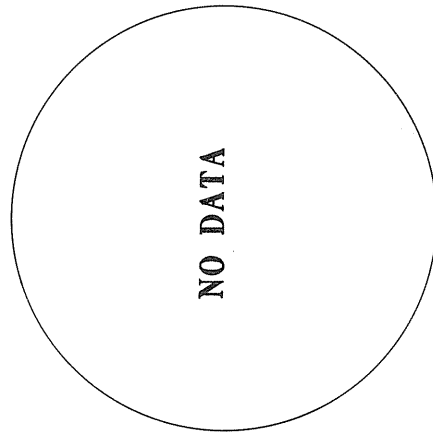
Levels
±5
±10
±20
±40
±80



2344 UT

FLEURS, AUSTRALIA

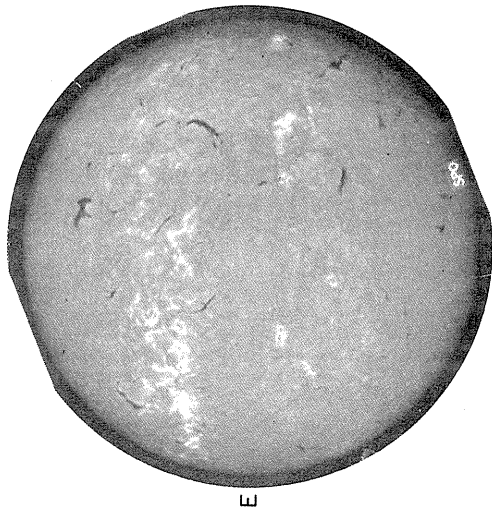
21 cm.



H α

Np

SAC PEAK



Sp

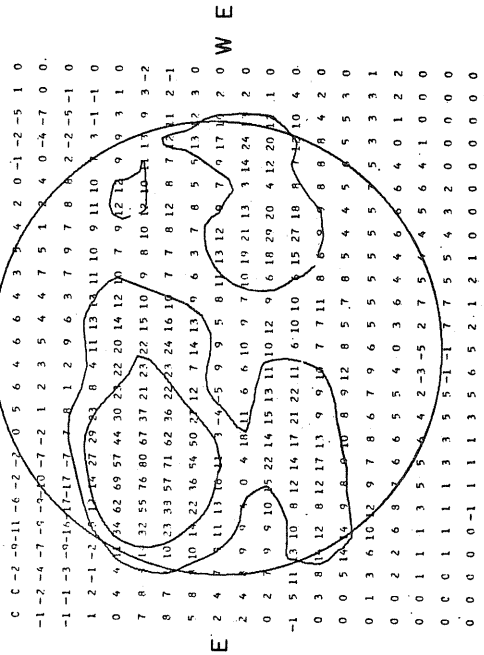
1600 UT

STANFORD

9.1 cm.

FLEURS, AUSTRALIA

21 cm.



Brightness Unit 5000° K

Sp

20-21 UT

S Resolution 3 Minutes of Arc

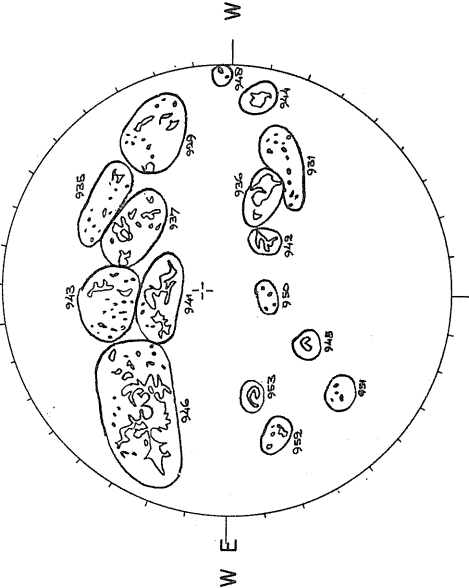
02-03 UT Brightness Unit 1,700° K

McMATH-HULBERT

Sp

1400 UT

CALCIUM REPORT



FAIR M

36-19-3.5
37-18-2.5
41-23-3.0
42-5-2.5
43-17-2.5
44-12-3.5
46-70-3.5
53-5-3.0

79
Feb 69

FEBRUARY 21, 1969 (P = -19.33, B₀ = -7.06, L₀ = 93.20)

MT. WILSON

Np

MAGNETOGRAM
 Fe b 80
 Solid-Plus 69
 Dotted-Minus

BOULDER

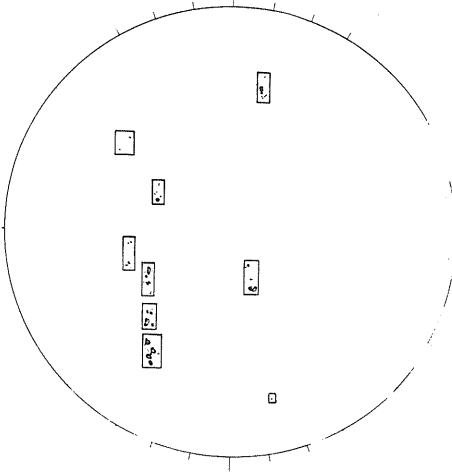
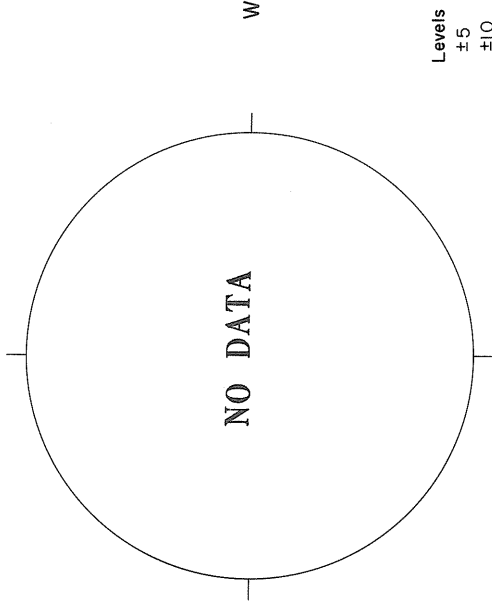
Np

H α

ESSA-BOULDER

Np

SUNSPOTS



Levels
 ±5
 ±10
 ±20
 ±40
 ±80

CORONA
 NO DATA

2030 UT

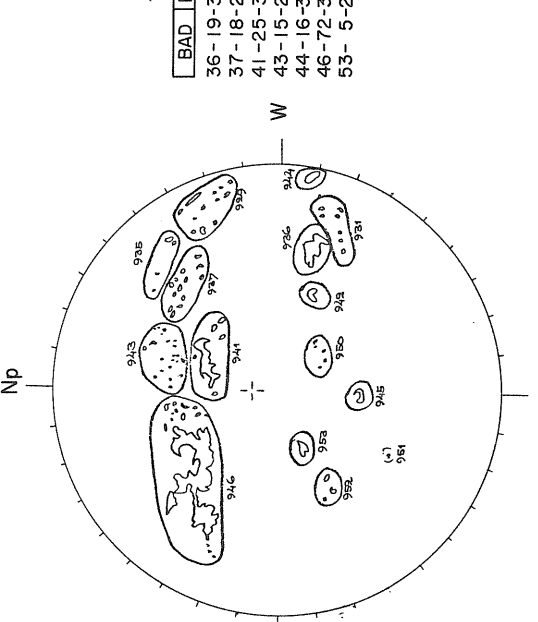
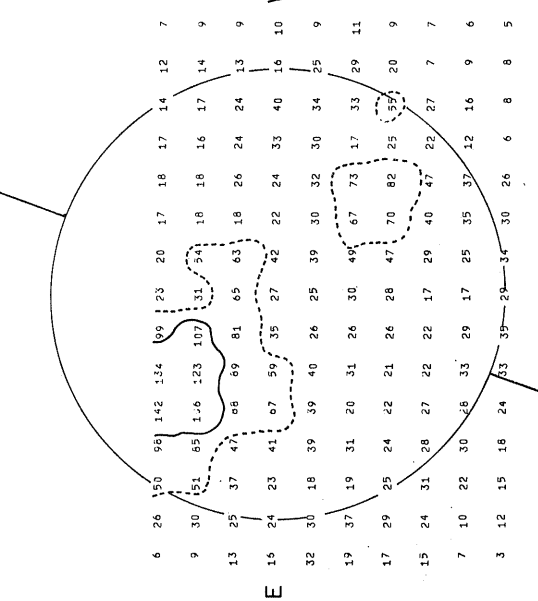
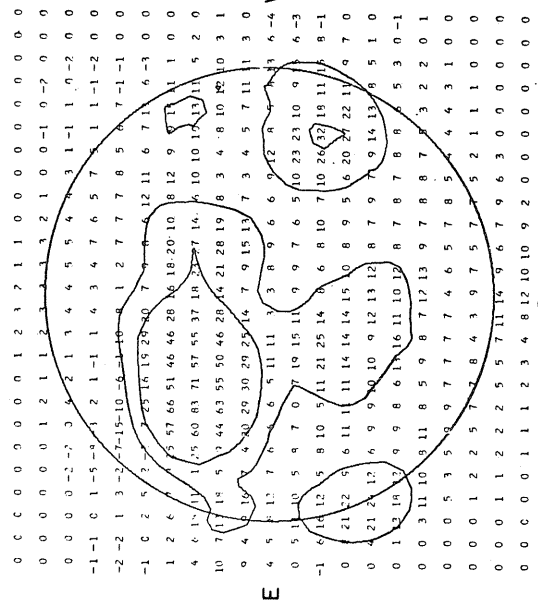
2020 UT

STANFORD
 Np

FLEURS, AUSTRALIA

21 cm.

Sp
 McMATH-HULBERT
 Np
 CALCIUM REPORT



BAD M
 36-19-3.5
 37-18-2.5
 41-25-3.0
 43-15-2.5
 44-16-3.5
 46-72-3.0
 53-5-2.5

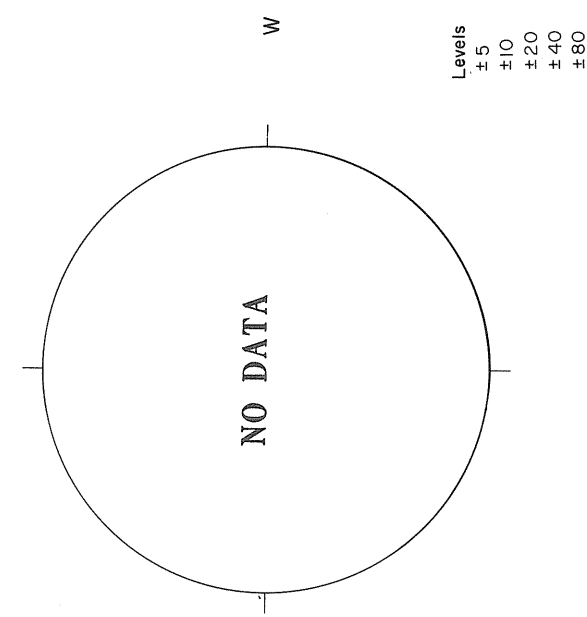
20-21 UT
 Sp
 Brightness Unit 5000° K

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

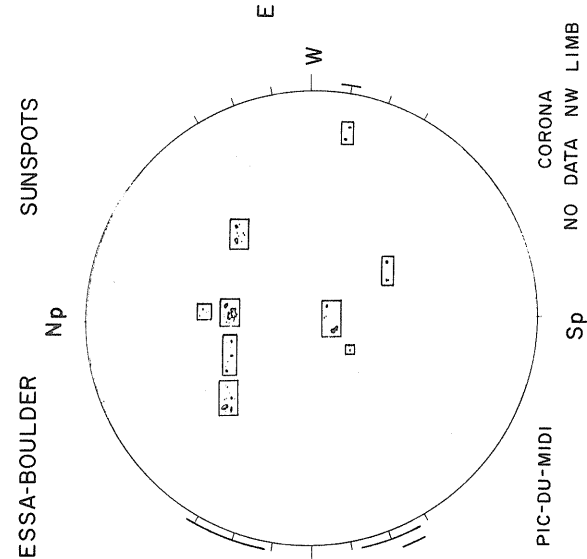
Sp
 1545 UT

FEBRUARY 22, 1969 (P = -19.63, B₀ = -7.09, L₀ = 80.03)

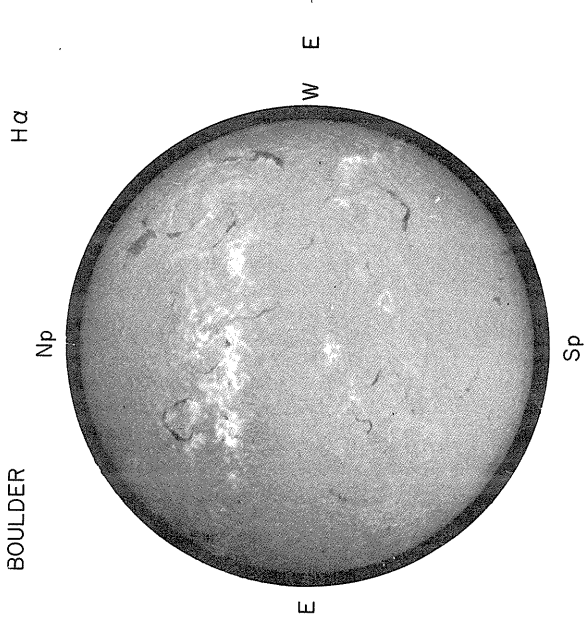
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80



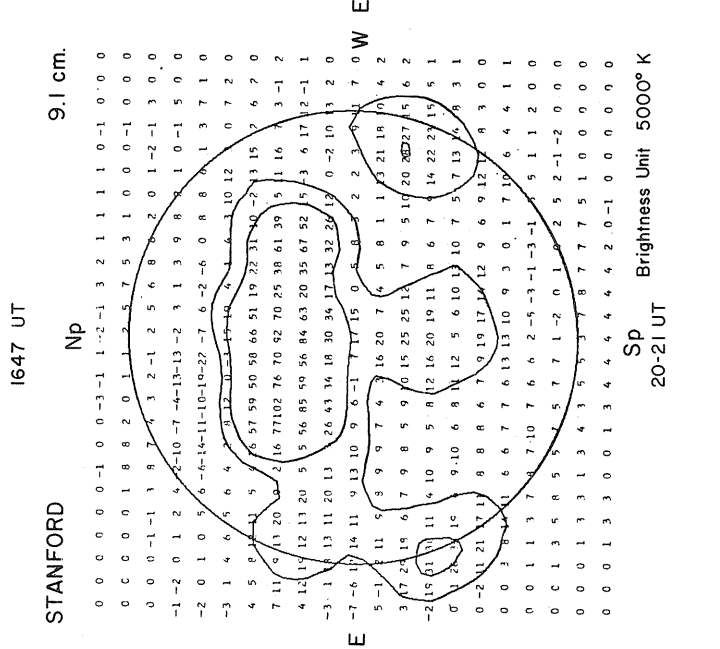
PIC-DU-MIDI
CORONA
NO DATA
NW LIMB



H α

BOULDER
ESSA-BOULDER

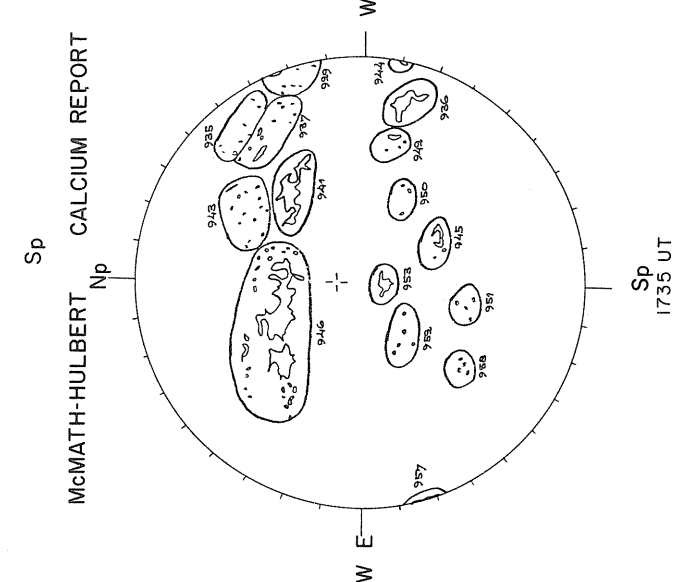
SUNSPOTS



STANFORD
1647 UT
9.1 cm.

FLEURS, AUSTRALIA
1710 UT
21 cm.

NO DATA



McMATH-HULBERT
CALCIUM REPORT

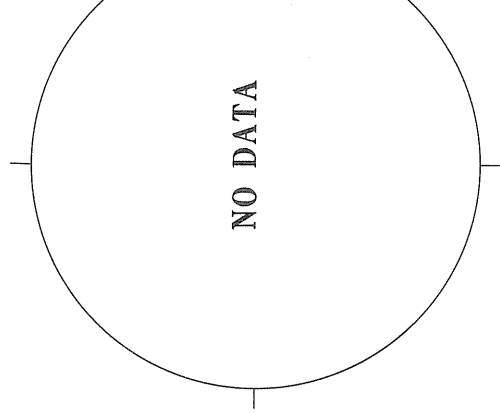
POOR
36-19-35
37-9-25
41-26-30
42-4-25
43-11-25
45-4-25
46-76-30
53-5-25

81
Feb 69

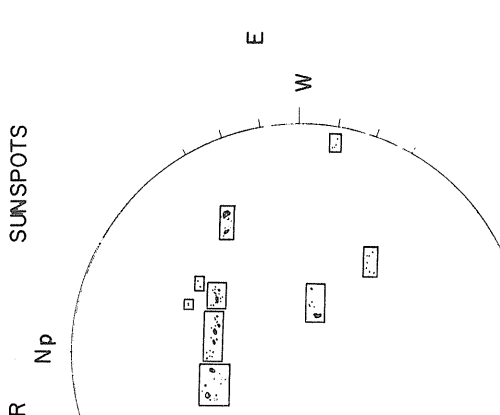
S
02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp
20-21 UT
Brightness Unit 5000° K

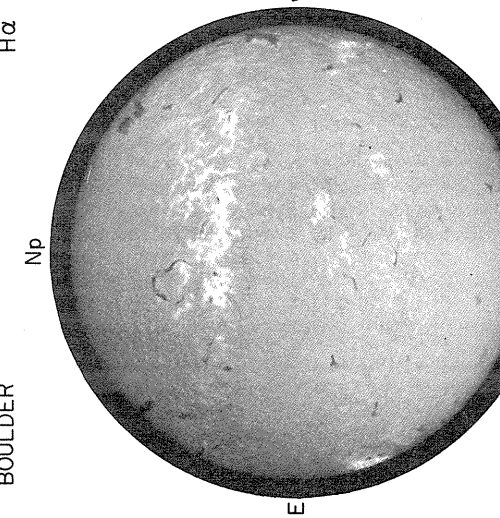
Levels
±5
±10
±20
±40
±80



±5
±10
±20
±40
±80



±5
±10
±20
±40
±80



FEBRUARY 23, 1969 (P = -19.92, B₀ = -7.11, L₀ = 66.86)

BOULDER

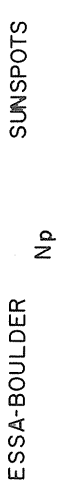
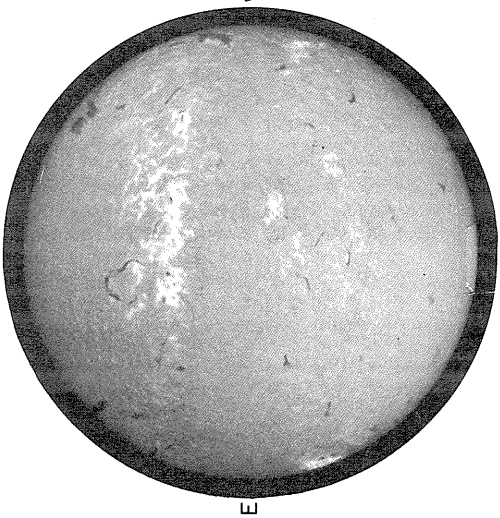
H α

ESSA-BOULDER

SUNSPOTS

Np

W



STANFORD

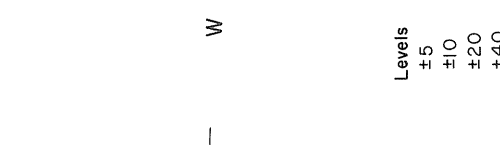
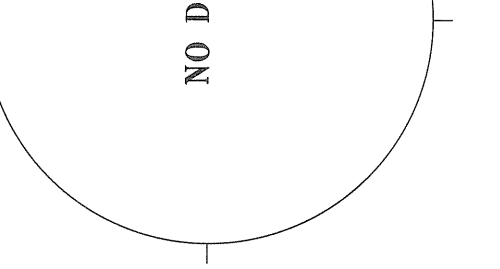
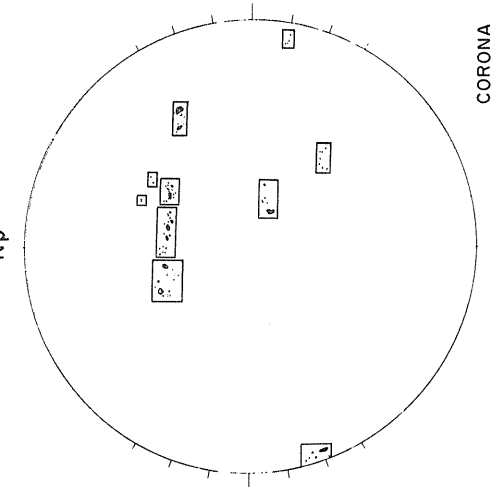
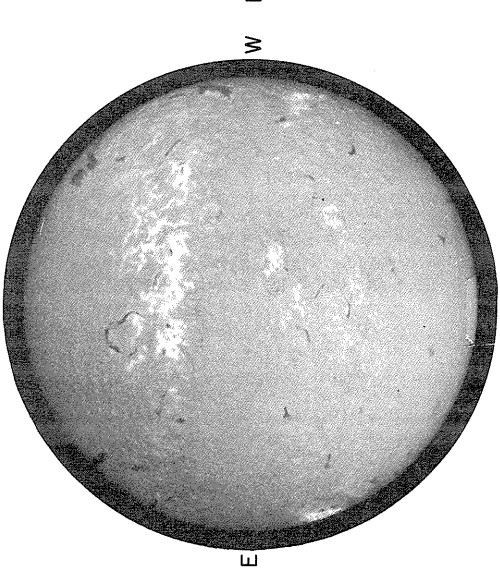
Np

FLEURS, AUSTRALIA

CORONA

McMATH-HULBERT

Sp



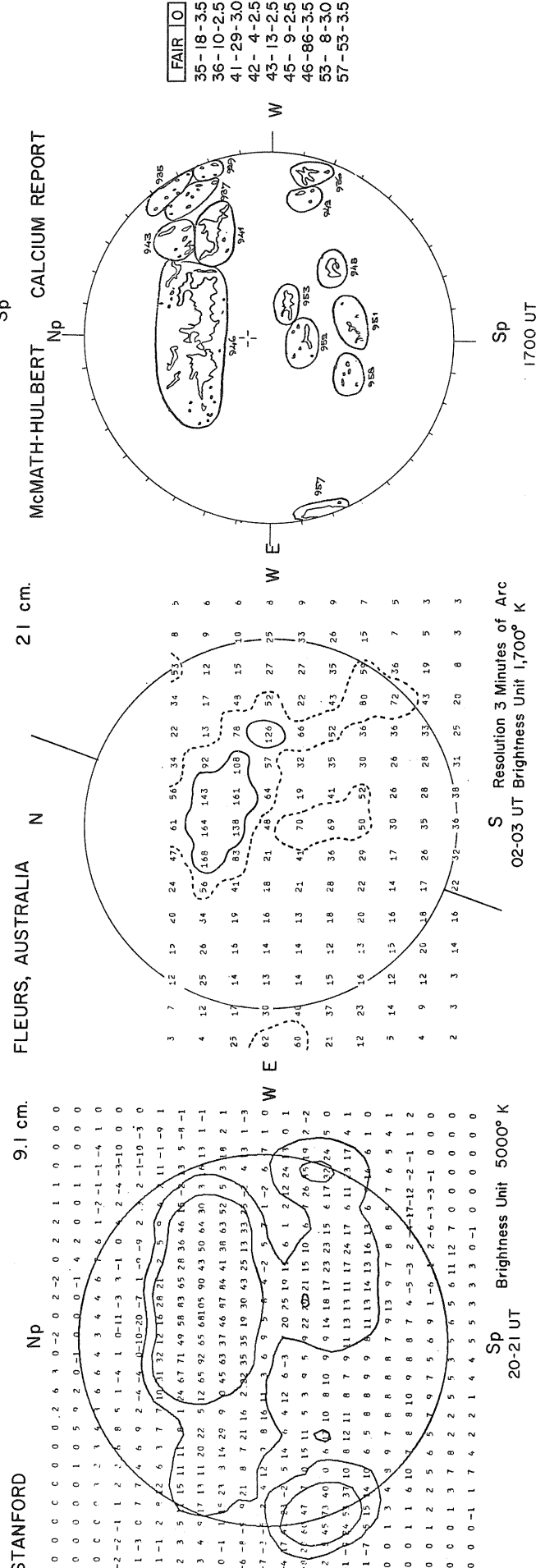
1559 UT

1615 UT

1700 UT

9.1 cm.

21 cm.



Brightness Unit 5000° K

Sp

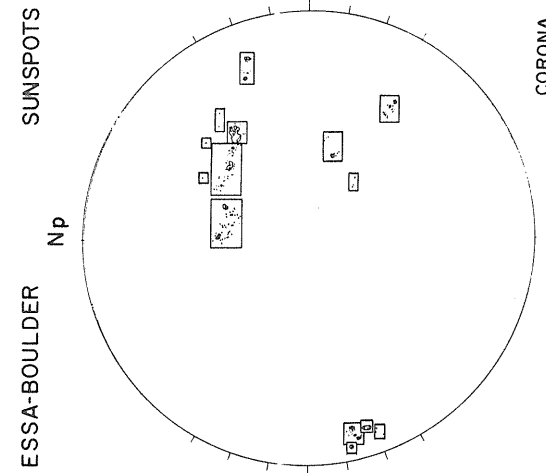
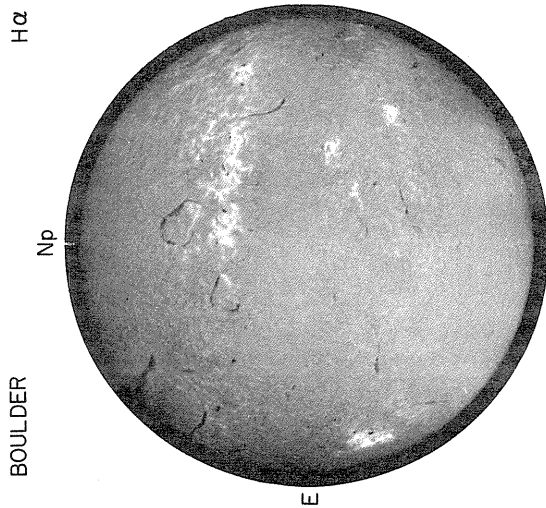
1700 UT

FAIR O

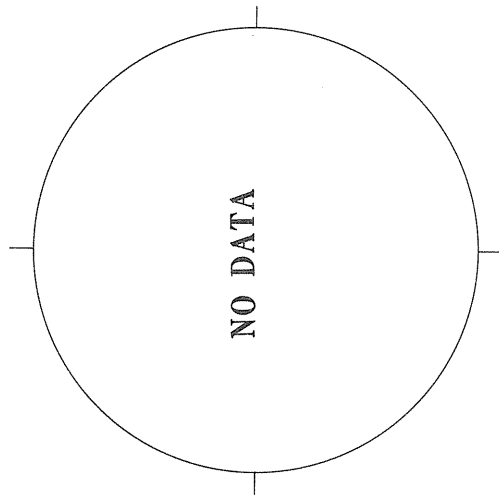
35-18-35
36-10-25
41-29-30
42-4-25
43-13-25
45-9-25
46-86-35
53-8-30
57-53-35

FEBRUARY 24, 1969 (P = -20.21, B₀ = -7.14, L₀ = 53.69)

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus



BOULDER
H α
Np
ESSA-BOULDER
SUNSPOTS
Np

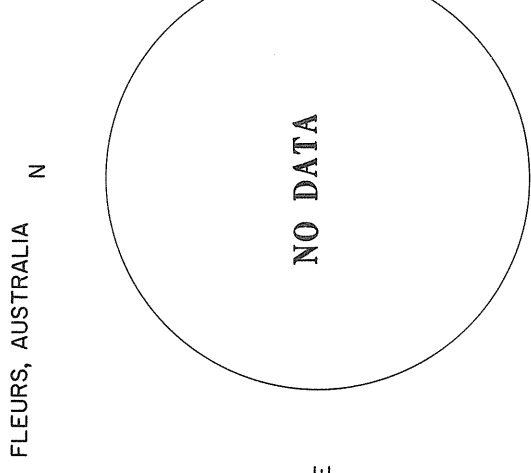


NO DATA
W

Levels
±5
±10
±20
±40
±80

CORONA
NO DATA
Sp

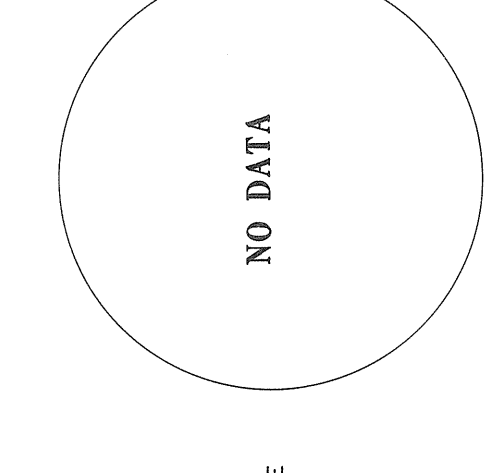
1745 UT



FLEURS, AUSTRALIA
N

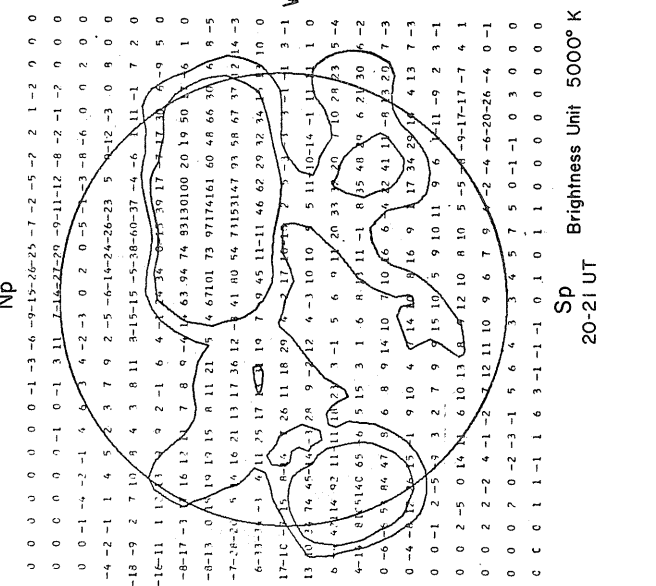
21 cm.

McMATH-HULBERT
Np
CALCIUM REPORT



Sp
Np
1350 UT

STANFORD
Np
9.1 cm.



1730 UT

0 0 0 0 0 0 0 -1 -3 -6 -9 -15 -26 -25 -7 -2 -5 -7 2 1 -2 0 0 0
 0 0 0 0 0 -1 0 -1 3 11 16 22 27 20 -9 -11 -12 -8 -2 -1 -7 0 0 0
 0 0 -1 -4 -2 -1 5 5 3 4 -2 -3 0 2 0 -5 -1 -3 -8 -6 0 2 0 0
 -4 -2 -1 1 4 5 2 3 7 9 2 -5 -6 -14 -24 -26 -23 5 -12 -3 0 9 0 0
 -18 -9 2 7 10 8 4 3 8 11 3 -15 -15 -5 -38 -60 -37 -4 -6 11 -1 7 2 0
 -15 -11 1 17 1 9 2 -1 6 4 7 4 35 -35 39 17 -17 30 6 -9 5 0
 -8 -17 -3 16 17 1 7 8 9 -4 6 63 94 74 93 130 100 20 19 50 1 6 1 0
 -8 -13 0 19 17 15 8 11 21 5 4 67 101 73 97 174 161 60 48 66 30 4 8 -5
 -7 -16 -2 5 4 16 21 13 17 36 12 -41 80 54 71 153 147 93 58 67 37 2 14 -3
 6 -13 -1 9 11 25 17 19 7 9 45 11 -11 46 62 29 32 34 1 10 0
 17 -10 15 8 -16 26 11 18 29 7 17 60 7 5 -1 1 3 -1
 13 10 5 74 65 -23 28 9 -12 4 -3 10 10 5 11 10 -14 -1 11 1 0
 4 -3 14 0 2 11 11 11 7 1 -1 5 6 9 17 20 33 7 20 10 28 23 5 -4
 6 -1 8 14 65 6 5 15 3 1 6 8 11 -1 8 15 48 0 6 2 20 7 -2
 0 -6 -5 84 47 9 6 8 9 14 10 7 10 6 6 42 41 17 -8 3 20 7 -2
 0 -4 -17 -15 1 9 10 4 14 10 16 9 17 34 29 10 4 13 7 -3
 0 0 -1 2 -5 3 2 7 9 7 15 10 5 9 10 11 9 6 11 -9 2 3 -1
 0 0 2 -5 0 14 11 6 10 13 8 12 10 8 10 5 -5 8 -9 -17 -17 4 1
 0 0 2 -2 4 -1 -2 7 12 11 10 9 6 7 9 -2 -4 -6 -20 -26 -4 0 -1
 0 0 0 7 0 -2 -3 -1 5 6 4 3 3 4 5 7 5 0 -1 0 3 0 0 0
 C C C 0 1 -1 1 6 3 -1 -1 0 1 0 1 0 1 0 0 0 0 0 0 0 0 0

Sp
20-21 UT
Brightness Unit 5000° K

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

FEBRUARY 25, 1969 ($P = -20.49$, $B_0 = -7.16$, $L_0 = 40.52$)

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

84
Feb 69

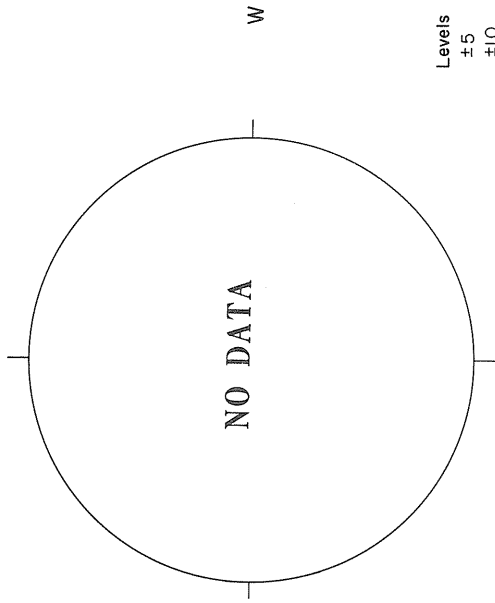
BOULDER

H α

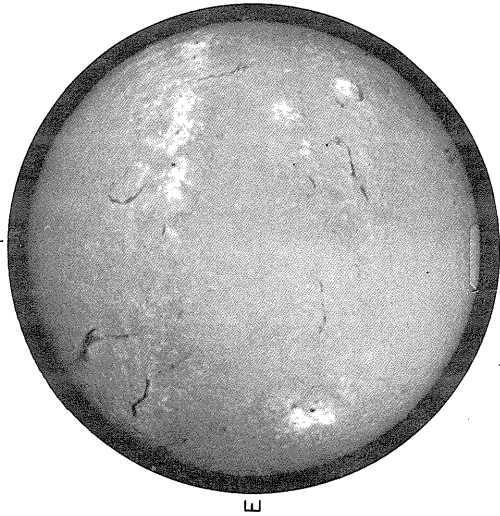
ESSA-BOULDER

SUNSPOTS

Np



Levels
±5
±10
±20
±40
±80

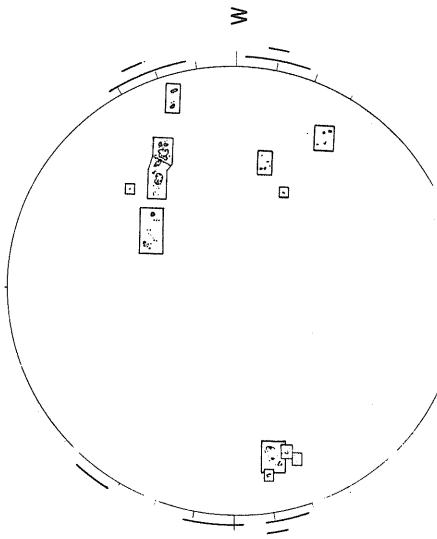


Np

ESSA-BOULDER

Np

SUNSPOTS



KISLOVODSK

CORONA

Sp

1658 UT

1530 UT

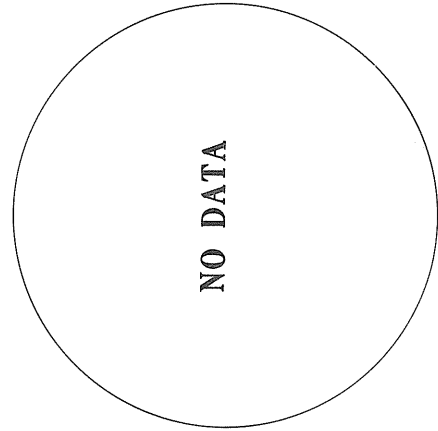
FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT
CALCIUM REPORT

Sp

Np



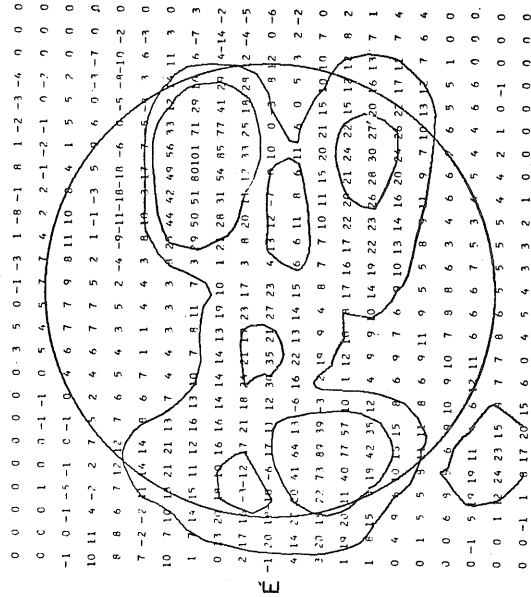
S Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

STANFORD

9.1 cm.

Np

W



FAIR | M
41-29-30
45-11-30
46-92-3.5
52-6-2.5
53-11-30
57-53-3.5

Sp

Brightness Unit 5000° K

20-21 UT

Sp

1600 UT

FEBRUARY 26, 1969 ($P = -20.77$, $B_0 = -7.18$, $L_0 = 27.35$)

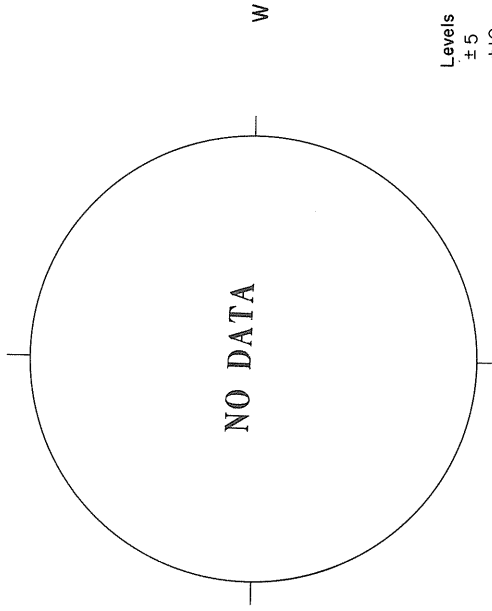
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

BOULDER

H α
Np

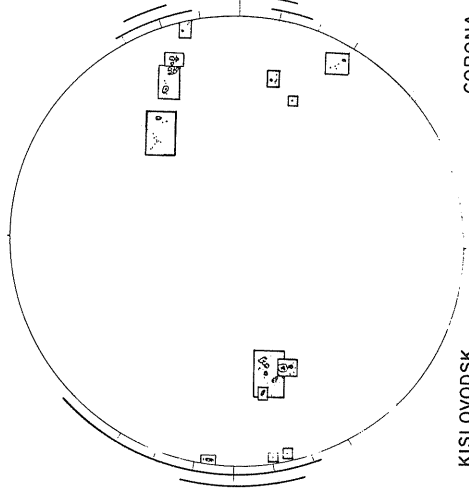
ESSA-BOULDER

SUNSPOTS



Levels
± 5
± 10
± 20
± 40
± 80

KISLOVODSK
Sp



CORONA

Sp

FLEURS, AUSTRALIA

1500 UT

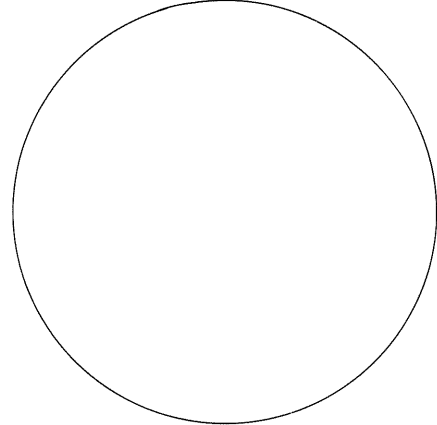
1520 UT

Sp

N

21 cm.

McMATH-HULBERT
Sp
CALCIUM REPORT

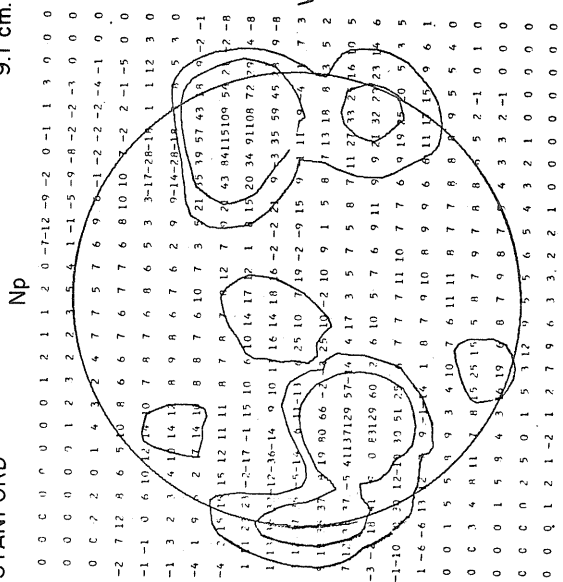


FAIR M
41-30-2.5
45-13-2.5
46-100-3.5
52-6-2.5
53-12-3.0
57-53-3.5

85
Feb 69

STANFORD

9.1 cm.



Brightness Unit 5000° K

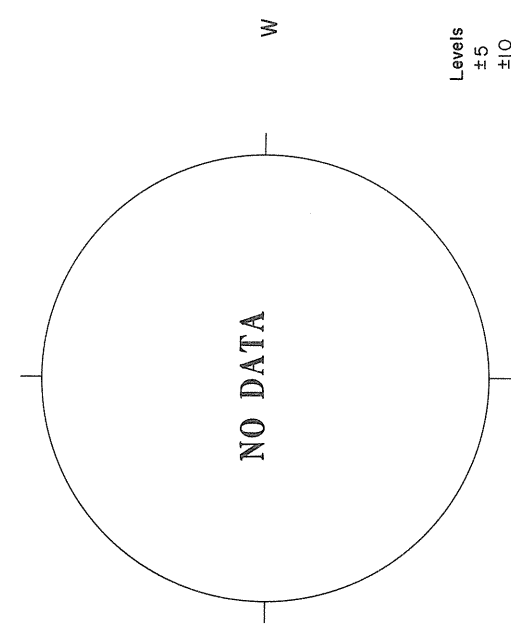
Sp

20-21 UT

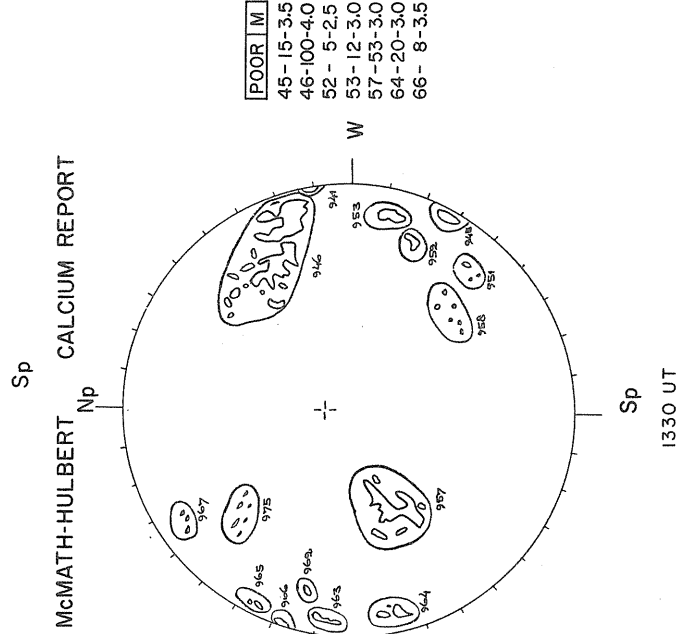
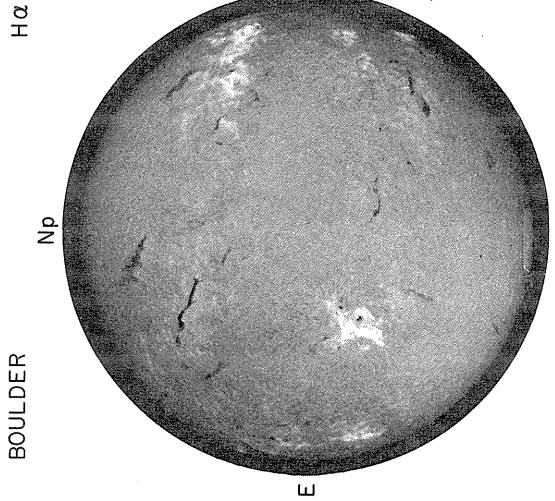
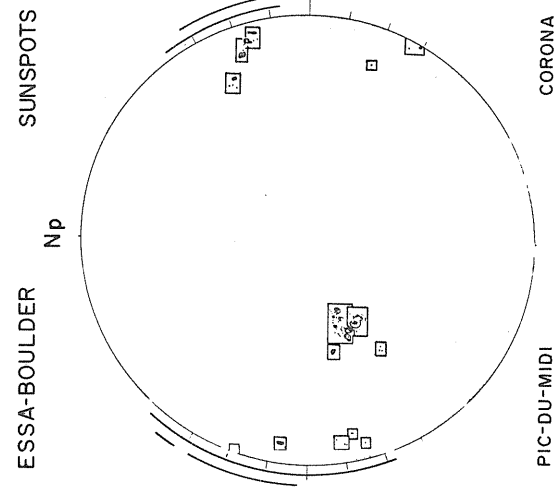
S Resolution 3 Minutes of Arc
02-03 UT Brightness Unit 1,700° K

Sp
1330 UT

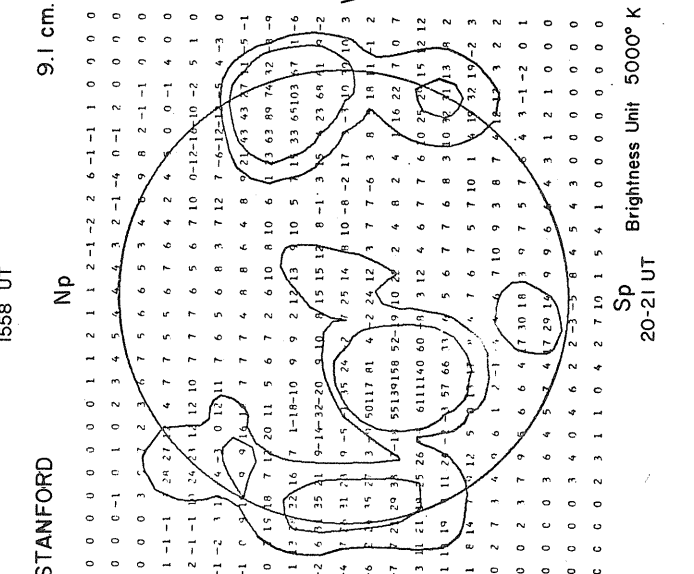
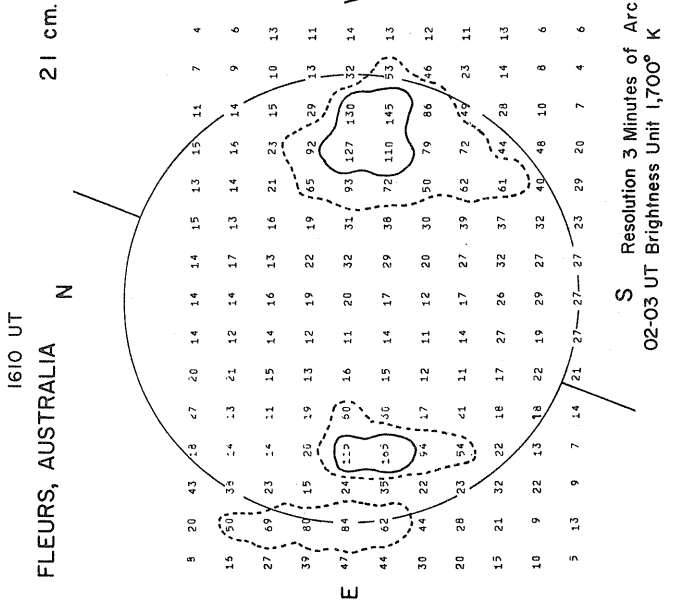
FEBRUARY 27, 1969 (P = -21.04, B₀ = -7.19, L₀ = 14.18)



Levels
±5
±10
±20
±40
±80



POOR M
45-15-3.5
46-100-4.0
52-5-2.5
55-12-3.0
57-53-3.0
64-20-3.0
66-8-3.5



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

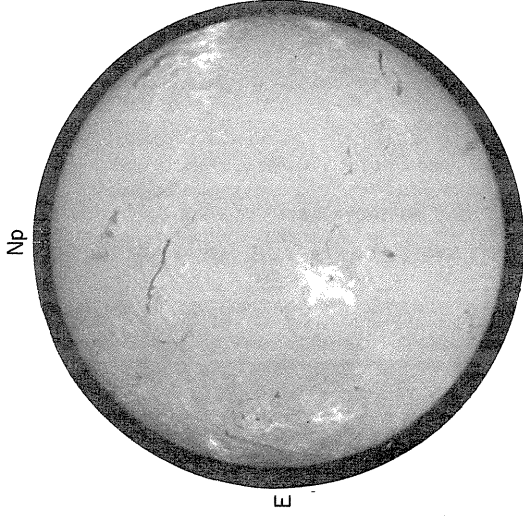
Brightness Unit 5000° K
20-21 UT

FEBRUARY 28, 1969 (P = -21.30, B₀ = -7.21, L₀ = 1.01)

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus

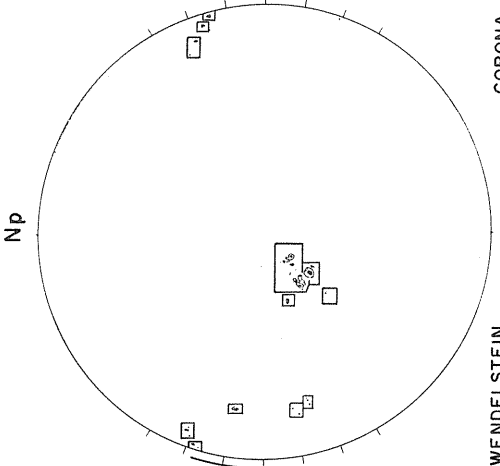
BOULDER

H α

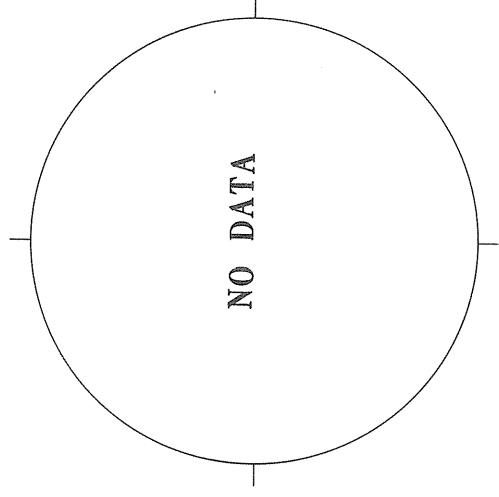


ESSA-BOULDER

SUNSPOTS



Np



NO DATA

Levels
±5
±10
±20
±40
±80

MT. WILSON

Np

CORONA

WENDELSTEIN

Sp

Sp

1504 UT

1520 UT

STANFORD

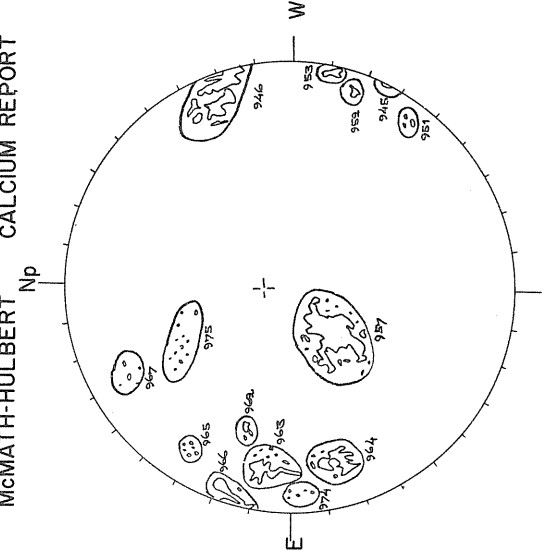
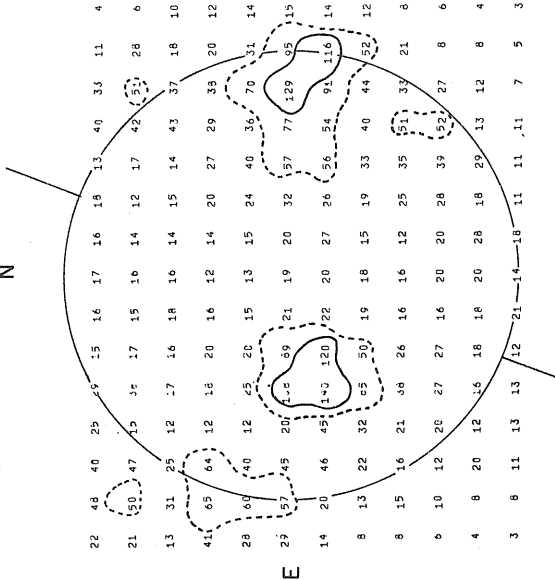
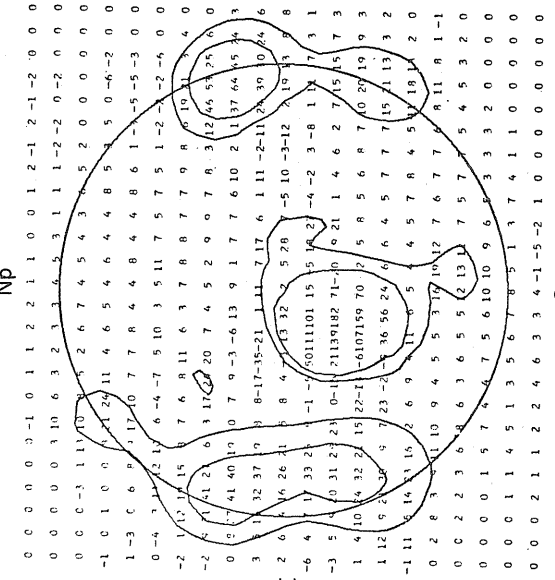
9.1 cm.

FLEURS, AUSTRALIA

21 cm.

McMATH-HULBERT

CALCIUM REPORT



FAIR I M
46-85-3.5
57-57-3.5
64-25-3.0
66-28-3.0

87
Feb 69

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

Sp
20-21 UT
Brightness Unit 5000° K

Sp
1335 UT

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1969

MCMATH REGION 9919 CMP DATE 1.1

				CALCIUM PLAGE DATA			SUNSPOT DATA					9.1 CM			
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA CNT	C	INT FLUX
69	2	4	9919	S28 E46	243	100	1.5								
69	2	5	9919	S28 W59	355	200	1.0								
69	2	6	9919	S28 W72	353	300	1.5								
69	2	7	9919	S28 W86	356	500	1.5								3 1

MCMATH REGION 9904 CMP DATE 1.2

				CALCIUM PLAGE DATA			SUNSPOT DATA					9.1 CM			
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA CNT	C	INT FLUX
69	1	31	9904	S30 E11	352	400	2.0								
69	2	1	9904	S27 W08	353	300	1.0								

MCMATH REGION 9893 CMP DATE 2.5

				CALCIUM PLAGE DATA			SUNSPOT DATA					9.1 CM			
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA CNT	C	INT FLUX
69	1	26	9893	N36 E85	344	900	2.0						20	1	J 5 3
69	1	27	9893	N35 E76	340	2500	3.0						50	3	D 8 4
69	1	28											150	6	E 11 5
69	1	29											160	3	E 13 7
69	1	30											80	3	G 14 7
69	1	31	9893	N35 E24	339	3100	3.5						100	8	E 12 6
69	2	1	9893	N35 E07	338	2700	2.5	17141	N36 E07	340	BP		100	7	E 9 4
69	2	2	9893	N36 W09	344	2600	2.5	17141	N36 W12	342	AP		120	5	C 9 5
69	2	3	9893	N35 W16	336	3100	3.0	17141	N36 W24	345	(AP) 4		70	2	C 12 6
69	2	4	9893	N35 W24	337	3100	2.5	17141	N36 W32	338	(BP) 3		0	1	A 10 5
69	2	5	9893	N35 W41	337	3100	2.0						30	1	G 8 4
69	2	6	9893	N35 W56	337	3000	2.0						10	1	J 8 4
69	2	7	9893	N35 W70	340	3000	2.0								6 3
69	2	8	9893	N37 W85	338	800	2.0								6 3

MCMATH REGION 9899 CMP DATE 2.5 RETURN OF REGION 9851 ROTATION 5

				CALCIUM PLAGE DATA			SUNSPOT DATA					9.1 CM			
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA CNT	C	INT FLUX
69	1	27	9899	N23 E85	331	500	1.0								
69	1	28													
69	1	29													
69	1	30													
69	1	31	9899	N22 E25	338	1000	2.0								
69	2	1	9899	N19 E07	338	1100	2.0								
69	2	2	9899	N19 W04	339	1000	2.0								
69	2	3	9899	N18 W20	340	800	2.0								
69	2	4	9899	N18 W33	342	900	2.0								
69	2	5	9899	N18 W44	340	800	2.0								
69	2	6	9899	N18 W58	339	700	2.0								
69	2	7	9899	N18 W72	342	600	1.5								

MCMATH REGION 9913 CMP DATE 2.8

				CALCIUM PLAGE DATA			SUNSPOT DATA					9.1 CM			
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA CNT	C	INT FLUX
69	2	2	9913	S20 E02	333	300	1.5								

MCMATH REGION 9914 CMP DATE 2.9

				CALCIUM PLAGE DATA			SUNSPOT DATA					9.1 CM			
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA CNT	C	INT FLUX
69	2	2	9914	S30 E03	332	400	1.5								
69	2	3	9914	S32 W10	330	700	1.5								
69	2	4	9914	S32 W22	331	400	1.5								
69	2	5	9914	S32 W35	331	500	1.5								
69	2	6	9914	S32 W48	329	300	1.5								
69	2	7	9914	S33 W63	333	200	1.5								

* An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region. No observations were made at Mt. Wilson Observatory on February 5-7, 12-15, 18-26 and 28.

REGIONS OF SOLAR ACTIVITY

FEBRUARY 1969

MCMATH REGION 9948 CMP DATE 14.9

				CALCIUM PLAGE DATA				SUNSPOT DATA				9.1 CM		
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG. H	AREA CNT	C	INT FLUX
69	2	17	9948	N01 W35	173	400	2.0	17162	S01 W36	173	(B) 2	70	3	B
69	2	18	9948	N01 W48	173	400	2.0							
69	2	19	9948	N01 W63	173	300	1.5							
69	2	20	9948	N01 W77	175	300	1.0							

MCMATH REGION 9947 CMP DATE 15.0

				CALCIUM PLAGE DATA				SUNSPOT DATA				9.1 CM		
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG. H	AREA CNT	C	INT FLUX
69	2	17	9947	N09 W34	172	100	1.5							

MCMATH REGION 9944 CMP DATE 15.9

				CALCIUM PLAGE DATA				SUNSPOT DATA				9.1 CM		
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG. H	AREA CNT	C	INT FLUX
69	2	16	9944	S08 W11	159	500	2.5	17156	S11 W10	157	(BP) 2	0	3	B
69	2	17	9944	S10 W23	161	700	3.0	17156	S11 W22	159	(B) 3	60	18	D
69	2	18	9944	S10 W36	161	700	3.0					10	3	C
69	2	19	9944	S10 W50	160	1000	3.5					40	13	D
69	2	20	9944	S10 W62	160	1200	3.5							
69	2	21	9944	S10 W75	158	1600	3.5					0	3	B
69	2	22	9944	S10 W88	158	500	1.5							5

MCMATH REGION 9934 CMP DATE 16.0

				CALCIUM PLAGE DATA				SUNSPOT DATA				9.1 CM		
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG. H	AREA CNT	C	INT FLUX
69	2	12	9934	S11 E46	158	300	2.0							
69	2	13	9934	S11 E33	157	200	1.5					0	1	A
69	2	14	9934	S11 E18	159	200	1.5							

MCMATH REGION 9929 CMP DATE 16.5 RETURN OF REGION 9873 ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA				9.1 CM		
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG. H	AREA CNT	C	INT FLUX
69	2	10	9929	N18 E84	146	400	1.0							
69	2	11	9929	N18 E66	148	400	1.5							
69	2	12	9929	N18 E55	149	800	1.5							
69	2	13	9929	N18 E42	148	900	1.5							
69	2	14	9929	N14 E23	154	1300	2.0							
69	2	15	9929	N14 E10	152	1500	2.0							
69	2	16	9929	N13 W03	151	900	2.0							5
69	2	17	9929	N13 W14	152	1100	2.0							
69	2	18	9929	N13 W27	152	1100	2.0					0	2	A
69	2	19	9929	N13 W41	151	1200	2.0							
69	2	20	9929	N13 W53	151	1300	2.0							
69	2	21	9929	N14 W66	149	1300	2.0							
69	2	22	9929	N14 W80	150	600	2.0							

MCMATH REGION 9931 CMP DATE 17.8 RETURN OF REGION 9875 ROTATION 6

				CALCIUM PLAGE DATA				SUNSPOT DATA				9.1 CM		
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG. H	AREA CNT	C	INT FLUX
69	2	11	9931	S14 E80	134	500	1.5							
69	2	12	9931	S16 E66	138	500	1.5							
69	2	13	9931	S16 E53	137	500	1.5							
69	2	14	9931	S17 E42	135	800	2.0							
69	2	15	9931	S19 E28	134	800	2.0							
69	2	16	9931	S19 E12	136	800	2.0							
69	2	17	9931	S19 E01	137	900	2.0							
69	2	18	9931	S19 W11	136	800	2.0							
69	2	19	9931	S19 W25	135	900	2.0							
69	2	20	9931	S19 W37	135	800	2.0							
69	2	21	9931	S18 W50	133	800	2.0							

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 9 - EXPLORER 37

FEBRUARY 1969

NAVAL RESEARCH LABORATORY 8=20A HOURLY AVERAGES (10⁻² ergs/cm²/sec.)

DAY	1	2	3	4	5	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
HOUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	1.61	1.31	1.58	1.54	1.57	1.45	1.06	1.50	1.10	1.02	1.02	1.03	0.99	1.00	0.83	0.99	0.97	1.10	1.17	1.17	1.27	22.15	1.87	2.4	
2	1.20	1.10	1.13	1.15	1.12	1.16	1.23	1.22	1.18	1.05	1.21	1.36	1.13	1.16	1.16	1.07	1.25	1.44	1.36	1.24	1.06	1.18	0.96	0.83	
3	1.11	1.43	1.88	1.33	1.20	1.34	1.11	1.14	1.98	1.39	1.34	1.13	0.97	1.16	0.93	1.07	1.27	1.21	0.92	0.91	0.95	0.94	1.17	1.28	
4	0.86	0.89	0.89	0.83	0.96	0.87	0.84	0.89	0.80	0.95	0.87	0.82	0.87	0.78	0.86	0.87	0.84	0.79	0.86	0.79	0.85	1.58	1.70	1.07	
5	0.97	0.89	0.77	0.82	0.97	0.88	0.88	0.75	1.05	0.86	0.76	0.84	0.88	2.01	1.30	0.91	1.14	0.91	0.78	0.79	0.79	0.82	0.98	0.99	
6	0.86	0.86	0.95	0.91	0.81	0.74	0.84	1.68	2.87	1.80	1.35	1.13	1.13	1.26	1.03	0.88	0.88	0.90	0.97	0.94	1.28	1.23	1.21	1.30	
7	1.94	2.15	1.26	1.11	1.18	3.82	2.68	1.39	1.14	1.35	0.97	0.95	1.20	0.83	0.89	0.91	0.98	1.30	0.79	0.89	0.78	0.86	2.06	1.01	
8	0.97	0.78	0.76	0.78	0.87	0.96	0.82	0.74	1.02	0.73	0.75	0.75	3.35	0.71	0.73	0.74	0.80	2.43	0.85	0.74	0.68	0.70	0.73	0.77	
9	0.68	0.63	0.89	0.80	0.73	0.79	0.71	1.23	0.77	0.96	0.88	0.72	0.78	1.13	1.29	0.79	1.32	2.64	0.78	0.80	0.83	0.71	0.78	0.92	
10	0.97	0.86	0.70	0.80	0.72	0.65	0.74	0.73	0.73	0.84	0.94	1.00	1.05	0.95	0.89	0.81	0.83	0.81	0.91	0.98	0.90	1.78	1.20	1.26	
11	1.22	1.30	1.56	1.44	1.33	1.32	1.08	1.51	1.34	1.45	3.47	2.14	1.64	0.97	0.84	0.99	0.83	0.84	1.00	0.97	1.00	2.25	1.06	0.97	
12	0.92	1.14	0.95	0.93	1.03	1.00	1.14	1.14	1.05	1.37	1.32	1.41	1.13	1.10	1.03	0.85	0.96	0.85	0.76	0.84	0.78	0.97	1.06	0.97	
13	0.95	0.87	0.84	0.90	1.07	1.00	1.02	0.86	0.98	0.86	0.85	0.76	0.72	0.83	1.28	0.84	1.44	1.19	1.12	0.90	0.84	0.97	0.92	0.84	
14	1.32	0.92	0.95	1.40	1.48	1.09	0.94	0.91	0.77	0.87	1.31	1.70	1.49	0.94	0.95	0.87	0.71	0.87	0.78	0.81	0.84	0.74	0.81	0.80	
15	0.77	0.78	0.61	0.67	0.85	0.75	0.78	0.95	0.85	0.66	0.57	0.66	0.71	0.72	0.69	0.64	0.76	0.74	0.66	0.73	0.78	1.21	0.84	0.74	
16	0.76	0.93	0.92	0.93	0.91	0.77	0.87	0.66	0.73	0.60	0.81	0.80	0.77	0.82	0.72	0.87	0.67	0.75	0.82	0.83	0.83	0.89	0.86	0.82	
17	1.01	1.01	1.14	1.27	0.89	0.99	0.91	0.86	1.15	0.98	1.05	0.95	0.84	1.05	0.76	0.80	0.81	0.80	0.94	0.79	0.82	0.90	0.88	0.87	
18	0.86	0.72	0.90	0.87	0.91	0.94	0.86	0.76	0.86	0.86	1.14	2.24	1.07	1.06	1.00	0.65	1.35	2.06	0.92	0.81	0.84	0.90	0.82	0.87	
19	1.19	1.19	1.10	1.18	1.35	1.19	7.21	2.34	2.32	1.13	1.07	1.53	1.24	1.31	1.46	1.26	1.34	1.13	1.29	1.37	1.43	1.60	1.65	1.71	
20	1.56	1.25	1.41	1.35	1.38	1.29	1.20	1.32	1.27	1.15	1.40	1.21	1.31	1.29	1.18	1.39	1.34	1.44	1.40	1.24	1.50	1.36	1.40	1.60	
21	1.31	1.55	1.58	1.96	1.90	1.71	1.84	1.92	2.02	1.96	1.64	1.95	2.16	2.46	2.31	1.79	1.85	2.08	2.13	2.82	2.18	2.22	2.32	2.13	
22	3.70	2.69	2.34	2.27	7.24	2.89	2.28	2.31	2.59	2.21	2.42	2.78	3.71	3.70	2.68	2.49	3.32	3.26	3.95	3.32	3.73	4.04	3.27	2.61	
23	2.62	2.62	3.38	4.16	3.15	4.54	3.22	2.29	2.32	2.49	2.75	2.29	2.35	2.13	2.57	3.19	2.44	2.94	2.29	2.56	3.48	3.02	3.31	2.13	
24	7.98	3.00	2.57	3.00	2.63	2.83	4.59	2.26																	
25	2.96	2.26	3.63	3.72	32.4	6.58	9.00	3.67	3.47	2.65	2.71	2.50	2.64	2.88	2.42	2.24	2.11	2.45	2.32	2.37	3.14	3.18	2.48	2.99	
26	2.59	2.79	3.05	2.49	2.30	3.80	4.82	3.53	3.83	3.63	11.7	7.33	5.07	8.96	75.2	7.82	5.74	5.22	4.55	5.28	4.71	4.17	3.78	3.38	
27	5.109	6.51	5.98	5.58	3.62	3.80	3.82	3.75	4.03	3.49	3.88	4.13	3.53	4.80	4.00	3.82	3.66	3.14	2.57	8.94	9.87	4.02	2.14	2.57	
28																									

100
Feb 69

SOLAR X-RAYS BY SATELLITE

EXPLORER 37
FEBRUARY 1969

NAVAL RESEARCH LABORATORY OUTSTANDING EVENTS

DAY	START TIME	0.5-3A FLUX YE=5	PEAK TIME	1-8A FLUX YE=4	PEAK TIME	8-20A FLUX YE=3	PEAK TIME	END TIME	COMMENTS
1	0505	1,10	0508	38,00	0507	22,00	0508	0509	
1	0709	11,00	0709	44,00	0710	23,00	0712	0714	
1	2131	153,00D	2148E	3800,00	2140	620,00	2141	2203	
3	0201	113,00	0201	210,00	0201	52,00	0201	0206	
4	2151F	3,30	2151	34,00	2154	24,00	2154	2156	
5	0837	7,80	0838	38,00	0838	19,00	0839	0841	
5	1306	5,30D	1312E	42,00	1307	23,00	1312	1318	
5	1325	5,60D	1337D	41,00	1338D	24,00	1337D	1339D	
6	0730	50,00D	0739	130,00	0737	52,00	0739	0743D	
6	0820F	8,90	0825	59,00	0825	39,00	0835	0847	
7	0046F	3,30D	0046E	35,00D	0046E	25,00D	0046E	0056	
7	0130	4,40D	0133E	130,00	0131	52,00	0131	0134	
7	0541E	22,00D	0541E	170,00D	0541E	64,00D	0541E	0618	
7	1219	5,60D	1222E	44,00	1221	22,00	1221	1223	
7	1719	24,00	1719	68,00	1720	23,00	1723	1726	
7	2220	43,00	2223	87,00	2228E	39,00	2230E	2247	
8	1205	123,00	1207	390,00	1206	90,00	1209	1219	
8	1751E	123,00	1756	430,00	1755	77,00	1756	1802	
9	0659E	43,00E	0659D	130,00D	0700F	52,00D	0701E	0709	
9	1432	62,00	1433	130,00	1435	28,00	1434	1438D	
9	1602	45,00	1605	130,00	1607	27,00	1609	1613	
9	1724	153,00D	1728E	1900,00	1725	240,00	1726	1736	
10	2106	39,00	2111	90,00	2110	39,00	2115	2121	
11	0719	4,50	0721	36,00	0721	21,00	0723	0724	
11	1037	133,00D	1043E	860,00	1039	170,00	1039	1101	
11	2126F	37,00	2126	130,00	2128	64,00	2128	2138	
13	1443	7,80	1445	35,00	1446	18,00	1447	1448	
13	1633	25,00	1638	86,00	1638	39,00	1639	1644	
13	2013	61,00	2013	130,00	2014	28,00	2014	2026	
13	2303	10,00	2307	51,00	2307	27,00	2308	2317	
14	0341F	5,70D	0341E	50,00D	0341E	26,00D	0341E	0345	X-RAYS DECREASING
19	1100	29,00	1102	81,00	1104	39,00	1109	1124	
19	1652	15,00	1659	47,00	1704	52,00	1706	1720	
19	2045	24,00	2046	62,00	2046	22,00	2047	2050	
20	0619	123,00	0625	1100,00	0621	230,00	0621	0709	
20	0740	8,90	0741	41,00	0741	28,00	0742	0745	
20	0809	42,00D	0811E	170,00	0810	53,00	0811	0827	
20	1141	34,00	1144	91,00	1144	40,00	1145	1148	
22	0748E	11,00	0751E	46,00	0750	29,00	0750	0755	
22	0757	5,70	0758	38,00	0759	28,00D	0800E	0801	
22	1803F	7,80	1803	38,00	1804	40,00	1805	1807	
22	1921	41,00	1924	130,00	1925	53,00	1928	1942	
22	2357	43,00	0013	120,00	0014	51,00	0018E	0036	
23	0128E	3,30D	0128E	39,00D	0128E	40,00D	0128E	0133	X-RAYS DECREASING
23	0445E	130,00D	0453E	600,00	0450	190,00	0453	0508	
23	1158	24,00	1201	96,00	1203	53,00	1208	1221	
23	1259E	1,10D	1259E	34,00D	1300E	40,00	1305	1306	
23	1332	16,00	1344	68,00	1345	53,00	1351	1357	
23	1625	14,00	1649	58,00	1643	40,00	1651	1653	
23	1654	5,70D	1700E	44,00	1658	40,00	1702	1703	
23	1713	5,70	1719	54,00	1721	40,00	1723	1724	
23	1755	19,00	1812	81,00	1814	53,00	1819	1831	
23	1832	13,00D	1840E	86,00	1836	53,00	1838	1842	
23	1947	13,00	2013	70,00	1958	53,00	2006	2024	
23	2127	22,00	2143	130,00	2143	67,00	2149	2218	
24	0225	24,00	0308	130,00	0314	67,00	0314	0403	
24	0405	3,30	0407	34,00	0408	40,00	0409	0410	
24	0433	7,80	0434	48,00	0435	40,00	0436	0439	
24	0531	45,00	0537	130,00	0542E	67,00	0544	0605	
24	1022E	5,60	1022E	42,00	1022E	40,00	1026	1027	
24	1433	10,00	1434	39,00	1435	40,00	1444	1445	
24	1518E	4,50D	1518E	52,00D	1518E	53,00	1520	1529	X-RAYS DECREASING
24	1719	24,00	1719	65,00	1720	40,00	1726	1727	
24	2035	82,00	2038	170,00	2039	67,00	2042	2059	
24	2152E	15,00	2152	58,00	2153	40,00	2157	2158	
24	2207	33,00	2209	88,00	2211	53,00	2213	2218	
24	2330	130,00D	1355E	1400,00D	2331E	300,00	2333	0412	
25	0317	14,00	0319	56,00	0318	40,00	0321	0327	
25	0609	103,00	0618	260,00	0618	80,00	0625	0640	
25	2237	5,60	2238	36,00	2240	40,00	2241	2242	
26	0218	28,00	0238	130,00	0246	53,00	0254	0345	
26	0404	130,00D	0422D	5000,00D	0434E	1400,00D	0433E	0543D	
26	0543F	130,00D	0602E	940,00	0609	190,00	0611	0714	
26	1344	15,00	1345	46,00	1346	40,00	1350	1351	
26	1353	13,00	1355	41,00	1357	40,00D	1359	1403	
26	2052	12,00	2053	79,00	2058	53,00D	2059	2101D	
26	2323	17,00	2325	55,00	2325	53,00	2328	2329	
27	0547F	28,00D	0556E	130,00D	0601E	67,00	0608E	0652E	
27	0726	3,00	0731	46,00	0727	40,00	0731	0732	
27	0803	3,30	0815	37,00	0807	40,00	0816	0817	
27	0950	5,70	0952	50,00	0955	40,00	1008	1009	
27	1043E	130,00D	1050E	640,00	1048	210,00	1051	1148	
27	1240	130,00D	1301E	430,00	1301	120,00	1305	1327	
27	1400E	130,00D	1451E	5000,00D	1426E	1500,00D	1421E	1735D	
27	1735E	43,00D	1753	130,00	1755	67,00	1803	1822	
27	1857	19,00	1901	79,00	1901	67,00	1914	2001	NO OUTSTANDING EVENTS ONLY HIGH BACKGROUND LEVELS ON ALL BANDS,
27	2035	9,90	2051	46,00	2035	53,00	2113	2136	
27	2214	2,20	2214	34,00	2215	40,00	2220	2221	
27	2252	2,20	2304	36,00	2253	40,00	2305	2307	
28	0007	38,00	0021	170,00	0022	80,00	0026	0057	
28	0134	61,00	0146	170,00	0158	93,00	0201	0235C	
28	0320	40,00	0323	130,00	0338	80,00	0327	0414	
28	0502	14,00	0504	63,00	0507	53,00	0512	0519	
28	0627	2,20D	0632E	86,00	0627	53,00	0632	0633	
28	0704	11,00	0709	41,00	0718	53,00	0714	0730	
28	0806	7,80	0819	50,00	0820	53,00	0831	0840	
28	0841	1,10	0846	36,00	0843	40,00	0845	0847	
28	0958	3,60	1041	43,00	1023	40,00	1047	1048	HIGH BACKGROUND
28	1125E	4,50	1138	48,00	1139	53,00	1144	1154	
28	1339	63,00	1352	210,00	1352	80,00	1359D	1406	
28	1455	14,00	1456	62,00	1457	53,00	1458	1544	
28	1658	4,50D	1700E	38,00	1703	40,00	1703	1719	
28	1936	130,00D	2003E	900,00	1956	200,00	2001	2028C	
28	2028E	3,30D	2030D	170,00D	2038D	80,00D	2040D	2040C	

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

FEBRUARY 1969

FEB. 1969	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
				START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
01	0000	0002	HARV												
	0000	0659	CULG				0343.5								
	0742	1545	WEIS				0800	0804.7	2					IIIB	
	1100	2200	SGMR											IIIGG,DP	
	1348	2358	BOUL							2002.7	2004	1		IIIG	
			BOUL				2127.6	2127.8	1	2127.6	2127.8	1		III	
			BOUL				2134.4	2137.3	2	2134.4	2137.3	2		IIIG	
	1402	2400	HARV	2136		1	2136	2137	1	2136	2137	1		IIIG	
	2052	2400	CULG				2136	2137	1					IIIG	
			HARV				2138.5	2201	2					II	
			CULG				2138.5	2203	2					II	
			BOUL				2140.6	2206	3	2140.6	2206	3		CONT	
			BOUL							2206	2214	1		CONT	
			BOUL				2325.4	2325.7	2	2325.4	2325.7	2		III	
			CULG				2325.5		1					IIIB	
			CULG				2340	2343.5	1					IIIG	
			BOUL							2342.1	2342.4	1		III	
	02	0000	0003	HARV											
0000		0729	CULG				0513	0520	1					IIH	
			CULG				0618.5		1					IIIB,U	
0739		1545	WEIS				0800	0804.7	2					IIIGG,DP	
			WEIS				0941	0941.2	1					IIIG	
			WEIS				1020.7	1021	1					IIIB	
			WEIS				1205.6	1208.1	2					IIIG,V	
			WEIS				1242.9	1243.5	1					IIIB	
1100		2200	SGMR							1243	1243.5			IIIB	
1402		2400	HARV				1800		1					IIIG	
1348		2430	BOUL				1939	1939.6	3	1939	1939.6	3		III	
			HARV				1959		1					IIIG,U	
2035		2400	HARV				2203	2207	2					IIIG	
			CULG				2203	2209.5	1					IIIG,U	
			BOUL				2206.2	2209.9	3	2206.2	2209.9	3		IIIG	
03		0000	0004	HARV											
		0000	0700	CULG				0034.5	0035	1	0034.5	0035	1		IIIG,U
				CULG				0201	0201.5	2					IIIG,V
			CULG				0337	0337.5	1					IIIG	
			CULG				0439.5	0440	1					IIIG	
			CULG				0616		1					IIIB	
	0805	1544	WEIS				0820	1114	1					IN	
			WEIS				0857.2	0857.4	1					IIIB	
			WEIS				1107.6	1107.9	1					IIIB	
			WEIS				1109.7	1109.8	1					IIIG	
			WEIS				1111.2	1111.5	2					IIIB	
			WEIS				1312.7	1314	1					IIIG	
	1100	2200	SGMR							1313	1314.5			IIIB	
	1402	2400	HARV				1408	1755	1					IN	
	1348	2437	BOUL				1805.9	1806.2	2	1805.9	1806.2	2		III	
			HARV				1806	2014	2	1806	2014	2		IIIN	
			BOUL				1821.7	1827.6	3	1821.7	1827.6	3		IIIG	
			HARV				1827		1	1827		2		IIIG	
			BOUL				1919	1919.8	2	1919	1919.8	2		III	
			BOUL				2013.6	2014.1	2	2013.6	2014.1	2		III	
	2028	2400	CULG											IIIG	
			HARV				2120		1					IIIG	
			BOUL				2121.9	2123	2	2121.9	2123	2		IIIG	
	04	0000	0005	HARV											
0000		0956	CULG				0320.5	0322.5	1					UNCLF	
0730		1548	WEIS												
1100		2200	SGMR												
1402		2400	HARV				2143	2145	1					IIIG	
1348		2434	BOUL				2148	2149	2	2148	2149	2		IIIG	
2101	2400	CULG				2158.5	2159.5	1					UNCLF		
05	0000	0006	HARV												
	0000	0852	CULG												
	0729	1005	WEIS												
	1031	1551	WEIS												
	1100	2200	SGMR												
	1348	2432	BOUL												
	1402	2400	HARV	1402	1854	1	1402	1854	1					IN	
	2050	2400	CULG												
06	0000	0006	HARV												
	0000	0852	CULG												
	0726	1554	WEIS												
	1100	2300	SGMR												
	1402	2400	HARV	1856	1906	1	1945	2400	1					IN	
			HARV	1900		2	1900		2					IIIGG	
			HARV	2005	2007	1								IIIG	
			HARV	2034	2035	2								IIIG	
	1348	2430	BOUL	2108		1				2052.9	2053.9	2		IIIG	
			BOUL							2127.9	2128.1	2		IIIG	
			HARV				2129	2130	2					III	
			BOUL				2129.5		1					UNCL	
		CULG											IIIB,U		
		HARV	2130	2131	1								IIIG		
		CULG				2222.5		1					IIIB		
		HARV	2226	2236	2	2228	2236	2					IIIGG,U		

102
Feb 69

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

FEBRUARY 1969

FEB. 1969	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
				START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
06			HARV BOUL	2241	2242	2								IIIG III	
07	0000 0000	0007 0408	HARV				0018								IIIB
			CULG				0129.5	0130.5	1						IIIG,U
	CULG					0130	0136	1						I	
	CULG					0243	0408	1						I	
	0509 0723	0905 1554	CULG				0833								IIIB
			WEIS				0938.5	0939.3	2						IIIGG
			WEIS				0939	0940.2	1						V
	1100 1402	2300 2400	SGMR				1143.8	1144.9	3						IIIGG,DP
			WEIS				1214.3	1217.9	1						IIIGG
			HARV	1935	1936	2	1935	1936	1						IIIG
			HARV	1936	2400	1	1936	2157	1						IN
			HARV	2011	2012	2	2011	2012	2						IIIG
	2101 1410	2400 2400	CULG				2114								IIIB
			BOUL								2116.5	2116.8	2		III
			CULG				2128								IIIB
			CULG				2137								IIIB
			HARV	2137		1	2137								IIIG
			HARV	2210	2211	1	2210	2211	1						IIIG
			HARV	2319		3	2319		2						IIIG
	08	0000 0000 0000	0008 0905 0030	HARV	0004	0007	1	0004	0007	1					
CULG							0004.5	0007.5	1	0005.5	0007.5	1			IIIG,V,U
BOUL							0004.5	0011.1	3	0004.5	0011.1	3			IIIG
			CULG				0021	0024	1	0021	0024	1			II
			CULG				0414.5	0415.5	2	0415	0416.5	2			IIIG,V,U
			CULG				0418	0422	1						II
0727		1557	WEIS	0808.2	0808.4	1					0430	0434	1		UNCLF
			WEIS				1119	1651	2						IIIG
			WEIS				1204.8	1209.4	3						IN
			WEIS				1205	1209	3						IIIGG
			WEIS				1205	1210	2						V
1100		2300	SGMR				1207.4	1221.5	3		1206.5	1208.2			IIIG
1402		2400	HARV	1411	2400	1	1429	2355	1						II
			HARV	1426	1427	2	1426	1427	2						IN
			WEIS				1429.1	1429.3	2						IIIG
			WEIS	1504.8	1509.7	1									IIIB
1400		2432	HARV	1513	1514	2	1513	1514	2						IV
			BOUL				1523.4	1524.3	2	1523.4	1524.3	2			IIIGG
			HARV				1606	1607	1						IIIG
			BOUL				1606.6	1606.9	2	1606.6	1606.9	2			III
			HARV	1611	1612	1	1611	1612	1						IIIG
			HARV	1626	1627	1									IIIG
			HARV	1711	1712	2	1712	1713	3	1712	1713	3			IIIGG
			BOUL				1711.6	1713.3	3	1711.6	1713.3	3			IIIG
			SGMR				1727	1727.8		1727	1727.8				IIIB
			HARV	1730	1742	2	1730	1741	2	1730	1735	2			IIIGG
			BOUL				1730.4	1735.7	3	1730.4	1735.7	3			IIIG
			HARV	1747	1805	3	1747	1805	2	1750	1752	3			IIIGG
			BOUL				1747.2	1754	3	1747.2	1754	3			IIIG
			SGMR							1750	1753				IIIG
			HARV				1752.8	1809	2	1757	1809	2			II
			BOUL				1754.3	1804.1	3	1754.3	1804.1	3			II
			SGMR							1757.2	1803				II
			BOUL				1804.1	1814	3	1804.1	1814	3			IV
			BOUL				1814	1900	2	1814	1900	2			IV
			BOUL				1825.7	1828.7	2	1825.7	1828.7	2			IIIG
			HARV	1828	1833	2	1827	1833	2	1831					IIIGG
			HARV	1855	1857	1	1856	1857	1	1856	1857	2			IIIG
			BOUL				1855.2	1856.9	2	1855.2	1856.9	2			IIIG
			BOUL				1925	1929.2	3	1925	1929.2	3			IIIG
			SGMR							1925.6	1928.2				IIIG
			HARV	1926	1928	1	1925	1929	3	1925	1929	3			IIIGG
			BOUL				1941.3	1942.5	1	1941.3	1942.5	1			IIIG
			BOUL				2022.2	2022.4	1	2022.2	2022.4	1			III
			BOUL				2132	2132.2	1	2132	2132.2	1			III
		BOUL							2302	2302.3	1			III	
		BOUL				2329.1	2334.4	2	2329.1	2334.4	2			IIIG	
	2103	2400	HARV	2359		2	2359							IIIG	
			CULG				2359	2400	1					IIIG	
09	0000 0000	0009 0905	HARV				0131	0137	1						IIIG
			CULG				0134		3	0135		3			IIIG,V
			CULG				0658	0659.5	1	0658	0659	1			IIIG,V
		0722	1558	WEIS				0724	1541	2				IS	
				WEIS				0734	0734.4	2				IIIG	
	1402	2400	HARV	1410	2101	1	1415	1500	1					IN	
			HARV	1431	1433	2	1431	1434	3	1432	1433	3			IIIGG
			WEIS				1431	1433.5	3						IIIGG,DP
	1348	2400	BOUL				1431.1	1434.3	3	1431.1	1434.3	3			IIIG
			SGMR				1431.5	1434.5	3						V
	1100	2300	HARV				1435	1438	1	1431.8	1434				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

FEBRUARY 1969

FEB. 1969	TIMES OF OBSERVATION		STATION	EVENTS									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.														
09			WEIS	1539	1540	1	1436	1439	1	1538.3	1540.1	3	1440.7	1444.6	2	1440.7	1444.6	2	II	III						
			BOUL				1523.6	1525.3	1				1523.6	1525.3	1	1538	1540	1	1538.3	1540.1	3		IIIG			
			SGMR				1538.3	1540.1	3				1538.3	1540.1	3	1538	1540	2	1538.3	1540.1	3		IIIB			
			BOUL				1538.3	1540.4	3				1538	1540	2	1538	1539	1	1557.6	1603	3	1557.6	1603	3		III
			WEIS				1557.6	1603	3				1557.6	1603	3	1557.6	1600	1	1557.6	1603	3		IIIGG			
			HARV				1557.8	1558.4	2				1558	1603	2	1558	1559	1	1558	1603	3		IIIG			
			HARV				1607	1612	1				1607	1612	1	1607	1612	2	1607	1612	1		IIIGG			
			HARV				1703.8	1705.7	1				1703.8	1705.7	1	1703.8	1705.7	1	1703.8	1705.7	1		IIIG			
			BOUL				1719.4	1727.3	3				1719.4	1727.3	3	1719.4	1727.3	3	1719.4	1727.3	3		IIIG			
			BOUL				1722	1726	3				1722	1726	3	1722	1726	3	1722	1726	3		IIIGG,V			
			HARV				1726	1728	3				1726	1728	3	1726	1728	3	1726	1728	3		IIIG			
			BOUL				1728	1732	3				1728	1732	3	1728	1732	3	1728	1732	3		II			
			SGMR				1732	1733	1				1732	1733	1	1732	1733	1	1732	1733	1		II			
			SGMR				1739.4	1745.6	3				1739.4	1745.6	3	1739.4	1745.6	3	1739.4	1745.6	3		IV			
			BOUL				1805.6	1805.9	1				1805.6	1805.9	1	1805.6	1805.9	1	1805.6	1805.9	1		IIIGG			
			BOUL				1815.7	1816.9	2				1815.7	1816.9	2	1815.7	1816.9	2	1815.7	1816.9	2		III			
			BOUL				1816	1817	1				1816	1817	1	1816	1817	1	1816	1817	1		IIIG			
			HARV				1850.6	1854.1	3				1850.6	1854.1	3	1850.6	1854.1	3	1850.6	1854.1	3		IIIG			
			BOUL				1851.4	1853	1				1851.4	1853	1	1851.4	1853	1	1851.4	1853	1		IIIG			
			SGMR				1852	1854	3				1852	1854	3	1852	1854	3	1852	1854	3		IIIGG			
			HARV				1907	1927	1				1907	1927	1	1907	1927	1	1907	1927	1		IC			
			HARV				1955	1955.2					1955	1955.2		1955	1955.2		1955	1955.2			IIIB			
			SGMR				2004	2004.2					2004	2004.2		2004	2004.2		2004	2004.2			IIIB			
			BOUL				2007.8	2008.1	3				2007.8	2008.1	3	2007.8	2008.1	3	2007.8	2008.1	3		III			
			HARV				2008	2008	1				2008	2008	1	2008	2008	1	2008	2008	1		IIIG			
			BOUL				2017	2018	2				2017	2018	2	2017	2018	2	2017	2018	2		IIIGG			
			BOUL				2017	2019	2				2017	2019	2	2017	2019	2	2017	2019	2		III			
			BOUL				2017	2021.3	3				2017	2021.3	3	2017	2021.3	3	2017	2021.3	3		IIIG			
			BOUL				2045.5	2045.8	1				2045.5	2045.8	1	2045.5	2045.8	1	2045.5	2045.8	1		III			
			BOUL				2158.5	2158.7	1				2158.5	2158.7	1	2158.5	2158.7	1	2158.5	2158.7	1		III			
			HARV				2258	2259	2				2258	2259	2	2258	2259	2	2258	2259	2		IIIG			
			BOUL				2258.4	2259.2	2				2258.4	2259.2	2	2258.4	2259.2	2	2258.4	2259.2	2		IIIG			
			CULG				2258.5		1				2258.5		1	2258.5		1	2258.5		1		IIIG			
			HARV				2320	2323	2				2320	2323	2	2320	2323	2	2320	2323	2		IIIGG			
			BOUL				2320.3	2320.9	3				2320.3	2320.9	3	2320.3	2320.9	3	2320.3	2320.9	3		III			
			CULG				2320.5	2321	2				2320.5	2321	2	2320.5	2321	2	2320.5	2321	2		IIIG			
CULG	2321	2327	1	2321	2327	1	2321	2327	1	2321	2327	1		IIIG												
10	0000	0010	HARV	1410	2400	1	0014.4	0020.5	3	0729	0947	1	0014.4	0020.5	3	0014.4	0020.5	3		IIIG						
			BOUL				0014.5		2				0014.5		2	0014.5		2	0014.5		2		IIIB			
			CULG				0017	0020	3				0017	0020	3	0017.5	0020	2	0017.5	0020	2		IIIG,V			
			CULG				0343.5	0345.5	3				0343.5	0345.5	3	0344	0345.5	3	0344	0345.5	3		IIIG,V			
			CULG				0346.5	0347	1				0346.5	0347	1	0346.5	0347	1	0346.5	0347	1		IIIG			
			WEIS				0734	1406	2				0734	1406	2	0734	1406	2	0734	1406	2		I			
			WEIS				0921.7	0922.9	2				0921.7	0922.9	2	0921.7	0922.9	2	0921.7	0922.9	2		IIIGG			
			WEIS				1059.4	1059.6	1				1059.4	1059.6	1	1059.4	1059.6	1	1059.4	1059.6	1		IIIG			
			SGMR				1119.8	1125	3				1119.8	1125	3	1119.8	1125	3	1119.8	1125	3		IIIGG			
			BOUL				1405		2				1405		2	1405		2	1405		2		IIIG			
			HARV				1551	2400	1				1551	2400	1	1551	2400	1	1551	2400	1		IN			
			BOUL				1454.1	1454.3	1				1454.1	1454.3	1	1454.1	1454.3	1	1454.1	1454.3	1		III			
			BOUL				1732.2	1739.5	3				1732.2	1739.5	3	1732.2	1739.5	3	1732.2	1739.5	3		IIIG			
			HARV				1733	1734	1				1733	1734	1	1733	1734	1	1733	1734	1		IIIG			
			HARV				1738	1739	2				1738	1739	2	1738	1739	2	1738	1739	2		IIIG			
			BOUL				1923.9	1924.2	1				1923.9	1924.2	1	1923.9	1924.2	1	1923.9	1924.2	1		III			
			HARV				1934	1935	3				1934	1935	3	1934	1935	3	1934	1935	3		IIIG			
			BOUL				1934.5	1935.3	2				1934.5	1935.3	2	1934.5	1935.3	2	1934.5	1935.3	2		III			
			HARV				1945	2348	2				1945	2348	2	1945	2348	2	1945	2348	2		IIIN			
			BOUL				1945.3	1945.9	2				1945.3	1945.9	2	1945.3	1945.9	2	1945.3	1945.9	2		III			
			BOUL				2046.8	2047.3	2				2046.8	2047.3	2	2046.8	2047.3	2	2046.8	2047.3	2		III			
			BOUL				2055.8	2056.1	1				2055.8	2056.1	1	2055.8	2056.1	1	2055.8	2056.1	1		III			
			BOUL				2113.7	2114.1	1				2113.7	2114.1	1	2113.7	2114.1	1	2113.7	2114.1	1		III			
			BOUL				2120	2120.5	3				2120	2120.5	3	2120	2120.5	3	2120	2120.5	3		III			
			CULG				2121		1				2121		1	2121		1	2121		1		IIIB			
			BOUL				2138.7	2143.2	3				2138.7	2143.2	3	2138.7	2143.2	3	2138.7	2143.2	3		IIIG			
			CULG				2149	2152	2				2149	2152	2	2149	2152	2	2149	2152	2		IIIB			
			BOUL				2144.1	2300.7	3				2144.1	2300.7	3	2144.1	2300.7	3	2144.1	2300.7	3		IIIGG			
			CULG				2149	2152	1				2149	2152	1	2149	2152	1	2149	2152	1		IIIG			
			HARV				2151	2152	2				2151	2152	2	2151	2152	2	2151	2152	2		IIIG			
			CULG				2156.5	2200.5	1				2156.5	2200.5	1	2156.5	2200.5	1	2156.5	2200.5	1		IIIG			
			HARV				2157	2158	1				2157	2158	1	2157	2158	1	2157	2158	1		IIIG			
			HARV				2200		1				2200		1	2200		1	2200		1		IIIG			
			BOUL				2226.4	2231.7	2				2226.4	2231.7	2	2226.4	2231.7	2	2226.4	2231.7	2		IIIG			
			BOUL				2231.5	2231.8	2				2231.5	2231.8	2	2231.5	2231.8	2	2231.5	2231.8	2		III			
			BOUL				2240.3	2246.3	2				2240.3	2246.3	2	2240.3	2246.3	2	2240.3	2246.3	2		IIIG			
CULG	2251		1	2251		1	2251		1	2251		1		IIIB												
BOUL	2301.7	2307.5	2	2301.7	2307.5	2	2301.7	2307.5	2	2301.7	2307.5	2		IIIGG												
BOUL	2302	2306	1	2302	2306	1	2302	2306	1	2302	2306	1		IIIG												
HARV	2306	2400	1	2306	2400	1	2306	2400	1	2306	2400	1		IIIN												
CULG	2310.6	2313.8	2	2310.6	2313.8	2	2310.6	2313.8	2	2310.6	2313.8	2		IIIG												
BOUL	2327.7	2332.5	2	2327.7	2332.5	2	2327.7	2332.5	2	2327.7	2332.5	2		IIIG												
BOUL	2336.9	2341.4	2	2336.9	2341.4	2	2336.9	2341.4	2	2336.9	2341.4	2		IIIG												
BOUL	2347.4	2347.7	1	2347.4	2347.7	1	2347.4	2347.7	1	2347.4	2347.7	1		III												

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

FEBRUARY 1969

FEB. 1969	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
				START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
23	1100	2300	WEIS				0946	0946.2	1						IIIB
	1346	2400	SGMR												I
			HARV	1355	1402	1	1352	1412	1						IN
			HARV				1440	2012	1						IIIG
			HARV				1848	1850	1						IIIG
	1348	2458	HARV				1945	1946	1	1946					IIIG
			BOUL				1946	1947	3	1946	1947	2			III
			HARV				2012	2140	1						I
	2048	2400	CULG												
			HARV	2240	2309	1	2140	2400	1						
24	0000	0018	HARV				0000	0016	1						IN
	0000	0852	CULG				0353	0440	1						I
	0700	0952	WEIS				0700	0952	1						I
	1006	1621	WEIS				1006	1621	1						I
	1346	2400	HARV				1351	1501	1						I
	1348	2400	BOUL				1426.6	1435.5	3	1426.6	1435.5	3			IIIG
			HARV	1427	1428	2	1426	1428	2						IIIGG
			WEIS				1427	1434	2						IIIGG
			HARV	1432	1434	2	1432	1434	2						IIIGG
			SGMR												IIIG
			BOUL				1510	1510.2	1	1442	1444.6				IIIG
			BOUL				1524.4	1531.4	1	1447.5	1450				III
			BOUL				1536.2	1540.9	1	1510	1510.2	1			IIIG
			HARV	1552	1554	2	1536.2	1540.9	1	1524.4	1531.4	1			IIIG
			BOUL				1717.5	1725.7	1	1536.2	1540.9	1			IIIG
			BOUL				1744.1	1744.4	1	1717.5	1725.7	1			IIIG
			BOUL							1744.1	1744.4	1			III
			HARV				1900	2340	1	1849.1	1849.3	2			III
	2048	2400	CULG				2048	2307	1						IN
			BOUL				2207.4	2212.3	2						I
		CULG				2307	2308	2	2207.4	2212.3	2			IIIG	
		CULG				2307	2405	2	2307.5	2308	2			IIIG+V	
		BOUL				2307.7	2430	D 3	2307.7	2430	D 3			CONT	
		HARV	2308	2309	2	2308								IV	
		HARV				2308	2322	2						IIIG	
		HARV	2308	2400	3	2308	2400	3						UNCLF	
		CULG				2310.5		1						IV	
		CULG				2311.5	2329	2						IIIB	
		HARV				2316	2319	3	2315.5	2327	2			II	
		CULG				2316	2321.5	3	2316	2319	1			IIIGG	
		HARV				2328	2329	2	2316	2321.5	3			IIH	
														UNCLF	
25	0000	0019	HARV	0000	0015	3	0000	0015	2						IV
	0000	0852	CULG				0005	0412	1						CONT
	0000	0152	BOUL				0142	0143.6	3	0142	0143.6	3			IIIG
	0650	1622	WEIS				0650	1540	1						I
			WEIS				0901.5	0902.6	2						IIIG
			WEIS				0904	1130	3						IV
			WEIS				0904.8	0905.6	2						IIIG
	1100	1845	SGMR				1126.2	1128.1	2						IIIDP,RS
			WEIS				1213.8	1214.1	2						III,RS
			WEIS				1220.6	1228	3						IIIGG,DP,RS
			WEIS				1335.7	1336.1	3						IIIG,RS
	1348	2438	BOUL				1348	1540	2	1348	1540	2			CONT
	1346	2400	HARV				1409	1750	1						IN
			BOUL				1538.1	1539	3	1538.1	1539	3			III
			BOUL				1540	2005	1	1540	2005	1			CONT
			HARV	1651	1702	3	1651	1702	3	1639.2	1640.5	2			IIIG
			BOUL				1656.5	1700.6	2	1656.5	1700.6	2			IV
			HARV				1657	1659	2						III
			HARV				1659	1701	2	1659	1700	2			UNCLF
			HARV	1728	1732	2	1730	1734	2						IIIG
			HARV	1831		1	1831		1	1831		1			IIIG
			HARV	1921	1922	2	1921	1922	2						IIIG
			HARV				1937	1944	1	1939	1944	2			IIIGG
			HARV	1937	1948	3	1939	1946	3						IV
			BOUL				1938.6	1944.5	3	1938.6	1944.5	3			IIIGG
1845	2300	SGMR							1939.2	1945				V B	
		BOUL				2024	2347	D 2	2005	2347	D 2			CONT	
		HARV	2024	2025	3	2005	2347	D 2						IIIG	
		CULG				2024	2025	3						IIIG	
2048	2251	HARV				2028	2030	2						IIIG	
		HARV	2109	2112	1	2109	2112	1						IIIG	
		HARV	2158		1	2156	2158	1						IIIG	
26	0000	0020	HARV												
	0000	0203	CULG				0422.8		1						IIIB
	0221	0410	CULG				0423.3	0425.5	3	0423.4	0425.5	3			IIIB+U
	0416	0852	CULG				0425.5	0441	3	0428.5	0444	3			IIH
			CULG				0425.5	0520	2						CONT
			CULG				0433	0435	2						RS
			CULG				0520	0555	1						CONT
			CULG				0554	0555	2	0554	0555	2			IIIG+V
			CULG				0559	0624	1						RS+DP,N

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

FEBRUARY 1969

FEB. 1969	TIMES OF OBSERVATION		STATION	EVENTS									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.											
26	0647	1623	WEIS																				
	1100	1900	SGMR																				
	1348	1525	BOUL																				
			BOUL				1355.5	1359.2	2				1355.5	1359.2	2							IIIG	
			BOUL				1417.4	1423.9	1				1417.4	1423.9	1							IIIGG	
			BOUL				1442	1525	1				1442	1525	1							CONT	
		1842	2340	BOUL																			
		1900	2300	SGMR																			
		2048	2203	CULG																			
		2221	2400	CULG																			
		1346	2400	HARV	2301	2302	1	2301	2302	2													IIIG
		2356	2458	BOUL																			
27	0000	0022	HARV																				
	0000	0851	CULG				0519	0531	1													I	
			CULG				0610	0625	1													I	
		0648	1628	WEIS			0719.4	0719.7	2													IIIG,RS	
			CULG				0719.5		2													I	
			CULG				0724.5	0726.5	1													I	
			WEIS				0725	0726.7	2													IIIG,RS	
			WEIS				0751.9	0752.1	2													III,DP	
			CULG				0752		2													IIIB	
			CULG				0817.5	0818	3													IIIG,U	
			WEIS				0817.5	0818.6	1													IIIG	
			WEIS				1053.6	1055.5	2														IIIG,RS
			WEIS				1400	1405.3	2														IIIGG
		1100	2300	SGMR									1402	1406									IIIG
		1400	2500	BOUL									1402.2	1405.3	3								IIIG
		1346	1700	HARV	1403	1416	3	1402.2	1405.3	3			1412	1414	1								IIIG
				SGMR				1403	1416	2			1403	1405									IIIGG
				WEIS				1404.3	1432	2													II
			HARV				1404.5	1421	2													II	
			BOUL				1405.3	1458	3			1405.3	1458	3								IV	
			BOUL				1405.7	1514.4	3			1405.7	1514.4	3								II	
			HARV	1407	1454	2	1407	1450	2													IVN	
			SGMR				1458	1531	2			1409	1525									IV	
			BOUL									1458	1531	2								IV	
	2108	2400	CULG																				
28	0000	0023	HARV																				
	0000	0853	CULG				0135	0136	2			0135	0135.5	1								IIIG	
			CULG				0139	0147	1													IIIG	
			CULG				0403.5		1			0403.5		1									IIIB
			CULG				0557	0603	1														IIIG
		1100	2300	SGMR																			
		0652	1350	WEIS				1233.4	1234.2	1													IIIG
		1445	1628	WEIS																			
		1348	2500	BOUL				1454.1	1455.5	2			1454.1	1455.5	2								IIIG
				BOUL				1655.5	1658.8	3			1655.5	1658.8	3								IIIG
				HARV				1656	1658	2			1656	1658	1								IIIG
		1346	2400	HARV	1914	1916	1																IIIG
		1348	2500	BOUL									2033.7	2037.7	2								IIIG
		1346	2400	HARV				2043	2046	1													UNCLF
	1348	2500	BOUL				2044.2	2049.4	2			2044.2	2049.4	2								IIIG	
	2056	2400	CULG																				

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

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

COSMIC RAY INDICES
(Neutron Monitors)

FEBRUARY 1969

Feb. 1969	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	5840.42	6311.6	3750.0	5841.42
2	5851.25	6307.5	3762.7	5877.17
3	5799.08	6278.0	3755.7	5896.91(23)
4	5823.00	6327.2	3758.5	5890.88
5	5824.88	6346.4	3771.9	5887.38
6	5846.38	6370.0	3792.4	5915.13
7	5916.38	6427.5	3844.1	5973.25
8	5968.75	6483.7	3868.1	6015.37
9	5965.46	6490.8	3862.5	6016.37
10	5975.67	6491.3	3858.7	6008.08
11	5860.87	6405.5	3828.2	5969.79
12	5905.41	6428.7	3838.0	5994.75
13	5900.21	6436.7	3844.3	5978.16
14	5894.91	6442.6	3834.1	5963.79
15	5903.37	6436.0	3835.8	5975.12
16	5917.91	6449.0	3847.2	5981.96
17	5942.50	6479.1	3868.9	6011.58
18	5969.04	6513.7	3889.2	6040.33
19	5972.87	6515.2	3898.0	6037.54
20	5963.75	6490.7	3886.9	6009.96
21	5973.58	6498.7	3887.7	6008.83
22	5971.75	6498.2	3884.9	6005.12
23	5951.08	6484.2	3869.5	5978.25
24	5964.96	6483.7	3865.0	5989.54
25	6014.87	6556.5	3882.4	5997.58
26	5900.50	6443.6	3836.0	5953.62
27	5819.04	6351.7	3759.0	5875.08
28	5751.33	6278.8	3695.9	5818.33

Addenda: The Neutron Counts observed at Dallas for January 27-31 are
27 5843.29, 28 5865.83, 29 5859.38, 30 5854.58, and 31 5846.21

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

Churchill Super Neutron Monitor, Scaling Factor 120.

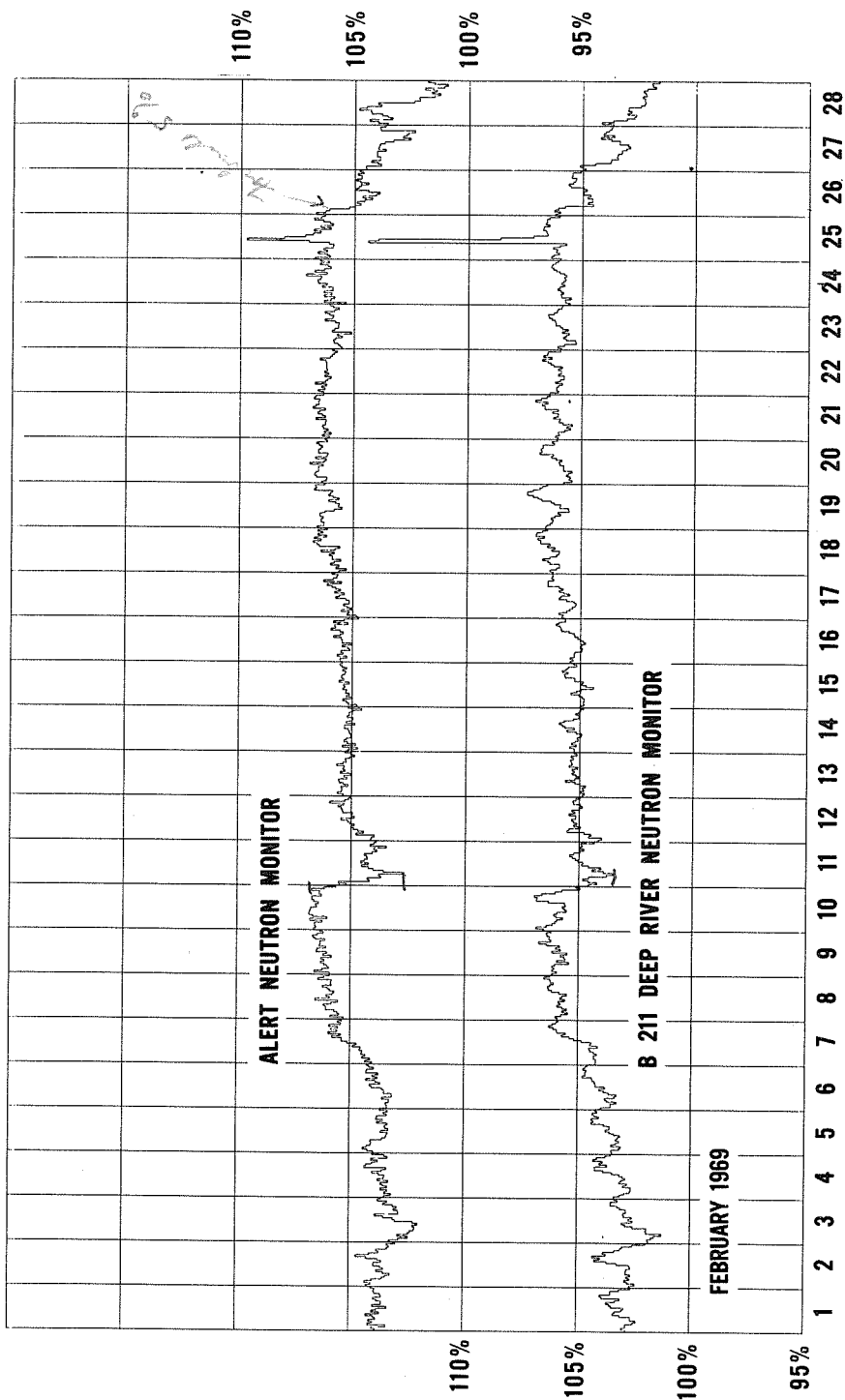
Deep River Neutron Monitor, Scaling Factor 300.

Climax IGC Station B305, Scaling Factor 100.

Dallas Super Neutron Monitor, Scaling Factor 120.

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

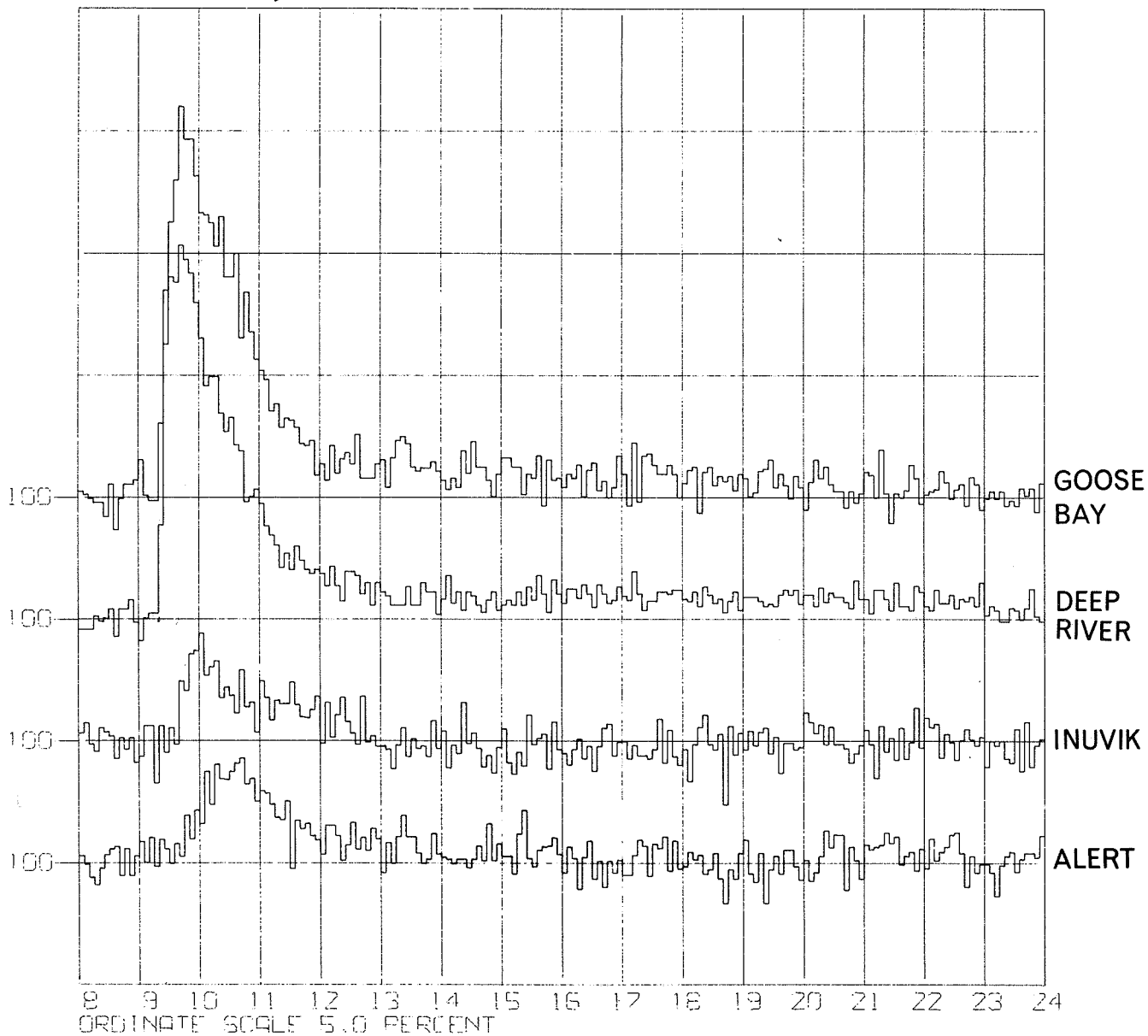
FEBRUARY 1969



COSMIC RAYS 5-MINUTE INTERVALS

FEBRUARY 25, 1969

CORRECTED NEUTRON MONITOR



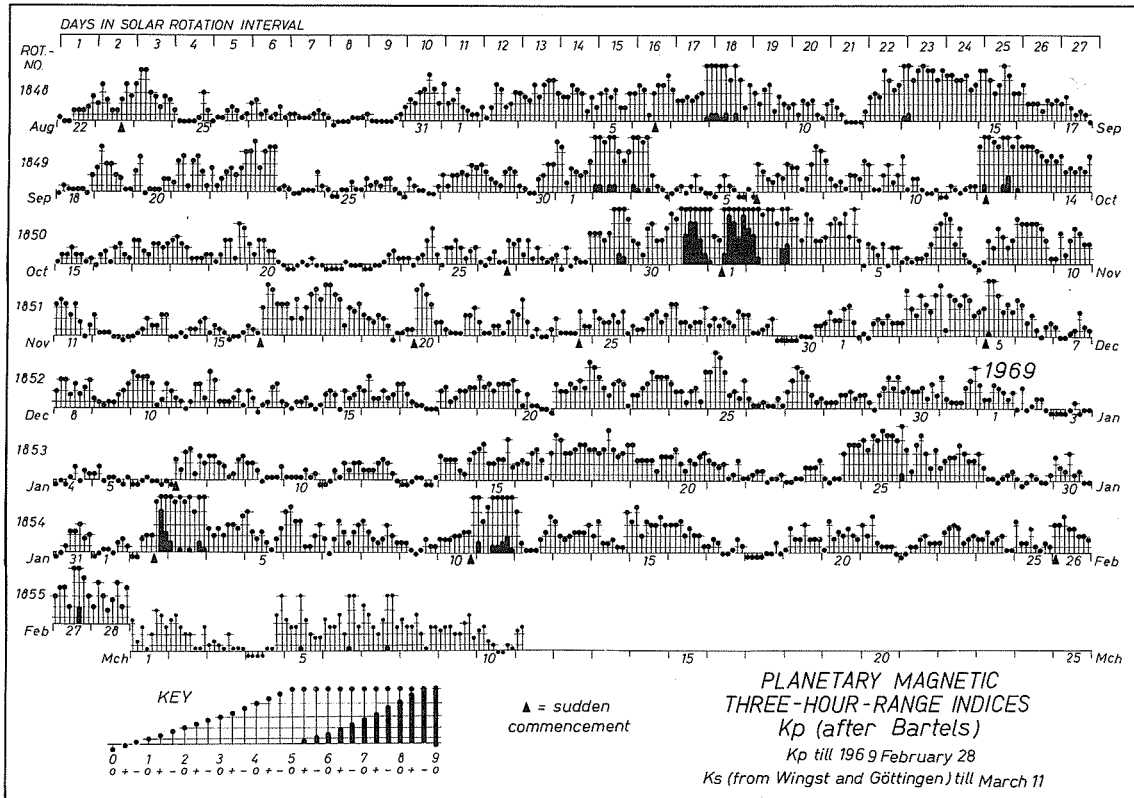
GEOMAGNETIC ACTIVITY INDICES

FEBRUARY 1969

DAY		K _p								SUM	C _i	C _p	A _p
		THREE-HOUR RANGE INDICES											
		1	2	3	4	5	6	7	8				
1	QQ	0	0+	1-	1-	0+	1+	2-	1	6	0.1	0.1	3
2	D	0	0	2-	2	2	5-	8	7-	25	1.6	1.5	47
3	D	6	5-	5+	5-	5+	4	6	5+	41+	1.7	1.6	54
4		3-	2	3-	2	3	3	3-	4-	22-	0.9	0.7	13
5		4	2+	2-	2+	1+	1-	2-	3-	17-	0.6	0.5	10
6		4	4+	3+	3+	1	1	2	3	22	0.7	0.9	16
7	Q	2-	0+	2-	3+	2+	1+	2+	3	16	0.4	0.5	9
8		3+	2+	2-	1+	2-	3	2	1+	17-	0.4	0.5	9
9	QQ	1+	1+	1-	0+	1-	2-	1	1	8	0.1	0.1	4
10		2-	2-	2-	2	2	2+	2+	5	19-	0.9	0.7	12
11	D	6	3+	4+	6-	6-	6	6+	5+	43-	1.7	1.7	62
12		4	1+	1-	1-	1-	2-	2+	4-	15	0.7	0.5	10
13		3+	2	2-	2	2+	2+	2+	3	19	0.6	0.6	10
14		2	3+	1+	1+	2-	1	1	4	16-	0.5	0.5	10
15	D	3+	4+	2	3+	3	3	4-	3	26-	1.0	1.0	18
16		3	3	3+	2	3-	2	2	1	19	0.5	0.6	11
17	QQ	1	2-	1+	0+	0+	1-	2-	1	8	0.2	0.1	4
18	QQ	0	0	0	0	0+	0+	1+	0+	2+	0.1	0.0	1
19	Q	1-	3-	2-	2-	3	2-	2-	2-	15-	0.4	0.4	8
20		1-	3+	2-	2+	2	3-	2	2-	16+	0.5	0.5	8
21	Q	3	2	4-	1+	1	1	1	0+	13+	0.4	0.4	8
22	QQ	0	0+	1	1	2-	2	1+	1+	9-	0.2	0.1	4
23		1+	2+	3-	3	3-	1+	2-	2	17	0.4	0.5	9
24	Q	2-	2-	2+	1+	2-	2	1-	1-	12	0.3	0.3	6
25	Q	3+	1+	1+	3-	1	1-	1+	1	13-	0.3	0.4	7
26		3	3	4-	3-	3-	2	2	2-	21-	0.8	0.7	12
27	D	3	4-	4-	2	5	6+	4+	3	31	1.3	1.3	32
28		2	4	3	2-	3-	4	2	4-	23	1.0	0.9	15
MEAN											0.65	0.63	15

Preliminary sudden commencements (ssc) occurred February 2, 1969 at 1502 UT, February 10 at 2025 UT and February 26 at 0158 UT.

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES A_p

DAY .	1968										1969	
	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.
1	10	26	13	17	10	4	9	16	122	9	8	3
2	9	12	14	17	9	4	10	47	82	6	4	47
3	14	13	11	14	16	12	18	29	35	18	1	54
4	16	9	6	9	10	6	14	3	27	21	3	13
5	17	34	4	5	8	12	12	2	6	25	3	10
6	7	36	3	5	6	16	19	6	7	9	1	16
7	5	11	53	11	7	13	18	15	17	5	9	9
8	4	3	7	13	6	14	48	7	10	11	8	9
9	4	2	21	9	4	13	12	9	22	6	4	4
10	15	6	10	36	35	7	6	6	12	14	3	12
11	8	10	17	103	10	6	6	2	12	6	4	62
12	8	11	27	38	7	6	19	51	3	8	6	10
13	5	23	14	48	22	11	43	30	6	6	1	10
14	23	26	11	26	22	27	29	14	4	3	9	10
15	28	14	9	8	6	22	30	5	3	6	13	18
16	26	14	11	13	9	41	10	5	17	8	10	11
17	12	10	15	18	6	39	6	9	19	4	21	4
18	12	8	17	12	10	19	3	8	22	7	20	1
19	11	3	11	14	8	10	12	11	6	12	11	8
20	20	2	19	7	5	6	7	7	17	24	11	8
21	7	4	24	3	9	4	13	2	7	13	6	8
22	5	8	16	10	19	5	11	1	5	13	4	4
23	9	12	13	6	11	11	22	3	6	14	5	9
24	22	8	18	2	3	19	4	7	5	9	12	6
25	19	5	6	4	7	4	2	6	8	20	29	7
26	14	26	4	14	15	4	4	5	7	4	23	12
27	16	20	4	11	11	5	3	6	10	13	12	32
28	12	16	6	6	8	4	8	5	7	5	5	15
29	14	14	9	13	5	2	9	37	4	9	2	
30	27	7	10	11	7	3	7	15	2	8	6	
31	16		10		5	14			112	11	6	
MEAN	13	13	13	17	10	12	14	16	17	9	8	15

PRINCIPAL MAGNETIC STORMS

113
Feb 69

FEBRUARY 1969

DATE 1969 MO DA	STORM TIME		OBS.	GEO- MAG. LAT.	SUDDEN COMMENCEMENT			C FIGURE DEGREE OF AC- TIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9			RANGES			STORM NUMBERS		
	UT START	UT END MO. DA. HR			TYPE	AMPLITUDES			MO. DA.	3-HOUR PERIOD	K INDEX	D (°)	H (γ)	Z (γ)			
						D(°)	H(γ)									Z(γ)	
02 02	08--	02 05 03.	COLL	64.6N	..	..	..	S	02 02	7	9	715	2630	1400	4	
	1502	02 04 00	SITK	60.0N	SC *	- 6	+ 32	+	S	02 02	7	9	100	1600	500	4	
	1502	02 04 04	NEWP	55.1N	SC *	7	32	4	S	02 02	7	8	57	597	222	4	
	1502	02 04 03	WITT	54.1N	SC *	- 6	+68	0	S	02 02	7	8	70	330	180	4	
	1503	02 04 03	FRED	49.6N	SC *	- 4	+36	+ 6	MS	02 02	7	7	34	296	148	4	
	1502	02 04 03	BOUL	49.0N	SC *	- 4	+17	- 3	S	02 02	7	8	29	440	110	4	
	1500	02 03 24	IRKU	40.8N	SC	+ 3.2	+30	+ 6	S	02 02	7	9	37	346	115	4	
	1502	02 04 10	TUCS	40.4N	SC	- 2	+20	+ 2	S	02 02	7	8	22	340	40	4	
	1502	02 04 03	SJUA	29.9N	SC	+ 1	+13	+ 3	S	02 02	7	8	16	266	79	4	
	1502	02 05 06	MBOR	21.3N	SC *	- 0.8	+25	- 3	MS	02 02	7	7	7	245	45	4	
	1502	02 04 00	HONO	21.1N	SC	+ 0	+21	+ 8	MS	02 02	7,8	6	11	196	47	4	
	1502	02 05 00	ALIB	9.5N	SC	- 0.2	+17	- 3	S	02 02	7	8	8	302	51	4	
	1501	02 04 01	HYDE	7.6N	SC	- 0.2	+27	- 3	S	02 02	7	8	6	291	23	4	
	1502	02 05 04	GUAM	4.0N	SC	--	20	07	MS	02 02	7	7	00	180	20	4	
	1502	02 05 00	ANNA	1.5N	SC	- 0.8	+34	+17	S	-- --	-	-	7	299	--	4	
	1503	02 04 23	HUAN	0.6S	SC *	4	46	7	S	02 02	6	9	18	750	70	4	
	1502	02 05 00	TVAN	1.1S	SC	+ 0.2	+23	+23	S	-- --	-	-	3	290	236	4	
	1502	02 05 06	APIA	16.1S	SC	- 0	+21	- 7	MS	02 02	7	7	5	195	54	4	
	1500	02 05 06	PMOR	18.6S	SC	+ 0.1	+32	+29	MS	02 02	7	7	11	180	120	4	
	1502	02 05 03	HRMN	33.3S	SC	+ 1.9	+18	+13	S	02 02	7	8	42	257	288	4	
	1502	02 03 24	GNAN	43.2S	SC	+ 2	+35	+ 9	S	02 03	1,4,7,8	5	8	34	252	172	4
	1502	02 05 07	TOOL	46.7S	SC	- 1	+54	+10	S	02 02	7	8	26	378	148	4	
	1503	02 04 10	AMBE	47.7S	SC	+ 1.2	+42	- 6.4	MS	02 02	7	7	50	262	178	4	
	1501	02 04 03	KGLN	57.3S	SC	--	--	--	S	02 02	7	9	--	--	--	4	
02 10	2024	02 12 03	COLL	64.6N	SC *	+ 8	-27	+ 9	S	02 11	6	8	501	2560	1690	5	
	2024	02 12 00	SITK	60.0N	SC *	+ 2	9	+	S	02 11	5	9	210	1260	840	5	
	2023	02 12 00	NEWP	55.1N	SC *	2	9	---	MS	02 11	5	7	56	339	469	5	
	2025	02 12 02	WITT	54.1N	SC	+ 2	+22	0	MS	02 11	7	7	50	220	160	5	
	2024	02 12 01	FRED	49.6N	SC *	- 1	+21	- 3	MS	02 11	1,4	6	43	195	126	5	
	2024	02 12 02	BOUL	49.0N	SC *	0	+ 9	0	MS	02 11	1,6	6	30	160	130	5	
	2124	02 11 24	IRKU	40.8N	SC	- 0.9	+13	+ 2	MS	02 11	4,8	6	27	155	65	5	
	2024	02 12 01	TUCS	40.4N	SC *	+ 1	- 4	---	M	02 11	1,3,4	5	12	120	10	5	
	2021	02 12 01	SJUA	29.9N	SC	- 0.3	+ 6	+ 2	MS	02 11	5,6	5	5	229	83	5	
	2024	02 12 03	MBOR	21.3N	SC	- 0.2	+ 8	0	MS	02 10	8	6	11	148	32	5	
	2024	02 12 00	HONO	21.1N	SC *	+ 1	+ 6	+ 3	MS	02 11	6	6	4	80	40	5	
	2024	02 12 00	HONO	21.1N	SC *	+ 1	+ 6	+ 3	M	02 10	8	5	10	110	48	5	
	2024	02 12 00	ALIB	9.5N	SC	- 0.1	+ 9	- 3	MS	02 11	1,5,6	5	5	213	62	5	
	2023	02 12 04	HYDE	7.6N	SC	- 0.1	+10	- 1	MS	02 11	5,7	6	4	213	40	5	
	2024	02 12 03	GUAM	4.0N	SC	--	02	02	MS	02 11	5	6	--	60	10	5	
	2024	02 12 00	ANNA	1.5N	SC	- 0.1	+10	+ 6	MS	-- --	-	-	4	229	83	5	
	2025	02 12 21	HUAN	0.6S	SC	1	27	4	MS	02 11	6	6	16	227	52	5	
	2024	02 12 00	TVAN	1.1S	SC	+ 0.1	+90	+90	MS	-- --	-	-	2	255	146	5	
	2024	02 12 04	APIA	16.1S	SC	--	+10	- 3	M	02 11	1,4	5	5	36	30	5	
	2024	02 12 05	PMOR	18.6S	SC	+ 0.1	+ 3	+ 3	MS	02 11	5	6	7	160	70	5	
	2025	02 12 03	HRMN	33.3S	SC	+ 0.5	+ 7	+ 4	MS	02 10	8	5	22	177	129	5	
	2025	02 11 24	GNAN	43.2S	SC *	+ 2	+ 6	+10 *	MS	02 11	7	6	22	153	177	5	
	2024	02 11 24	TOOL	46.7S	SC	--	+ 5	---	MS	02 11	5	6	31	153	77	5	
	2024	02 12 00	AMBE	47.7S	SC *	+ 1.2	+ 9.4	-19.3	MS	02 11	5	6	22	183	85	5	
	19--	02 12 02	KGLN	57.3S	..	..	..	..	MS	02 11	1,4	7	--	--	--	5
	19--	02 12 02	KGLN	57.3S	..	..	..	..	MS	02 11	6,7,8	7	--	--	--	5
02 26	0158	03 01 03	COLL	64.6N	SC *	- 6	+44	- 6	MS	02 27	6	7	301	1240	970	6	
	0159	02 28 00	NEWP	55.1N	SC *	1	36	---	M	02 27	6	5	27	108	51	6	
	0158	02 26 15	IRKU	40.8N	SC *	+ 3.9	+ 8	+ 2	M	02 26	2,3	5	13	95	22	6	
	0157	-- -- --	MBOR	21.3N	SC	--	+ 5	- 2	MS	02 27	6	7	8	145	45	6	
	0156	02 26 22	ALIB	9.5N	SC	- 0.2	+ 6	- 3	M	02 26	3	5	6	138	55	6	
	0156	02 26 23	HYDE	7.6N	SC	- 0.2	+15	- 1	M	02 26	1,2,3	4	6	143	33	6	
	0156	02 26 22	ANNA	1.5N	SC	- 1.0	+27	+10	M	-- --	-	-	4	185	43	6	
	0156	02 26 22	TVAN	1.1S	SC *	- 0.2	+30	+29	M	-- --	-	-	2	225	126	6	
	0200	02 28 02	APIA	16.1S	SC	+ 0	+18	- 8	M	02 27	6	5	7	128	24	6	
	0158	02 28 04	HRMN	33.3S	SC	+ 1.8*	+12	+11	MS	02 27	6	6	30	150	142	6	
	0155	02 26 18	GNAN	43.2S	SC *	- 5 *	+ 6	-20 *	M	02 26	3	5	14	63	73	6	
	0157	02 26 20	TOOL	46.7S	SC *	- 2	+33	+ 5	M	02 26	3	5	18	111	17	6	
	0158	02 26 12	AMBE	47.7S	SC *	+ 1.8	+44.4	+ 5.8	M	02 26	1,2,3	4	6	86	12	6	
	0158	02 -- --	KGLN	57.3S	SC	--	--	--	M	02 26	3	4	--	--	--	6	
02 27	02--	02 27 20	WITT	54.1N	..	..	..	..	MS	02 27	6	7	40	170	100	7
	12--	02 27 23	BOUL	49.0N	..	..	..	..	M	02 27	5,6	5	20	110	30	7
	0306	02 27 20	IRKU	40.8N	SC	+ 1.4	+ 8	+ 2	MS	02 27	6	6	19	165	28	7	
	0200	02 27 23	SJUA	29.9N	..	..	..	..	M	02 27	6	6	06	113	19	7
	0308	02 27 20	ALIB	9.5N	SC	- 0.2	--	--	MS	02 27	6	7	4	215	30	7	
	0300	02 27 23	HYDE	7.6N	..	..	..	..	MS	02 27	6	7	4	221	18	7
	0308	02 27 20	ANNA	1.5N	..	..	..	..	MS	-- --	-	-	3	273	62	7
	0308	02 27 23	HUAN	0.6S	SC	0	11	4	MS	02 27	5,6	7	9	461	60	7	
	0308	02 27 20	TVAN	1.1S	SC	0.0	+18	+16	MS	-- --	-	-	3	297	180	7	
	02--	02 27 21	PMOR	18.6S	..	..	..	..	MS	02 27	6	6	5	140	90	7
	03--	02 27 19	GNAN	43.2S	..	..	..	..	MS	02 27	6	6	20	135	135	7
	02--	02 27 21	TOOL	46.7S	..	..	..	..	MS	02 27	6	6	24	162	26	7
	0200	02 27 21	AMBE	47.7S	..	..	..	..	M	02 27	6	5	13	152	48	7
02 28	0422	03 02 06	MBOR	21.3N	SC	- 0.4	+17	0	M	-- --	-	-	--	--	--	8	
	0424	02 28 11	AMBE	47.7S	SC	+ 2.5	+61.7	-14.5	M	02 28	2	5	10	98	9	8	
	0424	03 01 01	KGLN	57.3S	SC *	--	--	--	M	02 28	6	5	--	--	--		

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

FEBRUARY 1969

North Atlantic, North Pacific

FEB. 1969	WHOLE DAY INDICES			ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC				NORTH PACIFIC				GEOMAGNETIC INDICES									
	NORTH ATLANTIC	NORTH PACIFIC	AVERAGE HIGH LATITUDE		6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				K _{FR}		A _{FR}	K _{SI}		A _{SI}				
					00 TO 06	06 TO 12	12 TO 18	18 TO 24	00	06	12	18	00 TO 06	06 TO 12	12 TO 18	18 TO 24	HALF DAY (1)	HALF DAY (2)	OBSERVED	HALF DAY (1)	HALF DAY (2)	
01	7-	6	6+	7	7-	6o	7-	7o	6	6	7	7	6	6	6	6	0	1	2	0	1	2
02	6o	6	6o	7	7-	6o	7o	4+	6	6	7	6	6	6	5	1	(5)	32	1	(5)	66	
03	5o	6	5+	7	5-	4-	6-	5+	4	4	4	5	5	6	6	(4)	(4)	30	(6)	(5)	60	
04	6-	6	6-	7	5-	4+	7o	7-	4	4	5	6	6	6	6	2	3	9	2	2	8	
05	6+	6	6+	7	6o	6o	7-	6+	5	5	6	6	6	6	6	2	1	7	2	1	6	
06	6+	6	6+	6	6o	6o	7-	7-	6	5	6	7	6	6	6	(4)	2	16	3	1	8	
07	6+	6	6+	7	6o	6o	7o	7-	6	6	7	6	6	6	6	2	2	10	2	2	8	
08	7-	6	6+	7	6o	6o	7o	7o	6	6	7	7	6	6	6	2	2	7	1	1	3	
09	7-	6	6+	7	7-	6+	7o	6+	6	6	7	7	6	6	6	1	1	2	0	1	1	
10	7-	6	6+	7	7-	6+	7-	7-	6	6	7	7	6	6	6	2	3	12	1	2	7	
11	5o	5	5o	7	5o	5+	5-	5o	6	5	5	5	6	6	5	5	(5)	(4)	40	(5)	(6)	119
12	6-	6	6-	7	6-	5+	6+	6+	5	4	5	6	5	5	5	6	2	2	8	1	1	4
13	6o	5	6-	6	6+	6-	7-	6o	6	6	7	6	5	6	5	2	2	7	2	2	9	
14	6+	6	6+	6	6+	6o	7-	6+	6	6	7	7	6	6	6	2	1	6	1	2	5	
15	7-	6	6+	6	7-	6+	7o	7-	6	6	7	7	6	6	6	3	3	13	3	2	12	
16	6+	6	6+	6	6+	5o	7-	7-	6	6	6	6	6	6	6	2	2	8	2	2	11	
17	7-	6	6+	6	6+	7-	7-	7-	6	6	7	7	6	6	6	1	1	2	0	0	2	
18	7-	6	6+	7	6+	6+	7o	7-	7	6	7	7	6	5	6	0	1	1	0	0	0	
19	6+	6	6+	7	6+	6o	7-	6+	6	7	6	7	6	7	6	2	2	7	1	2	5	
20	6+	6	6+	7	6+	5+	7-	7o	7	6	7	7	6	6	6	2	2	7	0	2	4	
21	7-	6	6+	7	7-	6+	7o	7o	7	6	7	7	6	6	6	2	1	6	1	1	4	
22	7-	6	6+	6	7-	7-	7-	7-	7	6	7	7	6	6	6	0	1	2	0	1	3	
23	7-	6	6+	6	7-	6o	7-	7-	7	6	7	7	6	6	6	2	2	9	2	2	7	
24	6+	6	6+	7	7-	7-	6+	6+	7	6	7	7	6	6	6	1	2	5	1	0	2	
25	6+	6	6+	7	6o	6+	6+	6+	7	6	6	7	6	6	6	2	1	5	1	0	2	
26	6+	6	6+	7	6+	6o	7-	7-	4	4	6	6	6	6	6	3	2	9	3	1	10	
27	6o	6	6o	4	6+	6-	6-	6+	5	4	5	5	6	6	5	3	(4)	21	2	(4)	25	
28	6+	6	6+	4	7-	6o	7-	7-	5	5	5	6	6	6	6	2	3	13	2	2	11	
QUIET				P	8					11	15	18	16									
				S	16					15	9	7	11									
				U	2					1	0	2	0									
				F	-					1	2	1	0									
DISTURBED				P	0					0	2	0	0									
				S	0					0	0	0	0									
				U	0					0	0	0	0									
				F	0					0	0	0	1									

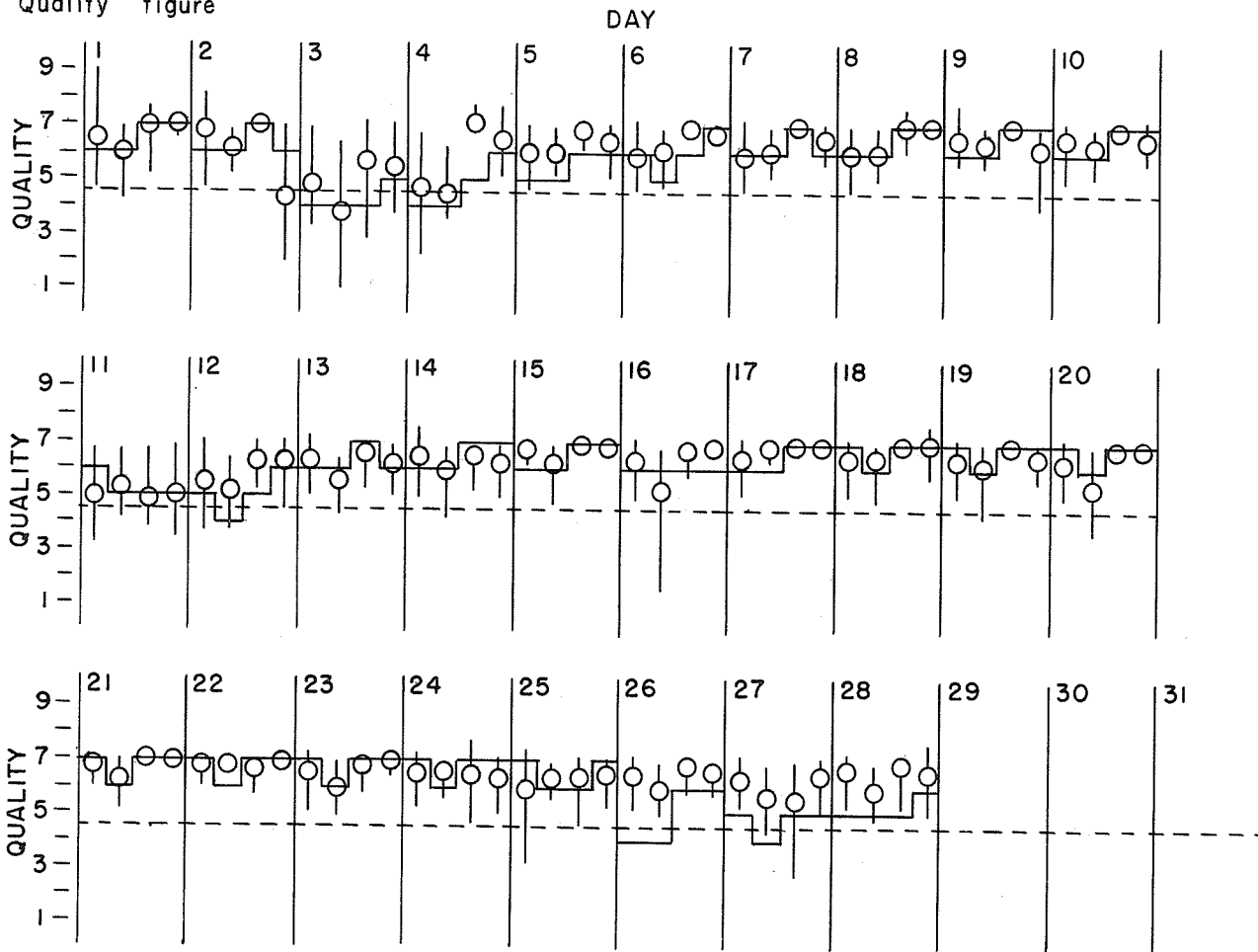
1) THE ADVANCE JC-FORECASTS ARE SCORED AGAINST THE AVERAGE HIGH LATITUDE WHOLE-DAY INDICES.

FEBRUARY 1969

North Atlantic

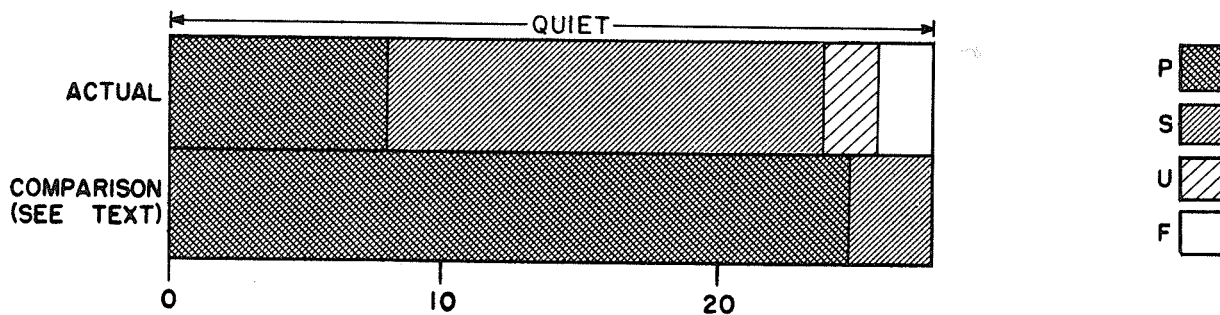
- Short-term forecast
o Quality figure

| range of reports



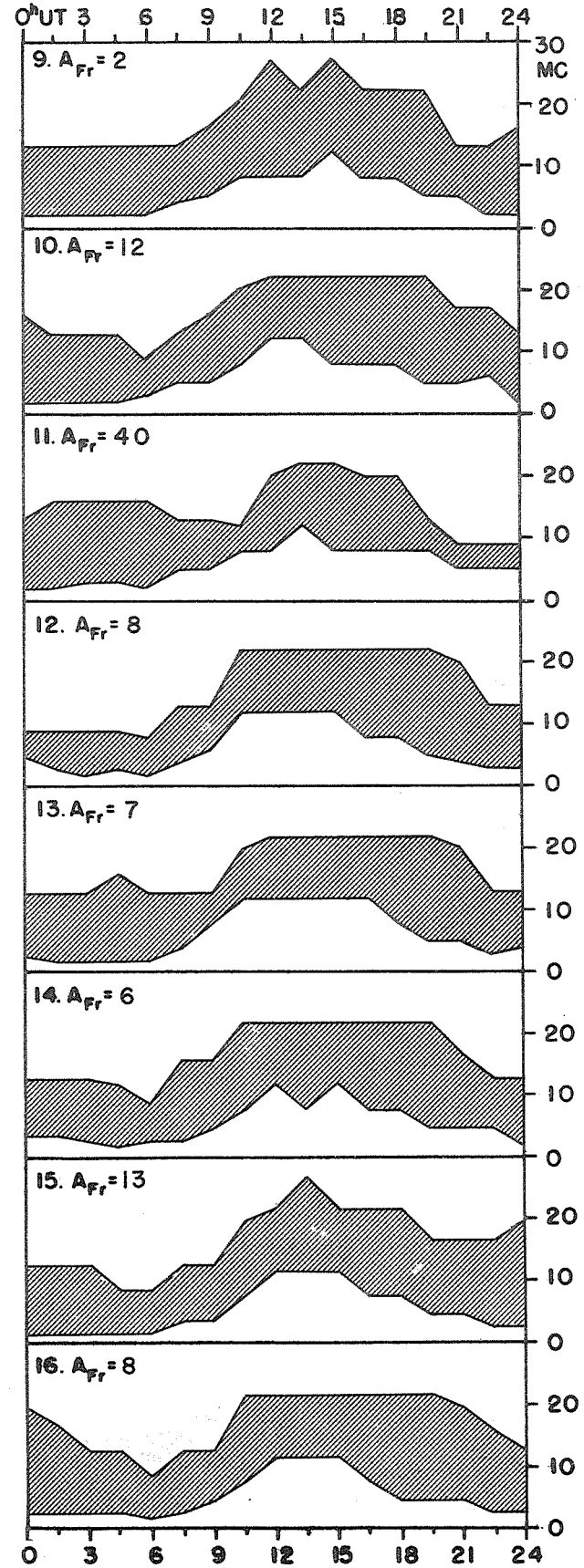
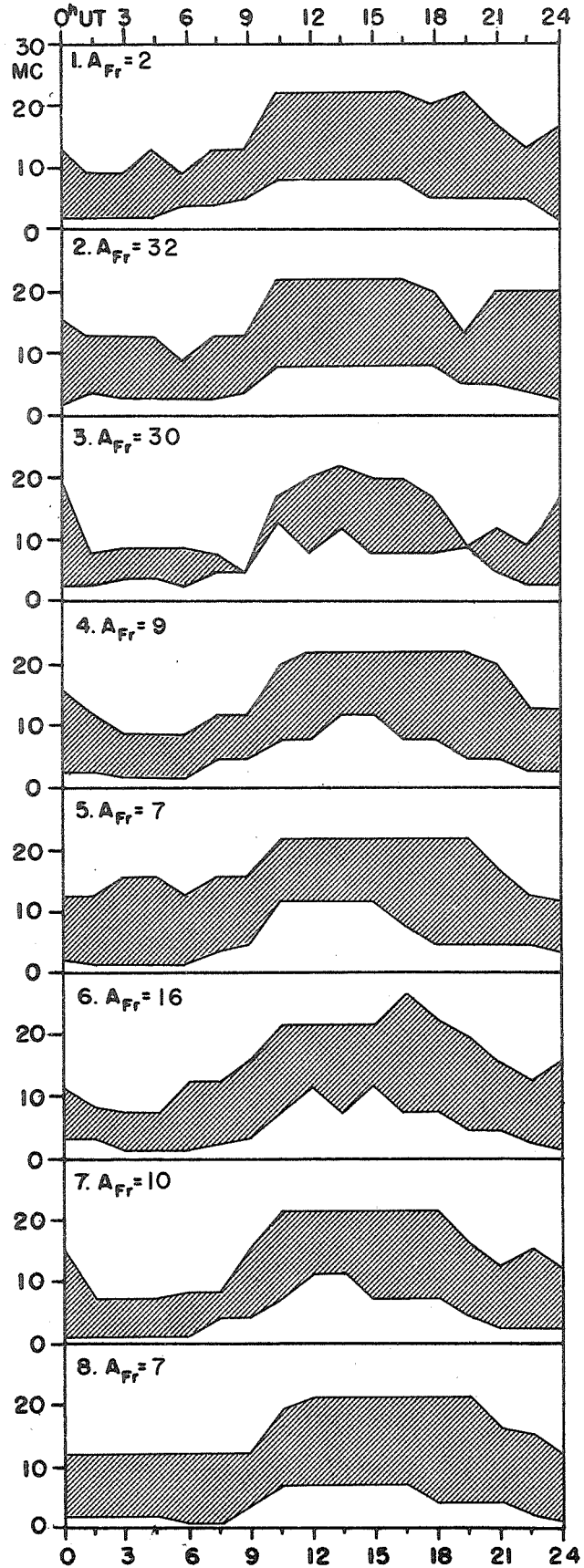
Outcome of advance forecasts - final estimates (1 to 7 days ahead) -
High Latitude radio propagation conditions

HIGH LATITUDE



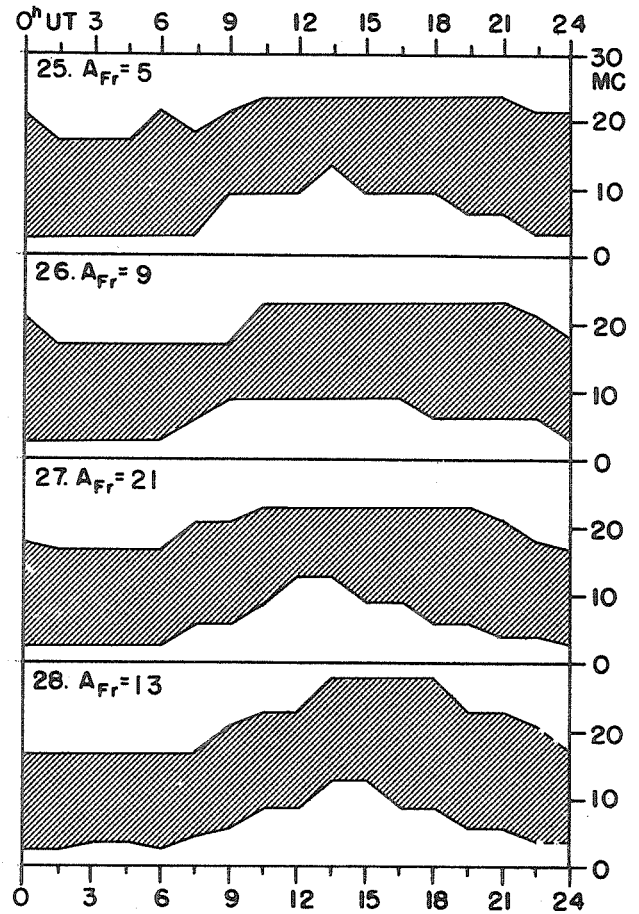
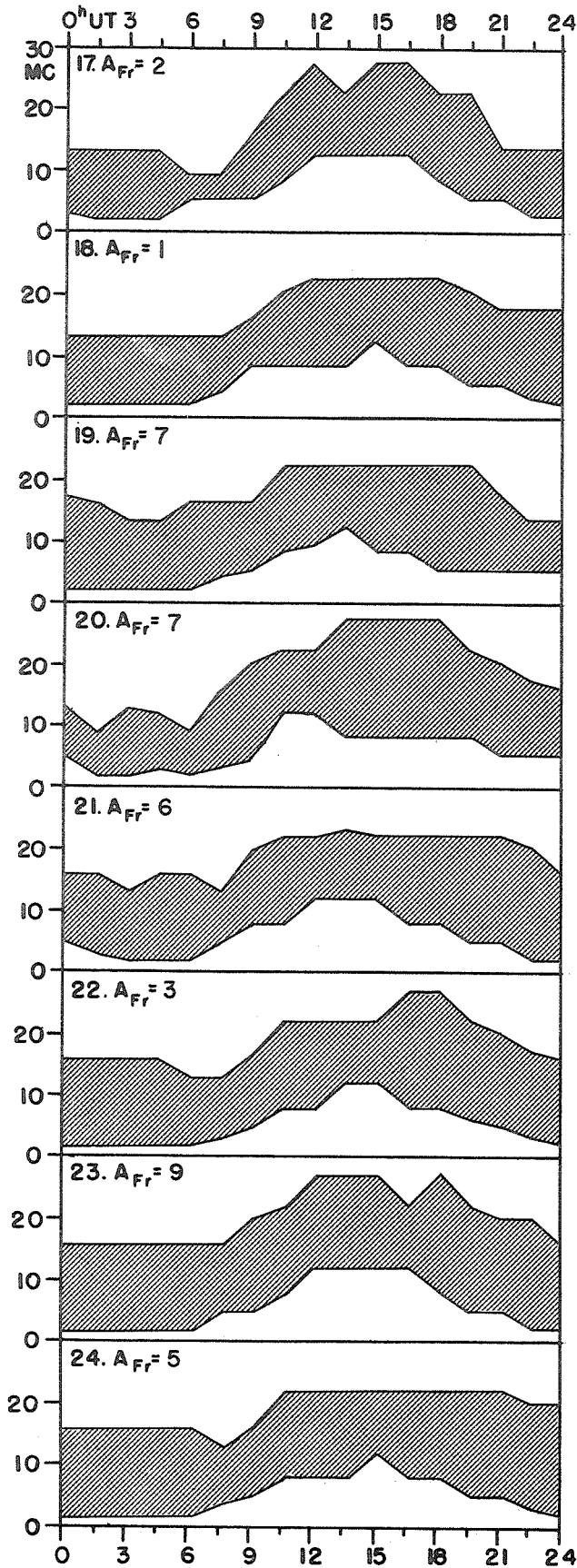
TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

FEBRUARY 1969



TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

FEBRUARY 1969



Adapted from Observations by Deutsche Bundespost

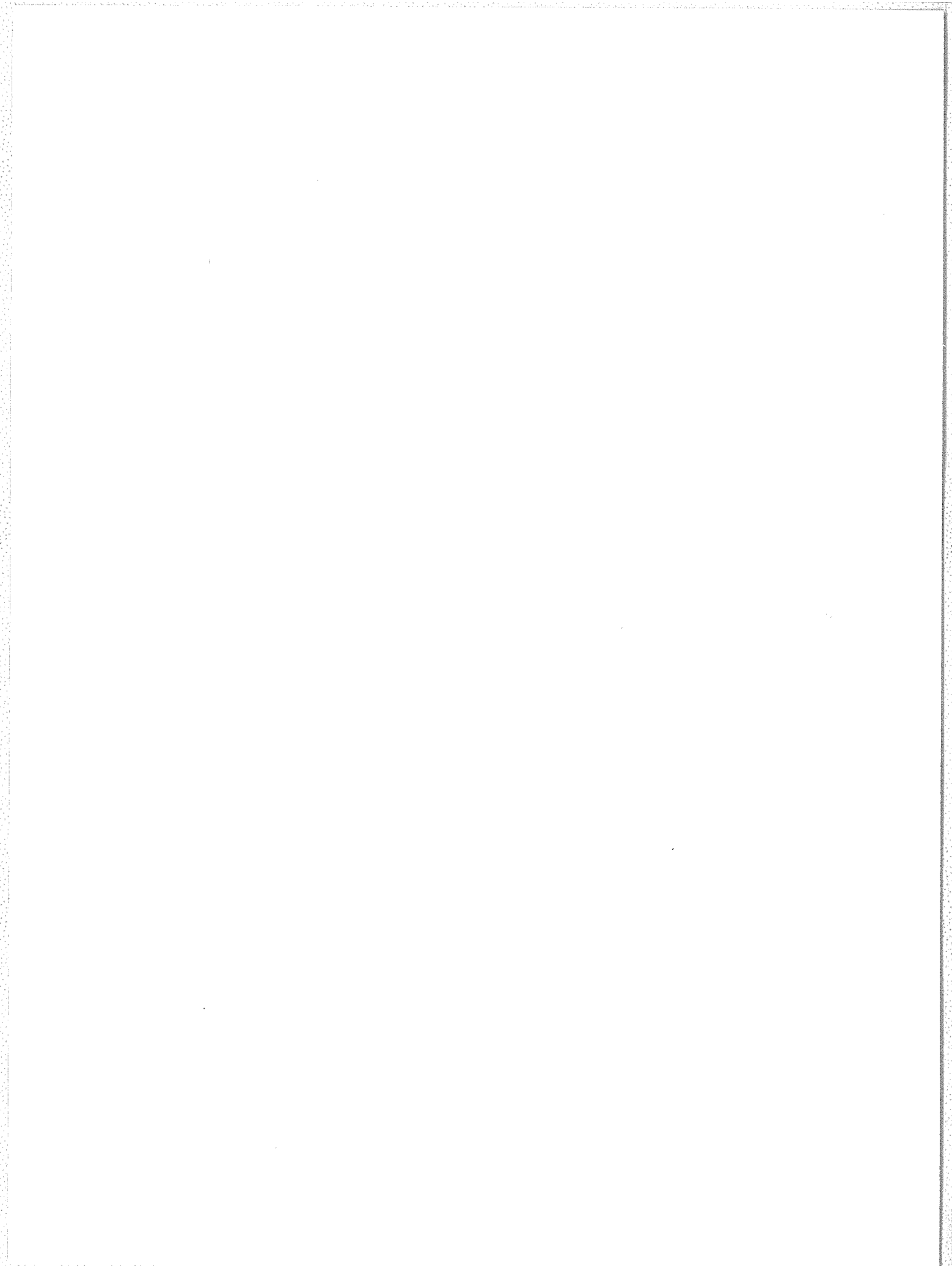


Table of Contents
for October 1968 Data

	Page
<u>Solar Flares</u>	
Confirmed Solar Flares	120-150
Unconfirmed Solar Flares	151-160
No-Flare-Patrol Chart	161
 <u>Sudden Ionospheric Disturbances</u>	
SWF, SCNA, SEA, SPA, SES, SFD	162
 <u>Solar X-ray Radiation</u>	
University of Iowa - Satellites Explorer 33 and 35	163-164
 <u>Magnetograms of Geomagnetic Storms</u>	
	165-166
 <u>Solar Proton Monitoring</u>	
The processing of the Explorer 34 Solar Proton data for August, September and October 1968 has been delayed. The Cosmic Ray Proton report from Pioneer 8 and 9 is not yet processed for October 1968. These reports will be published in the Miscellanecus Section when they become available.	

For explanations of the data contained herein see "Descriptive Text" published in February 1969.

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM-POR-TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS	
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %		
6 STATIONS REPORTING GROUP 18105, 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP18105	01	0033	0140	0051	N13	W34	.560	9687	28.5	67	1N							4 3 3 5	
SACP	01	0026	0039D	0038U	N14	W34	.562	9687	28.5	13D	-N	C		1.60	1.70				
MANI	01	0033	0140	0050	N12	W33	.544	9687	28.5	67	1N	2	0050	3.40	4.01			EWU	
VORO	01	0033	0135	0048	N12	W34	.558	9687	28.5	62	2N	C	0048	4.28	5.22		148	EHJ	
CULG	01	0033	0145	0055	N14	W34	.562	9687	28.5	72	1N	C	0055	2.78	3.30			E	
18105	01	0128	0200	0135	N14	W36	.589	9687	28.4	32	*1N			4.20				2 1 1 5	
CRON	01	0128	0200	0135	N14	W36	.589	9687	28.4	32	1N	C		4.20	5.00				
HALE	01	0200E	0217		N14	W34	.562	9687	28.5	17D	-N	2	P 0200	.31	.40				
HALE	01	0200E	0205		N12	W36	.586	9687	28.4	5D	-F	2	P 0200	.31	.40				
GRP18106	01	0352	0410	0356	N19	W53	.798	9683	27.2	18	-F			.77				2 2 2 2	
HALE	01	0350	0358D	0353	N19	W54	.807	9683	27.1	8D	-N	1	P 0353	.41	.70			W	
MANI	01	0353	0410	0359	N19	W51	.777	9683	27.3	17	-F	2	0359	1.13	1.76				
GRP18107	01	0430	0444	0433	N12	W53	.793	9690	27.2	14	-N			.88				2 2 2 2	
MITK	01	0430	0445D	0433	N11	W55	.814	9690	27.1	15D	-N	C	0433	.83	1.40			E	
MANI	01	0432E	0443		N12	W51	.772	9690	27.4	11D	-N	2	0436	.93	1.45				
108	MITK	01	0430	0445D	0436	N20	E78	.972	9705	7.0	15D	-F	8	C 0436	.52				E 2
GRP18110	01	0658	0706	0702	N18	E86	.995	9705	7.7	8	-N			.64				4 4 2 7	
ISTA	01	0655	0704		N16	E87	.997	9705	7.8	9	-B								
BUCA	01	0659E	0708D		N18	E88	.998	9705	7.9	9D	-N	P	0701	.66					
CAPS	01	0659	0705	0700	N20	E90	.999	9705	8.0	6	-N	3							
MANI	01	0700	0708D	0704	N18	E80	.980	9705	7.3	8D	-N	2	0704	.62	1.53				
GRP18114	01	1917	1940	1927	N17	E83	.989	9705	8.0	23	-N			.45				2 2 2 4	
SACP	01	1909	1942	1927	N20	E80	.979	9705	7.8	33	-N	C		.60	1.48				
HOUT	01	1925	1937	1927	N14	E85	.994	9705	8.2	12	-N	C		.30	1.00				
GRP18115	01	2033	2045	2035	N14	W83	.989	9678	25.6	12	-N			.36				2 2 2 5	
HALE	01	2032E	2038D	2035U	N14	W83	.989	9678	25.6	6D	-N	1	P 2035	.41				G	
SACP	01	2033	2045	2035	N14	W82	.987	9678	25.7	12	-N	C		.30					
GRP18116	01	2352	0030	0001	S15	W16	.452	9692	30.8	38	1N			2.53				4 4 4 4	
CULG	01	2351	0034	2359	S13	W18	.448	9692	30.6	43	1F	C	2359	2.06	2.20			S	
VORO	01	2352	0020	0000	S17	W12	.447	9692	1.1	28	1B	C	0000	3.09	3.43		81	EJ	
MITK	01	2359E	0000D		S14	W16	.440	9692	30.8	1D	1N	P	2359	2.37	2.70			E	
SACP	02	0000E	0037D	0005	S14	W16	.440	9692	30.8	37D	1N	C		2.60	2.63				
GRP18117	02	0541	0551	0542	S24	E59	.908	9725	6.7	10	-N			1.58				2 2 2 2	
CRON	02	0540	0545D	0542	S23	E58	.898	9725	6.6	5D	-N	C		.90	1.90			E	
ABST	02	0541	0551	0541	S24	E60	.914	9725	6.7	10	1N	C	0541	2.25				Eg	
GRP18119	02	0734	0823	0750	N20	E71	.939	9705	7.6	49	1N			1.59				3 3 3 5	
CATA	02	0730	0830	0745	N19	E69	.927	9705	7.5	60	1B		0745	1.68			282		
CAPS	02	0737	0812D	0752	N21	E70	.933	9705	7.6	35D	1N	3	0752	1.30			176	F	
ABST	02	0752E	0815	0752	N20	E75	.960	9705	8.0	23D	1F	C	0752	1.79				D	
GRP18122	02	1024	1100	1035	N20	E67	.915	9705	7.5	36	-B			.54				2 2 2 4	
CATA	02	1020E	1100D	1035	N18	E64	.893	9705	7.2	40D	-B		1035	.58	1.32		240		
CAPS	02	1027	1044D		N21	E69	.927	9705	7.6	17D	-N	3	1030	.50					
125	HUAN	02	1619	1633	N19	E65	.901	9705	7.6	14	-F	1	C 1626	.25	.40			D 3	
126	HUAN	02	1727	1737	N13	W56	.823	9687	28.5	10	-F	1	C 1733	.21	.30			D 3	
GRP18127	02	2014	2044	2018	N19	E68	.921	9705	7.9	30	1B			1.49				5 4 4 5	
SACP	02	2013	2051	2018	N20	E68	.921	9705	7.9	38	1N	C		1.59	2.76				
HUAN	02	2013E	2039D		N18	E68	.921	9705	7.9	26D	1N	1	P 2015	1.13				E	
HOUT	02	2014	2040	2018	N18	E68	.921	9705	7.9	26	1B	C		1.60	3.50			E	
HALE	02	2014E	2040D		N19	E68	.921	9705	7.9	26D	1B	1	P 2014	1.65				Fg	
CULG	02	2022E	2050D		N18	E66	.907	9705	7.8	28D	1N	P	2027	1.24				E	
GRP18129	02	2105	2119	2115	S19	E57	.881	9702	7.2	14	-N			1.03				2 2 2 4	
CULG	02	2105	2119D	2115	S14	E56	.860	9702	7.1	14D	1N	P	2115	1.03	2.25			F	
HUAN	02	2116E	2118D		S23	E58	.898	9702	7.2	2D	-N	1	P 2117	1.03	1.67			E	
GRP18130	02	2122	2219	2134	S22	E57	.889	9702	7.2	57	1N			2.09				2 2 2 2	
SACP	02	2113	2248	2134	S21	E56	.879	9702	7.1	95	1N	C		2.68	4.13				
HOUT	02	2130	2150	2134	S23	E57	.892	9702	7.2	20	1N	C		1.50	3.00			E	
131	MANI	03	0034	0050	0040	N12	E38	.614	9700	5.9	16	-N	2	0040	.77	.98			2

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS															
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL	MCMATH	CMP			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %																
				LAT.	MER. DIST.	DISTANCE	PLAGE REGION	DAY																										
	1968 OCT																																	
		04 1733	1740	NO FLARE PATROL																														
161 HUAN	04	1839	1901	N18	E34	.574	9705	7.3	22	-F	2 C	1844	.37	.40			E	2																
GRP18163 CULO HUAN	04	2120	2230	2128	N20	E40	.657	9705	7.9	70	2B		5.67				2	1	1	2														
	04	2120	2230	2128	N20	E40	.657	9705	7.9	70	2B		5.67				V																	
	04	2151E	2206D		N18	E40	.651	9705	7.9	15D	2N	2 P	2128	5.67	7.15																			
		2152										2152	3.61	4.02																				
GRP18165 CULO MANI HALE	05	0014	0056	0032	N13	W78	.974	9687	29.2	42	1N			.69						3	3	3	5											
	05	0010	0105	0034	N13	W78	.974	9687	29.2	55	1F	C	0034	.83																				
	05	0015	0054	0029	N12	W80	.981	9687	29.0	39	-F		0029	.31	.80																			
	05	0017	0050	0033	N14	W77	.970	9687	29.2	33	1B	2 C	0033	.93									F											
GRP18169 AROS ISTA CAPS MANI	05	0736	0815	0743	N15	E08	.200	9700	5.9	39	-N			1.15									4	4	3	8								
	05	0735	0750D	0740	N15	E07	.189	9700	5.8	15D	-N	P	0740	.72	.70																			
	05	0736	0815	0745	N15	E08	.200	9700	5.9	39	-B																							
	05	0738E	0804D		N14	E06	.165	9700	5.8	26D	-N	3	0741	1.80	1.80		170																	
	05	0740E	0806D		N15	E09	.212	9700	6.0	26D	-F	2	0741	.93	.95																			
GRP18170 CAPS MANI CATA	05	0752	0808	0754	N05	E15	.259	9701	6.5	16	-F			.81											3	3	3	8						
	05	0751	0800		N03	E14	.249	9701	6.4	9	-F	3	0754	1.30	1.30		152																	
	05	0751	0804	0753	N05	E16	.275	9701	6.5	13	-F	2	0753	.72	.75																			
	05	0755	0820	0755	N06	E14	.241	9701	6.4	25	-N		0755	.40	.42		156																	
GRP18172 CAPE CATA	05	0903	0931	0905	N04	E13	.228	9701	6.4	28	-B			2.81												2	2	2	5					
	05	0900	0926	0904	N04	E13	.228	9701	6.3	26	-N	C	0904	1.27	1.30																			
	05	0905	0935	0905	N04	E13	.228	9701	6.4	30	1B		0905	4.34	4.46		209																	
GRP18175 HUAN WEND MCMA	05	1425	1508	1431	N20	E30	.531	9705	7.9	43	1N			3.53													7	7	7	8				
	05	1421	1426D		N19	E27	.486	9705	7.6	5D	-F	1 P	1425	.25	.25																			
	05	1422E	1515		N18	E28	.494	9705	7.7	53D	2N	P		12.38																				
	05	1424	1503	1428	N20	E32	.557	9705	8.0	39	-N	C	1428	.62	.70																			
	05	1426	1510	1434	N21	E30	.536	9705	7.9	44	-B	C		1.89	1.98																			
	05	1426	1509		N21	E30	.536	9705	7.9	43	1B	1	1434	2.00	2.40		237																	
	05	1426	1510	1432	N20	E32	.557	9705	8.0	44	1N	C	1432	2.03	2.40																			
	05	1428	1501	1431	N21	E32	.562	9705	8.0	33	1N	C		4.00	4.80																			
	05	1436E	1446D		N20	E30	.531	9705	7.9	10D	1N	1 P	1437	1.80	1.90																			
GRP18176 SACP CAPS WEND MCMA	05	1452	1520	1505	N17	E07	.217	9700	6.1	28	-F			1.15														4	4	4	7			
	05	1445U	1525U	1505U	N17	E06	.208	9700	6.1	40D	-F	C		.50	.49																			
	05	1448E	1515D		N18	E07	.231	9700	6.1	27D	-F	1	1455	.50	.50		157																	
	05	1456	1516		N16	E08	.213	9700	6.2	20	1F	P		3.09																				
	05	1500	1519	1505	N17	E05	.200	9700	6.0	19	-F	C	1505	.52	.50																			
GRP18179 SACP MCMA	05	1735	1744	1737	N26	W32	.590	9710	3.3	9	-N			.36															2	2	2	4		
	05	1735	1744	1737	N25	W31	.573	9710	3.4	9	-N	C		.40	.43																			
	05	1735E	1743D		N27	W32	.597	9710	3.3	80	-N	C	1736	.31	.30																			
GRP18181 SACP MCMA	05	1750	1801	1753	N06	E09	.156	9701	6.4	11	-F			.35																2	2	2	4	
	05	1750	1800	1753	N06	E07	.121	9701	6.3	10	-F	C		.39	.39																			
	05	1757E	1802		N05	E10	.175	9701	6.5	5D	-N	C	1759	.31	.30																			
GRP18183 MCMA HUAN SACP	05	1903	1915	1907	N06	E07	.121	9701	6.3	12	-N			.46																3	3	3	4	
	05	1858	1920D	1907	N05	E10	.175	9701	6.5	22D	-N	C	1907	.62	.60																			
	05	1906	1912	1908	N06	E06	.104	9701	6.2	6	-N	2 C	1908	.37	.37																			
	05	1906	1912	1907	N06	E06	.104	9701	6.2	6	-N	C		.40	.39																			
GRP18186 HUAN MCMA SACP HALE	05	2009	2025	2011	N05	E11	.192	9701	6.7	16	-F			.65																	4	3	3	5
	05	1944	1946D		N04	E12	.212	9701	6.7	2D	-N	1 P	1946	.55	.55																			
	05	1945E	2038		N05	E10	.175	9701	6.6	53D	-N	8 C	2010	1.03	1.10																			
	05	2008	2020U	2010	N05	E12	.209	9701	6.7	12D	-F	8 C		.40	.39																			
	05	2009	2018	2011	N04	E11	.195	9701	6.7	9	-F	2 C	2011	.52	.50																			
GRP18189 MANI HALE	05	2220	2300	2229	N04	E10	.178	9701	6.7	40	-F			.52																2	1	1	4	
	05	2220E	2300	2229	N04	E10	.178	9701	6.7	40D	-F	2	2229	.52	.53																			
	05	2249	2252D	2251	N04	E11	.195	9701	6.8	3D	-F	1 P	2251	.72	.70																			
GRP18190 MANI SACP	05	2304	2318	2306	N05	E06	.107	9701	6.4	14	-F			.51																	2	2	2	5
	05	2303	2323	2306	N04	E08	.145	9701	6.6	20	-F	2	2306	.72	.71																			
	05	2304	2312	2306	N05	E04	.074	9701	6.3	8	-N	C		.30	.30																			
GRP18191 MANI SACP	05	2334	2352	2																														

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS				REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME - UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α		MAX. INT. %
GRP18193	1968 OCT 06	0016	0034	0020	N05	E03	.058	9701	6.2	18	--N						
MANI	06	0015	0032	0020	N05	E04	.074	9701	6.3	17	--N	3	0020	.68	.93		5 5 5 7
SACP	06	0015	0036	0019	N05	E03	.058	9701	6.2	21	--B	C	0020	.70	.70		
MITK	06	0017E	0037		N04	E02	.055	9701	6.2	20D	--N	C	0020	.62	.60		DH
VORO	06	0017	0029	0020	N04	E03	.068	9701	6.2	12	--B	C	0020	.91	.91		DHJ
HALE	06	0027E	0036		N06	E02	.036	9701	6.2	9D	--N	2	P 0027	.26	.30		77
196 MITK	06	0430	0520	0431	N25	W44	.719	9710	2.9	50	--F	C	0431	.72	1.00		EH 4
GRP18198	06	0738	0757	0744	N18	E11	.271	9705	7.1	19	--N			1.85			5 5 5 9
CAPE	06	0735	0805	0745	N19	E12	.294	9705	7.2	30	--N	C	0745	1.94	2.00		F
CAPS	06	0738	0755D	0742	N18	E10	.261	9705	7.1	17D	--N	3	0742	.50	.50		F
CRON	06	0739	0750	0744	N18	E10	.261	9705	7.1	11	--N	C	0742	2.00	2.00		164
ABST	06	0739	0750	0742	N16	E13	.274	9705	7.3	11	1N	C	0742	3.15	3.10		E
CATA	06	0740E	0805D	0745	N19	E10	.273	9705	7.1	25D	--B		0745	1.68	1.75		202
GRP18201	06	0934	1000	0937	N26	W45	.732	9710	3.0	26	--N			1.10			7 7 7 11
CANR	06	0932	0954	0934	N26	W47	.753	9710	2.9	22	--N	C		.80	1.20		E
CAPE	06	0932	0955	0938	N25	W47	.750	9710	2.9	23	--N	C	0938	1.19	1.80		FH
ARCE	06	0935	1000D		N26	W43	.712	9710	3.2	25D	--N	C	0935	1.11	1.60		
CATA	06	0935E	1015	0935	N26	W46	.743	9710	2.9	40D	--B		0935	.63	.97		214
HTRP	06	0935E	1000		N26	W41	.690	9710	3.3	25D	--F	C	0940	.41	.60		
CAPS	06	0936E	0933D	0940	N25	W45	.729	9710	3.0	17D	--N	3	0940	1.20	1.80		189
CAPP	06	0936E	0938D		N25	W46	.739	9710	2.9	22D	1N	P	0940	2.35	3.42		CH
GRP18203	06	1014	1047	1017	N19	E23	.433	9705	8.2	33	--N			.50			3 3 3 8
LOCA	06	1013	1040	1020	N19	E22	.419	9705	8.1	27	--N	V	1020	.63	.70		
HTRP	06	1013	1035	1017	N18	E24	.440	9705	8.2	22	--F	C	1017	.52	.60		
CATA	06	1015	1105D	1015	N20	E22	.427	9705	8.1	50D	--N		1015	.34	.38		190
GRP18207	06	1203	1213	1207	N19	E20	.393	9705	8.0	10	--F			.87			2 2 2 4
CAPE	06	1202	1215	1208	N20	E20	.401	9705	8.0	13	--N	C	1208	.90	1.00		
HTRP	06	1204	1210	1206	N18	E20	.385	9705	8.0	6	--F	C	1206	.83	.90		
GRP18211	06	1344	1415	1351	N04	E01	.046	9701	6.6	31	1N			2.67			9 9 9 10
CAPE	06	1340	1405	1352	N05	E02	.043	9701	6.7	25	--N	C	1352	1.55	1.50		V
HTRP	06	1341	1410	1350	N03	E02	.070	9701	6.7	29	--B	C	1350	1.13	1.10		
WEND	06	1341E	1420		N05	E01	.031	9701	6.6	39D	2N	V		6.19			
LOCA	06	1343	1424	1355	N05	E00	.026	9701	6.6	41	1N	V	1355	2.52	2.50		F
SACP	06	1343	1429	1350	N04	E01	.046	9701	6.6	46	--B	C		1.98	1.96		
SACP	06	1343	1429	1400	N04	E01	.046	9701	6.6	46	--B						
ZURI	06	1346	1404	1350	N05	E02	.043	9701	6.7	18	1F	C	1350	3.77	3.80		
CANR	06	1348	1410	1353	N04	E01	.046	9701	6.6	22	1N	C		3.20	3.20		EI
CAPS	06	1349	1418		N04	E02	.055	9701	6.7	29	1B	3	1352	2.50	2.50		FHJB
CATA	06	1350E	1400D	1350	N04	E02	.055	9701	6.7	10D	--B		1350	1.16	1.16		256 240
GRP18214	06	1457	1517	1506	N06	W01	.019	9701	6.5	20	--N			1.59			2 2 2 5
ZURI	06	1456	1518	1504	N06	W01	.019	9701	6.5	22	--N	C	1504	1.89	1.90		
SACP	06	1458	1516	1508	N06	W01	.019	9701	6.5	18	--N	C		1.28	1.28		
SACP	06	1517	1525	1520	N04	E01	.046	9701	6.7	8	--N	C		.50	.49		
5 STATIONS REPORTING GROUP 18215, 1 STATIONS OBSERVING AND NOT REPORTING.																	
GRP18215	06	1539	1548	1541	N03	E01	.063	9701	6.7	9	--N			1.46			5 5 5 6
SACP	06	1538	1550	1540	N04	E00	.043	9701	6.7	12	--N	C		1.38	1.37		
HTRP	06	1538	1547	1541	N03	E02	.070	9701	6.8	9	--N	C	1541	.83	.80		
HUAN	06	1539	1541D		N03	E00	.061	9701	6.7	2D	--N	1	P 1541	1.39	1.39		E
CANR	06	1539	1548	1541	N03	E01	.063	9701	6.7	9	--N	C		1.80	1.80		EI
CAPS	06	1540	1548		N04	E01	.046	9701	6.7	8	--B	3	1542	1.90	1.90		J 212
18215	06	1549	1602	1555	N05	W06	.107	9701	6.2	13	--N			.46			2 2 2 5
HTRP	06	1548	1600	1554	N05	W04	.074	9701	6.4	12	--N	C	1554	.52	.50		
SACP	06	1549	1603	1556	N04	W07	.129	9701	6.1	14	--N	C		.39	.39		
18215	06	1534	1558 (1537)		N05	W05	.090	9701	6.3	24	--N			.50			2 1 1 7
CAPS	06	1534E	1558		N05	W05	.090	9701	6.3	24D	--N	3	1537	.50	.50		CEK
HUAN	06	1536E	1540		N04	W06	.113	9701	6.2	4D	--F	1	C 1537	.33	.33		E
GRP18216	06	1623	1722	1701	N06	W03	.053	9701	6.5	59	--N			.81			2 2 2 4
HALE	06	1623E	1728	1702	N06	W03	.053	9701	6.5	65D	--N	3	P 1702	.93	.90		F
SACP	06	1651	1716	1700	N06	W03	.053	9701	6.5	25	--N	C		.69	.68		
3 STATIONS REPORTING GROUP 18217, 1 STATIONS OBSERVING AND NOT REPORTING.																	
GRP18217	06	1721	1812	1737	N14	W09	.201	9700	6.0	51	1N			2.58			3 3 2 4
SACP	06	1720	1814	1739	N15	W09	.213	9700	6.0	54	1N	C		2.98	2.92		
HALE	06	1722	1837	1738	N14	W09	.201	9700	6.0	75	1B	3	C 1731	2.17	2.20		F
CANR	06	1725E	1746	1736	N14	W10	.214	9700	6.0	21D	1N	C					

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS.		MEASUREMENTS				REMARKS	
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MC MATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α		MAX. INT. %
					LAT.	MER. DIST.													
18217	06	1723	1800	1726	N15	W10	.225	9700	6.0	37	*1N		2.90				2 2 1 4		
SACP	06	1730	1814	1726	N15	W09	.213	9700	6.0	54	1N								
CANR	06	1725	1746	1726	N14	W10	.214	9700	6.0	21	1N	C	2.90	2.90			EK		
GRP18218	06	1735	1755	1738	N07	W01	.020	9701	6.7	20	-N		.97				3 3 3 4		
SACP	06	1730	1741	1735	N05	E01	.031	9701	6.8	11	-N	C	.99	.99					
HALE	06	1734	1742	1736	N05	W01	.031	9701	6.7	8	-B	3 C	1736	.72	.70				
CANR	06	1741	1752	1743	N13	W02	.119	9701	6.6	11	-N	C	1745	1.20	1.20				
HALE	06	1741	1758	1745	N04	W02	.085	9701	6.6	17	-N	3 C	1745	1.86	1.90				
SACP	06	1742	1755	1745	N04	W01	.046	9701	6.7	13	-N	C		.99	.98				
219 SACP	06	2018	2043	2027	N17	E03	.190	9705	7.1	25	-N	C		.20	.19			3	
GRP18220	06	2050	2118	2057	N22	E09	.306	9705	7.5	28	-F		.33				2 2 2 2		
SACP	06	2049	2107	2056	N22	E09	.306	9705	7.5	18	-N	C		.30	.29				
HALE	06	2050	2129	2058	N22	E08	.298	9705	7.5	39	-F	2 C	2058	.36	.40				
GRP18221	06	2106	2114	2110	N04	W10	.178	9701	6.1	8	-N		.61				2 2 2 3		
SACP	06	2104	2114	2110	N04	W10	.178	9701	6.1	10	-N	C		.60	.58				
HALE	06	2107	2114	2110	N04	W10	.178	9701	6.1	7	-N	2 C	2110	.62	.60				
GRP18224	06	2237	2244	2239	N04	W11	.195	9701	6.1	7	-N		.61				2 2 2 4		
SACP	06	2237	2244	2239	N03	W11	.199	9701	6.1	7	-N	C		.50	.49				
HALE	06	2237	2243	2239	N04	W10	.178	9701	6.2	6	-N	2 C	2239	.72	.70				
3 STATIONS REPORTING GROUP 18225, 2 STATIONS OBSERVING AND NOT REPORTING.																			
GRP18225	07	0006	0023	0010	N05	W05	.090	9701	6.6	17	-N		.70				3 3 3 5		
HALE	07	0004	0019	0009	N05	W05	.090	9701	6.6	15	-N	3 C	0009	.57	.60				
SACP	07	0007	0029	0010	N05	W04	.074	9701	6.7	22	-N	C		.90	.89				
MANI	07	0009E	0021	0010	N04	W06	.112	9701	6.6	12D	-F	2	0010	.62	.62				
18225	07	0010	0043	0021	N05	W06	.107	9701	6.6	33	*-N		.72				2 2 1 5		
SACP	07	0007	0029	0019	N05	W04	.074	9701	6.7	22	-N								
HALE	07	0013	0043	0022	N04	W07	.128	9701	6.5	30	-N	3 C	0022	.72	.70				
GRP18227	07	0451	0507	0459	N16	W02	.170	9705	7.1	16	-N		1.21				2 2 2 3		
CRON	07	0451	0505	0459	N17	W02	.187	9705	7.1	14	-N	C		1.90	1.90				
MANI	07	0455E	0509	0459	N15	W02	.153	9705	7.1	14D	-N	2	0459	.52	.53				
GRP18228	07	0600	0611	0603	N26	W59	.861	9710	2.8	11	-N		.75				3 3 2 5		
CRON	07	0600	0608	0603	N26	W60	.869	9710	2.8	8	-N	C		.60	1.10				
ABST	07	0600	0612	0603	N27	W58	.854	9710	2.9	12	-N	C	0603	.90	1.70				
ISTA	07	0600	0614	0603	N26	W58	.853	9710	2.9	14	-N						D		
GRP18230	07	1105	1148	1110	N19	W03	.224	9705	7.2	43	-N		1.35				2 2 1 4		
CAPS	07	1104E	1116D		N18	W03	.207	9705	7.2	12D	-N	1					CH		
ABST	07	1106	1148	1110	N20	W02	.237	9705	7.3	42	-N	C	1110	1.35	1.30				
GRP18233	07	1508	1518	1510	N15	W06	.181	9705	7.2	10	-F		.42				2 2 2 6		
SACP	07	1507	1521	1510	N15	W06	.181	9705	7.2	14	-N	C		.39	.39				
HUAN	07	1509	1515		N15	W06	.181	9705	7.2	6	-F	1 C	1512	.45	.45				
238 CRON	08	0420	0435	0426	N23	W80	.979	9710	2.2	15	-N	C		.60	1.80			H 3	
GRP18239	08	0547	0557	0549	N19	W16	.343	9705	7.0	10	-N		2.03				2 2 2 4		
TACH	08	0546	0559	0548	N19	W15	.331	9705	7.1	13	1N	C	0548	2.46	2.70	2.50	60		
CRON	08	0547	0555	0550	N19	W16	.343	9705	7.0	8	-N	C		1.60	1.80				
GRP18246	08	1603	1620	1606	N17	W13	.285	9705	7.7	17	-N		.69				3 3 3 5		
SACP	08	1602	1624	1605	N17	W13	.285	9705	7.7	22	-N	C		.79	.78				
HUAN	08	1603	1612D		N17	W13	.285	9705	7.7	9D	-N	1 P	1605	.75	.75				
MCMA	08	1604	1615	1607	N18	W13	.296	9705	7.7	11	-N	C	1607	.52	.60				
GRP18247	08	1645	1706	1651	S13	E66	.929	9722	13.6	21	-F		.67				2 2 2 6		
HALE	08	1644	1715	1651	S13	E65	.923	9722	13.6	31	1N	3 C	1651	.93					
SACP	08	1646	1656	1651	S12	E67	.934	9722	13.7	10	-F	C		.40	.73				
GRP18249	08	1706	1723	1711	N03	W29	.486	9701	6.5	17	-N		.99				4 4 4 6		
SACP	08	1703	1724	1712	N03	W29	.486	9701	6.5	21	-N	C		.69	.71				
HALE	08	1703	1728	1711	N03	W29	.486	9701	6.5	25	-N	3 C	1711	1.44	1.60				
CANR	08	1708	1721	1710	N04	W28	.469	9701	6.6	13	-N	C		.90	1.10				
HUAN	08	1709	1719		N03	W28	.471	9701	6.6	10	-N	1 C	1711	.93	.95				
GRP18250	08	1711	1716	1713	S11	E67	.933	9722	13.7	5	-N		.31				2 2 2 6		
SACP	08	1711	1716	1713	S10	E66	.925	9722	13.7	5	-N	8 C		.30	.54				
HUAN	08	1711	1716		S12	E68	.940	9722	13.8	5	-N	1 C	1713	.31					
251 SACP	08	2120	2126	2123	N27	W73	.951	9710	3.4	6	-F	C		.20	.40			1	

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPOR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %	
					LAT.	MER. DIST.													
1968 OCT																			
252 CRON	09	0216	0230	0218	N04	W35	.573	9701	6.5	14	-N	C		.90	1.10		E	2	
GRP18254	09	0841	0903	0845	S13	E27	.545	9717	11.4	22	-F			1.20			4 4 4 9		
CATA	09	0840	0905D	0845	S13	E27	.545	9717	11.4	25D	-N		0845	.87	1.05		178		
HTPR	09	0841	0900		S14	E25	.531	9717	11.2	19	-F	C	0847	1.03	1.20		0		
CAPS	09	0842E	0858D		S12	E27	.537	9717	11.4	16D	1F	1	0845	1.80	2.20				
BUCA	09	0845E	0905D		S13	E27	.545	9717	11.4	20D	-F	C	0847	1.10	1.30				
GRP18255	09	1012	1022	1015	N26	W88	.997	9710	2.8	10	-F			.40			2 2 1 5		
HTPR	09	1010	1025		N25	W85	.992	9710	3.0	15	-F	C							
CANR	09	1013	1019	1015	N27	W90	.999	9710	2.7	6	-F	C		.40	1.60				
GRP18257	09	1342	1355	1343	N19	W23	.434	9705	7.8	13	-F			.42			2 2 2 5		
SANM	09	1340	1350	1343	N19	W24	.448	9705	7.8	10	-F	C	1343	.32	.35		U		
HTPR	09	1343	1400		N18	W22	.414	9705	7.9	17	-F	C	1346	.52	.60				
GRP18258	09	1422	1430	1424	N01	W46	.722	9701	6.1	8	-F			.30			2 2 2 5		
SACP	09	1421	1430	1423	N01	W47	.733	9701	6.1	9	-F	C		.39	.48				
HTPR	09	1423	1430	1425	N01	W45	.710	9701	6.2	7	-F	C	1425	.21	.30				
GRP18260	09	1525	1538	1529	S18	W46	.782	9702	6.2	13	-N			.65			6 6 6 8		
SACP	09	1509	1542	1529	S18	W46	.782	9702	6.2	33	-N	C		.79	1.01				
HTPR	09	1520	1540D	1530	S17	W47	.788	9702	6.1	20D	-B	C	1530	.62	.90		G		
LOCA	09	1524	1537	1528	S19	W45	.777	9702	6.3	13	-B	V	1528	.63	1.00				
SANM	09	1525	1533D	1528	S16	W47	.783	9702	6.1	8D	-N	P	1528	.80	1.30		D		
HOUT	09	1528U	1535	1529U	S19	W46	.787	9702	6.2	7D	-N	C		.70	1.20				
HUAN	09	1528	1535		S18	W47	.792	9702	6.1	7D	-N	1	1530	.35	.44				
GRP18261	09	1609	1619	1611	N06	W40	.640	9701	6.7	10	-N			.74			3 3 3 5		
SACP	09	1608	1623	1611	N05	W40	.640	9701	6.7	15	-N	C		.90	1.00				
CANR	09	1609	1616	1611	N07	W40	.639	9701	6.7	7	-N	C		1.00	1.30				
HUAN	09	1613E	1618		N05	W40	.640	9701	6.7	5D	-F	1	1613	.31	.35		E		
GRP18262	09	1626	1659	1643	N18	W25	.455	9705	7.8	33	-N			.61			2 2 2 5		
SACP	09	1626	1656	1642	N18	W24	.441	9705	7.9	30	-N	C		.60	.60				
HALE	09	1628E	1701	1643	N18	W25	.455	9705	7.8	33D	-N	2	1643	.62	.70		F		
6 STATIONS REPORTING GROUP 18263 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP18263	09	1722	1748	1727	N03	W45	.707	9701	6.3	26	-F			1.03			4 4 4 6		
SACP	09	1659	1808	1726	N02	W45	.708	9701	6.3	69	-N	C		1.08	1.27				
BOUL	09	1718	1745	1721	N04	W45	.705	9701	6.3	27	-F	C		1.40	2.00		EK		
BOUL	09	1718	1745	1727	N04	W45	.705	9701	6.3	27	-F								
CANR	09	1725	1740	1728	N03	W44	.694	9701	6.4	15	-N	C		1.20	1.70		E		
HUAN	09	1726E	1740		N02	W46	.720	9701	6.3	14D	-F	1	1726	.45	.52		E		
18263	09	1700	1755	1708	N03	W44	.694	9701	6.4	55	-F			.93			2 1 1 6		
HALE	09	1700	1755D	1708	N03	W44	.694	9701	6.4	55D	-F	2	1708	.93	1.30		FW		
MCMA	09	1737E	1753D		N05	W45	.704	9701	6.4	16D	-N	C	1737	.52	.80		E		
GRP18266	10	0257	0332	0304	S13	E41	.708	9722	13.2	35	-N			1.66			5 4 4 7		
CULG	10	0256	0345	0306	S13	E40	.696	9722	13.1	49	1N	C	0306	1.86	2.52		ES		
CRON	10	0257	0320	0301	S15	E40	.707	9722	13.1	23	1N	C		2.50	3.50		E		
MANI	10	0257	0330	0305	S14	E44	.745	9722	13.4	33	-F	2	0305	1.03	1.57				
HALE	10	0259E	0342	0304	S12	E38	.669	9722	13.0	43D	-N	1	0304	.83	1.10		FJ		
HALE	10	0259E	0334	0308	S11	E44	.732	9722	13.4	35D	-N	1	0308	.41	.60				
MITK	10	0326E	0341D		S12	E39	.680	9722	13.1	15D	1F	C	0328	2.89	3.90		E		
GRP18270	10	0952	1002	0956	S14	E45	.755	9722	13.8	10	-N			1.33			6 6 5 8		
CRON	10	0946	0953	0949	S14	E42	.723	9722	13.6	7	-N	8	C	.80	1.10		E		
CATA	10	0950	1015	0950	S13	E44	.740	9722	13.7	25	18	8	C	0950	2.02	3.03		263	
CANR	10	0952	1000	0956	S14	E47	.775	9722	13.9	8	1F	8	C	0955	1.70	2.60		E	
CAPS	10	0953E	1002		S13	E44	.740	9722	13.7	9D	-B	3	C	0955	1.40	2.00		220	
HTPR	10	0953	0954D		S13	E48	.782	9722	14.0	1D	-F	8	C						
ARCE	10	0955	1005D		S14	E46	.765	9722	13.9	10D	-N	8	P	0955	.73	1.10			
GRP18274	10	1341	1347	1342	N05	W55	.816	9701	6.4	6	-N			.57			3 3 3 7		
MCMA	10	1341E	1345	1341	N08	W53	.794	9701	6.6	4D	-N	C	1341	.31	.50		D		
SACP	10	1341	1348	1342	N05	W53	.796	9701	6.6	7	-B	C		.40	.52				
CAPS	10	1343E	1348D		N03	W58	.847	9701	6.2	5D	-F	3	1345	1.00	1.70		152		
GRP18278	10	1545	1555	1547	N19	W34	.580	9705	8.1	10	-F			1.24			3 3 3 7		
CANR	10	1543	1554	1546	N20	W37	.622	9705	7.9	11	-N	C		1.30	1.70		E		
HTPR	10	1545	1550	1547	N18	W28	.496	9705	8.6	5	-F	C	1547	.93	1.10				
CAPS	10	1546	1600D		N18	W38	.628	9705	7.8	14D	-F	1	1548	1.50	1.80				
GRP18280	10	1714	1723	1716	N03	W65	.905	9701	5.8	9	-N			.52			3 3 3 4		
SACP	10	1713	1726	1716	N02	W65	.906	9701	5.8	13	-N	C		.69	1.14				
CANR	10	1713	1722	1716	N04	W69	.932	9701	5.5	9	-N	C		.60	1.30				
MCMA	10	1715	1720	1716	N04	W60	.864	9701	6.2	5	-F	C	1716	.26	.40		D		

126
Oct 68

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS				REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha		MAX. INT. %	
281 MCMA	1968 OCT 10	1805	1815	1811	N04	W60	.864	9701	6.3	10	--N	C	1811	.31	.60			D	3
GRP18282	10	1819	1831	1822	N19	W39	.643	9705	7.8	12	--N			.51				3	3 3 3
SACP	10	1818	1828	1823	N19	W38	.631	9705	7.9	10	--N	C		.50	.55				
MCMA	10	1820	1836	1821	N18	W40	.653	9705	7.8	16	--N	C	1821	.72	.90			E	
HUAN	10	1820	1829		N19	W39	.643	9705	7.8	9	--N	1 C	1823	.31	.34			D	
GRP18283	10	1842	1940	(1844)	N04	W60	.864	9701	6.3	58	--B			.77				2	1 1 3
MCMA	10	1842	1940		N04	W60	.864	9701	6.3	58	--B	C	1844	.77	1.50			EL	
HUAN	10	1910	1914D		N03	W63	.890	9701	6.1	40	--F	1 P	1912	.25	.38			D	
284 HUAN	10	1847	1858		S11	W41	.698	9724	7.7	11	--F	1 C	1848	.31	.36			E	3
GRP18285	10	1857	1901	1858	S12	E40	.692	9722	13.8	4	--F			.31				2	2 1 3
MCMA	10	1856	1901	1858	S12	E40	.692	9722	13.8	5	--N	C	1858	.31	.40			D	
HUAN	10	1857	1901		S12	E40	.692	9722	13.8	4	--F	1 C							
GRP18286	10	2004	2032	2015	N04	W61	.873	9701	6.3	28	--B			.50				2	2 2 2
SACP	10	2004	2032	2015	N03	W62	.882	9701	6.2	28	--B	C		.59	.92				
MCMA	10	2004	2018D		N05	W60	.863	9701	6.3	14D	--N	C	2005	.41	.80			E	
287 SACP	10	2047	2100	2050	S11	W42	.710	9724	7.7	13	--F	C		.39	.47				2
288 SACP	10	2243	2254	2247	N05	W58	.845	9701	6.6	11	--F	C		.39	.56				3
GRP18289	11	0008	0035	0013	S21	E09	.478	9717	11.7	27	--F			1.34				3	3 3 4
SACP	11	0007	0032E	0012U	S26	E09	.550	9717	11.7	25D	--F	C		1.60	1.69				
MANI	11	0008	0047	0012	S21	E10	.483	9717	11.8	39	--F	2 C	0012	.72	.83			E	
CRON	11	0010	0025	0014	S17	E07	.410	9717	11.5	15	--N	C		1.70	2.00				
GRP18291	11	0304	0324	0309	N18	W46	.724	9705	7.7	20	1N			2.08				2	2 2 4
CRON	11	0304	0320	0308	N18	W47	.735	9705	7.6	16	1N	C		2.10	2.90			E	
MANI	11	0306E	0328D	0309	N17	W44	.699	9705	7.8	22D	1N	1 C	0309	2.06	2.90				
GRP18292	11	0457	0519	0504	S08	E83	.994	9727	17.4	22	--B			.46				2	2 2 5
MANI	11	0449	0518	0501	S08	E80	.988	9727	17.2	29	--B	2 C	0501	.52	1.30				
MANI	11	0449	0518	0451	S08	E80	.988	9727	17.2	29	--B	2 C	0451	.31	.80				
CRON	11	0505	0520	0507	S07	E85	.997	9727	17.6	15	--N	C		.40	1.30				
298 CANR	11	1558	1614	1600	N19	E85	.993	9726	18.0	16	1N	C		1.10	3.70				3
GRP18299	11	1709	1740	1712	N18	W52	.788	9705	7.8	31	--B			1.11				4	4 4 4
CANR	11	1709	1732	1711	N18	W53	.798	9705	7.7	23	1N	C		1.30	2.10			EH	
HALE	11	1709	1752	1712	N18	W51	.778	9705	7.9	43	1B	1 P	1712	1.75	2.80			HW	
SACP	11	1709	1735U	1712	N18	W52	.788	9705	7.8	26D	--N	C		.89	1.15				
HUAN	11	1712E	1720D		N18	W53	.798	9705	7.7	8D	--B	1 P	1712	.50	.64			EH	
GRP18300	11	1716	1728	1719	S18	W66	.936	9725	6.8	12	--F			.28				2	2 2 4
SACP	11	1716	1728	1719	S18	W66	.936	9725	6.8	12	--N	C		.30	.54				
HUAN	11	1718E	1720D		S18	W66	.936	9725	6.8	2D	--F	1 P	1719	.25				D	
301 HALE	11	1803	1830	1819	N17	W66	.908	9705	6.8	27	--F	1 C	1819	.31					2
302 SACP	11	1856	1910	1900	N02	W75	.965	9701	6.2	14	--F	C		.40	.86				1
GRP18303	11	2038	2100	2041	N17	W65	.901	9705	7.0	22	--N			.52				3	3 3 4
HALE	11	2037E	2042D	2039	N18	W63	.887	9705	7.1	5D	--N	1 P	2039	.41	.90			E	
HUAN	11	2038	2100		N17	W68	.922	9705	6.8	22	--N	2 C	2044	.55	.87			E	
SACP	11	2039	2100	2043U	N16	W65	.901	9705	7.0	21	--N	C		.60	.98				
GRP18306	11	2118	2122	2119	S11	E76	.976	9727	17.6	4	--N			.45				2	2 2 4
SACP	11	2117	2121	2119	S10	E73	.964	9727	17.4	4	--N	C		.50	1.08				
BOUL	11	2118	2123	2119	S12	E78	.984	9727	17.7	5	--N	C		.40	1.20				
GRP18308	11	2307	2317	2309	S19	W68	.948	9725	6.9	10	--B			.61				2	2 2 4
SACP	11	2306	2320	2310	S18	W69	.952	9725	6.8	14	--N	C		.40	.79				
VORO	11	2307	2313	2308	S20	W67	.945	9725	6.9	6	1B	C	2308	.82	2.59		86	D	
GRP18309	11	2321	2359	2327	S18	W72	.966	9725	6.6	38	1N			1.12				5	5 5 5
CULG	11	2304	0014	2330	S16	W75	.976	9725	6.3	70	1F	C	2330	1.44					
MANI	11	2318E	0014	2325	S18	W70	.957	9725	6.7	56D	1F	2 C	2325	1.55	3.60				
VORO	11	2321	2347	2326	S20	W71	.964	9725	6.6	26	1N	C	2326	.64	2.59			DJ	
CRON	11	2322	2346	2325	S17	W73	.969	9725	6.5	24	--N	C		.40	1.00				
SACP	11	2323	2355D	2327U	S17	W69	.951	9725	6.8	32D	1N	C		1.59	3.19				
GRP18314	12	0548	0603	0555	S18	W75	.977	9725	6.6	15	--N			.74				2	2 2 3
CRON	12	0548	0603	0555	S18	W78	.986	9725	6.4	15	1N	C		.70	2.10				
MANI	12	0555E	0602D		S17	W72	.965	9725	6.8	7D	--N	2 C	0555	.77	1.83				

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS.		MEASUREMENTS				REMARKS												
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	OMP DAY			COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha		MAX. INT. %											
	1968 OCT																													
GRP18316	12	0747	0823	0756	S11	W64	.913	9724	7.5	36	--F										3	2	2	9						
MONT	12	0747E	0839	0751	S11	W61	.892	9724	7.7	52D	-N	C	0751	.42																
ZURI	12	0801E	0807	0801	S10	W66	.925	9724	7.4	6D	-F	C	0801	.31																
HTPR	12	0820	0825	0824	S12	W64	.915	9724	7.5	5	-N	C	0824	.53	1.20															
																.40														
GRP18317	12	0753	0832	0800	N04	W89	1.000	9701	5.7	39	1N													3	3	3	8			
MONT	12	0747E	0831	0801	N04	W90	1.000	9701	5.6	44D	-N	8	C	0801	1.04															
CAPP	12	0755E	0845		N04	W86	.997	9701	5.9	50D	1N	8	C	0800	1.13															
CANR	12	0757	0820	0759	N03	W90	1.000	9701	5.6	23	1F	8	C		1.18															
																.80	3.20													
GRP18318	12	0811	0829	0816	N03	W90	1.000	9701	5.6	18	-N																			
CAPE	12	0810	0823	0812	N03	W90	1.000	9701	5.6	13	-N	8	P	0812	.56															
ARCE	12	0812	0835	0820	N03	W90	1.000	9701	5.6	23	-N	8	C	0820	.89															
																.23	1.30													
GRP18320	12	0832	0849	0836	S18	W77	.984	9725	6.6	17	-N																			
CAPE	12	0830	0852	0840	S16	W78	.986	9725	6.5	22	-N	C	0840	.64																
MONT	12	0832	0848	0835	S18	W78	.986	9725	6.5	16	-N	C	0835	.89																
ARCE	12	0832	0845	0834	S19	W80	.992	9725	6.4	13	1F	C	0834	.52																
ZURI	12	0833	0851	0835	S16	W76	.979	9725	6.7	18	-N	C	0835	.76	2.40															
HTPR	12	0835E	0853		S18	W75	.977	9725	6.7	18D	-N	C	0835	.53																
CAPS	12	0836E	0851D		S19	W75	.978	9725	6.7	15D	-N	3	C	0835	.41															
CAPP	12	0836E	0845D		S18	W74	.974	9725	6.8	9D	1N		S	0837	.20								166							
																1.18														
GRP18324	12	1033	1040	1035	N06	W90	1.000	9701	5.7	7	--N																			
HTPR	12	1030	1040		N05	W90	1.000	9701	5.7	10	-F	C																		
MONT	12	1034	1041		N05	W90	1.000	9701	5.7	7	-N	C																		
CATA	12	1035	1040	1035	N09	W90	1.000	9701	5.7	5	-N																			
																.14														
																.14														
GRP18328	12	1219	1231	1226	N04	W90	1.000	9701	5.8	12	-N																			
CANR	12	1218	1226	1221	N02	W90	1.000	9701	5.8	8	-N	C																		
MONT	12	1219	1344	1230	N05	W90	1.000	9701	5.8	85	-N	C																		
HTPR	12	1220	1235		N04	W90	1.000	9701	5.8	15	-F	C																		
																.40														
																.40	1.60													
GRP18330	12	1340	1352	1343	S18	W82	.995	9725	6.4	12	-N																			
HTPR	12	1340	1355	1343	S18	W80	.991	9725	6.6	15	-N	C	1343	.71																
CATA	12	1340	1350	1340	S17	W76	.980	9725	6.9	10	-B		1340	.21																
SACP	12	1340	1349	1343	S18	W78	.986	9725	6.7	9	-N	C		.14																
MONT	12	1340	1356	1343	S19	W85	.999	9725	6.2	16	1N	C	1343	.40																
CANR	12	1340	1352	1344	S18	W90	1.001	9725	5.8	12	1N	C	1343	2.27																
CAPE	12	1340	1350	1343	S18	W83	.997	9725	6.3	10	-N	C	1343	.60																
HUAN	12	1341	1350		S18	W80	.991	9725	6.6	9	-N	C	1344	.98																
CAPS	12	1343E	1353D		S19	W80	.992	9725	6.6	10D	-N	2	C	1344	.36															
GRP18331	12	1343	1347	1345	N03	W89	1.000	9701	5.9	4	--F																			
HUAN	12	1341	1346		N02	W90	1.000	9701	5.8	5	-F	1	C	1344	.21															
SACP	12	1341	1347	1344	N02	W86	.997	9701	6.1	6	-N	8	C		.21															
HTPR	12	1343E	1346D		N04	W90	1.000	9701	5.8	3D	-F	8	C		.30															
CATA	12	1345	1350	1345	N03	W90	1.000	9701	5.8	5	-N	8	C	1345	.11															
GRP18337	12	1831	1852	1837	S14	E05	.354	9722	13.1	21	--F																			
SACP	12	1830U	1846U	1834	S14	E05	.354	9722	13.1	16D	-F	C		.69																
HALE	12	1831	1852	1840	S13	E05	.338	9722	13.1	21	-N	1	C	1840	.50	.49														
																.88	.90													
GRP18340	12	2147	2158	2152	S19	W84	.998	9725	6.6	11	-N																			
HUAN	12	2146	2158		S18	W85	.999	9725	6.5	12	-N	1	C	2151	.47															
SACP	12	2147	2157	2152	S19	W82	.995	9725</																						

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM-POR-TANCE	OBS. COND. TYPE	MEASUREMENTS				REMARKS	
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha		MAX. INT. %
1968 OCT																		
GRP18352	13	2137	2204	2141	S13	W02	.328	9722	13.8	27	--N						2 2 2 6	
SACP	13	2136	2208	2143	S13	W02	.328	9722	13.8	32	--N	C		.81				
HALE	13	2138	2200	2139	S13	W02	.328	9722	13.8	22	--N	1 C	2139	.79	.78			
														.83	.90			
GRP18358	14	0744	0810	0750	N17	E42	.676	9726	17.5	26	--F			.30			3 3 2 9	
ISTA	14	0742	0800		N17	E43	.688	9726	17.5	18	--F							
CATA	14	0745	0815	0750	N18	E42	.678	9726	17.5	30	--N		0750	.17	.25		178	
BUCA	14	0745E	0815D		N17	E42	.676	9726	17.5	30D	--F	C	0755	.43	.60			
GRP18359	14	0827	0837	0828	S13	W08	.351	9722	13.8	10	--F			.26			2 2 2 7	
MANI	14	0825	0834	0828	S12	W08	.336	9722	13.8	9	--F	2	0828	.31	.33			
HTPR	14	0828	0840	0828	S13	W08	.351	9722	13.8	12	--F	C	0828	.21	.20		E	
365 SACP	14	1928	2000	1929	S18	W11	.443	9722	14.0	32	--N	C		.60	.61		3	
	14	2043	2049	NO FLARE PATROL														
GRP18367	15	0225	0247	0234	N21	E38	.640	9726	18.0	22	--F			1.24			2 2 2 5	
HALE	15	0221	0248	0235	N20	E39	.648	9726	18.0	27	--F	2 C	0235	1.24	1.60		F	
MITK	15	0228	0246	0233	N21	E39	.652	9726	18.0	18	--F	C	0233	1.24	1.60		F	
HALE	15	0248	0308	0252	N21	E36	.616	9726	17.8	20	--N	2 C	0252	.15	.20		F	
GRP18368	15	0320	0352	0329	S12	W21	.462	9722	13.6	32	1N			2.45			4 4 4 5	
HALE	15	0316	0347D	0332	S11	W20	.440	9722	13.6	31D	1N	2 P	0332	2.37	2.60		F	
VORO	15	0317	0342	0326	S15	W20	.482	9722	13.6	25	1B	C	0326	2.46	2.66		EJ	
MITK	15	0320	0410D	0328	S10	W22	.455	9722	13.5	50D	1N	C	0328	2.68	3.00		E	
GRON	15	0325	0350	0331	S13	W21	.472	9722	13.6	25	1N	C		2.30	2.50		E	
GRP18372	15	1127	1156	1131	S11	W25	.501	9722	13.6	29	--N			1.37			5 5 5 6	
CATA	15	1110E	1155	1125	S11	W25	.501	9722	13.6	45D	--B		1125	.87	1.00			
CANR	15	1127	1153	1132	S12	W24	.497	9722	13.7	26	--N	C		1.20	1.40		E	
HTPR	15	1127	1205	1130	S13	W25	.518	9722	13.6	38	--F	C	1130	.62	.70			
HUAN	15	1130E	1148		S10	W26	.506	9722	13.5	18D	--N	1 P	1131	.35	.36		E	
HUAN	15	1133	1145	1136	S12	W22	.473	9722	13.8	12	--F	2 C	1136	.37	.37		E	
CAPS	15	1136E	1157D		S10	W27	.519	9722	13.5	21D	1N	1	1136	3.80	4.40			
GRP18377	15	1448	1506	1452	N20	E31	.548	9726	17.9	18	--F			.69			6 6 5 9	
HTPR	15	1447	1525	1450	N20	E32	.561	9726	18.0	38	--F	C	1450	.52	.60			
CANR	15	1448	1455	1450	N20	E33	.574	9726	18.1	7	--F	C		1.20	1.40		E	
BOUL	15	1448	1520	1457	N19	E30	.530	9726	17.9	32	--F	C		.90	1.10			
MONT	15	1449	1453D	1452	N19	E29	.517	9726	17.8	4D	--N	C	1452	.52				
CAPS	15	1449E	1512D		N20	E32	.561	9726	18.0	23D	--N	1					C	
HUAN	15	1450E	1453		N19	E30	.530	9726	17.9	3D	--N	2 P	1451	.31	.32		D	
HUAN	15	1454	1536		N22	E33	.584	9726	18.1	42	--F	2 C	1509	.21	.22		D	
GRP18379	15	1705	1709	1705	N22	E32	.572	9726	18.1	4	--F			.69			2 2 2 5	
CANR	15	1704	1709	1705	N23	E33	.589	9726	18.2	5	--F	C		1.00	1.20		E	
HUAN	15	1705	1709		N21	E30	.541	9726	18.0	4	--N	2 C	1706	.37	.39		E	
GRP18382	15	2037	2101	2039	S19	W01	.421	9728	15.8	24	--N			.65			3 3 3 4	
HALE	15	2036	2101	2038	S19	W01	.421	9728	15.8	25	--N	2 C	2038	.67	.70		FK	
HOUT	15	2037	2100	2038	S19	E00	.421	9728	15.9	23	--N	C		.90	1.00		E	
SACP	15	2038U	2041D	2040	S19	W01	.421	9728	15.8	3D	--N	C		.39	.40			
GRP18383	15	2143	2232	2146	N22	E21	.437	9726	17.5	49	--F			.41			2 1 1 4	
HALE	15	2143	2232D	2146	N22	E21	.437	9726	17.5	49D	--F	2 P	2146	.41	.50			
SACP	15	2156E	2159D	2158	N22	E22	.449	9726	17.6	3D	--F	P		.30	.30			
GRP18384	15	2326	2341	2330	S19	W03	.424	9728	15.8	15	--B			.63			2 2 2 3	
HALE	15	2326	2338	2330	S18	W03	.408	9728	15.8	12	--B	2 C	2330	.67	.70		F	
SACP	15	2328E	2343	2329	S19	W02	.422	9728	15.8	15D	--N	C		.59	.60			
GRP18385	16	0015	0044	0020	N16	E90	1.000	9735	22.8	29	1B			1.93			4 4 4 5	
MANI	16	0015	0040	0022	N16	E90	1.000	9735	22.8	25	2B	2	0022	2.58	8.37			
SACP	16	0015	0023D	0018	N16	E92	1.000	9735	22.9	8D	1B	C		1.75				
HALE	16	0020E	0042		N16	E88	.998	9735	22.6	22D	1B	2 P	0020	1.13			W	
MITK	16	0030E	0050D		N17	E90	1.000	9735	22.8	20D	2N	C	0030	2.27				
GRP18388	16	0907	0913	0908	N15	E90	1.000	9735	23.1	6	--B			.31			2 1 1 5	
HTPR	16	0907	0913	0908	N15	E90	1.000	9735	23.1	6	--B	C	0908	.31			D	
CANR	16	0908	0924	0909	N04	E90	1.000	9735	23.1	16	--N	C		.40	1.60		I	
GRP18395	16	1252	1301	1255	S19	W13	.468	9728	15.6	9	--N			.62			4 4 4 6	
HTPR	16	1249	1300	1253	S20	W14	.489	9728	15.5	11	--F	C	1253	.41	.50		D	
HUAN	16	1250	1301	1256	S18	W14	.462	9728	15.5	11	--N	2 C	1256	.50	.50		H	
CAPS	16	1253	1303		S18	W10	.435	9728	15.8	10	--N	1	1254	1.00	1.10		H	
CATA	16	1255	1300	1255	S18	W14	.462	9728	15.5	5	--B		1255	.58	.65		HZ	

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
					LAT.	MER. DIST.												
	1968 OCT																	
GRP18398	16	1411	1445	1425	N15	E89	.999	9735	23.3	34	-N						4 4 3 7	
SACP	16	1405	1445	1429	N15	E89	.999	9735	23.3	40	-N	C						
HUAN	16	1412	1445		N15	E88	.998	9735	23.2	33	-N	2	C	1419				
HOUT	16	1416	1436	1420	N15	E90	1.000	9735	23.3	20	-N	C			1.60		I	
MCMA	16	1426E	1452		N14	E90	1.000	9735	23.4	260	-N	C		1430			E	
7 STATIONS REPORTING GROUP 18399 1 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18399	16	1513	1541	1517	N14	E90	1.000	9735	23.4	28	-N					.38		5 5 4 7
SACP	16	1509	1548	1515	N15	E92	1.000	9735	23.5	39	-N	C				.59		
HTPR	16	1512	1540	1517	N15	E90	1.000	9735	23.4	28	-N	C		1517		.31		
HUAN	16	1515	1542		N14	E88	.998	9735	23.2	27	-F	2	C	1517		.31		D
MCMA	16	1515	1542		N14	E90	1.000	9735	23.4	27	-N	C		1520				E
HOUT	16	1515	1535	1518	N14	E90	1.000	9735	23.4	20	-N	C				.30	1.20	I
18399	16	1527	1541	1532	N08	E88	.999	9735	23.2	14	-N					.50		2 2 2 8
BOUL	16	1526E	1537	1531	N12	E85	.994	9735	23.0	110	1B	C				.70	2.30	I
CANR	16	1528	1544	1533	N04	E90	1.000	9735	23.4	16	-F	C				.30	1.20	HI
GRP18403	16	1925	1935	1928	S19	W13	.468	9728	15.8	10	-F					.63		2 2 2 4
HOUT	16	1925U	1933	1928	S19	W13	.468	9728	15.8	80	-N	C				.90	1.10	E
MCMA	16	1925	1936		S18	W13	.455	9728	15.8	11	-F	C		1930		.36	.40	E
GRP18405	16	2137	2203	2143	N15	E90	1.000	9735	23.7	26	1B					1.24		2 2 2 3
SACP	16	2136	2207	2146	N15	E89	.999	9735	23.6	31	1B	C				1.67		
HOUT	16	2138	2159	2140	N14	E90	1.000	9735	23.7	21	1N	C				.80	3.20	IK
HOUT	16	2138	2159	2152	N14	E90	1.000	9735	23.7	21	1N	C						
GRP18406	16	2154	2212	2156	N07	E33	.542	9730	19.4	18	-N					.75		2 2 2 3
SACP	16	2153	2210	2156	N07	E32	.527	9730	19.3	17	-N	C				.69	.72	
HOUT	16	2154	2213	2156	N06	E33	.542	9730	19.4	19	-N	C				.80	1.00	
GRP18408	16	2319	2336	2324	N17	E85	.994	9735	23.3	17	-N					.67		2 2 2 4
SACP	16	2319	2331	2322	N17	E87	.997	9735	23.5	12	-N	C				.30		
MANI	16	2322E	2340	2326	N16	E82	.987	9735	23.1	180	1N	2		2326		1.03	2.60	
GRP18410	17	0037	0051	0040	N14	E87	.996	9735	23.6	14	-N					1.03		2 2 2 3
CRON	17	0037	0043	0038	N13	E90	.999	9735	23.8	6	-N	C				.30	1.20	
MANI	17	0038E	0059	0041	N15	E84	.990	9735	23.3	210	1N	2		0041		1.75	4.80	
GRP18411	17	0226	0235	0228	N20	E11	.267	9726	17.9	9	-F					.98		3 3 3 4
SIBE	17	0225	0235	0226	N20	E12	.278	9726	18.0	10	-F	C		0226		.50	.60	54
CRON	17	0226	0234	0227	N20	E10	.256	9726	17.9	8	-N	C				1.50	1.50	DI
MANI	17	0228E	0235D	0230	N20	E12	.278	9726	18.0	70	-F	1		0230		.93	.97	E
GRP18412	17	0251	0300	0257	N15	E83	.988	9735	23.3	9	-N					.46		2 2 2 3
CRON	17	0251	0300	0254	N12	E85	.993	9735	23.5	9	-N	C				.30	1.00	
MANI	17	0257E	0300D	0259	N17	E80	.978	9735	23.1	30	-N	1		0259		.62	1.60	
GRP18416	17	0658	0711	0703	N21	E01	.213	9726	17.4	13	-F					.57		2 2 2 5
HTPR	17	0655	0710	0703	N22	W01	.230	9726	17.2	15	-N	C		0703		.52	.50	
MANI	17	0700	0712	0703	N20	E03	.202	9726	17.5	12	-F	2		0703		.62	.64	
GRP18419	17	0818	0835	0819	N21	W01	.213	9726	17.3	17	-B					1.52		4 4 4 6
MANI	17	0816	0834	0817	N20	E02	.198	9726	17.5	18	-B	2		0817		1.44	1.50	
ARCE	17	0817	0838	0818	N22	E00	.229	9726	17.3	21	-N	C		0818		1.03	1.10	E
ZURI	17	0820	0828	0820	N21	W04	.222	9726	17.0	8	1B	C		0820		2.32	2.40	
CATA	17	0820	0840	0820	N22	W01	.230	9726	17.3	20	-B	C		0820		1.27	1.32	251
GRP18420	17	0829	0851	0835	N06	E30	.498	9730	19.6	22	-F					.75		3 3 3 6
MANI	17	0826	0844D	0831	N06	E29	.483	9730	19.5	180	-F	2		0831		.77	.89	
ZURI	17	0830	0852	0838	N05	E35	.573	9730	20.0	22	-F	C		0838		.63	.70	
ARCE	17	0831	0850	0835	N07	E26	.435	9730	19.3	19	-N	C		0835		.85	.90	
GRP18422	17	0910	0918	0912	N21	W02	.215	9726	17.2	8	-N					.70		3 3 3 7
CATA	17	0905	0920	0910	N22	W01	.230	9726	17.3	15	-B			0910		.63	.66	245
MANI	17	0912E	0915D		N21	E00	.212	9726	17.4	30	-F	1		0912		.93	.95	Z
ZURI	17	0912	0916	0914	N21	W04	.222	9726	17.1	4	-N	C		0914		.53	.60	
GRP18423	17	0926	0934	0927	S21	W23	.607	9728	15.7	8	-N					1.11		2 2 2 6
CATA	17	0925	0935	0925	S21	W22	.599	9728	15.7	10	-B			0925		1.16	1.40	230
ZURI	17	0926	0932	0928	S20	W23	.596	9728	15.7	6	-F	C		0928		1.05	1.30	
GRP18427	17	1028	1054	1046	N14	E82	.985	9735	23.6	26	-F					.58		2 2 2 4
ZURI	17	1028	1054	1046	N15	E83	.988	9735	23.7	26	-F	C		1046		.63		
UCCL	17	1037E	1037D		N12	E80	.980	9735	23.4		-F	P		1037		.52		DI
GRP18428	17	1045	1106	1051	N22	W04	.239	9726	17.1	21	-B					.94		2 2 2 4
CATA	17	1040	1105	1050	N22	W03	.235	9726	17.2	25	-B			1050		1.04	1.08	234
ZURI	17	1050	1106	1052	N21	W04	.222	9726	17.2	16	-N	C		1052		.84	.90	Z

SOLAR FLARES

Confirmed

OCTOBER 1968

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				COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.		CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %				
1968 OCT																								
GRP18430	17	1214	1235	1224	N16	E80	.978	9735	23.5	21	-N					.60								
HTPR	17	1210	1233	1220	N17	E78	.971	9735	23.4	23	-N					.41								5 5 5 7
HUAN	17	1212	1236	1225	N15	E81	.982	9735	23.6	24	-N	2	C	1220		.45								T
ZURI	17	1212	1234D	1228	N15	E83	.988	9735	23.7	22D	-N					.63								
CATA	17	1215	1235	1225	N17	E80	.978	9735	23.5	20	-N					.80								339
CANR	17	1222	1235	1224	N15	E80	.979	9735	23.5	13	1N					.70	2.10							E
GRP18432	17	1248	1312	1255	N17	E79	.974	9735	23.5	24	-N					.59								
HTPR	17	1243	1315	1253	N17	E78	.971	9735	23.4	32	-F					.21								
HUAN	17	1246	1315	1256	N16	E80	.978	9735	23.5	29	-N	2	C	1253		.31								4 4 4 8
MONT	17	1248E	1256D	1256	N16	E79	.975	9735	23.5	8D	1N					.70								
CATA	17	1255	1305	1255	N17	E80	.978	9735	23.5	10	-B					.14								229
GRP18433	17	1254	1312	1301	N21	W04	.222	9726	17.2	18	-N					.90								
HTPR	17	1252	1310	1258	N21	W02	.215	9726	17.4	18	-N					.72								
HUAN	17	1254	1314	1300	N21	W03	.218	9726	17.3	20	-N	2	C	1258		.70								H
ZURI	17	1254E	1314	1306	N21	W04	.222	9726	17.2	20D	-N					1.00	1.00							H
CATA	17	1255	1315	1300	N22	W04	.239	9726	17.2	20	-B					.63								252
CANR	17	1256	1309	1300	N22	W04	.239	9726	17.2	13	-N					.87	.90							
CAPS	17	1259E	1310D		N20	W05	.212	9726	17.2	11D	-N	1	C	1300		1.40	1.50							H
GRP18434	17	1332	1345	1340	N15	E79	.975	9735	23.5	13	-N					.40								
SACP	17	1326	1347	1340	N16	E76	.962	9735	23.3	21	-N					.30								
HUAN	17	1335	1343		N15	E81	.982	9735	23.6	8	-F	1	C	1339		.21		.67						3 3 3 11
CANR	17	1336	1346	1339	N15	E80	.979	9735	23.6	10	1N					.21								D
GRP18435	17	1524	1538	1528	N21	W05	.228	9726	17.3	14	-B					.95								
HTPR	17	1519	1540	1521	N21	W03	.218	9726	17.4	21	-B					.72								
SACP	17	1525	1543	1528	N21	W05	.228	9726	17.3	18	-B					1.47	1.45							H
BOUL	17	1526	1530	1528	N21	W04	.222	9726	17.3	4	-B					1.00	1.10							H
CANR	17	1527	1536	1528	N21	W05	.228	9726	17.3	9	-N					1.40	1.50							237
CAPS	17	1528E	1540D		N20	W07	.227	9726	17.1	12D	-B	2	C	1532		.80		.80						CH
MCMA	17	1531E	1535		N22	W06	.250	9726	17.2	4D	-B					.52								E
HUAN	17	1531E	1540		N21	W06	.234	9726	17.2	9D	-N	2	P	1531		.52		.50						E
HUAN	17	1540	1545		N19	W03	.185	9726	17.4	5	-F	2	C	1541		.75		.75						E
GRP18437	17	1558	1612	1603	N16	E79	.975	9735	23.6	14	-N					.50								
SACP	17	1556	1616	1605	N17	E76	.962	9735	23.4	20	-N					.50								
HUAN	17	1558	1609		N15	E78	.971	9735	23.5	11	-N	1	C	1600		.31		1.07						5 5 5 5
HOUT	17	1558	1614	1600	N17	E80	.978	9735	23.7	16	-N					.50								E
CANR	17	1558	1612	1601	N15	E80	.979	9735	23.7	14	1N					.70								I
BOUL	17	1558	1610	1604	N14	E79	.976	9735	23.6	12	-N					.50								E
GRP18440	17	1716	1723	1717	N14	E76	.963	9735	23.4	7	-F					.60								
HOUT	17	1715	1724	1717	N14	E75	.959	9735	23.3	9	-N					.70								
HUAN	17	1716	1721		N13	E76	.964	9735	23.4	5	-F	1	C	1718		.50		1.70						2 2 2 6
GRP18442	17	1757	1810	1803	N21	W07	.242	9726	17.2	13	-F					.26								
SACP	17	1755	1813	1803	N21	W07	.242	9726	17.2	18	-N					.20								
HUAN	17	1758	1807		N21	W07	.242	9726	17.2	9	-F	2	C	1800		.31		.19						2 2 2 5
GRP18444	17	1825	1846	1827	N15	E77	.967	9735	23.5	21	-N					.36								
HOUT	17	1824	1846	1826	N14	E78	.972	9735	23.6	22	-F					.40								
HOUT	17	1824	1846	1836	N14	E78	.972	9735	23.6	22	-F					.36								
HALE	17	1826	1845	1828	N16	E75	.958	9735	23.4	19	-B	1	C	1828		.31		1.10						2 2 2 6
GRP18445	17	1837	1847	1840	N21	W07	.242	9726	17.3	10	-N					.29								
HALE	17	1836	1847	1838	N21	W07	.242	9726	17.3	11	-B	2	C	1838		.41		.40						3 3 3 6
SACP	17	1837	1849	1841	N20	W08	.236	9726	17.2	12	-N					.20								
HUAN	17	1837	1846	1840	N21	W07	.242	9726	17.3	9	-N	2	C	1840		.25		.25						D
GRP18446	17	1856	1928	1859	N24	W03	.268	9726	17.6	32	-F					.51								
MCMA	17	1855	1950D		N23	W05	.260	9726	17.4	55D	-N					.52								
HALE	17	1857	1921	1859	N24	E00	.263	9726	17.8	24	-F	1	C	1900		.52		.50						3 3 3 6
HUAN	17	1857	1912		N25	W03	.284	9726	17.6	15	-F	2	C	1905		.50		.50						E
GRP18447	17	1923	1938	1927	N14	E76	.963	9735	23.5	15	-N					.51								
HALE	17	1923	1938	1927	N16	E75	.958	9735	23.4	15	-B	1	C	1927		.52		.50						3 3 3 6
MCMA	17	1923	1945		N14	E75	.959	9735	23.4	22	-N					.52								
BOUL	17	1924	1930	1927	N13	E78	.972	9735	23.7	6	-N					.50			1.30					J
GRP18448	17	2007	2020	2010	N21	W09	.259	9726	17.2	13	-B					.94								
SACP	17	2006	2023	2010	N21	W09	.259	9726	17.2	17	-B					.89								
MCMA	17	2007	2014D	2009	N22	W10	.282	9726	17.1	7D	-B					.52								
HALE	17	2008	2017	2010	N20	W08	.236	9726	17.2	9	-B	1	C	2009		1.03		1.10						E
HOUT	17	2008	2021	2010	N21	W08	.250	9726	17.2	13	-N					1.00								H
HUAN	17	2008	2018	2010	N21	W08	.250	9726	17.2	10	-B	1	C	2010		1.24		1.24						5 5 5 6

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE		MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL	MCMMATH	CMP					TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %			
1968 OCT					LAT.	MER. DIST.	DISTANCE	PLAGE REGION	DAY												
GRP18450	17	2038	2053	2042	N21	W08	.250	9726	17.3	15	--N					.81					3 3 3 5
SACP	17	2035	2106	2042	N21	W09	.259	9726	17.2	31	-N	C				.78	.78				
HUAN	17	2039	2047	2042	N21	W08	.250	9726	17.3	8	-N	1 C	2043			.72	.72				
HALE	17	2040	2047	2042	N21	W08	.250	9726	17.3	7	-N	1 C	2042			.93	1.00				
GRP18451	17	2056	2111	2103	N21	W08	.250	9726	17.3	15	--N					.43					2 2 2 5
HUAN	17	2051	2058D	2103	N21	W08	.250	9726	17.3	7D	-N	1 C	2053			.55	.55				H
HALE	17	2101	2111	2103	N20	W07	.227	9726	17.4	10	-N	1 C	2103			.31	.30				
GRP18452	17	2127	2146	2131	N16	E73	.948	9735	23.4	19	1B					1.80					3 3 3 4
SACP	17	2126	2143	2131	N16	E73	.948	9735	23.4	17	1B	C				2.38	4.73				
HALE	17	2127	2154	2129	N16	E71	.936	9735	23.2	27	1B	1 C	2129			.83					FJLV
HOUT	17	2128	2142	2132	N15	E74	.953	9735	23.4	14	1B	C				2.20	5.70				I
GRP18453	17	2149	2200	2156	N19	W09	.233	9726	17.2	11	--B					.81					2 2 2 4
SACP	17	2145	2200	2156	N19	W08	.223	9726	17.3	15	-N	C				.79	.78				
HALE	17	2152	2200	2156	N19	W09	.233	9726	17.2	8	-B	1 C	2156			.83	.90				H
GRP18461	18	0335	0356	0338	N14	E70	.935	9735	23.4	21	1N					1.23					5 5 5 5
CULO	18	0334	0545	0339	N16	E72	.946	9735	23.5	131	1N	C	0339			1.03					
SIBE	18	0334	0358	0335	N13	E70	.935	9735	23.4	24	1F	P	0335			.83	2.50			55	D
MANI	18	0334E	0512	0339	N13	E72	.947	9735	23.5	98D	1N	2 C	0339			1.86	4.10				E
CRON	18	0335	0355	0339	N14	E70	.935	9735	23.4	20	1N	C				1.40	3.20				
HALE	18	0336	0343D		N14	E68	.923	9735	23.3	7D	1N	3 P	0338			1.03					
GRP18462	18	0407	0545	0411	N15	E71	.941	9735	23.5	98	1N					1.73					3 3 3 3
CULO	18	0334	0545		N16	E72	.946	9735	23.5	131	1N	C	0410			1.44					K
MANI	18	0334E	0512	0411	N13	E72	.947	9735	23.5	98D	1N	2 C	0411			2.06	4.60				
CRON	18	0407	0425	0411	N15	E70	.935	9735	23.4	18	1N	C				1.70	3.90				E
GRP18464	18	0442	0455	0446	N22	W08	.310	9726	17.6	13	-N					1.02					2 2 2 3
CRON	18	0442	0455	0446	N22	W08	.310	9726	17.6	13	-N	C				1.20	1.30				
MANI	18	0452E	0454D		N21	W07	.289	9726	17.7	2D	-N	1 C	0454			.83	.86				
GRP18465	18	0550	0555	0552	N19	W11	.294	9726	17.4	5	-N					.86					3 3 3 6
MANI	18	0549	0556	0551	N19	W11	.294	9726	17.4	7	-N	2 C	0551			1.03	1.08				
CRON	18	0550	0553	0551	N19	W11	.294	9726	17.4	3	-B	C				.90	1.00				
SIBE	18	0551E	0555	0553	N19	W10	.284	9726	17.5	4D	-F	C	0553			.66	.70		57		DI
GRP18466	18	0708	0729	0711	N23	W05	.309	9726	17.9	21	--F					.90					3 2 1 10
ABST	18	0708	0730	0711	N23	W05	.309	9726	17.9	22	-F	P	0711			.90	.90				E
ISTA	18	0708	0728		N22	W04	.289	9726	18.0	20	-N										
CATA	18	0720E	0735D	0725	N23	W05	.309	9726	17.9	15D	1B						3.00		209		
GRP18467	18	0711	0733	0723	N16	E72	.946	9735	23.7	22	-N					.52					3 3 2 10
MANI	18	0710	0727D	0723	N13	E71	.941	9735	23.6	17D	-N	2 C	0723			.83	1.80				
CAPS	18	0711	0749D		N18	E73	.952	9735	23.8	38D	-B	3 C	0713			.20			196		EWJ
ISTA	18	0713	0724		N18	E73	.952	9735	23.8	11	-N										
GRP18468	18	0742	0749	0743	N11	E69	.929	9735	23.5	7	-N					.89					4 4 4 11
CATA	18	0740	0750	0740	N13	E68	.923	9735	23.4	10	-B		0740			.23			251		E
ABST	18	0741	0747	0743	N12	E70	.935	9735	23.6	6	1F	P	0743			.99					
MONT	18	0742	0749	0743	N12	E67	.916	9735	23.3	7	1N	C	0743			1.70					
HTPR	18	0745	0750	0746	N08	E70	.936	9735	23.6	5	-F	C	0746			.62					
6 STATIONS REPORTING GROUP 18469, 5 STATIONS OBSERVING AND NOT REPORTING.																					
GRP18469	18	0747	0819	0805	N22	W03	.286	9726	18.1	32	--F					.85					3 3 2 11
ISTA	18	0708	0818		N20	E00	.248	9726	18.3	70	-N	8 C									
HTPR	18	0747	0825		N22	W05	.293	9726	17.9	38	-F	8 C	0810			1.03	1.00				
ARCE	18	0800E	0815	0805	N23	W04	.305	9726	18.0	15D	-F	8 C	0805			.66	.70				EH
18469	18	0747	0825	0750	N22	W07	.304	9726	17.8	38	*-B					.42					3 2 2 11
MONT	18	0741E	0855	0835	N29	W05	.404	9726	17.9	74D	-N	8 C	0835			.83					
CATA	18	0745	0825D	0750	N22	W08	.310	9726	17.7	40D	-B	8 C	0750			.34	.36		251		
CAPS	18	0749	0817D		N22	W05	.293	9726	18.0	28D	-N	3 C	0758			.50	.50		176		FJ
GRP18470	18	0839	0857	0842	N15	E67	.916	9735	23.4	18	-F					1.05					4 4 4 8
CAPP	18	0838E	0905D		N15	E66	.909	9735	23.3	27D	1N	P	0844			1.86					
ABST	18	0839	0905	0841	N15	E67	.916	9735	23.4	26	1F	P	0841			.90	2.10				E
MONT	18	0839	0846	0841	N15	E66	.909	9735	23.3	7	-N	C	0841			.52					
HTPR	18	0840	0850	0844	N16	E70	.935	9735	23.6	10	-F	C	0844			.93					
GRP18471	18	0849	0914	0856	N20	W04	.256	9726	18.1	25	--N					.97					3 3 3 9
MONT	18	0843	0918	0856	N20	W05	.261	9726	18.0	35	-N	8 C	0856			1.13					
ABST	18	0851	0905	0856	N20	W04	.256	9726	18.1	14	1F	8 P	0855			1.07	1.10				E
HTPR	18	0852	0920	0858	N20	W03	.253	9726	18.1	28	-N	8 C	0858			.72	.70				

SOLAR FLARES

Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPOR-TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS		
	DATE 1968 OCT	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %			
GRP18472 CANR ARCE HTPR	18	0900	0913	0905	N16	E68	.923	9735	23.5	13	-N									
	18	0859	0913	0902	N15	E66	.909	9735	23.3	14	-N	C		.69						
	18	0900	0912	0907	N16	E70	.935	9735	23.6	12	-B	C	0907	.60	1.30				3 3 3 9	
	18	0900	0915	0905	N17	E68	.923	9735	23.5	15	-F	C	0905	.63	1.50					
GRP18473 CAPS CRON KHAR MONT CATA HTPR ARCE CANR	18	0937	1013	0940	N16	E68	.923	9735	23.5	36	1B			1.65						
	18	0930E	1005D	0938	N15	E67	.916	9735	23.4	35D	1B	3	0940	2.00				237	8 7 7 9	
	18	0937	0948	0938	N17	E67	.916	9735	23.4	11	1N	C		1.00	2.20				CI	
	18	0937E	1007D	0940	N17	E70	.935	9735	23.7	30D	1N	P	0943	1.70	4.54	4.20			E	
	18	0938	1039D	0943	N15	E65	.902	9735	23.3	61D	1B	C	0943	2.78				282	EH	
	18	0940E	0945D	0940	N18	E67	.916	9735	23.4	5D	-B		0940	.69						
	18	0940	1040	0942	N17	E68	.923	9735	23.5	60	1B	C	0942	1.44						
	18	0940	1000D	0941	N15	E70	.935	9735	23.7	20D	1N	C	0941	1.94	4.60					E
18	0955E	0958	0955U	N14	E68	.923	9735	23.5	3D	1N	C		1.20	3.00						
GRP18474 HUAN CAPS MONT	18	1124	1146	1128	N17	E67	.916	9735	23.5	22	-N			.28						
	18	1124E	1141		N17	E67	.916	9735	23.5	17D	-N	1	1125	.25	.40				3 2 2 6	
	18	1124	1146D		N07	E68	.903	9735	23.4	22D	-B	3	1126	.50				234	DT	
	18	1126E	1133D	1128	N17	E66	.909	9735	23.4	7D	-N	C	1128	.31					K	
GRP18477 HUAN SACP MONT CAPS HTPR	18	1338	1353	1341	N17	E66	.909	9735	23.5	15	-N			1.66						
	18	1337	1347		N18	E70	.935	9735	23.8	10	-N	2	1340	1.13					5 5 4 7	
	18	1338	1350	1340	N18	E64	.895	9735	23.4	12	1N	C		1.60	2.59				E	
	18	1338	1346	1340	N17	E66	.909	9735	23.5	8	1N	C	1340	2.78						
	18	1338	1407D		N14	E64	.894	9735	23.4	29D	-B	3							F	
	18	1340	1353	1342	N18	E67	.916	9735	23.6	13	-N	C	1342	1.13						
GRP18478 SACP MONT HUAN HUAN	18	1424	1433	1426	N21	W17	.383	9726	17.3	9	-N			.76						
	18	1423	1435	1426	N21	W19	.406	9726	17.2	12	-N	C		.59	.60				3 3 3 7	
	18	1425	1433		N22	W19	.416	9726	17.2	8	-N	C	1427	.72						
	18	1425	1431	1427	N21	W19	.406	9726	17.2	6	-F	2	1427	.25	.25				D	
	18	1428	1438		N22	W08	.310	9726	18.0	10	-F	2	1430	.72	.72				E	
GRP18482 SACP HUAN	18	1740	1752	1742	S21	W41	.746	9728	15.7	12	-F			.38						
	18	1740	1755	1742	S21	W41	.746	9728	15.7	15	-N	C		.30	.36				2 2 2 5	
	18	1740	1748		S20	W40	.731	9728	15.7	8	-F	1	1742	.45	.55				E	
GRP18483 HUAN SACP	18	1745	1754	1750	N19	W19	.388	9726	17.3	9	-N			.55						
	18	1743	1753		N19	W19	.388	9726	17.3	10	-N	2	1750	.41	.41				2 2 2 5	
	18	1746	1755	1750	N18	W19	.379	9726	17.3	9	-N	C		.69	.69					
GRP18485 HUAN BOUL	18	1836	1842	1838	S19	E90	1.001	9739	25.5	6	-F			.33						
	18	1835	1840		S18	E90	1.000	9739	25.5	5	-F	2	1837	.25					2 2 2 4	
	18	1836	1844	1838	S19	E90	1.001	9739	25.5	8	-F	C		.40	2.00				D	
GRP18487 SACP HOUT HUAN	18	1840	1847	1842	N15	E60	.862	9735	23.3	7	-N			.55						
	18	1839	1847	1842	N15	E59	.854	9735	23.2	8	-N	C		.69	1.00				3 3 3 4	
	18	1841	1844D	1842	N15	E60	.862	9735	23.3	3D	-N	C		.60	1.10					
	18	1841	1846	1843	N14	E60	.862	9735	23.3	5	-N	2	1843	.35	.51				D	
GRP18490 BOUL HOUT SACP	18	2025	2036	2026	N17	E63	.887	9735	23.6	11	-N			1.36						
	18	2022	2030D	2025	N17	E60	.863	9735	23.3	8D	1N	C		2.40	4.60				3 3 3 4	
	18	2026	2034	2027	N17	E66	.909	9735	23.8	8	-N	C		.70	1.50					
	18	2026	2037	2027	N17	E64	.895	9735	23.7	11	-F	C		.99	1.60					
GRP18491 SACP HOUT	18	2131	2145	2135	N18	E62	.880	9735	23.5	14	-N			.65						
	18	2130	2144	2134	N18	E59	.855	9735	23.3	14	-N	C		.79	1.14				2 2 2 2	
	18	2132	2145	2135	N17	E64	.895	9735	23.7	13	-N	C		.50	1.00				E	
GRP18492 SACP HALE	18	2324	2331	(2326)	N16	E58	.845	9735	23.3	7	-B			.40						
	18	2319	2329	2322	N17	E59	.855	9735	23.4	10	-N	C		.39	.57				2 2 2 5	
	18	2328	2332D		N14	E56	.826	9735	23.2	4D	-B	2	2330	.41	.70				I	
GRP18493 SACP MANI MITK CRON SACP	18	2331	2355	2339	N17	E60	.863	9735	23.5	24	-N			.74						
	18	2328	2339	2330	N15	E57	.836	9735	23.3	11	-N	C		.50	.70				4 4 4 5	
	18	2330	0001	2339	N15	E60	.862	9735	23.5	31	-N	2	2339	.93	1.70					
	18	2331	2355	2338	N19	E60	.865	9735	23.5	24	-N	C	2338	.72	1.40				E	
	18	2335	2355	2338	N16	E62	.879	9735	23.6	20	-N	C		.70	1.30				E	
	18	2336	2350	2340	N17	E58	.846	9735	23.3	14	-N	C		.60	.85					
GRP18496 MITK MANI	19	0101	0116	0107	N17	E61	.872	9735	23.6	15	-F			1.45						
	19	0101	0116	0107	N17	E60	.864	9735	23.5	15	-N	C	0107	.83	1.60				2 2 2 5	
	19	0109E	0110D		N17	E62	.880	9735	23.7	1D	1F	2	0110	2.06	3.84					
GRP18497 HALE MITK	19	0151	0224	0201	N17	E59	.855	9735	23.5	33	1N			1.55						
	19	0148	0226	0200	N17	E58	.846	9735	23.4	38	1N	2	0200	1.44	2.70				2 2 2 5	
	19	0153	0221	0201	N17	E60	.864	9735	23.6	28	1N	C	0201	1.65	3.20				E	

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS	
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MC MATH PLAGE REGION	CMP DAY				TIME	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH	MAX. INT. %		
					LAT.	MER. DIST.													
1968 OCT																			
GRP18498	19	0436	0503	0447	N17	E58	.846	9735	23.5	27	-N			.68				2 2 2 5	
MANI	19	0434	0505D	0447	N16	E58	.846	9735	23.5	31D	-N	2	C	0447	.83	1.44			
MITK	19	0437	0500	0447	N17	E58	.846	9735	23.5	23	-N			0447	.52	1.00		E	
GRP18499	19	0507	0554	0520	N15	E59	.854	9735	23.6	47	-N				1.58			5 4 4 5	
KODA	19	0442E	0615D	0540	N17	E59	.855	9735	23.6	93D	1N		P	0545	1.93	3.50	1.68	E	
SIBE	19	0445	0620	0513	N14	E60	.862	9735	23.7	95	-F		C	0513	.83	1.90		ET	
MITK	19	0505	0546	0512	N14	E57	.836	9735	23.5	41	-B		C	0512	1.03	1.80		E	
CRON	19	0509	0535	0514	N15	E61	.871	9735	23.8	26	1N		C		2.60	4.90		E	
MANI	19	0518E	0521D		N16	E57	.837	9735	23.5	3D	1N	1		0520	1.86	3.26			
7 STATIONS REPORTING GROUP 18503.					0 STATIONS OBSERVING AND NOT REPORTING.														
GRP18503	19	0942	1012	0950	N17	E44	.701	9735	22.7	30	1N				2.75			5 5 5 5	
CATA	19	0935	1030	0950	N20	E43	.697	9735	22.6	55	1B			0950	1.86	2.62	289		
HTPR	19	0939	1020	0947	N17	E43	.689	9735	22.6	41	1B		C	0947	2.68	3.90			
ARCE	19	0940	1010D	0957	N18	E47	.737	9735	22.9	30D	1N		C	0957	2.53	3.80			
CANR	19	0942	1000	0946	N15	E45	.709	9735	22.8	18	2N		C		4.50	5.70		E	
CRON	19	0944	1000U	0949	N17	E43	.689	9735	22.6	16D	1N		C		2.20	3.10		E	
CATA	19	0945	1030	0950	N17	E43	.689	9735	22.6	45	-B			0950	1.27	1.77	251		
18503	19	0959	1035	1008	N16	E56	.827	9735	23.6	36	*1N				2.04			5 5 5 5	
CATA	19	0956	1105D	1010	N17	E55	.819	9735	23.5	69D	1B			1010	1.73	3.03	390		
CANR	19	0958	1015	1002	N16	E55	.818	9735	23.5	17	2N		C		3.30	5.60		E	
CRON	19	0959U	1021D	1009U	N16	E55	.818	9735	23.5	22D	1N		C		1.60	2.80		E	
HTPR	19	1003	1040	1010	N16	E56	.827	9735	23.6	37	1B		C	1010	1.96	3.40			
ARCE	19	1006E	1010D		N16	E60	.863	9735	23.9	4D	1N		P	1009	1.63	3.20			
18503	19	1011	1100	1029	N17	E54	.809	9736	23.5	49	*1N				2.52			2 2 1 6	
CAPS	19	1011E	1039D		N17	E55	.819	9736	23.5	28D	1N	1						FJ	
ZURI	19	1020E	1100	1029	N17	E53	.799	9736	23.4	40D	1N		C	1029	2.52	4.20			
504	HTPR	19	1205	1230	1210	N16	E55	.818	9735	23.6	25	-F		C	1210	.31	.50		2
GRP18505	19	1248	1254	1248	S19	E90	1.001	9739	26.3	6	-N				.28			2 2 2 3	
CANR	19	1246	1254	1248	S19	E90	1.001	9739	26.3	8	-B		C		.30	1.50		H	
HUAN	19	1249	1253		S18	E90	1.000	9739	26.3	4	-F	1	C	1251	.25			D	
GRP18506	19	1249	1306	1253	N11	E52	.785	9735	23.4	17	1N				2.09			3 3 3 3	
CANR	19	1248	1303	1251	N11	E52	.785	9735	23.4	15	1N		C		2.20	3.50			
HUAN	19	1249	1311		N11	E53	.795	9735	23.5	22	1N	1	C	1253	1.60	2.00		T	
HTPR	19	1250	1305	1255	N10	E50	.763	9735	23.3	15	1N		C	1255	2.48	3.80			
GRP18507	19	1258	1313.	1308	N17	E55	.819	9735	23.7	15	-N				.55			2 2 2 4	
HUAN	19	1249	1311		N17	E55	.819	9735	23.7	22	1N	1	C	1307	.57	.73			
HTPR	19	1307	1315	1308	N16	E54	.808	9735	23.6	8	-N		C	1308	.52	.80			
GRP18508	19	1410	1416	1411	N17	E49	.757	9735	23.3	6	-N				.50			3 3 3 8	
HUAN	19	1410	1415	1411	N17	E50	.768	9735	23.3	5	-N	2	C	1411	.50	.62		E	
SACP	19	1410	1417	1410	N17	E48	.747	9735	23.2	7	-N		C		.30	.36			
HOUT	19	1410	1415	1411	N17	E48	.747	9735	23.2	5	-N		C		.70	1.10			
GRP18509	19	1440	1502	1445	N17	E54	.809	9735	23.7	22	-N				.97			5 5 5 8	
HUAN	19	1428	1437		N15	E50	.766	9735	23.4	9	-F	1	C	1434	.21	.26		D	
LOCA	19	1432	1510D	1445	N17	E55	.819	9735	23.7	38D	1F		V	1445	2.10	3.70			
SANM	19	1436	1457	1441	N16	E54	.808	9735	23.7	21	-F		C	1441	1.65	1.10		EU	
HOUT	19	1443	1515	1446	N18	E54	.810	9735	23.7	32	-N		C		1.10	1.90		E	
HUAN	19	1443	1456		N17	E54	.809	9735	23.7	13	-N	1	C	1446	.50	.64		E	
SACP	19	1445	1450	1446	N18	E53	.800	9735	23.6	5	-B		C		.50	.64			
GRP18512	19	1645	1701	1653	N18	E51	.780	9735	23.5	16	-N				.76			3 2 2 6	
SACP	19	1645	1701	1650	N18	E50	.770	9735	23.4	16	-N		C		.39	.50			
HUAN	19	1652E	1658D		N17	E51	.779	9735	23.5	6D	-N	1	P	1656	1.13	1.43			
HOUT	19	1654	1701	1656	N19	E62	.881	9735	24.4	7	-N		C		1.00	1.90		E	
GRP18513	19	1815	1835	1821	N16	E48	.745	9735	23.4	20	-N				1.19			3 3 3 4	
SACP	19	1814	1835	1825	N17	E49	.757	9735	23.4	21	-N		C		1.28	1.58			
HOUT	19	1815	1834	1817	N16	E49	.756	9735	23.4	19	-N		C		.90	1.40		EIK	
HOUT	19	1815	1834	1824	N16	E49	.756	9735	23.4	19	-N		C						
HALE	19	1820E	1929		N15	E47	.732	9735	23.3	69D	1B	2	P	1820	1.39	2.00		IFT	
GRP18514	19	1852	1919	1856	N16	E52	.788	9735	23.7	27	-N				1.61			5 4 3 5	
BOUL	19	1851	1920	1857	N15	E50	.766	9735	23.5	29	1F		C		2.80	3.90			
HOUT	19	1852	1925	1855	N16	E49	.756	9735	23.5	33	-N		C		1.10	1.70		EI	
SACP	19	1853	1913	1856	N17	E55	.819	9735	23.9	20	-N		C		.93	1.24			
MCMA	19	1900E	1900D		N17	E55	.819	9735	23.9		-N		V						
HALE	19	1912E	1925		N15	E47	.732	9735	23.3	13D	-N	2	P	1912	.93	1.40		IFT	

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
1968 OCT																		
GRP18537	20	1241	1351	1246	N16	E38	.625	9735	23.4	70	1N			2.06				3 3 3 8
CAPS	20	1241	1339D		N16	E39	.638	9735	23.5	58D	1B	1	1245	3.00	4.20		265	FJK
HTPR	20	1241	1257	1244	N17	E38	.628	9735	23.4	16	-B		1244	1.55	1.90			
SANM	20	1247E	1356	1248	N16	E39	.638	9735	23.5	69D	1F		1248	1.62	2.08			BEU
HTPR	20	1257	1315	1306	N13	E35	.578	9735	23.2	18	-F		1306	.41	.60			
HTPR	20	1320	1345	1325	N18	E36	.606	9735	23.3	25	-F		1325	.62	.80			
4 STATIONS REPORTING GROUP 18538. 3 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18538	20	1420	1454	1425	N16	E38	.625	9735	23.4	34	1F			1.62				2 2 1 6
SANM	20	1420	1456	1424	N16	E39	.638	9735	23.5	36	1F		1424	1.62	2.08			EU
ONDR	20	1422E	1452	1425	N15	E36	.596	9735	23.3	30D	1F		1425					CIJ
18538	20	1438	1455	1443	N18	E38	.631	9735	23.5	17	*-F			1.36				2 2 2 7
ZURI	20	1435E	1443D	1441	N18	E40	.656	9735	23.6	8D	1N		1441	2.10	2.70			
HTPR	20	1440	1455	1445	N18	E36	.606	9735	23.3	15	-F		1445	.62	.80			
GRP18540	20	1755	1847	1806	N18	E34	.580	9735	23.3	52	-B			.88				2 2 2 3
HALE	20	1755	1847	1807	N17	E34	.576	9735	23.3	52	-N	1	1807	.77	.90			FT
SACP	20	1803E	1825D	1805U	N19	E34	.584	9735	23.3	22D	-B			.98	1.06			
541 BOUL	20	1845	1900	1850	S15	E90	1.000	9740	27.5	15	--F			.40	2.00			2
542 HALE	20	1912	1930	1915	N19	E34	.584	9735	23.4	18	-F	2	1915	.77	.90			FT
543 HALE	20	1922	1941	1928	S42	W11	.750	9738	20.0	19	--N	1	1928	.52	.80			2
GRP18544	20	1931	2020	1943	N18	E35	.593	9735	23.4	49	-N			1.46				2 2 2 3
HALE	20	1931	2020	1944	N17	E36	.602	9735	23.5	49	-N	2	1944	1.03	1.30			FJKI
SACP	20	1942E	1944D	1942U	N18	E34	.580	9735	23.4	2D	-N			1.88	2.02			
GRP18545	20	2058	2108	2101	N11	E32	.532	9735	23.3	10	-N			1.15				3 3 3 5
HALE	20	2057	2113	2101	N12	E33	.548	9735	23.3	16	-N	2	2101	.98	1.20			FT
BOUL	20	2059	2105	2100	N10	E32	.530	9735	23.3	6	-N			1.20	1.40			
SACP	20	2101E	2106D	2101E	N12	E32	.534	9735	23.3	5D	-N			1.28	1.34			
GRP18546	20	2116	2122	2118	N16	W78	.974	9736	15.0	6	-N			.59				2 2 2 4
HALE	20	2116	2124	2118	N16	W75	.962	9736	15.3	8	1N	1	2118	.57				
BOUL	20	2116	2120	2117	N16	W80	.981	9736	14.9	4	-N			.60	1.80			
GRP18547	20	2116	2144	2129	N18	E33	.567	9735	23.4	28	-B			1.74				4 4 4 5
HALE	20	2109	2138D	2123	N17	E33	.563	9735	23.4	29D	-B	2	2123	1.13	1.40			FTV
CUL0	20	2119	2154	2131	N18	E33	.567	9735	23.4	35	1N	8	2131	2.06	2.50			E
BOUL	20	2120	2135	2128	N16	E33	.559	9735	23.4	15	1N	8		2.40	2.90			
SACP	20	2132E	2149U	2132U	N19	E33	.572	9735	23.4	17D	-B	8		1.38	1.48			
548 CRON	20	2310	2318	2312	N17	E31	.536	9735	23.3	8	-N			1.00	1.30			E
GRP18553	21	0254	0314	0258	N17	E31	.537	9735	23.4	20	-B			1.51				4 4 4 5
MANI	21	0251	0310D	0258	N16	E32	.546	9735	23.5	19D	-N	2	0258	1.24	1.47			
HALE	21	0251	0324	0256	N16	E31	.533	9735	23.4	33	1B	2	0256	1.70	2.00			F
CRON	21	0254	0310	0256	N18	E30	.528	9735	23.4	16	1N			1.80	2.20			EI
KODA	21	0259	0313	0302	N17	E32	.550	9735	23.5	14	-B		0303	1.29	1.50	2.04		EL
GRP18554	21	0428	0450	0435	N15	E30	.515	9735	23.4	22	1N			1.82				4 4 4 5
CUL0	21	0425	0452	0431	N16	E30	.519	9735	23.4	27	1N		0431	2.27	2.53			E
CRON	21	0427	0445	0432	N15	E29	.501	9735	23.4	18	1N			1.90	2.20			EI
MANI	21	0430E	0502D	0440	N14	E31	.525	9735	23.5	32D	1N	2	0440	2.48	2.93			
KODA	21	0431	0440	0435	N16	E30	.519	9735	23.4	9	-N		0437	.64	.70	2.00		D
4 STATIONS REPORTING GROUP 18555. 1 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18555	21	0457	0535	0508	N16	E30	.519	9735	23.5	38	1N			2.53				4 4 2 5
TACH	21	0430E	0557	0507	N17	E31	.537	9735	23.5	87D	2N							
CRON	21	0453	0520	0506	N17	E28	.496	9735	23.3	27	1N							
CUL0	21	0454	0530	0511	N15	E30	.515	9735	23.5	36	1N							ET
MANI	21	0503	0532D	0508	N14	E31	.525	9735	23.5	29D	1B	2	0508	2.58	3.05			
18555	21	0453	0539	0457	N17	E30	.523	9735	23.5	46	*1N			4.38				2 2 2 5
TACH	21	0430E	0557	0458	N17	E31	.537	9735	23.5	87D	2N		0507	6.05	7.20	3.40	105	FKU
CRON	21	0453	0520	0456	N17	E28	.496	9735	23.3	27	1N			2.70	3.20			EK

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPOR-TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS					
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH FLAGE REGION	CMF DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %						
GRP18556	1968 OCT 21	0604	0655	0611	N17	E29	.510	9735	23.4	51	2B										7 7 6 7		
CULG	21	0604	0655	0613	N18	E29	.515	9735	23.4	51	2B	C	0613	5.40	6.22							ET	
CRIM	21	0604	0658	0605	N18	E30	.528	9735	23.5	54	2N		0616	7.82	9.30								
CRIM	21	0604	0658	0605	N18	E30	.528	9735	23.5	54	2N	C	0605	3.60	4.30							EIVW	
CRON	21	0604	0640	0611	N19	E27	.494	9735	23.3	36	2B	C		6.30	7.20							EI	
CRON	21	0604	0640	0611	N19	E27	.494	9735	23.3	36	2B												
KODA	21	0605	0640	0614	N18	E29	.515	9735	23.4	35	1B	C	0619	3.87	4.50	3.20						EIJ	
TACH	21	0605	0705	0608	N18	E30	.528	9735	23.5	60	2B	C	0608	4.95	5.70	6.60	189					FTW	
ONDR	21	0610E	0655		N17	E28	.496	9735	23.4	45D	3B	V									FIJ		
MANI	21	0614E	0715	0614	N14	E31	.525	9735	23.6	61D	1B	2	0614	3.87	4.60								
GRP18558	21	0819	0841	0828	N18	E31	.541	9735	23.7	22	-N			1.32								10 9 8 12	
WEND	21	0819	0841		N18	E33	.568	9735	23.8	25	1N	V		3.09									
ARCE	21	0819	0840	0825	N17	E29	.510	9735	23.5	21	-N		0825	.88	1.00							E	
HPRR	21	0820	0955	0825	N18	E30	.528	9735	23.6	35	-N	C	0825	1.29	1.50								
CRIM	21	0821	0848	0823	N18	E29	.515	9735	23.5	27	-N	C	0823	1.52	1.80							BI	
MANI	21	0823E	0845	0825	N17	E34	.577	9735	23.9	22D	-N	2	0825	.77	.95								
CANR	21	0823E	0934	0824	N17	E30	.523	9735	23.6	11D	-N	C		.80	1.00							E	
KODA	21	0824E	0933	0827	N19	E32	.559	9735	23.8	9D	-N	P	0828	1.29	1.50	1.84						D	
ONDR	21	0824E	0836		N18	E30	.528	9735	23.6	12D	-N	V	0826			1.70						CDJ	
MONT	21	0824	0843	0836	N19	E31	.546	9735	23.7	19	-N	C	0836	.77									
CAPS	21	0825E	0841D		N16	E33	.560	9735	23.8	16D	-B	1	0828	.90	1.10							204	C
GRP18559	21	0925	0952	0935	N17	E30	.523	9735	23.6	27	-N			.92								6 5 5 12	
HPRR	21	0923	0955	0937	N19	E30	.533	9735	23.6	32	-N	C	0937	.41	.50								
CAPS	21	0924E	0952D		N16	E33	.560	9735	23.9	28D	-N	1	0927	1.00	1.20							C	
MONT	21	0925	0928	0926	N18	E28	.501	9735	23.5	3	-N	C	0926	1.13									
ARCE	21	0926	1000D	0927	N17	E29	.510	9735	23.6	34D	-N	C	0927	.50	.60								
MONT	21	0926	0957	0938	N19	E31	.546	9735	23.7	31	-N	C	0938	.46									
UCCL	21	0928E	0929		N14	E29	.497	9735	23.6	1D	1N	P	0928	1.55	2.40							EI	
UCCL	21	0931	0937	0933	N18	E31	.541	9735	23.7	6	-N	C	0933	.52	.80							DI	
ZURI	21	0944E	0957	0948	N19	E25	.468	9735	23.3	13D	-N	C	0948	.63	.70								
GRP18560	21	1023	1034	1026	S19	E57	.876	9739	25.7	11	-N			1.51								6 6 6 8	
LOCA	21	1020E	1030	1020	S17	E56	.863	9739	25.6	10D	-B	V	1020	1.05	2.00								
HPRR	21	1022	1035	1024	S17	E56	.863	9739	25.6	13	-N	V	1024	.67	1.30								
WEND	21	1022	1035		S16	E58	.877	9739	25.8	13	1N	V		3.09									
CANR	21	1023	1033	1027	S17	E54	.847	9739	25.5	10	-N	C		.60	1.00								
CAPS	21	1024E	1034D		S20	E60	.900	9739	25.9	10D	-N	1	1027	.90								182	
MONT	21	1024	1036	1026	S27	E57	.898	9739	25.7	12	1N	C	1026	2.73									
GRP18561	21	1115	1149	1127	N17	E27	.483	9735	23.5	34	1N			1.98								7 7 6 9	
MONT	21	1056	1135	1127	N18	E27	.488	9735	23.5	39	1N	C	1127	2.48									
ARCE	21	1111E	1122D		N18	E29	.515	9735	23.6	11D	-F	C	1120	.66	.80								
HPRR	21	1113	1200	1123	N17	E26	.469	9735	23.4	47	1N	C	1123	2.06	2.20								
CAPS	21	1115E	1150D	1128	N16	E28	.491	9735	23.6	35D	-B	3	1129	1.80	2.00							212	
ONDR	21	1120E	1145D		N17	E25	.455	9735	23.3	25D	1N	V	1132			2.50						CF	
CANR	21	1124	1138	1130	N19	E27	.494	9735	23.5	14	-N	C		1.50	1.70							E	
ZURI	21	1125E	1208	1129	N16	E26	.463	9735	23.4	43D	1N	C	1129	3.36	3.80								
GRP18562	21	1125	1212	1209	N19	E29	.520	9735	23.7	47	-N			2.69								2 2 2 7	
MONT	21	1054	1226	1139	N19	E30	.533	9735	23.7	92	-N	C	1139	.21									
WEND	21	1125	1206		N19	E30	.533	9735	23.7	41	1N	V		5.16									
MONT	21	1206E	1218	1209	N19	E25	.468	9735	23.4	12D	-N	C	1209	.57									
GRP18563	21	1301	1335	1310	N18	E27	.488	9735	23.6	34	-B			1.07								8 8 6 12	
MONT	21	1249	1302	1251	N19	E28	.507	9735	23.6	13	-N	C	1251	.31									
CAPS	21	1251	1335	1306	N17	E25	.455	9735	23.4	44	-B	3	1307	1.00	1.20	325						F	
HPRR	21	1300	1340	1310	N19	E30	.533	9735	23.8	40	-B	C	1310	1.13	1.10								
MCM	21	1300E	1310D		N17	E29	.510	9735	23.7	10D	-B	V										EL	
MONT	21	1302	1334	1314	N19	E28	.507	9735	23.6	32	-N	C	1314	1.13									
ONDR	21	1303E	1334		N18	E27	.488	9735	23.6	31D	1B	V	1310			2.50						CJ	
ZURI	21	1309	1332	1310	N19	E26	.481	9735	23.5	23	-N	C	1310	1.05	1.20								
LOCA	21	1310E	1332	1310	N17	E28	.496	9735	23.6	22D	-B	V	1310	.85	1.00								
CAPP	21	1310E	1319D		N16	E26	.463	9735	23.5	9D	-N	P	1314	1.24	1.44								
GRP18564	21	1324	1351	1338	N19	E27	.494	9735	23.6	27	-F			1.81								2 2 2 11	
WEND	21	1250	1348		N19	E27	.494	9735	23.6	58	1N	V		3.09									
SACP	21	1324	1354U	1335U	N19	E27	.494	9735	23.6	30D	-F	C		.52	.53								

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPOR-TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %	
14 STATIONS REPORTING GROUP 18565, 1 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18565	21	1417	1513	1433	N16	E25	.449	9735	23.5	56	1N						13 13 10 14	
HTPR	21	1410	1515	1432	N16	E28	.491	9735	23.7	65	1B							
ONDR	21	1413E	1457D		N14	E24	.425	9735	23.4	44D	2N	V	1432	2.58	2.80		CFJKL	
SACP	21	1414	1527U	1435	N16	E24	.435	9735	23.4	73D	1B	C	1431			2.40		
MCMA	21	1414E	1630D	1435	N15	E22	.401	9735	23.2	136D	1B	V		2.71	2.75			
CAPS	21	1414	1518	1428	N16	E29	.505	9735	23.8	64	1B	3	1435	3.00	3.50		I	
LOCA	21	1414	1520	1440	N15	E25	.444	9735	23.5	66	1B	V	1440	3.16	3.50			
CANR	21	1415	1453	1437	N15	E26	.458	9735	23.5	38	1N							
ZURI	21	1416	1518	1434	N16	E26	.463	9735	23.5	62	1N	C	1434	2.31	2.60			
WEND	21	1419E	1518		N18	E27	.488	9735	23.6	59D	2N	P		9.28				
HOUT	21	1424	1510	1427	N15	E24	.430	9735	23.4	46	-N	C		1.70	1.90		EI	
HUAN	21	1424	1522		N15	E25	.444	9735	23.5	58	1N	2	1433	2.37	2.41			
ARCE	21	1425	1454D	1432	N17	E25	.455	9735	23.5	29D	1N	C	1432	2.94	3.30			
MONT	21	1425	1527D	1431	N17	E26	.469	9735	23.6	62D	1B	C	1431	5.16				
18565																		
HUAN	21	1414	1440	1419	N15	E25	.444	9735	23.5	26	*-N			1.58			5 4 3 15	
HUAN	21	1411	1421		N15	E25	.444	9735	23.5	10	-N	1	1417	1.24	1.26		E	
MCMA	21	1414E	1630D	1420	N15	E22	.401	9735	23.2	136D	1B	V					FKY	
CANR	21	1415	1453	1419	N15	E26	.458	9735	23.5	38	1N	C		2.60	2.90		EK	
HOUT	21	1415	1423	1418U	N15	E25	.444	9735	23.5	8	-N	C		.90	1.10		I	
UCCL	21	1445E	1445D		N14	E29	.497	9735	23.8		2N	P					Bf	
GRP18566	21	1527	1540	1530	N18	E23	.434	9735	23.4	13	-N			1.09			6 6 6 14	
SACP	21	1525	1546	1532	N18	E21	.408	9735	23.2	21	-B	C		.40	.40			
HUAN	21	1526	1539	1529	N17	E22	.414	9735	23.3	13	-N	2	1529	.74	.75		E	
HTPR	21	1526	1540	1529	N16	E22	.407	9735	23.3	14	-F	C	1529	.62	.70			
BOUL	21	1526	1537	1531	N18	E25	.461	9735	23.5	11	1F	C		3.40	3.70		E	
HOUT	21	1528	1538	1530	N20	E23	.449	9735	23.4	10	-N	C		.90	1.00		EI	
CAPS	21	1529	1540D		N16	E22	.407	9735	23.3	11D	-N	1	1532	.50	.60		170	
GRP18567	21	1546	1618	1550	N19	E25	.468	9735	23.5	32	-N			.61			4 4 3 9	
SACP	21	1530	1636U	1550	N20	E25	.475	9735	23.5	66D	-N							
SACP	21	1530	1636U	1621	N20	E25	.475	9735	23.5	66D	-N	C		1.61	1.65			
HUAN	21	1545	1609		N18	E26	.475	9735	23.6	24	-N	1	1551	.31	.32		E	
HTPR	21	1545	1559D		N18	E26	.475	9735	23.6	14D	-N	C	1559	.52	.60			
HOUT	21	1548	1609U	1550	N18	E24	.448	9735	23.5	21D	-N	C		1.00	1.10		EI	
GRP18568	21	1719	1801	1732	N18	E23	.434	9735	23.4	42	2B			5.59			7 7 6 7	
HUAN	21	1713	1822		N17	E23	.428	9735	23.4	69	2B	2	1734	5.67	5.80		L	
HALE	21	1715	1819	1732	N19	E23	.442	9735	23.4	64	1B	2	1732	3.92	4.40		F	
SACP	21	1717	1806	1732U	N19	E23	.442	9735	23.4	49	2B	C		5.62	5.71			
BOUL	21	1725	1755	1730	N18	E25	.461	9735	23.6	30	1B	C		4.50	5.00		E	
CANR	21	1725	1745	1732	N17	E25	.455	9735	23.6	20	2B	C		4.80	5.30			
HOUT	21	1727U	1748U	1734U	N20	E22	.437	9735	23.4	21D	2N	C		9.00	9.90		EI	
MCMA	21	1730E	1755D		N15	E22	.401	9735	23.4	25D	1B	V					FL	
GRP18570	21	1955	2000	1957	N18	E21	.408	9735	23.4	5	-F			.36			2 2 2 6	
HUAN	21	1954	1959		N18	E22	.421	9735	23.5	5	-F	2	1955	.31	.32		D	
HALE	21	1955	2001	1957	N18	E20	.395	9735	23.3	6	-F	2	1957	.41	.40			
GRP18571	21	2106	2119	2109	S18	E52	.833	9739	25.8	13	-N			.72			4 4 4 4	
HOUT	21	2105	2118	2108	S17	E52	.829	9739	25.8	13	-N	C		.60	1.00		E	
SACP	21	2106	2120	2110U	S17	E51	.821	9739	25.7	14	-N	C		.80	1.09			
HALE	21	2107E	2119		S18	E52	.833	9739	25.8	12D	-N	2	2107	.67	1.20			
BOUL	21	2108E	2111D	2108U	S19	E53	.844	9739	25.9	3D	-N	C		.80	1.40		B	
GRP18572	21	2126	2149	2129	N16	E20	.379	9735	23.4	23	-B			2.19			4 4 4 4	
CULG	21	2125	2200	2128	N17	E20	.387	9735	23.4	35	1B	C	2128	2.58	2.62		H	
HALE	21	2126	2140	2129	N16	E20	.379	9735	23.4	14	-B	2	2129	1.75	1.90		U	
HOUT	21	2126	2140	2129	N15	E19	.358	9735	23.3	14	1N	C		2.50	2.80		E	
SACP	21	2126	2157	2129	N16	E20	.379	9735	23.4	31	-B	C		1.92	1.91			
GRP18573	21	2214	2228	2216	N17	E18	.360	9735	23.3	14	-B			.78			3 3 3 4	
SACP	21	2213U	2233	2215	N19	E17	.365	9735	23.2	20D	-B	C		.80	.80			
HALE	21	2214	2227	2216	N18	E17	.356	9735	23.2	13	-B	2	2216	.62	.70			
MANI	21	2218E	2225		N14	E20	.366	9735	23.4	7D	-N	2	2219	.93	.99			
GRP18577	22	0142	0214	0143	S17	E87	1.000	9740	28.6	32	1B			.62			2 2 2 4	
MANI	22	0140	0157	0142	S15	E86	.999	9740	28.5	17	1B	2	0142	.83	2.35			
HALE	22	0143	0231	0143	S18	E88	1.000	9740	28.7	48	1N	2	0143	.41			Y	
GRP18578	22	0205	0211	0206	N18	E17	.357	9735	23.4	6	-B			1.10			2 2 2 6	
VORO	22	0204	0208	0206	N17	E16	.334	9735	23.3	4	-B	C	0206	.64	.68		D	
HALE	22	0205	0214	0206	N18	E17	.357	9735	23.4	9	-N	2	0206	1.55	1.70		102	
GRP18579	22	0241	0255	0245	N15	E18	.345	9735	23.5	14	-N			.27			2 2 2 6	
HALE	22	0240	0259	0244	N15	E16	.317	9735	23.3	19	-B	2	0244	.21	.20			
SIBE	22	0241	0251	0246	N14	E19	.352	9735	23.5	10	-F	C	0246	.33	.40		57	

138
Oct 68

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM-POR-TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
	1968 OCT																	
GRP18582	22	0440	0457	0448	N16	E16	.325	9735	23.4	17	1F			2.89			2 2 2 5	
MANI	22	0437	0457D	0448	N16	E15	.312	9735	23.3	20D	-F	2	0448	.83	.87			
SIBE	22	0443	0457	0448	N16	E17	.339	9735	23.5	14	2F	C	0448	4.95	5.50	67	EIT	
10 STATIONS REPORTING GROUP 18584, 0 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18584	22	0727	0755	0733	N15	E15	.303	9735	23.4	28	1N			1.39			7 7 5 10	
HTPR	22	0720	0755	0732	N15	E15	.303	9735	23.4	35	-B	C	0732	1.34	1.50			
CRIM	22	0729	0758	0731	N16	E15	.312	9735	23.4	29	1N	V					D	
CRON	22	0729	0745	0731	N15	E15	.303	9735	23.4	16	-N	C		1.80	1.90			
CANR	22	0729	0745D	0730	N15	E17	.331	9735	23.6	16D	-N	C		1.50	1.60			
CAPS	22	0730E	0805	0735	N15	E17	.331	9735	23.6	35D	-B	3	0741	1.50	1.60	237	C	
ONDR	22	0732E	0755		N15	E13	.276	9735	23.3	23D	2F	V	0735			2.40	CJR	
SIBE	22	0734E	0800	0737	N13	E14	.272	9735	23.4	26D	-F	C	0737	.83	.90	68	EIT	
18584	22	0728	0802	0744	N16	E17	.339	9735	23.6	34	*1N			3.28			3 3 3 10	
WEND	22	0728E	0758		N17	E18	.361	9735	23.7	30D	1N	V		5.16				
KODA	22	0729E	0750D	0744	N17	E19	.374	9735	23.7	21D	1N	P	0743	1.93	2.10	2.32	EJL	
BUCA	22	0736E	0805D		N15	E15	.303	9735	23.4	29D	1F	P	0746	2.76	2.90			
GRP18585	22	0816	0835	0820	S18	E86	.999	9740	28.8	19	-N			1.06			4 4 4 13	
BUCA	22	0752E	0830D		S18	E85	.999	9740	28.7	38D	-N	P	0820	.55			D	
MONT	22	0814	0832	0818	S17	E88	1.000	9740	28.9	18	-N	C	0818	.46				
ARCE	22	0819	0828	0821	S18	E85	.999	9740	28.7	9	-F	C	0821	.15	.60			
WEND	22	0820E	0848D		S18	E85	.999	9740	28.7	28D	1N	V		3.09				
GRP18586	22	0825	0844	0837	S18	E89	1.000	9740	29.0	19	-N			1.70			2 2 1 13	
HTPR	22	0817	0845		S18	E90	1.000	9740	29.1	28	-N	C						
MONT	22	0833	0842	0837	S17	E88	1.000	9740	29.0	9	1N	C	0837	1.70				
GRP18587	22	0850	0920	0852	S18	E88	1.000	9740	29.0	30	-N			.51			3 3 2 13	
HTPR	22	0847	0925		S18	E90	1.000	9740	29.1	38	-N	C						
MONT	22	0849	0905D	0852	S17	E88	1.000	9740	29.0	16D	-N	C	0852	.77				
ARCE	22	0855	0915		S18	E85	.999	9740	28.7	20	-N	C	0855	.25	1.00			
GRP18588	22	0856	0923	0859	S18	E43	.748	9739	25.6	27	-F			.44			3 3 3 12	
MONT	22	0854	0905D	0858	S18	E44	.758	9739	25.7	11D	-N	C	0858	.77				
HTPR	22	0855	0925	0900	S18	E43	.748	9739	25.6	30	-F	C	0900	.21	.30			
ARCE	22	0900	0920		S17	E42	.733	9739	25.5	20	-F	C	0900	.34	.50			
GRP18589	22	0905	0915	0908	N15	E14	.289	9735	23.4	10	-N			.72			5 5 4 10	
ONDR	22	0900	0917	0907	N14	E12	.253	9735	23.3	17	1N	V	0907			2.40	CJ	
CRON	22	0904	0912	0906	N14	E14	.280	9735	23.4	8	-N	C		1.00	1.10		E	
ARCE	22	0906E	0910D		N15	E15	.303	9735	23.5	4D	-F	C	0910	.75	.80			
HTPR	22	0906	0914	0910	N15	E15	.303	9735	23.5	8	-N	C	0910	.62	.60			
CAPS	22	0907	0918		N15	E16	.317	9735	23.6	11	-B	2	0912	.50	.50	196		
GRP18594	22	1122	1142	1126	S15	E83	.996	9740	28.7	20	-F			1.40			4 4 2 7	
HTPR	22	1120	1140		S14	E90	1.000	9740	29.2	20	-F	C						
MONT	22	1124	1136	1126	S14	E84	.997	9740	28.8	12	1N	C	1126	1.70				
CAPS	22	1126E	1146D		S14	E78	.984	9740	28.3	20D	1F	3	1131	1.10			J	
ONDR	22	1127E	1145		S19	E80	.991	9740	28.5	18D	-N	V	1133			2.00	CJ	
GRP18595	22	1130	1144	1133	N20	W71	.942	9726	17.2	14	-N			.79			2 2 2 6	
MONT	22	1130	1138	1132	N21	W72	.947	9726	17.1	8	-N	C	1132	.77				
CANR	22	1130	1149	1134	N19	W69	.930	9726	17.3	19	-N	C		.80	1.80		EH	
4 STATIONS REPORTING GROUP 18596, 2 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18596	22	1158	1219	1212	N16	E15	.312	9735	23.6	21	-F			1.75			2 2 2 6	
WEND	22	1156E	1218		N17	E15	.322	9735	23.6	22D	1N	V		3.09				
HTPR	22	1200	1220	1212	N15	E15	.303	9735	23.6	20	-F	C	1212	.41	.40			
18596	22	1141	1210	1146	N16	E13	.286	9735	23.5	29	*-N			.89			2 2 2 7	
MONT	22	1140	1158	1146	N16	E11	.262	9735	23.3	18	-N	C	1146	.77				
CAPS	22	1141	1222D		N16	E15	.312	9735	23.6	41D	-N	3	1148	1.00	1.00	189	EJ	
GRP18600	22	1302	1316	1304	N20	W71	.942	9726	17.2	14	-N			.57			3 3 3 8	
MONT	22	1302	1317	1303	N21	W73	.952	9726	17.1	15	-N	C	1303	.21				
CANR	22	1302	1314	1304	N19	W70	.936	9726	17.3	12	-N	C		.60	1.40			
CAPS	22	1307E	1317		N19	W70	.936	9726	17.3	10D	1N	3	1309	.90		164	C	
GRP18602	22	1318	1345	1328	N16	E13	.286	9735	23.5	27	-N			1.34			7 7 6 12	
HTPR	22	1315	1345	1324	N15	E15	.303	9735	23.7	30	-N	C	1324	.52	.50			
WEND	22	1316E	1343D		N17	E14	.309	9735	23.6	27D	1N	V		3.09				
MONT	22	1319	1344	1332	N16	E12	.274	9735	23.5	25	-N	C	1332	1.03				
ZURI	22	1320	1345	1322	N16	E13	.286	9735	23.5	25	-N	P	1322	1.26	1.30			
SACP	22	1325E	1347	1332	N16	E11	.262	9735	23.4	22D	-N	C		1.03	1.02			
HUAN	22	1331E	1335D		N14	E11	.240	9735	23.4	4D	-N	1	1332	1.13	1.13		E	
MCHA	22	1332E	1332D		N15	E12	.263	9735	23.5		-N	V					E	

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM-POR-TANCE	OBS. COND. TYPE	MEASUREMENTS				REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α		MAX. INT. %
1968 OCT																	
GRP18605	22	1417	1426	1420	S17	E39	.701	9739	25.5	9	--N						
SACP	22	1415	1425	1420	S17	E39	.701	9739	25.5	10	-N	C		.42			3 3 3 11
CAPS	22	1417E	1427D		S16	E38	.685	9739	25.4	10D	-N	2	1424	.30	.35		
HUAN	22	1420	1425		S18	E40	.717	9739	25.6	5	-F	1	1422	.70	1.00	166	CD
GRP18606	22	1454	1504	1458	N15	E11	.250	9735	23.4	10	--F			.29			
SANM	22	1452	1503	1458	N16	E10	.250	9735	23.4	11	-F	C	1458	.17	.17		4 4 3 12
SACP	22	1455	1507	1458	N15	E10	.238	9735	23.4	12	-N	C		.30	.30		
MCMA	22	1455E	1455D		N15	E12	.263	9735	23.5		-N	V					E
HUAN	22	1456E	1502		N14	E10	.227	9735	23.4	6D	-F	2	1457	.41	.41		E
GRP18609	22	1640	1654	1647	N18	E11	.286	9735	23.5	14	--N			.82			
SACP	22	1640	1655	1645	N18	E11	.286	9735	23.5	15	-F	C		.70	.69		2 2 2 3
HALE	22	1643E	1653	1648	N18	E10	.276	9735	23.4	10D	-B	2	1648	.93	1.00		
GRP18610	22	1655	1735	1701	N17	E09	.252	9735	23.4	40	1B			3.54			4 4 4 4
SACP	22	1654	1737	1701	N17	E10	.253	9735	23.5	43	1B	C		3.30	3.24		
HALE	22	1655	1800	1700	N17	E09	.252	9735	23.4	65	1B	2	1700	4.23	4.40		FUV
HUAN	22	1656E	1724D		N17	E08	.243	9735	23.3	28D	1N	1	1711	2.11	2.11		E
BOUL	22	1656	1720	1702	N17	E09	.252	9735	23.4	24	1N	C		4.50	4.50		E
511 HALE	22	1753	1825	1805	S18	E73	.969	9740	28.2	32	--F	1	1805	.21			3
GRP18612	22	1856	1904	1902	S18	E78	.986	9740	28.6	8	--N			.36			2 2 2 3
HUAN	22	1856	1902D		S18	E80	.991	9740	28.8	6D	-N	1	1900	.31			D
HALE	22	1856	1904D	1902	S18	E76	.980	9740	28.5	8D	-N	1	1902	.41			
513 SACP	22	1925	1940	1929	S12	E71	.955	9740	28.1	15	-N	C		.51	1.04		2
514 SACP	22	2030	2045	2035	S16	E74	.971	9740	28.4	15	-N	C		.71	1.67		1
515 SACP	22	2123	2139	2124	N17	E08	.243	9735	23.5	16	--B	C		.30	.30		2
516 SACP	22	2140	2152	2144	S17	E35	.658	9739	25.5	12	--F	C		.70	.79		1
517 SACP	22	2208	2221	2212	S16	E34	.641	9739	25.5	13	--N	C		.40	.45		1
518 SACP	22	2221	2229	2225	S17	E35	.658	9739	25.6	8	--N	C		.30	.34		2
GRP18619	23	0000	0035	0004	N16	E05	.205	9735	23.4	35	-N			1.03			2 1 1 4
MANI	23	0000	0035	0004	N16	E05	.205	9735	23.4	35	-N	2	0004	1.03	1.05		
MANI	23	0000	0035	0001	N16	E05	.205	9735	23.4	35	-N	2	0001	.62	.63		
SACP	23	0008	0018D	0015	N17	E06	.227	9735	23.5	10D	-N	C		.93	.91		
522 MANI	23	0228	0239	0229	N16	E05	.205	9735	23.5	11	-N	2	0229	.93	.95		3
GRP18624	23	0358	0431	0403	N17	E04	.214	9735	23.5	33	1B			2.54			4 4 4 4
CRON	23	0357	0423	0401	N18	E04	.231	9735	23.5	26	1B	C		2.50	2.50		E
VORO	23	0358	0431D	0402	N16	E03	.193	9735	23.4	33D	1B	C	0402	2.09	2.13	124	CEJ
TACH	23	0358E	0440	0403	N18	E04	.231	9735	23.5	42D	1B	C	0403	2.46	2.60	4.30	171
MANI	23	0404E	0405D	0405	N16	E04	.198	9735	23.5	1D	1B	1	0405	3.09	3.15		E
GRP18627	23	0628	0640	0632	S17	E32	.625	9739	25.7	12	-F			1.50			2 2 2 5
CRON	23	0626	0640	0632	S16	E32	.618	9739	25.7	14	-N	C		1.20	1.60		E
ABST	23	0630	0631D	0631	S17	E32	.625	9739	25.7	1D	1F	P	0631	1.80	2.30		E
GRP18631	23	0856	0910	0901	S14	E64	.916	9740	28.2	14	-N			1.13			8 8 7 14
WEND	23	0850E	0908		S16	E60	.891	9740	27.9	18D	1N	V		3.09			
MONT	23	0856	0913	0859	S13	E65	.921	9740	28.2	17	-N	C	0859	1.13			
CRON	23	0858	0908	0901	S14	E64	.916	9740	28.2	10	-N	C		.50	1.30		E
CAPS	23	0858	0909		S12	E62	.899	9740	28.0	11	-B	3	0902	1.30		237	
HPRR	23	0858	0910	0902	S13	E65	.921	9740	28.2	12	-N	C	0902	.41	1.00		
BUCA	23	0859E	0911D		S14	E64	.916	9740	28.2	12D	-F	P	0901	.66	1.60		
ONDR	23	0900E	0910		S14	E66	.929	9740	28.3	10D	1F	V	0901			2.30	
ARCE	23	0903E	0909		S16	E68	.943	9740	28.5	6D	-B	C	0903	.81	1.90		C
GRP18634	23	0939	0958	0942	S13	W58	.870	9737	19.1	19	-N			1.02			10 10 9 11
MONT	23	0932	1005	0941	S11	W58	.866	9737	19.0	33	-N	C	0941	1.13			
CANR	23	0939	0954	0942	S12	W62	.899	9737	18.8	15	-N	C		.80	1.60		EH
ARCE	23	0939	1000D	0943	S10	W60	.880	9737	18.9	21D	-N	C	0943	.54	1.10		
WEND	23	0939E	0952		S12	W55	.842	9737	19.3	13D	1N	V		3.09			
HPRR	23	0940	1010	0944	S14	W57	.864	9737	19.1	30	-N	C	0944	.41	.80		
CAPS	23	0940	0956D		S11	W56	.849	9737	19.2	16D	-N	3	0942	1.10	2.00	170	H
CRON	23	0940	0956	0942	S12	W58	.868	9737	19.1	16	-N	C		.50	1.00		
LOCA	23	0940	0955	0943	S12	W54	.833	9737	19.4	15	-N	V	0943	.85	1.50		H
UCCL	23	0942	1043D	0942	S19	W60	.898	9737	18.9	61D	-B	P	0942	.77			DGI
ONDR	23	0944E	0958		S12	W55	.842	9737	19.3	14D	1B	V	0945			2.60	CH

SOLAR FLARES
Confirmed

OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPOR-TANCE	OBS. COND. TYPE	MEASUREMENTS				REMARKS	
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME - UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α		MAX. INT. %
GRP18637	23	1156	1229	1206	N19	W14	.332	9735	22.4	33	-N							9 8 7 10
WEND	23	1153E	1222		N17	W15	.322	9735	22.4	29D	1N	P		1.57				
MONT	23	1154	1233	1209	N19	W13	.321	9735	22.5	39	-N	C	1209	3.09				
HTRP	23	1155	1230	1210	N20	W15	.354	9735	22.4	35	-N	C	1210	.93				
CAPS	23	1156	1230	1200	N18	W14	.321	9735	22.4	34	-N	3	1202	.72	.70		176	
ZURI	23	1156	1225	1205	N19	W13	.321	9735	22.5	29	-N	C	1205	1.50	1.60			
ONDR	23	1158E	1223		N19	W12	.310	9735	22.6	25D	1N	V	1202	1.89	2.00		2.40	
CAPP	23	1158E	1225		N18	W13	.309	9735	22.5	27D	-N	P	1202	1.86	1.97			
CATA	23	1200	1240D	1205	N18	W13	.309	9735	22.5	40D	-B		1205	1.86	1.97		294	
CANR	23	1204	1220	1209	N29	W25	.592	9735	21.6	16	-N	C		1.30	1.40			
7 STATIONS REPORTING GROUP 18639, 0 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18639	23	1314	1345	1317	S17	E27	.570	9739	25.6	31	1N			1.58				6 6 5 7
WEND	23	1309	1328D		S16	E26	.550	9739	25.5	19D	1N	V		4.13				
MONT	23	1314	1324	1315	S18	E26	.568	9739	25.5	10	-N	C	1315	1.13				
MONT	23	1314	1330	1317	S16	E28	.572	9739	25.7	16	-N	C	1317	.77				
CANR	23	1315	1332	1317	S16	E27	.561	9739	25.6	17	-N	C		1.20	1.40			
HTRP	23	1316	1400	1320	S19	E28	.598	9739	25.7	44	-N	C	1320	.62	.70			
ONDR	23	1317E	1352		S17	E26	.559	9739	25.5	35D	2N	V	1317				2.30	
CAPS	23	1321E	1350D		S17	E25	.548	9739	25.4	29D	3		1325	.80	1.00		182	
18639	23	1319	1405	1334	S18	E24	.547	9739	25.4	46	+1N			3.44				
ZURI	23	1315	1336D	1336	S17	E26	.589	9739	25.5	21D	2N	C	1336	6.30	7.50			
MONT	23	1323	1405	1331	S18	E22	.527	9739	25.2	42	-N	C	1331	.57				2 2 2 9
GRP18643	23	1621	1630	1623	N11	E02	.106	9735	23.8	9	-N			.51				2 2 2 3
SACP	23	1618	1628	1622	N10	E01	.085	9735	23.8	10	-N	C		.50	.49			
MCMA	23	1623	1631	1624	N11	E02	.106	9735	23.8	8	-N	C	1624	.52	.60			EH
GRP18644	23	1713	1721	1716	N15	W06	.198	9735	23.3	8	-N			.27				3 3 3 5
MCMA	23	1713	1719	1714	N16	W06	.212	9735	23.3	6	-N	C	1714	.31	.30			
SACP	23	1713	1719	1716	N15	W05	.189	9735	23.3	6	-F	C		.30	.29			
HALE	23	1714	1724	1717	N15	W06	.198	9735	23.3	10	-B	2	1717	.21	.20			FHJ
GRP18645	23	1740	1809	1744	S17	E25	.548	9739	25.6	29	-B			1.18				4 4 3 5
SACP	23	1739	1804	1745	S17	E24	.538	9739	25.5	25	-B	C		1.39	1.46			
MCMA	23	1739E	1809D		S17	E26	.559	9739	25.7	30D	-B	V						
HALE	23	1740	1815D	1744	S17	E23	.527	9739	25.5	35D	-B	1	1744	1.34	1.60			
CANR	23	1740	1750D	1744	S15	E25	.530	9739	25.6	10D	-N	C		.80	1.00			E
GRP18646	23	1838	1852	1840	N18	W04	.231	9735	23.5	14	-B			.82				2 2 2 3
SACP	23	1837	1852	1840	N18	W04	.231	9735	23.5	15	-N	C		.70	.68			
HALE	23	1838	1852	1840	N17	W04	.214	9735	23.5	14	-B	1	1840	.93	1.00			F
647 HALE	23	1917	1928	1918	N17	W06	.227	9735	23.4	11	-F	1	1918	.31	.30			F
648 HALE	23	1918	1933	1920	S18	E61	.902	9740	28.4	15	-N	1	1920	.21	.50			IJ
649 HALE	23	1939	1958	1941	S18	E61	.902	9740	28.4	19	-N	1	1941	.41	.90			IJ
GRP18650	23	1939	1953	1942	S11	W62	.897	9737	19.2	14	-B			.31				2 2 2 2
SACP	23	1939	1951	1941	S11	W62	.897	9737	19.2	12	-N	8	C	.40	.64			
HALE	23	1939	1955	1942	S11	W62	.897	9737	19.2	16	-B	1	1942	.21	.50			GJK
GRP18651	23	2001	2014	2003	N20	W90	1.000	9726	17.1	13	-B			.25				2 2 2 2
SACP	23	2000	2020	2002	N19	W92	1.000	9726	16.9	20	-N	1	C	.40				GJ
HALE	23	2001	2007	2003	N20	W88	.998	9726	17.2	6	-B	1	C	.10				
652 HALE	23	2022	2033	2026	S25	E88	1.000	9745	30.4	11	-F	1	2026	.10				G
GRP18656	23	2130	2140	2131	N17	W07	.235	9735	23.4	10	-N			.57				2 2 2 3
SACP	23	2129	2137	2131	N17	W06	.227	9735	23.4	8	-N			.51	.49			
HALE	23	2130	2143	2131	N17	W07	.235	9735	23.4	13	-N	1	2131	.62	.60			FIK
5 STATIONS REPORTING GROUP 18658, 0 STATIONS OBSERVING AND NOT REPORTING.																		
GRP18658	23	2356	0118	0007	S12	E59	.876	9740	28.4	82	2B			5.23				4 4 4 5
HALE	23	2351	0216	0003	S12	E57	.859	9740	28.3	145	2B	1	C	0003	5.47	10.70		FILUV
MANI	23	2353	0140	0005	S14	E59	.880	9740	28.4	107	2B	2	C	0005	6.29	11.70		
CRON	23	2356	0046	0005	S13	E59	.878	9740	28.4	50	2N	C		3.60	6.80			EK
VORO	24	0003	0055	0013	S10	E61	.888	9740	28.6	52	2N	C	0013	5.55	11.60		93	EHJ
18658	23	2356	0046	0021	S13	E60	.886	9740	28.5	50	+2B			8.39				2 2 1 6
CRON	23	2356	0046	0025	S13	E59	.878	9740	28.4	50	2N							
SACP	24	0009E	0020D	0017U	S12	E61	.891	9740	28.6	11D	3B	C		8.39	13.24			
GRP18660	24	0021	0045	0034	S17	E19	.485	9739	25.4	24	-F			.73				2 2 2 4
MANI	24	0011	0050	0033	S18	E19	.497	9739	25.4	39	-F	2	P	0033	.83	.95		
HALE	24	0030	0039	0034	S16	E19	.474	9739	25.4	9	-N	1	P	0034	.62	.70		

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
					LAT.	MER. DIST.												
GRP18690 MANI HALE	1968 OCT 25	0224	0240	0228	N16	W22	.410	9735	23.5	16	--F							
	25	0224	0235	0227	N17	W21	.403	9735	23.5	11	-F	2	0227	.26	.28			2 2 2 5
	25	0224	0245	0229	N15	W22	.404	9735	23.5	21	-F	2 C	0229	.41	.50			
GRP18691 MANI HALE	25	0227	0253	0231	S14	E41	.706	9740	28.2	26	-N			.83				2 2 2 5
	25	0225	0247	0230	S14	E41	.706	9740	28.2	22	-N	2	0230	.72	1.04			
	25	0229	0258	0232	S13	E40	.690	9740	28.1	29	-N	2 C	0232	.93	1.30			F
GRP18692 MANI HALE	25	0240	0247	0242	N18	W20	.398	9735	23.6	7	--F			.39				2 2 2 5
	25	0239	0247	0242	N17	W19	.376	9735	23.7	8	-F	2	0242	.36	.38			
	25	0241	0246	0242	N18	W20	.398	9735	23.6	5	-F	2 C	0242	.41	.40			
693 HALE	25	0248	0257	0249	N14	W28	.485	9735	23.0	9	--F	2 C	0249	.36	.40			
	25	0252	0336	0324	S17	E05	.385	9739	25.5	44	--F			.52				2 2 2 5
	25	0252	0340D	0324	S16	E06	.373	9739	25.6	48D	-F	2 P	0324	.52	.60			F
GRP18695 MANI HALE	25	0321	0335	0324	S13	E40	.690	9740	28.1	14	--N			.70				2 2 2 5
	25	0321	0332		S14	E40	.695	9740	28.1	11	-N	2	0323	.57	.78			
	25	0321	0338	0324	S12	E40	.686	9740	28.1	17	-N	2 C	0324	.83	1.10			F
GRP18696 MANI MITK HALE	25	0331	0340	0333	N12	W31	.521	9735	22.8	9	-N			.86				3 3 3 6
	25	0329	0342	0334	N10	W31	.517	9735	22.8	13	-N	2	0334	1.03	1.21			
	25	0331E	0338	0332	N13	W32	.538	9735	22.7	7D	-N	C	0332	.52	.60			D
	25	0332	0340	0334	N14	W30	.513	9735	22.9	8	-N	2 P	0334	1.03	1.20			
GRP18697 MITK MANI	25	0349	0406	0355	S26	E67	.950	9745	30.2	17	-N			.73				2 2 2 6
	25	0349	0407	0355	S25	E69	.958	9745	30.3	18	-N	C	0355	.62				D
	25	0357E	0405		S27	E65	.942	9745	30.0	8D	-N	2	0358	.83	1.76			
GRP18698 MANI CRON	25	0405	0414	0408	S17	E04	.381	9739	25.5	9	--F			.97				2 2 2 6
	25	0404	0415D	0409	S17	E03	.379	9739	25.4	11D	-F	2	0409	.93	.99			
	25	0405	0412	0406	S16	E05	.369	9739	25.5	7	-N	C		1.00	1.10			E
GRP18701 CRIM MANI	25	0559	0610	0603	N15	W30	.517	9735	23.0	11	--F			.91				2 2 2 5
	25	0559	0610	0603	N15	W30	.517	9735	23.0	11	-F	C	0603	1.20	1.40			D
	25	0600E	0609		N15	W30	.517	9735	23.0	9D	-F	1	0603	.62	.73			
GRP18704 ISTA ISTA BUCA CANR CRON CRIM	25	0844	0904	0850	S18	E02	.393	9739	25.5	20	1N			2.32				5 5 4 8
	25	0835	0904		S16	E07	.378	9739	25.9	29	-N							
	25	0835	0846		S24	E04	.490	9739	25.7	11	-N							
	25	0845	0910	0851	S17	E01	.376	9739	25.4	25	1N	C	0851	2.76	2.90			
	25	0845E	0900	0848U	S18	E03	.395	9739	25.6	15D	-N	C		1.80	2.00			
	25	0847	0858	0850	S17	E01	.376	9739	25.4	11	1N	C		2.00	2.20			
	25	0849	0908	0850	S17	E02	.377	9739	25.5	19	1F	C	0850	2.70	3.00			E
GRP18705 ISTA CRIM CRON CANR WEND	25	0927	0942	0933	S19	E05	.416	9739	25.8	15	-N			1.77				5 5 4 5
	25	0923	0945		S22	E04	.459	9739	25.7	22	-F							
	25	0924	0944	0932	S19	E05	.416	9739	25.8	20	1N	C	0932	1.98	2.20			E
	25	0929	0939	0933	S18	E05	.400	9739	25.8	10	-N	C		.90	1.00			
	25	0930	0937	0933	S19	E05	.416	9739	25.8	7	-N	C		1.10	1.20			E
	25	0932E	0945D		S18	E05	.400	9739	25.8	13D	1F	V		3.09				
706 CANR	25	1246	1258	1249	N25	W90	.999	9726	18.8	12	--F	C		.30	1.20			
GRP18708 SACP CANR HOUT HOUT BOUL HUAN	25	1533	1600	1537	N16	W30	.521	9735	23.4	27	-N			1.25				5 4 4 6
	25	1532	1611	1540	N16	W29	.507	9735	23.5	39	-N	C		1.21	1.25			
	25	1532	1600	1535	N16	W29	.507	9735	23.5	28	-N	C		1.20	1.40			E
	25	1533	1558	1535	N15	W30	.517	9735	23.4	25	-N	C		.90	1.00			EK
	25	1533	1558	1542	N15	W30	.517	9735	23.4	25	-N							
	25	1535	1550	1537	N15	W32	.544	9735	23.2	15	-N	C		1.70	2.00			E
	25	1552E	1552D		N16	W30	.521	9735	23.4		-N	1 P	1552	1.55	1.62			E
GRP18712 HALE SACP	25	1714	1735	1718	N15	W37	.611	9735	22.9	21	--F			.21				2 2 2 5
	25	1713	1728D	1718	N15	W37	.611	9735	22.9	15D	-F	1 P	1718	.21	.30			T
	25	1714	1735	1718	N14	W37	.609	9735	22.9	21	-N	C		.20	.22			
714 SACP	25	1842	1854	1848	N27	E59	.868	9744	30.2	12	--F	C		.40	.60			
GRP18716 BOUL HUAN SACP HALE HOUT	25	1908	1940	1916	N16	W32	.548	9735	23.4	32	1N			2.32				5 4 4 5
	25	1908	1930	1912	N17	W32	.552	9735	23.4	22	1N	C		3.70	4.40			
	25	1908E	1934D		N15	W32	.544	9735	23.4	26D	1N	1 P	1915	2.01	2.10			E
	25	1908	1934	1912	N15	W31	.531	9735	23.5	26	-N	C		1.71	1.80			
	25	1910E	2000D	1914	N15	W32	.544	9735	23.4	50D	1N	2 P	1914	1.86	2.20			
	25	1924	1931	1927	N13	W35	.580	9735	23.2	7	-N	C		.80	1.00			

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN	IM-POR-TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MCMMATH PLACE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %			
					LAT.	MER. DIST.														
GRP18717	25	1923	1943	1930	S20	E35	.676	9740	28.4	20	1F								3 3 3 5	
BOUL	25	1922	1940	1930	S21	E35	.683	9740	28.4	18	1F								E	
HALE	25	1924	1945	1930	S20	E33	.656	9740	28.3	21	1F	2	C	1930	1.55	3.90	2.10			
HUAN	25	1930E	1934D		S20	E36	.687	9740	28.5	40	-F	1	P	1931	.55	.64			E	
GRP18720	25	2111	2142	2115	N14	W39	.635	9735	23.0	31	-F								2 2 2 4	
SACP	25	2110	2125	2114	N14	W39	.635	9735	23.0	15	-N	8	C		.51	.56				
HALE	25	2111	2159	2115	N14	W39	.635	9735	23.0	48	-F	1	C	2115	.31	.40			T	
GRP18721	25	2317	2335	2320	N16	W35	.588	9735	23.3	18	-N								4 4 4 5	
CRON	25	2316	2325	2320	N16	W35	.588	9735	23.3	9	-N				1.20	1.40			E	
HALE	25	2317	2351	2321	N16	W34	.575	9735	23.4	34	-F	2	C	2321	.72	.90			F	
SACP	25	2317	2334	2320	N16	W34	.575	9735	23.4	17	-N				.91	.97				
MANI	25	2319E	2330D	2320	N15	W35	.585	9735	23.3	110	-N	2		2320	.72	.90				
GRP18722	25	2346	2359	2350	N14	W41	.661	9735	22.9	13	-N				.57				2 2 2 6	
SACP	25	2345	2357E	2349	N14	W41	.661	9735	22.9	12D	-N				.62	.70				
HALE	25	2347	2359	2350	N14	W40	.648	9735	23.0	12	-N	2	C	2350	.52	.70				
GRP18723	26	0006	0015	0010	N15	W42	.675	9735	22.9	9	-N				.53				2 2 2 5	
SACP	26	0004	0015	0009	N15	W43	.687	9735	22.8	11	-B				.64	.74				
HALE	26	0008	0014	0010	N14	W40	.648	9735	23.0	6	-F	1	C	0010	.41	.50				
GRP18725	26	0109	0158	0119	S20	E32	.645	9740	28.4	49	1N				2.79				4 3 3 4	
CULG	26	0046	0240	0134	S20	E33	.655	9740	28.5	114	1N			0134	2.34	2.89				
HALE	26	0047	0218	0120	S20	E32	.645	9740	28.4	91	1N	2	C	0120	2.06	2.70			FI	
MITK	26	0108	0152	0121	S20	E33	.655	9740	28.5	44	1N			0121	3.30	4.30			E	
CRON	26	0110	0145	0116	S20	E31	.635	9740	28.4	35	1B				3.00	3.90			E	
GRP18730	26	0853	0905	0854	N17	E11	.278	9741	27.2	12	-N				2.05				2 2 2 4	
WEND	26	0852E	0910		N16	E10	.255	9741	27.1	18D	1N			V	3.09					
CANR	26	0853	0859	0854	N18	E11	.290	9741	27.2	6	-N			C	1.00	1.00			E	
732 SACP	26	1332	1350	1336	N16	W41	.665	9735	23.5	18	-N				.31	.36			4	
GRP18733	26	1505	1520	1511	S14	E28	.554	9740	28.7	15	-N				1.05				3 3 3 5	
HUAN	26	1459	1512D		S14	E29	.566	9740	28.8	13D	-N	1	P	1511	1.03	1.10			E	
SACP	26	1506	1520	1510	S14	E28	.554	9740	28.7	14	-N				.91	.96				
HOUT	26	1509	1520	1511	S15	E27	.550	9740	28.7	11	-N				1.20	1.40			E	
734 CANR	26	1627	1635	1630	S19	E22	.535	9740	28.3	8	-F				1.10	1.30			E 3	
GRP18735	26	1640	1710	1651	S16	E28	.570	9740	28.8	30	-N				1.43				3 3 3 3	
SACP	26	1638	1715	1656	S16	E28	.570	9740	28.8	37	-B				1.51	1.60				
HALE	26	1640	1712	1652	S15	E26	.539	9740	28.6	32	-N	2	C	1652	.77	.90			F	
CANR	26	1642	1704	1646	S17	E29	.589	9740	28.9	22	1N			C	2.00	2.40			EK	
CANR	26	1642	1704	1653	S17	E29	.589	9740	28.9	22	1N									
736 HALE	26	1655	1709	1702	S15	W10	.379	9739	26.0	14	-N	2	C	1702	.21	.20			H 3	
737 SACP	26	1846	1925	1851	S13	E27	.534	9740	28.8	39	-B				1.10	1.16			1	
738 SACP	26	2007	2050	2020	S16	E25	.536	9740	28.7	43	-N				.70	.74			2	
GRP18741	26	2352	0101	0012	S16	E23	.514	9740	28.7	69	1B				2.94				4 4 4 5	
CULG	26	2350E	0115	0011	S16	E24	.525	9740	28.8	85D	1B			C	0011	2.99	3.30			E
HALE	26	2354	0300	0013	S16	E23	.514	9740	28.7	186	1B	2	C	0013	2.27	2.60			FZ	
MANI	26	2358E	0055	0012	S16	E23	.514	9740	28.7	57D	1B	2		C	0012	2.89	3.41			
MITK	27	0010E	0053		S16	E23	.513	9740	28.7	43D	1B			C	0010	3.61	3.90			E
7 STATIONS REPORTING GROUP 18742.					0 STATIONS OBSERVING AND NOT REPORTING.															
GRP18742	27	0043	0319	0144	S20	E22	.544	9740	28.7	156	1B				1.99				6 3 3 8	
MITK	27	0039	0305		S22	E24	.584	9740	28.8	146	-N				2.37	2.80				
CULG	27	0040	0322	0125	S21	E22	.555	9740	28.7	162	1B			C	0125	2.06	2.40			
HALE	27	0046	0315	0117	S20	E22	.544	9740	28.7	149	-F	2	C	0117	1.24	1.50			W	
SIBE	27	0053E	0207	0132	S22	E22	.566	9740	28.7	74D	-B			P	0132	.99	1.10		55	DKT
MANI	27	0058E	0209	0121	S19	E21	.524	9740	28.6	71D	1N	2		C	0121	2.68	3.20			E
CRON	27	0305E	0325	0306U	S15	E16	.429	9740	28.3	20D	-N				1.00	1.20				
18742	27	0046	0200	0102	S21	E24	.573	9740	28.8	74	*-B				.96				2 2 2 6	
MITK	27	0039	0305	0100	S22	E24	.584	9740	28.8	146	-N			C	0100	.83	1.00			DW
VORO	27	0052	0200	0104	S20	E24	.563	9740	28.8	68	-B			C	0104	1.09	1.33		112	DJ

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %	
1968 OCT																			
GRP18743	27	0800	0816	0803	S16	E19	.471	9740	28.8	16	-N							9 9 9 11	
CRIM	27	0756	0817	0801	S17	E21	.502	9740	28.9	21	-N	C	0801	1.38				EI	
CRON	27	0759	0806	0802	S16	E18	.461	9740	28.7	7	-N	C		1.30	1.00			E	
MONT	27	0759	0813	0801	S15	E20	.471	9740	28.8	14	-N	C	0801	.72					
HTPR	27	0800	0810	0802	S15	E20	.471	9740	28.8	10	-N	C	0802	.93	1.00				
CATA	27	0800E	0825	0805	S16	E19	.471	9740	28.8	25D	-N		0805	1.79	2.02		178		
CAPS	27	0800	0813D	0802	S16	E19	.471	9740	28.8	13D	1N	3	0803	2.10	2.40		189	FH	
TACH	27	0803E	0811		S15	E20	.471	9740	28.8	8D	-B	P	0803	1.37	1.60		72	EL	
ABST	27	0806	0820	0809	S17	E19	.482	9740	28.8	14	-F	P	0809	2.25	2.50			E	
BUCA	27	0807E	0825		S17	E15	.445	9740	28.5	18D	-F	P	0810	1.10	1.20				
GRP18747	27	1105	1126	1110	S15	E18	.449	9740	28.8	21	-N			1.75				7 7 7 8	
MONT	27	1103	1124D	1108	S15	E19	.460	9740	28.9	21D	-N	C	1108	1.65					
CRIM	27	1105	1223	1112	S17	E15	.445	9740	28.6	78	1N	C	1147	2.06	2.30			EI	
CATA	27	1105	1115	1110	S15	E18	.449	9740	28.8	10	-B		1110	.75	.85		209		
CAPS	27	1105	1215D	1110	S14	E17	.428	9740	28.7	70D	-B	3	1111	1.50	1.70		237	HK	
WEND	27	1105	1116		S14	E18	.438	9740	28.8	11	1F	P		3.09					
HTPR	27	1106	1120	1110	S15	E19	.460	9740	28.9	14	-N	C	1110	.62	.70				
ABST	27	1107	1157D	1112	S17	E18	.472	9740	28.8	50D	1N	C	1157	2.60	2.90		66	FJK	
GRP18749	27	1141	1205	1146	S15	E17	.439	9740	28.8	24	1N			2.15				4 4 3 6	
CRIM	27	1105	1223	1147	S17	E15	.445	9740	28.6	78	1N	8							
ZURI	27	1140E	1159	1147	S14	E16	.417	9740	28.7	19D	1N	8	C	1147	2.53	2.80			
HTPR	27	1142	1200	1145	S15	E19	.460	9740	28.9	18	-N	8	C	1145	.83	.90			
WEND	27	1146E	1203		S15	E17	.439	9740	28.8	17D	1N	8	V		3.09				
CRIM	27	1206	1218	1209	S14	E17	.428	9740	28.8	12	-F	8	C	1209	1.80	2.00			DI
7 STATIONS REPORTING GROUP 18750.																			
GRP18750	27	1235	1309	1237	S17	E16	.454	9740	28.7	34	1B			4.90				7 7 6 8	
CRIM	27	1232	1311D	1236	S18	E16	.466	9740	28.7	39D	2B								
HTPR	27	1232	1300	1237	S17	E17	.463	9740	28.8	28	1B	C	1237	3.82	4.30				
CAPS	27	1235E	1600D		S17	E15	.445	9740	28.6	205D	2B	3	1239	7.00	7.70		325	CFIJK	
CANR	27	1235U	1240U	1236U	S16	E18	.461	9740	28.9	5D	-N	C		.90	1.00			E	
ABST	27	1236E	1238D	1238	S16	E16	.442	9740	28.7	2D	1B	P	1238	4.06	4.60		96	FJK	
CATA	27	1238	1315	1239	S18	E17	.475	9740	28.8	37	2B		1239	6.37	7.16		263	Z	
CAPF	27	1240E	1540D		S16	E16	.442	9740	28.7	180D	2N	C	1242	7.22	8.05				
18750	27	1241	1309	1307	S18	E16	.466	9740	28.7	28	*1B			6.57				2 2 1 6	
CRIM	27	1232	1311D	1311	S18	E16	.466	9740	28.7	39D	2B	C	1311	6.57	7.40			EI	
CANR	27	1249	1306	1303	S17	E15	.445	9740	28.7	17	-N								
18750	27	1252	1306	1253	S16	E12	.407	9740	28.4	14	*-B			.65				2 2 2 7	
CANR	27	1249U	1306	1251	S17	E15	.445	9740	28.7	17D	-N	C		1.00	1.10			K	
CATA	27	1255	1305	1255	S15	E08	.365	9740	28.1	10	-B		1255	.29	.31		282		
8 STATIONS REPORTING GROUP 18751.																			
GRP18751	27	1318	1513	1324	S17	E18	.472	9740	28.9	115	2N			9.96				4 3 3 8	
WEND	27	1240	1540D	1327	S15	E19	.460	9740	29.0	180D	3B	P		20.63					
HTPR	27	1300	1445	1323	S17	E17	.463	9740	28.8	105	2N	C	1323	4.64	5.20				
CANR	27	1318	1330U	1321	S18	E17	.475	9740	28.8	12D	2N	C		4.60	5.50				
BOUL	27	1515E	1535D	1525U	S18	E16	.466	9740	28.8	20D	1N	C		2.60	2.90			E	
18751	27	1323	1500	1350	S19	E17	.487	9740	28.8	97	*2B			8.59				3 2 2 7	
HUAN	27	1323E	1427D		S18	E17	.475	9740	28.8	64D	2N	1	P	1340	7.01	7.20			I
SACP	27	1332E	1500U	1340U	S19	E16	.479	9740	28.8	88D	2B	C		10.17	10.43				
CATA	27	1400	1425	1400	S18	E18	.484	9740	28.9	25	2B		1400	6.96	7.86		251	Z	
18751	27	1428	1453	1435	S17	E03	.376	9740	27.8	25	*-F			1.50				2 2 2 6	
SACP	27	1427	1456U	1436	S17	E03	.376	9740	27.8	29D	-N	C		1.20	1.20				
HOUT	27	1428	1450	1433	S17	E02	.374	9740	27.8	22	-F	C		1.80	2.00				
18751	27	1413	1514	1413	S25	E22	.598	9740	29.2	61	*1N			2.60				2 1 1 7	
HOUT	27	1413E	1514	1413U	S25	E22	.598	9740	29.2	61D	1N	C		2.60	3.40			E	
SACP	27	1452	1505	1454	S13	E15	.395	9740	28.7	13	-N	C		.60	.60				
GRP18752	27	1623	1635	1630	S15	E13	.402	9740	28.7	12	-N			.90				2 2 1 4	
MCHA	27	1617E	1630D		S15	E10	.378	9740	28.4	13D	-F	V							
SACP	27	1629	1635	1630	S14	E15	.407	9740	28.8	6	-B	C		.90	.90				
GRP18753	27	1631	1640	1635	N15	W63	.888	9735	23.0	9	-B			.38				2 2 2 4	
SACP	27	1628	1640	1634	N14	W63	.888	9735	23.0	12	-N	C		.40	.62				
HALE	27	1633	1639	1636	N15	W62	.881	9735	23.0	6	-B	2	C	1636	.36	.80			
GRP18754	27	1700	1711	1702	N17	W56	.830	9735	23.5	11	-F			.36				2 2 2 3	
SACP	27	1659	1708	1701U	N16	W56	.829	9735	23.5	9	-F	C		.40	.55				
HALE	27	1700	1713	1702	N17	W56	.830	9735	23.5	13	-F	1	C	1702	.31	.60			

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %			
GRP18813 MANI TACH	29	0559	0741	0704	S14	W08	.347	9740	28.7	42	-N									
	29	0658	0722	0702	S13	W07	.326	9740	28.8	24	-N	2	0702	1.44	1.53				2 2 2 3	
	29	0700	0800	0706	S15	W08	.362	9740	28.7	60	1N	C	0738	3.19	3.20	1.80	80	FKT		
GRP18814 TACH CAPS CATA MANI MANI	29	0728	0810	0738	S14	W07	.341	9740	28.8	42	1N			1.97					4 4 3 7	
	29	0700	0800	0738	S15	W08	.362	9740	28.7	60	1N									
	29	0724E	0828D		S12	W06	.305	9740	28.9	64D	1F	3	0732	2.00	2.10		158	BF		
	29	0730	0825	0735	S15	W08	.362	9740	28.7	55	1B		0735	2.37	2.59		214	TZ		
	29	0730	0745	0740	S15	W07	.357	9740	28.8	15	-N	2	0740	1.55	1.64					
	29	0730	0745	0731	S15	W07	.357	9740	28.8	15	-N	2	0731	.93	.99					
GRP18815 CATA MANI TACH CAPS CANR CRON KHAR CAPF UCCL	29	0855	0946	0905	S14	W08	.347	9740	28.8	51	1B			5.40					9 8 8 9	
	29	0850	0950	0900	S14	W08	.341	9740	28.8	60	1B		0900	3.76	3.99		302	TZ		
	29	0853	0917D	0901	S13	W08	.332	9740	28.8	24D	1N	2	0901	3.09	3.30					
	29	0854	1000	0908	S15	W08	.362	9740	28.8	66	2N	C	0908	5.93	6.30		120	FKT		
	29	0855	0958D	0903	S14	W07	.341	9740	28.8	63D	1B	3	0903	4.00	4.30		256	FIJKU		
	29	0858	0935	0914	S17	W07	.387	9740	28.8	37	1N	C		4.40	4.80			E		
	29	0859	0920	0904	S13	W09	.339	9740	28.7	21	2B	C		4.90	5.40					
	29	0900E	0937D	0903	S14	W07	.341	9740	28.9	37D	2B	P	0908	6.81	7.21	2.80		EOUZ		
	29	0905E	1005		S14	W08	.347	9740	28.8	60D	2N	C	0908	10.31	11.00			EIJ		
	29	0918E	0945D		S16	W08	.377	9740	28.8	27D	-B	P	0918	1.03	1.40					
	GRP18816 TACH CATA KHAR	29	0945	1013	0946	S13	W08	.332	9740	28.8	28	1N			.58					3 3 1 9
29		0854	1000	0947	S15	W08	.362	9740	28.8	66	2N									
29		0945	1025	0945	S12	W09	.325	9740	28.7	40	-B		0945	.58	.61		240	D		
29		0949E	0955D		S13	W08	.332	9740	28.8	6D	1F	V	0950			2.30				
8 STATIONS REPORTING GROUP 18819.					0 STATIONS OBSERVING AND NOT REPORTING.															
GRP18819 UCCL CATA CAPS SANM CRIM	29	1114	1445	1234	S16	W12	.405	9740	28.6	211	2B			5.78					5 3 3 6	
	29	1114	1125D		S16	W08	.377	9740	28.9	11D	-N	P	1114	.52	.70				DIJ	
	29	1115	1445	1235	S16	W14	.421	9740	28.4	210	2B		1235	7.54	8.29		370	FIKTZ		
	29	1140E	1300D		S15	W08	.362	9740	28.9	80D	1N	1	1244	3.00	3.20				CFIJ	
	29	1230E	1630D	1233	S16	W13	.413	9740	28.5	240D	2B	P	1233	6.80	7.60				BTKIM	
18819 UCCL CANR 18819 KHAR MONT	29	1312	1312D		S19	W11	.439	9740	28.7		1N	P	1312	3.60	4.00				BEI	
	29	1216	1305	1223	S16	W10	.390	9740	28.8	49	*1B			4.58					2 2 2 4	
	29	1209	1325D	1222	S16	W10	.390	9740	28.8	76D	2B	C	1222	5.16	8.00				EIJ	
	29	1222	1245	1224	S15	W09	.369	9740	28.8	23	1N	C		4.00	4.40					
GRP18821 CANR CAPS BOUL	29	1132	1151 (1144)		S17	W11	.411	9740	28.7	19	**N			2.06					2 2 1 6	
	29	1132E	1147D		S17	W10	.404	9740	28.7	15D	-F	P	1145		1.24	2.60			D	
	29	1143E	1151D		S17	W12	.418	9740	28.6	8D	1B	C	1143	2.06						
GRP18822 CANR CAPS BOUL	29	1414	1447	1424	S11	W15	.369	9740	28.5	33	1N			3.37					3 3 3 6	
	29	1409	1428U	1411	S10	W17	.381	9740	28.3	19D	1N	8	C	2.10	2.30					
	29	1413E	1450D		S12	W15	.381	9740	28.5	37D	1N	1	1420	4.00	4.30				FI	
	29	1421	1444	1424	S12	W14	.370	9740	28.5	23	1N	8	C	4.00	4.40				EI	
GRP18823 SACP BOUL SACP	29	1558	1624	1604	S14	W14	.395	9740	28.6	26	1N			2.95					2 2 2 3	
	29	1515	1558	1521	S14	W19	.447	9740	28.2	43	-N	8	C	.60	.61					
	29	1558	1628	1603	S13	W13	.373	9740	28.7	30	1N	8	C	3.70	4.10				EI	
	29	1558	1619	1605	S14	W11	.369	9740	28.8	21	1N	8	C	2.19	2.18					
GRP18826 SANM HALE SACP BOUL	29	1709	1737	1714	S15	E51	.811	9749	2.5	28	-N			1.28					4 4 4 6	
	29	1708	1731	1713	S15	E50	.802	9749	2.5	23	1F	C	1713	1.30	2.26				E	
	29	1708	1751	1714	S14	E50	.799	9749	2.5	43	-B	3	C	1714	1.13	1.90				F
	29	1708	1735	1715	S14	E51	.808	9749	2.5	27	-N	C		1.20	1.60					
	29	1710	1729	1713	S16	E53	.833	9749	2.7	19	1N	C		1.50	2.60					
	29	1725	1808	1733	N29	E09	.435	9744	30.4	43	1N			2.32					6 6 6 6	
GRP18827 SANM SACP HALE BOUL HUAN CANR	29	1700	1740D	1729	N27	E10	.411	9744	30.5	40D	1N	8	P	1729	3.56	4.06				E
	29	1700	1820	1738	N28	E08	.415	9744	30.3	80	1N	8	C	2.29	2.31					
	29	1723	1820	1739	N28	E07	.410	9744	30.2	57	1B	2	C	1739	2.48	2.70				
	29	1724	1748	1728	N30	E11	.459	9744	30.6	24	1N	8	C	2.20	2.40				E	
	29	1726	1805		N29	E07	.426	9744	30.3	39	-N	1	C	1733	1.37	1.38				E
	29	1727	1740U	1731	N29	E09	.435	9744	30.4	13D	1N	8	C	2.00	2.20					
	29	1748	1829	1755	S17	W18	.470	9740	28.4	41	--B			.81					2 2 2 3	
	29	1746	1804	1755	S17	W18	.470	9740	28.4	18	-N	C		1.00	1.02					
GRP18829 HUAN SACP BOUL	29	1749	1853	1754	S16	W18	.459	9740	28.4	64	-B	3	C	1754	.62	.70				IJT
	29	1828	1852	1831	S15	W19	.458	9740	28.3	24	1N			2.85					3 3 3 5	
	29	1750	1837D		S17	W19	.480	9740	28.3	47D	-B	1	P	1831	1.06	1.08				E
	29	1812	1859	1832	S14	W20	.458	9740	28.3	47	1N	C		2.50	2.54					
29	1828	1845	1830	S15	W19	.458	9740	28.3	17	2N	C		5.00	5.50				EI		

SOLAR FLARES
Confirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME - UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hc	MAX. INT. %			
GRP18872 SACP MCMA	31	1545	1557	1546	S13	E24	.494	9749	2.5	12	-F									2 2 2 4
	31	1545	1553	1546	S13	E23	.481	9749	2.4	8	-F	C		.51						
	31	1547E	1600D		S13	E24	.494	9749	2.5	13D	-N	C	1548	.30	.31					E
GRP18873 HALE SACP HOUT MCMA	31	1634	1731	1718	S17	W41	.717	9740	28.6	57	-N									
	31	1634E	1720D	1717	S17	W39	.696	9740	28.8	46D	1N	2	P	1717	1.29					4 3 3 4
	31	1715	1722	1718	S17	W38	.685	9740	28.9	7	-N	C		1.96	2.70					F
	31	1718E	1731U	1720	S16	W39	.691	9740	28.8	13D	-N	C		1.00	1.15					E
	31	1730E	1740D		S18	W48	.792	9740	28.1	10D	-N	C		.90	1.30					E
GRP18874 SACP HALE	31	1646	1708	1651	N03	E12	.209	9747	1.6	22	-F									
	31	1646	1703	1648	N03	E12	.209	9747	1.6	17	-F	C		.36						2 2 2 3
	31	1646	1713	1654	N03	E12	.209	9747	1.6	27	-N	1	C	1654	.30	.29				
6 STATIONS REPORTING GROUP 18875, 2 STATIONS OBSERVING AND NOT REPORTING.																				
GRP18875 SACP BOUL VORO	31	2232	0002	2245	S15	W49	.791	9740	28.3	90	2N									
	31	2229	2355D	2244	S16	W50	.804	9740	28.2	86D	2N	C		4.51						3 3 3 7
	31	2235	2249D	2245U	S13	W50	.795	9740	28.2	14D	2N	C		5.68	7.51					
	31	2243E	0002		S17	W48	.789	9740	28.3	79D	2N	P	2249	3.20	6.10					E
18875 MANI HALE	31	2234	0052	2303	S14	W49	.788	9740	28.3	138	*2B									
	31	2234E	0018D	2303	S13	W48	.775	9740	28.3	104D	2B	2		6.35						2 2 2 5
	31	2247E	0052D	2302U	S14	W50	.798	9740	28.2	125D	2B	1	P	2303	7.22	11.27				F
18875 MITK	31	2320	0130	0041	S13	W49	.785	9740	28.3	130	*2B									
	31	2320E	0130		S13	W49	.785	9740	28.3	130D	2B	C	2321	4.95	7.90					2 1 1 2 FH

"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 D₃ in emission.
 Q = Flare shows the Balmer continuum in emission.
 R = Marked asymmetry in H α line.
 S = Brightening follows disappearance of filament (same position).
 T = Region active all day.
 U = Close and somewhat parallel bright filaments (|| or Y shape).
 V = Occurrence of an explosive phase.
 W = Great increase in area after time of maximum intensity.
 X = Unusually wide H α emission.
 Y = Onset of a system of loop-type prominences.
 Z = Major sunspot umbra covered by flare.

Note:

A line of explanation has been added before each flare event having more than one maxima. The total number of stations reporting some part of the event is given. The number of stations observing at the time of the principal maximum but not reporting the event is given in the second statement. Care should be exercised in utilizing the numbers in the remarks column. The first number is the number of stations reporting the individual maximum, and not the total number of stations reporting some part of the flare event. The last number is the number of stations reporting at the time of the individual maximum and not necessarily the total number of stations observing during the flare event. GRP numbers may appear several times in order to indicate secondary maxima. An asterisk beside an importance indicates a secondary maximum. The word "GRP" has also been omitted to aid in pointing to this condition.

When it is impossible to determine the time of Maximum Phase from the individual reports the time of Area Measurements is used. This time appears in parentheses. For Flares reported by only one station the last 3 digits of the group number appear to the left of the station code.

In the importance column "--" signifies the subflare has been confirmed by the ESSA grouping program but is not included in the I.A.U. Quarterly Bulletin on Solar Activity.

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM- POR- TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MC MATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %	
					LAT.	MER. DIST.													
	1968 OCT																		
109 ISTA	01	0605	0625		N12	W54	.803	9690	27.2	20	-N						3		
111 CATA	01	0710	0830D	0730	N20	E76	.964	9705	7.0	80D	-N	0730	.29			202	5		
112 CATA	01	0745	0805	0750	N18	W73	.950	9678	25.8	20	-N	0750	.52			170	7		
113 SACP	01	1443	1501	1447	N11	W35	.571	9687	29.0	18	-N	C	.20	.21			5		
118 CATA	02	0640E	0710	0640	S21	E53	.856	9725	6.3	30D	-B	0640	.40	.79		224	C 3		
120 CATA	02	0745	0755	0745	N16	E61	.869	9705	6.9	10	-B	0745	.14	.30		229	6		
121 CAPS	02	0920E	1057D		N20	W90	.999	9678	25.6	97D	1N	3	0934	.70			AC 6		
123 HUAN	02	1514	1520		N18	E65	.900	9705	7.5	6	-F	2	C	1516	.21	.33		D 5	
124 HUAN	02	1525	1534		N18	E71	.939	9705	8.0	9	-F	2	C	1529	.37			E 5	
128 HUAN	02	2030E	2039D		S18	W21	.533	9692	1.3	9D	-N	1	P	2036	.50	.52		5	
133 CATA	03	0705E	0735	0710	N17	E50	.765	9705	7.0	30D	-N		0710	.29	.45		186	6	
GRP18135	03	1053	1120	1102	N06	E45	.704	9701	6.8	27	-N			.77			2 2 2	6	
ABST	03	1053	1104D	1104	N04	E46	.718	9701	6.9	11D	-F		P	1104	1.07	1.50		E	
CATA	03	1100E	1120D	1100	N07	E44	.691	9701	6.8	20D	-B		1100	.46	.67		209		
GRP18136	03	1109	1125	1110	N17	E52	.786	9705	7.4	16	-F			.69			2 2 2	6	
CAPS	03	1109E	1130D		N17	E50	.765	9705	7.2	21D	-N	2		1113	.30	.50		176	
ABST	03	1109	1119	1110	N16	E54	.805	9705	7.5	10	-F		P	1110	1.07	1.70		E	
GRP18138	03	1326	1337	1327	N16	E50	.764	9705	7.3	11	-F			.67			2 2 2	7	
HTPR	03	1325	1337	1327	N16	E50	.764	9705	7.3	12	-F		C	1327	.83	1.20			
HUAN	03	1326	1327D		N16	E49	.753	9705	7.2	1D	-F	1	P	1326	.50	.60		E	
141 HUAN	03	1821	1829		N26	W13	.391	9710	2.8	8	-F	2	C	1823	.50	.50		EH 5	
145 HUAN	03	2017	2023	2019	N21	E56	.829	9705	8.0	6	-F	2	C	2019	.21	.28		D 4	
146 HUAN	03	2018	2024	2020	N06	E36	.585	9701	6.5	6	-F	2	C	2020	.31	.33		D 4	
147 HUAN	03	2019	2026	2021	N27	W12	.396	9710	2.9	7	-F	2	C	2021	.25	.25		D 4	
148 HUAN	03	2100	2113		N27	W13	.404	9710	2.9	13	-N	2	C	2103	.72	.72		E 4	
153 CRIM	04	0713	0817	0725	N22	E47	.741	9705	7.8	64	1F		C	0725	1.54	2.30		D 9	
GRP18155	04	0940	0952	0945	N26	W17	.427	9710	3.1	12	-F			.51			2 2 2	7	
HTPR	04	0935	0950	0945	N25	W20	.447	9710	2.9	15	-F		C	0945	.41	.40			
CAPS	04	0944	0953D		N27	W14	.413	9710	3.4	9D	-N	3		0946	.60	.70		164	
162 HUAN	04	1902	1927		N19	E37	.616	9705	7.6	25	-F	2	C	1906	.41	.45		E 4	
164 HALE	04	2355	0009	2357	S18	W53	.846	9692	1.0	14	-F	1	P	2357	.36	.70		3	
166 HALE	05	0327	0347D	0333	N04	E20	.343	9701	6.6	20D	-B	2	P	0333	.72	.80		5	
167 MANI	05	0419E	0428		N27	W26	.531	9710	3.2	9D	-F	2		0419	.41	.49		5	
168 ISTA	05	0608	0627	0614	N25	W34	.607	9710	2.7	19	-B							6	
171 CATA	05	0855	0905	0900	N26	W27	.534	9697	3.3	10	-N		0900	.58	.68		166	Z 5	
173 CAPS	05	1315E	1329D		N22	E25	.480	9705	7.4	14D	-N	3		1316	.70	.80		170	CH 8
174 HUAN	05	1349	1354	1351	N19	E32	.552	9705	8.0	5	-F	1	C	1351	.25	.26		D 8	
177 SACP	05	1549	1558	1553	N25	W30	.561	9697	3.4	9	-F		C	.20	.21			6	
178 MCMA	05	1735E	1743D		N21	E32	.562	9705	8.1	8D	-N		C	1736	.41	.40		D 4	
180 SACP	05	1748	1803	1752	N24	W31	.566	9697	3.4	15	-F		C	.20	.21			4	
182 HUAN	05	1838	1857	1846	N19	E30	.526	9705	8.0	19	-F	2	C	1846	.31	.32		D 5	
184 SACP	05	1947	1959	1950	N20	E28	.505	9705	7.9	12	-N		C	.50	.52			4	
185 HALE	05	2005	2015	2006	N16	E03	.172	9700	6.1	10	-F	1	C	2006	.62	.60		F 4	
187 HALE	05	2041	2046	2043	N04	E11	.195	9701	6.7	5	-F	2	C	2043	.83	.80		H 4	

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT			LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS				REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION				CMP DAY	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Ha	MAX. INT. %
	1968 OCT																	
264 HALE	09	1850	1859	1854	N26	W87	.995	9697	3.3	9	-F	2 C	1854	.21				4
265 HALE	10	0210	0222D	0213	S19	E29	.617	9717	12.3	12D	-N	2 P	0213	.31	.40		G	6
267 CATA	10	0725	0755	0730	S14	E45	.755	9722	13.7	30	-B		0730	.69	1.04		209	13
268 CATA	10	0745	0755	0750	N18	W44	.701	9705	7.0	10	-N		0750	.14	.20		186	12
GRP18269	10	0950	1045	0950	S23	W37	.725	9702	7.6	55	-N			.52				2 1 1 8
CATA	10	0950	1045	0950	S23	W37	.725	9702	7.6	55	-N		0950	.52	.77		190	
HTPR	10	1010	1055		S20	W38	.715	9702	7.6	45	-F	C	1037	.31	.50			GH
GRP18271	10	1026	1110	(1036)	S12	E90	1.000	9727	17.2	44	1N			1.18				2 2 1 6
CAPS	10	1024	1051D		S05	E90	1.000	9727	17.2	27D	2N	3						A
CAPP	10	1027E	1110D		S18	E90	1.001	9727	17.2	43D	1N		1036	1.18				A
272 SACP	10	1328E	1332	1330	S13	W29	.568	9724	8.4	4D	-N	C		.30	.33			7
273 MCMA	10	1337E	1350D		S10	E90	1.000	9727	17.3	13D	-F	C	1340				D	7
GRP18275	10	1410	1415	1411	S13	E42	.719	9722	13.7	5	-F			1.19				2 2 2 8
CANR	10	1409	1413D	1411	S13	E41	.708	9722	13.7	4D	-F	C		1.10	1.50			E
CATA	10	1410	1415D	1410	S13	E42	.719	9722	13.7	5D	-N		1410	1.27	1.87		182	
276 CATA	10	1425	1430D	1425	N02	W65	.906	9701	5.7	5D	-N		1425	.52	1.23		155	9
277 LOCA	10	1504	1530	1512	N04	W57	.837	9701	6.4	26	1F	V	1512	1.89	3.50		H	7
279 MCMA	10	1621	1725		S10	E90	1.000	9727	17.4	64	-N	C	1624					4
290 CRON	11	0123	0137	0128	S07	E85	.997	9727	17.4	14	-N	C		.30	1.00		E	3
293 HTPR	11	0700	0715	0704	S00	W67	.921	9701	6.3	15	-F	C						6
294 HTPR	11	0720	0815D	0732	S12	E33	.609	9722	13.8	55D	-F	C	0732	.52	.60			10
295 MANI	11	0742	0802	0746	S17	W60	.896	9725	6.8	20	-F	3	0746	.31	.60			12
296 HTPR	11	0850E	0915		S18	W57	.876	9725	7.1	25D	-F	C	0900	.62	1.20		G	9
GRP18297	11	0854	0904	0857	N12	E09	.184	9723	12.0	10	-F			.76				2 2 2 9
MANI	11	0854	0903	0857	N11	E09	.176	9723	12.0	9	-F	2	0857	.52	.54			
CAPS	11	0856E	0905D		N12	E08	.170	9723	12.0	9D	-N	2	0859	1.00	1.00		C	
304 HUAN	11	2044	2048		S10	W56	.849	9724	7.7	4	-F	2 C	2044	.31	.44		E	4
305 HUAN	11	2044	2055		N19	E82	.986	9726	18.0	11	-N	1 C	2046	.36				4
307 HUAN	11	2154	2203		S11	E23	.479	9722	13.6	9	-N	1 C	2156	.72	.74		E	4
310 CRON	12	0040	0048	0042	N14	W85	.994	9700	5.7	8	-N	C		.30	1.00		H	4
311 VORO	12	0137	0149	0142	S21	W70	.960	9725	6.8	12	1B	C	0142	.91	3.20		81	D
312 MANI	12	0143E	0153		S13	W58	.872	9724	7.7	10D	-N	2	0145	1.03	1.90			4
313 MITK	12	0509E	0514D		S13	W63	.909	9724	7.5	5D	-F	C	0511	.62	1.40		E	5
315 HTPR	12	0620	0650	0625	S12	W64	.915	9724	7.5	30	-F	C	0625	.21	.40			5
GRP18319	12	0830	0840	0830	N17	W61	.871	9705	7.8	10	-N			.47				2 2 2 11
CATA	12	0830	0835D	0830	N18	W61	.871	9705	7.8	5D	-N			.58	1.24		174	
ARCE	12	0830	0840		N16	W61	.870	9705	7.8	10	-N	C	0830	.35	.70		H	
1 STATIONS REPORTING GROUP 18321. 11 STATIONS OBSERVING AND NOT REPORTING.																		
321 CRON	12	0933E	0946	0934	S18	W78	.986	9725	6.5	13D	-N	C		.40	1.20		J	12
321 CRON	12	0933E	0946	0940	S18	W78	.986	9725	6.5	13D	*-N	C						11
322 CATA	12	0945	0955	0950	S10	E17	.397	9722	13.7	10	-N		0950	.23	.25		174	10
323 CATA	12	1015E	1035	1030	S12	W65	.921	9724	7.6	20D	-B		1030	.46			226	7
325 CATA	12	1045	1050	1045	N10	W65	.902	9705	7.6	5	-N		1045	.14	.34		195	8
326 MONT	12	1053	1105	1056	N05	W90	1.000	9701	5.7	12	-N	C	1056	.31				9
327 MONT	12	1059	1105	1102	S17	W79	.989	9725	6.5	6	-N	C	1102	.31				10

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %			
					LAT.	MER. DIST.														
	1968 OCT																			
329 CATA	12	1305	1320	1305	N09	W66	.909	9705	7.6	15	-N		1305	.29			178	7		
332 BOUL	12	1454	1516	1500	N08	W90	1.000	9701	5.9	22	-N	C		.40	1.60			I	9	
333 HUAN	12	1520	1526		N07	W90	1.000	9701	5.9	6	-F	1 C	1521	.31					9	
334 SACP	12	1537	1544	1539	S20	W77	.985	9725	6.9	7	-N	C		.20					9	
335 HUAN	12	1552	1558		N07	W90	1.000	9701	5.9	6	-F	1 C	1554	.25				D	8	
336 SACP	12	1759	1810	1801	N19	E64	.895	9726	17.5	11	-F	C		.20	.31				5	
338 HUAN	12	2001	2007		N01	W90	1.000	9701	6.1	6	-F	1 C	2003	.36				E	5	
339 HUAN	12	2115	2150		S11	E08	.323	9722	13.5	35	-N	1 C	2136	.35	.35			D	4	
343 SACP	13	0012	0016	0014	N28	E59	.865	9726	17.4	4	-F	C		.21	.29				4	
GRP18345	13	0650	0735	0650	N03	W90	1.000	9701	6.5	45	-N									
KODA	13	0650E	0755D	0650	N06	W90	1.000	9701	6.5	65D	1B	C	0650			4.80		AI	2 2 0 6	
HTRP	13	0655	0715		S00	W90	1.000	9701	6.5	20	-F	C								
346 CATA	13	0750	0815	0755	N18	E55	.818	9726	17.5	25	-N		0755	.11	.21				9	
347 CANR	13	1138	1151	1141	N16	W78	.974	9705	7.6	13	-N	C		.50	1.50				7	
349 SACP	13	1325	1335	1329	N20	E57	.839	9726	17.8	10	-F	C		.30	.42				8	
351 HUAN	13	2130E	2137D		S14	W87	1.000	9724	7.4	7D	-F	1 P	2132	.21				D	6	
353 SACP	13	2139	2149	2142	N19	E50	.770	9726	17.7	10	-N	C		.39	.50				6	
354 SACP	14	0000E	0010	0001U	N18	E47	.736	9726	17.5	10D	-F	C		.51	.61				5	
355 MANI	14	0440E	0451D		N20	E50	.771	9726	17.9	11D	-F	2	0441	.52	.81				4	
356 MANI	14	0715	0734	0722	N20	E48	.750	9726	17.9	19	-F	2	0722	.62	.94				6	
357 CATA	14	0735	0805	0745	S11	W08	.321	9722	13.7	30	-N		0745	.63	.67				8	
360 ZURI	14	1028	1032	1030	S12	W12	.368	9722	13.5	4	-F	C	1030	.63	.70				7	
361 MONT	14	1239	1253	1243	S17	W10	.423	9722	13.8	14	-N	C	1243	.26					7	
362 CATA	14	1315	1320	1315	S17	E32	.630	9727	17.0	5	-F		1315	.14	.19				10	
363 HUAN	14	1351	1357	1353	N21	E43	.698	9726	17.8	6	-F	2 C	1353	.25	.27			D	8	
364 CATA	14	1445	1450D	1445	N20	E40	.660	9726	17.6	5D	-N		1445	.23	.31				10	
366 HALE	14	2354E	0033	0000	N22	E40	.667	9726	18.0	39D	-F	2 P	0000	.31	.40				4	
369 MITK	15	0609	0620D	0614	N20	E38	.636	9726	18.1	11D	-F	C	0614	.93	1.20			E	4	
370 BUCA	15	0816E	0825D		S09	W65	.917	9717	10.5	9D	-F	C	0820	.55					6	
GRP18371	15	1035	1045	1040	N05	E54	.806	9730	19.5	10	-F			.59						
CATA	15	1035	1045	1040	N07	E54	.805	9730	19.5	10	-F		1040	.17	.30				2 2 2 5	
CAPS	15	1038E	1045D		N03	E53	.798	9730	19.4	7D	-N	1	1040	1.00	1.70				164	
373 ABST	15	1128	1145	1136	S11	E27	.526	9727	17.5	17	-F	C	1136	.45	.50			D	7	
374 CANR	15	1133	1144	1137	N27	E85	.992	9735	21.9	11	-F	C		.30	1.00				6	
375 HUAN	15	1314	1324		N06	E52	.785	9730	19.5	10	-F	2 C	1319	.21	.26			D	6	
GRP18376	15	1421	1434	1429	N20	E32	.561	9726	18.0	13	-F			.28						
HTRP	15	1415	1435	1429	N20	E32	.561	9726	18.0	20	-F	C	1429	.31	.40				2 2 2 11	
HUAN	15	1426	1432	1429	N19	E31	.543	9726	17.9	6	-F	2 C	1429	.25	.26			D		
378 HUAN	15	1626	1637		S12	W24	.497	9722	13.9	11	-F	1 C	1630	.21	.21			D	5	
380 HALE	15	1826E	1835		N21	E28	.516	9726	17.9	9D	-F	2 P	1826	.10	.10			D	5	
381 HALE	15	2025E	2048	2028	N21	E24	.465	9726	17.7	23D	-F	1 P	2028	.26	.30			E	3	
386 HALE	16	0224	0244	0226	N22	E21	.438	9726	17.7	20	-F	2 C	0226	.83	.90				4	
387 TACH	16	0750E	0800D		N16	E90	1.000	9735	23.1	10D	1N	C	0754	1.80		2.20		66	DY	4

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS.		MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX.		CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %			
					LAT.	MER. DIST.															
GRP18389 CATA HUAN	16	1100	1108	1100	S18	W12	.448	9728	15.6	8	-N										
	16	1100	1110D	1100	S18	W12	.448	9728	15.6	10D	-N		1100	.17	.20			178	2 2 2 5		
	16	1103E	1106		S18	W12	.448	9728	15.6	3D	-N	1	P	1103	.31	.31			EH		
390 HUAN	16	1108E	1115		N14	E90	1.000	9735	23.2	7D	-F	1	C	1111	.21					DT	4
391 HUAN	16	1124	1133		N15	E90	1.000	9735	23.2	9	-F	1	C	1125	.21					D	6
GRP18392 HUAN CATA	16	1204	1221	1215	N16	E90	1.000	9735	23.3	17	-F										2 2 2 7
	16	1204	1221		N14	E90	1.000	9735	23.3	17	-N	2	C	1216	.41						
	16	1215E	1220	1215	N17	E90	1.000	9735	23.3	5D	-F			1215	.29				135	AC	
393 HUAN	16	1230	1235		N15	E90	1.000	9735	23.3	5	-F	2	C	1232	.21					D	7
394 HUAN	16	1243	1250		N16	E90	1.000	9735	23.3	7	-F	2	C	1244	.21					D	8
GRP18396 HUAN HUAN CATA	16	1326	1336	1330	N16	E90	1.000	9735	23.3	10	-N										2 2 2 7
	16	1321	1336		N14	E90	1.000	9735	23.3	15	-N	2	C	1331	.45						
	16	1321	1336		N16	E90	1.000	9735	23.3	15	-N	2	C	1327	.21						
	16	1330	1335	1330	N17	E90	1.000	9735	23.3	5	1N			1330	.58				200	A	
397 HUAN	16	1339	1401	1343	N16	E90	1.000	9735	23.3	22	-F	2	C	1343	.35						8
400 HALE	16	1812	1818	1813	S19	W12	.461	9728	15.9	6	-F	2	C	1813	.31	.30					6
GRP18401 HALE HALE	16	1816	1845	1819	N21	E13	.338	9726	17.7	29	-F					.36					1 1 1 6
	16	1816	1845	1819	N21	E11	.318	9726	17.6	29	-F	2	C	1819	.36	.40					
	16	1816	1845	1819	N21	E15	.359	9726	17.9	29	-F	2	C	1819	.26	.30					
402 HALE	16	1924	1955	1926	N17	E88	.998	9735	23.4	31	-N	1	P	1926	.21					K	4
404 HALE	16	2018	2026D	2025U	N27	E08	.383	9726	17.4	8D	-N	1	P	2025	.36	.40					4
407 MANI	16	2315E	2322	2317	N20	E06	.265	9726	17.4	7D	-F	2		2317	.72	.80					4
409 MANI	17	0034	0041	0036	N20	E05	.212	9726	17.4	7	-F	2		0036	.62	.65					3
413 MANI	17	0340E	0349D		N16	E80	.978	9735	23.2	9D	1F	2		0349	1.24	3.20					3
414 MANI	17	0556	0606D	0558	N21	E03	.218	9726	17.5	10D	-F	2		0558	.72	.75					4
415 MANI	17	0639	0659	0644	S19	W18	.544	9728	15.9	20	-F	2		0644	.83	.97					5
417 CRON	17	0723	0727	0725	S20	W23	.596	9728	15.6	4	-N		C		.80	1.00					7
GRP18418 ARCE ZURI	17	0817	0823	0817	N16	E84	.990	9735	23.6	6	-F					.38					2 2 2 7
	17	0815	0821	0815	N16	E85	.992	9735	23.7	6	-F	8	C	0815	.12	.50					
	17	0818	0824	0818	N15	E83	.988	9735	23.6	6	-N	8	C	0818	.63						
421 CATA	17	0848	0905	0845	N14	E83	.988	9735	23.6	20	-N			0845	.17					191	6
GRP18424 MONT ARCE	17	0938	0958	0945	N16	E83	.987	9735	23.6	20	-N					.68					2 2 2 7
	17	0938E	0956	0945	N16	E80	.978	9735	23.4	18D	-N		C	0945	1.13						
	17	0938	0959	0945	N16	E85	.992	9735	23.8	21	-N		C	0945	.22	.90					
425 CATA	17	1010	1018D	1010	N15	E79	.975	9735	23.3	5D	-B			1010	.17					270	7
426 MONT	17	1015	1020D	1016	N21	W02	.215	9726	17.3	5D	-N		C	1016	1.34						5
429 HUAN	17	1150	1157		N21	W02	.215	9726	17.3	7	-F	1	C	1153	.21	.21				DT	7
431 HUAN	17	1224	1230		N21	W03	.218	9726	17.3	6	-F	2	C	1226	.21	.21				D	8
436 HOUT	17	1538	1548	1540	N15	E78	.971	9735	23.5	10	-N		C		.60	1.70				I	8
GRP18438 SACP HUAN	17	1607	1642	1621	N21	W02	.215	9726	17.5	35	-F					.42					2 2 2 6
	17	1603	1642	1621	N21	W03	.218	9726	17.4	39	-N		C		.59	.58					
	17	1610	1615D		N20	E00	.195	9726	17.7	5D	-F	1	P	1612	.25	.25				D	
GRP18439 MCMA HALE	17	1634	1656	(1650)	N10	E75	.960	9735	23.3	22	-N					.93					2 1 1 6
	17	1634	1656D		N10	E75	.960	9735	23.3	22D	-N		P	1650						E	
	17	1635E	1658		N15	E71	.937	9735	23.0	23D	1B	2	P	1639	.93					FJ	
GRP18441 HALE HUAN	17	1733	1749	(1735)	N15	E76	.963	9735	23.4	16	-F					.33					2 2 2 7
	17	1730	1751	1731	N15	E75	.958	9735	23.4	21	-N	2	C	1731	.41					FHJKL	
	17	1735	1746		N14	E77	.968	9735	23.5	11	-F	1	C	1738	.25					D	
443 HUAN	17	1818	1826		N21	W07	.242	9726	17.2	8	-F	2	C	1822	.41	.41				E	6

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION				DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS								
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION				CMP DAY	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha		MAX. INT. %							
449 SACP	1968 OCT 17	2021	2053	2027	N23	E24	.455	9726	19.6	32	-F	C		.39	.40						5				
GRP18454	17	2245	2318	2308	S21	W31	.676	9728	15.6	33	-F			.69						2	2	2	6		
SACP	17	2245	2316	2306	S22	W31	.685	9728	15.6	31	-F	C		.60	.67										
MANI	17	2308E	2320	2310	S20	W30	.659	9728	15.7	12D	-F	2	2310	.77	.89										
455 HALE	17	2314	2328	2321	N20	W11	.267	9726	17.1	14	1F	1 C	2321	1.96	2.10					HIJ		6			
456 MITK	17	2335E	2346		N20	E00	.195	9726	18.0	11D	-F	C	2336	1.34	1.40					E		7			
457 MITK	17	2347	2352	2351	N20	E75	.956	9735	23.6	5	-F	C	2351	.62							D		7		
458 MITK	18	0050	0059D	0053	N22	W08	.310	9726	17.4	9D	-F	C	0053	.72	.70					E		6			
459 CRON	18	0147	0207	0152	N22	W04	.289	9726	17.8	20	-N	C		1.80	1.80							5			
GRP18460	18	0322	0359	0329	N22	W05	.293	9726	17.8	37	-F			1.24						2	2	2	5		
MANI	18	0319	0359	0329	N21	W07	.289	9726	17.6	40	-N	2	0329	.83	.86										
HALE	18	0325	0343D		N22	W02	.283	9726	18.0	18D	-F	2 P	0329	1.65	1.70					I					
463 MANI	18	0422E	0422D		N22	W09	.318	9726	17.5		-F	2	0422	.93	.98								3		
475 HUAN	18	1154	1158		N14	E66	.909	9735	23.4	4	-F	1 C	1155	.25	.40						D		6		
476 HUAN	18	1310	1316		N18	E70	.935	9735	23.8	6	-F	2 C	1311	.21								D		5	
479 HUAN	18	1556	1600		N22	W08	.310	9726	18.1	4	-F	1 C	1557	.21	.21							D		5	
480 SACP	18	1620	1630	1622	N19	W18	.375	9726	17.3	10	-N	C		.39	.39								5		
481 HUAN	18	1653	1705		N19	E67	.917	9735	23.7	12	-N	1 C	1655	.25							E		5		
484 HUAN	18	1801	1807		N17	E63	.887	9735	23.5	6	-F	2 C	1803	.21	.31							D		5	
486 SACP	18	1837	1851	1840	N22	W12	.343	9726	17.9	14	-F	C		.30	.29								4		
488 HUAN	18	1949	1954		N17	E64	.895	9735	23.6	5	-F	1 C	1951	.21	.31							D		4	
489 HUAN	18	1958	2002		N17	E62	.880	9735	23.5	4	-F	1 C	2000	.25	.37							D		4	
GRP18494	19	0006	0013	0008	N15	E56	.827	9735	23.2	7	-N			.57							2	2	2	6	
MANI	19	0006	0014	0008	N14	E56	.826	9735	23.2	8	-F	2	0008	.52	.86										
HALE	19	0007E	0012	0008	N15	E56	.827	9735	23.2	5D	-B	2 P	0008	.62	1.10							DIT			
495 MANI	19	0042E	0050D		N17	E62	.880	9735	23.7	8D	1F	1	0042	1.55	2.90								5		
500 TACH	19	0658E	0702D		N17	E60	.864	9735	23.8	4D	-N	S	0659	.72	1.40	1.30	63					D		6	
501 TACH	19	0714E	0726D		N19	E60	.865	9735	23.8	12D	2F	S	0714	2.72	5.70	1.90	51					F		7	
GRP18502	19	0736	0752	0739	N19	E51	.782	9735	23.1	16	-B			.52							2	2	2	6	
CATA	19	0730E	0800D	0735	N17	E58	.846	9735	23.7	30D	-B		0735	.23	.45										
CANR	19	0741	0744	0742	N19	E49	.761	9735	23.0	3	-N	C		.80	1.30										
CATA	19	0800E	0825	0810	N21	E48	.754	9735	22.9	25D	-B		0810	.17	.27										
510 HUAN	19	1516	1523	1519	N16	E52	.788	9735	23.5	7	-F	2 C	1519	.25	.31							D		7	
511 CANR	19	1524	1528	1526	S19	E90	1.001	9739	26.4	4	-B	C		.30	1.50							H		8	
520 MANI	20	0116	0129	0121	N17	E46	.725	9735	23.5	13	-N	2	0121	.41	.60									5	
521 MANI	20	0132	0141	0136	N14	E43	.684	9735	23.3	9	-N	2	0136	.31	.43									5	
523 MANI	20	0201	0218	0206	N20	W29	.525	9726	17.9	17	-F	2	0206	.62	.73									5	
525 HALE	20	0302	0309	0303	S18	E80	.991	9739	26.1	7	-F	1 C	0303	.26										5	
526 HALE	20	0322	0328D	0323	N18	E42	.680	9735	23.3	6D	-N	1 P	0323	.52	.70							T		5	
527 MANI	20	0538E	0555	0541	N16	E42	.675	9735	23.4	17D	-N	2	0541	.83	1.13									4	
528 MANI	20	0550E	0604D	0551	N20	W32	.564	9726	17.8	14D	-F	2	0551	.57	.68									4	
529 MANI	20	0553	0604D	0557	N17	W63	.888	9736	15.5	11D	-F	2	0557	.36	.70									4	
533 MONT	20	0920E	0928	0921	N16	W71	.941	9731	15.1	8D	-N	C	0921	.21										10	
539 HUAN	20	1710E	1720D		N17	E36	.602	9735	23.4	10D	-F	1 P	1714	.72	.79								E		4

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH FLAGE REGION	OMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %	
549 SACP	1968 OCT 21	0007	0012D	0009U	N12	E31	.520	9735	23.3	5D	-N	C		1.05	1.09			4
550 MANI	21	0030	0044	0036	N17	E32	.550	9735	23.4	14	-F	2	0036	.77	.96			3
551 MANI	21	0100	0117	0106	N16	E34	.573	9735	23.6	17	-F	2	0106	.36	.44			4
GRP18552	21	0201	0221	0204	N17	E31	.537	9735	23.4	20	-F			.39				2 2 2 5
MANI	21	0200	0221	0205	N16	E32	.546	9735	23.5	21	-F	2	0205	.41	.50			
HALE	21	0201	0207D	0203	N17	E30	.523	9735	23.3	6D	-N	2 P	0203	.36	.40			
HALE	21	0211	0224	0213	N18	E29	.515	9735	23.3	73	-F	2 C	0213	.21	.20			KH
557 ARCE	21	0807	0814D		N20	E31	.551	9735	23.7	7D	-F	C	0807	.57	.70			H 12
569 HUAN	21	1830	1835		S17	E90	1.000	9740	28.5	5	-F	1 C	1832	.21				D 6
574 SACP	21	2338	2356D	2349U	N18	E20	.395	9735	23.5	18D	-N	C		.92	.92			5
575 HALE	22	0006E	0045	0016	N18	E19	.382	9735	23.4	39D	-N	2 P	0016	1.24	1.30			F 5
576 HALE	22	0046	0052D	0050	N18	E19	.382	9735	23.5	6D	-N	2 P	0050	.21	.20			4
580 CRON	22	0328	0342	0331	S18	E90	1.000	9740	28.9	14	1N	C		.60	2.40			I 4
581 SIBE	22	0339	0345	0340	N18	E19	.382	9735	23.6	6	-F	C	0340	.99	1.20		62	DIT 4
583 MANI	22	0521	0541	0524	S17	E81	.993	9740	28.3	20	-B	2	0524	.52	1.84			6
590 ARCE	22	1006	1012	1007	N16	E13	.286	9735	23.4	6	-F	C	1007	.63	.70			10
591 ARCE	22	1010	1021D	1012	S18	E42	.738	9739	25.6	11D	-F	C	1012	.46	.70			10
GRP18592	22	1022	1034	1028	S14	E82	.994	9740	28.6	12	-F			1.70				2 2 1 8
ONDR	22	1022E	1037		S14	E78	.984	9740	28.3	15D	-F	V	1027			1.80		CDH
MONT	22	1022	1031	1028	S14	E85	.998	9740	28.8	9	1N	C	1028	1.70				
593 MONT	22	1048	1052	1050	N21	W75	.962	9726	16.8	4	-N	C	1050	.21				9
597 ONDR	22	1152E	1158		S18	E40	.717	9739	25.5	6D	-F	V	1152			1.80		CJ 7
598 HUAN	22	1226E	1235D		S17	E85	.998	9740	28.9	9D	-N	1 P	1230	.50				E 7
599 HUAN	22	1226E	1235D		S17	E43	.743	9739	25.7	9D	-N	1 P	1230	.88	1.06			E 7
601 MONT	22	1302	1314	1306	S18	E40	.717	9739	25.5	12	-N	C	1306	1.13				7
603 CAPS	22	1320E	1344D		N19	W70	.936	9726	17.3	24D	-B	3	1322	.60	.60		237	10
604 HUAN	22	1404E	1404D		N18	E12	.297	9735	23.5		-F	1 P	1404	.31	.31			D 12
607 HUAN	22	1501	1505D		S18	E40	.717	9739	25.6	4D	-F	1 P	1503	.21	.24			D 12
608 HUAN	22	1550E	1557		S17	E85	.998	9740	29.0	7D	-F	1 P	1551	.21				D 6
620 MANI	23	0025	0043	0028	S17	E33	.636	9739	25.5	18	-N	2	0028	.52	.67			4
621 MANI	23	0048	0108	0050	N14	E05	.174	9735	23.4	20	-N	2	0050	.77	.79			3
623 MANI	23	0310E	0326	0311	N10	E06	.132	9735	23.6	16D	-N	2	0311	.62	.61			3
625 MANI	23	0510E	0520	0510	N17	E02	.206	9735	23.4	10D	-N	2	0510	.77	.79			4
626 MANI	23	0529E	0550D		S16	E31	.606	9739	25.6	21D	-F	1	0530	1.13	1.42			4
628 ISTA	23	0700	0725		S18	E30	.611	9739	25.5	25	-N							7
629 CAPS	23	0808	0811		N13	E02	.139	9735	23.5	3	-N	2	0810	.50	.50			H 13
630 CAPS	23	0818	0828D		N18	W75	.962	9726	17.7	10D	-B	2	0819	.30			230	E 11
632 MANI	23	0900E	0908D	0900	S16	E30	.595	9739	25.6	8D	-N	1	0900	.83	1.00			14
633 MONT	23	0925	0948	0934	S18	E28	.589	9739	25.5	23	-N	C	0934	2.06				11
635 CAPS	23	1128	1150		N32	E90	.999	9744	30.2	22	-N	3	1136	.80			166	9
GRP18636	23	1140	1215	1145	S18	E26	.568	9739	25.4	35	-N			.34				2 2 1 8
CATA	23	1140	1240D	1145	S18	E25	.558	9739	25.4	60D	-B		1145	.34	.42		204	
ONDR	23	1143E	1150		S17	E27	.570	9739	25.5	7D	-F	V	1145			1.80		C

158
Oct 68

SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS		
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %			
638 MONT	23	1244	1302	1252	S11	W59	.874	9737	19.1	18	-N	C	1252	.21				7		
640 CANR	23	1411	1416	1414	N21	W85	.994	9726	17.2	5	-N	C		.40	1.20			H 9		
641 WEND	23	1416E	1431D		S05	W28	.497	9743	21.5	15D	1F	V		2.58				8		
642 MCMA	23	1440E	1450D		S13	W59	.878	9737	19.2	10D	-B	V						E 9		
653 HUAN	23	2022E	2045		S18	E22	.527	9739	25.5	23D	-N	1 C	2037	.62	.65			E 4		
1 STATIONS REPORTING GROUP 18654.															2 STATIONS OBSERVING AND NOT REPORTING.					
654 CULG	23	2049	2220	2125	S15	E52	.823	9740	27.8	91	1B		2125	2.68	4.68			L 3		
654 CULG	23	2049	2220	2100	S10	E50	.789	9740	27.6	91	+1N	P	2100	2.89	4.76			EK 4		
655 HUAN	23	2050	2100D		S16	E24	.528	9739	25.7	10D	-F	1 P	2057	.50	.52			E 4		
657 MANI	23	2252	2302	2255	S18	E19	.498	9739	25.4	10	-N	2	2255	.41	.48			5		
GRP 18659	24	0016	0023	0019	S17	E21	.505	9739	25.6	7	-N			.90				2 2 2 6		
SACP	24	0015	0020	0020U	S17	E22	.516	9739	25.7	5	-N	C		1.38	1.43					
HALE	24	0016	0026E	0017	S17	E19	.485	9739	25.4	10D	-N	1 P	0017	.41	.50					
663 HALE	24	0255	0305	0256	N17	W22	.416	9735	22.5	10	-N	2 C	0256	.31	.30			FHIJ 5		
670 CANR	24	1106	1120	1109	S27	E75	.982	9745	30.1	14	-N	C		.40	1.20			E 5		
672 CATA	24	1230	1235	1230	N10	W21	.364	9735	22.9	5	-B		1230	.29	.31		209	5		
673 UCCL	24	1351E	1355		S03	W40	.653	9743	21.6	4D	-N	P	1353	.52	1.00			D 6		
674 CATA	24	1415	1420D	1415	N17	W15	.323	9735	23.5	5D	-B		1415	.40	.43		224	6		
676 HALE	24	1657	1710D	1705	S16	E10	.397	9739	25.5	13D	-N	2 P	1705	.62	.70			F 5		
677 HALE	24	1659	1710D	1706	S18	E51	.823	9740	28.5	11D	-N	2 P	1706	.21	.40			D 5		
678 HALE	24	1702	1707D		S06	W42	.687	9743	21.6	5D	-N	2 P	1707	.83	1.10			F 5		
679 HALE	24	1917E	1931		S18	E51	.823	9740	28.6	14D	-N	2 P	1917	.41	.70			D 5		
680 SACP	24	1954	2005	1958	S27	E74	.979	9745	30.4	11	-N	C		.20	.50			5		
682 HALE	24	2138	2141	2139	N14	W26	.455	9735	23.0	3	-F	1 C	2139	.62	.70			5		
684 SACP	25	0003	0015	0005	S17	E08	.398	9739	25.6	12	-F	C		.73	.74			5		
685 HALE	25	0011	0017	0013	N14	W27	.470	9735	23.0	6	-F	1 C	0013	.31	.40			5		
686 MANI	25	0105	0114		S13	E42	.713	9740	28.2	9	-F	2	0108	.62	.87			4		
699 MANI	25	0531	0549D	0536	S17	E00	.376	9739	25.2	18D	-N	2	0536	.77	.99			5		
700 MANI	25	0558E	0604	0558	S26	E60	.913	9745	29.7	6D	-F	1	0558	.62	1.24			7		
702 BUCA	25	0700E	0740D		N15	W33	.558	9735	22.8	40D	-F	P	0710	.55	.70			5		
703 CATA	25	0825E	0830D	0825	S21	E05	.447	9739	25.7	5D	-B		0825	.23	.26		214	7		
707 SACP	25	1447	1521	1502	N14	W35	.582	9735	23.0	34	-N	C		.51	.54			5		
709 BOUL	25	1617	1630	1620	S13	W90	1.000	9737	18.9	13	-F	C		.30	1.20			5		
710 HALE	25	1627E	1658	1633	N15	W37	.611	9735	22.9	31D	-F	2 P	1633	.15	.20			T 5		
711 HALE	25	1650	1702	1651	S11	E35	.621	9740	28.3	12	-F	2 C	1651	.31	.40			FT 5		
713 SACP	25	1743	1755	1745	N15	W31	.531	9735	23.4	12	-F	C		.51	.52			4		
715 BOUL	25	1854	1914	1858	N19	E85	.994	9761	1.2	20	1N	C		1.00	3.30			4		
718 HALE	25	2008	2204	2043	N28	W87	.996	9742	19.3	116	1N	2 C	2043	1.03				4		
719 HALE	25	2111	2120	2112	S12	E35	.626	9740	28.5	9	-F	2 C	2112	.57	.70			4		
724 CULG	26	0032	0105	0042	S01	E89	1.000	9747	1.7	33	1F	C	0042	.83				4		
726 HALE	26	0144	0207	0150	S17	W03	.378	9739	25.8	23	-F	2 C	0150	.36	.40			4		

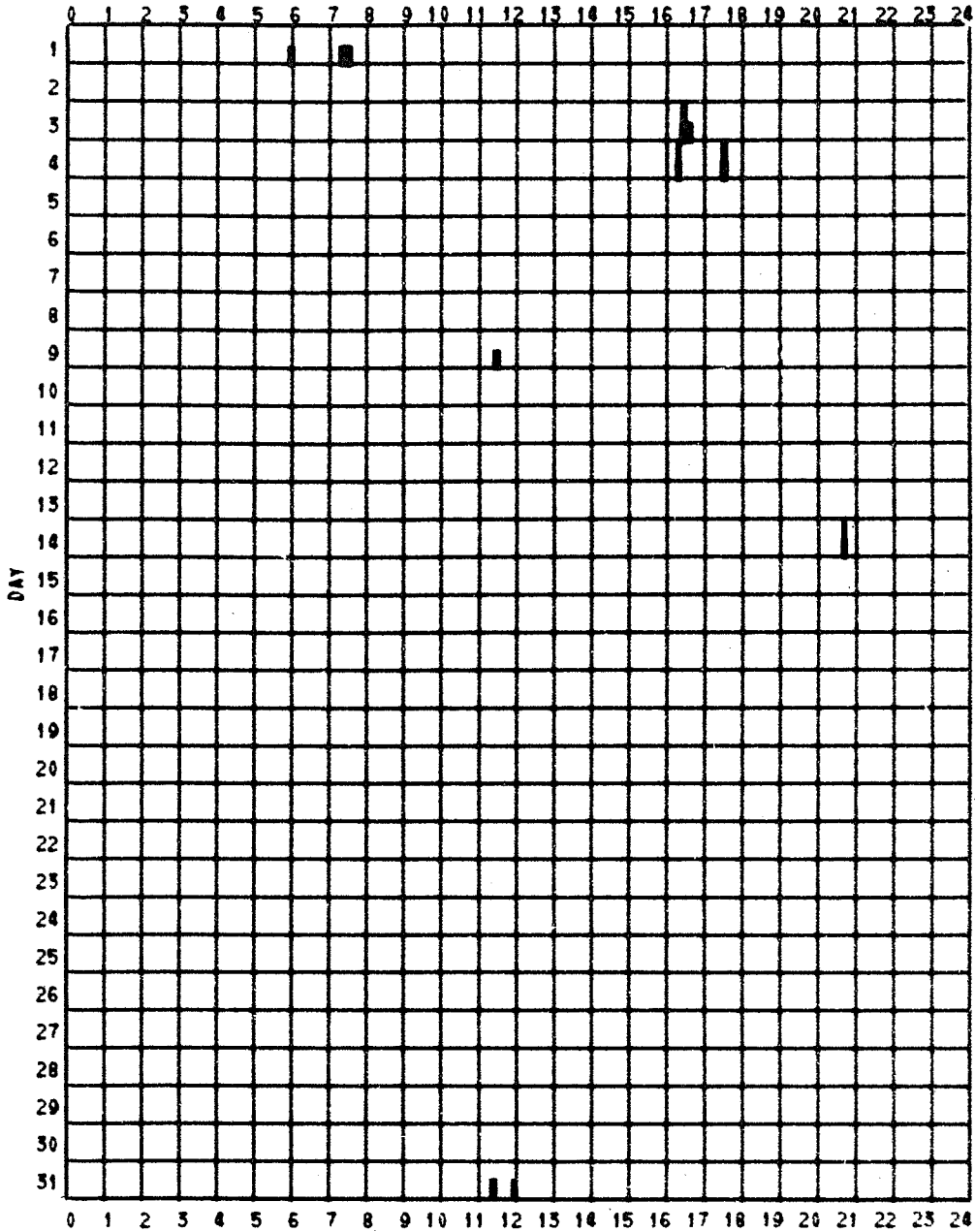
SOLAR FLARES
Unconfirmed
OCTOBER 1968

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IM- POR- TANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS	
	DATE	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H α	MAX. INT. %		
	1968 OCT																		
820 UCCL	29	1300E	1303D		S10	E55	.836	9749	2.7	30	-N	P	1300	.52				D	5
822 BOUL	29	1515	1525U	1518	N15	W82	.988	9735	23.5	100	-N	C		.40	1.60				3
824 HALE	29	1652	1713	1658	S12	W13	.360	9740	28.7	21	-N	3 C	1658	.31	.30			FIJT	5
825 BOUL	29	1704	1717	1706	N15	W82	.988	9735	23.6	13	-N	C		.40	1.60				6
835 HALE	29	2355	0059	0020	S17	E46	.770	9749	2.4	64	-N	1 C	0020	1.03	1.60			FU	3
837 HALE	30	0054	0059	0055	S17	E45	.759	9749	2.4	5	-F	1 C	0055	.41	.60				5
839 HALE	30	0207	0217	0209	S15	W16	.426	9740	28.9	10	-B	2 C	0209	.21	.20			T	7
840 HALE	30	0215	0245	0217	S14	W23	.491	9740	28.4	30	-N	2 C	0217	.77	.90			F	7
841 SIBE	30	0717	0728	0720	S18	W23	.530	9740	28.6	11	-F	P	0720	.83	1.00		58	DT	6
844 BUCA	30	0802E	0807D		N03	W90	1.000	9735	23.6	50	-F	C	0802	.43					7
847 CANR	30	1019	1029	1023	N15	W90	1.000	9735	23.7	10	-N	C		.30	1.20				9
GRP18848	30	1020	1040	1025	S16	W20	.478	9740	28.9	20	-B			.78				2 2 2	9
MONT	30	1020	1029	1025	S16	W20	.478	9740	28.9	9	-N	C	1025	.93					
CATA	30	1020	1050	1025	S16	W20	.478	9740	28.9	30	-B		1025	.63	.72		264		
849 CANR	30	1037	1050	1042	N11	W85	.995	9735	24.1	13	-N	C		.60	2.00				8
853 SACP	30	1711	1719	1714	S18	E38	.692	9749	2.6	8	-N	C		.30	.35				4
857 SACP	30	1822	1830	1825	S20	W26	.580	9740	28.8	8	-F	C		.20	.21				4
858 HALE	30	1830E	1855	1833	N18	E62	.883	9751	4.4	250	-F	1 P	1833	.31	.70			K	3
859 HALE	30	1901	1920D	1910	N18	E62	.883	9751	4.4	190	-F	2 C	1910	.41	.90				4
862 HALE	30	2203	2215	2208	S20	W27	.590	9740	28.9	12	-F	1 C	2208	.21	.30			T	4
865 MITK	31	0009	0019	0011	N02	W41	.656	9762	27.9	10	-F	C	0011	.52	.70			G	5
866 HALE	31	0238	0337D	0253	N30	W06	.440	9744	30.7	590	-F	1 P	0253	.77	.90			G	5
867 HALE	31	0322	0334	0324	S17	E32	.619	9749	2.5	12	-N	1 C	0324	.21	.30			D	5
870 HUAN	31	1254	1259		S15	W46	.761	9740	28.1	5	-F	1 C	1257	.31	.38			E	7
871 HUAN	31	1350	1357D		S14	E26	.526	9749	2.5	70	-N	1 P	1354	.37	.39			D	7
876 VORO	31	2341	0129	0010	S18	W32	.626	9745	29.6	108	3F	C	0010	18.20	23.80		166	FHIJ	1

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1968

HOUR-UT



Observatories included in total patrol:

Abastumani	Capri-F (German)	Haute Provence	Locarno	Sacramento Peak
Arcetri	Capri-S (Sweden)	Herstmonceux	Manila	San Miguel
Arosa	Carnarvon	Houston	McMath-Hulbert	Siberie
Boulder	Catania	Huancayo	Mitaka	Tachkent
Bucharest	Crimee	Istanboul	Monte Mario	Uccle
Canary Islands	Culgoora	Kharkov	Nera	Voroshilov
Capetown	Haleakala	Kodaikanal	Ondrejov	Wendelstein
				Zurich

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

162
Oct 68

SUDDEN IONOSPHERIC DISTURBANCES

SHORT WAVE RADIO FADEOUTS SUDDEN PHASE ANOMALIES
SUDDEN COSMIC NOISE ABSORPTION SUDDEN ENHANCEMENTS OF SIG
SUDDEN ENHANCEMENTS OF ATMOSPHERICS SUDDEN FREQUENCY DEVIAT

ADDITIONS AND AMENDMENTS

OCTOBER 1968

OCT 1968	UNIVERSAL TIME			WIDE SPREAD INDEX	SWF TYPE IMP	IMPORTANCE					STATIONS	KNOWN FLARE
	START	END	MAX			ABS SCNA	SEA	SPA	SES	SFD		
03	1452	1520	1453	1							DV	1450
05	2005	2013	2011	1	SL 1-						WS	2005
06	1350	1430	1400	1							UM(AA17-6)	1340
06	1538	1609	1546	1							UM(AA17-6)	1538
18	1336	1400	1341	1							SL(R16-32)	1337
26	0115	0145		1	S 1+						CA	0110
28	0524	0548	0530	1			2+				TY	0525
29	1253		1345								ST-NW/-334	1300E
29	1315	1337									CP-SA/-13	
											ST-NW/ -9	
31	1428	1515D		1	G 2						SW	NF
31	1434	1526	1443	1		1					MC	

Observing Times for October 1968 of stations reporting in time for publication in LLR-FB-291 were given in that issue.

The following stations were also observing during October 1968:

AAVSO	Okinawa
Bearley	Slough
Enkoping	Toyokawa
Hong Kong	Woomera

Periods of no observation for October 1968 for Slough:

Date	Time
02	1605-1700
28	2330-2400
29	0000-1030

Note: Trinidad SWF records received, but not scaled for publication.

SOLAR X-RAY FLARES (2-12A°)
SATELLITES EXPLORER 33 and 35

October 1968

University of Iowa

Date 1968	Onset UT	Maximum UT	Peak- Ratio to Quiet Sun	Remarks
2 October	0240	0323	7	Onset not observed
	> 1950	2020	19	
3 October	2344	> 2411	≥ 13	Peak not observed
4 October	1837	1902	5	Complex structure Onset not observed
	--	2155	4	
5 October	0234	0249	4	
	1421	1437	6	
6 October	1721	1736	6	
10 October	1024	1139	5	Slow rise, complex structure
11 October	0459	0502	4	Rapid rise, double peak
	2321	2334	4	
12 October	1338	1344	4	
	2003	2007	5	
13 October	0642	0652	5	
	1334	1353	5	
14 October	--	--	--	Quiet day
15 October	--	2213	4	Onset not observed
16 October	0010	0019	4	Complex structure Also numerous small flares
	0444	0523	7	
	0746	0755	7	
	1040	1058	4	
	1508	1516	4	
	--	--	--	
17 October	--	1647	4	Onset not observed Also numerous small flares
	--	--	--	
18 October	--	< 0418	> 10	Onset and peak not observed Rapid rise, slow decline
	0937	0940	13	
	2129	2137	4	
	2336	2341	4	
19 October	0036	0202	5	Slow rise, complex structure
	0436	0447	4	
	0937	0955	4	
	0959	1012	8	
	1851	1859	4	
	--	--	--	
20 October	0650	0704	12	Also numerous small flares Complex rise
	1928	1933	4	
	1941	1945	4	
	2127	2131	8	
	--	--	--	
	--	--	--	

SOLAR X-RAY FLARES (12-12A°)
SATELLITES EXPLORER 33 and 35

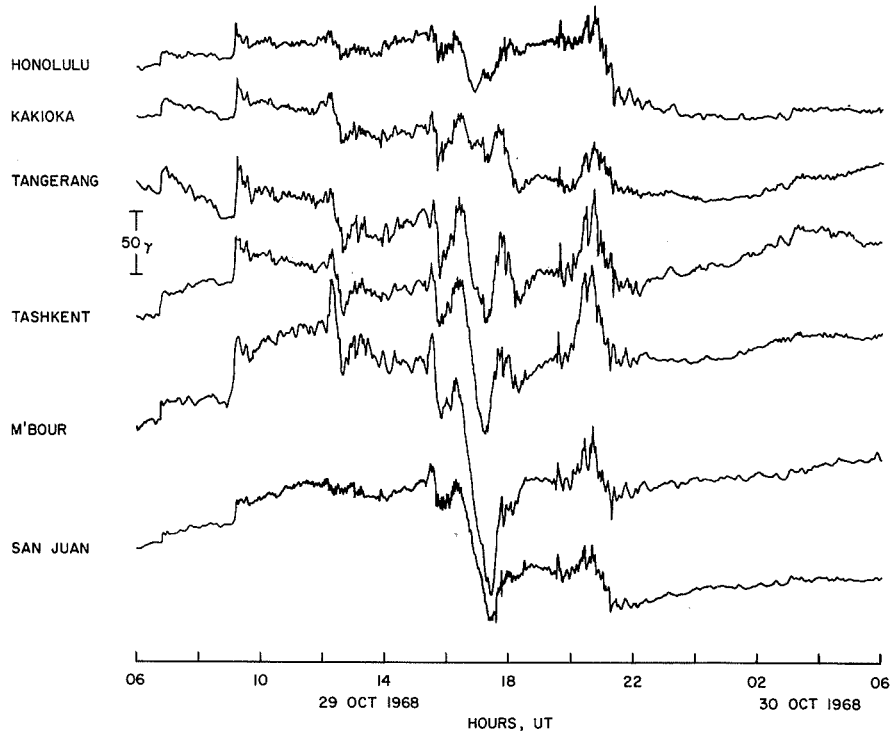
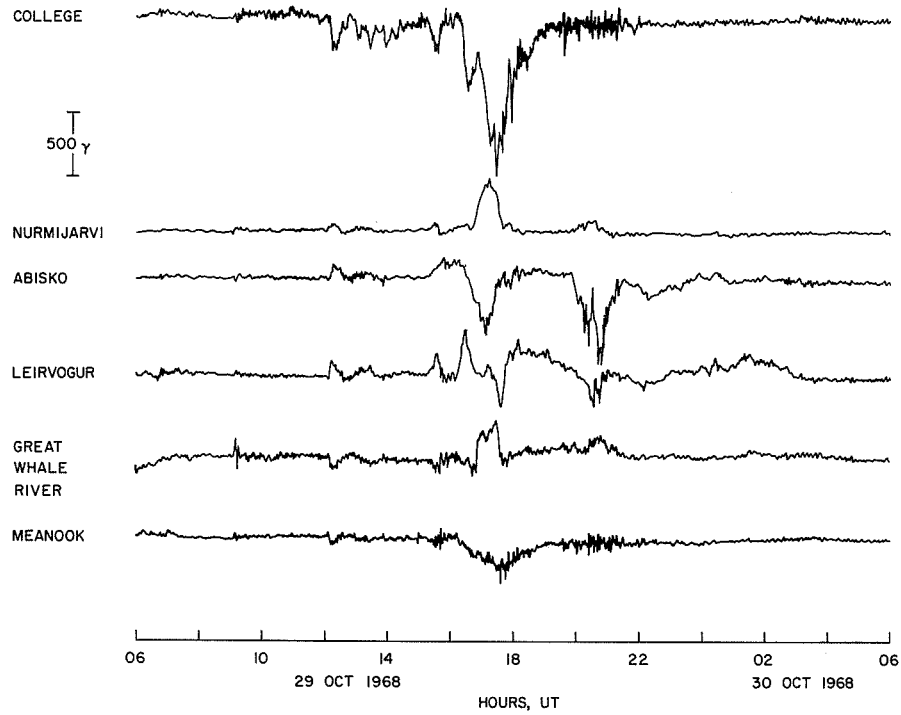
October 1968

Date 1968	Onset UT	Maximum UT	Peak-Ratio to Quiet Sun	Remarks
21 October	0248	0258	4	Maximum flux, $F(2-12 \text{ \AA}^\circ) = 0.114 \text{ erg (cm}^2 \text{ sec)}^{-1}$ Complex structure Also numerous small flares
	0456	0508	11	
	0604	0609	35	
	0820	0826	4	
	1123	1130	5	
	1424	1435	8	
	1726	1734	20	
	2123	2130	7	
	--	--	--	
22 October	0139	0145	5	Also numerous small flares
	0442	0447	4-	
	0738	0745	4-	
	1657	1702	4	
	--	--	--	
23 October	0357	0359	16	Rapid rise, complex structure
	0857	0902	4	
	1740	1746	4-	
	1936	1941	5	
	2351	2420	39	
24 October	2054	2124	14	Note 1. Maximum flux, $F(2-12 \text{ \AA}^\circ) = 0.128 \text{ erg (cm}^2 \text{ sec)}^{-1}$
26 October	0107	0127	4	Complex structure
	1638	1653	6	
	2355	2414	9	
27 October	0103	0200	5	Slow rise, slow decline
	1104	1112	4-	
	1142	1149	4	
	1234	1243	24	
	1307	1341	34	
	2208	2216	5	Maximum flux, $F(2-12 \text{ \AA}^\circ) = 0.057 \text{ erg (cm}^2 \text{ sec)}^{-1}$ Slow rise, slow decline Maximum flux, $F(2-12 \text{ \AA}^\circ) = 0.088 \text{ erg (cm}^2 \text{ sec)}^{-1}$
28 October	0502	0513	4-	
29 October	0853	0912	5	Slow decline
	0944	0959	4	
	1212	1237	12	
30 October	0134	0138	4-	Slow rise, slow decline Maximum flux, $F(2-12 \text{ \AA}^\circ) = 0.128 \text{ erg (cm}^2 \text{ sec)}^{-1}$
	1238	1301	7	
	1331	1401	7	
	2341	2417	42	
31 October	2226	2308	22	Maximum flux, $F(2-12 \text{ \AA}^\circ) = 0.079 \text{ erg (cm}^2 \text{ sec)}^{-1}$

Note 1. Homologous in flux-time profile.

MAGNETOGRAMS OF GEOMAGNETIC STORMS

29 OCTOBER 1968 - 30 OCTOBER 1968



MAGNETOGRAMS OF GEOMAGNETIC STORMS

31 OCTOBER 1968 - 1 NOVEMBER 1968

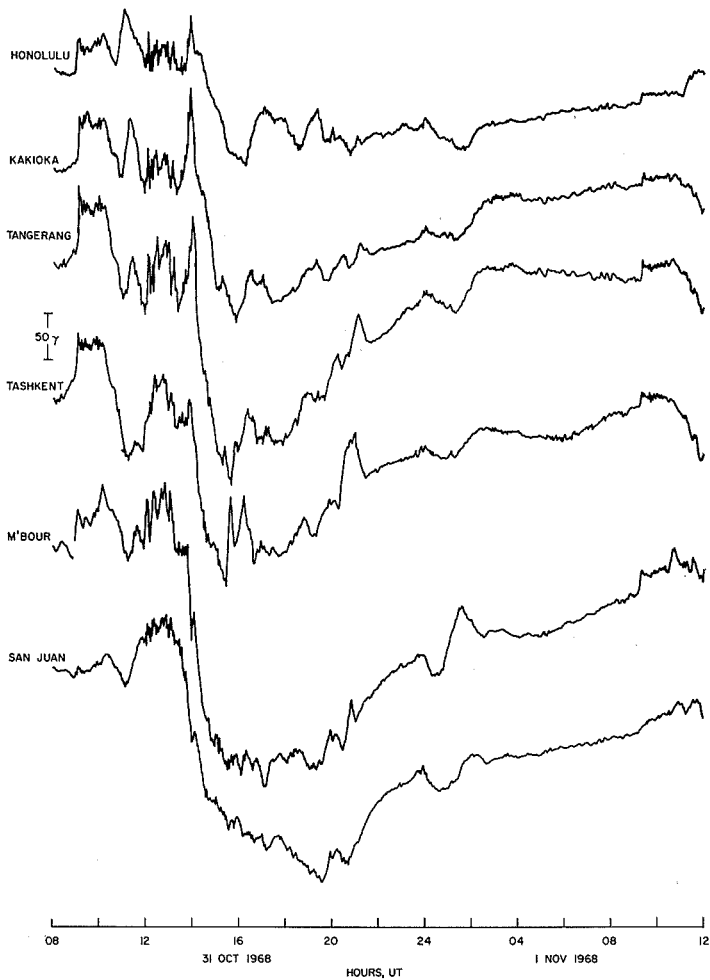
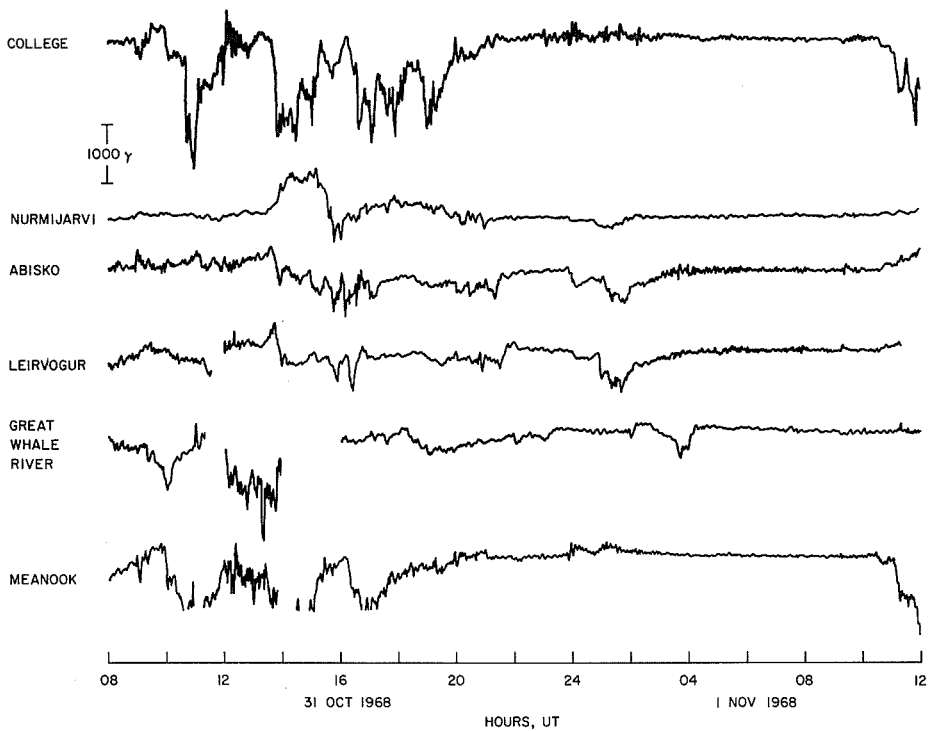


Table of Contents
for Miscellaneous Data

	Page
Sudden Commencements and Solar Flare Effects October 1968 - December 1968	168-169
Solar Radio Spectral Observations Weissenau - January 1969	170-171

For explanations of the data contained herein see "Descriptive Text"
published in February 1969.

SUDDEN COMMENCEMENTS AND SOLAR-FLARE EFFECTS
October - December 1968

Preliminary Report of Sudden Commencements

These reports are provided by Dr. A. Romana for the International Association of Geomagnetism and Aeronomy Commission IV: Magnetic Activity and Disturbances.

S.c.'s given by ten or more stations are underlined. Times are mean values obtained from normal magnetograms. When the names of the observatories are not given, the letters in square brackets indicate the quality of the observations.

Sudden commencements followed by a magnetic storm or a period of storminess (s.s.c.)

1968 October 01d 00h 19m: ME LG. 02d 00h 18m: thirty-three (ssc: 32 [A: 5; B: 20; C: 7]; si: 1). 06d 06h 28m: forty-seven (ssc: 36 [A: 11; B: 24; C: 1]; si 11 [A: 4; B: 7]). 12d 06h 20m: SO WN VL FU CF SF (si: NI HB TL TC). 17d 00h 31m: SO LE WN VL DB SF (bp: CF EB MC BI; pi2: AC; pi2+ pc4: TW). 26d 18h 33m: fifty (ssc: 43 [A: 12; B: 28; C: 3]; si: 7). 28d 21h 32m: WN NI LG KS BA MC BI TG TN (si: SF; b: Hu; bp: LE). 29d 09h 09m: fifty (ssc: 46 [A: 26; B: 20]; si: 3; sfe: NI). 30d 08h 38m: ME VI. 31d 08h 59m: thirty-five (ssc: 32 [A: 17; B: 13; C: 2]; si: 2; pi2: 1).

1968 November 01d 09h 16m: thirty (ssc: 29 [A: 12; B: 15; C: 2]; si: 1). 01d 12h 06m: SO GU (si: CF). 05d 06h 59m: ME VI. 16d 09h 15m: forty-eight (ssc: 47 [A: 23; B: 22; C: 2]; pc5: 1). 20d 09h 04m: forty-nine ssc: 44 [A: 23; B: 21]; si: 4; pi2: 1). 24d 15h 57m: forty-three (ssc: 20 [A: 2; B: 11; C: 7]; si: 20 [A: 7; B: 12; C: 1]; pg: 1; sfe: AG? AE).

1968 December 05d 06h 33m: forty-five (ssc: 41 [A: 14; B: 23; C: 4]; si: 2; pi2: 2). 11d 15h 09m: twenty-seven (ssc: 20 [A: 5; B: 6; C: 9]; si: 7). 15d 13h 15m: twenty-three (ssc: 14 [B: 3; C: 11]; si: 7; bps: 1; pc5: 1).

Sudden impulses found in the magnetograms (s.i.)

1968 October 02d 03h 48m: twenty-one (si: 16 [A: 6; B: 10]; ssc: 5). 02d 10h 35m: twenty-two (si: 16 [A: 4; B: 9; C: 3]; ssc: 5; bps: 1). 07d 02h 08m: CF TL SF TC TE MB MC AC MB BA BI AC (ssc: SF). 12d 09h 20m: LG SF. 12d 18h 23m: LE ES VL. 13d 11h 00m: CF LG. 14d 06h 56m: SO WN HB. 17d 02h 17m: BE SF (pc5: LE). 23d 18h 22m: LG EB SJ MC AC (ssc: ME SF TL BI). 28d 11h 58m: SF BI. 29d 03h 38m: MC BI TW. 29d 06h 46m: twenty-three (si: 14 [A: 1; B: 12; C: 1]; ssc: 9). 29d 15h 40m: WI VL CF LG CI SF LU HR. 30d 17h 18m: LG SF.

1968 November 02d 01h 31m: CF (pc4: BI). 03d 12h 59m: CF TL TC. 04d 08h 48m: LE ES VL CF (pc4: BI). 04d 09h 29m: twelve (si: 11 [A: 3; B: 7; C: 1]; ssc: 1). 16d 13h 17m: sixteen (si: 12 [A: 6; B: 5; C: 1]; ssc: 3; pc5: 1). 16d 15h 09m: CF MB. 17d 00h 48m: TE AC (bps: LG). 17d 06h 57m: SO ES WN VL CF HB. 17d 07h 24m: ES NI VL TE MC. 22d 23h 44m: LG TL SF. 23d 23h 29m: eleven (si: 10 [A: 2; B: 2; C: 6]; ssc: 2).

1968 December 21d 05h 51m: TN (ssc: PM). 23d 09h 27m: VL EB. 25d 02h 41m: twenty (si: 11 [A: 5; B: 5; C: 1]; ssc: 9). 25d 02h 53m: fifteen (si: 14 [A: 8; B: 6]; ssc: 1). 25d 05h 59m: twenty-one (si: 16 [A: 9; B: 6; C: 1]; ssc: 5). 25d 07h 07m: CF MC HR AC. 25d 07h 43m: LG MC (ssc: SO).

Preliminary report on solar-flare effects (s.f.e.)

169
Misc
Oct-Dec 68

Effects confirmed by ionospheric or solar observations are underlined.

1968 October 03d 13h 27m - 13h 40m: HU. 08d 16h 04m - 16h 14m: HU. 15d 03h 15m - 03h 40m: PM. 16d 12h 32m - 12h 40m: SM. 17d 08h 27m - 09h 00m: HB (pc4: FR).
18d 08h 30m - 08h 50m: HB. 18d 09h 36m - 09h 55m: HB HR. 21d 02h 55m - 03h 10m: PM. 21d 04h 27m: PM. 21d 05h 03m - 05h 20m: PM. 21d 06h 05m - 06h 20m: PM HR
(ssc: TN; si: TO). 21d 17h 29m - 17h 50m: TU HU. 22d 16h 58m - 17h 05m: TU.
23d 03h 57m - 04h 20m: PM GN. 23d 13h 05m - 13h 25m: HB. 27d 12h 35m - 12h 53m: WN WI HB EB (si: SF HR; pi2: TW). 27d 12h 50m - 13h 05m: HB. 29d 12h 10m - 13h 27m: NI HB EB (si: CF SF). 30d 12h 23m - 12h 36m: NI EB (si: SF)

1968 November 02d 09h 45m - 09h 52m: HB. 12d 17h 10m - 17h 21m: HU. 18d 10h 27m - 12h 51m: WN NI HB TN HR (si: TE; b: MB; bs: BI). 18d 10h 45m - 11h 05m: HB.

1968 December 04d 15h 45m - 15h 50m: HU. 09d 06h 13m: HR. 12d 15h 01m - 15h 40m: HB MB HU. 27d 10h 53m - 11h 54m: WN WI VL DB HB LG EB TL? MB MC HU TN HR (si: NI CF AQ AE SF TC AC; bs: BE). 28d 11h 26m - 11h 35m: EB.

Sudden Commencements and Solar Flare Effects for Oct. - Dec. 1967 were published in the Miscellanea Section of IER-FB-270 pp 74-78, for Oct. - Dec. 1966 in IER-FB-273 pp 109-110, for Jan. - Mar. 1967 in IER-FB-277 pp 133-134, for April - June 1967 in IER-FB-280 pp 129-130, for July - Sept. 1967 in IER-FB-283 pp 141-142, Oct. - Dec. 1967 in IER-FB-285 pp 137-138, for Jan. - Mar. 1968 in IER-FB-290 pp 139-140, for Apr. - June 1968 in IER-FB-291 pp 160-161 and for July - Sept. 1968 in IER-FB-295 pp 143-144. Prior to that the data appeared in Journal of Geophysical Research.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1969

JAN 1969	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
				START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
15	0750	1557	WEIS WEIS	1209.1 1321.7	1209.4 1321.8	1 1									IIIG,DP,RS IIIB
16	0747	1523	WEIS WEIS WEIS				0902 1113.5 1350.4	0904.2 1115 1350.9	1 1 1						IIIG IIIGG IIIG
17	0818	1520	WEIS WEIS WEIS	0913.6	0913.8	1	1241 1242	1252 1257.5	3 3					II	IIIP IIIGG
18	0803	1523	WEIS WEIS WEIS WEIS WEIS WEIS				0813 0935.3 0936.8 1219.3 1222.2 1223.5	1240 0938 0939.2 1219.7 1232.2 1251	2 2 2 2 2 3						IN IIIGG V IIIG IIIGG,DP
19	0755	1500	WEIS												
20	0745	1530	WEIS												
21	0818	1537	WEIS				1346.6	1346.8	1						IIIB
22	0739	1240	WEIS												
29	0739	1538	WEIS WEIS WEIS WEIS WEIS WEIS WEIS WEIS WEIS				0807.7 0901.3 0947.6 1014.6 1038.4 1103.6 1251.3 1433	0808 0904.7 0947.9 1020.7 1048.7 1104 1257.4 1434.5	1 2 1 1 1 2 1 1						IIIB IIIGG IIIG IIIG IIIG IIIB IIIG IIIG
30	0739	1540	WEIS												
31	0720 0922	0855 1700	WEIS WEIS				1521.6	1521.8	2						IIIB

Publication Notice

WORLD DATA CENTER A - UPPER ATMOSPHERE GEOPHYSICS REPORTS UAG
(Prepared by ESSA Research Laboratories, Boulder, Colorado)

These reports are for sale through the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. Subscription price: \$9.00 annually for domestic mailing, \$11.50 for foreign mailing. Single issue price will vary. Checks and money orders in U.S. currency made payable to the Superintendent of Documents should accompany the request.

These reports cover a variety of subjects and are issued on an irregular schedule. The first of these are now available.

Upper Atmosphere Geophysics Report UAG-1, "IQSY Night Airglow Data" by L. L. Smith, F. E. Roach and J. M. McKennan of Aeronomy Laboratory, ESSA Research Laboratories, July 1968, single copy price \$1.75.

Upper Atmosphere Geophysics Report UAG-2, "A Reevaluation of Solar Flares, 1964-1966" by Helen W. Dodson and E. Ruth Hedeman of McMath-Hulbert Observatory, The University of Michigan, August 1968, single copy price 30 cents.

Upper Atmosphere Geophysics Report UAG-3, "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41MHz, 6 July 1966 through 8 September 1968" by James W. Warwick and George A. Dulk, Department of Astro-Geophysics, University of Colorado, October 1968, single copy price 30 cents.

Upper Atmosphere Geophysics Report UAG-4, "Abbreviated Calendar Record 1966-1967" by J. Virginia Lincoln, Hope I. Leighton and Dorothy K. Kropp, Aeronomy and Space Data Center, Space Disturbances Laboratory, ESSA Research Laboratories, January 1969, single copy price \$1.25.

Upper Atmosphere Geophysics Report UAG-5, "Data on Solar Event of May 23, 1967 and its Geophysical Effects" compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA, February 1969, single copy price 65 cents.

Upper Atmosphere Geophysics Report UAG-6, "International Geophysical Calendars 1957-1969" by A. H. Shapley and J. Virginia Lincoln, ESSA Research Laboratories, March 1969, single copy price 30 cents.

Other publications of interest are:

Annals of the IQSY, Vol. 2, "Solar and Geophysical Events 1960-1965 (Calendar Record)" compiled by J. V. Lincoln, The MIT Press, Cambridge, Mass. and London, England 1968.

The Solar and Geophysical Calendar Record is continued with provisional data in the "Abbreviated Calendar Record." It is published for the year 1966 in IQSY Notes Nos. 17-21 and for January 1967 onward in STP Notes Nos. 1, 2, 3 continuing. STP Notes are available through IUCSTP Secretariat, c/o National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D. C. 20418 (U.S.A.)