U.S. DEPARTMENT OF COMMERCE
Maurice H. Stans, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Robert M. White, Administrator
ENVIRONMENTAL DATA SERVICE
Thomas S. Austin, Director

Solar-Geophysical Data

(Prompt Reports)

NUMBER 324-PART I
DATA FOR
JULY 1971
JUNE 1971

DATA COMPILED BY AERONOMY AND SPACE DATA CENTER
BOULDER, COLORADO

WASHINGTON, D.C.
AUGUST 1971

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

Table of Contents

Edited by:
Miss Hope I. Leighton under the supervision of
Miss J. Virginia Lincoln, Aeronomy and Space Data Center.

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

For sale through the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. Catalog Order Number: C52.18. Subscription Price: $30.50 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or $15.50 annually for either part. Extra issue included. For foreign mailing add $8.00 for both parts or $4.00 for either part. Single issue price $1.25 for either part and 75¢ for the extra issue. To order single issues include Issue No. and Part No. with Catalog No.; for example, C52.18: (No. 316) Part I.

To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, CRPL-FB 135*, pages, issue date, U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80302)

*CRPL-FB 135 through 269
IER-FB 270 through 298
299 Part I or 299 Part II to number of current issue

INDEX FOR 1970 - 1971 DATA PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1970 Sep	Oct	Nov	Dec	1971 Jan	Feb	Mar	Apr	May	June	July
A.	Solar and Interplanetary Phenomena											
A.1	Sunspot Drawings	315	316	317	318	319	320	321	322	323	324	
A.2a	Zürich Provisional Relative Sunspot Numbers R_Z	314	315	316	317	318	319	320	321	322	323	324
A.2b	Zürich Final Sunspot Numbers R_Z	319	319	319	319							
A.2c	American Relative Sunspot Numbers $R_{A'}$	314	315	316	317	318	319	320	321	322	323	324
A.3a	Mt. Wilson Magnetograms	315	316	317	318	319	320	321	322	323	324	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	315	316	317	318	319	320	321	322	323	324	
A.4	Hα Spectroheliograms	315	316	317	318	319	320	321	322	323	324	
A.5	Calcium Plage Drawings - McMath (or Catania)	315	316	317	318	319	320	321	322	323	324	
A.5a	Calcium Plage (McMath) and Sunspot Regions	315	316	317	318	319	320	321	322	323	324	
A.5b	McMath Daily Calcium Plage Index	---	---	---	320	320	320	321	322	323	324	
A.7b	Coronal Line Emission	315	316	317	318	319	320	321	322	323	324	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	314	315	316	317	318	319	320	321	322	323	324
A.8ac	2800 MHz - Daily Values of Adjusted Solar Flux (ARO-Ottawa)	314	315	316	317	318	319	320	321	322	323	324
A.8g	15,400, 8800, 4995, 2695, 1415, 606, 245 MHz Adj. Solar Flux (AFCRL)	314	315	316	317	318	319	320	321	322	323	324
A.9a	9.1 cm Radio Maps of the Sun (Stanford)	315	316	317	318	319	320	321	322	323	324	
A.9b	21 cm Radio Maps of the Sun (Fleurs)	315	316	317	318	319	320	321	322	323	324	
A.9c	8.6 mm Radio Maps of the Sun (Prospect Hill)	315	316	317	318	319	320	321	322		324	
A.10a	169 MHz - Interferometric Observations (Nançay)	314	315	316	318	318	319	320	321	322	323	324
A.10b	408 MHz - Interferometric Observations (Nançay)	314	315	316	318	318	319	320	321	322	323	324
A.10c	21 cm East-West Solar Scans (Fleurs)	314	315	316	317	318	319	320	321	322	323	324
A.10d	43 cm East-West Solar Scans (Fleurs)	314	315	316	317	318	319	320	321	322	323	324
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	314	315	316	317	318	319	320	321	322	323	324
A.11aa	Solar X-ray Radiation (Explorer 37)	315	316	317	318	319	320	321	322	323	324	
A.11ab	Solar X-ray Radiation (Explorer 37) (Graphs)	319	320	321	322	323	324					
A.11e	Solar X-ray Spectroheliograms (OSO-5)	316	316	317	318	319	322	321	322	323	324	
A.12aa	Solar Protons (Explorer 41) Daily hourly values	323	323									
A.12ab	Solar Protons (Explorer 41) Graphs	323	323									
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	314	315	316	317	318	319	320	321	322	323	324
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	314	315	316	317	318	319	320	321	322	323	324
A.12c	Cosmic Ray Protons (ATS-1)	314	315	316	317	318	319	320	321	322	323	324
A.13a	Solar Wind (Pioneers 6 & 7)	314	315	316	317	318	319	320	321	322	323	324
A.13b	Solar Wind (Vela 3 & 5)	314	315	316	317	318	319	320	321	322	323	324
B.	Ionospheric (and Radio Wave Propagation) Phenomena											
B.51ca	High Latitude Quality Figures and Forecasts	315	316	317	318	319	320	321	322	323	324	
B.51cb	High Latitude Comparison Graphs	315	316	317	318	319	320	321	322	323	324	
B.52	Graphs of Transmission Frequency Range	315	316	317	318	319	320	321	322	323	324	
B.53	Quality Figures based on Frequency Ranges	315	316	317	318	319	320	321	324	324	324	
C.	Flare-Associated Events											
C.1a	Optical Observations Flares	314	315	316	317	318	319	320	321	322	323	324
C.1ba	Optical Observations Flares (Including Standardized Data)	319	320	321	322	323	324					
C.1d	Flare Patrol Observations	314	315	316	317	318	319	320	321	322	323	324
C.1e	Flare Indices (by day)	319	320	321	322	323	324					
C.1f	Flare index by region	320	321	322	323	324						
C.3	Solar Radio Waves - Fixed Frequencies - Outstanding Occurrences	319	320	321	322	323	324					
	- Selected	---	---	---	---	---	319	320	321	322	323	324
C.4aa	10-2000 MHz - (Fort Davis)	315	316	317	318	319	320	321	322	323	324	
C.4b	7.6-80 MHz - (University of Colorado)	---	317	317	318	319	320	321	322	323	324	
C.4d	8-8000 MHz - (Culgoora)	315	316	317	318	319	320	321	322	323	324	
C.4e	30-1000 MHz - (Weissenau, G.F.R.)	315	316	318	318	319	320	321	322	323		
C.4f	24-48 MHz - (AFCRL, Sagamore Hill)	315	316	317	318	319	320	321	322	323	324	
C.4g	20-60 MHz - (Clark Lake Radio Observatory)	315	323					321	322	323	324	
C.5b	Solar X-ray Radiation (Explorers 33 & 35)	319	320	321	323	323	324					
C.5c	Solar X-ray Radiation (Explorer 37)	315	316	317	318	319	320	321	322	323	324	
C.6	Sudden Ionospheric Disturbances	314	315	316	317	318	319	320	321	322	323	324
D.	Geomagnetic and Magnetospheric Phenomena											
D.1a	Geomagnetic Indices Ci, Cp, Kp, Ap - Selected Days	315	316	317	318	319	320	321	322	323	324	
D.1b	27-Day Chart of Kp Indices for Year	318	318	318	318							
D.1c	27-Day Chart of C9 for Year	318	318	318	318							
D.1d	Principal Magnetic Storms	315	316	317	318	319	320	321	322	323	324	
D.1e	Reduced Magnetograms	---	320	321	322	323	324					
D.1f	Sudden Commencement and Solar Flare Effects	317	318	318	318	319	320	321	322	323	324	
F.	Cosmic Rays											
F.1a	Cosmic Ray Neutron Counts (Deep River)	315	316	317	318	319	320	321	322	323	324	
F.1b	Cosmic Ray Neutron Counts (Climax)	315	316	317	318	319	320	321	322	323	324	
F.1c	Cosmic Ray Neutron Counts (Dallas)	315	316	317	318	319	320	321	322	323	324	
F.1d	Cosmic Ray Neutron Counts (Churchill)	315	316	317	318	319	320	321	322	323	324	
F.1e	Cosmic Ray Neutron Counts (Alert)	315	316	317	318	319	320	321	322	323	324	
F.1f	Cosmic Ray Neutron Counts (Calgary)	---	---	---	---	319	320	321	322	323	324	
F.1g	Cosmic Ray Neutron Counts (Sulphur Mountain)	---	---	---	---	319	320	321	322	323	324	
H.	Miscellaneous											
H.60	IUWDS Alert Decisions	314	315	316	317	318	319	320	321	322	323	324
H.62	Abbreviated Calendar Record	320	321	322	323	324						

Table of Contents
for July 1971 Data

For explanations of the data contained herein see "Descriptive Text" published in February 1971.

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

JULY 1971

JUL. 1971	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT	
				TYPE INCLUDING FLARE ACTIVITY EXPECTED
01	0400		01268	SOLALERT; S10E36, S14E33, N16W35 ERUPTIVE; SIX QUIET
02	0400		02269	SOLALERT; S10E19, S13E17 ACTIVE; S07E06 ERUPTIVE; FIVE QUIET
03	0400		03270	SOLALERT; S12E07 ERUPTIVE; FIVE QUIET
04	0400			S12W06 ERUPTIVE; SEVEN QUIET; SOLNIL
05	0400			S12W23 ERUPTIVE; SIX QUIET; SOLNIL
06	0400			S12W37, S07E66 ERUPTIVE; SEVEN QUIET; SOLNIL
07	0400			S07E55 ERUPTIVE; THREE QUIET; SOLNIL
08	0400		08271	SOLALERT; S12W62, S07E40 ERUPTIVE; THREE QUIET
09	0400			S07E32 ERUPTIVE; FOUR QUIET; SOLNIL
10	0400			FOUR QUIET; SOLNIL
11	0400			S07E00 ERUPTIVE; TWO QUIET; SOLNIL
12	0400			THREE QUIET; SOLNIL
13	0400			FOUR QUIET; SOLNIL
14	0400			FIVE QUIET; SOLNIL
15	0400			N06E45 ERUPTIVE; FIVE QUIET; SOLNIL
16	0400			N15W02, N15E02, N06E31 ERUPTIVE; SEVEN QUIET; SOLNIL
	1300	WENDELSTEIN FLARE CLASS 1F N04E29 16/1146Z DURATION 50 MIN.		
17	0400			N06E19 ERUPTIVE; SEVEN QUIET; SOLNIL
18	0400			N07E07 ERUPTIVE; TEN QUIET; SOLNIL
19	0400			N14E32, N07W06 ERUPTIVE; SEVEN QUIET; SOLNIL
20	0400			N08E17, N12E25 ERUPTIVE; EIGHT QUIET; SOLNIL
21	0400			N14E05, N09W25, N07W34 ERUPTIVE; TWELVE QUIET; SOLNIL
	----	KAKIOKA MAGSTORM 21/0525Z		
22	0400			N14W10, N09W38 ERUPTIVE; SEVEN QUIET; SOLNIL
23	0400			N14W22, N08W51 ERUPTIVE; NINE QUIET; SOLNIL
24	0400		24272	MAGALERT 25/27 MINOR; N13W35 ERUPTIVE; TEN QUIET
25	0400		25273	MAGALERT 25/27 MINOR; N13W47 ACTIVE; TWELVE QUIET
26	0400		26274	MAGALERT 26/27 MINOR; N13W65, N11W21, S15E58 ERUPTIVE; EIGHT QUIET
27	0400		27275	MAGALERT 27/28 MINOR; N14W35 ERUPTIVE; EIGHT QUIET
28	0400		28276	MAGALERT 28/29 MINOR; SEVEN QUIET; SOLNIL
29	0400		29277	SOLALERT; S15E21 ACTIVE; SEVEN QUIET
30	0400			S13E05 ERUPTIVE; TEN QUIET; SOLNIL

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

DAY	1970 AUG.	SEPT.	OCT.	NOV.	DEC.	1971 PROVISIONAL JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY
1	77	98	63	86	91	58	77	76	59	41	49	95
2	68	104	57	82	78	62	78	90	56	46	61	97
3	64	110	43	80	78	62	68	82	58	52	60	102
4	59	115	55	78	76	69	80	70	56	59	55	95
5	65	120	75	67	88	52	65	53	65	65	43	84
6	68	133	53	89	90	52	73	47	58	64	25	79
7	72	136	72	86	91	56	75	47	59	72	24	76
8	82	125	76	69	100	66	60	46	61	70	40	70
9	76	116	78	77	96	74	37	35	43	67	27	58
10	71	103	79	78	110	70	37	34	52	73	24	42
11	75	82	75	97	120	68	62	43	46	61	26	48
12	73	76	80	89	110	75	50	63	86	62	28	58
13	92	73	84	105	90	70	63	76	100	76	22	54
14	94	76	87	117	85	67	60	65	113	73	34	61
15	108	75	87	125	84	61	69	68	126	75	17	82
16	100	68	94	133	68	65	66	76	104	81	40	93
17	99	65	84	135	63	68	62	76	98	62	44	87
18	108	75	76	135	79	86	68	79	104	43	42	75
19	113	98	83	132	95	98	87	63	110	40	23	104
20	117	114	70	128	104	104	91	50	103	40	38	91
21	117	129	69	119	101	106	91	51	98	38	35	97
22	108	109	73	105	97	105	100	55	82	30	31	116
23	101	104	89	96	85	96	87	55	55	15	49	83
24	116	129	100	77	66	99	98	51	50	16	32	119
25	114	114	111	62	75	82	93	48	44	25	64	119
26	109	107	117	65	64	88	69	49	53	35	88	90
27	91	87	142	74	53	111	66	55	50	49	106	80
28	101	85	131	89	50	99	71	49	49	65	99	74
29	114	81	139	78	59	95		44	48	56	95	64
30	120	77	126	103	74	74		56	36	58	91	72
31	111		117		68	76		52		60		69
MEAN	93.0	99.5	86.6	95.2	83.5	77.9	71.5	58.2	70.7	53.8	47.1	81.7

1970 yearly mean = 104.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

DAY	1970 AUG.	SEPT.	OCT.	NOV.	DEC.	1971 JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY
1	134.0*	154.1	128.7	163.3	146.4	130.5	165.6	129.2	100.5	95.3	110.1	145.1
2	128.5	156.7	125.4	159.1	148.4*	134.8	160.5	125.8	107.6	99.6	108.3	139.4
3	127.9	163.2*	126.0	153.2*	148.1	134.7	154.7	121.7	109.0	106.2	107.8	130.5
4	127.4	163.4*	137.3	148.3	154.0	140.2	148.6*	116.0*	107.7	112.6	107.3	134.7
5	128.4	162.3*	134.5	147.5	161.9*	146.1	144.7	113.7	108.3	117.9	106.2	134.6
6	128.0	161.5	128.0*	149.8	167.5	146.9	143.7	109.1	107.3*	125.6	105.0	127.0
7	128.2	164.4	133.3	150.6	166.5*	150.2	133.4	105.2	113.2	131.1	101.5	122.5
8	131.8	156.9	142.0	141.1	167.3	149.1	123.2	104.0	110.1	132.7	101.8	116.7*
9	138.3	157.2	144.9*	141.9	171.5	152.8*	110.4	104.5	108.9	138.3	100.9	107.7
10	137.3	143.9	147.6	147.8	170.9	152.1	109.5	107.0	109.8	135.8*	97.5	108.5
11	127.2	134.4	142.8	155.6	172.6*	149.0	109.7	109.5	124.1	135.3*	96.0	108.7*
12	136.9*	126.1	135.4	165.1*	178.4*	150.5	110.5	115.3	129.7	130.2	93.3	109.6
13	149.7	120.1	131.8*	179.1	164.3	148.1	113.2	112.5	139.6*	125.0	93.7	111.2
14	167.0*	121.9	134.9*	186.4*	154.6	153.9	114.8	111.7	141.0	122.3	94.0	113.9
15	169.1	118.0	140.2*	200.0	154.1	153.7	117.1*	110.3	140.0*	118.0	91.3	125.6
16	162.5	118.4	134.0	193.5	146.7	156.4*	129.8	114.5	139.6	116.1	90.8	125.3
17	151.6*	116.9	131.5	184.1*	146.8	155.3	132.6	116.1	139.9	112.8	93.1	121.5
18	149.0	120.7	138.5	193.1*	151.6*	160.3	130.4	114.2	137.2*	111.2	95.4	121.0
19	145.4	134.7*	139.0	185.5*	152.4*	165.8	138.5*	109.1	138.4*	109.8*	94.6	126.9*
20	148.6	146.9	137.2	173.7	155.6	169.2*	136.2*	106.3*	136.8	106.0	94.2	118.8
21	142.8	149.4	136.5	163.3*	146.3*	178.7	136.1	112.6	128.9	102.0	95.2	113.6
22	141.7	155.2	135.0	154.2	136.8*	180.6	143.6	112.4	120.5	93.4	98.4	115.7
23	146.2	161.6	149.0	142.4	132.1	182.9	143.2	108.2	117.5*	89.7	94.9	121.3
24	140.2	156.0*	161.2*	133.9	124.4	177.0	147.5,	107.8	109.1*	88.9	105.3	134.5
25	136.5	155.8	168.6*	127.9	124.0	168.6*	146.4	108.3	106.0	92.3	110.1	121.4
26	135.7	155.9	187.1	129.3	122.3	164.9	143.2	107.8	104.8	93.7	115.9	122.3
27	137.2*	145.0	191.8	135.1	119.8	166.7	140.0	108.5	101.7	103.9	122.5	119.0
28	141.6	144.5*	190.3	148.9	117.3	166.2	136.6	106.2	97.5	107.0	131.1*	116.7
29	148.7	138.7	189.0	148.4	123.4	160.7		103.4	95.8	108.5	141.1	114.3
30	149.0	134.7	175.2	152.5	129.0*	163.0		100.9	94.8	110.3	148.8	116.3
31	154.5		168.6		133.3	170.1		102.9		111.6		113.2
MEAN	141.6	144.6	147.3	158.5	148.0	157.4	134.4	110.8	117.5	112.4	104.9	121.2

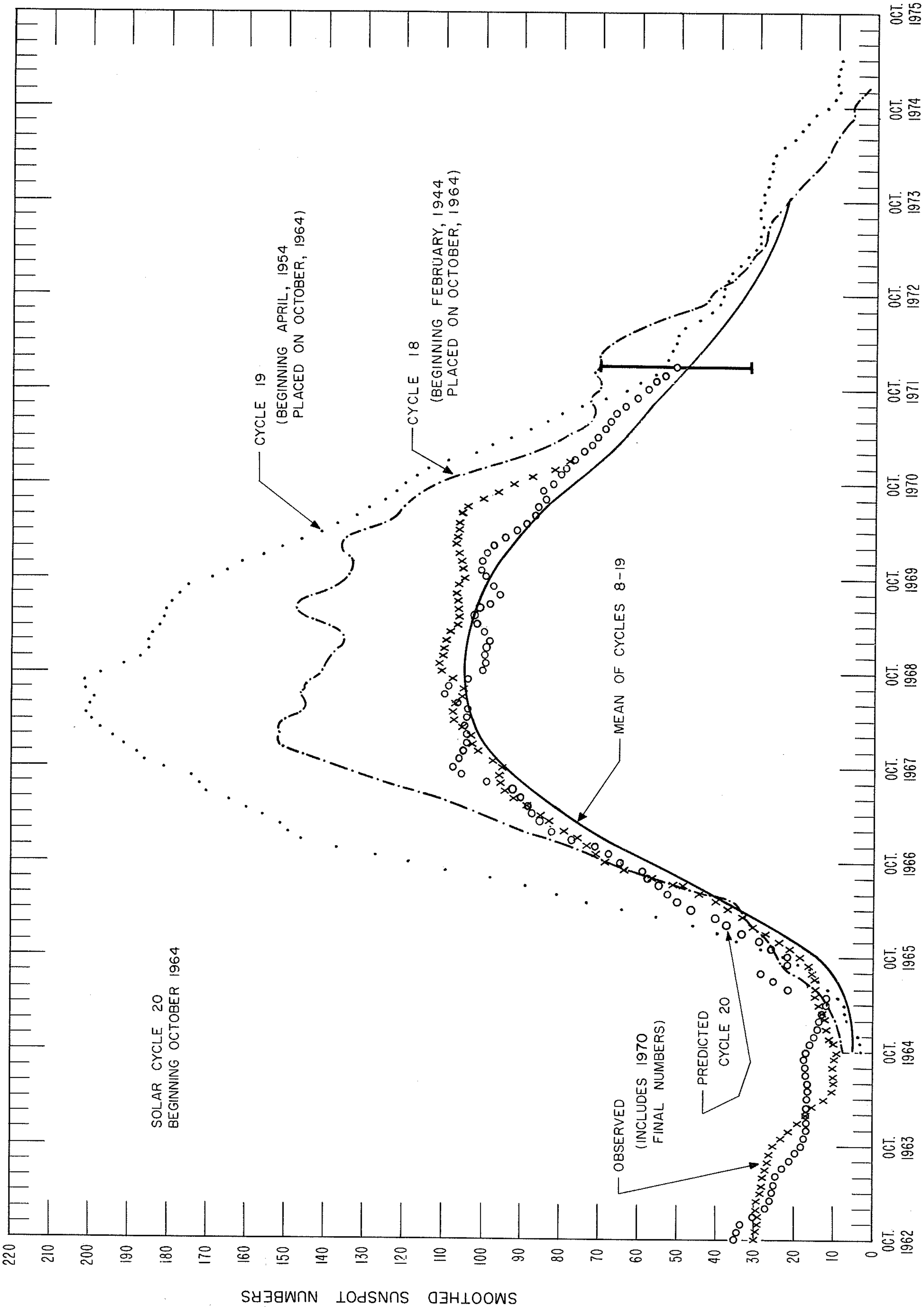
* adjusted for burst

DAILY SOLAR INDICES

JULY 1971

JUL. 1971	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 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 245
01	182	18	95	111	140.3	532	246	203	145.1	135.9	85.0	58.0	12.9
02	183	19	97	102	134.8	525	247	203	139.4	130.0	82.2	69.1	39.1
03	184	20	102	99	126.2	519	236	194	130.5	120.9	75.3	54.0	17.6
04	185	21	95	98	130.3	522	250	207	134.7	126.0	79.5	54.7	12.7
05	186	22	84	89	130.2	523	252	206	134.6	125.2	77.6	55.1	14.0
06	187	23	79	79	122.8	520	245	198	127.0	120.0	74.0	52.6	12.8
07	188	24	76	81	118.5	510	245	186	122.5	112.1	68.3	53.0	13.0
08	189	25	70	72	112.9*	522	244	183	116.7*	109.0	69.1	52.3	12.7
09	190	26	58	57	104.2	517	234	171	107.7	100.7	62.6	48.7	11.8
10	191	27	42	49	104.9	519	238	167	108.5	100.6	65.0	49.3	13.8
11	192	1	48	55	105.1*	518	237	172	108.7*	103.7	67.0	48.8	13.4
12	193	2	58	68	106.1	521	240	175	109.6	103.3	64.7	47.5	17.9
13	194	3	54	63	107.6	519	238	176	111.2	105.4	68.1	48.1	22.8
14	195	4	61	68	110.3	516	242	177	113.9	107.2	70.0	52.2	26.7
15	196	5	82	86	121.6	517	250	185	125.6	116.1	73.6	53.2	40.6
16	197	6	93	101	121.3	525	249	186	125.3	116.3	72.0	76.8	70.0
17	198	7	87	91	117.6	517	243	180	121.5	112.9	73.5	50.5	31.6
18	199	8	75	86	117.1	524	246	180	121.0	114.4	74.3	54.7	17.1
19	200	9	104	103	122.8*	538	242	185	126.9*	121.4	81.0	54.6	52.0
20	201	10	91	96	115.0	520	240	177	118.8	110.4	73.2	52.1	14.4
21	202	11	97	104	110.1	516	243	169	113.6	104.4	71.3	51.6	13.4
22	203	12	116	96	112.1	524	245	177	115.7	108.6	71.4	50.9	16.2
23	204	13	83	87	117.5	526	253	189	121.3	114.2	75.2	51.3	11.9
24	205	14	119	109	130.3	531	254	197	134.5	125.3	79.4	55.9	19.0
25	206	15	119	91	117.6	521	244	184	121.4	115.8	78.6	56.3	17.1
26	207	16	90	80	118.5	531	246	187	122.3	114.1	75.7	52.8	15.6
27	208	17	80	71	115.4	531	241	181	119.0	110.5	73.2	53.2	20.8
28	209	18	74	72	113.2	525	237	180	116.7	107.1	72.6	50.6	15.2
29	210	19	64	71	110.9	528	235	176	114.3	106.9	71.0	50.8	13.1
30	211	20	72	74	112.8	528	235	176	116.3	109.2	76.3	53.4	15.2
31	212	21	69	65	109.9	522	232	173	113.2	105.3	71.9	51.0	14.5
MEAN			81.7	83	117.4	523	243	184	121.2	113.3	73.3	53.6	20.6

* 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	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.3	99.5	96.2	91.9	87.2	81.6
1971	77.8	74.7 (2)	72.2 (4)	69.3 (6)	66.1 (7)	63.7 (9)	62.2 (10)	60.4 (12)	58.2 (14)	55.9 (16)	54.3 (17)	52.7 (18)
1972	51.0 (19)	49.8 (19)	48.6 (19)	47.5 (19)	46.3 (19)	44.9 (20)	42.7 (20)	40.2 (21)	38.5 (23)	37.5 (25)	36.5 (25)	35.3 (26)
1973	34.2 (26)	33.2 (26)	32.1 (25)	30.7 (25)	29.5 (25)	28.4 (24)	27.5 (23)	27.0 (23)	26.3 (23)	25.2 (22)	24.1 (21)	23.1 (20)
1974	22.0 (19)	20.8 (20)	19.7 (20)	19.0 (20)	18.5 (21)	17.7 (20)	16.7 (20)	15.6 (19)	14.4 (18)	13.3 (18)	12.2 (17)	11.5 (17)
1975	11.2 (16)	11.0 (15)										

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1970.

Beginning in July 1968 the predicted sunspot numbers were derived from a regression analysis based on Cycles 1 through 19. At that time new statistical tests were performed to determine whether the population was homogeneous. From the results of these tests it was not possible to prove conclusively that the first 7 cycles were from a different population. Recently, more sophisticated statistical techniques have been applied to this problem. Although it has still not been proven conclusively that the first 7 cycles are from a different population, there is more evidence now that this may be the case. Until this question has been resolved, the predicted sunspot numbers will be derived from a regression analysis based on Cycles 8 through 19 instead of 1 through 19.

SOLAR FLARES

PARTIAL LISTING

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

JULY 1971

OBSERVATORY	OBSERVED UT: DATE 1971 JUL	OBSERVED UT: START	OBSERVED UT: END	OBSERVED UT: MAX. PHASE	LOCATION: APPROX. LAT.	LOCATION: APPROX. MER. DIST.	LOCATION: CENTRAL DISTANCE	LOCATION: MCMATH PLAGE REGION	LOCATION: CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS: TIME UT	MEASUREMENTS: MEAS. AREA Sq. Deg.	MEASUREMENTS: CORR. AREA Sq. Deg.	MEASUREMENTS: MAX. WIDTH Hα	MEASUREMENTS: MAX. INT. %	REMARKS
LOCK	01	0125	0155	0134	S11	E29	.530		3.2	30	1B		C						
MANI	01	0130	0147	0134	S11	E29	.530	11402	3.2	17	1B	2		0134	3.92	4.64			
BOUL	01	0136E	0148U	0136U	S15	E34	.617		3.6	12U	1N	2	C	0136	3.23	4.10			
CATA	01	1205	1300D	1230	N06	E09	.165	11401	2.2	55D	1B		P	1230	2.08	2.12		211	
TEHR	01	1205	1312	1215	N06	E09	.165		2.2	67	SN	4	C		1.45				US
ATHN	01	1207	1300	1216	N06	E09	.165		2.2	53	SN	3	C		1.65				D
CAPS	01	1207	1301	1216	N07	E14	.251		2.6	54	SB	3	P	1215	.90	.90		196	HL
ISTA	01	1210	1220		N07	E11	.203		2.3	10	SN								
ATHN	01	1339	1405D	1355	S13	E19	.417		3.0	26D	1N	3	C		2.48				F
TEHR	01	1340	1414	1352	S13	E18	.405		2.9	34	SB	3	C		1.45				F
CATA	01	1340	1415	1355	S13	E18	.405	11402	2.9	35	1B		C	1355	2.02	2.24		339	
BOUL	01	1341	1409D	1353U	S14	E18	.415	11402	2.9	28D	1B	3	V						
MCMA	01	1342	1414	1353	S13	E19	.417	11402	3.0	32	1B		C	1353	2.06	2.30			FHV
CAPS	01	1347	1411	1358	S11	E23	.450		3.3	24	SB	3	V	1358	1.20	1.30		220	H
MCMA	02	1317	1620	1415	S13	E13	.351	11402	3.5	183	SB		C	1415	.83	.80			FKYV
LOCK	02	1405	1445	1414	S14	E13	.363		3.6	40	SN		C						
TEHR	02	1408	1428D	1414	S14	E13	.363		3.6	20D	SN	3	C		.83				F
ATHN	02	1409	1436	1414	S16	E14	.398		3.6	27	SB	3	C		1.16				D
MEUD	02	1412	1421	1414	S14	E14	.373		3.6	9	SN		C	1414	1.03	1.00			E
CATA	02	1412E	1455D	1412	S14	E13	.363		3.6	43D	SB		P	1412	1.73	1.88		276	
BOUL	02	1412	1426	1413	S14	E13	.363		3.6	14	SN	2	C	1413	.43	.36			
CAPS	02	1413E	1436D		S13	E14	.361		3.6	23D	SB		P	1418	1.50	1.70		277	
WEND	02	1413	1431		S15	E17	.417	11402	3.9	18	1N		V		3.09				
LOCK	02	1747	1826	1759	S14	E11	.345		3.6	39	SN		C						
MCMA	02	1750	1830D	1806	S13	E13	.351	11402	3.7	40D	SN		C	1806	1.03	1.10			E
PALE	02	1754	1920D	1800	S14	E10	.336		3.5	86D	1N	3	C		1.26				FF
LOCK	02	1835	1922	1849	S14	E11	.345		3.6	47	1N		C						
MCMA	02	1839	1927	1846	S13	E11	.331	11402	3.6	48	SB		C	1846	1.55	1.60			EH
WEND	02	1845E	1900D		S15	E13	.376	11402	3.8	15D	2N		V		7.22				
BOUL	02	1846E	1846D	1846U	S12	E10	.308	11402	3.5		1B	1	V						
ISTA	03	0730E	0850		S14	E03	.298		3.5	80D	SN								G
ATHN	03	0734	0744	0737	S14	E08	.323		3.9	10	SF	3	C		.17				D
ATHN	03	0734	0747	0736	S16	E02	.328		3.5	13	SN	3	C		.66				D
TEHR	03	0734	0747	0736	S15	E05	.321		3.7	13	SN		C		.36				D
WEND	03	0735	0743		S15	E03	.314	11402	3.5	8	1N		V		3.09				
CATA	03	0735	0800	0735	S15	E02	.312		3.5	25	SN		C	0735	1.39	1.47		186	
LOCK	04	1648	1710	1652	N 9	W38	.618		1.8	22	SN		C						
MCMA	04	1649	1657D		N07	W38	.616	11401	1.9	8D	SN		P	1651	.93	1.20			EH
PALE	04	1650	1704	1653	N06	W38	.615		1.9	14	SN	2	C		1.18				D
CATA	04	1650	1700	1650	N09	W35	.577		2.1	10	SB		C	1650	.29	.36		224	D
ONDR	04	1650	1711		N06	W38	.615	11401	1.9	21	1F		V	1653			1.80		CH
TEHR	07	0523	0642	0543	S07	E50	.777		11.0	79	SB	2	C		1.37				UF
ATHN	07	0530	0545D	0545	S06	E51	.786		11.1	15D	1B	3	C		1.82				F
MANI	07	0537	0620	0545	S08	E51	.790	11415	11.1	43	1B	2		0545	2.58	4.10			
ONDR	07	0539E	0618		S07	E48	.755	11415	10.8	39D	2N		V	0541			2.90		C
WEND	07	0540E	0621		S09	E50	.781	11415	11.0	41D	2N		V		7.22				B
LOCK	07	1458	1525	1501	S12	W55	.837		3.5	27	SN		C						
ATHN	07	1459	1528	1505	S14	W54	.832		3.6	29	SB	3	C		.66				D
MEUD	07	1500	1517	1505	S13	W55	.839		3.5	17	SN		C	1505	.62	1.10			E
MCMA	07	1500	1527	1507	S15	W55	.843	11402	3.5	27	SN		C	1507	.62	1.20			EH
TEHR	07	1501E	1521D	1502	S15	W55	.843		3.5	20D	SN	3	C						F
WEND	07	1502	1522		S12	W55	.837	11402	3.5	20	1N		V		3.09				B
ONDR	07	1510E	1516		S11	W57	.853		3.4	6D	SF		V	1511			1.40		CE
LOCK	07	1545	1625	1600	S12	W55	.837		3.5	40	SN		C						
WEND	07	1546	1620	1558	S11	W57	.853	11402	3.4	34	2N		V		6.19				
MCMA	07	1546	1631	1603	S15	W55	.843	11402	3.5	45	SB		C	1603	.83	1.60			E
ATHN	07	1546	1620D	1553	S14	W57	.859		3.4	34D	SB	3	C		.99				
ATHN	07			1601							1B				1.49				F
BOUL	07	1547E	1623D	1552U	S12	W56	.846	11402	3.5	36D	1N								
MEUD	07	1548	1613	1603	S13	W55	.839		3.5	25	SN		C	1603	1.03	1.80			E
ONDR	07	1550E	1613		S14	W59	.875		3.2	23D	SB		V	1602			2.60		CE
LOCK	07	1929	2020	1950	S 7	E47	.744		11.3	51	SN		C						
PALE	07	1935E	2031	1946	S07	E46	.733		11.3	56D	1N	3	C		1.80				UD
MCMA	07	1938E	2029D		S06	E50	.775	11415	11.6	51D	SN		C	1947	1.03	1.60			EK
TEHR	08	1417	1440	1430	S08	E36	.612		11.3	23	SN		C		1.37				U
ONDR	08	1419E	1439		S07	E35	.595	11415	11.2	20D	2F		V	1420			2.30		CHJR
LOCK	08	1447	1515	1452	S 9	E32	.563		11.0	28	SB		C						
TEHR	08	1448	1518D	1454	S08	E33	.572		11.1	30D	SB		C		1.37				F
ONDR	08	1450	1517		S09	E31	.550	11415	10.9	27	1B		V	1455			3.00		CJU
CAPS	08	1450E	1509D		S08	E37	.625		11.4	19D	SB	3	P	1456	2.00	2.40		339	KL
WEND	08	1452	1513		S07	E34	.581	11415	11.2	21	1N		V		4.13				
LOCK	08	1553	1630	1602	S 8	W75	.969		3.0	37	SN		C						
WEND	08	1600E	1634		S08	W76	.973	11402	3.0	34D	1F		V		3.09				
BOUL	08	1604E	1640	1604U	S10	W74	.966		3.1	36D	SN	2	V						

SOLAR FLARES

JULY 1971

OBSERV-ATORY	DATE 1971 JUL	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURA-TION MIN.	IM-POR-TANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
MEUD	08	1605E	1615	1605	S09	W74	.965		3.1	10D	SN		C	1605	.52				
KODA	10	0240E	0434	0247	N15	E87	.998	11423	16.6	114D	1N		P	0241	4.85	4.80	2.20		D
PALE	10	0420	0447D	0432	S13	W90	1.000		3.4	27D	1N	2	C		.81				
KODA	10	0432E	0510	0436	S13	W90	1.000	11402	3.4	38D	2B		P	0436			9.75		KX
ONDR	10	0442E	0507		N16	E80	.983	11423	16.2	25D	1F		V	0453			2.40		CJ
CATA	10	0510E	0635	0535	N14	E80	.983		16.2	85D	SB		P	0535	.63			224	T
CAPS	10	0628E	0710D		N15	E80	.983		16.3	42D	SN	3	P	0638					
CATA	10	0810E	0815D	0810	N13	E90	1.000	11423	17.1	5D	1N		P	0810	1.33			199	
TEHR	11	0443	0503	0447	S07	E03	.196		11.4	20	SN	3	C						D
ATHN	11	0443	0515	0450	S06	W01	.173		11.1	32	SN	2	C		1.49				F
CATA	11	0500E	0530	0505	S07	W00	.189	11415	11.2	30D	1B		P	0505	2.02	2.07		234	B
LOCK	12	1530	1547	1534	S11	E10	.309		13.4	17	SN		C						
CATA	12	1530	1550	1535	S11	E10	.309		13.4	20	SB		C	1535	.75	.79		204	
BOUL	12	1530	1550	1534	S11	E10	.309		13.4	20	1N	2	C	1534	2.15	2.16			
ATHN	12	1533	1551	1540	S11	E10	.309		13.4	18	SN	2	C		.50				F
WEND	12	1538	1551		S12	E10	.323	11420	13.4	13	1F		V		3.09				
MEUD	12	1538	1548	1539	S12	E12	.341		13.6	10	1N		C	1539	2.06	2.10			E
CATA	16	1130	1250	1150	N05	E27	.453		18.5	80	SB		C	1150	1.56	1.76		224	Z
ATHN	16	1144	1240	1151	N05	E27	.453		18.5	56	SN	3	C		1.32				F
TEHR	16	1144	1227	1157	N05	E25	.421		18.4	43	SN	3	C		.58				F
MEUD	16	1146	1215		N05	E28	.468		18.6	29	SN		C	1151	.72	.80			E
WEND	16	1146	1236D		N04	E29	.484	11425	18.7	50D	1F		P		5.16				
CAPS	16	1148E	1238D	1154	N05	E27	.453		18.5	50D	SB	2	P	1155	1.00	1.20		237	
MCMA	16	1152E	1255		N04	E27	.453	11425	18.5	63D	SB		C	1153	1.03	1.20			E
BOUL	16	1157	1250		N05	E26	.437		18.4	53	SN	2	V						
HURB	16	1211E	1239D	1211	N05	E29	.483	11425	18.7	28D	1N						2.19		
ONDR	16	1201	1328D		S08	E48	.760	11430	20.1	87D	1N		V	1210			2.20		CD
BOUL	16	1715	1738	1723	N 7	E43	.680		19.9	23	1N	2	C	1723	1.72	2.28			
LOCK	16	1717	1745	1721	N 7	E44	.693		20.0	28	SB		C						H
MCMA	16	1718	1735	1723	N08	E43	.680	11429	19.9	17	SB		C	1723	1.29	1.80			EL
PALE	16	1727E	1738	1727	N08	E44	.693		20.0	11D	SB	2	C		1.24				DF
ATHN	17	0849	0947	0856	N06	E16	.276		18.6	58	SF	3	C		.33				
ATHN	17			0912											1.98				F
CATA	17	0855	1000	0913	N04	E05	.087	11425	17.7	65	1B		C	0913	4.93	5.10		389	Z
CAPS	17	0903	0947	0914	N06	E14	.242	11425	18.4	44	1B	2	P	0912	2.20	2.30		339	H
TEHR	17	0903	1001	0910	N06	E15	.259		18.5	58	SB		C		1.13				FU
BUCA	17	0908E	1005D		N04	E16	.275		18.6	57D	SN		P	0914	1.97	2.00			
CAPF	17	0913E	0935D		N05	E16	.275	11425	18.6	22D	1N		P	0915	4.54	4.62			
ATHN	17	1222	1242	1229	N07	E10	.178		18.3	20	SB	2	C		1.16				F
TEHR	17	1224	1245	1228	N07	E08	.145		18.1	21	SB		C		.62				F
MCMA	17	1225	1245	1228	N07	E08	.145	11425	18.1	20	SB		C	1228	.77	.80			EH
BUCA	17	1225E	1243D		N07	E10	.178		18.3	18D	SF		C	1230	.32	.30			
CATA	17	1230E	1245D	1235	N07	E08	.145		18.1	15D	SB		P	1235	.23	.23		229	D
CAPS	17	1235E	1245D		N04	E14	.241	11425	18.6	10D	1N	1	S						
MCMA	17	1454	1545		N08	E30	.500	11429	19.9	51	SN		C	1510	.93	1.00			EL
BOUL	17	1456	1547	1513	N10	E28	.474		19.7	51	SN	3	V						
ATHN	17	1458	1533	1505	N08	E32	.530		20.0	35	SN	2	C		1.49				F
TEHR	17	1459	1506D	1502	N08	E30	.500		19.9	7D	SN	2	C		.28				F
CATA	17	1500	1525D	1505	N08	E30	.500		19.9	25D	SN		P	1505	1.73	2.01		190	
CAPS	17	1518E	1555D		N05	E31	.513	11429	20.0	37D	1B	2	P	1520	1.90	2.30		200	B
MEUD	19	0810	0823	0813	N15	W39	.639		16.4	13	1N		C	0813	2.06	2.60			E
CAPS	19	0810	0839D		N14	W41	.662	11423	16.3	29D	1N	3	P	0815	2.30	3.20		192	E
ATHN	19	0810	0832	0813	N16	W41	.666		16.3	22	SN	3	C		1.49				D
TEHR	19	0810E	0828	U	N16	W39	.642		16.4	18D	SN		C						F
CATA	19	0815	0830D	0815	N16	W41	.666	11423	16.3	15D	1B		P	0815	2.08	2.81		234	
MCMA	21	1702	1800	1716	N04	W74	.960	11423	16.2	58	1B		C	1716	.93	3.40			EHVW
CATA	21	1705	1715D	1705	N14	W70	.936		16.5	10D	SN		P	1705	.46			162	
PALE	21	1705	1756	1717	N15	W73	.953		16.2	51	1N	3	C		.99				D
LOCK	21	1707	1755	1720	N14	W71	.942		16.4	48	1N		C						
TEHR	24	1021	1135	1041	N16	W44	.701		21.1	74	1B	3	C		2.12				UF
ATHN	24	1025	1130	1030	N16	W45	.713		21.1	65	SN	2	C		1.32				
ATHN	24			1040							1B				2.15				UF
CAPF	24	1028E	1040D		N14	W42	.673	11433	21.3	12D	1N		P	1030	3.51	4.59			
CAPS	24	1032E	1110D	1051	N11	W39	.630	11433	21.5	38D	1B	2	P	1037	2.00	2.80		204	
ONDR	24	1041E	1056D	1046	N12	W45	.707	11433	21.1	15D	1N		V	1046			2.80		CEH
ISTA	26	0825	0900D		N10	W22	.379		24.7	35D	SN								
TEHR	26	0829	0900	0834	N12	W23	.402		24.6	31	SB		C		1.09				F
ONDR	26	0832E	0848		N09	W25	.424	11438	24.5	16D	1F		V	0834			1.80		CE
CAPS	26	0833E	0854D		N10	W17	.300		25.1	21D	SN	3	V	0837	.90	1.00		185	F
CATA	26	0835E	0920	0836	N12	W23	.402		24.6	45D	SB		P	0836	1.68	1.84		214	

SOLAR FLARES

JULY 1971

OBSERVATORY	DATE 1971 JUL	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
ATHN	27	1020E	1036	1025	S11	W64	.912		22.6	16D	SN	2	C		.99				D
TEHR	27	1021	1039	1025	S16	W69	.948		22.3	18	SN	3	C		.36				F
WEND	27	1022	1040		S15	W68	.942	11435	22.3	18	1F		V		4.13				
WEND	27	1030	1114		N10	W36	.587	11438	24.7	44	1N		V		3.09				C
TEHR	27	1037	1118	1040	N12	W37	.604		24.7	41	SN	3	C		.28				D
ATHN	27	1037E	1111	1039	N13	W36	.592		24.7	34D	SF	2	C		.66				D
CAPS	27	1045E	1112D	1050	N11	W34	.561	11438	24.9	27D	1N	3	P	1047	1.80	2.20		196	
MCMA	27	1106E	1125		N11	W38	.616	11438	24.6	19D	SN		C	1107	.62	.80			BE
LOCK	27	1530	1610	1538	N14	W40	.647		24.6	40	SF		C						
BOUL	27	1534	1557	1536	N12	W40	.643		24.6	23	SN	3	V						
ONDR	27	1534E	1550D		N10	W38	.615	11438	24.8	16D	1F		V	1542			2.30		CDH
CATA	27	1535E	1550D	1540	N12	W40	.643		24.6	15D	SB		P	1540	.98	1.29		214	
WEND	27	1536E	1555D		N10	W40	.641		24.6	19D	SN								
CAPS	27	1537E	1552D		N11	W35	.575		25.0	15D	SN	3	S	1549	.50	.60		176	
MCMA	27	1538E	1544D		N11	W40	.642	11438	24.7	6D	SN		C	1539	1.03	1.40			EH
TEHR	28	1115E	1132	1120	S18	E29	.602		30.6	17D	SN	3	C		.19				F
CAPF	28	1130E	1200D		S16	E28	.574	11444	30.6	30D	2N		P	1134	4.54	5.50			H
ATHN	29	0644	0714	0653	S12	E18	.424		30.6	30	SB	2	C		.66				D
TEHR	29	0646	0717	0654	S13	E17	.424		30.6	31	SB	3	C		.55				FD
CAPS	29	0649	0716D		S10	E18	.402		30.6	27D	SB	3	P	0653	1.00	1.10		212	L
BUCA	29	0650E	0715D		S12	E16	.402		30.5	25D	SF		C	0654	1.66	1.80			
CATA	29	0650	0715D	0705	S12	E18	.424		30.6	25D	SB		P	0705	.93	1.03		237	Z
MANI	29	0651	0711	0655	S13	E18	.435		30.6	20	SB	2		0655	1.44	1.61			
HURB	29	0654E	0709D	0655	S12	E18	.424		30.6	15D	SB						2.08		E
CAPF	29	0700E	0715D		S12	E15	.391	11444	30.4	15D	1N		P	0706	2.06	2.30			
MEUD	30	1450	1523		N08	E36	.585		2.3	33	SF		C	1500	.62	.70			E
WEND	30	1450	1512		N08	E33	.542	11447	2.1	22	1F		V		4.13				
CAPS	30	1455E	1538D		N11	E36	.588		2.3	43D	SN	3	P	1456	.70	.90		185	CL
BOUL	30	1503E	1535	1503U	N10	E35	.573		2.3	32D	SF	2	V						
CATA	30	1515E	1550	1520	N09	E34	.557		2.2	35D	SN		P	1520	1.62	1.96		174	

"Remarks":

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

SOLAR FLARES

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

JULY 1971

01 0020 S11 E29	01 0030 S08 E18	01 0035 S14 E32	01 0035 S12 E32	01 0048 S11 E30	01 0048 S11 E30
01 0048 S12 E29	01 0053E S12 E29	01 0403 S08 E54	01 0519 S15 E24	01 0525E S15 E23	01 0708E N07 E11
01 0735E N06 E08	01 0744 N06 E10	01 0830 S15 E21	01 0831 S15 E22	01 0835 S06 E35	01 0835 S15 E22
01 0847 S16 E37	01 0847 S16 E37	01 0858 S17 E34	01 0905 S16 E34	01 0951 S17 E34	01 0953 S16 E35
01 1000E S16 E34	01 1121 S17 E33	01 1127 S17 E33	01 1130 S17 E34	01 1148 N13 W39	01 1157 S16 E33
01 1158 S17 E33	01 1200 S16 E32	01 1211 S09 E50	01 1324 N18 W43	01 1326 N17 W43	01 1513 S16 E31
01 1600 N17 W46	01 1602 N17 W46	01 1602 N20 W45	01 1605E N19 W45	01 1651 N08 E03	01 1652 N 8 E 3
01 1655 N07 E04	01 1655E N08 E02	01 2047 S14 E21	01 2217E S17 E28	01 2220 S15 E27	01 2314 S14 E14
02 0116 N19 E17	02 0211 S16 E27	02 0310 N18 W46	02 0311 N17 W46	02 0345 N20 E16	02 0346 N18 E15
02 0346 N20 E15	02 0413 N16 W55	02 0418 N15 W58	02 0426E N15 W55	02 0431 S12 E17	02 0509E S12 E24
02 0717 S08 E08	02 0758 S16 E12	02 0800 S18 E09	02 0800 S16 E11	02 0801 S16 E11	02 0944 S10 E08
02 1212 S16 E17	02 1212 S16 E17	02 1317 S16 E13	02 1510 S14 E13	02 1511 S14 E12	02 1511 S14 E13
02 1513 S15 E13	02 1535 S11 E12	02 1538 S13 E10	02 1540 S14 E11	02 1544 S13 E14	02 1546 S10 E15
02 1547 S10 E15	02 1547 S11 E13	02 1547 S12 E15	02 1617 S12 E12	02 1627 N15 W56	02 1628 N15 W59
02 1628 N15 W59	02 1629 N17 W54	02 1629 N17 W54	02 1705 S 9 E 5	02 1935 S14 E11	02 2033E S13 E10
02 2055 S14 E 9	02 2057 S12 E07	02 2103E S13 E10	02 2157 S15 E 7	02 2219 S12 E06	02 2220 S15 E 7
02 2305 S15 E 7	02 2334 S15 E 6	02 2337 S12 E06	03 0020 S15 E 6	03 0102 S15 E 6	03 0358 N12 W62
03 0459 S14 E03	03 0510 N13 E03	03 0510 N13 E03	03 0510E N14 E03	03 0510E S14 E03	03 0518E N14 E03
03 0552 S15 E03	03 0700 S13 E08	03 0802 N06 W16	03 0803 S15 E02	03 0803 S14 E02	03 0803 N06 W16
03 0803 N06 W16	03 0826 S14 E07	03 0830 S12 E07	03 0831 S13 E08	03 0843 S13 E03	03 1028 S15 E02
03 1049 N06 W22	03 1124 N14 W01	03 1136 N13 E01	03 1136 N13 E01	03 1140E N18 E03	03 1259 S13 E04
03 1259 S14 E06	03 1300E S10 E10	03 1300E S14 E06	03 1300 S12 E 5	03 1300 S12 E04	03 1308E S13 E04
03 1411 N15 W68	03 1414 N12 W67	03 1438 S13 E02	03 1440 N07 E19	03 1445 S12 E02	03 1447 N09 E07
03 1506 N18 W02	03 1518 S09 E06	03 1750 S14 W 4	03 1803 N17 W 2	03 1804 N12 W03	03 1818 S14 W 4
03 1940 S12 W 3	03 2020 S14 W 7	03 2110 S14 W 7	03 2123 N15 E82	03 2210 S13 W07	04 0105E S15 W06
04 0350 S15 W08	04 0357E S15 W06	04 0447 S12 W14	04 0652 S16 W11	04 0702 S11 W18	04 0712 S15 W10
04 0715 S14 W12	04 0810 S10 W15	04 0832 N06 W35	04 1115 S09 E90	04 1135 N07 W33	04 1311 S09 E90
04 1315 S09 E90	04 1345 S14 W16	04 1349 S10 E10	04 1350 S10 E09	04 1350 S11 E09	04 1557 S09 W28
04 1655 S10 E90	04 1705 S16 W16	04 1826 N15 W17	04 1905 S05 E89	04 1950 S11 E30	04 2217 S12 W17
04 2235 S13 W17	04 2238E S15 W18	04 2307 N14 W82	04 2308U N15 W83	05 0011E S12 W22	05 0510 S14 W24
05 0543E S13 W16	05 0545 S13 W23	05 0616 S15 W23	05 0630 S14 W22	05 0630 S14 W26	05 0635 S15 W28
05 0637 S15 W22	05 0639E S14 W27	05 0725 S15 W26	05 0735 S09 E77	05 0740 S16 W27	05 0759 S09 E78
05 0759 S09 E78	05 0909 S16 W24	05 1115 S09 E75	05 1212E S 7 E71	05 1217E S09 E75	05 1220 S07 E78
05 1222E S09 E75	05 1225 S13 W28	05 1226 S15 W28	05 1232E S16 W29	05 1254E S12 W30	05 1632 S 8 E73
05 1634 S09 E73	05 1634 S09 E73	05 1635 S09 E74	05 1810 S 9 W 6	05 2048E S06 E68	05 2204E S14 W31
05 2204E S06 E67	06 0023 S06 E72	06 0058 S12 W36	06 0102 S11 W41	06 0109E S11 W41	06 0123E S13 W42
06 0147 S14 W38	06 0157E S12 W45	06 0208 S10 W46	06 0210 S09 W46	06 0413 S15 W39	06 0515 S10 W13
06 0651 S14 W39	06 0655E S14 W39	06 0726 S09 E68	06 0825 S09 E66	06 0852 S10 W15	06 0904 S10 W16
06 0944 S09 W54	06 1345 S16 W48	06 1345 S16 W48	06 1435 S15 W43	06 1617 S 7 E63	06 1617 S07 E65
06 1618E S04 E67	06 1619 S07 E65	06 1620 S08 E63	06 1826 S07 E56	06 1827 S 9 E55	06 1851 S14 W45
06 2109 S10 W51	06 2111E S11 W50	06 2111 S12 W50	07 0044 S 9 E57	07 0117 S08 E52	07 0144 S08 E54
07 0147 S08 E55	07 0200E S08 E56	07 0246 S16 W50	07 0250 S15 W49	07 0251 S16 W53	07 0446 S06 E51
07 0448 S08 E53	07 0559 S15 W52	07 0739 S09 E56	07 0740 S08 E56	07 0743E S09 E50	07 0745E S09 E55
07 0934 S12 W65	07 0951 S13 W49	07 0959 S06 E54	07 0959 S06 E54	07 1152 S12 W62	07 1155 S10 W62
07 1155 S13 W63	07 1312E S10 W63	07 1314 S13 W64	07 1314E S10 W63	07 1314 S12 W65	07 1315E S10 W64
07 1925 S12 W59	07 1935E S13 W59	07 1946E S14 W59	07 2010 S13 W58	08 0445 S15 W65	08 0446 S15 W64
08 0620 S18 W68	08 1225 S15 W72	08 1314 S12 W69	08 1336 S11 W69	08 1352 S08 E34	08 1355E S08 E33
08 1355 S07 E31	08 1805 S18 W73	08 1840 S 7 E30	08 1943E S08 E33	08 2217 S 8 E29	09 0439E N16 E90
09 0510E S07 E25	09 0520E S07 E24	09 0839 S10 E25	09 0840 S10 E27	09 0840 S07 E22	09 0842 S07 E23
09 0845 S08 E23	09 0851E S05 E24	09 0851 S09 E23	09 0852 S06 E21	09 0927E S09 E29	09 1253 S11 E26
09 1255 S11 E26	09 1330E N14 E90	09 1404 S12 W86	09 1530 N13 E83	09 1815 N13 E83	09 2130 S14 W81
09 2245 N13 E83	10 0200E N13 E86	10 0255E S08 E16	10 0720 N15 E82	10 0840E N15 E84	10 0855 N14 E80
10 1048 N13 E77	10 1050 N15 E75	10 1108 N15 E79	10 1154 N11 E79	10 1157E N14 E77	10 1158E N15 E76
10 1414 N14 E77	10 1414 N13 E79	10 1537 S12 W90	10 1539 S12 W81	10 1541 S13 W90	10 1541 S13 W90
10 1629 S08 E03	10 1629 S 8 E 3	10 1633 S09 E05	10 1640E S08 E03	10 1640E S05 W12	10 1640 S 5 W12
10 1645 S09 E08	10 1647 S07 E05	10 1648 S09 E08	10 1743 S 8 E 5	10 1744 S08 E01	10 1745E S08 E06
10 1745E S07 E05	10 1905 S 9 E 5	10 2156E S07 E02	10 2206 S11 E40	10 2210 S 7 W 1	10 2211 N13 E76
10 2214 S08 E01	10 2217 N15 E75	11 0012E S08 E03	11 0057E S08 E01	11 0243 N15 E69	11 0500 S12 W57
11 0524 N14 E70	11 0850 N12 E68	11 0902 S06 W02	11 0944 S08 W06	11 1030E S09 W06	11 1042E S08 W10
11 1125 N13 E65	11 1135 N12 E62	11 1259E N11 E65	11 1348 S07 W04	11 1357 N13 E63	11 1357 N13 E63
11 1358E N12 E60	11 1401 N15 E63	11 1502 S09 W08	11 1503 S08 W06	11 1503E S08 W08	11 1503 S 8 W 9
11 1504 S08 W05	11 1507E S 8 W 7	11 1512E S09 W08	11 1625 S 9 W 7	11 1625E S09 W07	11 1625 S08 W06
11 1626 S 8 W 7	11 1627 S09 W07	11 1813 S 8 W 8	11 1814 S09 W07	11 1815E S08 W08	11 1833E S13 E37
11 1950 S 9 W 9	11 1953 S09 W08	12 0120E S10 W13	12 0514 N13 E56	12 0518 N05 E83	12 0559 S08 W16
12 0603 S08 W16	12 0605 S09 W15	12 0633 S11 W71	12 0636 S08 W72	12 0823 N13 E53	12 1047 N06 W32
12 1108 S08 W19	12 1140 N14 E52	12 1400 S08 W20	12 1959 N17 E47	12 2137 S 9 W23	12 2138 S09 W24
12 2142 S10 W22	12 2142 S08 W24	13 0539 N14 E34	13 0540 N13 E34	13 0700 N05 E70	13 0951 N17 W13
13 1039 S09 E04	13 1040 S10 E03	13 1045 S09 E05	13 1213 N04 E70	13 1216 N05 E70	13 1550 N 2 E62
13 1655E S05 E90	13 2343 N10 E68	14 0100 S09 W38	14 0204E N08 E67	14 0242 N14 E23	14 0257 N16 E28
14 0311 S08 W41	14 0320 S08 W39	14 0514 N35 W28	14 0618 N04 E60	14 0618 N05 E60	14 0833 S05 E87

SOLAR FLARES

JULY 1971

14 0853 N07 W45	14 1139 N06 E57	14 1147 S10 E54	14 1226 N06 E57	14 1228 N04 E58	14 1231 N15 E25
14 1318 N06 E56	14 1318 N04 E56	14 1352 N13 E26	14 1401 N13 E26	14 1407E N07 E70	14 1408 N09 E70
14 1420 N08 E51	14 1420 N08 E51	14 1436 N05 E51	14 1455 N17 E22	14 1502 N16 E23	14 1723 N10 E69
14 1903 N16 E18	14 1906E N17 E19	14 6243 N14 E23	15 0123 N10 E52	15 0135 N17 E17	15 0535E N15 E13
15 0707 S06 E70	15 0712 N16 E13	15 0730 S09 E42	15 0826 S07 E67	15 0827 S05 E69	15 0842 N14 E12
15 0852 S05 E68	15 0902 N10 E59	15 0912 N08 E60	15 0912E N06 E59	15 0920E N07 E61	15 1000 N15 E12
15 1101 N16 E11	15 1136 N03 E42	15 1141 N02 E41	15 1142 S06 E66	15 1200 N16 E12	15 1204 N16 E12
15 1205 N17 E11	15 1232 S06 E66	15 1232 S06 E66	15 1237 N15 E12	15 1244 S05 E67	15 1245E S06 E67
15 1245E N15 E10	15 1246 N12 E10	15 1247 N16 E10	15 1250 N15 E11	15 1254E N04 E43	15 1254 S09 W59
15 1318 S06 E67	15 1330 S08 W59	15 1332 S14 W07	15 1333 S08 W58	15 1333 S09 W58	15 1457 N12 E56
15 1714 N06 E40	15 1718 N14 E08	15 1719 N05 E40	15 1719 N14 E 7	15 1721 N14 E08	15 1723 N15 E 7
15 1725 N 5 E41	15 1825 N 8 E42	15 1850 N08 E44	15 1911 N10 E40	15 1912 N08 E39	15 1916E N16 E06
15 1932 S03 E64	15 2318 N14 E 5	16 0309 N04 E30	16 0449 S04 W71	16 0453 S05 W68	16 0554 N13 E01
16 0722 N02 E22	16 0820 N13 E01	16 0820 N13 E00	16 0825 N13 W01	16 0939 S18 E44	16 1004 S18 E45
16 1054 S03 W70	16 1054 S06 W69	16 1128 S06 W70	16 1135 S03 W70	16 1138 S04 W69	16 1238 N09 E45
16 1339 S19 E43	16 1639 N03 E24	16 1739 N 7 E19	16 1740 N06 E20	16 1741 N06 E17	16 1825 S11 E81
16 1950 N07 E42	16 1957 N10 E47	16 2035 N 6 E16	16 2037 N06 E15	17 0115 N07 E14	17 0243 N08 E12
17 0439 N07 E10	17 0440 N07 E13	17 0449 N06 E15	17 0521 N05 E23	17 0525 N06 E24	17 0526E N07 E25
17 0615 S06 E43	17 0620 N08 E11	17 0703 S08 W81	17 0728 N08 E21	17 0819 N08 E22	17 1101 N06 E10
17 1105 N07 E09	17 1221 S05 E40	17 1224 S03 E39	17 1406 S14 E72	17 1657 N09 E30	17 1855 N06 E17
17 1855 N07 E19	17 1906E N07 E05	17 2238E N10 E28	18 0040 N08 E03	18 0333E N05 E05	18 0430 N04 E02
18 0542 N14 E45	18 0556 N08 E08	18 0600 N08 E08	18 0601 N09 E08	18 0735 N07 E02	18 0736 N07 E02
18 0751 N08 W02	18 0815 S15 E05	18 0933 N14 E42	18 0942 N08 W02	18 1032E N08 W03	18 1042 N07 W04
18 1042 N08 W03	18 1119E N12 E37	18 1242E N08 W02	18 1248 N07 W03	18 1248 N07 W04	18 1249 N07 W05
18 1250 N07 W04	18 1259 N13 E38	18 1310 N07 W05	18 1310 N07 W05	18 1310 N07 W05	18 1310 N07 W03
18 1423 S09 W78	18 1535 N14 E38	18 1539 N10 E18	18 1540 N09 E18	18 1540 N10 E18	18 1541 N 9 E18
18 1541 N 9 E18	18 1545E N10 E12	18 1640 N13 E37	18 1640 N14 E37	18 1643 N14 E37	18 1643E N14 E37
18 1643 N14 E37	18 1643 N14 E37	18 1651 N13 E34	18 1817 N14 E35	18 1852 S12 W72	18 1913 N06 W05
18 2031 N 7 W 8	18 2033 N07 W07	18 2035 N07 W08	18 2037E N 4 W 8	18 2141 N 8 W 2	18 2144 N08 W03
18 2145E N02 W08	19 0113E N08 E02	19 0127E N17 E32	19 0348 N07 W07	19 0418 S11 W79	19 0418 S11 W79
19 0421E S09 W78	19 0437 N16 W42	19 0439 N16 W38	19 0529 N08 E08	19 0535E N09 E10	19 0806 N08 E20
19 0808 N08 E19	19 0810 N09 E20	19 0810 N09 E19	19 0810E N11 E19	19 0820 N14 E27	19 0820 N14 E27
19 0832 N13 E28	19 0833 N13 E27	19 0903 N14 E27	19 0928 N13 E26	19 1248 N08 E17	19 1255 N07 W04
19 1501 N 9 W 5	19 1607 N12 E72	19 1607 N14 E71	19 1610 N 9 W 5	19 1655 N 7 E15	19 1822 N 9 W 6
19 1826 N08 W08	19 1915 N 4 W18	19 1917E N05 W17	19 1946 N 7 E15	19 1953E N08 E14	19 2015 N08 E14
19 2105 N 7 W10	19 2116E N08 E10	19 2152 N08 E13	19 2248 N 9 W 9	20 0020 N14 W49	20 0024E N12 W48
20 0217 N15 E68	20 0217 N15 E68	20 0218 N14 E67	20 0309 N08 W13	20 0313E N09 W12	20 0700 N09 W18
20 0728 N13 E68	20 0905 N07 W19	20 0912 N08 W21	20 0922 N09 W29	20 1220 N13 E57	20 1222 N15 E61
20 1223E N13 E63	20 1225 N15 E60	20 1227E N13 E62	20 1300 N15 E59	20 1325 N06 W22	20 1405 N06 W22
20 1405 N07 W21	20 1459 N13 E58	20 1501E N14 E56	20 1501 N15 E60	20 1501 N14 E59	20 1505 N14 E58
20 1515E N14 E61	20 1750 N 9 W25	20 1755 N09 W23	20 1919 N17 E69	20 2354 N12 E 2	20 2356E N11 E03
21 0207 N11 E01	21 0212E N16 E62	21 0414 N17 E62	21 0524 N08 W28	21 0605 N15 E60	21 0605 N17 E60
21 0940 N13 W68	21 1002 N13 W68	21 1041 N12 E43	21 1213E N14 W01	21 1225 N13 W02	21 1225 N13 W03
21 1226 N12 W03	21 1230E N13 W01	21 1243 N08 W32	21 1244 N09 W31	21 1244 N07 W32	21 1245E N08 W25
21 1251 N12 E41	21 1300E N12 W00	21 1410 N12 E41	21 1413 N16 E61	21 1500E N13 W03	21 1505 N12 W04
21 1506 N14 W71	21 2351E N09 W35	22 0005E N12 W09	22 0339 S16 W36	22 0426 N10 W33	22 0437 N10 W44
22 0443E N08 W48	22 0620 N15 W13	22 1100E S15 W01	22 1340 N15 W18	22 1639 S18 W21	22 1643 S19 W21
22 1643 S18 W21	22 2244 S14 W08	23 0200E N13 W25	23 0200E N13 W25	23 0202 S13 W09	23 0335 N13 W24
23 0407E S14 W12	23 0443E N13 W26	23 0510E N13 W27	23 0655E S18 E75	23 0714 S18 E74	23 0750 S18 E74
23 0750E N13 W28	23 1126 N13 W34	23 1157 S18 E72	23 1350 N15 W32	23 1555 N08 W75	23 1649 N13 W31
23 1650 N12 W31	23 1708 N16 W34	23 1709 N16 W34	23 1710U N16 W33	23 1710 N15 W34	23 1739 N13 W33
23 1754 N07 W67	23 1755 N 8 W67	23 1817 N 8 W58	23 1829 N09 W58	23 1933E N20 W08	23 1956 N13 W33
23 2018 N12 W17	23 2019 N11 W56	23 2019 N 8 W58	23 2026 N13 W33	23 2139 N13 W33	24 0011 N13 W66
24 0023 N12 W34	24 0023 N12 W34	24 0212 S14 W22	24 0212 N12 W34	24 0235 S19 W22	24 0259 N11 W35
24 0302E N12 W41	24 0341 N12 W34	24 0407 N12 W35	24 0437 S18 W41	24 0501 N16 W39	24 0535 N16 W39
24 0619E N12 W37	24 0633 N17 W37	24 0653E N09 E07	24 0830 N11 E05	24 1015 S19 W47	24 1045 S12 E86
24 1137 N10 E03	24 1340 N13 E01	24 1359 N13 E01	24 1418 N14 W46	24 1427 N14 W45	24 1443 N09 W83
24 1448 N05 W81	24 1458 N12 W01	24 1520E N11 W00	24 1547 N12 W41	24 1744 N15 W48	24 1744 N15 W48
24 1758 N 7 W76	24 1802 N07 W78	24 1955 N12 W48	24 2139 N12 W 3	24 2200 N16 W50	24 2200 N14 W45
24 2345E N12 W28	25 0105E N11 W05	25 0143 S11 E75	25 0144 S13 E72	25 0339 N16 E02	25 0537 N12 W60
25 0547 N12 W49	25 0800 N13 W55	25 0825 N12 W50	25 0901 S09 E90	25 0932 S20 W58	25 1046 N16 W62
25 1115 N12 W60	25 1135 S14 E68	25 1140 N11 W12	25 1143 S15 W44	25 1255 S14 E67	25 1256E S18 E68
25 1304 S11 E70	25 1336 S18 W62	25 1342 S18 W66	25 1440 S14 E66	25 1443E S15 E64	25 1447 S19 E68
25 1516 N16 W60	25 1821 N12 W12	25 1823E N12 W13	25 1924E N20 W08	25 1926 N11 W09	25 1926 N19 W 9
25 2016 N11 W19	25 2017 N12 W18	25 2045 N15 W66	25 2257 N11 W19	26 0022 N11 W20	26 0102 S17 E59
26 0137 N12 W18	26 0207E N12 W16	26 0217 N12 W16	26 0349 N12 W20	26 0354 N18 W11	26 0515 N12 W21
26 0534E N11 W24	26 0618 S12 E15	26 0786E S20 E55	26 0829 N12 E90	26 0901 N11 W71	26 0904 S14 E54
26 0917 N12 W21	26 1012 S20 W75	26 1238 N14 W56	26 1244E N17 W56	26 1247E N12 W55	26 1338 N11 W72
26 1345 N11 E90	26 1426 N20 W18	26 1448E N10 E32	26 1520 N12 W29	26 1526E N11 W30	26 1530 N09 W07
26 1531E N10 W25	26 1936 N13 W79	26 1938 N16 W81	26 2046 N 8 W77	26 2331E N12 W36	26 2346 N12 W28

SOLAR FLARES

JULY 1971

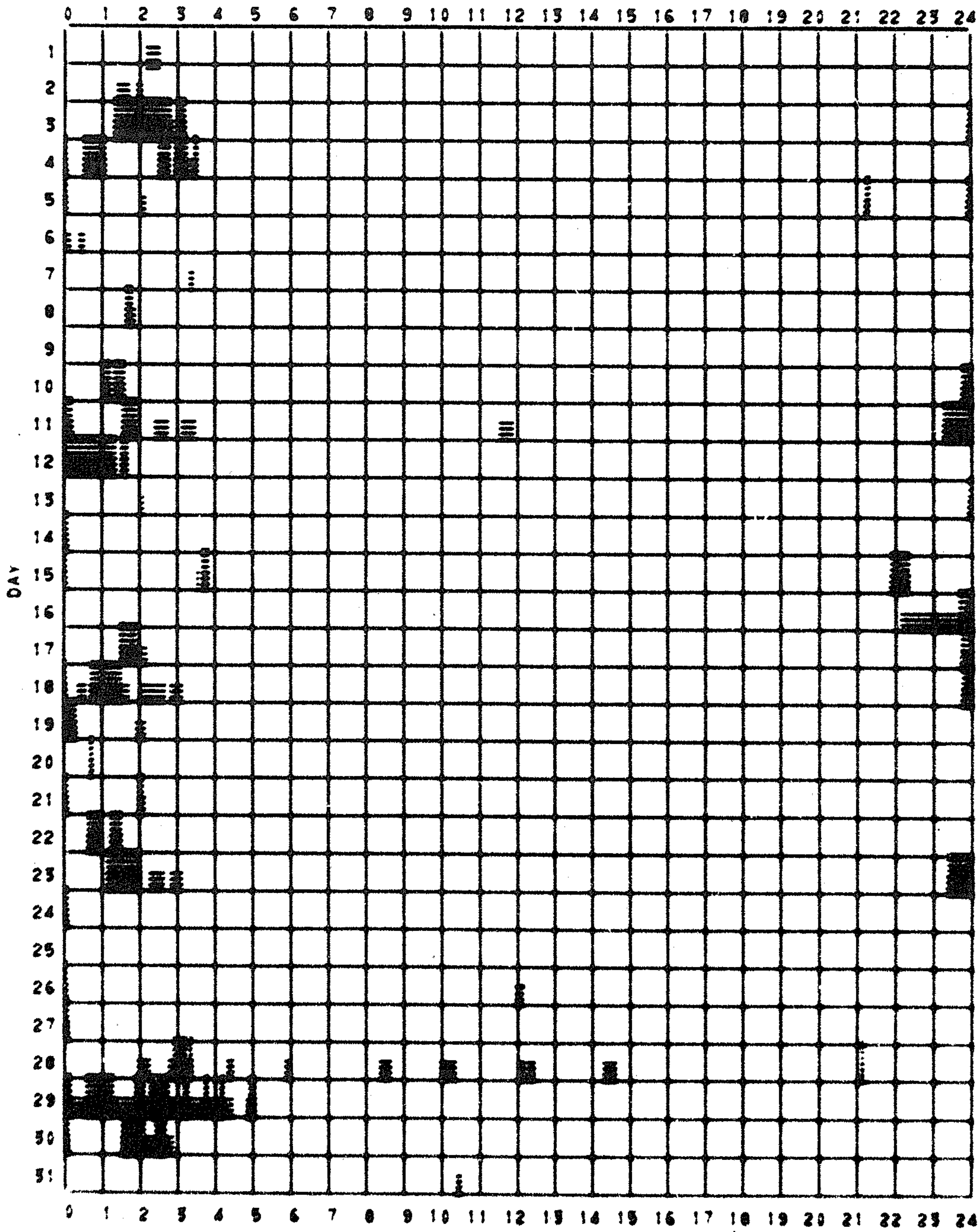
26 2349 N10 W79	27 0201 N08 E90	27 0356 N07 W70	27 0406 S11 E04	27 0614 N13 W29	27 0617 S18 E46
27 0625E N05 E90	27 0704 N12 W35	27 0707 N12 W37	27 0726 N20 W28	27 0823 S15 W64	27 0824 N11 W85
27 0830 N08 W85	27 0834 S14 W67	27 0856E N13 W37	27 0858E N10 E34	27 0930E S18 E46	27 1008E N11 W37
27 1038 N11 W85	27 1043E N16 W80	27 1104 S19 E38	27 1135E N16 W80	27 1243E N14 W80	27 1315 N12 W37
27 1319E N13 W34	27 1320 S08 E43	27 1325 N12 W38	27 1348 S14 E43	27 1428 N07 W37	27 1457 S08 E45
27 1606E N06 E80	27 1628E N05 E80	27 1632 N08 E83	27 1633 N07 E81	27 1642 N15 W84	27 1725 S15 E37
27 1755 S13 E38	27 1756E S13 E37	27 1758 S12 E39	27 1758 S15 E37	27 2123 S12 E37	27 2125E S13 E34
27 2316 N13 W42	27 2319E N12 W44	27 2320E N13 W45	28 0009 S13 E35	28 0013 S12 E23	28 0016E S13 E35
28 0050E S13 E35	28 0120 S11 E32	28 0120E S12 E33	28 0124E S12 E35	28 0339E S13 E32	28 0404 N13 W45
28 0423 S12 E33	28 0430E S12 E32	28 0442 S12 E33	28 0457E N22 W37	28 0458E S19 E33	28 0459 S20 E34
28 0504 S13 E32	28 0529 S12 E30	28 0625 S12 E30	28 0722E S19 E27	28 0722E S15 E32	28 0731 S18 E28
28 0751 S13 E29	28 0852 S15 E30	28 0858 S16 W14	28 0915 S13 E29	28 0924 S14 E28	28 0957E S16 E30
28 1018E S14 E27	28 1042 S13 E30	28 1124E N12 W50	28 1124E N10 W47	28 1124 N12 W50	28 1124 N12 W50
28 1208E S23 E55	28 1211E S21 E61	28 1237 S14 E26	28 1238E S12 E25	28 1250 S12 E28	28 1258 S13 E27
28 1344E S12 E27	28 1349E N12 W50	28 1510 S14 E25	28 1514 S12 E25	28 1519E S13 E25	28 1838E S12 E22
28 1901 S13 E23	28 1906E S12 E22	28 1906 S13 E25	28 2112E S13 E20	28 2112E S13 E22	29 0421 S13 E19
29 0427E S12 E17	29 0801 S18 E13	29 0806 S13 E14	29 0810E S13 E17	29 0923 N17 W60	29 0924 N18 W60
29 1132 N26 W50	29 1144 N29 W52	29 1215 N26 W50	29 1240 S19 E11	29 1304E S11 E20	29 1312E S19 E09
29 1317E N18 W62	29 2013 N10 W71	29 2153 N13 W68	30 0415 N12 W73	30 0415 N12 W73	30 0421 N10 E48
30 0430 S13 E04	30 0430 S18 E02	30 0504 N11 W69	30 0513 N12 W70	30 0549 N18 W71	30 0551 N17 W72
30 0649 N12 W71	30 0652 N12 W70	30 0908 S12 W42	30 0943 N19 E41	30 0943E N20 E41	30 1023 N20 W75
30 1027 N18 W75	30 1027 N18 W73	30 1047 N15 W77	30 1047 N12 W76	30 1144 N12 W77	30 1153 S13 W43
30 1153 S13 W43	30 1204E S12 W40	30 1207 N18 E23	30 1210 N19 E22	30 1216 N18 W76	30 1216 S13 W45
30 1217 S13 W43	30 1219 S12 W44	30 1225E S12 W44	30 1411 N12 W78	30 1414E N16 W80	30 1453 S10 W32
30 1511 N14 W80	30 2000 S12 W03	31 0045 N07 W88	31 0720 S12 W10	31 0814 S27 E64	31 0814 S27 E64
31 0905E S12 W60	31 1024 S27 E64	31 1039 N11 E19	31 1046 S12 W61	31 1058 S27 E62	31 1120E S28 E58
31 1130 S27 E60	31 1133E S26 E59	31 1150E S26 E62	31 1435 S11 W59	31 1510 S27 E58	31 1515 S27 E60
31 1515 S27 E60	31 1517E S26 E60	31 1615 S26 E60			

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JULY 1971

HOUR–UT



Observatories included in total patrol:

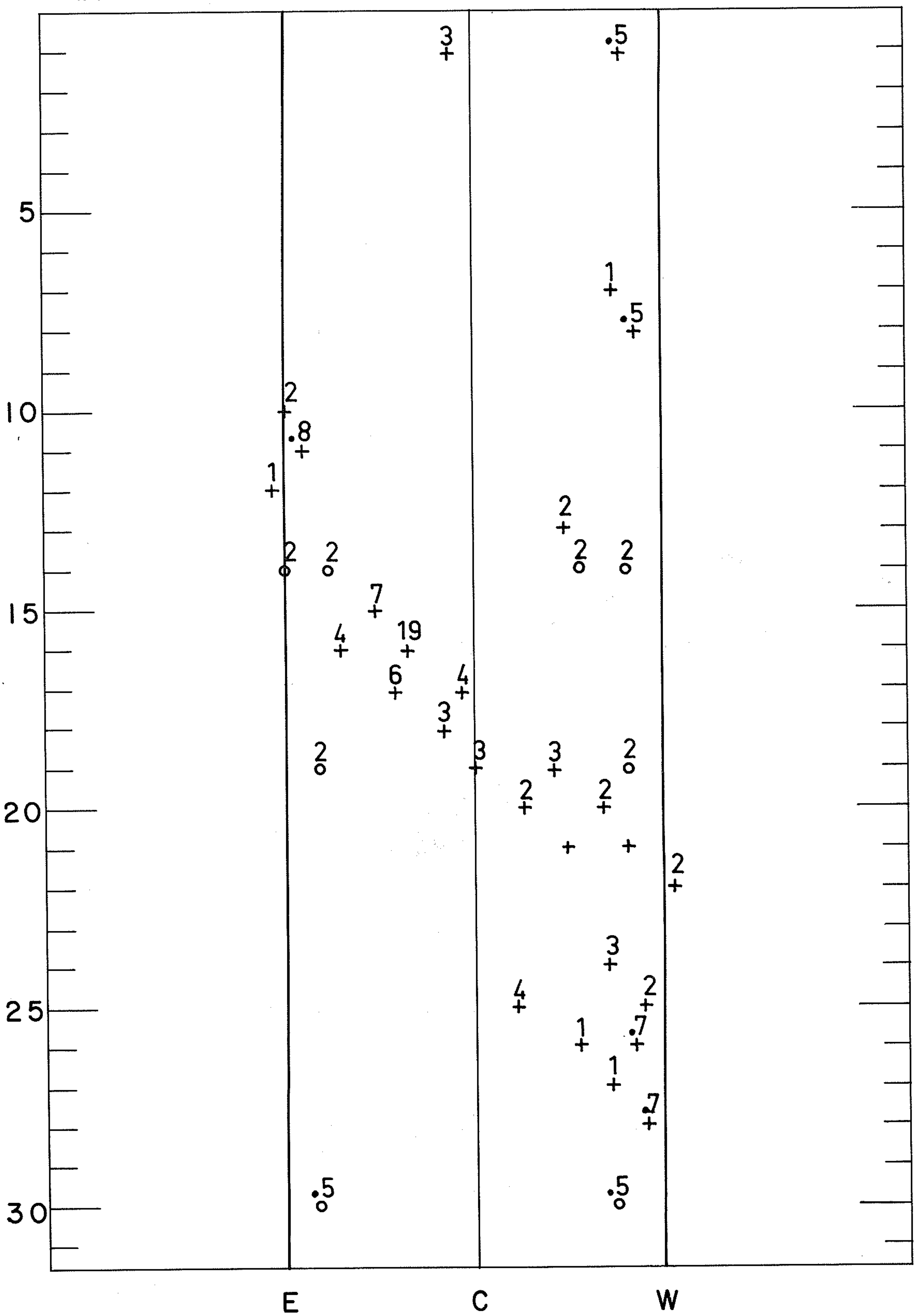
Athens	Capri-S (Swedish)	Istanboul	McMath-Hulbert	Palehua
Boulder	Catania	Kodaikanal	Meudon	Tehran
Bucharest	Herstmonceux	Lockheed	Ondrejov	Wendelstein
Capri-F (German)	Hurbanovo	Manila		

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

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

JULY 1971

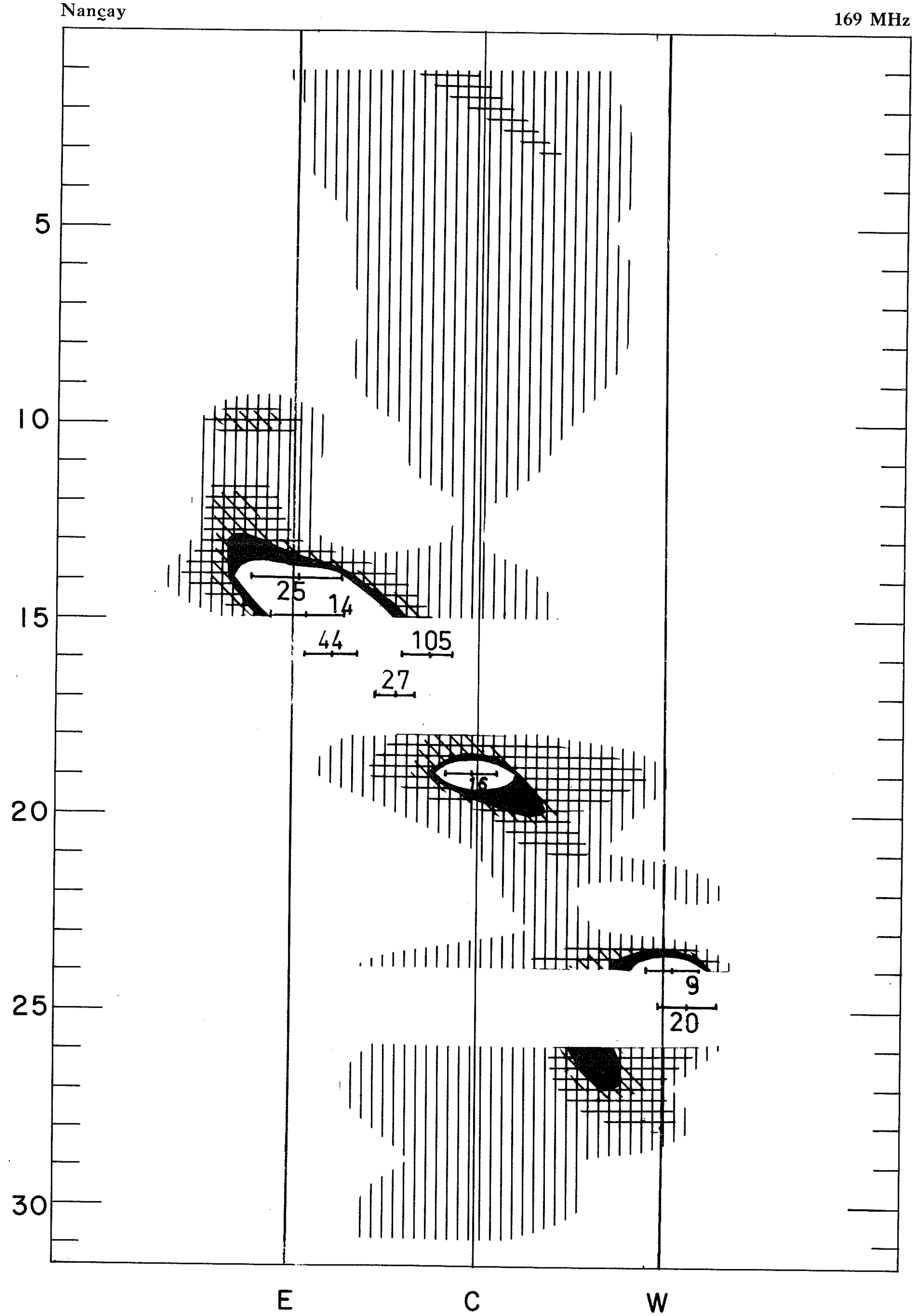
Nançay 408 MHz



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

JULY 1971

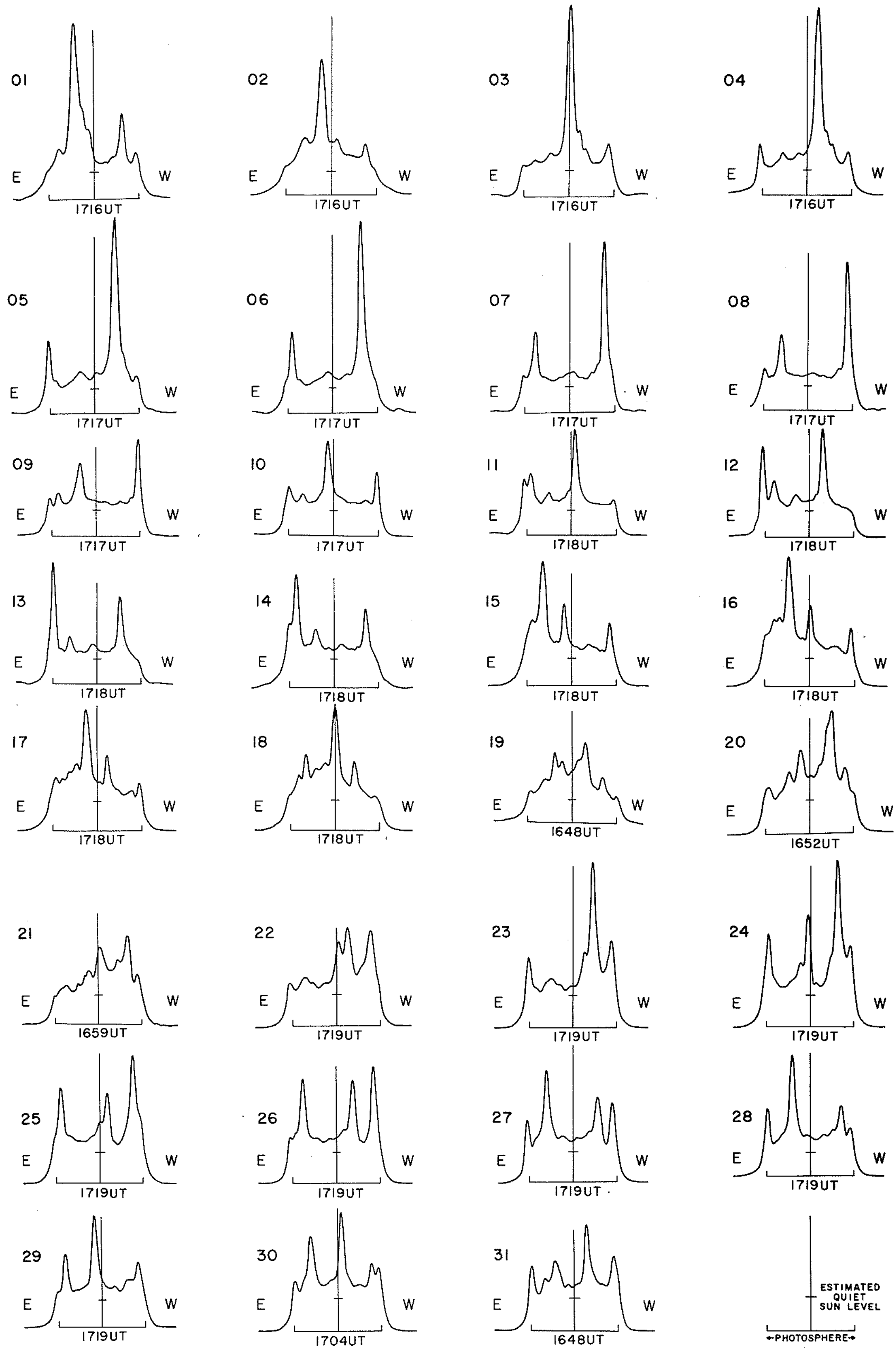


EAST - WEST SOLAR SCANS

July 1971

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan-Beam with 15 minutes of arc
E-W Resolution

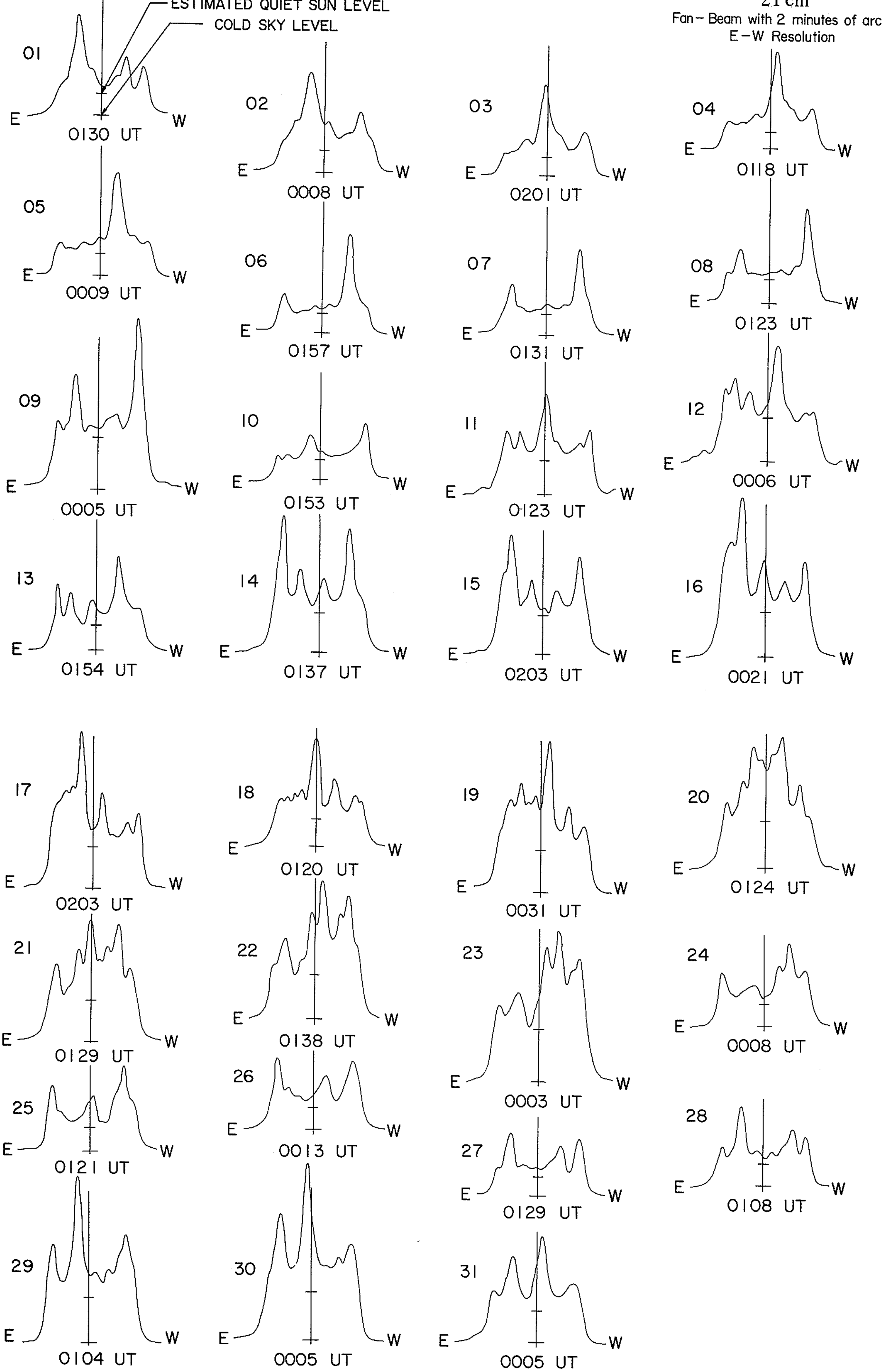


EAST-WEST SOLAR SCANS

JULY 1971

Fleurs, Australia

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

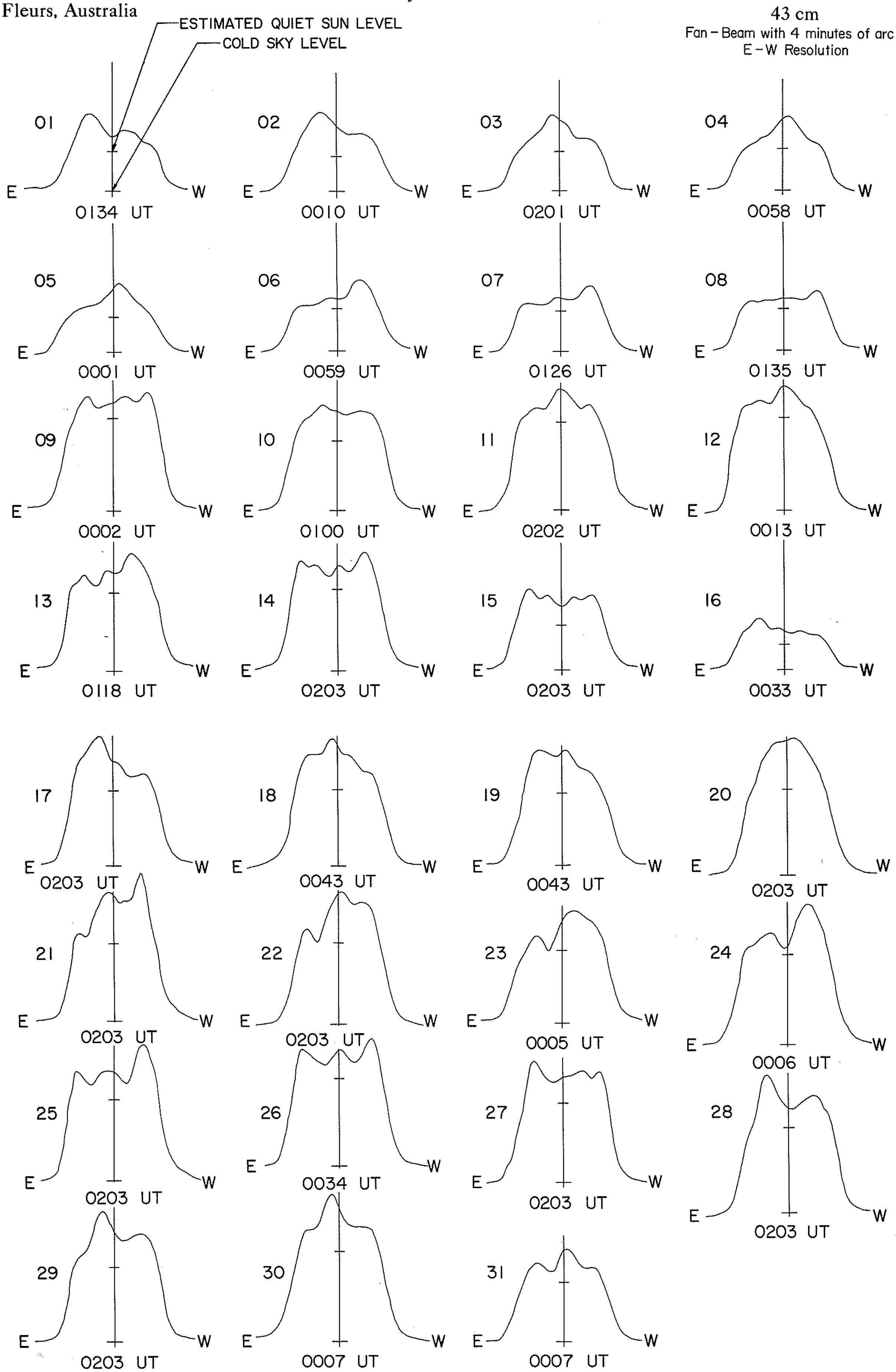


EAST-WEST SOLAR SCANS

JULY 1971

Fleurs, Australia

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



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 1971

JUL. 1971	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22}Wm^{-2}$ Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	2695 PENT	21	0047	0055	25	2.0	1.0		
	8800 MANI	4	0048.7	0050.3	3.7	15.8	6.3		
	2695 PENT	2	0049	0050	2	3.2	1.6		
	2695 MANI	2	0049.2	0049.8	4	8.0	2.0		
	8800 MANI	45	0129.6	0131.4	8.2	375.0	9.4		
	2695 PENT	2	0130.5	0132.2	2	6.6	1.9		
	2695 MANI	1	0131.2	0131.4	.5	6.0	2.0		
	2800 OTTA	24	1200		100	3.2			
	2695 SGMR	1	1303.2	1303.6	3	2.5	.8		
	8800 SGMR	3	1352.1	1353.6	16.8	12.0	2.0		
	2800 OTTA	4	1352	1352.5	2	50.0	25.0		
	2695 SGMR	3	1352	1352.6	15.3	47.5	13.0		
	2695 BOUL	3	1353	1353.5	5	101.0			
	2695 CANR	1	1353	1353.5	2.5	93.0			
	2800 OTTA	29	1354		70	5.8	1.5		
	2800 OTTA	22	1715	1800	80	3.8	1.9		
	2800 OTTA	20	2035	2130	135	6.0	3.0		
2	2695 PENT	24	0010		60	3.8			
	8800 SGMR	20	1411.2	1413.1	22.9	11.0	4.8		
	2695 SGMR	20	1415	1419.1	11.5	2.5	1.2		
	2800 OTTA	22	1815	1845	75	4.6	2.2		
	8800 SGMR	20	1842.8	1843.3	26.2	16.5	3.5		
	2695 SGMR	20	1840.9	1845.6	23.2	4.8	1.0		
3	2800 OTTA	20	1705	1717	35	2.2	1.1		
	2800 OTTA	20	2205		35	2.0	1.4		
4	2800 OTTA	24	1300		50	4.6			
	2800 OTTA	26	1700		70	3.9			
	2800 OTTA	20	2000	2140	200	2.8	1.4		
5	2800 OTTA	20	1105	1235	225	6.6	3.3		
	2800 OTTA	24	1410		40	2.0			
	2800 OTTA	25	1630		15	2.4			
	2800 OTTA	20	1634	1639	10	4.4	2.8		
	2695 SGMR	1	1634.3	1637.3	5.7	4.3	2.0		
	8800 SGMR	3	1900.5	1900.9	1.9	10.1	4.0		
	8800 SGMR	1	2155.7	2155.9	.6	5.1	1.5		
6	2695 PENT	21	0055	0105	45 D	4.4			
	2695 PENT	1	0120	0122	4	4.0	1.8		
	8800 MANI	3	0654.4	0655	2.5	17.4	10.4		
	2800 OTTA	20	1530	1635	95	2.4	1.2		
	8800 SGMR	3	2110.1	2111.7	5.6	17.1	5.5		
	2800 OTTA	4	2110	2111.5	5	46.0	18.0		
	2695 SGMR	3	2109.5	2111.7	U	42.5	8.0		
	2695 BOUL	3	2111	2113	5	112.0			
	2800 OTTA	29	2115		5	4.8	1.2		
7	8800 MANI	3	0538.3	0549.9	13.9	24.0	10.3		
	2695 MANI	4	0538.8	0539.9	15.6	18.9	7.6		
	8800 SGMR	22	1545.5	1547	49.5	23.5	4.3		
	2800 OTTA	21	1900	2000	270	4.4	2.2		
	8800 SGMR	3	1943.7	1944.6	U	10.6	2.0		
	2800 OTTA	1	2155	2156	2	2.4	1.2		
8	2695 PENT	20	0010	0020	90	2.2	1.1		
	2800 OTTA	1	1230.8	1231	1.5	3.8	1.9		
	2800 OTTA	1	1416	1418	4	4.2	2.1		
	2800 OTTA	29	1420		20	1.6	0.8		
	8800 SGMR	22	1448	1449.3	14.1	26.1	5.2		
	2800 OTTA	1	1449	1451	6	7.0	3.2		
	2695 SGMR	20	1450	1451.3	12	2.6	.5		
	2800 OTTA	29	1455		25	2.0	1.0		
	2800 OTTA	20	1550	1557	110	8.8	4.4		
	2800 OTTA	1	1942	1942.8	2	2.4	1.0		
	2800 OTTA	26	1955		30	4.2			
9	8800 SGMR	3	1203.6	1204.1	4.1	10.6	2.1		
10	8800 MANI	3	0427	0431.8	15.8	24.5	3.5		
	2695 MANI	20	0426.6	0432.2	23.4	7.8	2.6		
	8800 SGMR	20	1530	1548.2	51.1	15.7	2.5		
	2695 SGMR	20	1538.5	1539.1	31	5.1	1.8		
	2695 SGMR	22	1744.2	1745.7	22.8	2.5	.5		
	2800 OTTA	22	2210	2235	70	2.2	1.1		
	2695 PENT	24	2353		7	1.8			
11	2695 PENT	20	0115	0120	40	2.6	1.0		
	2800 OTTA	21	1240	1420	275	3.6	1.6		
	2800 OTTA	20	1502	1505	28	4.4	2.2		
	2695 SGMR	20	1503.4	1506.8	32.4	5.0	2.0		
	2800 OTTA	20	1625	1630	20	2.4	1.0		
12	2695 PENT	20	0105	0118	40	2.8	1.4		
	2800 OTTA	20	1450	1535	120	2.4	1.2		
15	2800 OTTA	20	1210	1255	90	3.4	1.7		
	2800 OTTA	20	1710	1730	60	2.0	1.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 1971

JUL. 1971	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22}Wm^{-2}Hz^{-1}$ PEAK	MEAN	INT	REMARKS
	2695 BOUL	41	1900.5	1903.5	3	80.0			
	2695 BOUL	41	1959.5	2002.5	5.5	95.0			
17	8800 MANI	4	0907.8	0913.5	20.5	34.9	7.8		
	2695 MANI	4	0907.8	0908.6	13.2	18.1	2.3		
	8800 SGMR	1	1226.5	1226.8	3.3	6.2	2.5		
	2800 OTTA	4	1225	1226.5	5	18.0	9.0		
	2695 SGMR	4	1225.1	1226.7	5.1	20.2	5.0		
	2695 CANR	3	1226.5	1228	4.5	79.0			
	2800 OTTA	29	1230		20	2.0	1.0		
	2695 SGMR	29	1230.2	1230.2	31.5	2.3	.6		
	2800 OTTA	20	1455	1515	45	3.2	1.6		
18	2800 OTTA	20	1305	1310	40	2.0	1.0		
	2800 OTTA	21	2034	2040	40	2.0	1.0		
	2695 SGMR	4	2035.2	2036.9	9.9	14.6	2.5		
	2800 OTTA	4	2036	2036.5	2	11.2	7.4		
	2800 OTTA	25	2140		6	3.7			
	2800 OTTA	1	2142	2145	5	9.6	4.6		
19	2800 OTTA	24	1125		20	2.0			
	2800 OTTA	20	1245	1420	195	4.0	2.6		
	2800 OTTA	20	1640	1710	70	2.0	1.0		
	2800 OTTA	21	1915	1920	35	3.0	1.5		
	2800 OTTA	3	1917	1917.3	3	22.0	6.0		
	2695 BOUL	3	1918	1918.5	1.5	83.0			
	2800 OTTA	2	2104.5	2106	2	5.0	2.5		
	2695 SGMR	22	2105.3	2106.1	U	6.2	1.6		
	2800 OTTA	29	2106.5		20	2.0	1.0		
	2695 PENT	20	2240	2305	80	2.8	1.4		
20	2800 OTTA	3	1502.5	1503	2	13.8	4.6		
	2695 SGMR	1	1502.8	1503	2.2	9.6	4.0		
	2695 MANI	1	2353.8	2354.1	.8	6.6	2.2		
23	2800 OTTA	24	1330		30	3.0			
	2800 OTTA	24	1455		50	2.4			
	2800 OTTA	24	1905		20	2.0			
24	2695 CANR	45	1030.5	1041	18	167.0			
	8800 SGMR	46	1035.5	1040.6	13.3	185.0	30.0		
	2695 SGMR	4	1035.5	1040.5	12.4	95.0	20.0		
	8800 SGMR	29	1048.8	1048.8	30	20.4	10.0		
	2695 SGMR	29	1047.9	1047.9	26.4	10.8	5.0		
	2800 OTTA	1	1239	1240	4	5.0	2.5		
	2695 SGMR	1	1239.5	1240.5	5.9	4.6	1.5		
	2800 OTTA	24	1320		22	3.8			
	2695 SGMR	4	1352.8	1354.8	5.7	23.5	4.0		
	2800 OTTA	4	1354.2	1354.8	2	21.0	5.2		
	2695 BOUL	3	1354.5	1355	1.5	88.0			
	2695 CANR	1	1355	1355.5	2.5	89.0			
	2695 SGMR	4	1452.9	1455	6.4	15.4	2.0		
	2800 OTTA	2	1453	1455	3	2.6	1.3		
	2695 CANR	45	1454.5	1455.5	1.5	73.0			
	2695 SGMR	1	1548.8	1549.3	2.4	6.2	2.5		
	2800 OTTA	1	1549	1549.1	1	6.0	3.0		
	2695 BOUL	3	1549.5	1550	1.5	74.0			
	2800 OTTA	21	1705		205	7.6	3.6		
	2800 OTTA	4	1754	1803	14	115.0	40.0		
	8800 SGMR	3	1802.1	1803.1	41.4	47.3	10.0		
	2695 SGMR	3	1801.1	1802.9	31	67.2	13.0		
	2695 CANR	3	1802	1803.5	8	118.0			
	2695 BOUL	3	1803	1804.5	7	130.0			
	2800 OTTA	1	2217	2220	7	4.0	2.0		
25	2800 OTTA	20	1510	1520	30	2.0	1.0		
	2800 OTTA	20	1810	1900	95	2.6	1.3		
26	2800 OTTA	32	1242	1252	35	-4.0	-2.0		
27	2800 OTTA	24	1310		10	2.2			
	2800 OTTA	20	1430	1605	150	4.4	2.2		
	2800 OTTA	1	1756	1757	1.2	2.0	1.0		
	2695 SGMR	1	1756.1	1756.8	1.4	2.4	1.2		
	2695 PENT	22	2245	2330	175	2.8	1.6		
28	2800 OTTA	24	1125		5	2.5			
	2800 OTTA	26	1238		12	2.0			
	2800 OTTA	20	1250	1312	45	1.8	0.9		
	8800 SGMR	1	1513.4	1514.3	5	5.3	2.0		
	2695 SGMR	1	1512.9	1515.4	6.9	2.9	.8		
	2800 OTTA	40	1513	1513.5	11	2.8			
	8800 SGMR	1	1903.4	1904.6	6.9	2.3	.4		
	2800 OTTA	45	1902.2	1903	6	3.4	2.0		
	2695 SGMR	1	1902.4	1903.3	8.3	3.5	1.4		
	2695 BOUL	41	1927	1930.5	4.5U	113.0			
	2695 BOUL	40	1959	2003	6	83.0			
	2695 BOUL	41	2030	2031	4.5	80.0			
	8800 SGMR	46	2111.5	2112.2	8.3	135.0	65.0		
	2695 SGMR	45	2111.1	2112.2	8.8	46.0	20.1		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 1971

JUL. 1971	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22}Wm^{-2}\ Hz^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	2800 OTTA	45	2111	2112	10	61.0	13.0		
	2800 OTTA	45	2111	2112	2.8	61.0			
	2800 OTTA	45	2113.8	2114	7.2	21.0			
	2695 BOUL	40	2125 U	2126	6.5	114.0			
29	2695 BOUL	45	2112.5	2113.5	12	127.0			
30	2800 OTTA	20	1440	1520	105	3.8	1.9		
31	2800 OTTA	22	1500	1525	80	2.6	1.3		
	2800 OTTA	21	1655	1755	175	4.0	2.0		
	2800 OTTA	40	1744	1745.8	2	4.2			

Observatories:

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

Explanation of Type Code:

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

Radio bursts observed at Boulder, Canary Islands and Carnarvon (1420, 2695 and 4995 MHz) are scaled on a relative intensity scale of 1-3 where, within a factor of three or less, 1 = <100 fu ($10^{-22}Wm^{-2}Hz^{-1}$), 2 = 100 - 1000 fu and 3 = >1000 fu.

SOLAR WIND VELOCITY
and
CO-ROTATION DELAY TIMES

JULY 1971

NASA - Ames Research Center

DATE July 1971	PIONEER VI				PIONEER VII			
	Time (Z)	Pass	U_H^+	TAU	Time (Z)	Pass	U_H^+	TAU
1	1500	2024	448	1.9				
2	1900	2025	506	1.8				
3								
4								
5	1840	2028	383	1.9				
6	2000	2029	383	1.9				
7	1900	2030	339	1.9	1600	1786	306	12.0
8	1900	2031	339	1.9				
9	1400	2032	339	1.9				
10	1940	2033	302	2.0				
11								
12	1900	2035	506	1.4				
13								
14								
15	1800	2038	383	1.5				
16	2000	2039	339	1.6				
17								
18								
19	1830	2042	339	1.5				
20	1900	2043	448	1.2				
21	1900	2044	383	1.4				
22	1800	2045	448	1.2				
23	1800	2046	339	1.4				
24	1739	2047	339	1.3				
25					1447	1804	388	12.3
26	1212	2049	566	0.88				
27	1208	2050	566	0.85				
28	1201	2051	383	1.1				
29	1201	2052	339	1.2				
30								
31								

SOLAR WIND
VELA 3 & 5

JULY 1971

Date	UT	Spacecraft	Velocity V_{H+}(km/sec)	Density N_{H+}(cm^{-3})
08	0100	VELA-5A	348	--
	0400	5A	331	3.8
	0600	5A	348	2.9
	0900	5B	348	--
	1200	5B	348	--
	1500	5B	348	--
	1800	5B	365	1.7
	2000	5B	384	--
11	2300	5A	315	--
12	0200	5A	315	--
	0400	5A	315	4.1
	1200	5A	331	7.8
	2000	5B	384	--
13	0000	5A	424	--
	0300	5A	424	--
	0400	5A	384	--
	0600	5A	404	4.4
	0800	5A	384	2.3
	1200	5B	424	--
	2000	5B	384	--
14	0000	5B	495	3.9
	0600	5B	495	2.0
16	0600	5A	424	--
	0800	5A	424	--
	1000	5A	424	1.4
	1200	5A	424	--
	1400	5A	424	--
	1600	5A	424	2.3
	1900	5A	424	--
17	1500	5B	348	2.1
	1700	5B	348	--
	2000	5B	384	1.2
	2200	5A	348	--
18	0000	5B	348	--
	0600	5B	384	--
	1100	5B	384	--
	1400	5B	384	6.8
	1500	5B	384	--
	1600	5B	404	7.1
21	0400	5A	315	--
	0700	5A	348	--
	1100	5A	424	--
	1300	5A	384	--
23	0600	5B	331	2.2
	0800	5B	331	2.5
25	2200	5A	348	--
26	0100	5A	348	--
	1500	5B	272	--
	1800	5B	365	--
	2100	5B	424	--
	2300	5B	470	--
27	0200	5B	446	--
	0300	5B	470	--
	0400	5B	470	2.7
	2200	5B	520	--
	2300	5B	470	--
28	0100	5B	470	2.7
	0400	5B	495	2.6
	0700	5B	470	1.2
	0800	5B	470	--
31	1800	5B	384	2.6
	2200	5B	384	--

COSMIC RAY PROTONS

JULY 1971

Counting Rates (particles/sec)

Univ. of Chicago

	Pioneer VI				Pioneer VII			
Date July	Time (UT)	0.6-13 Mev*	13-175 Mev**	>175 Mev	Time (UT)	0.6-13 Mev*	13-175 Mev**	>175 Mev
1	1200	7.70	Q	Q				
1	2000	4.60	Q	Q				
2	2000	1.88	Q	Q				
5	2000	.275	Q	Q				
6	2000	.352	Q	Q				
7	2000	.204	Q	Q	1600	2.29	Q	Q
8	2000	.563	Q	Q				
9	2000	.313	Q	Q				
10	2000	.355	Q	Q				
12	2000	.241	Q	Q				
15	2000	.133	Q	Q				
16	2000	.295	Q	Q				
19	2000	5.38	Q	Q				
20	2000	.746	Q	Q				
21	2000	1.08	Q	Q				
22	2000	2.06	Q	Q				
23	2000	2.29	Q	Q				
24	1900	3.92	Q	Q				
25					1500	.106	Q	Q
27	1200	26.1	Q	Q				
28	1200	5.85	Q	Q				
29	1200	3.18	Q	Q				

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

Notes:
(1) Data are 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) Unidirectional geometrical factors are 5.8×10^{-4}, 1.15×10^{-4}, $1.7 \times 10^{-4} m^2$ster for the three ascending energy intervals given above. The two higher energy intervals have a bidirectional response at energies greater than ∿100 Mev/nucleon. See Fan, Pick, Pyle, Simpson, and Smith, J. Geophys. Res., 73, 5, 1555-1582 for a description of the University of Chicago instruments.
(4) The symbol "Q" is used to indicate that a rate is at its quiescent level. Quiescent counting rates at present are approximately:
Pioneer 6 0.1, 0.055, 0.250 counts per second,
Pioneer 7 0.1, 0.055, ∿0.100 counts per second for the three ascending energy intervals.
(5) Times are only approximate (time accurate to approximately ± 15 minutes).

COSMIC RAY PROTONS

JULY 1971

Counting Rates (particles/sec)

University of New Hampshire

Pioneer VIII				Pioneer IX			
Date July	Time (UT)	>13.9 Mev	>64 Mev	Date July	Time (UT)	>13.9 Mev	>40 Mev
2	1700	4.52	1.1	2	2100	5.33	.89
5	1528	4.36	.50				
6	1600	4.59	.88				
8	1730	5.00	--	8	2030	5.40	1.19
10	1900	4.42	.69				
12	1700	4.59	.84	12	2000	5.52	1.04
13	2000	4.38	1.00				
15	1600	4.29	.87				
16	1600	4.40	.89	16	1800	5.69	.99
20	1600	4.0	--				
21	1800	5.0	--	21	1900	5.50	.94
24	1600	6.0	--				
25	1527	4.64	.94				
25	1900	5.0	--				

SOLAR PROTON MONITORING ATS - 1 (1966 - 110A)

JULY 1971

AEROSPACE CORP

ENERGY LEVEL 5-21 MEV-HOURLY AVERAGES (PARTICLES CM^{-2} SEC^{-1})

DATE \ HOUR	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
01	0.63	0.26	1.37	0.63	0.95	0.47	0.73	0.79	0.84	0.54	0.68	0.47	0.36	0.63	0.31	0.14	0.26	0.15	0.21	0.21	0.27	0.31	0.21	0.42
02	0.10	0.26	0.26	0.84	0.63	0.36	0.26	0.36	0.21	0.10	0.21	0.15	0.58	0.31	0.40	0.27	0.36	0.15	0.47	0.27	0.31	0.31	0.31	0.42
03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.52	0.36	0.31	0.26
04	0.15	0.63	0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.27	0.58	0.31	0.21	0.58	0.79	0.31
05	0.52	0.63	0.47	0.40	0.52	0.63	0.14	0.26	0.14	--	--	0.31	0.47	0.36	0.42	--	--	0.10	0.31	0.31	0.36	0.15	0.21	0.42
06	0.52	0.79	0.52	0.54	0.31	0.26	0.36	0.42	0.31	0.10	0.26	0.26	0.15	0.68	0.26	--	--	--	--	0.54	0.40	0.27	0.27	0.27
07	0.58	0.36	0.42	0.21	0.15	0.15	0.36	--	--	--	--	--	--	--	0.36	0.40	0.27	0.15	0.27	0.31	0.36	0.42	0.42	--
08	--	--	--	--	--	0.31	0.58	0.40	0.26	0.27	0.27	0.05	0.15	0.27	0.31	0.27	0.36	0.26	--	--	--	--	0.47	--
09	--	--	--	--	--	--	--	0.68	0.40	0.27	0.31	0.47	0.42	0.21	0.68	0.54	0.31	--	--	--	--	0.68	0.31	0.68
10	0.52	0.42	0.36	0.68	0.42	0.52	0.36	0.36	0.05	0.10	0.58	0.14	0.26	0.42	0.26	0.27	0.21	0.26	0.31	0.47	0.15	0.21	0.36	0.10
11	0.31	0.10	0.13	0.27	0.27	--	0.21	0.42	0.31	0.15	0.21	0.10	0.10	0.26	0.26	0.14	0.21	0.21	0.21	0.47	0.31	0.21	0.21	0.15
12	0.36	0.15	0.10	0.15	0.15	0.26	0.26	0.14	0.15	0.36	0.31	0.15	0.13	0.27	0.21	0.27	0.15	0.21	0.21	--	0.14	0.42	0.21	0.31
13	0.27	0.14	0.07	0.14	0.14	0.14	0.14	0.07	0.14	0.27	0.27	0.14	0.27	0.14	0.27	0.14	0.14	--	--	--	--	0.40	0.14	0.27
14	0.15	0.42	0.10	0.31	0.15	--	0.21	0.21	0.10	0.31	0.31	0.47	0.10	0.15	0.31	0.40	0.27	0.26	0.31	0.27	0.21	0.42	0.36	--
15	--	--	--	--	--	--	--	0.21	0.31	0.26	0.26	0.36	0.31	0.15	0.36	0.27	0.15	0.15	0.52	0.14	0.36	0.40	0.27	0.36
16	0.42	0.15	0.47	0.26	0.31	0.10	0.10	0.15	0.36	0.26	0.21	0.26	0.42	1.16	0.31	0.14	0.36	0.42	0.15	0.15	0.36	0.15	0.42	0.47
17	0.42	0.52	0.63	0.31	0.15	0.31	0.21	0.27	0.47	0.36	0.10	0.26	0.31	0.36	0.42	0.27	0.26	0.14	0.27	0.10	0.15	0.31	0.26	0.36
18	0.36	0.26	0.36	0.27	0.14	0.10	0.15	0.14	0.10	0.14	0.15	0.10	0.15	0.10	0.31	0.27	0.47	0.31	0.21	--	0.36	0.15	0.05	0.10
19	0.27	0.89	0.47	0.40	0.36	0.36	0.36	0.21	0.05	0.21	0.27	0.31	0.21	--	--	0.14	0.26	0.47	0.47	0.36	0.47	0.26	0.10	0.52
20	0.47	0.15	0.42	0.42	0.26	0.47	0.10	0.47	0.31	0.40	0.36	0.52	0.15	0.15	0.27	0.14	0.10	0.31	--	--	--	0.27	0.27	0.31
21	0.26	0.31	0.42	0.42	0.27	0.47	0.36	0.31	0.05	0.26	0.26	0.42	0.31	0.21	0.07	0.07	0.40	0.79	0.73	0.63	0.79	0.68	0.51	0.21
22	--	--	--	--	--	--	--	0.40	0.42	0.40	0.52	0.27	0.52	0.42	0.54	0.15	0.47	0.40	--	--	--	0.52	0.58	0.52
23	0.42	0.63	0.26	0.68	--	--	0.40	0.40	0.40	0.27	0.40	0.21	0.58	0.58	0.27	1.05	0.84	0.73	0.84	0.63	0.58	0.84	0.58	0.36
24	0.58	0.52	0.58	0.52	0.68	0.58	0.63	0.58	0.68	0.52	0.36	0.68	0.52	0.42	0.68	0.42	0.63	0.58	0.68	0.47	0.47	0.68	1.26	0.73
25	1.53	1.31	1.21	1.47	0.84	0.68	0.68	1.26	0.68	0.84	0.95	0.68	0.63	0.52	0.40	0.58	0.58	0.79	0.47	0.27	0.89	--	--	--
26	--	0.47	0.47	0.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
27	--	--	--	--	--	0.73	0.84	0.79	0.52	0.36	0.36	0.52	0.21	0.27	--	--	--	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.21	0.54	0.36	0.27	0.15	0.36	0.42	0.58	0.42
29	0.47	0.42	0.31	0.15	0.58	0.52	0.31	0.36	0.68	0.42	0.21	0.42	0.21	0.42	0.40	0.40	0.31	1.05	0.79	0.42	0.58	0.73	0.42	0.68
30	0.31	0.68	0.36	0.26	0.26	0.15	0.31	0.40	0.27	--	0.79	0.52	0.79	0.52	0.81	0.40	0.47	0.40	0.40	0.63	0.73	0.73	0.73	0.73
31	0.84	0.63	0.36	0.63	0.26	0.31	0.31	--	--	--	--	--	--	0.40	0.40	0.47	0.31	0.40	0.31	1.05	0.58	0.42	0.47	0.58

SOLAR PROTON MONITORING ATS - 1 (1966 - 110A)

JULY 1971

AEROSPACE CORP

ENERGY LEVEL 21-70 MEV - HOURLY AVERAGES (PARTICLES CM^{-2} SEC^{-1})

DATE \ HOUR	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
01	0.60	0.48	0.49	0.50	0.48	0.42	0.57	0.50	0.58	0.67	0.38	0.48	0.52	0.56	0.47	0.43	0.51	0.47	0.51	0.44	0.43	0.47	0.52	0.42
02	0.51	0.55	0.46	0.55	0.48	0.50	0.54	0.48	0.52	0.43	0.47	0.42	0.53	0.55	0.38	0.47	0.52	0.47	0.41	0.48	0.49	0.46	0.40	0.50
03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.45	0.42	0.61	0.55
04	0.41	0.57	0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.38	0.43	0.45	0.54	0.56	0.42	0.50
05	0.56	0.40	0.51	0.43	0.52	0.48	0.37	0.46	0.43	--	--	0.61	0.45	0.50	0.46	--	--	0.52	0.52	0.56	0.45	0.51	0.49	0.49
06	0.51	0.41	0.50	0.37	0.45	0.50	0.52	0.47	0.58	0.47	0.48	0.48	0.55	0.56	0.55	--	--	--	--	0.37	0.34	0.40	0.37	0.38
07	0.51	0.46	0.50	0.57	0.45	0.53	0.45	--	--	--	--	--	--	--	0.49	0.38	0.50	0.56	0.37	0.55	0.51	0.55	0.49	--
08	--	--	--	--	--	0.48	0.52	0.47	0.50	0.38	0.37	0.45	0.51	0.34	0.47	0.36	0.38	0.60	--	--	--	--	0.44	--
09	--	--	--	--	--	--	--	0.46	0.44	0.40	0.34	0.46	0.53	0.53	0.51	0.41	0.54	--	--	--	--	0.52	0.53	0.48
10	0.55	0.50	0.52	0.63	0.45	0.45	0.42	0.50	0.51	0.47	0.58	0.38	0.55	0.57	0.52	0.47	0.59	0.56	0.53	0.41	0.55	0.56	0.54	0.50
11	0.42	0.45	0.44	0.40	0.40	0.50	0.52	0.52	0.51	0.58	0.50	0.50	0.46	0.55	0.52	0.43	0.50	0.57	0.55	0.47	0.58	0.48	0.56	0.47
12	0.48	0.57	0.48	0.48	0.51	0.57	0.48	0.37	0.46	0.49	0.48	0.56	0.45	0.44	0.60	0.52	0.47	0.59	0.51	--	0.48	0.50	0.58	0.48
13	0.41	0.48	0.41	0.41	0.43	0.51	0.37	0.31	0.41	0.40	0.40	0.47	0.48	0.47	0.51	0.40	0.37	--	--	--	--	0.41	0.48	0.40
14	0.62	0.56	0.55	0.53	0.48	0.36	0.44	0.58	0.52	0.60	0.45	0.51	0.52	0.45	0.60	0.38	0.41	0.46	0.53	0.43	0.51	0.57	0.43	--
15	--	--	--	--	--	--	--	0.60	0.43	0.46	0.53	0.44	0.52	0.50	0.51	0.47	0.58	0.47	0.42	0.38	0.51	0.50	0.48	0.51
16	0.50	0.38	0.55	0.47	0.37	0.51	0.52	0.52	0.43	0.51	0.56	0.50	0.60	0.42	0.53	0.47	0.48	0.52	0.48	0.39	0.45	0.47	0.55	0.58
17	0.43	0.57	0.45	0.63	0.57	0.56	0.47	0.43	0.53	0.50	0.55	0.52	0.50	0.56	0.53	0.50	0.65	0.43	0.47	0.52	0.47	0.55	0.68	0.58
18	0.44	0.50	0.40	0.37	0.43	0.52	0.46	0.48	0.69	0.59	0.58	0.52	0.55	0.55	0.37	0.50	0.56	0.58	0.51	0.43	0.53	0.53	0.52	0.53
19	0.34	0.48	0.52	0.47	0.57	0.49	0.44	0.48	0.36	0.55	0.41	0.56	0.51	--	--	0.47	0.52	0.58	0.57	0.54	0.47	0.55	0.52	0.56
20	0.45	0.43	0.55	0.45	0.53	0.54	0.57	0.54	0.47	0.46	0.56	0.51	0.44	0.56	0.43	0.37	0.51	0.48	--	--	--	0.43	0.43	0.53
21	0.51	0.62	0.45	0.40	0.52	0.46	0.48	0.42	0.43	0.48	0.48	0.56	0.46	0.48	0.40	0.44	0.47	0.50	0.48	0.46	0.38	0.50	0.54	0.43
22	--	--	--	--	--	--	--	0.43	0.50	0.42	0.51	0.65	0.56	0.57	0.48	0.55	0.58	0.36	--	--	--	0.50	0.54	0.47
23	0.59	0.59	0.54	0.51	--	--	0.47	0.52	0.51	0.37	0.45	0.56	0.50	0.56	0.41	0.52	0.53	0.58	0.56	0.55	0.53	0.50	0.51	0.48
24	0.48	0.40	0.51	0.52	0.50	0.55	0.56	3.30	0.57	0.56	0.53	0.57	0.54	0.55	0.45	0.46	0.53	0.53	0.47	0.52	0.50	0.57	0.62	0.60
25	0.64	0.46	0.56	0.48	0.53	0.48	0.45	0.66	0.56	0.60	0.41	0.51	0.57	0.51	0.50	0.56	0.53	0.58	0.55	0.57	0.53	--	--	--
26	--	0.57	0.54	0.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
27	--	--	--	--	--	0.56	0.55	0.57	0.60	0.50	0.41	1.65	0.50	--	--	--	--	--	--	--	--	--	--	--
28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.45	0.38	0.55	0.48	0.55	0.47	0.60	1.96	0.55
29	0.62	0.53	0.56	0.54	0.57	0.53	0.57	0.53	0.47	0.52	0.61	0.58	0.54	0.57	0.44	0.48	0.57	0.50	0.50	0.57	0.50	0.52	0.52	0.55
30	0.57	0.52	0.51	0.65	0.62	0.48	0.46	0.41	0.44	0.48	0.42	0.56	0.63	0.67	0.51	0.43	0.49	0.40	0.41	0.51	0.52	0.55	0.58	0.48
31	0.61	0.56	0.52	0.52	0.50	0.52	0.58	--	--	--	--	--	--	0.37	0.45	0.55	0.48	0.41	0.53	0.63	0.47	0.51	0.57	0.55

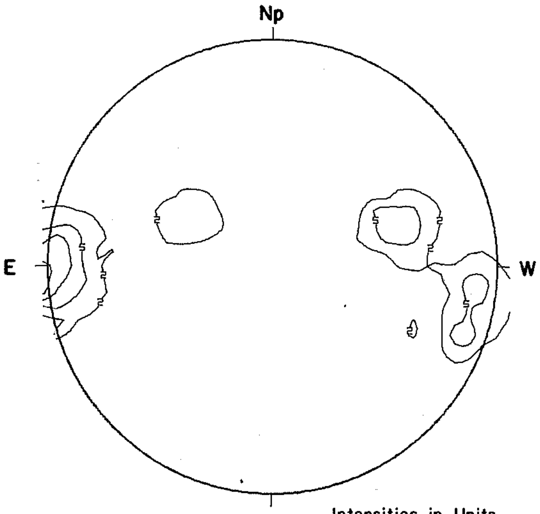
Table of Contents
for June 1971 Data

For explanations of the data contained herein see "Descriptive Text" published in February 1971.

JUNE 1, 1971 (P=-15.70, B_o=-0.69, L_o=297.95)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

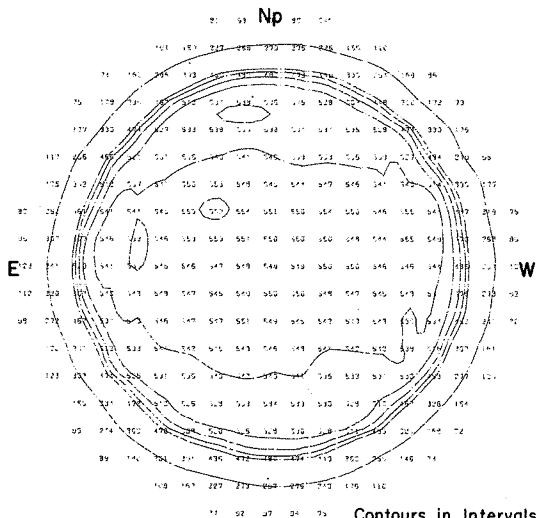


0822-0857 UT

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

PROSPECT HILL
AFCRL

8.6 mm



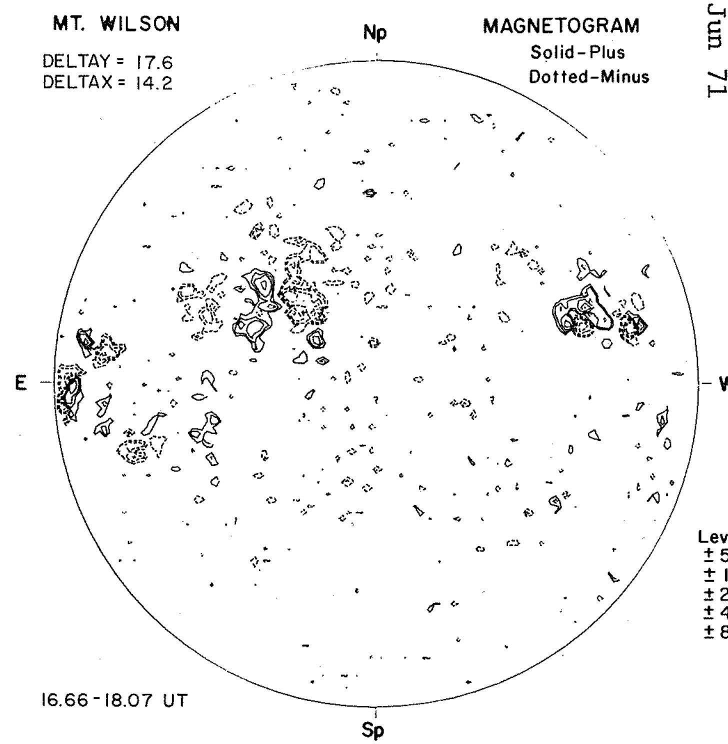
1343 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

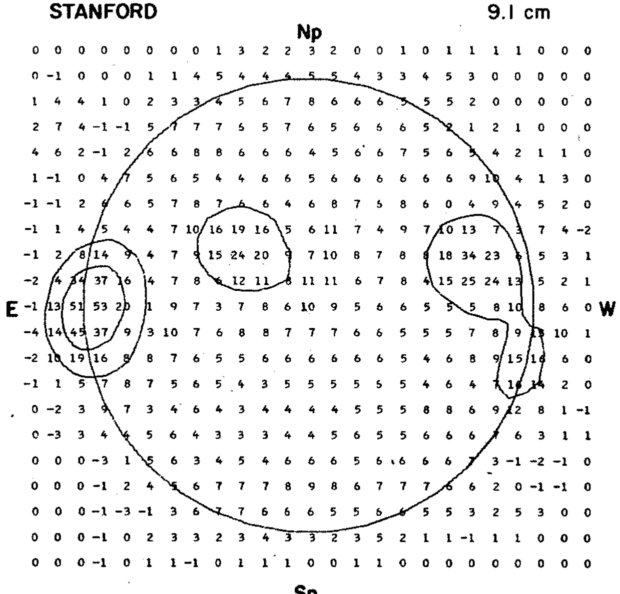


Levels
±5
±10
±20
±40
±80

16.66-18.07 UT

STANFORD

9.1 cm

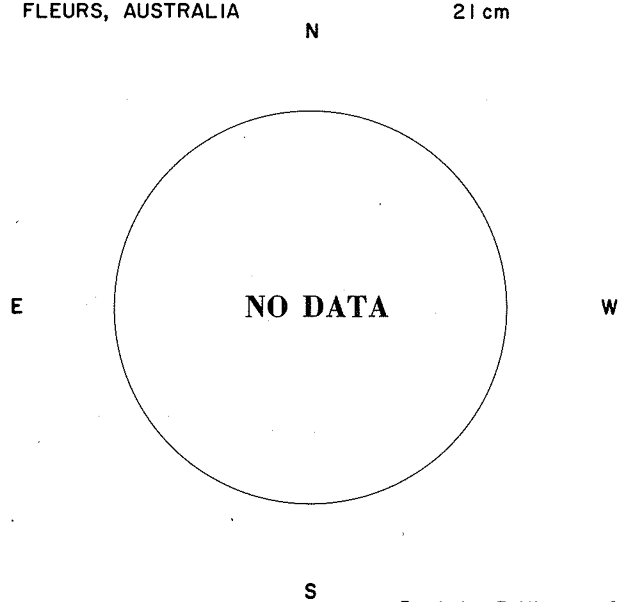


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

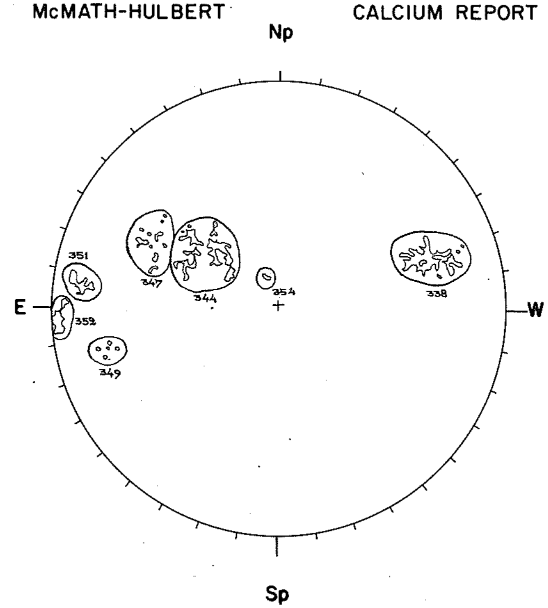


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



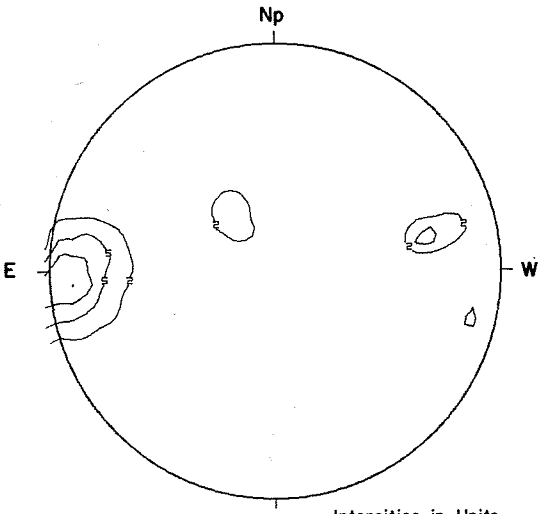
V POOR	M
38-28-3.0	
44-28-3.0	
51-10-3.0	
52-19-3.0	

1300 UT

JUNE 2, 1971 (P=-15.33, B_o=-0.57, L_o=284.72)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

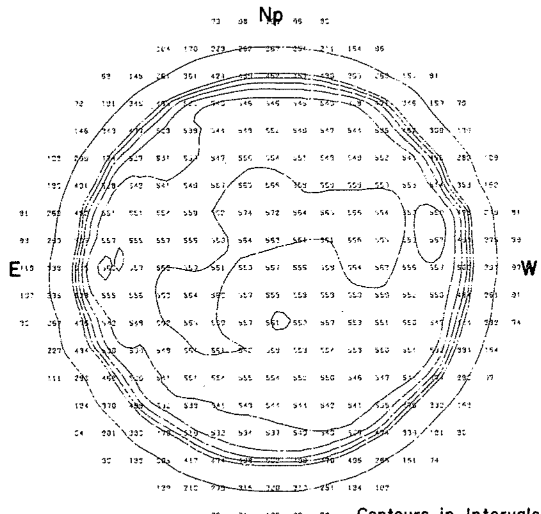


0734-0853 UT

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

PROSPECT HILL
AFCRL

8.6 mm

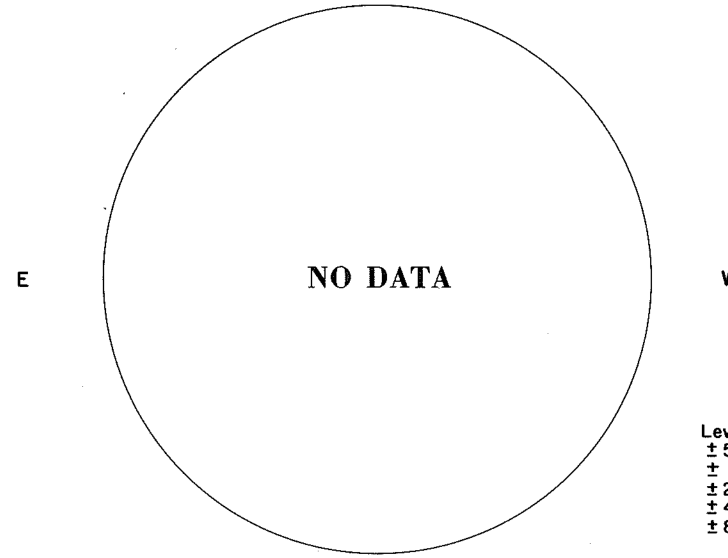


1355 UT

Contours in Intervals of 200° K

MT. WILSON

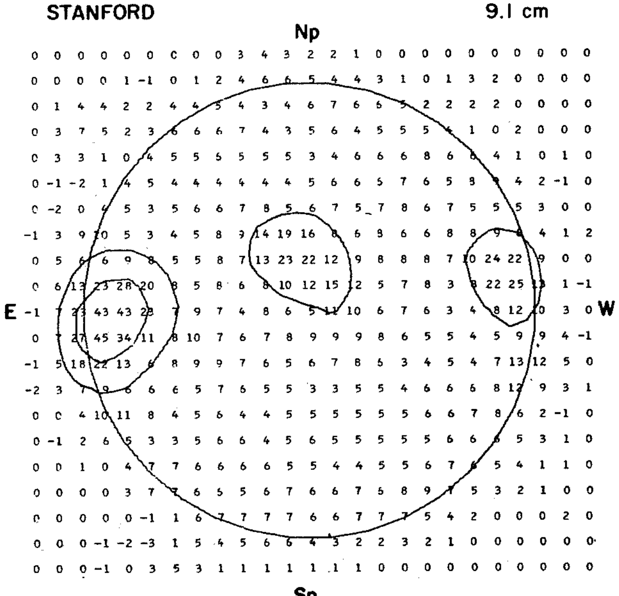
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

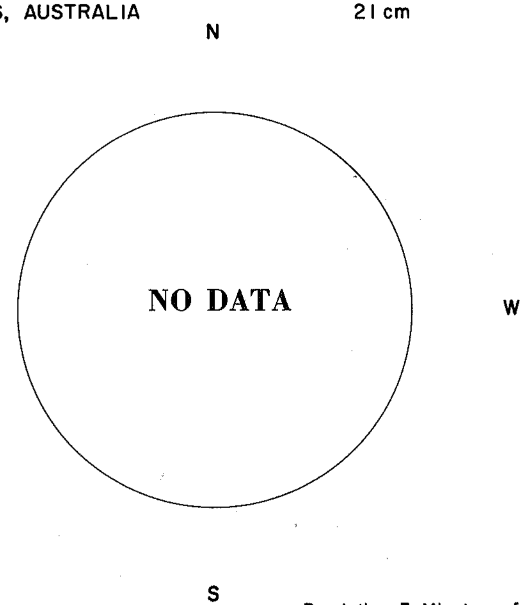


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

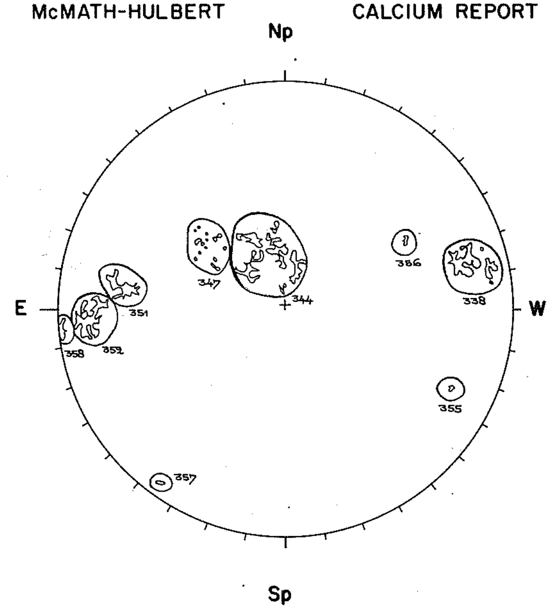


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



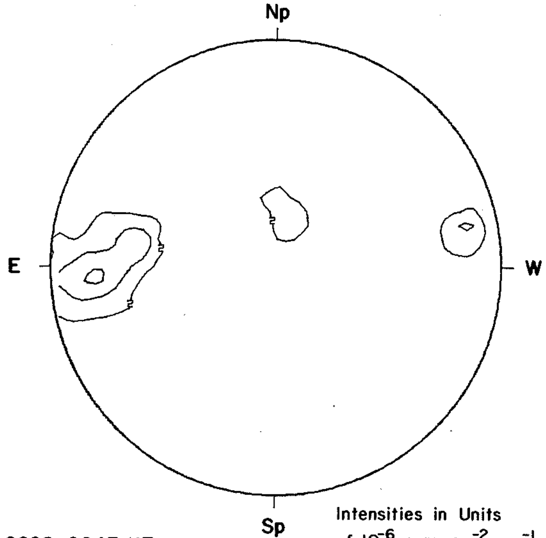
1545 UT

GOOD	M
38-26-2.5	
44-25-3.0	
52-25-3.0	
58-09-2.5	

JUNE 3, 1971 (P=-14.95, B_o=-0.45, L_o=271.48)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

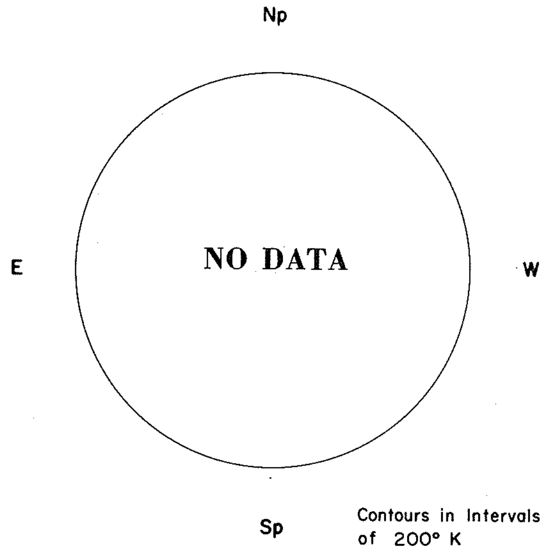


0808-0847 UT

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

PROSPECT HILL
AFCRL

8.6 mm

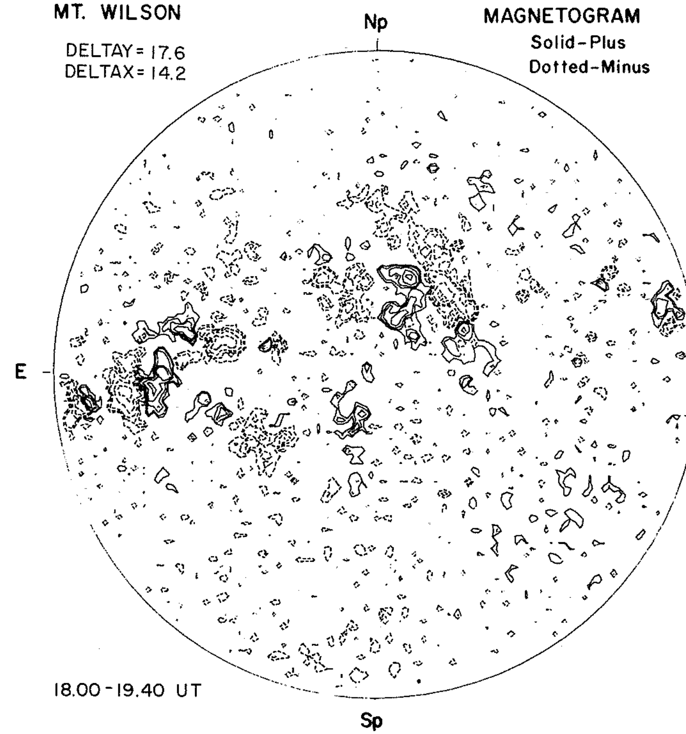


Contours in Intervals
of 200° K

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY= 17.6
DELTAX= 14.2

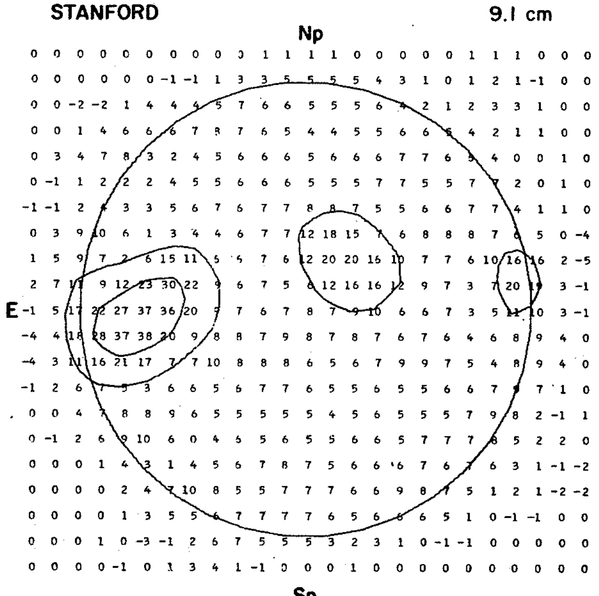


Levels
±5
±10
±20
±40
±80

18.00-19.40 UT

STANFORD

9.1 cm

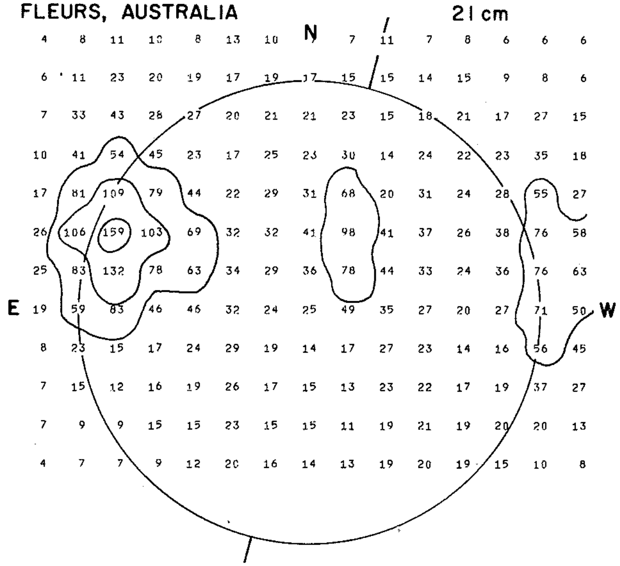


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

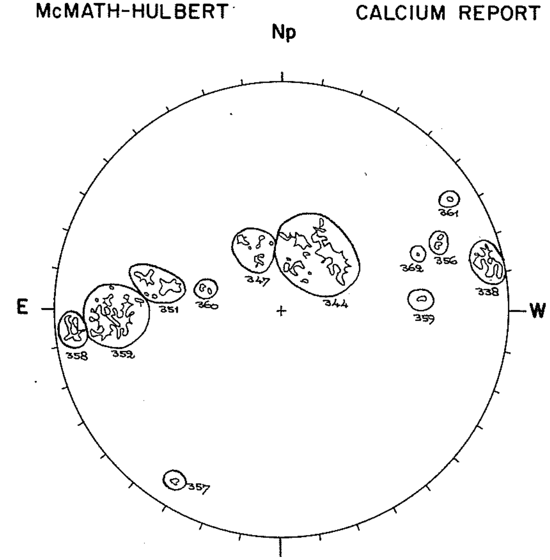


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



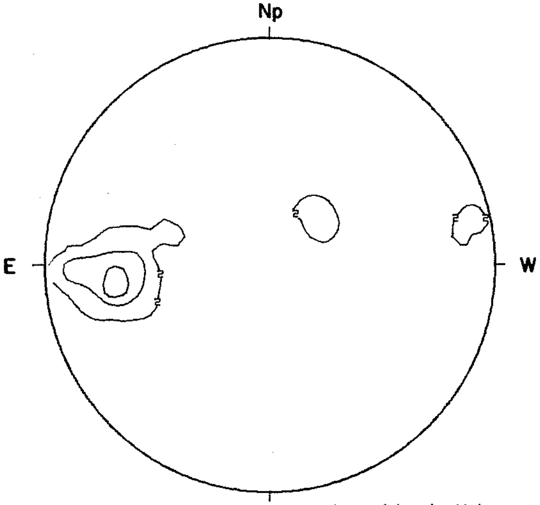
GOOD	M
38-27	-2.5
44-27	-3.0
51-12	-3.0
52-28	-3.5
58-11	-2.5

1630 UT

JUNE 4, 1971 (P=-14.57, B_o=-0.33, L_o=258.25)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

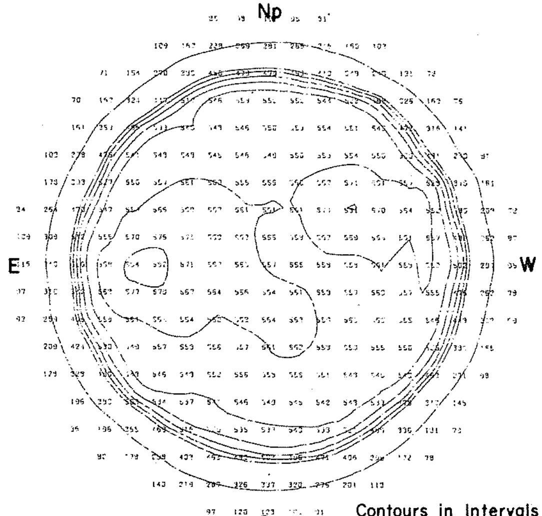


0352-0527 UT

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

PROSPECT HILL
AFCRL

8.6 mm



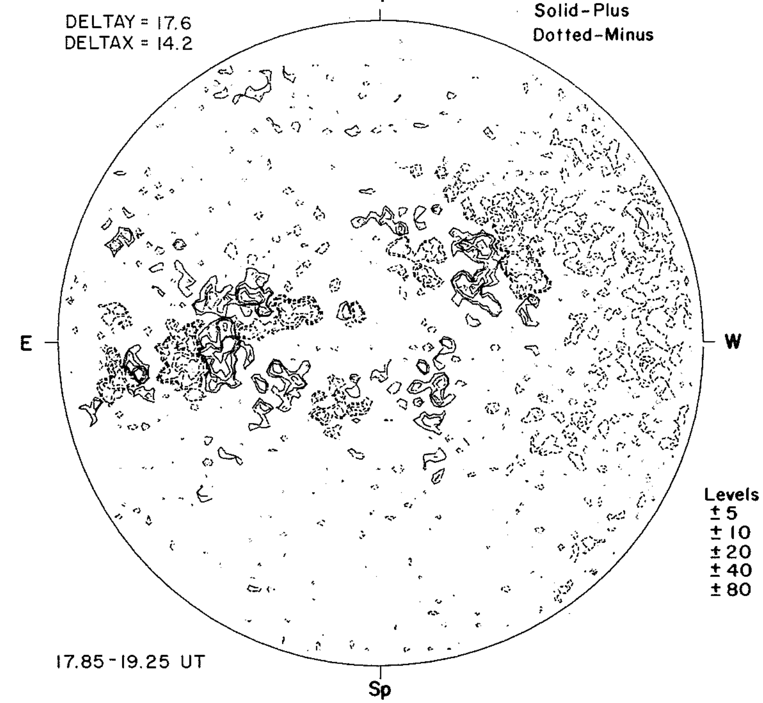
1457 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

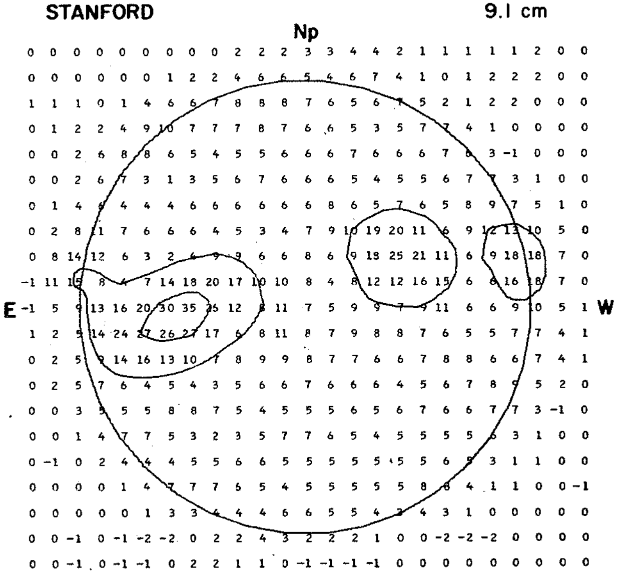


Levels
±5
±10
±20
±40
±80

17.85-19.25 UT

STANFORD

9.1 cm

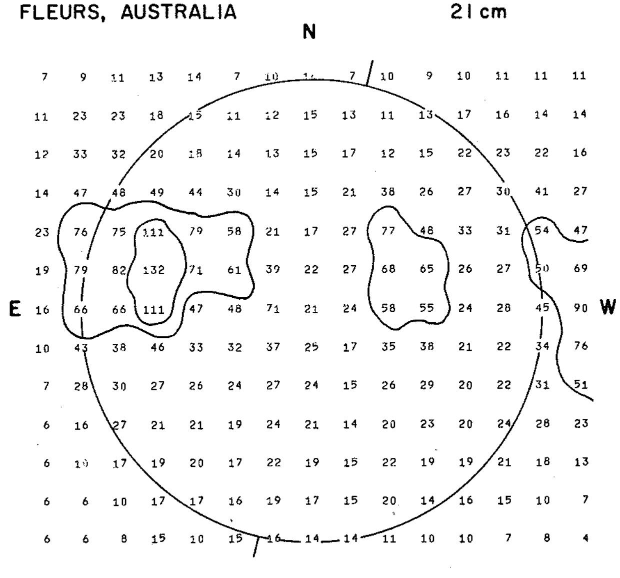


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

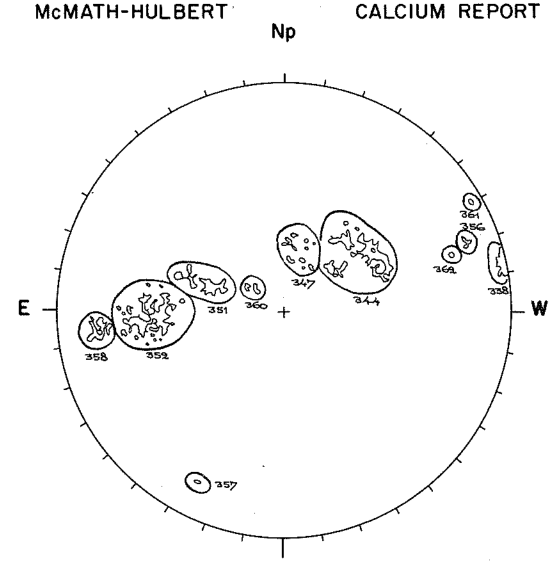


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



GOOD	M

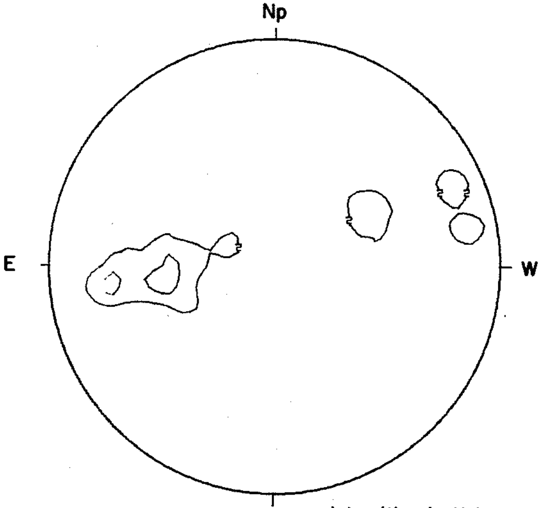
44-26-3.0
51-11-3.0
52-30-3.5
58-10-3.0

1240 UT

JUNE 5, 1971 (P=-14.18, B_o=-0.21, L_o=245.01)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

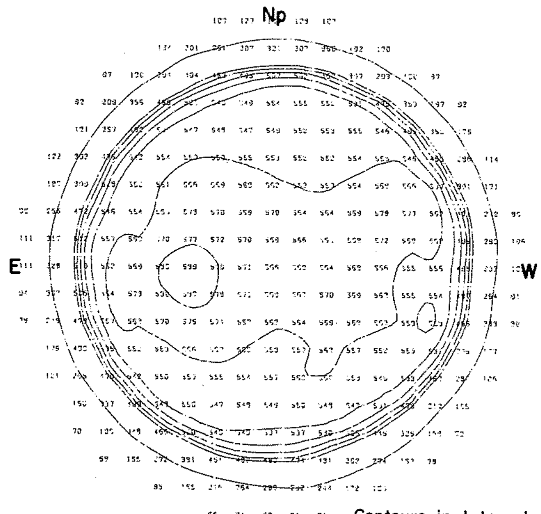


0607-0654 UT

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

PROSPECT HILL
AFCRL

8.6 mm



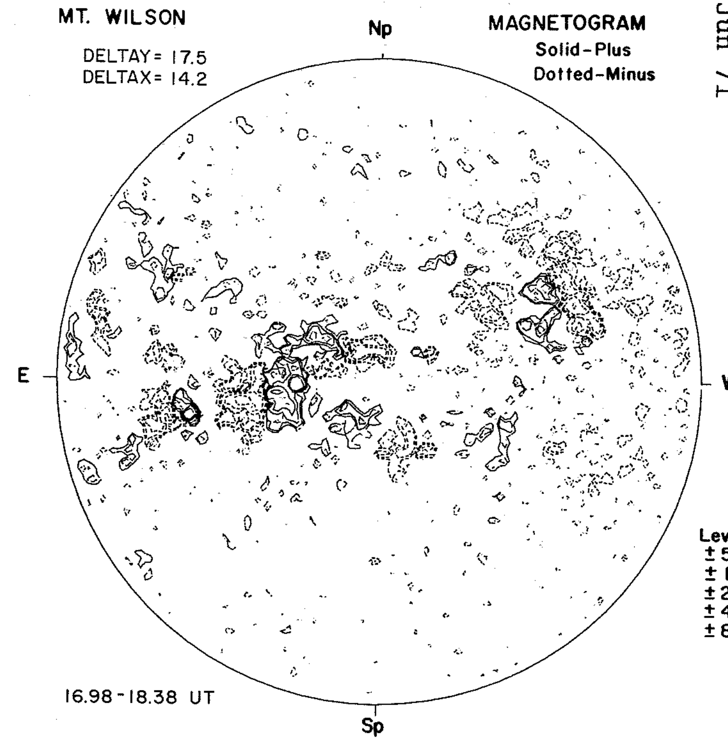
1657 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY= 17.5
DELTAX= 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

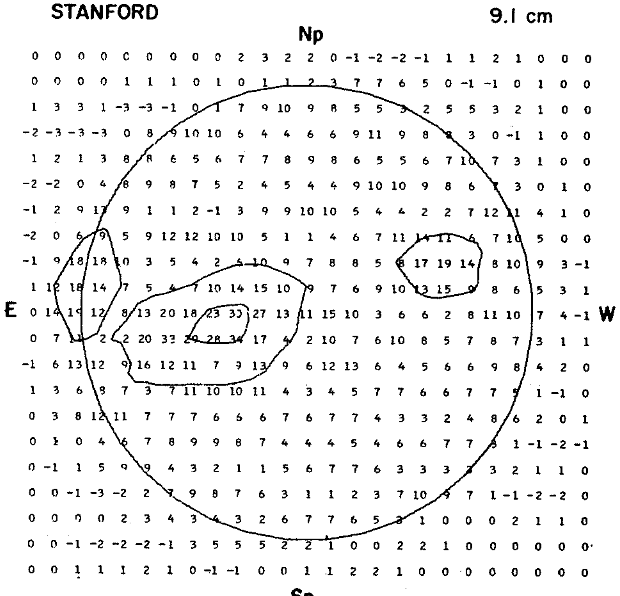


Levels
±5
±10
±20
±40
±80

16.98-18.38 UT

STANFORD

9.1 cm

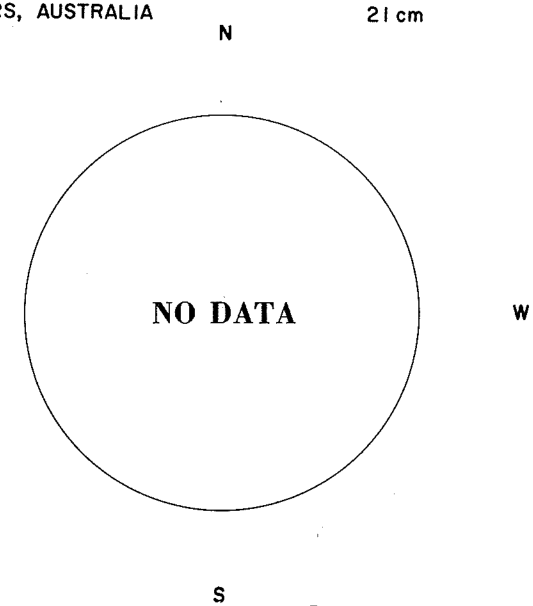


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

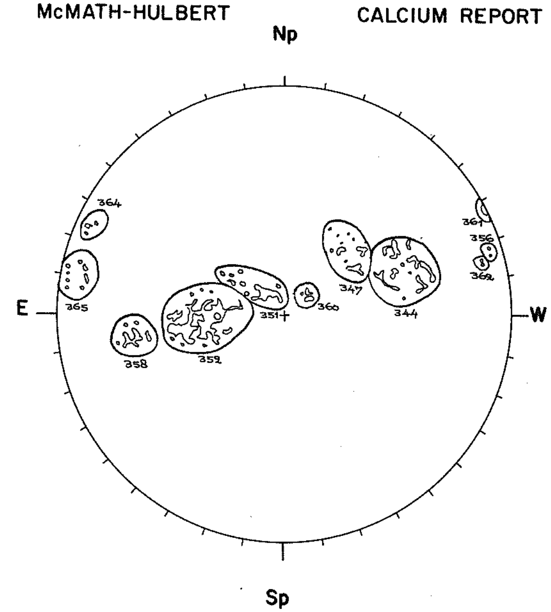


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



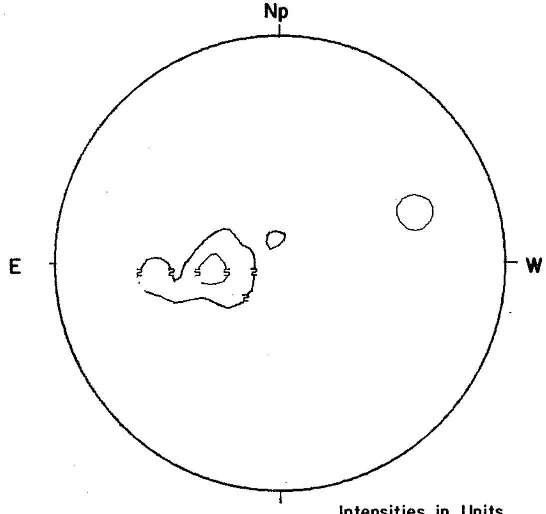
FAIR	S
44-25-3.0	
51-12-3.0	
52-34-3.5	
58-09-3.0	
61-04-2.5	

1245 UT

JUNE 6, 1971 (P=-13.79, B_o=-0.09, L_o=231.78)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

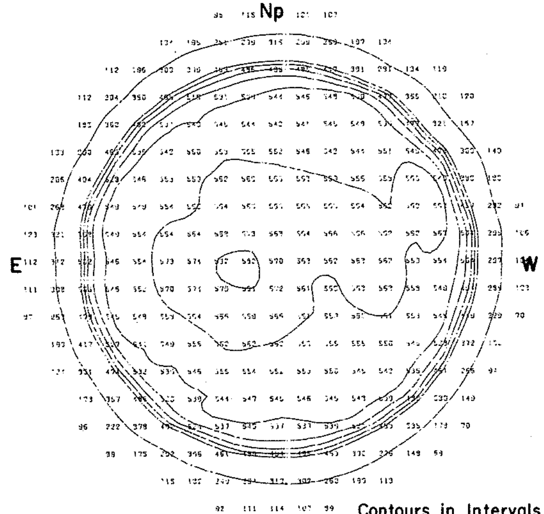


0412-0511 UT

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

PROSPECT HILL
AFCRL

8.6 mm

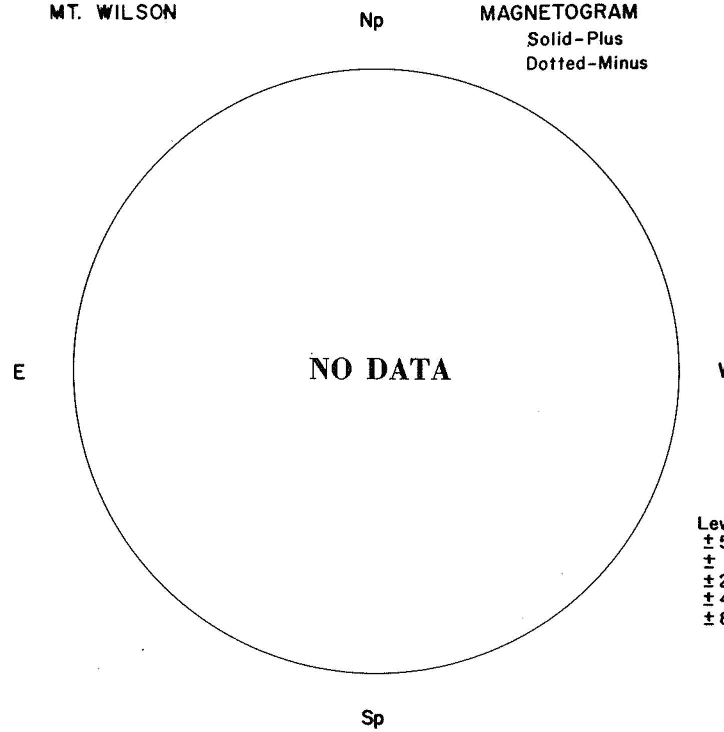


1433 UT

Contours in Intervals of 200° K

MT. WILSON

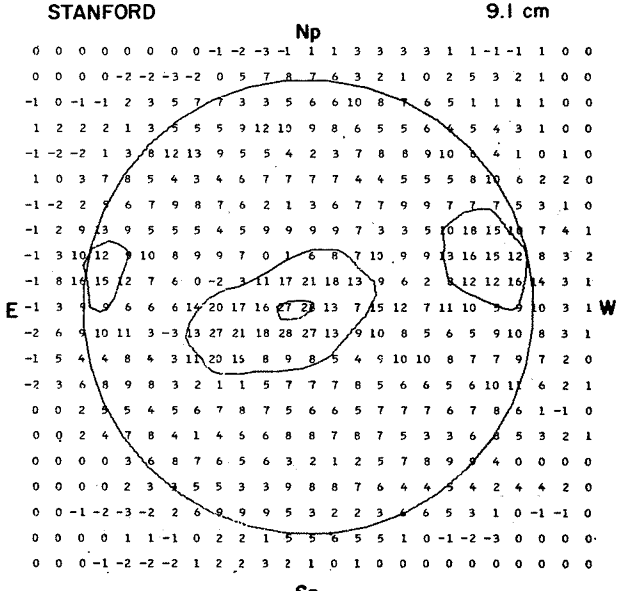
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

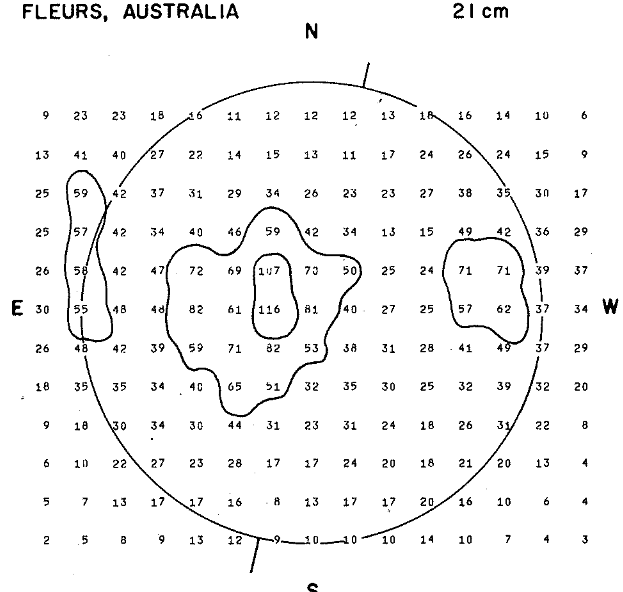


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

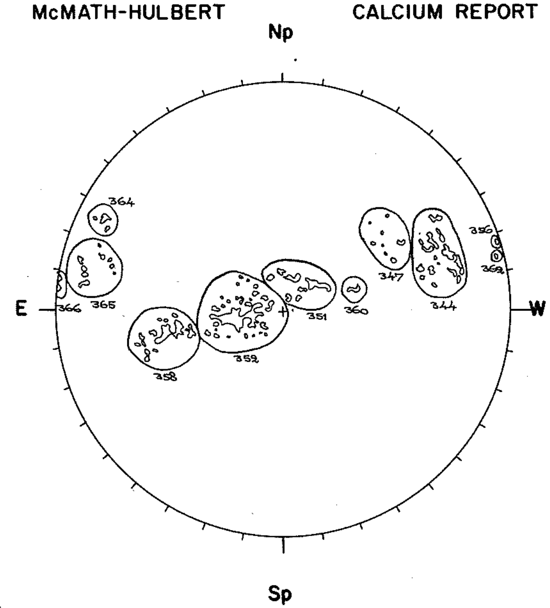


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



FAIR | D

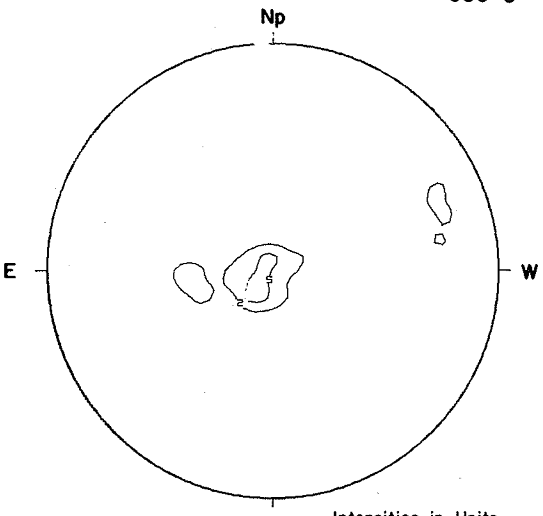
44-28-3.0
51-12-3.0
52-30-3.5
58-11-3.0

1215 UT

JUNE 7, 1971 (P=-13.40, B_o=0.03, L_o=218.54)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

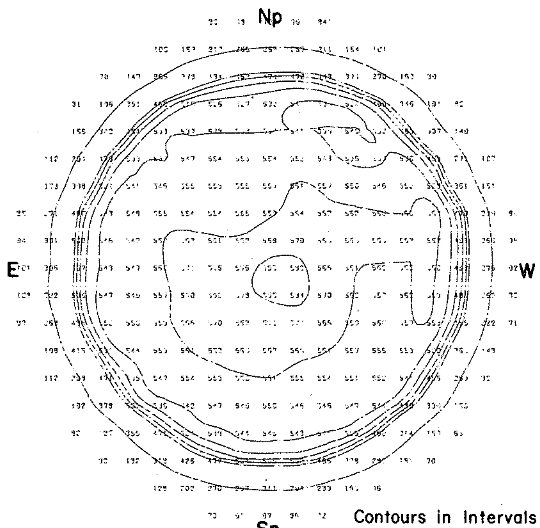


Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0547-0636 UT

PROSPECT HILL
AFCRL

8.6 mm



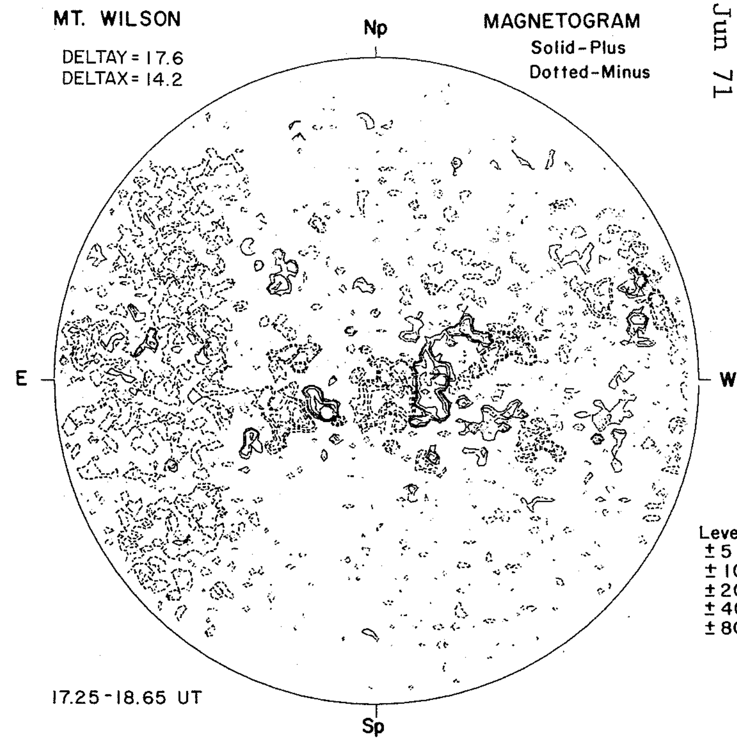
Contours in Intervals of 200° K

1355 UT

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

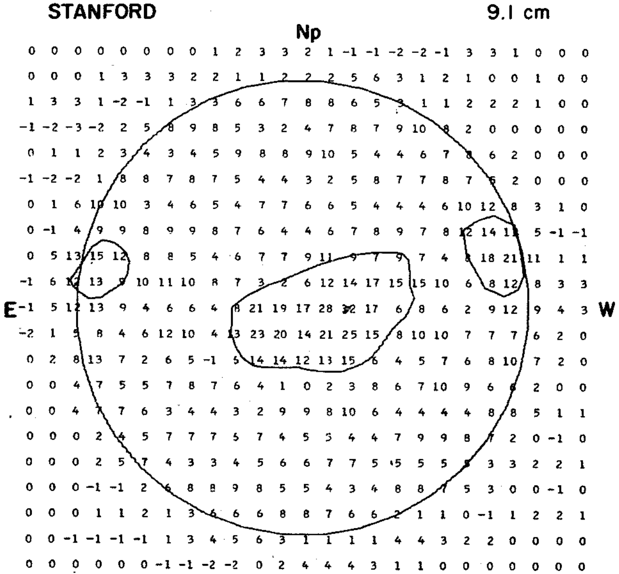


Levels
±5
±10
±20
±40
±80

17.25-18.65 UT

STANFORD

9.1 cm

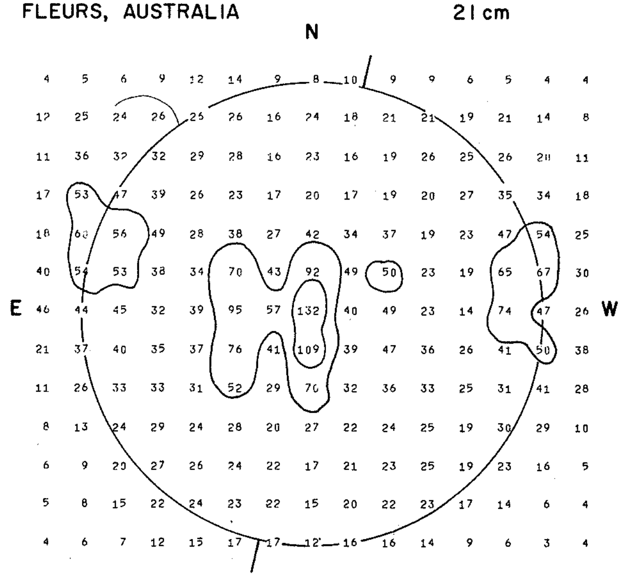


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

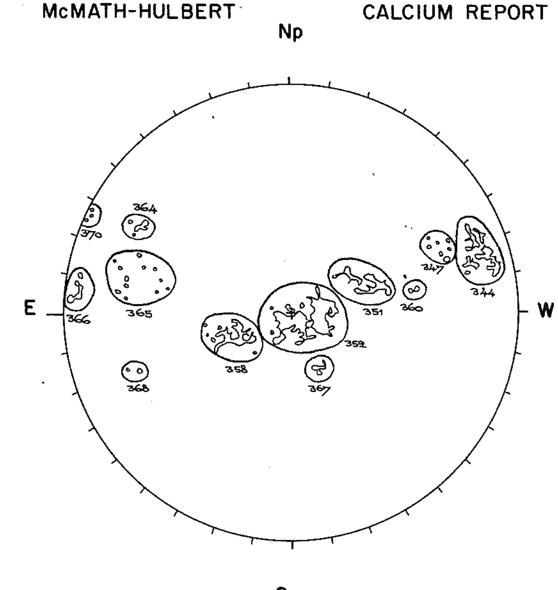


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



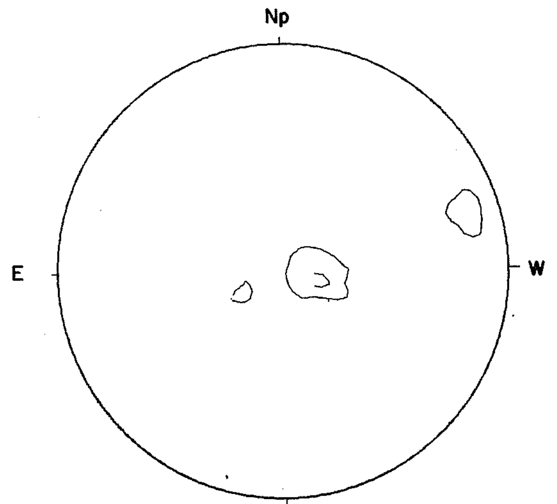
FAIR	M
44-29-2.5	
51-11-3.0	
52-32-3.5	
58-10-3.5	

1300 UT

JUNE 8, 1971 (P=-13.00, B_o=0.15, L_o=205.31)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

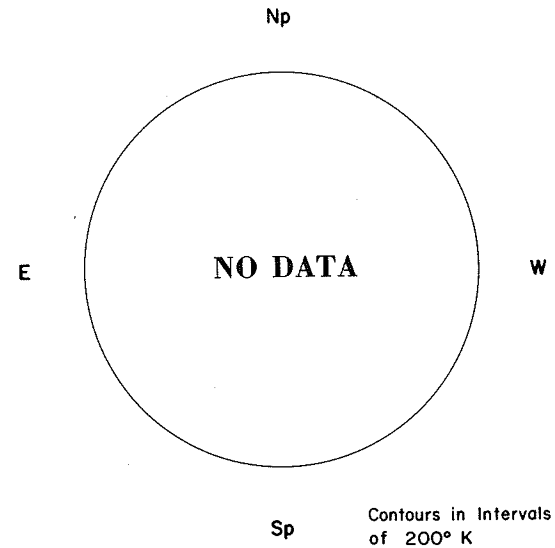


Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0254-0453 UT

PROSPECT HILL
AFCRL

8.6 mm

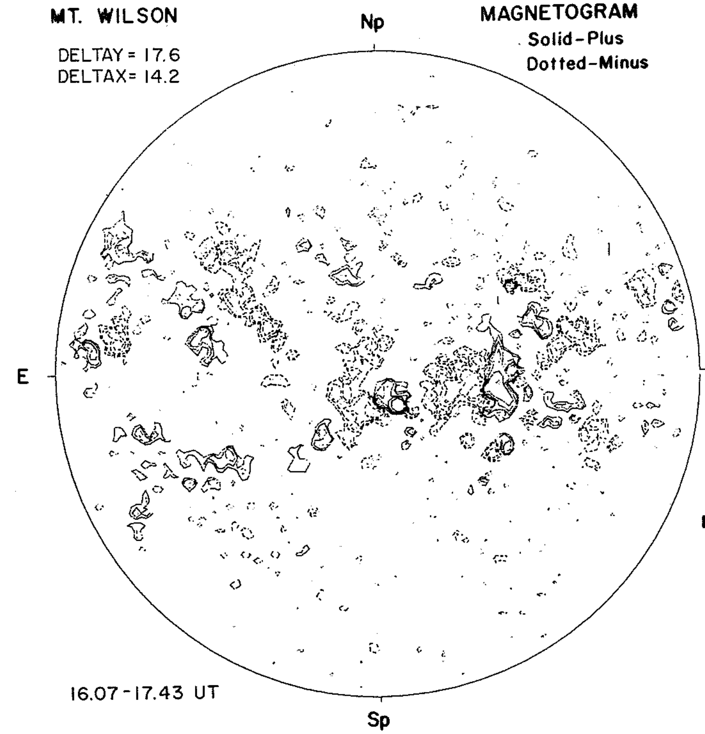


Contours in Intervals of 200° K

MT. WILSON

DELTAY= 17.6
DELTAX= 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

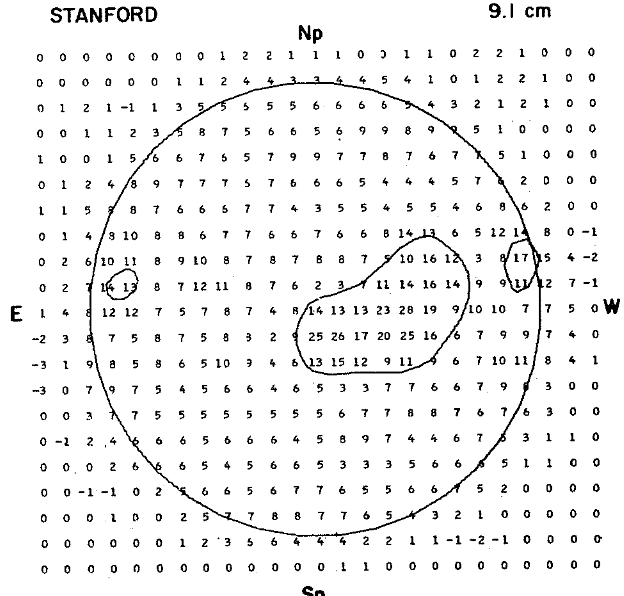


Levels
±5
±10
±20
±40
±80

16.07-17.43 UT

STANFORD

9.1 cm

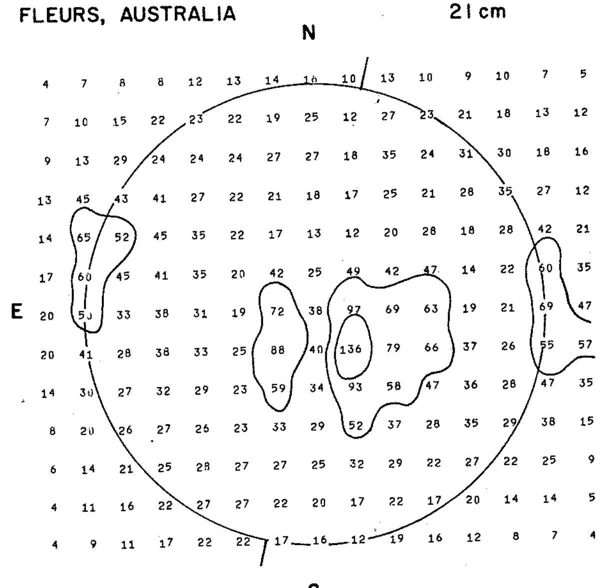


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

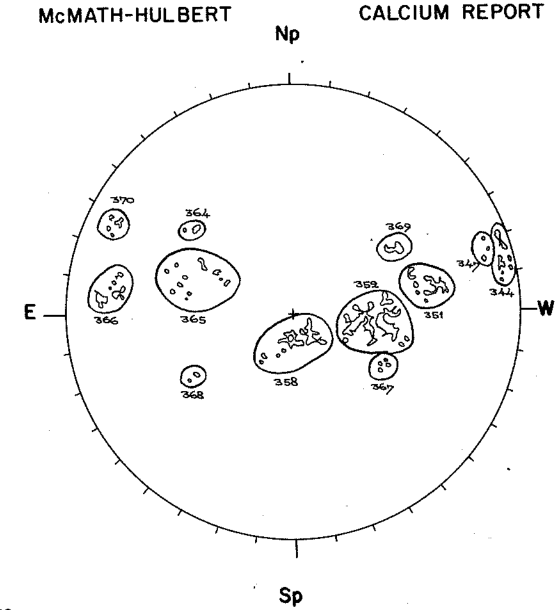


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



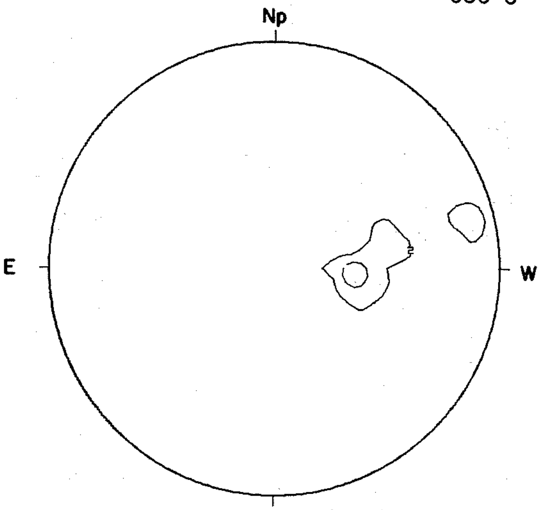
FAIR	M
51-10	-2.5
52-30	-3.5
58-10	-3.0
69-05	-3.5

1910 UT

JUNE 9, 1971 (P=-12.59, B_o=0.27, L_o=192.07)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

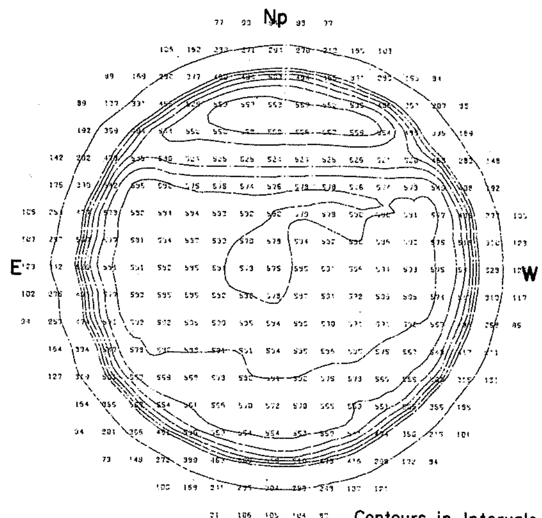


0300-0444 UT

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

PROSPECT HILL
AFCRL

8.6 mm



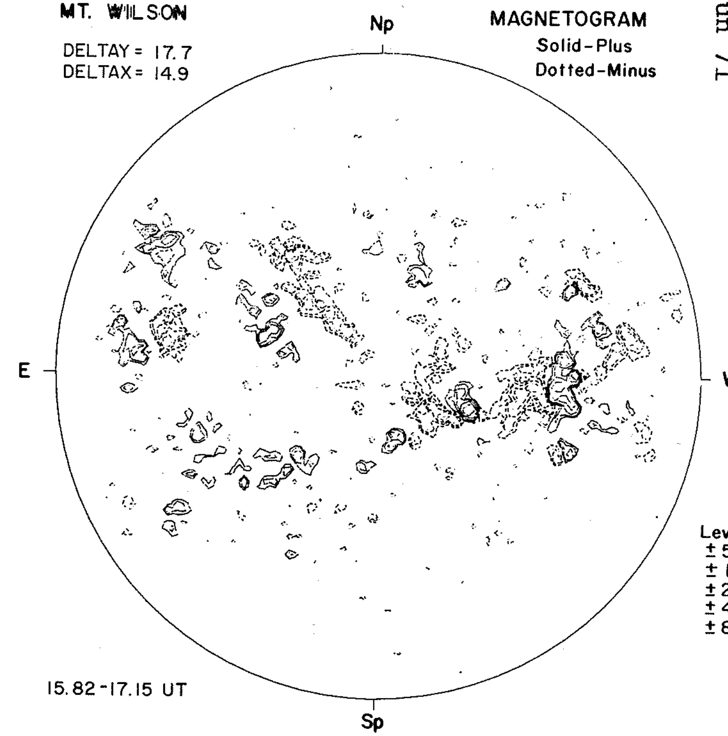
1958 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.7
DELTAX = 14.9

MAGNETOGRAM
Solid-Plus
Dotted-Minus

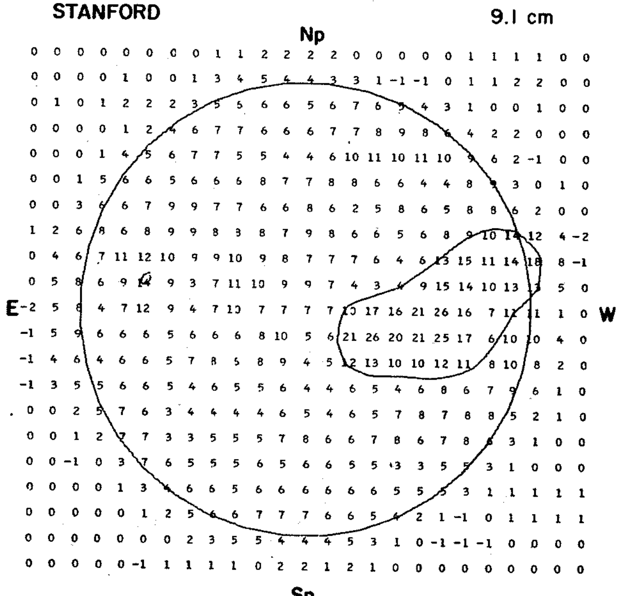


Levels
±5
±10
±20
±40
±80

15.82-17.15 UT

STANFORD

9.1 cm

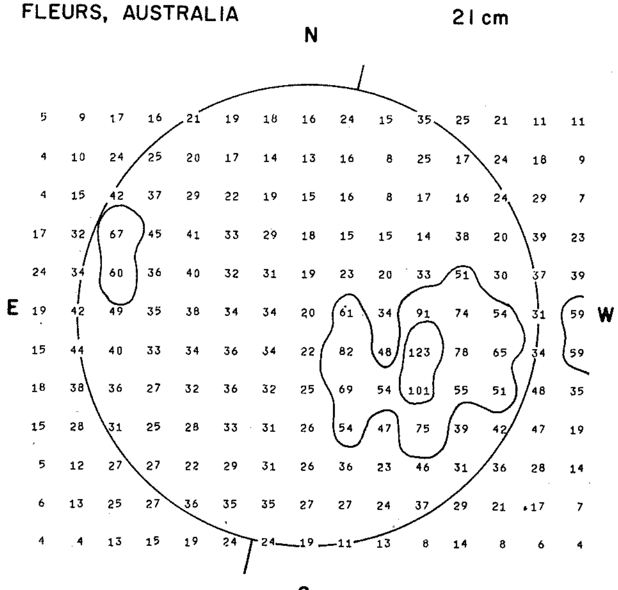


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

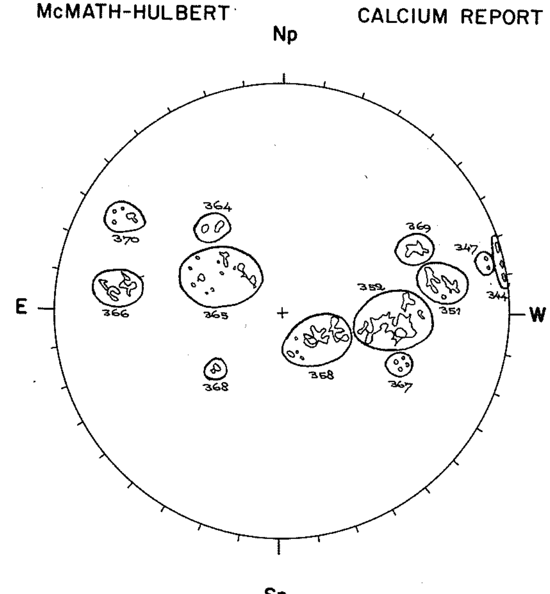


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



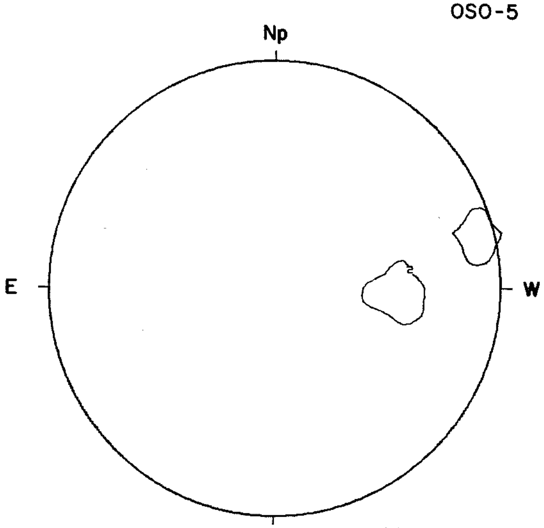
V POOR | M
52-27-3.0
58-12-3.0
69-07-3.0

1230 UT

JUNE 10, 1971 (P=-12.19, B_o=0.39, L_o=178.84)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

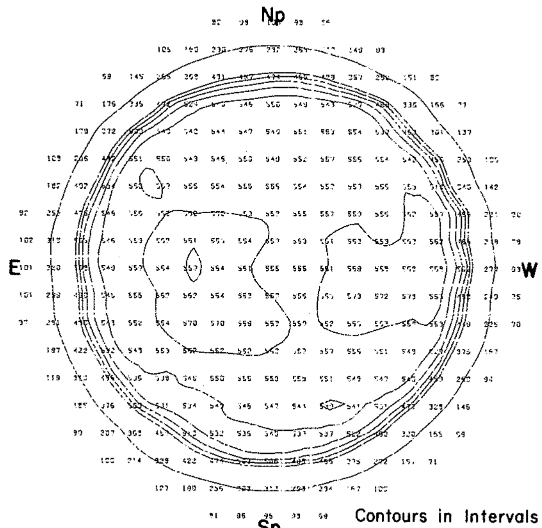


0119-0256 UT

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

PROSPECT HILL
AFCRL

8.6 mm

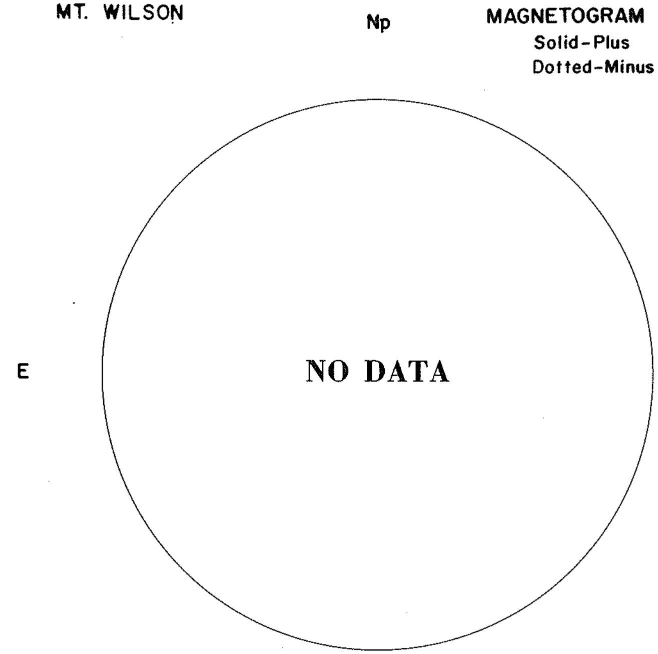


1339 UT

Contours in Intervals of 200° K

MT. WILSON

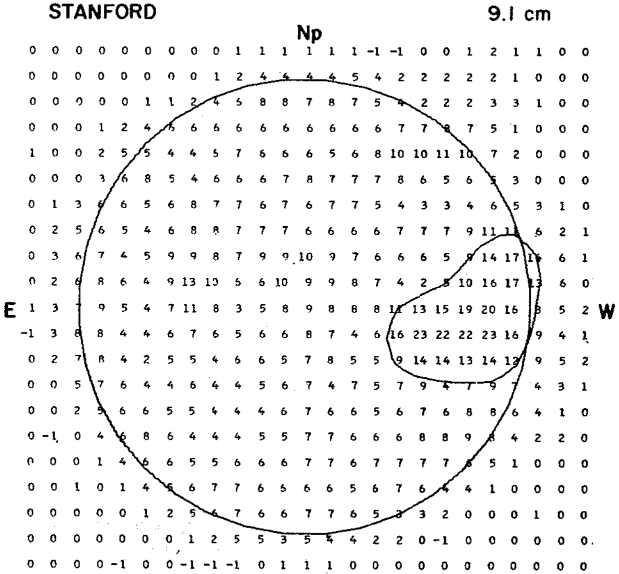
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

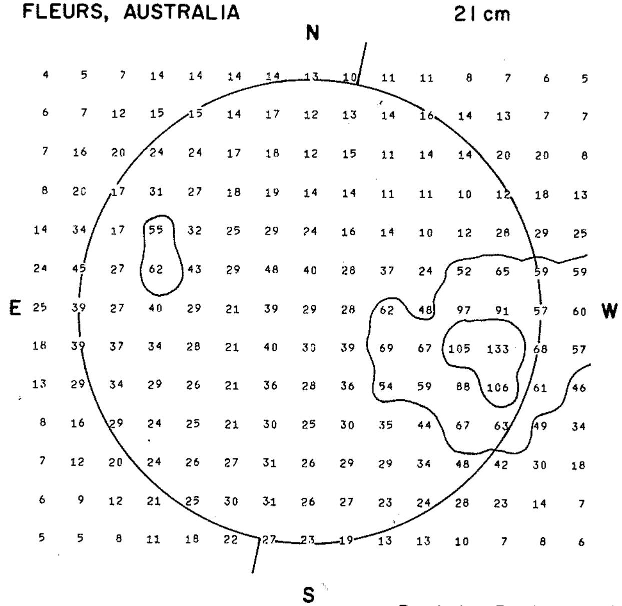


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

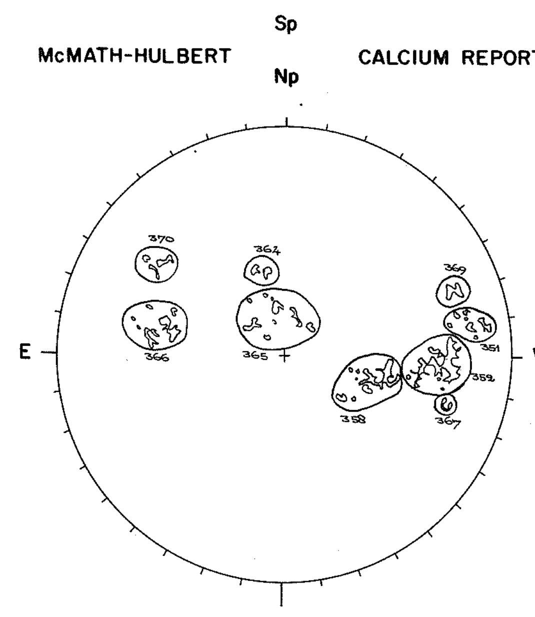


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



FAIR	M

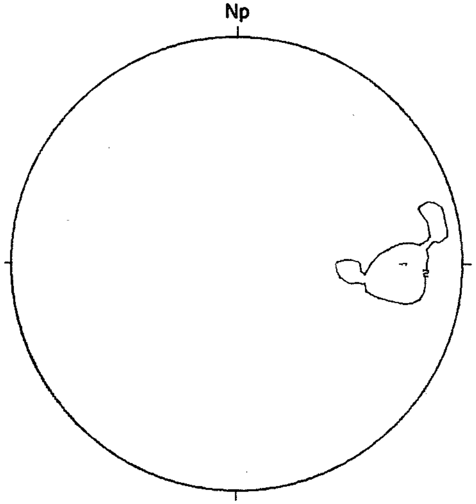
52-28-3.0
58-15-3.0
69-07-3.0

1230 UT

JUNE 11, 1971 (P=-11.77, B_o=0.51, L_o=165.60)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

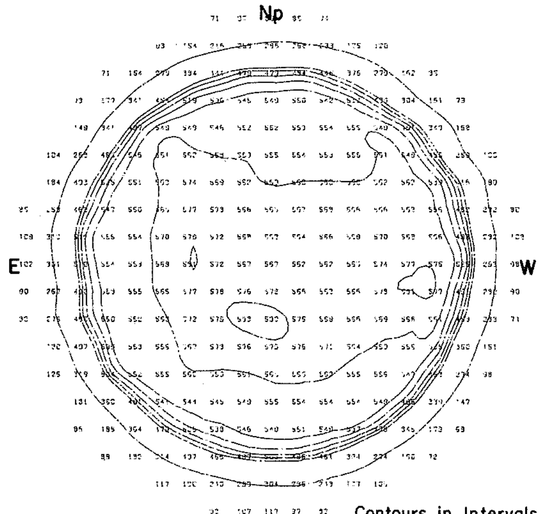


0245-0424 UT

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

PROSPECT HILL
AFCRL

8.6 mm



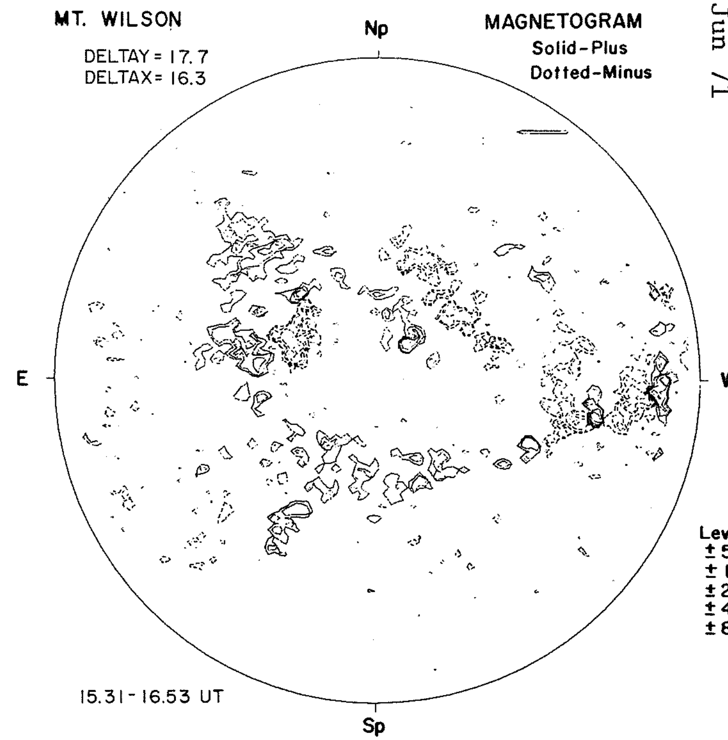
1405 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.7
DELTAX = 16.3

MAGNETOGRAM
Solid-Plus
Dotted-Minus

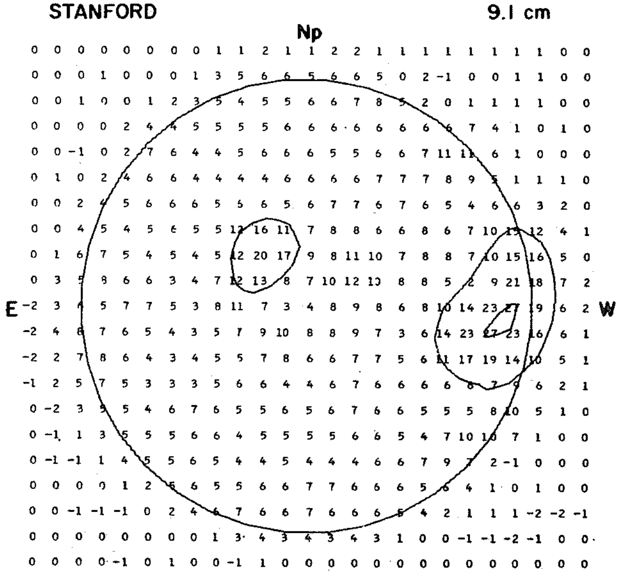


Levels
±5
±10
±20
±40
±80

15.31-16.53 UT

STANFORD

9.1 cm

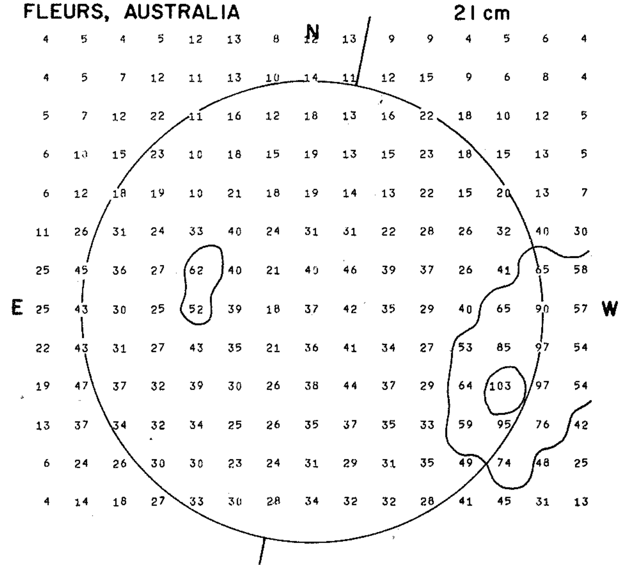


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

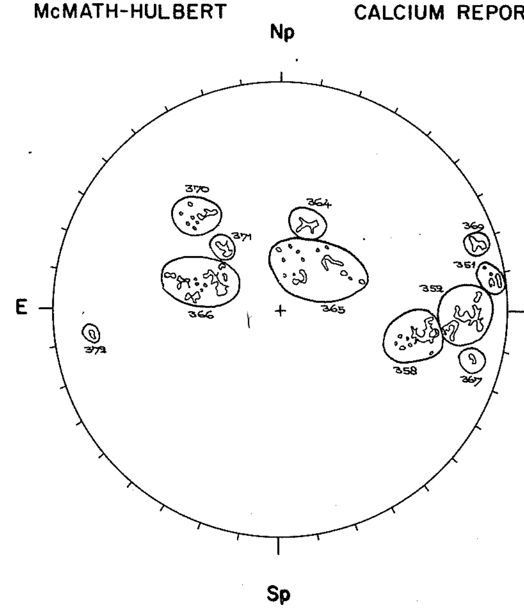


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



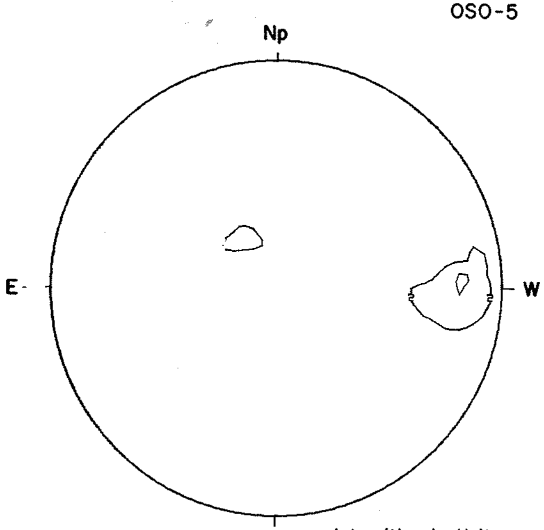
FAIR	M
52-25-3.0	
58-12-3.0	
66-14-2.5	
69-07-2.5	
71-04-3.0	

1330 UT

JUNE 12, 1971 (P=-11.36, B_o=0.63, L_o=152.36)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

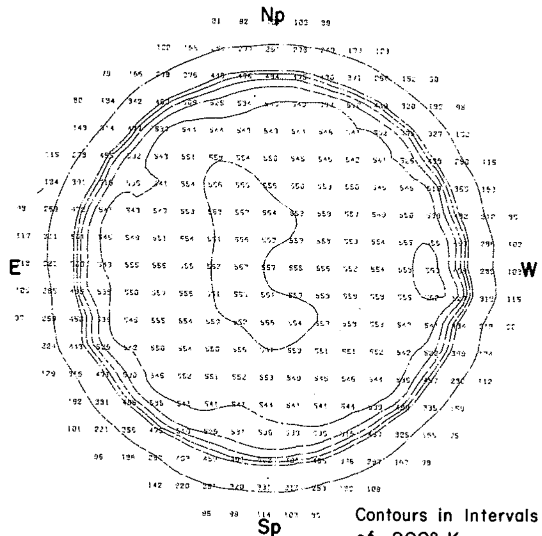


0054-0236 UT

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

PROSPECT HILL
AFCRL

8.6 mm



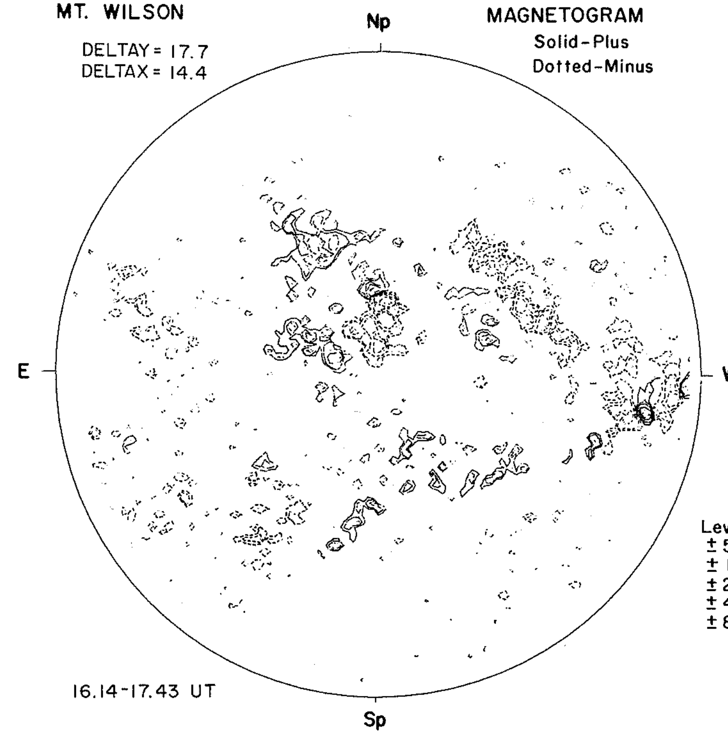
1336 UT

Contours in Intervals of 200° K

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 17.7
DELTAX = 14.4

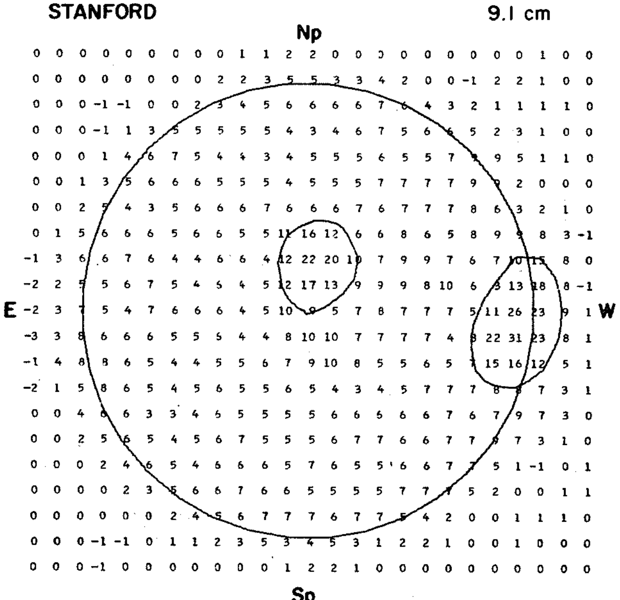


Levels
±5
±10
±20
±40
±80

16.14-17.43 UT

STANFORD

9.1 cm

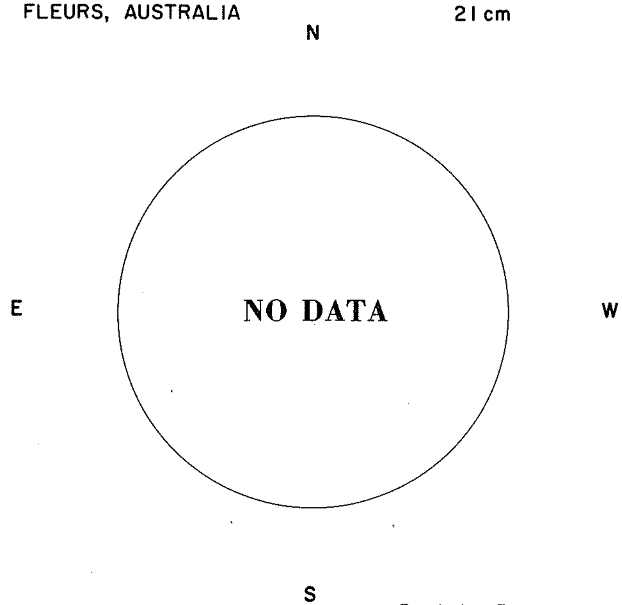


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

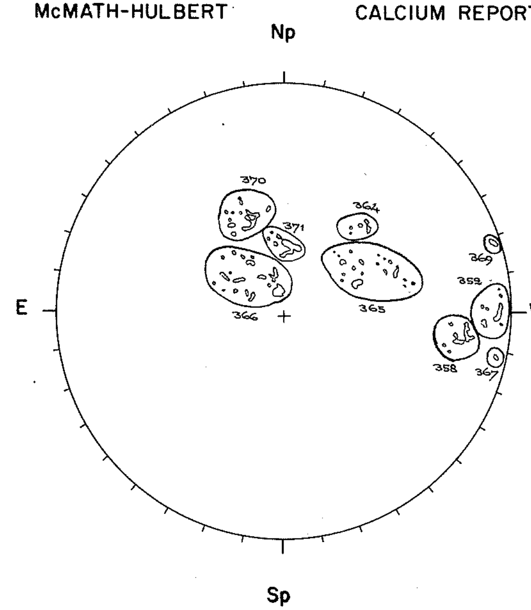


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



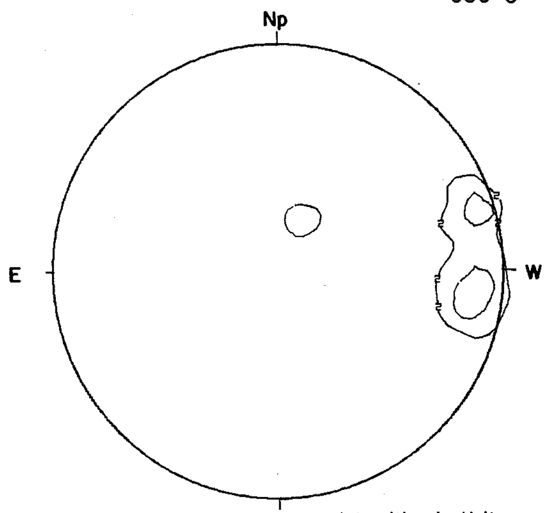
FAIR	S
52-21-2.5	
58-10-3.5	
66-15-2.5	
67-02-2.5	
71-09-3.5	

1345 UT

JUNE 13, 1971 (P=-10.94, B_o=0.75, L_o=139.13)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

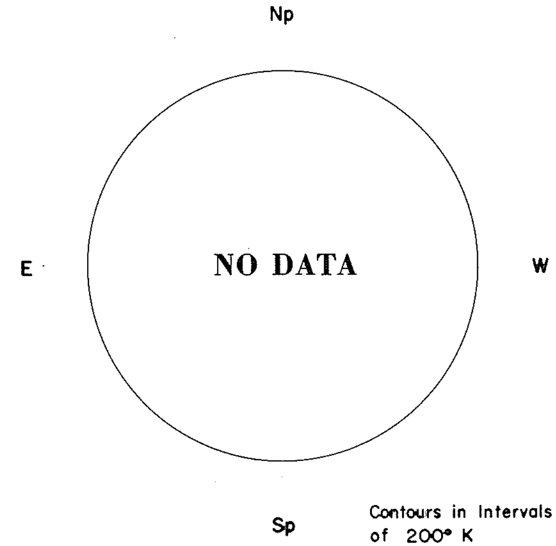


0310-0404 UT

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

PROSPECT HILL
AFCRL

8.6 mm

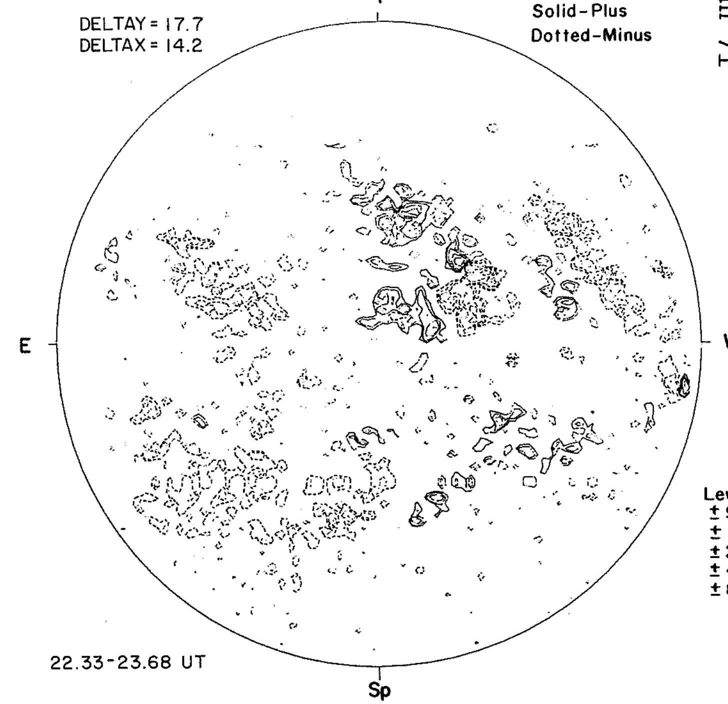


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.7
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

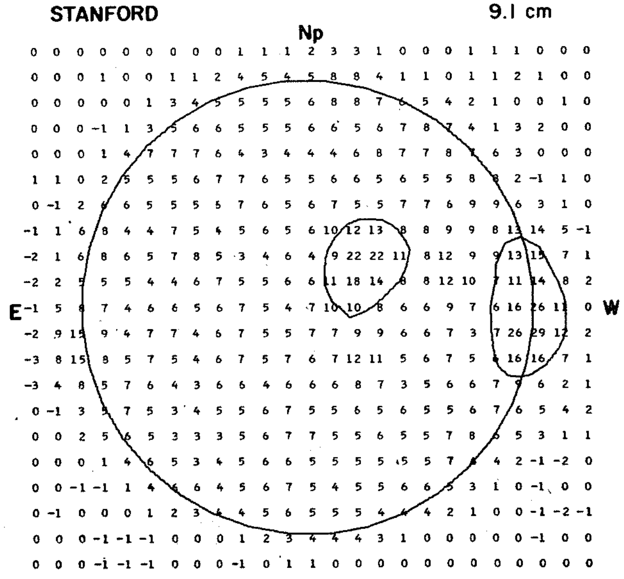


Levels
±5
±10
±20
±40
±80

22.33-23.68 UT

STANFORD

9.1 cm

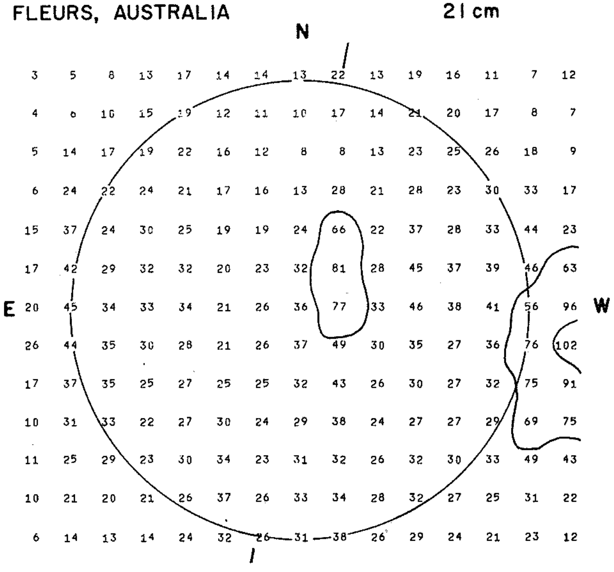


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

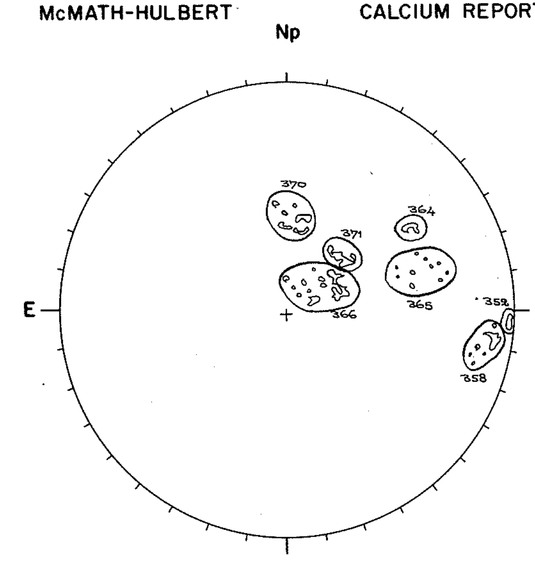


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



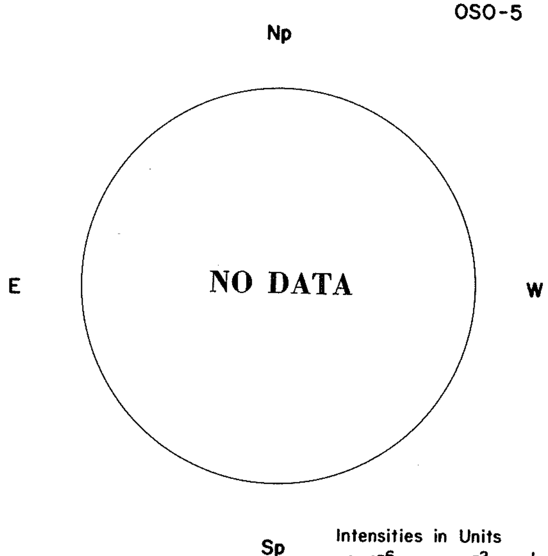
FAIR | M
66-14-2.5
71-07-3.5

1730 UT

JUNE 14, 1971 (P=-10.52, B_o=0.87, L_o=125.89)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

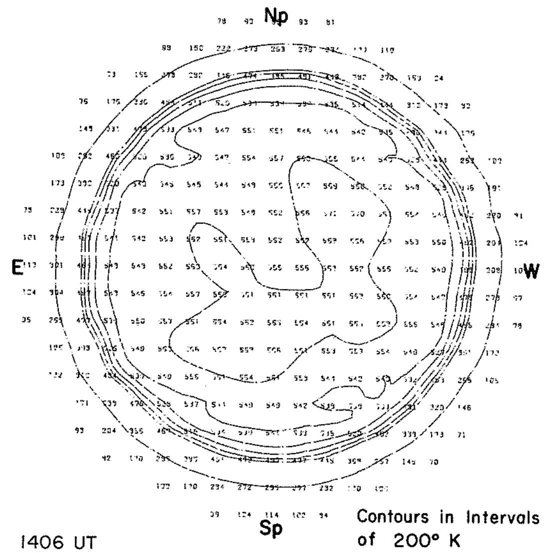
X-RAY
OSO-5



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

PROSPECT HILL
AFCRL

8.6 mm



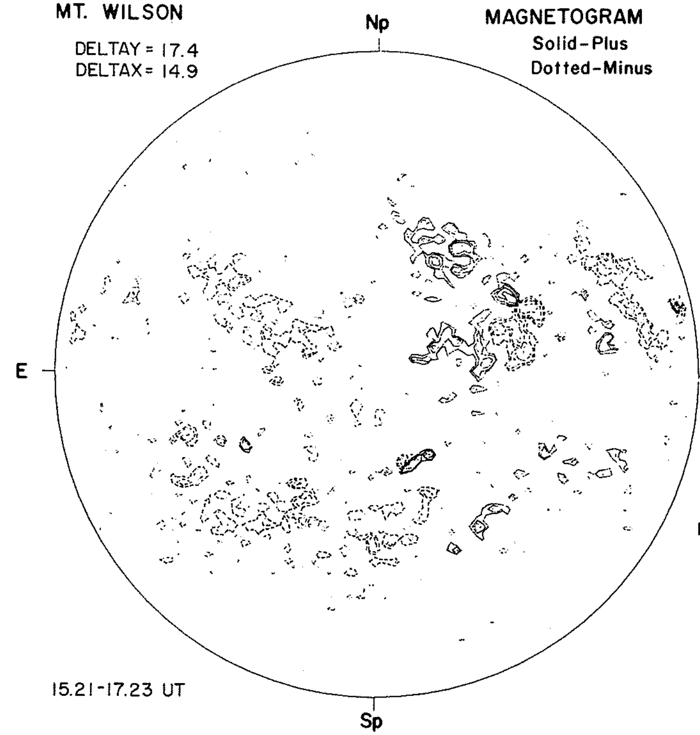
1406 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.9

MAGNETOGRAM
Solid-Plus
Dotted-Minus

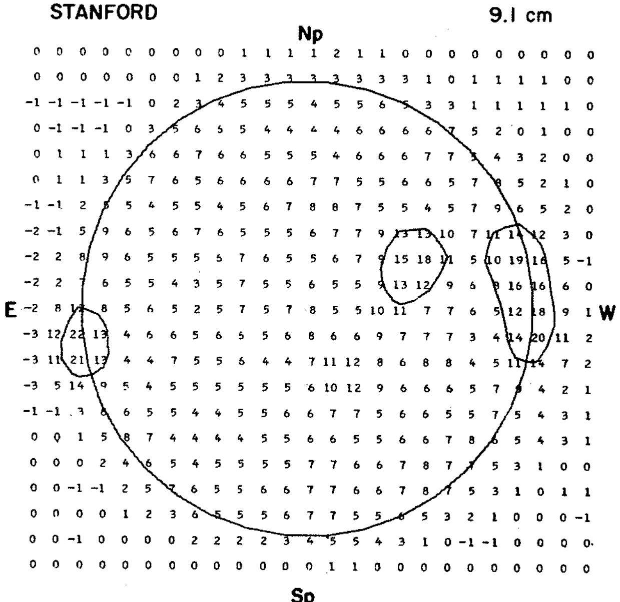


Levels
±5
±10
±20
±40
±80

15.21-17.23 UT

STANFORD

9.1 cm

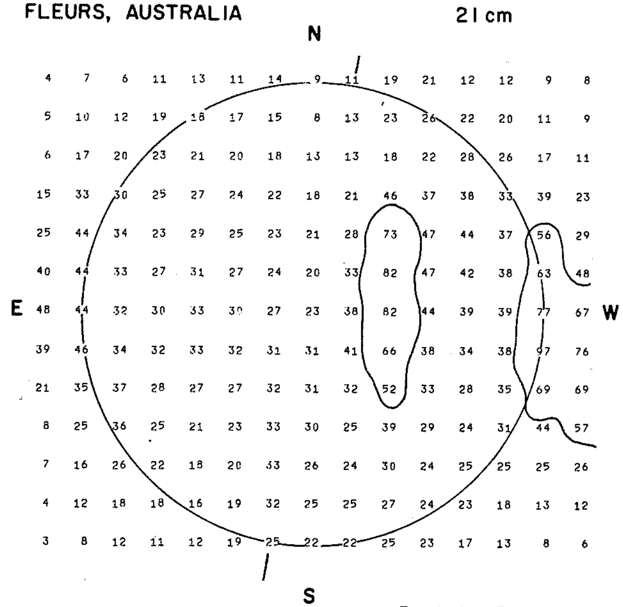


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

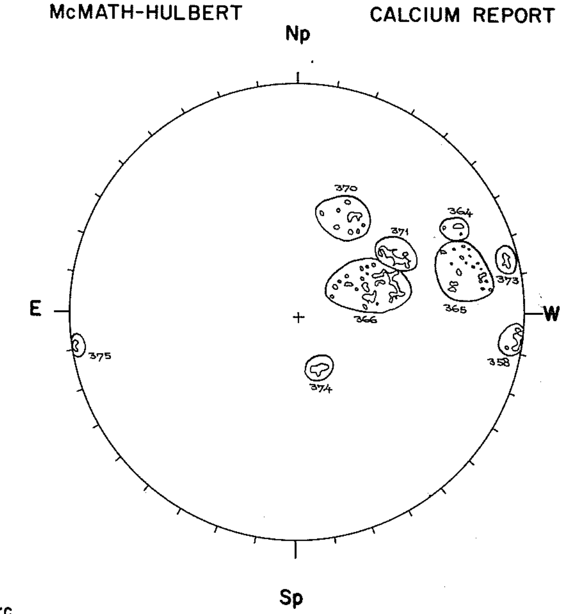


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



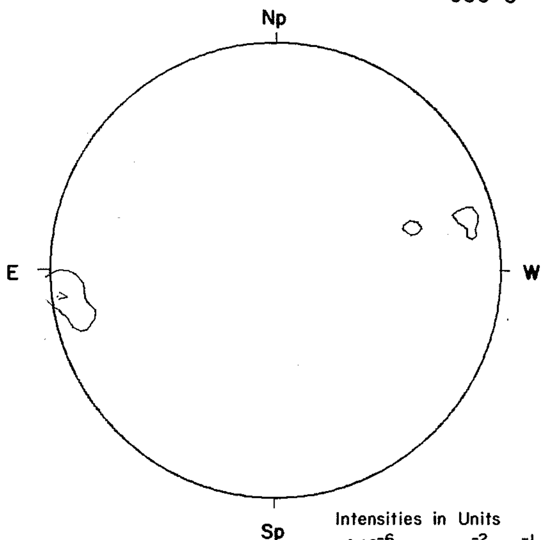
FAIR	M
66-15-2.5	
71-08-3.5	
73-07-3.0	
74-04-3.0	

1400 UT

JUNE 15, 1971 (P=-10.09, B_o=0.99, L_o=112.65)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

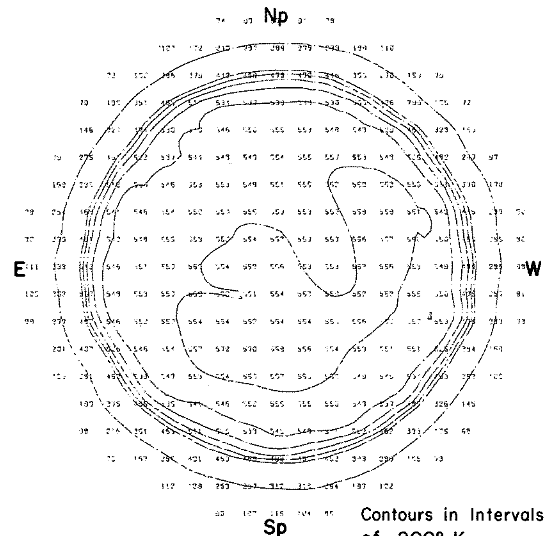


2233-0017 UT

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

PROSPECT HILL
AFCRL

8.6 mm



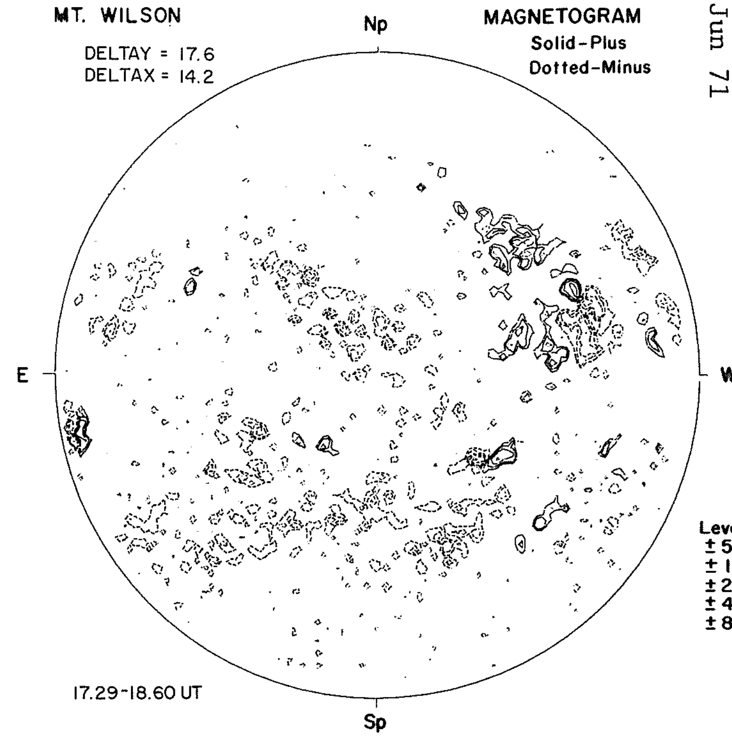
1502 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

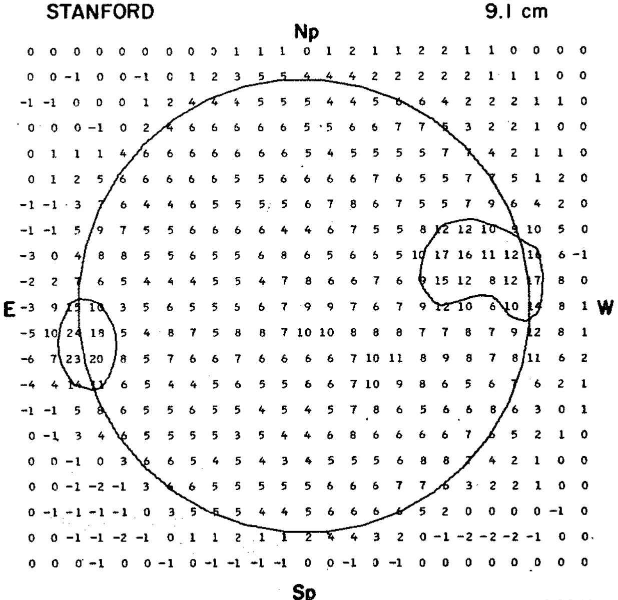


Levels
±5
±10
±20
±40
±80

17.29-18.60 UT

STANFORD

9.1 cm

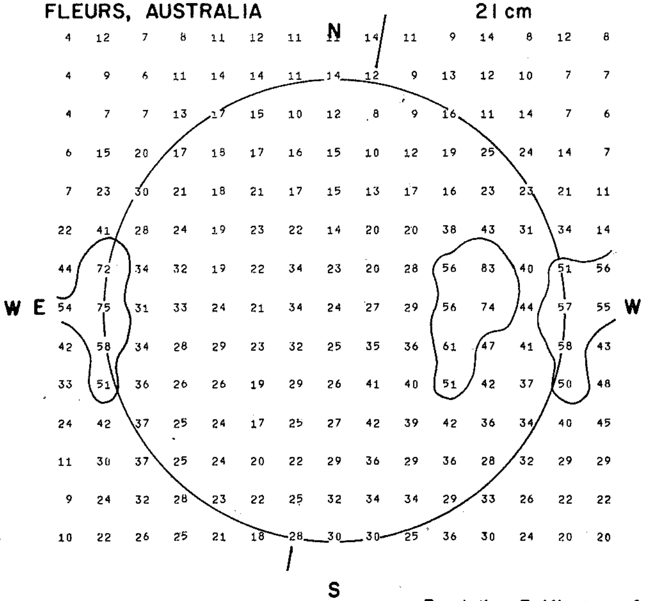


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

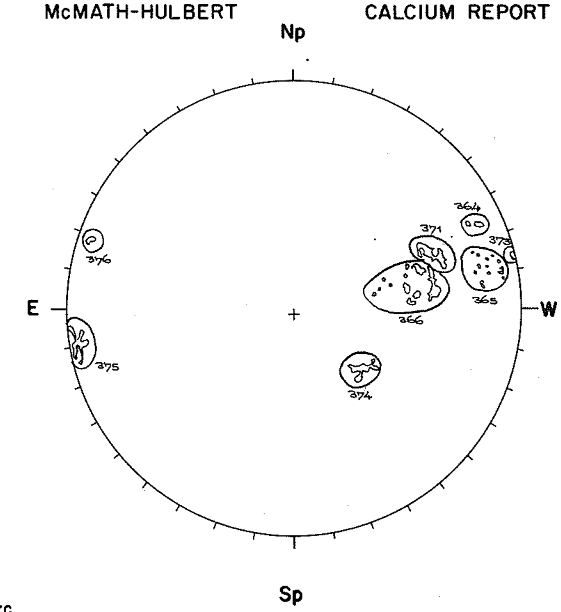


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



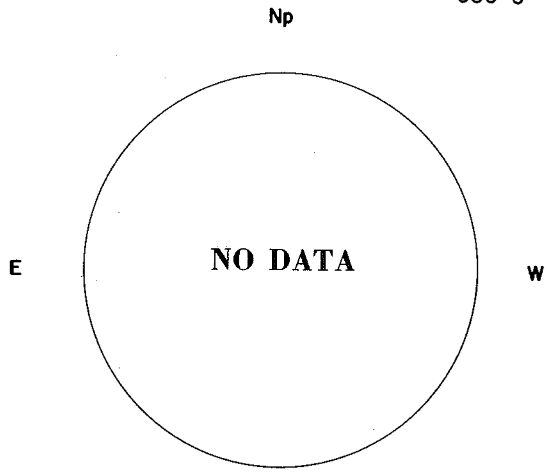
FAIR | M
71-09-3.5
74-09-3.0

1230 UT

JUNE 16, 1971 (P=-9.67, B_o=1.11, L_o=99.42)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

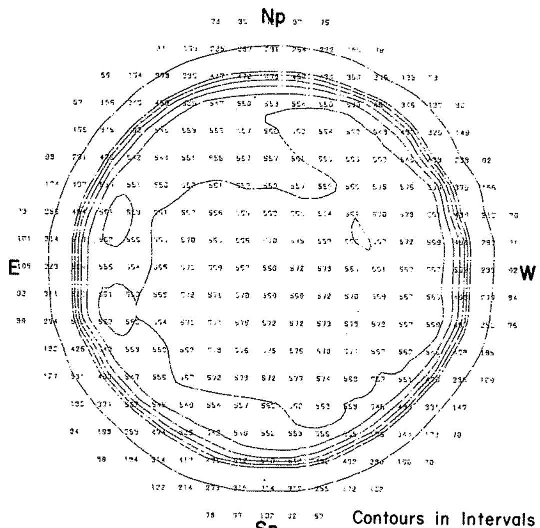
X-RAY
OSO-5



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

PROSPECT HILL
AFCRL

8.6 mm



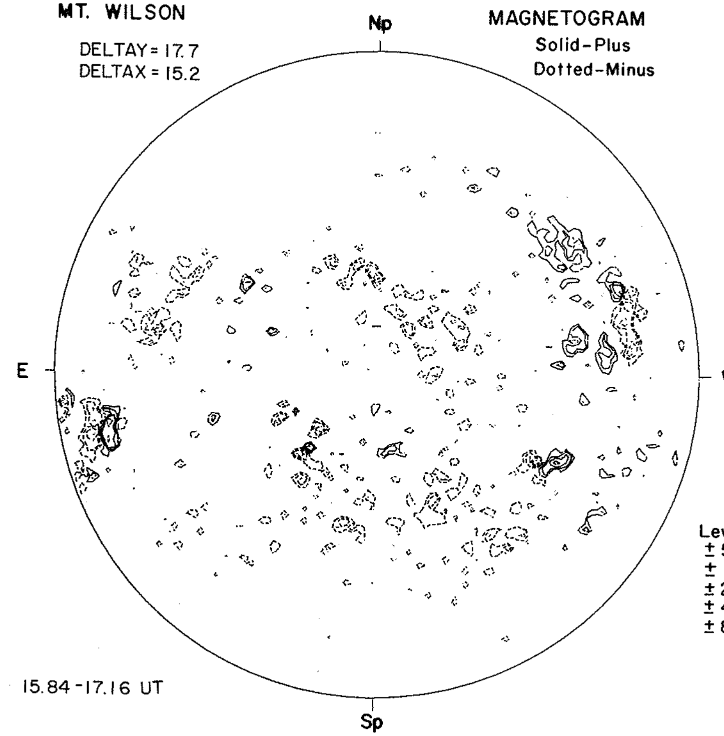
1456 UT

Contours in Intervals
of 200° K

MT. WILSON

DELTAY = 17.7
DELTAX = 15.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

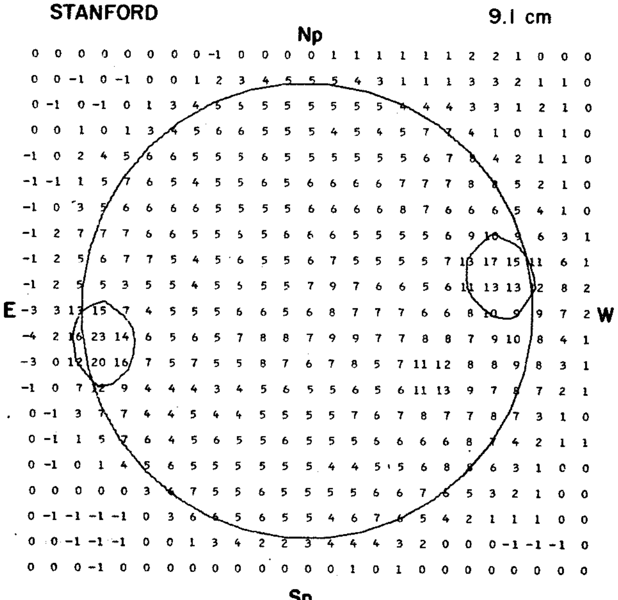


Levels
±5
±10
±20
±40
±80

15.84-17.16 UT

STANFORD

9.1 cm

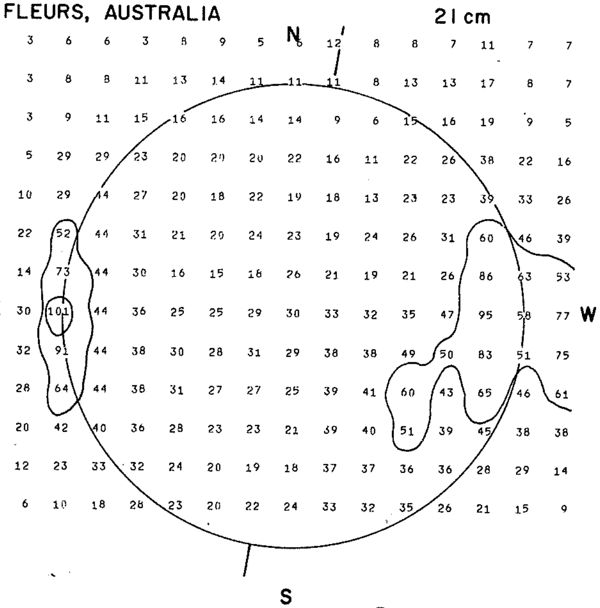


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

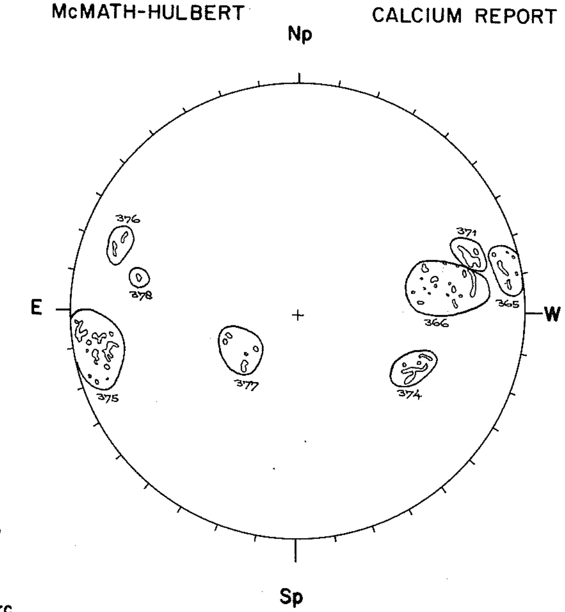


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



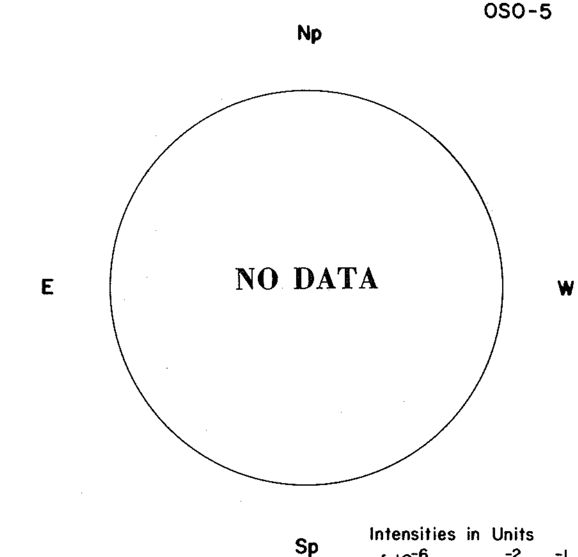
GOOD	M
66-12-2.5	
71-08-3.0	
74-08-3.0	
75-29-3.0	
77-05-2.5	

1230 UT

JUNE 17, 1971 (P=-9.23, B_o=1.23, L_o=86.18)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

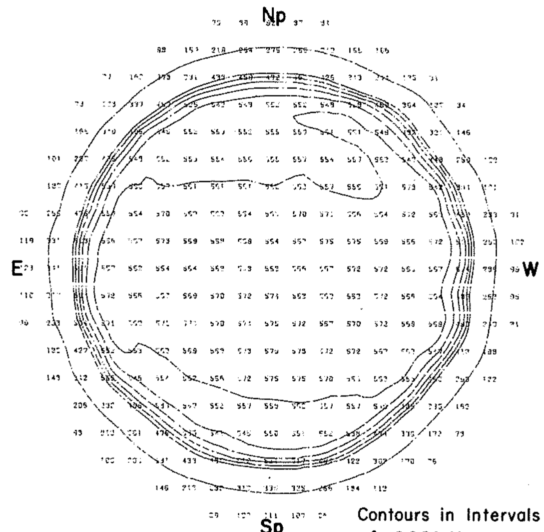
X-RAY
OSO-5



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

PROSPECT HILL
AFCRL

8.6 mm



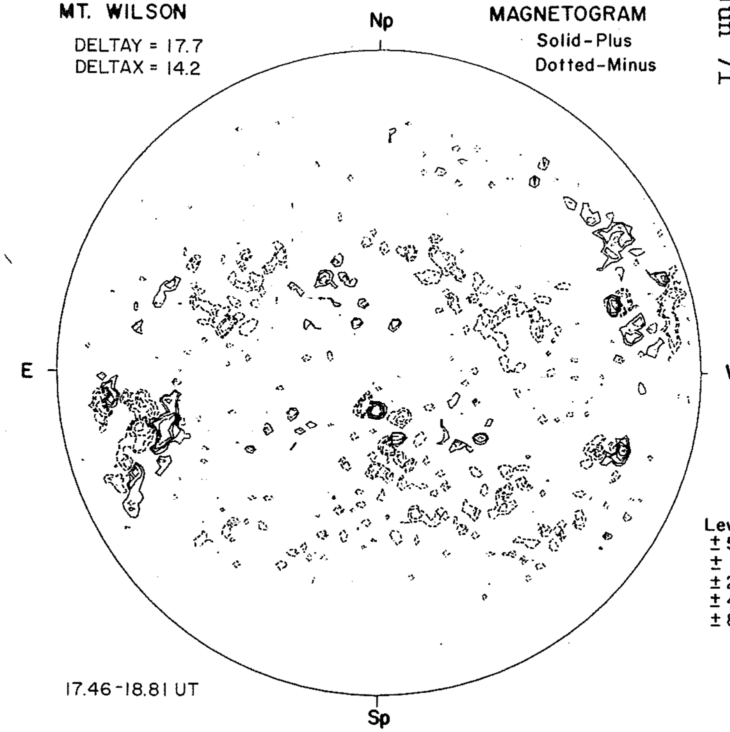
1456 UT

Contours in Intervals
of 200° K

MT. WILSON

DELTAY = 17.7
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

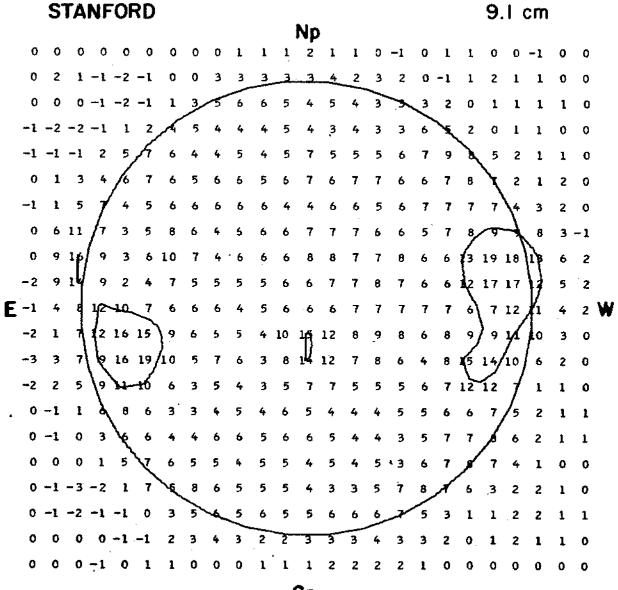


Levels
±5
±10
±20
±40
±80

17.46-18.81 UT

STANFORD

9.1 cm

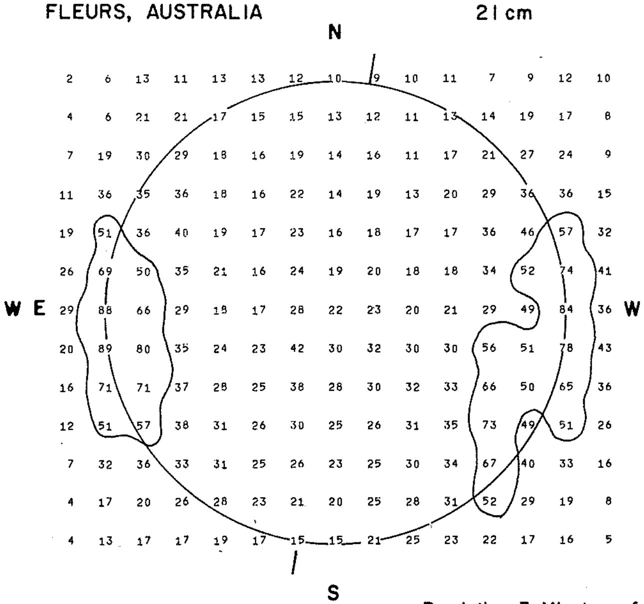


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

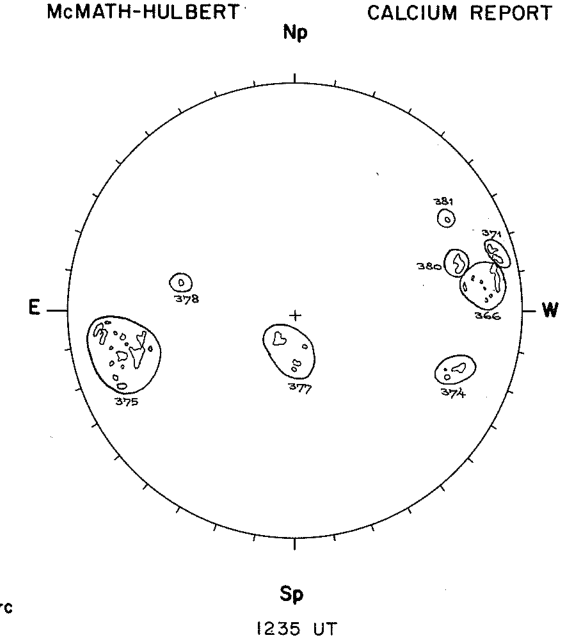


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



FAIR	M

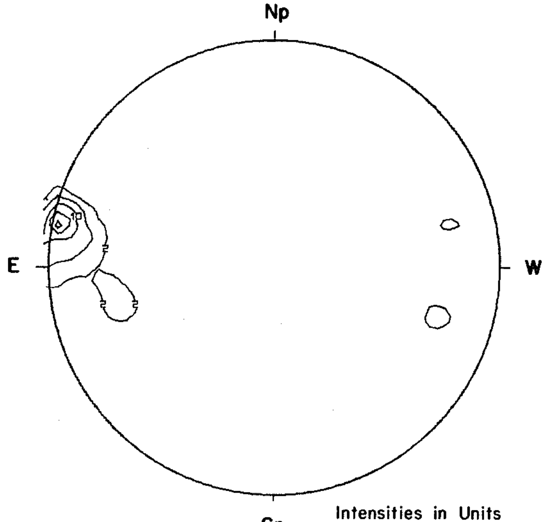
71-06-3.0
74-08-2.5
75-27-3.0
77-07-3.5
80-06-3.5

1235 UT

JUNE 18, 1971 (P=-8.80, B_o=1.35, L_o=72.94)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

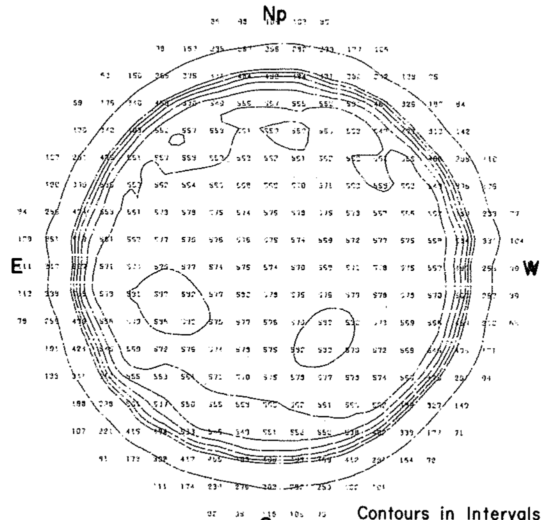


0000-0139 UT

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

PROSPECT HILL
AFCRL

8.6 mm



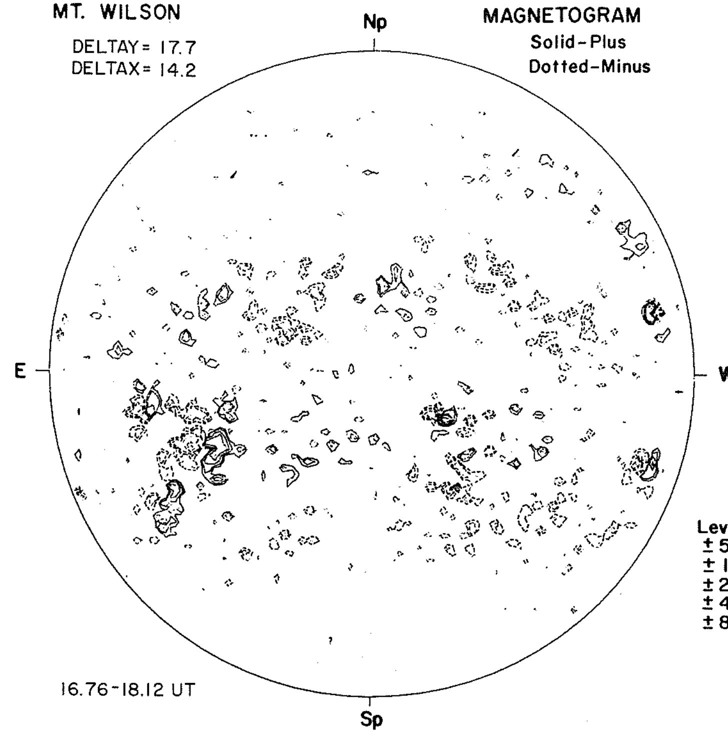
1432 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY= 17.7
DELTAX= 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

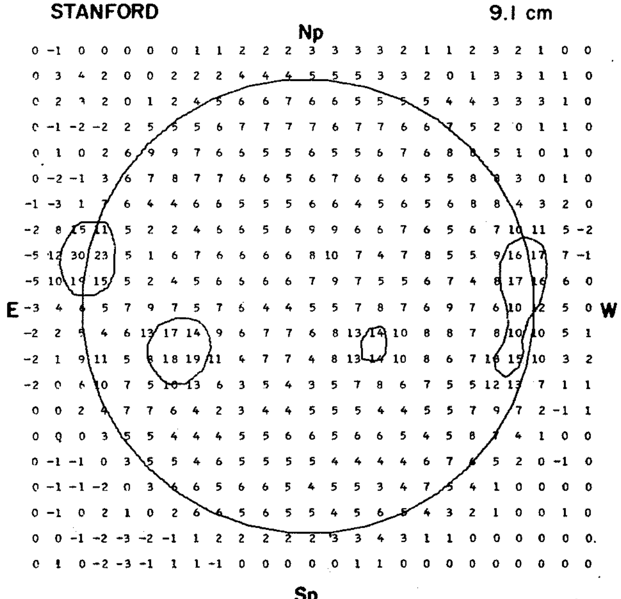


Levels
±5
±10
±20
±40
±80

16.76-18.12 UT

STANFORD

9.1 cm

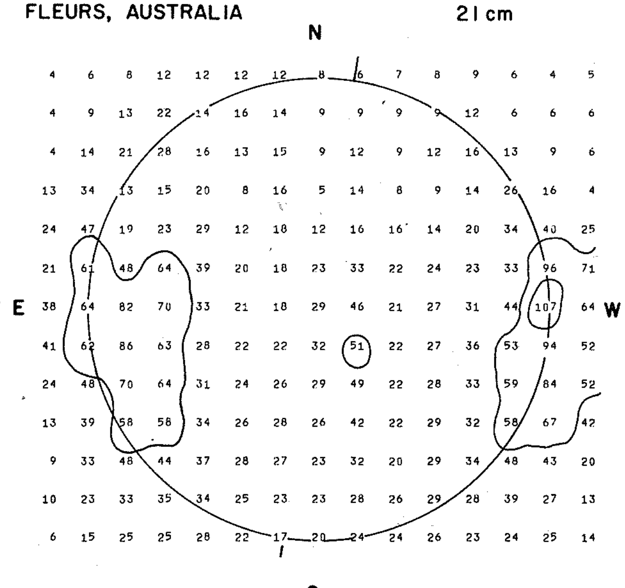


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

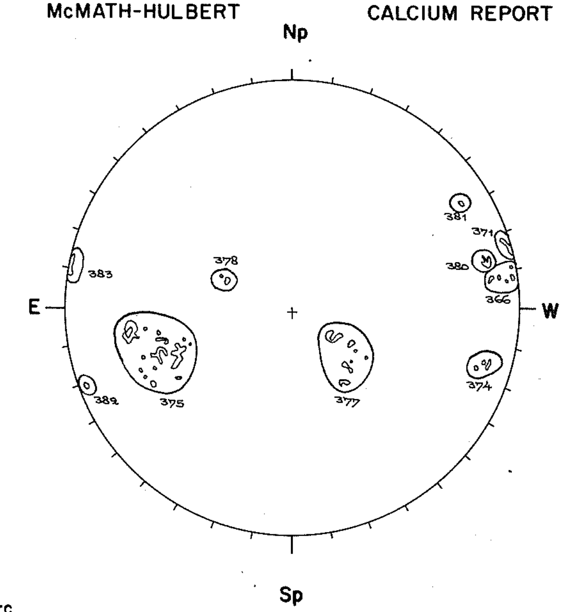


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



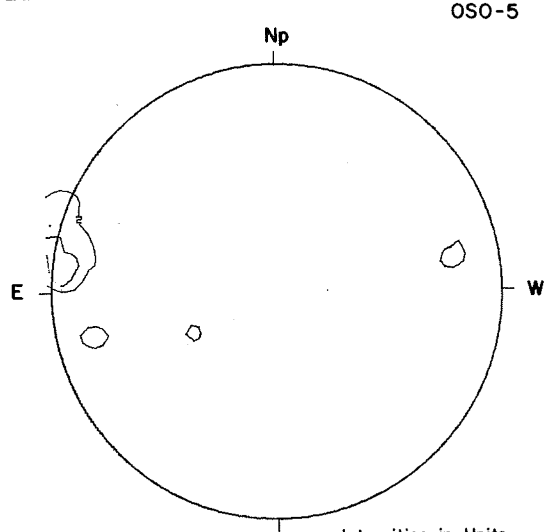
FAIR	S
74-05-2.5	
75-25-2.5	
77-09-3.0	
80-06-3.5	
82-02-3.0	
83-08-3.0	

1245 UT

JUNE 19, 1971 (P=-8.36, B_o=1.47, L_o=59.71)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

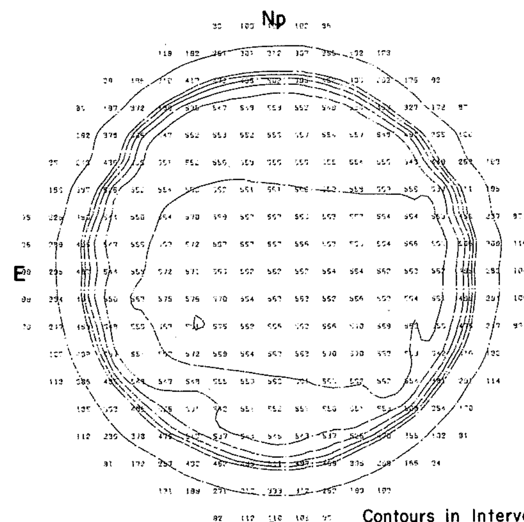


2126-2156 UT

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

PROSPECT HILL
AFCRL

8.6 mm



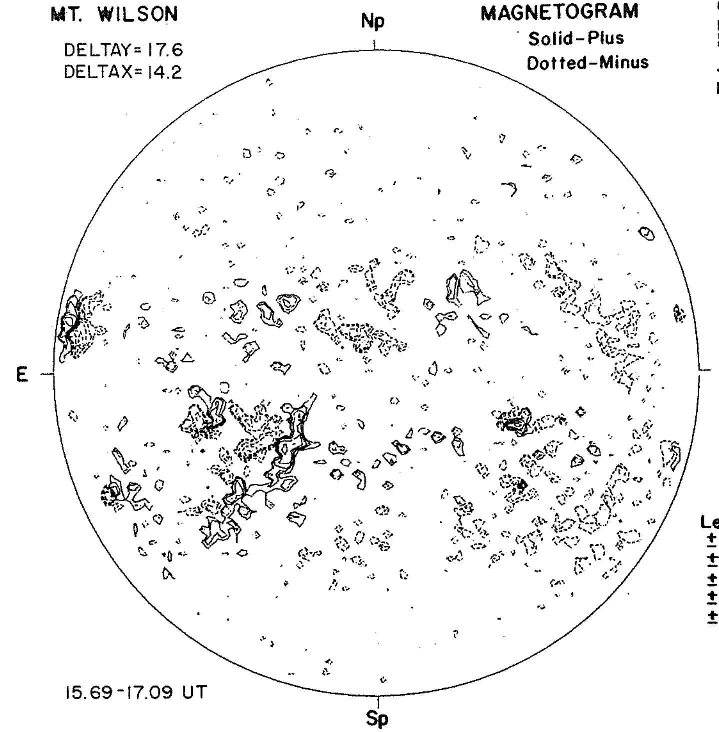
1320 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY= 17.6
DELTAX= 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

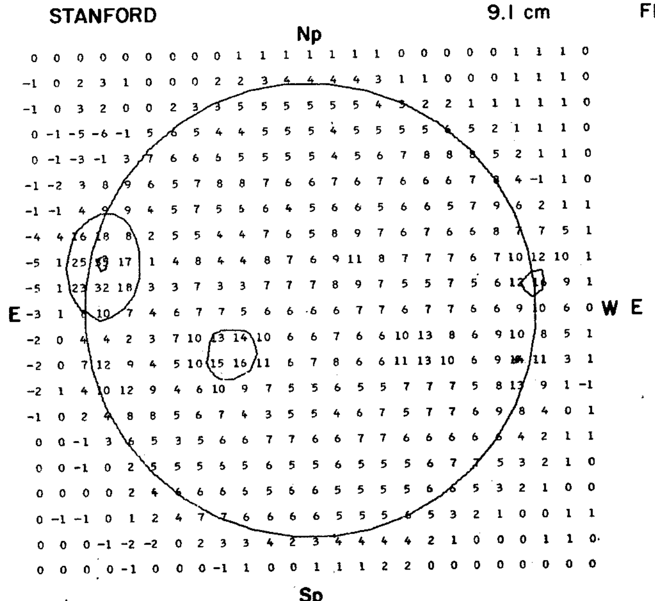


Levels
±5
±10
±20
±40
±80

15.69-17.09 UT

STANFORD

9.1 cm

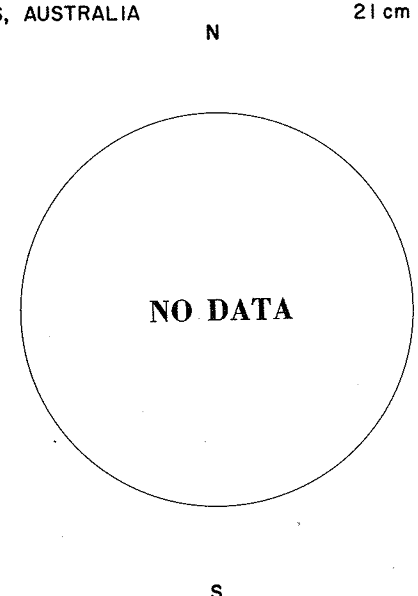


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

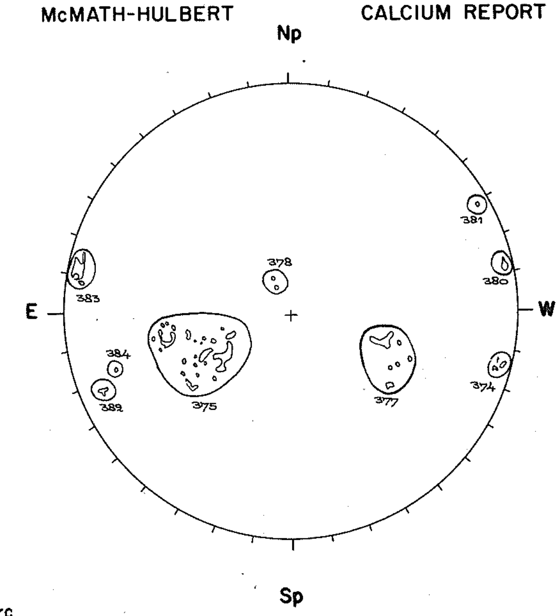


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



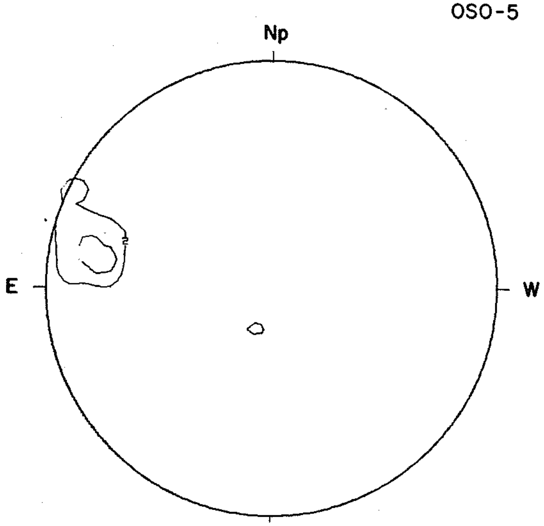
POOR	S
74-05	-2.5
75-24	-2.5
77-09	-3.0
80-06	-3.5
82-04	-2.5
83-15	-2.5

1315 UT

JUNE 20, 1971 (P=-7.93, B_o=1.59, L_o=46.47)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

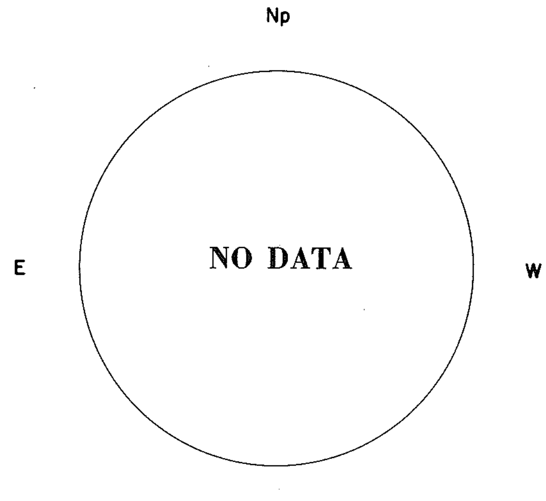


2152-2328 UT

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

PROSPECT HILL
AFCRL

8.6 mm

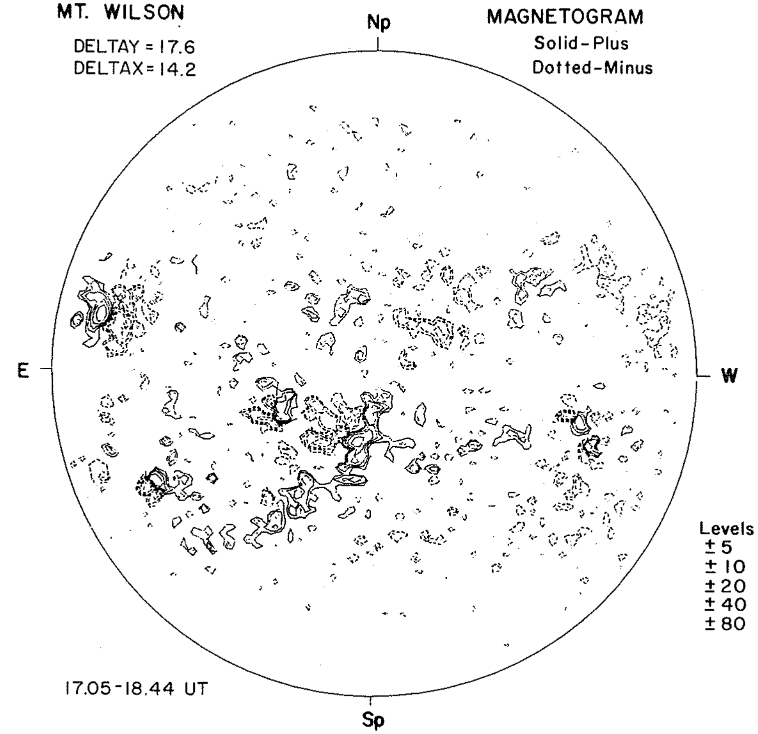


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

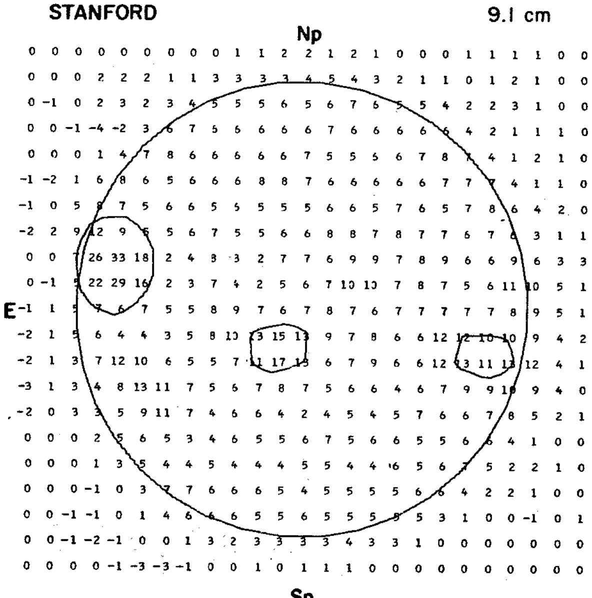


Levels
±5
±10
±20
±40
±80

17.05-18.44 UT

STANFORD

9.1 cm

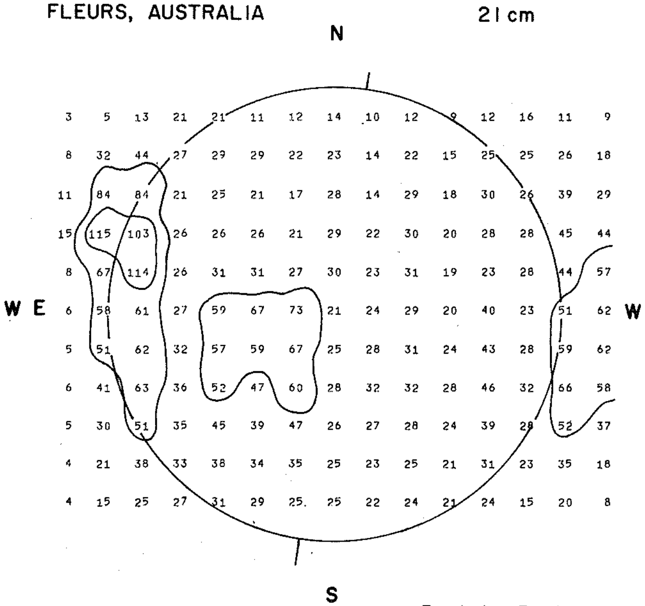


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

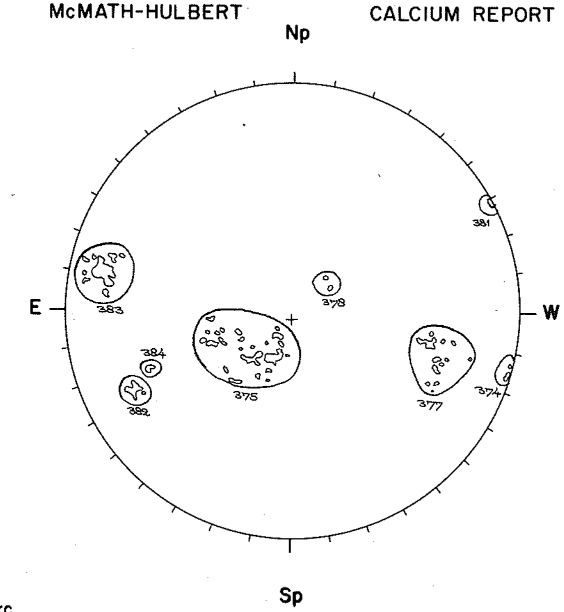


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



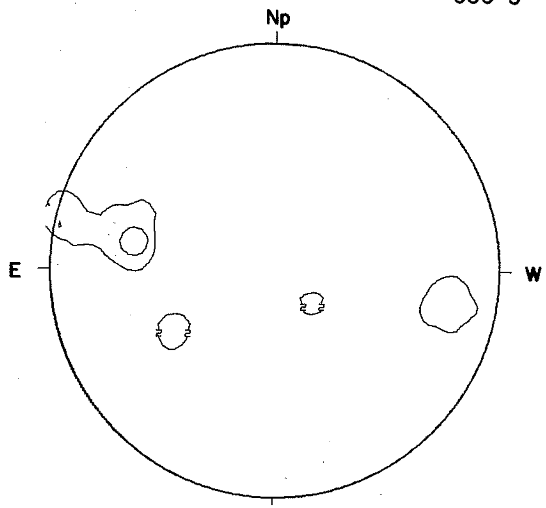
POOR	D
75-22-2.5	
77-10-3.0	
82-07-3.5	
83-25-3.5	

1215 UT

JUNE 21, 1971 (P=-7.48, B_o=1.70, L_o=33.23)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

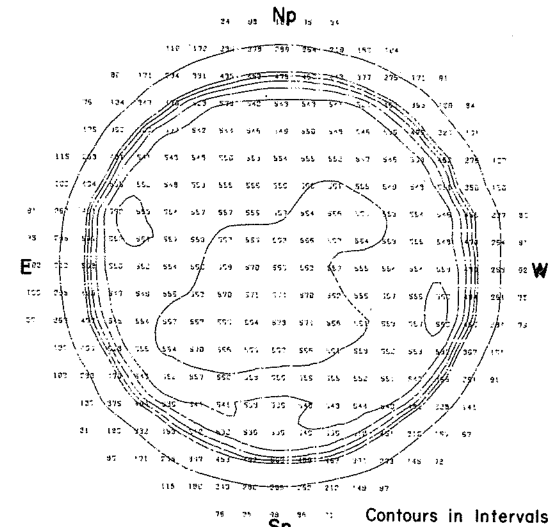


2058-2137 UT

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

PROSPECT HILL
AFCRL

8.6 mm



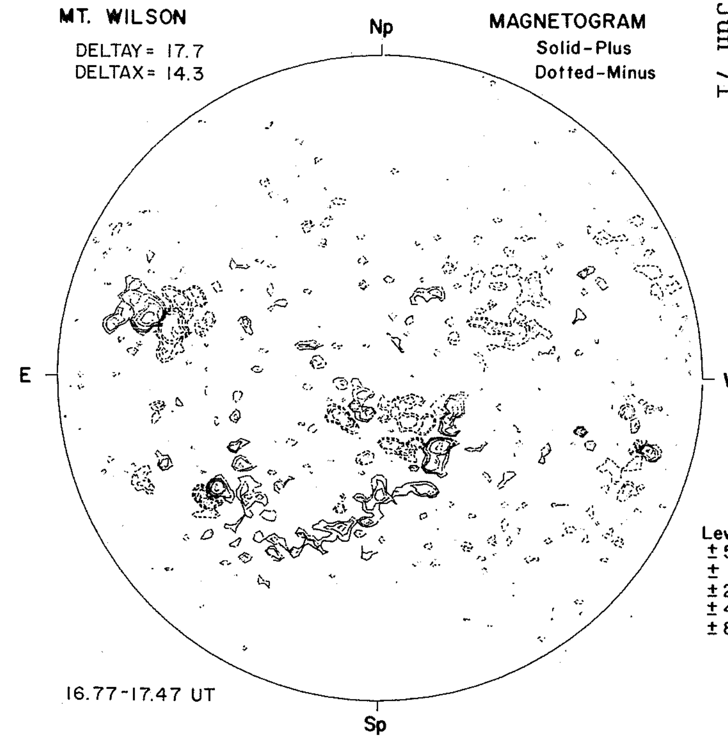
1411 UT

Contours in Intervals
of 200° K

MT. WILSON

DELTAY= 17.7
DELTAX= 14.3

MAGNETOGRAM
Solid-Plus
Dotted-Minus

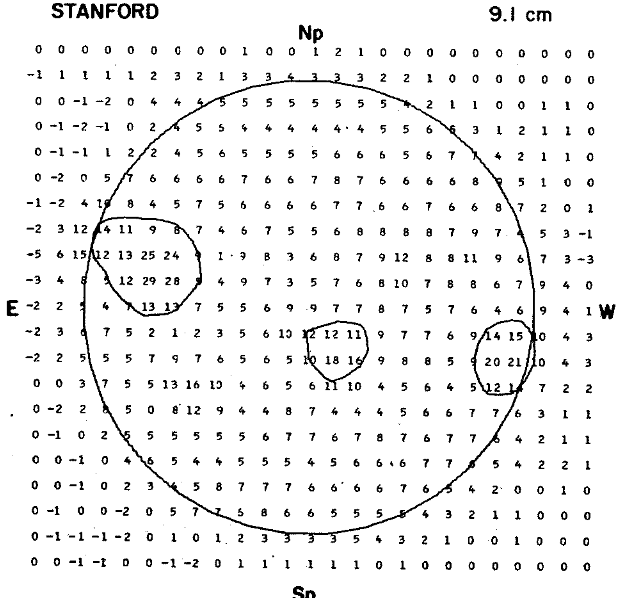


Levels
±5
±10
±20
±40
±80

16.77-17.47 UT

STANFORD

9.1 cm

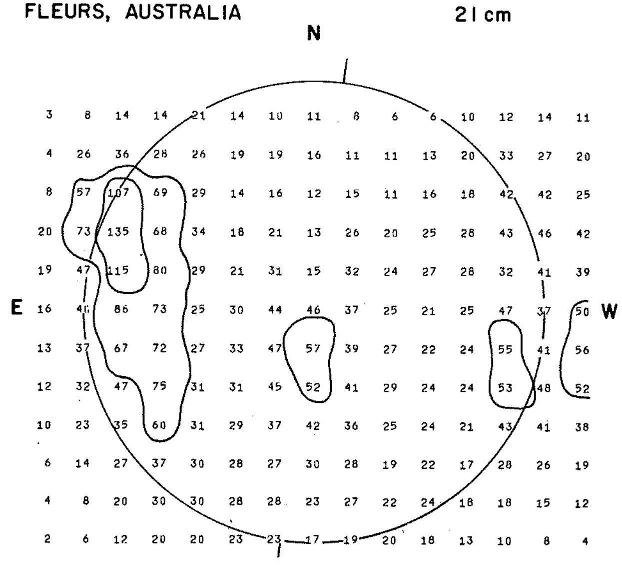


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

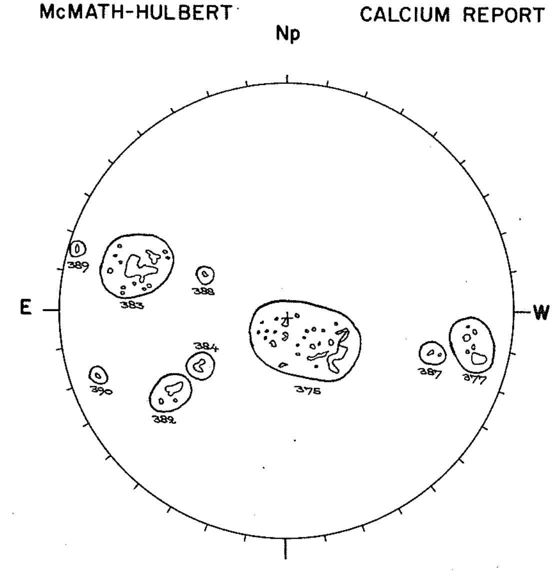


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



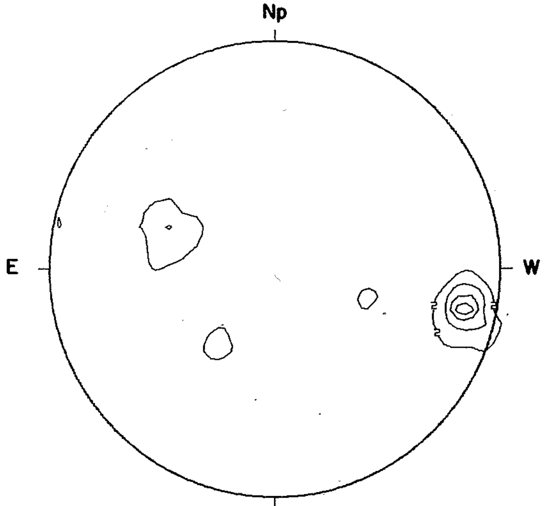
GOOD	S
75-20-3.0	
77-12-3.0	
82-07-3.5	
83-25-3.0	
88-01-2.5	

1915 UT

JUNE 22, 1971 (P=-7.04, B_o=1.82, L_o=20.00)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



2125-2141 UT

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E

Data for June 22-30 not received in time for publication.

W

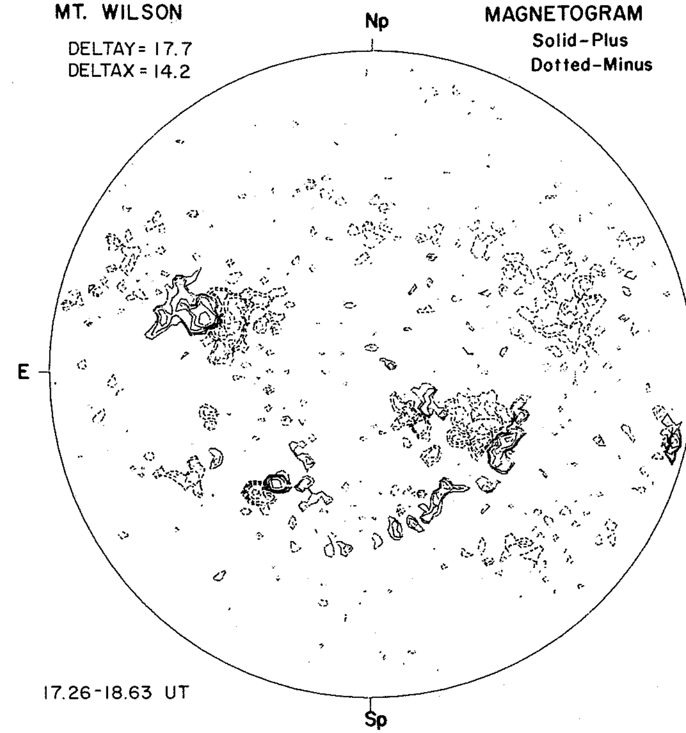
Sp

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.7
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

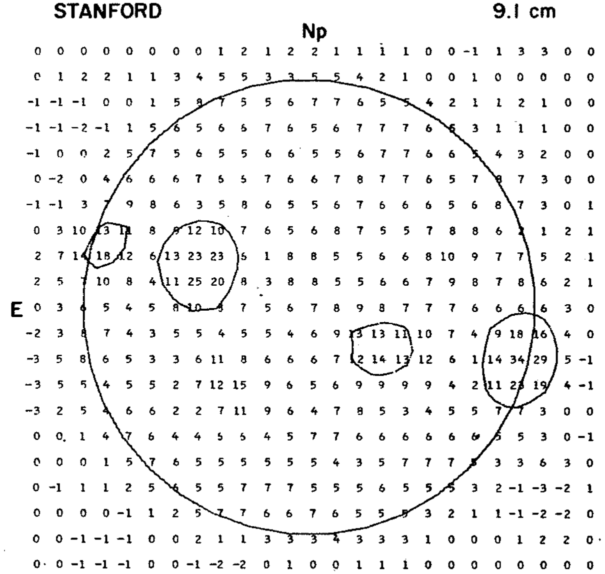


Levels
±5
±10
±20
±40
±80

17.26-18.63 UT

STANFORD

9.1 cm

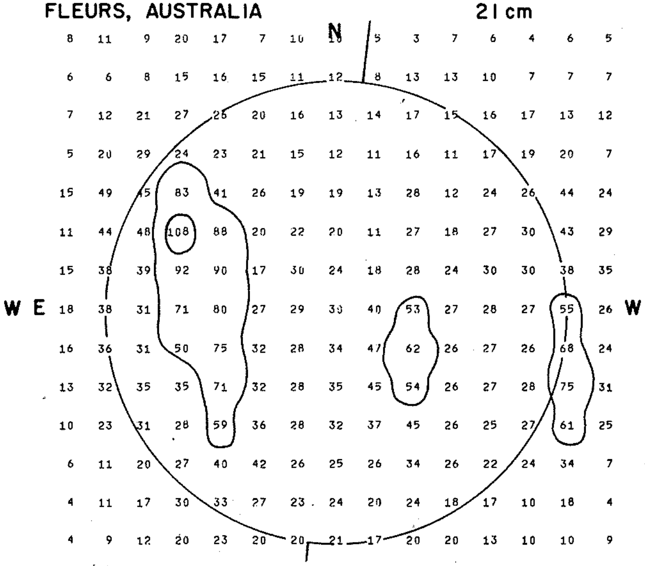


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

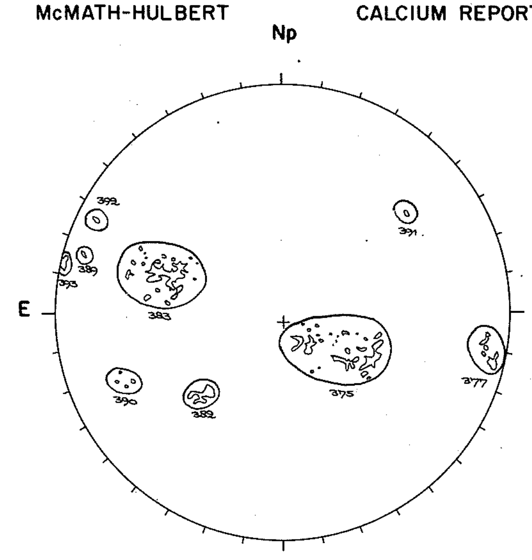


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



FAIR | M
75-17-3.0
77-15-3.5
82-08-3.5
83-25-3.0
93-10-2.5

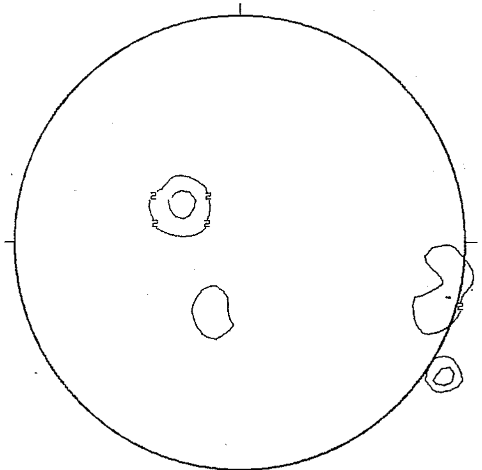
1230 UT

JUNE 23, 1971 (P=-6.60, B_o=1.94, L_o=6.76)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E  W

Sp

2002-2033 UT

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

Sp

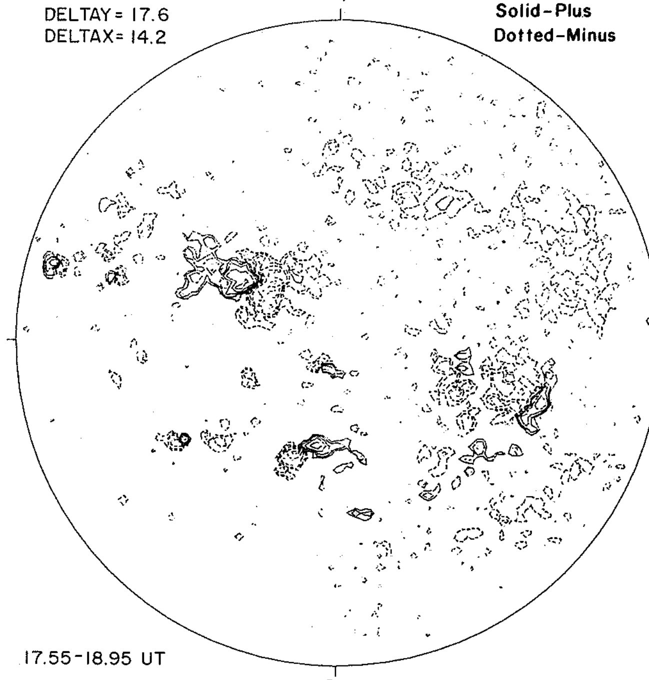
Contours in Intervals of 200° K

MT. WILSON

DELTAY= 17.6
DELTAX= 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

E  W

Sp

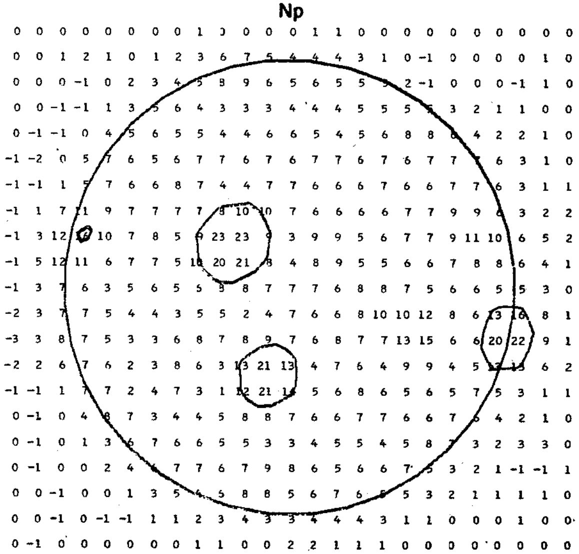
Levels
±5
±10
±20
±40
±80

17.55-18.95 UT

STANFORD

9.1 cm

Np

E  W

Sp

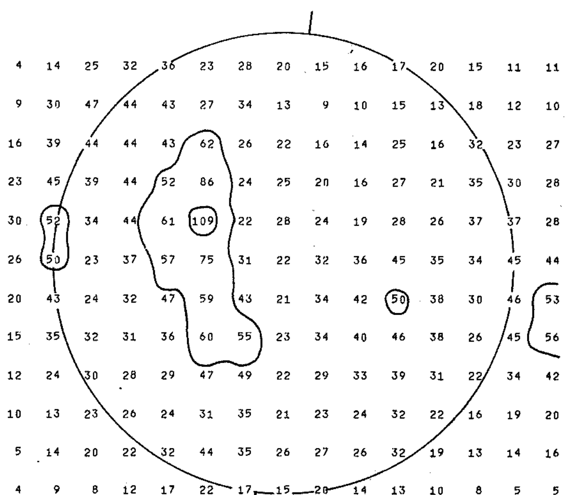
Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

N

E  W

S

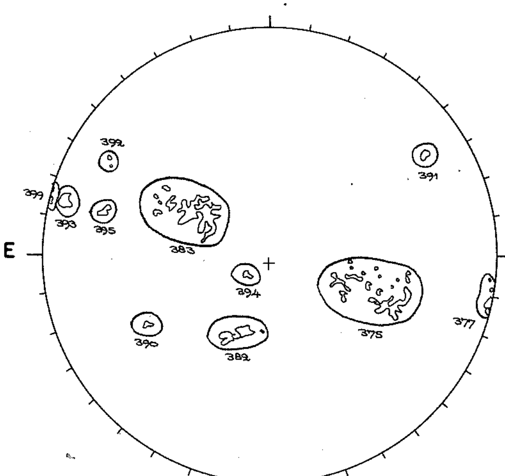
02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT

Np

E  W

Sp

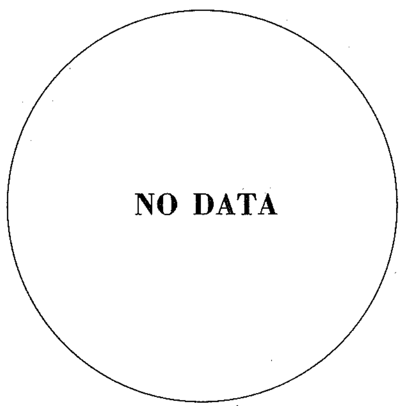
1120 UT

POOR	D
75 - 18 - 2.5	
77 - 13 - 3.5	
82 - 09 - 3.5	
83 - 25 - 3.0	
93 - 11 - 3.0	

JUNE 24, 1971 (P=-6.15, B_o=2.05, L_o=353.52)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



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

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

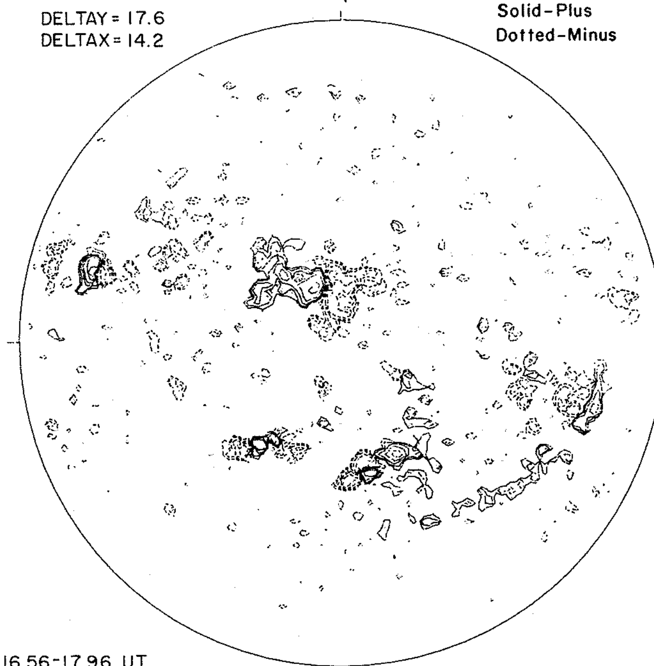
Sp

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

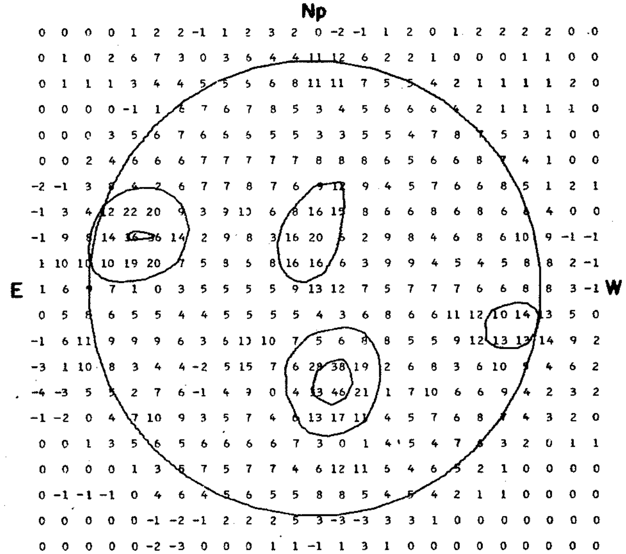
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

16.56-17.96 UT

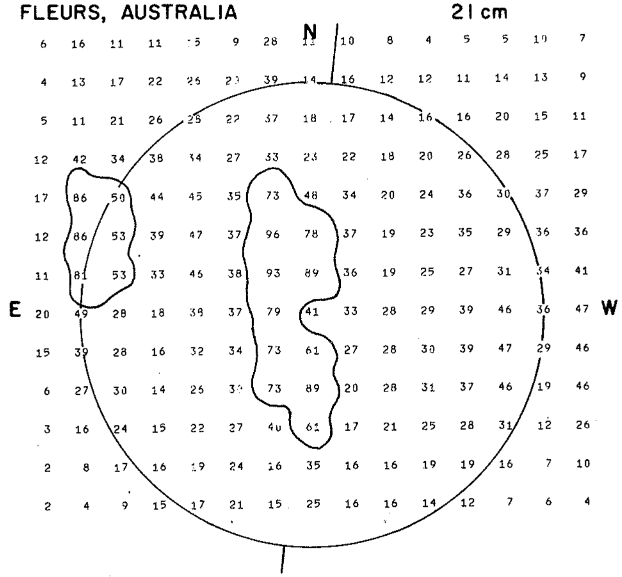
STANFORD 9.1 cm



Brightness Unit 5,000° K

20-21 UT

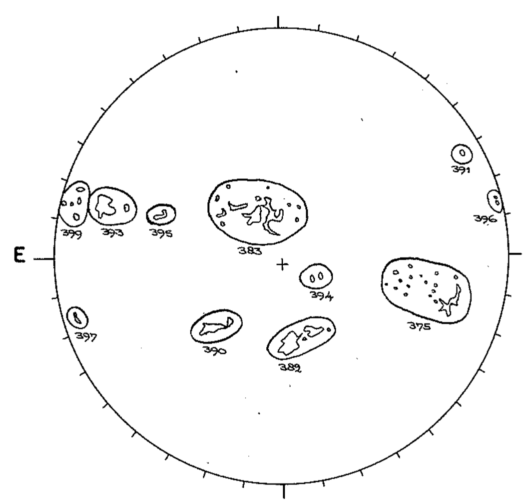
FLEURS, AUSTRALIA 21 cm



02-03 UT

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

McMATH-HULBERT CALCIUM REPORT



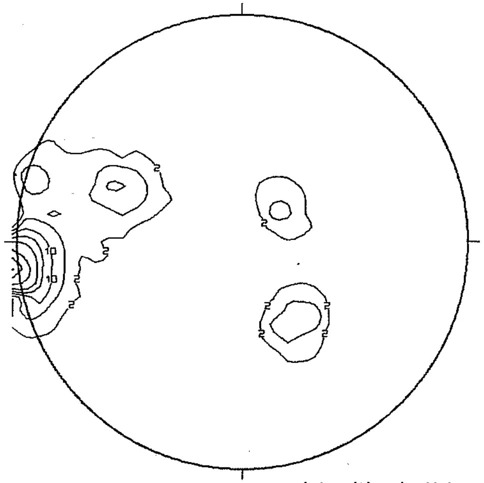
GOOD	M
82-13-3.5	
83-22-3.0	
90-06-2.5	
93-13-3.5	

1230 UT

JUNE 25, 1971 (P=-5.70, B_o=2.17, L_o=340.29)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



1926-2058 UT

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E

W

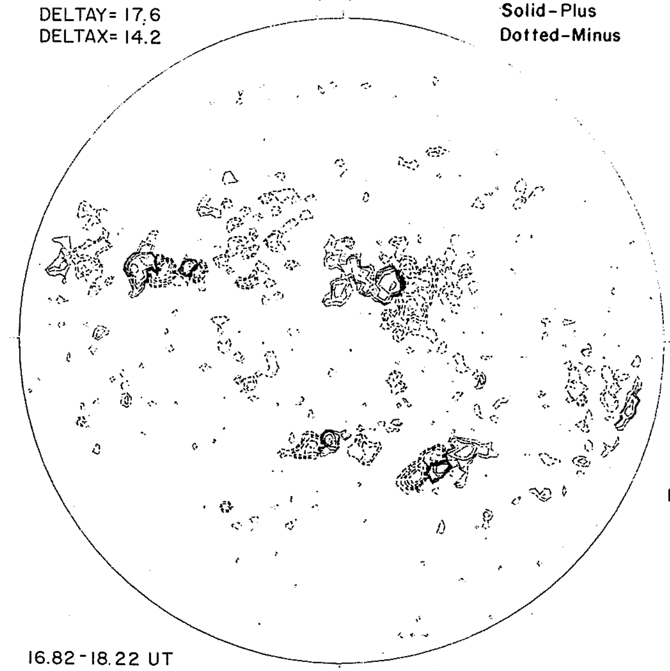
Sp

Contours in Intervals of 200° K

MT. WILSON

DELTAY= 17.6
DELTAX= 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

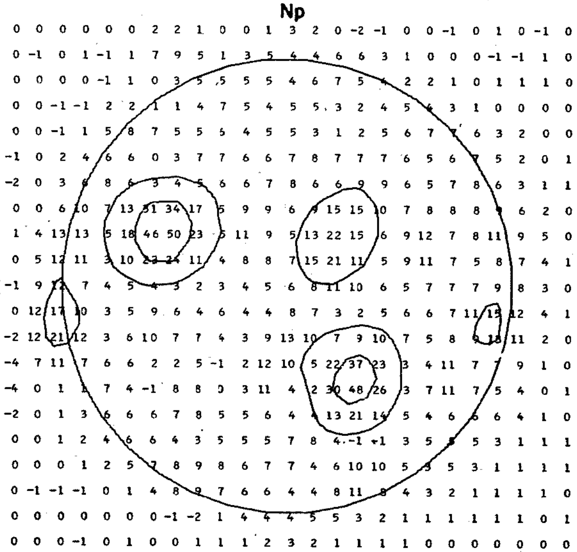


Levels
±5
±10
±20
±40
±80

16.82-18.22 UT

STANFORD

9.1 cm

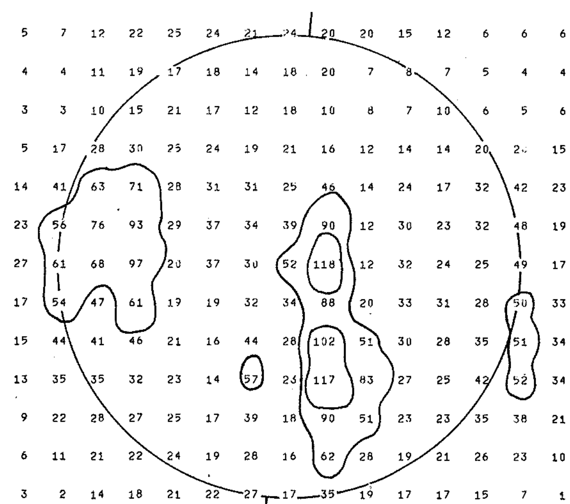


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

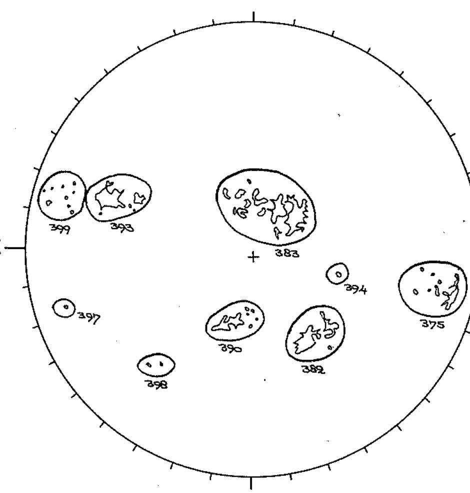


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
82-16	-3.5
83-22	-3.0
90-08	-2.5
93-17	-3.5

1300 UT

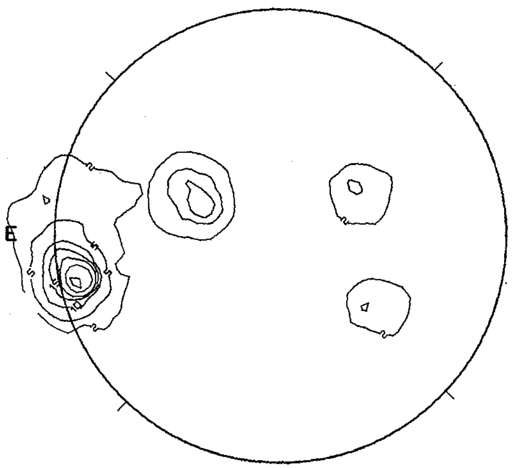
JUNE 26, 1971 (P=-5.25, B_o=2.28, L_o=327.05)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E



W

Sp

1911-2049 UT

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E

W

Sp

Contours in Intervals of 200° K

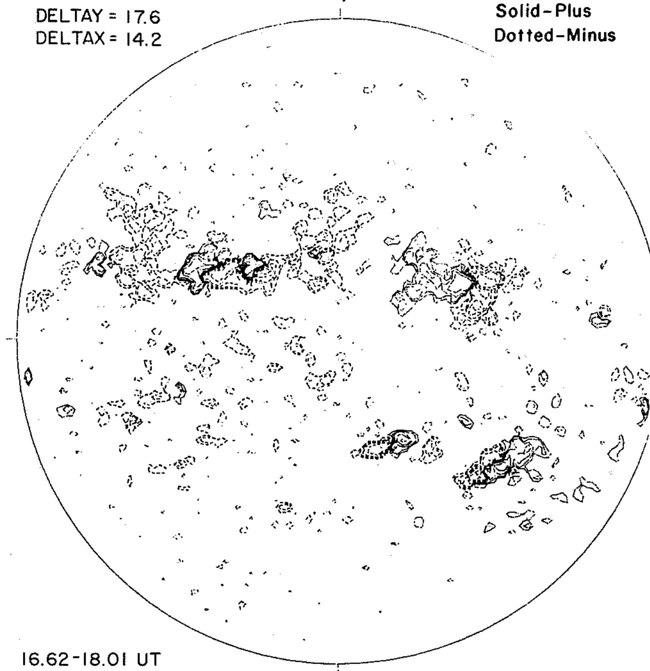
MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

E



W

Sp

Levels
±5
±10
±20
±40
±80

16.62-18.01 UT

STANFORD

9.1 cm

Np

E / W

0	0	0	0	0	0	0	0	1	1	2	1	1	2	2	1	1	-1	0	1	1	0	1	1	0
0	-2	-2	0	1	0	1	5	12	12	7	4	6	6	4	5	7	6	2	0	1	1	0	0	0
0	1	1	1	1	2	3	7	11	10	7	6	7	6	5	8	10	8	3	1	2	2	2	1	0
0	1	1	0	1	5	8	4	0	1	5	6	6	7	7	6	5	4	4	2	1	1	1	1	0
-1	4	5	2	4	9	8	6	5	5	5	6	5	5	6	3	2	4	7	7	4	2	1	0	0
-1	2	6	7	5	5	7	5	1	3	6	6	6	6	6	6	7	6	6	7	7	4	2	0	-1
0	1	4	8	7	5	5	5	1	1	6	8	6	9	9	7	7	8	7	5	6	7	2	0	1
-1	2	7	9	9	7	6	14	27	26	13	7	10	10	8	9	12	12	8	7	8	7	5	2	1
-1	10	19	15	9	7	6	21	46	47	16	3	14	11	2	13	24	15	5	10	11	8	9	5	-3
2	10	13	10	7	5	5	15	32	32	12	2	11	11	4	13	23	15	6	5	9	9	7	2	0
2	14	19	13	4	4	7	9	1	2	1	3	6	6	5	6	8	8	6	5	6	10	10	3	-1
-7	33	57	30	-1	2	11	6	5	10	4	4	11	9	6	8	6	3	6	7	2	11	20	3	-6
-9	33	60	33	-1	3	10	7	11	16	6	2	9	11	8	10	10	6	8	5	4	12	15	3	-3
-1	12	23	15	1	2	7	5	0	2	5	1	2	10	10	9	18	25	15	3	9	11	3	0	2
4	-4	-4	3	4	2	5	6	5	7	6	2	5	9	4	7	25	30	14	6	7	6	2	1	0
-1	0	6	8	5	4	6	6	7	8	5	4	6	6	3	5	10	9	5	5	5	4	2	1	0
0	1	2	3	3	5	7	6	1	-4	-2	4	5	3	4	5	2	-1	2	5	3	2	1	1	1
0	-1	-5	-6	-1	4	6	7	7	7	7	7	6	6	7	7	6	6	5	3	1	0	0	0	-1
0	0	-2	-1	1	2	3	5	7	10	10	7	6	7	6	5	8	8	4	1	1	1	0	-1	0
0	-1	1	3	0	-1	1	1	0	-3	-2	1	4	3	3	4	1	-2	-3	0	0	0	0	-1	-1
0	0	-1	-3	-1	0	0	-1	-1	-3	-2	0	0	1	2	1	0	0	1	0	0	0	0	0	0

Sp

20-21 UT

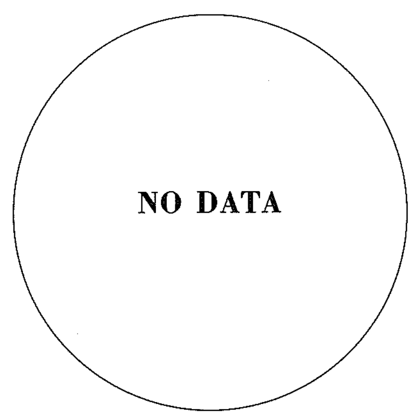
Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

N

E



W

S

02-03 UT

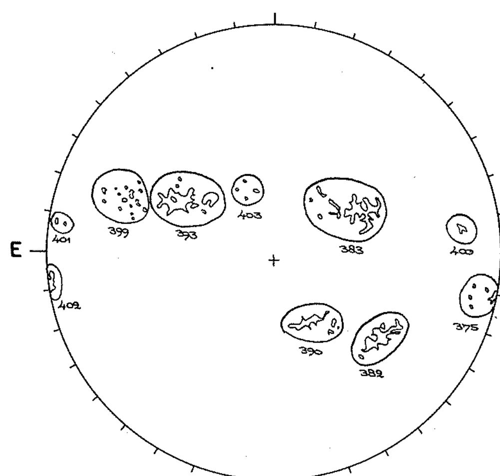
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

Np

E



W

Sp

1335 UT

FAIR	M
82-15-3.0	
83-22-2.5	
90-09-3.0	
93-17-3.5	
02-13-3.0	

JUNE 27, 1971 (P=-4.80, B_o=2.40, L_o=313.81)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E NO DATA W

Sp

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

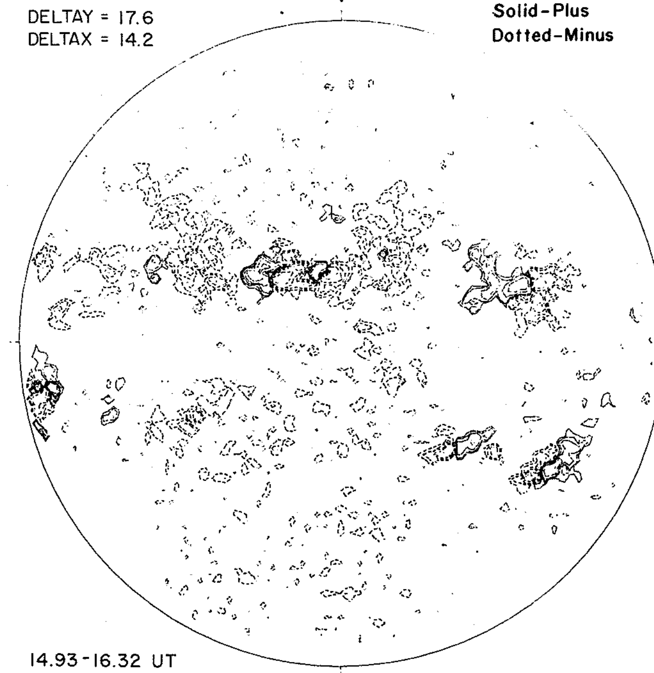
Sp

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

14.93-16.32 UT

STANFORD 9.1 cm

Np

0	0	0	-1	-1	-1	0	0	-1	1	4	3	1	1	1	0	0	0	-1	1	1	-1	-1	0	0
1	1	-2	-4	-2	0	2	2	2	5	12	13	8	5	5	3	2	2	4	3	1	-1	0	0	0
0	-1	-3	-3	-1	2	3	4	4	5	8	9	7	5	6	4	2	3	3	0	0	1	1	0	0
0	0	-1	-2	1	5	6	6	7	3	-2	-1	3	5	6	5	6	4	3	1	1	2	2	0	0
-2	0	5	7	6	5	7	8	7	7	7	7	7	6	5	5	6	5	5	4	4	1	0	0	0
-2	-2	5	13	11	5	5	7	7	5	5	6	7	8	6	6	7	7	6	7	7	3	0	1	1
-1	2	5	7	6	6	6	5	5	4	0	0	6	8	7	7	10	10	7	9	8	5	1	0	0
-2	8	16	12	6	4	7	7	4	11	20	19	13	8	8	9	9	10	12	12	10	7	7	2	0
-4	6	24	27	12	2	8	10	4	20	46	45	20	9	13	9	5	14	22	17	8	9	10	5	1
-1	9	17	17	8	5	6	6	7	12	22	23	11	4	9	6	4	14	22	16	7	11	12	3	0
-1	12	20	13	5	4	7	6	6	6	6	6	6	5	6	7	6	9	13	10	6	8	12	5	-2
-11	12	55	56	20	-5	9	11	2	5	11	5	6	12	8	5	9	7	4	5	4	2	13	15	-3
-18	5	68	78	26	-5	9	12	2	7	12	6	8	13	8	5	13	11	6	10	7	2	14	13	-5
-10	4	38	42	12	2	5	6	5	5	4	3	5	6	4	8	11	14	20	21	12	5	6	3	-2
-2	2	4	3	4	3	3	5	7	7	7	8	7	4	6	7	7	12	23	23	11	4	4	2	-1
-1	-1	2	7	9	5	5	6	6	6	7	6	5	6	6	5	5	8	11	12	7	5	3	2	2
-2	0	5	7	5	8	6	5	6	5	5	5	5	5	5	6	6	7	7	[illegible]	5	3	2	1	0
1	2	-3	-9	-6	3	5	6	7	6	6	7	7	6	6	7	8	8	7	5	5	2	1	1	1
0	-2	0	4	5	1	1	4	5	5	7	9	9	8	7	6	6	6	5	5	2	2	1	1	-1
0	-2	0	4	3	0	1	1	2	3	3	1	2	4	4	3	3	2	0	-1	-1	1	0	0	0
0	0	1	0	-1	-1	-1	0	0	0	0	-3	-4	-1	2	0	0	1	0	-3	-1	0	0	0	0

E W

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA 21 cm

N

4	11	6	8	9	17	15		10	7	8	11	4	6	6
6	10	8	15	12	18	15	12	14	9	7	12	5	4	5
6	9	13	20	12	8	9	[illegible]	11	7	10	9	13	4	4
7	11	12	20	14	6	7	12	10	7	9	4	18	6	3
31	44	22	26	27	45	36	17	15	15	29	39	23	24	10
57	59	28	29	49	89	53	19	22	20	61	62	25	29	15
63	87	25	32	48	83	52	12	24	19	72	59	29	32	21
70	111	20	35	30	56	56	7	24	20	52	63	28	37	31
70	73	24	29	36	43	43	12	24	43	57	73	28	55	46
41	56	23	28	33	34	36	14	23	40	45	79	28	47	38
10	41	22	28	28	26	30	16	21	35	31	84	28	37	28
5	27	17	24	26	24	27	20	22	28	30	52	32	25	16
3	17	13	20	22	22	23	22	22	23	28	26	31	14	7
3	13	10	14	15	16	18	19	19	21	20	16	16	8	4

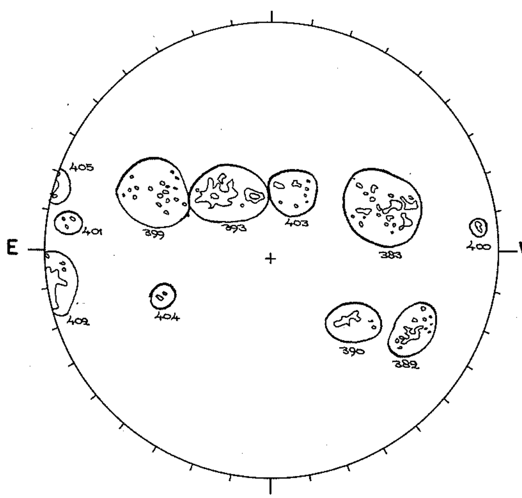
E W

S

02-03 UT

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

McMATH-HULBERT CALCIUM REPORT



POOR	D
82-12-3.0	
83-20-2.5	
90-07-3.0	
93-20-3.5	
02-28-3.5	

1230 UT

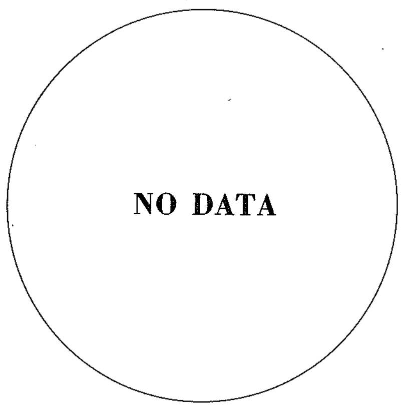
JUNE 28, 1971 (P=-4.35, B_o=2.51, L_o=300.58)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E



W

Sp

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

Sp

Contours in Intervals of 200° K

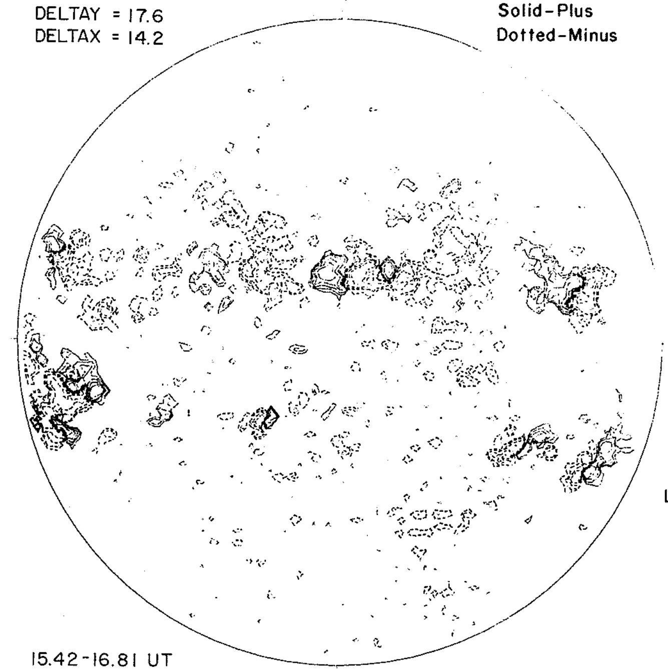
MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

E



W

Sp

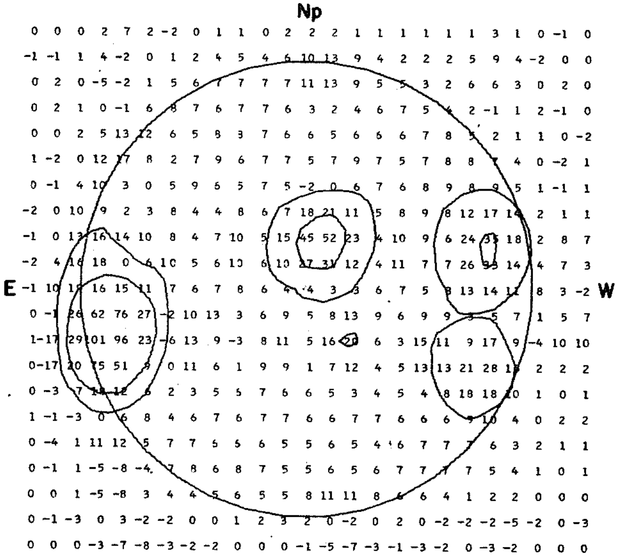
Levels
±5
±10
±20
±40
±80

15.42-16.81 UT

STANFORD

9.1 cm

Np



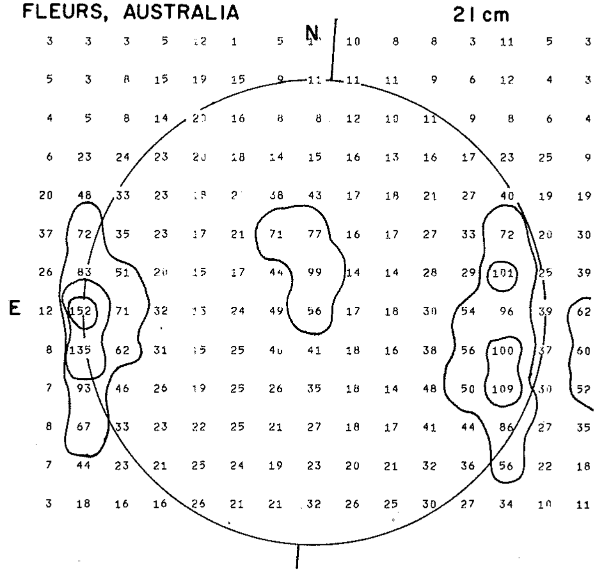
Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm



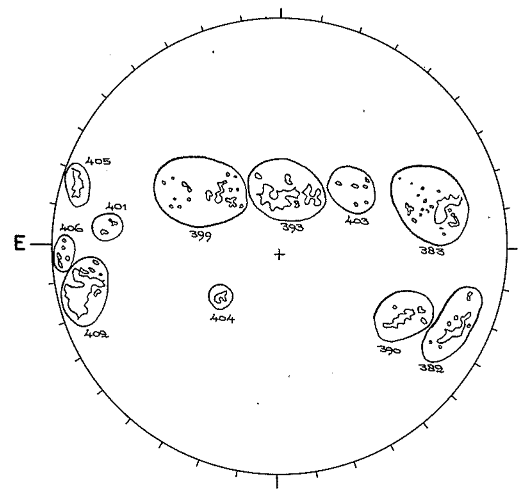
02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT

Np



Sp

1230 UT

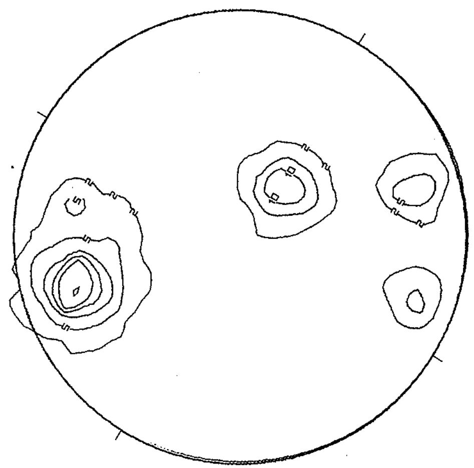
FAIR	M
82-12	-3.0
83-20	-3.0
90-09	-3.0
93-20	-3.5
02-35	-4.0
05-15	-2.5

JUNE 29, 1971 (P=-3.90, B_o=2.62, L_o=287.34)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E  W

Sp

1702-1839 UT

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

Sp

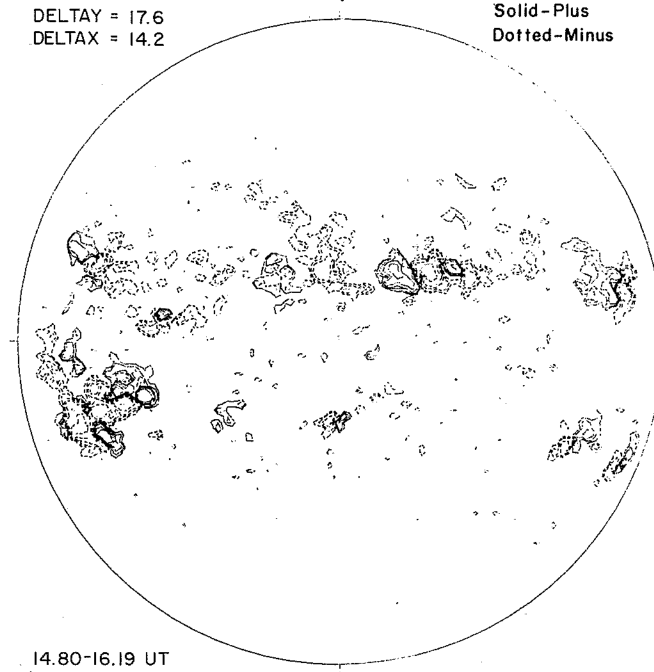
Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

E  W

Sp

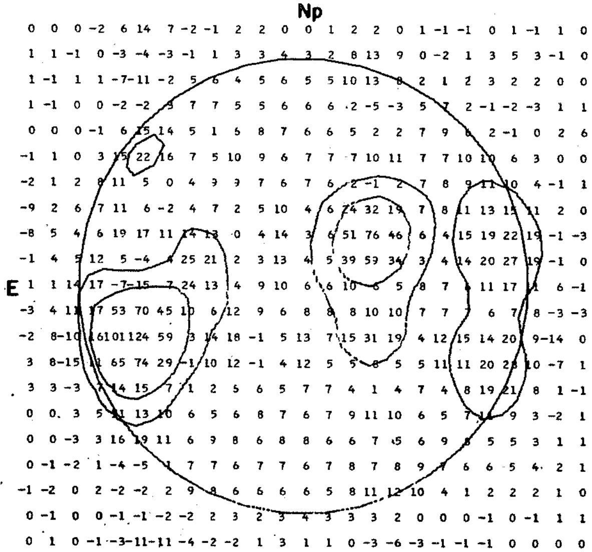
Levels
±5
±10
±20
±40
±80

14.80-16.19 UT

STANFORD

9.1 cm

Np

E  W

Sp

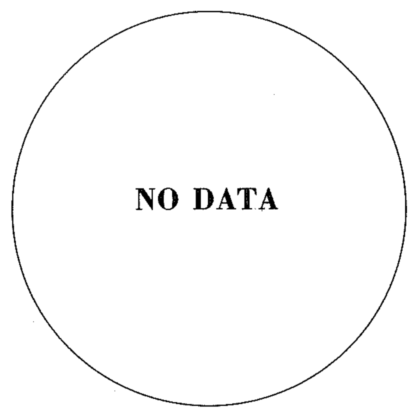
Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

N

E  W

S

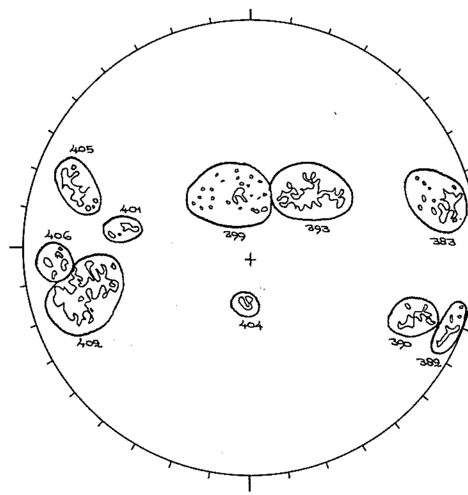
02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT

Np

E  W

Sp

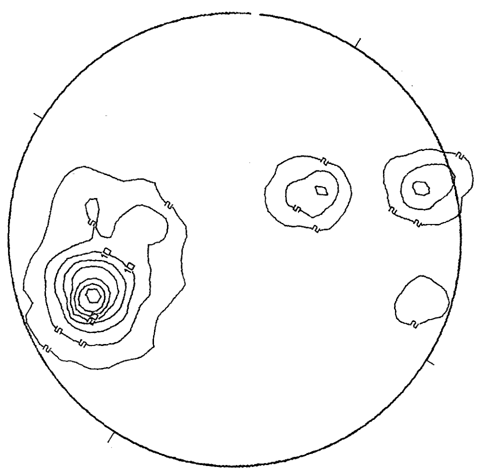
1315 UT

POOR	M
83-22	-3.0
93-21	-3.5
01-04	-3.0
02-48	-4.0
05-15	-2.5

JUNE 30, 1971 (P=-3.44, B_o=2.73, L_o=274.10)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



1009 - 1103 UT

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

PROSPECT HILL
AFCRL

8.6 mm

Np

E

W

Sp

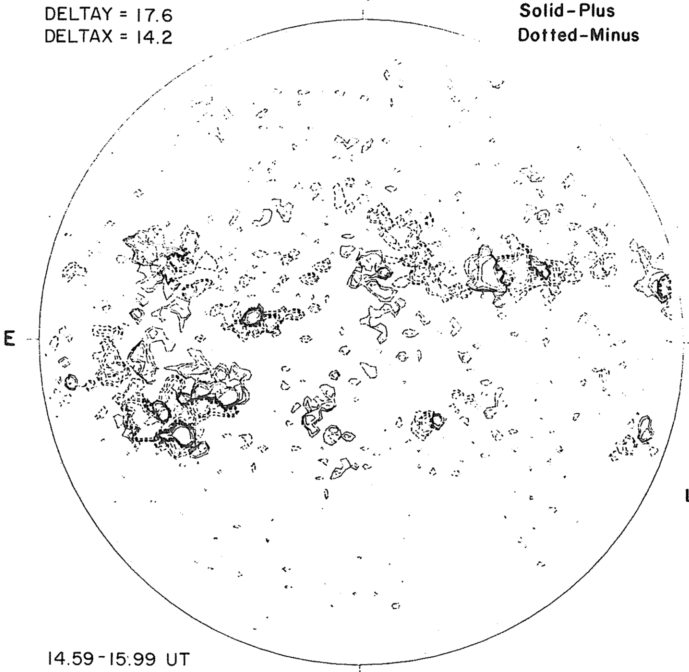
Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.2

MAGNETOGRAM

Solid-Plus
Dotted-Minus

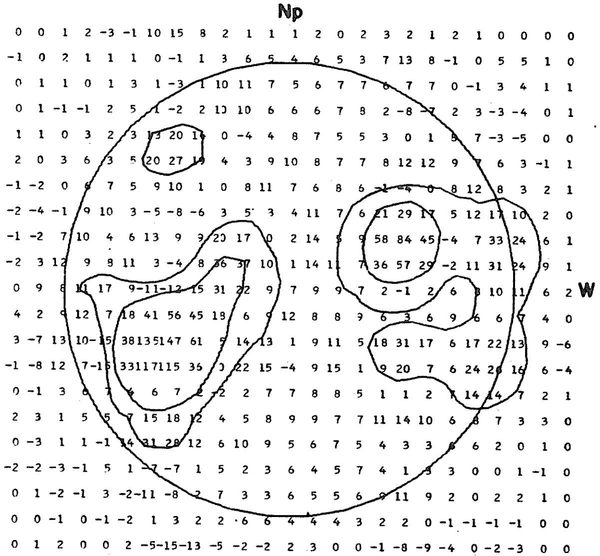


Levels
±5
±10
±20
±40
±80

14.59 - 15.99 UT

STANFORD

9.1 cm

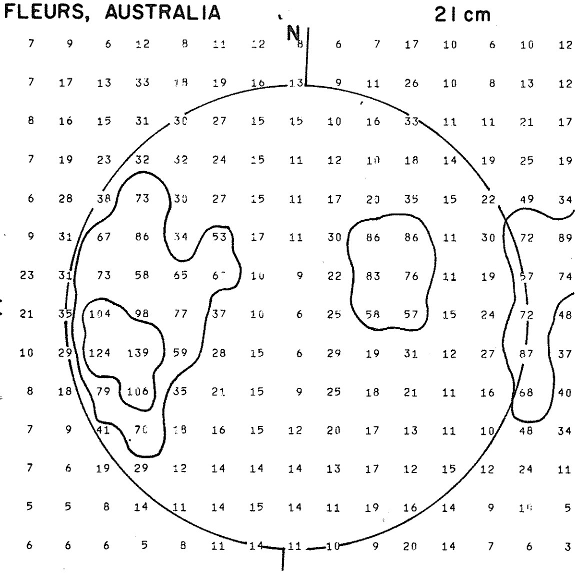


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

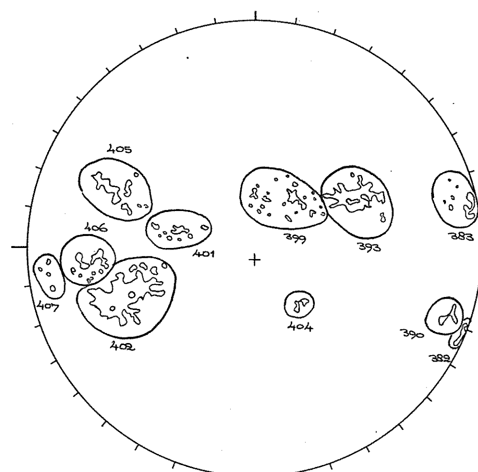


02-03 UT

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

McMATH-HULBERT

CALCIUM REPORT



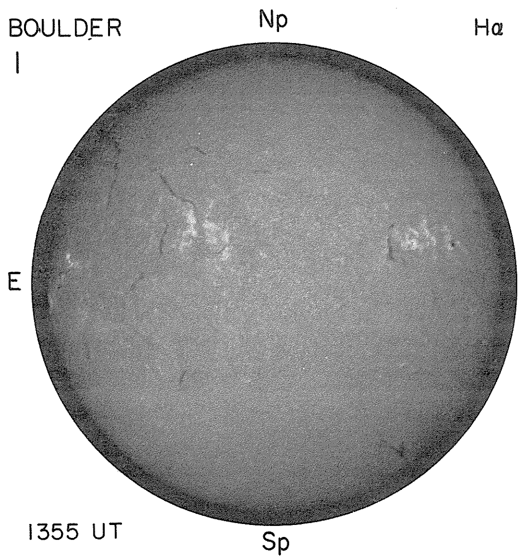
1245 UT

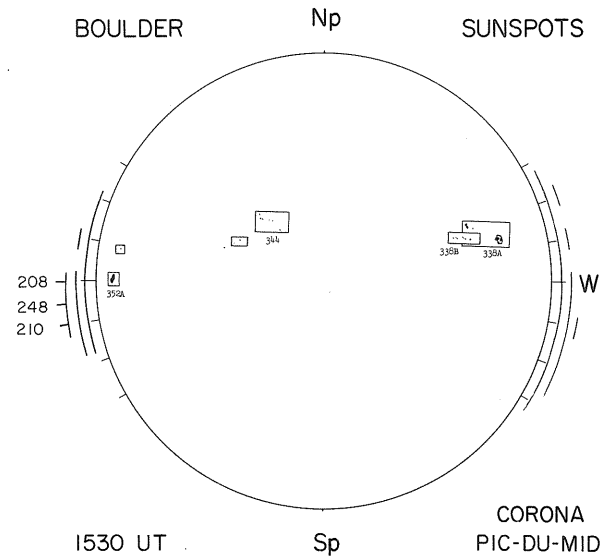
FAIR	M

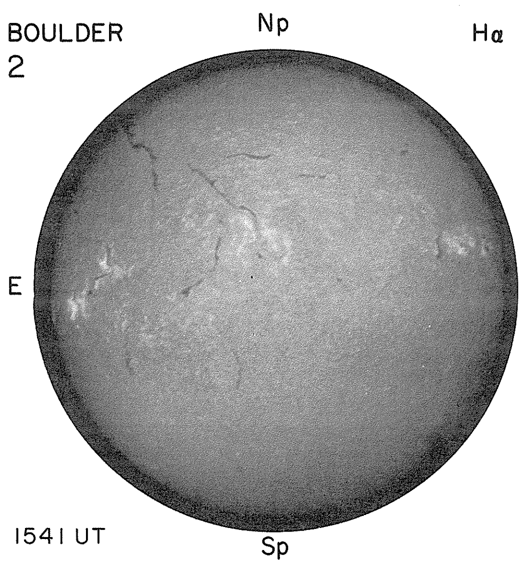
83-20-2.5
93-22-3.5
01-07-3.0
02-52-4.0

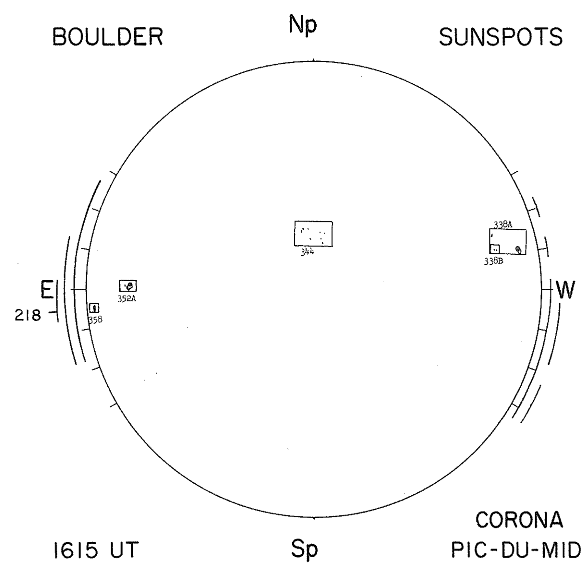
Hα SPECTROHELIOGRAMS SUNSPOTS AND CORONA

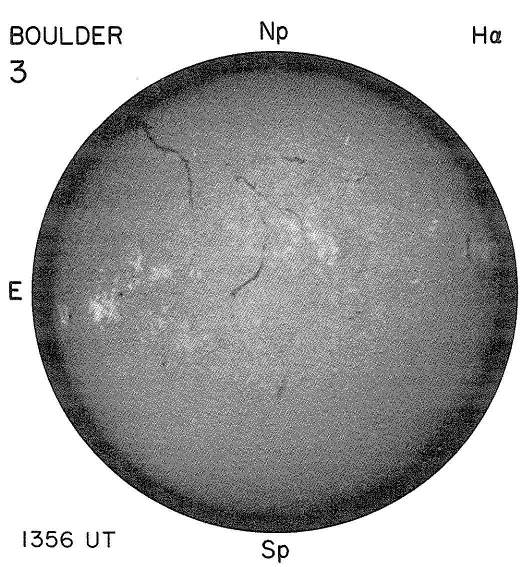
JUNE, 1971

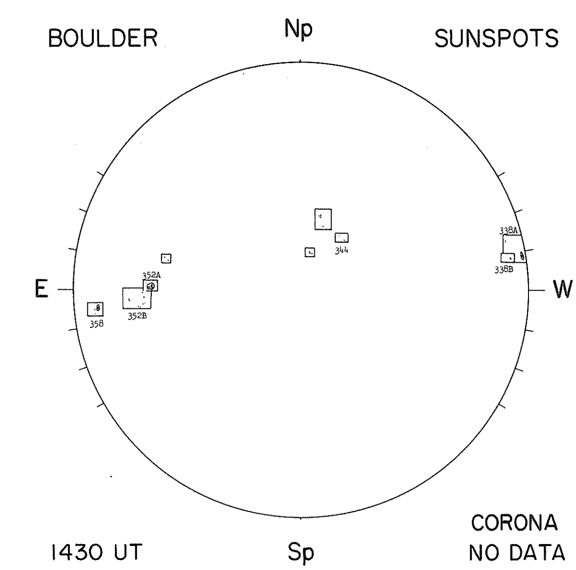












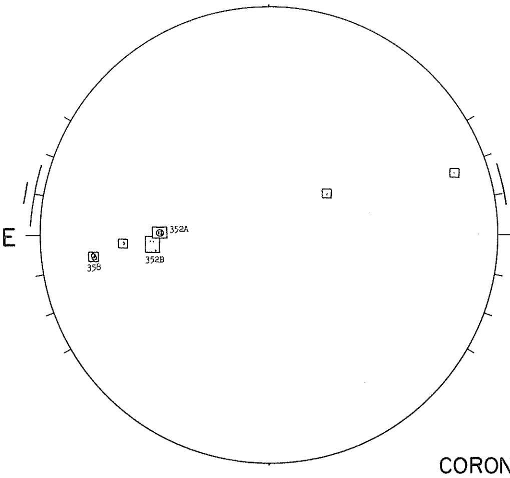
JUNE, 1971

BOULDER Np Hα
4

E NO DATA W

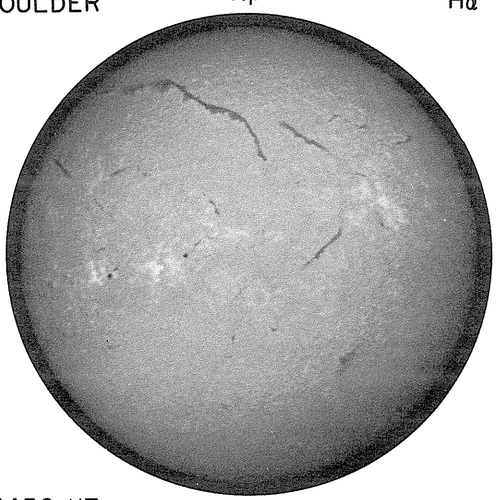
Sp

BOULDER Np SUNSPOTS

E  W

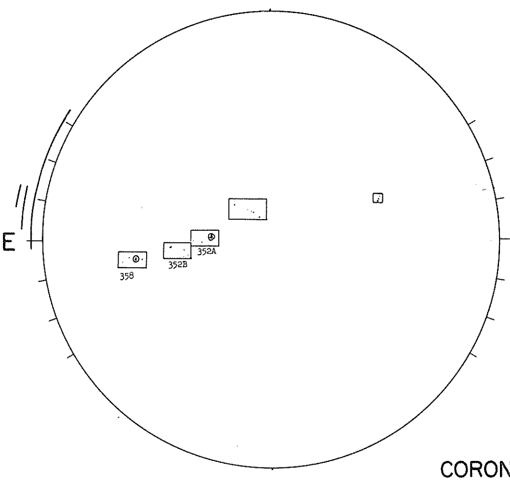
1445 UT Sp CORONA WENDELSTEIN

BOULDER Np Hα
5

E  W

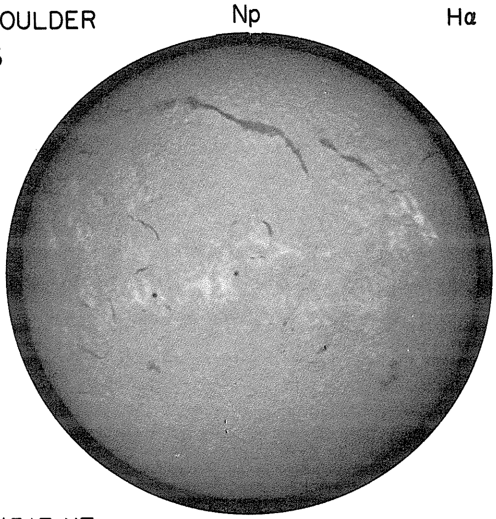
1430 UT Sp

BOULDER Np SUNSPOTS

E  W

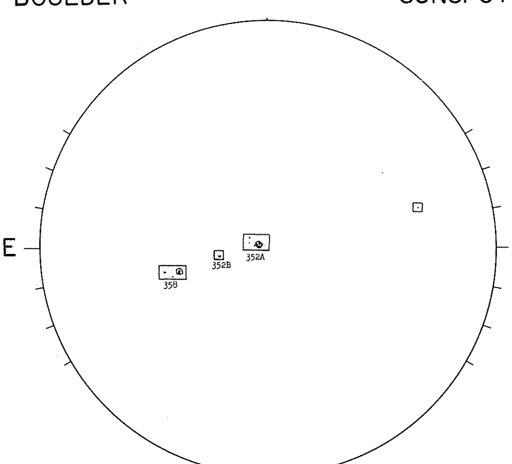
1440 UT Sp CORONA WENDELSTEIN

BOULDER Np Hα
6

E  W

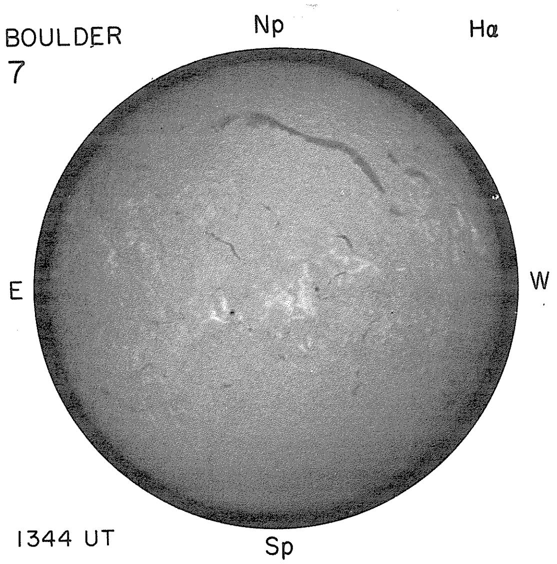
1317 UT Sp

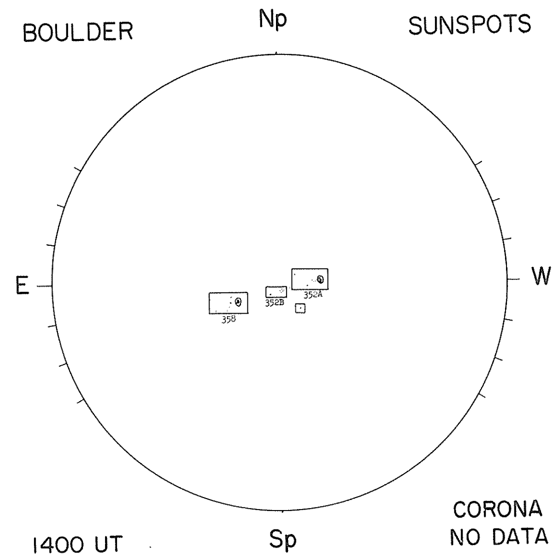
BOULDER Np SUNSPOTS

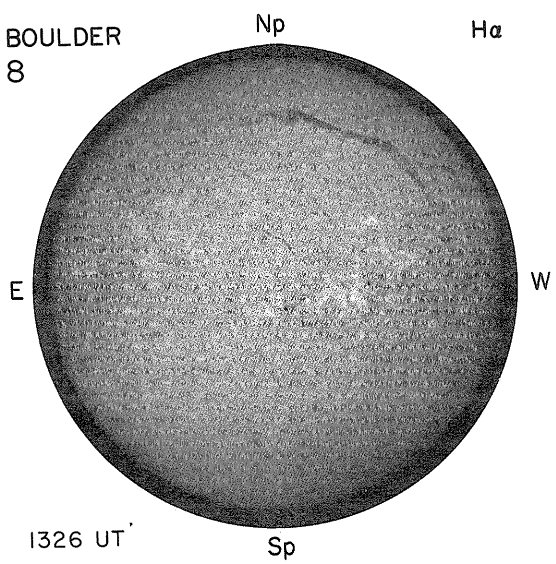
E  W

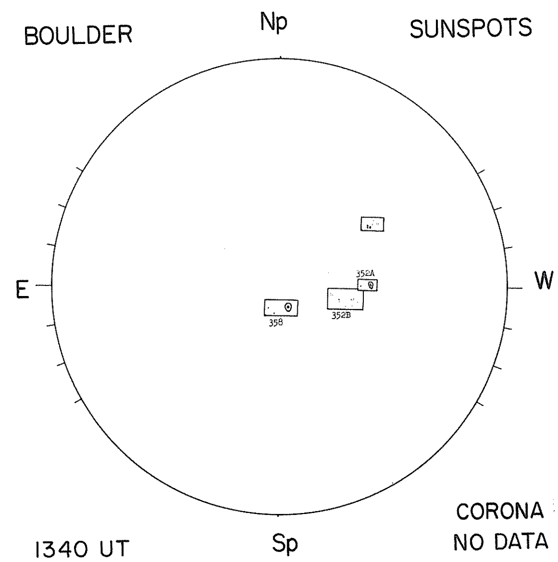
1430 UT Sp CORONA NO DATA

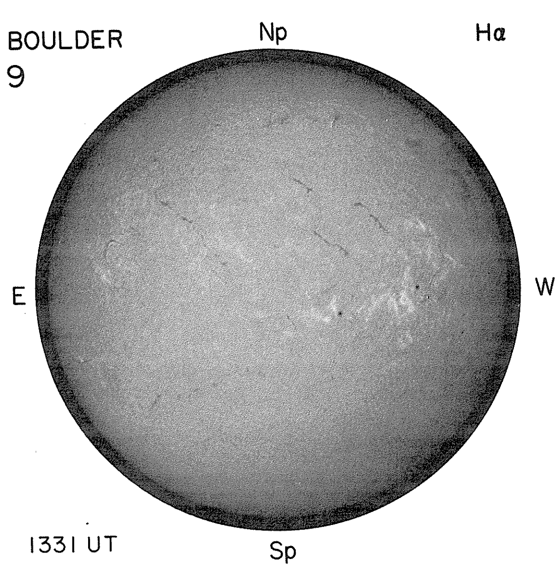
JUNE, 1971

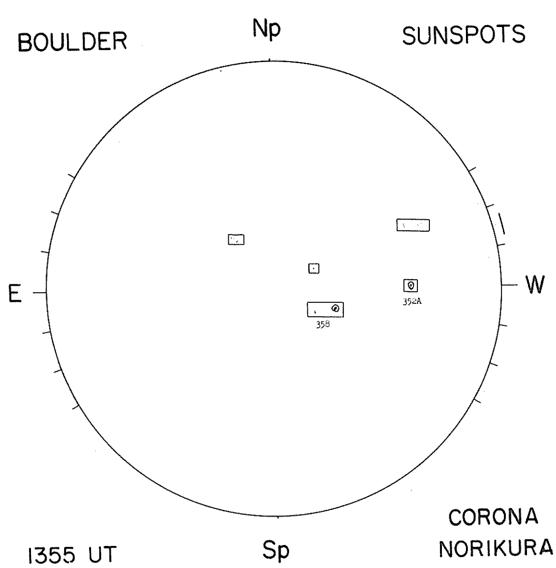

BOULDER
7
Np
Hα
E
W
1344 UT
Sp


BOULDER
Np
SUNSPOTS
E
W
358
352B
352A
1400 UT
Sp
CORONA
NO DATA

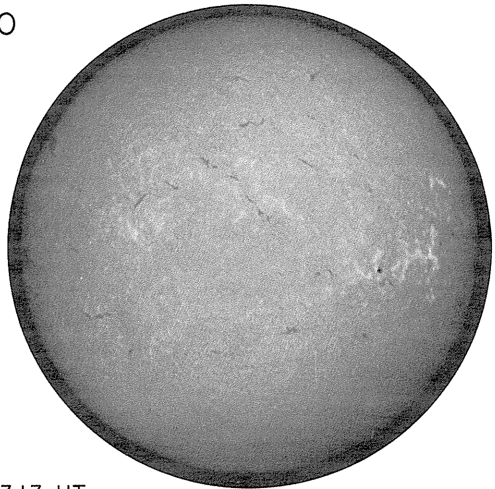

BOULDER
8
Np
Hα
E
W
1326 UT
Sp

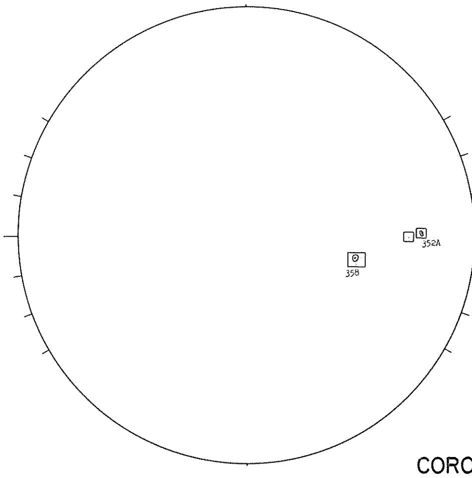

BOULDER
Np
SUNSPOTS
E
W
352A
358
352B
1340 UT
Sp
CORONA
NO DATA

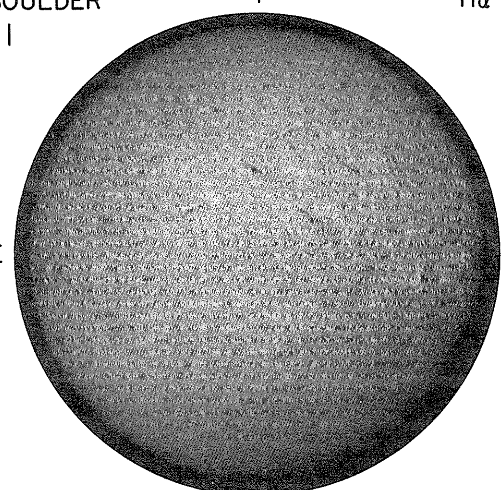

BOULDER
9
Np
Hα
E
W
1331 UT
Sp

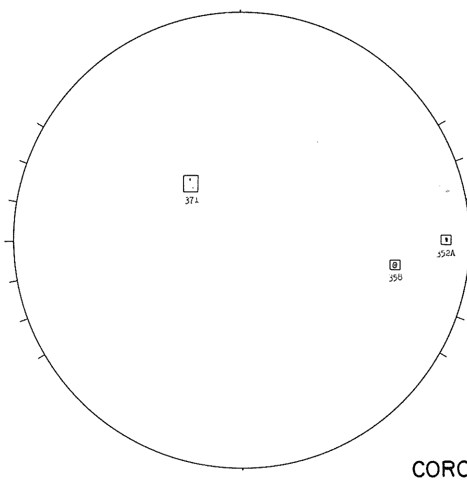

BOULDER
Np
SUNSPOTS
E
W
352A
358
1355 UT
Sp
CORONA
NORIKURA

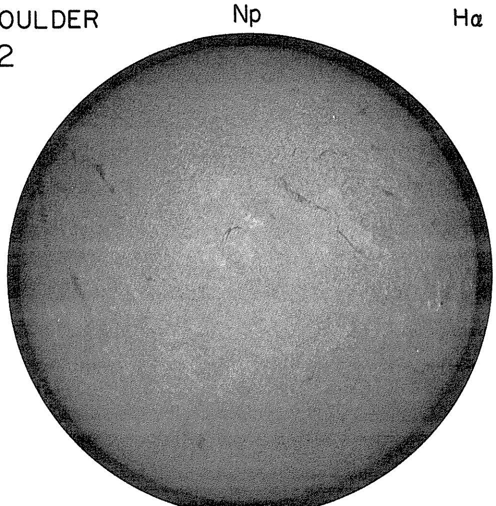
JUNE, 1971

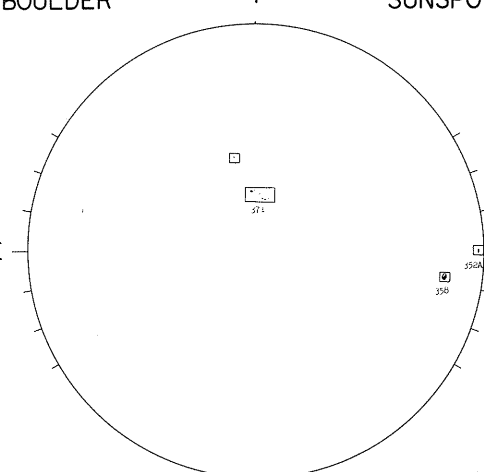

BOULDER
10
Np
Hα
E
W
2313 UT
Sp


BOULDER
Np
SUNSPOTS
E
W
352A
358
1350 UT
Sp
CORONA
NO DATA

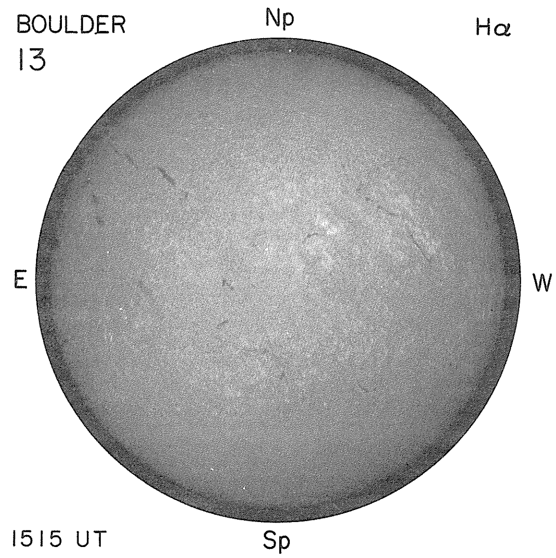

BOULDER
11
Np
Hα
E
W
2037 UT
Sp

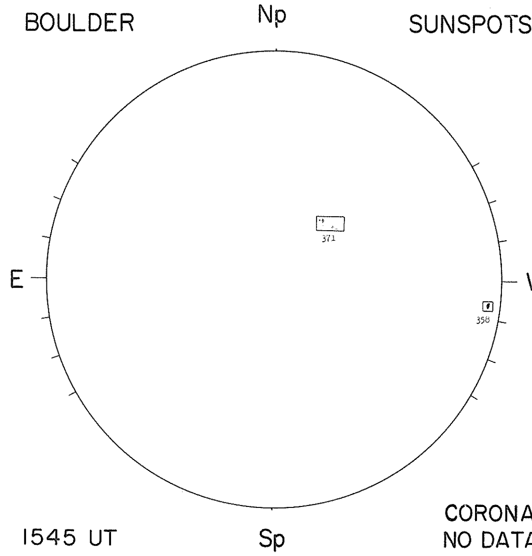

BOULDER
Np
SUNSPOTS
E
W
371
352A
358
1420 UT
Sp
CORONA
NO DATA

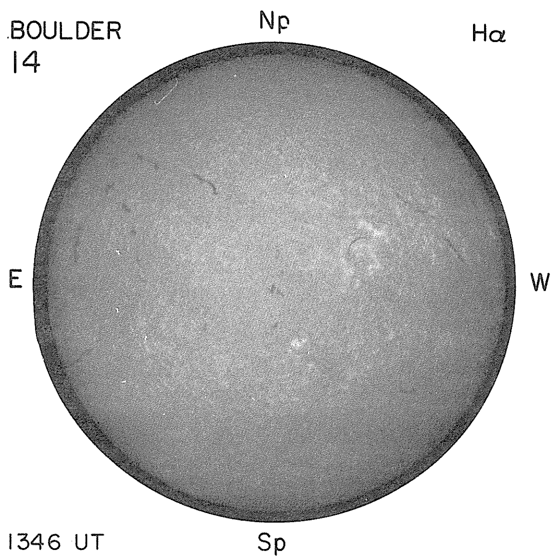

BOULDER
12
Np
Hα
E
W
1639 UT
Sp

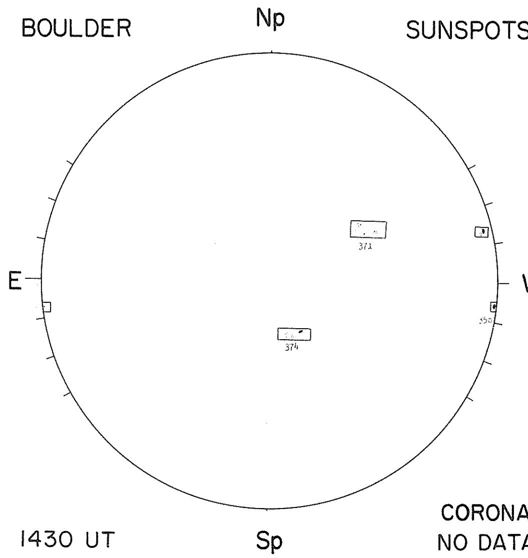

BOULDER
Np
SUNSPOTS
E
W
371
352A
358
1555 UT
Sp
CORONA
NO DATA

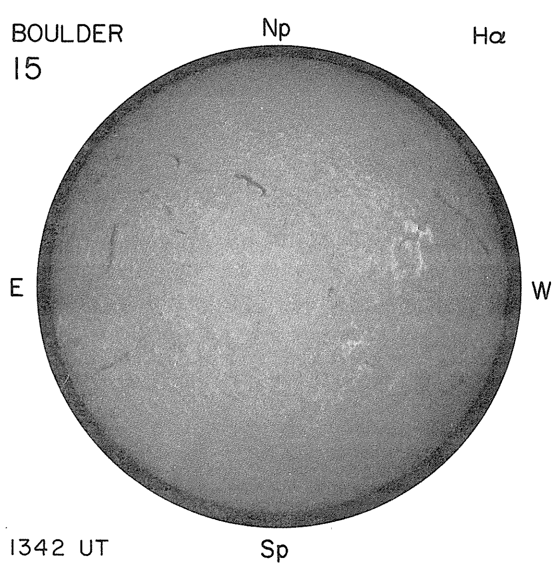
JUNE, 1971

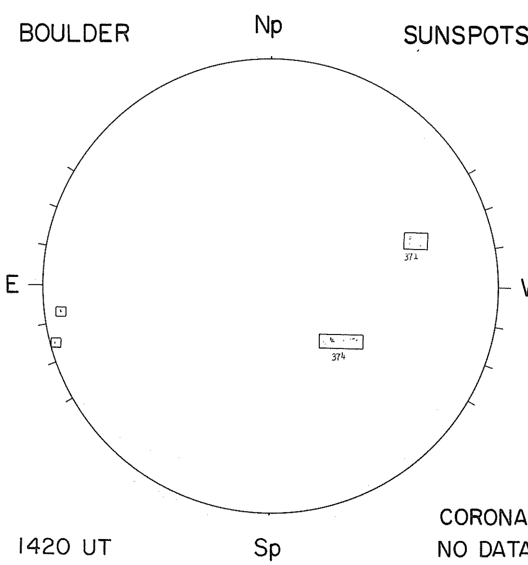

BOULDER
13
Np
Hα
E
W
1515 UT
Sp


BOULDER
Np
SUNSPOTS
371
E
W
350
1545 UT
Sp
CORONA
NO DATA


BOULDER
14
Np
Hα
E
W
1346 UT
Sp


BOULDER
Np
SUNSPOTS
371
E
W
350
374
1430 UT
Sp
CORONA
NO DATA

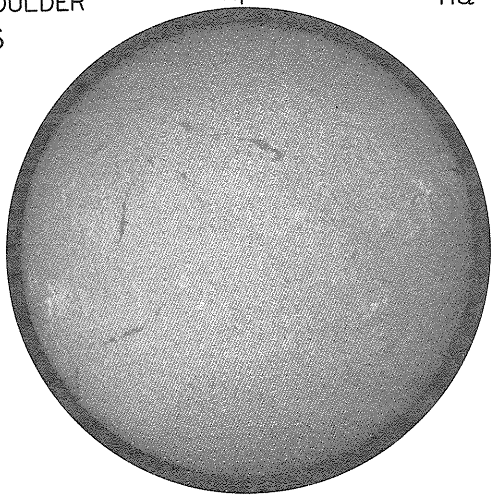

BOULDER
15
Np
Hα
E
W
1342 UT
Sp


BOULDER
Np
SUNSPOTS
371
E
W
374
1420 UT
Sp
CORONA
NO DATA

JUNE, 1971

BOULDER 16 — Np — Hα

E

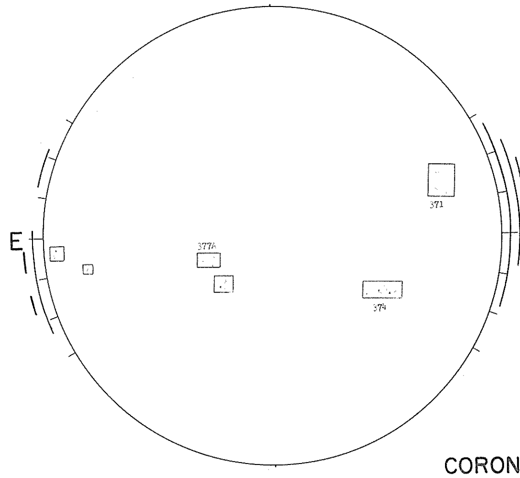


W

1448 UT — Sp

BOULDER — Np — SUNSPOTS

E

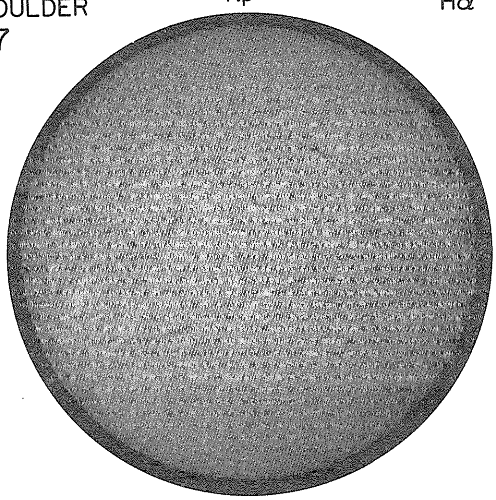


W

1350 UT — Sp — CORONA PIC-DU-MIDI

BOULDER 17 — Np — Hα

E

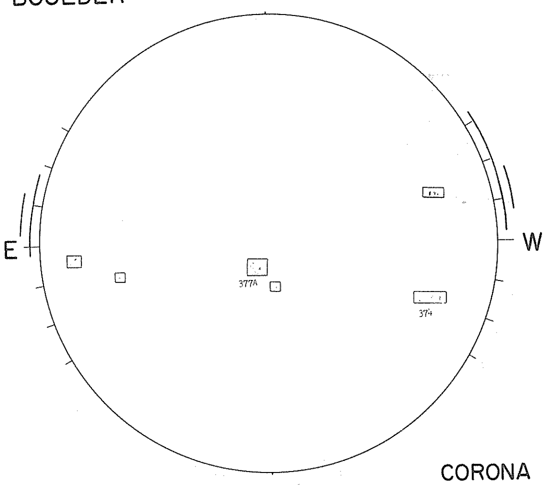


W

1427 UT — Sp

BOULDER — Np — SUNSPOTS

E

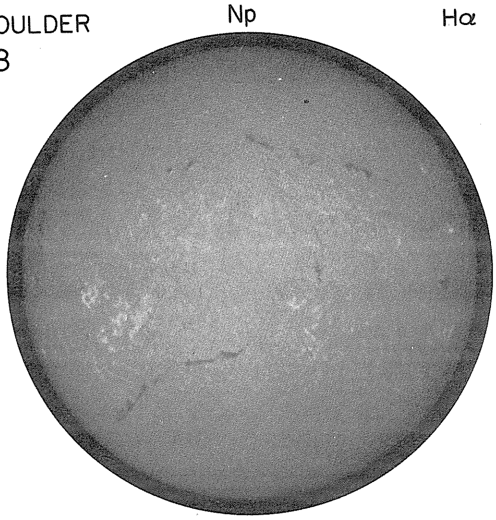


W

1330 UT — Sp — CORONA PIC-DU-MIDI

BOULDER 18 — Np — Hα

E

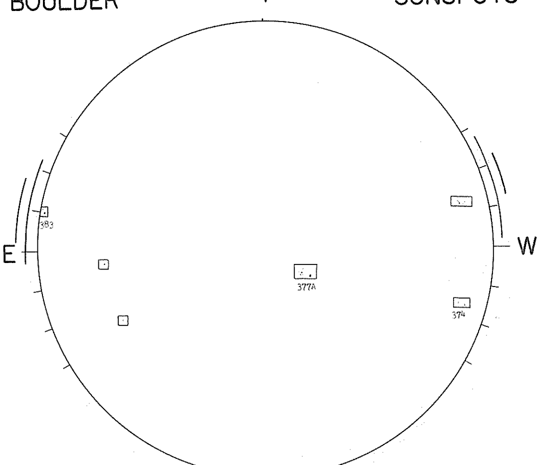


W

1540 UT — Sp

BOULDER — Np — SUNSPOTS

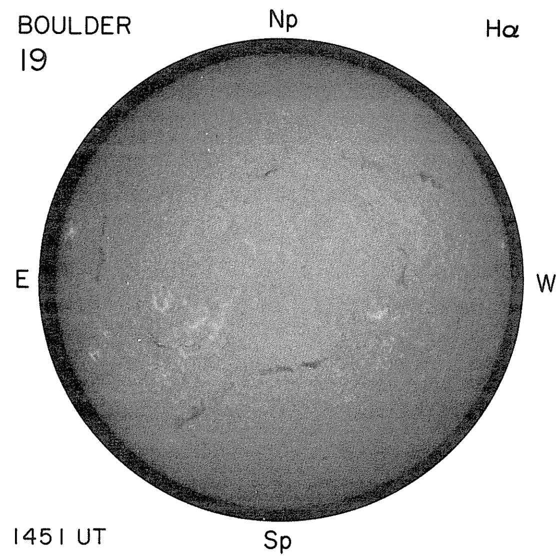
E

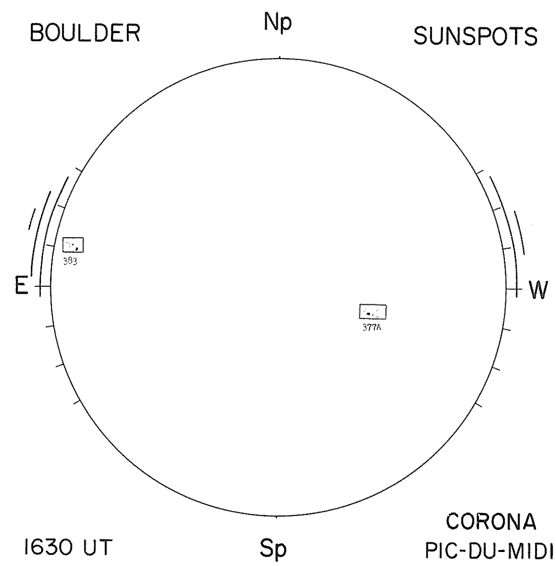


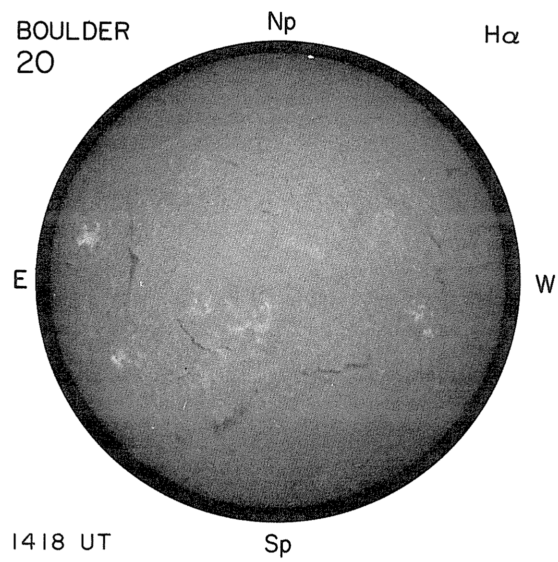
W

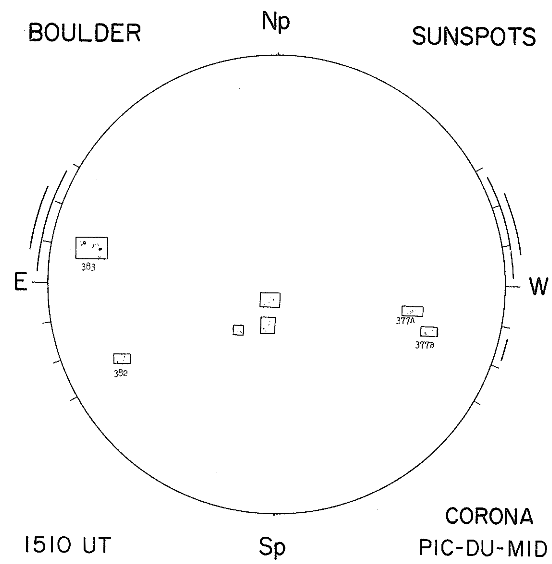
1315 UT — Sp — CORONA PIC-DU-MIDI

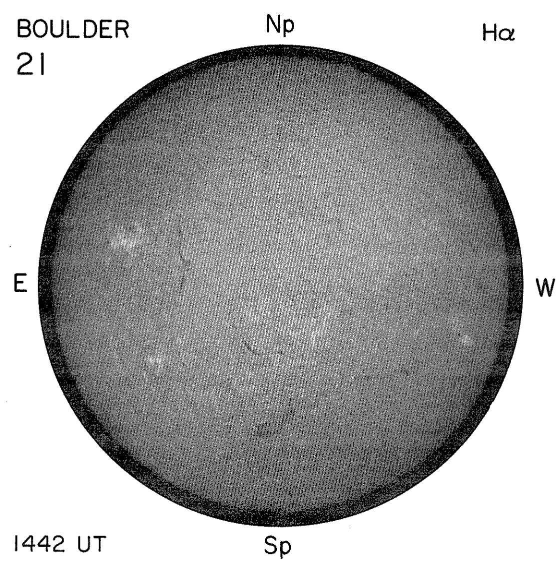
JUNE, 1971

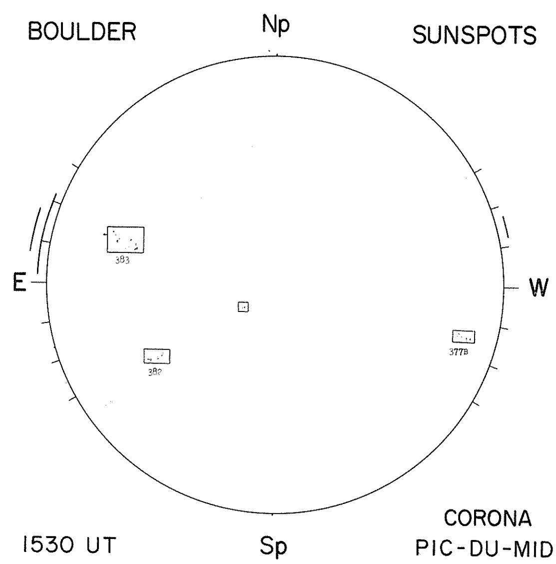

BOULDER
19
Np
Hα
E
W
1451 UT
Sp


BOULDER
Np
SUNSPOTS
383
E
W
377A
1630 UT
Sp
CORONA
PIC-DU-MIDI


BOULDER
20
Np
Hα
E
W
1418 UT
Sp

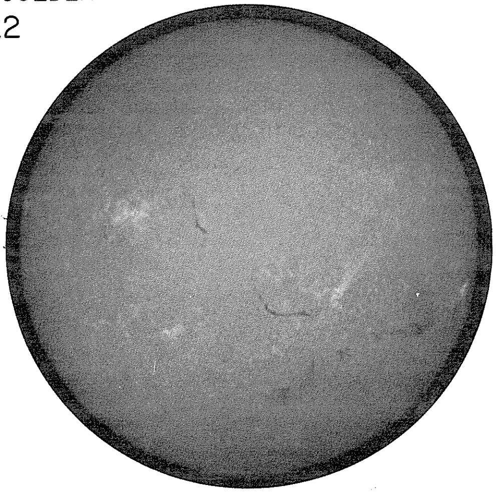

BOULDER
Np
SUNSPOTS
383
E
W
377A
377B
382
1510 UT
Sp
CORONA
PIC-DU-MIDI


BOULDER
21
Np
Hα
E
W
1442 UT
Sp


BOULDER
Np
SUNSPOTS
383
E
W
377B
382
1530 UT
Sp
CORONA
PIC-DU-MIDI

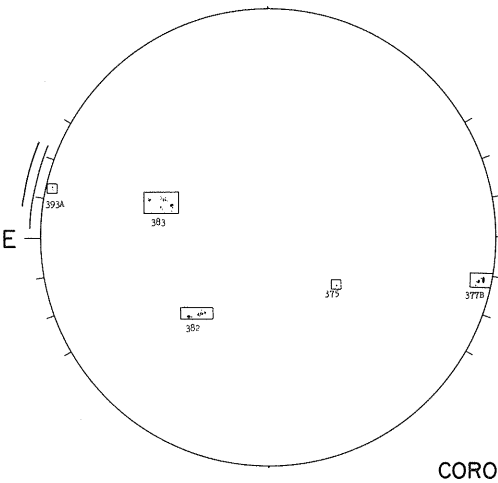
JUNE, 1971

BOULDER Np Hα
22

E  W

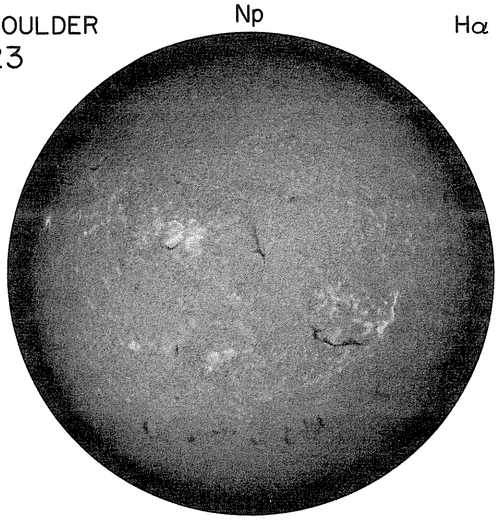
1449 UT Sp

BOULDER Np SUNSPOTS

E  W

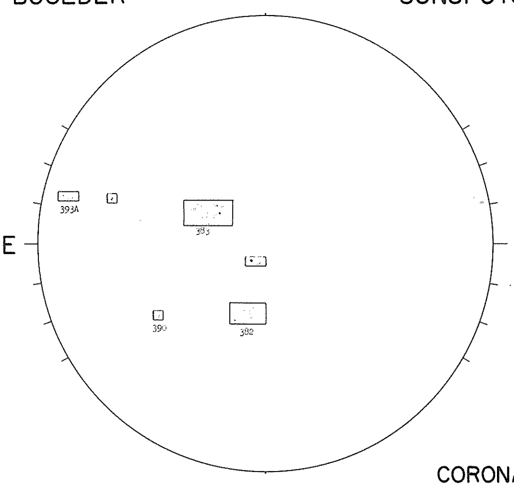
1545 UT Sp CORONA PIC-DU-MIDI

BOULDER Np Hα
23

E  W

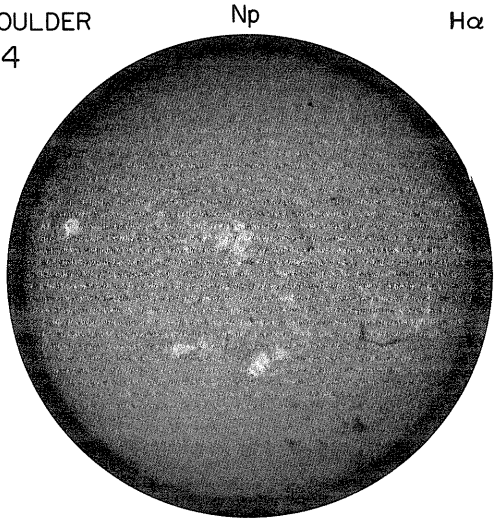
1522 UT Sp

BOULDER Np SUNSPOTS

E  W

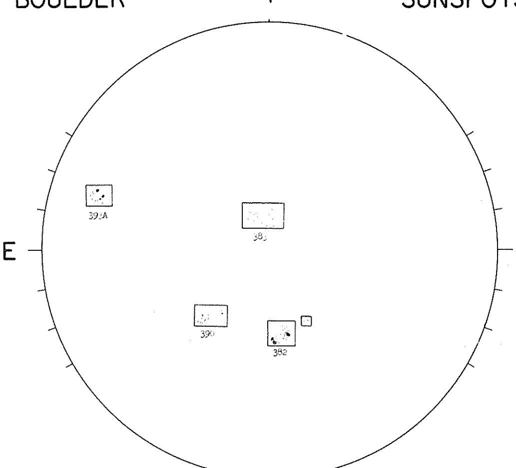
1540 UT Sp CORONA NO DATA

BOULDER Np Hα
24

E  W

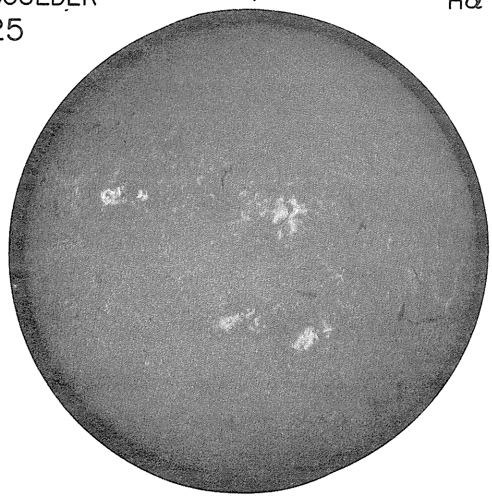
1420 UT Sp

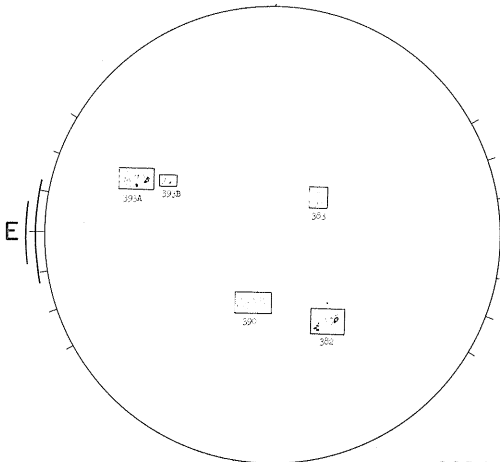
BOULDER Np SUNSPOTS

E  W

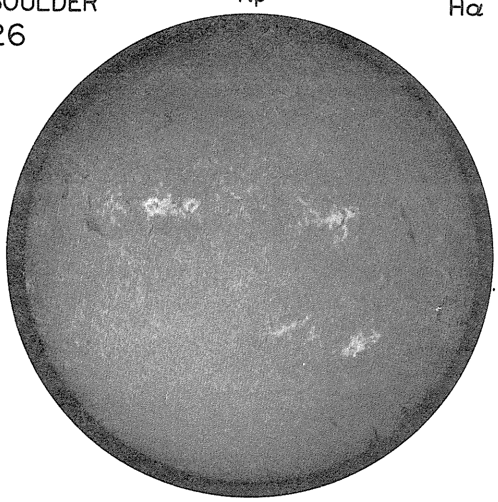
1500 UT Sp CORONA NO DATA

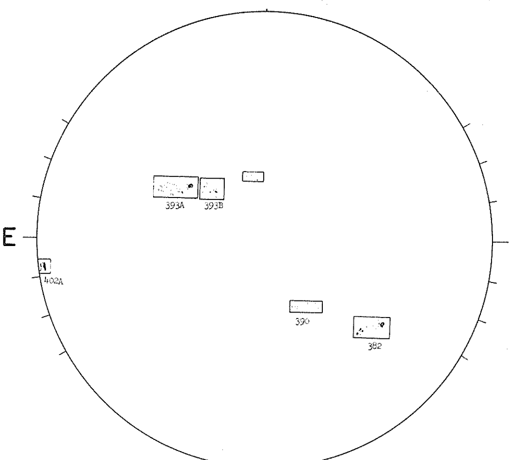
JUNE, 1971

BOULDER
25
Np
Hα
E

W
1423 UT
Sp

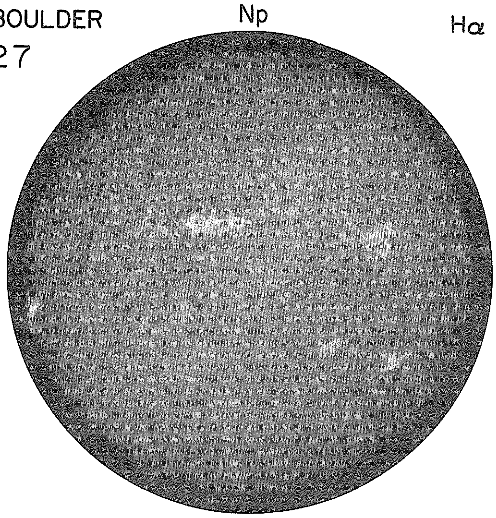
BOULDER
Np
SUNSPOTS
E


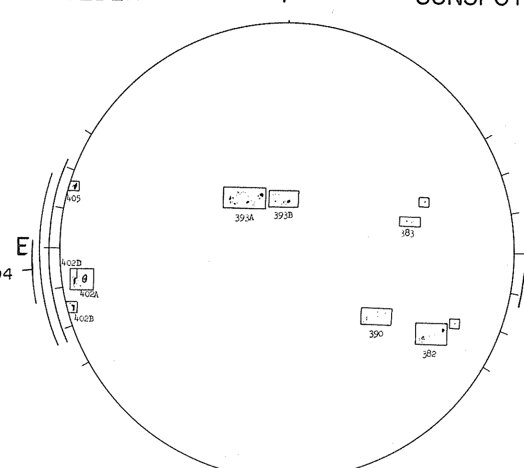
W
1340 UT
Sp
CORONA
NORIKURA

BOULDER
26
Np
Hα
E

W
1530 UT
Sp

BOULDER
Np
SUNSPOTS
E


W
1615 UT
Sp
CORONA
NO DATA

BOULDER
27
Np
Hα
E

W
1432 UT
Sp

BOULDER
Np
SUNSPOTS
E
204


W
1525 UT
Sp
CORONA
PIC-DU-MIDI

JUNE, 1971

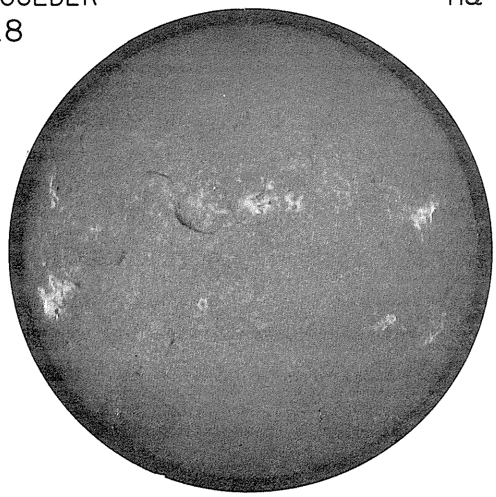
BOULDER
28

Np

Hα

E

W



1756 UT

Sp

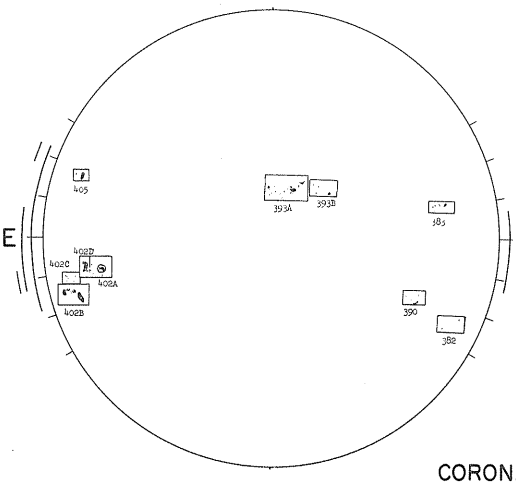
BOULDER

Np

SUNSPOTS

E

W



1830 UT

Sp

CORONA
PIC-DU-MIDI

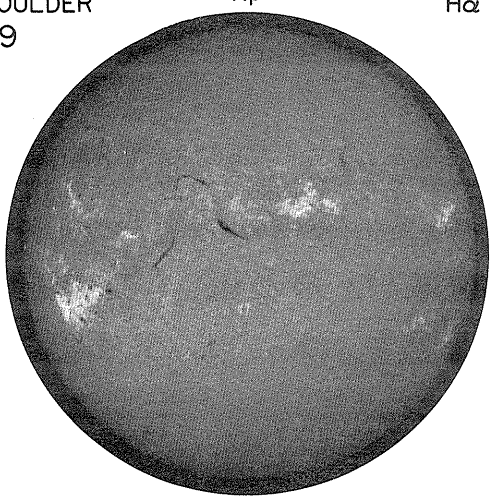
BOULDER
29

Np

Hα

E

W



1315 UT

Sp

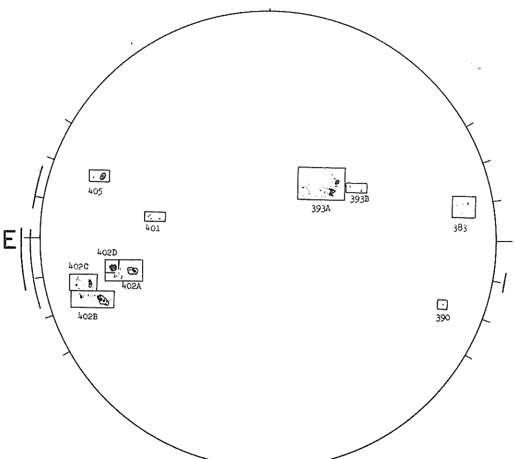
BOULDER

Np

SUNSPOTS

E

W



1410 UT

Sp

CORONA
PIC-DU-MIDI

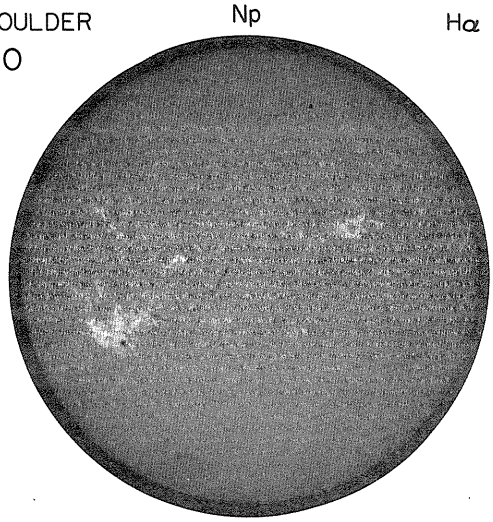
BOULDER
30

Np

Hα

E

W



1450 UT

Sp

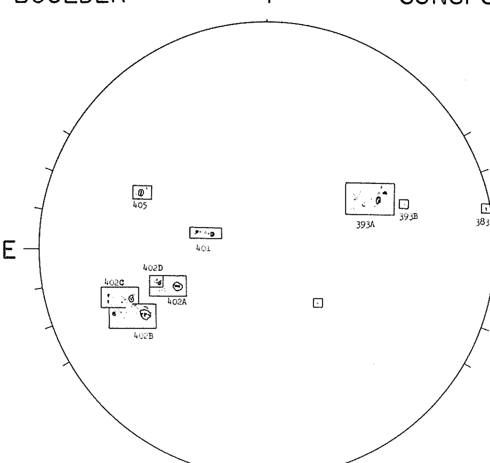
BOULDER

Np

SUNSPOTS

E

W



1545 UT

Sp

CORONA
NO DATA

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11354 CMP DATE 1.8

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
71	6	1	11354	N08 E03	287	100	1.5										

MCMATH REGION 11346 CMP DATE 2.1

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
71	5	28	11346	N03 E60	285	100	1.0										
71	5	29	11346	N03 E47	285	200	1.5										
71	5	30	11346	N03 E34	285	200	1.5										

MCMATH REGION 11350 CMP DATE 2.6

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
71	5	30	11350	S04 E41	278	300	1.5										

MCMATH REGION 11344 CMP DATE 3.0 RETURN OF REGION 11294 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
71	5	27	11344	N12 E83	274	1200	2.5										
71	5	28	11344	N12 E73	272	2700	2.5										
71	5	29	11344	N13 E60	272	2800	3.5	18443	N13 E55	276	(BP)	4	30	4	D	16	5
71	5							18444	N09 E60	271	(A)	3	0	1	H		
71	5	30	11344	N13 E45	274	3000	3.5	18443	N13 E40	274	BP	0	30	4	C	12	4
71	5							18444	N09 E45	269	A	0	10	1	H		
71	5	31	11344	N13 E30	274	3000	3.0	18443	N13 E27	275	BF	0	10	4	H	9	3
71	5							18444	N10 E34	268	AP	0	0	2	H		
71	6	1	11344	N13 E18	272	2800	3.0	18443	N13 E14	275	(Y)	2	10	7	B	9	3
71	6							18444	N10 E22	267	(AP)	1	10	2	C		
71	6	2	11344	N13 E04	271	2500	3.0		N13 E00				10	9	B	9	3
71	6	3	11344	N14 W09	270	2700	3.0	18443	N13 W14	274	(AF)	1	0	2	A	7	2
71	6							18444	N10 W06	266	AP	0	0	4	A		
71	6								N09 W02				0	3	A		
71	6	4	11344	N14 W20	271	2600	3.0	18443	N13 W26	274		0				9	3
71	6							18444	N10 W17	265	BF)	1	0	2	A		
71	6	5	11344	N13 W33	271	2500	3.0	18444	N10 W31	265	(AF)	1	0	3	A		
71	6	6	11344	N13 W46	271	2800	3.0	18444	N10 W43	262	AF	0					
71	6	7	11344	N14 W60	270	2900	2.5									9	2
71	6	8	11344	N14 W75	269	2600	2.0									6	2
71	6	9	11344	N14 W85	270	1200	1.0									6	2

MCMATH REGION 11347 CMP DATE 4.3 RETURN OF REGION 11296* ROTATION 2

CALCIUM PLAGE DATA / SUNSPOT DATA / 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	5	29	11347	N15 E80	252	600	1.5									5	1
71	5	30	11347	N16 E65	254	600	1.5										
71	5	31	11347	N17 E50	254	700	1.5										
71	6	1	11347	N16 E36	254	700	1.5										
71	6	2	11347	N15 E21	254	600	1.0										
71	6	3	11347	N15 E08	253	600	1.5										
71	6	4	11347	N15 W04	255	500	1.0										
71	6	5	11347	N15 W18	256	700	1.5	18450	N07 W18	252	(B)	1					
71	6	6	11347	N16 W28	253	600	1.5										
71	6	7	11347	N16 W43	253	400	1.0										
71	6	8	11347	N16 W58	252	300	1.0										
71	6	9	11347	N15 W68	253	300	1.0										

MCMATH REGION 11360 CMP DATE 5.1

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
71	6	3	11360	N05 E20	241	200	1.5										
71	6	4	11360	N05 E08	243	200	1.5										
71	6	5	11360	N05 W06	244	300	1.5										
71	6	6	11360	N05 W17	242	200	1.5										
71	6	7	11360	N05 W32	242	100	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.

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11349 CMP DATE 5.2 RETURN OF REGION 11297 ROTATION 4

				CALCIUM	PLAGE	DATA				SUNSPOT	DATA					9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	5	30	11349	S09 E79	240	600	1.0									11	3
71	5	31	11349	S09 E61	243	500	1.0										
71	6	1	11349	S09 E48	242	300	1.0										

MCMATH REGION 11351 CMP DATE 6.1 RETURN OF REGION 11315 ROTATION 2

				CALCIUM	PLAGE	DATA				SUNSPOT	DATA					9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	5	31	11351	N07 E73	231	800	3.0	18446	N07 E73	229	B	0	0	1	A		
71	6	1	11351	N07 E63	227	1000	3.0	18446	N07 E60	229	(BF)	3	0	1	A		
71	6	2	11351	N06 E47	228	1200	3.0										
71	6	3	11351	N07 E34	227	1200	3.0	18446	N05 E30	230	AP	0	0	2	A		
71	6	4	11351	N07 E22	229	1100	3.0		N01 E28				10	4	A		
71	6	5	11351	N06 E07	231	1200	3.0		N07 E06				0	5	B		
71	6	6	11351	N06 W04	229	1200	3.0										
71	6	7	11351	N06 W19	229	1100	3.0										
71	6	8	11351	N06 W36	230	1000	2.5										
71	6	9	11351	N06 W46	231	1000	2.0									4	1
71	6	10	11351	N07 W58	230	1000	2.0									7	2
71	6	11	11351	N07 W72	230	1200	1.5									6	2

MCMATH REGION 11369 CMP DATE 6.8

				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
71	6	8	11369	N16 W27	221	500	3.5	18453	N16 W26	222	(BF)	2	10	8	C	5	2
71	6	9	11369	N16 W37	222	700	3.0	18453	N16 W40	221	(AF)	2	0	5	B		
71	6	10	11369	N16 W51	223	700	3.0										
71	6	11	11369	N17 W65	223	700	2.5										
71	6	12	11369	N17 W79	223	700	3.0										

MCMATH REGION 11367 CMP DATE 7.0

				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
71	6	7	11367	S14 W07	217	200	1.5	18451	S14 W11	220	(AP)	2					
71	6	8	11367	S13 W24	218	200	1.5	18451	S13 W23	219	(B)	1					
71	6	9	11367	S13 W33	218	200	2.0										
71	6	10	11367	S13 W46	218	200	1.5										
71	6	11	11367	S13 W62	220	200	1.5										
71	6	12	11367	S12 W75	219	200	2.5										

MCMATH REGION 11357 CMP DATE 7.3

				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
71	6	2	11357	S50 E60	215	200	1.0										
71	6	3	11357	S50 E46	215	300	1.0										
71	6	4	11357	S50 E36	215	100	1.0										

MCMATH REGION 11352 CMP DATE 7.4

				CALCIUM	PLAGE	DATA				SUNSPOT	DATA					9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	5	31	11352	N03 E80	224	600	2.5	18447	N00 E82	220	AP	0	210	1	H	23	7
71	6	1	11352	S02 E77	213	1900	3.0	18447	S01 E73	216	(BY)	4	190	5	H	25	7
71	6	2	11352	S03 E61	214	2500	3.0		N00 E53				190	6	C	19	6
71	6	3	11352	S03 E49	212	2800	3.5	18447	N00 E40	220	(AP)	4	160	4	C	17	5
71	6								S03 E46				10	8	B		
71	6	4	11352	S03 E38	213	3000	3.5	18447	S01 E34	214	(BP)	4	130	4	H	15	5
71	6								S03 E31				10	3	B		
71	6	5	11352	S02 E22	216	3400	3.5	18447	S02 E18	216	(BP)	4	130	6	C		
71	6								S03 E25				10	6	C		
71	6	6	11352	S01 E12	213	3000	3.5	18447	S02 E03	216	(BP)	3					
71	6	7	11352	S02 W03	213	3200	3.5	18447	S01 W06	215	(BP)	5	160	8	C	13	4
71	6								S02 E01				0	4	B		
71	6							18452	S07 W06	215	(AP)	1	0	1	A		
71	6	8	11352	S03 W20	214	3000	3.5	18447	S01 W21	217	(BP)	5	100	2	H	12	3
71	6								S03 W15				0	9	B		

(cont'd)

REGIONS OF SOLAR ACTIVITY

JUNE 1971

(cont'd)

71	6	9	11352	S03 W30	215	2700	3.0	18447	N00 W40	221	(BP	3				10	3
71	6	10	11352	S03 W43	215	2800	3.0		N00 W50				80	1	H	10	3
71	6								S01 W46				0	1	A		
71	6	11	11352	S03 W56	214	2500	3.0	18447	N00 W65	223	(AP)	4	30	1	H	12	4
71	6	12	11352	S01 W69	213	2100	2.5	18447	N00 W80	221	(AP)	3	30	1	H		
71	6	13	11352	S03 W84	213	1500	1.5										

MCMATH REGION 11358 CMP DATE 8.7 RETURN OF REGION 11318 ROTATION 2

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	2	11358	S05 E81	194	900	2.5		S05 E75				120	1	H		
71	6	3	11358	S05 E67	194	1100	2.5	18448	S05 E60	200	(AP)	4	120	3	H		
71	6	4	11358	S05 E55	196	1000	3.0	18448	S06 E50	198	(BP)	5	120	1	H	4	1
71	6	5	11358	S06 E42	196	900	3.0	18448	S05 E34	200	(BP	5	120	4	C		
71	6	6	11358	S06 E30	195	1100	3.0	18448	S06 E18	201	(BP	4					
71	6	7	11358	S06 E15	195	1000	3.5	18448	S06 E10	199	(AP)	5	150	8	C	11	3
71	6	8	11358	S06 W01	195	1000	3.0	18448	S06 W02	198	(BP)	5	130	3	C	11	3
71	6	9	11358	S06 W10	195	1200	3.0	18448	S06 W16	197	(BP)	4	120	3	C	9	3
71	6	10	11358	S06 W23	195	1500	3.0		S06 W28				110	3	H	10	3
71	6	11	11358	S06 W38	196	1200	3.0	18448	S06 W43	201	(AP)	4	90	1	H		
71	6	12	11358	S06 W53	197	1000	3.5	18448	S06 W59	200	(AP)	5	80	1	H		
71	6	13	11358	S06 W68	197	1300	2.0	18448	S06 W72	200	(AP)	4					
71	6	14	11358	S06 W80	198	1000	2.0	18448	S06 W88	204	(AP)	3	20	1	H	6	2

MCMATH REGION 11373 CMP DATE 9.3

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
71	6	14	11373	N14 W70	188	700	3.0	18455	N13 W79	195	(BP)	3	60	4	C	7	2
71	6	15	11373	N14 W84	190	500	1.5									3	1

MCMATH REGION 11365 CMP DATE 10.7 RETURN OF REGION 11312 & 11305 ROTATION 2 & 3

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	5	11365	N10 E70	168	700	1.0										
71	6	6	11365	N11 E59	166	800	2.0										
71	6	7	11365	N10 E43	167	700	1.0										
71	6	8	11365	N09 E26	168	600	1.5										
71	6	9	11365	N09 E16	169	800	2.0		N12 E10				0	4	A		
71	6	10	11365	N09 E03	169	800	2.0										
71	6	11	11365	N10 W11	169	900	2.0									3	1
71	6	12	11365	N11 W24	168	1200	2.0										
71	6	13	11365	N10 W38	167	900	1.0										
71	6	14	11365	N11 W52	170	1000	1.0										
71	6	15	11365	N10 W63	169	700	1.0										
71	6	16	11365	N10 W69	162	700	1.0										

MCMATH REGION 11368 CMP DATE 10.9

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	7	11368	S15 E47	163	200	1.0										
71	6	8	11368	S16 E28	166	200	1.0										
71	6	9	11368	S15 E18	167	100	1.0										

MCMATH REGION 11364 CMP DATE 11.1 RETURN OF REGION 11305* ROTATION 4

CALCIUM PLAGE DATA SUNSPOT DATA 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	5	11364	N22 E70	168	300	1.0										
71	6	6	11364	N22 E60	165	300	1.5										
71	6	7	11364	N22 E45	165	400	2.0										
71	6	8	11364	N21 E28	166	400	2.0										
71	6	9	11364	N21 E19	166	300	2.0										
71	6	10	11364	N21 E07	165	300	2.0										
71	6	11	11364	N21 W07	165	400	2.0										
71	6	12	11364	N21 W21	165	500	1.5										
71	6	13	11364	N21 W35	164	400	1.5										
71	6	14	11364	N22 W50	168	300	2.0										
71	6	15	11364	N22 W62	168	300	2.0										

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11371 CMP DATE 12.6

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA						SUNSPOT DATA									9.1 CM	
71	6	11	11371	N15	E15	143	400	3.0	18454	N14	E14	144	(BF)	2	0	4	B	7	2
71	6	12	11371	N16	E00	144	900	3.5	18454	N14	W02	143	(BF)	3	30	12	D		
71	6	13	11371	N15	W15	144	700	3.5	18454	N14	W15	143	(BF)	2					
71	6	14	11371	N15	W27	145	800	3.5	18454	N13	W31	147	(BP	1	30	14	B	6	2
71	6	15	11371	N14	W38	144	900	3.5	18454	N13	W43	147	AP	0	10	6	B	6	2
71	6	16	11371	N14	W50	143	800	3.0		N14	W50				10	7	B	6	2
71	6	17	11371	N15	W65	144	600	3.0											
71	6	18	11371	N15	W78	144	500	2.0										6	2

MCMATH REGION 11366 CMP DATE 13.2 RETURN OF REGION 11313 ROTATION 2

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA						SUNSPOT DATA									9.1 CM	
71	6	6	11366	N07	E87	138	500	1.5											
71	6	7	11366	N07	E74	136	900	2.0										5	1
71	6	8	11366	N06	E56	138	900	2.0										4	1
71	6	9	11366	N06	E46	139	1000	2.0										4	1
71	6	10	11366	N06	E34	138	1000	2.0										4	1
71	6	11	11366	N06	E22	136	1400	2.5											
71	6	12	11366	N08	E08	136	1500	2.5											
71	6	13	11366	N07	W07	136	1400	2.5											
71	6	14	11366	N07	W20	138	1500	2.5											
71	6	15	11366	N07	W33	139	1400	2.0											
71	6	16	11366	N07	W44	137	1200	2.5											
71	6	17	11366	N08	W60	139	1200	2.0										7	2
71	6	18	11366	N08	W73	139	900	1.0											

MCMATH REGION 11370 CMP DATE 13.3 RETURN OF REGION 11305* ROTATION 4

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA						SUNSPOT DATA									9.1 CM	
71	6	7	11370	N24	E76	134	400	1.0											
71	6	8	11370	N24	E60	134	500	1.0											
71	6	9	11370	N24	E50	135	300	1.5											
71	6	10	11370	N23	E37	135	400	1.5											
71	6	11	11370	N24	E24	134	500	1.5											
71	6	12	11370	N24	E10	134	900	1.5		N26	E06				0	1	A		
71	6	13	11370	N24	W03	132	700	1.5											
71	6	14	11370	N24	W15	133	600	2.0											

MCMATH REGION 11380 CMP DATE 13.8

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA						SUNSPOT DATA									9.1 CM	
71	6	17	11380	N13	W49	128	600	3.5	18461	N12	W48	124	(BF)	3	40	6	C		
71	6	18	11380	N12	W61	127	600	3.5	18461	N12	W63	127	(BF)	2	10	6	B		
71	6	19	11380	N12	W75	127	600	3.5										6	2

MCMATH REGION 11381 CMP DATE 13.9

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA						SUNSPOT DATA									9.1 CM	
71	6	17	11381	N25	W48	127	100	1.5											
71	6	18	11381	N26	W58	124	100	1.0											
71	6	19	11381	N27	W70	122	100	1.5											
71	6	20	11381	N27	W83	123	100	1.0											

MCMATH REGION 11374 CMP DATE 14.1

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA						SUNSPOT DATA									9.1 CM	
71	6	14	11374	S13	W06	124	400	3.0	18456	S13	W08	124	(BP)	2	40	7	C	4	1
71	6	15	11374	S14	W18	124	900	3.0	18456	S15	W21	125	(BF)	2	20	17	B	3	1
71	6	16	11374	S14	W31	124	800	3.0	18456	S14	W34	124	(B)	1	20	14	B	4	1
71	6	17	11374	S14	W45	124	800	2.5	18456	S14	W47	123	(BP)	3	10	6	B	6	2
71	6	18	11374	S14	W59	125	500	2.5	18456	S14	W62	126	(BP)	2	10	2	B	5	1
71	6	19	11374	S14	W74	126	500	2.5											
71	6	20	11374	S14	W82	122	400	1.0											

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11372 CMP DATE 15.8

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	11	11372	S07 E56	102	200	1.5										

MCMATH REGION 11377 CMP DATE 17.7

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	16	11377	S09 E14	79	500	2.5	18458	S13 E11	79	(B)	1	10	8	D		
71	6							18459	S07 E07	83	(AP)	1	10	4	B		
71	6	17	11377	S09 E02	77	700	3.5	18458	S13 W04	80	(AP)	1	0	1	A	5	2
71	6							18459	S07 E02	74	(BP)	2	10	8	B		
71	6	18	11377	S10 W12	78	900	3.0	18459	S07 W13	77	(BP)	3	20	15	C	5	1
71	6	19	11377	S10 W25	77	900	3.0	18459	S07 W26	76	(BF)	3	20	15	C		
71	6	20	11377	S10 W41	81	1000	3.0	18458	S11 W43	81	(AP)	1					
71	6							18459	S06 W38	76	(BF)	2					
71	6	21	11377	S09 W57	80	1200	3.0	18458	S11 W58	83	(BP)	2					
71	6	22	11377	S10 W69	82	1500	3.5	18458	S11 W78	85	(BP)	4	120	6	D	16	15
71	6	23	11377	S12 W82	82	1300	3.5									9	3

MCMATH REGION 11396 CMP DATE 18.5

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	24	11396	N14 W80	68	300	1.5									5	1

MCMATH REGION 11387 CMP DATE 18.8

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	21	11387	S10 W40	63	100	1.0										

MCMATH REGION 11391 CMP DATE 19.6

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	22	11391	N28 W38	51	100	1.0										
71	6	23	11391	N28 W50	50	300	1.5										
71	6	24	11391	N28 W65	53	300	1.5										

MCMATH REGION 11378 CMP DATE 19.9

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	16	11378	N09 E46	47	200	1.5										
71	6	17	11378	N09 E30	49	200	2.0										
71	6	18	11378	N07 E17	49	200	1.5										
71	6	19	11378	N08 E04	48	200	1.5										
71	6	20	11378	N08 W09	49	200	1.0										

MCMATH REGION 11376 CMP DATE 20.8 RETURN OF REGION 11328 ROTATION 2

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	15	11376	N18 E70	36	400	1.0										
71	6	16	11376	N18 E56	37	400	1.0										

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11375 CMP DATE 21.5 RETURN OF REGION 11340 ROTATION 2

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	14	11375	S08 E83	35	800	2.0	18457	S10 E80	36	AP	0	0	1	A	9	3
71	6	15	11375	S10 E74	32	2000	2.0	18457	S10 E69	35	(AP)	2	0	2	A	10	3
71	6								S12 E82				0	1	A		
71	6	16	11375	S10 E66	27	2900	3.0	18457	S10 E54	36	(AP)	1	0	2	A	10	3
71	6							18460	S05 E70	20	(BP	2	10	3	B		
71	6	17	11375	S10 E50	29	2700	3.0	18460	S08 E59	17	(AF)	1	10	3	B	7	2
71	6								S07 E41				0	1	A		
71	6	18	11375	S11 E38	28	2500	2.5		S03 E44				0	1	A	7	2
71	6								S17 E42				0	1	A		
71	6	19	11375	S12 E25	27	2400	2.5	18463	S11 E13	37	(AP)	2					
71	6	20	11375	S10 E13	27	2200	2.5	18463	S11 E02	36	(AP)	2					
71	6	21	11375	S09 W04	27	2000	3.0	18463	S11 W10	35	(AP)	1					
71	6							18465	S08 E05	20	(AP)	1					
71	6							18466	S06 E08	17	(AP)	1					
71	6	22	11375	S09 W14	27	1700	3.0		S11 W18				0	1	A	5	1
71	6	23	11375	S09 W28	28	1800	2.5									5	1
71	6	24	11375	S09 W41	29	1500	2.0									4	1
71	6	25	11375	S10 W57	31	1200	1.5									6	2
71	6	26	11375	S10 W70	30	900	1.0									7	2

MCMATH REGION 11400 CMP DATE 22.4

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	26	11400	N07 W55	15	200	2.0										
71	6	27	11400	N07 W69	17	200	1.5										

MCMATH REGION 11384 CMP DATE 23.5

				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
71	6	19	11384	S14 E54	359	100	1.5										
71	6	20	11384	S13 E41	-0	100	1.5										
71	6	21	11384	S12 E23	0	300	1.0										

MCMATH REGION 11388 CMP DATE 23.5

				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
71	6	21	11388	N12 E22	1	100	2.5										

MCMATH REGION 11394 CMP DATE 23.9

				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
71	6	23	11394	S03 E06	355	200	2.0		S03 E03				10	5	B		
71	6	24	11394	S03 W08	356	200	2.0										
71	6	25	11394	S03 W22	356	100	1.0										

MCMATH REGION 11382 CMP DATE 24.2

				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
71	6	18	11382	S20 E78	349	200	3.0									3	1
71	6	19	11382	S20 E63	350	400	2.5	18464	S20 E56	355	(B)	2				4	1
71	6	20	11382	S19 E49	352	700	3.5	18464	S20 E44	355	(BP)	2					
71	6	21	11382	S19 E32	352	700	3.5	18464	S20 E33	353	(BF)	3					
71	6	22	11382	S19 E22	352	800	3.5	18464	S19 E15	353	(BF)	3	20	22	C	4	1
71	6	23	11382	S19 E09	352	900	3.5	18464	S19 E06	352	(BF)	3	20	14	C	9	3
71	6							18467	S22 E09	349	(BP	3	0	4	A		
71	6	24	11382	S20 W04	352	1300	3.5	18464	S18 W10	356	(AP)	3	0	3	A	20	6
71	6							18467	S21 W04	350	(B)	5	90	26	D		
71	6	25	11382	S20 W18	352	1600	3.5	18464	S18 W23	356	(AP)	1				23	7
71	6							18467	S22 W17	350	(B)	4	80	30	D		
71	6	26	11382	S20 W31	351	1500	3.0	18467	S22 W30	349	(BF)	4	80	24	D	13	4
71	6	27	11382	S18 W43	351	1200	3.0	18467	S21 W43	350	(BF)	5					
71	6	28	11382	S18 W55	350	1200	3.0	18467	S21 W55	349	(BF)	3	0	2	B	10	3
71	6	29	11382	S20 W70	351	1200	2.0									10	3
71	6	30	11382	S22 W83	352	500	1.5										

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11383 CMP DATE 25.1 RETURN OF REGION 11338 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	18	11383	N11 E85	342	800	3.0	18462	N08 E80	345	(BP)	3	20	2	C	12	4
71	6	19	11383	N12 E75	338	1500	2.5	18462	N09 E66	345	(BP)	3	40	11	C	16	5
71	6	20	11383	N10 E59	342	2500	3.5	18462	N09 E53	346	(B)	3					
71	6	21	11383	N12 E44	340	2500	3.0	18462	N09 E42	344	(BP)	3					
71	6	22	11383	N12 E33	341	2500	3.0	18462	N09 E24	344	(B)	2	30	5	D	11	3
71	6								N12 E32				20	12	C		
71	6	23	11383	N12 E21	340	2500	3.0	18462	N09 E14	344	(B)	3	30	27	C	11	3
71	6	24	11383	N12 E08	340	2200	3.0	18462	N10 E02	344	(BP)	2	0	13	B	8	3
71	6	25	11383	N13 W07	341	2200	3.0	18462	N09 W13	346	(BP)	2	0	5	A	8	3
71	6	26	11383	N13 W21	341	2200	2.5									10	3
71	6	27	11383	N13 W30	338	2000	2.5	18475	N14 W35	342	(BF)	2					
71	6							18462	N10 W31	338	(AF)	2					
71	6	28	11383	N13 W43	338	2000	3.0	18462	N10 W46	340	(BP)	3	20	8	C	16	5
71	6	29	11383	N13 W61	342	2200	3.0	18462	N10 W58	339	(BP)	3	10	4	C	11	3
71	6	30	11383	N13 W72	341	2000	2.5	18462	N10 W78	346	(AP)	4	10	2	A	14	4
71	7	1	11383	N11 W84	337	200	1.0									8	2

MCMATH REGION 11390 CMP DATE 26.0

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
71	6	21	11390	S15 E60	324	100	2.0										
71	6	22	11390	S16 E48	326	200	1.0										
71	6	23	11390	S16 E35	326	200	1.5		S18 E29				0	2	A		
71	6	24	11390	S16 E18	330	600	2.5	18469	S15 E15	331	(BP)	2	0	11	B		
71	6								S14 E13				0	2	A		
71	6	25	11390	S16 E06	328	800	2.5	18469	S16 E04	329	(BP)	2	0	15	B		
71	6	26	11390	S15 W08	328	900	3.0	18469	S16 W10	329	(BP)	1	10	10	B		
71	6	27	11390	S15 W23	331	700	3.0	18469	S15 W24	331	(B)	2					
71	6	28	11390	S15 W35	330	900	3.0	18469	S15 W38	332	(BP	3	10	6	C	5	1
71	6	29	11390	S15 W50	331	900	2.0		S14 W53				0	1	A		
71	6	30	11390	S15 W63	332	800	1.5									10	3
71	7	1	11390	S15 W76	329	400	1.5									10	3
71	7	2	11390													10	3

MCMATH REGION 11395 CMP DATE 27.0

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
71	6	23	11395	N12 E48	313	300	1.5		N13 E44				0	2	A		
71	6	24	11395	N12 E33	315	300	2.0										

MCMATH REGION 11403 CMP DATE 27.1

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
71	6	26	11403	N17 E07	313	200	2.0	18471	N17 E04	315	(BP)	3	20	18	C		
71	6								N17 E03				0	3	B		
71	6	27	11403	N16 W05	313	500	1.5										
71	6	28	11403	N16 W18	313	400	1.0		N15 W13				10	4	C		

MCMATH REGION 11392 CMP DATE 27.4

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	22	11392	N25 E66	308	100	1.0										
71	6	23	11392	N26 E52	309	200	1.0										

MCMATH REGION 11389 CMP DATE 27.7 RETURN OF REGION 11356 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
71	6	21	11389	N17 E78	306	300	2.0										
71	6	22	11389	N17 E68	306	100	1.5										

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11398 CMP DATE 27.7

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	25	11398	S29 E29	305	100	1.0										

MCMATH REGION 11393 CMP DATE 28.4

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	22	11393	N13 E81	293	1000	2.5		N13 E78				0	2	A	6	2
71	6	23	11393	N14 E69	292	1100	3.0	18468	N13 E60	298	AP	0	10	3	B	6	2
71	6	24	11393	N14 E54	294	1300	3.5	18468	N15 E50	296	(BF)	4	50	15	D	18	5
71	6	25	11393	N15 E38	296	1700	3.5	18470	N14 E28	305	(BP)	4	10	10	C	23	7
71	6							18468	N15 E37	296	(BP)	5	110	33	D		
71	6	26	11393	N14 E24	296	1700	3.5	18470	N14 E15	304	(BP)	5				23	7
71	6							18468	N14 E25	294	(BP)	5	100	34	D		
71	6	27	11393	N16 E11	297	2000	3.5	18470	N15 E04	303	(BP)	4					
71	6							18468	N15 E14	293	(BP)	5					
71	6	28	11393	N16 W02	297	2000	3.5	18470	N16 W10	304	(BP)	3				23	7
71	6							18468	N15 E00	294	(BP)	4	80	28	D		
71	6	29	11393	N16 W16	297	2100	3.5	18470	N14 W23	304	(BP	2	0	2	B	34	10
71	6							18468	N15 W13	294	(BP)	5	150	57	C		
71	6	30	11393	N16 W28	297	2200	3.5	18468	N15 W27	295	(BY)	5	140	54	E	35	10
71	6								N14 W38				0	1	A		
71	7	1	11393	N16 W41	294	2400	3.5	18468	N15 W40	293	(BP)	5	130	22	C	24	7
71	7	2	11393	N15 W54	293	2800	3.5	18468	N16 W54	293	(BP)	4	120	7	C	25	7
71	7	3	11393	N15 W67	294	2600	3.0	18468	N17 W71	294	(AP)	4					
71	7	4	11393	N16 W80	293	2600	2.5	18468	N17 W89	299	AP	0					

MCMATH REGION 11404 CMP DATE 29.7

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	27	11404	S10 E28	280	200	1.5										
71	6	28	11404	S10 E15	280	300	2.0	18477	S11 E15	279	(A)	1					
71	6	29	11404	S11 E02	279	300	1.5										
71	6	30	11404	S11 W11	280	300	1.5		S11 W13				0	1	A	11	3
71	7	1	11404	S11 W24	277	300	1.5									8	2
71	7	2	11404	S12 W39	278	300	1.5										
71	7	3	11404	S12 W50	277	200	1.5										

MCMATH REGION 11397 CMP DATE 29.9

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	24	11397	S14 E70	278	200	2.0									3	1
71	6	25	11397	S14 E58	276	100	1.0									8	2

MCMATH REGION 11399 CMP DATE 30.0 RETURN OF REGION 11344 & 11347 ROTATION 3 & 4

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
			CALCIUM PLAGE DATA					SUNSPOT DATA								9.1 CM	
71	6	23	11399	N15 E90	271	400	1.0										
71	6	24	11399	N15 E76	272	500	1.5										
71	6	25	11399	N14 E60	274	500	1.5									3	1
71	6	26	11399	N15 E46	274	700	1.5										
71	6	27	11399	N15 E33	275	800	1.5										
71	6	28	11399	N15 E21	274	900	1.5										
71	6	29	11399	N15 E06	275	900	1.5										
71	6	30	11399	N16 W07	276	1100	2.0										
71	7	1	11399	N16 W19	272	1100	2.0										
71	7	2	11399	N16 W35	274	1000	1.5										
71	7	3	11399	N16 W46	273	1000	1.5										
71	7	4	11399	N17 W58	271	900	1.5										

REGIONS OF SOLAR ACTIVITY

JUNE 1971

MCMATH REGION 11410 CMP DATE 30.5

				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
71	7	2	11410	N31	W28	267	200	2.5											
71	7	3	11410	N30	W40	267	300	2.0											
71	7	4	11410	N30	W54	267	200	1.0											

Note: Region 11352 has developed in the location of old plage 11298 of the previous rotation.
Region 11371 has developed on the disk in the location of region 11319 of the previous rotation.
Region 11374 has formed on the disk in the location of 11320.
Region 11393 is new plage that has developed near the leading part of old region 11344.
No sunspot observations were made at Mt. Wilson Observatory on June 2 and 10, 1971.

DAILY CALCIUM PLAGE INDEX

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
71	6	1	17.2	71	6	11	15.7	71	6	21	15.7
71	6	2	17.4	71	6	12	14.9	71	6	22	15.7
71	6	3	21.7	71	6	13	8.9	71	6	23	16.5
71	6	4	21.8	71	6	14	10.1	71	6	24	18.1
71	6	5	24.5	71	6	15	8.8	71	6	25	19.3
71	6	6	24.3	71	6	16	10.6	71	6	26	18.4
71	6	7	23.3	71	6	17	12.3	71	6	27	20.5
71	6	8	20.5	71	6	18	9.9	71	6	28	25.4
71	6	9	17.6	71	6	19	10.1	71	6	29	28.8
71	6	10	16.8	71	6	20	13.5	71	6	30	33.2

* NO OBSERVATIONS

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

JUNE 1971

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

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.27	0.23	0.35	0.22	0.29	0.41	0.27	0.28	0.18	0.25	0.24	0.27	0.30	0.26	0.50	0.32	0.30	0.26	0.27	0.25	0.31	0.28	0.25	0.21
2	0.37	0.40	0.28	0.28	0.22	0.26	0.26	0.25	0.21	0.23	0.20	0.18	0.21	0.31	0.38	0.30	0.17	0.17	0.21	0.16	0.16	0.65	0.27	0.23
3	0.23	0.19	0.24	0.24	0.20	0.22	0.21	0.21	0.21	0.17	0.16	0.18	0.21	0.20	0.23	0.22	0.26	0.18	3.01	0.49	0.35	0.22	0.21	0.19
4	0.21	0.22	0.23	0.28	0.20	0.21	0.23	0.21	0.59	0.20	0.22	0.20	0.52	0.42	0.26	0.22	0.27	0.26	0.30	0.23	0.23	0.20	0.21	0.20
5	0.19	0.21	0.18	0.17	0.20	0.19	0.18	0.21	0.18	0.20	0.19	0.21	0.17	0.19	0.18	0.25	0.18	0.21	0.30	0.20	0.18	0.15	0.21	0.19
6	0.18	0.18	0.18	0.21	0.16	0.16	0.17	0.17	0.18	0.16	0.16	0.26	0.19	0.21	0.17	0.16	0.18	0.19	0.14	0.22	0.18	0.18	0.16	0.16
7	0.15	0.16	0.21	0.19	0.19	0.15	0.19	0.16	0.16	0.32	0.28	0.17	0.20	0.20	0.15	0.24	0.16	0.16	0.20	0.16	0.27	0.56	0.20	0.22
8	0.17	0.20	0.15	0.14	0.18	0.18	0.19	0.12	0.17	0.20	0.14	0.15	0.17	0.17	0.19	0.16	0.14	0.17	0.16	0.16	0.13	0.19	0.19	0.17
9	0.16	0.14	0.16	0.15	0.16	0.18	0.18	0.24	0.23	0.18	0.13	0.22	0.15	0.16	0.16	0.20	0.26	0.34	0.18	0.15	0.16	0.29	0.19	0.18
10	0.16	0.17	0.16	0.17	0.15	0.19	0.19	0.17	0.15	0.18	0.26	0.18	0.14	0.19	0.17	0.28	0.19	0.16	0.19	0.18	0.23	0.16	0.16	0.17
11	0.18	0.20	0.14	0.17	0.16	0.17	0.14	0.15	0.16	0.19	0.16	0.18	0.18	0.20	0.29	0.17	0.17	0.32	0.17	0.24	0.17	0.18	0.17	0.14
12	0.16	0.17	0.14	0.24	0.18	0.17	0.15	0.16	0.22	0.15	0.16	0.12	0.15	0.19	0.21	0.20	0.30	0.16	0.18	0.20	0.15	0.28	0.18	0.19
13	0.14	0.18	0.22	0.27	0.20	0.24	0.18	0.25	0.28	0.22	0.24	0.24	0.24	0.21	0.18	0.39	0.20	0.16	0.21	0.17	0.37	0.19	0.16	0.19
14	0.20	0.21	0.19	0.17	0.16	0.21	0.18	0.19	0.16	0.21	0.22	0.17	0.19	0.23	0.28	0.26	0.20	0.29	0.28	0.25	0.25	0.21	0.21	0.21
15	0.20	0.16	0.17	0.21	0.19	0.22	0.15	0.16	0.19	0.20	0.18	0.18	0.19	0.18	0.22	0.16	0.16	0.20	0.21	0.22	0.19	0.19	0.18	0.15
16	0.17	0.17	0.19	0.15	0.15	0.17	0.17	0.17	0.15	0.14	0.20	0.18	0.24	0.18	0.16	0.19	0.20	0.16	0.16	0.15	0.28	0.13	0.15	0.14
17	0.16	0.18	0.17	0.15	0.18	0.19	0.19	0.16	0.22	0.19	0.21	0.20	0.19	0.20	0.27	0.23	0.33	0.33	0.25	0.28	0.20	0.29	0.31	0.39
18	0.37	0.21	0.22	0.35	0.26	0.36	0.51	0.21	0.33	0.42	0.24	0.44	0.30	0.27	0.24	0.28	0.25	0.38	0.29	0.29	0.24	0.37	0.23	0.21
19	0.20	0.17	0.19	0.18	0.17	0.19	0.19	0.22	0.19	0.34	0.26	0.21	0.28	0.16	0.17	0.15	0.25	0.22	0.18	0.18	0.29	0.18	0.16	0.19
20	0.15	0.24	0.19	0.15	0.17	0.20	0.14	0.39	0.16	0.20	0.44	0.15	0.33	0.18	0.21	0.26	0.20	0.25	0.36	0.28	0.20	0.19	0.26	0.21
21	0.12	0.16	0.15	0.19	0.16	0.23	0.17	0.22	0.18	0.17	0.17	0.21	0.21	0.22	0.22	0.15	0.26	0.18	0.23	0.17	0.14	0.25	0.34	0.19
22	0.21	0.25	0.19	0.22	0.28	0.23	0.22	0.20	0.20	0.24	0.23	0.29	0.20	0.25	0.20	0.23	0.44	0.23	0.25	0.19	0.23	0.25	0.24	0.47
23	0.22	0.22	0.22	0.20	0.31	0.24	0.17	0.21	0.23	0.27	0.27	0.32	0.31	0.28	0.23	0.24	0.25	0.37	0.21	0.24	0.23	0.21	0.22	0.22
24	0.40	0.56	0.60	0.46	0.36	1.43	0.82	0.42	0.43	0.39	0.44	0.54	0.45	0.38	0.46	0.30	0.28	0.41	0.41	0.30	0.27	0.61	1.90	0.71
25	0.47	0.66	1.11	1.04	0.97	0.74	0.56	0.53	0.48	1.50	1.59	0.85	0.45	0.69	2.48	2.39	0.85	1.02	0.71	0.64	0.83	0.67	0.65	5.37
26	3.37	1.02	0.53	0.54	0.90	1.01	0.78	0.89	0.58	0.58	10.1	2.25	1.03	5.06	5.73	0.89	0.58	0.71	0.43	0.53	0.63	0.67	1.01	2.13
27	0.59	0.53	0.50	0.81	0.64	0.69	1.21	1.11	0.61	1.61	0.64	0.95	0.55	0.50	0.64	0.57	0.63	0.83	0.82	0.79	0.75	0.55	0.59	0.75
28	0.81	1.29	0.84	0.60	0.66	0.76	0.88	0.75	0.79	1.01	0.82	0.72	1.49	1.50	1.91	1.03	1.48	1.56	1.25	0.85	0.91	0.66	0.60	0.64
29	0.80	1.00	0.65	0.71	0.80	0.56	0.48	0.59	0.91	0.76	0.69	0.51	3.10	0.50	0.76	2.28	0.74	0.59	0.74	0.88	0.56	0.68	0.48	0.62
30	0.62	1.78	2.53	1.88	1.22	0.82	0.67	1.17	1.11	0.97	0.79	0.73	0.70	0.82	0.92	0.70	0.80	0.78	0.62	0.51	0.64	0.51	0.55	0.99

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

JUNE 1971

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

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0,56	0,56	0,63	0,61	0,61	0,68	0,58	0,55	0,54	0,59	0,60	0,60	0,59	0,60	0,80	0,62	0,58	0,53	0,55	0,54	0,54	0,57	0,54	0,53
2	0,65	0,65	0,61	0,58	0,50	0,51	0,53	0,49	0,47	0,46	0,43	0,40	0,42	0,50	0,60	0,51	0,44	0,40	0,43	0,37	0,36	0,74	0,56	0,45
3	0,43	0,44	0,48	0,44	0,43	0,45	0,46	0,45	0,41	0,36	0,36	0,35	0,41	0,37	0,42	0,42	0,40	0,43	2,10	0,80	0,59	0,48	0,52	0,43
4	0,45	0,49	0,41	0,47	0,42	0,39	0,44	0,37	0,60	0,40	0,44	0,44	0,65	0,62	0,51	0,46	0,44	0,51	0,42	0,42	0,38	0,34	0,37	0,38
5	0,36	0,36	0,39	0,38	0,36	0,38	0,37	0,40	0,35	0,34	0,34	0,37	0,37	0,33	0,33	0,32	0,33	0,32	0,32	0,32	0,31	0,33	0,32	0,34
6	0,36	0,36	0,33	0,31	0,30	0,29	0,29	0,30	0,30	0,29	0,31	0,36	0,32	0,31	0,30	0,31	0,31	0,31	0,29	0,29	0,30	0,27	0,30	0,29
7	0,28	0,29	0,30	0,30	0,29	0,28	0,27	0,27	0,29	0,43	0,42	0,28	0,27	0,35	0,26	0,32	0,29	0,26	0,20	0,27	0,30	0,57	0,39	0,35
8	0,30	0,28	0,26	0,26	0,26	0,26	0,26	0,26	0,26	0,25	0,26	0,26	0,26	0,27	0,28	0,26	0,27	0,30	0,25	0,26	0,24	0,27	0,26	0,30
9	0,25	0,25	0,25	0,28	0,27	0,26	0,26	0,26	0,28	0,26	0,25	0,26	0,25	0,27	0,26	0,28	0,27	0,28	0,26	0,23	0,27	0,25	0,26	0,25
10	0,24	0,25	0,23	0,24	0,24	0,22	0,24	0,23	0,24	0,26	0,34	0,26	0,24	0,23	0,23	0,21	0,23	0,24	0,22	0,22	0,25	0,23	0,22	0,23
11	0,24	0,22	0,22	0,21	0,22	0,21	0,21	0,21	0,22	0,22	0,22	0,21	0,21	0,25	0,19	0,22	0,21	0,19	0,23	0,22	0,21	0,23	0,22	0,22
12	0,23	0,24	0,25	0,23	0,22	0,22	0,21	0,22	0,21	0,22	0,21	0,21	0,20	0,21	0,20	0,19	0,19	0,21	0,23	0,19	0,21	0,23	0,22	0,23
13	0,25	0,30	0,31	0,37	0,31	0,33	0,30	0,33	0,42	0,40	0,40	0,40	0,34	0,30	0,29	0,25	0,28	0,29	0,29	0,26	0,24	0,28	0,28	0,29
14	0,33	0,30	0,32	0,34	0,32	0,31	0,31	0,31	0,30	0,29	0,32	0,30	0,30	0,32	0,27	0,30	0,28	0,29	0,28	0,27	0,32	0,35	0,34	0,30
15	0,27	0,26	0,25	0,28	0,25	0,25	0,24	0,24	0,24	0,25	0,22	0,22	0,25	0,24	0,23	0,22	0,22	0,24	0,29	0,24	0,21	0,22	0,22	0,19
16	0,19	0,19	0,20	0,20	0,21	0,21	0,21	0,22	0,21	0,20	0,21	0,21	0,25	0,26	0,19	0,17	0,18	0,17	0,17	0,18	0,16	0,18	0,18	0,18
17	0,19	0,22	0,23	0,22	0,23	0,24	0,24	0,22	0,29	0,28	0,30	0,29	0,30	0,33	0,33	0,32	0,39	0,35	0,34	0,38	0,33	0,40	0,42	0,50
18	0,55	0,40	0,40	0,48	0,39	0,45	0,57	0,38	0,45	0,53	0,40	0,49	0,47	0,34	0,32	0,43	0,40	0,33	0,36	0,40	0,35	0,44	0,36	0,33
19	0,32	0,29	0,27	0,27	0,27	0,27	0,29	0,30	0,29	0,44	0,35	0,28	0,30	0,28	0,32	0,28	0,28	0,35	0,30	0,27	0,28	0,28	0,27	0,27
20	0,26	0,24	0,26	0,25	0,26	0,27	0,25	0,31	0,24	0,22	0,40	0,27	0,30	0,25	0,25	0,23	0,26	0,24	0,37	0,22	0,23	0,28	0,32	0,26
21	0,24	0,25	0,25	0,26	0,28	0,30	0,28	0,31	0,29	0,28	0,27	0,28	0,26	0,28	0,23	0,26	0,18	0,25	0,22	0,28	0,29	0,31	0,41	0,31
22	0,35	0,32	0,33	0,35	0,37	0,35	0,37	0,32	0,29	0,36	0,34	0,33	0,32	0,31	0,31	0,26	0,45	0,29	0,34	0,34	0,34	0,33	0,35	0,46
23	0,33	0,30	0,31	0,33	0,38	0,37	0,30	0,33	0,39	0,44	0,48	0,49	0,49	0,43	0,37	0,31	0,37	0,41	0,34	0,33	0,33	0,32	0,35	0,35
24	0,53	0,68	0,76	0,64	0,58	1,11	0,84	0,66	0,63	0,65	0,75	0,78	0,58	0,55	0,70	0,56	0,50	0,60	0,44	0,55	0,53	0,71	1,56	0,86
25	0,72	0,75	1,07	0,99	1,16	1,02	0,89	0,79	0,78	1,19	1,46	1,09	0,73	0,77	1,83	1,81	1,13	1,15	1,00	0,88	1,09	0,98	0,90	2,39
26	2,38	1,26	0,81	0,89	1,09	1,28	1,07	1,12	0,95	0,99	4,66	1,94	1,47	3,00	3,28	1,33	0,99	1,02	0,84	0,76	1,00	1,03	1,22	2,05
27	1,01	0,92	0,90	1,06	1,12	1,11	1,38	1,30	1,06	1,41	0,89	1,12	0,87	0,82	0,95	0,93	1,05	1,16	1,07	1,14	1,10	0,95	0,96	1,03
28	1,17	1,44	1,19	1,02	1,07	1,13	1,23	1,11	1,12	1,35	1,20	1,14	1,61	1,48	1,66	1,30	1,57	1,56	1,45	1,23	1,24	1,09	0,98	1,08
29	1,18	1,20	1,09	1,08	1,19	1,03	0,87	0,94	1,08	1,02	0,99	0,93	1,57	0,95	0,92	1,68	1,16	1,04	1,13	1,16	0,93	1,02	0,95	1,04
30	1,03	1,64	2,33	1,87	1,59	1,28	1,21	1,45	1,49	1,42	1,29	1,19	1,12	1,17	1,27	1,09	1,19	1,12	1,02	0,99	1,06	1,02	0,98	1,18

SOLAR X-RAYS BY SATELLITE

EXPLORER 37

JUNE 1971

OUTSTANDING EVENTS

NAVAL RESEARCH LABORATORY

DAY	START TIME	0.5-3A FLUX XE-5	PEAK TIME	1-8A FLUX XE-4	PEAK TIME	8-20A FLUX XE-3	PEAK TIME	END TIME	COMMENTS
3	1831E	11,00D	1831E	53,00	1833	28,00	1838	1844	
25	2320	52,00D	2337D	180,00D	2338D	53,00D	2338D	0038	
26	1005	49,00	1014	180,00	1013	67,00	1021	1106D	
26	1319E	13,00D	1319E	65,00	1345	40,00	1349	1352D	
26	1358E	8,90	1408	130,00	1403	53,00	1404	1422D	
26	2320	5,60	2323	38,00	2323	27,00	2331	2332	
27	0908	11,00	0910	42,00	0911	21,00	0911	0915	
28	1446	8,90	1448	37,00	1447	22,00	1449	1451	
29	1236			220,00	1238	53,00	1240	1243	
29	1541	50,00	1546	89,00	1547	40,00	1549	1552	
30	0140	5,60	0149	41,00D	0153D	27,00	0152	0153D	
30	0224E	3,30	0229	39,00	0225	29,00	0227	0230	

SUDDEN IONOSPHERIC DISTURBANCES

JUNE 1971

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
03	1416	1505	1420	2−	3					3	3		1417	11356
03	1823	1928	1833	1−	5	1			5	1	1		1823	11352
05	0743	0845	0751	1	3					2	2		0730	11361
06	1340	1343	1342	1+	1					1	1		1344	11358
06	1520	1545	1525	1+	1					1	1		1521	11358
07	2148	2205	2200	1+	5					5	5		NF	
14	0117	0120	0120	1	1					1	1		0121	11358
14	0950	1100	1050	1+	1					1	1		0949E	11374
17	1337	1412	1350	2	1					1	1		1336E	11379
17	1655	1707	1707	1+	1					1	1		1645	11377
17	1915	1955	1955	1+	3					2	2		1910	11383
20	1820	1824	1823	1	3					1	1		1821E	11383
22	2120	2129	2129	1	3					3	3		2120	11377
22	2201	2309	2211	2	5					7	7		NF	
23	2023	2026	2026	1	1					1	1		2032E	11382
24	0527	0643	0537	1−	3	2			2		1		0526	11382
24	2138	2219	2151	1−	3			4	2		2		2138E	11382
25	1708	1726	1716	1−	1	1							1706	11393
26	1006	1100	1015	2+	5	3		2	3		2		1010	11402
26	1311	1320D	1320	1−	3	2		1	2		3		1310	X-RAY
26	1359	1405D	1405	1	3	1			1		3		1400	11393
26	1420	1455	1429	2−	5	2		2	3		5		1423	11402
28	0910	0940	0920	1−	3	1		1	2		1		0912	11402
28	1217	1253	1232	1	3	3		2	3		2		1215	11402
28	1240	1400	1300U	1−	3			4			1		1237E	11402
28	1312	1400	1325	1	1	1							1315	11402
29	0718	0734	0721	1−	1						1		0717	11383
29	0754	0814	0758	1−	1						1		0755	11402
29	1236	1315	1241	2	5	3	1	2	4		5		1235	11393
29	1540	1640	1548	1+	5	5	1	5	4		4		1539	11393
29	2237	0000	2240	1+	5	5		4	6	5	9		2235	11393
30	2148	2223	2153	1−	5	1			6	3	7		2143	11393

SUDDEN IONOSPHERIC DISTURBANCES

JUNE 1971

STATIONS REPORTING FOR JUNE 1971

AAVSO (A8, A17, A18, A19, A22, A23, A26, A27) (SEA) (A1, A19, A21, A30, A31) (SES)
ANCHORAGE (AN) (SWF, SCNA, SPA)
ATHENS (AT) (SWF)
ATTU (LORAN-C) (TT) (LF-SPA, SES)
BOULDER (BO) (SCNA, SEA)
CAPE RACE (LORAN-C) (CP) (LF-SPA, SES)
DARMSTADT (DA) (SWF)
ENKOPING (SW) (SWF)
FORESTPORT (FP) (SPA)
GESASHI (LORAN-C) (GE) (LF-SPA, SES)
HAWAII (HA) (SPA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HOKKAIDO (LORAN-C) (HO) (LF-SPA, SES)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JUPITER (LORAN-C) (JP) (LP-SPA, SES)
KUHLUNGSBORN (KU) (SEA, SPA)
KURE (LORAN-C) (KR) (LF-SPA, SES)
MANILA (MA) (SWF, SPA)
MARCUS (LORAN-C) (MR) (LF-SPA, SES)
MCMATH (MC) (SWF, SCNA)
NANTUCKET (LORAN-C) (NT) (LF-SPA, SES)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PORT CLARENCE (LORAN-C) (PC) (LF-SPA, SES)
PRESTON (LO) (SEA)
PYRAMID ROCK (PR) (SPA)
ROME (RO) (SCNA, SEA)
SAN DIEGO (SD) (SPA)
SANDUR (LORAN-C) (SA) (LF-SPA, SES)
SAO PAULO (UM) (SPA, SES)
SITKINAK (LORAN-C) (SK) (LF-SPA, SES)
SOFIA (SF) (SES)
SYLT (LORAN-C) (ST) (LF-SPA, SES)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TRINIDAD (TR) (SWF, SPA)
UPOLO POINT (LORAN-C) (UP) (LF-SPA, SES)
WHITE SANDS (WS) (SWF)
YAP (LORAN-C) (YP) (LF-SPA, SES)

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-10	0000-1000 A19
01-18	0000-1310 A29, 0000-2400 A31
01-21	0000-1115 A8
01-26	0000-0520 A30
01	0402-0450 UM, 0630-2400 AT, 0653-0723 UM, 0820-1100 UM
02	0000-2400 AT, 1245-1630 PO
03	1230-1750 PO, 1700-2010 BO, 1700-2116 UM
04	1400-1753 UM, 1950-2125 BO, 2200-2400 BO
05	0000-0200 BO, 0400-0700 BO, 0730-1500 BO, 1300-1830 PO
06-13	0000-2400 A28
06	1045-2400 PO, 1700-1900 BO, 2300-2400 BO
07	0000-0745 PO, 0000-0400 BO, 0600-0703 BO
08	2040-2200 BO, 2314-2400 TM
09	0000-0155 TM, 0800-2036 BO, 2200-2300 BO, 2330-2400 MA
10	0000-0740 MA, 0400-1600 BO, 2000-2135 BO
11	1345-1447 WS
13	1750-1856 TM
17	1423-1426 TM, 1700-2053 TM
18	1405-1722 UM
22	1650-2155 BO
23	0733-1530 TM
24-29	2245-2120 A8
25	1715-1725 TM
28	0700-1100 PO
29-31	0000-0130 A21, 1030-2400 A18
29	0510-1420 BO
30	0000-2400 RO

Note: A30 is a new station reporting for the first time from Sunnyvale, California. This station has been recording amplitude attenuation, rather than enhancement, denoted by - SES.

A31 is a new station reporting for the first time from Missoula, Montana.

Station HA reporting SPA's from Puunene, Maui, Hawaii was deactivated June 30, 1971.

SID's BY McMATH REGION

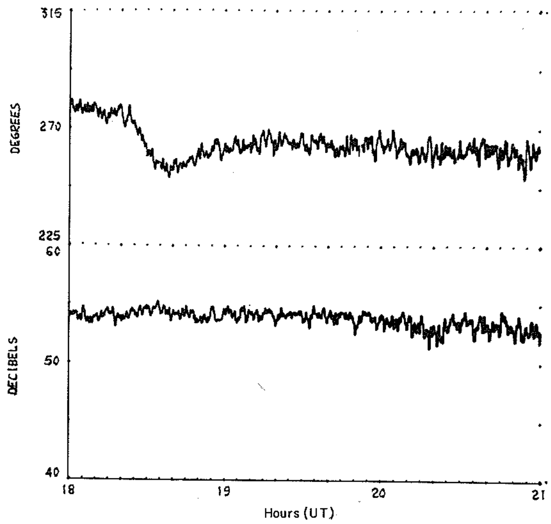
JUNE 1971

DAY	52	56	58	61	74	77	79	82	83	93	02	X-RAY	UN-KNOWN	NO FP
01														
02														
03	1	1												
04														
05				1										
06			2											
07													1	
08														
09														
10														
11														
12														
13														
14			1		1									
15														
16														
17						1	1		1					
18														
19														
20									1					
21														
22						1							1	
23								1						
24								2						
25										1				
26										1	2	1		
27														
28											4			
29										4	1			
30										1				

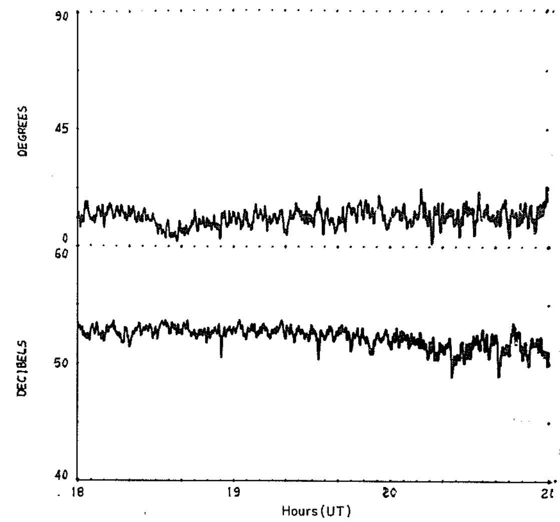
SELECTED SID EVENTS

3 JUNE 1971

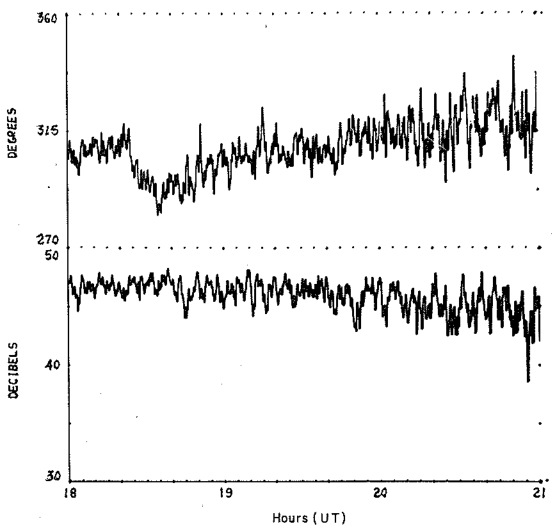
SDL Table Mountain Geophysical Monitoring Station



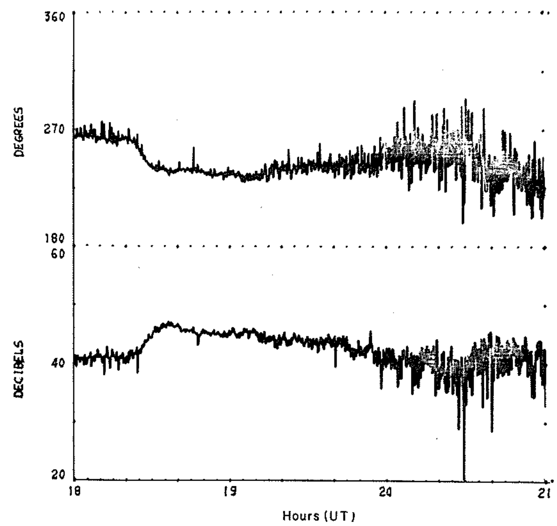
13.6 kHz Omega Haiku, HAWAII



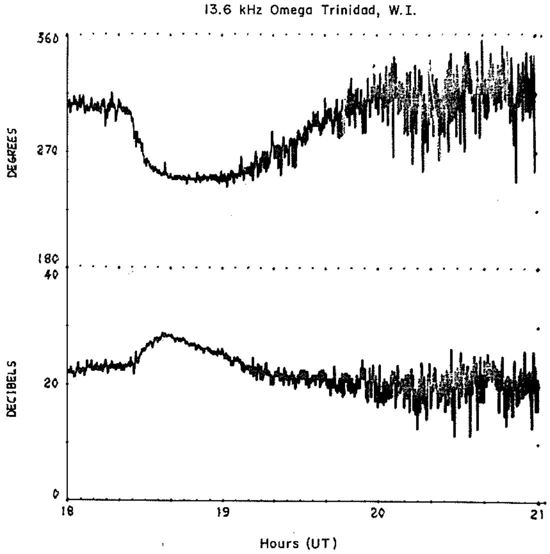
13.6 kHz Omega, NEW YORK



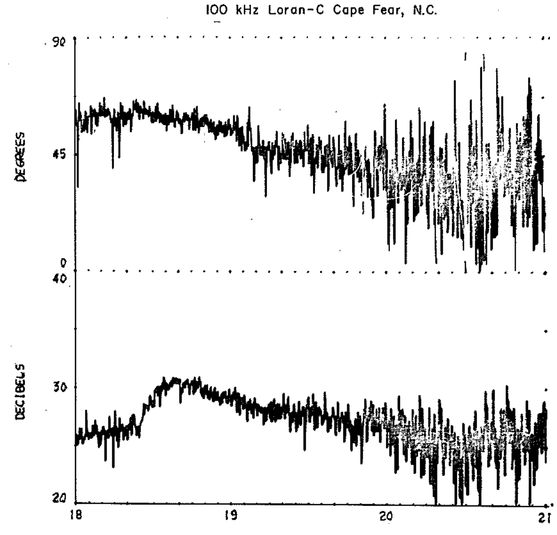
13.6 kHz Omega Trinidad, W.I.



100 kHz Loran-C Cape Fear, N.C.



100 kHz Loran-C Jupiter, FLA.



100 kHz Loran-C Nantucket, MASS.

Note: Above data scaled with a ten second time constant.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
01	0000	0235	CULG							0000	0046.5					IS,W
	0000	0140	HARV							0000	0025	1				I
			CULG							0009						IIIB,W
			CULG							0051						IIIB,W
			CULG							0133.5	0146.5	1				IIIGG
	0345	0427	CULG							0354	0359.5					IIIG,W
	0442	0729	CULG							0515.5		1				IIIB,U
			CULG							0522		1				IIIB
			CULG							0552	0555.5					IIIG,W
			CULG							0641	0644.5					IIIG,W
	1231	2400	HARV				1236	1308	1	1231	2400	1				IN
	1515	2315	CLRO										1634	1635.6	2	IIIG
	1545	2400	BOUL							1634.1	1635.2	2	1634.1	1635.2	2	IIIG
	0856	2402	SGMR										1634.3	1635.3		III
			CLRO										1830.7	1830.9	1	III
			CULG							2101	2400					IIIN,W
	2031	2400	CULG							2101	2328					IS,W
02	0000	0722	CULG							0000	0651					IIIN,W
	0000	0140	HARV							0000	0138	1				IN
			CULG							0119	0121	1				I
			CULG							0416	0417	1				IIIG
			CULG							0429	0449.5	1				I
			CULG							0510	0551.5					I,W
			CULG							0534	0536	1				IIIG,U
	0802	2402	SGMR													
	1232	2400	HARV							1232	2056	1				IN
	1518	2317	CLRO										1812.7	1813	2	III
			HARV				2056	2202	1	2056	2400	1				I
	2034	2400	CULG							2059	2210	1				IIIS
			CULG							2106	2400	2				IS
	1606	2400	BOUL										2141.6	2141.8	1	III
			CLRO										2142.1	2142.4	1	III
			CLRO										2145	2200	1	CONT
			CULG							2210	2312	1				IIIN
			BOUL							2243.0	2243.5	1				III
			BOUL							2311.8	2313.2	1	2311.8	2313.2	1	IIIG
			CULG							2312	2313.5	1				IIIG
			CULG							2343		1				IIIB
03	0000	0729	CULG							0000	0035					I,W
	0000	0140	HARV							0000	0120	1				IN
			CULG							0026.5	0639					IIIN,W
	0837	2410	SGMR										1406.0	1406.3		III
	1231	2400	HARV				1532	2045	1	1332	2400	1				IN
			CLRO										1645.3	1645.6	1	III
	1530	2331	CLRO										1651	1651.2	2	III
			CLRO										1654.6	1654.9	2	III
	1527	2400	BOUL							1654.7	1654.8	1	1654.7	1655.4	1	III
			CLRO										1658.6	1658.8	1	III
			SGMR										1754.8	1755.1		III
			CLRO										1925.7	1926.2	2	IIIG
			CLRO										2027.0	2027.3	2	III
	2030	2400	CULG							2059	2120					I,W
			CULG							2109.5	2400					IIIN,W
			BOUL										2354.0	2354.1	1	III
04	0000	0729	CULG							0000	0637.5					IIIN,W
	0000	0141	HARV													
			CULG							0608.5	0611.5	1				IIIGG
	0853	2411	SGMR													
	1231	2400	HARV							1243	1931	1				IN
			HARV				1430	1434	1							IIIGG
	1600	2400	BOUL													
	1518	2332	CLRO										1942.5	1944	2	IIIG
			CLRO										1945.8	1946.1	1	III
	2030	2400	CULG							2101.5	2320					I,W
			CULG							2106.5	2400					IIIN,W
05	0000	0729	CULG							0000	0427					IIIN,W
	0000	0142	HARV													
			CULG							0648.5						IIIB,W
			CULG							0652						IIIB,W
	0844	2412	SGMR													
	1232	2400	HARV													
	1402	2400	BOUL													
	1518	2300	CLRO										2038	2038.3	1	III
	2035	2400	CULG							2118.5	2203					IIN ,W
			CULG							2347		1				IIIB
06	0000	0142	HARV													
	0000	0730	CULG							0111						IIIB,W
	0853	2403	SGMR													
	1231	2400	HARV													
	1403	2400	BOUL							1706.1	1706.7	2				IIIG
	1532	2318	CLRO										1707	1707.2	1	III
	2041	2400	CULG							2106.5	2129					IIIN,W
			CULG							2251						IIIB,W
			CULG							2258						IIIB,W
			CULG							2332						IIIB,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
07	0000	0142	HARV													
	0000	0730	CULG							0028.5						IIIB,W
			CULG							0159.5						IIIG,W
	0848	2403	SGMR													
	1533	2400	BOUL													
	2036	2400	CULG							2100	2116.5	1				IIIGG,U
			CULG							2111	2343	1				IS
	1231	2400	HARV				2121	2132	2	2236	2340	1				I
			CULG							2124	2202					IIIN,W
	1508	2310	CLRO										2130	2142	1	CONT
			CULG							2310.5	2336					IIIN,W
08	0000	0142	HARV													
	0000	0730	CULG							0152.5						IIIB,W
	1231	2400	HARV													
	0838	2414	SGMR										1235.9	1236.4		III
	1538	2400	BOUL													
	1524	2325	CLRO										1950	1950.3	2	III
	2033	2400	CULG													
09	0000	0730	CULG													
	0000	0142	HARV													
	0831	2414	SGMR													
	1231	2400	HARV													
	1520	2324	CLRO													
	1532	2400	BOUL													
	2032	2400	CULG							2329	2330.5					IIIG,W
10	0000	0143	HARV													
	0000	0730	CULG							0647						IIIB,W
	0838	2415	SGMR													
	1232	2400	HARV													
	1505	2318	CLRO													
	1524	2400	BOUL													
	2033	2400	CULG													
11	0000	0731	CULG													
	0000	0143	HARV													
	0853	2415	SGMR													
	1230	2400	HARV													
	1417	2400	BOUL													
	1501	2325	CLRO													
	2032	2400	CULG													
12	0000	0143	HARV													
	0000	0731	CULG							0221.5		1				IIIB
			CULG							0245.5	0246	1				IIIG,U
			CULG							0621						IIIB,W
			CULG							0623.5	0624					IIIG,W
			CULG							0644.5	0645.5					IIIG,W
	0847	2411	SGMR													
	1232	2400	HARV													
	1422	2400	BOUL													
	1524	2307	CLRO													
	2032	2400	CULG							2346	2346.5					IIIG,W
			CULG							2349.5	2350					IIIG,W,U
13	0000	0143	HARV													
	0000	0731	CULG							0240						IIIB,W
			CULG							0243	0245					IIIG,V,W
			CULG							0514.5		1				IIIB
	0848	2419	SGMR													
	1231	2400	HARV													
	1400	2400	BOUL													
	1446	2250	CLRO													
	2032	2400	CULG							2233						IIIB,W
14	0000	0731	CULG													
	0000	0143	HARV													
	0850	2345	SGMR													
	1241	2400	HARV													
	1500	2400	BOUL							2154.8	2155.0	1	2154.8	2155.0	1	III
	2032	2400	CULG							2155						IIIB,W
	1450	2306	CLRO										2155.1	2155.3	1	III
			CULG							2357.5	2359.5					IIIG,W
15	0000	0729	CULG													
	0000	0144	HARV													
	0839	2400	SGMR													
	1217	2400	HARV													
	1405	2400	BOUL													
	1520	2242	CLRO													
	2033	2400	CULG													
16	0000	0144	HARV													
	0000	0732	CULG							0244.5						IIIB,W
			CULG							0411						IIIB,W
	0846	2418	SGMR													
	1216	2400	HARV													
	1526	2400	BOUL										2103.4	2103.6	1	III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
16	2033	2400	CULG							2149	2151.5					IIIGG,W
			CULG							2149.5	2150.5	2				IIIG
			BOUL										2149.5	2149.7	1	III
	1512	2350	CLRO										2149.7	2150	2	III
			CULG							2248	2248.5					IIIG,W
17	0000	0144	HARV													
	0000	0732	CULG							0002.5	0003	1				IIIG
			CULG							0024.5	0025					IIIG,W
			CULG							0304		1				IIIB
			CULG							0400.5	0402.5					IIIG,W
			CULG							0513.5	0514					IIIG,W
			CULG							0516	0517					IIIG,W
			CULG							0625	0625.5					IIIG,W
			CULG							0638						IIIB,W
			CULG							0642.5	0643.5					IIIG,W,U
	1217	2400	HARV							1807	1808	2	1807	1808	2	IIIG
	1421	2400	BOUL							1807.7	1808.3	2	1807.7	1808.3	2	III
	1520	2245	CLRO										1807.8	1808.5	2	IIIG
	0854	2417	SGMR										1807.9	1808.4		III
	2032	2400	CULG							2248	2300					IIIN,W
			CULG							2303	2310					IIIG
18	0000	0732	CULG													
	0000	0144	HARV													
	0856	2409	SGMR													
	1217	2400	HARV													
	1410	2400	BOUL										1618.5	1619.6	2	IIIG
			BOUL							1735.0	1735.2	2	1735.0	1735.2	2	III
	1455	2336	CLRO										1735.3	1735.5	2	III
			BOUL										1945.1	1945.3	1	III
			CLRO										1945.4	1945.6	1	III
	2032	2400	CULG													
19	0000	0733	CULG													
	0000	0144	HARV													
	0910	2407	SGMR													
	1216	2400	HARV													
	1420	2400	BOUL							2047.9	2049.2	1	2047.9	2049.2	1	IIIG
	1605	0020	CLRO										2048	2050	1	IIIG
	2033	2400	CULG							2152.5						IIIB,W
			BOUL										2311.6	2311.8	1	III
			CULG							2312						IIIB,W
20	0000	0731	CULG													
	0000	0145	HARV													
			CULG							0303	0304.5	1				IIIG
	0828	2419	SGMR													
	1217	2400	HARV													
	1325	2400	BOUL													
	1718	2350	CLRO										1910.4	1911.7	1	IIIG
	2115	2130	CULG													
	2210	2225	CULG													
	2229	2400	CULG													
21	0000	0030	CULG													
	0000	0145	HARV													
	0037	0149	CULG													
	0157	0207	CULG													
	0213	0238	CULG													
	0316	0402	CULG													
	0413	0451	CULG													
	0536	0553	CULG													
	0555	0621	CULG													
	0634	0718	CULG													
	0721	0733	CULG													
	0845	2419	SGMR													
	1216	2400	HARV													
	1420	2400	BOUL							2119.7	2119.8	2	2119.7	2120.6	2	III
	2115	2124	CULG							2120		1				IIIB
	1524	2302	CLRO										2120	2120.5	2	III
	2131	2206	CULG													
	2210	2400	CULG													
22	0000	0733	CULG							0023.5	0024.5	1				IIIG
	0000	0145	HARV							0059	0100	2				IIIG
			CULG							0059.5	0101	2				IIIG,V,U
			CULG							0101.5						IIIB,W
			CULG							0128	0129.5	1				IIIG
			CULG							0507		1				IIIB
			CULG							0517.5	0520.5	2				IIIG
			CULG							0541						IIIB,W
			CULG							0608	0612.5	1				IIIG
			CULG							0608	0608.5	2				IIIG
	1217	2400	HARV				1500	2149	1							IN
	1520	2145	CLRO													
	1411	2400	BOUL							2226.6	2228.6	3	2226.6	2228.6	3	IIIG
	2040	2400	CULG							2227	2229.5	3				IIIG,V,U
			HARV							2227	2229	3	2227	2229	1	IIIGG,U
	2224	2235	CLRO										2227.5	2229	2	III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION		STATION	EVENTS: CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			SPECTRAL TYPE
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
22	0835	2419	SGMR										2227.7	2228.8		III
			HARV							2250	2251	2				IIIG
			BOUL							2250.3	2250.4	1				III
			CULG							2251	2251.5	2				IIIG
			CULG							2254	2254.5	1				IIIG,U
			BOUL							2255.1	2255.2	1				III
			CULG							2315	2315.5	1				IIIG,U
			BOUL										2316.6	2317.7	1	IIIG
			CULG							2317	2317.5	1				IIIG
			BOUL							2337.1	2338.1	3	2337.1	2338.1	3	IIIG
			CULG							2338	2339	2				IIIG,U,V
			HARV							2338	2339	2				IIIGG
			CULG							2343						IIIB,W
23	0000	0145	HARV													
	0000	0200	BOUL										0001.7	0001.9	1	III
	0000	0734	CULG							0149.5	0150	1				IIIG,U
			CULG							0159	0200					IIIG,W
			CULG							0307.5						IIIB,W
			CULG							0357		2				IIIB,U
			CULG							0459.5		2				IIIB
			CULG							0459.5	0500.5	1				IIIG
			CULG							0503.5						IIIB,W
			CULG							0628	0628.5	1				IIIG
			CULG							0637.5						IIIB,W
			CULG							0650						IIIB,W
	1434	2400	BOUL							1811.2	1811.6	1	1811.2	1811.6	1	III
	1650	2310	CLRO										1811.5	1812	2	III
			CLRO										1859.7	1900.8	2	III
			BOUL							1859.8	1859.9	2	1859.8	1900.7	2	III
	0850	2419	SGMR										1859.8	1900.3		III
			CLRO										1902.9	1903.1	1	III
			BOUL							1903.1	1903.2	1	1903.1	1903.2	1	III
			CLRO										1954.5	1955.8	2	IIIG
			BOUL							1954.7	1955.7	1	1954.7	1955.7	1	IIIG
	1217	2400	HARV							2017	2018	3	2017	2018	3	IIIG
			BOUL							2017.0	2018.5	3	2017.0	2018.5	3	IIIG
			SGMR										2017.2	2018.6		III
			CLRO										2017.3	2019	2	IIIG
			CLRO										2033.3	2025	2	IIIG
			HARV				2223	2224	1	2223	2225	2	2223	2224	2	IIIGG
	2034	2400	CULG							2223	2225.5	3				IIIG,V
			BOUL							2223.2	2225.0	3	2223.2	2225.0	3	IIIG
			SGMR										2223.5	2224.8		III
			BOUL										2318.3	2318.6	1	III
			BOUL										2349.5	2349.7	1	III
24	0000	0200	BOUL													
	0000	0145	HARV													
	0000	0734	CULG							0033.5						IIIB,W
			CULG							0254.5						IIIB,W
			CULG							0257						IIIB,W
			CULG							0305	0305.5	2				IIIG,V
			CULG				0420.5	0422	1	0422	0451	2				II
			CULG							0432	0434	1				IV
			CULG							0458.5		1				IIIB
			CULG							0528.5	0535	1				IIIGG,U
			CULG							0555	0556	1				IIIG,U
			CULG							0602	0603	1				IIIG,U
			CULG							0648						IIIB,W,U
			CULG							0651						IIIB,W
	0902	2411	SGMR													
	1216	2400	HARV													
	1344	2400	BOUL							1727.4	1727.8	1	1727.4	1727.8	1	IIIG
	1514	2336	CLRO										1727.5	1728	1	IIIG
			BOUL							1729.1	1729.2	1	1729.1	1729.2	1	III
			CLRO										1729.5	1730	1	III
			BOUL										1737.0	1737.2	1	III
			CLRO										1737.1	1737.5	1	III
			BOUL										2026.9	2027.1	1	III
			CLRO										2027.3	2027.5	1	III
			BOUL										2036.2	2036.4	1	III
			CLRO										2036.5	2036.8	1	III
	2034	2400	CULG							2155	2156	1				IIIG
25	0000	0107	CULG													
	0000	0200	BOUL							0103.6	0103.7	1	0103.6	0103.7	1	III
	0000	0146	HARV							0140	0145	1				I
	0109	0733	CULG							0140.5		1				IIIB
			CULG				0141.5	0142	1							IIIG
			CULG							0234	0235.5	1				IIIG
			CULG							0238.5	0240	1				IIIG
			CULG							0303	0308	1				IIIG
			CULG							0504		1				IIIB,U
			CULG							0605	0608					IIIG,W
			CULG							0614.5	0617.5	1				IIIG,U
			CULG							0634						IIIB,W
			CULG							0647.5	0648	1				IIIG
			CULG							0650		1				IIIG
			CULG							0656.5	0703.5					IIIGG,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
25	0844	2404	SGMR										1321.8	1322.2		III
	1217	2400	HARV							1335	1340	2	1335	1340	2	IIIGG
			SGMR										1335.2	1339.6		IIIG
	1337	2400	BOUL										1422.2	1422.5	1	III
			HARV							1515	1518	2	1516	1518	2	IIIGG
	1402	2237	CLRO										1515	1630	2	IIIN
			BOUL							1515.3	1515.5	3	1515.3	1515.5	3	III
			SGMR										1515.7	1524.7		IIIG
			BOUL							1516.5	1518.5	3	1516.5	1518.5	3	III
			BOUL							1521.5	1521.6	2	1521.5	1522.2	3	III
			HARV				1522	1524	2	1522	1524	2	1522	1524	3	IIIG
			BOUL							1523.6	1524.4	3	1523.6	1524.4	3	III
			BOUL							1602.5	1605.6	3	1602.5	1605.6	3	IIIG
			HARV							1603	1605	3	1603	1605	3	IIIG
			SGMR										1603.2	1606.0		IIIG
			BOUL							1609.5	1611.0	2	1609.5	1611.0	2	IIIG
			SGMR										1609.7	1610.8		III
			BOUL										1612.9	1613.2	1	III
			BOUL							1624.5	1624.8	2	1624.5	1624.8	2	IIIG
			BOUL							1628.8	1629.8	2	1628.8	1629.8	2	IIIG
			SGMR										1629.8	1630.2		III
			HARV				1657	1658	1	1657	1701	1				IIIGG,U
			BOUL							1658.1	1658.4	1				III
			BOUL										1706.7	1706.9	1	III
			BOUL							1851.2	1851.4	2	1851.2	1851.6	2	III
			SGMR										1851.7	1852.1		III
			CLRO										1851.7	1852	2	III
			BOUL							2015.5	2015.7	2	2015.5	2015.7	2	III
			CLRO										2016	2016.4	2	III
			BOUL							2024.5	2024.6	2	2024.5	2024.7	2	III
			HARV							2132	2133	2				U
	2035	2400	CULG							2132.5	2133	2				IIIG,U
			CULG							2138.5	2139	1				IIIG
			CULG							2147.5		1				IIIB
			CULG							2208	2213					IIIG,W
			CULG							2224.5	2239	1				I
			CULG							2254						IIIB,W
			CULG							2302						IIIB,W
			CULG							2335.5	2336.5	1				IIIG,U
			CULG							2344	2344.5	1				IIIB
			CULG							2352.5	2400					I,W
26	0000	0734	CULG							0000	0203					I,W
	0000	0122	BOUL													
	0000	0146	HARV													
			CULG							0042	0042.5					IIIG,W
			CULG							0052	0052.5					IIIG,W
			CULG							0117.5	0118	1				IIIB
			CULG				0126.5	0127	1	0126.5	0130	1				IIIG,V
			CULG							0248.5	0249	1				IIIG,U
			CULG							0324.5	0326	1				IIIG,U
			CULG							0328.5	0330.5	1				IIIG,U
			CULG							0336.5						IIIB,W
			CULG							0349.5	0350.5	1				IIIGG,U
			CULG							0404		1				IIIB
			CULG							0407		1				IIIB
			CULG							0409		1				IIIB
			CULG							0412	0416	1				IIIG,U
			CULG							0446.5						IIIB,W
			CULG							0503		1				IIIB
			CULG							0508	0534	1				I
			CULG							0519	0536	1				IIIN
			CULG							0601.5	0602	1				IIIG,U
			CULG							0606.5	0607.5					I,W
			CULG							0634.5	0636.5	1				IIIG,U
			CULG							0642.5	0644					IIIG,W
	0848	2400	SGMR										1237.0	1237.7		III
	1347	2400	BOUL										1449.2	1449.4	1	III
	1216	2400	HARV				1559	1600	1							IIIG
			BOUL							1717.6	1717.8	2	1717.6	1717.8	2	III
	1452	2203	CLRO										1728	1728.3	2	III
			HARV							1819	1820	1				IIIG
			BOUL							1819.3	1819.4	2				III
			HARV				1921	1926	1	1921	1926	1				IIIG
	2035	2400	CULG							2153	2154					IIIG,W
			CULG							2223.5	2226					IIIG,W
			BOUL										2223.6	2224.8	1	IIIG
			CULG							2332	2333					IIIG,W
27	0000	0734	CULG													
	0000	0153	BOUL													
	0000	0146	HARV													
	1417	2400	BOUL							1531.4	1559.0	1	1531.4	1559.0	1	IIIN
	1217	2400	HARV							1551	1552	1	1551	1552	1	U
			HARV							1617	1618	2	1617	1618	2	IIIG,U
			BOUL							1617.3	1617.5	3	1617.3	1620.0	3	III
	0841	2420	SGMR										1617.7	1618.1		III
	1528	0009	CLRO										1617.7	1619	2	III
			BOUL										2105.2	2105.5	1	III
			HARV							2126	2130	1	2126	2128	1	IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
27			BOUL							2126.0	2128.0	2	2126.0	2128.0	2	IIIG
	2035	2400	CULG							2126.5	2130.5	1				IIIGG
			CLRO										2126.5	2129	1	IIIG
			CULG							2332	2334	3				IIIGG,V
			HARV							2332	2333	3	2332	2333	3	IIIG,V
			BOUL							2332.0	2334.0	3	2332.0	2334.0	3	III
			CLRO										2332.5	2334	2	III
			SGMR										2332.6	2333.5		III
			CULG							2356	2400	1				I
28	0000	0059	BOUL													
	0000	0146	HARV													
	0000	0046	CULG							0030						IIIB,W
	0102	0104	CULG							0102	0103	1				IIIG
	0114	0129	CULG													
	0215	0225	CULG							0223	0223.5					IIIG,W
	0453	0536	CULG													
	0841	2419	SGMR													
	1217	2400	HARV							1217	2400	1				IN
	1514	2247	CLRO													
			HARV				1806	1808	2							IIIGG
			HARV				2036	2037	2	2036	2037	2				IIIGG
	1357	2400	BOUL										2131.0	2131.2	1	III
			BOUL										2149.6	2149.8	1	III
	2343	2400	CULG							2343	2400	1				I
			BOUL										2356.0	2356.3	1	III
29	0000	0129	CULG							0000	0129	1				I
	0000	0146	HARV							0000	0145	1				I
			CULG							0013	0014	1				IIIG,U
			CULG							0029	0030					IIIG,W,U
	0531	0606	CULG							0531	0606	1				I
			CULG							0540.5	0600					IIIN,W
	0609	0702	CULG							0609	0702	1				I
			CULG							0634	0635	3				IIIG
	0858	2421	SGMR										0953.2	0954.1		III
	1216	2400	HARV							1216	2400	1				I
			SGMR										1231.2	1238.0		IIIG
			HARV				1232	1239	1	1231	1240	2	1231	1236	2	IIIGG
			HARV				1249	1253	2	1248	1256	2				IV
			SGMR										1307.5	1308.1		III
			SGMR										1352.9	1359.1		IIIG
			HARV							1353		2	1353		2	IIIG
	1350	2400	BOUL							1356.0E	1515.0	1	1356.0E	1515.0	1	CONT
			HARV							1358	1359	3	1358	1359	3	IIIG
			BOUL							1358.0	1358.6	2	1358.0	1358.6	2	III
			BOUL							1414.4	1414.5	3	1414.4	1414.5	3	III
			HARV							1434	1439	2				IVN
			BOUL							1508.5	1514.6	1	1508.5	1514.6	1	IIIG
			HARV				1537	1544	2	1537	1543	3	1537	1542	3	IIIGG,V
			BOUL							1537.2	1542.5	3	1537.2	1542.5	3	IIIG
			SGMR										1537.8	1542.8		V
			BOUL							1543.0	1545.6	1	1543.0	1545.6	1	IIIG
			BOUL							1551.2	1552.2	2	1551.2	1552.2	2	IIIG
			SGMR										1552.2	1552.5		III
			BOUL							1559.2	1559.5	3	1559.2	1559.5	3	III
			SGMR										1559.4	1602.7		IIIG
			BOUL							1602.0	1602.1	3	1602.0	1602.6	3	III
			HARV				1628	1639	1	1628	1654	2				IVN
			BOUL							1636.6	1639.9	3	1636.6	1639.9	3	III
			HARV				1637	1640	2							UNCL
			SGMR										1637.4	1640.1		IIIG
			HARV				1638	1639	1	1637	1640	3	1637	1640	3	IIIGG,V
			BOUL							1643.3	1643.8	1	1643.3	1643.8	1	IIIG
			BOUL							1705.4	1705.5	1	1705.4	1705.5	1	III
	1700	2338	CLRO										1738.7	1739.8	1	IIIG
			BOUL							1739.5	1739.7	1				III
			BOUL							1840.6	1840.7	1	1840.6	1840.7	1	III
			CLRO										1840.8	1841	1	III
			BOUL							1956.8	1956.9	1	1956.8	1956.9	1	III
			CLRO										1957.1	1957.5	1	III
			BOUL							2005.2	2005.3	1	2005.2	2005.3	1	III
			CLRO										2023	2023.5	1	III
			BOUL							2025.1	2025.3	1				III
			CLRO										2025.5	2026	1	III
			CLRO										2025.5	2025.7	1	III
			BOUL							2030.0	2030.2	1	2030.0	2030.2	1	III
			CLRO										2030.4	2030.6	1	III
			CLRO										2031.7	2032	1	III
			CLRO										2033	2033.3	1	III
	2043	2400	CULG							2105	2237	2				IS
			BOUL							2236.5	2239.4	3	2236.5	2239.4	3	III
			CLRO										2236.7	2239	3	IIIG
			SGMR										2236.9	2242.1		V
			HARV				2237	2242	3	2237	2241	3	2237	2240	3	IIIGG,V
			CULG				2237	2241.5	3	2237	2241.5	3				IIIGG,V
			CULG				2238	2240	1	2238	2256	1				II
			HARV				2238.2	2239	2	2238.4	2249	2	2243		1	II
			CULG							2239	2400	1				I,CONT
			BOUL							2239.4	2254.6	3	2239.4	2254.6	3	IV

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1971

JUN. 1971	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
29			CLRO										2240	2335	1	CONT
			BOUL							2244.5	2254.6	3	2244.5	2254.6	3	II
			CLRO										2245	2254	2	II
			CULG							2257	2400	1				IIIN
			BOUL							2257.6	0058.0D	2	2257.6	0058.0D	2	IV
			HARV				2301	2302	1	2301	2302	2				IIIGG
			CULG				2301.5	2302.5	1							IIIG
			HARV				2311	2336	2							IVN
30	0000	0146	HARV							0000	0146	1				I
	0000	0735	CULG							0000	0717	1				I,CONT
	0000	0058	BOUL							0023.8	0024.8	3	0023.8	0024.8	3	III
			CULG							0024	0025	1				IIIG,U
			CULG							0027.5	0030	1				IIIG
			BOUL							0027.7	0029.6	2	0029.6	0029.6	2	IIIG
			CULG							0032.5	0044	1				IIIN
			CULG							0047	0049	1				IIIG
			BOUL							0047.2	0048.4	3	0047.2	0048.4	3	III
			CULG							0109	0213					IIIN,W
			CULG							0217	0230	1				I
			CULG							0246		1				IIIB
			CULG							0313	0325.5	1				IIIN
			CULG							0330	0331	2				IIIG,V,U
			CULG							0341	0521	1				IIIN
			CULG							0439		1				IIIB,U
			CULG							0554.5	0612	1				IIIG
			CULG							0558	0559	2				IIIG,U
			CULG							0614	0705	1				IIIN
	1217	2400	HARV							1217	1240	1				I
			HARV							1323	1326	2	1323	1326	2	IIIGG
	0846	2412	SGMR										1323.4	1326.6		V
	1510	2328	CLRO										1510	2328	2	IIIN
	1453	2400	BOUL							1538.1	1540.6	3	1538.1	1540.6	3	IIIG
			SGMR										1539.5	1541.1		IIIG
			HARV				1540	1541	1	1538	1541	2	1538	1541	2	IIIGG
			BOUL							1619.7	1621.5	1	1619.7	1621.5	1	IIIG
			HARV							1621	2102	2	1621	2102	2	IIIN
			HARV							1628	1633	3	1628	1633	3	IIIGG
			BOUL							1628.8	1632.5	3	1628.8	1632.5	3	IIIG
			SGMR										1628.9	1633.0		IIIG
			HARV				1650	2339	1	1240	2354	1				IN
			BOUL							1655.0	1655.6	3	1655.0	1655.6	3	III
			SGMR										1655.3	1655.8		III
			BOUL							1657.7	1658.1	1	1657.7	1658.1	1	III
			SGMR										1703.2	1704.1		III
			BOUL							1703.3	1704.0	2	1703.3	1704.0	2	IIIG
			BOUL										1713.5	1713.7	2	III
			BOUL							1723.1	1726.5	3	1723.1	1726.5	3	III
			SGMR										1723.5	1725.1		IIIG
			HARV				1724	1725	1	1723	1725	3	1723	1725	3	IIIGG
			BOUL										1748.9	1749.1	1	III
			BOUL							1752.1	1752.7	2	1752.1	1752.7	2	III
			BOUL							1801.2	1801.9	1	1801.2	1801.9	1	III
			HARV				1808	1809	1							IIIG
			BOUL							1813.1	1813.5	3	1813.1	1813.5	3	III
			SGMR										1813.5	1814.1		III
			BOUL										1832.8	1833.2	1	III
			BOUL							1907.8	1909.0	1	1907.8	1909.0	1	III
			BOUL							1923.2	1923.5	2	1923.2	1923.5	2	III
			BOUL										1937.1	1937.4	1	III
			BOUL							1950.4	1950.6	3	1950.4	1950.6	3	III
			SGMR										1950.7	1951.1		III
			HARV				2029	2032	1	2029	2034	1				IIIG
			SGMR										2101.2	2101.6		III
			BOUL							2101.2	2102.1	2	2101.2	2102.1	2	IIIG
			CULG							2114	2143.5	1				IIIN
	2036	2333	CULG				2115	2126	1	2112	2330	1				I
			HARV				2143	2151	3	2143	2151	2	2148	2151	2	IIIGG
			CULG				2143.5	2144.5		2143.5	2144.5	1				IIIG
			CULG				2145.5	2150.5	2	2145.5	2154	2				IIIGG,V
			BOUL							2148.1	2150.5	3	2148.1	2150.5	3	IIIG
			SGMR										2148.8	2151.1		IIIG
			CULG							2151	2153	1				II
			BOUL							2154.3	2201.6	2	2154.3	2201.6	2	III
			CULG							2154.5	2158.5	1				IIIG
			CULG							2159	2201.5	2				IIIGG
			HARV							2159	2200	1	2159	2200	1	IIIGG
			CULG							2202	2224	1				IIIN
			BOUL							2225.9	2227.6	3	2225.9	2227.6	3	III
			CULG							2226	2227	2				IIIGG,V,U
			CULG				2226	2227	1	2225	2229	1				IIIGG,V,U
			HARV				2226	2227	2	2226	2227	2	2226	2227	1	IIIGG
			SGMR										2226.2	2227.0		III
			CULG							2241		1				IIIB
			CULG							2245						IIIB,W
			HARV				2348	2352	2	2349	2352	2				IIIGG
			BOUL							2350.0	2350.2	2	2350.0	2350.2	2	III

COSMIC RAY INDICES
(Neutron Monitors)
JUNE 1971

June 1971	CHURCHILL	DEEP RIVER	CALGARY	SULPHUR MT.	CLIMAX	DALLAS
	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR
1	6259.1	6823.5	11361.0	8540.6	4086.0	6159.6
2	6236.9	6766.3	11257.9	8450.8	4067.6	6128.4
3	6216.3	6734.4	11229.6	8425.2	4047.7	6124.9
4	6184.0	6733.4	11209.7	8427.5	4043.6	6112.9
5	6187.5	6765.4	11181.4	8441.1	4053.5	6131.4
6	6210.1	6766.4	11215.1	8471.8	4067.9*	6152.8
7	6232.9	6772.5	11254.8	8487.0	4067.4	6148.9
8	6257.8(21)	6782.9	11306.2	8537.3	4093.2	6165.5
9	6266.3(22)	6812.9	11342.4	8539.1	4093.8	6171.0
10	6269.9(22)	6833.7	11380.2(23)	8555.2	4090.1*	6172.5
11	6274.4	6840.5	11409.4	8572.8	4107.4	6184.8
12	6298.3	6858.4	11486.3	8614.4	4127.4	6212.8
13	6312.7	6891.7	11492.2	8655.9	4127.3	6221.3
14	6312.2	6896.9	11468.0	8638.5	4146.6	6231.5
15	6328.0	6916.7	11530.5	8663.8	4143.9	6239.7
16	6332.8	6908.6	11561.5	8691.0	4148.5	6248.3
17	6304.5	6853.5	11451.5	8617.0	4127.1	6219.9
18	6305.0	6856.5	11447.8	8623.4	4124.1	6214.1
19	6312.8	6854.7	11472.2	8635.5	4117.8	6192.8
20	6322.4	6866.6	11502.7	8645.6	4118.1	6206.5
21	6347.9	6893.9	11520.1	8662.5	4131.7*	6207.4
22	6359.8	6918.1	11544.1	8682.6	4129.3	6202.4
23	6381.8	6926.4	11551.3	8721.9	4154.4	6232.8
24	6364.7	6917.7	11533.2	8691.5	4138.2	6234.5
25	6360.8	6927.5	11552.3	8729.6	4190.4	6272.0
26	6354.2	6916.0	11578.9	8708.8	4176.2	6255.1
27	6376.9	6920.5	11616.5	8750.2	4184.1	6256.5
28	6387.7	6931.9	11585.9	8745.7	4172.4	6238.9
29	6369.4	6906.0	11572.2	8712.0	4160.0	6218.5
30	6334.1	6869.8	11541.2	8672.5	4149.2	6212.5

( ) Number of hours for which data are available if less than 24.
* Sum of both sections less than 40 hours.

Churchill Super Neutron Monitor, Scaling Factor 120.

Deep River Super Neutron Monitor, Scaling Factor 300.

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

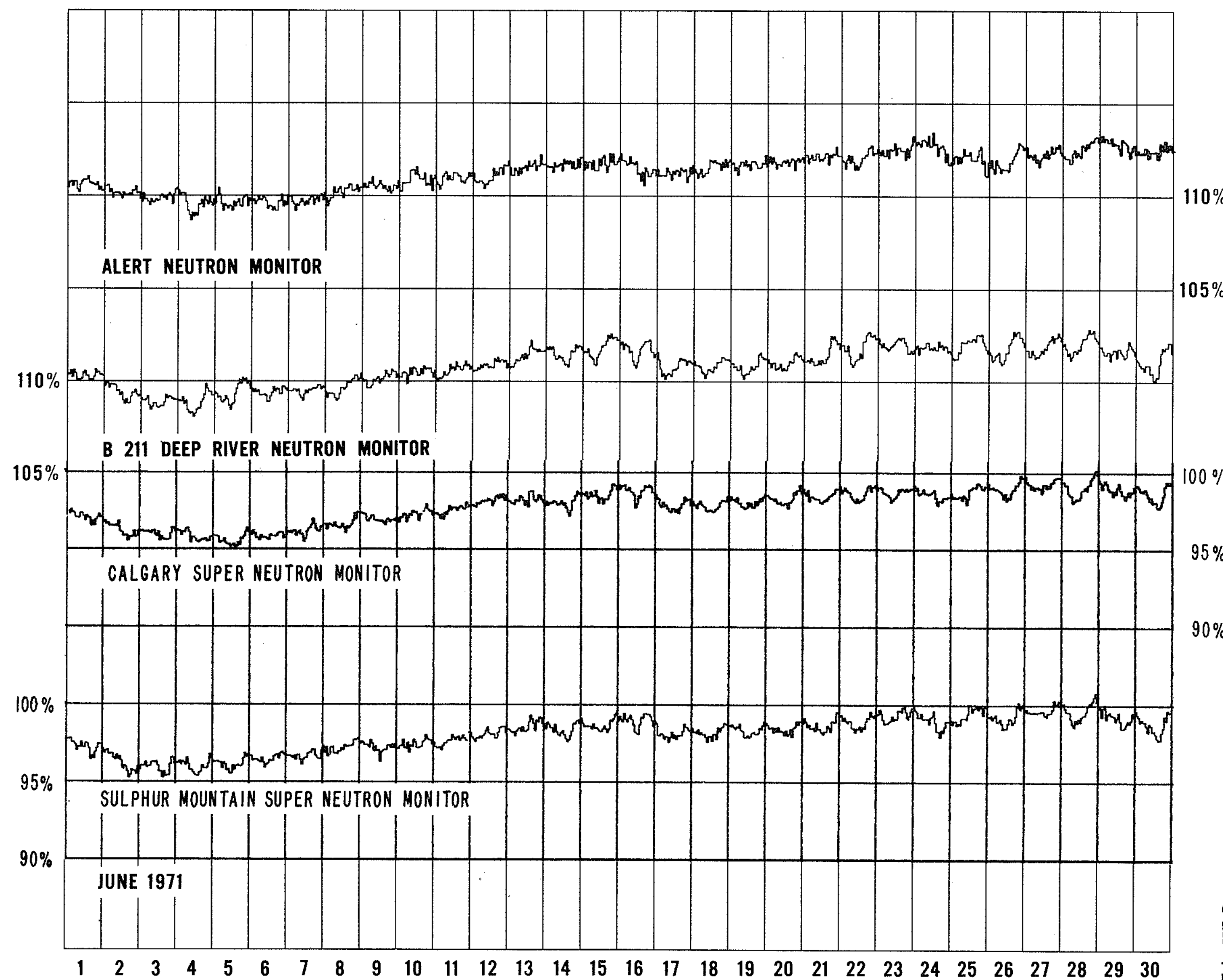
Climax IGC Station B305, Scaling Factor 100. One section normalized by multiplicative factor.

Dallas Super Neutron Monitor, Scaling Factor 120.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

JUNE 1971

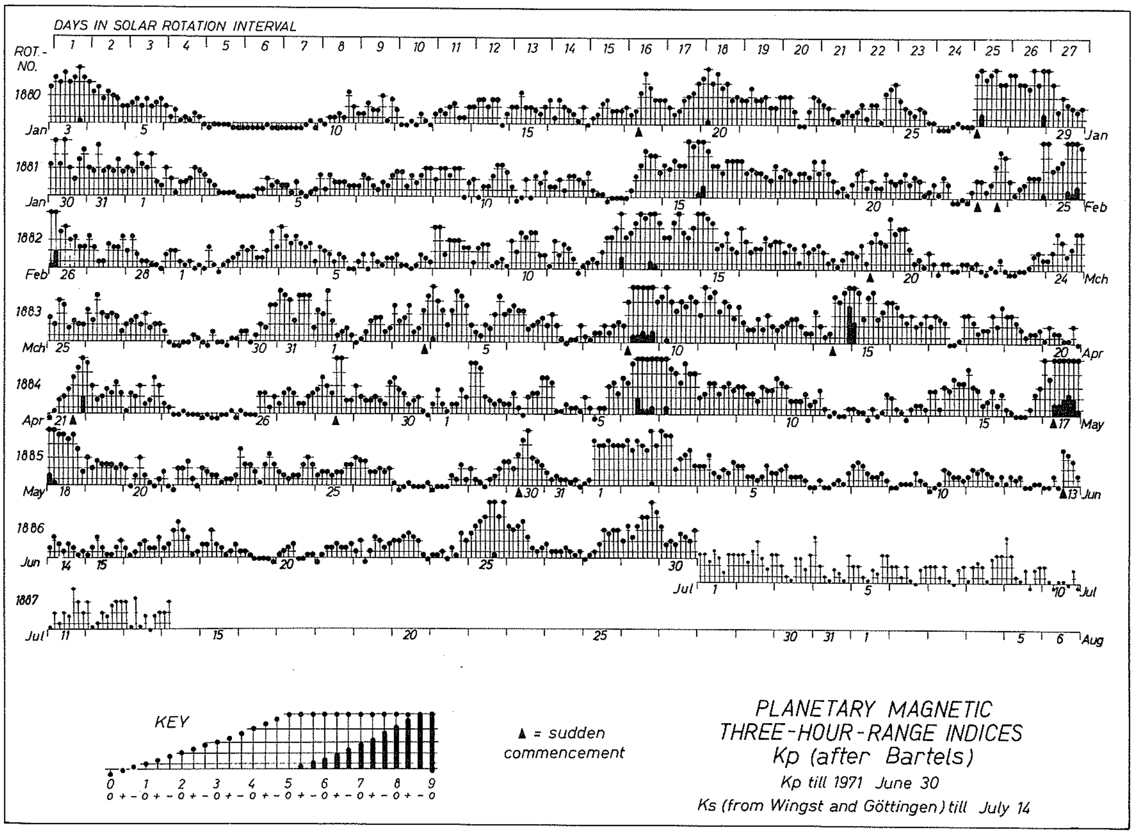


GEOMAGNETIC ACTIVITY INDICES

JUNE 1971

DAY		Kp THREE-HOUR RANGE INDICES 1	2	3	4	5	6	7	8	SUM	C_i	C_p	A_p
1	D	1-	1	4+	4	4	4+	4	4	26+	1.3	1.1	22
2	D	4	4+	4-	4+	4	4-	5+	4	33+	1.3	1.3	31
3	D	5	5-	5-	2	3	3+	4-	2+	29-	1.3	1.2	25
4		2+	2+	3+	2-	1+	2	2-	3-	17+	0.5	0.5	9
5		2+	2+	1+	1+	1	1+	2+	2-	14-	0.3	0.3	6
6		2-	2	2+	1+	1+	1+	1	0+	11+	0.3	0.2	5
7	QQ	0+	1	0+	0+	1-	1	1-	2-	6	0.0	0.1	3
8		2+	3-	2+	2-	1+	1+	2-	1	14+	0.3	0.4	7
9	QQ	0+	0+	1-	1-	1-	2-	1	1-	6	0.1	0.1	3
10	Q	0	0+	1-	2	2-	1+	1+	1	8+	0.2	0.1	4
11		1+	2	2-	2	2-	1+	1-	1+	12	0.4	0.2	6
12	QQ	1-	1+	1	1+	0+	0+	1-	1-	6+	0.1	0.1	3
13		0+	0+	1+	0+	4-	3+	3-	1+	13+	0.7	0.5	8
14		1+	2+	2-	1	2-	1+	1-	1	11	0.4	0.2	5
15	Q	1-	1+	2+	1+	1-	1-	1+	2	10+	0.3	0.2	5
16		1+	1-	1	2-	2	1+	1+	2+	12-	0.4	0.2	6
17		1+	2-	3	4-	3	2+	1-	1	17-	0.6	0.6	10
18		2-	2-	3	2-	1+	1-	1	2-	13-	0.5	0.3	6
19	QQ	1	1	1-	0+	0+	0+	0+	0	4	0.0	0.0	2
20	QQ	1-	1	1+	2-	0+	0+	1-	1-	7-	0.0	0.1	4
21	Q	0	1-	1+	1+	2-	1+	1+	2-	9+	0.3	0.2	4
22		1	2	0	1	2+	2	1+	2-	11+	0.3	0.2	5
23		2	2	2+	3-	2+	2	1-	0+	14+	0.5	0.4	7
24	Q	1-	1-	1	0+	1+	1-	3-	2	9+	0.4	0.2	5
25	D	3-	3+	4-	4	5	5+	4	5	33	1.3	1.3	32
26		3+	3	3+	4-	2+	1+	1	1+	19+	0.9	0.7	12
27	Q	2-	1	1	1	1+	1	1-	1	9-	0.2	0.1	4
28		0+	1-	1	2-	3	3-	3	3	15+	0.6	0.5	9
29	D	2	3+	2+	3+	4	4	5	4+	28+	1.2	1.1	23
30		3+	2-	2	2-	3-	2+	2	3	19-	0.7	0.6	10
										MEAN	0.51	0.43	9

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

	1970						1971					
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE
1	10	4	23	10	2	1	6	16	4	12	7	22
2	11	6	18	9	4	4	19	9	4	7	17	31
3	24	4	15	14	8	4	33	4	9	16	8	25
4	26	4	11	25	7	5	16	4	14	27	8	9
5	16	3	8	9	9	8	9	4	5	11	8	6
6	15	8	5	6	12	8	4	6	4	14	50	5
7	5	12	6	4	58	8	1	6	4	6	36	3
8	10	26	8	2	8	19	0	10	15	6	13	7
9	87	19	5	2	8	6	1	10	6	53	12	3
10	34	7	6	7	17	3	6	10	15	30	11	4
11	10	9	1	15	20	2	8	5	7	27	4	6
12	14	9	5	16	10	4	3	6	20	10	4	3
13	10	6	24	9	9	4	6	4	39	8	4	8
14	9	4	19	8	7	65	9	16	29	39	14	5
15	5	7	11	4	4	14	8	29	22	36	12	5
16	6	21	8	37	5	4	7	28	14	15	5	6
17	8	115	8	34	6	3	6	13	9	8	73	10
18	5	36	10	39	18	3	15	12	6	11	39	6
19	5	14	18	11	18	10	13	9	16	8	10	2
20	6	4	15	7	3	8	29	8	13	4	5	4
21	30	5	23	1	30	4	12	7	3	22	5	4
22	12	6	12	18	18	6	10	3	3	14	5	5
23	9	7	6	29	21	7	6	13	3	10	11	7
24	26	4	6	14	12	14	10	13	14	3	7	5
25	92	8	8	6	13	4	9	43	12	1	6	32
26	21	17	6	4	8	4	2	31	15	5	9	12
27	14	12	19	5	10	8	37	10	9	8	2	4
28	4	12	7	15	8	18	39	6	2	21	4	9
29	45	10	5	13	2	12	16		2	9	6	23
30	7	5	9	9	1	13	26		9	8	19	10
31	14	12		4		2	17		26		4	
MEAN	19	13	11	12	12	9	12	12	11	15	13	9

PRINCIPAL MAGNETIC STORMS

JUNE 1971

DATE 1971 MO DA.	STORM TIME UT START	UT END MO. DA. HR	OBS.	GEO-MAG. LAT.	SUDDEN COMMENCEMENT TYPE	AMPLITUDES D(')	H(γ)	Z(γ)	C FIGURE DEGREE OF ACTIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9 MO. DA.	3-HOUR PERIOD	K INDEX	RANGES D (')	H (γ)	Z (γ)	STORM NUMBERS
6 01	06--	06 04 18	COLL	64.6N	..	..	..	..	MS	06 01	3	6	121	1320	700	25
										06 02	4					25
										06 03	3,5					25
										06 04	3					25
	0900	06 03 22	KGLN	57.3N	..	..	..	..	MS	06 02	7	5	—	—	—	25
	19--	06 04 10	NEWP	55.1N	..	..	..	..	MS	06 03	1	6	37	168	197	25
	11--	06 03 10	WITT	54.1N	..	..	..	..	MS	06 02	7	6	25	200	75	25
	06--	06 04 02	IRKU	40.8N	..	..	..	..	M	06 01	3,4	5	16	83	53	25
										06 01	2,4	5				25
	15--	06 03 09	TUCS	40.4N	..	..	..	..	MS	06 02	2	5	12	80	20	25
										06 03	1	5				25
	0453	06 02 20	ALIB	9.5N	..	..	..	..	M	06 01	3	5	5	129	47	25
	0453	06 02 20	ANNA	1.5N							–	–	—	—	—	25
	0453	06 02 20	TVAN	1.1S	..	..	..	..	M	— —	–	–	3	201	104	25
	0458	06 04 12	APIA	16.1S	..	..	..	..	M	06 01	3	5	3	80	26	25
	05--	06 04 02	HRMN	33.3S	..	..	..	..	M	06 02	7	5	17	77	64	25
										06 03	1	5				25
	05--	06 04 09	GNAN	43.2S	..	..	..	..	M	06 02	5	5	18	90	90	25
	06--	06 03 24	TOOL	46.7S	..	..	..	..	M	06 01	3	5	18	110	40	25
										06 03	3					25
6 24	05--	06 26 12	TUCS	40.4N	..	..	..	..	MS	06 25	8	5	10	70	15	26
6 25	004-	06 26 14	COLL	64.6N	..	..	..	..	MS	06 25	5,6	6	169	1440	970	26
										06 26	4	6				26
	00--	06 26 11	SITK	60.0N	..	..	..	..	MS	06 25	4,6	7	70	590	640	26
	00--	06 26 12	NEWP	55.1N	..	..	..	..	M	06 25	6,8	5	28	163	197	26
										06 26	2					26
	05--	06 26 12	FRED	49.6N	..	..	..	..	M	06 25	8	5	19	117	79	26
	05--	06 26 11	IRKU	40.8N	..	..	..	..	M	06 25	4,8	5	21	106	54	26
	00--	06 26 14	GNAN	43.2S	..	..	..	..	M	06 26	4	5	14	130	100	26
6 28	21--	06 30 03	IRKU	40.8N	..	..	..	..	M	06 29	4,5,7	5	17	111	32	27
6 29	1310	06 30 09	KGLN	57.3N	SC	—	—	—	M	06 29	6,7,8	5	—	—	—	27
	04--	06 30 03	HRMN	33.3S	..	..	..	..	M	06 29	6	5	15	100	87	27
	03--	06 30 03	GNAN	43.2S	..	..	..	..	M	06 29	5,6	5	14	60	80	27

The following observatories observed no principal magnetic storms for June 1971: Amberley, Boulder, Guam, Honolulu, Port Moresby and San Juan. M'Bour reported a doubtful sc at 1325 UT on June 13.

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

June 1971

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

The meaning of the station-symbols is given in the IAGA-Bulletins nr. 12.1 and 12.2. Times of ssc and si are mean values. If given by ten or more stations they are underlined.

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

13 1325 A: SF; B: SO LE WN WI BE MA LG AQ IK EB PM; C: ES NI VI TL PE SZ HR (si: A: JO KS; B: FU HU; C: KA LM)

Sudden impulses found in the magnetograms (si)

22 2304 A: SF; B: BE MA LG HU; C: WN EB TN (ssc: C: WI SZ; b: B: JO; bp: A: PE?; B: CI)

23 0852 A: JO TE; B: FU; C: WN LM HR (bp: B: PE; sfe: MA LG)

23 1644 A: MA FU IK LM; B: LE ES WN EB CI (ssc: A: HU; B: AQ; C: NI; bs: C: HR; bp: A: NU; bps: A: PE; B: WI BE; sfe: SO LG SZ)

Solar-flare effects

Effects confirmed by ionospheric or solar observations are underlined.

03	1004 - 1011	SZ
07	1323 - 1335	MA SZ HU (si: A: SO JO)
16	1039 - 1057	SZ
28	0854 - 0906	PE (si: C: HR)
30	1548 - 1608	HU

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

JUNE 1971

North Atlantic

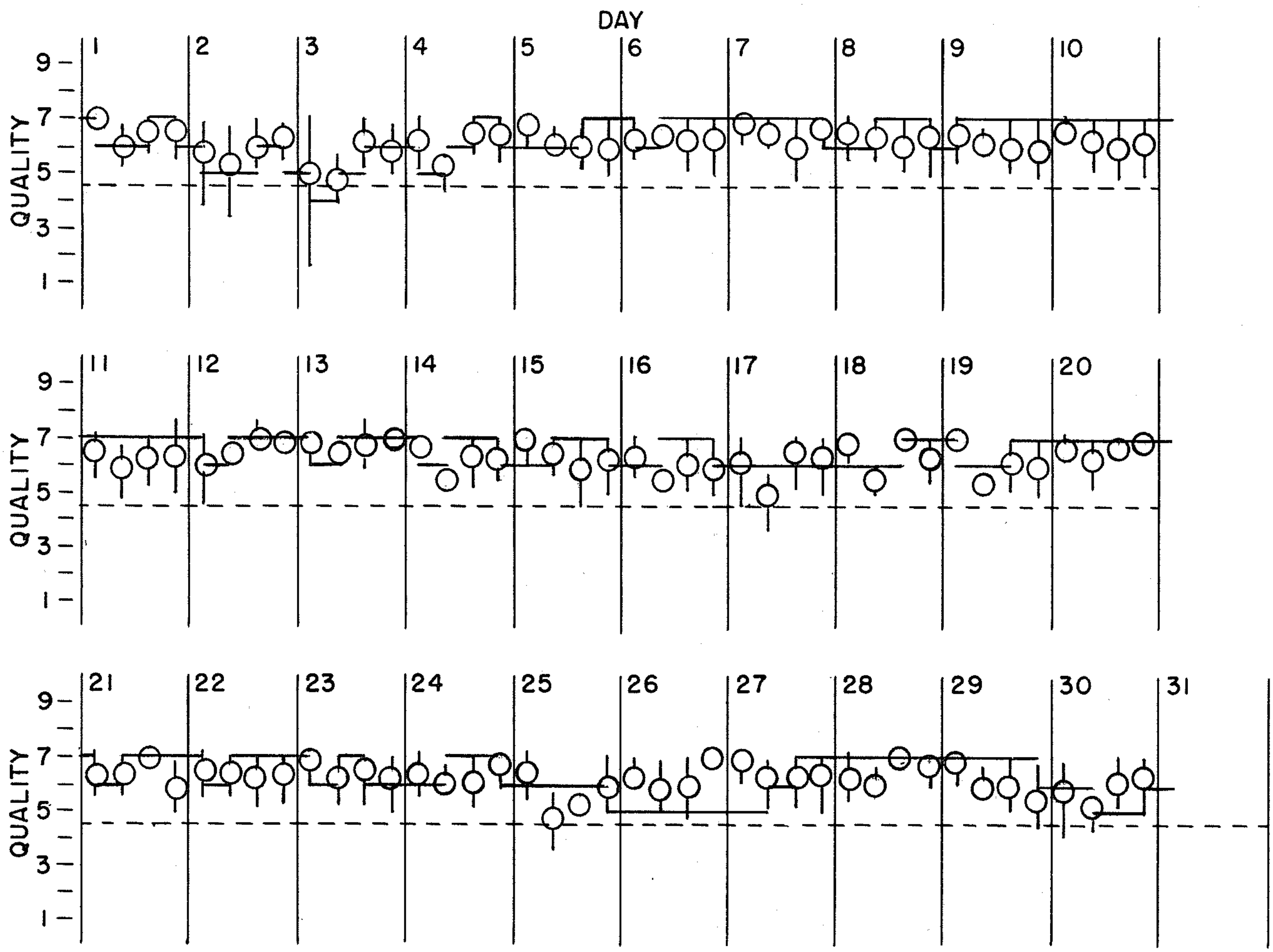
JUN. 1971	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC: 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES: K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	7–	6	7o	6o	7–	7–	6	6	7	6	2	(4)	17
02	6–	5	6–	5+	6o	6+	5	5	6	5	(4)	(4)	21
03	5+	4	5o	5–	6o	6–	4	5	6	6	3	3	17
04	6o	4	6+	5+	7–	6+	5	6	7	6	3	2	10
05	6+	5	7–	6o	6o	6o	6	6	7	7	2	2	9
06	6+	6	6+	6+	6+	6+	6	7	7	7	2	1	7
07	7–	6	7–	7–	6o	7–	7	7	7	6	1	2	4
08	6+	6	7–	6+	6o	6+	6	7	7	6	2	2	8
09	6o	6	7–	6o	6o	6o	7	7	7	7	1	1	4
10	6+	7	7–	6+	6o	6+	7	7	7	7	0	2	3
11	6+	7	6+	6–	6+	6+	7	7	7	7	3	1	8
12	7–	7	6o	6+	7o	7o	6	7	7	7	2	1	4
13	7–	7	7–	6+	7–	7o	6	7	7	7	1	3	7
14	6+	6	7–	6–	6+	6+	6	7	7	6	2	2	7
15	6+	6	7–	6+	6–	6+	6	7	7	6	2	2	6
16	6o	6	6+	6–	6o	6o	6	7	7	6	2	2	8
17	6o	7	6o	5–	6+	6+	6	6	6	6	3	2	9
18	6+	7	7–	6–	7o	6+	6	6	7	7	3	1	9
19	6o	7	7o	5+	6o	6o	6	6	7	7	1	0	2
20	7–	7	7–	6+	7–	7–	7	7	7	7	1	1	3
21	6+	7	6+	6+	7o	6o	6	7	7	7	1	2	5
22	6+	7	7–	6+	6+	6+	6	7	7	7	2	2	7
23	6+	7	7–	6+	6+	6+	6	7	6	6	2	2	7
24	6+	6	6+	6o	6o	7–	6	7	7	6	2	2	7
25	6–	6	6+	5–	5+	6o	6	6	6	5	(4)	(4)	24
26	6+	6	6+	6o	6o	7o	5	5	5	5	(4)	2	14
27	6+	6	7–	6+	6+	6+	5	6	7	7	2	1	4
28	7–	5	6+	6o	7o	7–	7	7	7	7	2	2	8
29	6o	5	7–	6o	6o	6–	7	7	7	6	3	(4)	20
30	6–	5	6–	5+	6o	6+	6	5	5	6	2	3	12

JUNE 1971

North Atlantic

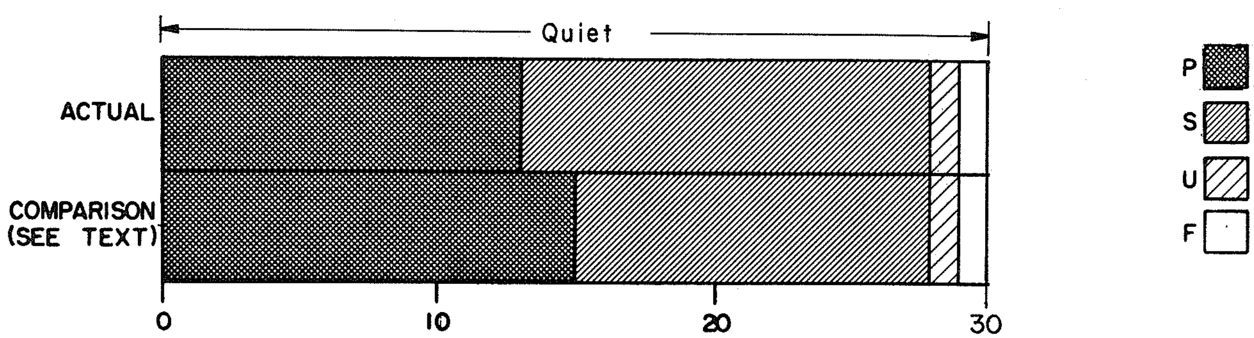
— Short term forecast
o Quality figure

I range of reports



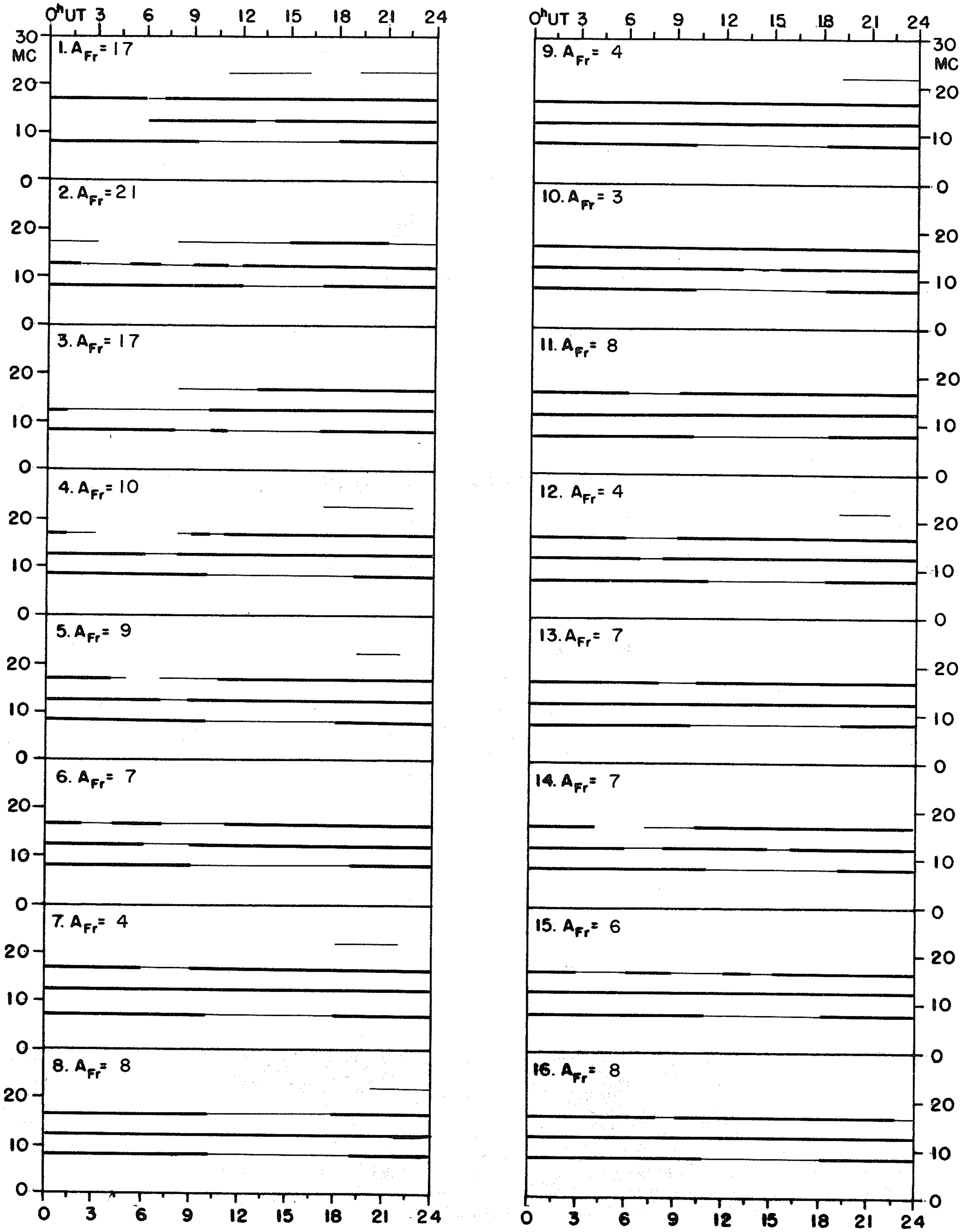
Outcome of advance forecasts of High Latitude radio propagation conditions
(Scored against observed North Atlantic radio propagation conditions)

HIGH LATITUDE



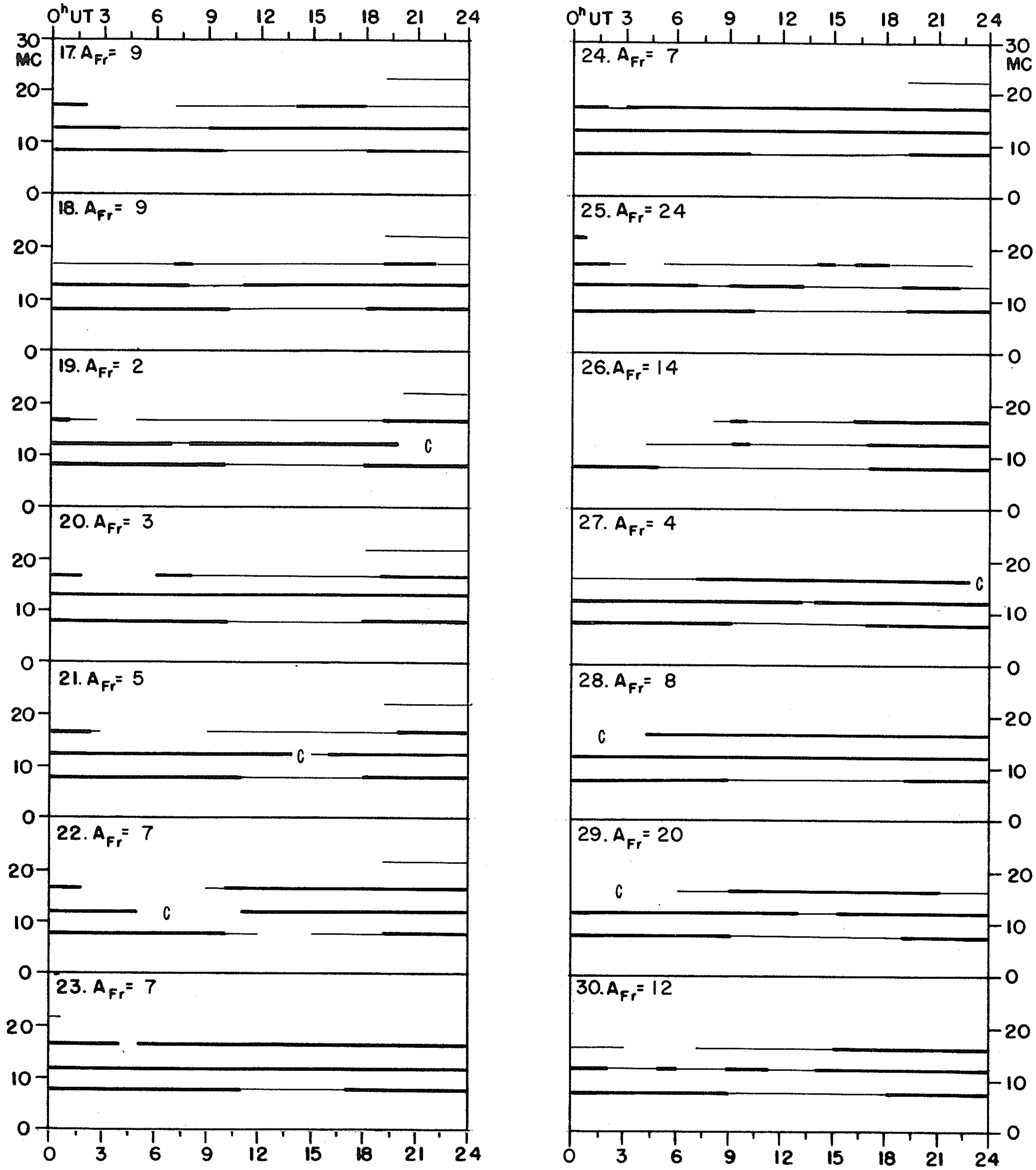
TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

JUNE 1971



TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

JUNE 1971



C = technical failure.

Adapted from Observations by Deutsche Bundespost

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

RADIO PROPAGATION QUALITY INDICES

June 1971

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

Date	Day	Night
1	6.0	5.4
2	4.8	4.2
3	5.4	6.0
4	6.0	6.6
5	6.0	6.6
6	6.0	7.2
7	6.6	7.8
8	6.0	7.8
9	6.6	7.8
10	6.6	7.2
11	6.0	7.2
12	6.6	7.2
13	6.0	6.0
14	5.4	6.0
15	6.0	6.6
16	5.4	4.8
17	5.4	5.4
18	4.8	5.4
19	5.4	6.0
20	5.4	5.4
21	5.4	5.4
22	6.6	6.6
23	6.0	7.2
24	6.6	5.4
25	4.2	3.0
26	5.4	6.0
27	6.0	6.6
28	5.4	6.0
29	4.8	4.2
30	5.4	4.8

USCOMM-NOAA-ASHEVILLE-8-30-71--1075