CRPL-F 252 PART B

FOR OFFICIAL DISTRIBUTION

PART B

SOLAR - GEOPHYSICAL DATA

ISSUED

AUGUST 1965

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 252
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
31 Aug. 1965

SOLAR - GEOPHYSICAL DATA

CONTENTS

The descriptive text was republished in November 1964. Addenda have been given in the introduction to each of the CRPL-F Part B reports, December 1964 through July 1965.

Riometer Absorption Events:

Beginning with data for June 1965, the periods of absorption are reported from Great Whale River, Canada (N55.33°, W77.83°). The equipment operates at 30 Mc/s and uses a zenithal antenna with 34° half-width to 3 db power points.

Great Whale River is located in the zone of maximum auroral activity. Therefore, it may be expected that the riometer will record less polar cap absorption and more auroral type absorption than Frobisher Bay which is no longer in operation.

The table presents the values as described in the November 1964 Descriptive Text on page 14, second paragraph, under Riometer Absorption Events.

10,700 Mc/s, 2,700 Mc/s, 960 Mc/s and 328 Mc/s Solar Noise Observations:

The Radio Astronomy Observatory at the Pennsylvania State University is conducting a daily solar patrol at 10,700 Mc/s, 2,700 Mc/s, 960 Mc/s and 328 Mc/s. An interferometer operating at approximately 80 Mc/s is under construction. The purpose of this patrol is to obtain correlated flux measurements with emphasis on solar bursts. The patrol operates from 1200-2400 UT.

The antennas for the four radiometers now operating are all mounted on a single polar tracking mount located on the roof of the Radio Astronomy Observatory. The 10,700 Mc/s and 2,700 Mc/s radiometers use 4-foot and 6-foot waveguide fed, parabolic reflecting antennas, respectively. The 960 Mc/s uses a dipole fed, 6-foot parabolic reflecting antenna, while the 328 Mc/s radiometer uses a pair of stacked Yagi antennas.

The receivers operating at 10,700 Mc/s, 2,700 Mc/s and 960 Mc/s are essentially similar switched receivers. The 328 Mc/s receiver is a total power receiver with a band-width of 80 kc/s. The band-width of each of the other three receivers is 8 Mc/s.

The sensitivities of the two receivers for which data are being reported are approximately $6.0 \times 10^{-22} Wm^{-2}(c/s)^{-1}$ for the 10,700 Mc/s

system and approximately $1.0 \times 10^{-22} Wm^{-2}(c/s)^{-1}$ for the 2,700 Mc/s system.

The outstanding occurrences are presented in accordance with the classification scheme on page 19 of IQSY Instruction Manual No. 2 Solar Activity. The type, time of beginning in UT, time of maximum in UT, duration in minutes, peak and mean flux densities are tabulated.

107 Mc/s Solar Noise Observations:

Beginning with June 1965 outstanding occurrences of solar radio emission at the nominal frequency of 107 Mc/s as recorded by the Hawaii Institute of Geophysics at the Haleakala Observatory (Maui, Hawaii) are presented. The antenna is identical with the one used at the CRPL Boulder station on 108 Mc/s, and the outstanding occurrences are reported in the same manner described in the November 1964 Descriptive Text on pp. 18-20.

This program is supported by contract with the Central Radio Propagation Laboratory.

9.1 cm Solar Spectroheliograms:

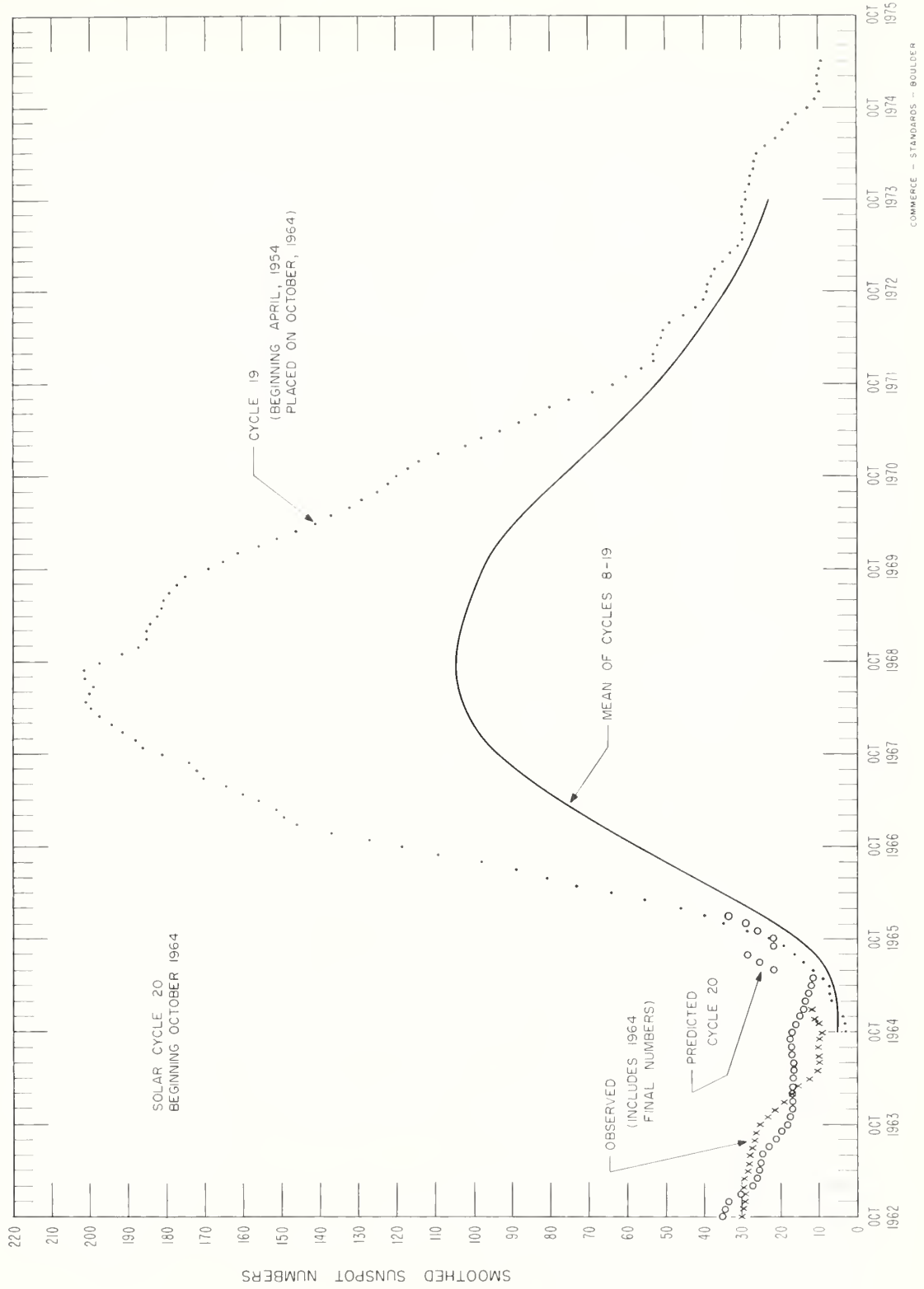
The method of presentation of the 9.1 cm spectroheliograms from Stanford University, California has been changed with this issue. The axis of the sun is now always vertical with the north pole at the top of the map. The brightness unit is always 1000°K. The values exceeding 40,000°K are now overscored with dots instead of underlined as before.

DAILY SOLAR INDICES

June 1965	American Relative Sunspot Numbers $R_{A'}$
1	14
2	20
3	29
4	39
5	33
6	33
7	34
8	21
9	13
10	2
11	0
12	0
13	0
14	0
15	0
16	0
17	10
18	17
19	15
20	13
21	11
22	5
23	0
24	0
25	0
26	1
27	6
28	6
29	8
30	13
Mean:	11.4

July 1965	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux S	Flux S_A
1	18	76.0	78.6
2	20	75.6	78.2
3	19	76.2	78.8
4	17	75.9	78.5
5	8	75.4	78.0
6	17	78.5	81.2
7	22	81.5	84.3
8	29	81.0	83.8
9	33	81.4	84.1
10	29	80.3	83.0
11	35	79.9	82.6
12	30	78.2	80.8
13	23	76.3	78.8
14	12	74.7	77.2
15	11	74.5	77.0
16	8	72.1	74.5
17	7	71.9	74.3
18	0	71.9	74.3
19	0	72.5	74.9
20	0	73.0	75.4
21	0	72.6	75.0
22	0	71.5	73.9
23	0	70.9	73.2
24	0	70.1	72.4
25	7	70.0	72.3
26	0	69.4	71.7
27	7	70.0	72.3
28	0	70.6	72.9
29	0	71.1	73.4
30	9	71.1	73.4
31	7	70.7	73.0
Mean:	11.9	74.3	76.8

COMMERCE - STANDARDS - BOULDER



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

JULY 1965

JULY 1965	LAT.	MCMATH PLAGE NUMBER	RETURN OF REGION	CALCIUM PLAGE DATA						SUNSPOT DATA		
				CMP VALUES		HISTORY	AGE (ROTATIONS)	DATE FIRST SEEN	DURATION (DAYS)	CMP VALUES		HISTORY
				AREA	INT.					AREA	COUNT	
1.8	N31	7878 (4)	7848	1600	3.0	ℓ ∧ ℓ	2	6/25	14	20	6	b - d
2.4	N02	7885 (1)	New	(200)	(1.5)	b - d	1	7/3	1			
2.8	S12	7889 (1)	New	(200)	(2.0)	b - d	1	7/6	1			
3.3	N24	7884	New	300	3.0	b - d	1	7/2	4			
3.4	S22	7890 (1)	New	(200)	(1.5)	b - d	1	7/8	1			
4.2	N34	7882	New	700	3.5	b ∧ ℓ	1	6/30	11	10	6	b - d
4.5	N42	7883 (1)	New	(100)	(1.0)	b - d	1	7/1	1			
7.8	S03	7888	New	200	1.0	b - d	1	7/5	4			
9.1	N20	7886 (2)	New	2200	3.0	ℓ ∧ ℓ	1	7/3	13	170	34	b ∧ ℓ
10.1	S12	7893 (1)	New	(100)	(2.0)	b - d	1	7/11	1			
10.2	N02	7894	New	(200)	(2.0)	b - ℓ	1	7/11	5	(10)	(2)	b - d
11.2	N23	7887	7847	900	1.5	ℓ ∧ ℓ	3	7/4	13			
11.9	N30	7898 (1)	New	(200)	(1.0)	b - d	1	7/15	1			
12.3	N18	7897	New	(100)	(1.0)	b - d	1	7/15	2			
14.0	N19	7891 (5)	7852	1100	3.0	ℓ - ℓ	3	7/8	13	(10)	(1)	b - d
14.3	S26	7892	7863	1600	3.0	ℓ ∧ ℓ	2	7/8	13			
14.8	N31	7895	New	400	1.5	b - d	1	7/12	8			
16.5	N27	7896 (6)	see (6)	800	1.5	ℓ ∧ d	3	< 7/12	> 10			
17.6	N33	7900 (1)	New	(200)	(1.0)	b - d	1	7/15	1			
18.1	S26	7901	New	(200)	(1.5)	b - d	1	7/15	2			
19.2	N32	7899	7859	500	1.0	ℓ ⌒ d	3	< 7/15	> 8			
19.9	S27	7912 (1)	New	(200)	(1.5)	b - d	1	7/21	1			
20.2	S14	7904 (1)	New	(200)	(2.0)	b - d	1	7/18	1			
21.1	N25	7908	New	100	5.0	b - d	1	7/19	3			
21.1	N25	7916 (1)	New	(200)	(1.5)	b - d	1	7/23	1			
21.2	N09	7910	New	200	1.5	b - d	1	7/20	2			
21.4	S07	7902	New	600	2.0	ℓ ⌒ d	1	7/15	10	(10)	(2)	b - d
21.9	N08	7903	New	(100)	(1.0)	b - d	1	7/16	2			
22.1	N26	7907	New	700	1.0	b ⌒ d	1	7/18	7			
22.8	S09	7905 (1)	New	(200)	(1.0)	b - d	1	7/18	1			
23.0	N24	7921 (1)	New	(200)	(2.5)	b - d	1	7/25	1			
23.3	N39	7906	New	(100)	(1.0)	b \ d	1	7/18	3			
23.3	N07	7914	New	200	1.0	b - d	1	7/22	2			
23.7	N23	7909	New	300	1.5	b - d	1	7/19	6			
23.7	S01	7911	New	200	1.0	b - d	1	7/21	3			
24.3	N17	7924	New	(100)	(1.5)	b - d	1	7/28	2			
25.0	N12	7919 (1)	New	100	1.5	b - d	1	7/24	1			
25.2	N21	7917 (1)	New	(300)	(1.5)	b - d	1	7/23	1			
25.4	S11	7920 (1)	New	200	1.0	b - d	1	7/24	1			
25.8	N06	7915 (1)	New	(100)	(1.5)	b - d	1	7/22	1			
25.8	N35	7925	New	(200)	(1.0)	b - ℓ	1	7/28	4			
28.1	N30	7913 (7)	7873	1700	2.5	ℓ ∧ ℓ	3	7/22	13	10	4	b - d
28.7	N28	7918 (8)	see (8)	900	1.5	ℓ - ℓ	3	7/22	13			
28.7	S25	7923a (3)	New	200	2.0	b - d	1	7/26	3			
29.4	S20	7923b (3)	New	200	2.0	b - d	1	7/29	2	10	1	b - d
30.9	N24	7926	New	200	1.0	b - d	1	7/28	3			
31.0	N38	7922 (1)	New	(300)	(1.0)	b - d	1	7/25	1			
31.6	N31	7933 (1)	New	(100)	(1.0)	b - d	1	8/4	1			

(1) These small and ephemeral plages were seen for only one day.
(2) Region 7886 experiences a rejuvenation on the disk on July 6, and is primarily a new plage, in the position of old plage 7845 of the previous rotation.
(3) The same number, 7923, was inadvertently assigned to both of these plages. They are distinguished by a and b.
(4) Region 7878 is a return of part of 7848.
(5) Region 7891 is a return of part of 7852.
(6) Region 7896 is a return of regions 7857 and 7858.
(7) Region 7913 is a return of part of 7873.
(8) Region 7918 is a return of parts of 7873 and 7878.

JULY 1965

JULY 1965	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.	JULY 1965	TIME MEAS. UT	LAT.	MER. DIST.	TYPE	No.
1	1850	N30	W03	αp	15931	11	1710	N19	W36	βp	15936
		N32	E30	βf	15933			N02	W20	αp*	15937
2	0045	N32	E16	αf	15933	12	1630	N19	W49	βγ	15936
		N24	E04	β	15934			N01	W33	βp*	15937
3	1435	N31	E07	γ	15933	13	1615	N19	W60	βp	15936
		N24	W04	β	15934						
		N30	W20	αf	15931**	14	1830	N19	W09	βf	15938
4	No Obs.					15	No Obs.				
5	1445	N31	W20	βf***	15933	16	1840	N19	W39	αp	15938
		N17	E47	βp***	15935						
						17	1620	N19	W50	αp	15938
6	0040	N19	E26	βp	15936						
						18 - 29	No Spots				
7	2320	N19	E14	βγ	15936						
						30	1840	N30	E44	β	15939
8	1735	N19	E04	βp	15936						
						31	No Obs.				
9	1755	N19	W09	β	15936						
10	1800	N19	W23	βf	15936						

COMMERCE - STANDARDS - BOULDER

* Old Cycle
** Not seen on 7/2
*** Polarities reversed

FINAL CORONAL LINE EMISSION INDICES

APRIL 1965

CMP April 1965	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	28	34	9	12	9	14	18	20	0	0	7	14	1	20	10	16
2	5	6	5	6	3	6	9	11	12	20	32	50	29	34	20	37
3	4	7	14	19	2	3	12	14	x	x	x	x	x	x	x	x
4	x	x	x	x	x	x	x	x	6	9	7	8	8	10	6	9
5	6	9	16	25	4	6	17	20	x	x	x	x	x	x	x	x
6	0	0	10	14	0	0	11	15	x	x	x	x	x	x	x	x
7	0	0	10	17	0	0	11	16	0	0	13	20	0	0	4	16
8	16	18	x	x	11	13	x	x	0	0	15	16	0	0	11	15
9	22	25	x	x	11	11	x	x	3	4	9	11	10	13	11	14
10	5	7	8	10	3	4	11	12	x	x	x	x	x	x	x	x
11	25	30	13	22	6	7	10	12	1	5	13	17	12	15	7	8
12	8	16	8	12	2	4	8	11	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
14	x	x	x	x	x	x	x	x	6	7	12	18	16	28	18	21
15	36	46	19	32	0	0	7	20	x	x	x	x	x	x	x	x
16	35	53	32	50	7	13	20	37	x	x	x	x	x	x	x	x
17	x	x	x	x	x	x	x	x	4	5	12	17	24	39	11	20
18	9*	21	8	12	22	34	11	24	x	x	x	x	x	x	x	x
19	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
21	4	17	8	29	0	0	6	19	3	8	13	17	16	64	12	17
22	25	62	11	21	4	8	14	17	12	34	12	17	13	34	14	18
23	14	16	12	15	4	5	13	17	24	68	17	25	14	36	12	16
24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25	16	22	7	8	4	7	9	12	x	x	x	x	x	x	x	x
26	x	x	x	x	x	x	x	x	x	x	8	10	x	x	6	11
27	x	x	x	x	x	x	x	x	9	10	11	16	18	24	3	13
28	12	15	14	20	6	6	14	17	x	x	x	x	x	x	x	x
29	28	34	x	x	11	21	x	x	3	4	4	6	5	9	9	12
30	x	x	x	x	x	x	x	x	2	5	11	18	4	6	11	15

x = no observations * = yellow line emission a = index computed from low weight data

FINAL CORONAL LINE EMISSION INDICES

MAY 1965

CMP May 1965	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	3	4	10	18	3	3	11	15	37	48	x	x	29	45	x	x
2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	x	x	x	x	x	x	x	x	0	0	x	x	6	28	x	x
5	5	8	15	21	0	1	4	5	27	34	9	14	22	38	5	12
6	16	32	12	23	1	3	13	15	6	9	0	0	34	40	3	8
7	40	87	19	36	2	3	9	12	15	22	x	x	40	66	x	x
8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	x	x	x	x	x	x	x	x	45	68	x	x	14	15	x	x
10	x	x	12	18	x	x	12	19	13	16	10	14	17	23	11	19
11	27	32	16	25	9	10	11	14	11	14	0	0	22	30	0	0
12	x	x	x	x	x	x	x	x	8	9	0	0	19	21	0	0
13	9	16	14	18	5	7	14	16	12	16	0	0	24	32	1	4
14	15	44	15	17	5	14	11	12	x	x	x	x	x	x	x	x
15	37	48	x	x	29	45	x	x	0	0	0	0	37	81	9	21
16	8	13	11	16	x	x	x	x	17	18	0	3	46	75	2	7
17	x	x	12	14	x	x	8	12	35	44	x	x	19	24	x	x
18	29	36	x	x	27	39	x	x	x	x	x	x	x	x	x	x
19	27	34	17	21	22	36	15	22	14	19	10	15	31	36	19	32
20	31	49	25	44	14	23	5	16	34	46	x	x	16	19	x	x
21	54	104	x	x	6	13	x	x	5	6	0	0	82	180	25	43
22	x	x	x	x	x	x	x	x	25	31	0	2	81	107	60	104
23	45	68	x	x	14	15	x	x	21	23	5	8	57	73	46	106
24	29	36	10	14	13	18	15	24	5	8	0	0	11	25	4	10
25	28	32	4	6	13	15	8	10	16	18	4	6	27	30	14	20
26	24	31	8	16	11	12	11	18	5	8	16	23	10	14	14	19
27	18	23	3	6	11	12	6	12	x	x	9	14	x	x	9a	13a
28	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
29	13	14	7	13	15	18	14	17	18	19	6	13	22	30	7	12
30	22	55	18	27	14	23	12	16	x	x	x	x	x	x	x	x
31	35	44	x	x	19	24	x	x	x	x	x	x	x	x	x	x

x = no observations * = yellow line emission a = index computed from low weight data

COMMERCE - STANDARDS - BOULDER

FINAL CORONAL LINE EMISSION INDICES

JUNE 1965

CLF June 1965	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	32	64	30	35	15	17	29	42	29	53	x	x	35	49	x	x
3	34	46	x	x	16	19	x	x	15	24	20	50	35	52	6	17
4	41	77	15	25	12	14	7	13	6	10	19	34	17	27	18	25
5	56	82	7	25	27	29	2	15	5	[illegible]	14	24	11	17	10	19
6	26	33	15	23	20	25	29	36	1	7	20	26	10	14	17	20
7	5	6	0	[illegible]	1	6	2	5	8	14	x	x	27	39	x	x
8	16	20	13	16	16	19	19	23	x	x	x	x	x	x	x	x
9	25	32	17	34	16	21	16	26	x	x	x	x	x	x	x	x
10	x	x	x	x	24	30	x	x	x	x	x	x	x	x	x	x
11	x	x	x	x	x	x	x	x	10	17	7	8	45	53	22	33
12	65	90	51	105	21	26	33	40	12	14	11	14	46	66	24	34
13	x	x	x	x	x	x	x	x	10	25	10	16	69	73	23	62
14	x	x	x	x	x	x	x	x	31	42	x	x	49	72	x	x
15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16	42	65	x	x	19	23	x	x	28	45	27	46	28	34	12	23
17	64	88	26	41	14	17	13	18	10	17	x	x	49	65	x	x
18	16	125	19	26	1	4	14	21	25	32	x	x	60	86	x	x
19	42	61	10	18	1	5	25	28	0	0	9	10	36	56	9	16
20	29	41	18	28	0	0	16	24	0	0	9	10	26	36	27	36
21	x	x	x	x	x	x	x	x	0	0	x	x	16	22	x	x
22	36	39	x	x	20	22	x	x	0	0	2	11	22	59	5	19
23	x	x	x	x	x	x	x	x	14	21	15	25	39	54	15	17
24	18	20	x	x	15	19	x	x	13	15	0	0	35	47	6	25
25	36	68	20	24	16	18	10	13	3	8	3	10	15	28	9	16
26	31	36	17	19	15	21	13	16	26	31	13	21	36	48	18	24
27	15	27	13	21	16	20	11	15	0	0	0a	0a	21	53	1a	9a
28	17	20	x	x	32	41	x	x	0a	0a	0a	0a	11a	25a	3a	14a
29	x	x	x	x	x	x	x	x	18	62	0	0	38	78	8	14
30	60	88	38	66	22	37	25	66	40	52	x	x	59	90	x	x

x = no observations * = yellow line emission a = index computed from low weight data

COMMERCE - STANDARDS - BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES

JULY 1965

CMP July 1965	North East quadrant (observed 7 days earlier)				South East quadrant (observed 7 days earlier)				South West quadrant (observed 7 days later)				North West quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	13	29	x	x	0	0	x	x	x	x	x	x	x	x	x	x
3	17	31	16	18	1	6	13	16	x	x	x	x	x	x	x	x
4	12	16	9	11	0	0	9	11	1	5	10	13	9	24	13	26
5	0	0	x	x	0	0	x	x	x	x	x	x	x	x	x	x
6	0	0	0	0	0	0	3	11	x	x	x	x	x	x	x	x
7	7a	11a	3	10	5a	14a	17	23	9	28	0	0	17	35	4	24
8	x	x	4	24	x	x	24	40	x	x	x	x	x	x	x	x
9	30	60	3	12	5	6	10	13	x	x	x	x	x	x	x	x
10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
11	27	34	0a	0a	5	6	1a	5a	x	x	x	x	x	x	x	x
12	8a	22a	0a	0a	11a	22a	0a	0a	x	x	x	x	x	x	x	x
13	27	50	3	10	31	59	11	18	26	48	x	x	15	20	x	x
14	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
17	x	x	x	x	x	x	x	x	6	12	x	x	5	11	x	x
18	6	18	0	13	3	11	15	17	0	0	19	25	7	29	17	30
19	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20	x	x	0	7	x	x	x	x	x	x	x	x	x	x	x	x
21	17	24	x	x	7	22	x	x	x	x	x	x	x	x	x	x
22	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
23	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
24	x	x	x	x	x	x	x	x	4	7	15	20	2	11	16	20
25	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
26	x	x	x	x	x	x	x	x	3	6	x	x	14	24	x	x
27	23	56	x	x	10	18	x	x	0	0	6	11	10	33	5	10
28	x	x	x	x	x	x	x	x	0	0	5	16	23	45	15	30
29	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
30	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
31	1	6	x	x	2	5	x	x	x	x	3	13	x	x	10	14

x = no observations * = yellow line emission a = index computed from low weight data

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

JULY 1965

OBSERVATORY	DATE JULY 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS COND	MEASUREMENTS TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH Ha	MAX INT °o	REMARKS
ARCE	01	0946 E	1000 D		N28	E06	7878		1-	2	0946	.33	.37			
OTTA	01	1154	1214		N33	E32	7882		1-	1 C	1204	.12	.14			
OTTA	01	1156	1208		N29	W11	7873		1-	1 C	1201	.48	.54			
MCMA	01	1158	1204 D	1200	N29	W12	7873		1-	2 C	1200	.60	.60			S
OTTA	01	1212	1227	1218	N28	W11	7873		1-	1 C	1218	.12	.13			
OTTA	01	1334	1415	1345	N33	E32	7882		1-	1 C	1345	.60	.69			E
MCMA	01	1405	1438	1410	N34	E33	7882		1-	2 C	1410	.20	.30			D
SACP	01	1407	1420	1410	N33	E33	7882		1-	C		.35	.40		18	
MCMA	01	1545	1653	1551	N34	E32	7882		1-	2 C	1637	.40	.60			EK
MCMA	01			1637												
OTTA	01	1548	1603	1551	N34	E32	7882		1-	1 C	1551	.18	.20			
HUAN	01	1619 E	1654		N33	E32	7882		1-	P	1630	.18	.24			D
HUAN	01	1748	1757	1751	N33	E30	7882		1-	C	1751	.15	.20			E
MCMA	01	1911	1932	1916	N28	W17	7873		1-	2 C	1916	.80	.90			S
HUAN	01	1916 E	1925 D		N28	W20	7873		1-	P						D
CATA	02	0650 E	0750 D	0651	N32	W19	7873	60 D	1	2	0651	2.10	2.47		136	D
MONT	02	0739 E	0810 D	0810	N20	W59	7880		1-			1.60				O
KAND	02	1226	1231		N31	E22	7882		1-							
MCMA	03	1414	1420	1417	N25	W07	7884		1-	2 C	1417	1.00	1.10			E
HUAN	03	1415	1420	1417	N26	W17	7878		1-	C	1417	.35	.38			E
KAND	05	0856	0915		N34	W90	7873		1-							
OTTA	05	1033	1123 D	1111	S02	E30	7888		1-	2 C	1111	.18	.18			H
ARCE	06	0800 E	0830 D		N19	E38	7886		1-	3	0820	1.14	1.49			
MANI	06	0813 E	0825	0815	N18	E33	7886		1-	3	0815	.30	.33			
KAND	06	0836	0841		N05	E90			1-							
ARCE	06	0900 E	0935 D		N19	E38	7886		1-	3	0925	.82	1.07			
CATA	06	0930 E	1130 D	1045	N18	E37	7886		1-	3	1045	.98	1.23		157	D
OTTA	06	1026 E	1032 D		N18	E35	7886		1-	2 C	1032	.48	.52			
KANZ	06	1550 E	1610 D		N17	E31	7886		1-							DH
SACP	06	1551	1602 D	1559	N18	E32	7886		1-	P		.39	.42		19	
HUAN	06	1600 E	1603		N18	E32	7886		1-	P	1601	.15	.18			D
SACP	06	2012	2040	2026	N18	E30	7886		1-	C		.26	.28		18	
HUAN	06	2024	2048 D		N19	E31	7886		1-	P	2029	.20	.24			D
MCMA	06	2028	2130	2031	N18	E30	7886		1-	1 C	2031	.30	.40			DH
SACP	06	2304	2325 D	2317	N19	E28	7886	21 D	1	P		3.55	3.71		21	
HALE	06	2316	2358	2329	N17	E28	7886		1-	1 C	2329	1.20	1.20			
HALE	07	0346	0434	0351	N17	E24	7886		1-	2 C	0351	.60	.60			
HALE	07	0349	0419	0354	N18	E22	7886		1-	2 C	0354	.40	.40			
CATA	07	0630 E	1025 D	0724	N18	E24	7886		1-	3	0724	1.22	1.38		180	E
ARCE	07	0755 E	0820 D		N18	E23	7886		1-	2	0755	.98	1.09			
KAND	07	0835 E	0905		N19	E22	7886		1-							
ARCE	07	0840 E	0845 D		N17	E27	7886		1-	2	0845	.29	.33			
KAND	07	0923	0940		N19	E22	7886		1-							
ARCE	07	0950 E	0955 D		N18	E23	7886		1-	2	0950	1.05	1.17			
KANZ	07	1355 E	1410		N19	E18	7886		1-							DH
SACP	07	1449	1502	1454	N18	E20	7886		1-	C		.35	.35		17	

SOLAR FLARES

JULY 1965

OBSERVATORY	DATE JULY 1965	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					REMARKS
		START	END	MAX PHASE	APPROX LAT.	APPROX MER DIST	McMATH PLAGE REGION				TIME — U T	MEAS AREA Sq Deg.	CORR. AREA Sq Deg	MAX WIDTH Ha	MAX INT. %	
MANI	08	0025 E	0041 D	0035	N19	E13	7886		1-	2	0035	.50	.50			
MANI	08	0352	0424	0400	N19	E11	7886		1-	2	0400	.60	.60			
BUCA	08	0704 E	0736 D		N19	E10	7886	32 D	2	2			5.20			
ISTA	08	0710 E	0720		N19	E11	7886	10 D	1							
CATA	08	0715	0800	0719	N18	E12	7886		1-	4	0719	1.62	1.70		229	D
KANZ	08	0725 E	0745		N19	E10	7886	20 D	1+							DH
KANZ	08	0817 E	0850 D		N20	E10	7886	33 D	1+							EH
SACP	08	1625	1639	1633	N21	E73	7891		1-	C		.22	.45		18	
OTTA	08	1627	1640	1632	N21	E75	7891		1-	2 C	1632	.24	.51			
MCMA	08	1631	1638	1633	N21	E75	7891		1-	2 C	1633	.30				D
MCMA	08	2014	2050 D		N21	E08	7886		1-	1 P	2018	.20	.20			DH
SACP	08	2020	2037	2027	N22	E07	7886		1-	C		.31	.30		17	
KAND	09	0500	0524		N21	W01	7886		1-							
KAND	09	0547	0555		N21	E69	7891	8	1+							
OTTA	09	1120	1138 D		N18	W07	7886		1-	1 C	1125	.48	.48			
ARCE	10	0825 E	0835 D		N20	W16	7886		1-	2	0825	1.79	1.94			
KAND	10	0900 E	0912 D		N21	W19	7886		1-							
MONT	10	0931 E	0945	0941	N20	E51	7891		1-			2.10				O
BUCA	10	0940	1004 D		N19	W17	7886	24 D	1+	2			3.60			J
ARCE	10	0949 E	1007 D		N18	W16	7886	18 D	1	2	0953	3.07	3.31			
CATA	10	0950 E	1020 D	0955	N19	W19	7886		1-	3	0955	1.30	1.41		230	E
BUCA	10	1039	1045 D		N20	E50	7891	6 D	1	2			2.60			
CATA	10	1043	1050 D	1044	N20	E50	7891		1-	3	1044	.68	1.06		148	E
BUCA	10	1116	1139 D		N25	W90	7882			2						
OTTA	10	1348	1422	1409	N19	W16	7886		1-	2 C	1409	.84	.84			FH
OTTA	10	1544	1601	1551	N18	W21	7886		1-	1 C	1551	.54	.54			
KANZ	10	1609	1640		N21	E45	7891		1-							D
HALE	11	0434	0440 D	0437	N20	W29	7886		1-	1 P	0437	.60	.60			
ARCE	11	0840 E	0855 D		N19	W34	7886		1-	2	0850	.39	.48			
ARCE	11	0930 E	0950 D		N17	W33	7886		1-	2	0950	.62	.76			
KANZ	11	1322 E	1540 D		N18	W35	7886	138 D	1							E
HUAN	11	1346	1444		N18	W35	7886		1-	C	1405	.37	.46			D
OTTA	11	1414	1451		S21	W39			1-	1 C	1444	.41	.49			H
SACP	11	1510	1529	1518	N21	E33	7891		1-	C		.70	.76		19	
OTTA	11	1510	1534	1515	N21	E33	7891		1-	C	1515	.66	.71			H
MCMA	11	1511	1532	1515	N21	E33	7891		1-	2 C	1515	.50	.60			EH
HUAN	11	1513 E	1526		N21	E35	7891		1-	P	1514	.25	.31			E
OTTA	11	1601	1621 D	1617	S19	W31			1-	1 C	1617	.73	.80			
SACP	11	1602	1624	1617	N20	W34	7886		1-	C		.97	1.05		17	
MCMA	11	1605	1625	1617	N21	W34	7886		1-	2 C	1617	.70	.80			S
HUAN	11	1613	1622	1616	N21	W34	7886		1-	C	1617	.50	.62			D
SACP	11	1711	1725	1718	N19	W36	7886		1-	C		.35	.38		17	
MCMA	11	1713	1725	1717	N21	W34	7886		1-	2 C	1717	.20	.30			D
SACP	11	1910	1943	1925	N23	E32	7891		1-	C		1.15	1.24		17	
MCMA	11	1914	1955	1930	N22	E32	7891		1-	2 P	1930	1.00	1.20			E
HUAN	11	1935 E			N21	E35	7891		1-	P						E
SACP	12	0005	0013	0008	N22	W34	7886		1-	C		.17	.19		18	

SOLAR FLARES

JULY 1965

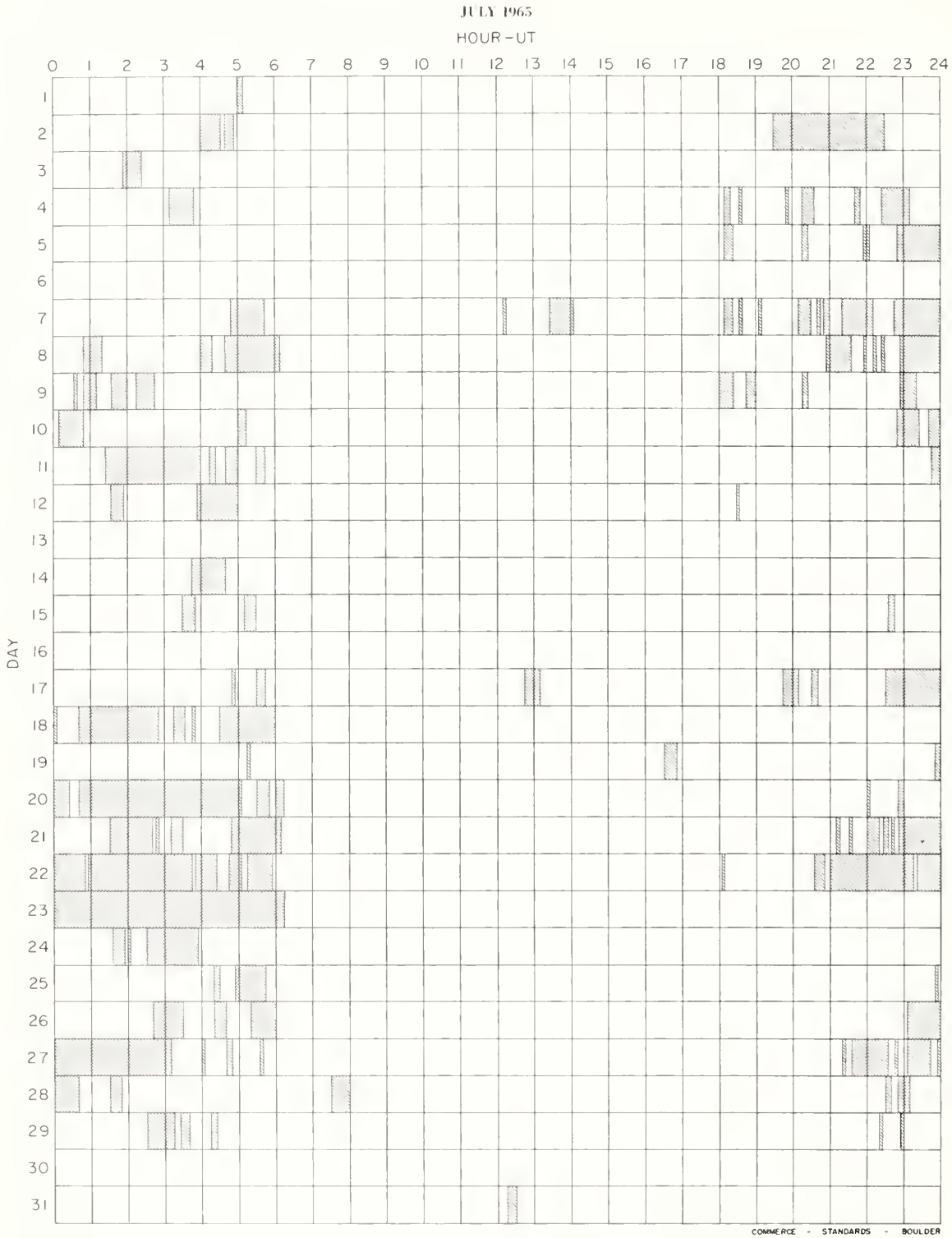
OBSERVATORY	DATE JULY 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT	MER DIST	M. MATH PLAGE REGION	DURATION — MINUTES	IM PORTANCE	OBS COND	MEASUREMENTS TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH Ha	MAX INT	REMARKS
SACP	12	0047	0133	0107	N22	W35	7886		1-	C		1.59	1.74		1B	
KANZ	12	0805 E	0835		N21	E23	7891	30 D	1							D
KANZ	12	0920 E	0930		N18	W40	7886	10 D	1							D
KANZ	12	1040 E	1102		N20	W46	7886		1-							D
MONT	12	1145 E	1150 D	1150	N20	E43			1-			1.60				O
MCMA	12	1140	1218	1156	N22	E22	7891		1-	3 C	1156	.40				EK
BUCA	12	1151	1203 D		N21	E22	7891		1-	2			1.20			
CATA	12	1153 E	1223 D	1157	N22	E23	7891		1-	3	1157	.92	1.04		2B	FGH
MCMA	12	1405	1428	1407	N22	E21	7891		1-	2 C	1407	.50	.50			F
OTTA	12	1406 E	1426	1407	N22	E21	7891		1-	3 C	1407	.71	.72			F
SACP	12	1536	1550	1544	N19	W52	7886		1-	C		.17	.23		1B	
OTTA	12	1540	1546	1544	N18	W53	7886		1-	2 C	1544	.24	.31			
MEUD	12	1542	1546		N22	W54	7886		1-	C	1545	.40	.70			
OTTA	12	1633	1638	1635	N23	E54	7896		1-	2 C	1635	.09	.12			
MONT	13	1049 E	1105 D	1105	N20	W53	7886	16 D	1+			8.30				FO
BUCA	13	1056 E	1125		N21	W55	7886	29 D	1	2			2.90			
OTTA	13	1046	1220	1105	N19	W56	7886	94	1	2 C	1105	2.87	3.94			F
KANZ	13	1058 E	1113 D		N19	E62		15 D	1							F
HALE	13	1945	2016	1948	N20	E03	7891		1-	2 C	1948	.70	.70			F
MCMA	13	1947	2016	1951	N21	E04	7891		1-	2 C	1951	.60	.60			F
HALE	14	1825	1901	1842	S28	W08	7892		1-	2 C	1842	.50	.50			F
HALE	14	1829	1901	1839	S29	W02	7892		1-	2 C	1839	.20	.20			
HALE	14	1921	1953	1923	S28	W10	7892		1-	1 C	1923	.20	.20			J
MCMA	14	2117	2127	2118	N24	W76	7886		1-	3 C	2118	.40				F
HUAN	14	2117	2132	2120	N23	W74	7886		1-	C	2120	.25				
MCMA	14	2142	2213	2148	N19	W10	7891		1-	3 C	2148	.80	.90			S
HUAN	14	2143	2202	2152	N18	W10	7891		1-	C	2152	.50	.53			E
HUAN	14	2203	2221	2211	N24	W75	7886		1-	C	2211	.60				
MCMA	14	2213	2228	2214	N24	W78	7886		1-	2 C	2214	.40				E
HALE	15	0149	0154	0151	N18	W13	7891		1-	2 C	0151	.20	.20			F
ARCE	15	0857	0935 D		N21	W88	7886		1-	2	0902	.33	1.62			
HUAN	15	1207	1211 D		N21	E18	7896		1-	P	1210	.25	.27			E
MCMA	15	1208	1232	1209	N18	W19	7891		1-	3 C	1209	.30	.30			D
HALE	17	0207	0224	0210	N19	W41	7891		1-	2 C	0210	.50	.60			F
HALE	17	0253	0315	0258	N20	W43	7891		1-	3 C	0258	.40	.50			
HUAN	18	1416	1424	1418	N27	E17	7899		1-	C	1418	.15	.17			F
SACP	18	1417	1430	1418	N27	E15	7899		1-	C		.21	.22		1B	
HALE	18	1936	1944	1938	N18	W62	7891		1-	1 C	1938	.30	.50			
HALE	18	2208	2250	2215	N22	W62	7891		1-	1 C	2215	.60	1.00			H
KAND	19	0812	0915 D	0827	N17	W74	7891	63 D	1							
BUCA	19	0818 E	0905		N20	W70	7891	47 D	1	2						
ARCE	19	0830 E	0905 D		N18	W71	7891	35 D	1	2	0835	2.06	4.83			
OTTA	21	1420	1436	1429	N11	W45			1-	1 C	1429	.12	.15			
SACP	21	1422	1440	1430	N12	W44			1-	C		.17	.20		1B	

SOLAR FLARES

JULY 1965

OBSERVATORY	DATE JULY 1965	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					REMARKS
					APPROX											
		START	END	MAX PHASE	LAT.	MER DIST	McMATH PLAGE REGION				TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH Hα	MAX INT %	
ARCE	24	0810 E	0840 D		S11	W41	7902		1-	2	0820	.52	.76			
OTTA	25	1339	1358 D	1346	N23	W77			1-	2 C	1346	.18	.39			
KAND	26	0852 E	0858 D		S27	W90			1-							
ARCE	29	0935 E	0955 D		S20	E02	7923		1-	2	0935	.65	.73			

INTERVALS OF NO FLARE PATROL OBSERVATIONS
PROVISIONAL



Stations included:

Arcetri	Huancayo	Kanzelhöhe	Mitaka	Sacramento Peak
Bucharest	Ikomasan	Manila	Monte Mario	Salonique
Catania	Istanboul	McMath-Hulbert	Ondrejov	Tortosa
Haleakala	Kandilli	Meudon	Ottawa	Wendelstein

SOLAR FLARES

APRIL 1965

OBSERVATORY	DATE APR 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS COND.	MEASUREMENTS TIME U T	MEAS AREA Sq. Deg.	CORR AREA Sq. Deg.	MAX WIDTH Ho	MAX INT. °.	REMARKS
	01	1845	1910	NO FLARE	PATROL											
	01	1930	2050	NO FLARE	PATROL											
	01	2110	2120	NO FLARE	PATROL											
	01	2130	2140	NO FLARE	PATROL											
	01	2230	2305	NO FLARE	PATROL											
	02	0210	0215	NO FLARE	PATROL											
	02	0220	0230	NO FLARE	PATROL											
	02	2205	2225	NO FLARE	PATROL											
CULG	06	0447 E	0514	0455	N07	W25			1-	P	0455	.40	.46			CGH
OTTA	06	1452	1456	1453	S10	W05			1-	C	1453	.11	.11			
SACP	06	1455 E	1501	1455	S10	W05			1-	P		.19	.19		17	
OTTA	06	1517	1538	1531	N27	W60	7758		1-	C	1531	.10	.17			
SACP	06	1520	1540	1527	N27	W59	7758		1-	C		.25	.43		17	
	06	1940	1945	NO FLARE	PATROL											
	06	1955	2005	NO FLARE	PATROL											
	06	2015	2025	NO FLARE	PATROL											
MITK	06	2239	2247	2243	S36	W44	7756		1-	C						G
CULG	08	0148	0200	0151	S23	E19			1-	C	0151	.60	.66			CGL
CULG	08	0316	0336	0323	N19	W60			1-	C	0323	.60	1.41			GH
CULG	08	0448	0512	0457	S07	E56	7765		1-	C	0457	.40	.68			CGH
CATA	09	0855	0925		N70	W40		30	1		0855	.38	2.16		119	DG
	09	1100	1115	NO FLARE	PATROL											
	09	1125	1135	NO FLARE	PATROL											
	09	1145	1150	NO FLARE	PATROL											
	10	1015	1020	NO FLARE	PATROL											
CAPS	11	0829 E	0852		N03	E87	7771	23 D	2	3	0835	1.00	6.00		205	C
KANZ	11	0934 E	1100 D		N03	E90	7771		1-							
KANZ	11	1355 E	1504		N03	E90	7771	69 D	1							
SACP	11	1453	1526	1458	N05	E90	7771		1-	C		.85	.85		19	
CAPS	11	1502 E	1520 D		N03	E85	7771	18 D	1	3	1515	.80	3.20		180	C
SACP	11	2314	2328	2317	N05	E82	7771		1-	C		.21	.21		17	
MITK	11	2315	2330	2319	N05	E85	7771		1-	C						
MITK	12	0114	0126	0117	N05	E85	7771		1-	C						
MITK	12	0225	0238	0229	N05	E85	7771		1-	C						
MITK	12	0628	0643	0634	N05	E85	7771		1-	C						
MANI	12	0845 E	0850		N04	E80	7771		1-	2	0846	.10	.24			
CATA	12	1027 E	1125 D		N28	E31	7768		1-		1027	.38	.55		124	GH
SACP	12	1850 U	2010 U	1918	N32	E06	7759		1-	C		.85	.94		18	
CULG	12	2232	2302 D	2243	N06	E70	7771	30 D	1	P	2243	1.20	3.60			
CULG	13	0629	0644 D	0639	N05	E63	7771	15 D	1	P	0639	1.80	4.50			F
MANI	13	0631	0648	0636	N04	E69	7771		1-	2	0636	.20	.36			
CATA	13	0635 E	0715	0641	N04	E66	7771	40 D	1		0641	1.24	2.55		148	E
CAPE	13	0639 E	0707		N04	E66	7771		1-	P	0639	.70	1.70			E

SOLAR FLARES

APRIL 1965

OBSERVATORY	DATE APR 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS COND.	MEASUREMENTS TIME — U T	MEAS AREA Sq Deg.	CORR AREA Sq Deg	MAX WIDTH He	MAX INT %	REMARKS
WROC	13	0725 E	0850 D		S05	E50		85 D	1+							
HUAN	13	1503	1523		N06	E63	7771		1-	P	1516	.23	.47			E
CAPS	13	1504	1525 D		N04	E63	7771		1-	2	1518	.30	.70			EH
UCCL	13	1504	1525		N04	E65	7771		1-	3						E
MCMA	13	1505	1534		N07	E62	7771		1-	2 P	1507	.50	1.00			DH
	14	0405	0440	NO FLARE	PATROL											
MANI	14	0542	0607	0550	N05	E52	7771	25	1	1	0550	2.00	2.60			
KODA	14	0544 E	0547 D		N06	E52	7771	3 D	1	P		2.60	4.30			
	14	0620	0630	NO FLARE	PATROL											
CAPE	14	0729	0842	0743	N05	E51	7771	73	1	C	0743	1.10	1.70			
CATA	14	0730	0841	0745	N04	E50	7771	71	1		0745	2.78	4.47		170	E
MANI	14	0743 E	0806	0746	N05	E51	7771		1-	1	0746	.50	.65			
CATA	14	0820	0841	0823	S31	E45	7775		1-		0823	.44	.68		120	GH
WEND	15	1025 E	1038 D		N03	E29	7771		1-							
SACP	15	1556	1610	1602	N01	E29	7771		1-	C		.17	.17		17	
SACP	15	1948	2003	1954	N04	E27	7771		1-	C		.60	.62		17	
HUAN	15	1949	1956	1953	N03	E29	7771		1-	C	1953	.27	.31			E
HALE	15	2010	2045	2016	N03	E32	7771		1-	2	2016	.60	.60			F
SACP	15	2011	2047	2017	N03	E32	7771		1-	C		.34	.36		18	
HUAN	15	2012	2035	2016	N04	E33	7771		1-	C	2016	.21	.25			E
LOCK	15	2107	2147	2121	N05	E29	7771		1-	C	2121	1.20	1.20		20	
SACP	15	2109	2140	2115	N05	E30	7771	31	1	C		2.59	2.71		25	
CLMX	15	2109	2144	2118	N04	E31	7771		1-	C	2118	.90	1.00			
HALE	15	2110	2216	2115	N04	E30	7771	66	1	2	2115	2.50	2.50			
HUAN	15	2111	2138	2116	N04	E31	7771		1-	C	2116	1.10	1.31			E
HALE	15	2113	2117	2114	N01	E25	7771		1-	2	2114	.10	.10			H
CULG	15	2114 E	2139	2116	N04	E31	7771	25 D	2	P	2116	4.60	5.29			FL
LOCK	15	2214	2235	2224	N02	E29	7771		1-	C	2224	.60	.60		10	
LOCK	15	2310	2348	2325	N03	E29	7771		1-	C	2325	1.20	1.20		20	F
CLMX	15	2317	2329 D	2324	N04	E29	7771		1-	C	2324	1.30	1.00			
HALE	15	2317	2331	2323	N03	E28	7771	14	1	1	2323	2.10	2.10			F
MITK	15	2317	2332	2323	N05	E30	7771		1-	C						E
SACP	15	2317 E	2335	2324	N05	E29	7771		1-	C		1.38	1.43		22	
LOCK	15	2328	2348	2340	N22	E90	7781		1-	C	2340	.30	1.50		10	
SACP	15	2333	2347	2337	N23	E88	7781		1-	C		.34			17	
MITK	15	2333	2350	2341	N03	E30	7771		1-	C						E
HALE	15	2334	2349	2344	N03	E28	7771		1-	1	2344	2.00	2.00			FH
MITK	15	2350	0020	2357	N05	E28	7771	30	1	C						EH
MANI	15	2351	0039	2357	N05	E29	7771		1-	2	2357	1.50	1.50			
MANI	15			0026												
LOCK	15	2352	0021	2358	N05	E29	7771		1-	C	2358	1.30	1.30		20	
LOCK	15			0008												
HALE	15	2353	0015	2356	N04	E29	7771	22	1	1	2356	2.60	2.60			F
CLMX	15	2353	0016 D	2356	N04	E30	7771	23 D	1	C	2356	2.60	3.00			
SACP	15	2353	0018	2355	N05	E29	7771	25	1	C		2.85	2.97		30	
CULG	15	2353	2400 D		N04	E30	7771	7 D	2	P	2400	5.00	5.75			FL
IKOM	16	0012	0020 D		N03	E32	7771	8 D	1	V	0012	3.20	3.70		100	E
HALE	16	0023	0045 D	0028	N03	E29	7771		1-	1	0028	2.00	2.00			

SOLAR FLARES

APRIL 1965

OBSERVATORY	DATE APR 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER DIST	McMATH PLAGE REGION	DURATION MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH Hg	MAX. INT %	REMARKS
MITK	16	0023	0046	0030	N04	E30	7771		1-	C						E
CLMX	16	0024 E	0030 D		N04	E30	7771		1-	C	0028	1.20	1.00			
SACP	16	0024	0045	0029	N05	E29	7771	21	1	C		2.59	2.69		24	
CULG	16	0025	0044	0032	N04	E29	7771	19	1	C	0032	4.00	4.60			L
SIBE	16	0026	0041	0029	N04	E30	7771		1-	C	0029	2.30	1.33		44	CD
IKOM	16	0027 E	0039 D	0029	N03	E32	7771	12 D	1+	V	0029	4.60	5.30		120	E
SACP	16	0044	0106	0049	N22	E88	7781		1-	C		.21			18	
SACP	16	0050 U	0123 U	0101	N05	E29	7771		1-	C		1.26	1.31		22	
MITK	16	0058	0118	0104	N05	E30	7771		1-	C						E
HALE	16	0058 E	0143	0100	N05	E29	7771		1-	1	0100	1.00	1.00			F
IKOM	16	0100 E	0106 D	0103	N03	E32	7771	6 D	1	V					100	E
CLMX	16	0100 E	0108 D		N04	E29	7771		1-	C	0101	.50	1.00			
CULG	16	0100	0120	0103	N05	E30	7771	20	1	C	0103	2.00	2.30			L
SIBE	16	0102 E	0117	0103	N06	E31	7771		1-	C	0103	1.50	.89		40	CD
KODA	16	0408 E	[illegible]		N08	E24	7771		1	P		1.90	2.20			
CULG	16	0431	0518	0450	N04	E27	7771	47	1	C	0450	2.60	2.99			L
MITK	16	0436	0506	0451	N04	E26	7771		1-	C						D
CATA	16	0915	1122	1011	N04	E21	7771	127	2		1011	8.66	9.48		166	I
CAPS	16	0942	1105		N03	E22	7771	83	2	3	1012	6.20	6.70		208	EFJ
LOCK	16	2211	2230	2219	N18	E71	7781		1-	C	2219	.40	.90		10	
HALE	16	2212	2225 D	2219	N18	E70	7781		1-	1	2219	.20	.40			
CULG	16	2212	2233	2218	N18	E73	7781		1-	C	2218	.40	1.60			CGJ
SACP	16	2214	2300 U	2222	N18	E70	7781		1-	C		.47	.98		19	
CULG	17	0139	0152	0143	N04	E16	7771		1-	C	0143	.20	.21			L
MITK	17	0301	0313	0306	N06	E12	7771		1-	C						
SACP	17	1332	1339	1332	N05	E02	7771		1-	C		.21	.21		18	
SACP	17	1423	1456	1430	N04	E01	7771		1-	C		.21	.21		19	
KANZ	17	1430 E	1450 D		N02	E05	7771		1-							
HALE	17	2132	2215	2135	N22	E59	7781		1-	1	2135	.20	.30			
LOCK	18	1905	2030	1941	N20	E49	7781	85	1	C	1941	1.80	2.70		20	
SACP	18	1910	1945	1926	N20	E49	7781		1-	C		1.46	1.96		20	
MCMA	18	1912	1940	1925	N22	E50	7781		1-	2 C	1925	.90	1.60			EJ
CULG	18	2353	2400	2357	N55	W28			1-	C	2357	.20	.45			G
CULG	19	0340	0405	0350	N22	E43	7781		1-	C	0350	.80	1.24			G
HALE	19	1903	1958	1912	N04	W27	7771		1-	2	1912	.60	.60			L
LOCK	19	1905	1940	1915	N05	W24	7771		1-	C	1915	.80	.80		10	
MCMA	19	1909	1921	1913	N03	W23	7771		1-	1 C	1913	.30	.40			D
CLMX	19	1909	1935	1915	N09	W26	7771		1-	C	1915	.70	1.00			
MANI	20	0233	0305	0242	N05	W28	7771		1-	2	0242	.17	.17			
LOCK	21	0031	0052	0039	N20	E17	7781		1-	C	0039	.30	.30		20	L
SACP	21	0049	0117 U	0059 U	N19	E17	7781		1-	C		1.34	.36		17	
CULG	21	0120	0145	0131	N02	E18			1-	C	0131	.40	.42			CGL
HALE	21	0126	0200	0131	N02	E18			1-	1	0131	.20	.20			
HALE	21	0134	0200	0141	N19	E18	7781		1-	1	0141	.30	.30			
HALE	21	0134	0233	0148	N18	E17	7781		1-	1	0148	.50	.50			
LOCK	21	0135	0153 D	0149	N20	E17	7781		1-	C	0149	.50	.50		20	L

SOLAR FLARES

APRIL 1965

OBSERVATORY	DATE APR 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH Ha	MAX INT *,	REMARKS
WROC	13	0725 E	0850 D		S05	E50		85 D	1+							
HUAN	13	1503	1523		N06	E63	7771		1-	P	1516	.23	.47			E
CAPS	13	1504	1525 D		N04	E63	7771		1-	2	1518	.30	.70			EH
UCCL	13	1504	1525		N04	E65	7771		1-	3						E
MCMA	13	1505	1534		N07	E62	7771		1-	2 P	1507	.50	1.00			DH
	14	0405	0440	NO FLARE	PATROL											
MANI	14	0542	0607	0550	N05	E52	7771	25	1	1	0550	2.00	2.60			
KODA	14	0544 E	0547 D		N06	E52	7771	3 D	1	P		2.60	4.30			
	14	0620	0630	NO FLARE	PATROL											
CAPE	14	0729	0842	0743	N05	E51	7771	73	1	C	0743	1.10	1.70			
CATA	14	0730	0841	0745	N04	E50	7771	71	1		0745	2.78	4.47		170	E
MANI	14	0743 E	0806	0746	N05	E51	7771		1-	1	0746	.50	.65			
CATA	14	0820	0841	0823	S31	E45	7775		1-		0823	.44	.68		120	GH
WEND	15	1025 E	1038 D		N03	E29	7771		1-							
SACP	15	1556	1610	1602	N01	E29	7771		1-	C		.17	.17		17	
SACP	15	1948	2003	1954	N04	E27	7771		1-	C		.60	.62		17	
HUAN	15	1949	1956	1953	N03	E29	7771		1-	C	1953	.27	.31			E
HALE	15	2010	2045	2016	N03	E32	7771		1-	2	2016	.60	.60			F
SACP	15	2011	2047	2017	N03	E32	7771		1-	C		.34	.36		18	
HUAN	15	2012	2035	2016	N04	E33	7771		1-	C	2016	.21	.25			E
LOCK	15	2107	2147	2121	N05	E29	7771		1-	C	2121	1.20	1.20		20	
SACP	15	2109	2140	2115	N05	E30	7771	31	1	C		2.59	2.71		25	
CLMX	15	2109	2144	2118	N04	E31	7771		1-	C	2118	.90	1.00			
HALE	15	2110	2216	2115	N04	E30	7771	66	1	2	2115	2.50	2.50			
HUAN	15	2111	2138	2116	N04	E31	7771		1-	C	2116	1.10	1.31			E
HALE	15	2113	2117	2114	N01	E25	7771		1-	2	2114	.10	.10			H
CULG	15	2114 E	2139	2116	N04	E31	7771	25 D	2	P	2116	4.60	5.29			FL
LOCK	15	2214	2235	2224	N02	E29	7771		1-	C	2224	.60	.60		10	
LOCK	15	2310	2348	2325	N03	E29	7771		1-	C	2325	1.20	1.20		20	F
CLMX	15	2317	2329 D	2324	N04	E29	7771		1-	C	2324	1.30	1.00			
HALE	15	2317	2331	2323	N03	E28	7771	14	1	1	2323	2.10	2.10			F
MITK	15	2317	2332	2323	N05	E30	7771		1-	C						E
SACP	15	2317 E	2335	2324	N05	E29	7771		1-	C		1.38	1.43		22	
LOCK	15	2328	2348	2340	N22	E90	7781		1-	C	2340	.30	1.50		10	
SACP	15	2333	2347	2337	N23	E88	7781		1-	C		.34			17	
MITK	15	2333	2350	2341	N03	E30	7771		1-	C						E
HALE	15	2334	2349	2344	N03	E28	7771		1-	1	2344	2.00	2.00			FH
MITK	15	2350	0020	2357	N05	E28	7771	30	1	C						EH
MANI	15	2351	0039	2357	N05	E29	7771		1-	2	2357	1.50	1.50			
MANI	15			0026												
LOCK	15	2352	0021	2358	N05	E29	7771		1-	C	2358	1.30	1.30		20	
LOCK	15			0008												
HALE	15	2353	0015	2356	N04	E29	7771	22	1	1	2356	2.60	2.60			F
CLMX	15	2353	0016 D	2356	N04	E30	7771	23 D	1	C	2356	2.60	3.00			
SACP	15	2353	0018	2355	N05	E29	7771	25	1	C		2.85	2.97		30	
CULG	15	2353	2400 D		N04	E30	7771	7 D	2	P	2400	5.00	5.75			FL
IKOM	16	0012	0020 D		N03	E32	7771	8 D	1	V	0012	3.20	3.70		100	E
HALE	16	0023	0045 D	0028	N03	E29	7771		1-	1	0028	2.00	2.00			

SOLAR FLARES

APRIL 1965

OBSERVATORY	DATE APR 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq Deg.	CORR. AREA Sq Deg	MAX WIDTH Hα	MAX. INT °o	REMARKS
MITK	16	0023	0046	0030	N04	E30	7771		1-	C						E
CLMX	16	0024 E	0030 D		N04	E30	7771		1-	C	0028	1.20	1.00			
SACP	16	0024	0045	0029	N05	E29	7771	21	1	C		2.59	2.69		24	
CULG	16	0025	0044	0032	N04	E29	7771	19	1	C	0032	4.00	4.60			L
SIBE	16	0026	0041	0029	N04	E30	7771		1-	C	0029	2.30	1.33		44	CD
IKOM	16	0027 E	0039 D	0029	N03	E32	7771	12 D	1+	V	0029	4.60	5.30		120	E
SACP	16	0044	0106	0049	N22	E88	7781		1-	C		.21			18	
SACP	16	0050 U	0123 U	0101	N05	E29	7771		1-	C		1.26	1.31		22	
MITK	16	0058	0118	0104	N05	E30	7771		1-	C						E
HALE	16	0058 E	0143	0100	N05	E29	7771		1-	1	0100	1.00	1.00			F
IKOM	16	0100 E	0106 D	0103	N03	E32	7771	6 D	1	V					100	E
CLMX	16	0100 E	0108 D		N04	E29	7771		1-	C	0101	.50	1.00			
CULG	16	0100	0120	0103	N05	E30	7771	20	1	C	0103	2.00	2.30			L
SIBE	16	0102 E	0117	0103	N06	E31	7771		1-	C	0103	1.50	.89		40	CD
KODA	16	0408 E			N08	E24	7771		1	P		1.90	2.20			
CULG	16	0431	0518	0450	N04	E27	7771	47	1	C	0450	2.60	2.99			L
MITK	16	0436	0506	0451	N04	E26	7771		1-	C						D
CATA	16	0915	1122	1011	N04	E21	7771	127	2		1011	8.66	9.48		166	I
CAPS	16	0942	1105		N03	E22	7771	83	2	3	1012	6.20	6.70		208	EFJ
LOCK	16	2211	2230	2219	N18	E71	7781		1-	C	2219	.40	.90		10	
HALE	16	2212	2225 D	2219	N18	E70	7781		1-	1	2219	.20	.40			
CULG	16	2212	2233	2218	N18	E73	7781		1-	C	2218	.40	1.60			CGJ
SACP	16	2214	2300 U	2222	N18	E70	7781		1-	C		.47	.98		19	
CULG	17	0139	0152	0143	N04	E16	7771		1-	C	0143	.20	.21			L
MITK	17	0301	0313	0306	N06	E12	7771		1-	C						
SACP	17	1332	1339	1332	N05	E02	7771		1-	C		.21	.21		18	
SACP	17	1423	1456	1430	N04	E01	7771		1-	C		.21	.21		19	
KANZ	17	1430 E	1450 D		N02	E05	7771		1-							
HALE	17	2132	2215	2135	N22	E59	7781		1-	1	2135	.20	.30			
LOCK	18	1905	2030	1941	N20	E49	7781	85	1	C	1941	1.80	2.70		20	
SACP	18	1910	1945	1926	N20	E49	7781		1-	C		1.46	1.96		20	
MCMA	18	1912	1940	1925	N22	E50	7781		1-	2 C	1925	.90	1.60			EJ
CULG	18	2353	2400	2357	N55	W28			1-	C	2357	.20	.45			G
CULG	19	0340	0405	0350	N22	E43	7781		1-	C	0350	.80	1.24			G
HALE	19	1903	1958	1912	N04	W27	7771		1-	2	1912	.60	.60			L
LOCK	19	1905	1940	1915	N05	W24	7771		1-	C	1915	.80	.80		10	
MCMA	19	1909	1921	1913	N03	W23	7771		1-	1 C	1913	.30	.40			D
CLMX	19	1909	1935	1915	N09	W26	7771		1-	C	1915	.70	1.00			
MANI	20	0233	0305	0242	N05	W28	7771		1-	2	0242	.17	.17			
LOCK	21	0031	0052	0039	N20	E17	7781		1-	C	0039	.30	.30		20	L
SACP	21	0049	0117 U	0059 U	N19	E17	7781		1-	C		1.34	.36		17	
CULG	21	0120	0145	0131	N02	E18			1-	C	0131	.40	.42			CGL
HALE	21	0126	0200	0131	N02	E18			1-	1	0131	.20	.20			
HALE	21	0134	0200	0141	N19	E18	7781		1-	1	0141	.30	.30			
HALE	21	0134	0233	0148	N18	E17	7781		1-	1	0148	.50	.50			
LOCK	21	0135	0153 D	0149	N20	E17	7781		1-	C	0149	.50	.50		20	L

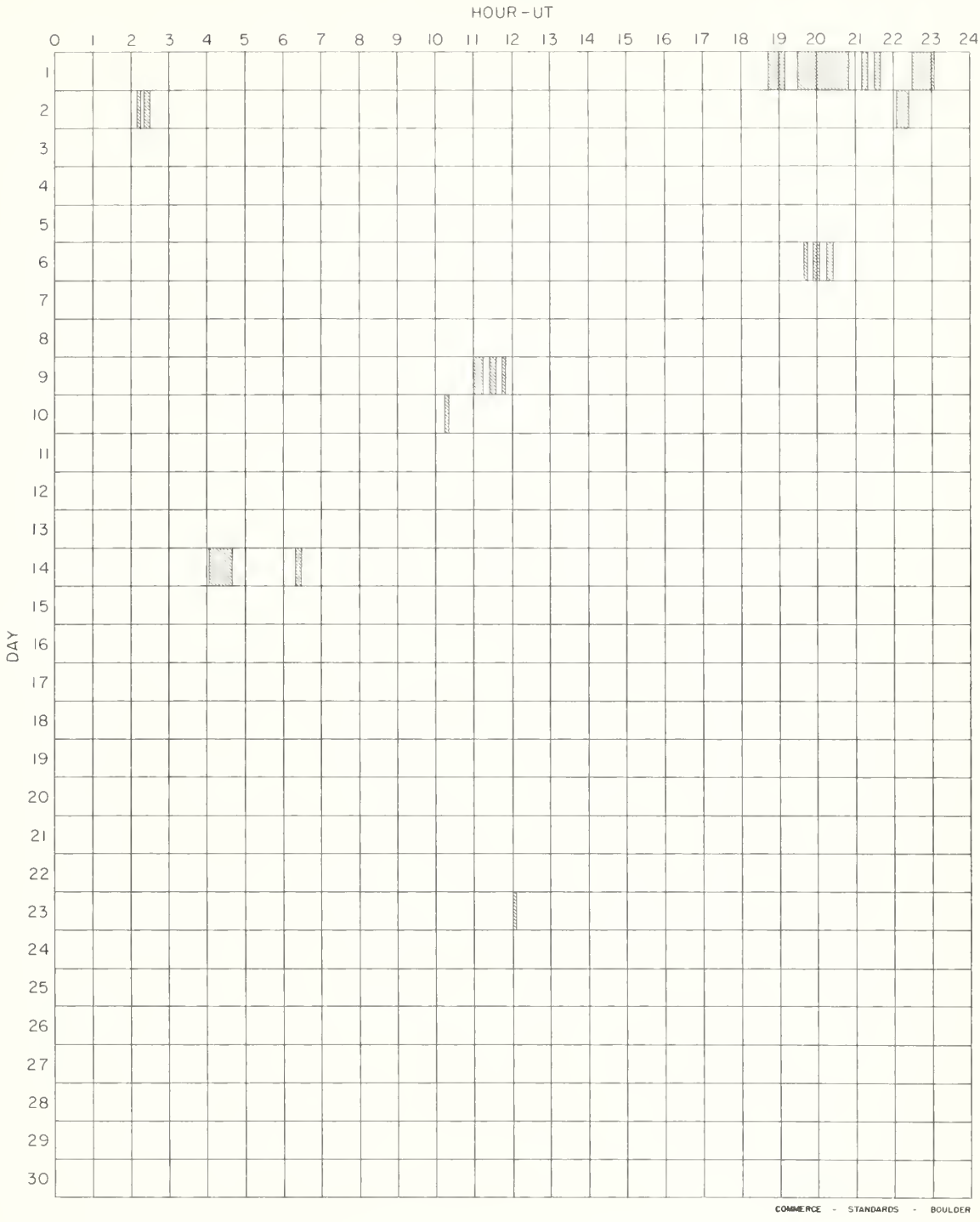
SOLAR FLARES

APRIL 1965

OBSERVATORY	DATE APR 1965	OBSERVED UNIVERSAL TIME START	END	MAX PHASE	LOCATION APPROX LAT.	MER DIST	McMATH PLAGE REGION	DURATION — MINUTES	IM PORTANCE	OBS COND.	MEASUREMENTS TIME — U T	MEAS AREA Sq Deg	CORR. AREA Sq Deg	MAX WIDTH Hα	MAX INT °o	REMARKS
HALE	21	0319	0415	0329	N21	E18	7781		1-	2	0329	1.00	1.00			F
CULG	21	0428	0453	0435	N18	E16	7781		1-	C	0435	.20	.22			GL
CATA	21	0635 E	0730	0640	N18	E14	7781		1-		0640	.94	1.06		132	EH
ATHN	21	0657 E	0702		N19	E19	7781		1-	2	0657	.30	.30			
SACP	21	1336	1402	1344	N22	W40	7779		1-	C		.25	.31		19	
OTTA	21	1343 E	1349 D		N21	W40	7779		1-	P	1345	.8	.9			
CULG	22	0353	0403	0356	N17	W02	7781		1-	C	0356	.20	.21			H
CATA	23	0725	0800	0748	N23	W65	7779		1-		0748	.16	.39		129	G
ATHN	23	0823 E	0833		N17	W16	7781		1-	2	0824	.50	.50			
	23	1200	1205	NO FLARE	PATROL											
CULG	23	2202	2215	2204	N30	W48			1-	C	2204	.20	.36			CH
OTTA	25	1456	1544 D		S05	W23	7785		1-	P	1533					
CAPS	25	1532	1558		S05	W22	7785	26	1-	3	1545	.60	.70		208	DGH
CLMX	25	1533	1600	1551	S01	W24	7785		1-	C	1551	.50	1.00			
LOCK	25	1545 E	1600	1545 U	S06	W22	7785		1-	C	1545	.20	.20		10	L
CAPF	25	1554 E	1607		S03	W23	7785		1-	2	1555	.33	.36			H
WROC	26	0905 E	0920 D	0905	S03	W38	7785	15 D	1							
ARCE	26	0935 E	0957 D		S05	W34	7785		1-	2	0957	.90	1.10			
WROC	27	0850 E	0915 D	0850	S05	W48	7785	25 D	1							
HALE	27	1904	1925 D	1907	S06	W52	7785		1-	2	1907	.20	.30			
MCMA	27	1905	1915 D		S06	W53	7785		1-	1 C	1908	.30	.50			S
CULG	28	0628	0632 D		N27	W38			1-	P	0632	.20	.30			CG
KAND	29	0930	0948 D		S23	W73	7790		1-	D						
KAND	29	1150 E	1200		S23	W73	7790		1-	D						
MCMA	29	1748	1759	1751	S24	W85	7790		1-	2 C	1751	.20				D
MCMA	29	1805	□		S24	W85	7790		1-	2 C	1819	.20				DK
HALE	29	1816 E	1829	1821	S03	W88	7785		1-	2	1821	.40				
SACP	29	1817	1826 D	1819	S04	W82	7785		1-	C		.34	1.01		18	
CLMX	29	1817	1830	1819	S03	W85	7785		1-	C	1819	.40	1.00			
MCMA	29	1817	1835		S24	W85	7790		1-	2						DK
HALE	29	1843	1906	1857	S03	W88	7785		1-	2	1857	.30				
HALE	29	1845	1850	1847	S25	W80	7790		1-	1	1847	.20				
MCMA	29	1851	1910		S24	W85	7790		1-	2 C	1855	.20				D

INTERVALS OF NO FLARE PATROL OBSERVATIONS

APRIL 1965



Stations included:

Abastumani	Capri-S (Swedish)	Herstmonceux	Kiev-Ko	Mitaka	Tachkent
Arcetri	Catania	Huancayo	Kodaikanal	Nizamiah	Tortosa
Athenes	Climax	Ikomasan	Locarno	Ondrejov	Uccle
Bakou	Crimee	Istanboul	Lockheed	Ottawa	Voroshilov
Bucharest	Culgoora	Izmiran	Lvov	Sacramento Peak	Wendelstein
Capetown	Haleakala	Kandilli	Manila	Salonique	Wroclaw
Capri-F (German)	Haute-Provence	Kanzelhöhe	McMath-Hulbert	Siberie	Zürich

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS — SUDDEN PHASE ANOMALIES
SUDDEN COSMIC NOISE ABSORPTION — SUDDEN ENHANCEMENTS OF SIGNAL
SUDDEN ENHANCEMENTS OF ATMOSPHERICS — SUDDEN FREQUENCY DEVIATIONS
SOLAR NOISE BURSTS AT 18 Mc/s

JUNE 1965

JUN 1965	UNIVERSAL TIME			TYPE SWF	IMPORTANCE						BUR	WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX	IMP	ABS	SCNA	SEA	SPA	SES	SFD				
02	1336	1342	1337							004		1	BO(WWV10-0.4,WWV15-0.3)	1335
03	2130	2133									1	5	BO HA	
-05	1808D	1830	1809							110		1	BO(WWV10-11.0,WWV15-2.9	1807
-05	1808D	1830	1809										KKE4-1.3,KKE3-0.5)	
-05	1808	1850	1815					50				5	BO(GBR16-50,NSS8B-20)	
-05	1808	1850	1815										HA(WWVL)	
-05	1809	1847	1816		25	1						5	BO HA MC	
-05	1810	1840	1815	SL 2								5	MC AN BE BO FM HU	
-05	1810	1848					1					5	HA BO MC	
-05	1812	1816									1+	5	MC BO HA	
-05	1821	1825									1	4	BO MC	
-05	1826	1834									1	4	MC BO (SERIES)	
08	2149	2257									2	4	MC BO (NOISE STORM)	
-09	0607	0722	0652	G 1								1	MA	0600E
-09	0631	0705	0641					25				1	MA(NPG18-25)	
-09	0640	0730	0647				1					1	AR	
09	1401	1403									1	4	BO MC	
10	0056	0058									1	5	HA MA	
-13	0300	0431	0332					40				1	MA(NPG18-40)	0300E
-13	0300	0435		G 1+								5	CA OK MA	
20	0116	0118									1	5	MA HA	
20	0131	0134									1	5	HA MA	
23	1535	1538									1	4	MC BO	
23	1803	1806									1	5	MC BO HA	
25	1722	1724									1	4	BO MC	
28	1718	1722									1	4	BO MC	
28	1833	1836									1	4	BO MC	
30	1810	1814									1+	4	MC BO	
30	1814	1817									1+	4	MC BO	

COMMERCE - STANDARDS - BOULDER

No SCNA, SEA, Burst reports received from Rome.
AR=Arcetri

JUNE 1965

GREAT WHALE RIVER 30 Mc/s

JUN. 1965	START UT	END UT	MAX. UT	MAX. ABSORP. db, (tenths)	NO. OF PEAKS	JUN. 1965	START UT	END UT	MAX. UT	MAX. ABSORP. db, (tenths)	NO. OF PEAKS
1	0438	1102	0925	7	1	16	0020	2016	1013	90	8
3	1846	2044	1904	20	2	17	2350	0638	0525	34	9
4	0404	1920	1117	25	3	19	0040	0228	0134	7	1
5	0120	0532	0421	36	3	20	2350	0042	0014	9	2
6	0344	0452	0348	6	2	22	0040	0342	0056	15	3
6	1019	2252	1130	14	3	22	0828	1306	0929	12	1
7	0052	0718	0355	6	3	23	0046	0112	0056	5	1
8	0422	1722	1350	14	2	24	0010	0156	0112	7	2
8	2000	2207	2035	8	3	25	1526	2200	1925	25	4
9	0210	3018	1834	24	7	26	0056	0420	0234	5	2
10	1658	1802	1725	3	1	26	0707	1348	1143	8	1
13	0822	1514	1117	12	1	27	0242	1548	0300	29	6
14	0410	0638	0431	9	3	28	0358	0628	0403	7	2
14	2024	2152	2112	10	1	29	0333	1752	0740	13	3
15	0221	2254	1138	15	3	30	0150	July 3 1020	July 1 0857	28	29

SOLAR NOISE OBSERVATIONS

JULY 1964 — MARCH 1965

PENNSYLVANIA STATE UNIVERSITY

10700, 2700, 960, 328 Mc/s

Date	FREQ-UENCY	TYPE	STARTING TIME	TIME OF MAX	DURA-TION	FLUX DENSITY $10\text{-}22_{wm}\text{-}2$ (c/s)-1	
			UT	UT	MINUTES	PEAK	MEAN
1964							
Dec. 31	3035	S	1723.2	1724.5	2.3	5.02	4.5
Dec. 31	3035	p.i.	1725.5	1725.6	24.5	4.55	4.3
1965							
Feb. 5	10700	simple 3	1751.2	1815.0	33.7	8.4	8.25
Feb. 5	10700	simple 3	1824.9	1831.4	49.6	8.4	8.21
Feb. 5	2690	simple 3	1754.0	1810.0	22.3	3.4	3.26
Feb. 5	2690	simple 3	1816.3	1831.8	63.7	3.9	3.49
Mar. 3	2690	eS, simple 3	1756.0	1756.1	120	3.4	1.5

COMMERCE - STANDARDS - BOULDER

Originally the radiometers were on 9,300 Mc/s and 3,035 Mc/s. The latter began operation in July 1964 and the former in August 1964. The 960 Mc/s receiver began in August 1964, and was off air from December 7, 1964 through March 31, 1965. In January 1965 the 9,300 Mc/s was changed to 10,700 Mc/s and the 3,035 Mc/s to 2,700 Mc/s.

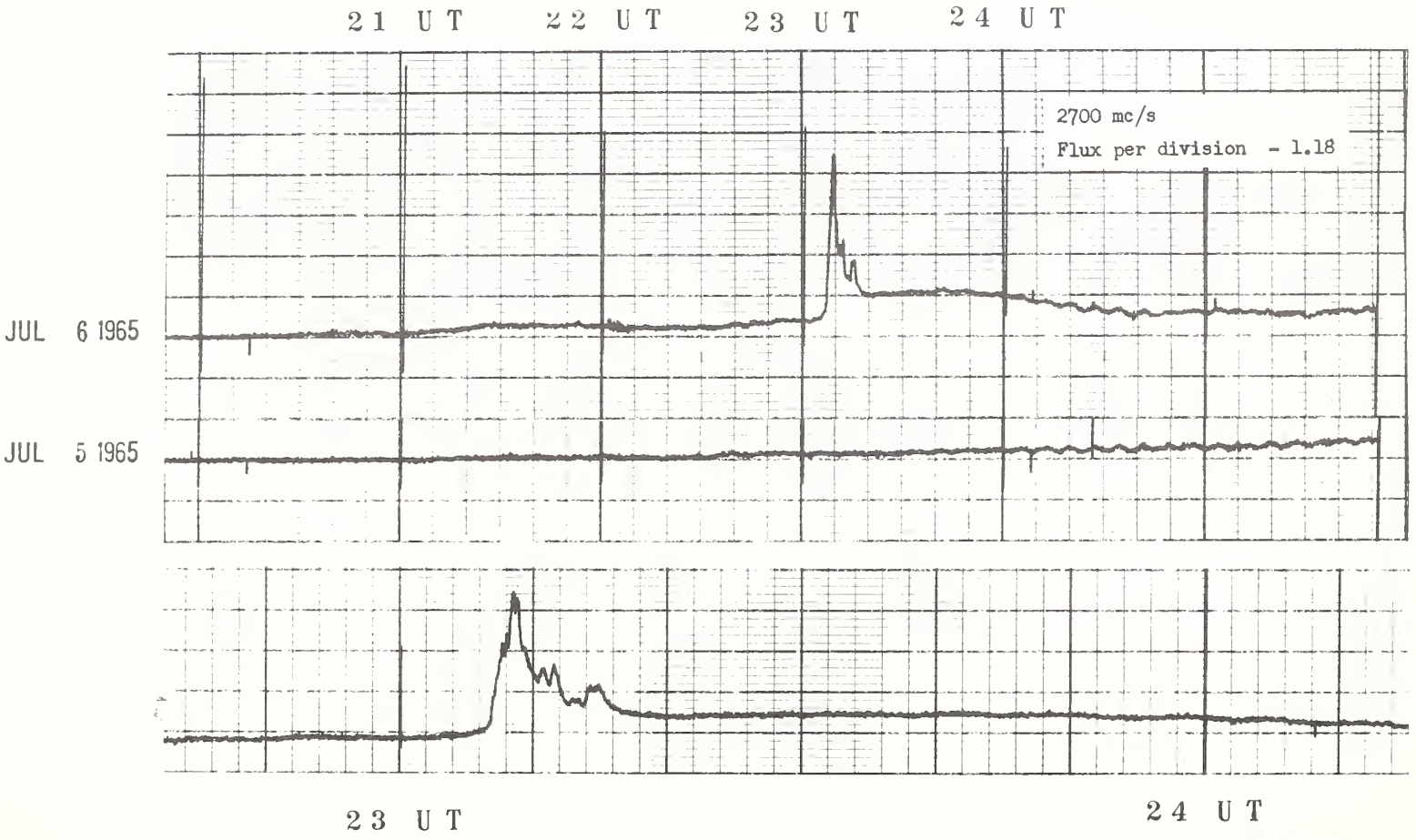
SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1965

ARO-OTTAWA 2800 Mc/s
DRAO-PENTICTON 2700 Mc/s

JUL 1965	URANE	DESCRIPTIVE TYPE	START UT	DURATION HRS. MIN	MEAN FLUX	MAXIMUM TIME	MAXIMUM FLUX	REMARKS
1	3	Simple 3	1910	2 00	0.3	1932	0.6	
6	3	Simple 3	1550	40	0.3	1558	0.6	
6	-	Rise	2105	> 4 45		Indet.	1.0	
	3	Simple 3A	2304	1 38	2.0	2342	4.0	Illustrated
	2	Simple 2F	2307	12	7.0	2308.3	22.0	
10	1	Simple 1	2349	02	0.4	2350	0.8	
14	-	Rise	1900	7 00		Indet.	2.6	
	1	Simple 1F	2143	02	1.5	2144	3.0	
	4	Post B.I.	2145	1 15	1.3		2.6	

SELECTED 2700 Mc/s SOLAR NOISE BURSTS
DRAO-PENTICTON, CANADA



COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

JUNE 1965

BOEING - SEATTLE 223 Mc/s

June 1965	Type of Event	Start UT	End UT	Max UT	Flux Density at Time of Maximum $10^{-22}Wm^{-2}(cps)^{-1}$
1	Noise storm	1915	0130*		
5	Series of bursts	1620	1810	1623.2	21
5	Major burst	1811.5	1832.4	1813.5	865
5	Rise in base level	1908.3	1116.7		
5	Rise in base level	1937.4	1147.7		
6	Series of bursts	1605	1855	1853.5	290
7	Noise storm	0020	0240		
12	Groups of bursts	1750	1756	1751.4	81
25	Minor burst	1943	1944.2	1943.5	7

COMMERCE - STANDARDS - BOULDER

* June 4, 1965

Note: The equipment was down from June 26, 2230UT to June 28, 0230UT.

Normal observing hours were from 1600UT to 0230UT.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1965

NBS BOULDER 108 Mcs

July 1965	TYPE	START UT	TIME OF MAXIMUM UT	DURATION MINUTES	INTENSITY
8	6	1144E	1345	185D	1

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

JULY 1965

NBS BOULDER 108 Mcs

July 1965	HOURS OF OBSERVATION U.T.	HOURS OF INTERFERENCE U.T.	July 1965	HOURS OF OBSERVATION U.T.	HOURS OF INTERFERENCE U.T.
1	1140-0210		17	1150-0206	2305-0206
2	1140-0210	0000-0210	18	1151-0205	2212-0205
3	1141-0209		19	1152-0204	2300-0204
4	1141-0209	0026-0209	20	1152-0204	1737-0204
5	1142-0209		21	1153-0203	1859-0203
6	1142-0208		22	1154-0202	1835-0202
7	1143-0208	2314-0208	23	1155-0201	1825-0201
8	1144-0208	2045-0130	24	1156-0201	1710-0201
9	1144-0208	2107-2313; 0028-0132	25	1157-0200	2107-0200
			26	1157-0159	2104-0033
10	1144-0208	2115-0110			
			27	1158-0159	1158-1400; 2219-0159
11	1145-0207	0033-0207			
12	1146-0207	2126-0207	28	1159-0158	0135-0143; 0153-0158
13	1147-0207				
14	1148-0207	1757-1843	29	1200-0157	
15	1148-0207		30	1201-0156	2024-2215
			31	1202-0155	2140-0018; 0046-0125
16	1149-0206	2305-0158			

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

JUNE 1965

HALEAKALA 107 Mc/s

June 1965	TYPE	START UT	TIME OF MAXIMUM UT	DURATION MINUTES	INTENSITY
5	9A 9B	1812.5 1820	1813.5 1826	1.9 11	3 2

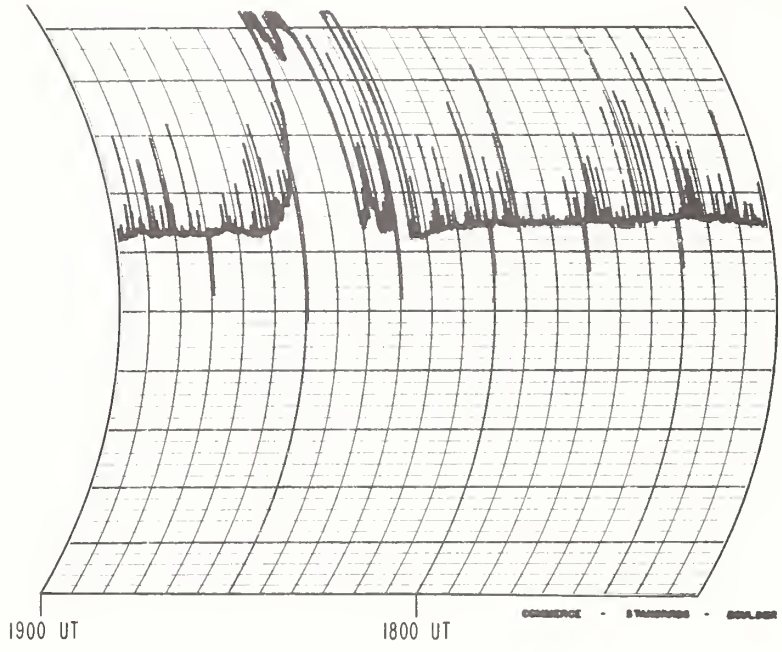
COMMERCE - STANDARDS - BOULDER

Normal observing hours are from sunrise to sunset which for June is on the average from 1543UT to 0507UT.
No observations were made June 4, 1700UT to June 5, 0030UT.

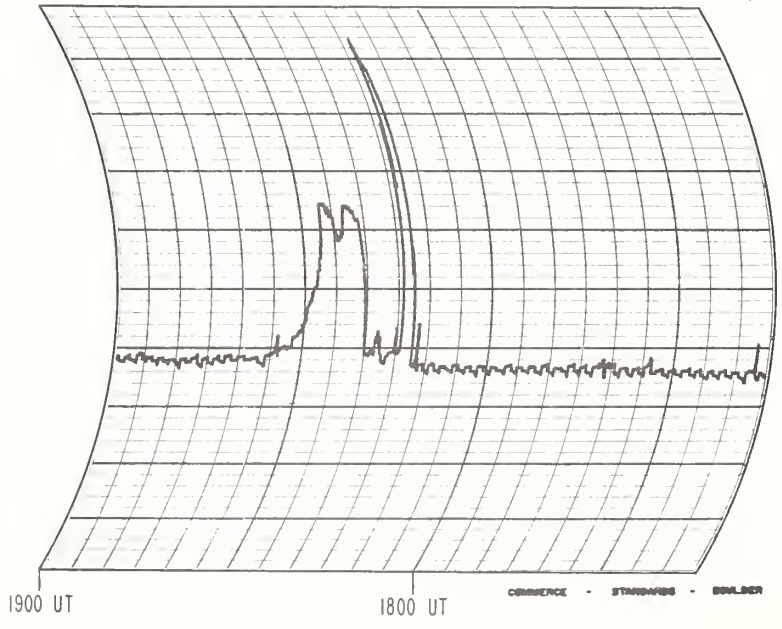
SOLAR NOISE BURSTS

JUNE 5, 1965

BOULDER 108 Mc/s



HALEAKALA 107 Mc/s



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1965 – MAY 1965

Fort Davis

25-320 Mc/s

1965	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U.T	INT		
Apr. 1	1302 - 2330					
Apr. 2	1302 - 2300					
Apr. 3	1303 - 2300					
Apr. 4	1302 - 2300					
Apr. 5	1303 - 2300					
Apr. 6	1303 - 2300					
Apr. 7	1302 - 2300					
Apr. 8	1303 - 2300					
Apr. 9	1303 - 2300					
Apr. 10	1303 - 2300					
Apr. 11	1303 - 2300					
Apr. 12	1303 - 2305					
Apr. 13	1303 - 2300					
Apr. 14	1302 - 2300					
Apr. 15	1303 - 2300					
Apr. 16	1303 - 2300					
Apr. 17	1303 - 2330					
Apr. 18	1303 - 2300					
Apr. 19	1303 - 2300					
Apr. 20	1303 - 2300					
Apr. 21	1303 - 2300					
Apr. 22	1304 - 2300					
Apr. 23	1304 - 2300					
Apr. 24	1303 - 2300					
Apr. 25	1303 - 2300					
Apr. 26	1305 - 2300					
Apr. 27	1304 - 2300					
Apr. 28	1303 - 2300					
Apr. 29	1304 - 2300					
Apr. 30	1303 - 2300					
May 1	1304 - 2300	IIIG	1427 - 1429	2	75-<25	
		II	1431.8- 1435	3	240-120	
May 2	1303 - 2300					
May 3	1304 - 2300					
May 4	1303 - 2300					
May 5	1303 - 2300					
May 6	1304 - 2300					
May 7	1305 - 2300					
May 8	1304 - 2300					
May 9	1304 - 2300					
May 10	1304 - 2330					
May 11	1305 - 2300					
May 12	1303 - 2300					
May 13	1304 - 2300					
May 14	1304 - 2300					
May 15	1303 - 2300					
May 16	1304 - 2300					
May 17	1303 - 2300	IIIG	1816 - 1817	2	175-<25	
May 18	1304 - 2300					
May 19	1304 - 2300	IIIG	1406 - 1410	2	200-<25	
		IIIG	1538 - 1539	3	220-<25	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1965 — JUNE 1965

Fort Davis

25-320 Mc/s

1965	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U.T	INT		
May 20	1303 - 2300					
May 21	1304 - 2300					
May 22	1303 - 2300					
May 23	1304 - 2300	IIIG	1717 - 1720	3	175-<25	
		IIIG	1747 - 1750	2	180-<25	
		IIIG	1807 - 1810	2-3	200-<25	
		IIIG	1906 - 1910	3+	230-<25	
		IIIG	1927 - 1929	2	80-<25	
May 24	1304 - 2300					Weak I during day
May 25	1303 - 2300	IIIG	2006 - 2010	2-3	180-<25	
		IIIG	2120 - 2122	2	80-<25	
		IIIG	2200 - 2202	2-3	180-<25	
		IIIG	2209 - 2211	2-3	190-<25	
		IIIG	2241 - 2245	3	300-<25	2243-45: Type V
		I	2252 - 2255	2	75-<50	Weak I during day
May 26	1304 - 2300					
May 27	1304 - 2300					
May 28	1304 - 2300	IIIG	1850 - 1852	2-3	160-<25	
May 29	1303 - 2300					
May 30	1303 - 2300					
May 31	1304 - 2300					
June 1	1233 - 2230					
June 2	1233 - 2230					
June 3	1223 - 2230					
June 4	1234 - 2230					
June 5	1234 - 2230	I	1811.5- 1813	2	180-120	
		IIIG	1813 - 1816	3	250-<25	1813-1815: Type V
		II	1817.7- 1825	3	105-<25	
		IV	1821-1829	2	<300-100	
June 6	1234 - 2230					
June 7	1234 - 2230					
June 8	1234 - 2230					
June 9	1234 - 2230					
June 10	1234 - 2230					
June 11	1234 - 2230					
June 12	1234 - 2230					
June 13	1234 - 2230					
June 14	1234 - 2230					
June 15	1235 - 2228					
June 16	1236 - 2230					
June 17	1233 - 2230					
June 18	1234 - 2230					
June 19	1234 - 2230					
June 20	1234 - 2230					
June 21	1234 - 2230					
June 22	1234 - 2230					
June 23	1234 - 2230					
June 24	1234 - 2230					
June 25	1234 - 2230					
June 26	1512 - 2230					
June 27	1234 - 2230					
June 28	1234 - 2230					
June 29	1445 - 2230					
June 30	1237 - 2230					

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1965

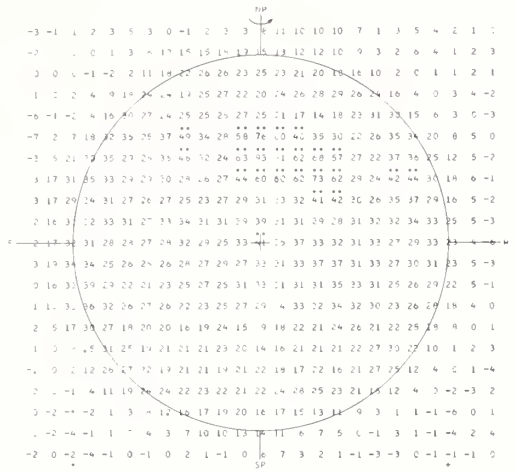
High Altitude Observatory
Boulder

7.6-41 Mc/s

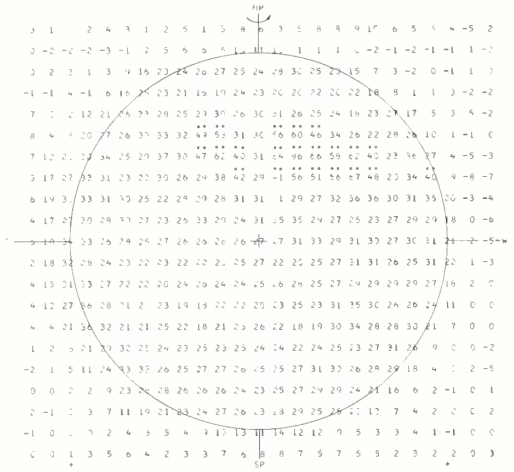
Date July 1965	Bursts			Frequency Range (Mc/s)	Date July 1965	Bursts			Frequency Range (Mc/s)
	Type	Time (U.T.)	Intensity			Type	Time (U.T.)	Intensity	
6 Jul	III	2240:30-2242:45	1+	12-37	9 Jul	III	1705-1705:30	1-	23-37
8	III	1216:30-1217	1-	17-30		III	1706:30-1707:15	2	8-41
	III	1255:30-1256:30	1+	19-41		III	1708:15-1708:30	1-	19-41
	III	1449-1449:15	1	23-33		III	1712:15-1712:30	1-	24-32
	III	1453:45-1454	1	28-35		no observ.	1730-2030		
	III	1533-1533:15	1-	19-33		III	2142:15-2142:30	1-	20-38
	III	1540:45-1541	1-	22-30		III	2252:45-2254	1-	21-41
	III	1932-1932:30	1	22-39		III	2318:45-2319:15	1+	20-41
	III	2036:30-2037	1-	23-34		III	2329:30-2329:45	1-	22-41
	III	2038:15-2038:30	1-	26-36	10	III	0009:15-0009:45	1	22-41
	III	2040:15-2040:30	1-	25-31		III	0020:30-0020:45	1-	22-41
	III	2117:45-2118:15	1-	23-32		III	0023:30-0024	1-	22-41
	III	2142-2142:30	1	21-41		III	1827:15-1827:45	1-	22-41
	III	2201:45-2202:15	1	21-32	11	III	1510:45-1511:30	2+	8-41
	III	2311-2314	3	11-41		III	1511:45-1512:30	1+	18-41
	III	2320:15-2320:45	1-	23-28		III	1512:45-1513:15	2+	14-41
9	III	0011:45-0012	1-	22-30		III	1514:15-1515:30	1	23-41
	III	0014-0014:15	1	22-32		III	1516:45-1518	1+	19-41
	III	0022:45-0023:15	1	2 -41		continuum	1913-1934	1-	20-41
	III	1444:30-1445	1+	13-41		III	1921:30-1922	1-	16-41
	III	1509:15-1509:30	1-	24-41		III	2225:15-2226	1-	22-31
	III	1512-1512:45	1	24-41	13	III	1733:15-1733:45	1	25-41
	III	1522:30-1522:45	1-	26-41	14	III	1949:45-1950:15	1-	18-41
	III	1524:30-1524:45	1-	30-41		III	2145-2145:30	1+	20-41
	III	1542:15-1542:30	1-	26-41		III	2146:15-2147:30	2	9-41
	III	1543:15-1543:30	1-	26-41		continuum	2147:30-2204	1-	24-41
	III	1616-1616:15	1-	26-30		III	2148:30-2149:30	1	16-41
	III	1618:45-1619:15	2	7-41		III	2153-2153:30	1-	21-41
	III	1629:15-1629:30	1-	34-36		III	2158:15-2158:45	1	21-41
	III	1633-1633:15	1-	20-41		III	2319:45-2320:30	1	16-41
	III	1634:15-1634:30	1	22-37		III	2352:45-2353:15	1-	23-34
	III	1637:45-1638	1-	19-33	15	III	0002:30-0002:45	1-	24-41
	III	1649:45-1650:30	1	26-41	18	III	1417:45-1418:15	1	20-41
	III	1701-1701:15	1	22-37		III	1421:45-1422	1-	26-38
	III	1702:30-1702:45	1-	28-41	25	III	2219:15-2220	1	16-41
					31	no observ.	1800-2100		

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

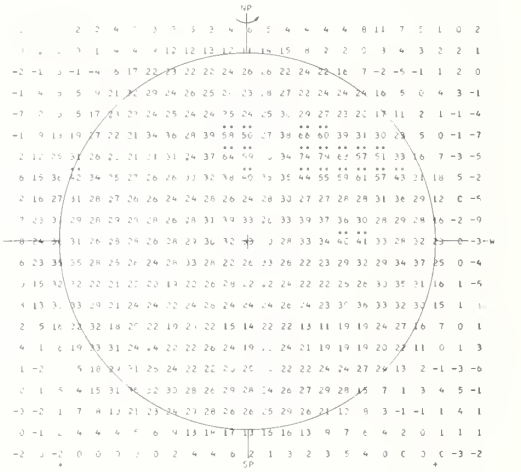
STANFORD — **JULY 1965** — **9.1 cm**



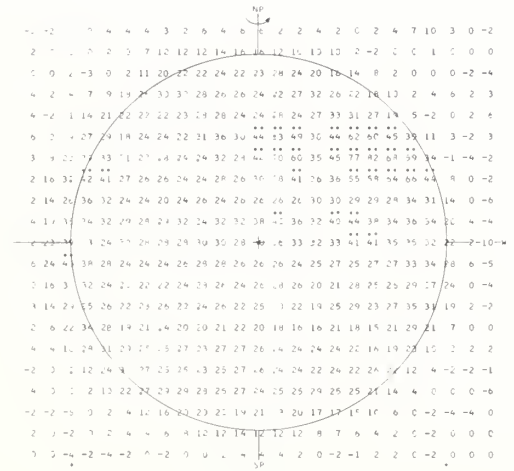
9.1 CM SPECTROHELIOGRAM
STANFORD, 01 JUL 1965 23-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



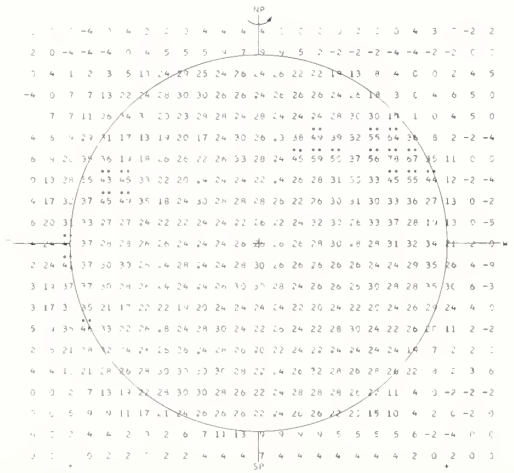
9.1 CM SPECTROHELIOGRAM
STANFORD, 02 JUL 1965 20-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



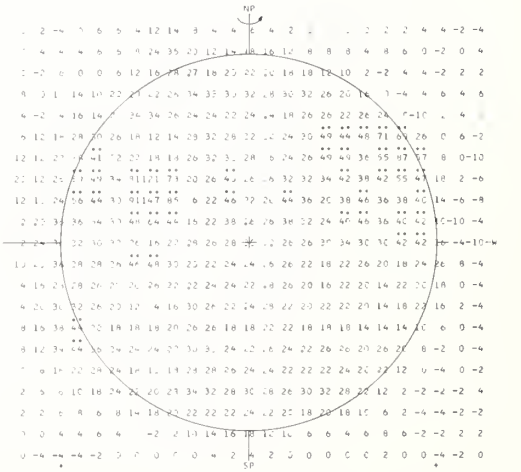
9.1 CM SPECTROHELIOGRAM
STANFORD, 03 JUL 1965 20-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



9.1 CM SPECTROHELIOGRAM
STANFORD, 04 JUL 1965 23-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



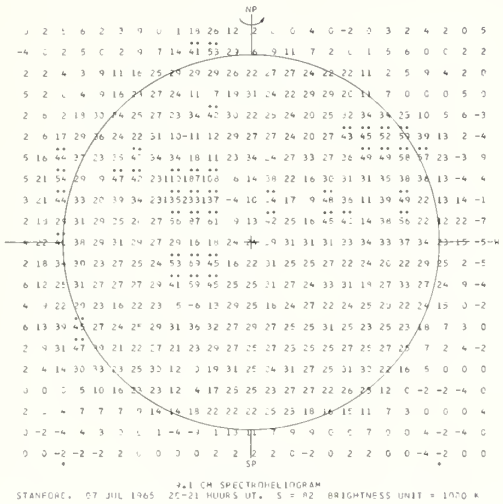
9.1 CM SPECTROHELIOGRAM
STANFORD, 7 JUL 1965 23-21 HOURS UT. S = 75 BRIGHTNESS UNIT = 1000 K



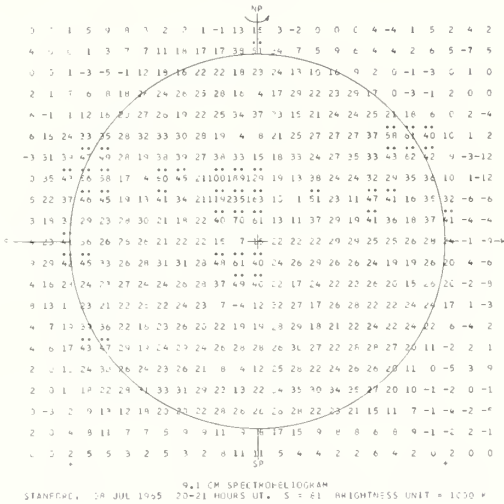
9.1 CM SPECTROHELIOGRAM
STANFORD, 06 JUL 1965 20-21 HOURS UT. S = 79 BRIGHTNESS UNIT = 1000 K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

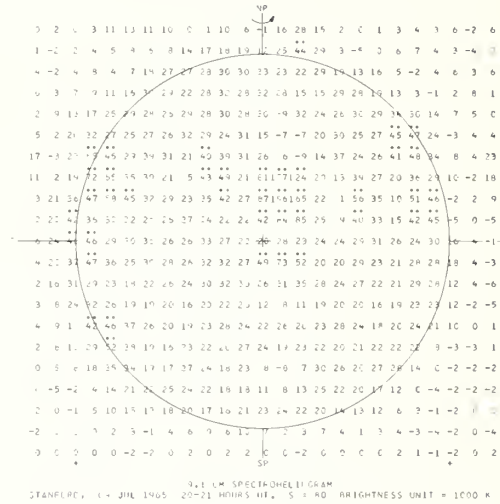
STANFORD — JULY 1965 — **9.1 cm**



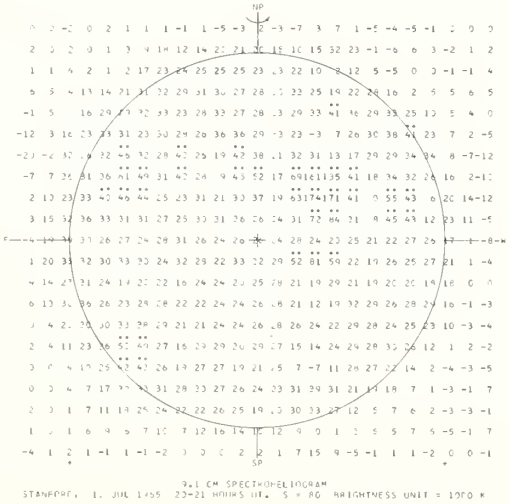
9.1 CM SPECTROHELIOGRAM
STANFORD, 07 JUL 1965 20-21 HOURS UT. S = 82 BRIGHTNESS UNIT = 1000 K



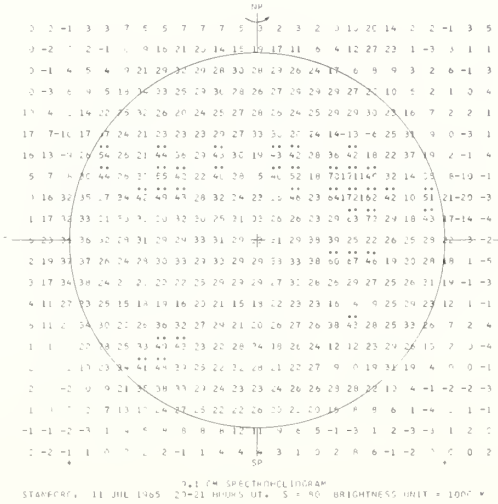
9.1 CM SPECTROHELIOGRAM
STANFORD, 08 JUL 1965 20-21 HOURS UT. S = 81 BRIGHTNESS UNIT = 1000 K



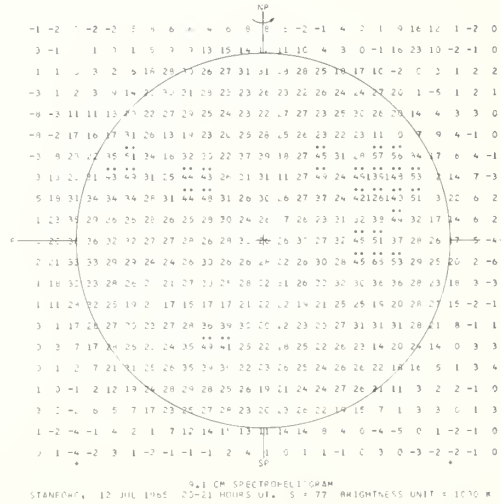
9.1 CM SPECTROHELIOGRAM
STANFORD, 09 JUL 1965 20-21 HOURS UT. S = 80 BRIGHTNESS UNIT = 1000 K



9.1 CM SPECTROHELIOGRAM
STANFORD, 10 JUL 1965 20-21 HOURS UT. S = 80 BRIGHTNESS UNIT = 1000 K



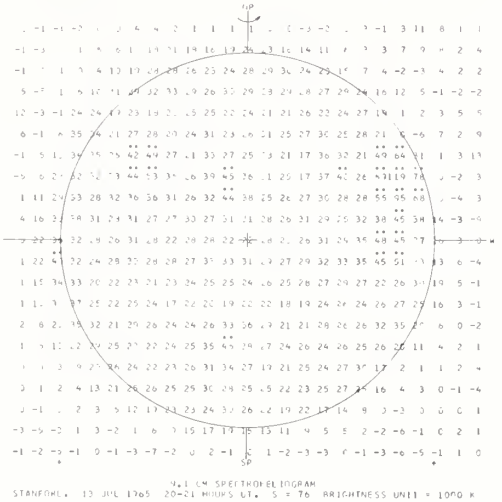
9.1 CM SPECTROHELIOGRAM
STANFORD, 11 JUL 1965 20-21 HOURS UT. S = 80 BRIGHTNESS UNIT = 1000 K



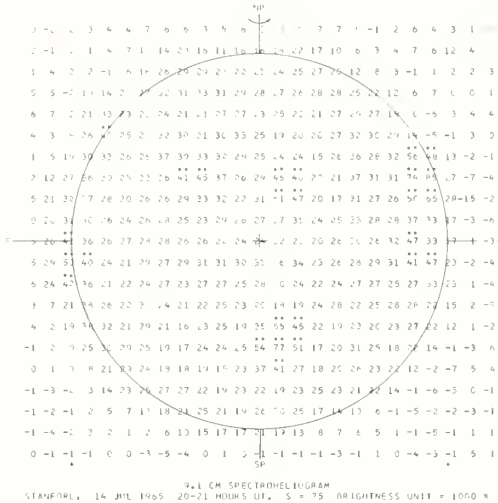
9.1 CM SPECTROHELIOGRAM
STANFORD, 12 JUL 1965 20-21 HOURS UT. S = 77 BRIGHTNESS UNIT = 1000 K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

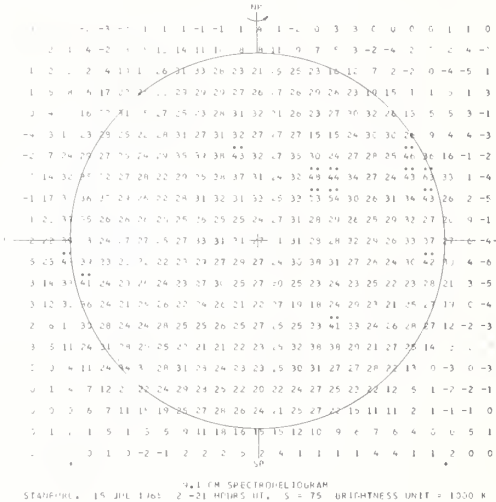
STANFORD — **JULY 1965** — **9.1 cm**



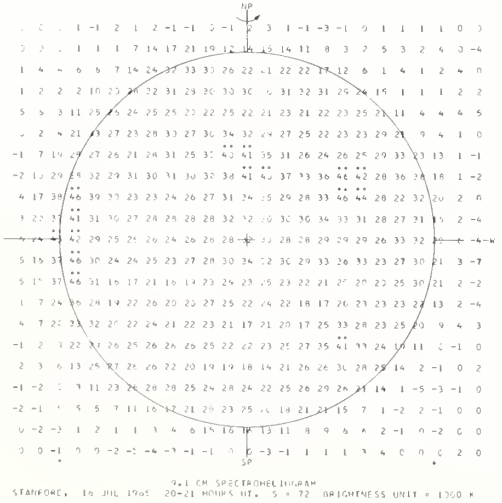
9.1 CM SPECTROHELIOGRAM
STANFORD, 13 JUL 1965 20-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



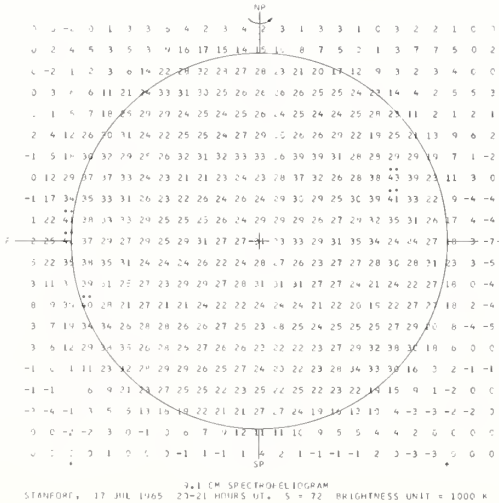
9.1 CM SPECTROHELIOGRAM
STANFORD, 14 JUL 1965 20-21 HOURS UT. S = 75 BRIGHTNESS UNIT = 1000 K



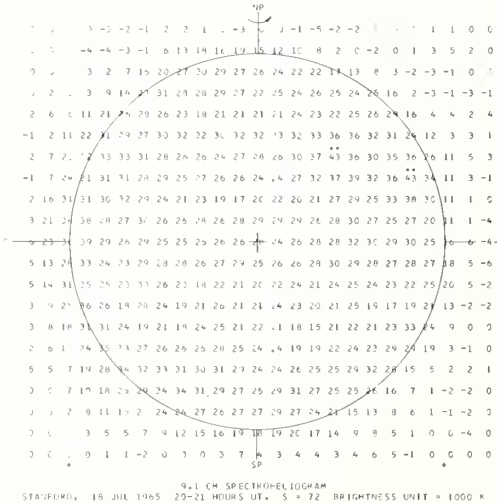
9.1 CM SPECTROHELIOGRAM
STANFORD, 15 JUL 1965 20-21 HOURS UT. S = 75 BRIGHTNESS UNIT = 1000 K



9.1 CM SPECTROHELIOGRAM
STANFORD, 16 JUL 1965 20-21 HOURS UT. S = 72 BRIGHTNESS UNIT = 1000 K



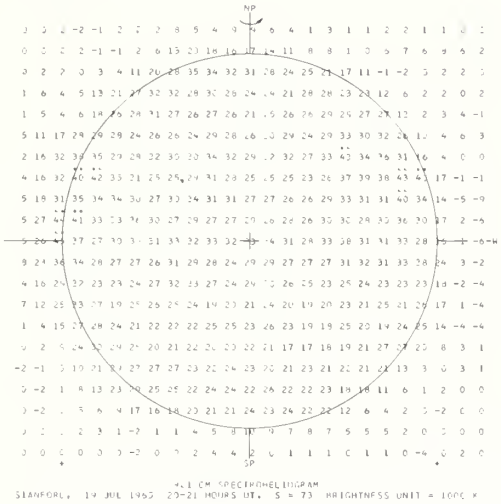
9.1 CM SPECTROHELIOGRAM
STANFORD, 17 JUL 1965 20-21 HOURS UT. S = 72 BRIGHTNESS UNIT = 1000 K



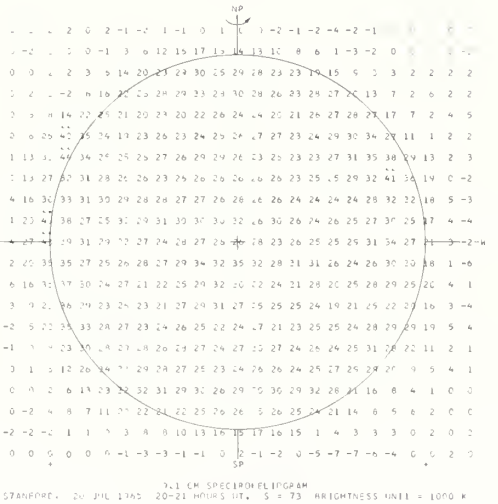
9.1 CM SPECTROHELIOGRAM
STANFORD, 18 JUL 1965 20-21 HOURS UT. S = 72 BRIGHTNESS UNIT = 1000 K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

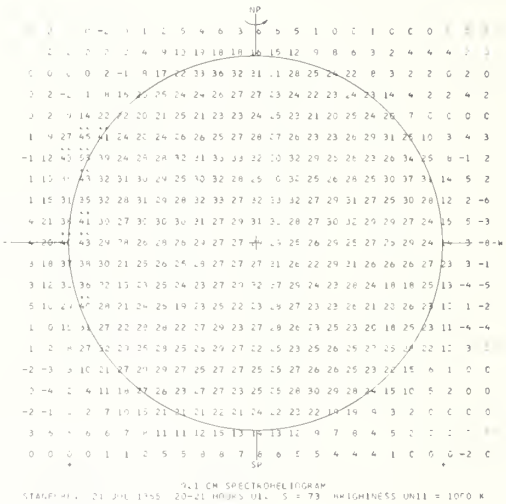
STANFORD — **JULY 1965** — **9.1 cm**



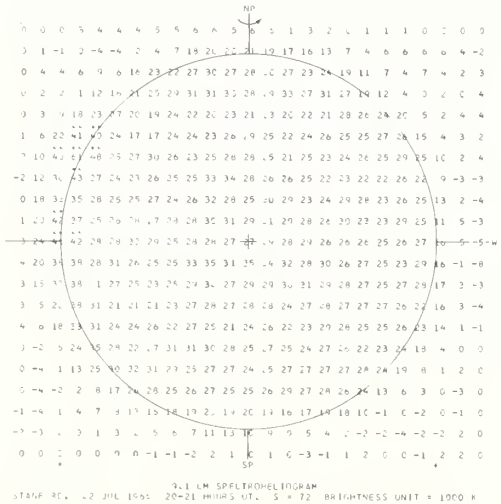
9.1 CM SPECTROHELIOGRAM
STANFORD, 19 JUL 1965 20-21 HOURS UT. S = 73 BRIGHTNESS UNIT = 1000 K



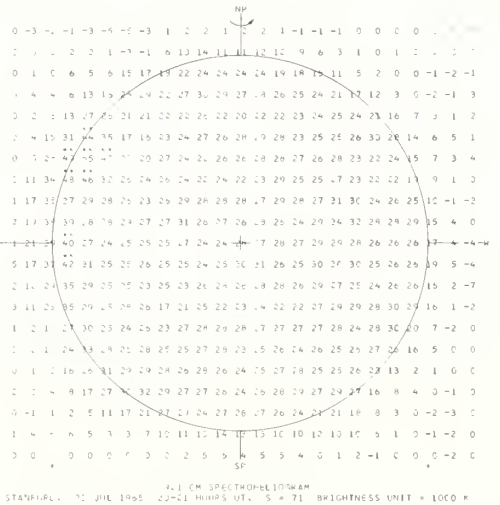
9.1 CM SPECTROHELIOGRAM
STANFORD, 20 JUL 1965 20-21 HOURS UT. S = 73 BRIGHTNESS UNIT = 1000 K



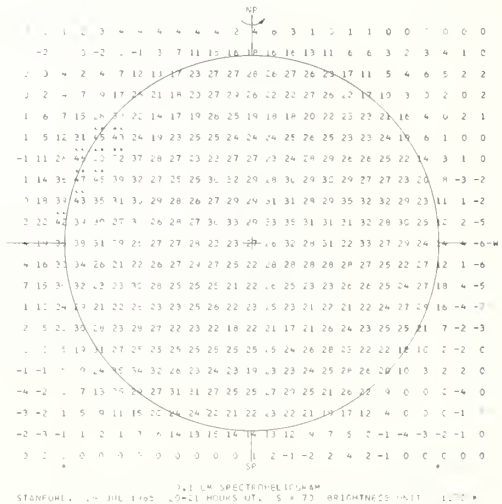
9.1 CM SPECTROHELIOGRAM
STANFORD, 21 JUL 1965 20-21 HOURS UT. S = 73 BRIGHTNESS UNIT = 1000 K



9.1 CM SPECTROHELIOGRAM
STANFORD, 22 JUL 1965 20-21 HOURS UT. S = 72 BRIGHTNESS UNIT = 1000 K



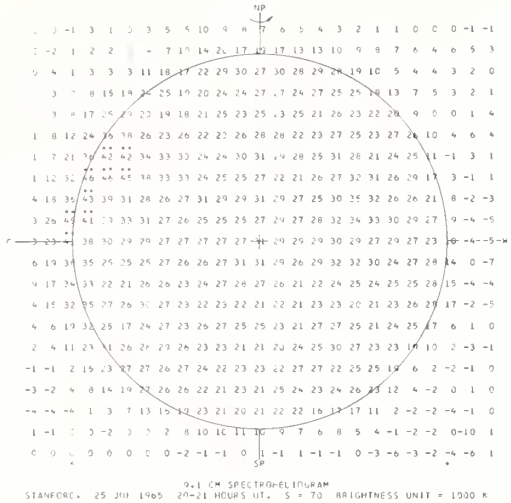
9.1 CM SPECTROHELIOGRAM
STANFORD, 23 JUL 1965 20-21 HOURS UT. S = 71 BRIGHTNESS UNIT = 1000 K

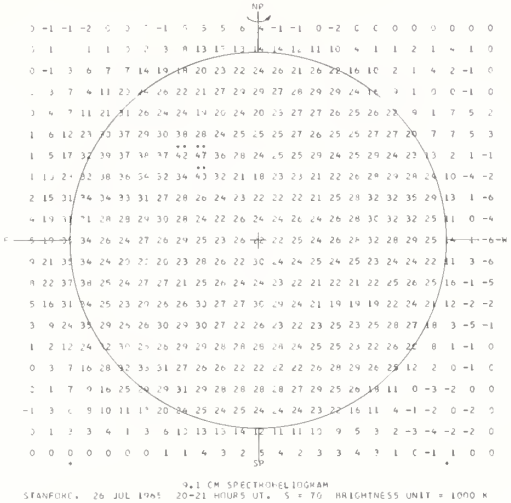


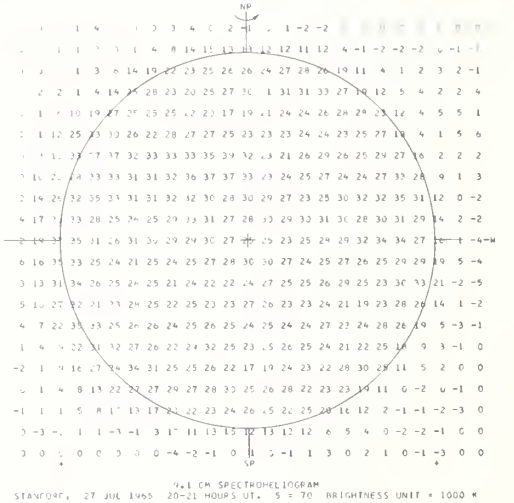
9.1 CM SPECTROHELIOGRAM
STANFORD, 24 JUL 1965 20-21 HOURS UT. S = 73 BRIGHTNESS UNIT = 1000 K

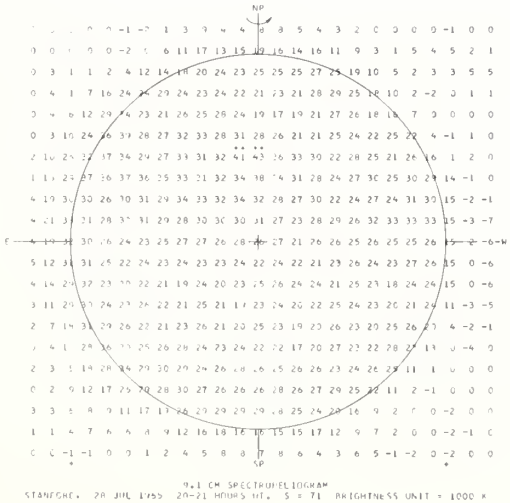
SOLAR RADIO EMISSION SPECTROHELIOGRAMS

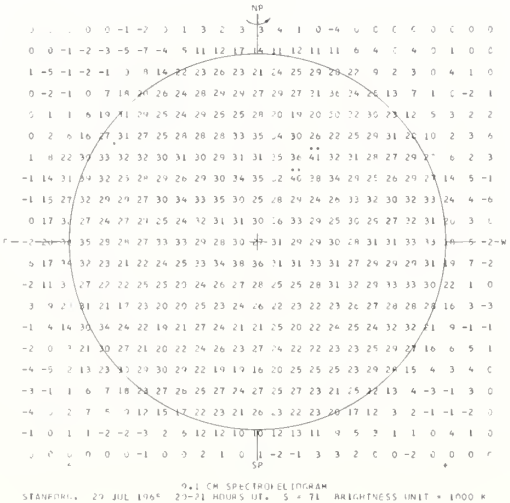
STANFORD — **JULY 1965** — **9.1 cm**

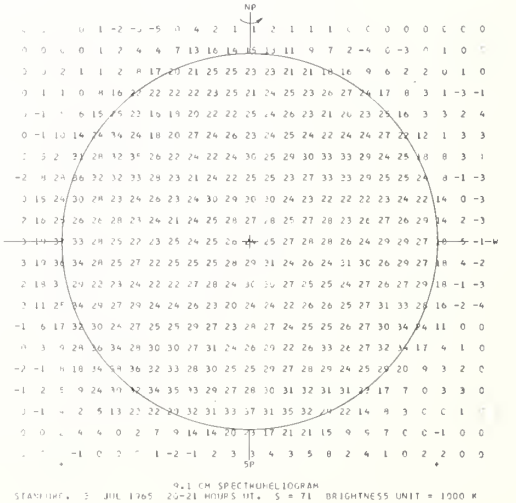






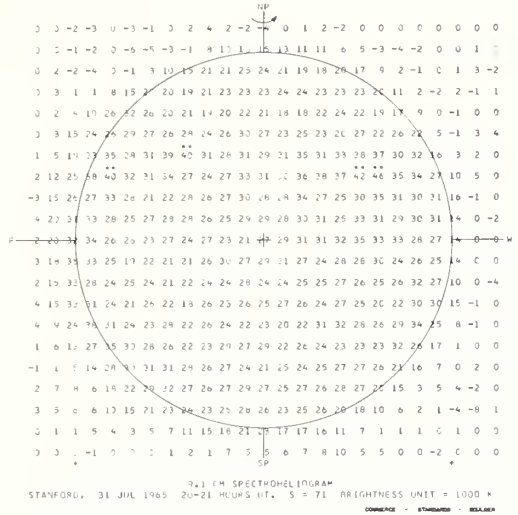






SOLAR RADIO EMISSION SPECTROHELIOGRAMS

STANFORD JULY 1965 **9.1 cm**



Note: The method of presentation of the 9.1 cm spectroheliograms from Stanford University, California has been changed with this issue. The axis of the sun is now always vertical with the north pole at the top of the map. The brightness unit is always 1000°K. The values exceeding 40,000°K are now overscored with dots instead of underlined as before.

COSMIC RAY INDICES

(Neutron Monitors)

JUNE 1965

June 1965	CHURCHILL DAILY AVERAGE COUNTS PER HOUR	CLIMAX DAILY AVERAGE COUNTS PER HOUR	DALLAS DAILY AVERAGE COUNTS PER HOUR
1	6585.1	3358.7	6627.2
2	6595.5	3365.0	6632.9 (23)
3	6617.4	3335.7	6644.7
4	6593.1	3359.0	6615.0 (21)
5	6574.7	3359.4	6629.8
6	6574.0	3355.9	6632.5
7	6609.7	3366.8	6651.2
8	6611.3	3354.2	6622.4
9	6533.3	3348.5	6605.0
10	6561.6	3356.1	6616.7
11	6570.8	3360.7	6617.8
12	6543.3	3356.7	6619.6
13	6550.0	3349.7	6605.7 (11)
14	6553.0	3356.0	6603.0 (4)
15	6545.0	3351.9 (32)	6569.3 (20)
16	6386.6 (22)	- (0)	6572.9 (9)
17	6422.1	- (0)	6539.1
18	6442.2	- (0)	6539.1
19	6489.1	- (0)	6551.8
20	6543.3	- (0)	6565.9
21	6552.8	3338.0 (12)	6400.2
22	6559.0	3343.8	6410.0
23	6545.9	3333.1	6403.2
24	6548.9	3342.8	6407.2 (21)
25	6533.3	3352.7	6411.0 (23)
26	6501.0	3338.5	6381.0
27	6527.8	3345.0	6408.0
28	6557.6	3344.2	6422.0
29	6547.9	3330.8	6416.0
30	6542.7	3338.6	6425.5

COMMERCE - STANDARDS - BOULDER

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

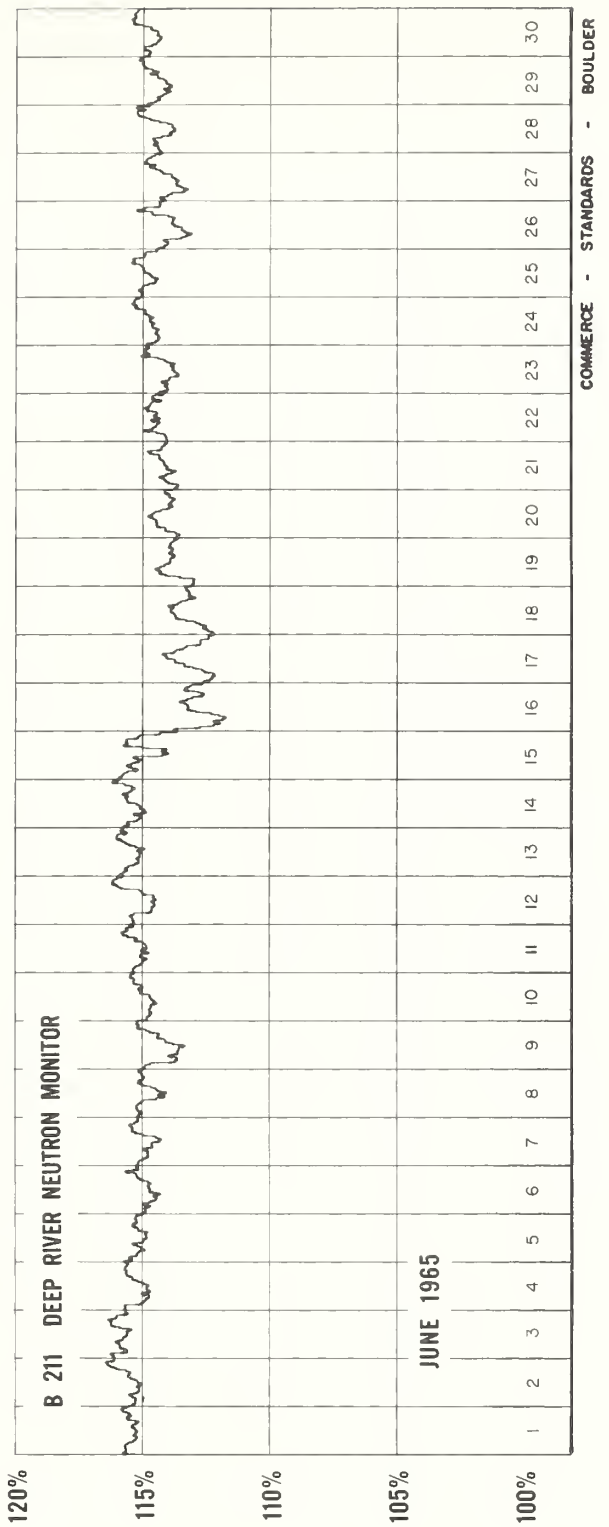
Churchill Super Neutron Monitor, Scaling Factor 120.

Climax IGC Station B305, Scaling Factor 128.

Dallas Super Neutron Monitor, Scaling Factor 120. From June 21 onwards the efficiency changed to 97.34%.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

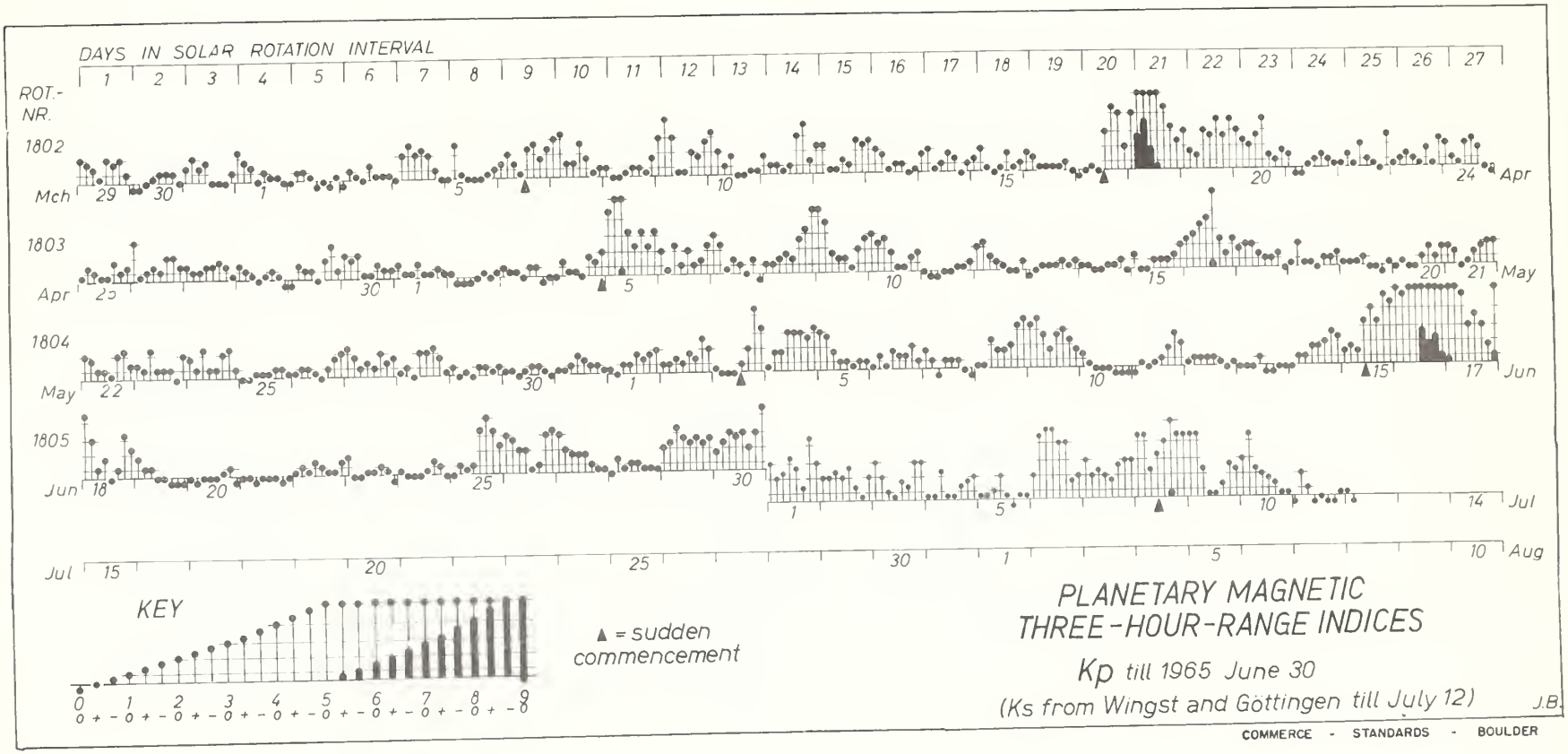


GEOMAGNETIC ACTIVITY INDICES

JUNE 1965

June 1965	C	Values Kp — Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.3	1- 0+ 1o 1o	2- 1+ 2- 2o	10-	5	Five
2	0.4	1o 1o 1+ 1o	2- 1+ 3- 2o	12o	6	Quiet
3	0.7	1- 0+ 0+ 0+	1o 2o 4+ 3+	12+	9	
4	0.9	1- 2- 2- 3o	3o 3o 3- 3+	19o	11	10
5	0.4	3o 3- 2- 1o	1o 1- 1o 1o	12o	6	13
						20
6	0.3	1- 1+ 1- 2-	1+ 1+ 2o 1o	10o	5	21
7	0.2	2- 1o 0o 1o	1o 1o 0+ 0o	6o	3	24
8	0.8	1- 1- 2+ 2-	2- 2o 3+ 4-	16o	9	
9	0.9	3+ 4- 3- 2-	3- 3o 2+ 2-	21o	12	
10	0.1	1+ 1- 0+ 0+	0+ 0o 0o 0o	3o	2	
11	0.3	0o 1- 0+ 1-	1o 2- 3- 2o	9o	5	Five
12	0.2	1- 1o 1o 1o	1o 1- 0+ 1-	6+	3	Disturbed
13	0.0	0+ 0+ 0+ 1o	0o 0o 0+ 0+	3-	2	
14	0.5	0+ 1o 1o 2-	2- 2o 3- 2+	13-	6	9
15	1.1	1+ 2- 1+ 3+	4o 3+ 5- 4+	24o	19	15
						16
16	1.8	5o 5- 5o 5o	7o 6+ 7- 6-	45+	73	17
17	1.4	5+ 5o 5- 3o	4- 3o 2- 6-	32o	34	30
18	0.9	4+ 3o 1o 2-	0+ 1o 3+ 2+	17o	11	
19	0.1	2- 1o 1o 0+	0+ 0o 0o 0o	4+	2	
20	0.0	0+ 0o 0+ 0+	0+ 1- 1o 0o	3o	2	
21	0.0	0+ 0+ 0o 0+	0+ 0+ 0o 0+	2o	2	Ten
22	0.2	1- 1o 1- 1+	1o 1- 1- 1+	7+	4	Quiet
23	0.1	2- 0+ 0+ 1-	1- 1o 1- 0o	5+	3	
24	0.2	1- 0+ 0+ 0+	1- 1+ 1o 0+	5o	3	7
25	0.8	0+ 1o 1- 1o	3+ 4o 3+ 2+	16o	11	10
						12
26	0.6	3o 3- 2o 2o	1- 1o 3o 3+	18-	10	13
27	0.4	3o 2o 2- 2-	2- 1o 1- 1-	12+	6	19
28	0.2	0+ 1+ 1- 1o	1o 1- 1- 1-	6+	3	20
29	0.8	2o 2+ 3+ 3-	2+ 3- 2+ 3-	20+	11	21
30	1.1	2- 2+ 3o 3-	3o 2o 3o 4+	22o	14	23
						24
						28
Mean:	0.52			Mean:	10	

COMMERCE - STANDARDS - BOULDER


DAYS IN SOLAR ROTATION INTERVAL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ROT.-NR.
1802
Mch 29 30 1 5 10 15 20 24 Apr
1803
Apr 25 30 1 5 10 15 20 21 May
1804
May 22 25 30 1 5 10 15 17 Jun
1805
Jun 18 20 25 30 1 5 10 14 Jul
Jul 15 20 25 30 1 5 10 Aug
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp till 1965 June 30
(Ks from Wingst and Göttingen till July 12)
J.B.
COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC, NORTH PACIFIC — JUNE 1965

JUN 1965	WHOLE DAY INDICES: NORTH ATLANTIC	WHOLE DAY INDICES: NORTH PACIFIC	WHOLE DAY INDICES: AVERAGE HIGH LATITUDE	ADVANCE FORECASTS (Jc-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC: 6-HOURLY QUALITY FIGURES: 00 TO 06	06 TO 12	12 TO 18	18 TO 24	NORTH ATLANTIC: SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF: 00	06	12	18	NORTH PACIFIC: 6-HOURLY QUALITY FIGURES: 00 TO 06	06 TO 12	12 TO 18	18 TO 24	GEOMAGNETIC INDICES: K_{FR} HALF DAY (1)	(2)	A_{FR} 08-SERVED	PRE-DICTED	K_{SI} HALF DAY (1)	(2)	A_{SI}
01	7-	6	6	6	7-	6+	7-	7-	7	6	7	7	6	6	6	6	1	2	4	10	1	1	4
02	6+	6	6	6	6+	6-	7-	7o	7	6	7	7	6	6	6	6	1	2	6	8	1	2	4
03	7-	6	6	6	7-	6+	7-	7-	6	6	7	7	6	6	7	6	1	2	8	7	1	2	5
04	7-	6	6	6	7-	6+	7-	7+	6	6	7	7	6	6	6	6	2	3	10	11	2	2	14
05	6+	6	6	6	7-	6-	7-	7-	6	6	7	7	6	6	7	6	2	2	9	11	2	1	6
06	7-	6	6	6	7-	6+	7-	7o	7	6	7	7	6	6	7	6	2	2	6	7	2	1	4
07	7-	6	6	7	7-	6+	7-	7-	7	6	7	7	6	6	7	6	1	0	2	5	1	0	2
08	7-	6	6	7	7-	6+	7-	7-	7	6	7	7	6	6	7	6	1	3	8	5	2	2	8
09	7-	6	6	7	7-	6+	7-	7-	6	6	7	7	6	6	6	6	3	2	11	3	2	2	11
10	7-	6	6	6	7-	6+	7-	7-	6	6	7	7	6	6	7	6	1	0	2	7	0	0	1
11	7-	6	6	6	7-	7-	7-	7o	7	6	7	7	6	6	7	6	1	2	6	8	0	2	4
12	6+	6	6	6	7-	6-	6+	7-	7	6	7	7	6	6	6	6	1	1	4	14	0	0	2
13	7-	6	6	6	6+	6o	7-	7o	7	6	7	7	6	6	7	6	1	1	2	7	1	0	2
14	7-	6	6	7	7o	7-	7-	7o	7	6	7	7	6	6	6	6	2	2	8	5	1	2	5
15	7-	6	6	7	7-	6+	7-	7o	7	6	7	7	6	6	6	6	2	(4)	15	5	2	3	12
16	5-	5	5	7	6-	5-	4+	4o	6	5	6	6	5	5	5	3	(5)	(5)	44	5	(5)	(6)	84
17	(4-)	5	(4)	5	4o	3-	4+	4+	5	4	6	5	3	5	6	3	(4)	3	31	15	(5)	3	38
18	5+	6	6	6	5o	5-	6-	6-	5	4	6	6	4	5	6	5	3	2	13	7	3	1	10
19	6o	6	6	6	7-	6-	6o	6+	6	5	7	7	5	6	6	5	2	0	3	7	1	0	2
20	6+	6	6	6	6+	6o	6+	6+	6	6	7	7	6	6	6	6	0	0	1	7	0	0	1
21	7-	6	6	7	6+	6+	7-	7-	6	6	7	7	6	6	7	6	1	1	2	5	0	0	1
22	6+	6	6	7	7-	6o	7-	7-	7	6	7	7	6	6	7	6	2	1	4	5	1	1	4
23	7-	6	6	7	7-	6+	7-	7-	7	6	7	7	5	6	6	4	1	1	3	5	1	0	2
24	7-	7	7	6	7-	7-	7-	7-	7	6	7	7	5	6	7	6	1	1	2	7	0	0	2
25	7-	6	6	6	7-	6+	7o	7-	7	7	7	7	6	6	6	6	1	3	10	5	1	3	8
26	6+	6	6	7	7-	6-	6+	6+	6	6	6	7	6	5	6	6	2	2	10	4	2	2	10
27	7-	6	6	7	7-	6o	6+	7-	7	6	7	7	5	6	6	6	3	2	8	4	3	1	10
28	7-	6	6	7	7-	7-	7-	7o	7	6	7	7	6	6	7	6	1	1	3	6	1	0	3
29	7-	6	6	7	7-	6o	7-	7o	7	6	7	7	6	6	6	6	3	3	13	7	3	2	11
30	6+	6	6	6	7-	6-	6+	7-	7	6	6	7	5	6	6	6	3	3	13	9	3	2	17

		ADVANCE FORECASTS (Jc-REPORTS) FOR WHOLE DAY	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF: 00	06	12	18
QUIET	P	15	20	22	24	25
	S	13	9	7	4	3
	U	1	0	0	0	0
	F	0	0	0	0	0
DISTURBED	P	0	0	0	0	0
	S	1	1	1	0	1
	U	0	0	0	0	0
	F	0	0	0	2	1

COMMERCE - STANDARDS - BOULDER

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

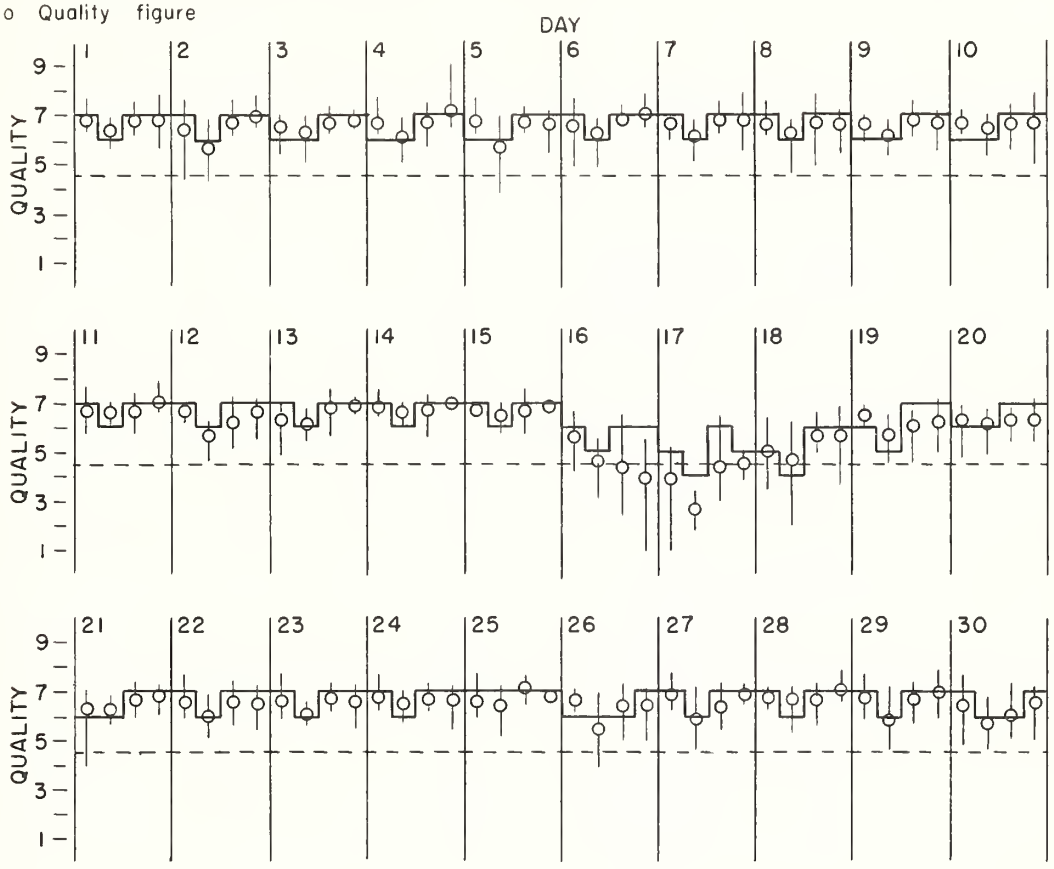
2) THE OBSERVED INDICES FOR THE NORTH PACIFIC ARE LOW WEIGHT BECAUSE OF INSUFFICIENT DATA AVAILABLE FOR THEIR PREPARATION.

3) THE PREDICTED A_{FR} INDICES ARE ISSUED EACH WEDNESDAY FOR THE COMING SEVEN DAYS. THE VALUE FOR THE FIRST DAY OF EACH PREDICTION PERIOD IS UNDERSCORED.

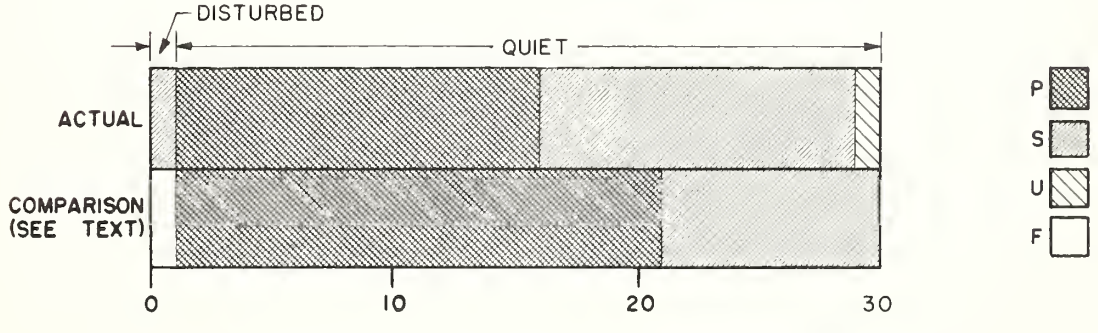
NORTH ATLANTIC

JUNE 1965

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

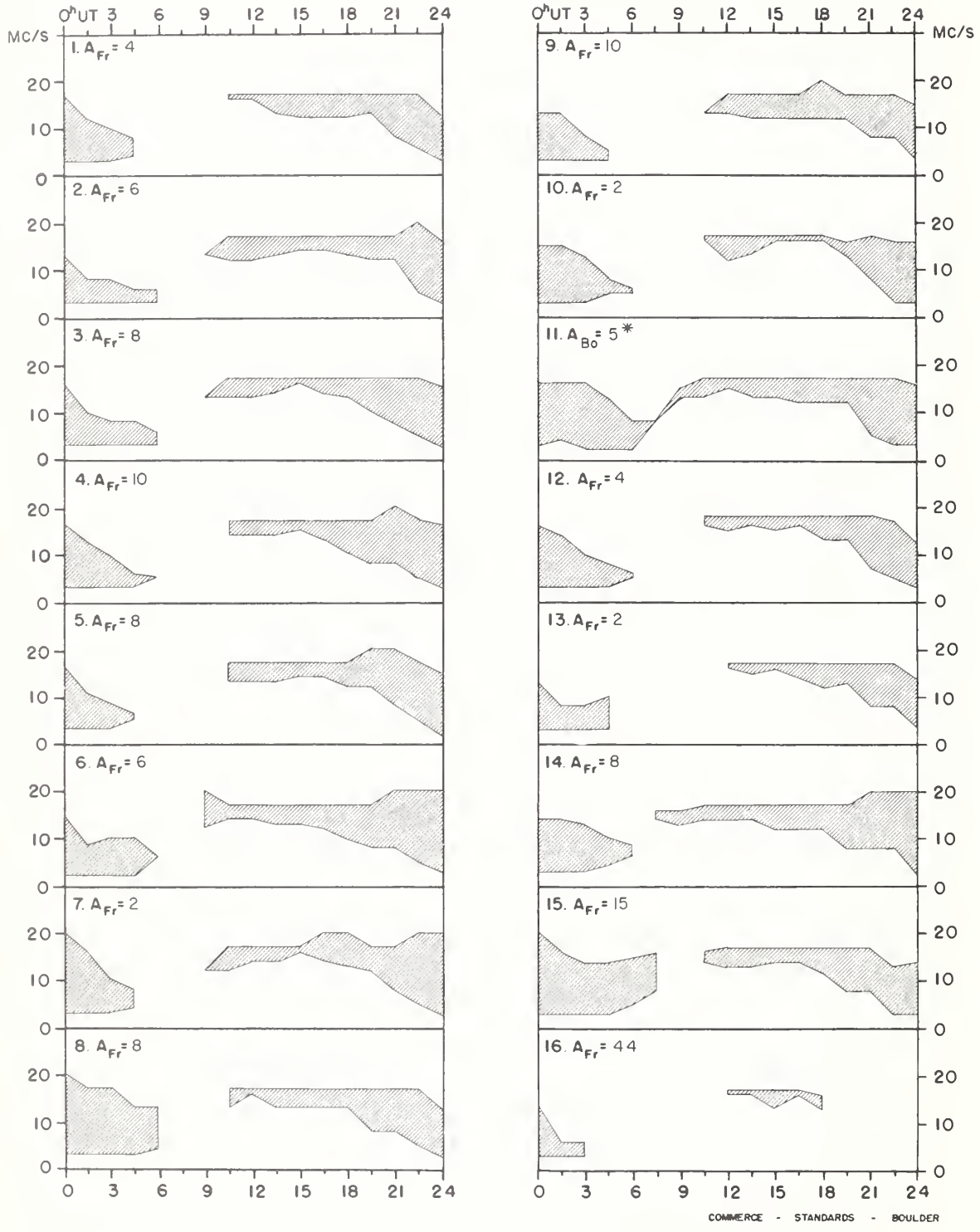


HIGH LATITUDE

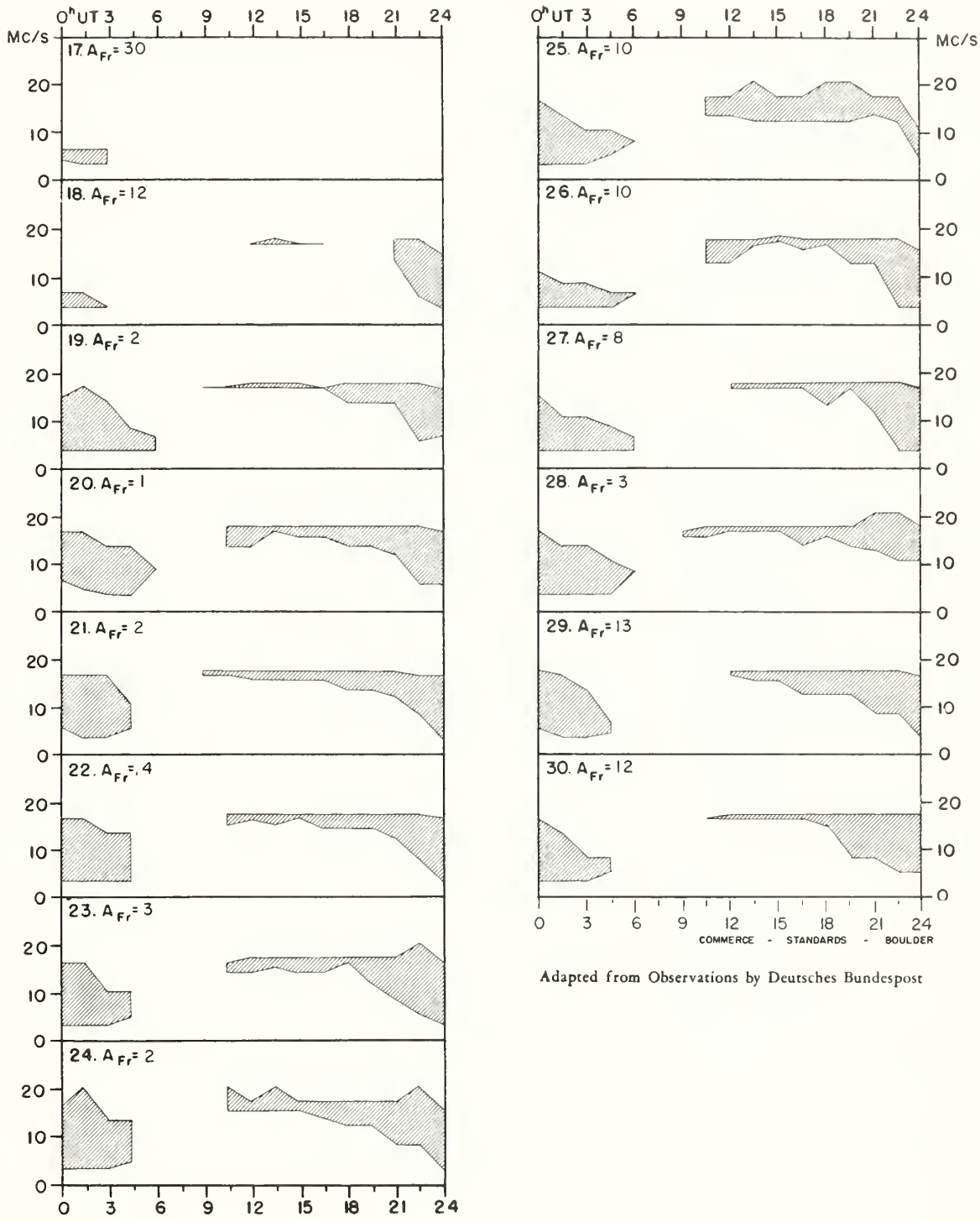


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

JUNE 1965



JUNE 1965



Adapted from Observations by Deutsches Bundespost

* The magnetic activity index A_{BO}, from Boulder, Colo. is used on June 11 as an approximation for the one from Fredericksburg, Va. which is not available.

IQSY ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

JULY 1965

July 1965	TIME OF ISSUE, UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT			
			NO.	TYPE	TIMING	ELABORATION
7	1030	Honolulu, Solar Flare 06/2305Z				
8	0400		211	Solar Activity	Exists	
9	0400		212	Solar Activity	Exists	
10	0400		213	Solar Activity	Exists	
11	0400		214	Solar Activity	Exists	
14	2350	McMath, Solar Flare 14/2152Z				
18	0400		215	Magnetic Calm	Exists	
22	0400		216	Solar Calm	Exists	
23	0400		217	Solar Calm	Exists	
24	0400		218	Solar Calm	Exists	
25	0400		219	Solar Calm	Exists	

COMMERCE - STANDARDS - BOULDER