CRPL-F 256 PART B

FOR OFFICIAL DISTRIBUTION

PART B

SOLAR - GEOPHYSICAL DATA

ISSUED

DECEMBER 1965

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
INSTITUTE FOR TELECOMMUNICATION SCIENCES AND AERONOMY
(FORMERLY CENTRAL RADIO PROPAGATION LABORATORY)
BOULDER, COLORADO

CRPL-F 256
PART B

Issued
31 Dec. 1965

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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 November 1965.

VII Radio Propagation Quality Indices:

The radio propagation quality figures for the North Pacific Area in Table VIIa, beginning with October 1965, are determined by a different method than that used previously.

Observed signal-noise ratios on four North Pacific paths are compared with predicted ratios for undisturbed conditions. The following classifications describe the radio propagation quality with respect to the predicted normal values:

N++	=	Conditions giving more than 15db above predicted signal-to-noise values
N+	=	Conditions giving between 5db and 10db above predicted signal-to-noise values
No	=	Conditions within 5db of the predicted signal-to-noise values
N-	=	Conditions giving between 5db and 10db below predicted signal-to-noise values
N--	=	Conditions giving more than 15db below predicted signal-to-noise values

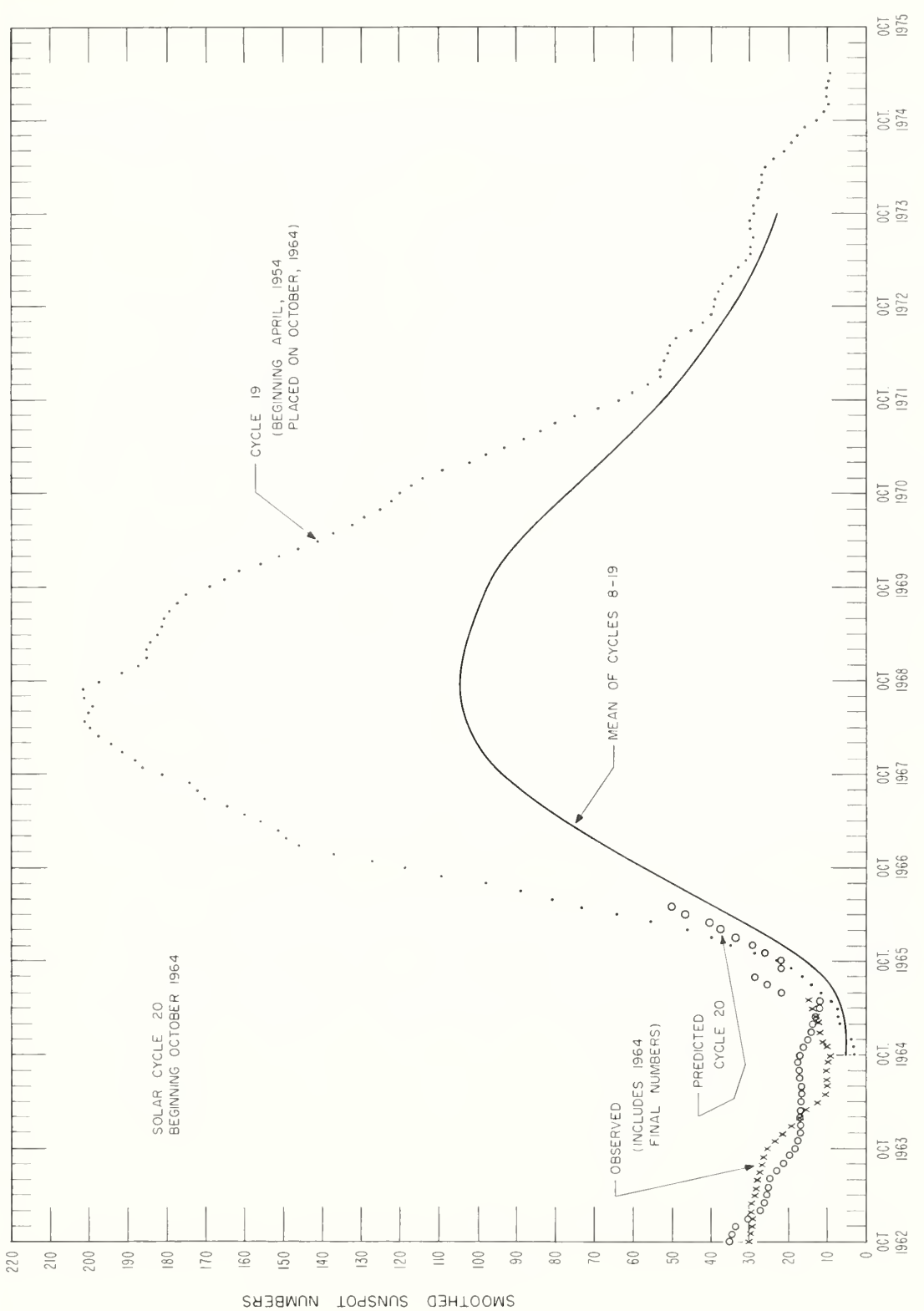
In turn, these letters have been interpreted as follows on the 1-9 CRPL quality figure scale: N++ = $\geq$8, N+ = 7, No = 6, N- = 5, N-- = $\leq$4.

DAILY SOLAR INDICES

OCT. 1965	American Relative Sunspot Numbers R_A'
1	33
2	39
3	50
4	43
5	37
6	26
7	16
8	5
9	10
10	11
11	11
12	9
13	10
14	2
15	0
16	0
17	0
18	0
19	8
20	12
21	14
22	22
23	20
24	21
25	16
26	11
27	12
28	11
29	11
30	11
31	12
Mean:	15.6

NOV. 1965	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux	
		S	S_A
1	29	78.8	77.6
2	28	79.5	78.2
3	20	81.1	79.8
4	13	79.8	78.4
5	8	78.0	76.7
6	29	80.7 *	79.2 *
7	40	85.2	83.7
8	46	--	--
9	38	82.0	80.4
10	41	84.1	82.4
11	44	84.2	82.5
12	21	80.8	79.1
13	14	77.3	75.7
14	16	76.0	74.4
15	10	76.5	74.8
16	9	71.4**	69.8**
17	7	74.3	72.6
18	0	75.0	73.3
19	0	73.4	71.6
20	0	72.7	70.9
21	0	72.2	70.5
22	7	71.8	70.0
23	0	71.3	69.5
24	7	71.2	69.3
25	0	70.6	68.8
26	7	71.8	69.9
27	0	74.1	72.1
28	8	77.0	74.9
29	8	73.9	71.9
30	15	75.1	73.0
Mean:	15.5	76.5	74.9

* Corrected for burst
** Rain



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

NOVEMBER 1965

NOV. 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	
1.2	N07	8043	New	300	1.5	ℓ - d	1	10/26	7	20	13	b - d
1.5	S14	8052(1)	New	100	1.0	b - d	1	11/1	1			
2.1	N29	8049(1)	New	(200)	(2.0)	b - d	1	10/30	1			
3.9	N02	8053(1)	New	(100)	(1.0)	b - d	1	11/1	1			
6.9	N18	8058	New	(300)	(2.5)	b ╲ d	1	≤ 11/9	≥ 3			
7.1	N17	8054	New	200	1.0	b - d	1	11/2	5			
7.3	N29	8051	New	(2200)	(4.5)	ℓ ∧ ℓ	1	10/31	14	240	33	ℓ ∧ ℓ
8.2	N32	8055	New	(200)	(1.0)	ℓ - d	1	11/2	2			
9.8	N30	8057	New	100	1.0	b - d	1	11/7	3			
10.9	S08	8059	New	100	1.5	b - d	1	11/10	3	10	3	b - d
11.0	N26	8056(2)	New	1500	3.0	ℓ ∧ ℓ	1	11/4	14	80	18	b ∧ d
11.3	N11	8063(1)	New	(200)	(1.5)	b - ℓ	1	11/17	1			
14.1	N23	8066(1)	New	(200)	(1.0)	b - d	1	11/18	1			
16.3	N22	8060	8032	500	1.5	ℓ ∧ d	2	11/10	11			
16.4	N04	8067	New	(100)	(1.5)	b - d	1	11/18	2			
16.8	S27	8068(1)	New	(100)	(1.5)	b - d	1	11/18	1			
17.4	S28	8064(1)	New	100	1.5	b - d	1	11/17	1			
18.2	N24	8069	New	200	2.0	b - d	1	11/18	3			
18.5	N04	8061(3)	New	(500)	(1.0)	ℓ - d	1	11/12	6			
19.4	S30	8071	New	100	1.5	b - d	1	11/19	2			
22.2	N03	8070(1)	New	(100)	(2.0)	b - d	1	11/18	1			
22.4	N27	8062(4)	New	700	2.0	ℓ ╲ d	1	11/16	12			
22.4	N16	8065(1)	New	(100)	(2.0)	b - d	1	11/17	1			
24.2	N29	8079	New	(300)	(2.5)	b - ℓ	1	11/30	1			
25.4	S17	8072	8034	(800)	(2.0)	ℓ ∧ d	3	11/19	9			
26.3	N26	8073	8035	(1000)	(2.5)	ℓ ∧ ℓ	3	11/19	14	(40)	(1)	b - d
29.8	N40	8077(1)	New	100	1.0	b - d	1	11/29	1			
30.7	N06	8074	New	(100)	(1.0)	b - d	1	11/27	2			

(1) These small and ephemeral plages were seen on the disk for only one day.
(2) Region 8056 has formed near the position of Region 8018 of the previous rotation.
(3) Region 8061 may be a return of Region 8044, which was seen briefly for one day near the West Limb during the previous rotation.
(4) Region 8062 has formed in the position of the ephemeral plage 8046 of the previous rotation.

No calcium plage observations were secured at the McMath-Hulbert Observatory on November 8, 15, 23, 25, 26, 1965.

NOVEMBER 1965

NOV. 1965	TIME MEAS. UT	LAT.	MER. DIST	TYPE	No.
1	2315	S17	W58	αp	15967
		N09	W19	βp	15969
		N33	E70	β	15970
2	1555	S17	W68	αp	15967
		N09	W29	βγ	15969
		N33	E61	β	15970
4	0000	N10	W46	β	15969
4	1800	N10	W57	βf	15969
		N31	E35	βf	15970*
5	No Obs.				
6	2205	N27	E04	γ	15971
7	1845	N28	W08	βγ	15971
		N25	E43	βp	15972
8	1715	N26	W20	γ	15971
		N22	E26	αp	15973
9	No Obs.				
10	2220	N26	W50	βp	15971
		N22	W04	αp	15973
		N24	E08	βp	15972
11-12	No Obs.				
13-18	Storm				
19	No Spots				
20-25	Storm				
26-27	No Spots				
29	0000	N26	E70	αp	15974
29	1750	N27	E61	αp	15974
30	No Obs.				

* Not seen November 3, 1965

FINAL 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	68	98	x	x	47	77	x	x	x	x	x	x	x	x	x	x
2	13	29	x	x	0	0	x	x	11	12	x	x	39	69	12	14
3	17	31	16	18	1	6	13	18	12	13	9	12	36	52	17	24
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	24	25	x	x	37	55	x	x
6	0	0	0	0	0	0	3	11	x	x	x	x	x	x	x	x
7	29	37	3	10	19	26	17	23	9	28	0	0	17	35	4	24
8	33	49	4	24	13	18	24	40	x	x	x	x	x	x	x	x
9	30	60	3	12	5	6	10	13	13	14	16	20	48	96	13	22
10	49	75	19	35	22	46	23	47	5	9	9	10	39	63	9	20
11	27	34	0a	0a	5	8	1a	5a	x	x	x	x	x	x	x	x
12	32	38	0a	0a	23	44	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	45	56	x	x	40	56	x	x	28	43	x	x	29	34	x	x
15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16	49	70	10	14	34	60	9	12	28	41	12	19	45	54	14	22
17	46	63	8	10	18	24	13	16	6	12	15	26	5	11	3	12
18	6	18	6	13	3	11	15	17	0	0	19	25	7	29	17	30
19	33	36	x	x	20	25	x	x	x	x	x	x	x	x	x	x
20	x	x	x	x	x	x	x	x	11	14	12	13	25	30	9	11
21	17	24	x	x	7	22	x	x	12	14	x	x	25	30	x	x
22	x	x	x	x	x	x	x	x	10	12	x	x	18	25	x	x
23	32	50	11	15	12	13	14	20	13	14	x	x	27	33	x	x
24	18	23	8	10	4	6	10	13	4	7	15	20	2	11	16	28
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	16	33	5	10
28	42	78	x	x	14	17	x	x	0	0	5	16	23	45	15	18
29	x	x	x	x	x	x	x	x	x	x	3	13	x	x	10	14
30	45	63	10	14	14	22	10	14	10	14	x	x	32	38	x	x
31	1	6	17	22	2	5	15	19	x	x	3	13	x	x	10	14

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

FINAL CORONAL LINE EMISSION INDICES

AUGUST 1965

CMP Aug 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	19	17	26	4	11	18	23	9	11	6	15	19	20	15	39
2	x	x	x	x	x	x	x	x	15	20	8	11	23	29	13	18
3	16	18	8	9	10	11	11	15	7	9	1	4	17	21	0	0
4	24	36	x	x	11	12	x	x	27	32	17	32	32	45	6	22
5	39	75	x	x	12	17	x	x	x	x	x	x	x	x	x	x
6	20	37	x	x	16	20	x	x	x	x	x	x	x	x	x	x
7	13	40	12	15	6	7	17	23	20	46	x	x	28	40	x	x
8	42	47	14	22	28	32	45	60	21	36	x	x	32	42	x	x
9	30	71	15	23	39	97	30	40	45	72	20	30	44	65	10	32
10	54	97	8	21	33	77	24	45	x	x	x	x	x	x	x	x
11	30	63	23	32	23	36	14	20	28	60	x	x	32	42	x	x
12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	25	33	x	x	39	76	x	x
14	x	x	5	12	x	x	12	15	4	7	35	50	8	16	39	72
15	33	41	16	28	23	29	21	31	x	x	x	x	x	x	x	x
16	33	43	14	19	23	26	21	31	x	x	x	x	x	x	x	x
17	26	37	9	15	12	21	12	17	x	x	x	x	x	x	x	x
18	26	32	20	29	20	24	22	31	x	x	8	11	x	x	11	15
19	x	x	x	x	x	x	x	x	10	13	13	27	23	24	13	23
20	x	x	x	x	x	x	x	x	15	21	7	12	16	18	11	16
21	20	26	x	x	9	11	x	x	9	10	9	10	15	18	10	14
22	20	23	x	x	13	15	x	x	4	7	5	6	13	24	8	13
23	44	65	35	57	27	37	13	22	x	x	x	x	x	x	x	x
24	x	x	x	x	x	x	x	x	1	4	12	14	24	54	13	18
25	19	23	x	x	13	15	x	x	x	x	x	x	x	x	x	x
26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27	x	x	x	x	25	33	x	x	15	19	x	x	39	57	x	x
28	5	7	35	53	5	12	36	43	3	6	9	12	16	22	21	35
29	x	x	x	x	x	x	x	x	10	15	6	10	41	57	20	35
30	x	x	x	x	x	x	x	x	10	12	10	14	38	53	17	57
31	x	x	x	x	x	x	x	x	1	4	10	14	11	17	6	20

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

FINAL CORONAL LINE EMISSION INDICES

SEPTEMBER 1965

CMP Sep 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	4	6	3	6	7	10	0	0	8	10	1	4	9	14
2	24	30	7	12	15	17	12	15	0a	0a	6	9	5a	9a	10	13
3	33	49	25	37	13	17	30	52	0	3	12	15	5	8	10	14
4	22	27	8	9	15	32	11	14	9	12	0	0	20	29	0	0
5	12	18	8	16	16	41	9	11	0	0	9	12	4	11	10	16
6	26	32	x	x	30	48	x	x	15	19	2	6	18	21	13	29
7	10	16	14	24	7	9	13	16	23	35	8	16	38	51	33	51
8	x	x	x	x	x	x	x	x	3	8	10	15	26	54	15	24
9	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	29	48	x	x	28	38	x	x	x	x	x	x	x	x	x	x
11	9	10	12	16	7	8	16	22	x	x	x	x	x	x	x	x
12	23	28	16	28	19	30	23	37	1	4	20	30	4	9	11	17
13	19	26	11	17	14	19	13	24	14	15	11	14	19	23	9	12
14	6	7	19	23	5	9	16	19	0	0	13	20	9	17	18	25
15	5	7	14	17	0	0	14	20	0	0	6	18	5	7	15	20
16	15a	31a	8	14	0a	0a	6	12	1	3	3	4	8	14	12	14
17	15	49	15	33	2	4	14	22	0	0	6	12	17	39	14	19
18	30	52	15	24	9	10	6	9	8	11	4	6	26	38	6	9
19	8	16	21	33	0	0	14	23	0	0	8	14	23	56	9	11
20	30	44	10	13	11	15	10	16	0	0	11	30	14	31	21	35
21	40	53	13	28	23	26	18	28	0	0	23	35	16	43	23	31
22	17	37	7	11	0	0	11	16	x	x	x	x	x	x	x	x
23	x	x	x	x	x	x	x	x	1	7	9	11	10	17	8	11
24	x	x	x	x	x	x	x	x	20	23	12	16	26	30	9	15
25	15	24	x	x	0	0	x	x	0	0	6	8	7	12	5	9
26	9	13	6	8	4	13	10	17	0	0	9	10	9	15	8	14
27	31	45	9	13	26	44	11	14	1	3	7	9	6	9	8	12
28	7	13	9	14	0	0	17	22	1	4	8	9	4	9	6	9
29	6	10	12	17	0	0	16	20	x	x	x	x	x	x	x	x
30	5	7	12	17	3	12	15	17	x	x	x	x	x	x	x	x

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

PROVISIONAL CORONAL LINE EMISSION INDICES

OCTOBER 1965

CMP Oct 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	16	29	2	10	11	35	10	14	32	55	21	39	28	66	17	24
2	x	x	x	x	x	x	x	x	24	42	17	30	33	77	18	34
3	27	72	12	17	18	52	16	28	x	x	x	x	x	x	x	x
4	19	28	x	x	5	10	x	x	6	16	22	25	24	38	24	36
5	16	38	x	x	4	7	x	x	x	x	x	x	x	x	x	x
6	x	x	x	x	x	x	x	x	10	26	10	14	9	14	14	20
7	9	13	9	13	4	8	11	12	7	11	13	17	7	13	19	24
8	8a	11a	13a	16a	1a	7a	11a	16a	3	8	9	12	1	4	17	24
9	6	9	8	13	2	5	12	15	x	x	x	x	x	x	x	x
10	6	9	3	14	7	10	9	13	x	x	x	x	x	x	x	x
11	5	9	8	12	4	6	x	x	4	8	12	16	4	10	15	20
12	7	8	6	9	0	0	10	14	2	3	7	9	4	5	7	8
13	x	x	x	x	x	x	x	x	4	6	5	6	8	11	8	11
14	x	x	x	x	x	x	x	x	2	6	4	8	23	41	11	16
15	23	42	9	20	1	4	5	9	x	x	2	5	x	x	17	30
16	17	25	x	x	3	7	x	x	x	x	x	x	x	x	x	x
17	x	x	x	x	x	x	x	x	1	4	8	14	13	21	8	12
18	12	16	7	10	1	4	x	x	3	6	8	12	17	22	10	15
19	x	x	x	x	x	x	x	x	0	2	x	x	17	33	x	x
20	6	8	11	14	2	6	14	18	4	7	16	20	14	31	16	25
21	7	12	9	12	3	9	17	24	6	12	8	11	15	20	13	16
22	1	8	9	11	3	9	16	24	1	4	9	13	5	7	8	12
23	x	x	x	x	x	x	x	x	6	10	5	6	6	9	5	16
24	x	x	x	x	x	x	x	x	4	7	7	13	6	7	8	12
25	4	7	6	10	3	4	11	15	x	x	x	x	x	x	x	x
26	3	3	8	12	2	3	11	15	4	8	14	15	0	0	15	16
27	11	17	13	19	3	6	10	19	x	x	x	x	x	x	x	x
28	44	116	x	x	20	52	x	x	20	38	9	15	19	40	15	20
29	56	108	16	30	x	x	26	44	8	17	11	25	22	41	18	30
30	x	x	x	x	x	x	x	x	13	16	2	11	32	48	16	26
31	34	52	14	20	16	32	16	23	3	7	x	x	19	28	x	x

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

SOLAR FLARES

NOVEMBER 1965

OBSERVATORY	DATE NOV 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
MANI	01	0513	0543	0517	N09	W08	8042		1-	2	0517	.20	.20			
SACP	01	1353	1400	1354	N33	E74	8051		1-	C		.68	1.45		19	
MCMA	01	1354	1404	1355	N33	E78	8051		1-	2 C	1355	.30	1.50			
KANZ	01	1455 E	1515		N33	E73	8051		1-							
MANI	02	0513 E	0514 D		N09	W24	8042		1-	1	0514	.40	.40			
KANZ	02	0749 E	0820 D		N08	W22	8042		1-							
KANZ	02	0915	0930 D		N08	W22	8042		1-							
KANZ	02	0943 E	0950 D		N09	W23	8042		1-							
KAND	02	1106 E	1206		N09	W23	8042		1-		1135		.49			
CAPS	02	1135	1143		N10	W26	8042	8	1	3	1140	2.50	2.80		140	FI
KANZ	02	1440 E	1517 D		N09	W27	8042	37 D	1							
MANI	02	2216	2243	2220	N09	W35	8042		1-	2	2220	.40	.40			
MANI	03	0017	0026	0020	N12	W38	8042		1-	2	0020	.30	.30			
CULG	03	0719	0745 D	0727	N08	W35	8042		1-	P	0727	.80	1.00			
ONDR	03	0723 E	0747		N09	W37	8042	24 D	1	3	0725			2.00		C
MANI	03	0724	0758	0730	N12	W42	8042		1-	2	0730	1.40	1.60			
MANI	03			0742												
CAPS	03	0734 E	0750		N08	W36	8042		1-	3	0740	1.20	1.50		147	
KAND	03	0740 E	0910		N09	W34	8042		1-		0745		.80			
CAPS	03	1410	1425 D		N08	W40	8042		1-	1	1417	1.00	1.30		190	F
MCMA	03	1412	1421	1415	N11	W40	8042		1-	1 C	1415	.50	.70			E
OTTA	03	1413	1420 D		N11	W40	8042		1-	1 C	1419	1.02	1.15			
OTTA	03	1635	1640	1636	N10	W41	8042		1-	1 C	1636	.58	.66			
LOCK	04	2333	2350	2338	N27	E27	8051		1-	C	2338	.40	.40		10	
CULG	04	2335	2345	2338	N28	E29	8051		1-	C	2338	.40	.50			G
SACP	04	2335	2347 U	2338	N28	E29	8051		1-	C		.72	.78		19	
MCMA	05	1420	1625		N28	E19	8051		1-	2 C	1515	.40	.40			EHK
OTTA	05	1445 E	1451 D		N27	E18	8051		1-	1 C	1449	.23	.24			
CAPS	05	1447	1505		N28	E18	8051		1-	3	1452	.30	.30		180	G
ONDR	06	0713	0838		N25	E09	8051	85	1+	2	0724			2.10		CFHJK
CAPS	06	0729 E	0738		N28	E09	8051	9 D	1	2	0735	1.80	2.00		158	BI
CAPS	06	1003	1015		N30	E10	8051		1-	3	1012	.30	.30		200	FI
MCMA	06	1424 E	1425 D		N28	E07	8051		1-	2 P	1425	.20	.20			DH
OTTA	06	1724	1745 D		N28	E07	8051		1-	1 C	1744	.91	.92			
LOCK	06	1727 U	1745	1735	N27	E05	8051		1-	C	1735	.30	.30		10	
LOCK	06	1755	1840	1816	N27	E05	8051		1-	C	1816	.70	.70		10	K
SACP	06	1757	1838	1820	N28	E04	8051	41	1	C		2.95	2.97		20	
LOCK	06	1817	1830	1820	N30	E40	8056		1-	C	1820	.20	.20		10	
LOCK	06	1900	1912	1905	N30	E40	8056		1-	C	1905	.30	.30		10	
MCMA	06	1914 E	1941 D		N28	E10	8051		1-	2 P	1928	.70	.80			EH
LOCK	06	2035	2100	2042	N28	E15	8051		1-	C	2042	.60	.60		20	
HALE	06	2037 E	2102	2040	N28	E03	8051		1-	1 P	2040	.40	.40			F
CULG	06	2041	2101 D	2043	N30	E03	8051		1-	P	2043	.40	.44			H
SACP	06	2044 E	2054 D	2048	N29	E03	8051		1-	C		1.09	1.10		14	
LOCK	06	2050	2110	2055	N29	E02	8051		1-	C	2055	.20	.20		10	
CULG	06	2053	2101 D	2058	N30	E40	8056		1-	P	2058	.30	.42			GH

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OBSERVATORY	DATE NOV 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
LOCK	06	2215	2245	2225	N28	E01	8051		1-	C	2225	.50	.50		10	
LOCK	06	2317	2335	2322	N30	E38	8056		1-	C	2322	.40	.40		20	
CULG	06	2322	2335	2327	N29	E38	8056		1-	C	2327	.30	.43			GH
LOCK	06	2352	0007 D	2359	N28	E02	8051		1-	C	2359	.80	.80		20	
CULG	07	0110 E	0150 D	0141	N26	E03	8051		1-	P	0141	.90	.99			FKLT
MANI	07	0113	0123 D	0120	N27	E02	8051	10 D	1	1	0120	3.70	3.70			
CULG	07	0241	0248	0242	N30	E00	8051		1-	C	0242	.30	.33			HT
CULG	07	0355	0440	0404	N28	W02	8051		1-	P	0404	.40	.44			LT
CULG	07	0445	0625	0612	N26	W03	8051		1-	C	0612	.80	.88			HKLT
CULG	07	0710	0734 D	0714	N27	W04	8051	24 D	1+	P	0714	2.20	2.42			T
MANI	07	0713 E	0716 D		N27	W01	8051	3 D	1	1	0716	2.60	2.60			
KANZ	07	0826 E	0843 D		N26	W06	8051	17 D	1							F
CAPS	07	1000	1007		N26	W06	8051		1-	3	1003	.30	.30		135	I
KANZ	07	1000 E	1010 D		N25	W05	8051	10 D	1							
MEUO	07	1002	1026	1007	N27	W04	8051		1-	C	1007	.70	.80			
MEUO	07	1042	1100	1046	N30	E01	8051		1-	C	1046	.60	.70			
KANZ	07	1050 E	1108		N33	E01	8051		1-							D
KANZ	07	1050 E	1124 D		N28	W03	8051		1-							D
MEUD	07	1110	1125	1111	N26	W09	8051		1-	C	1111	.40	.50			E
KANZ	07	1116 E	1124 O		N26	W05	8051		1-							E
KANZ	07	1116 E	1124 D		N26	W09	8051		1-							D
MEUD	07	1144	1152	1146	N28	W06	8051		1-	C	1146	1.30	1.50			
MEUD	07	1247	1255	1250	N26	W05	8051		1-	C	1250	1.80	2.00			
MEUO	07	1302	1335 D	1310	N27	W07	8051		1-	C	1310	1.60	1.80			
KANZ	07	1317 E	1329 D		N26	W06	8051		1-							D
KANZ	07	1340	1350 D		N33	W01	8051		1-							D
MEUD	07	1342	1355	1352	N34	W05	8051		1-	C	1352	.70	.80			
MEUD	07	1412	1420	1413	N27	W08	8051		1-	C	1413	.60	.70			
KANZ	07	1435 E	1522 D	1456	N26	W05	8051	47 D	1		1456			2.20		F
MEUD	07	1436	1510 O	1451	N28	W08	8051	34 O	1	C	1451	2.00	2.20			
SACP	07	1446 U	1522	1452 U	N28	W06	8051		1-	C		1.13	1.14		21	
CAPS	07	1451 E	1526 O		N28	W06	8051	35 D	1	1	1456	2.00	2.20		250	I
SACP	07	1558	1629 D	1606	N27	W09	8051	31 D	1	C		3.70	3.74		23	
LOCK	07	1605 E	1640	1605 U	N27	W09	8051		1-	C	1605	1.10	1.10		20	
MCMA	07	1615 E	1638 D		N28	W10	8051	23 D	1	2 P	1620	2.00	2.20			F
LOCK	07	1705 U	1805	1725	N27	W10	8051		1-	C	1725	2.00	2.00		20	K
SACP	07	1728 E	1800 U	1736 U	N27	W08	8051		1-	P		1.84	1.86		20	
MCMA	07	1732 E	1758 D		N28	W10	8051	26 D	1	2 P	1733	2.70	3.00			E
SACP	07	1853	1911	1901	N27	W11	8051		1-	C		.62	.63		17	
LOCK	07	1855	1915	1900	N27	W11	8051		1-	C	1900	.50	.50		20	
SACP	07	1921	1941 U	1933	N28	W09	8051		1-	C		.84	.85		18	
CULG	07	2000 E	2029 D	2015	N27	W11	8051	29 D	1+	P	2015	2.80	3.08			T
LOCK	07	2000 U	2045	2015	N27	W11	8051		1-	C	2015	2.00	2.00		20	
SACP	07	2001 E	2045 U	2019 U	N27	W10	8051	44 O	1	P		3.20	3.24		20	
CULG	07	2111	2128	2115	N28	W07	8051		1-	C	2115	.60	.66			HT
CULG	07	2159	2315	2238	N26	W12	8051		1-	C	2238	1.80	1.98			HKT
LOCK	07	2230	2310 U	2240 U	N27	W11	8051		1-	C	2240	1.50	1.50		20	
SACP	07	2234	2304 U	2241	N27	W11	8051	30 U	1	C		2.77	2.80		20	
LOCK	07	2330	2345 D	2338	N27	W13	8051		1-	C	2338	.80	.80		20	
HALE	07	2330 E	2352		N28	W13	8051		1-	1 P	2336	.60	.60			F

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OBSERVATORY	DATE NOV 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
CULG	07	2331	2400 D	2332	N26	W14	8051	29 D	1	P	2332	2.40	2.52			KT
MANI	07	2343 E	2400		N27	W16	8051	17 D	1	2	2345	3.00	3.00			
SACP	07	2344 E	2346 D	2344 U	N27	W14	8051		1-	P		.60	.61		18	
MANI	08	0008	0033	0020	N27	W16	8051	25	1	2	0020	3.00	3.00			
CULG	08	0013 E	0118 D	0015	N27	W15	8051	65 D	1	P	0015	2.00	2.10			T
MANI	08	0237	0303	0244	N27	W16	8051		1-	2	0244	1.70	1.70			
CULG	08	0243	0312	0245	N27	W14	8051		1-	C	0245	.60	.66			FT
KANZ	08	0845	0852		N27	W14	8051		1-							D
KAND	08	1015 E	1021 D		N30	W11	8051		1-							
KANZ	08	1031 E	1053		N26	W20	8051		1-							FH
KAND	08	1048	1110		N28	W18	8051		1-		1057		.55			
KAND	08	1052	1124		N31	W14	8051		1-		1100		.68			
KANZ	08	1053	1058 D		N31	W16	8051		1-							DH
CAPS	08	1110	1118 D		N27	W15	8051		1-	3	1114	.30	.30		155	I
KAND	08	1234	1304 D		N28	W13	8051		1-		1238		.48			
CAPS	08	1313 E	1322		N28	W15	8051		1-	3	1316	.20	.20		145	I
KANZ	08	1353	1401 D		N29	W15	8051		1-							D
KANZ	08	1412	1417		N29	W15	8051		1-							D
KANZ	08	1428	1505		N26	W20	8051	37	1							EH
LOCK	08	2028	2045	2032	N32	W19	8051		1-	C	2032	1.50	1.50		10	
LOCK	08	2154	2210	2157	N28	W21	8051		1-	C	2157	.30	.30		20	F
MANI	09	0156 E	0158		N28	W21	8051		1-	1	0157	.20	.20			
MANI	09	0808	0818	0811	N28	W24	8051		1-	2	0811	1.00	1.00			
KAND	09	0830	0845		N27	W25	8051		1-							
KANZ	09	1342 E	1357 D		N24	E25	8056	15 D	1							DH
KAND	10	0815	0857		N24	E18	8056	42	1		0825		1.64			
KAND	10	1002	1008		N27	W49	8051		1-							
KAND	10	1158	1208		N29	W39	8051		1-		1201		.32			
KAND	10	1212	1235 D		N25	W44	8051		1-							
LOCK	10	1646	1702	1654	N53	W43			1-	C	1654	.20	.30		10	
LOCK	10	1736	1755	1741	N28	W44	8051		1-	C	1741	.70	.70		10	
LOCK	10	1907	1921	1911	N28	W44	8051		1-	C	1911	1.60	1.60		20	
LOCK	10	2130	2152	2140	N26	E06	8056		1-	C	2140	.20	.20		10	
MANI	11	0311	0321	0315	N27	W55	8051		1-	2	0315	.20	.30			
MANI	11	0523	0540	0528	N26	W56	8051		1-	2	0528	.20	.30			
MANI	11	0733	0738	0735	N27	W50	8051		1-	2	0735	.40	.60			
ISTA	11	0810	0840		N29	W49	8051	30	1+							
KAND	11	0816	0821		N31	W49	8051		1-		0820		.77			
MANI	11	0831	0839	0834	N27	W50	8051		1-	2	0834	.40	.60			
MANI	12	0113	0120	0115	N28	W60	8051		1-	2	0115	.40	.70			
IKOM	12	0116	[illegible]		N28	W61	8051		1	P						DO
MITK	12	0845 E	0848		N30	W55	8051	3 D	1	V	0845	.49	.92	1.95	85	DH
SACP	12	1403	1410	1408	N27	W69	8051		1-	C		.38	.72		18	
SACP	12	1521	1543	1530	N02	E78	8061		1-	C		.50	1.27		18	
SACP	12	1804	1856 U	1822	N26	W20	8056		1-	C		.46	.47		18	
CULG	13	0358	0414 D	0403	N32	E02			1-	P	0403	.20	.23			G

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OBSERVATORY	DATE NOV 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
CULG	13	0534	0552	0536	N33	E01			1-	C	0536	.20	.23			G
MANI	13	0542	0552	0544	N32	W01			1-	2	0544	.30	.30			
CULG	13	0553	0608	0601	N26	W23	8056		1-	C	0601	.20	.23			
MANI	13	0555	0608	0600	N24	W22	8056		1-	2	0600	.50	.50			
CULG	13	0613	0633	0621	N26	W23	8056		1-	C	0621	.80	.92			
MANI	13	0617	0626	0621	N24	W22	8056		1-	2	0621	1.10	1.10			
MANI	13	0816	0821	0818	N32	W03			1-	2	0818	.20	.20			
CULG	14	0119	0139 D	0121	N08	W57			1-	P	0121	.20	.36			GL
MANI	14	0303	0314	0306	N27	W90	8051	11	1	2	0306	1.00	5.00			
CULG	15	2115	2212	2121	N26	W55	8056		1-	C	2121	.80	1.52			
CULG	16	2010 E	2022	2015	N26	W70	8056		1-	P	2015	.40	1.20			
CULG	17	0434	0506	0453	N21	W77	8056			C	0453	.20				G
CAPS	17	1242 E	1300		N08	W80	8063	18 D	1	1	1250	.50				G
HALE	19	0027	0050	0036	N02	E40	8070		1-	1 C	0036	.40	.40			H
CULG	19	0031	0100	0037	N02	E40	8070		1-	C	0037	.20	.26			DGH
OTTA	19	1644	1653	1649	N19	E87	8073		1-	1 C	1649	.11				
LOCK	19	1710 E	1800 U	1715 U	N27	E90	8073		1-	C	1715	.20	1.00		10	
MANI	20	0436	0448	0438	N10	W45	8067		1-	2	0438	.20	.20			
CULG	20	2335	2400 D	2341	N20	W19			1-	P	2341	.20	.23			CG
HALE	22	1903	1916	1911	N22	E40	8073		1-	1 C	1911	.50	.60			F
CULG	23	2044	2117 D	2100	N23	E24	8073		1-	P	2100	.40	.46			H
CULG	24	2249	2304 D		S38	W65			1-	P	2304	.20	.80			G
CULG	25	0334	0351	0339	S50	W40			1-	C	0339	.20	.45			G
CULG	26	0218	0233	0224	S22	E31			1-	C	0224	.20	.26			G
CAPS	27	0923 E	0940 D		N29	E90	8075	17 D	1	3	0931				150	
LOCK	27	2100	2150	2125	S28	E61			1-	C	2125	.20	.40		10	
LOCK	27	2240	2335	2254	N28	E90	8075	55	1	C	2254	.80	4.00		20	
SACP	28	1514 E	1543	1517	N29	E81	8075		1-	P		.29			17	
LOCK	28	1830	1852	1836	S18	E90	8078		1-	C	1836	.20	1.00		10	
LOCK	28	1851	1859	1854	N31	E80	8075		1-	C	1854	.40	1.20		10	
LOCK	28	2138	2210 U	2142	N29	E80	8075	32 U	1	C	2142	.70	2.10		20	
HALE	28	2140	2159	2142	N27	E85	8075		1-	1 C	2142	.60				F
HALE	28	2209	2213	2210	N27	E78	8075		1-	1 C	2210	.20				
HALE	29	0011	0022	0015	N28	E80	8075	11	1	1 C	0015	1.20	3.10			FH
HALE	29	0102	0115	0106	S18	E90	8078		1-	1 C	0106	.20				F
HALE	29	0103	0128	0116	N28	E83	8075	25	1	1 C	0116	.80	2.00			F
HALE	29	0133	0148	0139	N27	E77	8075		1-	1 C	0139	.10	.20			

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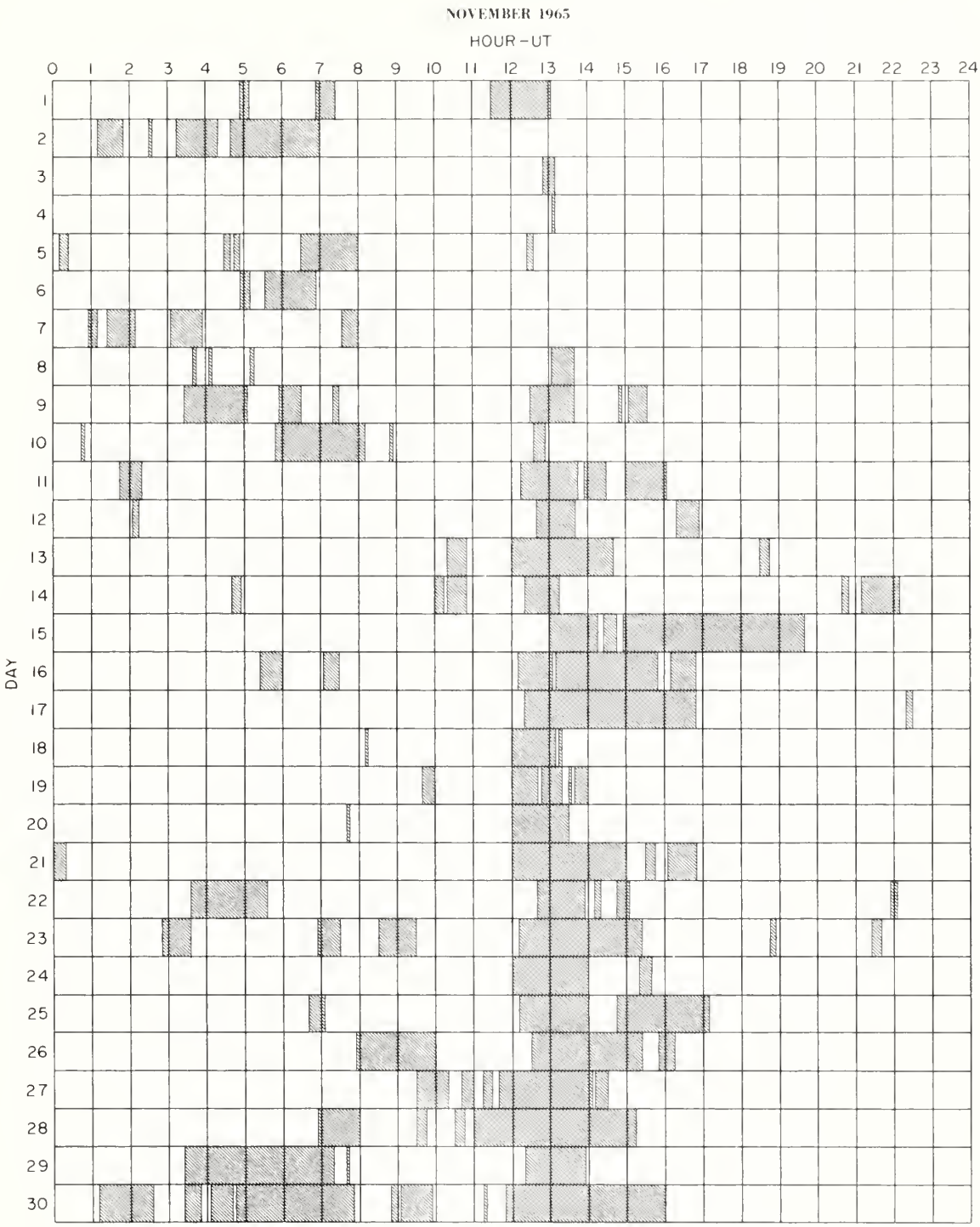
OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					REMARKS
					APPROX		McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq Deg	CORR. AREA Sq Deg	MAX WIDTH Hα	MAX INT %	
	NOV 1965	START	END	MAX. PHASE	LAT	MER DIST										
HALE	29	0143	0159	0150	S18	E90	8078		1-	1 C	0150	.20				F
HALE	29	0202	0211	0206	S18	E90	8078		1-	1 C	0206	.10				
HALE	29	0237	0242	0238	S18	E90	8078		1-	1 C	0238	.10				
HALE	29	0318	0325	0322	S18	E90	8078		1-	1 C	0322	.10				
KAND	29	0930 E	1000		N29	E70	8075		1-							
HALE	29	1725	1744	1733	S17	E75	8078		1-	1 C	1733	.20	.20			
OTTA	29	1737 E	1754		S18	E78	8078		1-	1 C	1738	.22	.53			
HALE	29	2015	2020	2016	S17	E74	8078		1-	1 C	2016	.10	.20			
HALE	29	2051	2124	2058	S17	E74	8078		1-	1 C	2058	.20	.30			
LOCK	29	2230	2250	2238	S62	E40			1-	C	2238	.30	.60		10	
MANI	30	0024	0029	0026	N29	E60	8075		1-	2	0026	.20	.30			
SACP	30	1644	1700	1649	N29	W81	8079		1-	C		1.25			16	

INTERVALS OF NO FLARE PATROL OBSERVATIONS
PROVISIONAL



Observatories included:

Arcetri	Honolulu	Kanzelhöhe	Meudon	Sacramento Peak
Catania	Ikomasan	Lockheed	Mitaka	Salonique
Culgoora	Istanboul	Manila	Ondrejov	Tortosa
Herstmonceux	Kandilli	McMath-Hulbert	Ottawa	Wroclaw

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OBSERVATORY	DATE AUG 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
BUCA	02	0700 E	0742 D		N26	W63	7918		1-	1			1.20			H
UCCL	02	1409 E	1436 D		N25	W65	7918		1-	2						E
LOCK	02	2004	2025	2009	S26	E76	7931		1-	C	2009	.20	.60		10	
LOCK	03	1930	2035	2023	N27	E80	7932	65	1	C	2023	1.10	3.30		20	HK
HALE	03	1932	1949	1936	N27	E75	7932		1-	2 C	1936	.20	.50			
MCMA	03	1938 E	2016 D		N27	E85	7932		1-	1 P	1949	.20				D
HUAN	03	2020	2027	2024	N28	E82	7932		1-	C	2024	.50				E
HALE	03	2020	2034	2023	N28	E75	7932	14	1+	2 C	2023	.60	1.40			H
SACP	03	2219	2259	2248	N28	E78	7932		1-	C		.61	1.45		19	
LOCK	03	2222	2258	2230	N27	E80	7932	36	1	C	2247	.80	2.40		20	HK
LOCK	03			2247												
CULG	03	2223	2254	2249	N26	E82	7932		1-	C	2249	.40				CG
HALE	03	2224	2259	2230	N27	E75	7932		1-	2 C	2230	.50	1.20			HK
HALE	03			2247												
HUAN	03	2225	2233 D		N28	E80	7932		1-	P	2232	.20				D
SACP	03	2303	2313	2305	N27	E74	7932		1-	C		.26	.54		18	
LOCK	03	2303	2319	2307	N26	E75	7932		1-	C	2307	.50	1.00		10	J
HALE	03	2304	2315	2306	N26	E71	7932		1-	2 C	2306	.30	.60			
CULG	03	2308 E	2314		N25	E77	7932		1-	P	2306	.20	.80			GH
CULG	03	2357	2400 D		N26	E81	7932		1-	P	2400	.20				CG
HALE	03	2358	0008 D	0005	N27	E72	7932		1-	1 P	0005	.50	1.10			
LOCK	03	2358	0015	0001	N27	E78	7932		1-	C	0006	.60	1.40		20	K
LOCK	03			0006												
SACP	04	0000 E	0010	0005	N28	E77	7932		1-	P		.39	.90		18	
IKOM	04	0007	0011 D		N25	E75	7932		1-	V						G
CULG	04	0211	0258 D	0228	N26	E79	7932		1-	P	0228	.40				G
HALE	04	0212	0256	0216	N27	E73	7932		1-	2 C	0216	.20	.40			K
HALE	04			0230												
MITK	04	0227	0240 D	0235	N27	E77	7932		1-	C						DG
MITK	04	0258	0303 D	0302	N27	E77	7932		1-	C						DG
HALE	04	0258	0304	0300	N26	E72	7932		1-	1 C	0300	.30	.60			
HALE	04	0429	0448 D	0434	N27	E72	7932	19 D	1	2 P	0434	1.20	2.40			
CULG	04	0429	0453	0433	N27	E78	7932		1-	C	0433	.80	3.20			GJ
MITK	04	0430	0450	0441	N27	E77	7932	20	1	C						HG
TACH	04	0431	0452	0434	N27	E77	7932		1-	C	0434	1.10	3.80			DL
HALE	04	0439	0447	0441	N29	E73	7932		1-	2 C	0441	.30	.70			
MITK	04	0513	0522	0517	N27	E77	7932		1-	C						DG
KANZ	04	0714 E	0724		N26	E73	7932		1-							DGH
KANZ	04	0740 E	0745 D		N39	E90	7935		1-							A
KANZ	04	0859 E	0906 D		N27	E36		7 D	1							DG
ARCE	04	0900 E	0908 D		N22	E85	7932		1-	2	0900	.65	.81			
KANZ	04	0944	0953		N29	E82	7932		1-							DGH
KANZ	04	1016	1024		S28	E66	7936		1-							DG
OTTA	04	1215	1250	1234	N30	E82	7932	35	1	2 C	1234	.89	2.44			
KANZ	04	1419	1459		N29	E76	7932		1-							DGH
HALE	04	2102	2113	2106	N30	E71	7932		1-	2 C	2106	.20	.40			
LOCK	04	2102	2114	2105	N28	E74	7932		1-	C	2105	.40	.80		10	
MONT	05	1115 E	□		N30	W90	7913		1-							O

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OBSERVATORY	DATE AUG 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
LOCK	05	1655	1737	1720	S32	E58	7936		1-	C	1720	.30	.50		10	J
LOCK	05	1830	1905	1845	S31	E57	7936		1-	C	1845	.30	.50		10	J
LOCK	05	2017	2048	2027	N37	W09	7930		1-	C	2027	.30	.30		10	J
SACP	05	2021	2039	2027	N37	W10	7930		1-	C		.57	.60		18	
MCMA	05	2024	2035	2027	N37	W09	7930		1-	2 C	2027	.20	.20			DH
HUAN	05	2024	2037	2028	N37	W11	7930		1-	C	2028	.20	.24			D
LOCK	05	2105	2200	2120	S30	E54	7936		1-	C	2120	.30	.50		10	J
LOCK	06	0005	0110	0040	S29	E53	7936		1-	C	0040	.30	.50		10	
CLMX	06	0039	0047 D	0042	S31	E49	7936		1-	C	0042	.40	.60			
KANZ	06	0752 E			N27	E45	7932		1-							DGH
OTTA	06	1056 E	1126 D	1108	N17	E25			1-	2 P	1108	.41	.41			
OTTA	06	1114 E	1135 D	1120	S09	W32			1-	2 P	1120	.23	.25			H
CLMX	06	1256	1412 D		S31	E41	7936		1-	C	1400	.40	.50			
CLMX	06	1322	1509 D		N34	E66	7935		1-	C	1328	.40	.40			
KANZ	06	1325 E	1355 D		N38	E67	7935		1-							
UCCL	06	1423 E	1441		N29	E69	7935		1-	3						D
LOCA	06	1425 E	1440		N38	E69	7935	15 D	1	S						H
HUAN	06	1445 E	1456		N36	E69	7935		1-	P	1448	.18				D
HUAN	06	1652	1658	1655	N36	E69	7935		1-	C	1655	.18				D
OTTA	06	1657	1708	1705	S32	E45	7936		1-	3 C	1705	.18	.25			
OTTA	06	1701	1709		S22	W32			1-	1 C	1704	.12	.13			H
HALE	06	2003	2018 D	2008	S30	E44	7936		1-	2 P	2008	.30	.40			
MCMA	06	2007	2020	2010	S32	E43	7936		1-	2 C	2010	.20	.40			D
HUAN	06	2148	2155 D		N35	E64	7935		1-	P	2152	.50				D
LOCK	07	0005	0040	0017	N25	E37	7932		1-	C	0017	.60	.70		20	
MITK	07	0011	0023	0016	N26	E37	7932		1-	C						G
HALE	07	0018 E	0034		N25	E37	7932		1-	1 P	0018	.50	.60			
CULG	07	0019 E	0037		N25	E38	7932		1-	P	0020	.40	.52			G
ARCE	07	0853 E	0923 D		N25	E59	7932	30 D	1	2	0853	1.21	2.15			
KAND	07	0904	0911		N35	E58	7935		1-							
MCMA	07	1406 E	1420 D	1408	N28	E36	7932		1-	2 P	1408	.90	1.00			FH
HUAN	07	1407 E	1410 D		N27	E34	7932		1-	P	1407	.38	.49			E
LOCK	08	0018	0040	0026	N26	E32	7932		1-	C	0026	.80	.80		20	
MANI	08	0020 E	0040 D	0027	N26	E30	7932		1-	2	0027	.40	.44			
HALE	08	0020	0048	0024	N26	E30	7932		1-	2 C	0024	.60	.70			F
KANZ	08	0755 E	0917 D		N36	E45	7935	82 D	1+							EH
BUCA	08	0806	0855		N36	E44	7935		1-	2			1.70			
CAPS	08	0808 E	0820		N37	E50	7935		1-	3	0811	.50	.70		190	D
ISTA	08	0810 E	0830		N34	E44	7935	20 D	1+							
CATA	08	0810	0830	0815	N36	E45	7935		1-	3 C	0815	1.10	1.77		162	E
ISTA	08	0850	0915		N35	E45	7935		1-							
CAPS	08	0850 E	0925		N39	E50	7935		1-	3	0910	.70	.90		180	D
ARCE	08	0817 E	0825 D		N25	E40	7932		1-	2	0817	1.31	1.76			
ARCE	08	0840 E	0915 D		N25	E40	7932		1-	2	0852	1.34	1.80			
CATA	08	1036 E	1055 D	1037	N36	E45	7935		1-	3	1037	.26	.40		151	DH
HUAN	08	1432	1442	1435	N36	E45	7935		1-	C	1435	.20	.31			D
KANZ	08	1435	1452		N35	E41	7935	17	1							DH
CULG	08	2348	2400 D	2354	N36	E34	7935		1-	P	2354	.20	.26			

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KAND	09	0936	1002		N24	W20			1-							
KANZ	09	0946 E	0957		N30	E23	7935	11 D	1							DH
MONT	09	1025	1040	1029	N26	E30	7935		1-			2.00				DO
LOCK	09	1605	1640	1622	N34	E22	7935		1-	C	1622	.40	.40		10	J
KANZ	09	1610 E	1650		N31	E22	7935	40 D	1							DH
KANZ	09	1610 E	1656 D		N33	E17	7935	46 D	1							DH
MCMA	09	1632 E	1657 D		N35	E22	7935		1-	2 P	1633	.30	.40			E
MITK	10	0042	0052	0047	N18	W90	7943		1-	C						G
TACH	10	0534	0543	0536	S32	W04	7936		1-	C	0536	1.10	1.40			
ARCE	10	0941 E	0952 D		S32	E09	7936		1-	3	0945	.69	.87			
MCMA	10	1946	1957	1948	S33	W12	7936		1-	1 P	1948	.20	.30			DH
LOCK	10	1948	2020	2003	N37	E14	7935		1-	C	2003	.30	.30		10	
MCMA	10	2036	2045	2040	S33	W12	7936		1-	2 C	2040	.20	.30			D
HALE	11	0156	0234	0208	S31	W15	7936		1-	2 C	0208	.70	.80			F
MANI	11	0203 E	0253 D	0209	S21	W34	7931		1-	2	0209	1.00	1.10			
CULG	11	0239	0250	0242	S34	W15	7936		1-	C	0240	.20	.27			CGH
HALE	11	0244	0249	0247	S33	W14	7936		1-	2 C	0247	.10	.10			HJ
HALE	11	0321	0343	0324	S30	W20	7936		1-	2 C	0324	.20	.20			
CAPS	11	0629 E	0653		S30	W18	7936		1-	3	0631	.40	.50		157	DH
KAND	11	0957	1019		S31	W19	7936		1-							
MCMA	11	1559 E	1650	1602	S32	W22	7936		1-	2 C	1620	.40	.60			E
MCMA	11			1620												
CLMX	11	1559	1652	1601	S31	W22	7936		1-	C	1601	.20	.20			
KANZ	11	1635 E	▭		S31	W24	7936		1-							E
LOCK	11	1710	1735	1720	S31	W26	7936		1-	C	1720	.30	.30		10	
MCMA	11	1712	1725	1715	S32	W20	7936		1-	2 C	1715	.20	.30			D
CLMX	11	1713	1727	1718	S31	W24	7936		1-	C	1718	.40	.40			
OTTA	11	1715	1723 D		S31	W23	7936		1-	1 C	1719	.18	.20			
SACP	11	1715	1741	1721	S30	W23	7936		1-	C		.43	.50		15	
LOCK	11	1813	1821	1816	S32	W28	7936		1-	C	1816	.40	.40		10	
IKOM	12	0515 E	0526 D		S30	W34	7936		1-	V	0515	.60	.80	.68	80	D
KAND	12	0538	0601		S31	W30	7936		1-							
IKOM	12	0538 E	0615 D		S30	W34	7936		1-	V	0538	.80	1.00		80	D
KANZ	12	0859 E	0915 D		S31	W34	7936		1-							D
KANZ	12	0942 E	▭		S30	W36	7936		1-							
KANZ	12	1009 E	1030 D		S31	W34	7936	21 D	1							
KANZ	12	1327 E	1340		S28	W44	7936		1-							
	12	2350	2400	NO FLARE	PATROL											
	13	0000	0020	NO FLARE	PATROL											
MITK	13	0247 E	0254		N37	W19	7935		1-	C						G
MCMA	13	1254	1302	1256	N29	E36	7948		1-	2 C	1256	.30	.40			E
CLMX	13	1254	1319	1257	N28	E37	7948		1-	C	1257	.30	.30			
ONDR	13	1256	1305		N30	E38	7948		1-	1						DG
CULG	14	0309	0325	0311	N30	W53	7932		1-	C	0311	.20	.34			G
LOCK	14	1628	1639	1633	S33	W66	7936		1-	C	1633	.20	.40			
CLMX	14	1630	1639	1635	S27	W60	7936		1-	C	1635	.30	.50			

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CAPS	15	0615	0636		S35	W75	7936	21	2	2	0628	2.00	7.00		180	G
KANZ	15	1328 E	1339 D		N38	W47	7935		1-							DG
KANZ	15	1347 E	1400 D		N38	W47	7935		1-							DG
SACP	15	1411 E	1419 U	1412	S33	W79	7936		1-	P		.96			17	
CLMx	15	1432	1448 D		N34	W49	7935		1-	C	1445	.30	.40			
MCMA	15	1854	1903	1855	N26	E20	7947		1-	2 C	1855	.20	.20			DH
LOCK	16	0030 E	0048	0040	N31	E90	7952		1-	C	0040	.30	1.50		10	H
	16	0235	0245	NO FLARE	PATROL											
ARCE	16	0920 E	0955 D		N25	W90	7932	35 D	1	2	0920	.56	3.18			
MCMA	16	2010	2020	2012	N22	E75	7952		1-	1 C	2012	.30				EL
	17	0600	0605	NO FLARE	PATROL											
LOCK	17	1812	1835	1824	S34	W80	7936		1-	C	1824	.20	.50		10	
HALE	18	0110	0129	0117	N28	W01	7947		1-	2 C	0117	.40	.40			
	18	0225	0230	NO FLARE	PATROL											
	18	0935	0945	NO FLARE	PATROL											
	18	0955	1000	NO FLARE	PATROL											
SACP	18	1432	1442	1437	N23	E84	7956		1-	C		.70			18	
IKOM	19	2320	2333 D		N20	E70	7956		1-	V						G
CAPS	20	0719	0742		N20	E63	7956		1-	3	0724	.50	1.00		180	G
HALE	20	1637	1648	1641	N39	W90	7935	11	1+	3 C	1641	.50				
LOCK	20	1638 E	1644	1638 U	N38	W90	7935		1-	C	1638	.30	1.50		10	
LOCK	20	1839	1901	1848	N22	E57	7956		1-	C	1848	.50	.80		10	
HALE	20	1846	1903	1852	N23	E56	7956		1-	1 C	1852	.40	.60			
MANI	21	0528 E	0555 D	0530	N38	W43	7947		1-	2	0530	.20	.28			
	21	1800	1815	NO FLARE	PATROL											
LOCK	21	2140	2230	2148	N25	E76	7960		1-	C	2148	.40	.80		10	K
LOCK	21			2215												
	22	1620	1625	NO FLARE	PATROL											
KAND	23	0909	0945		N10	E30	7959		1-							
KAND	23	0956	1019		N25	E90	7961		□							
UCCL	23	1406	1408		N24	E19	7956		1-	2						DJ
OTTA	23	1504	1511	1507	N28	E90	7961		1-	2	1507	.47				
CLMx	23	1505	1512	1509	N24	E90	7961		1-	C	1509	.40	2.00			
UCCL	23	1506	1511		N26	E87	7961		1-	2						AD
UCCL	23	1539	□		N25	E90	7961		1-	2						AD
LOCK	23	1841	1852	1845	N28	E90	7961		1-	C	1845	.30	1.50		10	H
CLMx	23	1841 E	1856	1845	N27	E90	7961		1-	C	1845	.30	1.50			
MCMA	24	2007	2025	2010	N28	E08	7956		1-	1 C	2010	.40	.40			EL
CLMx	24	2012 E	2023 D		N24	E16	7956		1-	C	2010	.30	.30			
UCCL	25	1123	1131		N24	W07	7956		1-	3						D
UCCL	25	1141	1142		N24	W10	7956		1-	3						D

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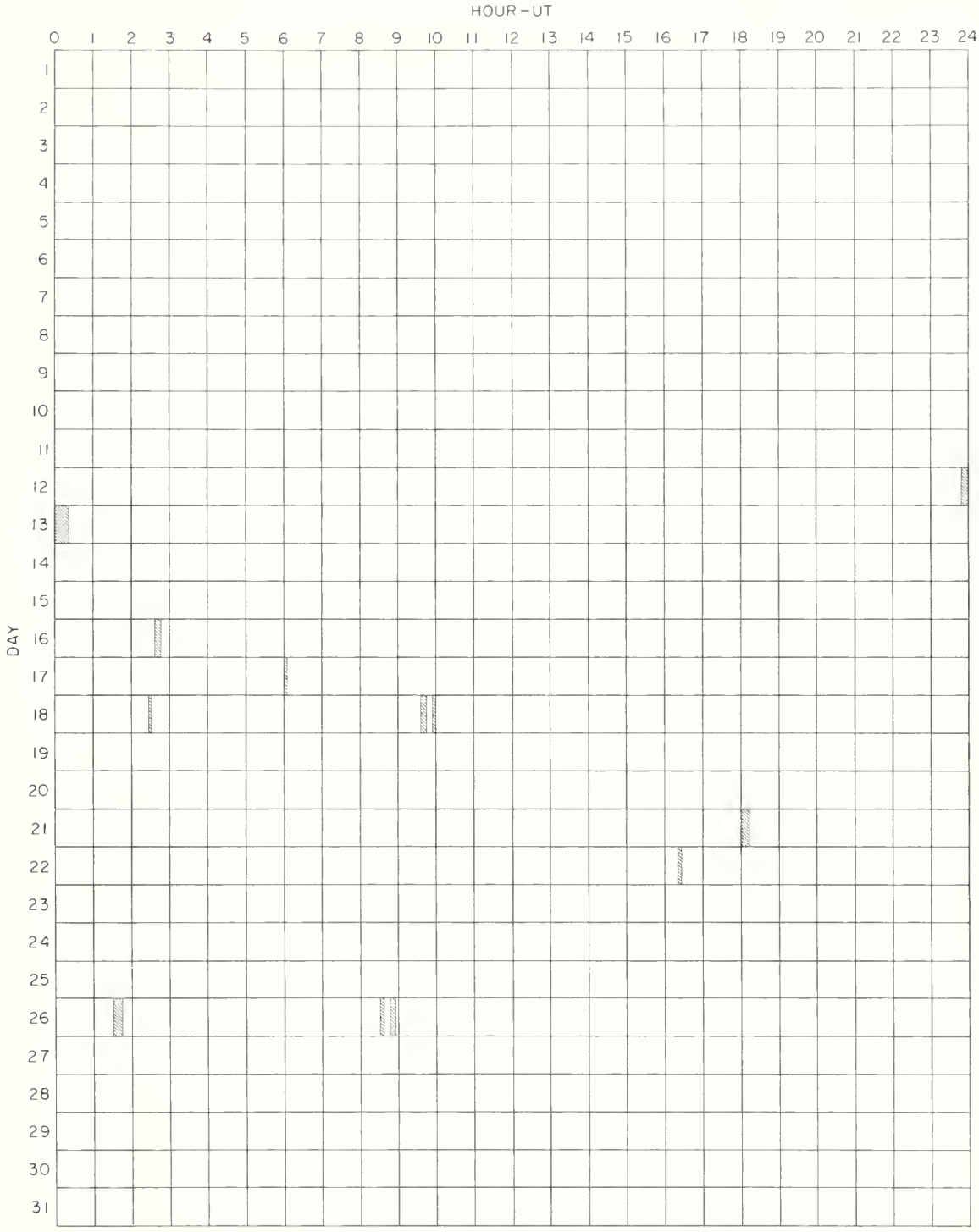
	26	0130	0145	NO FLARE	PATROL											
	26	0830	0835	NO FLARE	PATROL											
	26	0845	0855	NO FLARE	PATROL											
MCMA	26	1425	1530 D		N27	E50	7961		1-	1 P	1427	.40	.60			FH
MCMA	26	1821	1912 D		N27	E48	7961		1-	1 P	1832	.30	.40			FH
ARCE	27	0815 E	0830 D		N27	E40	7961		1-	2	0815	.82	1.14			
ARCE	27	0910 E	0925 D		N27	E40	7961		1-	2	0910	.43	.60			
UCCL	27	1011 E	1016		N29	E43	7961		□	2						B
UCCL	27	1045	1047		N27	E41	7961		1-	3						E
UCCL	27	1045	1049		N29	E41	7961		1-	3						DJ
UCCL	27	1054	1115		N29	E42	7961		1-	3						D
UCCL	27	1135 E	1137		N27	E42	7961		1-	3						D
LOCK	27	2039	2110	2045	N01	E27	7968		1-	C	2045	.20	.20		10	
ARCE	28	0820 E	□		N27	E28	7961		1-	2	0820	1.11	1.36			
MITK	29	0252 E	0316	0308	N02	E18	7968		1-	C						GH
HALE	29	0306	0315 D	0308	N02	E18	7968		1-	2 P	0308	.20	.20			
HALE	29	1852	1904	1857	N25	E08	7961		1-	3 C	1857	.10	.10			
ARCE	30	0900 E	0930 D		N26	E00	7961		1-	2	0900	.78	.84			
UCCL	30	0911	0915		N26	E01	7961		1-	3						E
UCCL	30	0921	0956		N39	E26	7964		1-	3						D
SACP	30	1410	1432 D	1418	N26	W03	7961		1-	C		.87	.86		23	
ZURI	30	1415 E	1427		N25	W01	7961	12 D	1	S						
CAPS	30	1415	1430		N26	E00	7961		1-	3	1418	.90	1.00		170	E
OTTA	30	1601	1632	1608	N27	W04	7961		1-	2	1608	.75	.75			E
LOCK	30	1720	1744	1733	N24	W04	7961		1-	C	1733	.20	.20			
HALE	30	1846	1923	1852	N27	W04	7961	37	1	3 C	1852	2.10	2.10			
LOCK	30	1847	1928	1854	N26	W04	7961		1-	C	1854	1.60	1.60		20	
SACP	30	1853 E	1940 U	1854	N27	W05	7961	47 D	1	P		2.35	2.34		23	
LOCK	30	2320	2339	2327	N26	W88	7956		1-	C	2327	.20	.60		10	H
KAND	31	□	0757		N15	W90	7956		1-							
MITK	31	0625	0645	0634	N22	W90	7956		1-	C						GH
KAND	31	0801	0822		N15	W90	7956	21	1+							
KAND	31	0902	1030		N15	W90	7956	88	1+							
CAPS	31	1122	1138		S02	W11	7968		1-	2	1126	.40	.40		175	DG
LOCK	31	2310	2333	2314	N25	W21	7961		1-	C	2314	1.60	1.60		20	
SACP	31	2311	2334	2314	N26	W22	7961	23	1	C		2.56	2.61		28	
CLMX	31	2312	2334	2314	N26	W19	7961		1-	C	2314	.90	.90			
HALE	31	2312	2339	2314	N25	W22	7961	27	1	2 C	2314	2.60	2.60			

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AUGUST 1965



Observatories included:

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

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

OCTOBER 1965

OCT 1965	UNIVERSAL TIME START	END	MAX	TYPE SWF IMP	IMPORTANCE ABS	SCNA	SEA	SPA	SES	SFD	BUR	WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
01	0338	0440	0356					25				1	MA(NPG18-25)	*
01	2026	2045D	2028							018		2	BO(WWV10-1.8,WWV15-1.2, KKE4-0.7,KKE5-0.6)	2024
01	2028	2055	2035		13	1						5	BO MC HA	
01	2028	2100	2033	S 1+								5	FM AD AN BE BO HU MC TR WS	
01	2028	2100	2036					61				5	BO(NPM26-61,NSS88-21, NPG18-14) BY(NPM26, NPG18)	
01	2028	2145	2037				2					5	A-5 BO HA A-3	
01	2029	2125	2034						2			1	A-3	
02	0412	0454	0414	S 1								5	MA AD CA OK SY TO CW+	*
02	0413	0510	0416					80				1	MA(NPG18-80)	*
02	0414	0458	0420				2					5	TY TA	*
02	1413	1418	1413D							017		2	BO(WWV15-1.7,KKE5-1.0, KKE4-0.7)	1404
02	1605E	1608	1605							010		2	BO(WWV10-1.0,KKE5-0.6, KKE4-0.6,WWV15-0.5)	1602
02	1609	1611	1610E							005		1	BO(WWV10-0.5,WWV15-0.2)	
02	1617	1625	1618							032		2	BO(WWV10-3.2,WWV15-2.2, KKE4-2.2,KKE5-1.2)	
02	1618	1629	1623		7	1						3	BO MC	
02	1618	1632	1622	S 1+								5	BE AD BO FM HU MC TR WS	
02	1618	1715	1623				2					2	A-3 A-5	
02	1620	1710							1+			1	A-3	
02	1625	1627									1+	3	MC BO	
02	1632	1641	1634		3	1						1	HA	
02	1637	1657O	1643D							014		2	BO(WWV10-1.4,WWV15-0.8, KKE4-0.6,KKE5-0.4)	
02	1736	1737									1	5	MC BO HA	
02	1742	1744									1	3	MC BO	1748
02	1847	1851									1	5	BO MC HA	
02	1906	1908									1	5	MC BO HA	
02	1910	1911									1	5	MC BO HA	
02	1913	1914									1	5	MC BO HA	
03	0430	0450	0432	G 1								5	MA CA OK	*
03	0431	0500	0434					18				1	MA(NPG18-18)	*
03	1412	1417	1414							001		1	BO(WWV15-0.1,WWV10-0.1)	1413
03	1412	1435	1415						1+			1	A-3	
03	1918O	1922	1920							003		2	BO(WWV10-0.3,WWV15-0.2, KKE5-0.2,KKE4-0.1)	
03	2007	2010	2008							002		1	BO(WWV10-0.2,WWV15-0.1)	1956E
04	1613	1619	1614							002		1	BO(WWV10-0.2,WWV15-0.1)	1612
04	1716	1720	1718							002		1	BO(WWV15-0.2)	1715
04	1849E	1905	1855O							022		2	BO(WWV10-2.2,WWV15-1.0, KKE5-0.8,KKE4-0.6)	1846
04	1854	2010	1857					47				5	BO(NPM26-47) HA(WWVL20,WWVB60)	
04	1855	1901	1857		13	1						5	BO MC HA	
04	1855	1903	1858				1-					1	A-3	
04	1855	1907	1857	S 1-								5	MC AO BO FM HU TR WS	
04	1858	1938	1900						2			1	A-3	
04	2033	2035	2034							004		2	BO(WWV10-0.4,WWV15-0.2, KKE5-0.1,KKE4-0.1)	2032
04	2049	2053	2050							004		2	BO(WWV10-0.4,KKE4-0.3, KKE5-0.2,WWV15-0.2)	2045
04	2347	2350	2348							013		1	BO(WWVH15-1.3)	2345
05	1753E	1757	1754E							003		1	BO(WWV10-0.3,WWV15-0.2)	1742
05	2008	2016	2011							003		1	BO(WWV10-0.3,WWV15-0.1)	2006
05	2117	2125	2118D							008		2	BO(WWV10-0.8,KKE4-0.6, WWV15-0.2)	2106
07	2220	2222									1	4	HA BO	
07	2304	2306									1	1	HA	
08	1602	1624	1605							002		1	BO(WWV15-0.2,WWV10-0.1)	1603
08	1603	1607									1	3	MC BO	
22	1628	1633	1629							004		2	BO(KKE5-0.4,WWV10-0.4, WWV15-0.2)	

RIOMETER EVENTS

OCTOBER 1965

GREAT WHALE RIVER 30 Mc/s

OCT. 1965	START UT	END UT	MAX UT	MAX. ABSORP. db, (tenths)	NO. OF PEAKS	OCT. 1965	START UT	END UT	MAX. UT	MAX. ABSORP. db, (tenths)	NO. OF PEAKS
1	2020	2110	2034	3	1	19	1110	1540	1138	11	1
2	0025	0852	0454	26	4	20	0900	1308	1129	5	1
2	1200	2230	1537	49	6	21	0730	0902	0758	5	1
3	0240	1504	1158	10	3	22	0808	1055	0907	9	3
5	1340	2120	1455	17	2	22	1829	2006	1845	13	5
8	0040	0650	0457	12	2	23	0220	2034	1427	53	8
8	2130	0750	0441	18	5	23	2348	0924	0027	56	13
10	0324	0842	0434	10	2	24	1126	2200	1417	30	8
11	0353	0442	0412	4	1	25	0030		1507	35	16
12	0020	0650	0324	21	4	26		0510			
12	1150	1410	1211	9	1	27	1246	2106	1518	16	4
13	0144	0758	0559	21	6	28	0033	2316	1153	46	8
13	1010	1238	1148	9	1	29	0240	0630	0306	4	2
13	1916	0722	0204	22	4	30	0300	1100	0542	17	6
14	1036	1701	1053	27	1	30	1918	2254	2046	6	1
18	0153	1710	1029	12	6	31	0559	0816	0711	9	2
						31	1708	2016	1900	9	3

SOLAR NOISE OBSERVATIONS

APRIL 1965 — MAY 1965

PENNSYLVANIA STATE UNIVERSITY — 10700, 2700, 960, 328 Mc/s

DATE	FREQUENCY	TYPE	STARTING TIME	TIME OF MAX	DURATION	FLUX DENSITY 10^{-22} wm^{-2} (c/s)$^{-1}$	
			UT	UT	MINUTES	PEAK	MEAN
April							
11	2700	Simple 2	1447.0	1451.0	4.8	-	-
11	2700	Simple 2	1451.8	1453.6	6.2	-	-
May							
15	10700	Simple 3	1821.2	1856.6	> 66	4.7	1.7
15	2700	Simple 2	1921.4	1934.9	> 7	1.9	0.8
17	2700	Simple 2	1506	1507.1	13.5	1.7	0.6
18	10700	Simple 3	1839	1904	45	3.5	2.5
	2700	Simple 2	1851	1851.5	2.5	1.0	0.3
	2700	Simple 2	1858	1858.5	1.0	1.7	0.7
	2700	Simple 2	1902.6	1904.2	2.4	4.2	1.6
	2700	P. I.	1905.0	1905.0	29	2.2	0.4
18	314	Simple	1847.0	1847.5	1	0.60*	0.02*
	314	Simple	1858.0	1858.5	1	0.53*	0.01*
18	10700	Simple 3	1924	1935	21.5	2.6	1.6
18	10700	Simple 3	1947	2014	44	14.3	5.6
	2700	Simple 2	1945	1948	10.3	1.2	0.6
	2700	Simple 2	1957	2001	9	1.8	0.5
	314	Simple	1954.6	1954.7	0.3	0.75*	0.38*
19	2700	Complex	1816.1	1826.1	14.2	20.5	5.8
20	10700	Simple 3	1442	1517	42	3.5	1.7
	2700	Simple 3	1442	1507	42	2.1	1.0
20	10700	Simple 3	1612	1620	23	3.5	1.7
	2700	Simple 3	1612	1629	24	1.6	0.8
20	2700	Simple 3	1656	1708	26	2.1	1.1
20	2700	Simple 3	1736	1753	28	2.2	1.1
20	10700	Simple 3	2031	2043.5	25	7.5	3.6
21	2700	Simple 2	1131	1140.5	13.5	6.0	2.8
22	10700	Simple 3	1938.5	2012.5	80	6.4	2.7
	2700	Simple 3	1940	2028	78	13.6	2.8
25	2700	Simple 2	2241.8	2242.7	2.2	7.3	2.4
26	10700	Simple 3	1220	1360	85	3.5	1.7
26	2700	Simple 2	2132.6	2133.6	3.9	7.8	3.9

SOLAR NOISE OBSERVATIONS

JUNE 1965

PENNSYLVANIA STATE UNIVERSITY — 10700, 2700, 960, 328 Mc/s

Date	FREQUENCY	TYPE	STARTING TIME	TIME OF MAX	DURATION	FLUX DENSITY $10\text{-}22_{wm}\text{-}2$ (c/s)-1	
			UT	UT	MINUTES	PEAK	MEAN
June							
2	10700	Simple 3	1822	1955	186	3.1	1.6
	2700	Simple 2	1848.8	1849.1	0.8	1.7	0.7
	2700	Simple 2	1851.8	1853.0	1.9	1.0	0.3
	2700	Simple 2	1921.2	1922.9	3.6	2.9	1.0
	2700	Simple 2	2009.0	2010.0	3.8	1.4	0.4
4	10700	Simple 2	1509.1	1509.7	3.4	3.7	1.8
	2700	Simple 2	1455.8	1503.8	15.0	1.8	1.1
	2700	Simple 3	1504.7	1506.4	4.4	3.2	1.6
4	10700	Simple 3	1824.4	1843.0	135	3.8	1.9
	2700	Simple 3	1752.7	-	57.5	1.0	0.5
	2700	Simple 3	1911.4	1923.0	36.6	2.3	1.5
	2700	Simple 2	2005.2	-	7	2.0	1.4
5	10700	Complex	1806.8	1812.9	13.9	156.0	41.0
	2700	Complex	1807.3	1812.9	13.2	38.2	8.6
	328	Complex	1811.6	1813.6	8.9	2.32*	0.33*
5	10700	P. I.	1820.7	1820.7	46.5	12.0	7.0
	2700	Complex	1820.5	1821.4	5.2	42.2	18.9
	2700	P. I.	1825.7	1826.3	39.7	8.3	1.4
	328	Complex	1820.5	1823.5	8.0	6.23*	1.07*
	328	P. I.	1828.5	1828.5	26.5	0.33*	0.16*
10	2700	Rise	2022	2051	?	4.5	?
12	2700	Rise	1755.5	1814.6	?	2.2	?

* Since the calibration is uncertain on this receiver the values given for flux measurement are solar flux divided by the flux from the undisturbed sun just prior to the burst.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1965

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

NOV 1965	URANE	DESCRIPTIVE TYPE	START UT	DURATION HRS MIN	MEAN FLUX	MAXIMUM TIME	MAXIMUM FLUX	REMARKS
6	3	Simple 3A	1545	4 25	0.8	Indet.	1.6	
	1	Simple 1f	1723.3	2.5	6.5	1724	13.0	
	3	Simple 3	1800	1 13	0.8	1825	1.6	
6	1	Simple 1	2040.7	1	2.1	2041	4.2	
7	3	Simple 3	1448	1 02	1.5	1455	3.0	
7	3	Simple 3	1715	1 00	1.1	1740	2.2	
7	5	Absorption	1825	45	-0.6	1845	-1.2	
7	3	Simple 3f	2000	1 10	1.2	Indet.	2.4	
10	1	Simple 1f	1909.5	3.5	6.0	1910.2	16.0	
	4	Post B.I.	1913	40	0.4	--	0.8	
11	3	Simple 3	1725	42	0.5	1733	1.0	
11	3	Simple 3	1420	1 05	0.8	1436	1.6	
12	3	Simple 3	2010	1 55	1.0	Indet.	1.6	
25	3	Simple 3	1330	3 10	0.8	1430	1.6	

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

NOVEMBER 1965

BOEING - SEATTLE 223 Mc/s

NOV. 1965	Type of Event	Start UT	End UT	Max UT	Flux Density at Time of Maximum 10^{-22}Wm^{-2}(cps)$^{-1}$
7	Noise Storm	1700E	2300D		
8	High Continuum	1700E	2250D		
9	Noise Storm	1700E	2250D		
10	Noise Storm	1700E	2245D		
11	Noise Storm	1746E	2300D		
12	Noise Storm	2120	2241D		
13	Noise Storm	1700E	2145		

E = less than
D = greater than

The equipment was down during the following times:

November	8	2250-2300 UT
	9	2250-2300
	10	2245-2300
	11	1700-1746
	12	2241-2300
	14	1700-2300
	15	1700-1850; 2250-2300
	16	2240-2300
	17	2245-2300
	18	2230-2300
	19	2235-2300
	20	2210-2300
	21	2200-2300
	22	2200-2300
	23	2230-2300
	24	1700-2130
	25	2200-2220
	27	2200-2300
	29	2125-2300
	30	1700-2300

Normal observing hours were from 1700UT to 2300UT.

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

NOVEMBER 1965

NANÇAY

169 Mc/s

The Nancay report for November was not received in time for publication.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

NOVEMBER 1965

ESSA BOULDER 108 Mc/s

NOV. 1965	TYPE	START UT	TIME OF MAXIMUM UT	DURATION MINUTES	INTENSITY
8	6	1605	2035	450D	1
10	6	1413	1507	137	1
14	3	1440	1440	1.2	2
15	3	1640	1641	2.0	2

NOMINAL TIMES OF OBSERVATION

NOVEMBER 1965

ESSA BOULDER 108 Mc/s

NOV. 1965	HOURS OF OBSERVATION U.T.	HOURS OF INTERFERENCE U.T.	NOV. 1965	HOURS OF OBSERVATION U.T.	HOURS OF INTERFERENCE U.T.
1	1334-2344		16	1351-2328	1351-1830
2	1335-2342		17	1352-2327	1352-1720
3	1336-2341		18	1353-2327	
4	1337-2340		19	1355-2326	
5	1338-2338		20	1356-2325	1730-1823
6	1340-2337	1733-1820	21	1357-2325	
7	1341-2336		22	1358-2324	
8	1342-2335		23	1359-2324	
9	1343-2334		24	1400-2323	
10	1344-2333		25	1401-2323	
11	1345-2333		26	1402-2322	
12	1346-2332		27	1403-2322	1838-2152
13	1348-2331	1729-1815	28	1404-2321	
14	1349-2330		29	1405-2321	
15	1350-2329		30	1406-2321	

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

NOVEMBER 1965

HALEAKALA 107 Mc/s

None Observed

The equipment was down from November 17 0515UT to November 26 0130UT.

Normal observing times for November are approximately 1635UT to 0345UT.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1965

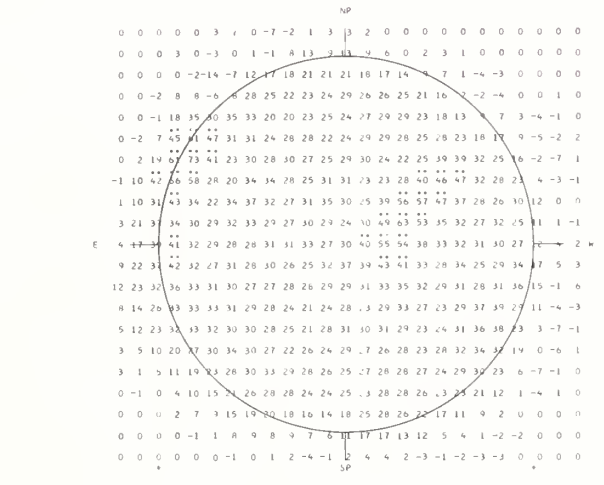
UNIVERSITY OF COLORADO

7.6-41 Mc/s

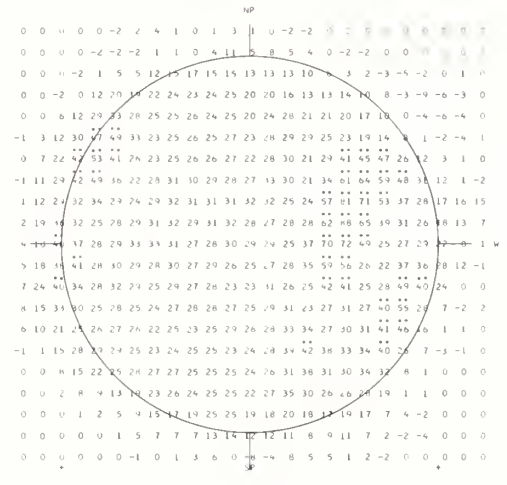
Date Nov 1965	Bursts				Date Nov 1965	Bursts			
	Type	Time (U.T.)	Intensity	Frequency Range (Mc/s)		Type	Time (U.T.)	Intensity	Frequency Range (Mc/s)
2 Nov	III	2008:15-2008:45	1	16-41	12 Nov	III	2136:45-2137:15	1-	31-38
4	III	1947:30-1947:45	1	24-41		III	2143:45-2144:15	1	25-41
5	III	1749:30-1749:45	1	30-41		III	2204:30-2204:45	1-	26-34
	III	2118-2118:45	2	16-41		III	2206:15-2206:30	1-	33-38
6	III	1723:30-1725	2	25-41		III	2218:30-2219	1-	31-38
7	no observ.	2320-2400				III	2219:45-2220:15	1-	29-41
8	no observ.	1500-1841				III	2237:15-2237:30	1-	21-41
	no observ.	2200-2400				III	2241:15-2242	1	18-41
9	no observ.	1500-2400				III	2257-2257:15	1-	21-41
10	no observ.	1500-2037				III	2303:30-2303:45	1-	21-41
11	no observ.	1500-1914			13	continuum	b1502-2145	1-	20-41
	continuum	b1914-2335	1	20-41		III	2210:30-2211	1-	21-33
12	no observ.	1500-1615				III	2214:15-2214:30	1-	23-35
	III	1640:45-1641:15	1-	24-41		III	2232:30-2232:45	1	22-39
	III	1645:15-1645:45	1	22-41		III	2233:15-2233:45	1+	23-39
	III	1654-1654:15	1+	22-41	14	III	1833-1833:30	1	24-41
	III	1741:45-1742	1-	24-41	17	III	1549-1552	3	19-41
	III	1747:15-1747:30	1-	24-35		III	1557-1557:45	1-	24-41
	III	1755:30-1756	1	17-41		III	1830:45-1831	1-	24-37
	III	1823:45-1824:15	1-	17-39	19	III	1645:45-1646:15	1-	24-41
	III	1833:45-1834:15	1	22-41	22	III	1610:30-1610:45	1	20-41
	III	1904-1904:15	1-	22-36		III	1615:45-1616	1+	16-41
	III	1905:45-1906:15	1	20-35					
	III	1906:45-1907:15	1	21-34					
	III	1916:15-1916:30	1-	25-36					
	III	1917-1917:30	2	16-41					
	III	1919-1919:15	1-	23-35					
	III	1925-1925:30	1-	21-41					
	III	1935:45-1936	1-	23-34					
	continuum	1937-2135	1-	21-41					

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

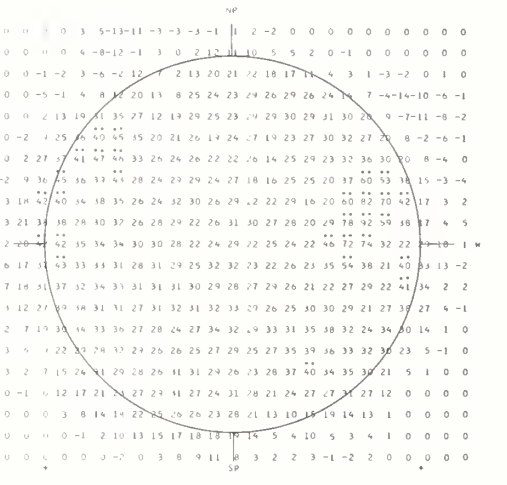
STANFORD — **NOVEMBER 1965** — **9.1 cm**



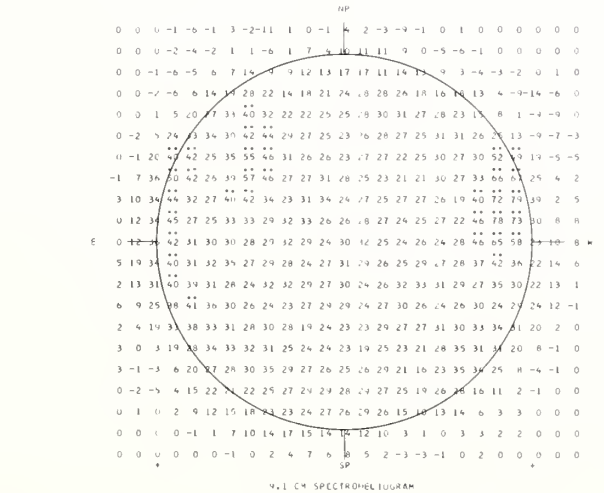
9.1 CM SPECTROHELIOGRAM
STANFORD, 01 NOV 1965 20-21 HRS UT. S = 79(xRC) BRIGHTNESS UNIT = 1000 K



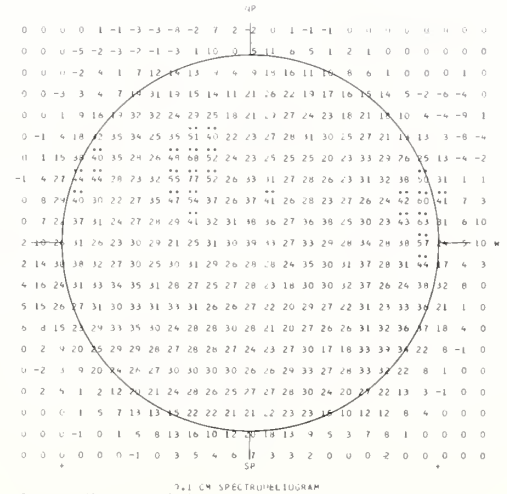
9.1 CM SPECTROHELIOGRAM
STANFORD, 02 NOV 1965 20-21 HOURS UT. S = 80 BRIGHTNESS UNIT = 1000 K



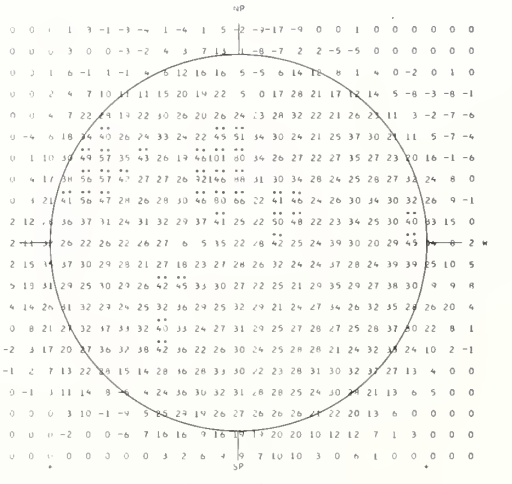
9.1 CM SPECTROHELIOGRAM
STANFORD, 03 NOV 1965 20-21 HOURS UT. S = 81 BRIGHTNESS UNIT = 1000 K



9.1 CM SPECTROHELIOGRAM
STANFORD, 04 NOV 1965 20-21 HOURS UT. S = 80 BRIGHTNESS UNIT = 1000 K



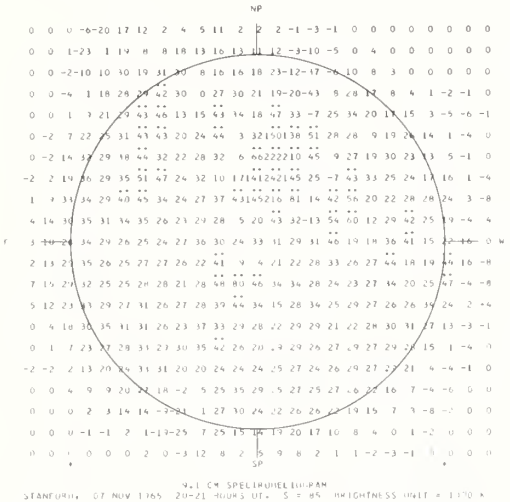
9.1 CM SPECTROHELIOGRAM
STANFORD, 05 NOV 1965 20-21 HOURS UT. S = 78 BRIGHTNESS UNIT = 1000 K

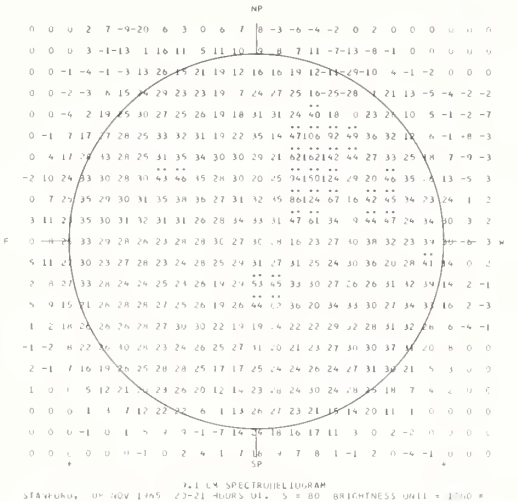


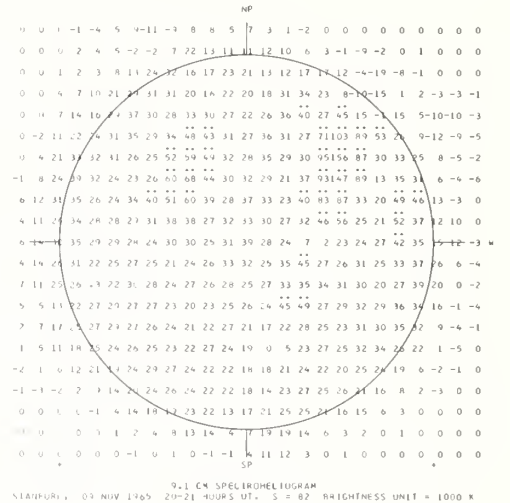
9.1 CM SPECTROHELIOGRAM
STANFORD, 06 NOV 1965 20-21 HOURS UT. S = 81 BRIGHTNESS UNIT = 1000 K

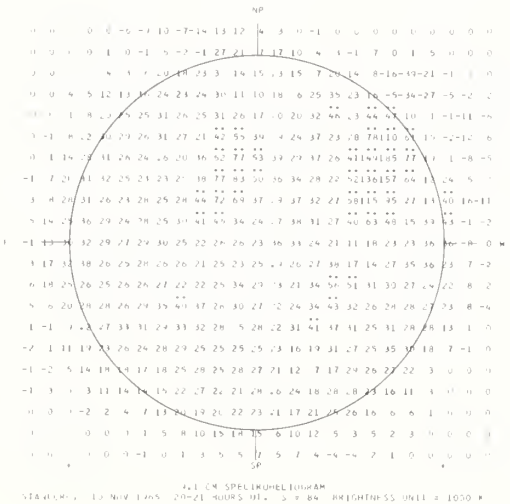
SOLAR RADIO EMISSION SPECTROHELIOGRAMS

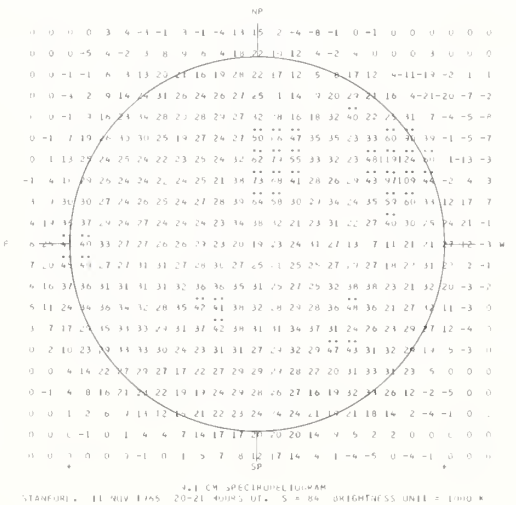
STANFORD — **NOVEMBER 1965** — **9.1 cm**

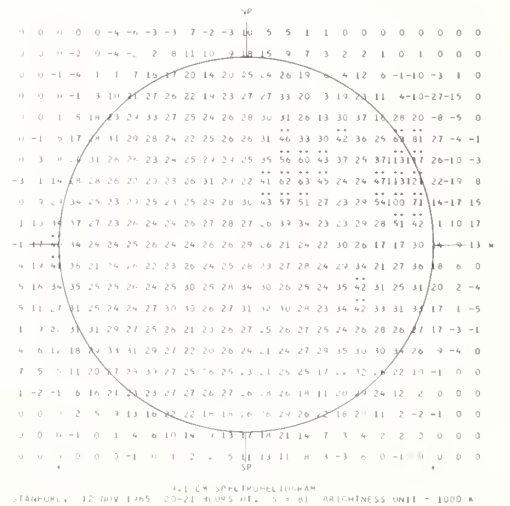






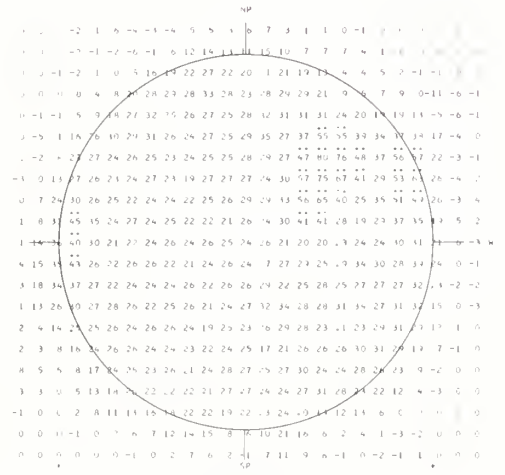




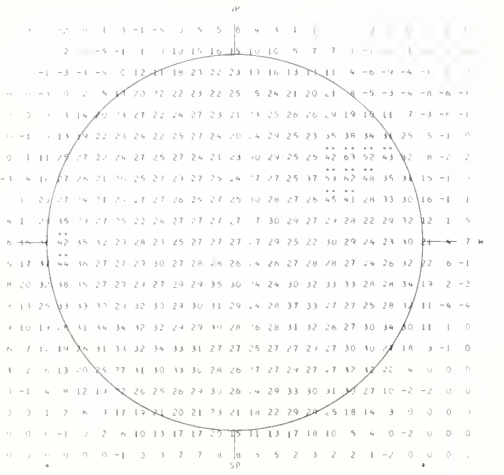


SOLAR RADIO EMISSION SPECTROHELIOGRAMS

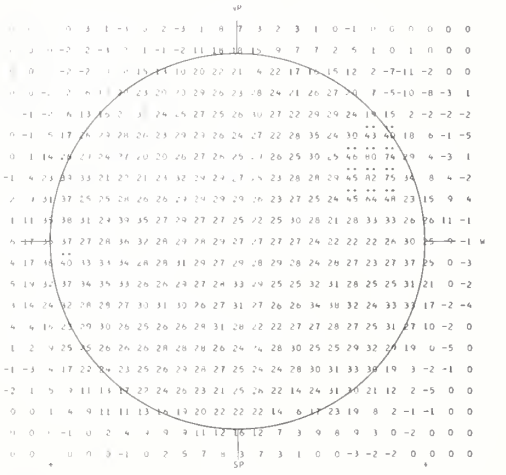
STANFORD — NOVEMBER 1965 — **9.1 cm**



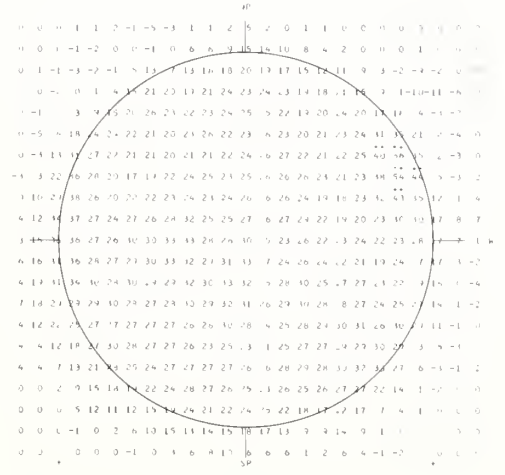
9.1 CM SPECTROHELIOGRAM
STANFORD, 13 NOV 1965 20-21 HOURS UT. S = 77 BRIGHTNESS UNIT = 1000 K



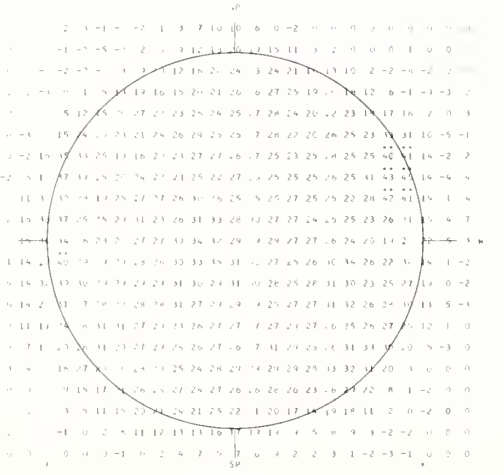
9.1 CM SPECTROHELIOGRAM
STANFORD, 14 NOV 1965 20-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



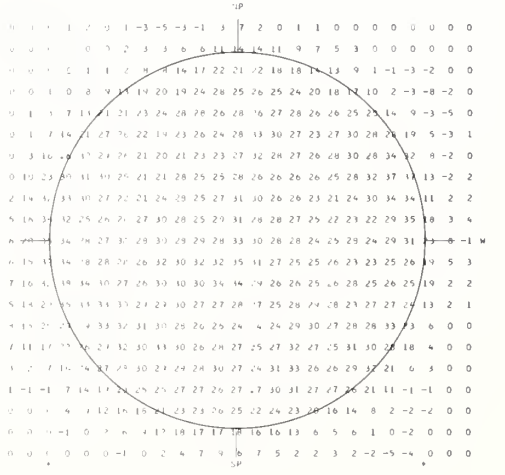
9.1 CM SPECTROHELIOGRAM
STANFORD, 15 NOV 1965 20-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K



9.1 CM SPECTROHELIOGRAM
STANFORD, 16 NOV 1965 20-21 HOURS UT. S = 71 BRIGHTNESS UNIT = 1000 K



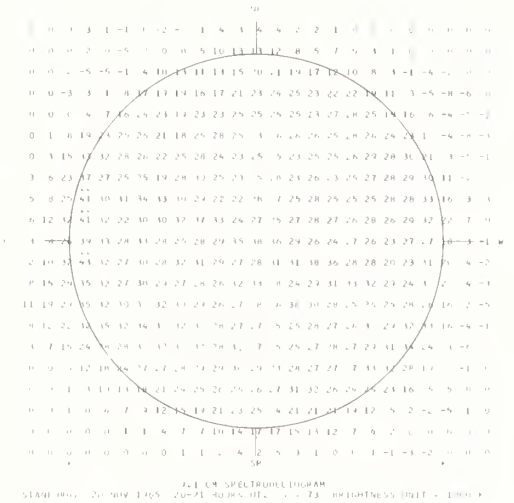
9.1 CM SPECTROHELIOGRAM
STANFORD, 17 NOV 1965 20-21 HOURS UT. S = 76 BRIGHTNESS UNIT = 1000 K

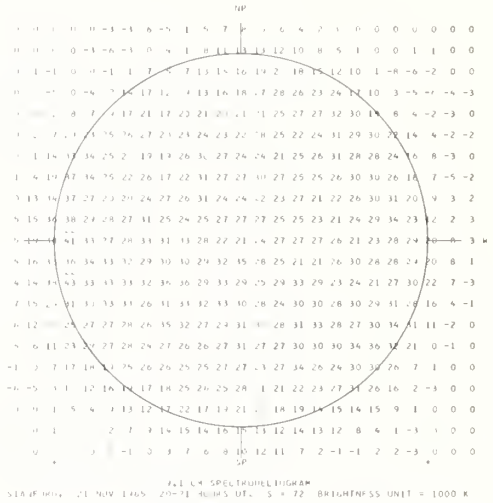


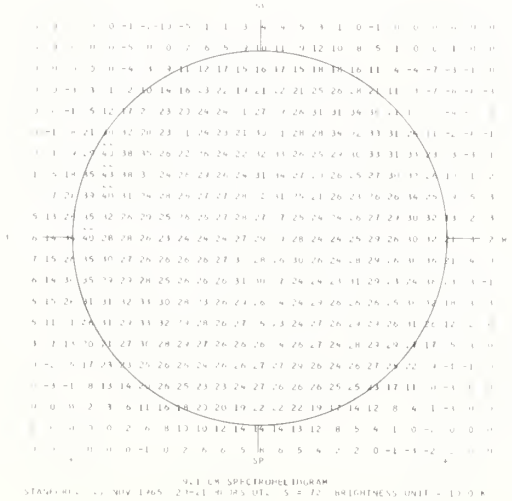
9.1 CM SPECTROHELIOGRAM
STANFORD, 18 NOV 1965 20-21 HOURS UT. S = 75 BRIGHTNESS UNIT = 1000 K

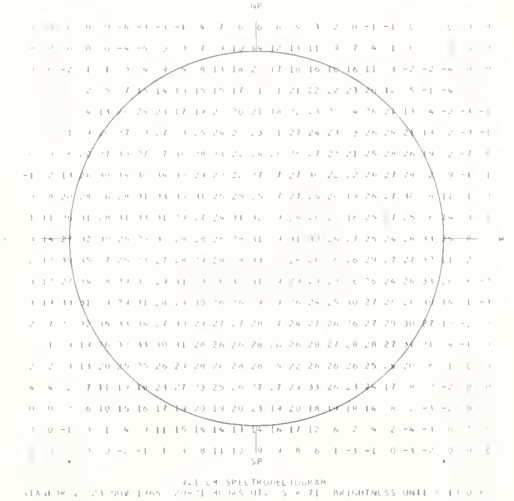
SOLAR RADIO EMISSION SPECTROHELIOGRAMS

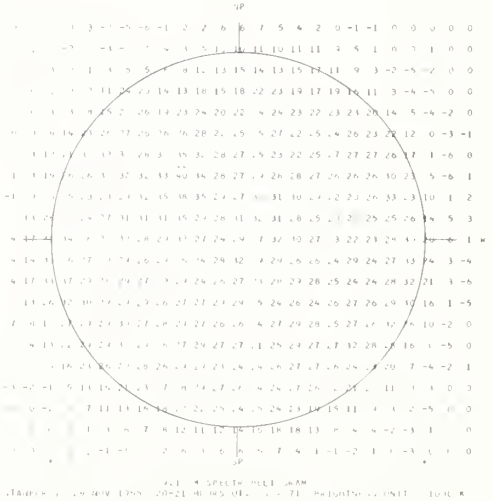
STANFORD — **NOVEMBER 1965** — **9.1 cm**





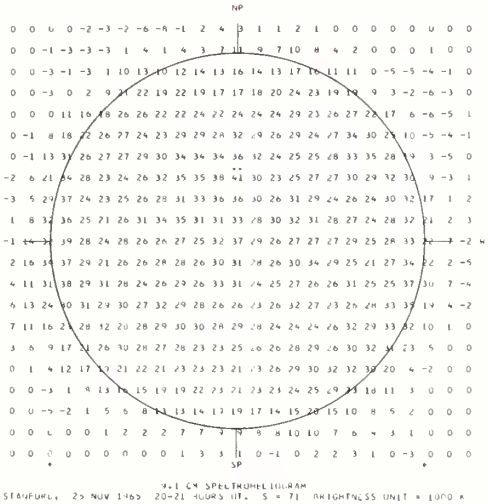


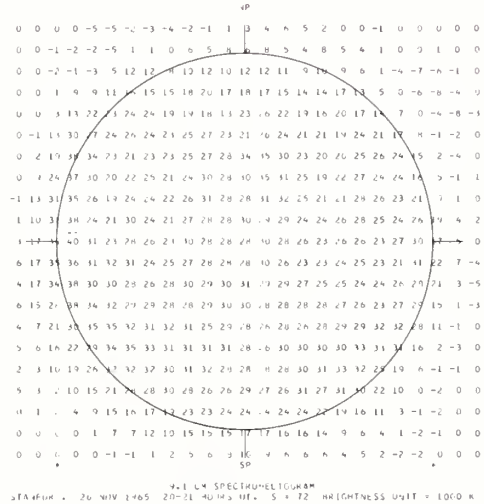


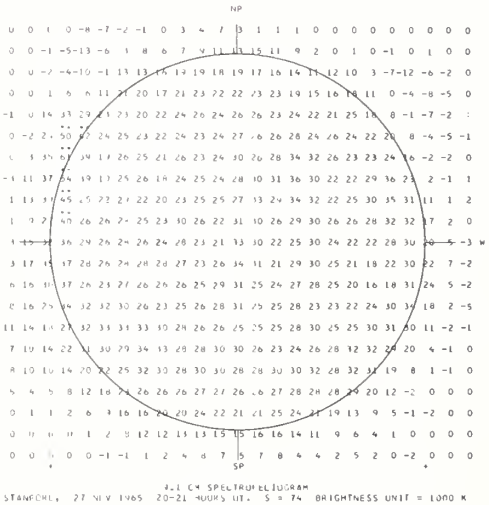


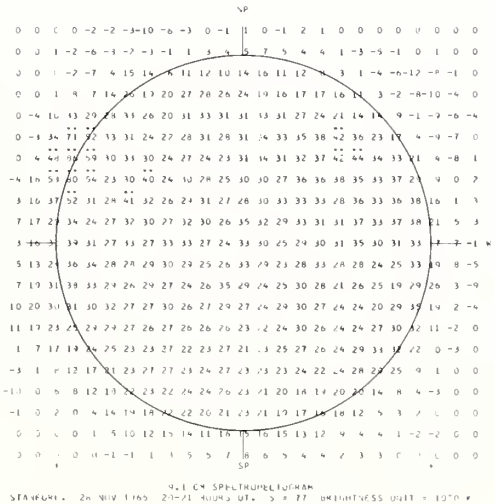
SOLAR RADIO EMISSION SPECTROHELIOGRAMS

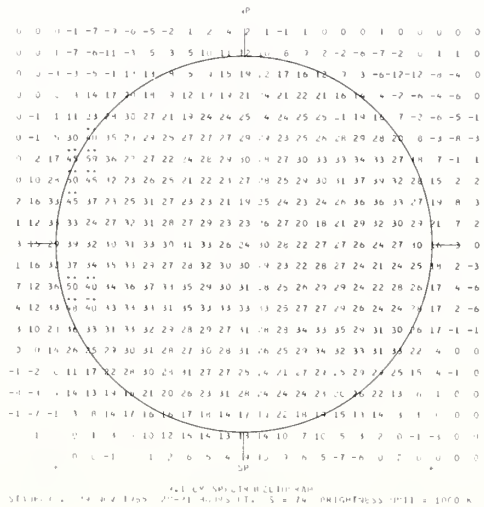
STANFORD — **NOVEMBER 1965** — **9.1 cm**

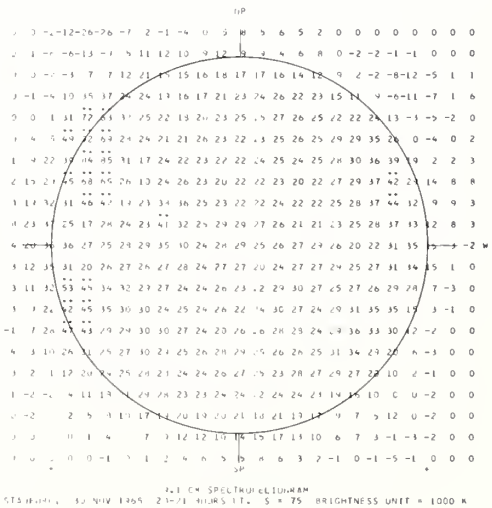










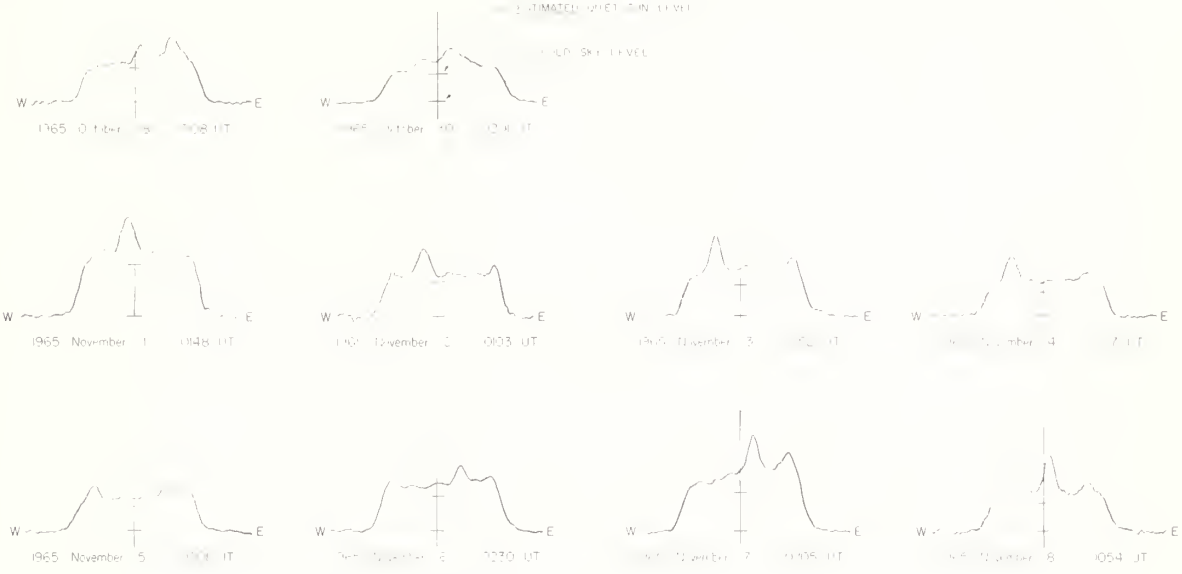


EAST - WEST SOLAR SCANS

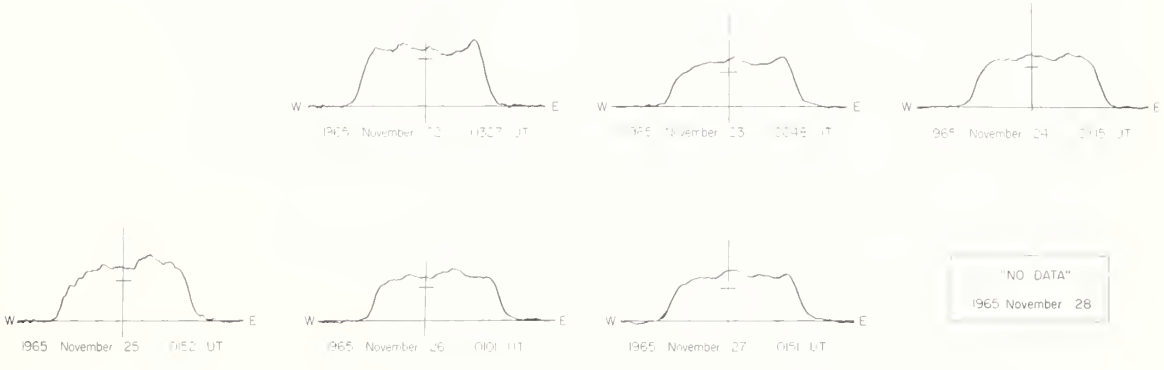
OCTOBER - NOVEMBER 1965

FLEURS, AUSTRALIA

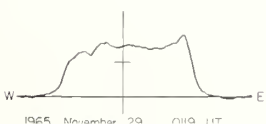
21 cm
Fan - Beam with 2 minutes of arc
E - W Resolution



"NO DATA"
1965 November 9 THRU 1965 November 21



"NO DATA"
1965 November 28



"NO DATA"
1965 November 30

COSMIC RAY INDICES

(Neutron Monitors)

OCTOBER 1965

OCT. 1965	CHURCHILL	CLIMAX	DALLAS
	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR	DAILY AVERAGE COUNTS PER HOUR
1	6548.5	3334.4	6437.5
2	6519.8	3321.4	6424.0
3	6511.3	3325.0	6417.6
4	6524.2	3346.5	6433.3
5	6509.1	3326.2	6407.2
6	6500.3	3329.1	6413.3
7	6494.9	3308.7	6397.3
8	6447.3	3273.0	6345.0
9	6454.1	3292.2	6365.9
10	6507.5	3306.7	6401.5
11	6519.1	3313.1	6404.9
12	6532.3	3338.3	6432.9
13	6549.1	3351.8	6435.4
14	6549.3	3354.3	6436.0
15	6549.0	3362.0	6439.9
16	6560.7	3371.1	6442.8
17	6589.8	3372.3	6463.0
18	6568.3	3370.2	6462.4
19	6552.1	3346.3	6429.3
20	6587.3	3346.6	6445.9
21	6585.3	3346.4	6466.0
22	6543.9	3335.9	6455.8
23	6509.3	3338.0	6443.8
24	6515.7	3330.6	6451.8
25	6557.8	3351.0	6474.0
26	6560.4	3346.5	6466.8
27	6553.1	3336.2	6454.5(22)
28	6515.7	3338.7	6450.4
29	6556.4	3342.4	6459.2
30	6565.6	3348.5	6472.5
31	6574.0	3349.5	6465.1

( ) Number of hours for which data are available if less than 24.

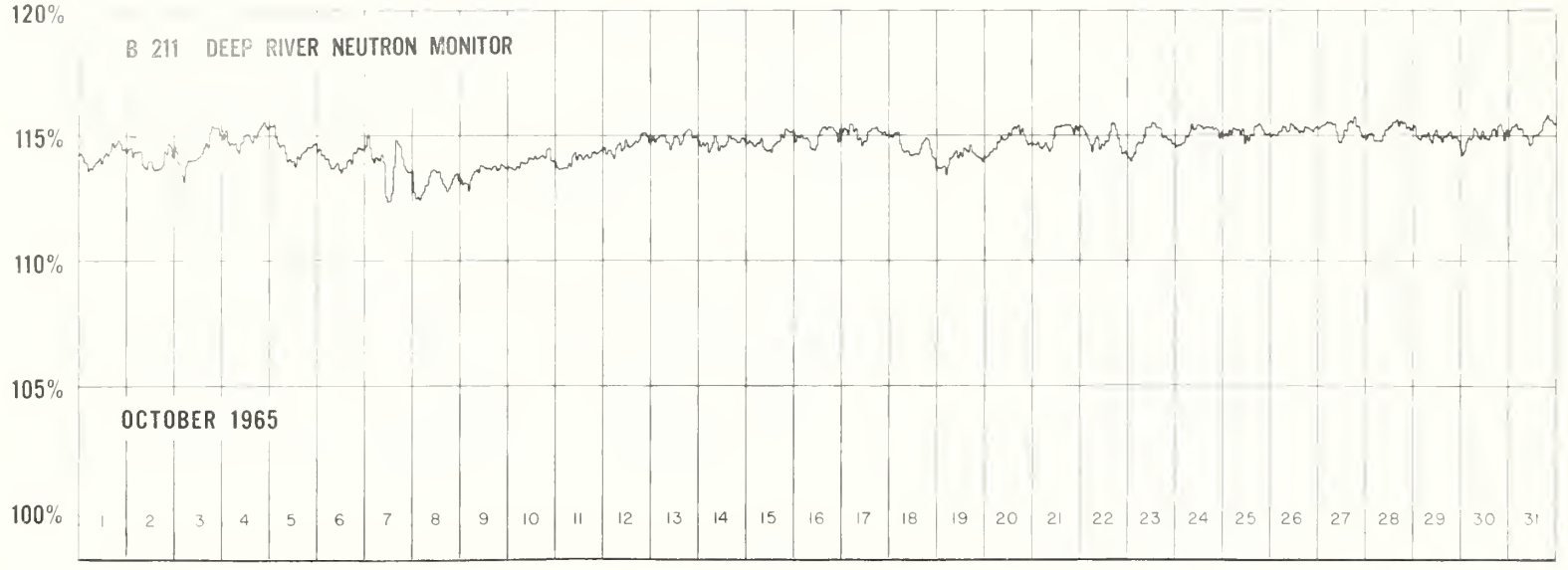
Churchill Super Neutron Monitor, Scaling Factor 120.

Climax IGC Station B305, Scaling Factor 128.

Dallas Super Neutron Monitor, Scaling Factor 120.

COSMIC RAY INDICES

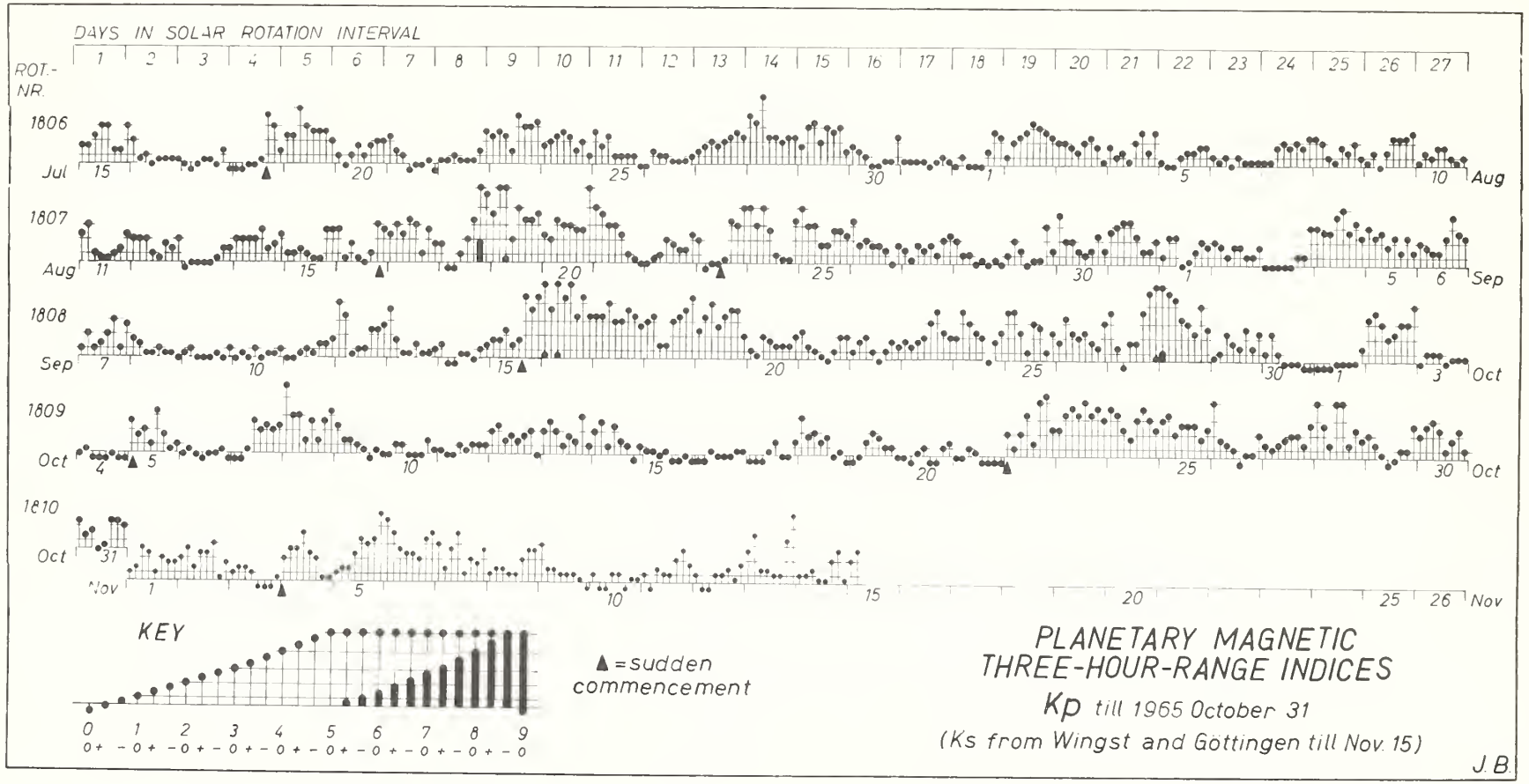
(Pressure Corrected Hourly Totals)



GEOMAGNETIC ACTIVITY INDICES

OCTOBER 1965

October 1965	C	Values Kp — Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.0	0o 0o 0o 0+	0+ 0+ 0+ 1+	3-	2	Five
2	1.0	3+ 4- 3o 2o	2+ 3o 3o 4o	24+	16	Quiet
3	0.0	0+ 1o 1o 1o	0+ 1- 1- 1-	6-	3	
4	0.0	0+ 1- 0o 0o	0o 0+ 0o 0o	1+	1	4
5	0.5	3- 2- 2o 1o	3+ 2- 1- 1o	14o	8	6
						15
6	0.0	0+ 1- 0+ 0o	0+ 0+ 1- 0o	3-	2	16
7	0.4	0o 0o 1- 3-	2o 2+ 2o 2+	12o	6	21
8	0.9	5- 3o 3o 1+	3- 1+ 3- 3+	22o	15	
9	0.1	2+ 1+ 1+ 1o	1- 0o 1- 0+	8-	4	
10	0.1	0+ 1o 1o 0+	0+ 0+ 1+ 1-	5+	3	
11	0.0	1- 0+ 0+ 1o	1- 1o 1o 1o	6o	3	Five
12	0.3	2o 2+ 1+ 2-	1+ 2- 2o 0+	13-	6	Disturbed
13	0.5	2o 3- 2o 1o	2- 1+ 3o 1o	15-	8	
14	0.2	2o 3- 1o 2+	1+ 1o 0o 1o	11+	6	2
15	0.0	1- 1- 0+ 1-	0o 0o 0+ 0o	3-	2	8
						23
16	0.0	0o 0o 1- 0+	0+ 0+ 1- 1-	3o	2	24
17	0.0	0o 0o 0o 1-	1+ 0+ 0+ 1+	4o	2	28
18	0.4	3o 2- 2o 1+	2- 0+ 1- 0o	11-	6	
19	0.1	0o 0+ 1+ 2o	2- 1o 1o 0+	8-	4	
20	0.1	0+ 0o 1- 1o	0o 0o 1o 1+	4+	2	
21	0.0	0+ 0+ 1o 1-	0o 0o 0o 0o	2+	1	Ten
22	1.1	2o 1o 2o 3+	1+ 4o 4+ 2+	20+	14	Quiet
23	1.1	2+ 3+ 4- 3+	4o 3+ 4- 3o	27-	19	
24	0.9	4- 3+ 2+ 2-	3o 4- 3o 2+	23o	14	1
25	0.8	3o 3+ 2o 3-	3- 3- 2- 2+	20+	11	3
						4
26	0.3	4o 2- 1+ 1o	0o 1- 1- 2o	11+	7	6
27	0.4	1+ 1o 1+ 2-	2o 2o 1+ 3-	13+	6	10
28	1.0	4o 3- 1+ 4o	4o 1+ 2+ 2-	21+	15	15
29	0.3	2o 1+ 1- 0o	0+ 1o 1o 3-	9o	5	16
30	0.5	2o 3- 3o 2+	1o 2- 2+ 1o	16o	8	17
31	0.4	2+ 1+ 2- 0+	1- 2+ 2+ 2o	13o	6	20
						21
Mean:	0.4			Mean:	7	


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.
1806
Jul 15 20 25 30 1 5 10 Aug
1807
Aug 11 15 20 25 30 1 5 6 Sep
1808
Sep 7 10 15 20 25 30 1 3 Oct
1809
Oct 4 5 10 15 20 25 30 Oct
1810
Oct 31
Nov 1 5 10 15 20 25 26 Nov
KEY
0 1 2 3 4 5 6 7 8 9
0+ -0+ -0+ -0+ -0+ -0+ -0+ -0+ -0+ -0
▲=sudden commencement
PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES
Kp till 1965 October 31
(Ks from Wingst and Göttingen till Nov. 15)
J.B.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC, NORTH PACIFIC — OCTOBER 1965

OCT 1965	WHOLE DAY INDICES: NORTH ATLANTIC	WHOLE DAY INDICES: NORTH PACIFIC	WHOLE DAY INDICES: AVERAGE HIGH LATITUDE	ADVANCE FORECASTS (J_C — 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	6o	6	6	6	6-	5+	7-	7o	6	5	7	7	6	6	5	6	0	1	1	11	0	0	0
02	6o	6	6	5	6o	5o	7-	7-	5	5	7	5	6	6	6	6	3	3	16	11	2	2	8
03	6+	6	6	5	6o	6o	7-	7-	4	5	7	6	6	6	6	6	1	1	2	7	1	0	2
04	7-	6	6	6	7-	6-	7-	7o	6	6	7	7	6	6	6	6	0	0	0	7	0	0	0
05	6+	6	6	6	6+	6-	7o	7-	6	5	6	7	6	5	5	6	2	2	9	11	1	2	5
06	6+	6	6	6	6+	6-	7-	7-	6	5	7	7	6	6	6	6	0	1	1	11	0	0	0
07	7-	6	6	6	7-	6-	7-	7o	6	6	6	6	6	6	6	6	1	3	8	4	0	2	4
08	7-	6	6	6	6o	6o	7o	7o	5	5	6	7	6	6	6	5	3	2	14	4	2	2	7
09	6+	6	6	6	6o	6-	7o	7-	6	6	7	7	6	6	6	6	1	1	3	7	1	0	2
10	6+	6	6	6	7-	6-	7-	7o	6	6	7	7	6	6	6	6	1	1	2	5	0	0	2
11	6+	6	6	6	6+	6-	7-	7-	7	6	7	7	6	6	6	6	1	1	3	11	1	1	2
12	7-	6	6	5	6o	6o	7o	7o	6	5	7	7	6	6	6	6	2	1	5	19	2	1	5
13	7-	6	6	5	7-	6o	7-	7o	6	6	7	7	6	6	6	6	3	2	8	25	2	1	6
14	7-	6	6	6	7-	6o	7-	7+	7	6	7	7	6	6	6	6	2	1	4	13	2	1	5
15	7-	6	6	6	7-	6o	7-	7o	7	6	7	7	6	6	6	6	0	0	0	11	0	0	0
16	7-	6	6	6	6o	6o	7o	7o	7	6	7	7	6	6	6	6	0	1	2	11	0	1	1
17	6+	6	6	7	6-	6o	7o	7o	6	6	7	7	6	6	6	5	0	1	2	5	0	0	1
18	7-	6	6	7	6+	6+	7o	7-	7	6	7	7	6	6	6	6	3	1	7	5	2	1	6
19	7-	6	6	7	6o	6+	7-	7o	7	6	7	7	6	6	6	6	1	1	4	5	1	1	2
20	6+	6	6	7	6o	6-	7o	7-	6	6	7	7	6	6	6	6	1	1	2	7	0	0	1
21	7-	6	6	7	6+	6+	7-	7o	6	6	7	7	6	6	6	6	1	0	2	7	1	0	2
22	6+	6	6	7	6+	5+	7-	7-	6	6	6	7	6	6	6	6	2	3	13	7	2	2	10
23	6+	5	6	6	6o	6-	7o	6o	6	5	6	6	6	5	5	5	3	3	16	7	2	2	11
24	6+	5	6	5	6-	6-	7-	7-	5	5	7	7	6	5	5	6	3	2	12	17	3	2	10
25	6o	5	6	5	5+	5+	7-	7o	6	5	7	7	6	5	5	6	2	2	8	21	2	2	9
26	6+	6	6	6	6-	6-	7-	7o	6	6	7	7	6	6	6	6	2	1	6	11	2	0	3
27	7-	6	6	6	6+	6o	7-	7-	6	6	7	7	6	6	6	6	1	2	5	5	0	2	3
28	7-	5	6	6	6+	6o	7-	7o	6	6	7	7	6	5	5	6	3	2	11	7	2	2	23
29	6+	5	6	6	6-	6-	7-	7-	6	5	7	7	6	5	5	6	1	1	3	11	0	1	2
30	6+	6	6	6	6+	6-	7-	7-	6	6	7	7	6	7	6	6	3	2	9	6	2	1	7
31	6+	6	6	7	6+	6-	7-	7-	6	6	7	7	6	6	6	6	1	2	6	3	1	1	4
	QUIET		P	18					18	22	26	28														
			S	13					12	9	5	2														
			U	0					0	0	0	1														
			F	0					1	0	0	0														
	DISTURBED		P	0					0	0	0	0														
			S	0					0	0	0	0														
			U	0					0	0	0	0														
			F	0					0	0	0	0														

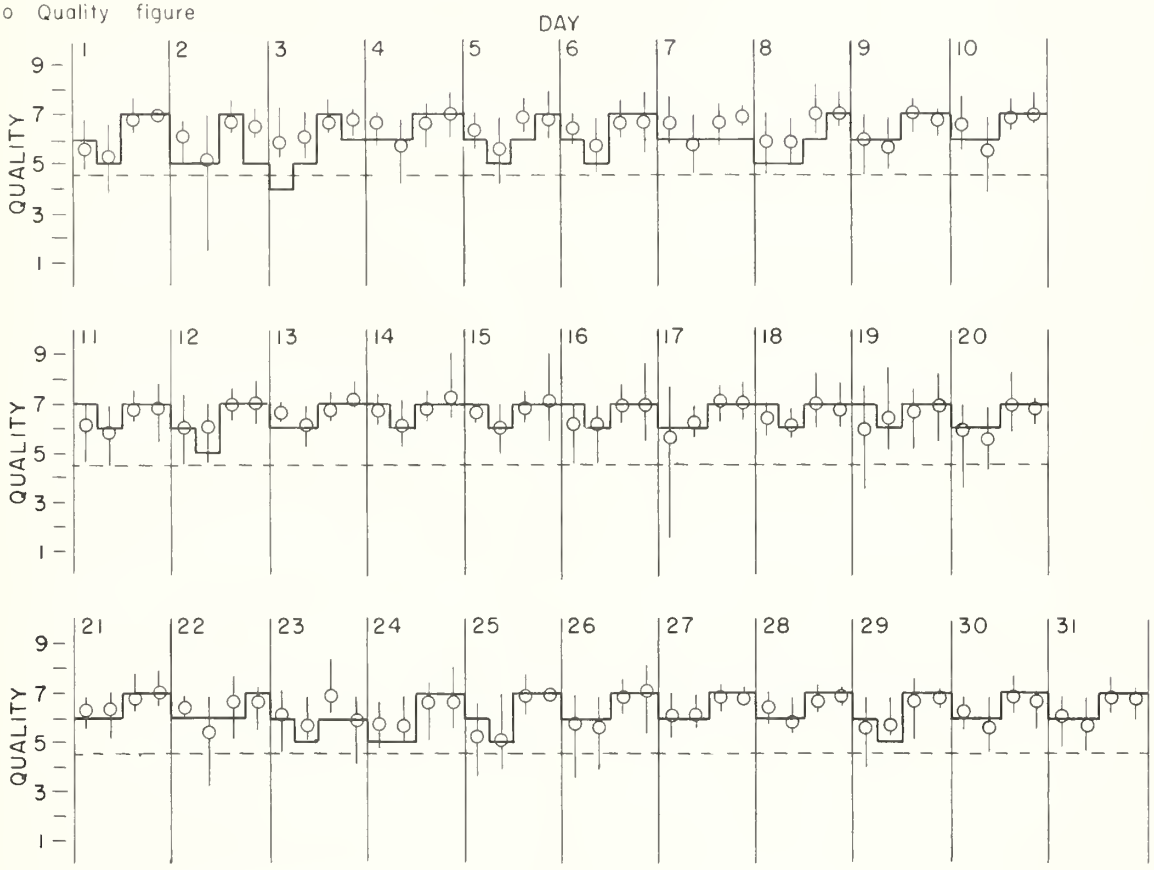
1) THE ADVANCE J_C-FORECASTS ARE SCORED AGAINST THE AVERAGE HIGH LATITUDE WHOLE-DAY INDICES.

2) 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.

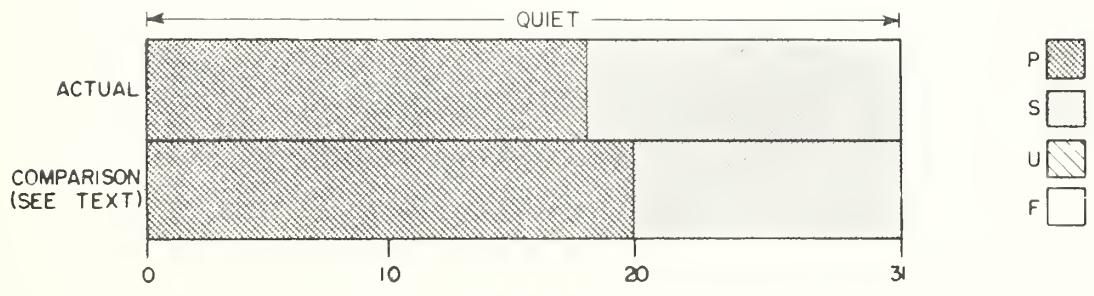
NORTH ATLANTIC

OCTOBER 1965

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

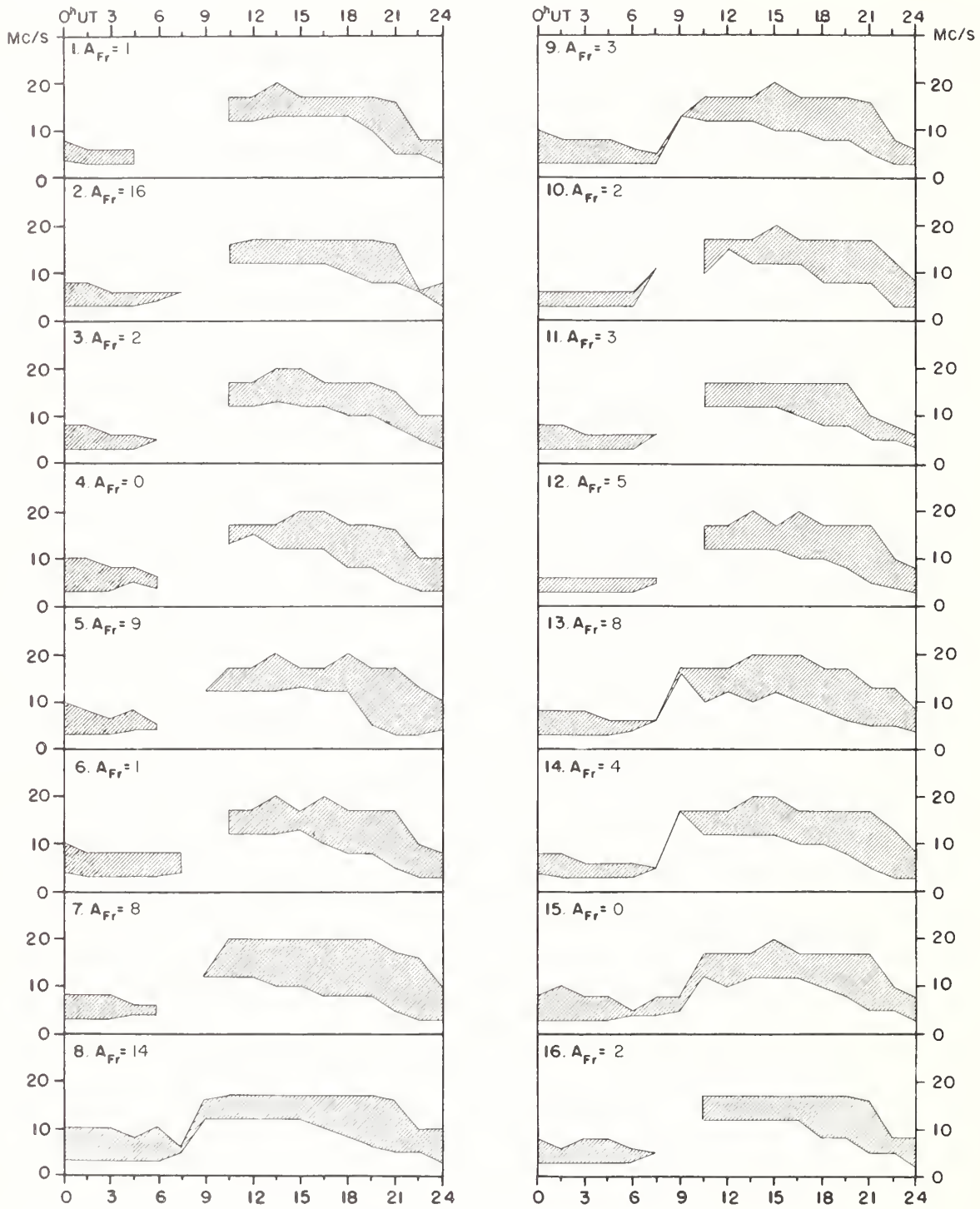


HIGH LATITUDE

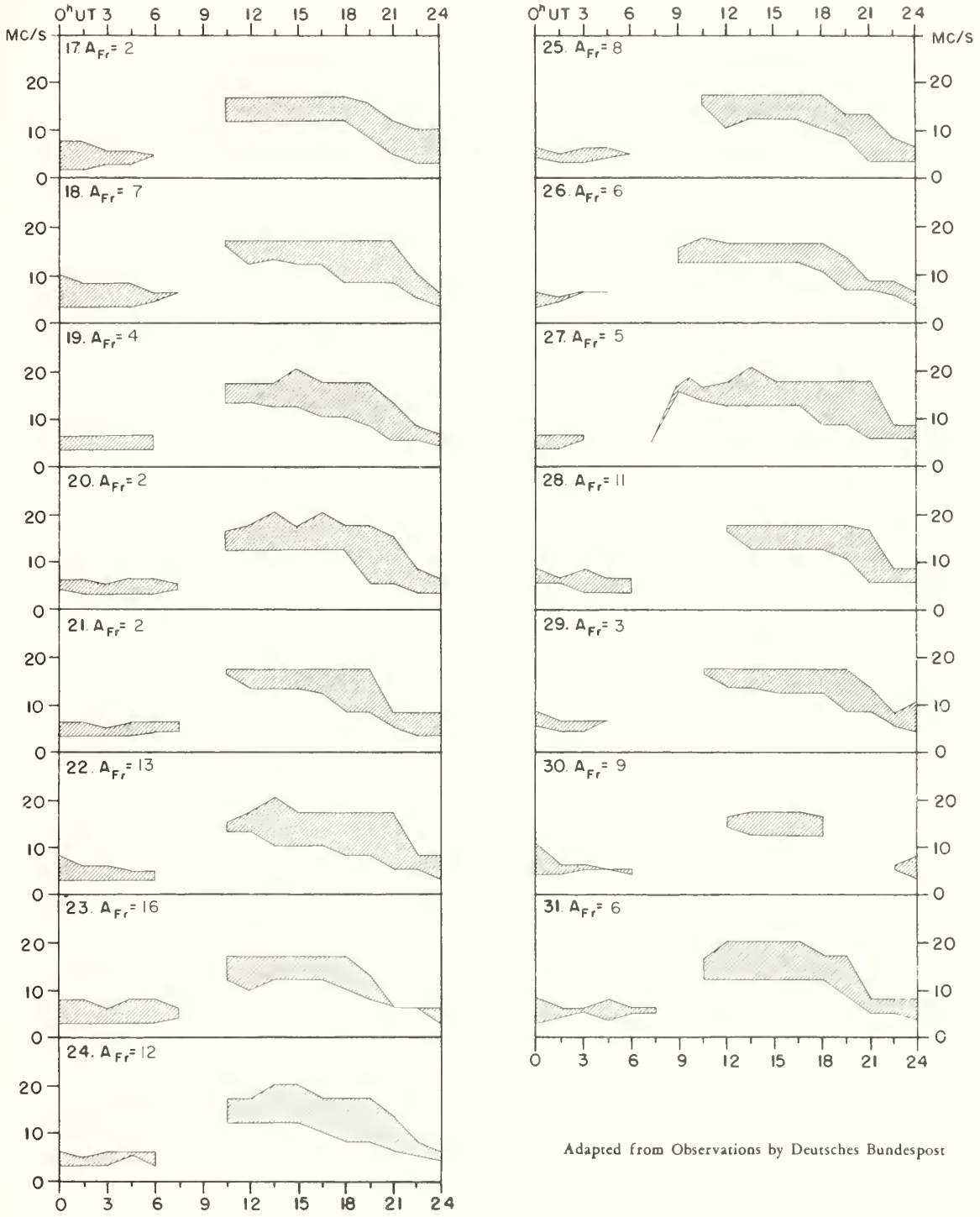


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1965



OCTOBER 1965



Adapted from Observations by Deutsches Bundespost

IQSY ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

NOVEMBER 1965

NOV. 1965	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT			
			NO.	TYPE	TIMING	ELABORATION
1	0400		269	Strat Warming *	Exists	Antarctica
2	0400		270	Strat Warming	Exists	Antarctica
3	0400		271	Strat Warming	Exists	Antarctica
4	0400		272	Strat Warming	Exists	Warm center near South Pole
5	0400		273	Strat Warming	Ends	Spreading over Antarctica
6	1955	Burbank, Solar Flare 06/1729Z				
8	0400		274	Solar Activity	Exists	Flares
9	0400		275	Solar Activity	Exists	Gamma sunspot
10	0400		276	Solar Activity	Exists	
11	0400		277	Solar Activity	Exists	
12	0400		278	Solar Activity	Exists	
17	0400		279	Magnetic Calm	Exists	
21	0400		280	Solar Calm	Exists	
22	0400		281	Solar Calm	Exists	
23	0400		282	Solar Calm	Exists	
24	0400		283	Solar Calm	Exists	

* Strat = Stratospheric