

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
FEBRUARY 1962

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

SOLAR - GEOPHYSICAL DATA

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THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

NO. 1000

1950

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ADDENDA TO TEXT PUBLISHED NOVEMBER 1961

II SOLAR CENTERS OF ACTIVITY

Mount Wilson Magnetic Classifications of Sunspots

This report lists the date and time (UT) of the observation, the approximate heliocentric coordinates, and the magnetic classification of the sunspot groups, as observed at the Mt. Wilson Observatory. Only those groups for which magnetic measures are available will be listed; no attempt will be made to number groups.

The classification system gives the maximum magnetic information. The classifications are defined as follows:

- ap All the magnetic measures in the group are of the same polarity which is that corresponding to the preceding spots in that hemisphere for that cycle.
- af All the magnetic measures in the group are of the same polarity which is that corresponding to the following spots in that hemisphere for that cycle.
- βp A bipolar group in which the magnetic measures indicate that the preceding spots are dominant.
- β A bipolar group in which the magnetic measures indicate a balance between the preceding and following spots.
- βf A bipolar group in which the magnetic measures indicate that the following spots are dominant.
- $\beta \gamma$ A group which has general β characteristics but in which one or more spots are out of place as far as the polarities are concerned.
- γ A group in which the polarities are completely mixed.

IV SOLAR RADIO WAVES

2800 Mc Observations

Beginning with the start of 1962, the routine solar noise observations at 2800 Mc (10.7 cm) of the Radio and Electrical Engineering Division of the National Research Council will be made at the new Algonquin Radio Observatory (ARO) which has been established at Lake Traverse, Ontario, 150 miles northwest of Ottawa.

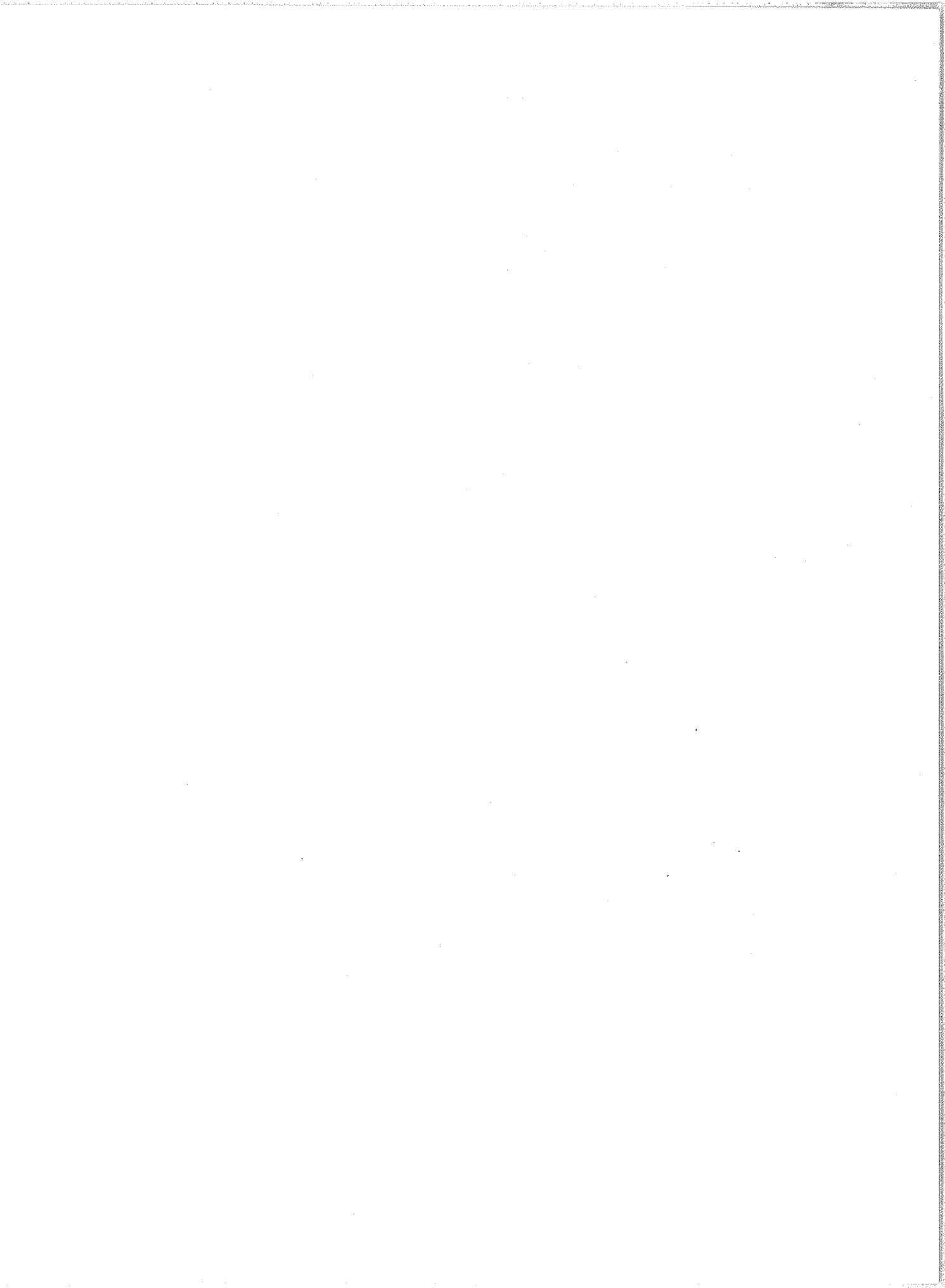
At this site, the patrol observations will be carried out by the use of two Dicke type radiometers which are both connected to a single 1.8 metre (6 foot) parabolic reflector. This system is operationally equivalent to the original installation at Goth Hill, Ottawa, but differs from it in that the diameter of the reflector has been increased from 1.2 metres (4 feet) and newer components used in the radiometers. These differences have resulted in an increase in the signal-to-noise ratio by at least a factor of 2, so that smaller bursts are more evident on the records from ARO than on those from Goth Hill.

Simultaneous observations have been carried out at the two observatories for a period of 15 months and it is believed that the new equipment has been satisfactorily calibrated in terms of the older apparatus. By comparing the daily calibrations at ARO with those at Goth Hill for this whole period, a transfer constant has been found which should ensure that the daily flux values reported from ARO will be consistent with those reported in the past from Goth Hill. This transfer constant (.256) has been found from 374 observations with a standard deviation of .00575.

As in the past, the calibrations from two independent radiometers will be averaged to provide the daily flux value. The ratios of the calibrations from the two radiometers at ARO have been found for the year 1961, and the 362 values had a mean of 0.9915 with a standard deviation of .00977. The ratios of the calibrations from the two radiometers at Goth Hill for the same period had a mean of 1.0006 with a standard deviation of .01326 (309 values). It is interesting to note that the standard deviation of the ARO values is 25% less than that of the Goth Hill values.

Even though the new station is now supplying the daily reports, it is planned to continue to use the Goth Hill equipment, at least intermittently, until the forthcoming sunspot minimum. These additional observations will provide further checks on the transfer constant mentioned above.

The transfer of the patrol observations to ARO has taken place at a time when interference at 2800 Mc from radars has grown to an exceedingly high and troublesome level at Goth Hill. Unfortunately, some interference at this same frequency has been observed at ARO but should not increase to the same extent. This continuing interference raises the possibility that observations will have to be transferred to the near-by frequency of 2700 Mc, which has been allocated by the International Telegraph Union, Geneva Conference 1959, for use in radio astronomy. Plans are now being made to construct apparatus for this allocated frequency in order to conduct tests. If this frequency band shows less interference, the transfer of patrol observations from 2800 Mc to 2700 Mcs may be undertaken. Such a transfer would not be achieved as simply as the present one since spectral differences would have to be examined in addition to the calibration of the apparatus.

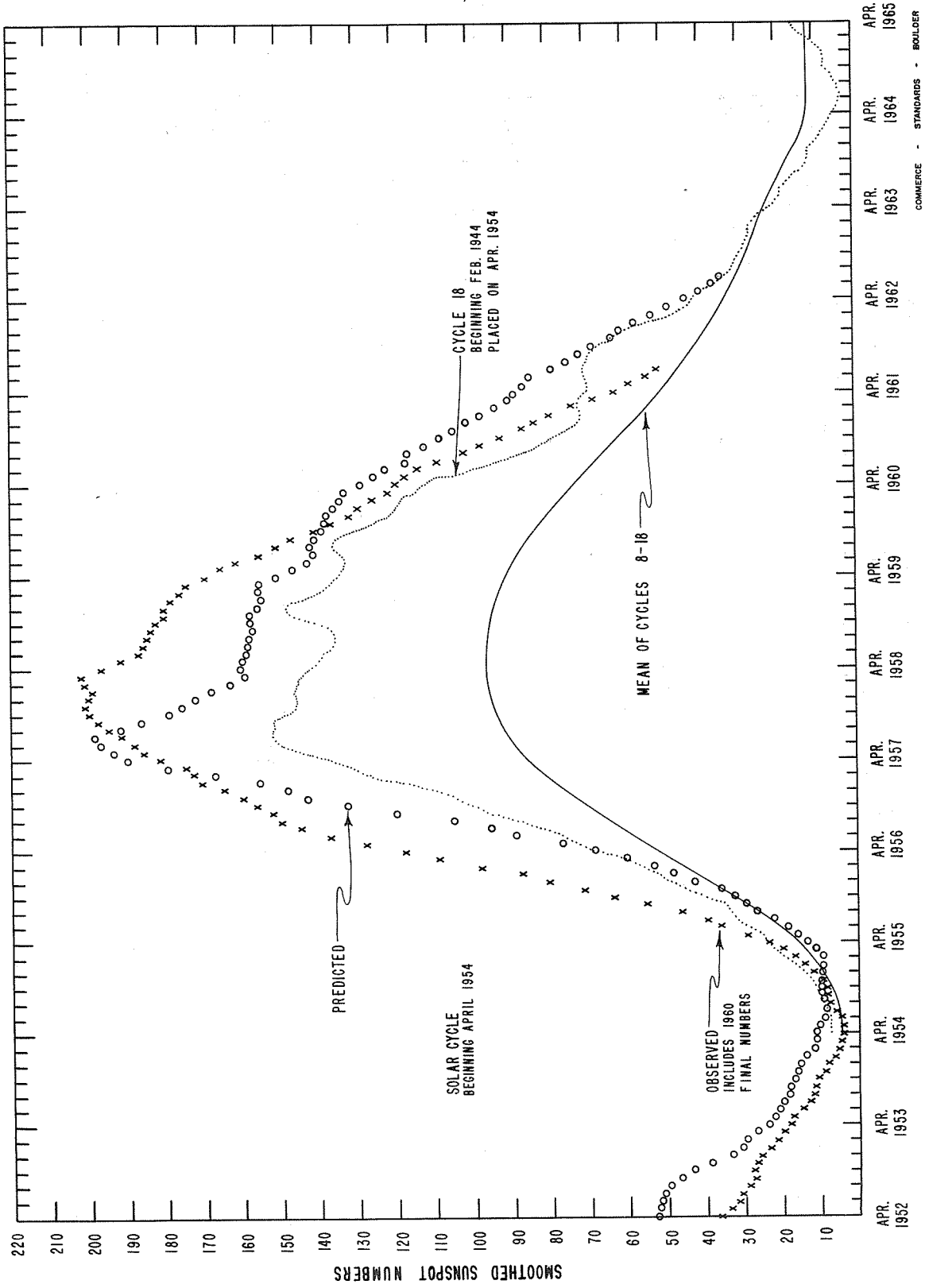


DAILY SOLAR INDICES

Dec. 1961	American Relative Sunspot Numbers R _A '	Jan. 1962	Zürich Provisional Relative Sunspot Numbers R _Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada* Flux
1	63	1	27	-
2	69	2	23	-
3	53	3	17	79
4	58	4	10	81
5	38	5	17	78
6	23	6	9	77
7	26	7	10	77
8	29	8	8	74
9	17	9	8	74
10	9	10	13	75
11	0	11	7	76
12	0	12	7	77
13	0	13	12	74
14	3	14	28	82
15	0	15	20	86
16	0	16	19	84
17	3	17	16	87
18	2	18	22	94
19	6	19	29	99
20	10	20	34	107
21	26	21	42	112
22	39	22	63	111
23	61	23	82	116
24	77	24	83	114
25	80	25	88	115
26	74	26	86	115
27	80	27	92	115
28	64	28	85	115
29	57	29	66	109
30	46	30	71	101
31	40	31	70	102
Mean:	34.0	Mean:	37.5	93.4

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*Footnote: Patrol observations of solar radio noise on 2800 Mc/s are now being made at the Algonquin Radio Observatory (ARO) located at Lake Traverse, Ontario, Canada. The daily flux values reported from ARO will be consistent with those reported in the past from Ottawa. To assure this, the radiometers at the two locations will be operated concurrently, at least on an intermittent schedule, until the forthcoming sunspot minimum.



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

JANUARY 1962

CMP Jan. 1962	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data	
				CMP Values Area Int.		History, Age	CMP Values Area Count		History
01.6	N20	6306	6285	1000	2	l—l	2		
02.0	N11	6307	6285	1000	2.5	l—l	2		
07.2	S13	6309	**	200	2.5	b^d	(1)		
08.1	N16	6308	*	800	3.5	l—l	1	20	1
08.8	N15	6315	New	200	2	b/l	1		l—l
09.0	N04	6310	New	600	2.5	l—l	1		
09.8	N14	6311	**	200	2	l~d	(1)		
10.5	N09	6312	6291	900	2	l/l	5		
10.5	S16	6320	New	(600)	(2)	b/l	1		
11.2	N23	6313	**	(300)	(2)	l~d	(1)		
11.6	N25	6316	**	(300)	(2)	b^d	(1)		
12.2	S09	6314	6295	(300)	(2)	l~d	2		
14.2	S21	6317	**	(200)	(1)	l~d	(1)		
16.8	N02	6318	6296	(300)	(2)	b^d	(2)		
17.0	S03	6322	6296	500	1.5	b^d	2		
19.7	N16	6319	6299	2100	3	l—l	5	(100)	(2)
19.9	S12	6323	**	600	2	b^d	1		l~l
22.6	S04	6321	***	2300	2.5	l~l	2		
24.2	N08	6324	6302	4500	3.5	l—l	5	1260	27
25.1	N22	6325	6303	1400	3.5	l—l	2	130	3
27.7	S11	6328	6304	200	2	b/l	3		
29.1	S17	6329	New	300	2	b/l	1		
29.5	N12	6326	6307	4500	3.5	l—l	3	510	20
30.5	S12	6327	New	800	2.5	l—l	1		l—l

*New, in position of 6289
 **Small, ephemeral
 ***6300, 6301

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MT. WILSON MAGNETIC CLASSIFICATIONS OF SUNSPOTS

I1b

Jan. 1962	Time Meas.	Lat.	Mer. Dist.	Type	Jan. 1962	Time Meas.	Lat.	Mer. Dist.	Type
1	2135	N19 N09	W62 W60	ap ap	17	1725	N14 N16	E15 E26	ap β f
3	2345	N15	E52	β f	19	1710	N04	E61	β γ
4	2320	S14 N15	E30 E42	β af	26	1730	N07 N22 N11	W35 W28 E37	β p β p* β f
5	1640	N16	E34	af	29	1710	N07 N10	W75 W03	β p β γ
12	1640	N04 N14	W49 E87	ap ap?	31	2320	N10 S09 N07 N10	W32 W27 E54 E67	β γ β p β ap
14	2250	N05 N13 N13	W76 E52 E61	ap ap ap					
15	1640	N05 S21 N16 N17	W71 W69 E41 E50	β af ap ap					

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*Polarities Reversed For This Cycle.

PROVISIONAL CORONAL LINE EMISSION INDICES

11c

JANUARY 1962

CMP Jan 1962	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		R ₁		G ₆		R ₁		G ₆		R ₁		G ₆		R ₁	
	G ₁	R ₆	G ₁	R ₆	G ₁	R ₆	G ₁	R ₆	G ₁	R ₆	G ₁	R ₆	G ₁	R ₆	G ₁	R ₆
1	57	104	120a	21	25	12a	18a	x	x	x	x	x	x	x	x	x
2	45	72	x	11	12	x	x	x	x	11	17	x	6a	x	1a	x
3	31	48	x	7	10	x	x	7	7	11	3	28	28	20	21	24
4	15	26	32	4	6	16	20	10	10	11	3a	4	4	19	12	30
5	23	36	30	5	6	19	37	7	7	14	11a	7	11a	20	7a	12a
6	27	40	20	5	10	11	12	x	x	x	x	x	x	x	x	x
7	x	x	8	x	x	8	8	x	x	x	x	x	x	x	x	x
8	40	56	40a	9	14	17a	21a	10	10	28	15	25	25	42	24	40
9	36	84	60a	7	11	28a	33a	14	14	28	18a	14	34a	53	22a	36a
10	29	31	16	14	22	24	14	x	x	x	x	x	x	x	x	x
11	6a	8a	7	1	2	5	5	x	x	x	x	x	x	x	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	x	6	11	15	15	9	12	17
14	x	x	x	x	x	x	x	x	x	x	7	x	x	x	x	x
15	x	x	x	x	x	x	x	3	3	5	7	10	10	4	8	10
16	x	x	x	x	x	x	x	8	8	11	9a	8	12a	15	9a	12a
17	31	34	20	8	11	12	18	9	9	14	31	9	32	29	38	61
18	53	118	20	11	22	7	10	x	x	x	x	x	x	x	x	x
19	64	165	14a	12	17	5a	10a	12	12	20	31	12	49	46	31	54
20	x	x	x	x	x	x	x	14	14	26	22	27	27	27	17	32
21	x	x	x	x	x	x	x	35	35	62	23	33	33	45	13	17
22	35	66	15	34	64	17	35	33	33	47	12	17	17	38	8	15
23	77	118	26a	24	42	19a	26a	25	25	40	15	25	25	52*	20	57
24	x	x	x	x	x	x	x	25	25	34	x	x	x	52	x	x
25	x	x	x	x	x	x	x	37	37	48	x	x	x	29	x	x
26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27	25	41	22	14	20	11	15	x	x	x	x	x	x	x	x	x
28	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
29	31	61	47	5	8	9	12	33	33	53	x	x	x	53	x	x
30	38	84	58a	12	17	10a	18a	x	x	x	x	x	x	x	x	x
31	31	50	57	25	76	35	64	x	x	x	x	x	x	x	x	x

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x = no observations

a = index computed from low weight data

* = yellow line observed

SOLAR FLARES

JANUARY 1962

OBSERVATORY	DATE JAN 1962	OBSERVED UNIVERSAL TIME		LOCATION			DUR TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX.	MAGNITUDE PLACE REGION	MEAS. AREA Sq. Deg.				CORR. AREA Sq. Deg.	MAX. WIDTH lat	MAX. INT. °	
KODAIKANL	03	0313 E	0320 D	N12 W75	6302	7 D	1	2	0316	1.10	4.20	1.84	122
KODAIKANL	03	0335 E	0349 D	N12 W75	6302	14 D	1+	2	0340	1.10	4.20	2.00	135
LOCKHEED	11	1715	1749	N17 E90	6319	34	1	2	1726	4.0	2.00	2.00	20
LOCKHEED	11	1809	1833	N17 E90	6319	24	1	2	1819	4.0	2.00	2.00	10
LOCKHEED	11	1845	1900	N17 E90	6319	15	1	1	1853	4.0	2.00	2.00	20
LOCKHEED	13	1616	1629	N13 E90	6319	13	1	1	1620	8.0	4.00	4.00	20
LOCKHEED	13	1919	1929	N13 E90	6319	10	1	1	1923	4.0	2.00	2.00	20
ONDREJOV	16	0928 E	0956 D	N14 E36	6319	28 D	1+	3	0929			3.10	
MEUDON	16	0951 E	1000 D	N16 E35	6319	9 D	1						
LOCKHEED	17	1645 E	1723	N06 E90	6324	38 D	1	2	1700	4.0	2.00	2.00	10
LOCKHEED	17	2009	2029	N06 E90	6324	20	1	2	2019	4.0	2.00	2.00	10
LOCKHEED	18	0003	0027	N05 E90	6324	24	1	2	0015	8.0	4.00	4.00	10
WENDEL	18	1408 E	1420 D	N06 E70	6324	12 D	1	1	1700	1.50	3.00	3.00	10
LOCKHEED	18	1645 E	1815	N05 E72	6324	90 D	1	1	1700	1.50	3.00	3.00	10
LOCKHEED	18	1645 E	1815	N05 E72	6324	90 D	1	1	1700	1.50	3.00	3.00	10
KODAIKANL	20	0649 E	0652 D	N07 E50	6324	3 D	1	2	0650	1.10	2.10	1.20	122
UCCLE	23	0907	0926	N20 W46	6319	19	1	3	0455	3.00	3.60	1.64	122
KODAIKANL	24	0446 E	0459 D	N20 E07	6325	13 D	1	2	0455	2.60	2.70	1.64	122
LOCKHEED	25	2304	2350	N11 E51	6326	46	1	2	2317	1.50	2.00	2.00	20
SAC PEAK	27	2204	2230	S08 E60	6330	26	1	3	2211	2.31	3.47	2.20	22
LOCKHEED	27	2206	2221	S07 E60	6330	15	1	2	2211	1.50	2.20	2.20	20
SAC PEAK	28	1620 U	1634 U	N04 W50	6324	14 U	1	3	1.88	2.39	2.39	17	
SAC PEAK	28	1920 U	1945 U	N10 E08	6326	25 U	1	3	2.37	2.37	2.37	20	
SAC PEAK	28	2136	2156 U	N10 E12	6326	20 U	1	3	3.30	3.30	3.30	22	
LOCKHEED	28	2137	2211	N10 E10	6326	34	1	2	2145	2.10	2.10	2.10	30
SAC PEAK	28	2213	2238 U	N10 E10	6326	25 U	1	3	3.03	3.03	3.03	20	
UCCLE	29	1518	1550 D	N08 E00	6326	32 D	1+	3	1526	5.50	5.50	1.8	18
SAC PEAK	29	1520	1608	N10 W01	6326	48	1	3	2.89	2.89	2.89	18	
UCCLE	30	0952	1016	N08 W06	6326	24	1	3	0955			3.30	
ONDREJOV	31	1132	1153	N11 W24	6326	21	2	3	1144	3.50	5.00	3.30	
UCCLE	31	1141	1237	N12 W23	6326	56	1	3					
WENDEL	31	1142 E	1240 D	N11 W21	6326	58 D	1+						
MEUDON	31	1145	1315	N10 W20	6326	90	1						
LOCARNO	31	1230 E	1240 D	N10 W21	6326	10 D	1+	2					
WENDEL	31	1437	1450 D	N11 W32	6326	13 D	1	3					
SAC PEAK	31	1734	1808	N11 W36	6326	34	1	3	1.88	2.06	3.00	18	
SAC PEAK	31	1902	1940	N11 W36	6326	38	1	3	2.02	2.23	2.23	29	

OBSERVANCE - STANFORD - BOULDER

ATHENS, GREECE
 BAKOU
 CAPE TOWN
 CAPE OF GOOD HOPE
 CAPRI, ITALY (GERMAN)
 CAPRI, ITALY (SWEDISH)
 CRIMEE
 HERSTONCEU
 HONOLULU
 IKOMASAN
 KIEV KY
 LOCKHEED
 MCNATH
 MOSCOW
 MOSCOW-GAISH, USSR
 HAWAII, USA
 KYOTO, JAPAN
 KIEV GAO, USSR
 KIEV UNIVERSITY, USSR
 LOS ANGELES, CALIF., USA
 MCNATH-HULBERT
 PONTIAC, MICH., USA
 MOSCOW-GAISH, USSR
 NERAR
 NETHERLANDS
 KRASNAYA PARRA, USSR
 SAC PEAK
 SAC PEAK
 SAC PEAK
 SALTSJOBADEN
 SCHAULINS
 TASHKENT
 WENDEL
 WENDELSTERN, GFR

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-60) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

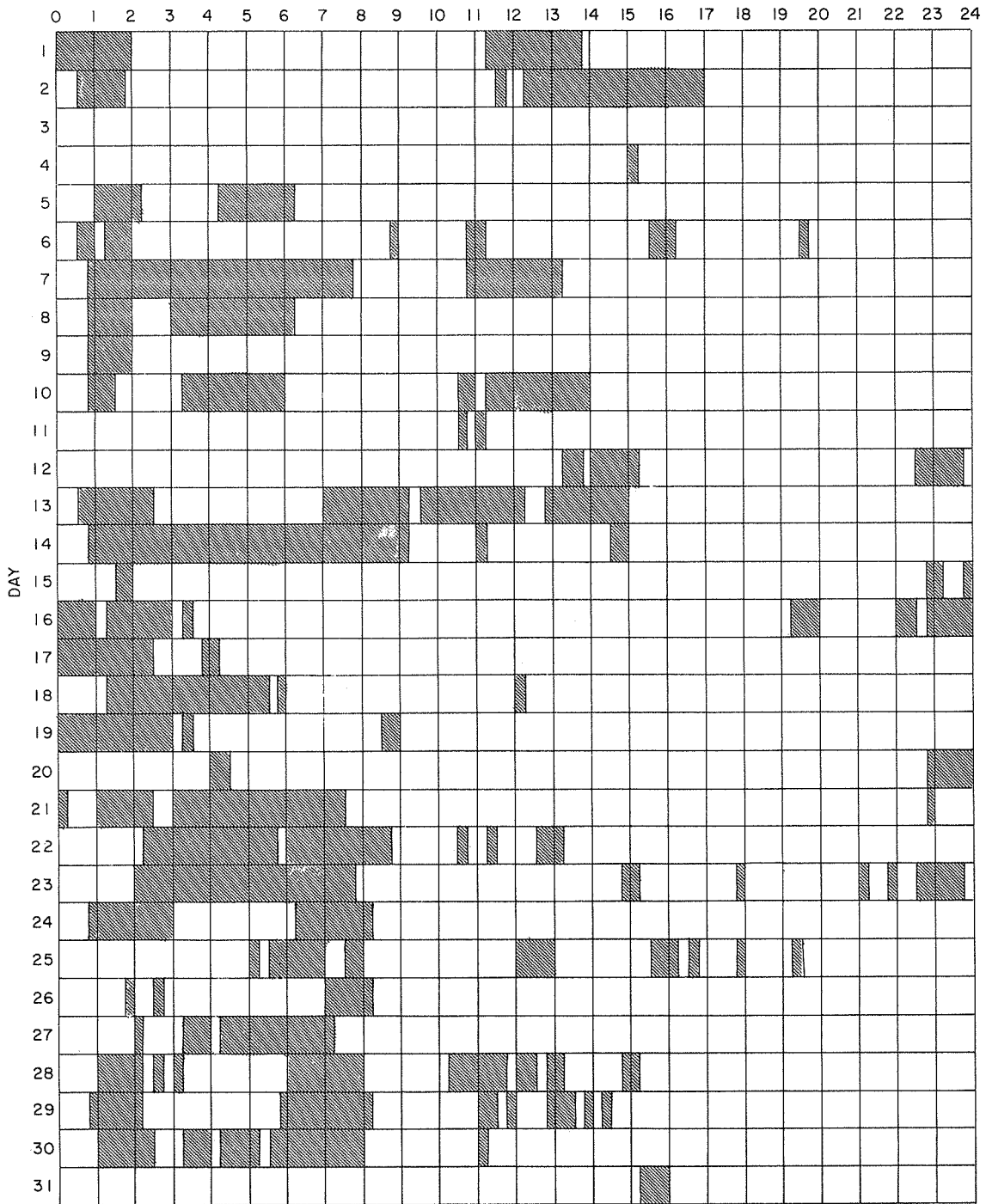
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIPAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN D = GREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

JANUARY 1962

HOUR-UT



COMMERCE - STANDARDS - BOULDER

Station Include:

- Arcetri
- Honolulu
- Kodaikanal
- McMath-Hulbert
- Ondrejov
- Wendelstein
- Capri (Swedish)
- Huancayo
- Lockheed
- Meudon
- Sacramento Peak

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

DECEMBER 1961

MCMATH	01	1522	N15 E46	HONOLULU	14	2034 E	N12 W47
SAC PEAK	01	1816	N11 W12				
HONOLULU	01	1830 E	N12 W12	LOCKHEED	16	1801	N14 E90
HONOLULU	01	1848	N13 W13	LOCKHEED	16	2046	N02 E56
SAC PEAK	01	1848	N11 W12				
MCMATH	01	1849 E	N10 W12	LOCKHEED	17	0016	N13 E90
MCMATH	01	1934	N15 E43	SAC PEAK	17	1926	N04 E44
SAC PEAK	01	2042	N06 W06				
SAC PEAK	01	2148	N12 W19	UCCLE	18	1220	N06 E36
				UCCLE	18	1253	S20 E65
				UCCLE	18	1333	S20 E65
UCCLE	02	0943	N15 E32				
UCCLE	02	1007 E	N14 E34				
UCCLE	02	1024	N11 W24	UCCLE	19	0921	N05 W87
UCCLE	02	1030	N14 E34	UCCLE	19	1029	N05 W87
UCCLE	02	1055	N14 E34	UCCLE	19	1321	N05 W87
SAC PEAK	02	1834	N15 E27	LOCKHEED	19	1955	N11 W18
* HONOLULU	02	1920	N12 W29	LOCKHEED	19	2109	S05 E90
* LOCKHEED	02	1945 E	N13 W32	LOCKHEED	19	2145	N04 W90
LOCKHEED	02	1949	S09 E02	LOCKHEED	19	2204	S05 E90
* HONOLULU	02	2134	N08 W21				
				LOCKHEED	20	1614	S03 E80
MCMATH	03	1820	N15 E16	LOCKHEED	20	1654	S02 E90
MCMATH	03	1820	N09 W33	LOCKHEED	20	1748	S03 E90
LOCKHEED	03	2050	N12 W44	* SAC PEAK	20	1928	S07 E90
				LOCKHEED	20	2044	S02 E02
				LOCKHEED	20	2127	S02 E90
* LOCKHEED	04	1735	N15 E02				
LOCKHEED	04	1925	N16 E03	SAC PEAK	21	1604	S06 E67
LOCKHEED	04	2008	N15 E01	LOCKHEED	21	1820	S05 E67
CLIMAX	04	2009	N16 E02	LOCKHEED	21	1851	S05 E67
SAC PEAK	04	2012 E	N17 E03	LOCKHEED	21	1911	S05 E67
CLIMAX	04	2021	N14 E61	LOCKHEED	21	2035	S05 E67
LOCKHEED	04	2021	N13 W58	LOCKHEED	21	2154	S05 E67
KODAIKNL	05	0516 E	N15 E03				
UCCLE	05	0941	N16 W58	LOCKHEED	22	0007	S06 E63
WENDEL	05	1033 E	N14 W08	WENDEL	22	0941 E	S07 E57
CLIMAX	05	1612	N15 W10	LOCKHEED	22	1630	N25 E80
SAC PEAK	05	1640	N12 W67	LOCKHEED	22	1638	N12 W01
LOCKHEED	05	1820	N14 W11	LOCKHEED	22	1815	S06 E52
LOCKHEED	05	1936	N14 W16	LOCKHEED	22	1830	N12 W00
* LOCKHEED	05	1939	S10 W39	LOCKHEED	22	1932	S04 E48
LOCKHEED	05	2215	N09 W76	SAC PEAK	22	2146	N12 W01
				LOCKHEED	22	2230	N13 W01
UCCLE	06	1025	N12 W33	LOCKHEED	22	2234	S05 E56
UCCLE	06	1029	N15 W34	LOCKHEED	22	2317	N13 W01
KODAIKNL	06	1041	N17 W20				
UCCLE	06	1112	N13 W37	LOCKHEED	23	0002	N12 W02
UCCLE	06	1256	N13 W26	UCCLE	23	1028 E	S05 E90
UCCLE	06	1307	N10 W87	UCCLE	23	1038	N22 E68
UCCLE	06	1311	S12 W49	UCCLE	23	1049	N10 W06
UCCLE	06	1423	N16 W29	UCCLE	23	1120	N10 W06
LOCKHEED	06	1657	N07 W38	SAC PEAK	23	1546	N12 W10
LOCKHEED	06	1755	N07 W38	SAC PEAK	23	1600	S14 E90
LOCKHEED	06	1832	N07 W38	LOCKHEED	23	1600 E	S11 E90
				LOCKHEED	23	1652	S01 W30
UCCLE	07	1117	N13 W38	SAC PEAK	23	1658	N12 W11
LOCKHEED	07	1812	N10 W52	SAC PEAK	23	1700	S02 W31
LOCKHEED	07	1903	N10 W52	LOCKHEED	23	1711	N13 W13
HONOLULU	07	1922 E	N10 W53	LOCKHEED	23	1804	S05 E35
LOCKHEED	07	1923	N06 W53	LOCKHEED	23	1825	N13 W13
LOCKHEED	07	2015	N10 W52	LOCKHEED	23	1856	N26 E65
LOCKHEED	07	2050	N08 W53	SAC PEAK	23	1906 U	N24 E65
LOCKHEED	07	2315	N15 W44	LOCKHEED	23	1912	N14 W14
				* HONOLULU	23	1952	S07 E42
WENDEL	08	0944 E	N13 W61	LOCKHEED	23	2050	N14 W14
WENDEL	08	1235 E	N13 W63	* LOCKHEED	23	2130	N14 W14
ONDREJOV	08	1337	N08 W60	LOCKHEED	23	2140	S07 E90
MCMATH	08	1515 E	N05 W62	* LOCKHEED	23	2150	N13 W14
MCMATH	08	1515 E	N14 W55	* HONOLULU	23	2158 E	N13 W13
LOCKHEED	08	1748	S10 W85	LOCKHEED	23	2342	N13 W14
MCMATH	08	1855 E	N06 W65				
LOCKHEED	08	1919	S10 W85	WENDEL	24	0915 E	N13 E17
LOCKHEED	08	2145	S10 W85	UCCLE	24	1031	N12 W19
				ONDREJOV	24	1108	N09 E55
KODAIKNL	09	0903 E	N07 W75	WENDEL	24	1141 E	N24 W57
CAPRI S	09	1150	S11 W77	LOCKHEED	24	1624	S04 E21
				LOCKHEED	24	1650	S12 E75
SAC PEAK	10	1454	N10 W90	LOCKHEED	24	1723	S03 E34
SAC PEAK	10	1526	N19 W06	LOCKHEED	24	1811	N16 W26
SAC PEAK	10	1758	N17 W08	SAC PEAK	24	1854	N14 W27
SAC PEAK	10	2202	N18 W10	LOCKHEED	24	1856	N15 W27
				LOCKHEED	24	2020	N13 W28
LOCKHEED	13	1840	S09 E70				

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

DECEMBER 1961

LOCKHEED	24	2135	N15	W20		SAC PEAK	27	1952	N12	E15
LOCKHEED	24	2216	N13	W28		LOCKHEED	27	1953	N12	E14
LOCKHEED	24	2345	S02	E30		LOCKHEED	27	2006	N21	E08
LOCKHEED	24	2359	S12	E75		LOCKHEED	27	2041	N20	E12
						SAC PEAK	27	2044	N21	E13
WENDEL	25	1016	E N24	E40		LOCKHEED	27	2059	N10	E05
UCCLE	25	1104	E S06	E17		LOCKHEED	27	2116	N11	E15
WENDEL	25	1105	E S04	E17		LOCKHEED	27	2157	N10	E11
LOCKHEED	25	1610	S06	E18		SAC PEAK	27	2200	N12	E12
LOCKHEED	25	1658	S14	W90		LOCKHEED	27	2240	N11	E12
LOCKHEED	25	1700	N11	E80		HONOLULU	27	2308	N11	E15
SAC PEAK	25	1736	N12	W32		LOCKHEED	27	2308	N12	E13
LOCKHEED	25	1737	N13	W30		LOCKHEED	27	2345	N12	E13
LOCKHEED	25	1737	N11	E39		HONOLULU	27	2346	N18	E18
LOCKHEED	25	1755	N21	E35		LOCKHEED	27	2350	N22	E04
LOCKHEED	25	1755	S06	E17						
SAC PEAK	25	1756	S06	E17		HONOLULU	28	0116	N13	E13
LOCKHEED	25	1910	S06	E17		WENDEL	28	0859	E S06	W12
SAC PEAK	25	2006	N22	E32		WENDEL	28	0920	E S04	W22
LOCKHEED	25	2007	N22	E31		WENDEL	28	1202	E S03	W29
* SAC PEAK	25	2008	S08	E18		WENDEL	28	1240	E S04	W29
HONOLULU	25	2036	S07	E18		SAC PEAK	28	1622	N13	E03
LOCKHEED	25	2100	N12	E39		SAC PEAK	28	1710	S04	W32
* HONOLULU	25	2216	E N12	W34		* HONOLULU	28	1822	E N19	W09
LOCKHEED	25	2220	S09	E61		SAC PEAK	28	1826	S03	W33
LOCKHEED	25	2344	S05	E13		HONOLULU	28	1837	E S11	W33
						HONOLULU	28	1958	E N12	W00
KODAIKNL	26	0534	N12	E36		SAC PEAK	28	1958	N13	E01
LOCKHEED	26	1750	S01	E05		SAC PEAK	28	2130	N13	W00
LOCKHEED	26	1754	N20	E16						
LOCKHEED	26	1825	N04	E49		HONOLULU	29	0052	E N13	E02
SAC PEAK	26	2000	N02	W76		ONDREJOV	29	1146	S03	W44
LOCKHEED	26	2239	N19	E15		* ONDREJOV	29	1210	S03	W44
LOCKHEED	26	2355	N18	E65		SAC PEAK	29	1558	N12	W17
						SAC PEAK	29	1948	N11	W15
LOCKHEED	27	1629	N12	E17						
SAC PEAK	27	1630	N12	E17		LOCKHEED	30	1933	N19	W26
LOCKHEED	27	1704	N11	E15		SAC PEAK	30	1936	N20	W28

COMMERCE - STANBARDG - - BOULDE

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F 209 Part B for January 1962).

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEP 1961	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	APPROX. LAT.	MER. DIST.				MATH PLAGE REGION	TIME UT	NEAR. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Rg	MAX. INT. %
TACHKENT	01	0320	0507	N13	E42	6212	1		2.37	3.20					
TACHKENT	01	0320	0507	N13	E42		1								
TACHKENT	01	0320	0507	N13	E42		1								
MITAKA	01	0321	0335 D	N13	E44	6212	1		1.81	2.64	2.49	113			
MITAKA	01	0359	0426	N11	E40	6212	1		.50	.69	2.70	140			
MITAKA	01	0430	0435 D	N11	E39	6212	1		.50	.66	1.96	120			
MITAKA	01	0447	0502	N10	E38	6212	1		.50	.66	1.95	120			
MITAKA	01	0450	0500	N12	E38	6212	1		3.09		1.34	110			
IKOMASAN	01	0705	0755 D	N13	E40	6212	3			3.00					
CAPRI G	01	0740	0813	N11	E40	6212	1			4.00					
SCHAUJINS	01	1306	1328	N18	W89	6206	1								
LOCARNO	01	1315	1318	N17	W88	6206	3			2.00					
ZURICH	01	1342	1347	N10	E32	6212	3			2.00					
ZURICH	01	1427	1512 D	N12	E35	6212	3			3.00					
CAPRI G	01	1542	1602 D	N12	E45	6212	2			5.00					
TACHKENT	02	0321	0346	N11	E28	6212	2		8.04	8.80	5.10	140			
MITAKA	02	0337	0352	N09	E25	6212	1		1.81	2.03	2.07	107			
MITAKA	02	0355	0412	N13	E30	6212	17		1.60	1.92	2.93	118			
ALMA-ATA	02	0436	0444	N11	E25	6212	8	1+	1.80			90			
MITAKA	02	0608	0643 D	N11	E28	6212	35	D	1.51	1.80	2.48	107			
KHARKOV	02	0608	0725 D	N13	E27	6212	77	D	4.13			63			
CAPRI G	02	0610	0737 D	N13	E27	6212	87	D	2.84	3.10	1.70		Slow S-SWF		
CAPRI G	02	0610	0750 D	N13	E28	6212	100	D	6.00						
CAPETOWN	02	0644	0721	N14	E28	6212	37	D	2.70						
SCHAUJINS	02	0745	0830	N12	E23	6212	45	D		3.00					
CAPRI G	02	0805	0900	N13	E22	6212	55	D		3.00					
CAPRI G	02	1110	1145 D	N12	E26	6212	35	D		3.00					
CAPRI G	02	1111	1117 D	N11	E23	6212	6	D		3.00					
SCHAUJINS	02	1207	1242 D	N12	E24	6212	35	D		5.00					
CAPETOWN	02	1347	1401 E	N14	E25	6212	14	D		3.10					
LOCARNO	02	1348	1440	N13	E23	6212	52	1+							
CAPRI G	02	1350	1412 D	N12	E26	6212	22	D							
CAPRI G	02	1352	1418 D	N15	E25	6212	26	D		2.58					
KIEV KO	02	1352	1418 D	N15	E25	6212	11	D		4.13					
IKOMASAN	02	2335	2346 D	N13	E18	6212	11	D							
IKOMASAN	03	0050	0215 D	N13	E18	6212	85	D		1.44	1.22	100			
CAPRI G	03	0615	0815 D	N12	E14	6212	1			3.00					
CRIMEE	03	0844	0852 D	N14	E09	6212	8	D	.90						
CAPRI G	03	1437	1504 D	N17	E76	6212	37	D		2.00					
LOCARNO	03	1448	1525 D	N14	E10	6212	27	D							
CAPRI G	03	1455	1550 D	N14	E12	6212	55	D		4.00					
KIEV KO	04	0636	0659 D	N13	W02	6212	23	D		3.61		45			
CRIMEE	04	0727	0748 D	N12	W05	6212	21	D		2.70		118			
KIEV KO	04	0729	0745	N11	W07	6212	16	1+		4.64		77	S-SWF		
ABUSTUMANE	04	0730	0752	N13	W06	6212	22	1		2.52		80			
SCHAUJINS	04	1006	1023	N11	W05	6212	22	D		4.00					
ZURICH	04	1010	1028 D	N12	W02	6212	17	1		4.00					
CAPRI G	04	1010	1028 D	N13	W02	6212	18	D		3.00					
KIEV KO	04	1312	1330 D	N12	W05	6212	18	D		1.03		50			

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END		APPROX. LAT.	MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg		MAX. INT. %
[] LOCARNO	04	1425	1500 D	1434	N14 W02	6212	35 D	2-	1	1434	4.00			
[] SCHAUINS	04	1435 E	1455		N13 W03	6212	20 D	1	2		5.00			S-SWF
[] CAPRI G	04	1438 E	1507 D		N12 W04	6212	29 D	2	3	1440	6.00			
[] ZURICH	04	1512	1537		N13 W03	6212	25	2	1	1512	6.00			
[] SCHAUINS	04	1516 E	1536		N13 W04	6212	20 D	1+	3		5.00			
[] CAPRI G	04	1521 E	1550 D		N12 W04	6212	29 D	2	2	1523	8.00			
[] IKOMASAN	04	2255	2320 D		N12 W10	6212	25 D	1	2	2255	4.13	1.18	100	
[] IKOMASAN	05	0456 E	0507 D		N13 W18	6212	11 D	1	3	0500	1.86		90	
[] CAPRI G	05	0827 E	0922 D		N12 W16	6212	55 D	1	3	0831	5.00			
[] CAPRI G	05	1010 E	1027 D		N14 W22	6212	17 D	1	3	1017	3.00			
[] SCHAUINS	05	1018 E	1028 D		N13 W20	6212	10 D	1	3		3.00			
[] CAPRI G	05	1258 E	1307 D		N13 W16	6212	9 D	1	2	1303	3.00			
[] SCHAUINS	05	1416 E	1425 D		N11 W21	6212	9 D	1	1		4.00			S-SWF
[] CAPRI G	05	1427 E	1447 D		N13 W16	6212	20 D	1	2	1431	5.00			
[] CLIMAX	05	1644	1734	1658	N14 W16	6212	50	1	2	1431	2.20			Slow S-SWF
[] GRIMEE	07	0615	0621 D	0616 U	N12 W46	6212	6 D	1	2	0616	2.26		84	
[] CAPRI G	08	0818 E	0845 D		N13 W54	6212	27 D	1	3	0824	2.00			
[] LOCARNO	08	1115	1130 D		N13 W56	6212	15 D	1	3		3.00			
[] CAPRI G	08	1118 E	1142 D		N13 W57	6212	24 D	1	3	1121	4.00			
[] CAPRI G	08	1206 E	1212 D		N17 E24	6212	6 D	1	3	1208	1.40			
[] CAPETOWN	08	1331	1350 D	1335	N11 W60	6212	19 D	1	2	1335	2.80			
[] CAPRI G	08	1457 E	1545 D	1523	N15 E49	6222	48 D	2	2	1523	11.00			
[] OTTAWA	08	1446	1557 D		N19 W55	6212	71 D	2	2	1520	6.40			
[] CLIMAX	08	1446	1639 D	1520	N20 W53	6212	113 D	2	1	1631	6.20			Slow S-SWF
[] SCHAUINS	08	1524 E	1545 D		N10 W50	6212	21 D	2	2		8.00			
[] ZURICH	08	1631 E	1635		N14 W59	6212	4 D	1	2		2.00			
[] CLIMAX	08	1947	2006	1950	N12 W61	6212	19	1	2	1.50	2.30			
[] BAKOU	09	0810 E	0830 D	0818	S08 E75	6223	20 D	2	2	0818	4.56		59	
[] CAPRI G	09	0925 E	1020 D	0948	S13 W52	6215	55 D	1	3	0948	5.00			
[] CAPETOWN	09	1029	1051	1033	N12 W72	6212	22	1	3	1033	1.30			
[] CAPETOWN	09	1141	1340	1150	N16 W67	6212	119	1+	2	1150	2.20			
[] CAPRI G	09	1142 E	1305 D	1224	N13 W63	6212	83 D	2	2	1224	9.00			
[] OTTAWA	09	1147 E	1210 D		N15 W70	6212	23 D	1	2	1210	3.70			
[] LOCARNO	09	1225 E	1320		N19 W63	6212	55 D	1+	3		2.20			
[] ABUSTUMANE	10	0656 E	0749 D	0703 U	S10 E60	6223	53 D	2	3	0718	4.50		82	
[] BAKOU	10	0659 E	0740	0718	S08 E62	6223	41 D	1+	3	0725	9.44		71	
[] CAPRI G	10	0705 E	0737 D		S08 E61	6223	32 D	1	3	0715	6.00			
[] CAPETOWN	10	0714 E	0736		S08 E62	6223	22 D	1	2		2.80			
[] KHARKOV	13	0923 E	0941 D		S14 E10	6223	18 D	1	1	0924	2.50	1.50		
[] CAPRI G	13	0923 E	0952 D		S14 E12	6223	29 D	1	3	0926	3.00			
[] CAPRI G	13	1130 E	1157 D		N14 E36	6224	27 D	1	3	1133	4.00			
[] SCHAUINS	13	1523	1542 D		N14 E34	6224	19 D	1	1		3.00			
[] SCHAUINS	13	1555 E	1610 D		S12 E20	6223	15 D	1	1		2.00			
[] IKOMASAN	13	2330	0027 D		S09 E12	6223	57 D	1	1	2400	4.13	1.18	100	
[] IKOMASAN	14	0220 E	0236		S09 E10	6223	16 D	1	3	0220	1.44	1.34	100	
[] CAPRI G	14	0918 E	0923 D		S08 E07	6223	5 D	1	3	0922	3.00			

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEP 1961	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.				MEAS. AREA Sq. Deg.	COBR. AREA Sq. Deg.	
VOROSHILOV ADUSTUMANE LOCARNO CAPRI G SCHAUINS	15	0032	0139 D	S16 W12	6223	67 D	2	1	5.38	5.10	121
	15	0628	0636	N09 W41	6221	8	1	3	2.70		65
	15	1450	1530	S09 W11	6223	40	1	1		4.00	
	15	1457 E	1535 D	S09 W08	6223	38 D	1	3	1501	3.00	
	15	1504 E	1519	S10 W09	6223	15 D	1	2		9.00	
CAPRI G CAPETOWN	16	1107 E	1203 D	N17 E75	6227	56 D	2	3	1114		
	16	1143 E	1158	N20 E78	6227	15 D	2		1143	2.10	
MITAKA CAPRI G NIZMIR CAPRI G LOCARNO	17	0247 E	0251	S12 W37	6223	4 D	1	1	0248	.60	120
	17	0919 E	0931	S12 W39	6223	12 D	1	3	0923	3.00	
	17	0923 E	0930	S11 W41	6223	7 D	1	3	0918	2.70	60
	17	0931 E	0942 D	N22 W42	6222	11 D	1	3	0932	2.00	
	17	1304	1322	S13 W45	6223	18	1	2		4.00	
CAPRI G CLIMAX	17	1308 E	1412 D	S12 W41	6223	64 D	1	3	1315	4.00	
	17	1750	1815	N14 W27	6224	25	1		4.00	4.00	
VOROSHILOV CAPRI G KIEV KO SCHAUINS	18	0030 E	0037 D	N15 E49	6227	7 D	1	2	0030	2.52	74
	18	1127 E	1218 D	S06 W53	6223	51 D	1	3	1128	5.00	
	18	1128 E	1216 D	S05 W50	6223	48 D	1+	2	1132	4.13	60
	18	1133 E	1142 D	S07 W49	6223	9 D	1	2		3.00	
CAPRI G VOROSHILOV	18	1346 E	1430 D	S11 W57	6223	44 D	1	3	1351	3.00	
	19	0047	0116	N18 W39	6224	29	1	2	1.89		66
ALMA-ATA CAPETOWN	20	0410	0421	N17 W60	6224	11	1		0416	.88	81
	20	1021	1027	N13 W63	6224	6	1		1022	1.10	
CAPRI G CAPRI G	21	0746 E	0752 D	N17 W76	6224	6 D	1	3	0748	3.00	
	23	0644 E	0727 D	N08 E04	6228	43 D	1	3	0646	3.00	58
ALMA-ATA CAPRI G	23	0650 E	0720	N07 E03	6228	30 D	1	3	0650	2.17	
	23	0734 E	0740 D	N15 W18	6227	6 D	1	3	0736	5.00	
CAPRI G NIZMIR	23	0752 E	0845 D	N02 E73	6234	53 D	1	3	0754	3.00	55
	23	0758 E	0815 D	S04 E80	6234	17 D	1		.90		
CAPRI G CAPRI G	24	0703 E	0847 D	N07 W10	6228	104 D	1	3	0743	6.00	
	24	0707 E	0907 D	N25 W30	6227	120 D	2	3	0825	8.00	
AROSA CRIMEE CAPETOWN	25	0646	0700	N07 W25	6228	14	1				
	25	0647 E	0708 D	N07 W25	6228	21 D	1	1	0649	.90	78
	25	0648	0705	N07 W25	6228	17	1	1	0651	2.00	
AROSA ZURICH	25	1015	1021	N07 W27	6228	6	1			2.20	
	25	1420	1423	N08 W31	6228	3	1	3	1420	2.00	
CAPRI G CAPRI G	25	1420 E	1426 D	N08 W29	6228	6 D	1	3	1421	2.00	
	25	1435 E	1447 D	N07 W26	6228	12 D	1	3	1436	2.00	
ZURICH ZURICH	25	1501	1507	N07 W28	6228	6	1	3	1501	2.00	
	26	1020 E	1028	N12 E85	6237	8 D	1	1	1020	2.00	
CAPRI G ZURICH	26	1016 E	1052 D	N13 E65	6235	36 D	2	3	1037	8.00	
	26	1020 E	1045	N11 E61	6235	25 D	1	1	1020	4.00	

SOLAR FLARES

SEPTEMBER 1961

IIIh

OBSERVATORY	DATE SEP 1961	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	
CAPE TOWN	26	1033 E	1058	N14 E65	25 D	2	2	1033	3.00	7.10		
VOROSHILOV	26	2305	2322	N11 E54	17	1			1.26			65
VOROSHILOV	27	0018	0103	N08 E58	45	1			1.62			
CAPE TOWN	27	1107	1117	N13 E78	10	1		1110	1.10			76
LOCARNO	27	1109	1120	N14 E77	11	1						
CAPRI G	27	1117 E	1142 D	N13 E67	25 D	3		1118				
LOCARNO	27	1445	1506	N14 E61	21	1+		1451	1.50	4.00		
CLIMAX	27	1448	1500	N12 E64	12	1			1.60	2.20		
CLIMAX	27	1916	1950	N13 E60	34	1			1.20	2.20		
CLIMAX	27	1950	2014	N13 E70	24	1						S-SWF
MITAKA	28	0141 E	0144	N14 E62	3 D	1		0141	1.01	2.10		134
CAPE TOWN	28	0907	0922	N14 E36	15	1		0911	1.80	2.20		
AROSA	28	0917 E	0920	N14 E61	3 D	1						
MITAKA	28	2315 E	0009	N11 E28	54 D	1+		2315	9.05	10.49		120
AROSA	29	0905 E	0918	N12 E45	3 D	1						
CAPRI G	29	1047 E	1140 D	N12 E41	53 D	1		1052		4.00		
AROSA	29	1050 E	1100 D	N12 E43	10 D	1						
CAPE TOWN	29	1050	1109	N13 E42	19	1		1053	2.00	2.70		
CAPRI G	29	1157 E	1210 D	N12 E41	13 D	1		1206		3.00		
CAPE TOWN	29	1159	1215	N13 E42	16	1		1204	2.20	2.80		
CAPE TOWN	29	1414	1420 D	N13 E42	6 D	1		1419	1.50	2.40		
ZURICH	30	0804 E	0824 D	N14 E31	20 D	1		0804		4.00		
AROSA	30	0805 E	0815 D	N14 E31	10 D	1						
CAPRI G	30	0810 E	0812 D	N12 E30	2 D	1		0811		5.00		58
BAKOU	30	0830 E	0845	N14 E31	15 D	1			5.47			
CAPRI G	30	0952 E	1008 D	N12 E29	16 D	1		0953		4.00		
ZURICH	30	1004 E	1014	N14 E30	10 D	1		1004		4.00		
CAPE TOWN	30	1247	1330	N14 E28	43	1		1257	1.80	2.10		
CAPRI G	30	1323 E	1352 D	N12 E27	29 D	1		1325		4.00		
CAPRI G	30	1427 E	1442 D	N12 E27	15 D	1		1430		4.00		
VOROSHILOV	30	2306	2320	N03 W31	14	1+			1.97			80

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the September 1961 flares published in CRPL-F 206 Part B, October 1961.

ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDEHORST den BERGH, NETHERLANDS
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN		KRASNAVA PAKHRA, USSR
CAPE TOWN	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	KIEV KO	KIEV GAO, USSR	NIZMIR	SACRAMENTO PEAK, N. MEX. USA
CAPRI F	CAPRI, ITALY (GERMAN)	KIEV KY	KIEV UNIVERSITY, USSR	SAC PEAK	STOCKHOLM, SWEDEN
CAPRI S	CAPRI, ITALY (SWEDISH)	LOCKHEED	LOS ANGELES, CALIF., USA	SALTSJÖBADEN	SCHAUTINSLAND, GFR
CRIMEE	SIMEIZ, USSR	MCMATH	MCMATH-HULBERT	TACHKENT	TASHKENT, USSR
HERSTMONCEU	ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND	MOSCOW	PONTIAC, MICH., USA	WENDEL	WENDELSTEIN, GFR
		MOSCOW-GAISH, USSR			

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

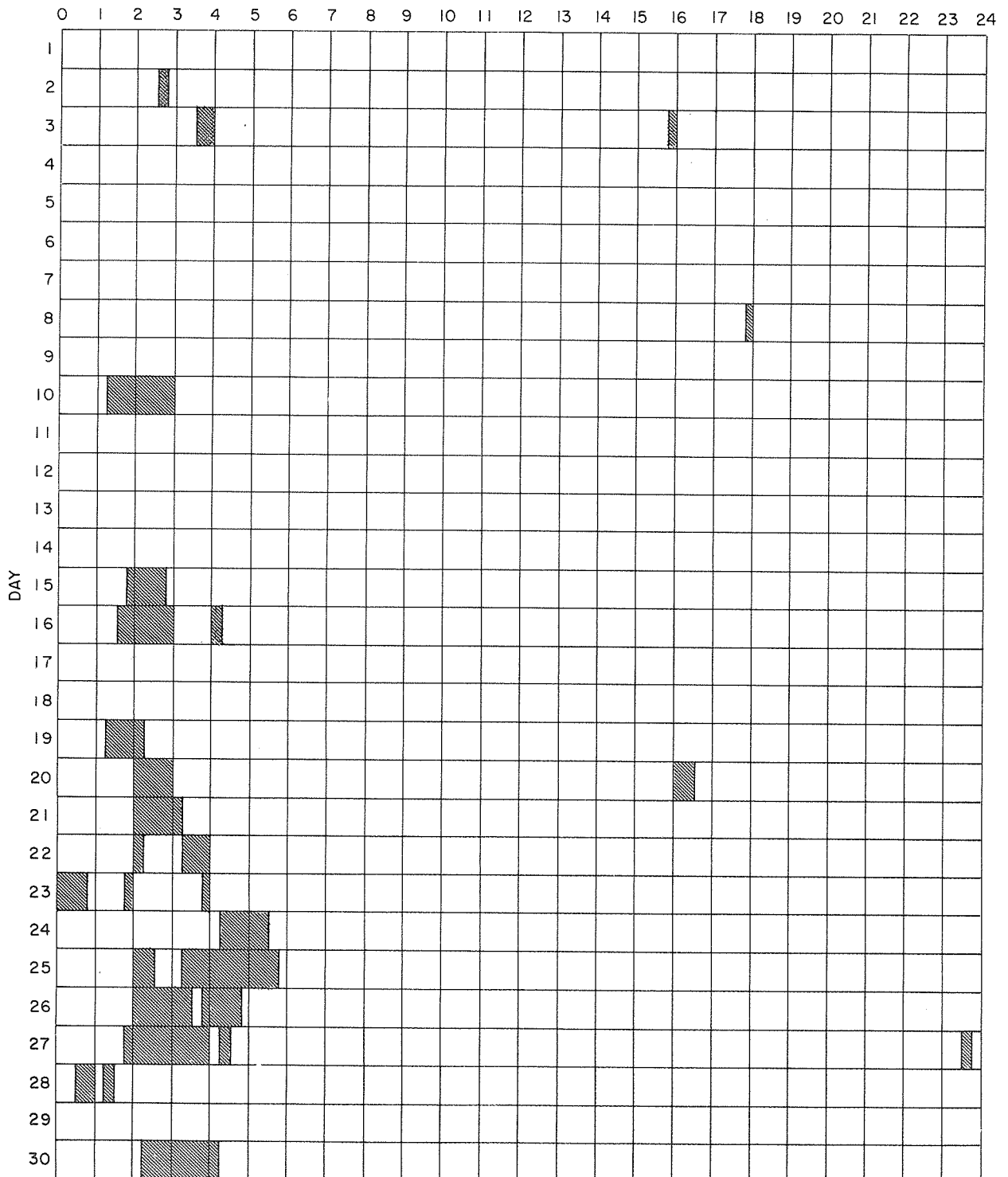
E = LESS THAN D = GREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

III

SEPTEMBER 1961

HOUR-UT



COMMERCE - STANDARDS - BOULDER

Stations Include:

- | | | | | | |
|------------|-----------------|----------|----------------|-----------------|-------------|
| Abastumani | Capetown | Huancayo | Kodaikanal | Moscou | Tachkent |
| Alma-Ata | Capri (Swedish) | Ikomasan | Lockheed | Nizmir | Uccle |
| Arcetri | Climax | Istanbul | McMath-Hulbert | Ondrejov | Voroshilov |
| Bakou | Crimée | Kharkov | Meudon | Ottawa | Wendelstein |
| Bucharest | Honolulu | Kiev KO | Mitaka | Sacramento Peak | |

SOLAR FLARES

OCTOBER 1961

OBSERVATORY	DATE OCT 1961	OBSERVED UNIVERSAL TIME		LOCATION		DUR. MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER. DIST.				MONTH PLACE REGION	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Hr
CAPRI F BAKOU UCCLE	01	0802 E	0820 D	N14 E09	E09	6237	18 D	2	0803	2.00			
	01	0802 E	0824 D	N11 E10	E10	6237	22 D	3	0805	.94			
	01	1029 E	1035 D	N14 E16	E16	6237	6 D	3	1035	2.10			50
CAPRI F	02	1457 E	1512 D	N14 E03	E03	6237	15 D	2	1502	6.00			
VOROSHILOV	03	2305	2318	S12 E03	E03	6241	13	1+		1.97			125
CAPETOWN BUCHAREST	04	0825	0857	S13 W02	W02	6241	32	1	0832	2.30	2.40		
	04	0830	0900 D	S13 W03	W03	6241	30 D	1		4.70			
ALMA ATA LOCARNO VOROSHILOV	09	0546	0610	N09 E54	E54	6247	24	1	0558	1.26			53
	09	0940	1017	N19 E85	E85	6250	37	2					
	09	2320	2328	N06 E86	E86	6250	8	1		1.07			98
CAPETOWN UCCLE CAPETOWN	10	1204	1225	N16 E77	E77	6250	21	1	1210	1.10	2.40		
	10	1206	1223	N15 E75	E75	6250	17	1	1210	1.00	2.40		
	10	1223	1306	N13 E36	E36	6247	43	1	1230	2.70	3.50		
UCCLE LOCARNO ZURICH	10	1223	1309	N11 E35	E35	6247	46	1+	1230	4.50	5.70		
	10	1230	1304	N11 E35	E35	6247	34	2	1240	4.00	5.00		
	10	1233 E	1308	N12 E36	E36	6247	35 D	1	1233				
AROSA	10	1245 E	1320	N10 E34	E34	6247	35 D	2					
BUCHAREST	11	0731	0839	N15 E66	E66	6250	68	1		2.60			
KIEV KO AROSA	12	1043	1100	N12 E08	E08	6247	17	1+	1045	4.13			74
	12	1419	1430 D	S09 W10	W10	6246	11 D	1					
ALMA ATA	13	0611	0624 D	N02 W58	W58	6249	13 D	1	0615	1.08			56
VOROSHILOV	14	0331	0339	N04 W69	W69	6249	8	2		2.60			
ALMA ATA AROSA	15	0713	0720	S07 W55	W55	6246	7	1	0714	1.26	2.30		80
	15	1420 E	1430	S06 W57	W57	6246	10 D	1	0714				67
BUCHAREST	17	0915 E	0930 D	N14 W61	W61	6247	15 D	1					
ABASTUMANI	18	0637	0714 D	N14 W70	W70	6247	37 D	1		3.60	3.70		
KHARKOV	27	0807 E	0849 D	N11 W09	W09	6261	42 D	1	0817	5.67	5.90		1.20

CONTINUED - STANDARD - BULLETIN

These flare reports are addenda to the October 1961 Flares published in CRPL-F 207 Part B, November 1961.

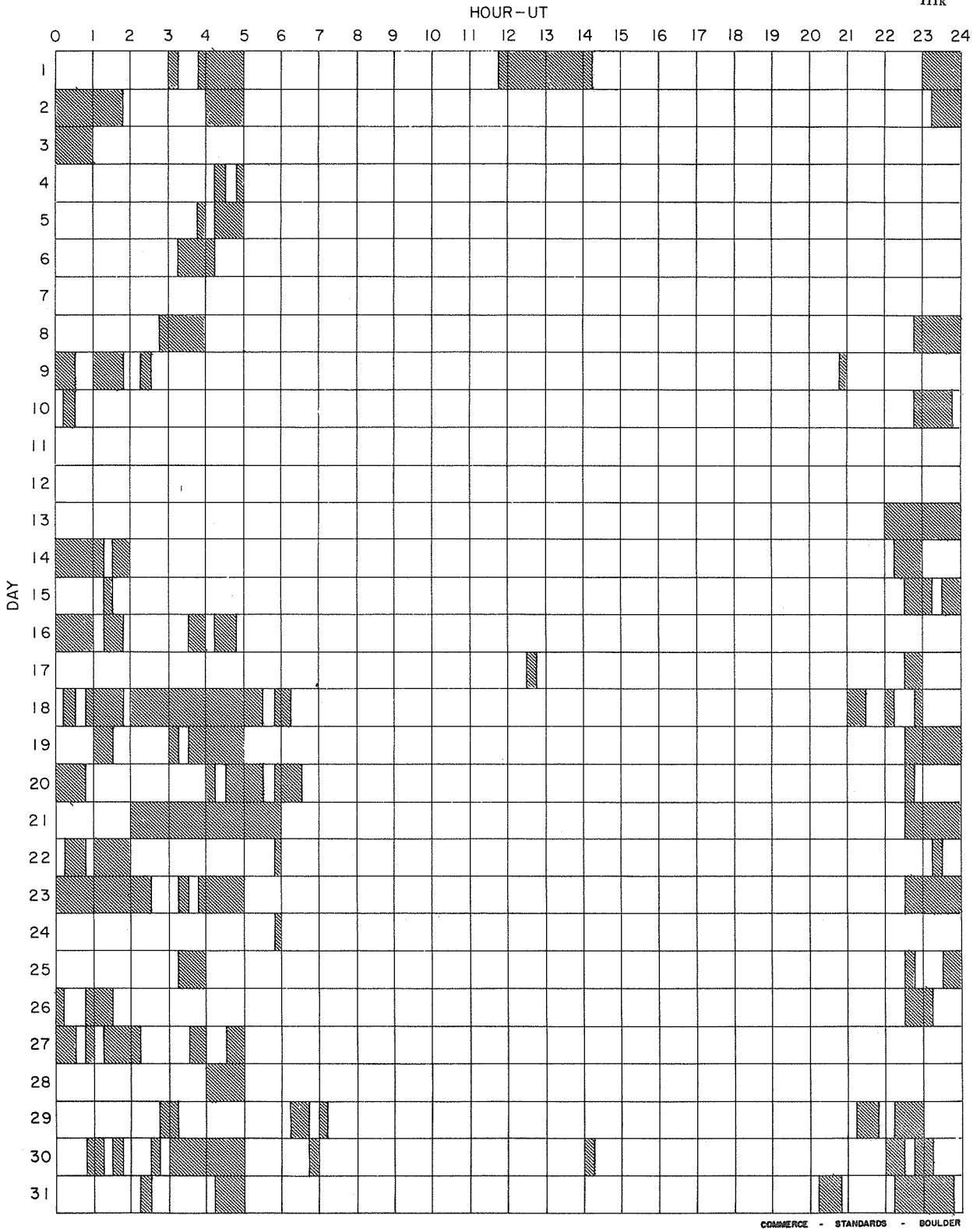
ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDEHERST den BERCH,
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN	NETHERLANDS	NETHERLANDS
CAPETOWN	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	KIEV KO	KIEV GAO, USSR	KRAMNAYA PAKHRA, USSR	SACRAMENTO PEAK, N.MEX. USA
CAPRI F	CAPRI, ITALY (GERMAN)	KIEV KY	KIEV UNIVERSITY, USSR	SAC PEAK	STOCKHOLM, SWEDEN
CAPRI S	CAPRI, ITALY (SWEDISH)	LOCKHEED	LOS ANGELES, CALIF., USA	SALTSJOBADEN	SCHAUTINSLAND, GFR
CRIMEE	SIMIZ, USSR	MCNATH	MCNATH-HULBERT	SCHAUINSLAND, GFR	TASHKENT, USSR
HERSTHONCEU	ROYAL GREENWICH OBSERVATORY, HERSTHONCEUX, ENGLAND	MOSCOW	MOSCOW-GAISH, USSR	TACHKENT	WENDELSTEIN, GFR

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-60) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CILDAH, HAWAII, LOCKHEED AND SACRAMENTO PEAK
E = LESS THAN D = GREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

OCTOBER 1961

IIIk



Stations include:

Abastumani	Bucharest	Honolulu	Lockheed	McMath-Hulbert	Nizmir	Uccle
Alma-Ata	Capetown	Huancayo	Kiev KO	Meudon	Ondrejov	Voroshilov
Arcetri	Capri (Swedish)	Ikomasan	Kharkov	Mitaka	Sacramento Peak	Wendelstein
Bakou	Crimee	Istanbul	Kodaikanal	Moscou	Tachkent	

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS
 SUDDEN COSMIC NOISE ABSORPTION
 SUDDEN ENHANCEMENTS OF ATMOSPHERICS
 SUDDEN PHASE ANOMALIES
 SOLAR NOISE BURSTS AT 18 Mc

DECEMBER 1961

DECEMBER 1961	UNIVERSAL TIME			SWF TYPE IMP	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE	
	START	END	MAX		ABS	SCNA	SEA	SPA	BUR				
*	01	1324	1435	S 3	19	3+	2			3	MC BE FM	+	
	01	1325	1520							1334	1		RE
	01	1328	1415U							1338	5		A5 A3 TA
*	02	1716	1805	SL 1+	30	1			1	1	RE	1920	
	02	1820	2020							1903	1		RE
	02	1922	1925								1		BO HA
	02	1928	1952								4		PR AD HU
	03	1955	2102										
04	1628	1650	1635		37	1			2	A5 A3	1735		
04	1735	1740								2		A3 A13	
05	1732	1900U	1753		42	1			1	RE	+		
07	1155	1410	1227						1	RE			
10	1633	1647	1639				17			BO+			
11	1935	2025	1952				1+		3	A9 A10 A3			

COMMERCE - STANDARDS - BOULDER

*Sudden Enhancement of Signal from 18 kc (Panama Canal Zone) observed by A5.
 +No known flare patrol at time of event.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

IVa

JANUARY 1962

ARO OTTAWA

2800 MC

JANUARY 1962	TYPE	START UT	DURATION HRS: MINS	MAXIMUM			REMARKS
				TIME UT MAX	PEAK FLUX	NEAR FLUX	
28	3 Simple 3 A	1915	44	Indet.	1.3	.7	
	6 Complex	1929	8	1932.2	6	3	
29	3 Simple 3 A	1513	1 02	1530	5	3	
	1 Simple 1	1520	10	1522.5	6	3	
31	1 Simple 1 f	1441.3	2.8	1442	4	1.8	
31	1 Simple 1	1447	3.5	1447.7	3	1.3	
31	1 Simple 1	1902	6	1904	6	3	
	4 Post Increase		35		2	1	

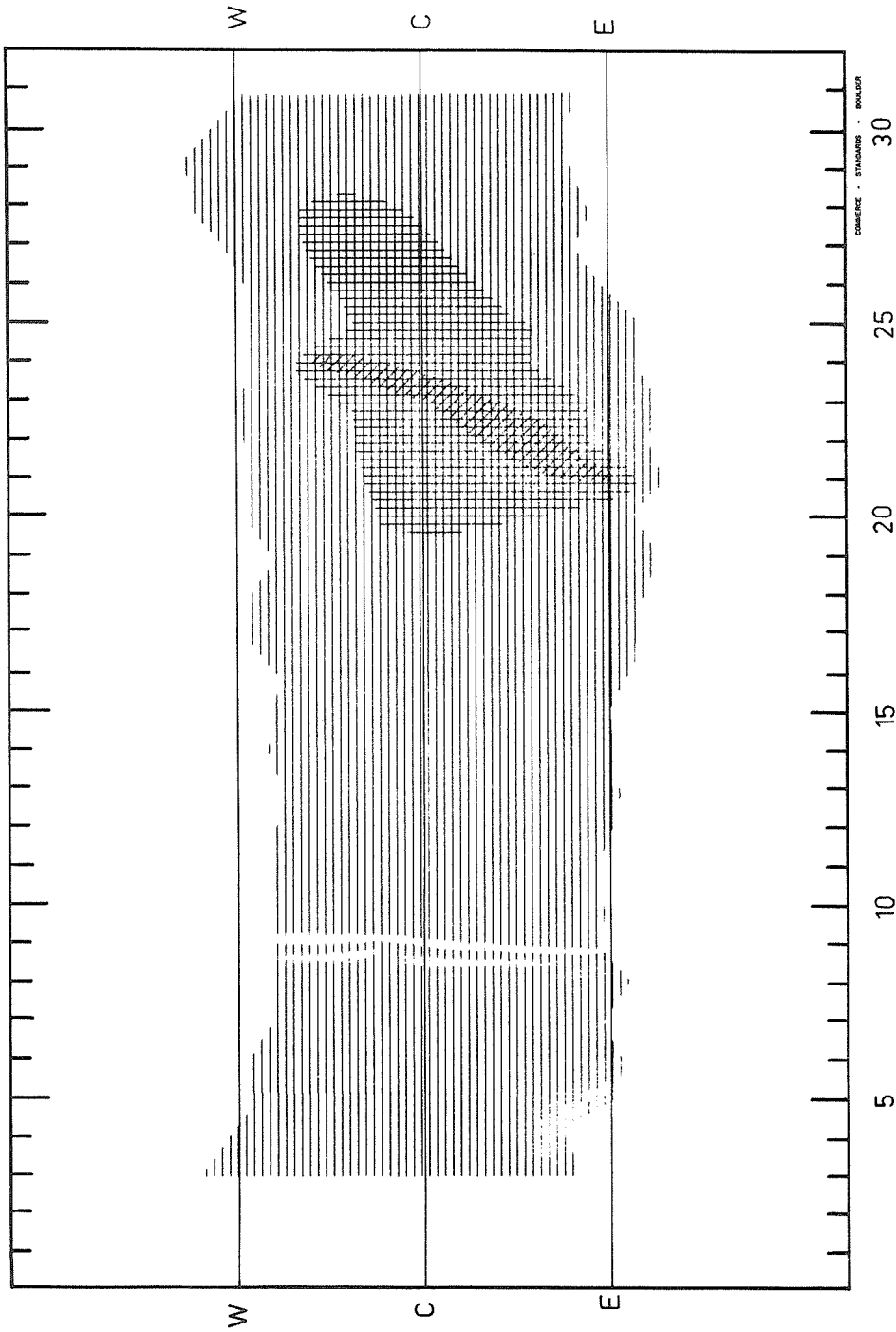
COMMERCIAL - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nancay

JANUARY 1962

169 Mc



SOLAR RADIO EMISSION

IVc

JANUARY 1962

BOULDER

108 Mc.

Jan. 1962	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
7	3	1733.1	1733.9	1.2	1
9	3	1658.1	1658.3	2.4	2
9	3	2203.2	2203.4	.8	1
18	3	1626.6	1626.7	1.4	1
21	3	1511.2	1511.3	.8	1
22	3	1643.1	1643.6	.7	2
23	7	1430		120	2
24	1	1934		67	1
30	3	2317.8	2318.6	1.3	2
31	3	1830.7	1830.9	1.1	2

COMMERCE - STANDARDS - BOULDER

No records January 1-4, 13, 14, 1962.

NOMINAL TIMES OF OBSERVATION

JANUARY 1962

BOULDER

108 Mc.

Jan. 1962	U.T.	Jan. 1962	U.T.
5	1536-2334	22	1422-2352
6	1427-2335	23	1421-2353
7	1427-2217	24	1420-2354
8	1427-2337	25	1420-2046;
9	1427-2338		2151-2356
10	1427-2339	26	1419-2357
11	1427-2340	27	1418-2358
12	1426-1743	28	1417-2359
15	1716-2344	29	1417-0000
16	1425-2345	30	1416-0002
17	1425-2346	31	1415-0003
18	1424-2347		
19	1423-2348		
20	1423-2349		
21	1422-2350		

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVd

JANUARY 1962

HAO BOULDER

7.6-41MC

Date 1962	Bursts			Frequency Range (mc)	Date 1962	Bursts			Frequency Range (mc)
	Type	Time (U.T.)	Inten- sity			Type	Time (U.T.)	Inten- sity	
2 Jan 3 5 9# 19	III	2253.30-2254	1+	24 - 41	24 ^c Jan	continuum	1516-1523	1-	22 - 41
	III	1912.30-1912.45	1-	27 - 41		III	1519.45-1520.15	1	22 - 41
	III	2046.30-2047.15	1-	23 - 41		III	1549.45-1553	1-	24 - 40
	III	1817.30-1818	1-	24 - 41		III	1604.30-1604.45	1	19 - 38
	III	1614.30-1615	1-	28 - 41		III	1605-1607.30	1+	21 - 41
	III	1619.15-1619.30	1-	22 - 41		III	1616.45-1617.30	1	20 - 41
	III	1650.15-1650.45	1-	22 - 41		III	1628.30-1629.15	1	19 - 41
	III	1909.30-1910	1	21 - 37		III	1655.45-1656.15	1+	22 - 36
	III	2132.45-2133.15	1-	26 - 41		III	1702.30-1703.15	1+	24 - 41
	III	2223.15-2224	1	22 - 41		III	1703-1703.30	1-	24 - 41
	III	2224-2224.30	1-	35 - 41		III	1736-1736.30	1-	22 - 38
	III	2225-2227.15	1+	15 - 41		III	1742.45-1743.15	1	21 - 35
	III	1819.30-1819.45	1-	27 - 41		continuum	1748.45-1845	1-	21 - 41
	III	1845.15-1845.45	1-	27 - 41		III	1748.45-1749	1-	20 - 34
	III	1920-1920.15	1-	22 - 32		III	1752.45-1753.15	1-	24 - 38
	III	1947.15-1947.45	1-	21 - 41		III	1757-1757.30	1	21 - 37
	III	1948.45-1949	1-	21 - 34		III	1758.30-1759.15	1	20 - 36
	III	2000.45-2001	1+	22 - 40		III	1830.30-1831	1-	23 - 38
	III	2100.45-2101	1+	23 - 41		III	1914-1914.30	1	21 - 33
III	2147.30-2148	1	23 - 41	III	1923.45-1924.15	1	21 - 31		
20 ^c	III	1704-1704.15	1	22 - 37	III	1929.15-1929.45	1-	22 - 29	
	III	1751.45-1752.15	1	24 - 34	III	1946.15-1946.45	1	20 - 34	
	III	1805.15-1805.45	1-	22 - 41	continuum	2010-2300	1-	19 - 41	
	III	1911.30-1912.30	1-	22 - 36	III	2011.30-2012.30	1+	16 - 41	
	III	1927.45-1928.15	1	23 - 40	III	2026.30-2029.30	1+	16 - 41	
	III	1944.30-1945	1-	22 - 34	III	2035-2037.15	2	14 - 41	
	III	2023-2023.30	1	20 - 40	III	2144-2144.30	1+	21 - 34	
	III	2032.45-2033.30	1	22 - 36	III	2203-2205	1+	15 - 41	
	III	2109.45-2110.15	1-	23 - 35	III	2234-2235	1+	15 - 41	
	III	2117.15-2117.30	1-	22 - 41	III	2235-2237	1+	15 - 41	
	III	2117.30-2118	1	20 - 38	25 ^c	III	1443-1443.30	1-	28 - 40
	III	2150.15-2151	1-	21 - 35		III	1542.45-1543	1	21 - 35
	III	2153-2153.15	1	24 - 41		III	1543.30-1543.45	1-	23 - 36
	III	2259.15-2300	1	20 - 41		III	1604.45-1605.45	1+	20 - 41
	III	1444.30-1444.2	1-	21 - 41		III	1615.15-1615.45	1-	23 - 41
	III	1453-1453.30	1	24 - 41		continuum	1616-1632	1-	20 - 41
	III	1526.45-1528.15	1	21 - 41		III	1617.30-1619	1	22 - 41
	III	1533.15-1533.45	1-	25 - 41		III	1619.30-1620.45	1+	21 - 41
	III	1554.30-1555	1-	22 - 41		III	1621-1621.30	1	21 - 40
III	1556-1556.30	1	21 - 41	III		1714.45-1715.15	1	22 - 41	
III	1558-1558.30	1	21 - 41	III		1720-1720.15	1-	24 - 35	
continuum	1601-1836	1-	21 - 41	III		2002.30-2003	1	21 - 38	
III	1612.15-1612.45	1+	21 - 41	III		2015.30-2016	1-	20 - 34	
III	1812.30-1813	1	24 - 41	III		2023.45-2024.15	1-	21 - 34	
III	1913.15-1914	1+	22 - 35	III		2024.45-2025.15	1-	21 - 34	
continuum	1914-2040	1-	21 - 41	III		2143.15-2143.45	1+	21 - 41	
III	1926.30-1927.15	1	20 - 36	III		2326.30-2327	1-	23 - 36	
III	1958-1959.15	1	16 - 41	III		2331-2331.15	1-	30 - 41	
III	2009.15-2009.45	1	21 - 41	III		1712.15-1712.30	1-	24 - 38	
III	2039.15-2040	1	21 - 41	III	1713.45-1714.30	1-	27 - 40		
III	2052.30-2052.45	1	23 - 41	26 ^c	III	1740-1740.30	1	26 - 41	
III	2116-2117.15	1	22 - 41		III	1740.30-1741	1	26 - 41	
III	2123.30-2124	1-	23 - 36		III	1751-1751.15	1-	27 - 40	
III	2156-2156.15	1-	22 - 32		III	1753.45-1754.15	1-	25 - 42	
III	2158-2158.30	1	20 - 41		III	1820.15-1820.45	1	27 - 38	
III	2207.30-2208	1	22 - 39		III	1832.30-1832.45	1	24 - 41	
III	2219-2219.30	1	21 - 41		III	1933-1933.15	1-	22 - 41	
III	2227.30-2228	1-	22 - 40		III	1950-1950.30	1-	21 - 41	
III	2233.30-2233.45	1	32 - 41		III	1618-1618.30	1	22 - 41	
III	2235.45-2236.15	1	29 - 41		III	2004.15-2004.30	1-	26 - 41	
23 ^c	continuum	1440-1455	1-		19 - 41	III	2207-2207.30	1+	21 - 41
	II	1459.45-1508	1+		26 - 41*	III	2254-2254.15	1	27 - 41
	III	1503.30-1505.45	1		22 - 41	III	1757.15-1757.45	1-	23 - 35
	continuum	1515-2340	1-		21 - 41	III	1758-1758.15	1	25 - 41
24 ^c	III	1446.45-1447.15	1-		29 - 38	III	1833.45-1834.15	1-	21 - 35
	III	1453-1455.30	1-		22 - 41	III	2319.30-2320	1	27 - 41
	III	1458.30-1459.30	1-		21 - 41	III	1832-1832.15	1-	21 - 33
III	1500.30-1502.15	1-	27 - 41						

Observations began 1728 UT.

* possibly isolated ionospheric scintillation
c many faint type III's not reported

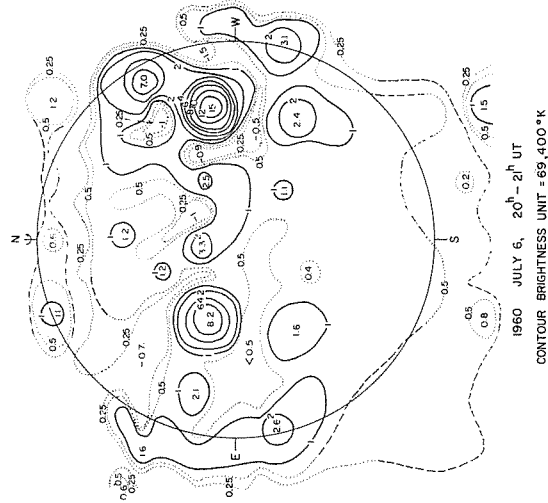
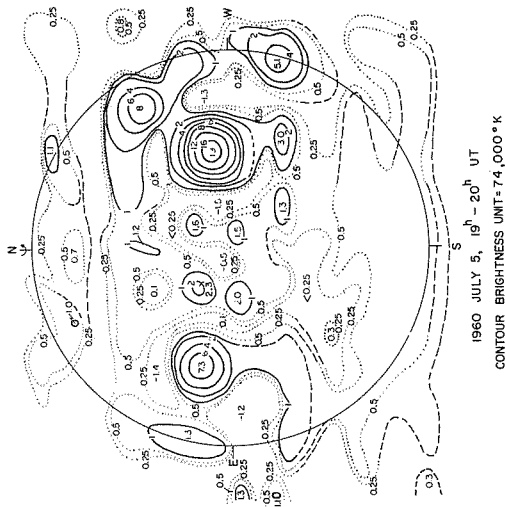
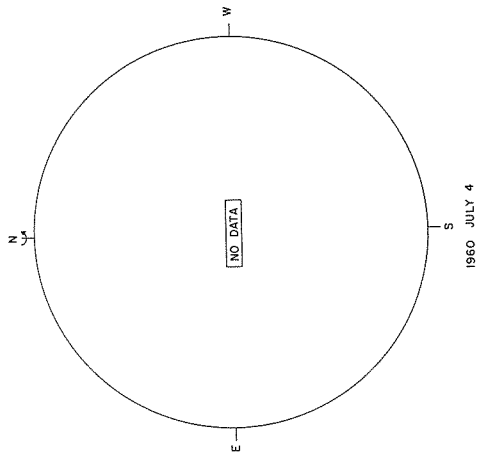
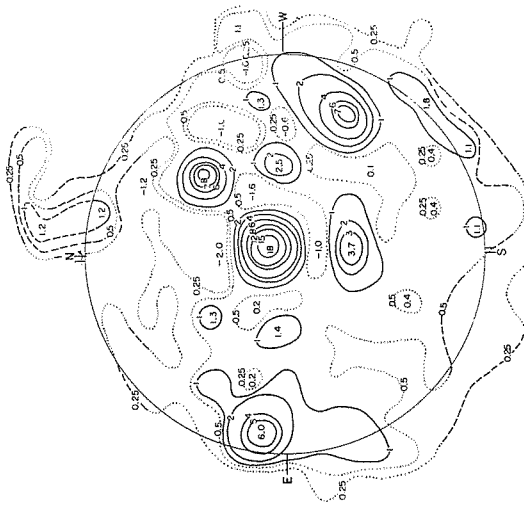
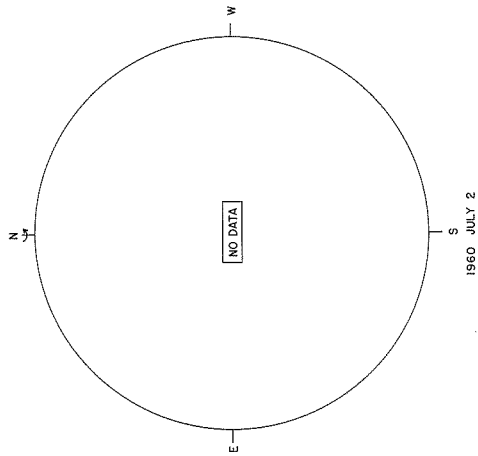
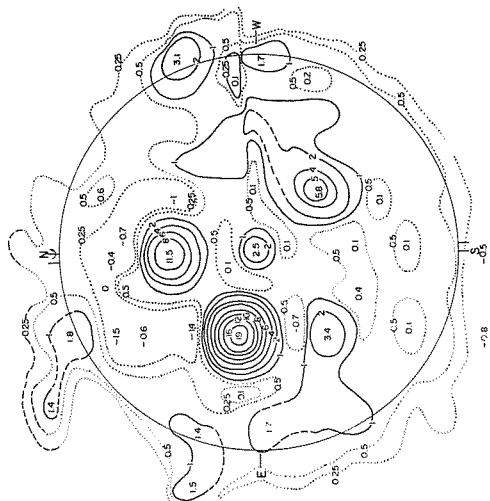
COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

9.1 cm

JULY 1960

STANFORD

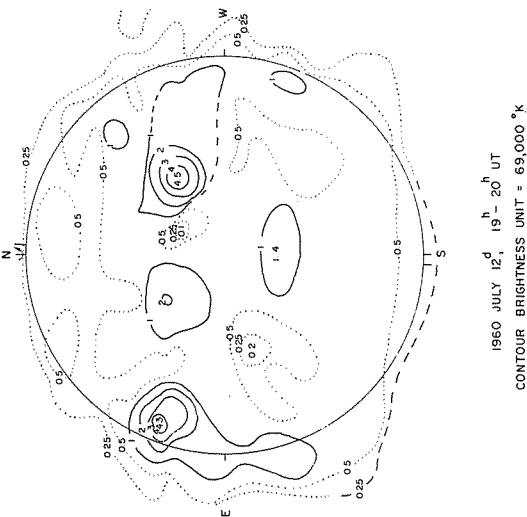
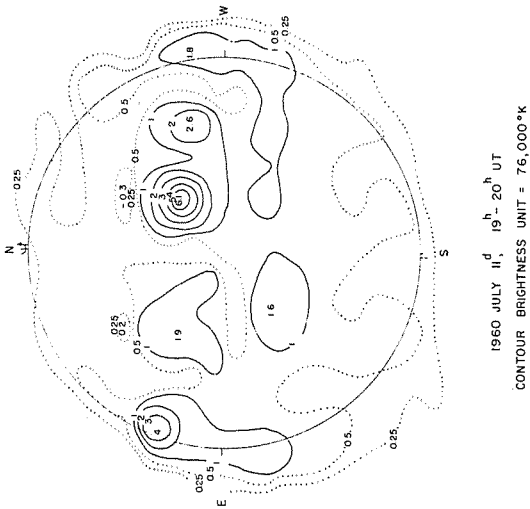
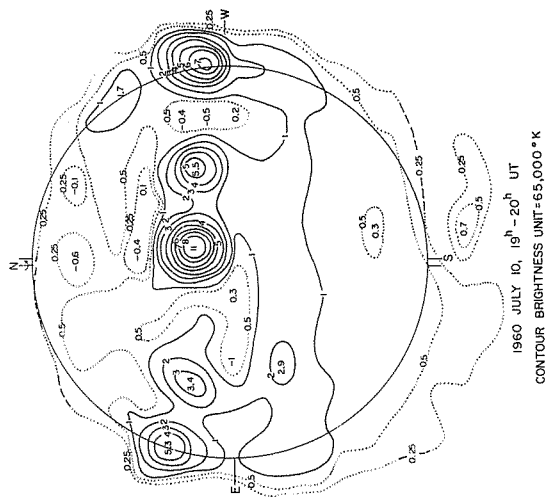
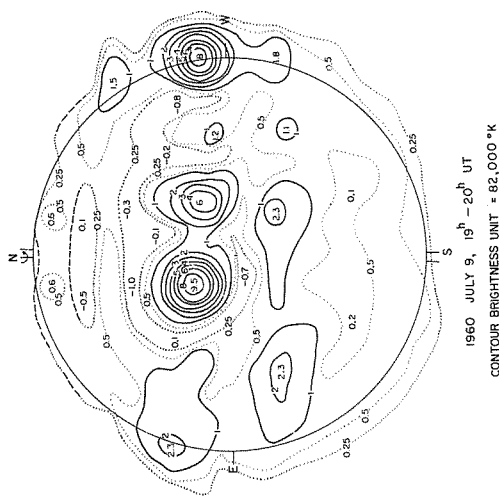
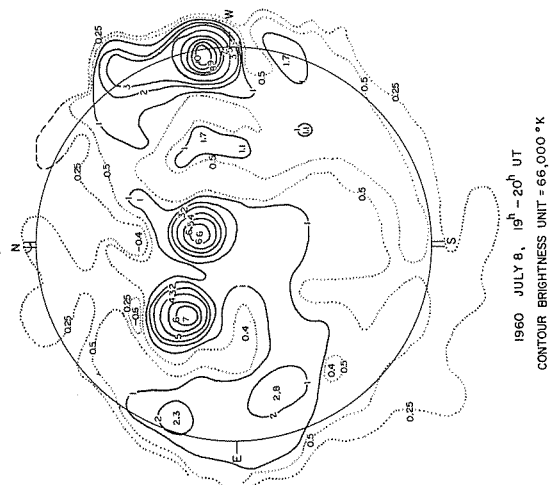
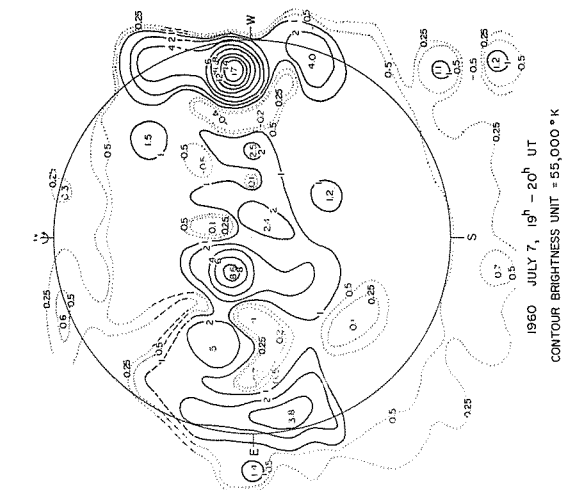


9.1 cm

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

JULY 1960

STANFORD

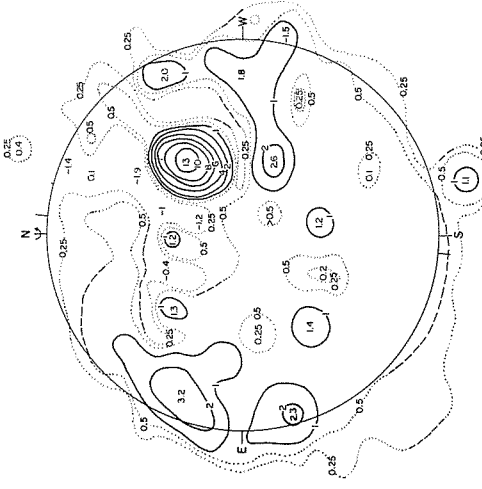
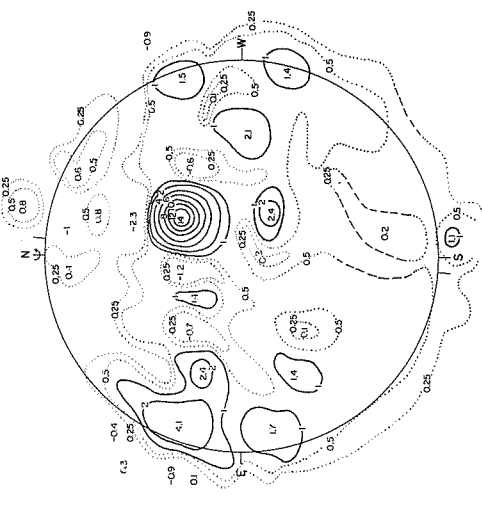
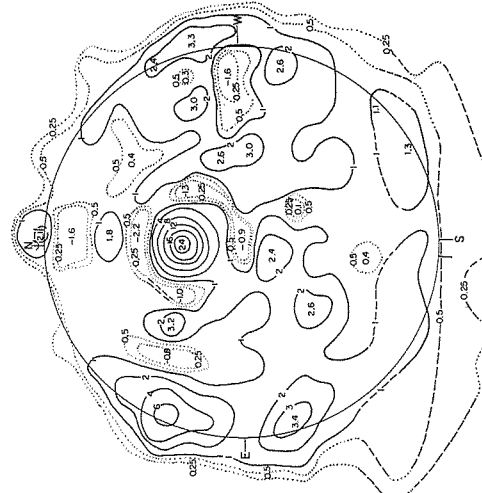
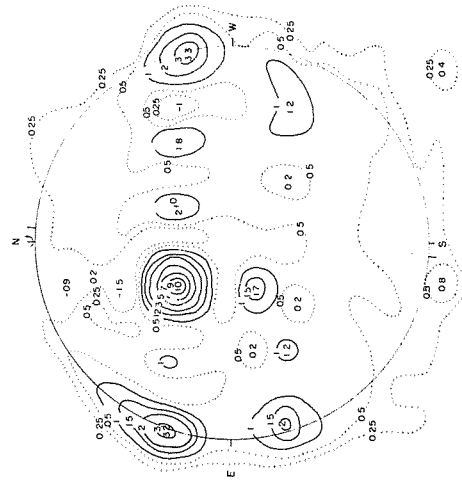
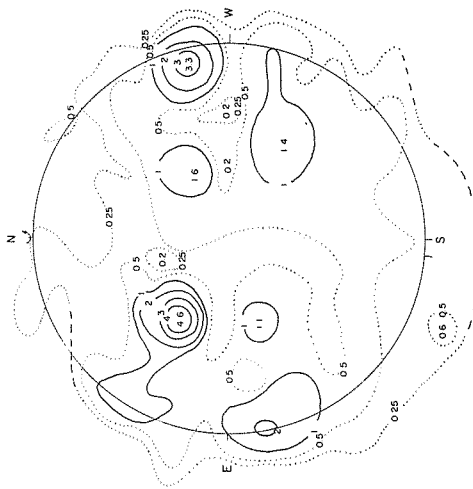
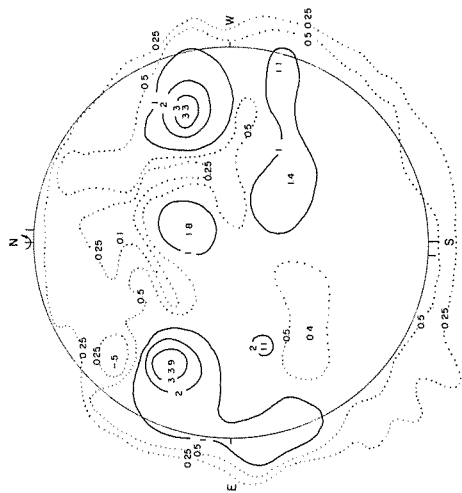


SOLAR RADIO EMISSION SPECTROHELIOGRAMS

JULY 1960

STANFORD

9.1 cm



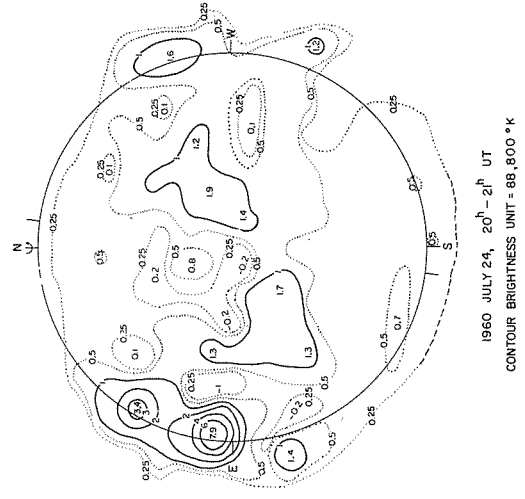
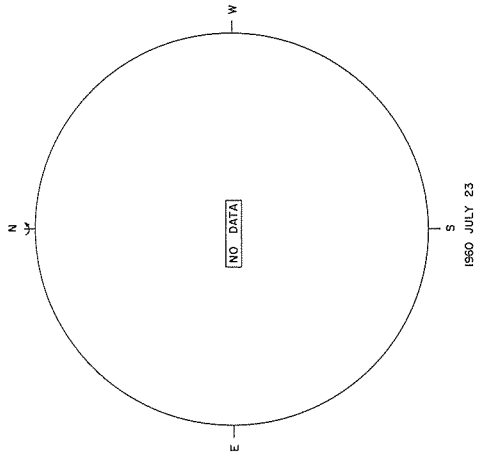
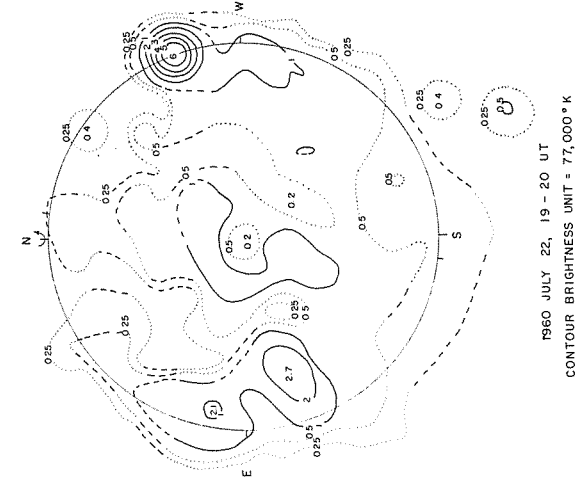
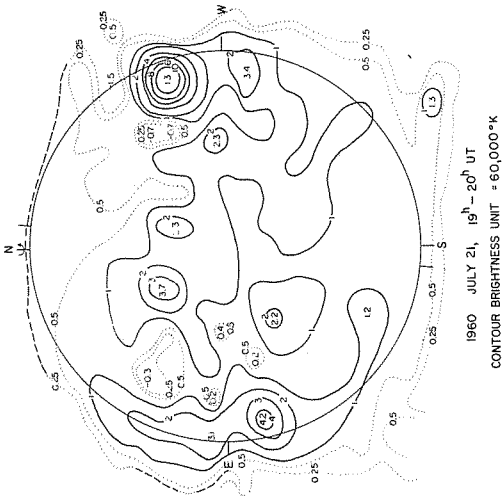
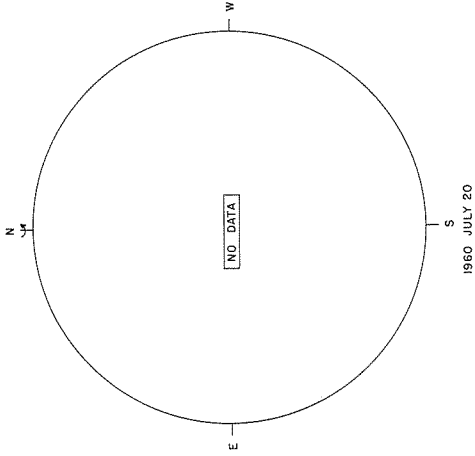
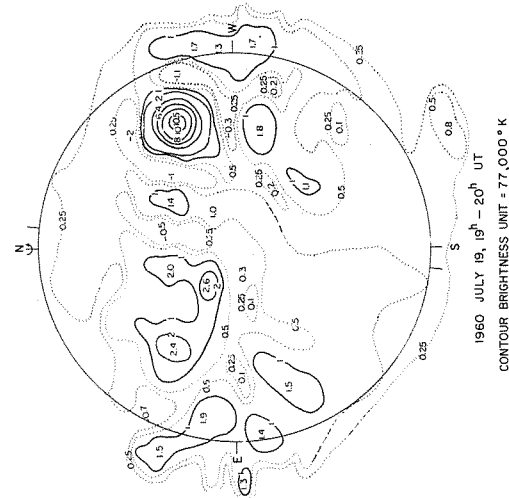
SOLAR RADIO EMISSION SPECTROHELIOGRAMS

IVh

JULY 1960

STANFORD

9.1 cm

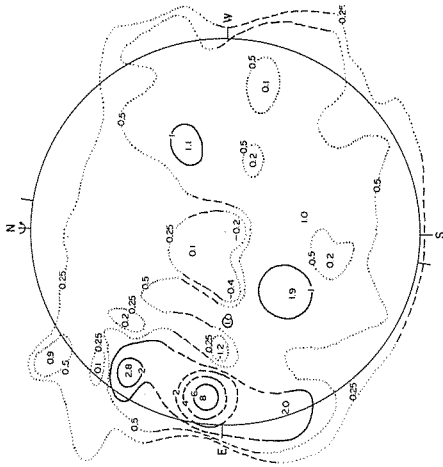


SOLAR RADIO EMISSION SPECTROHELIOGRAMS

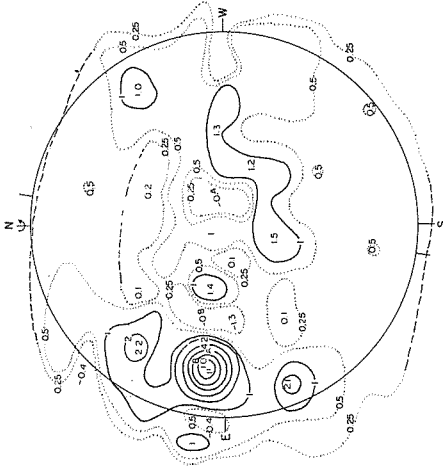
JULY 1960

STANFORD

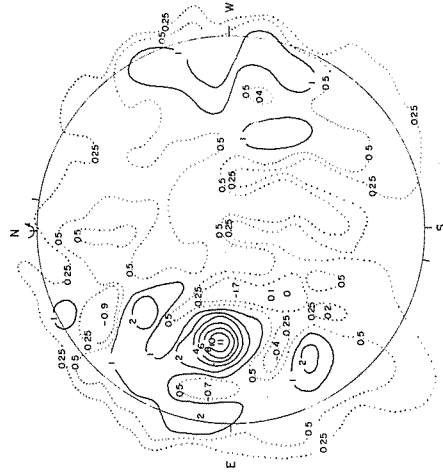
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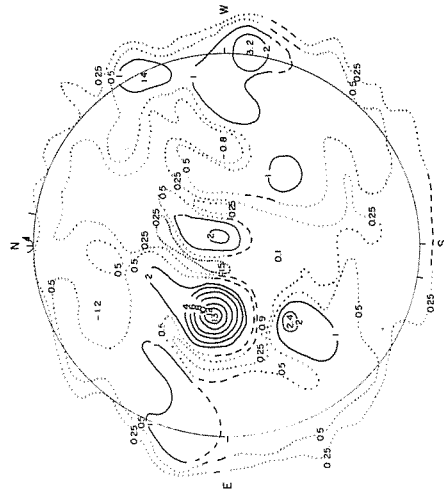
1960 JULY 25 20^h - 21^h UT
CONTOUR BRIGHTNESS UNIT = 82,000 °K



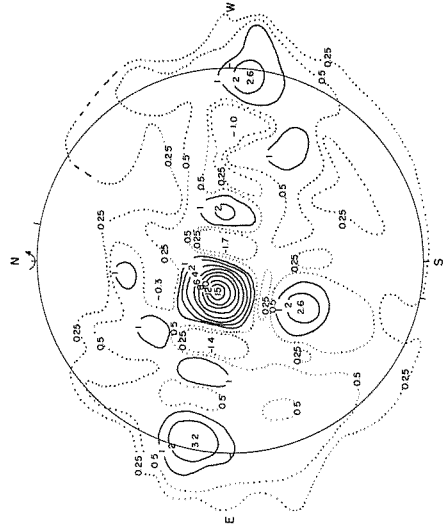
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CONTOUR BRIGHTNESS UNIT = 84,000 °K



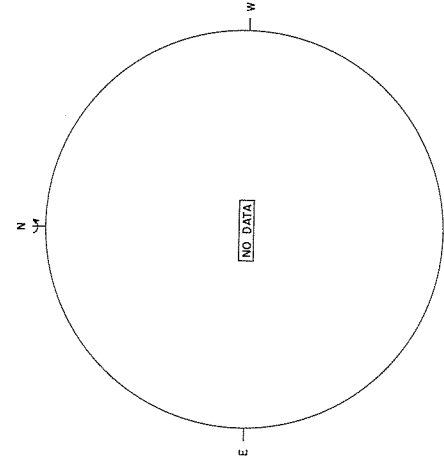
1960 JULY 27 20 - 21 UT
CONTOUR BRIGHTNESS UNIT = 79,000 °K



1960 JULY 26^d 19^h - 20^h UT
CONTOUR BRIGHTNESS UNIT = 79,000 °K



1960 JULY 25^d 19^h - 20^h UT
CONTOUR BRIGHTNESS UNIT = 85,000 °K



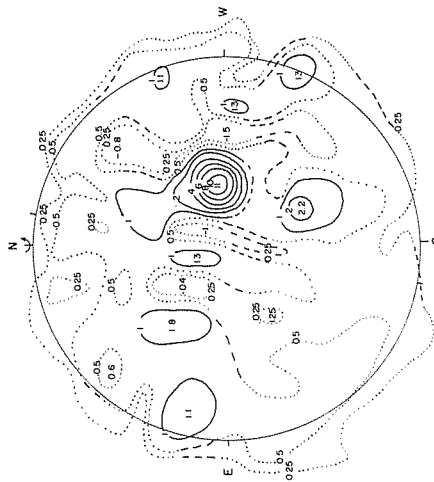
1960 JULY 30

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

JULY 1960

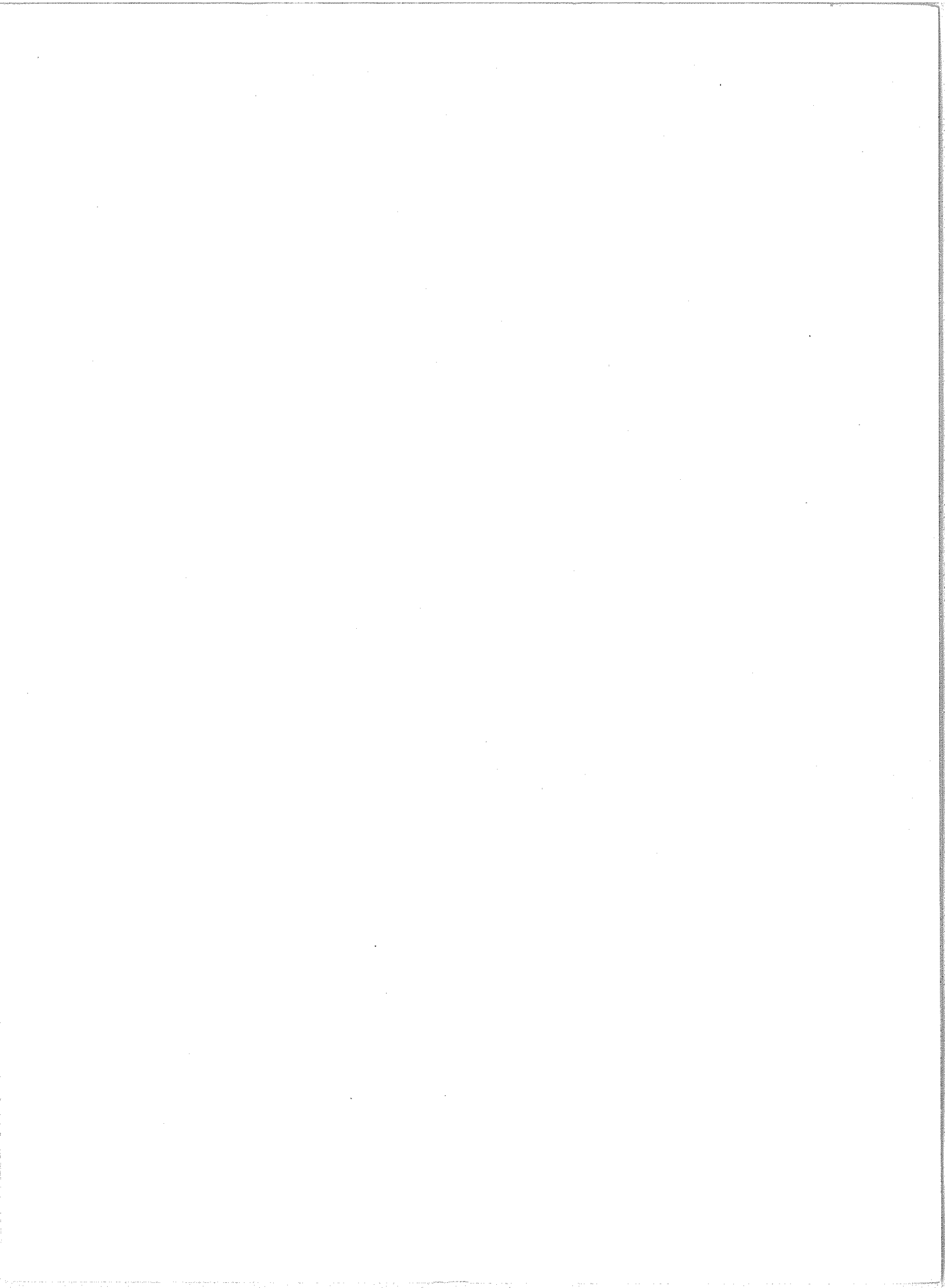
STANFORD

9.1 cm



1960 JULY 31, 20 - 21 UT
CONTOUR BRIGHTNESS UNIT = 77,000°K

CONTRAST - 1:1000000 - 1000000



Va

COSMIC RAY INDICES

Climax Neutron Monitor

IGC STATION B 305

NOVEMBER-DECEMBER 1961

Nov. 1961	Daily average counts/hr.*	Nov. 1961	Daily average counts/hr.
1	3079.8	16	3086.4
2	3095.5	17	3094.3
3	3084.4	18	3088.6
4	3076.9	19	3080.6
5	3078.4	20	3087.7
6	3072.5	21	3109.8
7	3077.9	22	3090.3
8	3077.2	23	3082.2
9	3082.8	24	3084.9
10	3085.9	25	3083.7
11	3098.6	26	3093.0
12	3100.2	27	3100.9
13	3110.7	28	3110.2
14	3089.3	29	3117.2
15	3082.7	30	3122.9

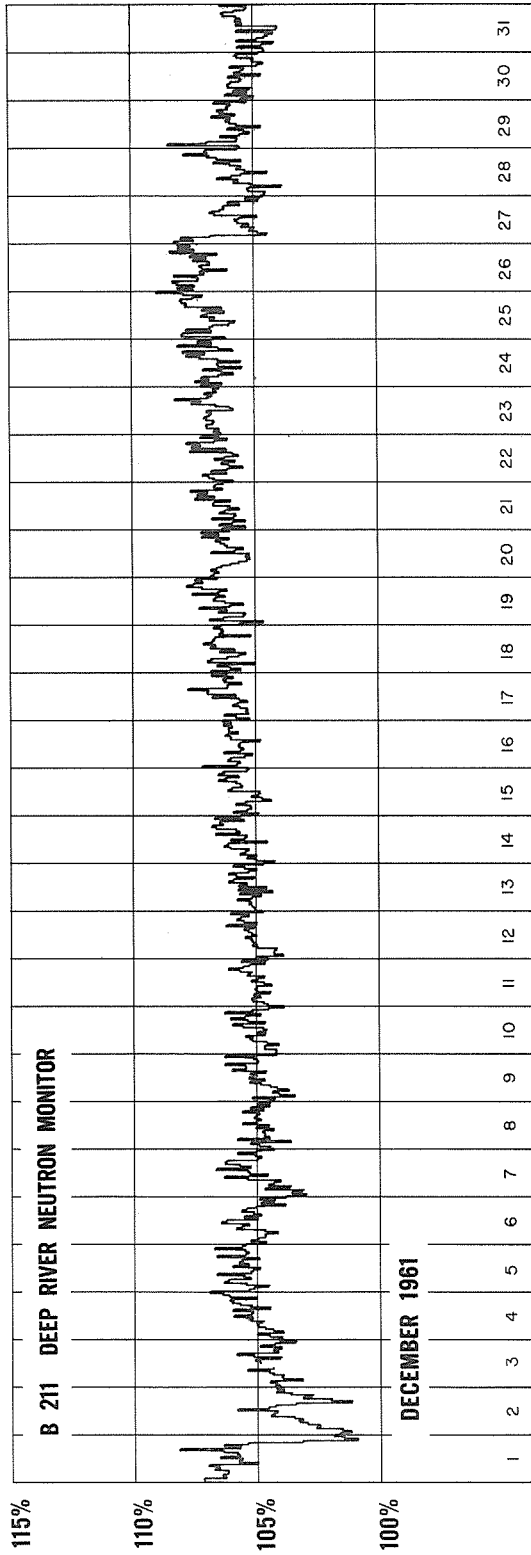
COMMERCE - STANDARDS - BOULDER

Dec. 1961	Daily average counts/hr.*	Dec. 1961	Daily average counts/hr.
1	3091.7	16	3102.5
2	3022.9	17	3113.2
3	3086.4	18	3119.8
4	3082.9	19	3116.5
5	3075.8	20	3096.0
6	3049.8	21	3097.0
7	3033.8	22	3102.4
8	3055.0	23	3116.7
9	3081.8	24	3109.8
10	3079.3	25	3133.0
11	3090.3	26	3134.2
12	3085.9	27	3077.8
13	3075.6	28	3079.0
14	3083.1	29	3084.8
15	3086.7	30	3070.9
		31	3068.6

COMMERCE - STANDARDS - BOULDER

* SCALING FACTOR 128

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



COMMERCE STANDARDS - BOULDER

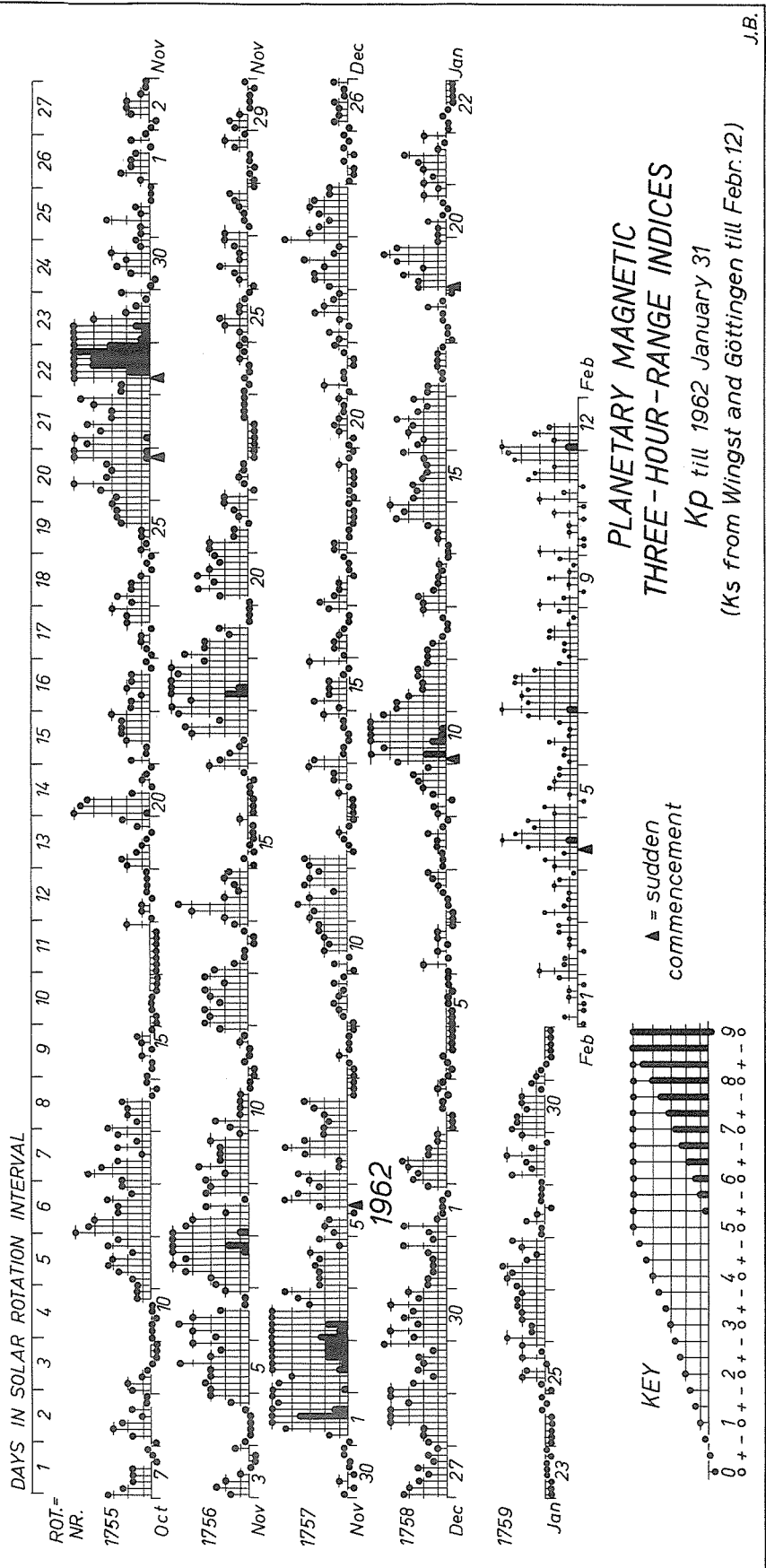
Via

GEOMAGNETIC ACTIVITY INDICES

DECEMBER 1961

Dec. 1961	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	1.7	0+	2-	4+	5o	8-	6o	5-	5o	35-	54	Five Quiet
2	1.8	5+	5-	4o	6-	5+	6+	6+	6+	44o	66	
3	1.6	7-	6-	6+	5o	5o	3o	4-	4+	40-	55	
4	0.6	2+	2+	2+	3-	2+	3o	1o	2+	18+	10	8
5	0.9	1+	2o	2-	0o	2+	4+	4-	2+	18-	11	18
												19
6	1.0	3o	4-	1o	1o	3+	4+	3+	2o	22-	15	20
7	0.3	2o	2-	2o	3-	3+	0o	0o	0o	12-	6	25
8	0.0	0o	0o	0+	1o	0+	0+	0+	0o	2+	2	
9	0.1	0o	1-	1o	1+	1o	1-	1+	1-	7-	3	
10	0.4	0o	1+	0+	2o	2-	2o	2+	2+	12o	6	
11	0.8	3o	3-	4-	3o	1+	3+	3o	2+	22+	14	Five Disturbed
12	0.1	3o	3+	0o	0+	1-	1o	0+	0o	9-	6	
13	0.2	0o	0o	0o	1o	0+	1+	1+	3o	7o	4	
14	0.1	3-	1-	1-	0+	0+	1-	1-	2o	8o	4	1
15	0.4	1o	3-	2-	2-	2-	1-	0+	3o	13-	7	2
												3
16	0.2	1-	1+	1+	1o	1-	0+	0+	2-	7+	4	28
17	0.0	2+	1+	1o	1o	0o	0+	0+	1-	7o	4	30
18	0.0	1+	1+	0+	0+	0o	0o	0o	0+	4-	2	
19	0.0	0o	0+	0o	0o	0o	1o	0+	0o	2-	1	
20	0.1	0+	0o	1o	1+	1o	1-	1-	1o	6o	3	
21	0.1	0+	2o	1-	1-	0o	0o	1-	1+	6-	3	Ten Quiet
22	0.3	1o	2-	0+	1o	3-	2o	1+	1o	11o	6	
23	0.9	2-	3-	3-	2o	3+	1+	1o	4+	19o	12	
24	0.5	3o	2+	2-	2+	3o	3-	2-	2-	18+	10	8
25	0.0	0+	0o	0o	1-	0o	1-	0+	1-	3-	2	9
												16
26	0.1	0+	1+	1o	1o	1+	1-	1-	1+	8-	4	17
27	0.7	3+	3o	2+	2-	2+	1+	2-	1o	17-	9	18
28	1.2	2-	2o	2o	4o	4o	4o	3o	4o	25-	18	19
29	0.8	4o	3-	1+	2+	2o	2+	1+	4+	20+	13	20
30	0.8	3-	4o	2+	3+	3-	4o	2+	3o	24+	16	21
31	0.4	2-	2-	1+	1+	1+	2-	3+	1+	14-	7	25
												26
Mean:	0.52									Mean:	26	

COMMERCE - STANDARDS - BOULDER



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

DECEMBER 1961

NORTH PACIFIC

NORTH ATLANTIC

DATE DECEMBER 1961	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF:	WHOLE DAY INDEX	ADVANCE FORECASTS (L-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:		GEO MAGNETIC K _{PR}	NORTH PACIFIC 12-HOURLY QUALITY FIGURES		SHORT-TERM FORECASTS ISSUED AT:	WHOLE DAY INDEX	ADVANCE FORECASTS (L-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:		GEO MAGNETIC K _S	
	00	06	12	18			1-7	1-3		1-7	0700			1900	0600		1800
01	6-	5-	5-	4+	6	5	4	5-	3	3	5	5	4	4	4	3	(6)
02	3+	4+	4+	3-	3	2	5	(4-)	(5)	6	4	4	4	4	4	(4)	(6)
03	3-	2+	4+	3-	3	3	4	(3-)	(5)	4	4	2	4	4	4	(6)	(4)
04	2+	2+	5-	3+	3	2	5	(3-)	3	4	4	4	5	5	5	3	2
05	3+	3	0	5+	3	3	6	(3+)	1	5	5	5	4	5	5	1	2
06	4-	3+	5+	3+	3	3	6	(4-)	2	4	5	5	4	5	5	2	3
07	4+	4	0	5+	4	3	6	(4+)	1	4	4	4	5	4	4	2	1
08	4	0	4-	6-	5	4	6	(4+)	1	4	5	4	4	4	4	0	0
09	5	0	4+	6	5+	4	3	5	1	5	5	3	4	4	4	0	0
10	4+	4+	6+	4+	5	4	6	5-	1	5	6	4	5	5	5	1	2
11	5-	5-	7-	5-	4	4	6	5	3	5	6	5	4	5	5	3	2
12	4-	3+	6	5	5	3	6	5	2	6	6	4	5	5	5	1	1
13	5	0	4-	6	5	4	4	5	0	6	5	4	5	5	5	0	1
14	5-	5-	7-	6-	5	4	6	6	1	5	6	4	5	4	4	1	0
15	5-	4	0	6	5+	5	3	5	2	4	6	4	5	4	4	2	2
16	5	0	4	0	6+	5-	4	6	1	4	6	4	6	4	4	0	1
17	5+	4+	6-	6-	5	4	6	5	1	4	6	6	6	5	5	1	0
18	5-	5	0	6+	6	5	6	6	1	4	6	6	6	5	5	0	0
19	5+	4+	6	5+	5	4	6	5	0	5	7	6	6	5	5	0	0
20	4+	4	5-	6+	5	5	4	6	1	5	6	6	6	5	5	1	0
21	5-	5	0	6+	5+	4	5	7	1	5	6	6	6	6	6	0	0
22	4+	5+	6+	6	5	5	6	6	1	5	6	6	6	6	6	0	2
23	5	0	5	0	7-	6-	5	6	2	6	6	6	6	6	6	2	2
24	5	0	5	0	6-	6-	5	6	3	6	6	5	5	6	6	2	2
25	5	0	5-	7-	6+	5	5	6	0	6	6	5	5	6	6	0	0
26	5+	5	0	7-	6+	6	5	7	1	6	6	6	6	6	6	1	0
27	4+	5+	7-	6-	5	4	6	6	3	6	5	5	6	4	4	2	1
28	5-	4+	6-	5-	5	5	6	5	3	4	6	6	4	4	4	2	3
29	4+	4+	6	5	4	4	6	5	3	3	7	7	5	4	4	2	2
30	4-	4-	6-	6-	4	4	6	5	4	4	6	6	6	4	4	2	2
31	5-	4-	6-	5	4	4	6	5	1	4	6	5	6	4	4	1	1
Score:	P	10	7	20	18												
Quiet Periods	S	7	5	9	6												
	U	0	0	0	0												
	F	0	0	0	0												
Disturbed Periods	P	6	12	1	1												
	S	8	6	1	6												
	U	0	1	0	0												
	F	0	0	0	0												

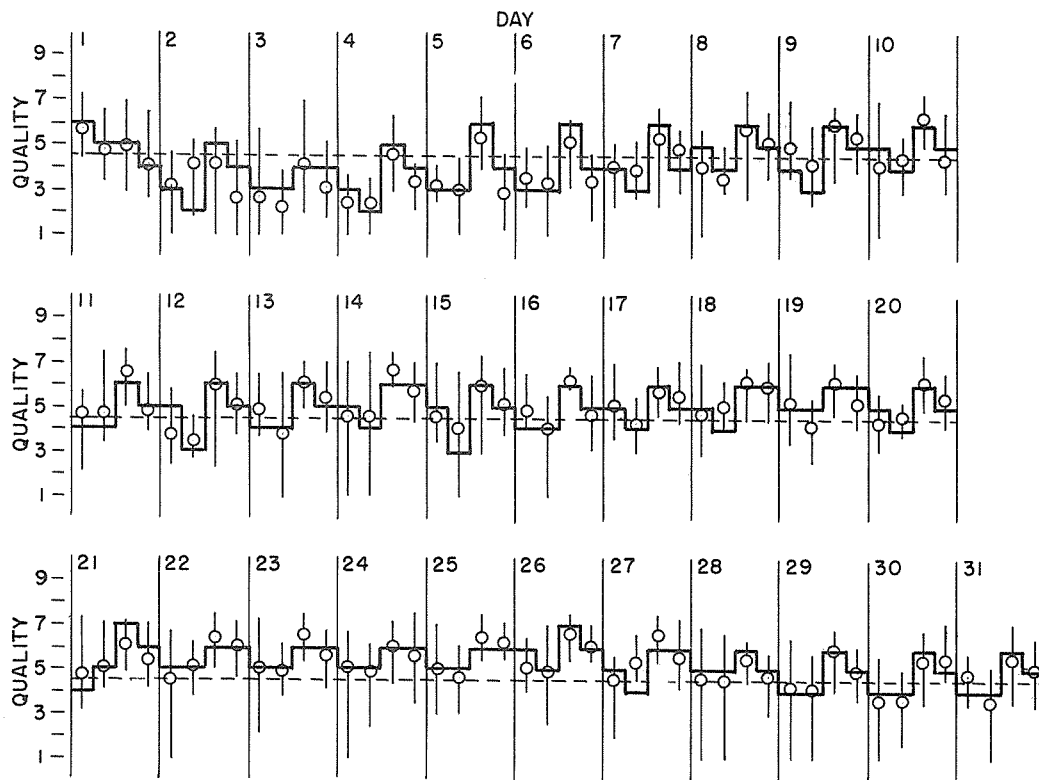
() Represent disturbed values
All times are Universal Time (U.T.)

COMMERCE - STANDARDS - BOULDER

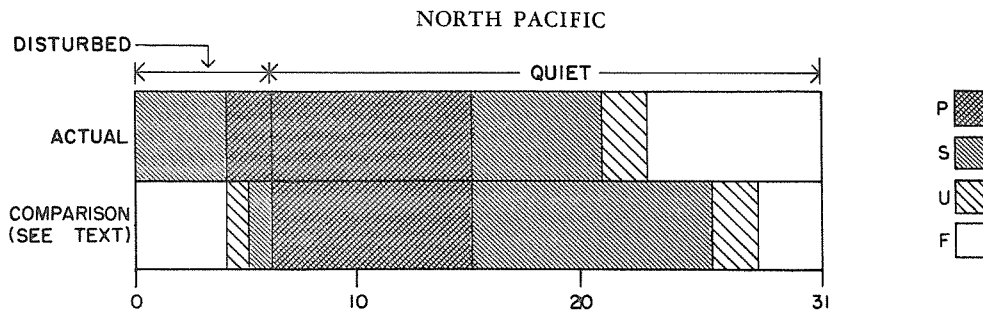
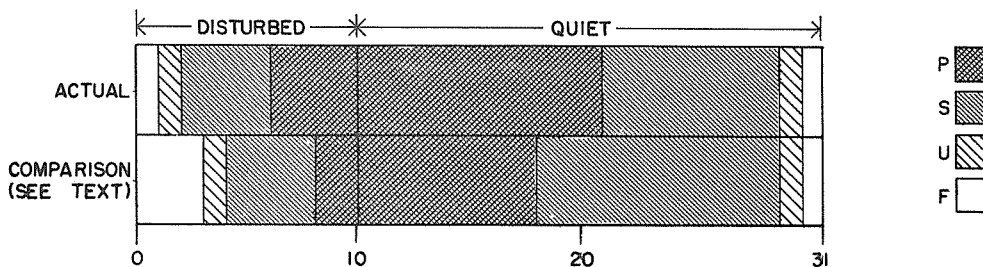
CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS NORTH ATLANTIC

DECEMBER 1961

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

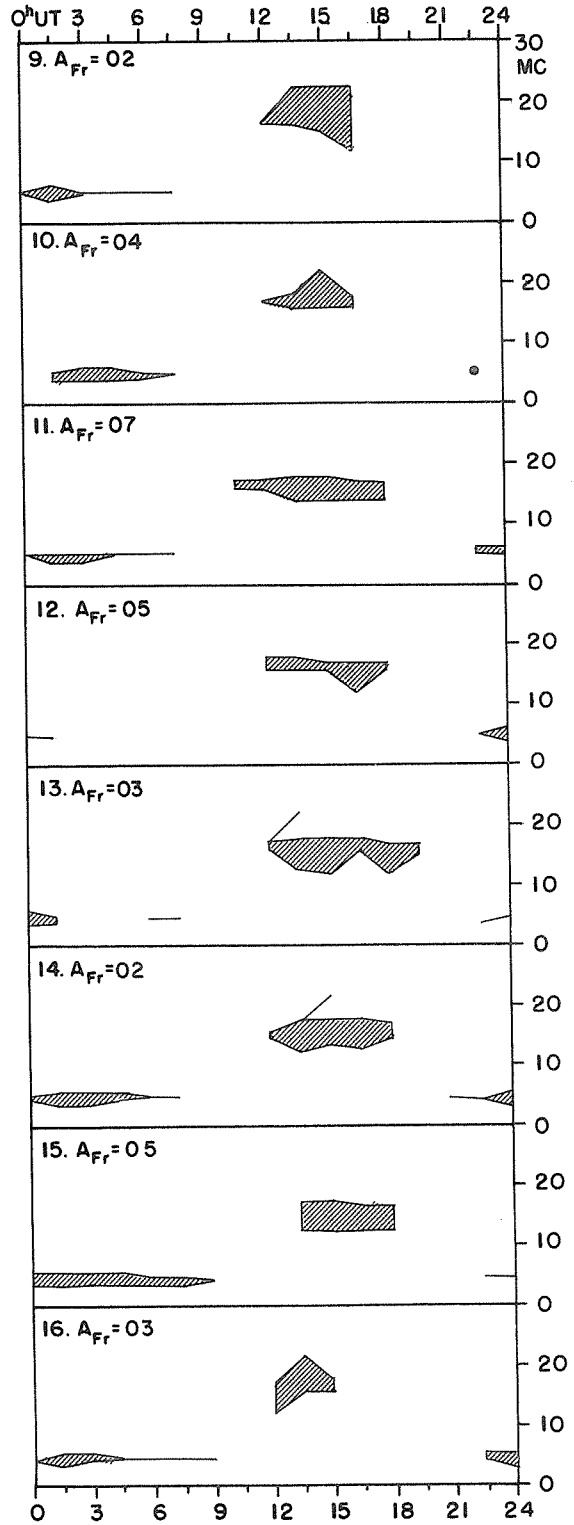
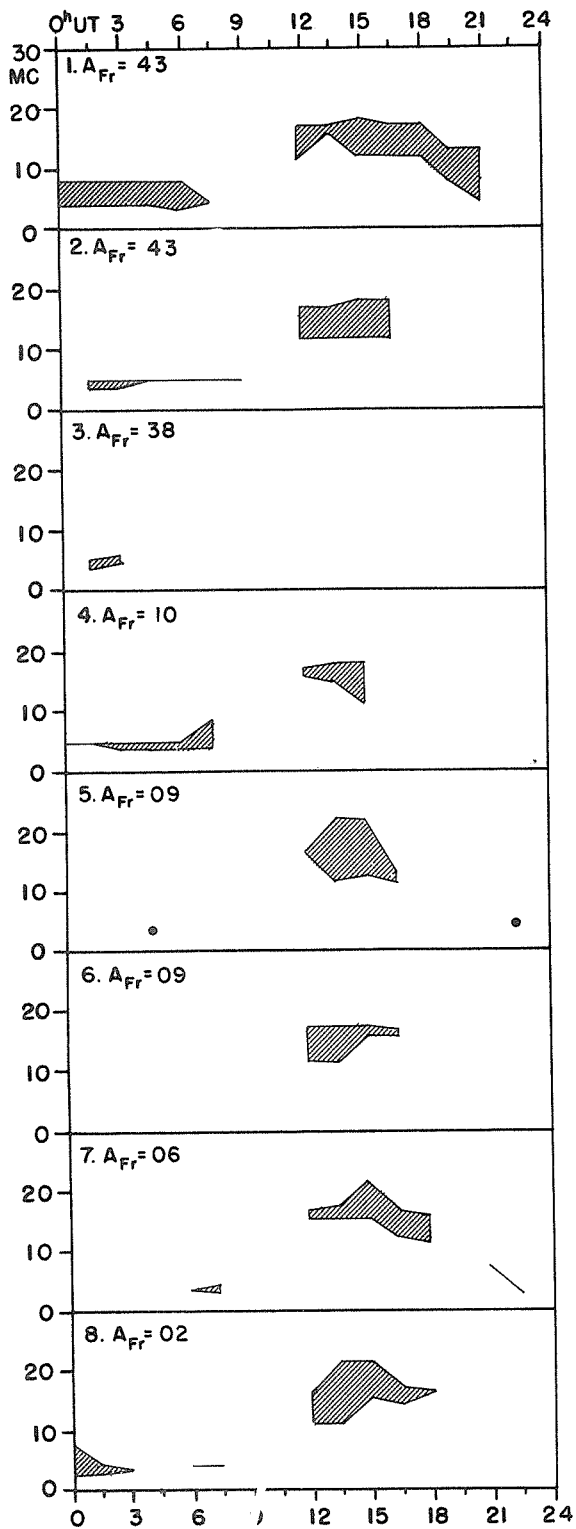


OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE
NORTH ATLANTIC



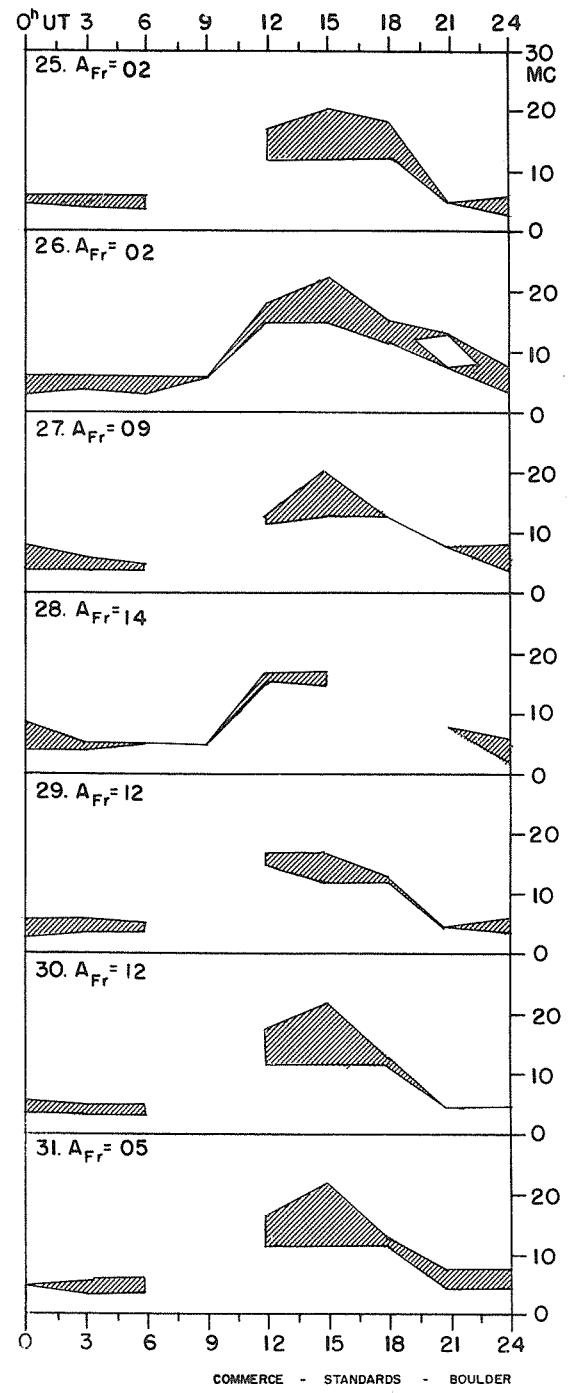
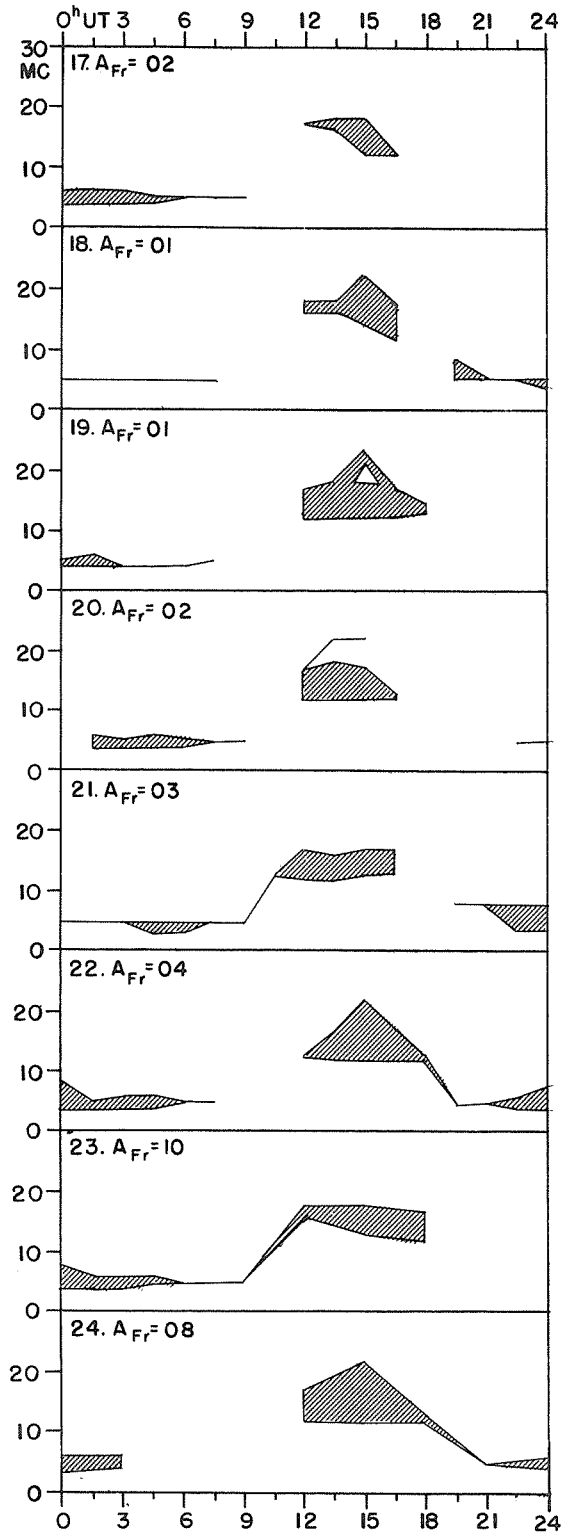
USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1961



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1961



Adapted from Observations by Deutsches Bundespost

VIIIa

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

JANUARY 1962

Issued January 1962 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
10/1423	Ft. Belvoir, Magnetic Storm Aurora Probable 10/0216Z			
10/1600		158	Magnetic Storm Aurora Probable, 10/0216Z	Start
11/1600		159		Finish
29/1800	Climax, Solar Flare, One Plus 29/1520Z			

COMMERCE - STANDARDS - BOULDER