

CRPL-F 217 PART B

OCT 12 1962

FOR OFFICIAL USE

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PART B  
SOLAR - GEOPHYSICAL DATA

ISSUED  
SEPTEMBER 1962

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



## SOLAR - GEOPHYSICAL DATA

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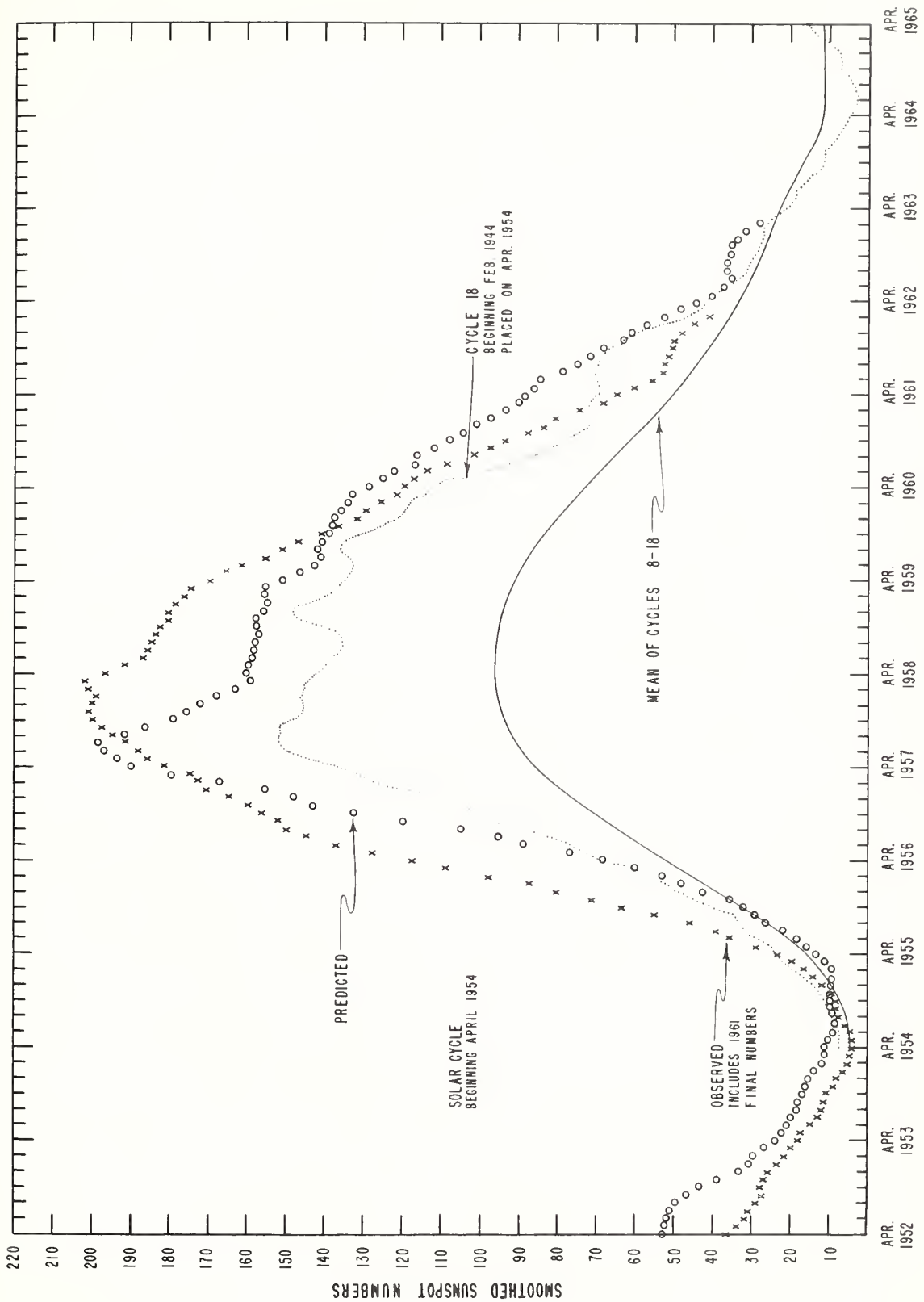


The descriptive text was republished November 1961.  
Addenda to the text were published February 1962.

## DAILY SOLAR INDICES

July 1962	American Relative Sunspot Numbers $R_A'$
1	38
2	37
3	38
4	31
5	18
6	18
7	11
8	13
9	12
10	11
11	13
12	18
13	23
14	26
15	15
16	17
17	18
18	12
19	9
20	3
21	23
22	13
23	12
24	12
25	10
26	11
27	9
28	7
29	5
30	1
31	0
Mean:	15.6

Aug. 1962	Zürich Provisional Relative Sunspot Numbers $R_Z$	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	0	71
2	7	73
3	7	72
4	10	73
5	14	70
6	11	72
7	9	71
8	8	72
9	0	73
10	0	76
11	0	74
12	15	76
13	24	79
14	40	83
15	50	92
16	50	90
17	53	89
18	43	85
19	45	83
20	39	84
21	36	82
22	30	80
23	27	79
24	30	79
25	14	77
26	7	75
27	7	73
28	14	72
29	8	72
30	25	72
31	22	75
Mean:	20.8	77.2



PREDICTED AND OBSERVED SUNSPOT NUMBERS

## CALCIUM PLAGE AND SUNSPOT REGIONS

AUGUST 1962

CMP Aug. 1962	Lat	McMath Plage Number	Return of Region	Calcium Plage Data			Sunspot Data		
				CMP Values Area Int.		History, Age	CMP Values Area Count		History
01.3	S02	6508	New	(500)	(2)	b $\nearrow$ l 1	40	3	b $\wedge$ d
03.2	S05	6503	6472	500	2.5	l $\nearrow$ l 5			
05.7	N08	6504	New	200	1	l $\searrow$ d 1			
07.0	N15	6505	6476	500	2	l — l 8			
07.0	N05	6510	New	400	2.5	b $\nearrow$ l 1			
07.7	S14	6506	6477	600	2	l — l 3	60	2	b $\nearrow$ l
08.8	N10	6507	6480	1,400	2.5	l — l 3			
09.4	N21	6511	*	800	2	l — l 1			
09.6	N09	6512	6480	500	2	b $\nearrow$ +			
13.3	N07	6514	New	1,000	2.5	b $\nearrow$ l 1			
16.4	N22	6515	6492	900	1.5	l — l 5	130	5	l — l
17.2	N12	6513	6495	1,000	3	l $\searrow$ l 2			
18.6	N21	6518	New	100	2	l $\searrow$ d 1			
19.0	S11	6529	New	(400)	(2)	b $\nearrow$ l 1			
19.4	N03	6516	New	1,900	3	l — l 1			
19.5	N13	6527	New	(200)	(1.5)	b $\nearrow$ l 1	130	5	l — l
20.5	N02	6522	New	900	4	l $\nearrow$ l 1			
21.5	N07	6523	New	100	1.5	b $\nearrow$ d 1			
23.0	N01	6524	6497	400	2.5	l $\nearrow$ l 3			
23.0	N16	6526	New	(100)	(1)	b $\wedge$ d 1			
24.7	S17	6540		(500)	(2)	b $\nearrow$ l			
25.0	N09	6525	New	400	2	l — l 1			
25.9	S02	6541		(500)	(2)	b $\wedge$ d			
27.8	N08	6537	New	500	1.5	b $\wedge$ d 1			
30.2	S05	6543	6503	(500)	(2)	b $\nearrow$ l 6			

\* New in position of 6481

+ Merged with 6507

COMMERCE - STANDARDS - BOULDER



# MT. WILSON MAGNETIC CLASSIFICATIONS OF SUNSPOTS

11b

AUGUST 1962

Aug. 1962	Time Meas.	Lat.	Mer. Dist.	Type		Aug. 1962	Time Meas.	Lat.	Mer. Dist.	Type
2	1635	W05	N05	$\alpha p$		14	1700	W19 E64	N06 N02	$\beta \gamma$ $\beta f$
4	1735	W23	S03	$\alpha p$		18	1520	W70 E07	N07 N04	$\beta$ $\alpha p$
5	2415	E13	N07	$\beta$				E17 E33	N02 N10	$\beta$ $\alpha f$
6	1930	E05	N07	$\alpha f$		20	1640	*E08 *E08	N02 N02	$\alpha f$ $\beta$
7	1845	W10	N07	$\beta$		24	1620	W67	N02	$\alpha f$
12	2335	E04	N07	$\beta p$		29	2229	E50	S06	$\alpha f$
13	1700	W06 E49 E78	N06 N12 N02	$\beta$ $\alpha f$ $\alpha f$		30	1820	E36 E40	S07 N10	$\beta p$ $\beta p$
						31	2340	E19 E23	S07 N10	$\alpha p$ $\beta f$

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\* Probably two distinct groups.

# PROVISIONAL CORONAL LINE EMISSION INDICES

AUGUST 1962

CMF Aug 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 <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	
1	X	X	X	X	X	X	X	X	6	8	9	10	17	22	8	22	8
2	X	X	X	X	X	X	X	X	10	12	10	15	11	16	9	16	9
3	26a	31a	8a	17a	16a	25a	6a	9a	17	31	X	X	17	28	4	28	4
4	21	28	4	8	17	36	5	10	22	28	13a	21a	12	15	10a	15	10a
5	17	25	X	X	18	34	X	X	X	X	X	X	X	X	X	X	X
6	7a	18a	12	22	3a	4a	10	25	14	20	15	22	20	25	9	25	9
7	23	48	10	27	4	10	6	10	17	28	10	16	24	34	7	34	7
8	49	87	10a	40a	18	31	5a	10a	37	34	18a	23a	37	47	5a	47	5a
9	48	70	6a	8a	22	34	8a	12a	14	20	17a	22a	36	42	10a	42	10a
10	7	12	X	X	3	4	X	X	16	22	19a	25a	27	34	18a	34	18a
11	17	25	5	6	10	14	6	8	X	X	X	X	X	X	X	X	X
12	16	20	5a	6a	9	17	7a	10a	5	9	12	13	12	26	14	26	14
13	5	8	5	5	3	8	6	7	X	X	X	X	X	X	X	X	X
14	6	8	X	X	3	4	X	X	X	X	X	X	X	X	X	X	X
15	13	17	8	9	36	45	11	15	9	14	8	9	43	70	8	70	8
16	34	71	12	22	9	17	15	19	13	25	10	14	47	92	12	92	12
17	55	87	8	16	13	14	8	12	18	28	30a	42a	48	70	34a	70	34a
18	44	73	18a	40a	15	17	11a	17a	34	112	38a	68a	64	92	53a	92	53a
19	35	78	X	X	9	17	X	X	13	34	47a	66a	58	129	77a	129	77a
20	11	20	15a	24a	1	3	26a	42a	17	28	36a	41a	72	171	51a	171	51a
21	15	20	19	28	10	20	26	34	18	28	16a	18a	24	42	24a	42	24a
22	15	20	23a	33a	6	17	23a	32a	13	22	26a	35a	20	31	29a	31	29a
23	33	78	14a	23a	20	25	7a	28a	X	X	X	X	X	X	X	X	X
24	32	59	23a	40a	18	25	20a	25a	20	59	15a	20a	17	48	19a	48	19a
25	28	76	X	X	12	17	X	X	6	8	14a	16a	13	17	13a	17	13a
26	7	10	14	18	5	7	10	13	9	11	11	14	13	14	13	14	13
27	X	X	X	X	X	X	X	X	6	8	X	X	12	22	X	22	X
28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
29	14	20	7	10	15	22	8	9	X	X	16a	20a	X	X	25a	X	25a
30	24	42	12	20	12	15	9	11	10	15	13	15	8	10	13	10	13
31	22	34	23a	33a	14	22	21a	30a	25	31	11	12	12	16	7	16	7

# SOLAR FLARES

AUGUST 1962

OBSERVATORY	DATE	OBSERVED TIME		LOCATION			DURATION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX INT. °	PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX PHASE	APPROX. LAT.	MER. DIST.	MCWATH FLARE REGION			TIME U T	MEAS. AREA Sq. Deg.	COOR. AREA Sq. Deg.	
[ SAC PEAK MCMATH	AUG 1962												
	01	0000	0045	NO FLARE	PATROL			1-	1				
	01	0105	0120	NO FLARE	PATROL			1-	2				
	01	0205	0505	NO FLARE	PATROL								
	01	2248	2300 D	2257	N08 E54								
WENDEL WENDEL	01	2253	2307	2259	N09 E55		6504			2258	.14 .20	.19 .40	15
	02	0000	0500	NO FLARE	PATROL								
	02	0538 E	0609		N10 E48		6504	31 D				4.00	
	02	0643 E	0716 D		N10 E47		6504	33 D				3.00	
	02	1955	2020	NO FLARE	PATROL								
HONOLULU	03	0024	0044 D	0026	N00 W07			1-	2	0026	1.90	1.90	
	03	0100	0130	NO FLARE	PATROL								
	03	0150	0600	NO FLARE	PATROL								
	03	0726 E	0800 D		N16 E25		6504	34 D				2.90	
	03	0846 E	0907 D		S03 W02			1-	2		2.60	.90	
[ ATHENES CAPRI S	03	0854 E	0955 D		S10 W02			1-	3	0907	1.00	1.00	
	03	1018 E	1041 D		S10 W03			1-	3	1033	1.20	1.20	
	04	0055	0450	NO FLARE	PATROL								
	04	0947	1020 D		N15 E38			1-	3	1005	.90	1.10	
	04	1800	1820	NO FLARE	PATROL								
ATHENES	04	1850	1900	NO FLARE	PATROL								
	04	2125	2225	NO FLARE	PATROL								
	04	2255	2400	NO FLARE	PATROL								
	05	0000	0440	NO FLARE	PATROL								
	05	0550	0555	NO FLARE	PATROL			1-	3		.30	.40	
[ LOCKHEED SAC PEAK	05	0645	0657		S04 W30								
	05	2345	2350	NO FLARE	PATROL								
	06	0200	0600	NO FLARE	PATROL								
	06	2001	2015	2006	N11 E28			1-	2	2006	.30	.30	10
	06	2002	2016	2008	N09 E19			1-	2		1.28	1.32	15
HONOLULU	06	2350	2400	NO FLARE	PATROL								
	07	0000	0035	NO FLARE	PATROL								
	07	0055	0140	NO FLARE	PATROL								
	07	0205	0555	NO FLARE	PATROL								
	08	0152	0200	0156	N07 W15			1-	2	0156	1.80	1.80	
CAPRI S SAC PEAK MCMATH LOCKHEED	08	0205	0600	NO FLARE	PATROL								
	08	0711 E	0737 D		N09 W19		6510	26 D					
	08	1622	1648	1630	N07 W23			1-	3	0724	2.20	2.30	
	08	1633 E	1717 D		N07 W23		6510	1-	3	1634	1.00	.80	16
	09	2327	2341	2331	N07 E06			1-	2	2331	.10	.10	20
SAC PEAK CAPRI S SAC PEAK	09	0140	0445	NO FLARE	PATROL								
	09	1538	1602	1540	N07 W38			1-	2	1545	.43	.47	18
	09	1539 E	1558 D		S05 W35			1-	2		.90	1.10	
	09	1934	1950 D	1946 U	N07 W40			1-	2		.72	.80	20
	09												

COMMERCE - STANDARDS - DOUBLER

# SOLAR FLARES

AUGUST 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER DIST.				TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH Ha	MAX. INT. °
— LOCKHEED	09	1937	2017	NO6 W37			1-	2	1949	.30	.30		20
— HONOLULU	09	1940	2022	NO5 W39			1-	2	1946	1.80	2.00		
— MCNATH	09	1949	2024	NO7 W40	6510		1-	2	1954	.40	.50		
— HONOLULU	09	2108	2134 D	NO7 W39	6510	26 D	1	3	2116	3.70	4.20		
— MCNATH	09	2108	2140	NO8 W40	6510	32	1	2	2115	2.20	2.50		
— LOCKHEED	09	2109	2139	NO6 W37			1-	2	2115	1.30	1.40		10
— SAC PEAK	09	2110	2136 D	NO8 W40			1-	1		1.16	1.28		16
— SAC PEAK	10	0135	0140	NO FLARE	PATROL								
— HONOLULU	10	0155	0530	NO FLARE	PATROL								
— MCNATH	10	1530	1558	NO8 W18			1-	2		.72	.72		16
— HONOLULU	10	1535	1600	N10 W18	6507		1-	3	1539	.50	.50		
— MCNATH	10	1904	1908 D	NO4 W50	6510	4 D	1-	1	1906	2.70	2.84		
— HONOLULU	10	2004	2017	NO6 W19	6507		1-	2	2007	.20	.20		
— SAC PEAK	10	2004	2018	N15 W20			1-	3	2008	1.24	1.24		18
— LOCKHEED	10	2004	2018	N13 W20			1-	2		.43	.43		20
	10	2005	2027	N14 W17			1-	2	2009	.20	.20		
	10	2340	2400	NO FLARE	PATROL								
— ATHENES	11	0000	0005	NO FLARE	PATROL								
	11	0025	0050	NO FLARE	PATROL								
	11	0145	0520	NO FLARE	PATROL								
— ATHENES	11	0735 E	0743	NO5 E75			1-	3		.30		1.20	
	11	2250	2305	NO FLARE	PATROL								
	11	2345	2400	NO FLARE	PATROL								
— SAC PEAK	12	0040	0455	NO FLARE	PATROL								
— HONOLULU	12	1544	1552	N03 E09			1-	2	2100	.14	.14		17
	12	2052	2106	N05 E06			1-	3		1.80	1.80		
— ATHENES	13	0115	0520	NO FLARE	PATROL								
— ATHENES	13	0632 E	0640	NO4 E84	6516	8 D	1+	2		.70	4.70		
— ATHENES	13	0714 E	0735 D	NO4 E84	6516	21 D	2	2		.80	5.80		
— ATHENES	13	0716	0730	NO7 E01			1-	2		1.10	1.20		
— ATHENES	13	0755 E	0855	NO4 E86	6516	60 D	2	3		.80	5.40		
— ATHENES	13	0846	0851	N14 E53			1-	3		.70	1.10		
— WENDEL	13	1223 E	1229 D	NO6 E01	6514	7 D	1	3		.70	2.10		
— SAC PEAK	13	1416	1436	NO7 W02	6514	24 D	1	2		4.00	4.00		15
— WENDEL	13	1618 E	1631 D	NO6 W02			1-	2		.41	.39		
— LOCKHEED	13	1618	1643	N03 E75			1-	2	1624	.30	.90		20
— LOCKHEED	13	1749	1804	N02 E80			1-	2		.30	.90		20
— LOCKHEED	13	1918	1944	N02 E80			1-	2	1923	.40	.40		20
— LOCKHEED	13	2020	2031	NO7 W05			1-	2	2024	.20	.60		10
— SAC PEAK	13	2037 E	2118	NO7 W06	6514	32 D	1	2	2045	1.30	1.30		25
— LOCKHEED	13	2304	2344	NO6 W05			1-	2	2322	2.15	2.10		20
— SAC PEAK	13	2304	2322 U	NO7 W06			1-	2		.60	.60		
— LOCKHEED	13	2316 U	2326 U	NO6 W06			1-	2		1.13	1.11		17
— SAC PEAK	13	2330	2400	NO FLARE	PATROL								
	14	0000	0055	NO FLARE	PATROL								

# SOLAR FLARES

AUGUST 1962

OBSERVATORY	DATE	OBSERVED TIME		LOCATION		DURA- TION — MINUTES	HA POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT. MER DIST	MEMPH PLACE REGION			TIME U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %
WENDEL CAPRI S ATHENES WENDEL CAPRI S ONDREJOV WENDEL ATHENES ONDREJOV WENDEL ATHENES ONDREJOV WENDEL CAPRI S WENDEL ONDREJOV MCMATH LOCKHEED	14	0115	0120	NO FLARE	PATROL								
	14	0130	0530	NO FLARE	PATROL								
	14	0551 E	0601 D		S00 E71	6516	1-	2	0700	.80	2.40		
	14	0635 E	0720 D		N04 E73		1-	3		.60	1.90		
	14	0650 E	0700 D		N02 E73		1-			4.00			
	14	0653 E	0724 D		S01 E70	6516	1-	3	0832	.70	1.90		
	14	0810	0844 D		N04 E70		1-	3	0830			3.20	
	14	0825 E	0841 D		N03 E69	6516	1-	3		8.00			
	14	0825 E	0951 D		S01 E68	6516	2			2.20			
	14	0829 E	0841 D		N03 E70	6516	1	3	0904	.80		2.20	
	14	0904 E	0918 D		N03 E68	6516	1	3					
	14	1107	1125		N07 W14	6514	1+			5.00		3.00	
	14	1107	1135	1109	N07 W14	6514	1	3	1109		.40		
	14	1120 E	1133		N07 W14		1-	3		.70	1.90		
	14	1120 E	1136 D		N02 E68	6516	1-	3	1222			3.20	
LOCKHEED MCMATH LOCKHEED MCMATH MCMATH	14	1151 E	1336 D	1222	N04 E65	6516	2	3	1212	1.20	3.00		
	14	1152 E	1232 D		N04 E70	6516	40 D	3		9.00			
	14	1202 E	1308 D		N01 E66	6516	2						
	14	1341 E	1352 D		N07 W19		1-	3	1346	.50		1.50	
	14	1345 E	1355	1700	N07 W15	6514	1-	2	1700	.30			20
	14	1659	1735	1839	N07 W17		1-	2	1839				
	14	1829	1912	NO FLARE	PATROL		1-						
	14	2025	2055	NO FLARE	PATROL								
ONDREJOV ATHENES MCMATH MCMATH SAC PEAK LOCKHEED SAC PEAK MCMATH LOCKHEED MCMATH LOCKHEED	14	2105	2120	NO FLARE	PATROL								
	14	2159	2225	2205	N07 W17	6514	1-	2	2205	.30			20
	14	2159	2225	2202	N07 W21		1-	2	2202	.40			
	14	2256	2337	2302	N07 W17		1-	2	2302	.50			20
	14	2259	2324 D	2302	N07 W23	6514	1-	2	2302	1.00	1.10		
	14	2259	2324 D	2311	N07 W23		1-						
	15	0010	0115	NO FLARE	PATROL								
	15	0135	0600	NO FLARE	PATROL								
ONDREJOV ATHENES MCMATH MCMATH SAC PEAK LOCKHEED SAC PEAK MCMATH LOCKHEED MCMATH LOCKHEED	15	0900 E	0906		N06 W24	6514	1-	3	0901	1.50	1.60	2.40	
	15	0900	0911	0902	N05 W26		1-	3		.30			
	15	1145	1200		N05 W30	6514	1-	3	1147	.20			
	15	1207	1214	1210	N07 W30	6514	1-	3	1210	.30			
	15	1229	1242	1233	N06 W30	6514	1-	3	1233	.29	.31		17
	15	1420	1434	1426	N22 E40		1-	2	1709	.50	.50		10
	15	1704	1734	1709	N10 W28		1-	2		1.44	1.49		19
	15	1704	1734	1708	N07 W30		1-	2	1708	.60	.70		
ATHENES	15	1706	1730	1708	N08 W30	6514	1-	2		.87			18
	15	1812	1834	1808	N07 W34		1-	2	2237	.60	.60		10
	15	2227	2239	2237	N05 W34		1-	2	2231	.70	.90		
	15	2229	2239	2231	N05 W35	6514	1-	2	2309	.20			20
	15	2306	2313	2309	N06 W32		1-						
	15	2355	2400	NO FLARE	PATROL								
	16	0000	0045	NO FLARE	PATROL								
	16	0130	0500	NO FLARE	PATROL								
	16	0555	0600	NO FLARE	PATROL								
	16	1204 E	1218		N09 W39		1-	3		.80	1.00		

COMMERCE - STA. GUARDS - BOULDER

# SOLAR FLARES

AUGUST 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURATION — MINUTES	IM- FOR- TANCE	OBS COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX LAT.	MER DIST				TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH H <sub>fo</sub>	
ONDREJOV	16 1319	1333 D	1321	N00 E39		14 D	1	2	1321	.52	.60	2.40	18
[ ] SAC PEAK	16 1334	1352	1344	N06 W42			1-	3				1.80	18
[ ] ONDREJOV	16 1341 E			N06 W41			1-	1	1341	.52	.60		10
[ ] SAC PEAK	16 1440	1452	1446	N06 W42			1-	3		.20	.30		16
[ ] MCMATH	16 1444 E	1445 D		N06 W42			1-	1	1445	.20	.30		17
[ ] LOCKHEED	16 1627 E	1632		N08 W41			1-	2	1632	.29	.33		20
[ ] SAC PEAK	16 1630	1636		N06 W43			1-	3		.20	.30		10
[ ] MCMATH	16 1639	1646		N07 W44			1-	1	1642	.29	.33		17
[ ] SAC PEAK	16 1718	1726	1722	N07 W44			1-	3		.30	.40		10
[ ] MCMATH	16 1720 E	1725 D		N08 W44			1-	2	1720	.30	.30		20
LOCKHEED	16 1915	2020	NO FLARE	PATROL			1-	2					
	16 2113	2133	2117	N10 W42			1-	2	2117	.30	.30		10
	16 2130	2140	NO FLARE	PATROL									
	16 2300	2320	NO FLARE	PATROL									
	16 2335	2340	NO FLARE	PATROL									
16 2350	2400	NO FLARE	PATROL										
LOCKHEED	17 0000	0005	NO FLARE	PATROL			1-	2	0013	.20	.20		10
	17 0011	0021	0013	N13 E03			1-	1					
	17 0135	0555	NO FLARE	PATROL			1-	1	1321	.30	.60		10
	17 1318	1330	1321	N12 W58			1-	2	1708	.50	1.00		10
	17 1707	1750	1708	N04 W58			1-	2					
[ ] MCMATH	17 1712	1755	1717	N03 W53			1-	2	1717	.30	.40		10
[ ] LOCKHEED	17 1736	1744	1741	N03 E34			1-	2	1741	.20	.20		10
[ ] MCMATH	17 1737	1744	1739	N02 E37			1-	2	1739	.20	.20		10
MCMATH	17 2237	2302 D		N06 W64			1-	2	2240	.40	.90		
	17 2345	2400	NO FLARE	PATROL									
CAPRI S	18 0000	0125	NO FLARE	PATROL			1	3	1025	2.20	2.30		
	18 0205	0550	NO FLARE	PATROL			1-	3	1100	.60	1.50		
	18 1005	1045 D		N02 E14		40 D	1-	2	1421	.10	.10		
	18 1056	1105		N05 W66			1-	2	1806	.30	1.20		
	18 1419	1430	1421	N02 E25			1-	2	2051	.40	.40		
[ ] MCMATH	18 1804	1818	1806	N04 W77			1-	2	2051	.40	.40		
[ ] MCMATH	18 2048	2101	2051	N01 E21			1-	1	2051	.40	.40		
LOCKHEED	18 2048	2103	2051	N02 E21			1-	1	2051	.40	.40		
	18 2308	2323	2315	N03 E16			1-	1	2315	.20	.20		
ATHENES	19 0000	0455	NO FLARE	PATROL			1-	2		1.30	1.40		
	19 0718	0736		N02 E17			1-	2	0853			3.00	
	19 0849	0909	0853	N03 E13		20	1	3	0948			2.50	
	19 0941 E	0952 D		N03 E14		11 D	1-	2	0947	1.00	1.00		
	19 0946 E	1016 D		N03 E14			1-	2	1132			2.20	
ONDREJOV	19 1123	1142		N04 W85		14	1	2	1230	1.59	1.55	1.90	21
ONDREJOV	19 1228	1236 D		N01 E11		8 D	1-	1					
[ ] SAC PEAK	19 1648	1700 D	1656	N01 E09			1-	2	1655	1.00	1.00		20
[ ] LOCKHEED	19 1650	1713	1655	N01 E08			1-	2	1857	.70	.70		
[ ] MCMATH	19 1656 E	1715		N01 E09			1-	1	1857	.80	.80		
[ ] MCMATH	19 1854	1915	1857	N01 E08			1-	2	1902				
[ ] LOCKHEED	19 1854	1921	1902	N02 E08			1-	2					

# SOLAR FLARES

AUGUST 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX PHASE	APPROX.					McMATH PLACE REGION	TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH H <sub>30</sub>
					LAT.	MER. DIST.									
LOCKHEED	19 AUG 1962														
	19	2200	2225	NO FLARE	PATROL		1-	2	2316	.80	.80		20		
	19	2240	2400	NO FLARE	PATROL										
	19	2306	2336	2316	N02 E08										
	20	0000	0510	NO FLARE	PATROL										
ATHENES WENDEL SAC PEAK	20	0540	E 0625	D	N02 E02	6522	45 D	3		3.80	3.80				
	20	0551	E 0620		N02 E02	6522	29 D	3		6.00	6.00		15		
	20	1326	1338	1332	N12 E56		1-			.14	.19				
	20	1700	1755	NO FLARE	PATROL										
	20	1820	1845	NO FLARE	PATROL										
SAC PEAK	20	1855	1900	NO FLARE	PATROL										
	20	2112	2122	D 2118	N02 E75		1-	1		1.07	1.03		17		
	20	2325	2335	NO FLARE	PATROL										
	21	0038	0058	0045	N05 W21		1-	2	0045	.70	.70		10		
	21	0056	0112	0100	N01 W32		1-	2	0100	.52	.54				
MCMATH MCMATH MCMATH	21	0205	0500	NO FLARE	PATROL										
	21	1342	1353	1348	N01 W26	6516	1-	2	1348	.20	.20				
	21	1538	1548	1539	N01 W27	6516	1-	2	1539	.20	.20				
	21	1718	1726	1720	N01 W28	6516	1-	2	1720	.20	.20				
	22	0056	0112	0100	N00 W30		1-	1	0100	.30	.30		20		
LOCKHEED MCMATH SAC PEAK CAPRI S MCMATH	22	0205	0540	NO FLARE	PATROL										
	22	1419	1450	D 1426	N03 W31	6522	1-	2	1432	.90	1.10				
	22	1420	1450	1436	N04 W30		1	2	1440	2.02	2.09		19	Slow S-SWF	
	22	1426	E 1507		N05 W29	6522	1	3	1440	3.40	3.90				
	22	2307	2312	2309	N06 E85		1-	3	2309	.20	.90				
ONDREJOV WENDEL SAC PEAK WENDEL LOCKHEED	23	0205	0530	NO FLARE	PATROL		1-	3	1317		1.40				
	23	1315	E 1336		S12 W68		1+				5.00				
	23	1359	E 1635	D	S12 W67	6529	1-	1		.43	.83		17		
	23	1608	1625	D 1618	S13 W68		1-								
	23	1622	E 1635	D	S12 W68		1-								
WENDEL SAC PEAK CAPRI S WENDEL LOCKHEED	23	2357	0013	0005	S12 W70		1-	1	0005	.20	.40		20		
	24	0205	0600	NO FLARE	PATROL										
	24	0833	E 0841	D	N04 W51		1-								
	24	1332	1406	1358	S14 W80		1-	3	1400	.58	1.44		17		
	24	1359	E 1402	D	S13 W76	6529	1-	3		.40	2.00				
WENDEL SAC PEAK LOCKHEED MCMATH LOCKHEED	24	1616	E 1644	D	S11 W84		1		28 D						
	24	1628	1642	1638	S13 W82		1-	3		.43	1.07		17		
	24	1930	1645	1635	S12 W80		1-	1	1635	.30	.90		20		
	24	1947	E 1952		S12 W88	6529	1-	2	1948	.30	1.20				
	24	2127	2155	2135	S18 W90		1-	2	2135	.20	1.00		20		
WENDEL SAC PEAK CAPRI S WENDEL LOCKHEED	24	2128	2158	2133	S12 W90	6529	1-	3	2133	.20	1.00				
	24	2128	2158	2140	S12 W90		1-	2		.58	.72		21		
	24	2128	E 2200	U 2140	S13 W89		1-	2	2200	.30	1.50		20		
	24	2213	2252	2234	S12 W89		1-	2	2234	.30					
	24	2225	2247	2234	S17 W90		1-	2	2234	.30					
WENDEL SAC PEAK CAPRI S WENDEL LOCKHEED	25	0205	0600	NO FLARE	PATROL										
	25	0205	0600	NO FLARE	PATROL										



# SOLAR FLARES

AUGUST 1962

OBSERVATORY	DATE	OBSERVED TIME		LOCATION		MCMATH PLACE REGION	DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER DIST.					TIME — U T	MEAS AREA Sq Deg.	CORR. AREA Sq Deg.	MAX WIDTH Ha	MAX INT. %
	AUG 1962													
ISTANBUL LOCKHEED	25	1625	1720	NO FLARE	PATROL									
	25	1730	1800	NO FLARE	PATROL									
	26	0200	0550	NO FLARE	PATROL		25 D	1U						
	26	0850 E	0915 D	0900	S06 W21			1-	2	1627	.20	1.00		10
HONOLULU	26	1622	1640	1627	N04 W90									
	26	1730	1800	NO FLARE	PATROL									
	26	1825	1830	NO FLARE	PATROL			1-	2	2058	.31	1.50		
	26	2042	2119	2058	N05 W90									
HONOLULU	26	2345	2355	NO FLARE	PATROL									
	27	0148 E	0152 D	0150	N07 W55			1-	2	0150	1.40	2.00		
	27	0200	0505	NO FLARE	PATROL			1-	2		1.30	1.30		
	27	0635 E	0650 D		N01 W11		19 D	1-			3.00	3.00		
ATHENES WENDEL	27	0935 E	0954 D		S07 E81	6538		1-						
	27	1006 E	1013 D		S07 E80			1-						
	27	1422	1445	1435	S08 E86	6538		1-		1435	.30	1.90		18
	27	1428	1442	1436	S08 E88			1-			.29			
CAPRI S SAC PEAK	27	1433 E	1441 D		S08 E80	6538	8 D	1-	3	1436	.60	3.10		
	27	1832	1844	1836	S07 E80			1-	2		.29			17
	27	1839 E	1845		S08 E81	6538		1-	2	1839	.20	1.00		
	27	2345	2350	NO FLARE	PATROL									
MCMATH	28	0205	0545	NO FLARE	PATROL			1-	2	2252	.20	.30		
	28	2250	2258	2252	N07 E48									
WENDEL	29	0120	0125	NO FLARE	PATROL									
	29	0135	0505	NO FLARE	PATROL									
	30	0205	0515	NO FLARE	PATROL									
	30	0530	0545	NO FLARE	PATROL									
LOCKHEED	31	0125	0130	NO FLARE	PATROL									
	31	0145	0600	NO FLARE	PATROL									
	31	1112 E	1127 D		N08 E35	6542	15 D	1				3.00		
	31	2020	2100	NO FLARE	PATROL									
LOCKHEED	31	2115	2130	NO FLARE	PATROL									
	31	2222	2233	2226	N27 W13			1-	1	2226	.10	.10		10

COMMERCE - STANDARDS - BOULDER



# SOLAR FLARES

AUGUST 1962

ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH,
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN		NETHERLANDS
CAPETOWN	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	KIEV KO	KIEV GAO, USSR	NIZMIR	KRASNAYA PAKHRA, USSR
CAPRI F	CAPRI, ITALY (GERMAN)	KIEV KY	KIEV UNIVERSITY, USSR	SAC PEAK	SACRAMENTO PEAK, N. MEX., USA
CAPRI S	CAPRI, ITALY (SWEDISH)	LOCKHEED	LOS ANGELES, CALIF., USA	SALTSJÖBADEN	STOCKHOLM, SWEDEN
CRIMEE	SIMEIZ, USSR	MCMATH	MCMATH-HULFERT	SCHAUINS	SCHAUINSLAND, GFR
HERSTMONECEU	ROYAL GREENWICH OBSERVATORY, HERSTMONECEUX, ENGLAND	MOSCOU	PONTIAC, MICH., USA	TACHKENT	TASHKENT, USSR
			MOSCOM-GAISH, USSR	WENDEL	WENDELSTEIN, GFR
					HTE-PROVEN = HAUTE-PROVENCE

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.

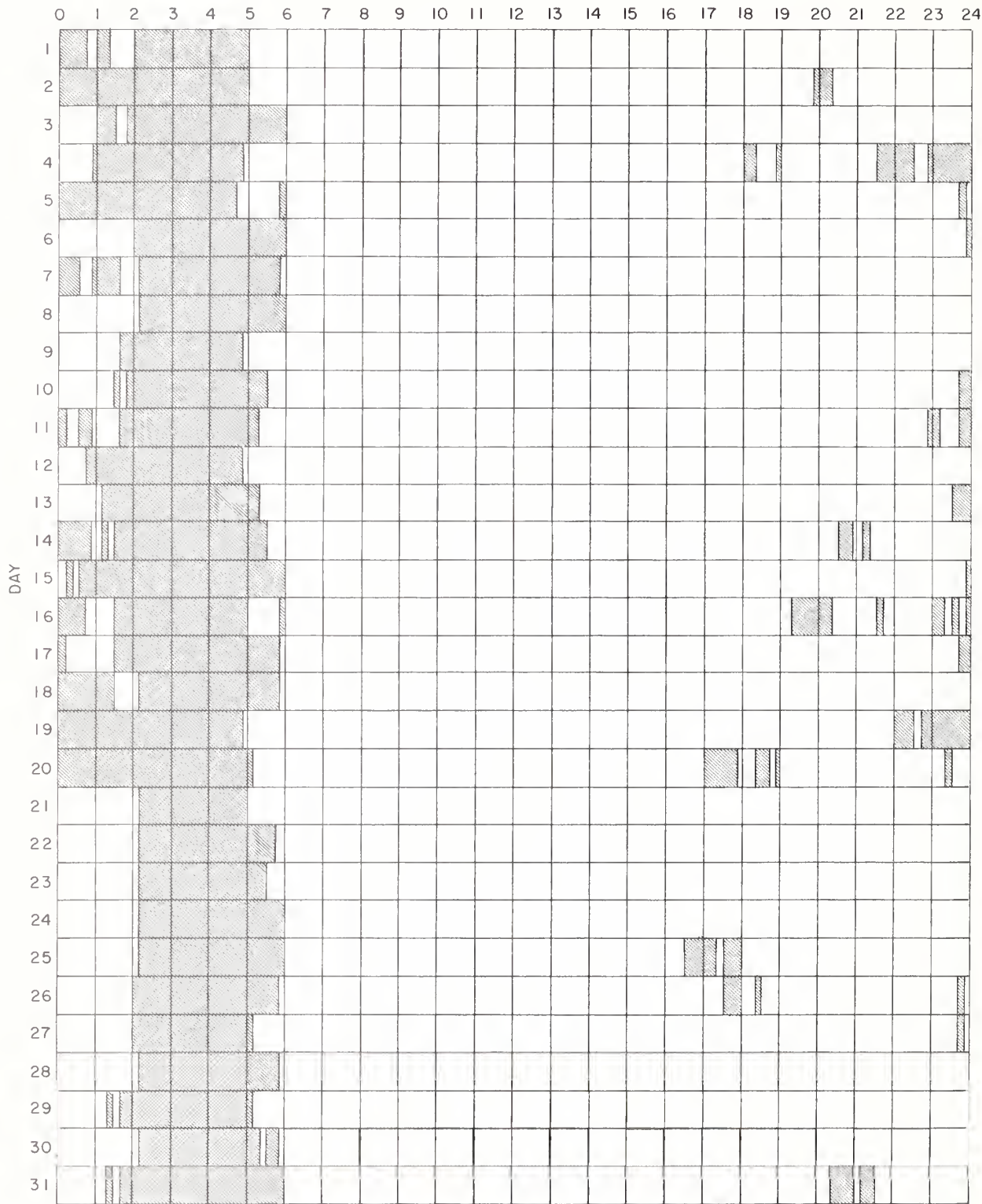
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

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

## INTERVALS OF NO FLARE PATROL OBSERVATIONS

AUGUST 1962

HOUR-UT

Arcetri  
AthensCapri - (Swedish)  
HonoluluIstanbul  
OndrejovSacramento Peak  
Wendelstein

750MM 1957-58

# SOLAR FLARES

MAY 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX PHASE	APPROX. LAT.	MER DIST	MC-MATH PLACE REGION				TIME U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX WIDTH H <sub>g</sub>		MAX INT. % <sub>p</sub>
CAPETOWN ABASTUMANI UCCLE CAPRI F UCCLE CAPETOWN MEUDON CAPETOWN CAPRI F CAPETOWN CAPRI F	MAY 1962	01	0645	E	0729		N21 E69	6411	44 D	2	0645	2.00	6.50	87	S-SWF	
		01	0648	E	0702	D	0652	N19 E70	6411	14 D	2		2.07			6.80
		01	0953	E	1026		0954	N22 E65			3	0954				
		01	1010		1023		1010	N20 E67			2	1010	.50			1.00
		01	1036		1042	D	1040	N22 E66			3	1040				
		01	1150		1220		1159	N21 E65	6411	30	1	1159	.90			2.40
		01	1241		1400	U		N15 E68								
		01	1247		1344		1252	N21 E65	6411	57	1-	1252	1.10			2.90
		01	1325	E	1342	D	1325	N20 E65			2	1325	.50			1.00
		01	1353		1417	D	1356	N21 E65	6411	24 D	1-	1356	1.50			4.00
01	1420	E	1438	D	1420	N20 E64			2	1420	1.00	2.00				
ALMA-ATA MEUDON CAPETOWN BAKOU BAKOU CAPRI F ABASTUMANI UCCLE UCCLE UCCLE UCCLE UCCLE		03	0206		0237		0213	N11 W26	6403	31	1+	0213	2.06	81		
		03	0630		0730		0652	N12 W27	6403	60	1		2.50			2.90
		03	0639	E	0740		0656	N12 W28	6403	61 D	2	0656	5.40			6.30
		03	0652	E	0716		0700	N11 W30	6403	24 D	1	0700	3.19			3.96
		03	0652	E	0720		0704	N12 W26	6403	28 D	1+	0704	2.73			3.26
		03	0652	E	0720		0652	N12 W27	6403	28 D	1+	0654	4.50			5.10
		03	0700	E	0735	D	0716	N12 W28	6403	35 D	1+		4.68			5.20
		03	0920		0922			N20 E39			3					
		03	1043		1048			N20 E39			3					
		03	1104		1110			N20 E39			3					
03	1106		1110			N13 W36			3							
03	1347		1353			N14 W30			3							
03	1418		1429		1420	N14 W34			3	1420						
03	1546		1559		1551	N10 W30			3	1551						
04	0950		1005		NO FLARE	PATROL										
04	1045		1105		NO FLARE	PATROL										
05	0852		0903	D	0854	N18 E12			1-	3	0854					
07	0828	E	0835	D		N15 E55	6412	7 D	1	2	0829	2.00	3.30			
08	0205		0220		NO FLARE	PATROL										
08	1300		1303			N15 E30			1-	4						
09	0825	E	0827	D		S17 W25			1-	3						
09	1039	E	1050			S17 W26			1-	3						
09	1055	E	1105	D		S17 W26			1-	3						
09	1149	E	1205	D		S17 W26			1-	3						
09	1222		1309			S17 W26			1-	3						
09	1312	E	1350	D		S17 W26			1-	3						
10	1400	E	1442	D		S16 W41			1-	2	1402	1.00	1.30			
10	1455	E	1615			S18 W43	6414	80 D	1	3		2.00	3.00			
10	1650		1726	D		S18 W42	6414	36 D	1	3		2.00	3.00			
11	0933	E	0937	D		S18 W51			1-	3	0933	1.00	1.50			
11	1415		1431			S18 W60			1-	3						
11	1435		1510			S10 E42			1-	4						

## SOLAR FLARES

MAY 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX PHASE	APPROX LAT.	MER. DIST				MC-MATH PLACE REGION	TIME U T	MEAS AREA Sq Deg	CORR AREA Sq Deg	
CAPRI F	MAY 1962													
	UCCLE	11	1450	1458	S18 W60			1-	4					
	UCCLE	11	1552	1610	S18 W61			1-	4					
	UCCLE	11	1517	1559 D	S10 E40			1-	4					
	UCCLE	11	1531	1556	S12 E38			1-	4					
	UCCLE	11	1550	1604	S09 E38			1-	4					
	UCCLE	11	1602	1619	S12 E38			1-	4					
	UCCLE	11	1610	1638	S10 E40			1-	4	1619	1.00	1.30		
	CAPRI F	11	1620 E	1635 D	S09 E38			1-	2	1625				
		12	0115	0120	NO FLARE	PATROL								
CAPRI F	12	0250	0255	NO FLARE	PATROL			1-	2	0655	1.00	1.20		
	CAPRI F	12	0652 E	0707 D	S06 E31			1	2	1400	3.00	3.30		
		12	1350 E	1416 D	S08 E27	6416	26 D	1						
CAPETOWN	13	0635	0640	NO FLARE	PATROL			1-		0858	1.50	1.60		Slow S-SWF
	CRIMEE	13	0852	0929 D	S07 E20			1		0911	1.93			
	ABASTUMANI	13	0853	0911 D	S07 E19	6416	18 D	1						
		13	0855 E	0942 D	S07 E19	6416	47 D	1						
CAPETOWN	14	1138	1232	1148	S08 E04	6416	54	1	2	1148	2.20	2.20		
	KHARKOV	14	1142 E	1211	S09 E05	6416	29 D	1		1152	1.70	1.90	1.80	
CAPRI F	15	0120	0135	NO FLARE	PATROL									
	UCCLE	15	0145	0240	NO FLARE	PATROL								
	UCCLE	15	0605	0710	NO FLARE	PATROL								
	UCCLE	15	2320	2400	NO FLARE	PATROL								
	UCCLE	16	0000	0300	NO FLARE	PATROL								
	UCCLE	16	0620	0700	NO FLARE	PATROL								
	UCCLE	16	2325	2400	NO FLARE	PATROL								
	UCCLE	17	0000	0510	NO FLARE	PATROL								
	UCCLE	17	1035	1040	NO FLARE	PATROL								
	CAPRI F	17	1157 E	1212 D	S08 W39			1-	3	1158	1.00	1.30		
CAPRI F	18	1100	1115	NO FLARE	PATROL									
	UCCLE	18	1237 E	1252 D	S07 W51			1-	2	1239	.80	1.10		
	UCCLE	18	1343	1408	S07 E54			1-	3					
	UCCLE	18	1415 E	1431 D	S02 W50	6416	16 D	1		1421	2.00	4.00		
	UCCLE	18	1534 E	1545 D	S02 W50	6416	11 D	1		1534	2.00	4.00		
CAPRI F	18	1601 E	1616	S02 W50			1-	3						
	UCCLE	18	1605	1616	N05 W56			1-	3					
		19	0230	0300	NO FLARE	PATROL								
CAPRI F	19	0614 E	0645 D	N05 E43			1-	2	0616	1.00	1.40			
		20	0625	0635	NO FLARE	PATROL								
UCCLE	20	1018 E	1026 D	S11 E30			1-	3						
CAPETOWN	21	1054	1102	1056	N16 E69			1-		1056	1.10	3.20		
	CAPRI F	21	1057 E	1109 D	N14 E72	6426	12 D	1	2	1058	3.00	7.00		

# SOLAR FLARES

MAY 1962

IIIk

OBSERVATORY	DATE MAY 1962	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	MGMATH PLACE REGION				TIME U T	MEAS. AREA Sq. Deg	CORR. AREA Sq. Deg	MAX. WIDTH H <sub>o</sub>		MAX INT. ° <sub>o</sub>	
ALMA-ATA	22	0200	0215	NO FLARE	PATROL				1-			0258	•41			52	
	22	0256 E	0259 D		S08 E80												
	22	0305	0335	NO FLARE	PATROL												
CAPRI F	23	0652	0658		N16 E38		6427	9	1-	2	0652	•50	1.00				
	23	0652	0701		S08 E63		6427		1	2	0655	2.00	4.00				
	23	0855	0918 D		N14 E43		6426	23 D	1	4		3.00	5.00				
	23	0855	0918 D		S08 E63		6427	23 D	1	4		2.00	4.00				
	23	0855	0918 D		S08 W13				1-	4	0858						
	23	0951	1016		N11 E41				1-	2	0958	•90	1.20				
	23	0951	1016		N11 E41				1-	4	0958	1.00	1.30				
	23	0956	1008		N12 E38				1-	2							
	23	1023 E	1142		N14 E43				1-	4							
	23	1023 E	1231		S08 E63		6427	8 D	1	4	1034	2.00	4.00				
CAPRI F	23	1025	1100		S08 W13				1-	4	1030						
	23	1205	1220		N14 E43				1-	4							
	23	1215	1238		S08 W12				1-	4							
	23	1229	1238		N14 E43				1-	4							
	23	1233	1250		N14 E43				1-	3							
	23	1233	1310		S08 E60				1-	3	1239						
	23	1249	1310 D		S08 W13				1-	4							
	23	1322 E	1323 D		N14 E44				1-	4							
	23	1322 E	1323 D		S08 E59				1-	4							
	23	1322 E	1323 D		S08 W14				1-	4							
CAPRI F	23	1337 E	1408		N14 E42				1-	4							
	23	1337 E	1408		S08 E58				1-	4							
	23	1337 E	1416		S08 W14				1-	4							
	23	1337 E	1416		S08 W14				1-	4							
	23	1417	1420 D		S08 E58				1-	4							
	23	1502	1512 D		S08 E58				1-	4							
	23	1502	1512 D		S08 W15				1-	4							
	24	0909	0923		S07 E50				1-	4							
	24	1001 E	1031 D		N13 E28				1-	3							
	24	1003 E	1021 D		N12 E28				1-	2							
ALMA-ATA	24	1008	1012 D		S07 E48				1-	3		1.16	1.39				
	24	2310	2325	NO FLARE	PATROL												
	25	0125	0150	NO FLARE	PATROL				1-								
NIZMIR	25	0200 E	0210 D		S08 E41			35 D	1		0204	•83	1.80			60	
	25	0940 E	1015	1006	S09 E40		6427									65	
	26	0220	0245	NO FLARE	PATROL												
CAPRI F	26	0325	0345	NO FLARE	PATROL												
	27	0608 E	0614		S06 W08				1-	3	0610	1.00	1.00				
	27	0700 E	0733		S08 E08		6427	33 D	1			•90	•93			80	
	27	1131 E	1148		S06 W11		6427	17 D	1	3	1145	3.00	3.00				
	27	1235 E	1245		S08 W13				1-	3	1240	1.00	1.00				
ABASTUMANI	29	0654 E	0949 D		N14 W39		6426	175 D	1	2		2.70	3.70			70	
	29	0708 E	0754		N12 W42				1-		0724	2.20	2.27				
	29	0708 E	0755		N14 W40		6426	47 D	1	3	0723	1.80	2.40				

# SOLAR FLARES

MAY 1962

OBSERVATORY	DATE MAY 1962	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION -- MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. INT %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. LONG. DIST.				TIME U.T.	MEAS. AREA Sq. Deg.	MAX. WIDTH Ha	
CAPETOWN	29	0717	0749	N13 W39	6426	32	1-		0723	2.50		
CAPRI F	29	0833 E	0848	N14 W40			1-	3	0834	1.30	3.30	
CAPETOWN	29	0932	0958	N15 W42			1-		0934	1.30	1.70	
CAPRI F	29	0940 E	0956	N14 W41			1-		0942	1.00	1.80	
UCCLE	29	1003 E	1038	N16 W43			1-	3			1.30	
UCCLE	29	1016	1033	N11 W25			1-					
UCCLE	29	1047 E	1119	N16 W43			1-	3				
UCCLE	29	1101	1119	N16 E70			1-	3				
UCCLE	29	1106	1119	N11 W25			1-	3				
UCCLE	29	1133	1201	N16 W43			1-	3				
UCCLE	29	1142 E	1201	N11 W25			1-	3				
UCCLE	29	1156	1254	N16 E70			1-	3				
UCCLE	29	1206	1224	N11 W25			1-	3				
UCCLE	29	1206	1354	N16 W43			1-	3				
UCCLE	29	1302	1312	N11 W25			1-	3				
CRIMEE	30	0751	0822	N12 W51			1-	2	0755	.90		
CAPETOWN	30	0752	0818	N14 W53	6426	26	1-		0757	1.90	3.20	
CAPRI F	30	0754	0823	N16 W53			1-	3	0755	1.20	2.00	
CAPETOWN	30	0808	0817	S06 W38			1-		0810	1.50	1.50	
CAPRI F	30	0812	0818	S06 W37			1-	3	0814	1.00	1.60	
VOROSHILOV	31	0029	0038	S07 W45			1-	2		.80		
VOROSHILOV	31	0157	0212	S11 W47			1-	2		1.26	66	
ALMA-ATA	31	0157 E	0215 D	S11 W48			1-		0202	.72	71	
CAPRI F	31	0953	0956	N15 W69			1-	3	0955	.25	56	
CAPETOWN	31	1046	1333 D	N15 W70	6426	167 D	2		1148	2.30	6.80	
CAPETOWN	31	1046	1333 D	N15 W70			2					
CAPRI F	31	1055 E	1230 D	N14 W69	6426	95 D	2	4	1145	3.50	7.70	G-SMF
KHARKOV	31	1125 E	1220 D	N13 W66	6426	55 D	1	1	1130	1.70	4.60	
KIEV KO	31	1128 E	1200 D	N15 W69	6426	32 D	1+	1	1146	3.61	1.80	

COMMERCE - STANDARDS - BOULDER

# SOLAR FLARES

## MAY 1962

These flare reports are addenda to the May 1962 flares published in CRPL-F 214 Part B, June 1962.

ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH,
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN		NETHERLANDS
CAPETOWN	ROYAL OBSERVATORY,	KIEV KO	KIEV GAO, USSR	NIZMIR	KRASNAYA PAKHRA, USSR
CAPRI F	CAPE OF GOOD HOPE	KIEV KY	KIEV UNIVERSITY, USSR	SAC PEAK	SACRAMENTO PEAK, N.MEX. USA
CAPRI S	CAPRI, ITALY (GERMAN)	LOCKHEED	LOS ANGELES, CALIF., USA	SALTSJOBADEN	STOCKHOLM, SWEDEN
CRIMEE	CAPRI, ITALY (SWEDISH)	MCWATH	MCWATH-HULBERT	SCHAUINS	SCHAUINSLAND, GFR
HERSTMONCEU	SIMEIZ, USSR	MOSCOU	PONTIAC, MICH., USA	TACKENT	TASHKENT, USSR
	ROYAL GREENWICH OBSERVATORY,		MOSCOM-GAISH, USSR	WENDEL	WENDELSTEIN, GFR
	HERSTMONCEUX, ENGLAND				HTE-PROVEN = HAUTE-PROVENCE

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.

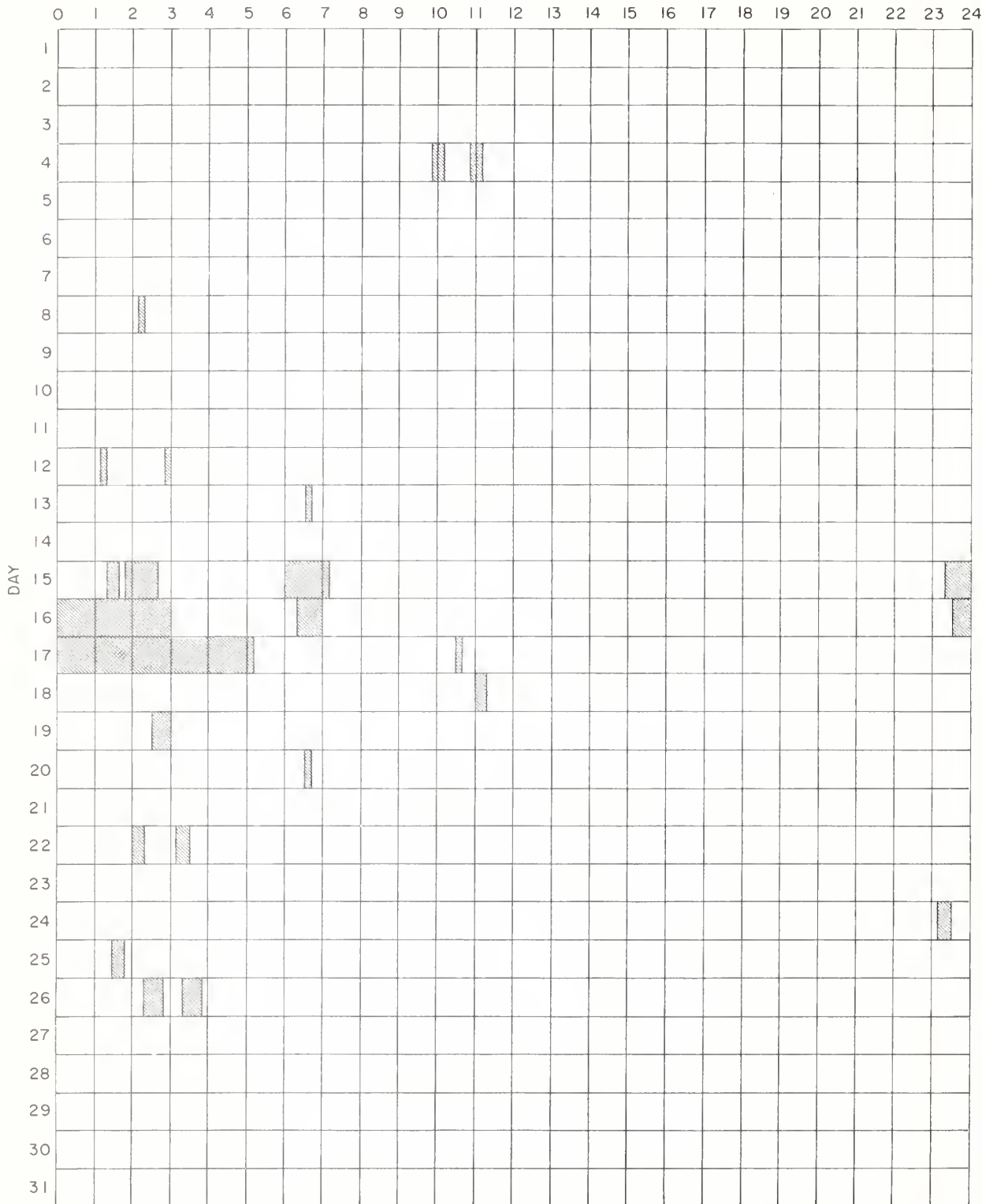
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## INTERVALS OF NO FLARE PATROL OBSERVATIONS

MAY 1962

HOUR-UT



Abastumani  
Alma-Ata  
Arcetri  
Arosa  
Bakou  
Bucharest  
Capetown

Capri (German)  
Capri (Swedish)  
Climax  
Crimee  
Dunsink  
Haute - Provence  
Herstmonceux

Honolulu  
Huancayo  
Ikomasan  
Istanbul  
Kharkov  
Kiev Ko

Kodaikanal  
Locarno  
Lockheed  
McMath-Hulbert  
Meudon  
Mitaka

Moscou  
Nizamiah  
Nizmir  
Ondrejov  
Sacramento Peak  
Saltsjöbaden

Sydney  
Tachkent  
Uccle  
Voroshilov  
Wendelstein  
Zurich



# IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIo

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

JULY 1962

JULY 1962	UNIVERSAL TIME			SWF TYPE	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX		IMP	ABS	SCNA	SEA	SPA	BUR		
01	1803	1920		SL 1+							5 HU PR A0	
02	1435	1657		G 3+							4 HU PR	
03	1725	1743		SL 1-							5 PR B0 HU WS	
04	2035	2135		G 1							4 WS HU	
05	1429	1431								1	4 MC B0	
* 05	1708	1745	1716					3			4 A9 A1 MC A5	
* 05	1715	1730	1720						22		1 B0	
* 05	1716	1726	1721			10	1				2 B0 MC (Gradual onset)	1716
05	1716	1800	1725					1			2 MC A10	
05	1717	1728		S 1							3 BE MC PR	
05	1749	1753								1	5 MC HA B0	
05	1930	1955						3+			3 A9 A1 A5	
* 05	1935	2001	1940	SL 1							3 BE MC PR	1932
* 05	1935	2030	1944						35		1 B0	
* 05	1938	2000	1943			20	1				5 B0 HA MC	
* 05	1939	2005	1947					2			5 HA MC A10	
* 05	1940	2000		S 1							4 BE MC PR	
06	1420	1432		S 1-							4 HU PR	
06	1501	1550		G 1+							4 BE HU	
06	1557	1633		G 1							4 WS BE PR	
06	1718	1735		SL 1							4 PR B0 WS	
07	1303	1328		S 1+							4 PR HU	
08	1350	1430		SL 1+							4 HU PR	
09	1803	1950		G 2							4 PR HU	
11	1506	1550		SL 1+							1 HU	1501E
18	1722	1756		S 1							3 WS PR	1735
20	1515	1539		G 2+							4 WS PR HU	
20	2243	2246								1	5 HA MA	
20	2302	2305								1	5 HA MA	
21	1510	1555		SL 1+							5 HU MC	1451E
21	1630	1706		SL 1							4 HU PR	
24	0018	0021								1	5 HA MA	
25	1658	1932		G 2							4 BE B0 HU WS	
29	1804	1900		G 1							4 BE HU PR	1813
31	1500	1528		SL 2							4 WS HU	
31	1638	1658		SL 1-							4 MC HU WS PR	

COMMERCE - STANDARDS - BOULDER

IVa

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

SEPTEMBER 1962

ARO-OTTAWA

2800 MC.

Aug. 1962	Type	Start UT	Duration Hrs-Mins	Maximum			Remarks
				Time UT	Peak Flux	Mean Flux	
13	2 Simple 2 f	2039.5	2.6	2041	23	7	
	4 Post Increase		30		2	1	
15	8 Group (2)	2305.5	5				
	2 Simple 2	2305.5	1.5	2306	22	6	
	6 Complex	2307.5	3	2308.5	9	4	
16	8 Group (3)	1250	30				
	1 Simple 1	1250	1	1250.5	4	1.5	
	2 Simple 2 f	1255.5	1.5	1255.6	10	2.5	
	2 Simple 2	1257.9	2.1	1258	8	2.5	
	5 Absorption	1300	20		- 2	- 1.5	
19	1 Simple 1	1128.3	3	1129	6	2.5	
22	3 Simple 3	1422	1 35	1435	3	2	
29	2 Simple 2 f	1214	1	1214.3	9	2	
29	2 Simple 2 f	1410.8	1	1411	8	2	

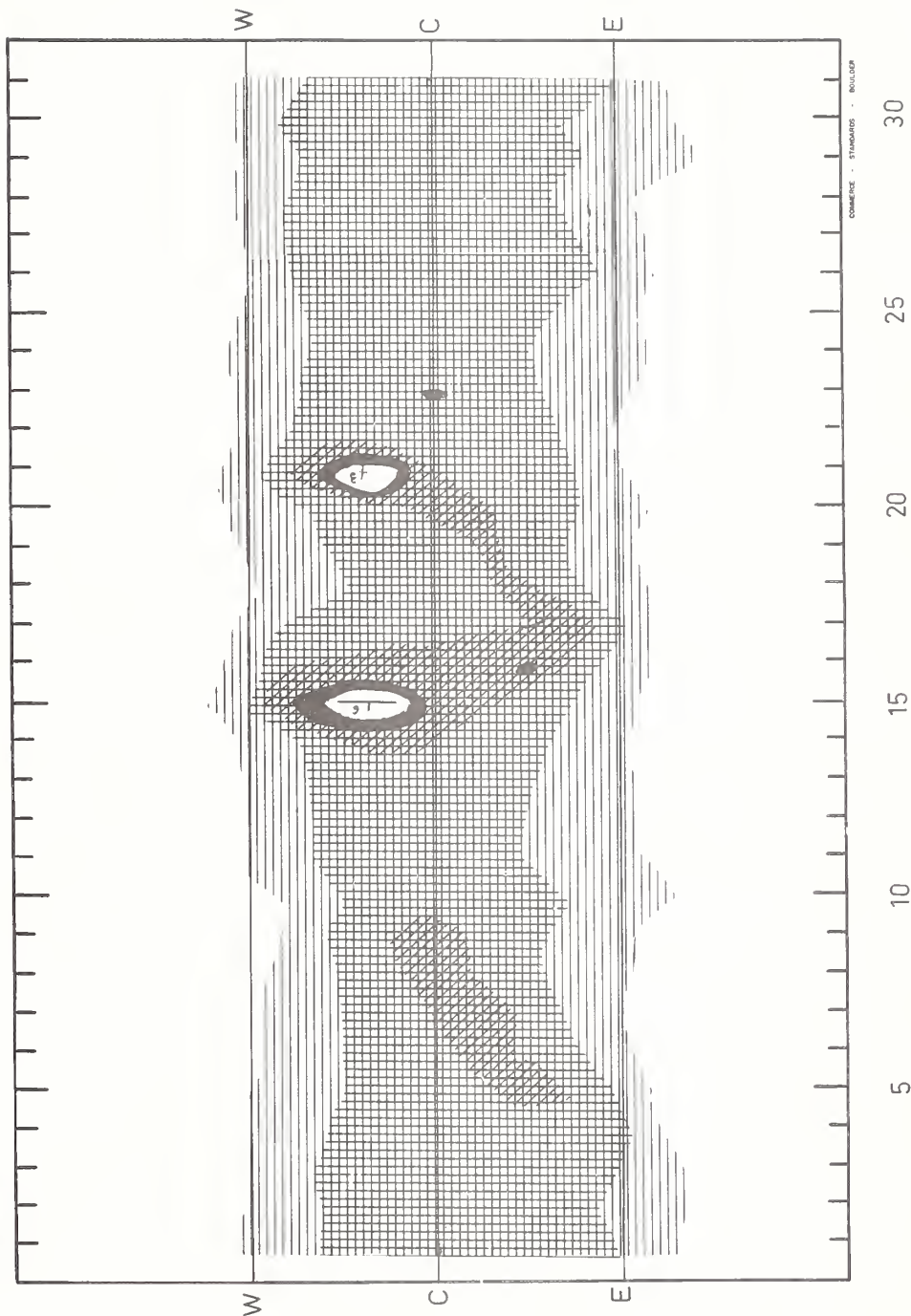
COMMERCE - STANDARDS - BOULDER

# SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

AUGUST 1962

169 Mc

Nancy



AUGUST 1962

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1962

BOULDER

108 Mc.

Aug 1962	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	3	1811.4	1812.1	1.7	3
7	6	1209E		110D	1
7	3	1214.4	~ 1215.5	1.9	3
7	3	1246.1	1246.6	1.7	2
8	6	1210E		120D	1
9	6	1210E		125D	1
9	3	1244.9	1245.6	1.5	2
9	3	1552.7	1553.0	0.8	2
9	3	1555.0	1555.9	1.9	2
9	3	1613.1	1613.5	1.8	2
12	3	1727.0	1727.7	1.1	3
13	6	1214E	1344.1	105D	1
13	3	1252.1	1253.3	1.8	3
13	3	1353.9	1354.2	1.4	3
13	3	2039.5	2040.3	1.5	2
14	3	1334.2	1336.5	1.8	3
15	3	0059.9	0001.0	3.1	2
18	3	1423.1	1423.8	1.2	3
19	2	1227.1	1228.4	1.8	3
19	3	1653.3	1654.0	1.5	3
19	3	1901.0	1901.1	1.1	2

COMMERCE - STANDARDS - BOULDER

## NOMINAL TIMES OF OBSERVATION OUTSTANDING OCCURRENCES

AUGUST 1962

BOULDER

108 Mc.

Aug. 1962	U. T.	Aug. 1962	U. T.
1	1203-0155	19	1220-0135 I 1959-2255
2	1204-0154	20	1221-1445;
3	1205-0153 I 1756-2135		1710-0133
4	1206-0152 I 1913-2256	21	1222-2147 I 1854-2147
5	1207-0151	22	1653-0130 I 2300-0050
6	1555-1953;	23	1224-0129 I 1753-0129
	2030-0150	24	1225-0127
7	1209-0148	25	1332-2240
8	1210-0147	26	No usable record
9	1210-0146 I 1840-0146	27	1720-0123
10	1211-2022;	28	1229-0121
	2120-0145	29	1229-0120
11	1212-0143	30	1230-0118 I 2050-2310
12	1213-0142 I 1500-0052	31	1231-0117
13	1214-1854;		
	1905-0142		
14	1215-0140 I 1215-1940		
15	1216-1541 I 1216-1541		
16	No usable record		
17	2052-0137 I 2052-2330		
18	1219-0136 I 1826-2335		

COMMERCE - STANDARDS - BOULDER

# SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVd

AUGUST 1962

HAO BOULDER

7.6-41 Mc

Date 1962	Bursts				Frequency Range (mc)	Date 1962	Bursts				Frequency Range (mc)
	Type	Time (U.T.)	Inten- sity				Type	Time (U.T.)	Inten- sity		
1 Aug	III	1619-1619.30	1		11.5-41	13 Aug	III	2445-2445.30	1+		27-41
	III	1620-1620.45	1-		12-31	14	III	1518.45-1519.15	1-		21-41
	III	1621.15-1621.30	1		18-41		III	1520-1520.30	1-		20-41
	III	1624.30-1701	1		8-41		III	1548.45-2149.15	1		22-41
	III	1703.45-1704.30	1		7.6-41	15	III	1541-1542	1		12-41
	III	1932.30-1940.45	1-		21-41		III	1707.45-1708	1-		27-41
	III	2257.45-2259	1+		7.6-41		III	1830-1830.30	1-		21-32
	III	2303.30-2304.45	1		13.5-41		III	1859-1859.15	1		16-28
	III	2433-2433.30	1		16-41		III	1905.45-1906.15	1		22-40
	III	1452.45-1453.30	1-		22-35		III	1947.45-1949	2-		7.6-41
2	III	2423.30-2424	1+		16-41		III	1950-1950.15	1		21-33
3	III	1501-1501.15	1-		21-38		III	2001-2003	2-		8-41
6	III	2026.15-2027	1+		7.6-41		III	2010.15-2010.45	1		23-38
10	III	2005.45-2008	2-		7.6-41		III	2013.45-2015	1		16-39
13	III	1416.30-1417	1		12-41		III	2016-2017	1		22-41
	III	1417.45-1418.15	1		12-41		III	2017-2018.45	1+		16-41
	III	1419.30-1420	1		12-41		III	2035.15-2036.15	1+		20-41
	III	1431.30-1431.45	1-		22-33		III	2041.15-2043.15	2-		7.6-41
	III	1432.45-1433.30	1+		12-41		III	2049.15-2049.45	1+		20-41
	III	1434-1434.30	1		12.5-41		III	2052.15-2055.30	2		7.6-41
	III	1434.30-1435	1+		12.5-41		III	2110.30-2111	1		22-41
	III	1437.15-1437.30	1-		21-41		III	2141.30-2142	1		26-40
	III	1453.30-1454.15	1		22-41		III	2150.30-2151.15	1		20-41
	III	1506.30-1507	1+		20-41		III	2212-2212.15	1-		21-41
	III	1518.15-1519	1-		21-41		III	2219.45-2220.30	1+		15-41
	III	1519.45-1520.30	1+		21-41		III	2231.15-2231.45	1-		7.6-41
	III	1527.70-1527.45	1		20-41		III	2238.15-2238.45	1		20-41
	III	1544.45-1545	1		24-41		III	2252.30-2255.30	1+		16-41
	III	1630.45-1631.15	1-		24-37		III	2305.30-2310	2		7.6-41
	III	1834.15-1834.70	1		21-41		III	2406.15-2406.30	1-		21-41
	III	1911.15-1912.15	1+		8-41		III	2410.15-2411.45	1+		15-41
	III	1918.45-1920.45	2-		7.6-41	16	III	1401.45-1402.15	1-		26-41
	III	1921-1922	2-		7.6-41		III	1409.45-1410.15	1		27-41
	III	1924.45-1925	1-		21-41		III	1431.30-1432.15	2-		9-41
	III	1925.30-1926	1+		7.6-41		III	1438.30-1441	2-		8.5-41
	III	1936-1936.15	1-		20-38		III	1442.45-1444.45	2-		11-41
	III	1959.30-1959.45	1		21-41		III	1445-1447	2		7.6-41
	III	2009.15-2009.45	1+		19-41		III	1606.30-1607.15	1		27-38
	III	2014.45-2015.30	1		20-41		III	1612.30-21613	1-		16-40
	III	2016.15-2016.45	1-		21-41		III	1628.15-1628.30	1		18-40
	III	2033.45-2034	1-		21-34		III	1635.30-1636	1		21-38
	continuum	2035.15-2045.45	1		12-41		III	1651.30-1652	1-		21-33
	III	2039.45-2041.30	2		7.6-41		III	1735-1735.30	1		24-41
	III	2045-2046.15	2-		7.6-41		continuum	1800-2000	1-		23-41
	III	2048.45-2050.30	2		7.6-41		III	1803.15-1803.30	1		20-41
	III	2124.15-2126.30	2-		8-41		III	1809.15-1809.45	1		22-41
	III	2126.45-2127.15	1		21-40		III	2240.15-2240.30	1-		22-41
	III	2127.30-2128.15	1		22-40		III	2331-2331.30	1-		22-35
	III	2130-2131	1		11-41		III	2459.30-2459.45	1-		25-38
	III	2211-2212.15	1+		12-41	18	III	1402.15-1403	1		15-37
	III	2213.30-2215	1-		18-41		III	1406.30-1407.30	1+		12-40
	III	2304-2305.30	2-		11-41		III	1414.45-1415.15	1		16-38
	III	2309-2309.45	1		20-41		III	1415.30-1417	1+		11-40
	III	2310.30-2311	1-		22-41		III	1417.30-1419.30	1		16-41
	III	2314.15-2314.30	1		21-41		III	1420.15-1421.30	2-		8.5-41
	III	2317.45-2318.15	1-		17-41		III	1551.45-1552.15	1-		16-33
	III	2318.45-2319.30	1		17-41		III	1558.15-1559.15	1		11-41
	III	2321.15-2322.45	1+		11-41		III	1609-1609.30	1-		21-36
	III	2349.30-2351	1		20-41		III	1639.15-1640.30	1+		8-76
	III	2442.30-2443.15	1-		20-41		III	1700.15-1703	2-		7.6-41

\* No observations 1800-2200

CONFERENCE - STANBARD - BOULDER

# SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

AUGUST 1962

HAO BOULDER

7.6 - 41 MC

Date	Bursts			Frequency Range (mc)	Date	Bursts			Frequency Range (mc)
	Type	Time (U.T.)	Intensity			Type	Time (U.T.)	Intensity	
1962					1962				
18 Aug	III	1703.15-1704.45	1+	7.6-41	22 Aug	III	2336-2337.15	1	16-41
	III	1851-1853.30	1+	7.6-38		III	2341.45-2342.15	1-	21-38
	III	1854-1855	1+	7.6-41	24	III	1354.30-1355	1	21-41
	III	1855-1856.45	2-	7.6-41		III	1356.30-1357.15	1-	21-41
	III	1859.15-1859.45	1	21-41		III	1632.30-1633	1	21-41
	III	1902.15-1902.30	1	16-41		III	1946.70-1947.15	1-	24-30
	III	1956.15-1957.45	1	8.5-41		III	2027-2027.15	1-	24-37
	III	2002.15-2002.45	1-	22-41		III	2040.30-2050	1	21-41
	III	2017.45-2019.45	2-	7.6-41		III	2106.45-2107	1-	24-41
	III	2046.45-2047	1-	18-37		III	2137.45-2138.30	1+	12-41
	III	2047.45-2048.45	1	8-40		III	2136.45-2137.30	1+	12-41
	III	2049.15-2051	1+	7.6-41		III	2219-2219.30	1-	23-39
	III	2051.15-2052.45	1+	7.6-41		III	2327.30-2328.30	1	20-40
	III	2052.45-2054.15	1	7.6-41	28	III	1437-1437.30	1-	22-41
	III	2138.45-2139.15	1-	20-35		II	1519-1523	1-	28-41
	III	2251-2251.30	1	11-38		III	1530-1521.30	1	28-41
19	III	1540-1540.30	1-	26-38		III	2240-2250	1	16-41
	III	1640.30-1650	1	8-41		III	2250.15-2250.45	1-	16-41
	continuum	1650.30-1655.30	2	7.6-41	30	III	1739.30-1739.45	1	22-41
	III	*b1850-1850.45	2	7.6-41		III	1739.45-1740	1-	24-41
	III	1955.15-1955.30	1-	23-41	31	III	1757.15-1757.45	1-	7.6-35
20	III	1417.45-1418	1-	18-35		III	1758-1758.30	1-	7.6-35
	III	1654.15-1654.30	1-	23-39		III	2325.30-2325.45	1	16-41
	III	2324.30-2325.30	1	16.5-41					
21	III	1716.15-1717.45	1	7.6-35					
	III	1718.30-1719.45	1+	7.6-41					
	III	1910-1914.15	1	7.6-38					
	III	2000.45-2011.15	1	8.5-40					
22	III	1637.45-1640	3	7.6-41					
	I	2320.30-2330	1	21-38					
	* No observations 1855-1957								

COMMENCE - STANDARDS - BOULDER









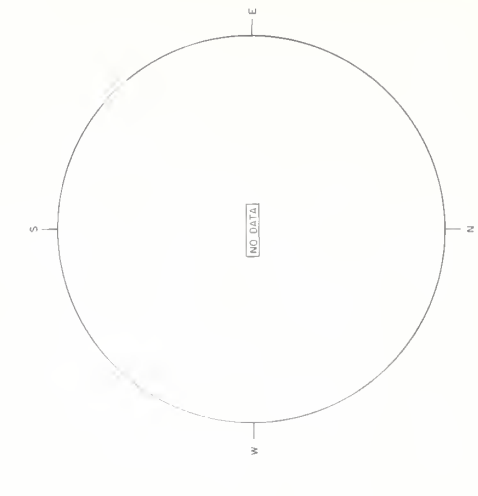
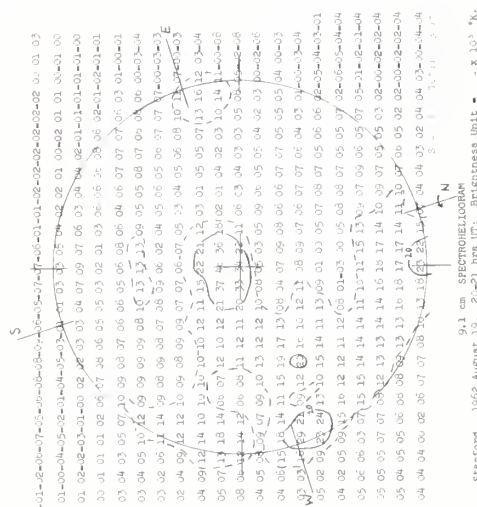
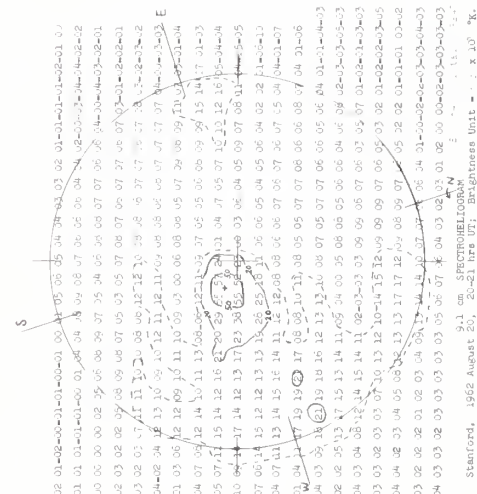
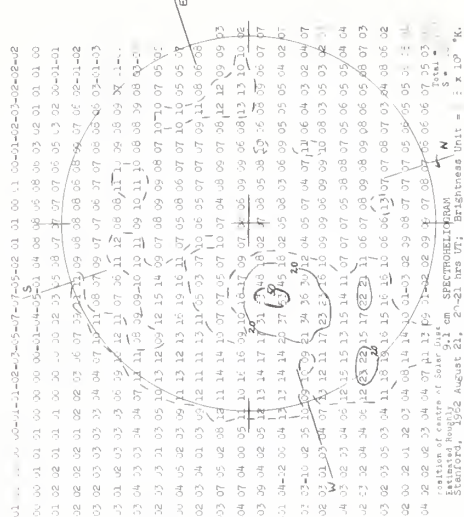


# SOLAR RADIO EMISSION SPECTROHELIOGRAMS

AUGUST 1962

STANFORD

9.1 cm







## COSMIC RAY INDICES

Va

Climax Neutron Monitor

IGC STATION B 305

JULY 1962

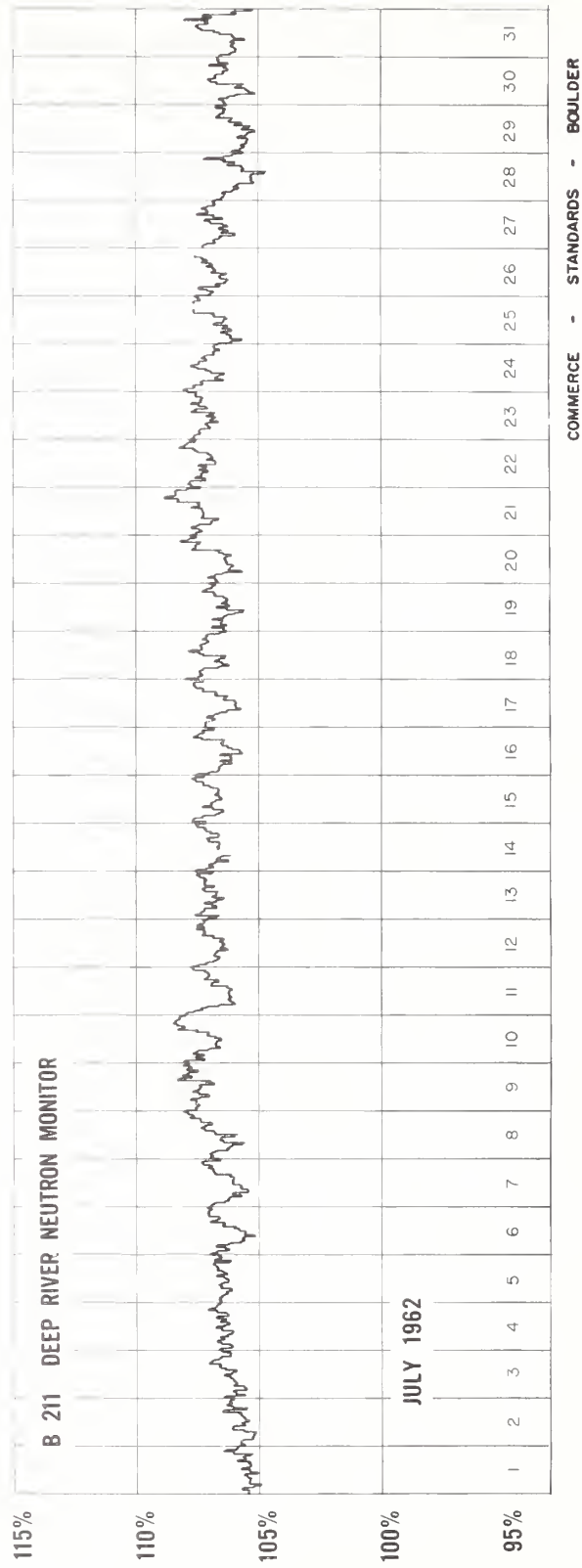
July 1962	Daily average counts/hr*	July 1962	Daily average counts/hr*
1	3057.2	16	3094.5
2	3064.1 + 34	17	3087.9
3	3079.6	18	3094.6
4	3092.9 + 34	19	3070.5
5	3090.1	20	3090.2
6	3091.3	21	3094.8
7	3086.1	22	3091.6
8	3090.7	23	3107.3 + 35
9	3096.9	24	3093.9
10	3111.8	25	3087.9
11	3096.0	26	3086.3 + 38
12	3086.0	27	3092.6 + 16
13	3097.6	28	3067.2
14	3096.8	29	3070.3
15	3090.5	30	3078.0
		31	3068.0

COMMERCE - STANDARDS - BOULDER

\* Scaling Factor 128

+ Number of Section Hours

**COSMIC RAY INDICES**  
(Pressure Corrected Hourly Totals)







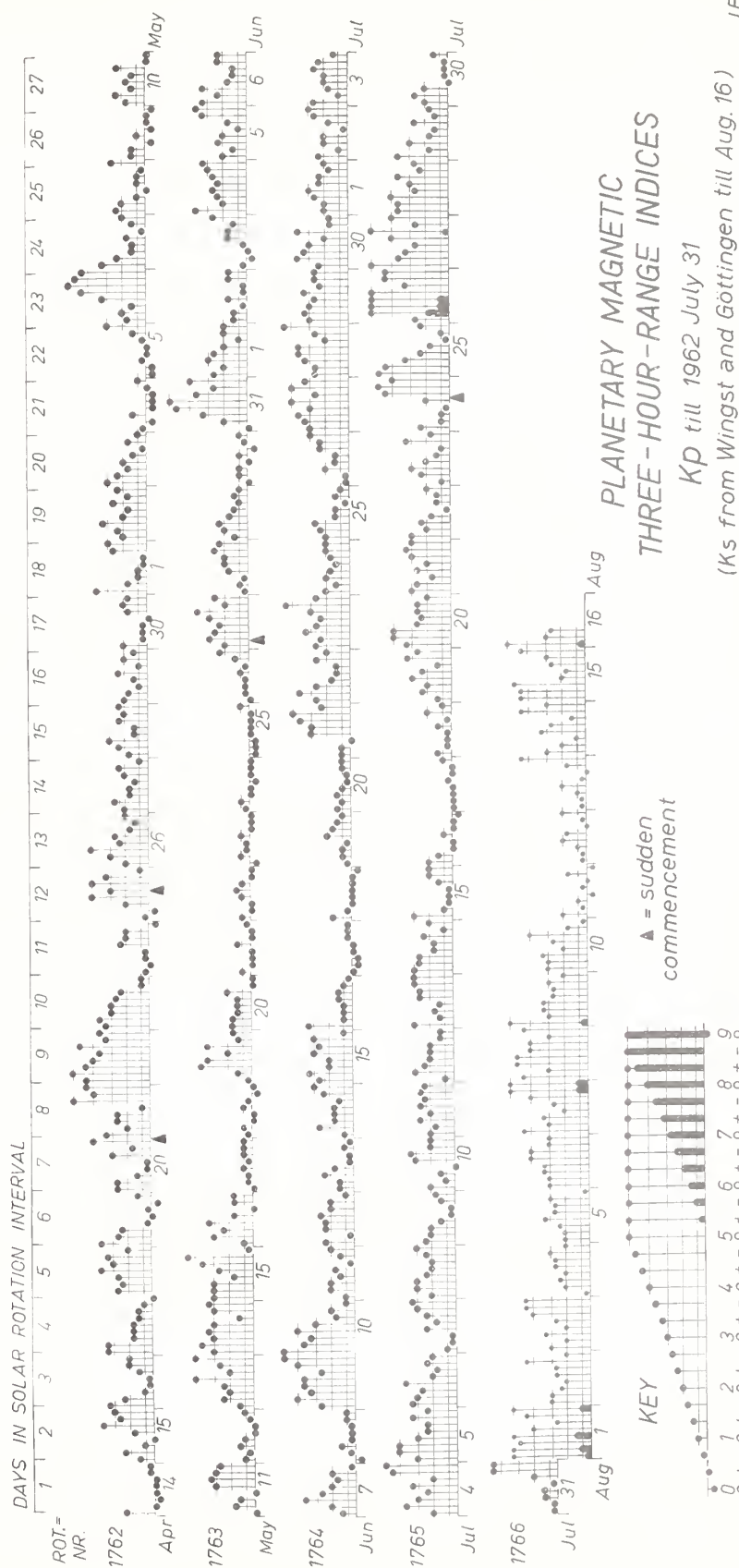
## GEOMAGNETIC ACTIVITY INDICES

JULY 1962

July 1962	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	0.6	2o	2o	3-	3o	2+	2+	2-	2o	18o	9	Five Quiet
2	0.5	2+	1o	2o	2o	1-	2-	3-	3o	15+	8	
3	0.5	3-	1o	2-	2o	2o	3-	2+	1+	16-	8	
4	1.2	2o	4-	3o	2+	3+	2o	4+	5-	25+	19	
5	1.0	3o	4o	4o	3o	2+	2+	3+	2+	24+	16	
												17
6	0.8	3+	3o	3-	4-	2o	2-	2+	2o	21-	12	18
7	0.5	1o	1-	1-	2+	2-	2+	3o	3+	15o	8	30
8	0.7	2o	3o	3o	2+	2o	2o	2+	3o	20-	10	
9	0.3	2+	2o	2o	1+	1-	1-	1+	2-	12o	6	
10	0.5	2o	1o	1+	0+	3o	3+	2o	2o	15o	8	
11	0.6	2o	2-	3-	2o	3-	2+	3-	2+	18+	9	Five Disturbed
12	0.5	1o	3o	2+	2o	2o	2o	1+	1+	15o	7	
13	0.6	3o	1+	2-	1+	3-	3-	3o	3o	19-	11	
14	0.7	3o	3-	3-	2-	2-	2+	1o	2o	17o	9	
15	0.3	3o	1o	1-	1-	1-	1+	2o	2o	11+	6	
												4
16	0.1	2o	1+	0+	0+	1o	0+	0+	0o	6-	3	5
17	0.1	0+	0+	0+	0+	1-	0+	0+	1o	4-	2	26
18	0.2	1+	1-	1-	1-	1+	1-	2o	1o	8+	4	27
19	0.8	1+	2+	2o	3o	2+	1+	3+	3-	18+	10	28
20	1.0	3+	4o	4o	3-	2+	3-	3-	2o	24-	16	
21	0.8	3o	3-	2-	3-	2o	3o	3+	3o	21+	12	Ten Quiet
22	0.4	3o	2o	2+	2-	1-	1+	1+	2o	14+	7	
23	0.6	1o	2+	3o	2o	1+	1o	3+	2-	16-	8	
24	1.0	2+	1o	1o	1-	2o	4+	5-	4o	20o	16	
25	1.0	5-	4+	3+	2+	2-	1-	1o	2+	20+	15	
												2
26	1.6	3-	6+	6-	6-	5o	3+	4+	4+	37+	46	3
27	1.4	5o	4-	3+	3-	4o	5+	3-	4o	31-	28	9
28	1.1	4-	4-	4o	3-	3o	4-	2+	3-	26-	18	12
29	0.7	4-	2-	3o	2-	1+	3-	1+	2-	17o	10	15
30	0.2	2o	3-	2o	0+	1-	1-	1-	1+	10+	5	16
31	0.9	1-	1-	1+	1+	1-	2o	4+	4+	15+	11	17
												18
												22
												30
Mean:	0.68									Mean:	12	

COMMERCE - STANDARDS - BOULDER





COMMERCE - STANDARDS - BOULDER

J.B.

## CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

JULY 1962

NORTH ATLANTIC

NORTH PACIFIC

[illegible]

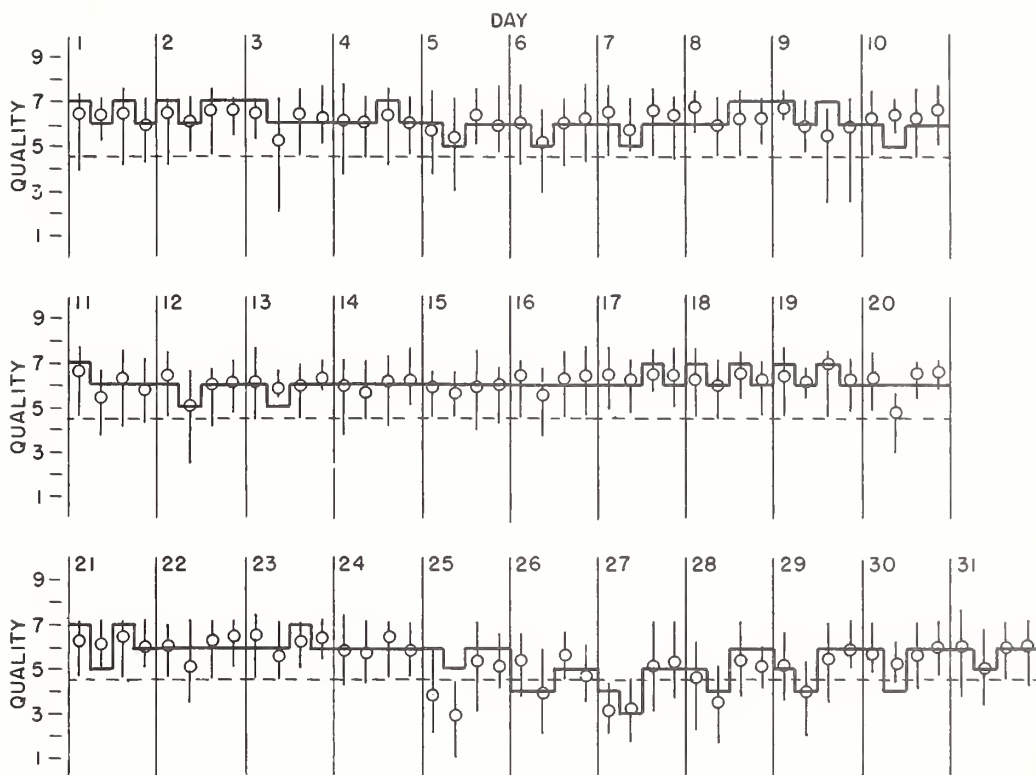
## NORTH ATLANTIC

JULY 1962

— Short-term forecast

o Quality figure

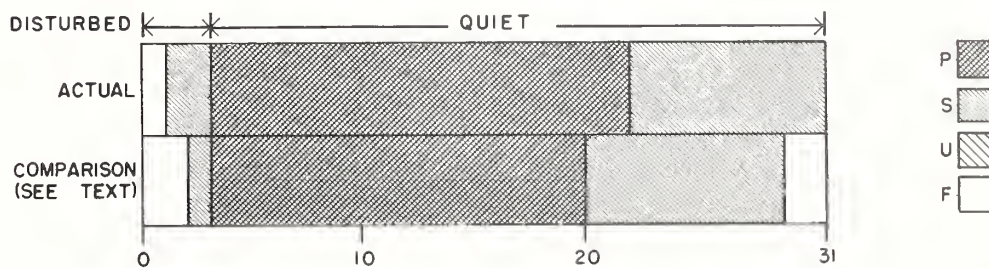
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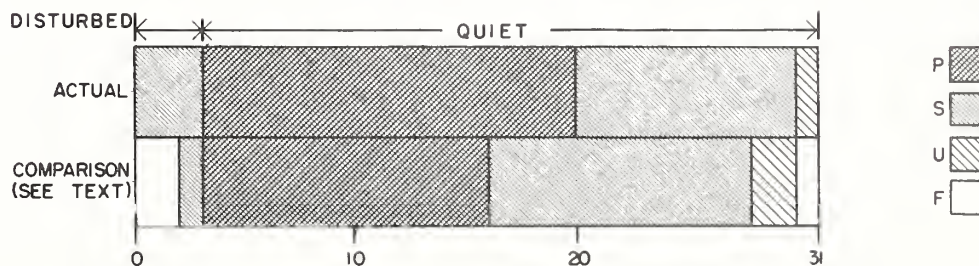
OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

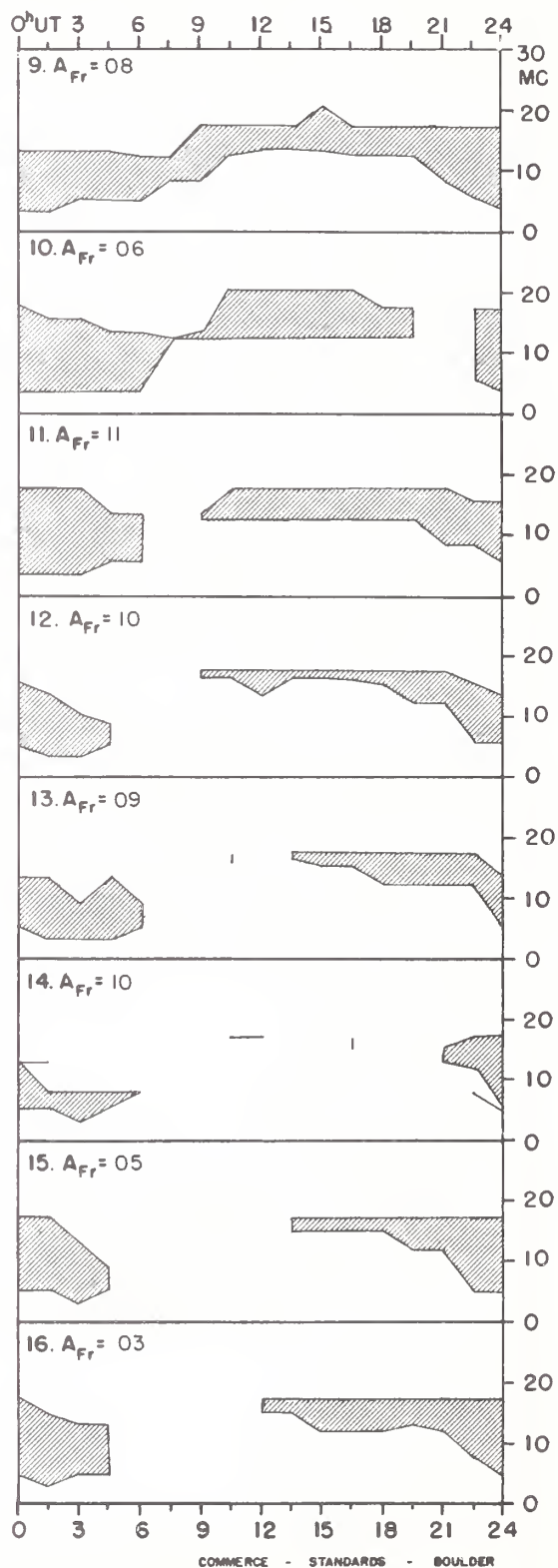
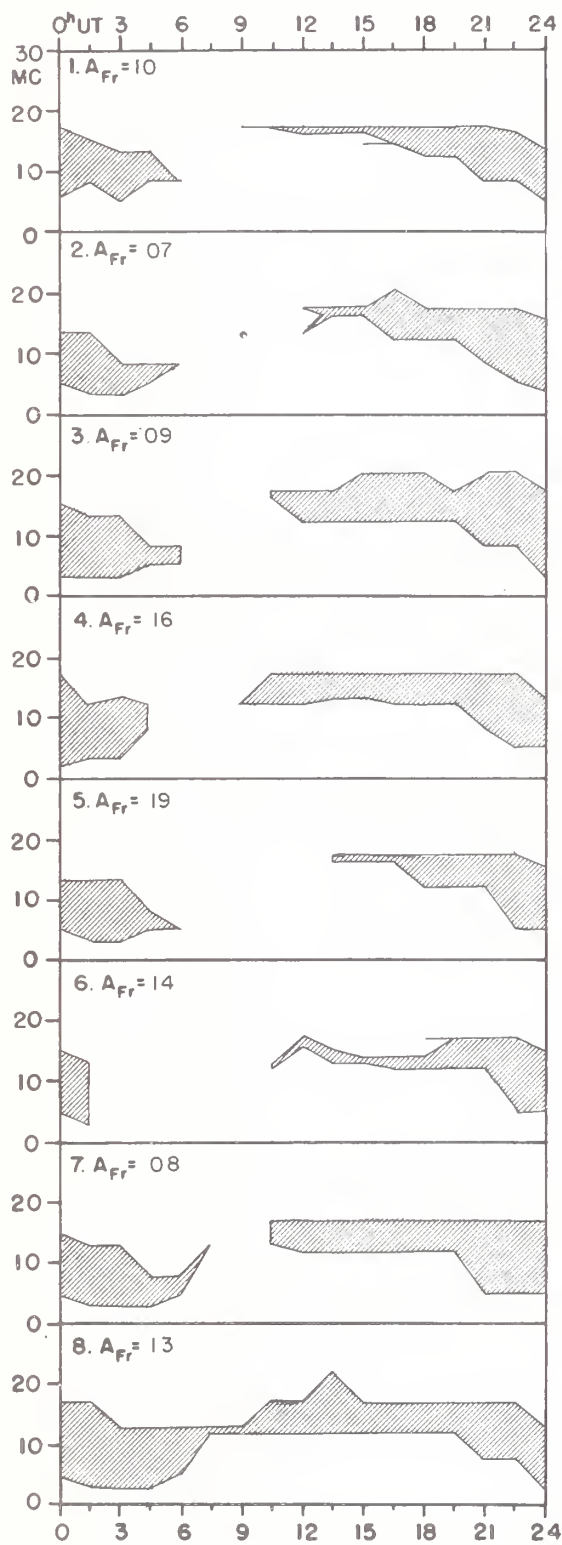
## NORTH ATLANTIC



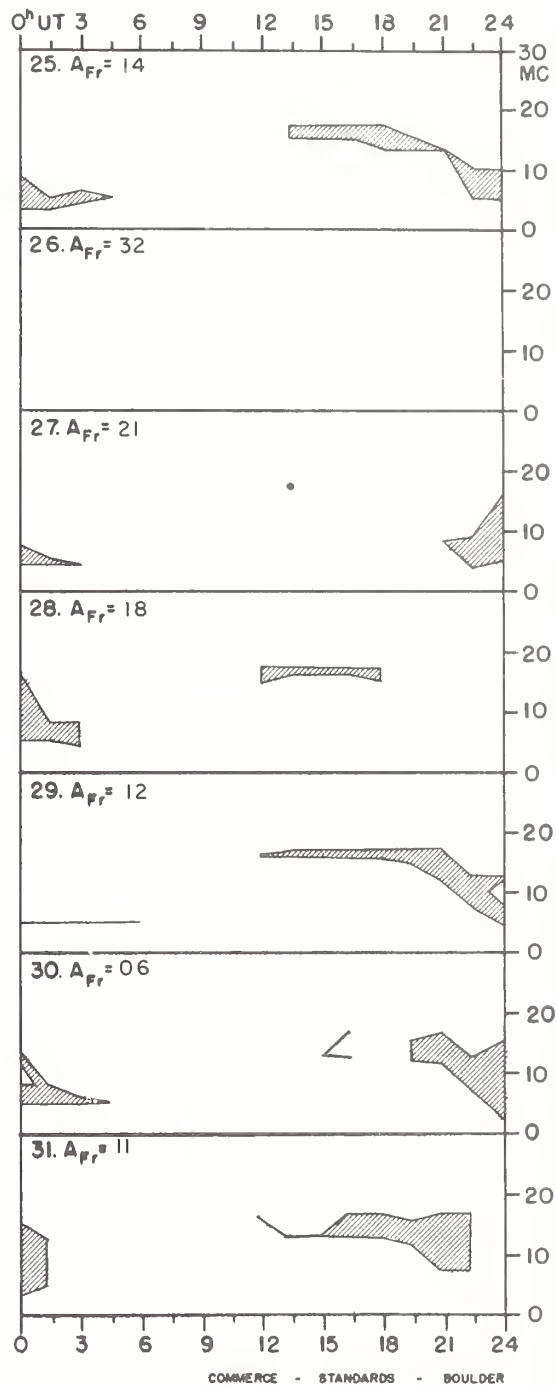
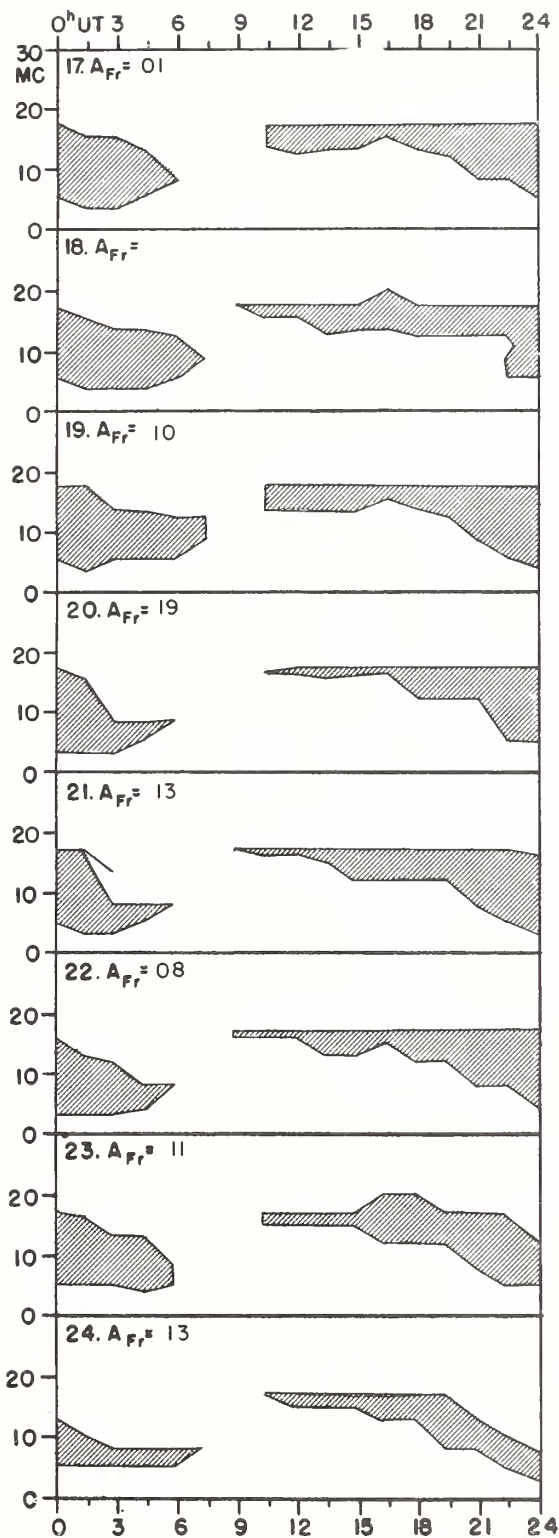
## NORTH PACIFIC



JULY 1962



JULY 1962





## ALERT PERIODS AND SPECIAL WORLD INTERVALS

## INTERNATIONAL WORLD DAY SERVICE

AUGUST 1962

Issued August 1962 Day/Time U. T.	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Intervals
01/1205	Ft. Belvoir. Magnetic Storm 31/20XXZ			
01/1600		171	Magnetic Storm. 31/20XXZ	Start
02/1600		172		Finish
08/1600		173	Magnetic Storm. 07/14XXZ	
15/1600		174	Magnetic Storm. 14/14XXZ	
22/1600		175	Magnetic Storm. 21/17XXZ	Start
23/1600		176		Finish
31/1215	Ft. Belvoir. Magnetic Storm 31/00XXZ			
31/1600		177	Magnetic Storm. 31/00XXZ	

COMMERCE - STANDARDS - BOULDER



