PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
APRIL 1960

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

CRPL-F188
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
30 April 1960

SOLAR - GEOPHYSICAL DATA

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INTRODUCTION

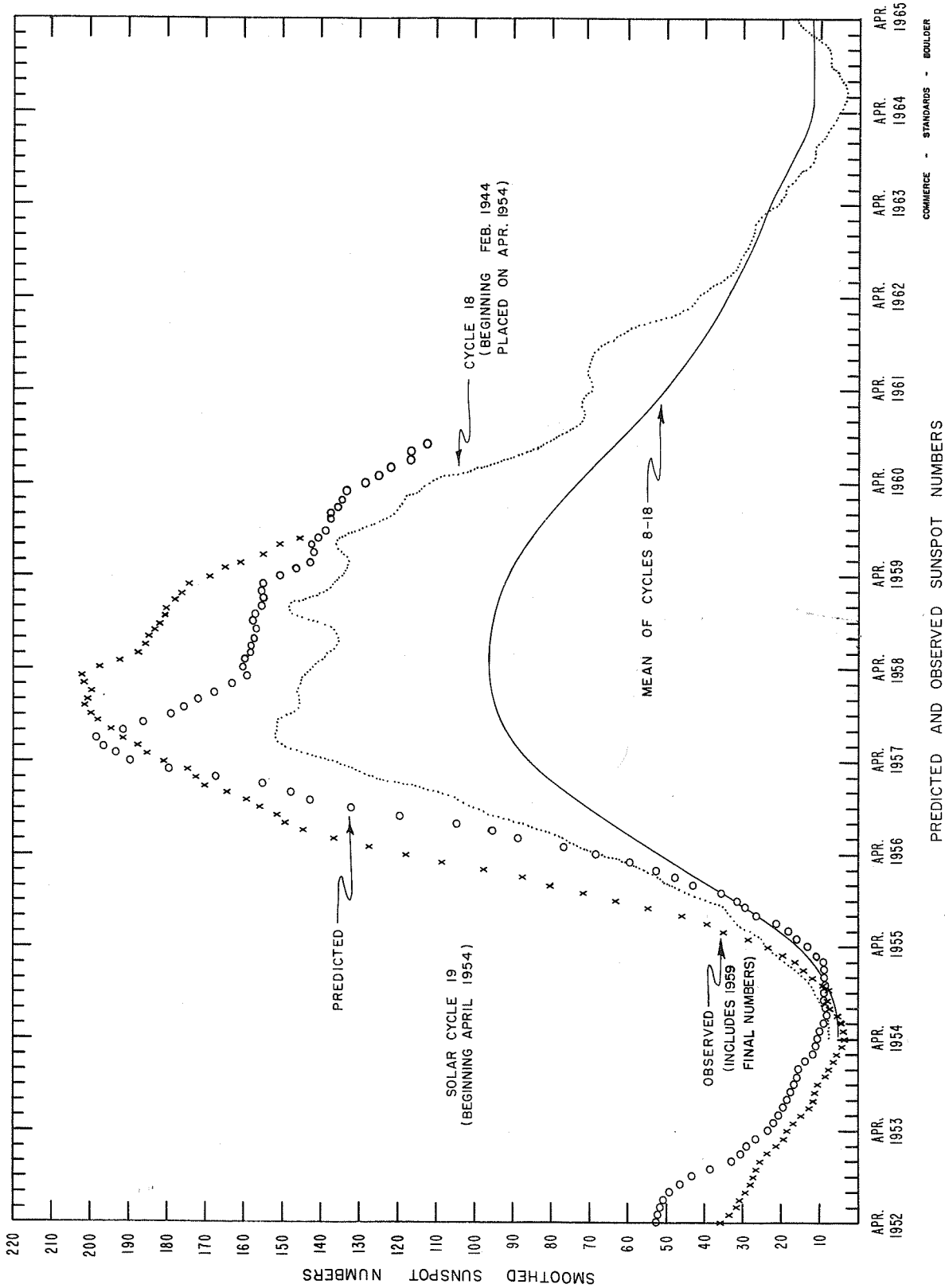
The descriptive text is published quarterly or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F186 Part B issued February 1960.

DAILY SOLAR INDICES

Feb. 1960	American Relative Sunspot Numbers $R_{A'}$
1	186
2	184
3	187
4	164
5	171
6	150
7	128
8	118
9	161
10	157
11	142
12	113
13	103
14	104
15	63
16	66
17	47
18	49
19	40
20	39
21	64
22	59
23	57
24	61
25	52
26	115
27	87
28	64
29	64
Mean:	103.3

Mar. 1960	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	52	137
2	57	137
3	71	138
4	76	139
5	74	140
6	79	135
7	108	139
8	111	141
9	109	143
10	109	132
11	82	132
12	68	129
13	85	135
14	76	134
15	84	137
16	106	142
17	86	140
18	85	133
19	102	137
20	97	143
21	115	145
22	128	150
23	145	154
24	123	158
25	128	157
26	133	...
27	146	...
28	139	175
29	154	181
30	142	193
31	138	182
Mean:	103.5	146.1

COMMERCE STANDARDS - BOULDER


SMOOTHED SUNSPOT NUMBERS
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
APR. 1952
APR. 1953
APR. 1954
APR. 1955
APR. 1956
APR. 1957
APR. 1958
APR. 1959
APR. 1960
APR. 1961
APR. 1962
APR. 1963
APR. 1964
APR. 1965
CYCLE 18
(BEGINNING FEB. 1944
PLACED ON APR. 1954)
MEAN OF CYCLES 8-18
PREDICTED
SOLAR CYCLE 19
(BEGINNING APRIL 1954)
OBSERVED
(INCLUDES 1959
FINAL NUMBERS)
PREDICTED AND OBSERVED SUNSPOT NUMBERS
COMMERCE - STANDARDS - BOULDER

CALCIUM PLAGE AND SUNSPOT REGIONS

MARCH 1960

CMP Mar. 1960	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values		History, Age		CMP Values		History
				Area	Int.			Area	Count	
01.3	N22	5586	*	2600	3.5	ℓ — ℓ	3	270	4	ℓ \ ℓ
02.2	S16	5585	5554	1000	2.5	ℓ \ ℓ	6			
04.0	S17	5587	**	3400	2.5	ℓ — ℓ	3	340	1	ℓ — ℓ
05.5	N10	5588	5563	1400	2.5	ℓ — ℓ	4	170	2	b — ℓ
07.9	N23	5589	5563	2000	2	ℓ — ℓ	4			
09.0	N09	5590	New	700	2.5	ℓ \ ℓ	1	20	1	ℓ ⌝\ d
10.5	S01	5591	New	2200	3	ℓ — ℓ	1	160	6	ℓ ⌝\ d
11.0	N23	5592	5566	3800	3	ℓ — ℓ	2	310	3	ℓ \ ℓ
11.0	S15	5593	New	3000	3	ℓ — ℓ	1	290	8	ℓ / ℓ
13.6	S23	5596	5572	900	2	ℓ \ ℓ	2			
14.0	N13	5595	5570	2000	2	ℓ — ℓ	3	20	1	ℓ — ℓ
14.6	N07	5597	5574	1200	2	ℓ — ℓ	5	270	6	b ⌜ ℓ
16.2	N15	5598	5574	1400	2.5	ℓ — ℓ	5	20	1	ℓ ⌝\ d
18.0	N28	5599	+	1800	2.5	ℓ — ℓ	1	150	3	b / ℓ
18.3	N07	5602	5577	1000	2.5	ℓ — ℓ	12	140	4	b ⌜ ℓ
19.4	S08	5600	New	4300	3.5	ℓ — ℓ	1	750	15	ℓ \ ℓ
21.0	S13	5603	5578	300	1	ℓ \ d	4			
22.0	N13	5604	5579	3500	3	ℓ — ℓ	5	230	14	ℓ / ℓ
23.1	S18	5605	5580	2000	3.5	ℓ — ℓ	2			
23.8	N04	5606	5581	1200	2.5	ℓ / ℓ	5			
24.0	N21	5607	New	3000	3	ℓ / ℓ	1	850	11	ℓ — ℓ
26.1	S15	5609	++	4500	3	ℓ / ℓ	1	700	7	ℓ / ℓ
26.2	N13	5610	5584	2400	2.5	ℓ — ℓ	8	120	1	ℓ \ ℓ
28.1	N22	5611	5586	2300	2.5	ℓ — ℓ	4			
30.0	S24	5612	5587	2600	2.5	ℓ — ℓ	4			
30.2	S10	5613	5587	2600	2.5	ℓ \ ℓ	4			
30.2	N28	5614	5586	1000	2	ℓ — ℓ	4			
31.6	N11	5615	New	3500	3	ℓ — ℓ	1	1730	48	ℓ / ℓ

* 5555,5556
** 5561,5562
\+ New (?) in position of 5575,5576
++ New (?) in position of 5583

PROVISIONAL CORONAL LINE EMISSION INDICES

MARCH 1960

CMP Mar 1960	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	x	x	x	x	x	x	x	x	70	111	x	x	46	67	x	x
2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6	78a	109a	20a	37a	49a	58a	19a	29a	x	x	x	x	x	x	x	x
7	79	103	12	23	30	39	10	10	12a	18a	10a	13a	26a	36a	14a	33a
8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	103*	140	31	54	79	118	14	28	x	x	x	x	x	x	x	x
11	x	x	x	x	x	x	x	x	41	56	17	25	76	100	12	30
12	x	x	x	x	x	x	x	x	16	22	7	10	43	48	9	15
13	x	x	x	x	x	x	x	x	27	38	16	22	57	69	19	40
14	x	x	x	x	x	x	x	x	25a	36a	x	x	89a	146a	x	x
15	76	110	x	x	20	37	x	x	20	25	x	x	68	95	x	x
16	x	x	x	x	x	x	x	x	27	53	x	x	77	94	x	x
17	x	x	x	x	x	x	x	x	58	100	17	25	135	192	20	40
18	x	x	x	x	x	x	x	x	71	114	x	x	70	112	x	x
19	x	x	x	x	x	x	x	x	56	101	x	x	53	80	x	x
20	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
21	21a	32a	11a	13a	26a	30a	21a	25a	x	x	x	x	x	x	x	x
22	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
23	x	x	x	x	x	x	x	x	67	73	x	x	70	99	x	x
24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25	70	108	15	30	39	62	14	18	x	x	x	x	x	x	x	x
26	78	100	21	35	25	42	6	10	x	x	x	x	x	x	x	x
27	86	129	37	75	50	68	17	40	x	x	x	x	x	x	x	x
28	68	97	23a	40a	55	70	10a	16a	32a	44a	7a	8a	42a	62a	10a	22a
29	52	80	9a	14a	71	92	14a	24a	70	99	27	44	44	61	12	15
30	40	52	x	x	85	106	x	x	109	180	x	x	64	86	x	x
31	79	98	21	27	148	200	25	43	x	x	x	x	x	x	x	x

x - no observations. a - index computed from low weight data. * - yellow line observed

Notes: 1. These coronal line intensities, expressed in millionths of equivalent angstroms are believed to be correct to ± 10 per cent, probable error, according to the calibrations of February-March 1960. All intensities from the Climax and Sacramento Peak Observatories during the years 1956-1959, inclusive, if multiplied by the factor 0.60, will be expressed in the same scale to a somewhat lower precision.

Intensities prior to 1956 cannot be compared precisely with those obtained later because of changes in observing and reduction techniques. They may be converted roughly to millionths of equivalent angstroms by use of the table given by Billings and Varsavsky, 1955, Zs. f. Ap. 38, 160.

2. Beginning with the next issue and every three months thereafter we will publish a revised table which will include data from Pic du Midi and Kislovodsk in addition to the Sacramento Peak and Climax data which appear in the table above.

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

MARCH 1960

OBSERVATORY	DATE MAR 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
CAPRI S	01	1030 E	1130 D		S17	W70	5580	60 D	1	2	1042	1.00	3.20			
MCMATH	01	1240 E	1325		N22	W08	5586	45 D	1	1	1245		2.00			Slow S-SWF
MCMATH	01	1750	1825 D	1810	N23	W10	5586	35 D	1	1	1810		2.00			Slow S-SWF
{ MCMATH	01	1915	2030		N22	W11	5586	75	1+	1	1922		4.00			S-SWF
{ HAWAII	01	1922 E	2050		N21	W17	5586	88 D	2+	2	1922	3.20				
WENDEL	02	0924	1021 D		S11	E15	5587	57 D	2				10.00			
{ ONDREJOV	02	1111 E	1156 D		N22	W20	5586	45 D	2	1						S-SWF
{ CAPRI S	02	1116 E	1207 D		N24	W18	5586	51 D	2	1	1145	6.00	6.90			
ARCETRI	02	1441 E	1510 D		N25	W19	5586	29 D	1	2						
SAC PEAK	02	2200 E	2220 D	2204 U	N21	W27	5586	20 D							20	
HUANCAYO	04	1507	1521	1510	N03	E78	5591	14	1+	2	1510	3.50	12.00	2.40		
LOCKHEED	04	1711	1724	1715	N08	E61	5590	13	1	2	1716	2.10			10	
HUANCAYO	04	2041	2120 D	2043	N00	E79	5591	39 D	1	2	2043	.70	2.30	3.00		
LOCKHEED	04	2250	2313	2305	N11	E23	5588	23	1	2	2305	.30			10	
ARCETRI	05	0831 E	0836 D		N11	W87	5584	5 D	1	3	0836	.55	2.34			
ARCETRI	05	0937 E			N11	W87	5584		1	3		1.00	4.26			
STOCKHOLM	05	1040 E	1058 D		S00	E62	5591	18 D	1	1	1046	2.00	4.20			
STOCKHOLM	05	1040 E	1120 D		S10	E70	5593	40 D	2	1	1045	5.00	15.00			
ONDREJOV	06	0709	0723	0712	N22	E57	5592	14	1	3	0712			2.60		
{ CAPRI S	06	0752	0838 D		S08	E66	5593	46 D	1	3	0807	2.00	4.80			
{ ONDREJOV	06	0810 E	0822		S09	E64	5593	12 D	1	3	0813			2.20		
ONDREJOV	06	0940 E	0954		N20	E57	5592	14 D	1	3	0943			2.80		
ONDREJOV	06	1051 E	1110		N09	E63	5591	19 D	1	3	1051			2.50		
ONDREJOV	06	1100 E	1123		N20	E54	5592	23 D	1	3	1100			2.70		
WENDEL	06	1110 E	1136 D		S09	E66	5593	26 D	1				3.00			
ONDREJOV	06	1201	1211		N22	E53	5592	10 D	1	3	1209			2.40		
ONDREJOV	06	1441 E	1450		N09	E61	5591	9 D	1	3	1442			3.30		
LOCKHEED	06	1915	1937	1922	N16	E90	5595	22	1	2	1922	2.00			20	
{ WENDEL	07	0850 E	0949 D		N13	E72	5595	59 D	1+				5.00			
{ ARCETRI	07	0921 E	0940 D		N12	E72	5595	19 D	1	3						
{ SAC PEAK	07	1810	2010	1820	N00	E36	5591	80	2	2		6.98			22	Slow S-SWF
{ MCMATH	07	1914 E	1950 D		S01	E36	5591	36 D	2	1	1918		5.00			
WENDEL	09	0917 E	0929 D		S13	W68	5587	12 D	1				3.00			
{ HUANCAYO	09	1418	1528	1448	N01	E11	5591	70	1+	2	1448	3.90	3.90	2.90		
{ STOCKHOLM	09	1442 E	1515 D		S02	E11	5591	33 D	1+	2	1509	3.00	3.20			
HAWAII	09	2100	2112	2104	N21	E44	5595	12	1	3	2104	1.60				
WENDEL	10	1212	1241		N23	E11	5592	29	1				3.00			
WENDEL	10	1326	1358 D		N25	E10	5592	32 D	1				3.00			
{ SAC PEAK	10	1716	1756 E	1720	N25	E08	5592	40 D	1	2		2.24			34	S-SWF
{ MCMATH	10	1716	1810	1719	N24	E07	5592	54	1	3	1719		2.00			
ARCETRI	12	0816 E	0825 D		S09	W15	5593	9 D	1+	3						
HAWAII	12	1948	1956	1950	N00	E90	5600	8	1	3	1950	.50				
HAWAII	12	2050	2116	2054	S14	W22	5593	26	1	3	2054	1.50				Slow S-SWF
WENDEL	13	0751	0812		N00	W30	5591	21	1				4.00			

SOLAR FLARES

MARCH 1960

OBSERVATORY	DATE MAR 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
WENDEL	14	0736 E	0811 D		S10	W46	5593	35 D	2				8.00			
CAPRI S	14	0754 E	0836 D		S09	W41	5593	42 D	2	1	0758	7.00	9.50			
WENDEL	14	1404 E	1422 D		S09	W50	5593	18 D	1				3.00			
CAPRI S	14	1445 E	1538 D		S04	W50	5593	53 D	2	2	1505	5.00	7.70			
HUANCAYO	14	1450	1458 D	1454	N01	W46	5591	8 D	1	2	1454	2.90	3.40	2.70		
SAC PEAK	14	1452	1514	1502	N00	W52	5591	22	1	2		2.24			16	
CAPRI S	14	1519 E	1616 D		S07	W47	5593	57 D	1	2	1519	2.00	2.90			
LOCKHEED	14	2149	2325	2215	S07	E56	5600	96	1	2	2215	2.40			20	
SAC PEAK	14	2200	2252	2212	S07	E57	5600	52	1	2		2.78			18	
HAWAII	14	2200	2302	2216	N04	E55	5602	62	1	3	2216	1.10				
CAPRI S	15	0921 E	0951 D		S10	E54	5600	30 D	1	2	0930	2.50	4.20			
CAPRI S	15	1017	1033 D		S10	E54	5600	16 D	1	2	1020	2.00	3.40			
CAPRI S	15	1054 E	1116 D		S08	E56	5600	22 D	2	2	1115	3.00	5.30			
HUANCAYO	15	1444	1459	1446	S11	E54	5600	15	1	2	1446	1.20	2.00	3.20		
HUANCAYO	17	1616	1636	1619	N04	W29	5597	20	1+	2	1620	2.50	2.70	3.90		S-SWF
HUANCAYO	17	1908	1935	1912	N05	W33	5597	27	1	2	1912	2.90	3.50	2.50		
ARCETRI	18	1441 E	1458 D		N05	W49	5597	17 D	1	3	1458	1.65	2.97			
WENDEL	20	1421 E	1501 D		N23	E45	5607	40 D	1+				5.00			
WENDEL	20	1613 E	1639 D		N18	E17	5604	26 D	1				3.00			
STOCKHOLM	21	1041 E	1100 D		N22	E32	5607	19 D	1	3	1145	1.80	2.40			
WENDEL	21	1527	1552 D		N23	E34	5607	25 D	1+				5.00			
STOCKHOLM	21	1535 E	1551 D		N20	E32	5607	16 D	1	3	1538	1.80	2.40			S-SWF
HUANCAYO	21	1537 E	1554 D	1538	N21	E31	5607	17 D	1	1	1538	1.60	2.10	2.60		
HAWAII	21	1952	2114	2008	N22	E32	5607	82	1	3	2008	1.30				
HAWAII	21	2038	2102	2040	N21	E90	5611	24	1	3	2040	.80				
HUANCAYO	21	2059 E	2124 D	2059	N23	E30	5607	25 D	1+	2	2059	1.60	2.10	3.30		
HAWAII	21	2306	2344	2308	N28	E22	5607	38	1	3	2308	1.80				
CAPRI S	22	0617 E	0643 D		N22	E22	5607	26 D	1	3	0631	3.00	3.50			
WENDEL	22	0748 E	0755 D		N20	W57	5599	7 D	1				3.00			
ARCETRI	22	0846 E	0909 D		N25	E78	5611	23 D	1	2						
ARCETRI	22	0900	0909 D		N20	W60	5599	9 D	1+	2						
STOCKHOLM	22	0903 E	0907 D		N20	W60	5599	4 D	1	2	0904	.80	2.40			
CAPRI S	22	1314	1342 D		N22	E17	5607	28 D	1	2	1323	2.00	2.20			
WENDEL	23	0834	0902 D		S12	E43	5609	28 D	1				3.00			
ARCETRI	23	0837 E	0851 D		S13	W57	5600	14 D	1	3						
ARCETRI	23	0837 E	0916 D		S11	E41	5609	39 D	1	3						
WENDEL	23	1231 E	1248 D		N21	E04	5607	17 D	1				3.00			
WENDEL	23	1301	1325 D		N19	W23	5604	24 D	1				3.00			
WENDEL	23	1509	1521		S08	E59	5609	12	1				3.00			
WENDEL	24	0643 E	0703 D		S24	E75	5612	20 D	1				3.00			
WENDEL	24	0815 E	0844 D		N17	W05	5607	29 D	1				4.00			
WENDEL	24	0934	1032 D		N16	W33	5604	58 D	1+				5.00			
ONDREJOV	24	1012 E	1023	1013	N16	W33	5604	11 D	1	3	1013			2.30		
WENDEL	24	1055	1124 D		S10	W65	5600	29 D	1+				6.00			
ONDREJOV	24	1124	1131	1127	S25	E72	5612	7	1	3	1127			3.50		

SOLAR FLARES

MARCH 1960

OBSERVATORY	DATE MAR 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
WENDEL	24	1210 E	1214 D		S24	E73	5612	4 D	1				4.00			
ONDREJOV	24	1210	1215		S25	E72	5612	5	1	3	1212			2.20		
WENDEL	25	0659	0724 D		N12	E07	5610	25 D	1				3.00			
WENDEL	25	0858 E	0912 D		N17	W44	5604	14 D	1				3.00			
ONDREJOV	25	0928	0938	0932	N18	W45	5604	10	1	3	0932			2.20		
ONDREJOV	25	0952 E	1022	1008	N18	W45	5604	30 D	1+	3	1008			2.80		
STOCKHOLM	25	0958 E	1020 D		N07	W47	5604	22 D	1	3	0958	1.90	2.90			
WENDEL	25	1445	1501		N18	W21	5607	16	1				3.00			
WENDEL	25	1504	1525		N12	E04	5610	21	1+				5.00			
WENDEL	26	0712 E	0735 D		S12	W78	5600	23 D	1				3.00			
WENDEL	26	0924 E	0936 D		N16	W57	5604	12 D	1				3.00			
ONDREJOV	26	0931 E	0938		N25	W32	5607	7 D	1	3	0932			2.60		
ONDREJOV	26	1400 E	1407 D		S04	W75	5600	7 D	1	3	1502			2.20		
MCMATH	26	2035	2145 D	2105	N23	E03	5610	70 D	1	3	2105		3.00			
SAC PEAK	26	2038	2210	2108	N22	E05	5610	92	1	3		3.84			19	
HAWAII	26	2040	2046 D		N26	W00	5610	6 D	1	2	2044	1.80				
LOCKHEED	26	2143 E	2205	2143 E	N25	E06	5610	22 D	1	1	2143	2.00			10	
SAC PEAK	26	2222	2258 D	2236	N24	W01	5610	36 D	1	3		2.50			18	
LOCKHEED	26	2222 U	2330 U	2240 U	N26	W02	5610	68 D	1	1	2240	2.10			20	
HAWAII	26	2310 E	2310 D		N24	W07	5610		1	2	2310	1.60				
HAWAII	27	0150 E	0156 D		N12	W51	5607	6 D	1+	1	0156	2.40				Slow S-SWF
WENDEL	27	0634 E	0823 D		N19	W52	5607	109 D	2				10.00			
ONDREJOV	27	0736 E	0840 D		N20	W50	5607	64 D	1+	3	0743			4.10		
WENDEL	27	0805 E	0823 D		N23	W42	5607	18 D	1+				5.00			
WENDEL	27	0912 E	0923 D		N20	W53	5607	11 D	1+				7.00			
WENDEL	27	0912 E	0931 D		S27	E46	5612	19 D	1				4.00			
ARCETRI	27	0914 E	0915 D		N23	W50	5607	1 D	1+	2						
ARCETRI	27	0914 E	0915 D		S28	E44	5612	1 D	1	2						
SAC PEAK	27	2226	2310	2236	N21	W57	5607	44	1	2		2.22			17	
WENDEL	28	0708 E	0726		S11	W19	5609	18 D	1+				5.00			
STOCKHOLM	28	1317 E	1349 D		S10	W24	5609	32 D	1	2	1327	1.80	2.00			
WENDEL	28	1321 E	1349 D		S10	W25	5609	28 D	1				4.00			
CAPRI S	28	1324 E	1349 D		S12	W28	5609	25 D	1	2	1330	2.00	2.20			
WENDEL	28	1453 E	1538		N12	E40	5615	45 D	1+				7.00			
CAPRI S	28	1457 E	1530 D		N13	E37	5615	33 D	1	2	1510	2.00	2.60			S-SWF
STOCKHOLM	28	1458 E	1520 D		N11	E42	5615	22 D	1+	2	1513	2.00	2.80			
SAC PEAK	28	1506	1532	1510	N11	E43	5615	26	1	3		2.52			17	
SAC PEAK	28	1634	1642	1638	N12	E42	5615	8	1	3		2.22			14	
SAC PEAK	28	2042	2150 U	2054	N11	E39	5615	68 D	2	3		8.38			30	S-SWF
HAWAII	28	2048	2144	2058	N18	E34	5615	56	2	3	2058	2.70				
LOCKHEED	29	0024	0048	0027	N11	E39	5615	24	1	2	0027	2.00			20	
HAWAII	29	0026 E	0040	0028	N17	E34	5615	14 D	1	3	0028	1.10				
ONDREJOV	29	0705 E	0852	0710	N12	E31	5615	107 D	3	2	0710			3.50		S-SWF
STOCKHOLM	29	0820 E	0952 D		N10	E29	5615	32 D	2+	3	0840	6.60	8.00			
STOCKHOLM	29	1007 E	1100 D		N12	E29	5615	53 D	2	3	1007	5.00	6.00			
WENDEL	29	1025 E	1051 D		N13	E28	5615	26 D	1+				7.00			
WENDEL	29	1100 E	1110 D		N22	W77	5607	10 D	1				3.00			
WENDEL	29	1140 E	1211		N12	E30	5615	31 D	1+				6.00			

SOLAR FLARES

MARCH 1960

OBSERVATORY	DATE MAR 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SAC PEAK	29	1516	1532	1520	N12	E30	5615	16	1	3		2.92			24	
ONDREJOV	29	1518 E	1529		N10	E29	5615	11 D	1	3	1519			3.10		
CAPRI S	29	1522 E	1705 D		N11	E28	5615	113 D	2	1	1522	5.00	5.80			
LOCKHEED	29	2038	2210	2048	N12	E27	5615	92	2	2	2048	5.10			30	
LOCKHEED	29	2038	2210	2131	N12	E27	5615	92	2	2	2048	5.10			30	S-SWF
SAC PEAK	29	2040	2158	2048	N12	E26	5615		2	2						
SAC PEAK	29	2040	2158	2130	N12	E26	5615	78	2	2		7.68			32	
STOCKHOLM	30	0857 E	0908 D		N08	E20	5615	11 D	1	2	0859	2.00	2.20			
STOCKHOLM	30	1008 E	1028 D		N08	E16	5615	20 D	2	2	1011	5.00	5.50			
HUANCAYO	30	1355 E	1420	1355	N12	E17	5615	25 D	1	2	1355	3.40	3.70	2.70		
MCMATH	30	1434	1438 D		N10	E17	5615	4 D	1	1	1438		2.00			
SAC PEAK	30	1434	1448	1438	N10	E17	5615	14 D	1	2		2.18			18	
ARCETRI	30	1435	1447		N10	E20	5615	12	1	4	1437	2.50	2.70			
CAPRI S	30	1439 E	1445 D		N12	E15	5615	6 D	1	2	1440	3.50	3.70			
SAC PEAK	30	1455	1858	1533	N12	E13	5615	243	2	2		7.38			35	
ARCETRI	30	1501 E	1514 D		N15	E12	5615	13 D	1	4	1501	1.82	2.00			
CAPRI S	30	1502 E	1654 D		N12	E09	5615	112 D	2	3	1529	6.00	6.00			Slow S-SWF
ARCETRI	30	1520	1625 D		N11	E15	5615	65 D	2+	4	1543	7.26	8.00			
R O HERST	30	1532 E	1715	1550	N12	E12	5615	103 D	1+	3	1555	2.50	2.80		90	
SAC PEAK	30	1642	1728	1648	N25	W08	5614	46	1	2		4.46			15	
CAPRI S	30	1649 E	1654 D		N24	W14	5614	5 D	1	1	1652	4.00	4.40			
MCMATH	30	1734 E	1900 D		N11	E13	5615	86 D	1	1	1745		3.00			
HUANCAYO	30	1853 E	2030 D	1855	N09	E14	5615	97 D	1+	2	1855	5.90	6.50	2.90		
LOCKHEED	30	1947	2050 U	1953	N11	E09	5615	63 D	1	2	2020	2.50			20	
LOCKHEED	30	1947	2050 U	2020	N11	E09	5615	63 D	1	2	2020	2.50			20	
SAC PEAK	30	1950	2034	2016	N09	E09	5615	44	1	2		2.50			17	Slow S-SWF
MCMATH	30	1953 E	2030 D		N11	E09	5615	37 D	1	1	1953		3.00			
HAWAII	30	1956 E	2042 D		N12	E05	5615	46 D	2	2	2016	3.10				
HAWAII	31	0026	0032 D	0028	N12	E10	5615	6 D	1	3	0028	1.00				
STOCKHOLM	31	0847 E	1127 D		N11	E02	5615	100 D	2	3	1007	11.00	11.60			
ONDREJOV	31	1150	1237 D		N08	W01	5615	47 D	1+	3	1152			2.00		
STOCKHOLM	31	1157 E	1318 D		N11	E01	5615	81 D	2	3	1236	11.00	11.60			
ARCETRI	31	1315 E	1328 D		N11	W02	5615	13 D	2	3	1315	6.00	6.00			
STOCKHOLM	31	1357 E	1428 D		N12	E01	5615	31 D	2	3	1406	8.00	8.40			
SAC PEAK	31	1620	1752	1706	N11	W03	5615	92	1+	2		4.74			18	Slow S-SWF
LOCKHEED	31	1640	1800	1700	N12	W01	5615	80	2	2	1700	5.00			20	
LOCKHEED	31	2040	2140	2100	S28	E10	5617	60	1	2	2100	2.50			10	
HAWAII	31	2042 E	2140 D	2058	S26	E13	5617	58 D	1	3	2058	1.80				
HAWAII	31	2058 E	2120 D	2058	N09	W08	5615	22 D	1+	2	2058	2.30				
HAWAII	31	2258 E	2306 D	2300	N10	W09	5615	8 D	1	3	2300	1.20				Slow S-SWF

COMMERCE - STANDARDS - BOULDER

CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNAL KODAIKANAL
KRASNYA KRASNAYA PAKHRA
LOCKHEED LOS ANGELES
MOSCOW-G MOSCOW - GAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK SACRAMENTO PEAK
SCHAUINS SCHAUINSLAND
USNRL UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

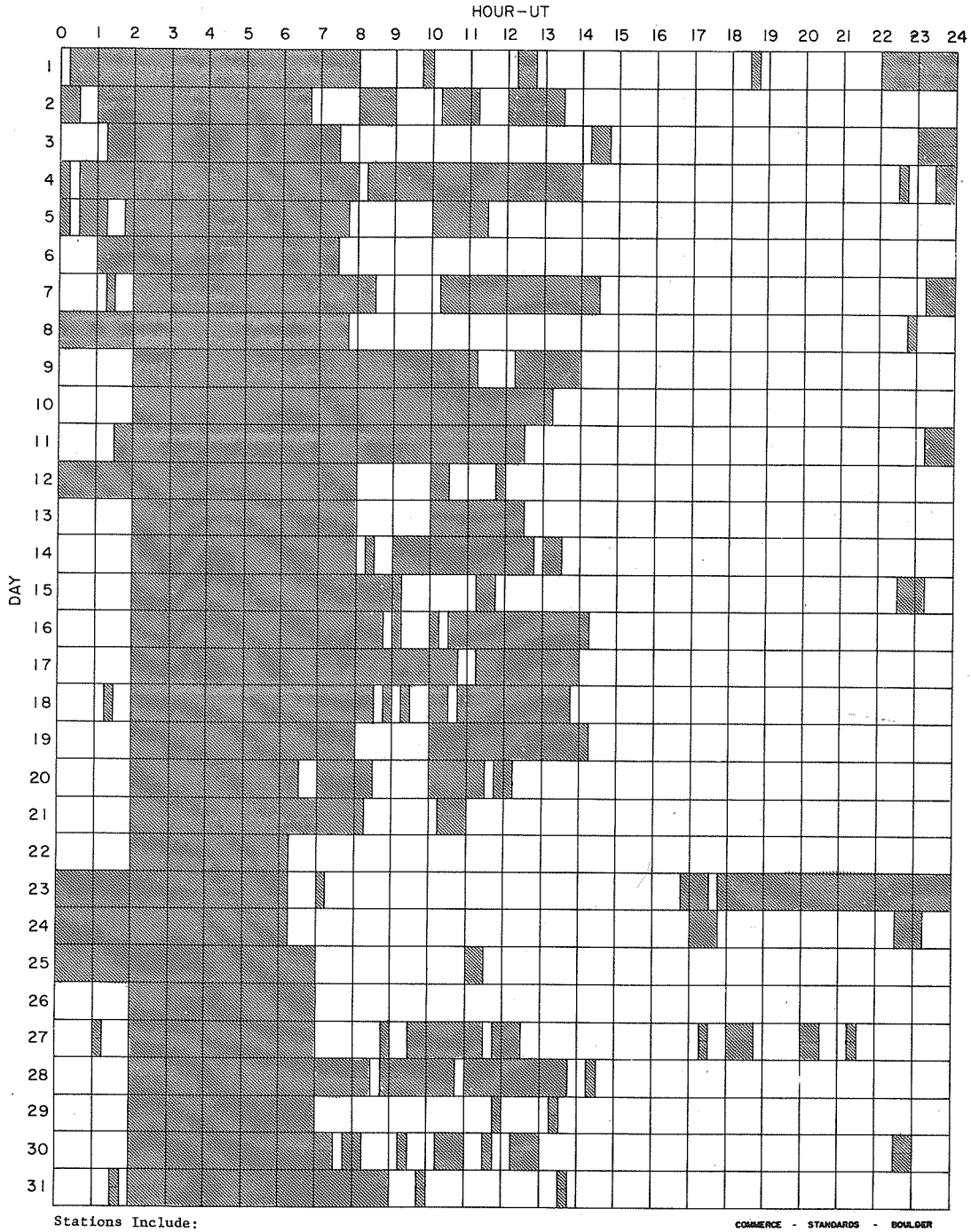
E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

IIIe

INTERVALS OF NO FLARE PATROL OBSERVATIONS

MARCH 1960



Stations Include:

Anacapri (Swedish)	McMath
Arcetri	Ondrejov
Hawaii	Royal Greenwich Observatory
Huancayo	Herstmonceux
Lockheed	Sacramento Peak

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

FEBRUARY 1960

	ARCETRI	01	0957 E	S12 W11
	SAC PEAK	01	1520	N08 W21
	SAC PEAK	01	1552	S14 W14
	SAC PEAK	01	1650	S13 W14
	SAC PEAK	01	1726	N04 W58
	SAC PEAK	01	1746	S18 W14
	SAC PEAK	01	1820	N10 W55
	SAC PEAK	01	2002	N21 E10
	SAC PEAK	01	2124	N10 W57
	HUANCAYO	01	2129 F	N09 W50
	SAC PEAK	01	2218	N20 E08
	SAC PEAK	01	2230	S18 W11
	ARCETRI	02	1220 E	N21 E02
	MCMATH	02	1518	N12 W12
	LOCKHEED	02	1630	S16 E54
	LOCKHEED	02	1635	N07 W52
	LOCKHEED	02	1640	N22 W01
	LOCKHEED	02	1710	S15 W29
	LOCKHEED	02	1737	N10 W15
	MCMATH	02	1825	N20 W03
	LOCKHEED	02	1825	N20 W06
*	MCMATH	02	1849	N12 W13
	LOCKHEED	02	1855	N20 W06
	LOCKHEED	02	2005	N16 W16
	LOCKHEED	02	2014	S16 W11
	MCMATH	02	2015 E	N13 W15
	LOCKHEED	02	2059	N09 W18
	LOCKHEED	02	2059	N09 W18
	LOCKHEED	02	2133	S12 W29
	LOCKHEED	02	2156	N09 W20
	LOCKHEED	02	2227	N10 W70
	LOCKHEED	02	2249	S16 W13
	LOCKHEED	02	2253	S14 W30
	LOCKHEED	03	0003	N09 W69
	LOCKHEED	03	0025	S14 W30
	LOCKHEED	03	0035 U	S18 W38
	ARCETRI	03	0913 E	N10 W29
	WENDEL	03	0929 E	N02 W61
	WENDEL	03	1159 E	N10 W21
*	WENDEL	03	1214 F	N09 W23
	WENDEL	03	1304 E	S17 W40
	MCMATH	03	1335 E	S14 W37
	WENDEL	03	1335 F	N15 W35
	WENDEL	03	1400 F	N08 W75
	MCMATH	03	1535	S08 E39
	MCMATH	03	1549	N06 W64
	MCMATH	03	2004	S15 W38
	MCMATH	03	2035	S11 W42
	MCMATH	04	1345 E	S16 E02
	MCMATH	04	1359	N12 W38
	MCMATH	04	1427	S14 W48
	MCMATH	04	1436	S16 E02
	MCMATH	04	1447	N12 W38
	MCMATH	04	1459	S16 E02
	MCMATH	04	1501	S12 W52
	SAC PEAK	04	1505 E	S12 W53
	HUANCAYO	04	1521 E	S13 W47
	MCMATH	04	1557	S16 E01
	SAC PEAK	04	1604	S16 E00
*	SAC PEAK	04	1614	S15 W55
	MCMATH	04	1722	S13 W52
	LOCKHEED	04	1725 E	S15 W53
	MCMATH	04	1755	S13 W52
	LOCKHEED	04	1815	S16 E24
	MCMATH	04	1838	N08 W87
	LOCKHEED	04	1839	S09 W90
	LOCKHEED	04	1840	N14 E57
	MCMATH	04	1841	N14 E54
*	SAC PEAK	04	1926	N08 W43
	LOCKHEED	04	2031	N06 W84
	SAC PEAK	04	2032	S14 W56
	LOCKHFFD	04	2035	S14 W56
	SAC PEAK	04	2102	S15 W03
	SAC PEAK	04	2136	S14 W54
	SAC PEAK	04	2140	N08 W90
	LOCKHEED	04	2202 F	S18 W51
	HAWAII	04	2220 F	S23 W53
	HAWAII	04	2250 F	S18 W02
	LOCKHEED	04	2315 U	N08 W42
	LOCKHFED	04	2315 U	N08 W42
	HAWAII	04	2330 E	S19 W56
	LOCKHEED	04	2330	S17 W55
	HAWAII	05	0000 F	N05 W46
	SAC PEAK	05	1505 E	S15 E13
	LOCKHFED	05	1737	S15 E06
	LOCKHEED	05	1738	N18 E41
	LOCKHFED	05	1742	S15 W12
	SAC PEAK	05	1832	N10 W60
*	SAC PEAK	05	1942	N11 W57
*	SAC PEAK	05	2044	S16 W14
	LOCKHEED	05	2048 U	N11 W55
	SAC PEAK	05	2054	N11 W56
	SAC PEAK	05	2144	N11 W58
	SAC PEAK	05	2144	N16 E09
	SAC PEAK	05	2218	S17 W18
	HAWAII	05	2326	S16 W15
	HAWAII	06	0040 E	S16 W16
	SAC PEAK	06	1834	N20 E26
	SAC PEAK	06	1900	N20 E26
	HAWAII	06	1904	N23 E23
*	SAC PEAK	06	2008	S14 W05
*	LOCKHFED	06	2009	S12 W05
	LOCKHFED	06	2030	N11 W69
	SAC PEAK	06	2030	N11 W70
*	LOCKHEED	06	2056	N14 W66
*	HAWAII	06	2056	N10 W69
	SAC PEAK	06	2110	S13 W05
	LOCKHEED	06	2111	S12 W06
	HAWAII	06	2112	S14 W04
	LOCKHEED	06	2132	S12 W05
	LOCKHFED	07	0015	S15 W04
	HAWAII	07	0016	S16 W02
	WENDEL	07	0910 E	N22 E23
	SAC PEAK	07	1526	N25 E50
	SAC PEAK	07	1604	N12 W87
	SAC PEAK	07	1738	N31 E53
	HUANCAYO	07	1848 E	S18 W90
	HUANCAYO	07	2001 E	N19 E15
	SAC PEAK	07	2156	N20 W78
	WENDEL	08	1151 E	S20 E58
	WENDEL	08	1255 F	N25 W57
	WENDEL	08	1259 E	N16 E00
	SAC PEAK	08	1546	S25 E83
*	SAC PEAK	08	1556	S15 W27
	SAC PEAK	08	1634	N11 E00
	SAC PEAK	08	2020	S16 W57
	SAC PEAK	08	2234	S14 W57
	HAWAII	08	2236	S19 W59
	HAWAII	08	2254	S17 W38
	HAWAII	08	2328	N18 E85
	HAWAII	09	0002	S15 E54
	HAWAII	09	0020	S20 W63
	WENDEL	09	0733 E	S20 W35
	WENDEL	09	0931 E	N12 W08
*	WENDEL	09	1049 E	S19 W38
	WENDEL	09	1108 F	N02 W19
	WENDEL	09	1211 E	S25 E71
*	WENDEL	09	1331 F	S14 W47
	WENDEL	09	1446 E	N22 E29
*	HUANCAYO	09	1448 F	S14 W42
	WENDEL	09	1451 F	S18 W64
	WENDEL	09	1513 F	S17 W68
	HUANCAYO	09	1515 F	S17 W66
	WENDEL	09	1535 F	N02 W19
	LOCKHEED	09	1834	S27 W42
	LOCKHFED	09	1838	S23 E72
	LOCKHEED	09	1919	S14 W48
	LOCKHEED	09	1922	S23 E72
	LOCKHEED	09	1922	S23 E72
	LOCKHEED	09	1922	S23 E72
	LOCKHFED	09	1928	S19 W72
*	HAWAII	09	1940	S17 W51
	LOCKHFED	09	2039	S14 W48
	HUANCAYO	09	2102	S19 W68
*	LOCKHFED	09	2147	S24 E76
*	HAWAII	09	2148	S22 E75
	LOCKHEED	09	2205	N32 E22
	HAWAII	09	2206	N30 E25
	LOCKHEED	09	2215	N32 E22
	WENDEL	10	0912 E	N17 W20
	WENDEL	10	0915 E	N22 E29
	WENDEL	10	1139 F	N20 E11
	WENDEL	11	0741 E	N07 E53
	LOCKHFED	11	1643	S14 W73
	LOCKHFED	11	1705	S18 E06
	LOCKHFED	11	1738	N14 E41
	LOCKHEED	11	1811	N09 E41
	LOCKHEED	11	2034	N11 E48
	LOCKHEED	11	2210	S21 E11
	LOCKHEED	11	2229	S23 E44
	LOCKHEED	11	2350	S18 W70
	LOCKHEED	12	1630	N15 E90
	LOCKHEED	12	1714	N15 E90
	SAC PEAK*	12	1718	N14 E90
	LOCKHEED	12	1732	N12 E28
	LOCKHEED	12	1814	N10 E60
	LOCKHFED	12	1839	N08 E29
	LOCKHEED	12	1950	N10 E60
	LOCKHEED	12	2023	N15 E90
	LOCKHEED	12	2113	N09 E28
	LOCKHEED	12	2139	N09 E28
	LOCKHEED	12	2143	N30 E16
	LOCKHEED	12	2151	S24 E29
	LOCKHEED	12	2326	N10 E25
	HAWAII	12	2334 F	N10 E25
	LOCKHEED	13	0020	S11 W90
	LOCKHEED	13	0031	S18 W90
	WENDFL	13	1041 F	N13 F21
	WENDEL	13	1056 F	N22 W23
	WENDFL	13	1056 F	S24 E24
	MCMATH	13	1430 F	N10 E09
	SAC PEAK	13	1602	N12 E22
	MCMATH	13	1645 F	N20 W26
	MCMATH	13	1742 F	N20 W26
	LOCKHEED	13	1815 E	N10 E48
	LOCKHEED	13	1904	N12 E20
	HAWAII	13	1906	N15 E18
*	LOCKHEED	13	1938	N14 E11
*	SAC PEAK	13	1940 E	N14 E12
	LOCKHEED	13	2050	N22 W30
	LOCKHEED	13	2250	N14 E10
	LOCKHEED	13	2250	N10 E16
	WENDFL	14	1236 E	N11 E11
	WENDFL	14	1253 F	N08 E13
	MCMATH	14	1638 F	N14 E04
	SAC PEAK	14	1640	N12 E06
	LOCKHEED	14	1714	N12 E08
	LOCKHFED	14	1735 U	N11 E41
	SAC PEAK	14	1738	N10 E38
	MCMATH	14	1738 F	N10 E40
*	MCMATH	14	1746	S24 E06
*	SAC PEAK	14	1746	S25 E05
	LOCKHFED	14	1908	N12 E07
	HAWAII	14	1918 E	N15 E05
	SAC PEAK	14	1922 E	N12 E07
	HAWAII	14	2038	N11 E05
	LOCKHEED	14	2040	N11 E06
	LOCKHFED	14	2058	N17 E01
	SAC PEAK	14	2102 F	N15 E02
	HAWAII	14	2104 F	N11 W04
	LOCKHEED	14	2141	N09 E10
	SAC PEAK	14	2142	N08 E10
	HAWAII	14	2146 E	N05 E08
	LOCKHEED	14	2205	N08 00
	LOCKHEED	14	2252	N13 E05
	LOCKHEED	14	2345	S24 E03
	WENDFL	15	1345 F	N26 W30
	MCMATH	15	1347	N22 W43
	WENDEL	15	1415 F	N13 W03
	MCMATH	15	1415 E	N12 W07
	LOCKHFED	15	1730	S18 W20
	SAC PEAK	15	1750	N09 E21
	LOCKHEED	15	1750	N09 E00
	LOCKHFED	15	1755	S16 W17
	LOCKHEED	15	1826	N16 W14
	LOCKHFED	15	1830	N25 W47
	LOCKHFED	15	1842	N25 W47
	LOCKHFED	15	2041	N21 W55
	LOCKHFED	15	2053	N25 W50
	LOCKHFED	15	2120	N11 W09
	LOCKHFED	15	2155	N19 W03
	SAC PEAK	15	2158	N18 W03
*	SAC PEAK	15	2242	S26 W13
*	LOCKHEED	15	2244	S25 W12
	LOCKHEED	15	2336	N21 W58
	LOCKHEED	16	0011	N24 W54
	LOCKHEED	16	1729	S21 W70
	LOCKHEED	16	1729	N21 W70
	LOCKHEED	16	1733	N12 W26
	LOCKHEED	16	1821	N16 W26
	LOCKHEED	16	1831	N21 W70
	LOCKHEED	16	1848	N20 W71
	LOCKHFED	16	1959	N21 W70
	LOCKHFED	16	1959	N21 W70
	LOCKHFED	16	2047	N21 W70
	LOCKHFED	16	2047	N21 W70
	LOCKHFED	16	2136	N21 W70
	LOCKHFED	16	2140	S07 W27
	LOCKHEED	16	2225	N24 W60
	LOCKHEED	16	2229	N21 W70
	LOCKHEED	17	1850	N19 W39
	LOCKHEED	17	2050	N21 W90
	LOCKHEED	17	2100	N12 W01
*	SAC PEAK	17	2126 U	N09 W01
	SAC PEAK	18	1508	N18 W31
	LOCKHEED	18	1616 E	N28 W50
	LOCKHFED	18	1645	N28 W34
	HAWAII	18	1922	N05 W22
	HAWAII	18	2034	N15 W56
	LOCKHEED	18	2048 U	N24 W90
	HAWAII	18	2114	N12 W30
	LOCKHFED	18	2356	N24 W90
	LOCKHFED	19	1543 F	N11 W59
	SAC PEAK	19	1558 F	N10 W59
	LOCKHFED	19	1632	N10 F90
	LOCKHFED	19	1750	N10 E90
	LOCKHFED	19	1830	N10 E77
	LOCKHEED	19	1830	N10 E77
	LOCKHEED	19	1945	N11 W59
	LOCKHEED	19	2014	N10 W30
	LOCKHFED	19	2038	N11 E90
	HAWAII	19	2140 F	S05 W65
	LOCKHEED	19	2141	N11 E90
	LOCKHFED	19	2230	N11 F90
	LOCKHEED	19	2305	N21 W90
	LOCKHEED	19	2309	N11 E90
	LOCKHEED	19	2347	N21 W90
	LOCKHEED	20	1730	N08 E69
	LOCKHEED	20	1730	N08 E69
	LOCKHEED	20	1730	N08 E69
	LOCKHEED	20	1845	N10 W75
	LOCKHEED	20	1907	N08 E69
	SAC PEAK	20	1908	N06 E68
	LOCKHFED	20	1943	N10 W75
	MCMATH	20	2007 E	N16 W55
	LOCKHFED	20	2019	N10 W75
	LOCKHFED	20	2042	N08 E69
	LOCKHFED	20	2045	N10 W75
	LOCKHFED	20	2123	N08 E69
	LOCKHFED	20	2200	N08 E69
	LOCKHEED	20	2212	N10 W75
	LOCKHEED	20	2212	N10 W75
	LOCKHEED	20	2347	N08 E69
	WENDEL	21	1031 F	N07 E58
*	WENDEL	21	1417 E	S19 E43
	WENDEL	21	1431 F	S19 E43
	SAC PEAK	21	1508	N04 E57
	WENDEL	21	1525 F	N07 F54
	LOCKHFED	21	1700 U	N05 F55
	LOCKHFED	21	1722	N06 E58
	SAC PEAK	21	1752	N06 E58
	LOCKHFED	21	1753	N06 E36
	LOCKHFED	21	1753	N06 E36
	LOCKHEED	21	1820	N06 E58
	LOCKHEED	21	1855	N06 E36
	LOCKHEED	21	1855	N06 E36
	LOCKHFED	21	1907	N27 F07
	LOCKHEED	21	2148	N12 E90
	LOCKHEED	21	2250	N07 E52
	SAC PEAK	22	1602	N28 W05
	LOCKHFED	22	1635 U	N04 E41
	LOCKHEED	22	1638	N28 W05
	LOCKHEED	22	1732	N10 E42
	LOCKHEED	22	1746	N05 F41
	LOCKHEED	22	1746	N05 E41
	LOCKHEED	22	1826	N05 E41
	LOCKHEED	22	2020	N10 E65
	LOCKHEED	22	2214	N10 E42
	LOCKHEED	22	2315	N06 E34
	LOCKHEED	22	2315	N06 E34
	HUANCAYO	23	1448	N22 W18
	LOCKHEED	23	1816	N05 E29
	LOCKHEED	23	1830	N08 E28
	LOCKHEED	23	2125	N08 E48
	LOCKHEED	23	2125	N08 E48
	LOCKHFED	23	2218	N10 E27
	LOCKHEED	23	2315	N07 E48
	LOCKHFED	23	2315	N07 W48
	HAWAII	23	2340	N16 E45
	HAWAII	23	2344	N16 E45
	LOCKHFED	24	0012	N07 E47
	HAWAII	24	0014	N16 E45
	LOCKHFED	24	0030	S21 E13
	HAWAII	24	0104 E	S18 E17
	HAWAII	24	0146 E	N21 W31
*	WENDEL	24	1444 F	N09 E18
*	MCMATH	24	1445	N06 E15
*	MCMATH	24	1512 F	N09 E17
	MCMATH	24	1628	N08 E16
	LOCKHFED	24	1809	N06 F37
	LOCKHFED	24	1825	N08 F09
	MCMATH	24	1842	N07 E12
	HAWAII	24	1844	N09 E07
	LOCKHFED	24	1911	N07 E37
	LOCKHEED	24	2125	N06 E34
	LOCKHEED	24	2222	N07 E13
	LOCKHEED	24	2242	N07 E13
	LOCKHEED	24	2242	N07 E13
	LOCKHEED	24	2307	S20 E00
	LOCKHEED	24	2347	N12 E33
	LOCKHFED	25	1701	N13 E25
	LOCKHEED	25	1701	N13 E25
	SAC PEAK	25	2038	N11 E22
	ARCETRI	26	0916 F	S20 W21
	SAC PEAK	26	1612	N10 W07
	SAC PEAK	26	2206 E	N06 E11
	MEUDON	27	0830	S05 E53
	LOCKHEED	27	2215	S26 E76
*	WENDEL	28	1023 E	N09 W04
	SAC PEAK	28	1442	N07 W15
	MEUDON	28	1532	N22 E20
	SAC PEAK	28	1534	N25 E18
	SAC PEAK	28	1542	N08 W16
	SAC PEAK	28	1640	S21 W52
	SAC PEAK	28	1848	N24 E16
	SAC PEAK	28	1934	N24 E16
	SAC PEAK	28	2116	N23 E15
	SAC PEAK	28	2154	N24 E14
	WENDEL	29	0829 E	N22 E08
	WENDEL	29	1029 E	N22 E07
	HUANCAYO	29	1425 E	S24 W63
	SAC PEAK	29	1722	S25 E54
	HUANCAYO	29	2020	S22 W65
	HAWAII	29	2038	S08 E43
	HUANCAYO	29	2039	S17 E43

* Rated as flare of importance ≥ 1 by other observatories (See CRPL-F 187 Part B)

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OBSERVATORY	DATE DEC 1959	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
PIRCULI	01	1056 E	1112 D	1107 U	N08	W04	5476	16 D	2	3	1107	7.28	7.43		75	
GOOD HOPE	01	1147	1227	1157	N12	E01	5476	40	1		1157	2.80	2.80			
CLIMAX	01	1522 E	1616		N09	W07	5476	54 D	1		1531	3.40				Slow S-SWF
CLIMAX	01	1641	2035	1709	N09	W04	5476	234	1		1709	3.10				S-SWF
NIZAMIAH	02	0510 E	0517 D		N08	W11	5476	7 D	1+	1	0510	3.65	3.75	2.00		Slow S-SWF
GOOD HOPE	02	0647	0713	0652	N18	W32	5471	26	1		0652	2.40	3.00			
GOOD HOPE	02	0712	0805	0717	N08	W15	5476	53	1		0717	2.60	2.70			
PIRCULI	02	0750 E	0851	0819	N06	W05	5476	61 D	2	3	0819	8.64	8.82		72	
PIRCULI	02	0750 E	1006	0755	N08	W06	5476	136 D	2	3	0755	6.37	6.83		97	
PIRCULI	02	0808	0835	0820 U	S01	W07	5476	27	1+	3	0820	2.36	2.41		73	
GOOD HOPE	02	1052	1113	1057	N08	W17	5476	21	1		1057	2.10	2.20			
PIRCULI	03	0715	0743	0725	S13	E67	5482	28	2	3	0725	2.94	7.48		84	
PIRCULI	03	0755	0825	0805 U	N12	E30	5478	30	1	3	0805	3.72	4.49		62	
PIRCULI	03	0800	0840	0815	N09	W29	5476	40	1	3	0815	3.68	4.26		63	
PIRCULI	03	0814 E	0852 D	0842 U	N13	W24	5476	38 D	1	3	0842	2.85	3.19		54	
CLIMAX	03	1757	1803 D		N08	W35	5476				1802					S-SWF
CLIMAX	03	2144	2213		N08	W35	5476				2148					
VOROSHILOV	04	0120	0129	0126	N07	W41	5476	9	1+	1	0126	5.11	6.69		69	
VOROSHILOV	04	0325	0343	0329	N09	E18	5478	18	1	1	0329	2.51	2.67		67	
VOROSHILOV	04	0340	0359	0350	N07	W42	5476	19	2	1	0350	3.94	5.27		80	
ALMA-ATA	04	0732	0807	0753	N10	W34	5476	35	1	1	0753	1.28	1.80		54	
ALMA-ATA	04	0732	0831 D	0823	N10	W40	5476	59 D	1	1	0823	1.65	2.30		66	
TASHKENT	04	0735 E	1005 D	0756	N05	W38	5476	150 D	2	3	0759	12.75	17.00	2.60	80	S-SWF?
ALMA-ATA	04	0749	0831 D	0801	N09	W43	5476	42 D	1	1	0801	2.63	3.30		59	
KRASNYA	04	0808 E	0930 D	0814	N05	W33	5476	82 D	2	2	0814	16.20	18.00		100	
KODAIKNL	04	0845 E	0920 D	0855	N07	W36	5476	35 D	2	2	0845	11.00	13.80	1.50	122	
VOROSHILOV	05	0033	0050	0036	N10	W02	5478	17	1+	2	0036	2.32	2.39		80	
VOROSHILOV	05	0109 E	0137 D	0121	N09	W02	5478	28 D	1+	2	0121	2.41	2.46		80	
VOROSHILOV	05	0220 E	0300 D	0235	N21	W26	5477	40 D	1	2	0235	2.69	3.22		72	
VOROSHILOV	05	0226	0238	0229	N09	W02	5478	12	1+	2	0229	2.69	2.82		81	
VOROSHILOV	05	0243	0254	0244	N13	W48	5476	11	1+	2	0244	1.52	2.31		102	
NIZAMIAH	05	0345 E	0356 D		N09	W52	5476	11 D	1	2	0345	1.82	3.02	1.50		
NIZAMIAH	05	0407 E	0416 D	0411	N03	W11	5478	9 D	1+	2	0411	2.43	2.47	1.80		
TASHKENT	05	0616 E	0630 D	0622	N08	E04	5478	14 D	1	3	0625	5.01	5.00	2.60	130	S-SWF
GOOD HOPE	05	0948	1023	1003	N10	W06	5478	35	1		1003	2.80	2.80			
KRASNYA	05	0959	1019	1004	N10	W06	5478	20	1+	2	1004	5.84	6.00		90	S-SWF
MOSCOW G	05	1005 E	1024 D		N10	W06	5478	18 D	1+	1	1009	5.25	5.36	2.19	100	
GOOD HOPE	05	1024	1032	1025	N12	W49	5476	8	1		1025	1.40	2.20			
GOOD HOPE	05	1215	1250	1221	N11	W08	5478	35	2		1221	5.40	5.60			S-SWF
SYDNEY	05	2320	2334	2323	N11	W13	5478	14	1	1	2323	2.00	2.00			
SYDNEY	05	2342	2349	2345	N08	W08	5478	7	1	2	2345	3.00	3.50			
VOROSHILOV	06	0008	0032	0010	N11	W06	5478	24	1+	3	0010	3.10	3.24		85	
SYDNEY	06	0008	0037	0012	N10	W04	5478	29	2	2	0012	7.00	8.00			
GOOD HOPE	06	0626 E	0632		N08	W72	5476	6 D	1		0626	.90				
ALMA-ATA	06	0628 E	0654	0631	N12	W08	5478	26 D	1	3	0631	5.56			66	
ALMA-ATA	06	0629 E	0719	0632	N11	W11	5478	50 D	1	3	0632	1.23	1.30		68	
GOOD HOPE	06	0630	0703	0632	N12	W09	5478	33	1		0632	2.90	3.00			
PIRCULI	06	0640	0655	0643 U	N11	W09	5478	15	1+	2	0643	5.14	5.35		77	

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OBSERVATORY	DATE DEC 1959	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
GOOD HOPE	06	0748	0810	0751	N07	W76	5476	22	2		0751	2.80				
PIRCULI	06	0825	0841	0832	N06	W70	5476	16	1	2	0832	1.37	3.95		63	
PIRCULI	06	0936	0954	0941	N11	W20	5478	18	1	2	0941	1.29	1.40		66	
SYDNEY	06	2225	2234	2228	N15	W60	5476	9	1	1	2228	1.00	2.00			
VOROSHILOV	07	0302 E	0314 D		N15	W19	5478	12 D	1+	2	0312	3.32	3.60		80	
GOOD HOPE	07	0633 E	0709 D		N07	W78	5476	36 D	1		0633	.70				
GOOD HOPE	07	0940	1040	1001 U	N15	W26	5478	60	1		1001	2.50	2.80			
KRASNYA	07	1032 E	1100 D	1039	N08	W31	5478	28 D	1	2	1039	8.10	9.00		75	S-SWF
KHARKOV	07	1035	1120		N05	W33	5478	45	2	2	1038	11.30	14.00	2.00		
GOOD HOPE	07	1036	1116	1044	N08	W32	5478	40	1		1044	3.90	4.70			
CLIMAX	07	1636			N12	W37	5478				1645					
CLIMAX	07	1902	2002	1912	N09	W37	5478	60	1		1912	2.20				
CLIMAX	07	2135	2240 D		N06	W39	5478				2143					
VOROSHILOV	08	0116	0204	0120	N14	W40	5478	48 D	2	2	0120	4.21	5.63		90	S-SWF
ATHENS	08	0747	0829		N12	W42	5478	42	2	4		6.00	8.20			S-SWF
GOOD HOPE	08	0752	0839	0756	N13	W45	5478	47	2		0756	3.90	5.80			
SYDNEY	09	0429	0444	0432	N15	W57	5478	24	1	3	0432	1.50	2.00			
SYDNEY	09	0453	0502	0458	N15	E78	5491	9	1	2	0458	.50	2.00			
SYDNEY	09	0554	0658		N05	W50	5478	64	2	2	0644	6.00	10.00			
ATHENS	09	0737 E	0807		N06	W54	5478	30 D	1	3		1.70	2.90			
GOOD HOPE	09	1313	1323 D	1319	N12	W55	5478	10 D	1		1319	1.40	2.60			
SYDNEY	10	0102	0150	0132	N15	W68	5478	48	2	3	0132	2.50	6.00			
SYDNEY	10	0332	0351	0340	N20	W54	5478	19	1	3	0340	1.50	3.00			
SYDNEY	10	0512	0537 D	0518	N15	W70	5478	25 D	2+	2	0518	5.00	12.00			S-SWF
ATHENS	10	0743	0748		N08	W63	5478	5	1+	3		1.70	3.60			
GOOD HOPE	10	1221	1253	1234	N09	W19	5484	32	1		1234	2.60	2.80			
GOOD HOPE	10	1512	1533 D	1519	N15	W79	5478	21 D	1		1519	1.50				
KHARKOV	11	0910 E	0955 D	0932	S17	W44	5482	45 D	2	2	0932	11.30	17.80	2.00		
GOOD HOPE	11	0923 E	0957	0929 U	S16	W44	5482	34 D	2		0929	3.70	5.30			
KRASNYA	11	0928 E	0942 D	0930	S03	E73	5494	14 D	1+	2	0930	4.49	20.00		65	
SYDNEY	11	2234	2258	2243	N14	W40	5483	24	1	2	2243	2.00	2.00			
VOROSHILOV	13	0227	0243	0228	N15	E24	5491	16	1	1	0228	1.86	2.15		71	
SYDNEY	13	0227	0245	0229	N15	E22	5491	18	1	2	0229	2.00	2.00			
SYDNEY	14	0022	0057	0033	N19	W72	5483	35	2	3	0033	2.00	7.00			
VOROSHILOV	14	0338	0349	0340	N18	W76	5483	11	1+	1	0340	1.96	6.97		65	
VOROSHILOV	15	0209 E	0239	0230	S17	W80	5482	30 D	1	1	0230	.52	2.18		66	
VOROSHILOV	15	0343	0348 D	0345	S18	E90	5500	5 D	1+	1	0345	.43	3.09		80	
GOOD HOPE	15	0918	0937	0920	N10	W86	5484	19	1		0920	.30				
NIZAMIAH	16	0600	0611	0605	N07	W57	5495	11	1+	2	0605	1.82	3.44	2.00		
SYDNEY	17	0358	0436	0412	S08	W37	5490	38	2	3	0412	4.00	5.00			Slow S-SWF
NIZAMIAH	17	0401	0415	0406	S06	W34	5490	14	1+	2	0406	1.82	2.19	2.10		
PIRCULI	17	0810	0826	0816	S12	E06	5494	16	1	1	0816	3.21	3.38		55	
TASHKENT	18	0602 E	0614 D		N24	E65	5502	12 D	1	2	0607	1.45	5.00	2.40	65	

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TASHKENT	18	0636 E	0700 D	0638	S07	W53	5490	24 D	1+	2	0639	2.55	4.00	4.30	80	S-SWF
SYDNEY	19	0013	0019 D		S10	W62	5490	6 D	1	2	0018	1.00	2.00			
NIZAMIAH	19	0337	0400	0345	S08	W63	5490	23	1+	2	0345	1.82	4.02	2.20		S-SWF
SYDNEY	19	0343	0405	0345	S08	W62	5490	22	1	2	0345	1.50	4.00			
SYDNEY	19	0415	0423		N24	E56	5502	8	1	1	0419	1.50	3.00			
GOOD HOPE	19	1039	1112	1042	S04	W32	5494	33	1		1042	1.70	2.00			
SYDNEY	20	0009	0013 D		N23	E42	5502	4 D	1	3	0013	1.50	2.00			
VOROSHILOV	20	0012	0029	0015	N22	E42	5502	17	1	2	0015	3.22	4.78		66	
VOROSHILOV	20	0048	0110	0058	S10	W80	5490	22	2	2	0058	1.35	5.44		87	
SYDNEY	20	0111	0125	0115	N23	E41	5502	14	1	3	0115	2.50	4.00			
VOROSHILOV	20	0112	0121	0114	N22	E41	5502	9	1	2	0114	2.33	3.47		76	
SYDNEY	20	0131	0152	0144	N10	W06	5497	21	1	2	0144	2.00	2.00			
VOROSHILOV	20	0132	0152	0134	N10	W06	5497	20	1	2	0134	3.41	3.52		68	
VOROSHILOV	20	0144	0228	0201	S17	E21	5500	44	1	2	0201	1.97	2.20		68	
SYDNEY	20	0333	0349	0336	N22	E40	5502	16	1	3	0336	1.50	2.00			
ALMA-ATA	20	0608	0628	0616	S18	E20	5500	20	1	2	0616	2.63	2.90		48	
ALMA-ATA	20	0732	0802 D	0754	N11	E24	5501	30 D	1+	2	0754	5.61	6.40		50	
GOOD HOPE	20	0749	0806	0754	N10	E23	5501	17	1		0754	2.30	2.50			
CLIMAX	20	1605			N04	W46	5493				1615					
VOROSHILOV	21	0043	0350 D	0049	S05	W55	5494	7 D	2	2	0049	3.58	5.98		80	
SYDNEY	21	0053 E	0122		S04	W51	5494	29 E	2	1	0053	6.00	10.00			
VOROSHILOV	21	0139	0147	0140	N15	W85	5491	8	1+	2	0140	.90	4.44		81	
SYDNEY	21	0143	0159		N24	E26	5502	16	1	1	0147	4.00	5.00			
VOROSHILOV	21	0144	0213	0146	N24	E30	5502	29	1+	2	0146	3.10	3.92		93	
SYDNEY	21	0219	0250 D	0226	N20	E33	5502	31 D	1	1	0226	2.00	3.00			
VOROSHILOV	21	0316	0344	0318	N10	E12	5501	28	1	1	0318	2.86	2.94		78	
ALMA-ATA	21	0500 E	0610 D	0508	S13	E12	5500	70 D	1	2	0508	3.61	3.90		49	
ALMA-ATA	21	0500 E	0610 D	0508	N10	E09	5501	70 D	1	2	0508	1.33	1.40		47	
VOROSHILOV	24	0341	0434	0356	N25	W10	5502	53	1+	2	0356	2.86	3.32		84	Slow S-SWF
SIMEIZ	25	0858 E	0858		N25	W28	5502		1	1	0849	4.62	5.90	2.40		
GOOD HOPE	25	1303	1308 D	1305 U	S17	W57	5500	5 D	1		1305	1.20	2.30			
GOOD HOPE	25	1338 E	1405		N28	E62	5509	27 D	1		1339	1.30	3.60			
VOROSHILOV	27	0023	0039	0025	S19	W76	5500	16	1	2	0025	.72	2.28		74	
GOOD HOPE	27	0729	0736	0731	N03	W48	5501	7	1		0731	1.70	2.50			
GOOD HOPE	27	0834	0913	0837	S19	W85	5500	39	1		0837	.60				
GOOD HOPE	27	1021	1035	1025	N11	E58	5511	14	1		1025	1.70	3.30			
GOOD HOPE	27	1135	1202	1140	S18	W87	5500	27	1+		1140	2.20				
ALMA-ATA	28	0500 E	0800 D	0708	N09	W32	5505	180 D	1+	2	0708	6.59	8.10		48	
SYDNEY	29	0011	0027	0013	N20	E54	5513	16	1	2	0013	2.00	3.50			
NIZAMIAH	29	0320 E	0330 D		N07	W41	5505	10 D	1	1	0320	1.82	2.44	1.50		
ALMA-ATA	30	0516 E	0800 D	0735	N10	W60	5505	164 D	2	2	0735	6.28	13.70		49	
SYDNEY	31	0354	0401 D	0357	N20	W66	5506	67 D	1	2	0357	1.50	4.00			
PIRCULI	31	0725	0810	0745 U	S10	E62	5514	45	1	3	0745	1.84	3.71		52	

SOLAR FLARES

DECEMBER 1959

OBSERVATORY	DATE DEC 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GOOD HOPE	31	0854	0920	0858	S26	E82	5515	26	1		0858	•90				

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the December 1959 flares published in CRPL-F 185 Part B, January 1960.

CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNAL	KODAIKANAL
KRASNYA	KRASNAYA PAKHRA
LOCKHEED	LOS ANGELES
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK	SACRAMENTO PEAK
SCHAUINS	SCHAUINSLAND
USNRL	UNITED STATES NAVAL RESEARCH LABORATORY

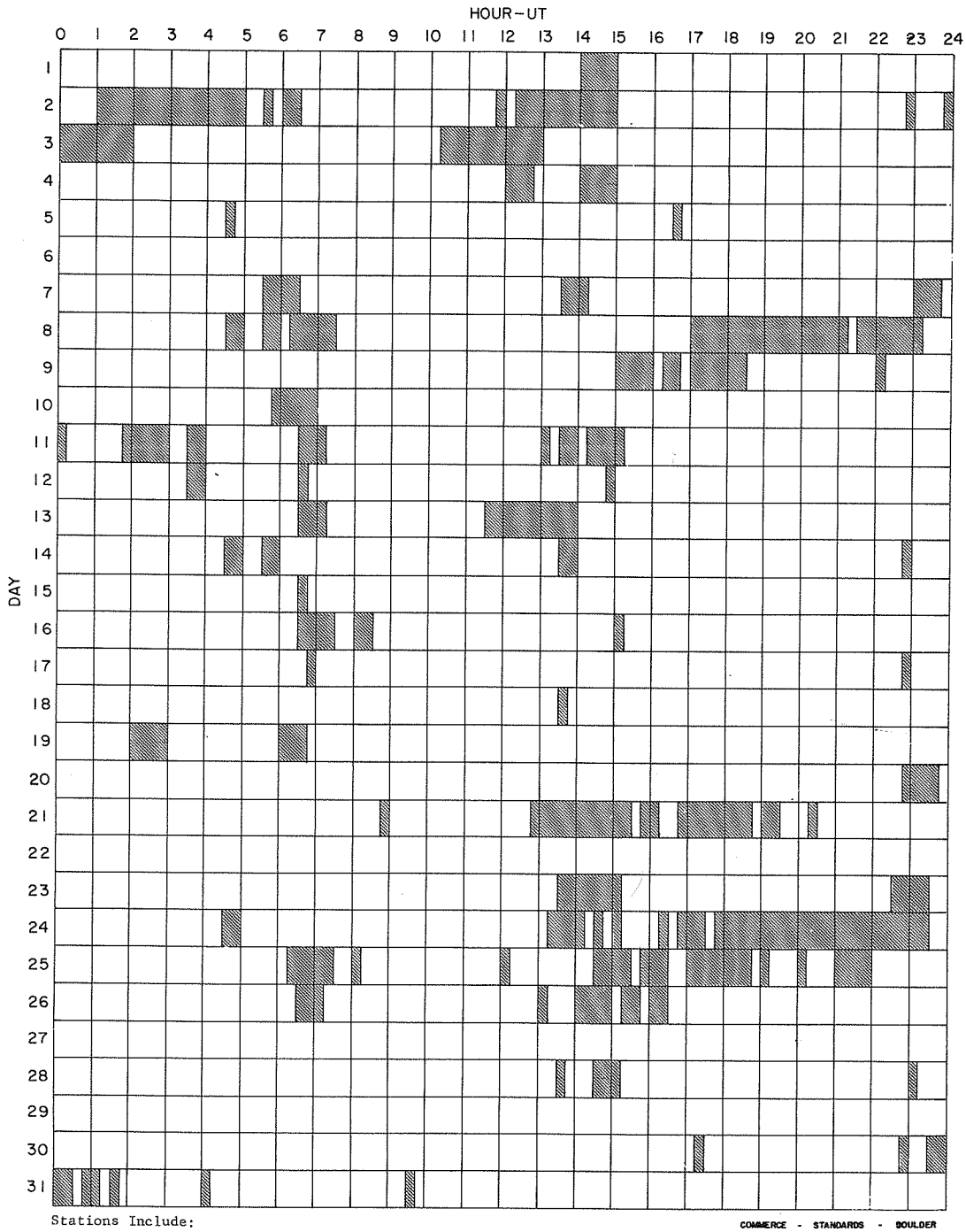
SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

DECEMBER 1959



Stations Include:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Arosa
Athens
Climax
Dunsink
Good Hope
Hawaii
Huancayo
Kharkov
Kiev GAO
Kodaikanal
Krasnaya Pakhra
Locarno
Lockheed
McMath
Meudon
Mitaka
Nizamiah
Ondrejov
Pirculi
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Simeiz
Sydney
Tashkent
Voroshilov
Zurich

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

FEBRUARY 1960

Feb. 1960	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 187B
3	0825	0842	S-SWF	5	2	NE, OK, PU, RCA*, CW***	0818E
3	0945	1009	S-SWF	1	1	NE	0943E
3	1228	1306	Slow S-SWF	5	1+	DA, HU, NE, PR	1210E
3	1708	1820	S-SWF	5	2+	BE, FM, HU, LA, MC, NE, PR, SW, WS, CW***	1708
3	2020	2100	Slow S-SWF	5	2-	AD, BE, FM, HU, LA, MC, PR, WS	2015
3	2345	0008	S-SWF	5	1+	CA, LA, OK, TO	*
4	0118	0155	S-SWF	1	1+	OK	*
4	0747	0805	S-SWF	5	1+	KO, NE	*
4	1309	1340	Slow S-SWF	5	1	HU, NE, PR	1336E
4	1641	1718	Slow S-SWF	4	1+	HU, MC, PR	1636
4	2038	2053	S-SWF	5	1+	BE, HU, LA, MC, PR, WS	
5	1349	1412	Slow S-SWF	5	2-	BE, DA, HU, MC, NE, PR, PU, SW	*
6	0303	0440	Slow S-SWF	1	3	OK	*
6	1226	1232	S-SWF	1	1	NE	1227E
6	1349	1430	Slow S-SWF	5	1+	NE, PR	*
7	1607	1623	S-SWF	4	1-	LA, HU, MC, PR	
10	0420	0513	S-SWF	1	1+	OK	*
13	2000	2035	Slow S-SWF	5	1	AD, AN, FM, HU, LA, MC, PR	2002
18	0103	0254	S-SWF	5	3+	AD, AN, OK	*
20	0218	0408	Slow S-SWF	5	3+	AD, AN, OK	*
22	1358	1440	S-SWF	5	3-	BE, BR, DA, HU, MC, NE, OK, PR, SW, RCA*, CW***	1424E
23	0553	0637	Slow S-SWF	1	2	OK	*

CA = Canberra, Australia
BR = Breisach, G.F.R.
DA = Darmstadt, G.F.R.
KO = Kodaikanal, India
LA = Los Angeles, Calif.
LI = Lindau, G.F.R.
NE = Nederhorst den Berg, Netherlands
PU = Prague, Czechoslovakia
RCA = Radio Corporation of America, Tangiers, Morocco
TO = Hiraiso Radio Wave Observatory, Japan
CW* = Cable and Wireless, Barbadoes
CW** = Cable and Wireless, Somerton, England
CW*** = Cable and Wireless, Brentwood, England

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc.)

DECEMBER 1959

Dec. 1959	CLASS SCNA	CLASS SEA	CLASS Burst	WIDE-SPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
1		1		1	1518		1540		NE
1			1	5	1651		1700		BO, MC, SP
1	3		5	5	1705	1712	1815	75	BO, MC, SP
1		3		5	1705	1712	1755		A3, A5, BO, DU, HA, SP
2		1		1	1054		1130		NE
2		1		5	1247	1253	1340		A3, A5, DU, NE, PA
3		3		3	1019	1029	1115		DU, NE
3		2		1	1413		1458		NE
3		3		5	1757	1812	1945		A1, A3, A5, BO, DU, NE, SP
3	3			5	1758	1812	1920	65	BO, HA, MC, SP
3			1	5	2318		2321		BO, HA
4		3		5	1819	1830	2000		A3, A5, BO, DU, SP
4	2			5	1821	1827	1925	40	BO, HA, MC, SP
5		2		3	1003		1030		NE, PU
5		2		5	1220	1227	1247		DU, NE, PA, PU
5		1+		1	1618	1632			A1
7		3		1	0436		0606		TO
7		□		1	0931	0934	1005		DU
7	1			1	2138	2145	2215	25	HA
10	□			1	0518				SY
11			1	5	1708		1710		HA, MC, SP
17		3		1	0402		0507		TO
17	1			1	2147	2150	2205	20	HA
17		2		5	2148	2158			BO, HA
19		1		1	1043		1100		NE
22		3		3	1345U	1355	1433		A1, A3, A5
24		2		3	1338	1352	1420U		A1, A3, A5
24		2-		3	1634	1658	1730U		A1, A5
31			1	5	1940		1943		BO, HA

SY = Sydney, Australia
TO = Hiraiso Radio Wave Observatory, Japan

JANUARY 1960

Jan. 1960	CLASS SCNA	CLASS SEA	CLASS Burst	WIDE SPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
2			1	1	1540	1551	1612		RE
3			1	1	1303	1309	1317		RE
3			1	1	1325	1327	1329		RE
3			1	1	1350	1357	1358		RE
3	1			1	1815	1825	1850	20	BO
3		1		4	1815	1840	1905		A6, BO
7		1		3	1253		1328		KU, NE
7		1		3	1506		1536		DU, NE
11		1		5	2050	2115			BO, HA
11			1	5	2055		2104		BO, HA
11	1			5	2104	2115	2140U	20	BO, HA
12		2		5	1513	1532	1600		A3, A5, DU
13		1		5	1445	1450	1503		A5, NE
13		2		3	1510	1533	1605		A1, A5
13	1			5	1849	1852	1910	20	BO, HA, SP
13		2		5	1850	1900	2000		A1, A3, A5, BO, HA
15		2		5	1345		1420		A1, A3, A5, DU, NE, PA
15	1			3	1730	1737	1750	15	BO, SP
15		1		4	1733	1737	1820U		A3, BO
16		2		5	2243	2257	0000		BO, HA
16	2			5	2246	2251	2310	40	BO, HA, SP
17		2		3	1615	1633	1710U		A1, A5, A6
19	1			5	1942	1947	2005	10	BO, HA, MC, SP
19		2		5	1942	2000	2100U		A2, BO
22		2		3	1648	1705	1735		A1, A5
22	1			5	1955	2000	2005	10	BO, HA
23		1		1	1348		1408		NE
24		1		3	1308		1333		KU, NE
25		1		1	1032		1058		NE
25		1		1	1715	1730	1820U		BO
25	1			3	1716	1722	1745	20	BO, SP
30	1			5	2020	2030	2105	15	BO, HA, SP
30		1+		5	2020	2035	2145		A1, A5, BO
30			2	1	2051	2104	2107		RE
31		1		5	1429	1437	1505		A1, A3, A5, NE

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

Ottawa MARCH 1960 **2800 Mc**

Mar. 1960	Type*	Start UT	Duration Hrs:Mins	Maximum Time UT	Maximum Peak Flux	Remarks
1	2 Simple 2	1239.5	4	1241.5	8	
1	2 Simple 2 f	1724.3	1	1724.5	36	
1	2 Simple 2 f	1919	7	1921	>140	
2	2 Simple 2	1622	3	1622.4	22	
4	3 Simple 3 A	2038	>1 52	2145	7	
	6 Complex	2043	8	2044.2	12	
7	3 Simple 3 A	1750	2 30	1845	12	
	6 Complex	1812	13	1818	16	
10	2 Simple 2 f	1717	7	1718.5	335	
18	2 Simple 2	2122	2	2122.5	16	
21	2 Simple 2	2120	1	2120.5	8	
28	6 Complex f	2047.7	1 10	indet.	>885	
	4 Post Increase		>1		30	
29	6 Complex f	2038	42	2109	40	
30	6 Complex f	1518	3 40	1556	1750	
	4 Post Increase		3 10		20	
31	1 Simple 1	1619	5	1620.3	7	

COMMERCE - STANDARDS - BOULDER

HOURS OF OBSERVATION: JANUARY - MARCH 1960

OBSERVING PERIOD:
January 1330 UT - 2120 UT (approx.)
February 1245 UT - 2200 UT (approx.)
March 1220 UT - 2245 UT (approx.)

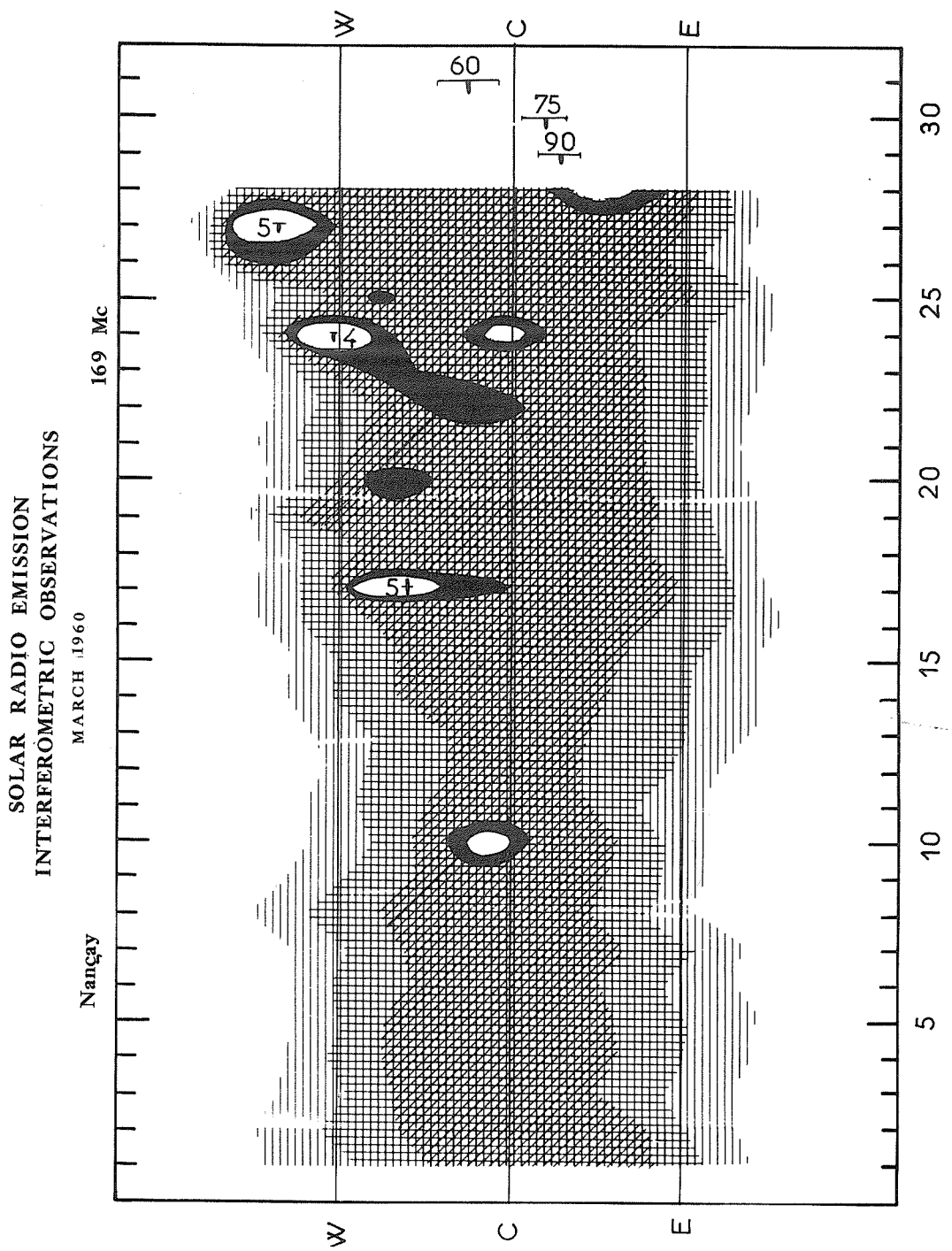
with the following exceptions:

(1) No observations: January 1 - all day
March 26 - all day
27 - all day
31 - 1415 - 1535

(2) Observations commenced:
January 28 - 1615
February 8 - 1555
23 - 1525
24 - 1455
March 28 - 1515

(3) Observations ended:
February 7 - 1815

(4) Continuous observations on all days have been interrupted for receiver calibration and by sporadic interference.


SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS
MARCH 1960
Nançay
169 Mc
W
C
E
60
75
90
5T
T4
5T
5
10
15
20
25
30
MARCH 1960

Note:

The interferometric observations on 169 Mc at Nançay will be interrupted at the end of the month of April for maintenance work. After an approximate delay of 8 days the E-W interferometer will again be in use, and after a month the N-W interferometer.

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

MARCH 1960

BOULDER

167 MC

Mar. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	3	1921.0	1921.2	0.5	3
1	3	1923.6	1923.6	0.2	3
1	3	1925.0	1926.0	1.0	3
5	3	1512.7	1512.7	0.1	2
6	3	2321.0	2321.0	0.2	1
7	3	2121.0	2121.1	0.2	2
8	3	0023.6	0024.5	0.9	3**
8	3	1714.2	1714.2	0.1	1
8	2	1859.4	1900.4	1.0	2
8	3	1915.5	1915.5	1.0	1
8	3	1917.0	1917.3	1.0	3
8	3	2003.7	2003.7	0.1	2
8	3	2015.0	2015.8	1.0	2
8	3	2243.6	2243.6	0.2	2
8	3	2351.0	2351.0	0.1	2
9	3	0017.9	0017.9	0.3	2**
9	2	0022.0	0025.0	3.0	2**
9	3	1615.9	1616.9	1.6	3
9	3	1652.1	1652.7	1.0	2
9	3	2021.8	2022.5	1.2	2
10	3	1412.0	1412.0	0.1	2
10	3	1506.5	1506.8	0.6	2
10	3	1551.0	1551.0	0.1	1
10	8	1717.5	1718.2	9	3
10	3	1733.9	1733.9	0.1	2
10	3	1747.0	1747.2	0.8	2
10	3	2049.5	2049.5	0.1	2
10	3	2239.9	2239.9	0.1	1
10	3	2249.0	2249.0	0.3	2
10	2	2253.0	2254.8	1.8	1
10	3	2306.3	2306.3	0.1	1
11	3	0006.3	0006.3	0.7	2**
11	3	0029.0	0029.0	0.1	2**
11	3	1947.0	1948.6	2.0	3
16	6	1310 E		330 D	1
16	3	1453.1	1453.1	0.1	2
16	3	1506.0	1506.0	0.1	2
16	3	1805.4	1805.4	0.2	1
16	3	2016.0	2016.0	0.1	2
16	3	2356.5	2356.5	0.1	2
17	3	1349.5	1349.5	0.2	2*
17	2	1354.0	1354.6	0.9	2*
17	7	1623		301	2
17	2	2009.5	2010.7	1.5	3
19	8	1519.0	1519.9	1.9	2
19	8	2118.6	2119.0	2.4	2
20	3	2318.6	2318.6	0.2	2
22	2	1308	1315	8	2*
22	3	1324.9	1324.9	0.1	2*
22	3	1456.9	1456.9	0.2	2
22	3	1504.5	1504.5	0.5	2
22	3	1535.4	1536.0	0.4	2
22	3	1723.0	1723.0	0.1	2
22	7	1808	1945	257	2
22	3	0047.4	0047.4	0.1	2**
23	6	1258 E	1524	722 D	3
24	6	1256 E	1533	726 D	2
24	3	1321.6	1322.0	1.1	3*
24	3	1622.0	1623.0	1.3	3
24	8	1949.0	1951.0	3.9	3
24	3	2200.6	2201.0	1.0	3
25	8	1404.7	1407.0	3.2	3
25	3	1454.0	1454.0	0.2	2
25	3	1639.0	1639.0	1.0	2
25	3	1852.2	1853.0	0.8	2
25	3	2009.0	2009.0	0.2	2
25	8	2013.0	2013.8	2.0	2
25	3	2043.5	2043.5	0.1	2
25	3	2115.6	2116.0	0.7	2
25	3	2333.0	2333.0	0.5	2
26	3	1539.0	1539.4	1.0	3
26	3	1542.7	1542.7	0.1	2
26	8	1710.0	1710.6	3.0	3
26	3	1915.3	1915.3	0.5	3
26	3	1959.9	1959.9	0.2	1
26	3	2022.9	2022.9	0.1	2
26	8	2050.5	2051.5	4.4	2
26	7	2218		164 D	2
26	3	0025.4	0025.4	0.3	3**
27	6	1250 E	1537	368	2
28	3	1635.0	1635.0	0.1	2
28	3	2047.9	2047.9	0.2	2
28	9	2051	2130 U	256 D	3
29	6	1247 E	1813	741 D	3
30	6	1246 E		744 D	3
30	9	1529	1550 U	240 D	3
31	6	1245 E		747 D	3

*On sunrise pattern.
**On sunset pattern.

TIMES OF OBSERVATION

Mar. 1960	U.T.	Mar. 1960	U.T.
1	1552-0037	17	1309-0055
2	1333-0039	18	1307-0057
3	1330-0039	19	1305-0057
4	1330-0040	20	1303-0057
5	1328-0043	21	1301-0058
6	1621-0043	22	1300-0059
7	1400-0045	23	1258-0100
8	1311-0045	24	1256-0102
9	1322-0046	25	1255-0102
10	1320-0048	26	1253-0102
11	1330-0048	27	1250-0102
12	1317-0049	28	1415-0107
13	1315-0050	29	1247-0108
14	1314-0051	30	1246-0110
15	1345-0052	31	1245-0112
16	1310-0053		

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

JULY 1959

Fort Davis **25-580 Mc.**

Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
July 1		1413	1				g	1700	3	
0000-0150		2017	2				b	1702	3	
1215-1715		2118	2				b	2015	3	
1717-2400							g	2016-17	3	
							g	2149	2	
							G	2312-13	2	
July 2		2235	1							
0000-0145										
1215-2400										
July 3				Uncl.	2357-58	2	g	1522	1	
0000-0150							g	1920	3	
1220-2400							g	2253	2	
							g	2356	2	
							g	2357	3	
July 4		0024	1	Uncl.	0000-0001	2	g	1356-57	1	
0000-0130							b	1816	1	
1215-2400										
July 5		1226-38	1-				g	1541-42	2	
0000-0150		1255-1312	1-							
1220-1802		1504-16	1-							
		1710	2							
July 6		1709-19	1-				G	1443-45	2	
1440-2400		1735-38	1-				g	1453	2	
		1757	1-				g	1515-16	2	
		1817-22	1-				b	1611	1-	
		2223	2				b	1828	1	
		2234-52	1-				b	1930	1	
		2340	1-							
July 7		0140-44	1				b	0027	1-	
0000-0150		1326-31	1				g	0029	3	
1215-1557		1338-47	1-				g	0032	2	
1601-1621		1628	1				g	1629	1	
1627-1632		1655-1700	1				b	1655	1	
1650-2400		1752	1				g	1657	3	
							g	1734	2	
							g	1810	1	
July 8		0015-19	1	Uncl.	2025	1	b	1228	3	
0000-0150		1228-49	1				b	1321	2	
1227-1532		1259	3				b	1322	2	
1910-2400		1317-18	2				g	1328	3	
		1413	1				G	1334-35	3	
		1451	2				G	1340-41	3	
		2037	3				G	1343-44	2	
		2043	2				b	1429	1	
		2102	1				G	1441-42	3	
		2341-47	1				g	1444	2	
							g	1446	1	
							b	1450	2	
							b	1451	2	
							g	1938	1	
							g	1943	1	
							g	1955	1-	
							b	2026	1	
							G	2035-36	3	
							g	2043	1	
							b	2046	1-	
							b	2103	1	
							b	2121	2	
							g	2133	1	
July 9	IV Cont.	2044-2105	2							
0000-0150	IV Cont.	2105-10	1							
1230-2230	IV Cont.	2110-14	2							
2235-2400	IV Cont.	2114-2257	3							
	IV Cont.	2257-2330	2							
	IV Cont.	2330-2400	1							
		0032-34	1	Uncl.	1918	1	g	0032	2	2114-2257 Structure
		1310	1-	Uncl.	2045-46	3	g	0033	1	in continuum
		1441-45	2				g	0034	1	
		1504-05	1				b	1429	2	
		1647	1				g	1442	2	
		1717-18	1-				b	1452	1-	
		1727	1-				g	1646	1	
		1750	1				g	1646	1	
		1812-22	1				g	1810	3	
		1910	1				g	1816	2	
		1917-19	2				g	1830	2	
		1940-48	1				b	1831	1-	
		1948-53	2				b	1837	1	
		2001-17	1				b	1854	1-	
		2019-23	2				g	1934-35	2	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
July 9 Cont.		2028-38	1-				b	1936	1	
		2042-46	2				g	1946-47	1	
		2054-2118	1				b	1950	2	
		2204-05	2				g	1951	2	
		2240-57	1				b	1957	1	
		2313	2				g	1958	2	
		2348 →	2				b	2004	1-	
							g	2005	2	
							g	2019-20	2	
							b	2042	1	
							g	2045-46	3	
July 10		← 0020	2				b	1323	2	
0000-0150		0020-51	1				b	1649	1	
1230-2400		0051-53	3				g	1652	2	
		0100-15	1				g	2248	1	
		0141-42	1							
		2253	2							
July 11		1927	1-	Uncl.	2056	1	g	0004	1	
0000-0150							b	1318	2	
1300-2400							b	1321	2	
							b	1626	3	
							g	1638	1	
							b	1920	1	
							g	1921	1	
							b	1927	1	
							b	1928	1-	
July 12		1231-36	2	Uncl.	1800	2	b	1524	1-	
0000-0150		1236-1442	1				b	1602	2	
1230-2400		1542-43	1				b	1639	1	
		1543-1601	1-				b	1804	1	
		1601-07	1				b	1805	1	
		1607-30	1-				g	1807	2	
		1631	2				b	1929	1-	
		1631-39	1				b	1936	2	
		1640-1708	1-				g	1944	1-	
		1708-11	2				b	2022	2	
		1713-47	1-				b	2209	2	
		1814-17	1				b	2227	2	
		1826-35	1-				b	2238	2	
		1844-54	1-				b	2243	3	
		1854-1902	1							
		1902-21	1-							
		1946-2000	1-							
		2000-13	1							
		2013-19	1-							
		2028-48	1							
		2102-26	1-							
		2126-32	1							
		2157-2210	1-							
		2211-26	1							
		2226-31	2							
		2231-56	1							
		2302-11	1-							
		2311 →	1							
July 13	IV Cont.	1937-43	2							
0000-0150	IV Cont.	1943-2005	3							
1235-1540		← 0039	1				b	0138	3	1937-2005 Structure
1542-2400		0040-54	1-				b	1739	2	in continuum.
		0110-34	1-				g	1740-41	1	
		0134-44	1				g	2033	2	
		1236-1300	1-				b	2221	3	
		1329-34	1							
		1349-1417	1-							
		1438-45	1-							
		1457	1							
		1511-39	1-							
		1552	1-							
		1640-54	1-							
		2147	1							
		2256	2							
July 14	Cont.	1409-12	1							
0000-0150	Cont.	2005-06	3							
1230-2400	Cont.	2059-2101	3							
		0006-15	1	Uncl.	1418-25	2	g	1252	2	
		0017-30	1-	Uncl.	1904	1	b	1324	1	
		0134	1				G	1334-35	2	
		1259	1				g	1444	1	
		1308-20	1-				g	1446	1	
		1320-1511	1				g	1610	2	
		1515-1609	1-				b	1634	2	
		1722-33	1-				G	1735-36	2	
		1733-38	3				G	1736-37	3	
		1747-50	1				g	1748	2	

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Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
July 14 Cont.		1750-1832	1-				g	1811-12	2	
		1924-57	1-				b	1902	1	
		1957-2018	1				g	1905	3	
		2040-2101	1-				b	1927	1	
		2101-08	1				g	1953-54	1	
		2131	1				G	2005-06	3	
		2151-55	1-				b	2032	1	
		2217-23	1				g	2059-2100	3	
		2223-28	3				g	2139	1	
		2228-32	1-				g	2223	2	
		2241-59	1				g	2223	1	
		2259-2302	2				G	2224-28	2	
		2305-42	1-				g	2232	1-	
		2343-48	1				g	2233	1-	
July 15		0017-0111	1	Uncl.	1759	1	g	0003	2	
0000-0150		1235-51	1				g	1242-43	3	
1230-2400		1255-1300	2				g	1415	1	
		1331	2				b	1455	2	
		1348-1430	1				g	1633	3	
		1445-55	1-				b	1704	2	
		1455-57	1				g	1716	1	
		1512-21	1-				g	1727	3	
		1549-58	1-				b	1854	1	
		1748-1811	1-				b	1906	1-	
		1836-1906	1-				b	1907	1	
		1925-27	3				G	1926-28	3	
		2014	1-				g	2328-29	2	
		2035	1-				b	2335	1-	
		2243-2303	1-				g	2338-39	2	
		2328-29	2				g	2344	1	
		2338-39	1				g	2350	1-	
July 16	IV Cont.	2121-2250	3							
0000-0150	IV Cont.	2250-56	2							
1230-2400	IV Cont.	2256-2302	1							
	IV Cont.	2302	2							
	IV Cont.	2302-13	1							
	IV Cont.	2313-22	2							
	IV Cont.	2322-48	1							
	IV Cont.	2348-54	2							
	IV Cont.	2354 →	1							
		0000-02	2	II	1616-23	3	g	0000-02	1	2121-2250 Structure in continuum. Over range 200-580 Mc/s have many fast drift bursts with both positive and negative slopes.
		0059	1				b	0003	1	
		1347	1				g	0007	2	
		1404-15	1				g	0007	1	
		1454	1				g	0138	1	
		1535-1622	1				b	1236	1-	
		1622-31	2				g	1329	1-	
		1640-45	1-				b	1435	1-	
		1645-54	1				g	1610	1	
		1658-1702	1-				g	1615	3	
		1716-25	1-				b	1637	2	
		1736-55	1-				b	1652	3	
		1810-13	1-				b	2008	1	
		1909-16	1-				g	2120-21	3	
		1939-2004	1-				g	2122	3	
		2004-10	1				b	2349	2	
		2011-24	1-				b	2352	2	
		2100-01	1							
July 17	IV Cont.	← 0143	1							
0000-0150		0113-24	1				g	1406	1	
1230-2400		1257-1304	1-				b	1640	1	
		1327	1							
		1343	2							
		1503	1							
		1711-30	1							
		1730-35	1-							
		1753-55	1-							
		1816	1-							
		2148-58	1-							
		2223	1							
		2339-47	1							
July 18	Cont.	1617-19	1							
0000-0150		0002-0109	1-	Uncl.	1847	2	b	1259	2	
1230-2400		0128-42	1				g	1300	2	
		1237	1				g	1339	3	
		1310-18	1-				g	1342	2	
		1441-1508	1-				b	1617	1	
		1635-41	1				b	1707	1-	
		1641-1706	2				b	1853	2	
		1706-1801	1							
		1841-42	1-							
		1922-31	1-							
		1954-2212	1-							
		2230	1-							

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
July 19		0010-25	1-				b	0048	1	
0000-0150		0054-56	1				b	0056	3	
1230-2400		0123-27	1-				g	1242	1-	
		1240-1324	1				g	1244	1-	
		1326-41	1-				G	1246-47	2	
		1402-04	1-				b	1427	2	
		1451-1502	1-				b	1505	1	
		1531	1				g	1506-07	1	
		1803	1-				g	1509-10	1-	
		1918-19	1-				b	1744	1-	
		2350-56	1-				g	2011	1	
July 20		0104-05	1				b	1616	1	
0000-0150		1543	2				g	1619	2	
1230-2400		1616-19	1							
		1926-33	1-							
July 21		1952	1-				g	2017	1	
0000-0150										
1230-2400										
July 22		0010	1-				b	1448	2	
0000-0150										
1230-2400										
July 23										No activity observed
0000-0150										
1230-2400										
July 24		1917-2035	1				b	1309	2	
0000-0150		2117	1				g	1634	2	
1230-2400							g	1740	2	
							g	1744	3	
							b	1746	3	
							g	1919-20	1	
							g	2001	1	
							g	2006	1	
							b	2021	1-	
							g	2101	2	
							b	2217	1	
							b	2230	1	
July 25		0028-31	3	Uncl.	1618	1-	b	0028	2	
0000-0150		1243-1305	1-	Uncl.	2108	2	b	0029	1	
1240-2400		1330-1426	1-	Uncl.	2204	2	g	0030-31	3	
		1447-1503	1-				g	1500	2	
		1742-54	1				b	1629	1-	
		1807	3				g	1740-41	1	
		2026-27	1				g	1742	1	
		2106	1-				b	1916	1	
							b	1955	2	
							g	2026	1	
							b	2326	2	
							g	2340	1	
July 26		1406	1				g	1709-11	2	
0000-0150		1637	1				b	1712	2	
1240-2400		1708-09	1				g	1714-15	2	
		1710-15	3							
July 27	Cont.	2107-12	2							
0000-0150		1456-1500	2	Uncl.	1839-41	1-	b	1230	1-	
1230-2400		1748-1811	1	Uncl.	2044	3	g	1457	2	
		1815-27	1-	II	2118-26	2	b	1811	2	
		2106-39	1				b	1829	1-	
							g	1840-41	1	
							b	1920	1	
							b	1935	1-	
							g	1959	1-	
							g	2010-11	1-	
							g	2012-13	1	
							g	2107-08	3	
							g	2110-11	3	
							g	2116	2	
							b	2118	1	
							g	2122	2	
							b	2331	1-	
							g	2333	3	
July 28		1507	1-	Uncl.	1848	1	b	0027	3	
0000-0150		1533-43	1-	Uncl.	1902	1	G	0103	2	
1230-2400		2001-02	1				b	0114	1	
							b	1507	1-	
							b	1543	1	
							b	1556	1	
							g	1855-57	3	
							g	1859-1900	2	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
July 29	Cont.	2118-20	3							
0000-0145		1257	1	Uncl.	2121-22	2	b	1319	1	
1230-2400		1324-27	2	Uncl.	2124	3	b	1618	1	
		2117-30	2				g	1827-29	3	2124 Unclassified burst
							b	1921	1-	has some characteristics
							G	2118-20	3	of a slow drift burst.
							b	2120	1	
							g	2123-24	1-	
							g	2125	2	
							b	2127	1-	
							g	2129	2	
							b	2350	3	
							g	2359	1-	
July 30	Cont.	1340-2140	1							
0000-0150	Cont.	2140-2240	2							
1230-2400	Cont.	2240 →	1							
		1541-52	1-	Uncl.	1940	2	G	0000-06	2	
		1608-57	1	Uncl.	2042	2	g	0007	1	
		1716	1	Uncl.	2102	2	g	0008	1	
		1735-1825	1-	Uncl.	2313	1	g	0009	2	
		1825-39	1				g	1244	2	
		1839-51	2				g	1536	1	
		1853-1918	1-				b	1556	1	
		1934-2158	1				g	1706	3	
		2157	2				G	1708-09	3	
		2221-22	2				b	1806	1-	
		2230-39	1-				g	1824	1	
		2254-2315	1-				g	1829	2	
		2333-38	2				g	1830	1	
		2339 →	1-				b	1854	1-	
							g	1901	2	
							b	1941-42	1	
							b	1943	1-	
							g	2019	2	
							g	2020-22	2	
							b	2033	1	
							b	2044	1	
							b	2050	1-	
							b	2145	1	
July 31, 1959	Cont.	←-0022	1							
0000-0145		0039-0111	1	Uncl.	1507	2	g	0039-40	2	
1230-2400		0128-31	1	Uncl.	1714	2	g	1253	3	
		1235-48	1	Uncl.	1740	2	g	1254	1	
		1248-1334	2	Uncl.	1805-06	2	g	1255-58	2	
		1334-1433	1	Uncl.	1824	2	b	1259	1	1824 reverse drift
		1433-44	2	Uncl.	1947	2	b	1302	1-	pair
		1444-1614	1	Uncl.	2101	3	b	1304	1-	1947 reverse drift
		1614-16	2				g	1308	1	pair
		1616-28	1				b	1313	2	
		1628-34	2				g	1314	2	
		1634-1722	1				g	1316	2	
		1722-27	2				b	1342	1	
		1727-1836	1				g	1343	2	
		1836-38	2				b	1401	1	
		1838-1952	1				g	1456	1	
		1952-2022	1-				g	1457	1-	
		2022	3				b	1458	1	
		2023-2201	1				b	1540	1	
		2201-2323	2				b	1552	1	
		2323-31	1				G	1555-58	2	
		2331-33	2				g	1603	2	
		2333 →	1				g	1704	2	
							b	1829	1	
							b	1936	1	
							b	2047	1-	
							b	2048	1	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 1, 1959	Cont.	1745-47	3							
0000-0140		← 0128	1	II	1754-1810	2	g	1301-02	1	
1230-2400		0128-36	2				b	1320	2	
		1252	1				g	1326-27	1	
		1313-1445	1-				b	1332	1	
		1445-1514	1				g	1508-09	1	
		1514-51	1-				g	1510	2	
		1607-18	1-				b	1746	1	
		1618-19	2				b	1747	3	
		1619-1727	1-				b	1748	2	
		1727-29	2				b	1812	1	
		1729-46	1-				g	1813	2	
		1746-55	2				g	1939-40	2	
		1759-1821	1-				b	2033	1-	
		1821-31	1							
		1831-1900	2							
		1900-19	1-							
		1919-34	1							
		1934-2008	2							
		2008-2040	3							
		2040-2127	1							
		2127-31	2							
		2131-2323	3							
		2323 →	1							
Aug. 2		← 0017	1							
0000-0140		0017-18	3							
		0018-30	2							
		0030-37	1							
		0037-43	2							
		0043-49	1							
		0049-50	2							
		0050-0120	1							
		0120-36	2							
Aug. 3										No observation
Aug. 4										No observation
Aug. 5	Cont.	1816-17	1							
1230-2400		1303	1-	Uncl.	1531	1	g	1314	1	
		1744-45	1				g	1558	1	
		2038	1				b	1850	1-	
							b	2041	2	
Aug. 6	Cont.	1749-50	2							
0000-0140	Cont.	2138-39	3							
1230-2400		0035	1-	Uncl.	1425-26	2	b	0024	1	
		1351-55	1				g	1329	2	
		1518-19	1				b	1347	1-	
		1639-45	1-				b	1350	1-	
		1704-18	1				b	1352	2	
		1748-49	1				g	1353	1	
		1825-26	1-				g	1355	1	
		1935-2006	1-				g	1426	2	
		2101-02	1-				g	1516	2	
		2138	2				b	1518	2	
		2144-47	1				g	1519	2	
		2148	2				b	1519	1	
		2338-42	2				g	1524	2	
							G	1525-26	3	
							g	1538	2	
							b	1546	1-	
							b	1547	1-	
							b	1552	1-	
							g	1603	3	
							g	1611	2	
							g	1658	1-	
							g	1659	1	
							b	1727	1-	
							G	1730-31	2	
							b	1748	2	
							g	1749	2	
							b	1750	1	
							b	1757	1	
							g	1805	3	
							b	1823	2	
							b	1826	1-	
							g	1829	3	
							G	1831	2	
							g	1832-33	2	
							b	1834	1	
							g	1930-31	2	
							g	1932	2	
							g	1933	2	
							g	2023	2	
							G	2024-25	3	
							b	2026	3	
							b	2105	1	
							G	2137	3	
							g	2140-41	3	
							G	2141-43	3	
							g	2144-46	1	
							G	2147-48	3	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 6 Cont.							b	2154	2	
							G	2219-20	1	
							G	2337-41	2	2340-41 three U bursts
Aug. 7	Cont.	1335	2							
0000-0140	Cont.	1533-34	3							
1230-2400	Cont.	1657-1700	2							
	Cont.	1734-38	3							
	Cont.	1740	1							
	Cont.	2109-10	3							
		0005-12	1-	Uncl.	1530	2	g	0018	1	
		0120-22	1-	Uncl.	2319	1	b	0020	1	
		1251-1535	1-				g	0121	1-	
		1536	3				g	1334	2	
		1536-1640	1-				g	1335	1	
		1640-41	2				b	1337	3	
		1641-54	1-				b	1338	3	
		1654	2				g	1401	1-	
		1708-10	2				g	1458	2	
		1710-38	1-				g	1504	1	
		1738-43	2				b	1516	3	
		1844	1-				b	1527	1-	
		1905-06	2				g	1528	1	1530 U burst.
		1910-2005	1-				g	1529-30	2	
		2021-23	1				g	1531	2	
		2037-38	1-				G	1532-34	2	
		2106	1				g	1535	2	
		2209-19	1-				g	1618	2	
							g	1657-58	1	
							g	1659	1	
							g	1708-09	1-	
							b	1710	1	
							b	1711	1-	
							b	1713	1	
							g	1721	1	
							G	1733-35	3	
							g	1736-37	1	
							G	1739-41	2	
							g	1907	1	
							g	2016	1-	
							g	2022	1-	
							g	2023	2	
							g	2109-10	3	
							g	2201-02	1	
							g	2202	2	
							b	2225	1-	
							b	2233	1	
Aug. 8	Cont.	1714-20	2				g	2328	1	
0000-0140	Cont.	2150	2							
1240-2400		0026-33	1				b	0004	1	
		0043-52	1-				b	0028	1	
		1258-1320	1-				b	0031	1-	
		1341-51	1-				b	0115	1	
		1408-19	1-				g	1425-26	2	
		1426-27	2				g	1559	1-	
		1530	1-				G	1617-18	1	
		1557-1604	1				g	1717-18	1-	
		1617-18	1				g	1718	1	
		1627-33	1-				g	1719	2	
		1726	2				b	1740	2	
		1727-1836	1-				g	2116	1	
		1836-1915	1				b	2133	2	
		1915-45	2				b	2139	1	
		1945-2019	1				g	2149-50	2	
		2019-2145	1-				g	2152	1	
		2214-2304	1-				b	2153	1	
		2322-23	3							
		2330 →	1-							
Aug. 9	Cont.	1439	2							
0000-0140		← 0051	1-				G	0125-28	2	
1240-2400		0117-24	1-				g	1438-39	2	
		1252	1				b	1551	1	
		1317-44	1				b	1736	1-	
		1600	1				b	1830	1-	
		1611	1-				b	1831	2	
		1733	1				g	1838	1	
		1814	1-				b	1908	1	
		1830	1				b	2213	1-	
		2212	1-							
		2239	1							
Aug. 10		1250-1300	1-	Uncl.	1919	1	b	0121	1-	
0000-0140		1300-22	1				g	0121-22	2	
1240-2400		1322-1425	1-				G	1811-12	2	
		1440-44	1-				b	1816	1	
		1513-27	1-				b	1819	1	
		1542	1-				b	1825	1	
		1558-1619	1-				b	1829	1	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 10 Cont.		1819-20	1				b	1843	1	
		1829	1-				g	1856-57	2	
		1843	1				g	1857-58	1	
		1853-59	1				g	1859	1	
		2041-43	3				g	1915	1	
							g	1915-16	1	
							b	1926	1-	
							b	1958	1	
							g	1958-59	2	
							g	2018-19	1	
							b	2036	1	
							g	2054	1	
							b	2122	1-	
							g	2124	1-	
							g	2158	2	
							g	2159	1	
							b	2214	1	
							g	2216-17	1	
							g	2218	1	
							g	2219	1	
							g	2239-40	1	
							g	2247	1	
							g	2248	1	
							b	2249	1	
							g	2308	2	
							g	2310	2	
							g	2332	2	
Aug. 11										
0000-0140	Cont.	1935-36	2							
	Cont.	1941	2							
1615-2400		0019	1-				b	0014	1-	
		1808	1				g	0015	1	
		2058-2114	1-				G	0016-17	2	
		2227	1				g	1658	1	
							b	1738	1-	
							g	1808	1-	
							g	2120	2	
							g	2149	1-	
							b	2150	1	
							g	2153	1	
							b	2255	1	
Aug. 12										
0000-0135	Cont.	1824	2							
1240-2400	Cont.	1950-52	3							
		0001	1	Uncl.	1452	2	b	0001	1	
		0057-0102	1-				b	0052	1	
		1439	1-				g	1259	2	
		1528	2				g	1400-01	2	
		1544-45	2				g	1440	2	
		1618	1				b	1444	2	
		1801-15	1				b	1446	1	
		1829-39	1				b	1448	2	
		1856-57	1-				G	1451-52	2	
		1953	1-				b	1453	1-	
		2133-34	1				g	1454	1	
							g	1807	1	
							G	1809-10	2	
							g	1827	1-	
							g	1830	1-	
							G	1834-37	2	
							g	1839	2	
							g	1950	1	
Aug. 13		1249-1402	2	Uncl.	2305	1	b	1359	1	
0000-0135		1402-44	1				g	1449	1-	
1240-2400		1444-59	2				g	1450	2	
		1459-1505	3				G	1457-58	2	
		1505-36	1				g	1701	1	
		1543-1705	1-				g	1705	1	
		1941-44	1				g	1856	2	
		2236-49	1-				g	2123	1	
		2318-28	1-				b	2159	1	
		2328 →	1							
Aug. 14	Cont.	2011-12	3							
0000-0135		← 0022	1				b	1250	1	
1245-1514		0022-38	2				b	1254	1	
1522-1648		0038-0100	1				g	1255	1	
1653-2400		0100-07	2				b	1406	2	
		0107-24	1				b	1409	2	
		1512	2				b	1410	1-	
		1609	2				g	1512	2	
		2217-18	2				g	1532	2	
							g	1535	1-	
							b	1538	1	
							b	1716	1-	
							b	1741	1	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 14 Cont.							g	1828	1	
							b	2011	3	
							b	2031	2	
							b	2056	1	
							b	2215	1	
Aug. 15		0013-14	2	Uncl.	1500	3	G	0013-14	2	Unclassified burst 1503-08 has some characteristics of a slow drift burst.
0000-0130		0023-24	1-	Uncl.	1503-08	2	g	1459-1500	2	
1240-2400		1621	1	Uncl.	1731	1	b	1620	b	
		1827-28	1	Uncl.	1759	1	g	1828	2	
		1833-34	1-	Uncl.	1859	1	g	1848	1	
		2018-19	2	Uncl.	2354	3	G	2019	2	
		2329-30	1							
Aug. 16	Cont.	1838-39	3							
0000-0130	Cont.	2047	2							
1240-2400		1250	1	Uncl.	1415	1-	g	1245	1	
		1601-05	1	Uncl.	1550	1	G	1247-49	3	
		1621-42	1-	Uncl.	1732	2	g	1323-24	1	
		1642-59	1				g	1400	2	
		1716-1841	1				g	1405	1-	
		1857-1946	1-				g	1407	3	
		2015-26	1-				b	1414	1-	
		2056-57	1				g	1423-24	1-	
		2150	1				g	1434	1	
		2341-58	1				b	1552	2	
							g	1622-23	2	
							g	1749-50	1	
							b	2232	2	
							g	2340	1	
							b	2358	2	
Aug. 17	Cont.	1355	3							
0000-0130	Cont.	1722-23	3							
1240-2400	Cont.	2048-50	3							
		0111-24	1-	Uncl.	1354-55	3	b	0015	1	
		1249-1304	1-	Uncl.	1443	2	b	0055	1-	
		1304-1401	1	Uncl.	2041	2	b	1302	1	
		1440-50	1	Uncl.	2052-59	3	g	1315-16	2	2052-59 Unclassified burst has some characteristics of a slow drift burst.
		1520-39	1	Uncl.	2143-45	2	g	1355	3	
		1607-1740	1				g	1449	1	
		1740-1801	1-				g	1516	3	
		1801-1908	1				b	1521	2	
		1908-13	1-				g	1524	2	
		1913-24	1				b	1608	2	
		1955-2010	1				g	1629-30	1	
		2010-11	3				b	1645	2	
		2011-21	1				g	1646	2	
		2021-25	2				b	1701	2	
		2025-48	1				g	1722	3	
		2048-55	3				g	1746	2	
		2055-2117	1				g	1922	1	
		2150-57	2				g	1923	1	
		2212-31	2				G	2000-01	1	
		2233-2327	1				g	2047	2	
		2327 →	1				g	2048-49	3	
							b	2155	1	
							g	2202	2	
							b	2203	2	
							b	2217	1	
							b	2218	2	
							g	2324	3	
							g	2343-44	3	
Aug. 18	Cont.	1353-57	1							
0000-0125	Cont.	1419-20	1							
1240-2400	Cont.	1423-25	1							
	Cont.	1425-33**	2							**Continuum resolving at times into fast drift bursts.
	Cont.	1433-36**	1							
	Cont.	1459-1501**	1							
	Cont.	1501-20**	2							
	Cont.	1520-21**	3							
	Cont.	1521-25	1							
	Cont.	1537-38**	2							
	Cont.	1540	1							
	IV Cont.	1717-22**	1							
	IV Cont.	1722-23	2							
	IV Cont.	1723-35	3							
	IV Cont.	1735-38	2							
	IV Cont.	1738-50	3							
	IV Cont.	1750-1803	2							
	IV Cont.	1803-10	1							
	IV Cont.	1827-35	1							
	IV Cont.	1838-53	1							
	IV Cont.	1917-22	2							
	IV Cont.	1921-22	3							
	Cont.	1934-35	3							
	IV Cont.	1959-2002	1							
	IV Cont.	2002-07	2							
	IV Cont.	2022-27	2							
	IV Cont.	2029-39	1							
	IV Cont.	2039-43	2							
	IV Cont.	2043-49	3							

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 18 Cont.	IV Cont.	2049-2113	2							
	IV Cont.	2113-27	1							
	IV Cont.	2220-25**	2							
	IV Cont.	2239-43	2							
		← 0118	1	Uncl.	1807-08	2	b	0035	2	
		1247-1320	1	Uncl.	1858-59	3	g	1244	3	**Continuum resolving at
		1400-05	2	Uncl.	1919-20	2	G	1245-46	2	times into fast drift bursts.
		1434-51	1	Uncl.	1934-35	3	g	1247	2	
		1535-37	1	Uncl.	1940	2	g	1248	3	
		1558-1604	1-	Uncl.	2141	2	G	1249-52	2	
		1626-40	1	Uncl.	2159	2	g	1253	2	
		1701-02	2	Uncl.	2224-26	3	G	1258-59	3	
		1702-23	1-	Uncl.	2228-29	3	G	1300-05	3	
		1807-08	2				g	1306	2	
		1811-27	1				G	1307-08	2	
		1853-1901	1				b	1332	1	
		1937-56	1				g	1401	2	
		1956-57	2				g	1404-05	2	
		1957-59	1				G	1442-44	2	
		2015-19	1				G	1445-47	2	
		2138-46	2				b	1528	1	
		2223-30	2				G	1528-29	2	
							G	1534-38	2	
							g	1607	2	
							G	1619-21	3	
							b	1627	3	
							g	1642-43	2	
							g	1644	3	
							b	1657	1	
							G	1659-1702	2	
							g	1704	3	
							G	1703-07	1	
							b	1714	2	
							G	1713-19	2	1713-19 many reverse
							g	1720	1	drift slopes
							g	1750-51	3	
							g	1845	2	
							g	1857	2	
							b	1921	3	
							g	1934-35	3	
							g	1941	2	
							b	1941	1	
							g	2138-39	2	
							g	2141-42	2	
							g	2145	2	
							G	2220-25	2	
							G	2226-27	2	
							g	2228-29	2	
							G	2231-33	2	
							b	2245	1	
							b	2246	1	
							g	2250	1	
							b	2252	2	
Aug. 19	Cont.	1347-48	2							
0000-0125		0054	2	Uncl.	1319-20	3	g	0105	2	
1245-2400		1258	1	Uncl.	1322-24	3	g	1306	2	
		1321	1	Uncl.	1347	3	g	1310	1	
		1424-25	1-	Uncl.	1951	3	b	1311	2	
		1511-31	1	Uncl.	2243	2	b	1318	3	
		1548-49	3				g	1319	3	
		1618	2				g	1322-24	3	
		1640-43	1				b	1345	2	
		1713-14	1-				g	1346-47	3	
		1723	1				b	1424	2	
		1751-1808	1				g	1434	2	
		1826	1-				b	1449	3	
		1848-56	2				b	1521	1	
		1909-22	1				b	1618	2	
		2023-28	2				b	1704	2	
		2046	1				g	1705	2	
		2103-04	1				g	1755	3	
		2140-49	2				G	1756-57	3	
		2231	1				g	1758	2	
		2240-46	1				G	1848-51	3	
		2310	1				g	1855-56	2	
		2333	1				g	1909	1	
		2345	1				b	1931	1	
		2359	1				g	2048	2	
							b	2103	1	
							b	2149	2	
							g	2244	1	
							g	2246	3	
							g	2359	2	
Aug. 20	Cont.	1846-47	2							
0000-0027	Cont.	1911-12	3							
0106-0125	Cont.	1933-37	3							
1255-2400		0001	1-	Uncl.	1940	1-	g	0002	2	
		0108-14	1				g	0114	2	
		1340-41	2				g	1311	1	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 20 Cont.		1546-49	1-				b	1421	1	
		1556	1				b	1435	3	
		1609	1				b	1636	2	
		1631-33	1-				g	1841	1	
		1652-56	1				g	1845	1	
		1702-10	1-				g	1846	2	
		1727-38	1-				g	1850	2	
		1816-19	1-				g	1851-52	2	
		1828-50	1				b	1852	1	
		1905	2				g	1904-05	2	
		1928-29	1				g	1910-11	3	
		1933-35	2				g	1929	1	
		1935-42	1				G	1933-35	3	
		1942-43	2				g	1937	2	
		1943-46	1				g	1938	1	
		1952	2				g	1940	1	
		2000-01	1-				b	1942	2	
		2002	2				b	1951	1	
		2003-04	1				G	2016-18	3	
		2041-44	1				G	2020-23	2	
		2121-22	1				g	2113	1	
		2212	1				b	2233	1	
		2321-54	1				b	2300	1	
							g	2303	1	
							g	2314	3	
							b	2315	1	
Aug. 21		0025-29	1-	Uncl.	1622-23	1	g	1257	1	
0000-0125		0052	1	Uncl.	1714	2	b	1322	1-	
1255-2400		0111-17	2	Uncl.	1752	2	g	1325	2	
		1255-1304	1	Uncl.	1801	2	g	1342	2	
		1502-04	2	Uncl.	1824	2	b	1430	2	
		1506	1-	Uncl.	1859	3	G	1448-51	3	
		1558-1602	2	Uncl.	1912-13	2	g	1555-57	3	
		1624-25	1				g	1602	2	
		1718	1				g	1603-04	2	
		1806	1				b	1606	1	
		1902	2				g	1736-37	1	
		1922-29	1				b	1745	1	
		1952	2				g	1748	2	
		2334	1				g	1757-58	2	
							b	1759	1	
							b	1805	2	
							b	1824-25	2	
							g	1835-36	3	
							G	1849-57	3	
							g	1907-09	3	
							g	1912	1	
							g	1937-38	3	
							b	1942	1	
							g	1951-52	2	
							g	2006-07	3	
							b	2050	2	
							g	2051-52	2	
							G	2059-2104	3	
							g	2141	2	
							b	2142	2	
							b	2151	1	
							b	2152	3	
							b	2224	2	
							g	2232-33	1	
							G	2301-02	2	
							g	2303	2	
Aug. 22	Cont.	1917-2140	1							
0000-0125	IV Cont.	2140 →	2							
1255-2400		1349	1	Uncl.	0001	2	g	0005	2	
		1523-29	2	Uncl.	1757	2	g	1355	2	
		1540-1604	1	Uncl.	1821	2	b	1403	3	
		1637-41	1				b	1406	1	
		1649	2				b	1519	2	
		1818-24	2				b	1737	2	Note: Type IV continuum during 1959 Aug. 22-27 is at low frequencies (25-300 Mc/s)
		1852-1904	1				g	1740	1	
		2002-03	3				b	1741	2	
		2100-16	2				b	1807	1	
		2127-30	3				b	1808	1	
		2130-2211	2				g	1813-14	2	
							g	1815	2	
							g	1819	2	
							g	1820	2	
							b	1829	2	
							b	1844	2	
							b	1903	2	
							g	1942-43	3	
							g	2241-42	3	
Aug. 23	IV Cont.	← 0125	2							
0000-0125	IV Cont.	1255-1320	1							
1255-2400	IV Cont.	1320-1400	2							
	IV Cont.	1400 →	3							
		1306-33	2	Uncl.	0109-10	2	g	1304	3	
		1333-57	3				g	1305	3	

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Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 23 Cont.		1431-32	3				b	1332	2	
		1459-1529	3				b	1339	3	
		1640-47	3				b	1347	3	
		1659-1710	3				b	1439	2	
		1740-43	3				G	1440-41	2	
		1758-1800	3				g	1450-51	1	
		1822-55	3				g	1615	3	
		1922-33	3				g	1626	3	
		2013-14	3				g	1742	3	
		2219-32	3				g	1809	2	
							G	1810-11	2	
							b	2241	2	
Aug. 24	IV Cont.	← 0005	3							
0000-0125	IV Cont.	0005-0038	2							
1255-2400	IV Cont.	0038-0118	1							
	IV Cont.	1255-1310	1							
	IV Cont.	1310-1400	2							
	IV Cont.	1400 →	3							1853-1948 Continuum has
		1336	2	Uncl.	2230	3	b	0037	3	marked structure appear-
		1430	1				g	0110-11	3	ing like many fast drift
		1755	3				g	1422-23	2	bursts.
		2237-38	1				b	1523	3	
							b	1653	3	
							b	2105	2	
							b	2122	2	
							g	2124	2	
							g	2125	1	
							g	2128	1	
							b	2138	2	
							b	2139	1	
							G	2339-41	3	
	IV Cont.	← 0040	3							
Aug. 25	IV Cont.	0040-0100	2							
0000-0120	IV Cont.	0100-0116	1							
1255-2400	IV Cont.	1255-1320	1							
	IV Cont.	1320-1400	2							
	IV Cont.	1400 →	3							
		1540-58	3				b	0040	2	
		1642-1732	3				g	0047	1	
		1806-1915	3				G	1258-59	3	1258-59 these fast
		1958-2026	3				b	1947	3	drift bursts are
		2048-2101	3				g	2017	3	divided in frequency
		2118-35	3				g	2247	2	580-300 Mc/s and
		2154-56	3				g	2247	3	115-25 Mc/s.
		2221-2241	3				g	2249	2	1805-20 continuum
		2304	2				g	2251	2	has faint structure.
Aug. 26	IV Cont.	← 0033	3							
0000-0110	IV Cont.	0033-0110	2							
1255-2400	IV Cont.	1255 →	2							
		1315-19	2	Uncl.	1318	3	g	0005	3	
		1325-44	2	Uncl.	1645-46	3	g	0032	2	
		1356-57	2	Uncl.	1708-09	2	g	1255-56	2	
		1414-30	2	Uncl.	1715-18	2	b	1718	2	
		1439-1610	2	Uncl.	2106-07	3	b	1733	2	
		1610-2137	3	Uncl.	2141	2	b	1911	2	
		2140-58	2	Uncl.	2202	2	b	1914	2	
		2215-2352	2	Uncl.	2210	2	g	1921	2	
							b	1922	2	
							b	1923	2	
							b	1926	2	
							g	1935	2	
							b	1947	2	
							g	1951-54	2	
							g	1955-2000	2	
							b	2013	3	
							b	2014	2	
							b	2114	3	
							g	2203	3	
							g	2208	2	
							g	2209	2	
							b	2222	2	
Aug. 27	IV Cont.	← 0113	2							
0000-0115	Cont.	1255 →	1							
1255-2400		0003-26	2	Uncl.	1431-33	3	g	1357	2	
		1255-1429	1	Uncl.	1603-04	3	g	1432	3	
		1429-1519	2	Uncl.	1610	2	b	1511	1	
		1519-40	1	Uncl.	1641	3	g	1514-15	1	
		1540-1759	2	Uncl.	1656	3	g	1538-39	2	
		1759 →	1	Uncl.	2052-54	3	G	1617-19	3	
							b	1732	2	
							g	1807-08	3	
							g	1809	3	
							g	1824-25	3	
							b	1912	2	

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Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Uncl ass	Time	Int	Act	Time	Int	
Aug. 27 Cont.							b	1924	2	
							b	1945	1	
							b	1959	3	
							g	2000	3	
							g	2001-02	2	
							g	2004	2	
							g	2024	2	
							b	2040	2	
							g	2054	3	
							g	2055-56	3	
							g	2059-2100	2	
							g	2102	2	
							g	2122	1	
							g	2125	1	
							g	2205-06	2	
Aug. 28	Cont.	← 0111	1							
0000-0115	Cont.	1255 →	1							
1255-2400		← 0112	1	II.	0038-48	2	g	0030	1	
		1255-1818	1				g	0031	2	
		1818-20	2				b	0038	1	
		1820 →	1	Uncl.	1754	3	g	1313-14	2	
				Uncl.	1816	2	b	1431	2	
				Uncl.	1841	2	g	1433	2	
				Uncl.	1848	3	g	1434-35	3	
				Uncl.	1939	3	b	1442	3	
				Uncl.	2115	2	b	1446	2	
				Uncl.	2313	3	g	1452	2	
							g	1557	2	
							b	1610	1	
							g	1634	3	
							g	1732-33	3	
							g	1812	2	
							b	1830	2	
							b	1852	1	
							g	1859	3	
							b	1903	3	
							g	1905	2	
							b	1909	1	
							g	1920	3	
							g	1928	3	
							b	2007	1	
							g	2051-52	3	
Aug. 29	Cont.	← 0111	1							
0000-0115	Cont.	1255-1459	1							
1255-2400	Cont.	1459-1645	3							
	Cont.	1645-1800	2							
	Cont.	1800-05	1							
	Cont.	2217-2322	2							
	Cont.	2322 →	3							
		← 0109	1	Uncl.	1657	3	G	0020-22	2	
		1305-1414	1	Uncl.	1718	2	g	1309-11	2	
		1414-17	2	Uncl.	1724	2	g	1332	3	
		1417-42	1	Uncl.	1735	2	b	1335	2	
		1442-1502	2	Uncl.	1757	3	g	1346	3	1757 Reverse drift pair
		1502-1645	3	Uncl.	1849	2	b	1405	3	
		1645-1816	2	Uncl.	1851	2	g	1417-18	2	
		1816-1913	1	Uncl.	1940	2	b	1449	2	
		1951-2014	1	Uncl.	2103	2	b	1457	2	
		2059-2101	1	Uncl.	2229	1	b	1506	2	
		2155-2213	1	Uncl.	2234-37	2	g	1603	3	
		2219-2322	2				g	1728-29	3	
		2322 →	3				b	1740	3	
							b	1742	2	
							g	1753-54	3	
							g	1803	3	
							b	1810-11	1	
							G	1835-36	3	
							g	1839	3	
							b	1841	2	
							g	1937-38	1	
							g	1948	3	
							g	2010-11	2	
							b	2015	3	
							b	2018	2	
							b	2110	3	
							b	2113	2	
							b	2125	3	
							g	2135-36	2	
							b	2215	3	
							g	2216-17	3	
							b	2238	2	
							b	2338	3	
							b	2339	2	
							b	2341	3	
Aug. 30	Cont.	← 0110	3							
0000-0110	Cont.	1255-1420	2							
1255-2400	Cont.	1420-1600	1							
	Cont.	1857-2100	2							
	Cont.	2100-2200	1							
	Cont.	2200-2300	1-							

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Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 30 Cont.		← 0026	3	Uncl.	1349	2	g	1401	2	
		0026-42	2	Uncl.	1752-53	2	g	1412-13	1	
		1255-1420	2	Uncl.	1756-57	2	g	1517	3	
		1420-29	1	Uncl.	1815	3	g	1525	3	
		1429-1505	2	Uncl.	1822	2	g	1526	3	
		1505-36	1	Uncl.	1846	3	g	1549-50	2	
		1536-1627	1-	Uncl.	1904	2	g	1551	2	
		1712-20	3	Uncl.	2051	3	g	1656	1	
		1729	1	Uncl.	2055	3	b	1657	2	
		1807	2	Uncl.	2228	3	g	1659	3	
		1817-39	1	Uncl.	2230-32	2	G	1700-03	3	
		1853-2213	2	Uncl.	2244-46	2	b	1705	1	
		2213-43	1-	Uncl.	2249-51	3	b	1706	1	
		2304-13	1-				b	1710	1	
		2331-35	1-				G	1711-18	3	
		2338-52	1				b	1741	2	
							b	1743	2	
							g	1746	3	
							g	1748-49	3	
							b	1751	2	
							b	1758	3	
							g	1806-07	3	
							b	1810	2	
							g	1828-29	3	
							g	1849-50	3	
							b	1851	2	
							b	1853	2	
							b	1855	1	
							g	1938	2	
							b	1939	2	
							b	1953	1	
							b	1959	2	
							b	2000	1	
							g	2001-03	2	
							g	2007	2	
							g	2008	2	
							b	2020	3	
							g	2051-52	3	
							g	2053	3	
							b	2055-56	3	
							g	2214	2	
							g	2221-22	1	
							g	2224	2	
							g	2226	2	
							b	2228	3	
							g	2231-32	3	
							g	2240-41	3+	
							g	2244	2	
							g	2246	2	
							b	2248	2	
							g	2250	3	
							b	2340	1	
							b	2341	1	
							b	2344	1	
							G	2347-50	3	
Aug. 31	Cont.	0045-0107	2							
0000-0110	Cont.	1710-11	3							
1255-2400	IV Cont.	1859-1903	3							
	IV Cont.	1903-09	2							
	IV Cont.	1909-16	1							
		0045-0105	3	Uncl.	1502	2	g	0000	2	
		1255-1312	1	Uncl.	1504-05	1	g	1321-22	3	
		1321-44	1-	Uncl.	1554-57	2	b	1325	3	
		1357-1413	1	Uncl.	1731-32	2	g	1332	3	
		1413-19	2	Uncl.	1734	3	g	1336	3	
		1419-32	3	Uncl.	1844-45	2	g	1337	2	
		1432-1505	1				g	1338	2	
		1505-10	2				g	1339	2	
		1524-33	1				b	1343	1	
		1547-1624	1-				g	1352	2	
		1639-49	2				g	1354-55	3	
		1649-1715	1				b	1356	2	
		1737	2				g	1357-58	2	
		1756-1826	1				g	1359-1400	3	
		1847-1858	1				b	1418	1	
		1858-1924	2				g	1431	2	
		1934-1948	1				g	1433	1	
		2000-2020	1				g	1500	3	
		2114-2200	1				b	1503	2	
							G	1514-15	3	
							G	1518-23	3	
							g	1527-28	2	
							g	1537-38	3	
							g	1540	2	
							b	1544	3	
							b	1545	1	
							b	1607	1	
							g	1608	3	
							g	1609	2	
							g	1610	3	
							g	1616-17	3	
							g	1618	2	

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Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Aug. 31 Cont.							g	1619	2	
							g	1621	2	
							b	1622	2	
							g	1623	3	
							b	1635	1	
							g	1649	2	
							b	1704	1	
							g	1709-11	3	
							b	1720	2	
							b	1722	2	
							b	1730	2	
							g	1738	2	1738 Divided frequency
							b	1742	2	1 at 50-25,2 at 200-125 Mc/s.
							b	1747	2	
							g	1751	3	
							b	1757	2	
							b	1805	3	
							G	1807-10	3	
							g	1820-21	3	
							g	1824-25	3	
							g	1826-27	3	
							b	1831	3	
							b	1843	2	
							g	1844	3	
							b	1852	3	
							g	1853-55	3	
							g	1857-59	2	
							G	1859-1901	3	
							G	1901-17	2	
							G	1917-18	3	
							g	1919	2	
							g	1923-24	2	
							g	1934	3	1934 U burst.
							b	1937	3	
							b	1947	2	1947 U burst.
							g	2025	2	
							g	2026	2	
							b	2048	1	
							g	2049-51	2	
							G	2052-55	2	
							b	2109	2	
							G	2141-50	2	
							G	2151-52	2	
							G	2218-44	2	
							g	2317-18	2	
							G	2328-31	2	
							G	2335-39	2	

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Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Sept. 1	IV Cont.	914-17	1							
0000-0110	IV Cont.	1920-22	1							
1255-2400	IV Cont.	1927-32	2							
	IV Cont.	1932-34	3							
	IV Cont.	1934-39	2							
	IV Cont.	1940-41	1							
	IV Cont.	1945-50	2							
	Cont.	1952-55	3	Unvl.	1820-28	2	G	0036-38	1	
	Cont.	1958-1601	3	II.	1939-45	3	g	0040-43	2	
	Cont.	2022-23	1				g	0102	1	
	Cont.	2037-39	2				g	0104	1	
							G	0105-07	2	
		1255-1745	1				G	1419-21	3	
		1745-1940	1-				G	1421-26	2	
		1940-2020	1				g	1627-28	1	
		2020 →	1-				b	1632	1	
							g	1730-31	2	
							b	1756	1	
							g	1759-1806	1	
							G	1810-1816	2	
							G	1816-1818	3	
							g	1911	1	
							b	1914	1	
							b	1923	1	
							g	1935	1	
							g	1946	2	
							G	1952-55	3	
							G	1955-2006	2	
							g	2119-20	1	
							b	2207	1	
							g	2213-15	1-	
							g	2229	3	
							g	2230-36	1-	
Sept. 2		← 0105	1-							
0000-0105		1255-1333	1-				b	1313	2	
1255-2400		1333-1513	2				b	1405	1	
		1513-1600	1-				G	1605-08	2	
		1600-1620	1	II	1608-15	3	G	1611-14	3	
		1620-1900	1-				b	1657	1	
		1900-2300	1				b	2307	2	
		2300 →	1				g	2322-23	1	
Sept. 3	Cont.	1420-1620	2							
0000-0105	Cont.	1425	3							
1255-2400		← 0105	1				g	1425	2	
		1255-1420	1				b	1448	3	
		1420-1620	2				g	1504	2	
		1620-1700	1				g	1525	3	
		1700 →	1-				g	1555	3	
							g	1600-01	3	
							g	1604-06	2	
							b	1645	1	
							b	1647	2	
							g	1703	3	
							g	1741-43	3	
							b	1744	1	
							G	1753	1	
							G	1800-01	3	
							G	1801-11	1	
							G	1815-20	2	
							g	1823-25	2	
							g	2336-39	1	
Sept. 4		← 0105	1-	Uncl.	1852-1930	2				
0000-0105		1256-1320	1							
1256-2105		1320-1500	1-							
2109-2400		1500-1607	1				g	1328-30	1	
		1607-1626	2				b	1426	1	
		1626-1838	1				g	1822-23	1	
		1838-2005	2				G	1829-36	2	
		2005-2025	1				g	1840-42	1	
							G	1845-50	2	
							g	1852	2	1852-1930 These un-
							b	1922	1	classified bursts
							g	1924	2	have many features
							b	1927	1	of Type III bursts.
							b	1929	1	
							b	2032	2	
							G	2321-25	2	
Sept. 5	Cont.	1557-59	2							
0000-0105		0010-0050	1-	Uncl.	1558	3	b	1542	1	
1300-2400		1431-1522	1-	Uncl.	1559	3	g	1553-54	2	
		1625	1-	II	1603-10	2	g	1555-56	1	
		1644	1-				G	1556-1600	3	
		1822-1959	1-				g	1601	2	
		2107-2146	1-				g	1602	2	
		2344	1-				G	1603-04	2	
							g	1606-07	2	
							g	1609-10	1	
							G	1806	1	
							G	1807-08	1-	

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	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Sept. 5 Cont.							g	1956-57	2	
							G	1959	1	
							g	2012	1-	
							g	2052	1-	
							G	2113	2	
							b	2116	2	
							G	2119	2	
							g	2145	1	
							g	2154	1	
							G	2157-58	3	
Sept. 6		1302	1-				g	1559	1	
0000-0100		1439-1530	1							
1255-2400		1611-13	1-							
Sept. 7		1445	1-				g	2129	1-	
0000-0055		1739	1-				b	2233	1-	
1302-2400		1924-1930	1-							
		2111-2117	1-							
		2212-2220	1-							
		2220-2231	1							
		2231-2238	1-							
		2248-2254	1-							
		2309-2327	1-							
		2357-2358	1-							
Sept. 8							g	0026	1	
0000-0045							g	0028	1	
1255-2400							g	0033	1-	
							b	1559	1	
							G	1623-24	2	
							b	2345	1-	
Sept. 9	Cont.	2235-37	1							
0000-0045		1322	1-	Uncl.	1835	1	b	1323	1	
1255-2400		1658	1-				g	1523	1-	
		1911-2012	1-				g	1711-12	1	
		2028-2033	1-				g	1800	1	
		2056-2111	1-				b	1802	1-	
		2215-2226	1-				g	1824-25	2	
		2250-2259	1-				b	1837	1-	
		2313	1-				g	2152	1	
							g	2153-54	1-	
							g	2235	1	
							g	2237	1-	
							g	2339	1-	
Sept. 10							G	0013-14	1	
0000-0045										
1300-2400										
		1300-23	1-	Uncl.	1445	1	b	1513	2	
		1346-2018	1-				b	1857	1	
		2018-2100	1							
		2100 →	1-							
Sept. 11										
0000-0045		← 0045	1-				g	1713	1	
1300-2400		1300-1315	1-				g	1809	3	
		1315-1355	2				g	1810-11	1	
		1355-1750	1-				g	1813	1	
		1750	2				b	1832	1	
		1750-1810	1				b	1833	1-	
		1810-1900	2				g	1959-2000	1	
		1900-1930	1				g	2023	2	
		1930-2058	1-				G	2157-59	2	
		2058-2103	2							
		2103 →	1-							
Sept. 12	Cont.	2139-40	2							
0000-0045	Cont.	2259-2300	3							
1300-2400	Cont.	1300-1945	1-							
		← 0045	1-				b	0029	1	
							g	1327	2	
							g	1340	1	
							b	1445	1-	
							b	1835	1	
							G	2039	3	
							b	2122	3	2122 U burst
							b	2156	1	
							b	2213	1-	
							g	2222-23	2	
							b	2226	2	
							g	2224-25	1-	
							b	2232	1	
							g	2259-2300	2	
							g	2305-06	1	
							b	2349	2	
							b	2351	1-	
Sept. 13	Cont.	1645-56	1							
0000-0040	Cont.	1656-1823	2							
1300-2400	Cont.	1823-1926	1							

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

SEPTEMBER 1959

Fort Davis — **25-580 Mc.**

Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Sept. 13 Cont	Cont.	1940-41	3							
	Cont.	2053-54	1							
		1326	1-				G	1320-1322	2	
		1351-1354	1-				b	1421	1	
		1413	1-				g	1437	1	
		1428-1526	1-				g	1644-46	2	
		1526-1531	1				g	1650-52	2	
		1531-1620	1-				b	1712	1	
		1620-1644	1				g	1716	1	
		1644-1823	2				g	1723	2	
		1823-1915	1				b	1823	1	
		1915-2128	1-				g	1840	2	
		2202-2211	1-				g	1843	3	
		2242	1-				g	1844	1	
							b	1845	3	
							b	1937	1	
							g	1940-41	3	
							g	2053-54	2	2053 Neg. slope fast drift burst.
Sept. 14	Cont.	1827	1-							
0000-0040	Cont.	1833-35	3							
1300-2400	Cont.	1842-1846	1-							
		1922	1-				g	1327	1	
		1937-1952	1-				g	1437	1	
							g	1550	1-	
							G	1523-24	2	
							g	1621	1	
							g	1713	2	
							g	1833-35	3	
Sept. 15		1321-29	1-	Uncl.	2117-2139	2	g	2248	1	2117-2139. This unclassified
0000-0040		1435	1-	II.	2124-2127	2				burst probably forms part of
1300-2400		1626-1733	1-	II.	2135-2144	3				succeeding Type II burst.
		1802	1-							
		1825	1-							
		1947-2113	1-							
		2222-31	1-							
		2319	1-							
Sept. 16		2011	1-				g	1844-45	2	
0000-0035										
1315-2400										
Sept. 17		1315-1530	2				g	2305-07	2	
0000-0035		1530-1600	1							
1315-2400		1600-1620	2							
		1620-1800	1							
		1800-1850	2							
		1850 →	1							
Sept. 18		← 0035	1	Uncl.	2226-27	3	g	2033	1-	2226-2227 2229-2231
0000-0035		1315-1650	1-	Uncl.	2229-31	2	b	2304	1	These unclassified
1315-2400										bursts have some
										features of a Type II
										burst.
Sept. 19	Cont.	1932	1							
0000-0035	Cont.	1939	2							
1315-2400	Cont.	1941-42	2							
	Cont.	2028-29	3							
		1442-49	1-				g	0006-08	1	
		1506-07	1-				b	0030	1	
		1941-43	1-				g	1447	1	
		2010-2012	1-				g	1919	1-	
		2230	1-				G	1931-32	2	
		2332	1-				g	1938-39	1	
							b	1941	1-	
							G	2027-28	3	
							g	2033-34	1-	
Sept. 20	Cont.	1450	1-							
0000-0035	Cont.	1556-57	2							
1315-2400	Cont.	1600-01	2							
	Cont.	1650	1							
		1443-44	1				g	1347-48	1	
		1504-24	1-				g	1413-15	1-	
		1524-1532	1				g	1416	1-	
		1532-49	1-				g	1417	1-	
		1834-35	1-				g	1418-19	1-	
		1939	1-				g	1427-28	1-	
		2345-50	1-				g	1440-42	3	
							b	1523	1	
							b	1530	1-	
							b	1532	1-	
							g	1537	1-	
							g	1540	1	
							g	1556-57	2	
							g	1600-01	3	
							g	1602-03	1	

SOLAR RADIO EMISSION
SPECTRUM OBSERVATIONS

SEPTEMBER 1959

Fort Davis

25-580 Mc.

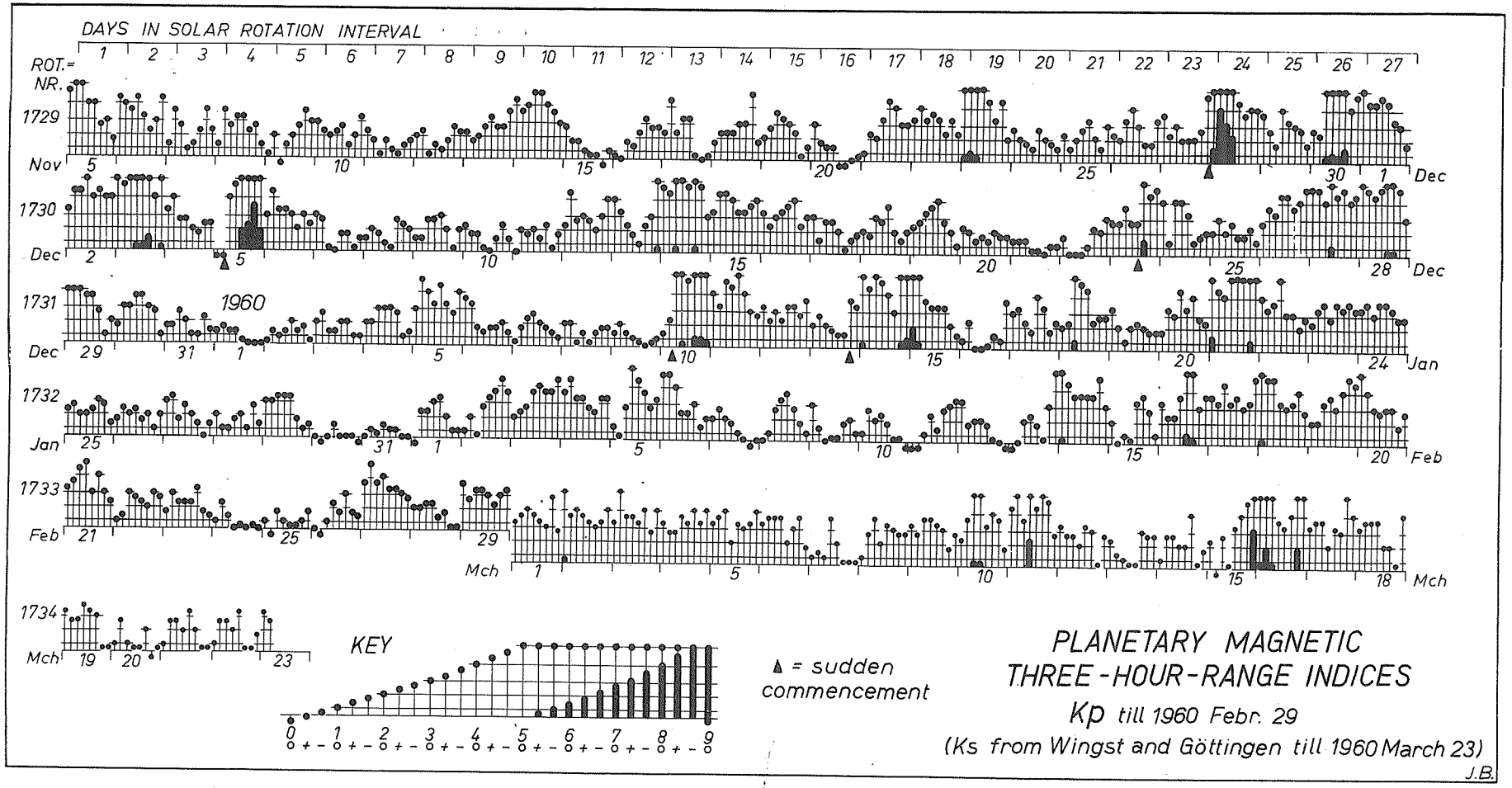
Date and Observing Times (U.T.) 1959	Type I (Noise Storms) and Continuum			Type II (Slow Drift Bursts) Unclassified			Type III (Fast Drift Bursts)			Remarks
	Bursts* or Continuum	Time	Int	II or Unclass	Time	Int	Act	Time	Int	
Sept. 20 Cont.							g	1649-50	3	
							g	1717-18	1	
							g	1743-44	1-	
							g	1952	1-	
							b	2341	2	
Sept. 21		2242	1-							
0000-0030		2307	1-				g	0008	1-	
1315-2400							b	0010	1-	
							g	0012	1-	
							b	0018	1-	
							b	1928	1-	
Sept. 22	Cont.	1654-55	2							
0000-0030	Cont.	1658-59	2							
1315-2400	Cont.	2335	2							
		2030-2130	1-							
		2320 →	1-				b	1654	2	
							g	1658	2	
							g	2000-01	2	
							b	2004	2	
							g	2334	2	
							b	2336		
							g	2345	2	
Sept. 23		← 0030	1-				b	1735	1-	
0000-0030		1317-19	1-				b	2034	2	
1315-2400		1340-47	1-							
		1415-20	1-							
		1446-1546	1-							
		1613-1620	1-							
		1718-1722	1-							
		1804-07	1-							
		1946-2108	1-							
		2108-2127	1							
		2127-2226	1-							
Sept. 24		1315-1344	1-				b	1742	1	
0000-0030										
1315-2400										
Sept. 25		1342-51	1-				g	1408-09	1	
0000-0025		1445-51	1				G	1610-18	2	
1315-2400		1451-1503	1-				g	1621-23	2	
		1524	1-				g	1625-26	1-	
		1635-36	1-				g	1629	1-	
		1718	1-				b	1631	1-	
		2358-59	1-				g	2355-56	1-	
Sept. 26		1739	1-				g	1745-46	1-	
0000-0025		2143	1-				g	1811	2	
1315-2400							g	1815	3	
							b	1829	1-	
							g	1901	2	
							b	1945	3	
							b	1946	2	
							G	2027-31	2	
Sept. 27		1655	1-				g	1913	1-	
0000-0025							b	1915	1-	
1315-2400							b	1916	1-	
Sept. 28		2327	1-							
0000-0025										
1315-2400										
Sept. 29		1719	1-				g	1605	1	
0000-0020		2304-07	1-				G	2032-34	1	
1315-2400							b	2035	1	
							b	2116	1-	
Sept. 30							b	1332	1-	
0000-0020										
1315-2400										

GEOMAGNETIC ACTIVITY INDICES

FEBRUARY 1960

Feb. 1960	C	Values Kp — Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.4	0o 2+ 2+ 3o	3+ 2o 1o 1o	15o	8	Five
2	1.1	1o 2o 1- 3-	3+ 4- 4+ 4-	21+	15	Quiet
3	1.0	2o 2+ 3- 4-	4o 4- 4- 4+	26+	19	
4	0.9	4- 4+ 3+ 3+	3- 2+ 3+ 3+	26+	18	7
5	1.1	1+ 1- 3- 5o	4+ 4- 3- 3+	24-	19	9
						10
6	0.9	5- 5- 4o 2+	2+ 3o 1+ 2o	24+	19	24
7	0.2	2o 3- 2o 2-	1o 0+ 0o 0+	10o	5	25
8	0.6	0+ 1o 3- 3+	4- 3- 2- 1o	16+	10	
9	0.2	3o 1+ 0+ 1-	1- 2- 2o 1o	11-	6	
10	0.1	1o 3- 2o 2+	2- 1- 1- 0o	11o	6	
11	0.4	0o 0o 1o 2+	1+ 3- 3o 3+	14-	8	Five
12	0.2	3+ 2- 2o 2o	2- 1- 0+ 0o	12-	6	Disturbed
13	0.8	0o 0+ 2o 2+	2- 1- 3o 5o	15o	11	
14	1.2	5+ 4+ 4- 4-	4- 4- 5- 3o	32o	29	14
15	0.6	2o 0+ 1o 1-	3+ 4- 3- 1o	15-	9	16
						17
16	1.3	3+ 2+ 2+ 4-	6- 5+ 3o 4-	29+	27	18
17	1.2	4- 3+ 4+ 3+	4- 3o 3+ 5-	29+	23	21
18	1.1	5+ 5- 5- 3+	3o 3+ 4o 3-	31o	28	
19	1.2	2o 2o 3+ 4-	3o 4o 5- 4+	27o	21	
20	0.9	5o 4o 3o 3-	3o 3o 2- 3-	25o	19	
21	1.1	3+ 4- 4+ 5-	3o 4o 3o 2+	28+	22	Ten
22	0.4	1o 1+ 3o 3-	2+ 2o 3o 3-	18o	10	Quiet
23	0.4	2- 3o 2+ 2+	2+ 3+ 2- 1+	18o	10	
24	0.1	1o 2+ 1+ 0+	1- 0+ 1- 0+	7o	4	1
25	0.1	1o 0o 2- 1o	1- 1- 1o 2-	8-	4	7
						9
26	0.2	0+ 0o 1o 2+	2- 3o 2- 1+	11+	6	10
27	1.1	4- 5- 4- 4o	3+ 3+ 3o 3-	28+	22	11
28	0.2	2o 2o 2+ 2+	1+ 2- 1- 1-	13o	6	12
29	0.9	4- 3- 3+ 3+	3o 2+ 3o 3+	25-	16	24
						25
						26
						28
Mean:	0.69			Mean:	14	

COMMERCE - STANDARDS - BOULDER


DAYS IN SOLAR ROTATION INTERVAL
ROT.= NR.
1729
Nov
Dec
1730
Dec
Dec
1731
1960
Dec
Jan
1732
Jan
Feb
1733
Feb
Mch
1734
Mch
KEY
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp till 1960 Febr. 29
(Ks from Wingst and Göttingen till 1960 March 23)
J.B.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

FEBRUARY 1960

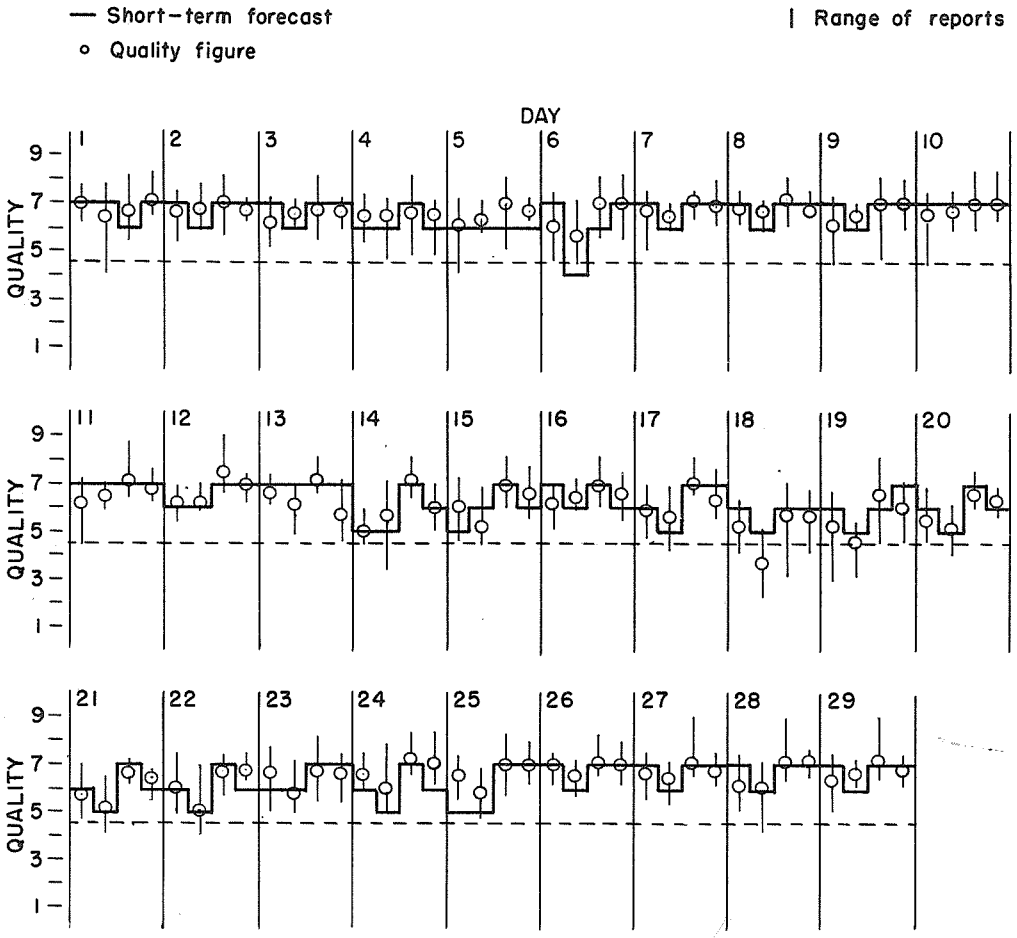
Feb. 1960	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day index	Advance forecasts (J-reports) for whole day; issued in advance by:				Geomagnetic K_{Fr}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-7 days Final	1-7 days Js	1-7 days SDW	1-7 days J	Half (1)	Day (2)
1	7o	6+	7-	7o	7	7	6	7	7-	6			6	2	1
2	7-	7-	7o	7-	7	6	7	7	7-	6			6	2	3
3	6+	7-	7-	7-	7	6	7	7	7-	6			6	2	(4)
4	7-	6+	7-	7-	6	6	7	6	7-	7			7	(4)	3
5	6+	6+	7o	7-	6	6	6	6	7-	7			7	2	3
6	6o	6-	7o	7o	7	4	6	7	6+	6			6	(4)	2
7	7-	7-	7o	7o	7	6	7	7	7-	6			6	2	1
8	7-	7-	7+	7-	7	6	7	7	7-	6			6	2	2
9	6+	7-	7o	7o	7	6	7	7	7-	7			7	1	2
10	7-	7-	7o	7o	7	7	7	7	7-	7			7	1	1
11	6+	7-	7+	7-	7	7	7	7	7-	7			7	1	2
12	6+	6+	8-	7o	6	6	7	7	7-	7			7	1	1
13	7-	6+	7+	6-	7	7	7	7	7-	7			7	1	2
14	5o	6-	7+	6o	5	5	7	6	6o	7			7	(4)	3
15	6o	5+	7o	7-	5	6	7	6	6+	7			7	0	2
16	6+	7-	7o	7-	7	6	7	6	7-	6			6	2	(4)
17	6o	6-	7o	6+	6	5	7	7	6+	6			6	(4)	3
18	5+	4-	6-	6-	6	5	6	6	5o	6			6	(4)	3
19	5+	5-	7-	6o	6	5	6	7	6-	7			7	3	3
20	6-	5+	7-	6+	6	5	7	6	6o	7			7	3	3
21	6-	5o	7-	6+	6	5	7	6	6o	7			7	(4)	2
22	6o	5+	7-	7-	6	5	7	6	6+	7			7	2	3
23	7-	6o	7-	7-	6	6	7	7	7-	7			7	2	2
24	7-	6+	7+	7o	6	5	7	6	7-	5		5	7	1	1
25	7-	6o	7o	7o	5	5	7	7	7-	4		4	4	1	1
26	7o	7-	7o	7o	7	6	7	7	7o	7	7	5	5	1	2
27	7-	6+	7+	7-	7	6	7	7	7-	7	7		6	3	3
28	6+	6+	7o	7o	7	6	7	7	7-	7	7		6	2	2
29	6+	7-	7o	7-	7	6	7	7	7-	7	7		7	3	3

Score:									
Quiet Periods	P	15	12	24	20	14		12	
	S	13	15	5	9	13		15	
	U	1	0	0	0	1		1	
	F	0	1	0	0	1		1	
Disturbed Periods	P	0	0	0	0	0		0	
	S	0	1	0	0	0		0	
	U	0	0	0	0	0		0	
	F	0	0	0	0	0		0	

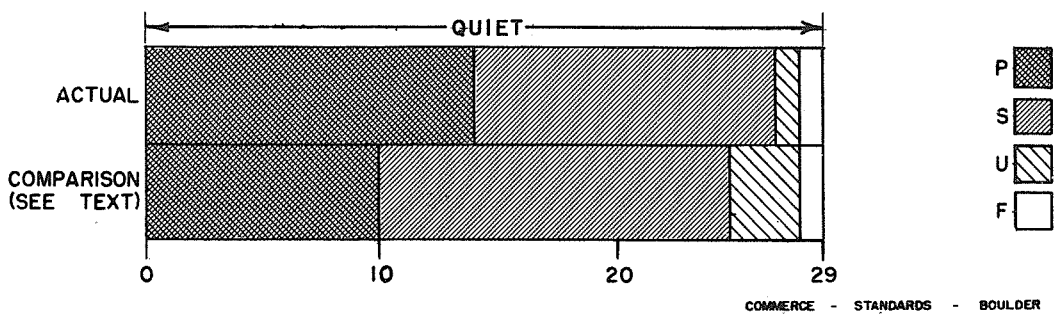
( ) represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

FEBRUARY 1960

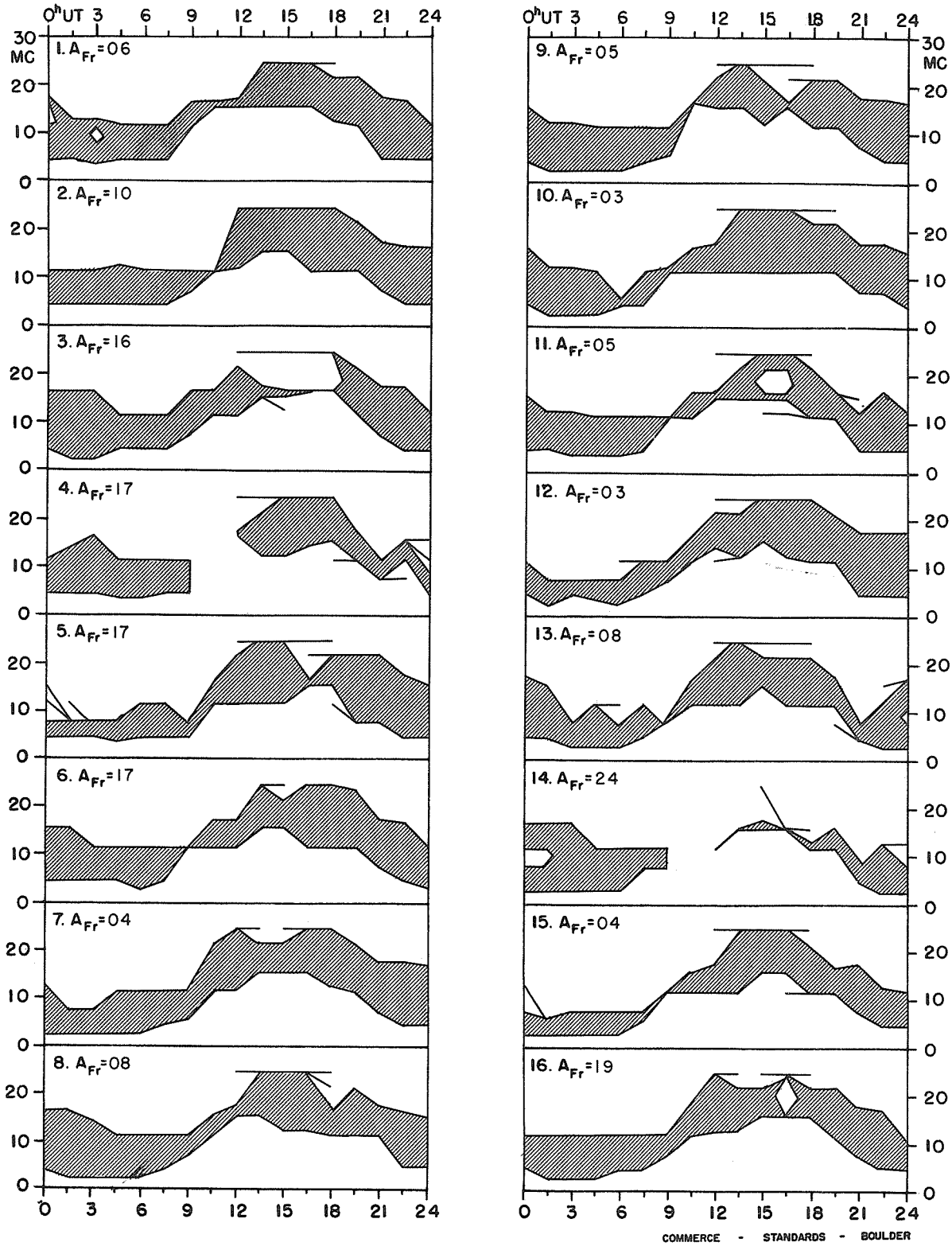


OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE

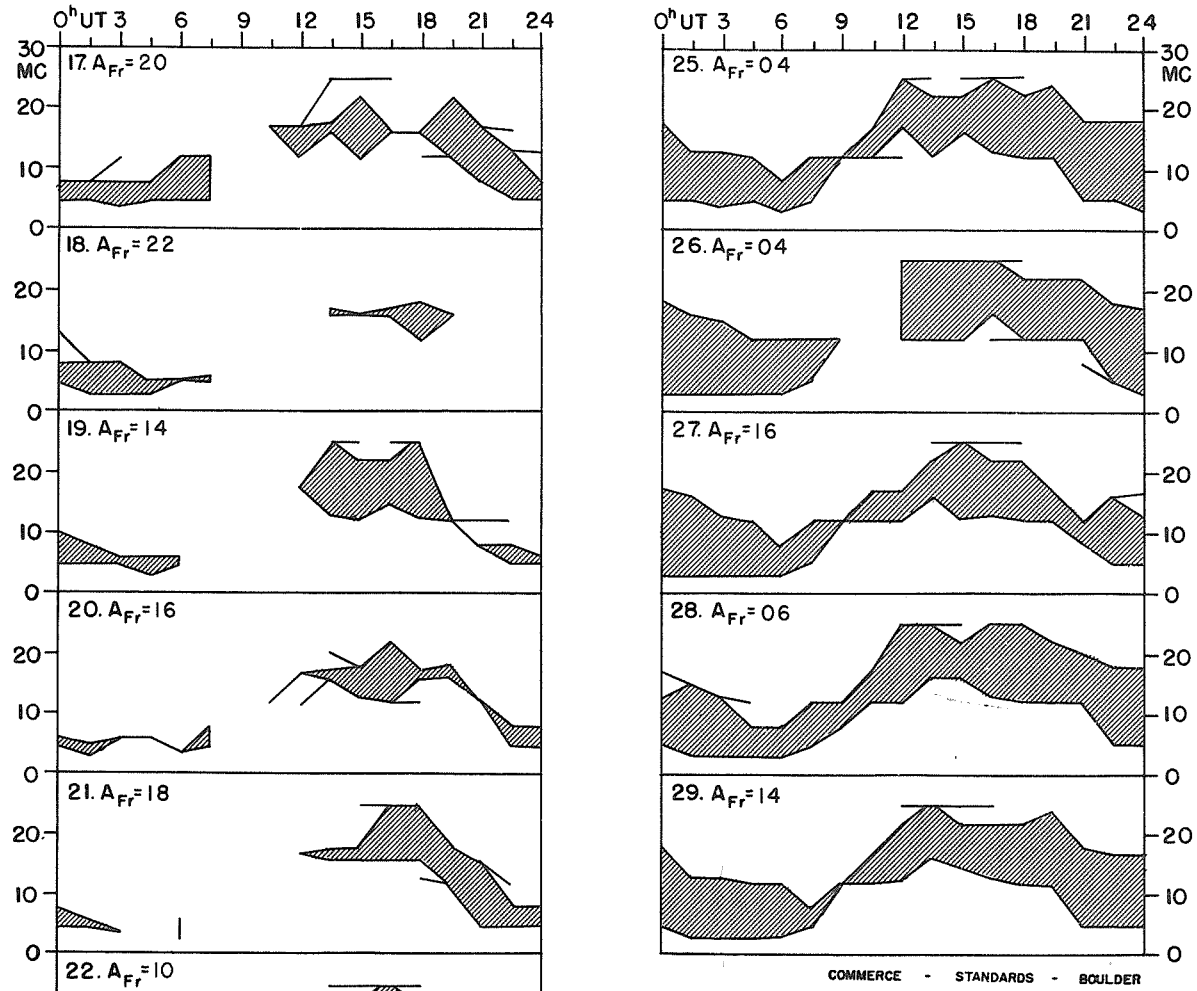


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1960



FEBRUARY 1960



Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

FEBRUARY 1960

Feb. 1960	North Pacific 12-hourly quality figures		Short-term forecasts issued at		Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:				Geomagnetic K_{S1}	
	0700 to 1900	1900 to 0700	0600	1800		1-7 days Final	1-7 days Jps	1-7 days SDW	1-7 days Jp	Half (1)	Day (2)
1	7	6	6	6	6	6			6	2	2
2	6	6	7	6	6	6			6	1	3
3	6	6	7	6	6	6			6	2	(4)
4	7	6	5	7	6	6			6	3	2
5	7	6	7	7	7	5			5	2	(4)
6	7	6	6	6	7	5			5	(4)	2
7	6	7	7	6	6	5			5	2	0
8	7	7	7	7	7	6			6	2	3
9	5	6	7	6	6	6			6	0	1
10	7	7	7	7	7	6			6	2	1
11	7	6	7	6	7	7			7	0	3
12	7	7	7	7	7	7			7	2	0
13	6	6	7	7	6	7			7	1	2
14	7	7	5	6	8	7			7	(5)	(4)
15	6	7	7	5	6	7			7	0	3
16	7	6	7	7	7	6			6	2	(4)
17	6	7	7	7	6	6			6	(4)	3
18	7	6	7	7	7	7			7	(4)	(4)
19	7	7	7	7	7	7			7	2	(4)
20	5	6	7	7	6	7			7	3	2
21	4	5	7	5	(4)	7			7	(4)	3
22	5	6	6	7	6	7			7	2	2
23	6	6	6	7	6	7			7	2	2
24	6	7	6	6	6	7			7	1	0
25	6	6	6	7	6	7			7	1	0
26	7	6	7	7	7	7			7	1	2
27	7	7	7	7	7	7			7	(4)	2
28	7	8	7	7	7	7			7	2	1
29	7	7	7	8	8	7			7	2	2

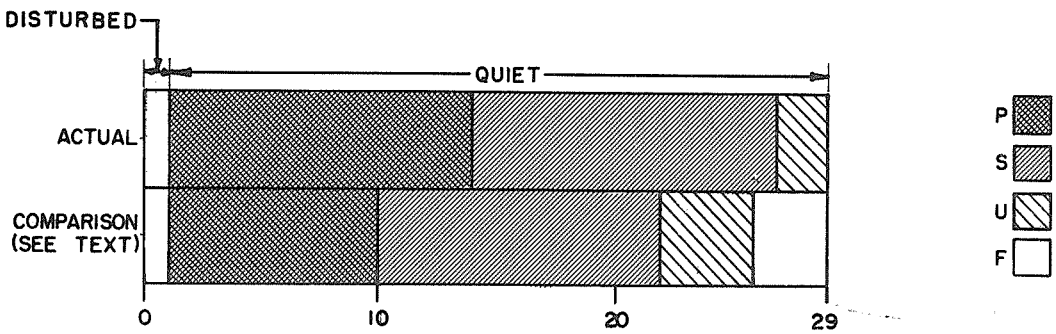
Score:						
Quiet Periods	P	15	13		13	
	S	9	15		13	
	U	4	1		2	
	F	0	0		0	
Disturbed Periods	P	0	0		0	
	S	0	0		0	
	U	0	0		0	
	F	1	0		1	

( ) represent disturbed values.

NORTH PACIFIC

FEBRUARY 1960

OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

MARCH 1960

Issued Day/Time UT Mar. 1960	Advance Geophysical Alert	No.	Worldwide Geophysical Alert	Special World Interval
16/0330	Fort Belvoir Magnetic Storm 15/21XXZ			
16/1600		52	Magnetic Storm 15/12XXZ	
31/1315	Fort Belvoir Magnetic Storm Aurora Probable 31/08XXZ			
31/1600		53	Magnetic Storm 31/08XXZ	Start Special World Interval

COMMERCE - STANDARDS - BOULDER