

PART B
SOLAR - GEOPHYSICAL DATA

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

SOLAR - GEOPHYSICAL DATA

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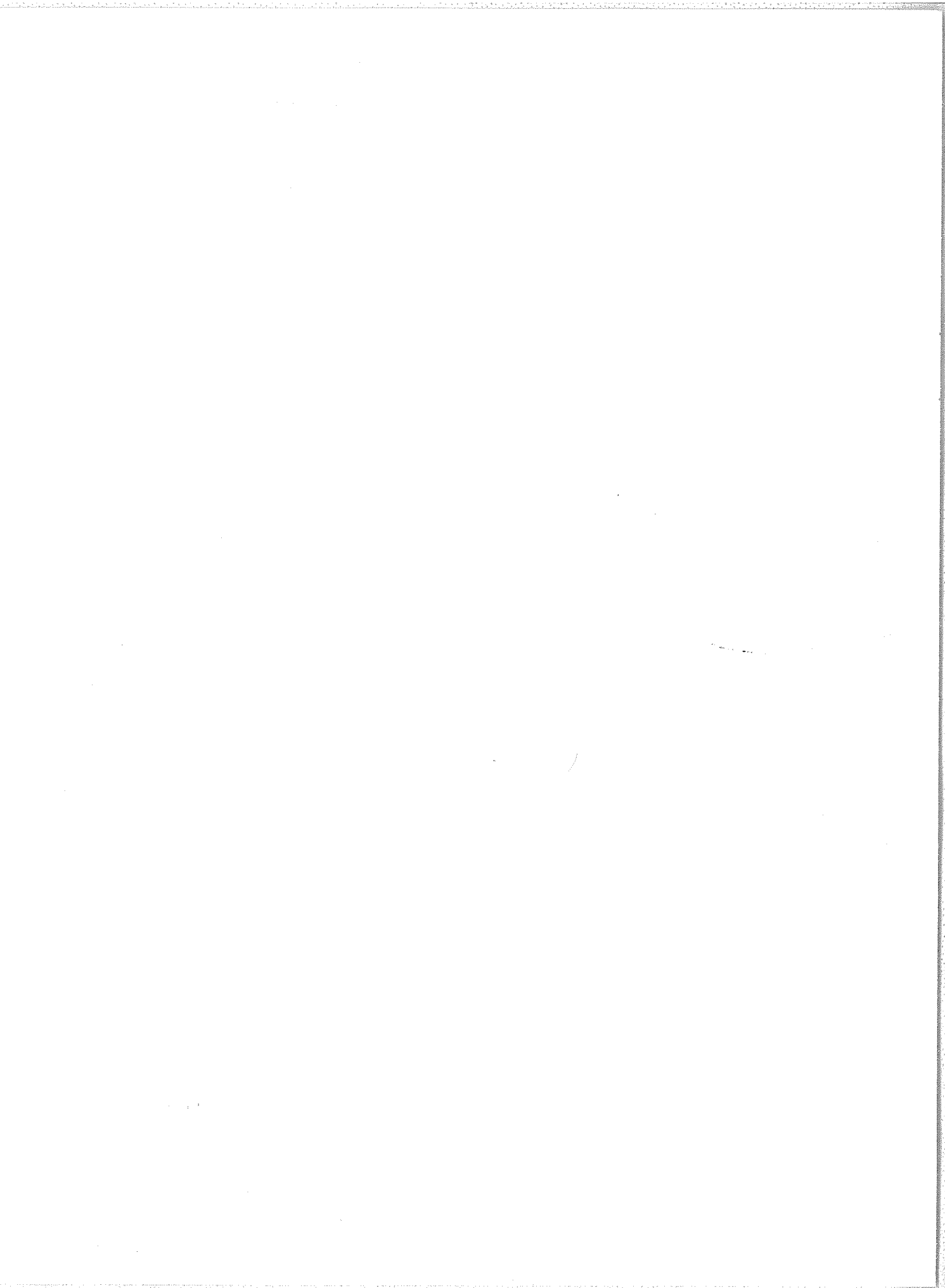
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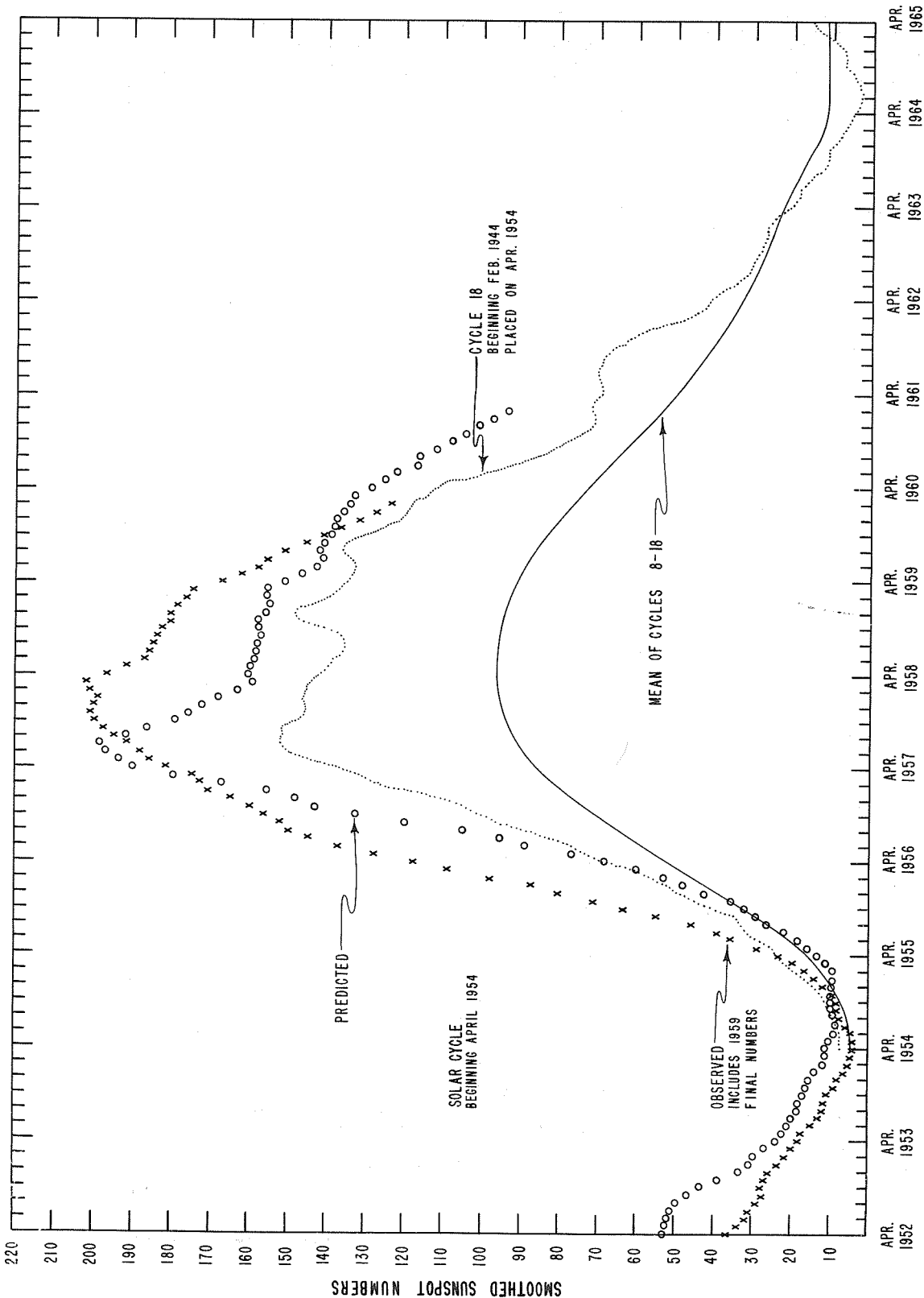
INTRODUCTION

The descriptive text is published periodically or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F189 Part B issued May 1960.

DAILY SOLAR INDICES

July 1960	American Relative Sunspot Numbers R_A'
1	144
2	152
3	153
4	158
5	141
6	117
7	119
8	117
9	115
10	90
11	72
12	73
13	87
14	91
15	108
16	117
17	118
18	125
19	127
20	126
21	127
22	123
23	106
24	97
25	90
26	82
27	77
28	75
29	82
30	64
31	63
Mean:	107.6

Aug. 1960	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	63	140
2	53	134
3	31	125
4	32	122
5	25	126
6	24	127
7	57	134
8	57	145
9	76	152
10	94	170
11	156	187
12	207	214
13	235	234
14	236	238
15	252	240
16	244	241
17	232	247
18	225	250
19	217	234
20	202	219
21	177	201
22	168	189
23	130	171
24	113	162
25	131	158
26	140	162
27	109	150
28	98	140
29	97	129
30	96	129
31	84	132
Mean:	131.0	174.3



CALCIUM PLAGE AND SUNSPOT REGIONS

AUGUST 1960

CMP Aug. 1960	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area Int.		History, Age		CMP Values Area Count		History
01.4	N17	5784	5728	800	2	l / l	5			
01.4	N02	5786	5732	300	1.5	l / l	2			
03.0	N32	5780	5735	600	1	l - l	2			
03.2	N11	5778	5732	800	2	l - l	2			
03.7	N28	5781	5735	300	1.5	l \ d	2			
04.1	S10	5787	New	300	3	l - l	1			
04.4	N16	5782	5737	2600	3	l \ l	5			
06.5	N14	5785	5740	1000	2.5	l - l	3	50	5	b ^ d
08.0	N29	5789	5743	300	1.5	l - l	2			
08.3	S17	5788	5741	2200	2	l / l	4	(20)	(2)	b ^ d
08.7	N22	5791	5746	400	1	l \ d	2			
09.2	S09	5790	5745	2300	2	l \ l	4			
10.0	N26	5792	5746	700	1.5	l \ d	2			
10.8	S02	5793	5759	500	2	l / l	2	100	8	b / l
13.4	N20	5794	5749	11000	3.5	l - l	2	790	57	l - l
14.6	N12	5796	5752	1500	2.5	l \ l	6			
14.6	S14	5797	*	4500	3.5	l - l	1	800	34	l - l
15.8	S09	5798	**	3600	3.5	l - l	1	390	11	l - l
16.9	S05	5800	****	4800	3.5	l - l	1	395	5	l - l
17.0	N17	5799	***	6500	3.5	l - l	1	1840	34	l \ l
18.1	N02	5812	New	100	2	b ^ d	1			
18.7	S09	5801	5764	4800	3.5	l - l	2	880	15	l / l
19.4	N15	5802	+	4500	3.5	l - l	1	780	3	l - l
21.4	N14	5803	++	3300	3	l - l	1	160	4	l \ d
21.8	S07	5805	5767	1400	1	l - l	5			
21.8	N27	5806	New	900	2	l / l	1	60	6	l / l
22.3	N07	5807	5769	900	2.5	l / l	4	220	3	b / l
22.4	S16	5808	5771	600	1	l - l	3			
23.2	S08	5809	5771	1500	3	l / l	3	190	6	b / l
23.5	S16	5811	5771	2200	3.5	l - l	3	400	5	l - l
23.7	N23	5810	5770	1000	1	l / l	4	70	2	b / l
25.5	S20	5828	New	(600)	(3)	b / l	1			
25.7	N23	5813	5775	300	2.5	l - l	3			
25.7	S09	5815	New	100	1.5	l \ d	1			
25.8	N11	5814	5775	2000	2.5	l - l	3			
26.0	S20	5824	New	(400)	(1.5)	b ^ d	1			
27.1	N11	5816	5775	3400	3	l \ l	3	70	1	l - l
27.6	S17	5829	New	(100)	(1.5)	b / l	1			
27.7	N19	5818	5784	1600	2	l - l	6	40	1	b / l
28.0	N35	5817	5774	2600	2.5	l \ l	5			
29.0	N23	5823	New	1400	2	b ^ l	1			
29.2	S18	5825	New	1200	3.5	b / l	1	500	7	b / l
30.3	S12	5830	New	400	3	b / l	1	20	2	b ^ d
30.4	N10	5826	5778	300	2	b / l	3			
31.5	N16	5822	5782	3800	3.5	l - l	6	480	33	l - l

Correction for July: Region 5759 was New and should not have been omitted.

July

14.9 N02 5759 New 300 3 b / l 1 100 8 b / l

* New in position of 5754.

** New in position of 5756.

*** New in position of 5761.

**** New in position of 5760.

+ New and part of 5765.

++ New and part of 5765.

COMMERCE - STANDARDS - BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES
AUGUST 1960

CMP Aug 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 ₁	G ₆	G ₁	R ₁	G ₆	G ₁	R ₁	G ₆	G ₁	R ₁
1	82a	117a	x	58a	74a	x	32	44	18a	81	93	20a
2	83a	102a	36a	53a	62a	x	42a	51a	24a	80a	97a	32a
3	83	116	20	45	64	8	32	48	x	65	80	x
4	x	x	x	x	x	x	24a	31a	6a	47a	66a	8a
5	64a	87a	40a	27a	33a	25a	26a	34a	5	44a	78a	33a
6	x	x	x	x	x	x	43a	64a	18a	44a	67a	x
7	69	94	8a	45	76	8a	48	60	8	4	42	12
8	43	64	7	41	76	7	58	80	x	33	40	x
9	62*	95	x	55	80	x	59a	91a	21a	40a	50a	x
10	72	97	x	50	73	x	46	72	9a	44	49	x
11	54	72	23	38	46	13	34a	48a	x	69a	86a	x
12	x	x	x	107a	140a	x	24a	39a	18a	57a	64a	x
13	65a	95a	61a	29a	44a	37a	68a	126a	x	98a	132a	40a
14	76	110	36	57	110	38	73*	167	30	72	86	x
15	81	108	29a	64	118	32a	83	148	24	68	80	35
16	98a	117a	59a	105a	157a	43a	x	x	x	x	x	x
17	78	113	x	108	167	x	126	166	63	102	160	36
18	91a	119a	15a	x	x	51a	76a	118a	x	82a	125a	x
19	x	x	28	27	14	27	x	x	x	x	x	x
20	x	x	82a	58a	101a	35a	65	94	32	109	154	42
21	139	160	19	56	108	16	48a	80a	x	87a	116a	x
22	70	98	x	55	86	x	76	108	18	72	95	34
23	89a	103a	24a	73a	139a	39a	77	98	21	68	89	x
24	67a	106a	15a	29a	38a	15a	76a	162a	27a	80a	128a	27a
25	106a	148a	x	43a	64a	x	57a	100a	16a	91a	116a	26a
26	120	157	x	44	70	x	57	83	28	73	92	21
27	120a	132a	x	61a	94a	x	75a	104a	27a	91a	104a	13a
28	77	129	x	37	62	x	72	140	37	71	98	26
29	60	103	5	17	32	5	51a	110a	x	51a	62a	x
30	x	x	x	x	x	x	42a	82a	11	54a	115a	7
31	38a	58a	19a	24a	32a	24a	21	24	27	52	87	42

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

Note: 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.

CORONAL LINE EMISSION INDICES
APRIL 1960

CMP Apr 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 ₁	G ₆	G ₁	R ₁	G ₆	G ₁	R ₁	G ₆	G ₁	R ₁
1	65	95	x	55	68	x	x	x	18a	x	x	38a
2	65	100	x	37	47	x	x	x	11a	x	x	17a
3	107	146	13	84	106	5	8	x	x	29	74	18
4	79	86	11	81	114	11	26	x	10a	10a	69a	30
5	x	x	x	x	x	x	x	x	x	x	x	54
6	75	114	x	68	96	x	x	x	x	x	x	12a
7	x	x	x	x	x	x	x	x	12	12	92	22
8	x	x	x	x	x	x	x	x	11a	11a	119a	19a
9	x	x	x	x	x	x	x	x	46a	47a	56a	x
10	102	123	x	77	122	x	x	x	3	10	81	5
11	27a	38a	x	11a	24a	9a	20a	x	16	27	62	19
12	48	65	x	27	52	12	18	x	18a	18a	44	15a
13	105	147	x	52	66	x	x	x	14a	14a	105a	47a
14	x	x	11	x	x	2	4	x	11a	11a	63a	32a
15	x	x	x	x	x	x	x	x	10a	10a	150a	17a
16	50	54	x	49	69	x	x	x	x	x	x	x
17	71	97	15	49	61	17	44	x	x	10a	79	x
18	91a	151a	12a	48a	60a	10a	24a	x	x	x	176	29a
19	x	x	x	x	x	x	x	x	x	x	115	x
20	105	132	12	52	80	5	12	x	x	x	140	x
21	116	141	18a	63	119	11a	17a	x	x	x	146	x
22	x	x	x	20a	28a	x	x	x	4	10	194	52
23	69	108	4	75	130	4	17	x	5	23	126	28
24	44	66	x	46	56	x	x	x	6	15	38	17
25	64a	109a	12a	67a	134a	12a	24a	x	x	x	65	x
26	50a	65a	13a	67a	132a	17a	34a	x	x	x	84	x
27	61a	84a	11a	65a	88a	9a	12a	x	x	x	100	x
28	58a	90a	16a	43a	55a	10a	17a	x	x	x	x	x
29	x	x	x	x	x	x	x	x	x	x	114	x
30	x	x	x	x	x	x	x	x	x	x	x	x

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

CORONAL LINE EMISSION INDICES

MAY 1960

CMP May 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	R ₆	R ₁	G ₆	R ₆	R ₁	G ₆	R ₆	R ₁	G ₆	R ₆	R ₁
1	55	75	29a	53	84	9a	x	x	x	x	x	x
2	110	155	x	105	134	x	36	43	21	x	x	x
3	113	137	x	95	127	x	40	54	10	x	x	x
4	118	129	x	106	132	x	43	67	18	x	x	x
5	120	147	x	90	140	25	x	x	x	x	x	x
6	121	162	5	104	144	14	x	x	x	x	x	x
7	79	96	5	59*	116	17	35a	59a	11a	16a	50a	20a
8	97	119	x	59	92	x	x	x	x	x	x	x
9	126	140	x	74	116	x	47	83	x	x	54	x
10	145	191	x	84	112	x	100	187	15	24	123	10
11	x	x	x	x	x	x	42a	55a	x	x	36a	x
12	147	186	x	113	154	x	96	146	x	x	108	x
13	x	x	x	x	x	x	24	48	8	10	28	26
14	x	x	x	x	x	x	26	35	x	x	45	x
15	x	x	x	x	x	x	27	39	14	18	42	30
16	57	82	42	40	50	9	29	42	9	11	56*	28
17	x	x	38	53	67	9	49	94	12	14a	124	15
18	x	x	33	x	x	21	39	74	13a	28	194	15a
19	x	x	x	23a	28a	x	56	80	14	30a	62	21
20	x	x	x	x	x	x	72	108	19a	30a	73	38a
21	x	x	17	x	x	x	x	x	9a	12a	92	18
22	20	30	x	21	30	x	39	56	16	29	40	50
23	42	60	23a	39	58	15a	69	93	x	x	64	23
24	104	169	20	97	152	9	74	97	x	x	101	x
25	x	x	22a	28a	34a	7a	60	68	27a	40a	95	x
26	86	123	x	83	98	x	36	46	13	23	119	33a
27	30	58	8	40	73	9	63	95	x	x	68	18
28	16	20	11	32	48	14	57	83	x	x	70	x
29	21	31	16	32	48	14	48	61	9	11	36	x
30	22	26	14	28	39	15	30	40	5	9	25	10
31	66	85	20	61	82	4	x	x	x	x	21	9
							52	65	x	x	24	6
							61	82	x	x	x	x
							82	82	10	16	x	x
							82	82	4	6	x	x
							61	82	2	4	49	14

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

COMMERCE - STANDARDS - BOULDER

CORONAL LINE EMISSION INDICES
JUNE 1960

CMP Jun 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 ₁	G ₆	G ₁	R ₁	G ₆	G ₁	R ₁	G ₆	G ₁	R ₁		
1	81	126	41	40	63	11	79	155	5	9	86	104	11	26
2	72	92	25a	60	71	18a	81	112	3	9	92	104	11	23
3	147	197	34a	83	112	16a	90	128	8	15	112	144	17	26
4	64	89	21	51	85	8	34	52	10	16	107	157	15	25
5	122	167	x	84	139	x	14	24	7	12	66*	91	13	20
6	125	141	x	86	129	x	47	70	6	8	113	130	7	16
7	136	161	20a	123	152	13a	51	67	x	x	65	91	x	x
8	46	66	25	55	72	13	82	89	x	x	78	106	x	x
9	79	98	x	104	138	x	39	76	16a	26a	38	48	8a	19a
10	78	94	x	61	100	x	65	80	15a	22a	87	101	22a	47a
11	83	94	24	51	60	11	42	77	17	22	53	77	27	66
12	100	128	45	51	85	2	69	107	x	x	153	226	x	x
13	x	x	x	x	x	x	57	81	x	x	155	224	x	x
14	91	123	20	51	96	13	86	125	35a	65a	126	168	17a	43a
15	159	182	12	82	106	20	73	127	x	x	66	83	x	x
16	89	119	12	86	107	19	65	94	10	26	54	63	4	11
17	79	95	13	110	133	11	71	83	13	17	65	95	11	20
18	45	68	12	59	80	9	36	40	x	x	48	64	x	x
19	33	46	5	12	18	2	32a	40a	15	25	42a	60a	18	30
20	128	170	19	60	69	5	33a	50a	27a	40a	44a	65a	19a	40a
21	x	x	x	x	x	x	56	85	5	15	71	105	10	18
22	96	117	6	80	106	4	32	32	9	15	21	32	13	20
23	40	57	13a	71	96	17a	61	116	17	40	27	32	17	34
24	63	76	24a	97	114	25a	68	122	x	x	63*	150	x	x
25	30	45	27	36	46	26	x	x	x	x	x	x	x	x
26	98	130	x	68	90	x	x	x	x	x	x	x	x	x
27	90	133	x	84	97	x	60	95	27a	50a	55	69	27a	80a
28	80	139	25a	98	162	22a	x	x	30a	40a	x	x	x	x
29	99	190	x	109	144	x	102	166	x	x	101	183	20a	40a
30	86	133	37	95	123	10	x	x	x	x	x	x	x	x

CONTINUED - STANDARDS - BOLLIGER

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

Note: 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.

SOLAR FLARES

AUGUST 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER. DIST.				McMATH FLARE REGION	TIME — U T	MEAS. AREA Sq. Deg.		CORR. AREA Sq. Deg.
HAWAII ONDREJOV UCCLE	01	0002 E	0028	N09 W18	5775	26 D	1	2	0002	1.20			
	01	0707	0758	N04 W21	5775	51	1+	3	0711	3.50		2.40	
	01	1018	1108	N07 W25	5775	50	1+	4	1141				
ZURICH	02	1358 E	1402	N26 W84	5779	4 D	1	2	1358		3.00		
ARCETRI HAWAII	05	1123 E	1131 D	N18 E88	5794	8 D	1	3	1123	.80			
	05	2214	2226	N17 E90	5794	12	1+	3	2218	.50			
ISTANBUL ARCETRI	06	0730 E	0755	N20 E83	5794	25 D	1+	3					S-SWF
	06	0834 E	0918 D	N18 E77	5794	44 D	1	1					S-SWF
{CAPRI S SAC PEAK	06	1313 E	1328	N18 E81	5794	15 D	2	1	1314	2.50	9.20		
	06	1324 E	1400	N20 E90	5794	36 D	1	3		3.03			18
{HUANCAYO LOCKHEED	06	1506 E	1524	N20 E90	5794	18	1	3		2.90			30
	06	1618 E	1649	N21 E76	5794	31	2+	2	1625	2.00	11.70	6.30	30
HAWAII HAWAII	06	1620 E	1650	N22 E75	5794	30 D	1	2	1625	.70			
	06	1908 E	1922	N19 E73	5794	14 D	1+	2	1918	1.00			
HAWAII HAWAII	06	2256	2325 D	N18 E71	5794	29 D	1	2	2318				
	07	0104 E	0116 D	N23 E70	5794	12 D	1	2	0110	1.00			
HAWAII ONDREJOV	07	0143 E	0200 D	N23 E70	5794	17 D	1	2	0145	.80			
	07	0509 E	0517	N20 E70	5794	8 D	1+	3	0509			3.60	
{ONDREJOV ISTANBUL	07	0728 E	0735	N20 E85	5794	7 D	1	2	0552			3.40	
	07	0740 E	0757	N19 E83	5794	7	1	3	0729			4.10	
{AROSA ISTANBUL	07	0747 E	0803 D	N19 E85	5794	17 D	1+	3					S-SWF
	07	0805	0815	N20 E84	5794	16 D	1	2					
{ISTANBUL WENDEL	07	0807 E	0845 D	N16 E67	5794	10	1	2					G-SWF
	07	0820 E	0854	N17 E65	5794	38 D	1+	2					
{CAPRI S WENDEL	07	1222 E	1231	N18 E70	5794	34 D	1+	3	1224	2.00	6.00		
	07	1307 E	1312 D	N24 E85	5794	9 D	1	2			2.00		S-SWF
{LOCKHEED HAWAII	07	1728	1825	N22 E84	5794	35 D	1+	2	1738	2.00	6.00		
	07	1728	1825	N22 E64	5794	5 D	1	2	1738	2.00	3.00		30
KODAIKNL ARCETRI	08	0500 E	0505 D	N21 E63	5794	57	1	2	1758	1.20			
	08	0900 E	0900 E	N19 E63	5794	6 D	1	2	1758				30
ISTANBUL ISTANBUL	09	0625 E	0638	N22 E70	5794	5 D	2	1	0500	3.80	10.50	1.28	
	10	0650 E	0705	N20 E71	5794	13 D	1	3	0900	1.10	2.60		
{ZURICH HAWAII	10	0753	0800	N21 E57	5794	15 D	1	1					S-SWF
	10	0754 E	0759	S06 E76	5798	7	1	1					
HAWAII HAWAII	10	1800 E	1802 D	N17 E85	5799	5 D	1	1	0754		2.00		
	10	2000	2010	N17 E87	5799	5 D	1	2	1800	.40			
HAWAII HAWAII	10	2138	2202	N12 E90	5799	10	1	3	2002	.40			
	10	2138	2202	N12 E90	5799	24	1	3	2140	.30			
KODAIKNL ISTANBUL	11	0247	0315	N21 E33	5794	28	2	3	0300	5.80	7.10	2.08	122
	11	0655 E	0705 D	S22 W43	5788	10 D	1	1	0939	.30	2.60		
CAPRI S	11	0935	0942	S09 E60	5798	7	1	3					S-SWF

SOLAR FLARES

AUGUST 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA-TION - MINUTES	IM-POR-TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	MGMATH PLAGE REGION				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	
{ ONDREJOV ZURICH LOCKHEED HAWAII	11	1203	1213	N23	E26	5794	10 D	1	3	8.00	4.00	2.00	S-SWF
	11	1221	1228	S01	W10	5793	7 D	2	2	1221			
	11	1916	2055	N23	E27	5794	99	2+	2	1930			
	11	1924	2042	N22	E27	5794	78	3+	3	1928			
{ HAWAII HAWAII	11	2004	2022	S03	W18	5793	18	1	3	2008			
	12	0640	0705	S01	W23	5793	25	1	1	1037			
{ ISTANBUL CAPRI S	12	1033	1037	N22	E19	5794	4 D	1	1		2.30		
	13	0745	0758	S01	W36	5793	13	1+	2	0958			
{ ZURICH ZURICH	13	0958	1004	N19	E46	5799	6 D	1	2	1002	2.00		
	13	1000	1009	N20	E06	5794	9 D	1	2	1328	2.10		
{ CAPRI S HAWAII	13	1305	1341	N19	E07	5794	36 D	1	2	1747			
	13	1747	1751	N22	E48	5799	4 D	1	2	2238			
{ HAWAII HAWAII	13	2236	2244	S04	W45	5793	8	1	2	2238			
	13	2252	2252	S13	E70	5801	4 D	1	2	2252			
{ SAC PEAK	13	2254	2258	S13	E70	5801	4 D	1	2	2.37		16	
{ HAWAII HAWAII	14	0200	0204	N22	E41	5799	4 D	2	1	0201			
	14	0534	0622	N24	W03	5794	48 D	2+	3	0538			
{ KODAIKNL	14	0535	0547	N20	W13	5794	12 D	3	1	0540			
{ ISTANBUL	14	0615	0630	N22	W05	5794	15 D	2+	3	14.80	15.60	153	
{ ISTANBUL	14	0625	0645	N21	W09	5794	20	1	3	0759			
{ ONDREJOV	14	0757	0809	N20	E38	5799	12	1	2	0900			
{ ONDREJOV	14	0857	0912	N20	E37	5799	15 D	1	2	2.50			
{ CAPRI S	14	0858	0919	N23	E35	5799	21	1	3	0906			
{ ZURICH	14	0952	1000	N19	E35	5799	8 D	1	1	0952			
{ ZURICH	14	0952	1003	S00	W50	5793	11 D	1	1	0954			
{ SAC PEAK	14	1250	1328	N21	E38	5799	38 D	1	3	3.45	6.50	32	
{ CAPRI S	14	1307	1410	N22	E32	5799	63 D	2	3	5.00			
{ ONDREJOV	14	1311	1335	N20	E35	5799	24 D	2	1	1312			
{ WENDEL	14	1329	1414	N20	E34	5799	45 D	1+	1	1311			
{ WENDEL	14	1329	1347	S01	W51	5793	18 D	1	1	7.00	7.90		
{ WENDEL	14	1410	1432	S01	W51	5793	22 D	1	1	3.00	3.00		
{ KODAIKNL CAPRI S	15	0525	0540	N19	W25	5794	15 D	1	2	0525			
	15	0748	0820	S08	E35	5801	32 D	1	3	0750			
{ AROSA	15	1015	1608	N22	E25	5799	□	1	2	2.83			
{ SAC PEAK	15	1544	1558	S07	E01	5798	24	1	2	2.83			
{ ONDREJOV	15	1551	1558	S09	E05	5798	7 D	1+	1	1.68			
{ SAC PEAK	15	1646	1654	S13	W13	5797	8	1	2	2.18			
{ SAC PEAK	15	1646	1656	N20	W23	5794	10	1	2	2.33			
{ HUANCAYO	15	1725	1741	S10	E40	5801	16	1	3	2.40	3.20		
{ HAWAII	15	2132	2152	S07	E01	5798	20	1	2	1.10			
{ AROSA WENDEL	16	0600	0610	S11	E32	5801	10 D	1	1	6.00			
	16	0632	0651	N12	E68	5803	19 D	1+	1	4.00			
{ WENDEL	16	0655	0717	N12	E70	5803	22 D	1	1	4.00			
{ WENDEL	16	0714	0732	S09	W32	5797	18 D	1	1	4.00			
{ ISTANBUL	16	0717	0725	S10	E31	5801	8	1	1	3.00			
{ WENDEL	16	0840	0856	S08	E33	5801	16 D	1	1	3.00			

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OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DUR. TION - MINUTES	IM. POR. TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hc	
{ CAPRI S WENDEL AROSA ONDREJOV UCCLE SCHAUINS ZURICH SCHAUINS AROSA ZURICH AROSA ONDREJOV ZURICH ZURICH HUANCAYO	16	1130 E	1221		S11 E30	5801	51 D	1+	3	2.20	2.60	2.90	Slow S-SWF
	16	1131	1235 D		S10 E31	5801	64 D	2					
	16	1140 E	1240		S09 E30	5801	60 D	2					
	16	1143 E	1217		S10 E29	5801	34 D	2					
	16	1144 E	1145 D		S11 E29	5801	1 D	2			5.50		
	16	1158 E	1230		S13 E27	5801	32 D	2			10.00		
	16	1158 E	1230		S10 E30	5801	32 D	2			5.00		
	16	1225	1240 D		N09 E58	5803	15	1			4.00		
	16	1228	1240 D		N11 E60	5803	12 D	1					
	16	1228	1242		N11 E60	5803	14	1					
	16	1526	1541	1529	S06 W09	5798	15	1			3.00		
	16	1527	1548		S05 W13	5798	21	1			2.10		
	16	1531 E	1553		S06 W10	5798	22 D	1				2.00	
	16	1538	1548		S05 W08	5798	10	1			1.00		
	16	1559	1606		S10 W18	5797	7	1			2.00		
	{ HUANCAYO WENDEL LOCKHEED LOCKHEED SAC PEAK WENDEL WENDEL WENDEL ARCETRI WENDEL CAPRI S CAPRI S WENDEL CAPRI S SAC PEAK HUANCAYO HUANCAYO HUANCAYO SAC PEAK HUANCAYO SAC PEAK HAWAII LOCKHEED LOCKHEED CAPRI S I STANBUL I STANBUL WENDEL UCCLE CAPRI S HUANCAYO CAPRI S	16	1602	1626	1606	N20 W49	5794	24	1				
16		1603	1622		N22 W46	5794	19	1					
16		1619 E	1636		N20 W51	5794	17 D	1+					
16		2303	2400	2304	S10 E22	5801	57	1			2.70		
16		2303	2400	2312	S10 E22	5801	57	1			2.70		
16		2304	2348 D	2314	S11 E22	5801	44 D	2			6.40		
17		0716 E	0747 D		N09 E54	5803	31 D	1+			9.00		
17		0838 E	0930		N09 E53	5803	52 D	1+			7.00		
17		0932	1021		N10 E50	5803	49	2			9.00		
17		1000	1014		S11 E16	5801	14	1			5.00		
17		1045 E	1059 D		S20 E88	5811	14 D	1			4.40		
17		1104	1141		N18 W05	5799	37	1+			1.00		
17		1112 E	1127		N20 W01	5799	15 D	1			2.50		
17		1135 E	1201		N21 W53	5794	26 D	1			2.60		
17		1310 E	1338 D		N11 E50	5803	28 D	1+			3.70		
17		1330	1410	1352	N11 E55	5803	90 D	1+			7.00		
17	1330	1410		N10 E52	5803	40	1			3.95			
17	1346 E	1427	1353	N09 E48	5803	41 D	1+			4.90	3.40		
17	1450	1530	1451	S11 E77	5809	40	1+			1.50	6.00		
17	1600 E	1627	1600	S11 E77	5809	27 D	1+			1.50	4.90		
17	1616	1640	1624	S11 E13	5801	24	1			2.18			
17	1620	1652	1624	S11 E13	5801	32	1			2.00			
17	1806	1840 U	1814	N22 W63	5794	34	U			2.33			
17	1837 E	1849 D	1839	N22 W66	5794	12 D	1			1.00			
{ LOCKHEED LOCKHEED CAPRI S I STANBUL I STANBUL WENDEL UCCLE CAPRI S HUANCAYO CAPRI S LOCKHEED LOCKHEED CAPRI S I STANBUL I STANBUL	18	0134	0218 D	0137	N14 E23	5802	44 D	1		2.10			
	18	0134	0218 D	0156	N14 E23	5802	44 D	1		2.10			
	18	0620 E	0709		S06 W32	5798	49 D	1		3.00			
	18	0645	0700		S08 W33	5798	15	1					
	18	0655	0730 D		S10 E07	5801	35 D	2					
	18	0725 E	0742 D		S10 E06	5801	17 D	1+					
	18	1346 E	1353		N18 W69	5794	7 D	1			6.00		
	18	1347 E	1423 D	1431	N18 W61	5794	36 D	1			1.00	2.60	
	18	1431 E	1446		S10 E02	5801	15 D	1			2.20	2.30	
	18	1547 E	1604		S12 W51	5797	17 D	1			1.20	2.20	

SOLAR FLARES

AUGUST 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — UT	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	PLAGE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	
WENDEL ONDREJOV	25	1311 E	1328	N08 W82		5802	17 D	1	3	1347		3.00	2.40	
	25	1343	1402	N17 W80		5802	19	1	3	1512			2.20	
ISTANBUL	25	1510 D	1525 D	S05 W28		5809	15 D	1						
	26	0650	0708	S07 W41		5809	18	1						
{ AROSA ZURICH	26	0850	0900	N18 W88		5802	10	1						
	26	0850 E	0926	N18 W89		5802	36 D	1	2	0850		2.00		
{ ARCETRI SCHAUINS	26	0901 E	0914 D	N19 W89		5802	13 D	1	3	0906	.60	2.90		
	26	1202 E	1210	N25 W28		5810	8 D	1	2			4.00		
WENDEL	26	1203 E	1233	N20 W30		5810	30	1+				6.00		
	26	1216 E	1232 D	N23 W35		5810	16 D	1	2			4.00		
{ SCHAUINS WENDEL	26	1355 E	1415	N04 E20		5816	20 D	1+				6.00		
	26	1357	1436	N09 E16		5816	39	1+	2	1405		3.00		
ZURICH	26	1405	1430	N07 E14		5816	25	1				3.00		
	26	1358	1444	S18 W37		5811	46	1				3.00		
WENDEL	26	1554	1623	N24 W36		5810	29	1+				3.00		
	26	1554	1616	N23 W36		5810	21	1	3	1607	2.90	5.00		
{ CAPRI S LOCKHEED	26	1700	1717	N20 W90		5802	17	1	3	1707	2.00	3.60		
	26	1704 E	1716 D	N18 W90		5802	12 D	1	.1		2.37		20	
WENDEL	27	0616	0634 D	S03 W54		5809	18 D	1				3.00		
	27	0707	0715	S17 W46		5811	8	1					2.90	
{ ONDREJOV WENDEL	27	0709	0715	S19 W46		5811	6	1	3	0711				
	27	0844	0922	S03 W51		5809	38	1+				7.00		
{ ZURICH CAPRI S	27	0849	0922 D	S03 W52		5809	33 D	1	2	0858		5.00		
	27	0855 E	0929	S05 W52		5809	34 D	1	3	0902		3.50		
UCCLE	27	1116 E	1316	S03 W58		5809	□	1				2.20		
	27	1138 E	1430	S04 W59		5809	98 D	1	3	1246	1.20	2.20		
CAPRI S	27	1404	1430	S09 W67		5807	26	1				4.00		
	27	1407 E	1432	S07 W57		5809	25 D	1	3	1408	2.10	3.80		
WENDEL	28	0628 E	0648	S17 E16		5825	20 D	2				8.00		
	28	1152 E	1307	N18 E44		5822	□	1	3			2.50		
ONDREJOV	28	1258	1307	N20 E40		5822	9	1		1300			2.30	
	28	1923 E	2034	N08 W28		5816	71 D	1	3		3.95			19
HAWAII	29	0150 E	0220 D	N18 E33		5822	30 D	1	2	0155		2.90		
	29	0628 E	0728	N20 E30		5822	60 D	1	3	0636		4.00		
{ CAPRI S ZURICH	29	0655 E	0657 D	N19 E26		5822	2 D	1						
	29	0958	1018	S19 E04		5825	20	1	2	0958		2.00		
{ ONDREJOV LOCKHEED	29	1002 E	1010	S32 E02		5825	8 D	1	2	1003			2.10	
	29	1914	2030	N21 E24		5822	76	1	3	1930	3.20	6.70		20
HAWAII	29	1916 E	2020 D	N19 E25		5822	64 D	2+	2	1920				
	30	0921	1100 D	N19 E16		5822	99 D	2	3	0930	4.60	5.10		
{ CAPRI S UCCLE	30	0924 E	1011 D	N17 E16		5822	□	2	3	0924	9.00	9.00		
	30	0925 E	1011 D	N17 E15		5822	46 D	2	3	0935	7.60	7.60		
{ R O HERST CAPRI S	30	0950 E	1025	N18 E14		5822	35 D	1	2	0950	3.80	4.00	2.00	61
	31	0620 E	0730	N18 E05		5822	70 D	1	3	0644	4.40	4.40		
SAC PEAK	31	1412	1436	S19 W31		5825	24	1	3		2.18			16

SOLAR FLARES

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OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	MEMATH PLACE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	
CAPRI S LOCKHEED	31	1413 E	1457 D	S17 W23		5825	44 D	1	3	1424	2.40	2.80		30
	31	1647	1725	N19 W02		5822	38	1	2	1652	3.90			

CAPRI G ANACAPRI - GERMAN
 CAPRI S ANACAPRI - SWEDISH
 GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
 KIEV* KIEV UNIVERSITY
 KODAIKANAL KODAIKANAL
 KRASNAYA KRASNAYA PAKHRA
 LOCKHEED LOS ANGELES
 MOSCOW-G MOSCOW - GAIISH
 R O EDIN ROYAL OBSERVATORY, EDINBURGH
 R O HERST GREENWICH ROYAL OBSERVATORY, HERSTWONCEUX
 SAC PEAK SACRAMENTO PEAK
 SCHAULNS SCHAULNSLAND
 USNRL UNITED STATES NAVAL RESEARCH LABORATORY

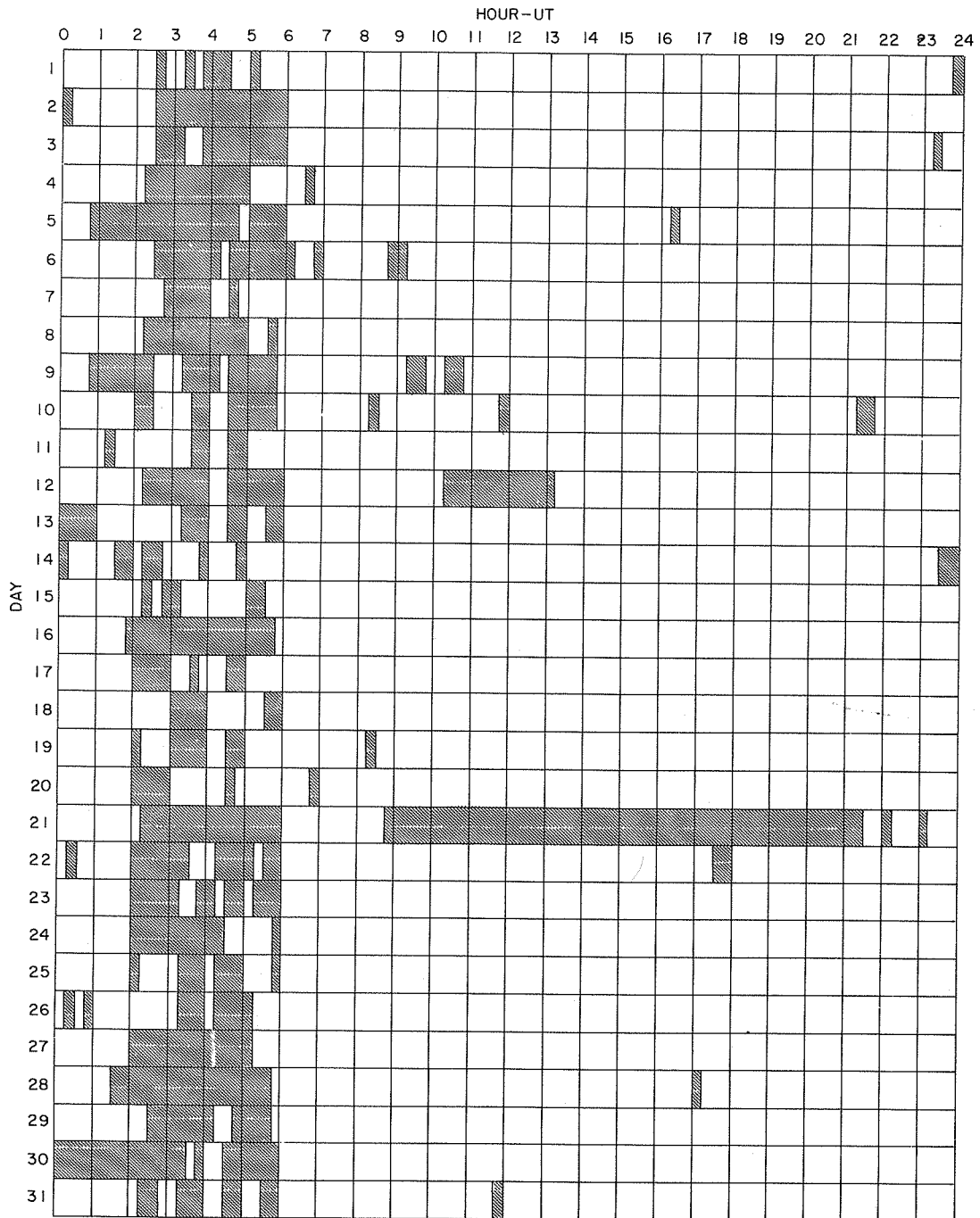
SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE
 ARBITRARY UNITS (0-40), NOT PERCENT
 OF CONTINUOUS SPECTRUM.
 E - LESS THAN & - PLUS
 D - GREATER THAN - - MINUS
 U - APPROXIMATE □ - NOT REPORTED

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

COMMERCE - STANDARDS - BOULDER

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AUGUST 1960



COMMERCE - STANDARDS - BOULDER

Stations Include: Anacapri (Swedish) Istanbul Royal Greenwich Observatory
 Arcetri Kodaikanal Herstmonceux
 Hawaii Lockheed Sacramento Peak
 Huancayo Ondrejov Uccle

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

JULY 1960

HAWAII	01	0004	N14 E38	LOCKHEED	06	0040	N15 E48	* LOCKHEED	11	1828	N16 E60
LOCKHEED	01	0033	N22 W70	LOCKHEED	06	0129	N05 W38	* HUANCAYO	11	1830	N16 E64
* LOCKHEED	01	0058	N23 W70	LOCKHEED	06	0130	N03 W57	LOCKHEED	11	1927	S20 W44
LOCKHEED	01	0135	N07 E35	LOCKHEED	06	0139	N09 W32	LOCKHEED	11	1945	N18 E68
HAWAII	01	0141	N03 E35	HAWAII	06	0140	N05 W33	LOCKHEED	11	1954	N19 W19
LOCKHEED	01	0222	N22 W70	UCCLE	06	0904	N10 W28	LOCKHEED	11	2010	N20 E68
* ARCTRI S	01	0826	E N22 W77	CAPRI S	06	0905	E N08 W25	SAC PEAK	11	2024	S10 W37
* CAPRI S	01	1033	E N09 E34	STOCKHOLM	06	1108	E N11 E29	MCMATH	11	2024	E S09 W38
STOCKHOLM	02	1922	E N29 E24	MCMATH	06	1126	N10 W31	LOCKHEED	11	2025	S09 W38
* UCCLLE	01	1307	N21 W80	STOCKHOLM	06	1155	E N08 W37	LOCKHEED	11	2040	N16 W43
SAC PEAK	01	1356	N08 E32	MCMATH	06	1210	N15 E33	HAWAII	12	0014	N12 W21
WENDEL	01	1459	E N22 W80	MCMATH	06	1407	N10 W32	LOCKHEED	12	0014	N15 W22
* SAC PEAK	01	1100	N21 W90	MCMATH	06	1428	N13 W54	LOCKHEED	12	0014	N15 W22
* LOCKHEED	01	1522	N21 W90	MCMATH	06	1625	N10 W33	HAWAII	12	0026	N09 W22
* UCCLLE	01	1524	N21 W80	LOCKHEED	06	1600	S12 E75	STOCKHOLM	12	1040	E N13 W48
SAC PEAK	01	1544	N09 E26	LOCKHEED	06	1640	N08 W44	SAC PEAK	12	1346	N13 W27
MCMATH	01	1649	S13 W14	* LOCKHEED	06	1743	N07 W39	HUANCAYO	12	1348	N17 W26
LOCKHEED	01	1650	S13 W16	* MCMATH	06	1745	N08 W40	STOCKHOLM	12	1350	N16 W14
SAC PEAK	01	1725	N10 E19	LOCKHEED	06	1755	S13 E70	MCMATH	12	1357	E N13 W27
LOCKHEED	01	1725	N21 W85	HAWAII	06	1758	E S02 E68	SAC PEAK	12	1432	N12 W40
ONDREJOV	01	1735	E N22 W80	* LOCKHEED	06	1916	N15 W40	* LOCKHEED	12	1645	N15 W30
LOCKHEED	01	1758	N08 E23	* MCMATH	06	1918	E N08 W40	* LOCKHEED	12	2027	N15 W30
LOCKHEED	01	1813	N09 E23	LOCKHEED	06	2123	N10 W03	* LOCKHEED	12	2044	N20 E54
SAC PEAK	01	1822	E N20 W82	HAWAII	06	2124	N10 W04	* LOCKHEED	12	2355	E N15 W32
* LOCKHEED	01	1843	N21 W85	MCMATH	06	2127	E N10 E01	LOCKHEED	13	1725	N18 E38
* SAC PEAK	01	1844	E N22 W81	LOCKHEED	06	2129	N15 E90	LOCKHEED	13	1819	N15 W42
LOCKHEED	01	1944	N08 E23	* LOCKHEED	06	2307	N05 W48	HAWAII	13	1822	E N07 W43
HAWAII	01	2102	S17 W15	HAWAII	07	0052	E N19 E44	LOCKHEED	13	2392	N21 W10
LOCKHEED	01	2123	N10 E20	LOCKHEED	07	0112	N07 W42	LOCKHEED	14	0035	S04 E78
LOCKHEED	01	2203	N21 W85	LOCKHEED	07	0159	N08 W45	LOCKHEED	14	0152	N15 W46
LOCKHEED	01	2240	N09 E27	LOCKHEED	07	0221	N09 W39	MCMATH	14	0250	N15 W40
WENDEL	02	1010	E N07 E15	MCMATH	07	1859	E S13 E74	MCMATH	14	1412	N16 E24
* CAPRI S	02	1312	N18 W90	LOCKHEED	07	1449	N04 E09	MCMATH	14	1511	N16 E24
SAC PEAK	02	1322	N12 E90	LOCKHEED	07	1455	E N19 E77	LOCKHEED	14	1620	N20 E31
SAC PEAK	02	1412	N18 W90	LOCKHEED	07	1639	N32 W78	LOCKHEED	14	1629	N11 E49
SAC PEAK	02	1448	N28 W05	LOCKHEED	07	1702	N15 E38	LOCKHEED	14	1642	N21 E30
SAC PEAK	02	1606	N18 W90	LOCKHEED	07	1708	N19 E80	LOCKHEED	14	1800	N20 E30
MCMATH	02	1629	N26 W12	LOCKHEED	07	1932	N18 E80	HAWAII	14	1800	N26 E90
LOCKHEED	02	1638	S08 W48	LOCKHEED	07	2003	N15 E35	LOCKHEED	14	1848	N19 E26
SAC PEAK	02	1638	S09 W48	LOCKHEED	07	2125	E S16 E16	HAWAII	14	1850	N24 E21
MCMATH	02	1639	S08 W49	LOCKHEED	07	2302	N07 E09	LOCKHEED	14	2104	N27 E32
LOCKHEED	02	1640	N09 E23	LOCKHEED	08	0040	N07 W57	HUANCAYO	14	2104	E N28 E30
LOCKHEED	02	1740	N09 E11	CAPRI S	08	0928	E S11 E44	MCMATH	14	2106	N25 E32
LOCKHEED	02	1830	N27 W17	ARCETRI	08	0930	E S12 E45	HAWAII	14	2108	N33 E27
LOCKHEED	02	1831	N10 E59	MCMATH	08	1354	N12 E27	* LOCKHEED	14	2127	N15 W85
SAC PEAK	02	1912	S11 W47	CAPRI S	08	1357	N13 E23	LOCKHEED	14	2218	N25 E25
LOCKHEED	02	1913	S10 W47	LOCKHEED	08	1340	S15 E43	LOCKHEED	14	2340	E N08 W19
MCMATH	02	1913	S09 W49	MCMATH	08	1541	S16 E44	* LOCKHEED	15	0002	N25 E27
HAWAII	02	1922	E S19 W44	MCMATH	08	1632	S15 E59	* LOCKHEED	15	0045	N20 E23
LOCKHEED	02	1926	N07 E76	LOCKHEED	08	1712	S10 E06	HAWAII	15	0144	N24 E19
LOCKHEED	02	1953	N31 W14	LOCKHEED	08	1712	N21 E67	SAC PEAK	15	1326	S17 E72
MCMATH	02	1953	N30 W12	LOCKHEED	08	1712	N15 E23	SAC PEAK	15	1402	N19 E74
LOCKHEED	02	2100	N09 E15	LOCKHEED	08	1712	N15 E23	SAC PEAK	15	1454	N14 W71
LOCKHEED	02	2113	N10 E08	MCMATH	08	1725	N13 E23	LOCKHEED	15	1524	N21 W30
SAC PEAK	02	2138	E N26 W18	MCMATH	08	1823	E S12 E05	LOCKHEED	15	1652	N17 E10
LOCKHEED	02	2310	N10 E08	MCMATH	08	1909	N15 E40	LOCKHEED	15	1734	N19 E14
LOCKHEED	02	2338	N10 E08	* LOCKHEED	08	1924	N06 W75	LOCKHEED	15	1804	N19 E10
LOCKHEED	03	0090	S13 E25	MCMATH	08	1950	E N15 E22	LOCKHEED	15	1911	N21 E15
LOCKHEED	03	0130	N15 W38	LOCKHEED	08	2002	N31 W90	LOCKHEED	15	1922	N16 E05
LOCKHEED	03	0155	N37 W12	LOCKHEED	08	2048	N16 W67	LOCKHEED	15	2258	N16 W72
LOCKHEED	03	0220	N10 E08	LOCKHEED	08	2209	N17 W61	UCCLLE	16	0939	N22 W42
* CAPRI S	03	1020	E N26 W23	HAWAII	08	2226	N01 W73	UCCLLE	16	0958	N26 E90
MCMATH	03	1205	N09 E25	SAC PEAK	08	2333	E N11 W68	MCMATH	16	1146	E N21 W44
SAC PEAK	03	1318	N27 W27	HAWAII	08	2335	N03 W64	SAC PEAK	16	1500	N18 E07
ONDREJOV	03	1322	E N28 W28	HAWAII	09	0052	S10 E04	SAC PEAK	16	1504	N14 W89
SAC PEAK	03	1441	S13 W42	LOCKHEED	09	0058	N06 W07	LOCKHEED	16	1540	N20 E01
* LOCKHEED	03	1430	N27 W29	LOCKHEED	09	0058	N06 W07	SAC PEAK	16	1548	N18 E01
LOCKHEED	03	1508	N27 W20	LOCKHEED	09	1630	N08 W78	SAC PEAK	16	1606	N18 W88
LOCKHEED	03	1515	S12 W42	* LOCKHEED	09	1740	S13 E31	LOCKHEED	16	1655	N20 E01
SAC PEAK	03	1516	S12 W42	LOCKHEED	09	1801	S17 W47	LOCKHEED	16	1700	N01 W26
LOCKHEED	03	1610	N10 00	LOCKHEED	09	1815	S10 W07	HAWAII	16	1846	S02 W25
MCMATH	03	1822	E S00 W01	* SAC PEAK	09	1816	E S15 E29	HAWAII	16	1848	N18 W03
MCMATH	03	1919	N08 W11	HAWAII	09	1816	N06 E07	LOCKHEED	16	1900	N23 E04
* MCMATH	03	2027	E N27 W31	LOCKHEED	09	1820	N15 E29	HAWAII	16	1912	N22 E01
* LOCKHEED	03	2037	N27 W30	LOCKHEED	09	1830	N08 W78	LOCKHEED	17	0108	N19 W05
LOCKHEED	03	2046	N09 W05	LOCKHEED	09	1910	N08 W78	LOCKHEED	17	0207	N19 W04
LOCKHEED	03	2140	N10 00	LOCKHEED	09	1921	S11 W07	WENDEL	17	1012	E N03 W33
LOCKHEED	03	2223	N10 W04	HAWAII	09	1935	E S03 W75	LOCKHEED	17	1502	N03 W36
SAC PEAK	03	2250	N30 W10	SAC PEAK	09	1951	E S10 W08	SAC PEAK	17	1504	N01 E60
LOCKHEED	03	2252	N26 W33	HUANCAYO	09	1957	E S10 W09	SAC PEAK	17	1524	N20 W09
LOCKHEED	03	2252	N26 W33	LOCKHEED	09	2008	S07 W77	LOCKHEED	17	1525	N22 W09
LOCKHEED	04	0004	N25 E04	* LOCKHEED	09	2008	N15 E07	LOCKHEED	17	1715	N22 W09
LOCKHEED	04	0015	N09 W08	LOCKHEED	09	2014	N06 W77	* HUANCAYO	17	1756	N21 E10
LOCKHEED	04	0122	N08 W55	* LOCKHEED	09	2011	S07 W77	LOCKHEED	17	1930	N19 W17
LOCKHEED	04	0122	N08 W55	LOCKHEED	09	2217	S12 E28	LOCKHEED	17	2006	N20 E68
* CAPRI S	04	1640	E N04 W18	LOCKHEED	09	2239	N06 W77	LOCKHEED	17	2013	N22 W13
MCMATH	04	1650	N14 E56	LOCKHEED	09	2239	N06 W77	LOCKHEED	17	2100	N18 W16
LOCKHEED	04	1735	N15 E56	LOCKHEED	09	2352	N14 W17	LOCKHEED	17	2100	N19 W17
MCMATH	04	1738	E N14 E56	LOCKHEED	09	2354	N06 W84	SAC PEAK	17	2204	N24 W09
LOCKHEED	04	1745	S26 E90	SAC PEAK	09	2354	E N12 W18	HAWAII	17	2206	N22 W17
SAC PEAK	04	1746	E S27 E90	SAC PEAK	09	2354	E N16 E90	LOCKHEED	17	2213	N20 E68
LOCKHEED	04	1800	N15 E56	LOCKHEED	10	0050	N16 E05	LOCKHEED	17	2251	N24 W12
MCMATH	04	1803	E N14 E55	HAWAII	10	0104	E N11 E11	SAC PEAK	17	2254	N09 E90
LOCKHEED	04	1839	N15 E56	LOCKHEED	10	0122	N06 W84	LOCKHEED	17	2255	N11 E90
HAWAII	04	1936	N23 W40	SAC PEAK	10	1534	E N14 W03	LOCKHEED	17	2343	N23 W15
LOCKHEED	04	1942	N27 W39	LOCKHEED	10	1600	N17 W02	LOCKHEED	17	2348	N22 W11
LOCKHEED	04	1942	N27 W39	LOCKHEED	10	1757	S11 E36	LOCKHEED	18	0020	N22 W13
LOCKHEED	04	1950	N08 W66	LOCKHEED	10	1822	N15 W01	LOCKHEED	18	0044	N20 E68
LOCKHEED	04	2028	N08 W66	SAC PEAK	10	1824	N14 W01	LOCKHEED	18	1428	N21 W23
LOCKHEED	04	2100	N30 W40	HAWAII	10	1826	E N15 W03	LOCKHEED	18	1528	N11 W22
HAWAII	04	2110	E N02 W20								

SUBFLARES

Noted as follows: Date-Universal Time- Coordinates

JULY 1960

LOCKHEED	19	2155	N22 W40	LOCKHEED	23	2017	N09 W01	SAC PEAK	28	1452	N10 E22
SAC PEAK	19	2316	N10 E63	MCNATH	23	2018	N09 W00	WENDEL	28	1457 E	N05 E27
SAC PEAK	20	1312	N20 W50	LOCKHEED	23	2053	N21 W90	SAC PEAK	28	1506	N10 E22
SAC PEAK	20	1428	N15 E90	LOCKHEED	23	2358 U	N10 W04	SAC PEAK	28	1590	S08 W80
SAC PEAK	20	1520	N21 E31	SAC PEAK	24	1448 U	S05 E17	LOCKHEED	28	1594	N05 E23
LOCKHEED	20	1521	N20 E30	LOCKHEED	24	1455 U	S06 E18	LOCKHEED	28	1540	S10 W80
MCNATH	20	1522	N21 E28	LOCKHEED	24	1629	N34 E72	SAC PEAK	28	1548	N05 E25
CAPRI S	20	1523 E	N18 E90	LOCKHEED	24	1711	N12 E85	LOCKHEED	28	1548	N04 E25
LOCKHEED	20	1616	N15 E90	LOCKHEED	24	1735	N07 E75	SAC PEAK	28	1610	S18 W26
SAC PEAK	20	1634	N20 W31	SAC PEAK	24	1738	N05 E76	LOCKHEED	28	1611	S20 W27
LOCKHEED	20	1634	N14 W34	MCNATH	24	1739	N04 E74	LOCKHEED	28	1631	N04 E23
LOCKHEED	20	1648	N17 W58	HAWAII	24	1748 E	N18 E75	SAC PEAK	28	1638	N04 E24
LOCKHEED	20	1705	N15 E14	LOCKHEED	24	1751	N08 W14	SAC PEAK	28	1730	S17 W28
LOCKHEED	20	1801	N23 W49	HAWAII	24	1752	N07 W14	LOCKHEED	28	1730	S17 W29
LOCKHEED	20	1905	N17 W59	SAC PEAK	24	1752	N10 W13	MCNATH	28	1731	S17 W27
LOCKHEED	20	1930	N07 E41	HAWAII	24	1810	N08 W12	SAC PEAK	28	1914 E	N06 E22
CAPRI S	21	1206	S07 E51	LOCKHEED	24	2053	N07 E75	MCNATH	28	1915	N04 E23
CAPRI S	21	1240 E	S05 W05	MCNATH	24	2057 E	N30 E68	LOCKHEED	28	1915	N05 E22
MCNATH	21	1252	S14 E24	LOCKHEED	24	2100	N33 E71	HAWAII	28	2116	N00 W67
SAC PEAK	21	1306 E	S03 W89	* LOCKHEED	24	2145	N09 W16	HAWAII	28	2121 E	S19 W70
CAPRI S	21	1359 E	N22 W59	* SAC PEAK	24	2148 E	N10 W14	HAWAII	28	2222 E	N10 E22
MCNATH	21	1557	N06 W29	* MCNATH	24	2158 E	N09 W13	LOCKHEED	28	2241	N10 E16
* LOCKHEED	21	1638 E	N20 W60	LOCKHEED	25	0040	S11 E16	HAWAII	28	2248	N16 E18
MCNATH	21	1900 E	S06 E52	HAWAII	25	0046	S07 E20	LOCKHEED	29	0139	N06 E18
* LOCKHEED	21	1930	N16 W74	SAC PEAK	25	1321 E	N08 W20	SAC PEAK	29	1514	S06 W90
* HUANAKAO	21	1930 E	S11 E10	MCNATH	25	1526	S09 E07	SAC PEAK	29	1656	S06 W90
SAC PEAK	21	2256	S02 W90	SAC PEAK	25	1530 U	S11 E08	HAWAII	29	1906	N07 E12
ISTANBUL	22	0608 E	N10 W39	LOCKHEED	25	1655	N06 E58	MCNATH	29	1906	N06 W92
CAPRI S	22	0634	S06 E47	MCNATH	25	1655	N04 E60	LOCKHEED	29	1951	S15 W44
STOCKHOLM	22	0912 E	N23 W65	* LOCKHEED	25	2120	N10 W27	LOCKHEED	29	2112	N06 E11
MCNATH	22	1156	S12 E42	* LOCKHEED	26	0052	N10 W32	MCNATH	29	2113 E	N08 E08
STOCKHOLM	22	1211	S05 E14	LOCKHEED	26	0150	N05 E58	HAWAII	29	2116	N07 E11
MCNATH	22	1436	S11 E10	HAWAII	26	0150	N39 E52	LOCKHEED	29	2322	N10 E04
SAC PEAK	22	1406 E	S08 E10	LOCKHEED	26	0151	N32 E54	HAWAII	29	2328 E	N10 E02
CAPRI S	22	1406 E	S10 E14	* UCCLE	26	1150 E	S09 W45	ONDRREJOV	30	0616 E	N26 W03
STOCKHOLM	22	1415 E	S07 E09	SAC PEAK	26	1408	S10 W44	WENDEL	30	1216	N04 E04
SAC PEAK	22	1618	S01 W40	SAC PEAK	26	1416	N13 E56	WENDEL	30	1446 E	N07 E00
LOCKHEED	22	1620	S03 E29	SAC PEAK	26	1424	N04 E50	WENDEL	30	1500 E	N08 W02
MCNATH	22	1621	S03 E40	SAC PEAK	26	1470	N09 W45	LOCKHEED	30	1522	N08 E02
SAC PEAK	22	1720	N20 W76	SAC PEAK	26	1532	N04 E49	LOCKHEED	30	1745	N10 W04
* LOCKHEED	22	1720	N15 W55	SAC PEAK	26	1600	S09 W54	MCNATH	30	1952 E	N10 W08
* SAC PEAK	22	1720	N16 W56	SAC PEAK	26	1644 E	N03 E53	HAWAII	30	1956	N07 W10
LOCKHEED	22	1721	N21 W75	HAWAII	26	1900 E	S18 W50	LOCKHEED	30	2110	N09 W10
MCNATH	22	1722	N20 W79	HAWAII	26	1926 E	S18 W50	MCNATH	30	2110	N10 W10
LOCKHEED	22	1746	N23 W76	SAC PEAK	26	2006 E	N04 E47	HAWAII	30	2112	N07 W10
LOCKHEED	22	1746	N23 W76	LOCKHEED	26	2106	S09 W57	LOCKHEED	30	2346	N05 W06
LOCKHEED	22	1815	S10 E07	SAC PEAK	26	2112 E	S09 W56	HAWAII	31	0138 E	N15 W11
* LOCKHEED	22	1824	N23 W76	* LOCKHEED	26	2217	N06 E42	ONDRREJOV	31	0928 E	N07 W16
* SAC PEAK	22	1830	N23 W77	* LOCKHEED	26	2217	N06 E42	WENDEL	31	1012 E	N27 E35
LOCKHEED	22	1907	N15 W56	LOCKHEED	26	2237	N07 E38	ONDRREJOV	31	1014 E	N22 E32
MCNATH	22	1908	N14 W57	HAWAII	26	2238	N31 E35	WENDEL	31	1045 E	N10 W06
MCNATH	22	2052 E	N19 W84	LOCKHEED	27	0002	S09 W56	WENDEL	31	1123 E	N09 W16
LOCKHEED	22	2106	N21 W75	HAWAII	27	0004	S17 W52	WENDEL	31	1123 E	N09 W16
HAWAII	22	2110 E	N10 W80	LOCKHEED	27	0013	N09 W43	WENDEL	31	1146 E	N24 W20
LOCKHEED	22	2113	N23 W76	LOCKHEED	27	0014	N03 W42	MCNATH	31	1203	S04 E70
LOCKHEED	22	2127	N23 W76	HAWAII	27	0035	N06 E48	SAC PEAK	31	1330	N32 W14
LOCKHEED	22	2143	N20 W75	HAWAII	27	0036	N12 E48	SAC PEAK	31	1354	N05 W15
LOCKHEED	22	2304	N21 W78	HAWAII	27	0056 E	S14 W06	LOCKHEED	31	1438	N28 W21
HAWAII	22	2304	N09 W74	ISTANBUL	27	0750	N08 E45	LOCKHEED	31	1600	N25 W60
LOCKHEED	22	2308	S17 E04	MCNATH	27	1350	N15 E09	* WENDEL	31	1647 E	N24 W23
LOCKHEED	22	2325	N08 E12	SAC PEAK	27	1335	N03 E38	* LOCKHEED	31	1648	N25 W25
HAWAII	22	2330	N08 E07	LOCKHEED	27	1700	S10 W70	LOCKHEED	31	1750	N25 W63
HAWAII	22	2344	N08 W85	SAC PEAK	27	1744	S03 W90	SAC PEAK	31	1806	N25 W63
LOCKHEED	22	2345	N20 W80	LOCKHEED	27	1720 E	S09 W70	LOCKHEED	31	1910	N25 W63
CAPRI S	23	0825 E	N08 E11	SAC PEAK	27	1748 E	S03 W90	LOCKHEED	31	1930	N32 W14
MCNATH	23	1241	N11 E07	LOCKHEED	27	1812	S03 W90	HAWAII	31	1936	N12 W21
SAC PEAK	23	1308 E	N05 E90	LOCKHEED	27	1820	S07 W63	MCNATH	31	2023 E	N02 W23
SAC PEAK	23	1346	N05 E90	LOCKHEED	27	1913	N07 E37	LOCKHEED	31	2023	N10 W23
MCNATH	23	1432	S08 E33	LOCKHEED	27	2232	N11 W53	HAWAII	31	2028	N09 W23
SAC PEAK	23	1432	S07 E33	SAC PEAK	27	2232 U	N10 W55	LOCKHEED	31	2030	N25 W63
LOCKHEED	23	1616	S09 E27	MCNATH	27	2233	N10 W55	SAC PEAK	31	2224	N25 W64
SAC PEAK	23	1620 E	S07 E27	LOCKHEED	27	2302	N17 W76	LOCKHEED	31	2224	N25 W64
MCNATH	23	1621 E	S18 W04	ONDRREJOV	28	0825 E	N09 E30	LOCKHEED	31	2303	N05 W20
LOCKHEED	23	1621	S18 W04	ONDRREJOV	28	0841	S11 W75	HAWAII	31	2304	N02 W20
LOCKHEED	23	1640	S10 W05	* CAPRI S	28	1240	N11 E30	SAC PEAK	31	2320	N09 W24
* LOCKHEED	23	1809	N06 E90	* MCNATH	28	1240	N10 E38	LOCKHEED	31	2322	N10 W25
* LOCKHEED	23	1809	N06 E90	SAC PEAK	28	1302	S08 W79	HAWAII	31	2322	N04 W24
* SAC PEAK	23	1814 E	N05 E90					LOCKHEED	31	2345	N25 W64
* SAC PEAK	23	1814 E	N11 E05					LOCKHEED	31	2358	N10 W28
* SAC PEAK	23	1820 E	N05 E90					LOCKHEED	31	2358	N10 W28

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F 192B for August, 1960).

CONRAD - STANDARD - BOULDER

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DUR. FOR. DISTANCE	OBS. COND.	TIME - U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	McMATH PLACE REGION				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg		MAX. INT. %
VOROSHILOV	01	2210	2222	2214	S09	E65	5653	12	1+	1	0723	1.54	3.20	80	
GOOD HOPE	02	0707	0800	0723	N13	W55	5642	53	1		0819	2.40	2.70		
GOOD HOPE	02	0815	0839	0819	S03	W28	5645	24	1						
VOROSHILOV	03	0327	0346	0329	S04	W38	5645	19	D	1		2.62	1.20	125	
ABASTUMANI	03	0547	0558	0551	N11	E38	5652	11	1	2		.90	1.60	63	
ABASTUMANI	03	0723	0825	0739	S14	E50	5653	62	D	2		1.00	5.00	62	
MEUDON	03	0733	0840	0840	S13	E50	5653	67	1						
GOOD HOPE	03	0802	0833	0811	S09	E46	5653	31	1		0811	2.40	3.60		
GOOD HOPE	03	0920	0935	0925	N30	E61	5654	15	1		0925	1.00	2.90		
GOOD HOPE	03	1232	1309	1247	N19	W90	5642	37	1		1247	.90			
UCCLE	04	0848	0918	0901	N13	W30	5647	30	1+	1	0901	4.00	5.00		
GOOD HOPE	04	0851	0917	0904	S09	E32	5653	26	1		0904	3.50	4.20		S-SWF
GOOD HOPE	04	1000	1048	1048	N16	W90	5642	48	1		1015	1.60			
{ NIZAMIAH	05	0313	0319	0319	N29	E44	5654	6	D	1	0313	1.82	2.98		
{ MITAKA	05	0315	0335	0318	N26	E44	5654	20	D	1	0315	2.81	4.45	1.50	
MEUDON	05	0640	0620	0600	S12	E25	5653	35	1	1				2.17	128
UCCLE	05	1523	1614	1536	S09	E20	5653	51	1	1	1536	3.50	4.00		79
VOROSHILOV	05	2206	2224	2224	N10	E04	5649	18	D	3	2209	2.71			
UCCLE	06	1408	1435	1435	S08	E05	5653	27	D	2	1435	11.00	11.00		Slow S-SWF
VOROSHILOV	07	0050	0056	0053	S09	E90	5657	6	1	2		2.71			69
VOROSHILOV	09	0039	0117	0042	S11	E05	5655	38	1+	1		2.89			95
PIRCULI	09	0916	0936	0918	S08	E48	5657	20	D	3	0918	22.95	34.80		67
UCCLE	09	1059	1115	1115	N12	W38	5652	16	D	1	1115	2.50	2.50		162
VOROSHILOV	09	2329	2340	2330	N30	W27	5654	11	1+	3		2.35			Slow S-SWF
ABASTUMANI	10	0627	0633	0629	N10	W54	5652	6	1	1	0812	.90	1.60		63
PIRCULI	10	0810	0829	0812	N31	W29	5654	19	1	1		2.01	4.08		59
PIRCULI	11	0610	0637	0615	S12	E32	5657	27	D	1+	0615	5.97	7.12		56
PIRCULI	11	0628	0639	0633	N15	W68	5652	11	D	2	0633	5.05	13.80		60
PIRCULI	11	0722	0738	0734	N29	W45	5654	16	D	1+	0734	6.43	10.70		52
UCCLE	11	1420	2340	2330	N30	W45	5654	□	1	1					Slow S-SWF
KRASNYA	12	0655	0702	0658	N27	W49	5654	7	1	1		1.82			112
KRASNYA	12	0656	0734	0701	N09	W90	5652	38	1+	1		.88			95
KRASNYA	12	0729	0742	0731	N28	W49	5654	13	1	1		.68			90
KRASNYA	12	0804	0845	0829	N09	W90	5652	41	2	1		1.82			135
UCCLE	12	1400	2253	2245	N28	W60	5654	□	1	1					
VOROSHILOV	12	2243	2253	2245	N14	W59	5654	10	1+	2		1.00			86
VOROSHILOV	12	2248	2254	2251	N30	W64	5654	6	1+	2		.90			91
MITAKA	13	0436	0447	0437	N30	W67	5654	11	1+	1	0437	3.08	7.39	4.62	120
TASHKENT	13	0518	0538	0521	S07	E85	5663	20	1	2	0523	4.13	20.00	1.90	110
TASHKENT	13	0519	0610	0532	N28	W71	5654	51	D	2	0533	4.95		5.30	335

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX.	MGR. DIST.	BLATH REGION				TIME U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Hc
{ MITAKA ABASTUMANI MOSCOW G UCCLE	13	0526	0641	N29 W65	5654	75	3	1	0532	13.36	32.06	12.35	204	S-SWF
	13	0533 E	0732 D	N32 W70	5654	119 D	3	2	0542	9.07	32.80	3.00	138	
	13	0924 E	0937 D	S09 E88	5663	13 D	1+	2	0933	204.00	15.10	1.35	110	
PIRCULI	15	0532 E	0719 D	S12 E66	5663	107 D	1+	1	0535	5.05	11.50		58	58 56 88
	15	0550	0605	N15 E27	5660	15	1	1	0554	1.84	2.19		56	
	15	0634	0719	S10 E56	5663	45	1+	1	0706	2.75	4.95		88	
PIRCULI	16	1023	1027	N18 E10	5660	9	1	3	1027	1.84	2.01		63	63 90
	16	1313	1345 D	N17 E07	5660	32 D	1		1317	2.60			90	
{ MITAKA ALMA-ATA TASHKENT GOOD HOPE UCCLE	17	0203	0224	S08 E33	5663	21	1	1	0206	3.08	3.76	3.25	122	122 96 149 70 57 54 59 52
	17	0418	0453	S09 E35	5663	35	1+	1	0425	3.27			96	
	17	0423	0441	S08 E32	5663	18	1+	1	0434	4.63	5.65	2.82	149	
	17	0425	0424	S10 E33	5663	17	1+	2	0422	3.30	4.00	3.30	70	
	17	1138	1154	N16 W34	5658	16	1	2	1141	2.20	2.70		70	
	17	1402	1410 D	S09 E27	5663	8 D	1	3						
ALMA-ATA	18	0255	0312	N15 W43	5658	17	1+	2	0259	1.87	2.92		60	60 83
	18	0310 E	0310	N27 W10	5662	□	1	1	0310	3.27	1.10	2.90	83	
ALMA-ATA	18	0448 E	0448	N20 E45	5684	□	1	1	0448	2.80	3.30	2.51	120	120 54
	18	0524 E	0524	S12 E26	5663	□	1+	1	0524	9.35	16.40		54	
PIRCULI	21	0901 E	0915 D	S14 W13	5663	14 D	1	2	0908	2.75	2.24	3.97	100	100 54 54 55
	22	0422	0434	S16 W23	5663	12	1	1	0422	1.03	1.10	2.90	83	
MITAKA	22	0546 E	0554	S11 W23	5663	8 D	1	1	0546	3.08	3.30	2.51	120	120 54
	22	0603 E	0650 D	N16 W82	5660	47 D	2	1	0633	3.22	16.40		54	
{ MITAKA ALMA-ATA ALMA-ATA ALMA-ATA UCCLE	23	0335 E	0342	N20 W67	5662	7 D	1	1	0335	1.03	2.24	3.97	100	100 54 54 55
	23	0340 E	0340	N20 W67	5662	□	1+	1	0340	2.34			54	
	23	0440 E	0440	N13 E32	5669	□	1+	1	0440	4.67			54	
	23	0555 E	0555	N02 E67	5670	□	1+	1	0555	1.87			55	
	23	1328 E	1417	N13 E36	5669	49 D	2	3	1330	9.00	10.00		55	
	24	0449 E	0449	N01 E51	5672	□	1+	1	0440	3.74			61	
ALMA-ATA	24	0524 E	0524	S11 W55	5663	□	2	2	0524	13.09			58	58 66
	24	0600 E	0600	N15 E13	5689	□	1	1	0600	4.67			66	
{ KHARKOV GOOD HOPE	24	0905 E	0919 D	N02 E48	5670	14 D	1+	1	0912	8.00	11.40	2.00	136	136 88
	24	0906 E	0910 D	N03 E49	5670	4 D	1	1	0907	2.20	3.40	2.40	88	
{ TASHKENT KODAIKNI	25	0230 E	0311	N10 E04	5669	41 D	1+	2	0231	6.43	7.00	2.00	136	136 88
	25	0235 E	0238 D	N12 E06	5669	23 D	1	4	0235	2.60	2.60	2.00	136	
{ TASHKENT ABASTUMANI	25	0451	0520	N15 W00	5669	29	1	2	0457	2.48	3.00	2.40	88	88 58
	25	0454 E	0538 D	N15 W00	5669	44 D	2	3	0505	3.62	3.80	2.40	88	
{ KHARKOV MEUDON	25	1058 E	1112 D	N16 W01	5669	14 D	1	1	1102	.57	.58	1.60	88	88 58
	26	0850	1045	N15 W15	5669	115	2+	2	0928	11.43	20.00	2.40	88	
{ KHARKOV GOOD HOPE	26	0903	1049 D	N14 W16	5669	106 D	2	2	0928	7.60	11.80	2.40	88	88 58
	26	0907	1050	N19 W13	5669	103	2	2	0928	7.60	11.80	2.40	88	

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. WIDTH H _g	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
MOSCOW G { KRASNYA	26	0909 E	1107 D	N15 W17	5669	118 D	1+	2	7.94	8.67	3.16	250	
	26	0911	1019	N14 W15	5669	68	1+	3	6.53			94	
{ MEUDON	27	0540	0555 D	N13 E75	5678	15 D	1	1	1.84	6.26		76	
	27	0542 E	0600 D	N15 E75	5678	18 D	1+						
{ PIRCULI	27	0542 E	0550 D	N19 W28	5669	8 D	1	1	3.95	4.79		57	
	27	0542 E	0552 D	S14 E07	5670	10 D	1						
{ PIRCULI	27	0711 E	0720 D	N18 W65	5671	9 D	1	1	1.19	2.73		62	S-SWF
	27	0711 E	0715 U	N18 W65	5671	9 D	1						
{ MEUDON	27	1420	1505	N16 W27	5669	45	1+	1					
	27	1510	1540	N13 E70	5678	30	1						
ABASTUMANI	28	0734 E	0743 D	N04 W71	5673	9 D	1+	3	.90	2.90		59	S-SWF
	28	0830	0835 D	N13 E55	5678	5 D	1						
{ MEUDON	28	1402	1458 D	N12 E55	5678	56 D	2-	1	2.75	4.17		55	
	29	0600	0610	N12 E46	5678	10	1						
{ PIRCULI	29	0600 E	0611 D	S18 E35	5677	11 D	1	1	3.67	4.74		52	
	29	0701 E	0712	S18 E35	5677	11 D	1						
{ ABASTUMANI	29	0736 E	0741 D	N13 E46	5678	5 D	1	1	1.00	1.60		59	S-SWF
	29	0737	0749	N14 E46	5678	12	1						
{ GOOD HOPE	29	0814	0836	N03 W88	5673	22	1	2	.90			98	
	29	0852	0902	N27 E90	5680	10	1						
{ KRASNAYA	29	0854	0904	N27 E87	5680	10	1	1	1.35	1.00		62	
	29	0900	0912	S25 W45	5674	12	1						
{ PIRCULI	29	0900	0912	S25 W45	5674	12	1	1	2.01	3.10		51	
	29	1001	1014	N15 E46	5678	13	1						
{ GOOD HOPE	29	1001	1014	N15 E46	5678	13	1	1	1.60	2.30		120	
	29	2340	2350	N11 E35	5678	10	1						
{ MITAKA	30	0350 E	0355	N15 W66	5669	5 D	1	1	.51	1.08	2.41	115	
	30	0434 E	0734 D	S16 E23	5677	180 D	1						
{ GOOD HOPE	31	0732 E	0754	N35 E65	5680	22 D	1	1	.90	2.50		90	
	31	0753 E	0808	N12 E20	5678	15 D	1						
{ PIRCULI	31	0755 E	0840	N14 E21	5678	45 D	1+	1	2.75	3.06		93	
	31	1102	1120	N18 W85	5669	18	1						

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the May 1960 flares published in CRPL-F, 190 Part B, June 1960.

CAPRI G ANACAPRI - GERMAN
 CAPRI S ANACAPRI - SWEDISH
 GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
 KIEV* KIEV UNIVERSITY
 KODAIKANAL KODAIKANAL
 KRASNAYA 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
 SCHAUTINS SCHAUTINSLAND
 USNRL UNITED STATES NAVAL RESEARCH LABORATORY

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

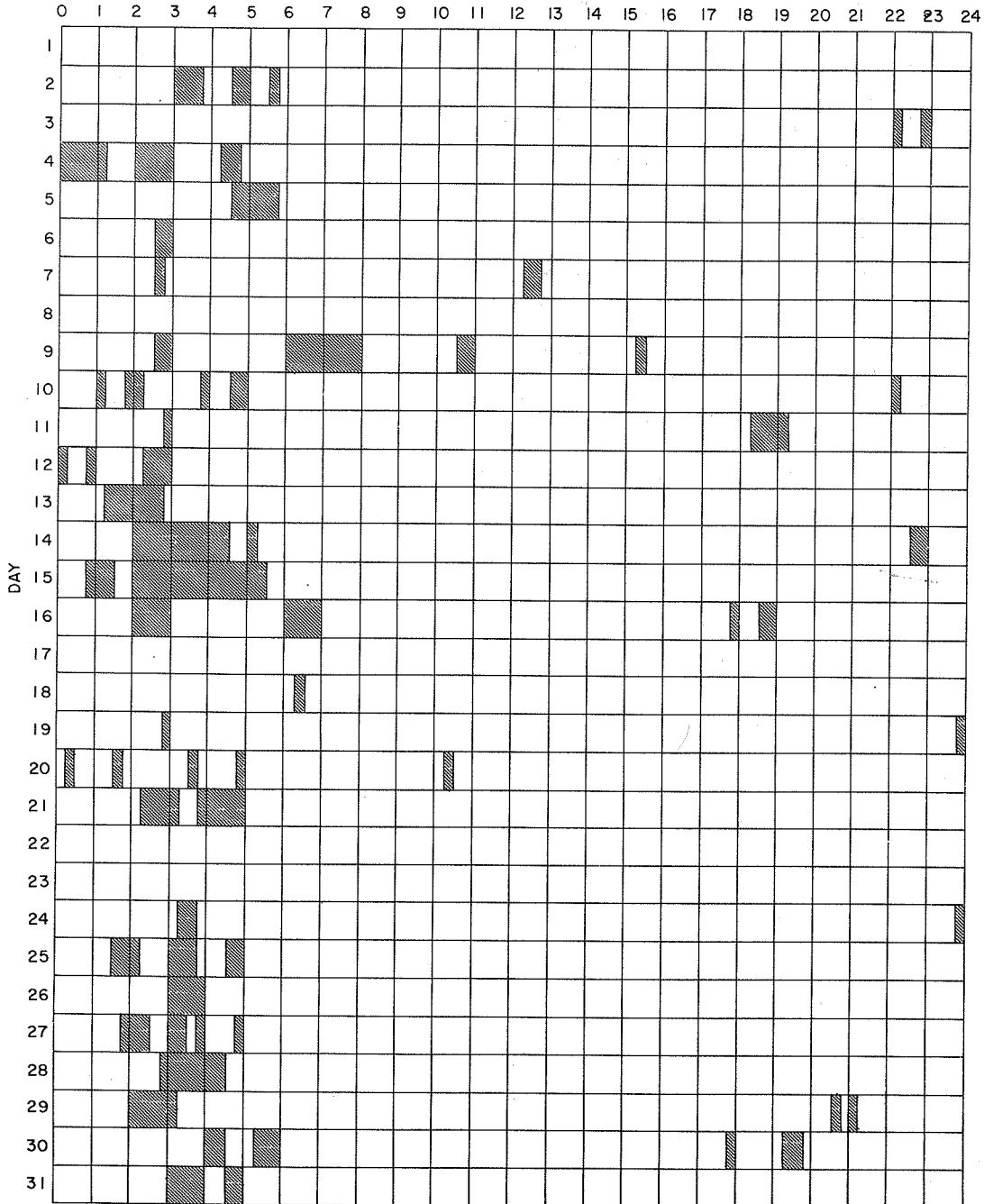
E - LESS THAN & - PLUS
 D - GREATER THAN - - MINUS
 U - APPROXIMATE □ - NOT REPORTED

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

MAY 1960

HOUR-UT



Stations Include:

COMMERCE - STANDARDS - BOULDER

- | | | | | |
|--------------------|-----------|-----------------|------------|-----------------------------|
| Abastumani | Good Hope | Kodaikanal | Mitaka | Royal Greenwich Observatory |
| Alma Ata | Hawaii | Krasnaya Pakhra | Moscow - G | Herstmonceux |
| Anacapri (Swedish) | Huancayo | Lockheed | Nizamiah | Sacramento Peak |
| Arcetri | Kharkov | McMath | Ondrejov | Simeiz |
| Dunsink | Kiev GAO | Meudon | Pirculi | Uccle |
| | | | | Voroshilov |

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

JULY 1960

July 1960	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 192B
1	0505	0552	S-SWF	5	1+	JU, <u>OK</u> , CW++	*
1	1018	1025	S-SWF	1	1	<u>NE</u>	1012
1	1158	1255	G-SWF	3	1	<u>MC</u> , PR	1151E
7	0201	0238	S-SWF	5	1	AD, <u>OK</u>	0200
9	1815	1855	G-SWF	5	1-	AD, BE, <u>MC</u> , PR	1730
12	1650	1723	Slow S-SWF	5	1	AN, <u>BE</u> , MC, PR	1648
12	2033	2110	S-SWF	5	1+	AN, BE, BO, FM, <u>MC</u> , PR	2028E
12	2345	0006	S-SWF	5	1	AD, BO, OK, <u>TO</u> , WS	2338E
15	0526	0639	Slow S-SWF	1	1+	<u>OK</u>	0534E
18	0227	0258	Slow S-SWF	1	1	<u>OK</u>	*
19	0439	0525	S-SWF	5	2	AD, <u>OK</u> , CW+	0318
19	1815	1840	S-SWF	5	1+	BE, FM, HO, HU, <u>MC</u> , PR, CW*	1816U
20	1024	1136	S-SWF	5	2+	BR, <u>NE</u> , SW, CW***	1020E
22	1245	1335	Slow S-SWF	5	1	<u>BE</u> , JU, MC, PR	1242
23	1350	1409	S-SWF	5	1	BE, <u>LI</u> , MC, PR	
23	1808	1840	S-SWF	5	2	BE, <u>BO</u> , FM, HU, LA, LI, MC, NE, PR, WS	1808
26	0325	0352	Slow S-SWF	5	1+	AD, <u>OK</u>	*
26	1705	1730	S-SWF	5	1+	BE, <u>MC</u> , PR	1702
29	0112	0200	Slow S-SWF	5	1	AD, <u>OK</u>	

BO = Boulder, Colorado
 BR = Breisach, G.F.R.
 HO = Hollandia, New Guinea
 JU = Juhlesruh, G.D.R.
 LA = Los Angeles, Calif.
 LI = Lindau, G.F.R.

NE = Nederhorst den Berg, Netherlands
 CW* = Cable and Wireless, Barbadoes
 CW*** = Cable and Wireless, Brentwood, England
 CW+ = Cable and Wireless, Hong Kong
 CW++ = Cable and Wireless, Singapore

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIo

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

JULY 1960

July 1960	CLASS			WIDE SPREAD INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
1		1		3	1019	1022	1036		DU, NE
1			2	4	1300E		2400D		BO, MC (Noise Storm)
2			1	4	1638		1640		BO, MC
3			1	4	1717		1735		BO, MC
4		1		3	1338	1345	1401		A1, A3, A5, A10, A12
4			1	4	1600E		2130D		BO, MC (Noise Storm)
4		2		3	1838	1850	1910D		A1, A5
5			1	4	1831		1832		BO, MC
6			1	4	2107		2109		BO, MC
6			1	4	2230		2232		BO, MC
7			1	4	1938		1940		BO, MC
8			2	5	1925		1935		BO, HA, MC
8			2	1	2326		2332		HA
9			1	5	1817		1825		BO, MC
10		2		1	0727	0730	0830D		All
11			1	3	1429	1440	1500D		A1, A3, A5
12	1			1	2030	2039	2114	25	HA
12		2		5	2034	2046	2139		A1, A2, A3, A5, A6, A10, HA, PA
12	2			1	2346	2348	0015	55	HA
12		2		5	2346	2355	0108		A1, A2, A3, A5, A10, A11, HA, HO
13			1	5	1700E		0200		BO, HA (Noise Storm)
14		1+		5	1057		1135		DU, NE, PA
14			1	5	1300E		0200		BO, HA, MC (Noise Storm)
15			1	5	1330E		0200		BO, HA, MC (Noise Storm)
15		1		3	1820	1832	1900		A1, A3, A5
18		1+		4	1830	1837	1855		A1, A3, A5, A6, A10
18		1		5	2158	2208	2253		A6, BO, HA
18	1			1	2159	2204	2215	15	HA
19		1+		5	1817	1829	1850		A1, A5, A10, BO, DU, HA
19	2			5	1818	1822	1845	35	BO, HA
20			2	3	1023	1030	1054		DU, NE
20			1	5	1400E		2300		BO, HA (Noise Storm)
21			1	5	1925		1940		BO, HA, MC (Group of Bursts)
21		1+		3	1920	1925	1950		A2, A3
22			1	4	1722		1725		BO, MC
22			1	5	2329		2333		BO, HA
23			2	5	1807		1812		BO, HA
23		2		5	1811	1818	1850		A3, A5, A9, A10, BO, DU, HA, NE, PA
23	2			5	1812	1815	1845	50	BO, HA
23			2	5	1836		1844		BO, HA
23			1	5	1848		1850		BO, HA
23			2	5	2116		2120		BO, HA
26		1+		5	1707	1720			A2, A3, A5, A10, BO, DU, NE, PA
26	1			4	1707	1710	1725	20	BO, MC
26			1	4	1821		1835		BO, MC (Group of Bursts)
26			1	4	1904		1920		BO, MC (Group of Bursts)
26			2	1	2217		2232		HA (Group of Bursts)
29		2		3	2110	2125U	2220D		A2, A5, A10
30	1			5	1816	1823	1829	15	BO, HA

COMMERCE - STANDARDS - BOULDER

Notes: A11 = Manila, Philippines
A12 = Addis Ababa, Ethiopia

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

Ottawa

AUGUST 1960

2800 Mc

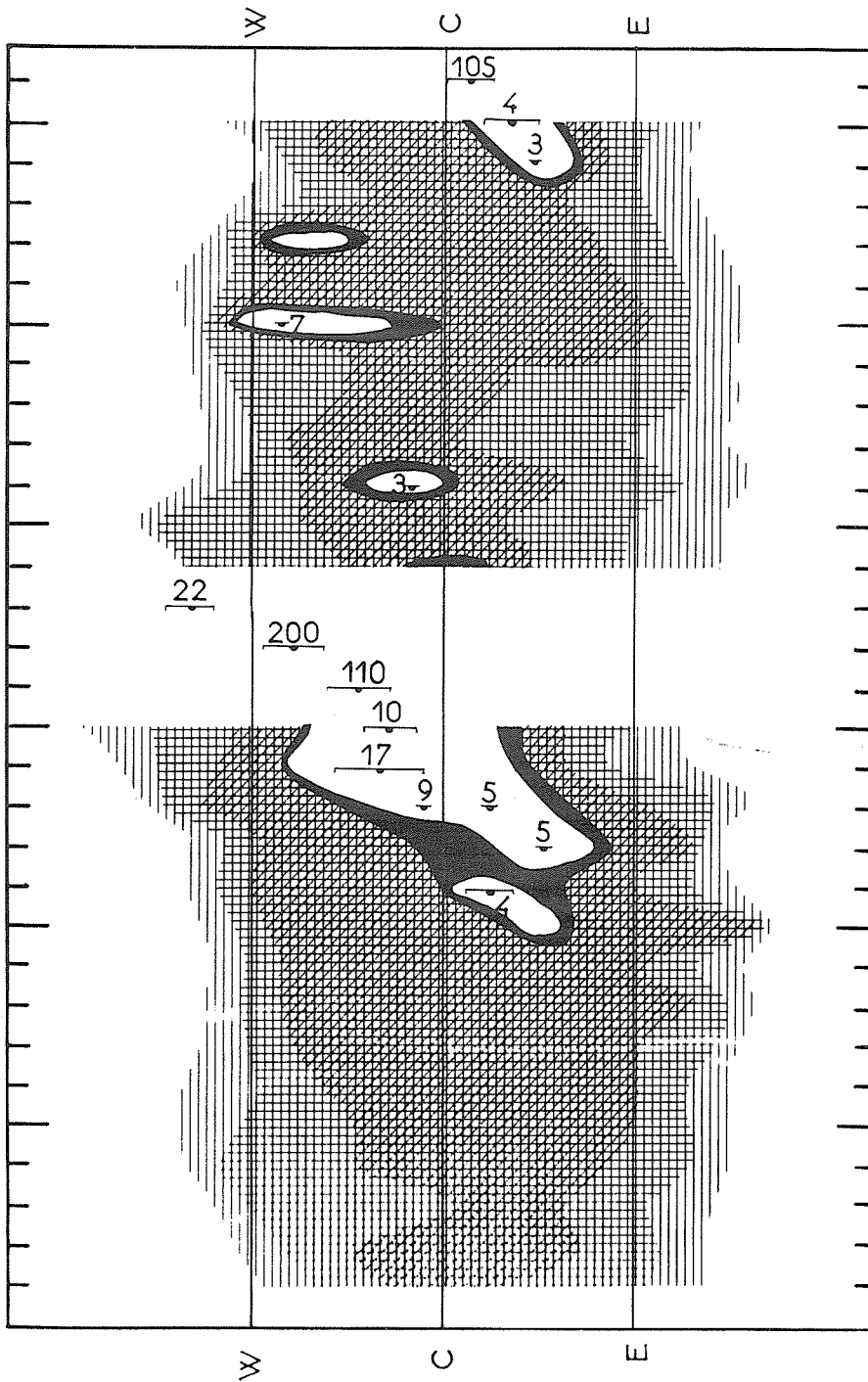
Aug. 1960	Type*	Start UT	Duration Hrs;Mins	Maxima		Remarks
				Time UT	Peak Flux	
1	3 Simple 3	1838	20	1840	6	
5	1 Simple 1	2020.2	1.5	2020.5	6	
6	6 Complex f	1310	10	1311.3	145	
6	1 Simple 1	1510	2	1510.5	7	
6	8 Group (3)	1619	16.5			
6	6 Complex f	1619	6	1622.5	42	
6	1 Simple 1	1626.4	1	1626.8	6	
6	1 Simple 1	1633.5	2	1634.5	6	
6	2 Simple 2 f	1902	3	1903.3	200	
6	2 Simple 2	2345.5	2	2346.4	33	
7	2 Simple 2 f	1218	5	1219.2	72	
7	8 Group (3)	1728.3	1 25.7			
7	2 Simple 2	1728.3	2.5	1729	20	
7	2 Simple 2	1736	7	1738	80	
6	6 Complex f	1749	10	1750.5	35	
5	5 Absorption	1759	55		- 8	
7	2 Simple 2	2201.8	3	2202.5	15	
11	3 Simple 3	1327	25	1337	30	
11	3 Simple 3 A	1916	2 24	indet.	9	
2	2 Simple 2	1923.5	37	1928	1100	
2	2 Simple 2	2004	28	2011	77	
12	2 Simple 2 f	1555	4	1556.5	25	
13	3 Simple 3 A	1705	1 25	1715	4	
2	2 Simple 2	1742.5	1	1743	9	
13	3 Simple 3	1837	35	1840	3	
13	1 Simple 1	2300	2	2300.5	7	
14	2 Simple 2	1238.3	7	1239	9	
14	2 Simple 2 f	1307	16	1310.7	680	
4	4 Post Increase A		1 30		22	
2	2 Simple 2	1333	2.5	133.5	24	
2	2 Simple 2	1410.5	4	1412	10	
2	2 Simple 2	1419	4	1420.5	22	
15	3 Simple 3	1641	25	indet.	3	
15	2 Simple 2	1934.5	1.5	1935.2	23	
16	2 Simple 2	1224	7	1226.5	15	
17	3 Simple 3	1618	30	1624	5	Record poor
17	3 Simple 3	1807	10	1810	7	Record poor
18	2 Simple 2	1649	3	1650	10	
19	8 Group (2)	1235	19			
2	2 Simple 2	1235	8	1238	74	
6	6 Complex	1246	8	1248	38	
2	2 Simple 2	1407	3	1408	8	
19	1 Simple 1	1833.5	4	1834.5	7	
19	2 Simple 2	2023	2.5	2023.5	17	
19	2 Simple 2	2131	3	2132	15	
20	3 Simple 3	2032	25	2035	5	
21	3 Simple 3 A	b1544.5	> 1 25.5	indet.	10	
3	3 Simple 3	1556	8	1558.5	6	
2	2 Simple 2	1604.5	16	1607	19	
2	2 Simple 2	1630	40	1638	80	
23	2 Simple 2	1608	5	1608.8	15	
28	1 Simple 1	1546.3	1	1546.7	6	
30	2 Simple 2	1302	2	1302.5	20	
31	3 Simple 3 A	1646	30	indet.	5	
6	6 Complex	1647.5	7.5	1648.5	18	

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

AUGUST 1960

Nançay

169 Mc



AUGUST 1960

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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
AUGUST 1960

BOULDER

167 MC

Aug. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity	Aug. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	2	1424.2	1425.0	1.8	1	13	3	0108.5	0109.0	1.5	2**
1	3	1515.8	1516.0	2.2	2	13	2	0115.0	0117.2	3.2	3**
3	3	1238.0	1238.5	1.0	2*	13	3	0128.5	0128.5	0.2	2**
3	3	1616.3	1617.0	2.2	2	13	6	1208 E		817 D	2
5	3	0052.0	0052.0	0.4	2**	13	8	1741.0	1743.0	5	3
6	3	1311.0	1311.0	2.1	3*	14	6	1209 E		815 D	2
6	3	1529.0	1529.0	1.0	2	15	6	1503 E		640 D	2
6	8	1618.9	1622.6	7	3	16	6	1211 E		277 D	2
6	3	1816.9	1817.0	0.3	2	16	6	2128 E		252 D	2
6	2	1902.5	1903.7	10	3	17	6	1214 E		681 D	2
6	3	2139.9	2139.9	0.2	3	18	6	1215 E		180 D	1
6	3	2345.5	2346.0	1.5	2	19	8	1235.2	1236.2	4.1	2*
7	3	0107.0	0107.5	1.0	2**	19	8	1239.3	1240.5	2.7	3*
7	3	1223.2	1223.2	0.5	2*	19	2	1242.0	1243.8	7	2*
7	3	1227.0	1227.2	0.4	2*	19	3	1248.1	1248.1	0.3	3*
7	3	1514.0	1514.0	0.2	2	19	3	1500.8	1501.0	0.6	2
7	3	1616.0	1616.0	0.9	2	19	3	2130.9	2131.6	1.5	2
7	3	1619.3	1620.1	1.9	2	20	3	1243.8	1243.8	0.2	2*
7	3	1735.0	1735.0	0.5	2	21	3	1335.0	1335.0	0.2	2
7	3	1737.0	1738.1	3.0	3	21	7	1529	1634	156	2
7	3	1748.2	1748.8	2.8	3	21	3	1844.4	1844.4	0.3	2
7	3	1755.0	1756.8	2.0	3	22	3	1227.1	1227.1	0.4	2*
7	3	1853.0	1853.0	0.1	2	22	3	1229.0	1229.0	0.3	2*
7	3	2008.0	2008.0	1.0	2	25	6	1220 E		88 D	2
7	3	2030.0	2030.6	1.5	3	26	3	1239.0	1239.0	1.0	2
7	3	2206.5	2207.4	0.8	2	26	3	1356.4	1356.4	0.9	2
8	3	1302.6	1302.6	0.3	2*	26	7	1545	1635	205	2
9	3	1558.0	1558.8	0.7	1	27	3	1601.0	1601.0	0.4	2
11	3	1926.0	1926.0	1.0	3	27	3	1916.5	1916.5	0.1	2
11	9	1929.0	1932.9	16	3	28	3	1451.0	1451.0	0.9	3
11	9	2222.0	2301.5	54	3	28	3	1500.2	1500.5	1.0	3
12	2	0032.0	0033.0	4.0	2	28	3	1503.0	1503.1	0.5	3
12	3	0046.0	0046.8	0.6	2**	28	3	1512.0	1512.0	1.2	3
12	3	0057.0	0057.0	0.2	2**	29	6	1225 E		776 D	1
12	3	0111.0	0111.0	0.3	2**	30	3	1239.0	1239.0	0.6	2*
12	3	0113.5	0113.5	0.2	2**	30	3	1317.0	1317.0	0.1	2*
12	2	1233.8	1235.1	2.0	2*	30	7	2045		275 D	1
12	3	1240.0	1240.5	1.0	2*	31	6	1226 E		773 D	2
12	2	1314.0	1315.6	4.0	2*						
12	3	1441.5	1441.5	0.1	2						
12	3	2036.5	2036.5	0.3	2						
12	3	2137.5	2137.5	0.2	2						
12	2	2325.0	2329.5	5	2						
12	3	2338.7	2338.7	0.6	2						
13	3	0051.6	0052.0	0.7	3**						

* On sunrise pattern.

** On sunset pattern.

Errata: In CRPL-F 192 Part B on page IVc the data are for July 1960 as page heading indicates, not for June 1960 as table subheadings indicate. Also on page IVd the times of observation are for July 1960.

TIMES OF OBSERVATIONS

BOULDER

Aug. 1960	U.T.		Aug. 1960	U.T.	
1	1157-0158	I	17	1214-0138	I
2	1200-0158	I			1515-1920; 2023-0115
3	1200-0157	I	18	1215-0137	I
					1610-1912; 2003-2400
4	1200-0155	I	19	1217-0135	I
5	1201-0154	I	20	1217-0133	I
6	1201-0153		21	1217-0132	
7	1202-0152		22	1218-0130	I
8	1205-0152	I	23	1219-0130	I
9	1205-0151	I	24	1220-0129	I
10	1206-0150	I			1517-1815; 2100-0014
11	1207-0149	I	25	1220-0128	I
12	1208-0147	I	26	1222-0126	I
			27	1222-0124	
13	1208-0145		28	1225-0122	
14	1209-0144	I	29	1225-0121	I
15	1503-0143	I			1512-1735; 2050-2300
			30	1227-0120	I
16	1211-1648; 2128-0140	I			1630-1812; 2105-0045
			31	1226-0119	I
					1524-1830; 1940-0010

COMMERCE - STANDARDS - BOULDER

ADDENDUM TO SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS:

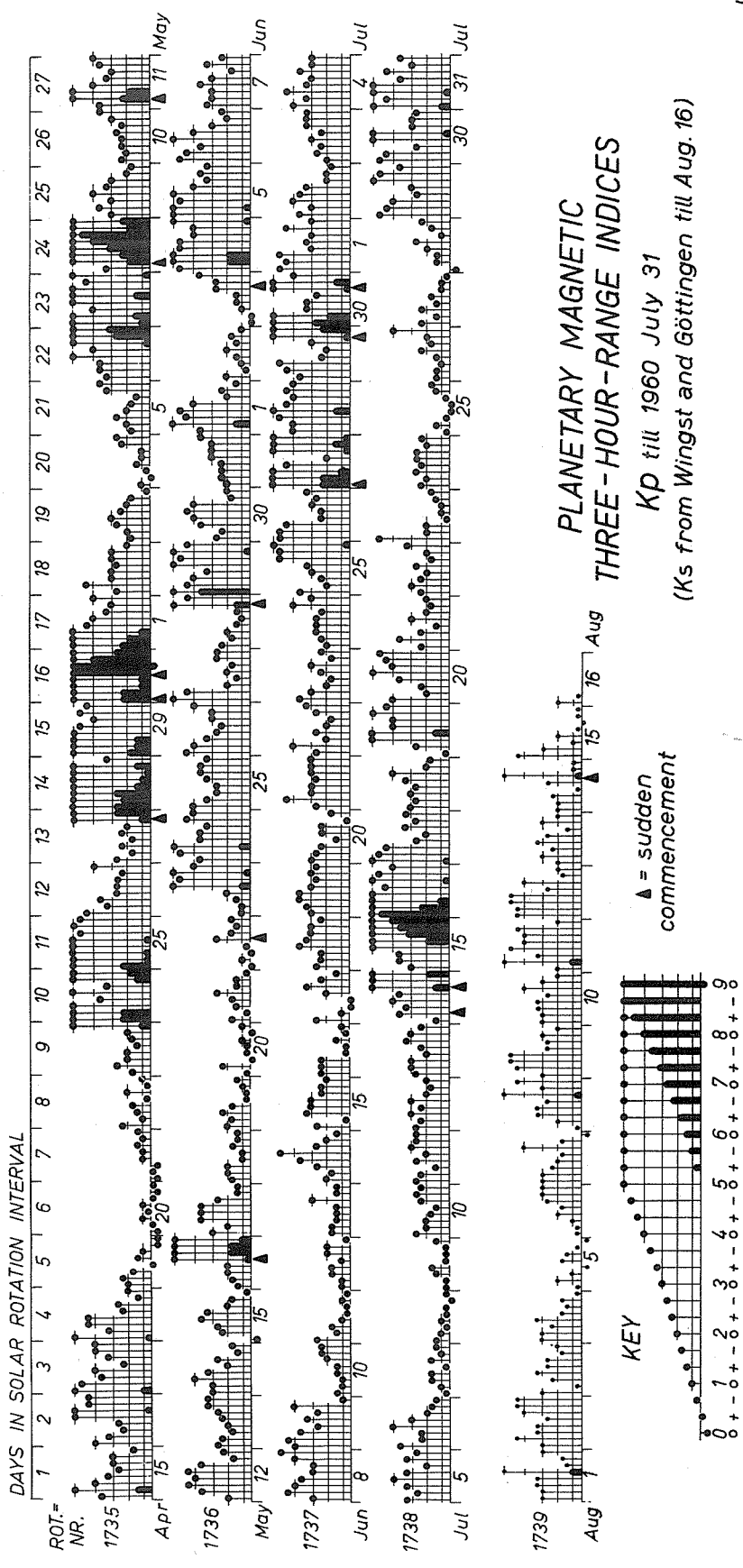
In CRPL-F 188 Part B, issued April 1960, please add to the Ft. Davis observations on page IVu the following information:

1959 Sept. 11, type II, 2203.6-2205 UT, intensity 2.

GEOMAGNETIC ACTIVITY INDICES

JULY 1960

July 1960	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	1.2	5-	4+	5-	3o	3+	3o	4+	3o	30+	26	Five Quiet
2	0.9	4-	3o	4o	4-	3+	2o	2o	2-	23+	16	
3	0.8	2o	3-	2+	3o	2+	3+	3+	3+	22+	13	
4	1.0	4o	3+	4+	3+	3o	4-	3o	3o	28-	20	
5	0.9	3+	3-	3+	4o	3+	2o	3+	3-	25-	16	
6	0.6	4-	2+	2+	4o	3o	2o	2-	1+	20+	12	
7	0.2	1-	1o	2-	2-	1-	2-	1o	1+	10-	5	
8	0.0	1+	1o	1-	1o	1-	1-	0+	1-	6+	3	
9	0.1	1-	1-	1+	2-	1-	1-	1-	1+	8-	4	
10	0.5	3-	2o	2o	2-	1+	2+	3-	2+	17o	8	
11	0.8	3-	2+	1+	3-	2o	3o	3-	3-	19+	10	Five Disturbed
12	0.7	3-	2+	3o	2+	3o	2o	2-	2o	19o	10	
13	0.7	3-	3o	3o	2o	2+	3+	3o	2+	22-	12	
14	1.4	1+	4-	3+	4o	4-	6o	5o	6+	33+	40	
15	1.8	3o	4-	4-	5o	6+	7+	8-	8o	45-	93	
16	1.7	8+	7-	6-	5o	4+	5+	5-	4o	44o	77	19
17	1.2	5+	5-	4+	3-	2o	3+	3-	3+	28+	24	31
18	0.9	3o	3-	3o	3-	3+	4o	2o	2-	22+	14	
19	1.4	1-	3-	5o	6o	4o	4o	5o	4+	32-	35	
20	1.2	4o	2o	2+	4-	5o	4o	4+	5-	30o	26	
21	0.6	2+	4-	2+	1+	3o	2o	2-	2o	18+	10	Ten Quiet
22	0.6	2+	3o	2+	2o	3-	2-	2o	3+	19+	10	
23	0.6	5-	2o	2o	1-	1o	1o	1+	2-	14+	9	
24	0.7	2+	2o	3-	2+	3-	3-	2o	2+	19o	10	7
25	0.0	1-	1+	1-	0+	0+	1-	1+	2-	7o	4	8
26	0.5	1+	1+	1o	1+	2+	2-	2o	4o	15o	8	9
27	0.3	2+	1+	2+	1+	2-	1o	1o	1-	12-	6	10
28	0.4	0o	1+	1+	2o	3-	1o	2-	2+	12+	6	23
29	1.3	5-	4+	4o	3-	3o	5o	5-	4-	32o	29	24
30	1.2	5-	4+	3-	5o	5+	3o	3o	3-	31-	29	25
31	1.3	6-	4+	5+	5o	4-	4+	3o	4-	35o	37	26
												27
												28
Mean:	0.82									Mean:	20	



J.B.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

JULY 1960

July 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	1-3 days SDW	1-7 days J	Half Day (1)	Half Day (2)
1	6-	4o	5o	6-	4	4	6	6	5o	4		4	(4)	3	
2	6o	4+	5-	6o	6	5	6	5	5o	5		5	3	2	
3	7-	6o	6o	6+	6	5	6	6	6+	6		6	3	3	
4	6+	5-	6o	6+	6	5	5	6	6o	6		6	(4)	3	
5	6o	5o	6-	6+	6	5	6	6	6-	6		6	(4)	3	
6	6+	6+	6+	6+	6	5	6	6	6+	6		6	3	2	
7	7-	6o	7-	7-	7	6	7	7	6+	6		6	2	1	
8	7o	7-	7o	7-	7	7	7	7	7-	6		6	1	0	
9	7o	7-	7-	7-	7	7	7	7	7-	7		7	1	1	
10	7o	7-	7-	7-	7	7	7	7	7-	7		7	2	2	
11	7o	7-	7-	7-	7	7	7	7	7-	7		7	3	3	
12	7-	5o	6+	7-	7	6	6	6	6+	7		7	3	2	
13	7-	6-	6+	7-	7	6	7	7	6+	7		7	3	3	
14	7-	5o	6o	6o	6	6	6	6	6o	7		7	3	(5)	
15	6-	4-	4+	3o	4	4	5	4	(4o)	7		7	(4)	(5)	
16	2o	2o	4-	4+	3	1	3	3	(3o)	4	4	6	(6)	(4)	
17	3-	2o	5o	6-	4	3	5	6	(3+)	5	5	6	(5)	3	
18	6-	4-	6o	6+	5	5	6	6	5o	6	6	6	3	3	
19	6+	3o	6-	6+	6	5	4	5	5-	6	6	7	(4)	(4)	
20	6o	5-	6+	6o	6	3	6	6	6-	6	6	7	3	(4)	
21	6o	4+	6+	7o	6	5	6	6	6-	6		6	3	2	
22	7-	6-	6+	7-	6	5	6	7	6+	6		6	3	2	
23	6-	6-	6+	7-	7	5	6	7	6o	6		6	2	2	
24	7-	6o	7-	7-	6	6	6	7	7-	6		6	3	2	
25	7-	6+	7-	7o	7	6	7	7	7-	6		6	1	2	
26	7o	7-	7-	7-	7	6	7	7	7-	6		6	1	3	
27	7-	6+	7-	7o	6	6	7	7	7-	5		5	2	2	
28	7o	7-	7o	7-	7	7	7	7	7-	6		6	1	2	
29	6+	6-	6o	6+	7	6	6	6	6o	6		6	(4)	(4)	
30	4+	3o	5+	6-	5	4	5	5	(4+)	5		5	(4)	3	
31	5o	3+	5o	6o	6	3	5	5	5-	5		5	(5)	3	
Score: Quiet Periods		P	17	13	23	23				15		14			
		S	9	7	5	6				11		11			
		U	0	1	0	0				1		2			
		F	2	0	1	0				0		0			
Disturbed Periods		P	0	3	0	0				0		0			
		S	3	6	2	2				2		1			
		U	0	1	0	0				1		0			
		F	0	0	0	0				1		3			

() represent disturbed values.

All times are Universal Time (U.T.)

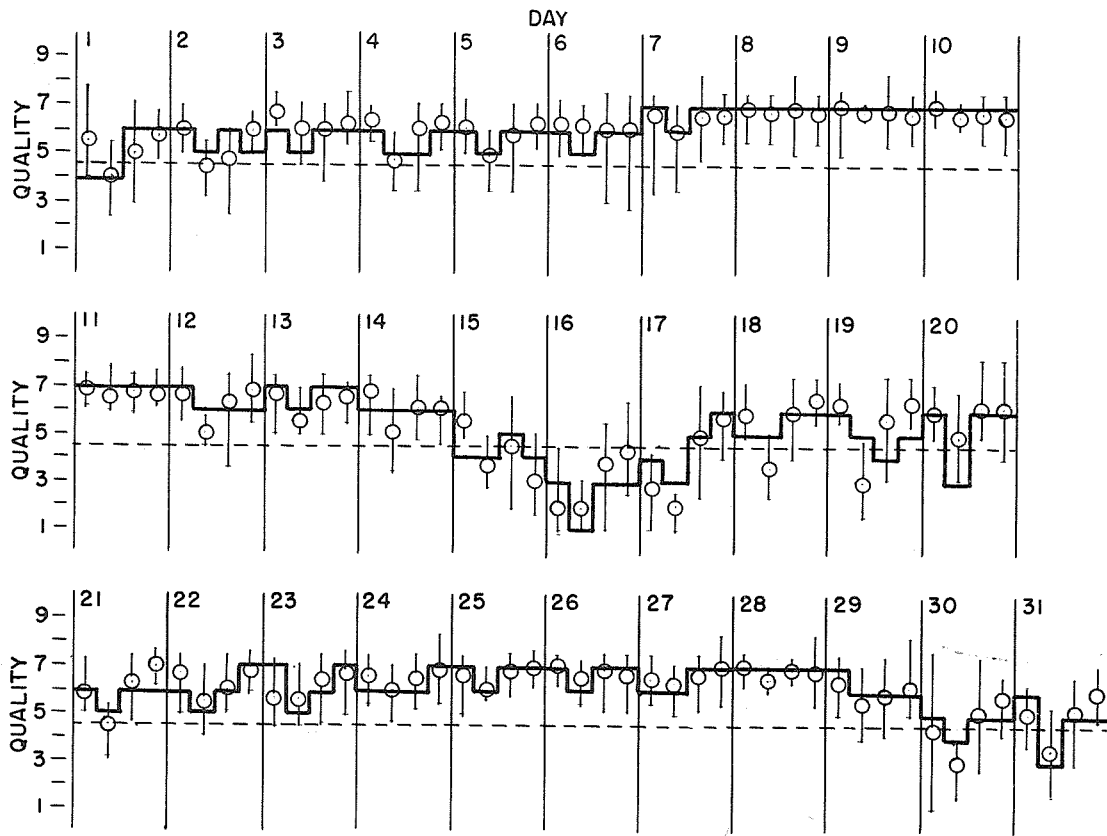
CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS NORTH ATLANTIC

VIb

JULY 1960

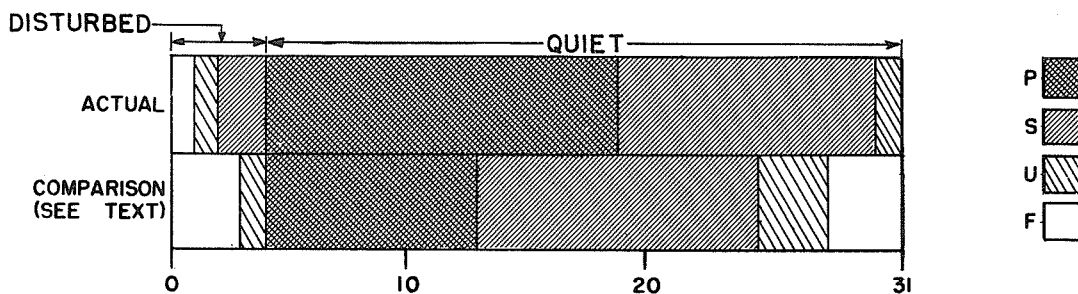
— Short-term forecast
○ Quality figure

| Range of reports



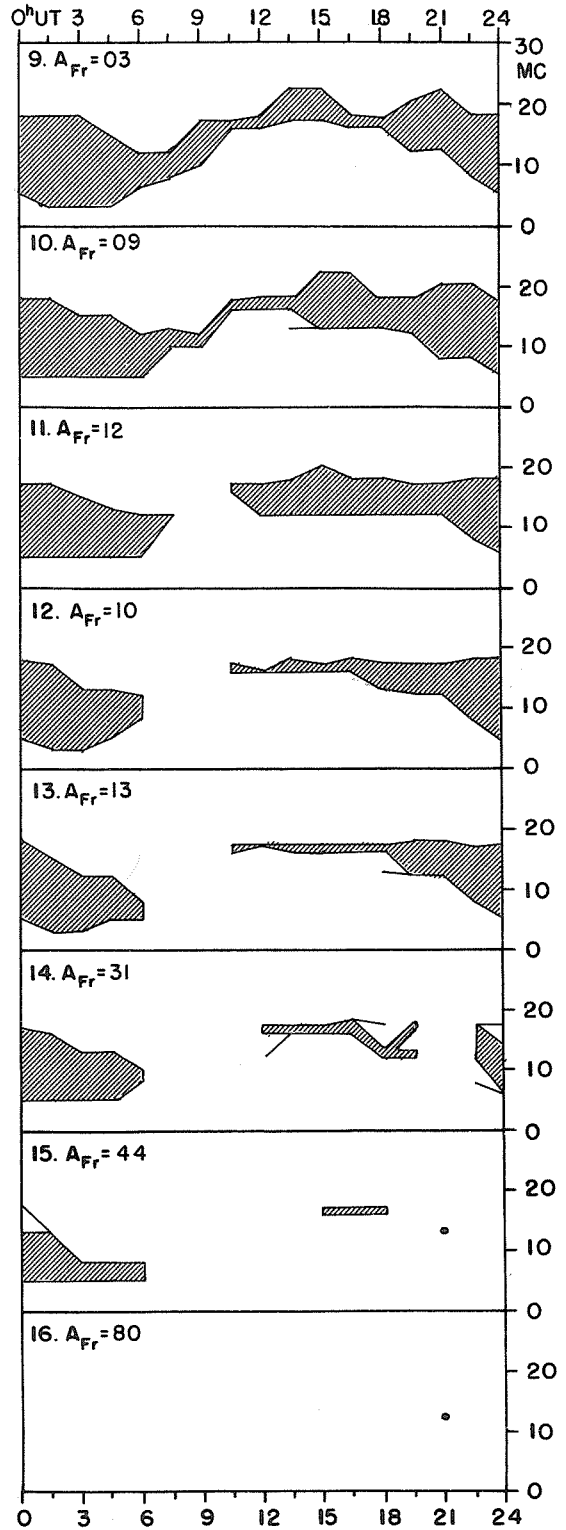
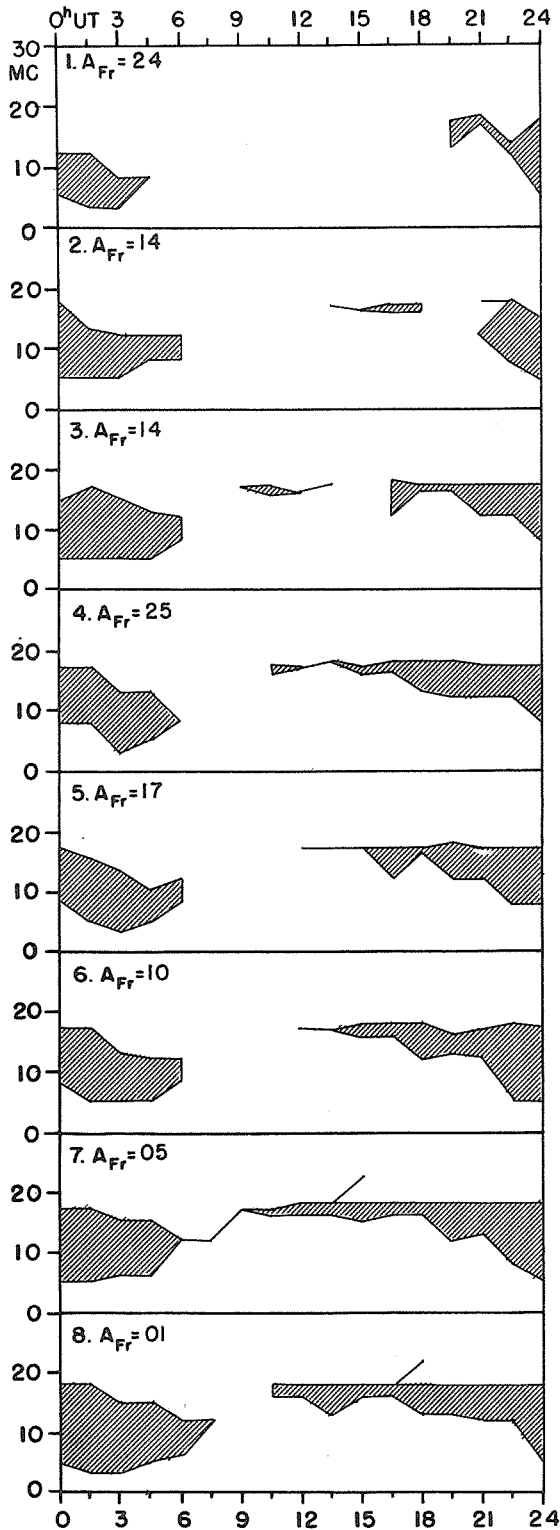
OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

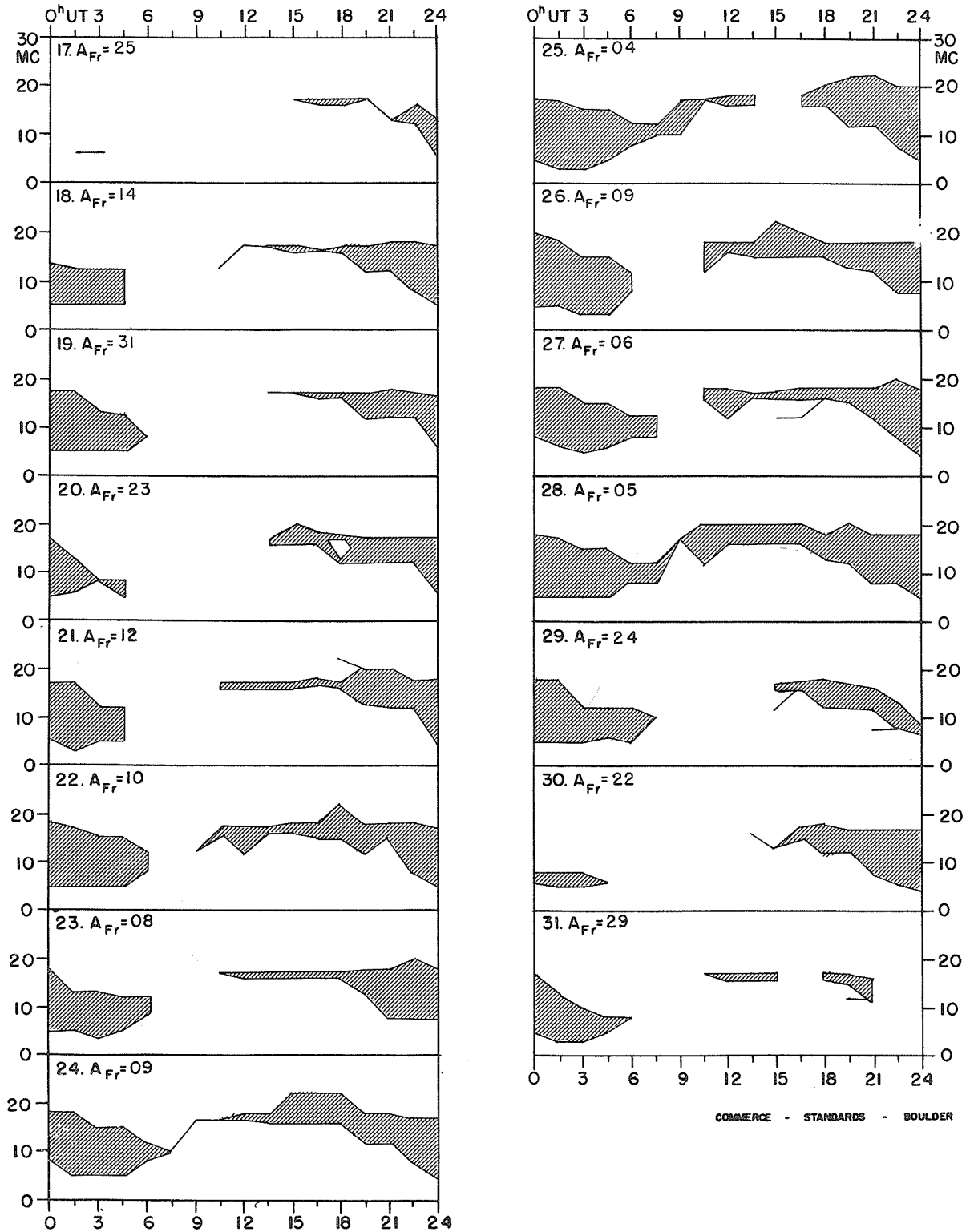


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

JULY 1960



JULY 1960



Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

JULY 1960

July 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_{SI}	
	0700 to 1900	1900 to 0700	0600	1800		1-7 days Final	1-7 days Jps	1-3 days SDW	1-7 days Jp	Half Day (1) (2)	
1	5	6	5	6	5	5			5	(4)	3
2	6	5	5	5	6	5			5	(4)	2
3	6	6	6	6	6	6			6	3	3
4	6	5	5	6	6	6			6	(4)	3
5	6	5	5	5	6	6			6	(4)	3
6	5	6	5	5	5	6			6	3	2
7	7	6	6	6	7	5			5	2	1
8	6	7	6	6	6	5			5	2	1
9	6	7	6	7	7	6			6	1	1
10	7	7	7	7	7	6			6	2	2
11	7	7	7	6	6	6			6	2	2
12	6	7	6	6	6	6			6	3	2
13	7	7	6	6	7	6			6	3	2
14	6	6	6	5	6	6			6	(4)	(4)
15	3	2	6	3	(3)	6			6	(5)	(8)
16	3	3	3	3	(2)	4	4		6	(7)	(5)
17	4	5	4	4	(4)	5	5		6	(5)	3
18	6	6	5	6	6	6	6		6	(4)	3
19	3	4	6	5	(4)	6	6		6	(5)	(4)
20	6	6	5	5	5	6	6		6	3	(4)
21	6	6	5	5	6	5			5	3	2
22	7	6	6	7	6	6			6	2	2
23	7	7	7	6	7	6			6	2	1
24	6	5	6	7	6	6			6	2	2
25	6	6	6	6	6	5			5	1	1
26	8	6	6	6	7	5			5	2	2
27	7	6	6	6	6	5			5	2	1
28	6	6	7	7	6	6			6	1	2
29	6	5	6	5	6	6			6	(4)	(4)
30	4	6	5	5	5	6			6	(5)	(4)
31	4	4	5	4	(4)	6			6	(6)	(4)
Score:	Quiet Periods		P 13	12		12					
			S 11	14		12					
			U 1	1		2					
			F 0	0		0					
	Disturbed Periods		P 2	2		0					
			S 2	2		1					
			U 0	0		1					
			F 2	0		3					

() represent disturbed values.

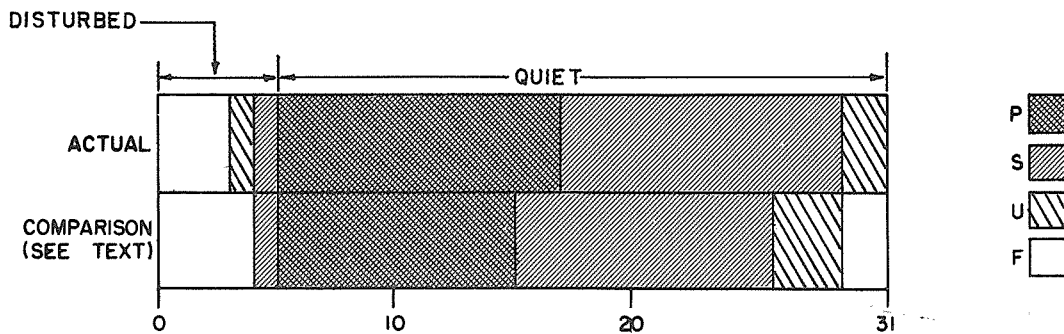
All times are Universal time (U.T.)

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH PACIFIC

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JULY 1960

OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

AUGUST 1960

Issued Day/Time UT Aug. 1960	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
16/1600		79	Magnetic Storm 16/1410Z	Start Special World Interval
17/1600		80		Continue Special World Interval
18/1600		81		Finish Special World Interval
20/1100	Ft. Belvoir, Magnetic Storm 19/1615Z			
20/1600		82	Magnetic Storm 19/1615Z	
28/0745	Ft. Belvoir, Magnetic Storm 27/2010Z			
29/1230	Ft. Belvoir, Magnetic Storm 29/0020Z			
29/1600		83	Magnetic Storm 29/0020Z	
30/0500	Ft. Belvoir, Magnetic Storm Aurora Probable 29/0020Z			
30/1600		84	Magnetic Storm Aurora Probable 29/0020Z	