

PART B  
SOLAR - GEOPHYSICAL DATA

ISSUED  
MARCH 1961

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

## SOLAR - GEOPHYSICAL DATA

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The descriptive text was published separately, November 1960.

CORRECTION TO TEXT ISSUED NOVEMBER 1960

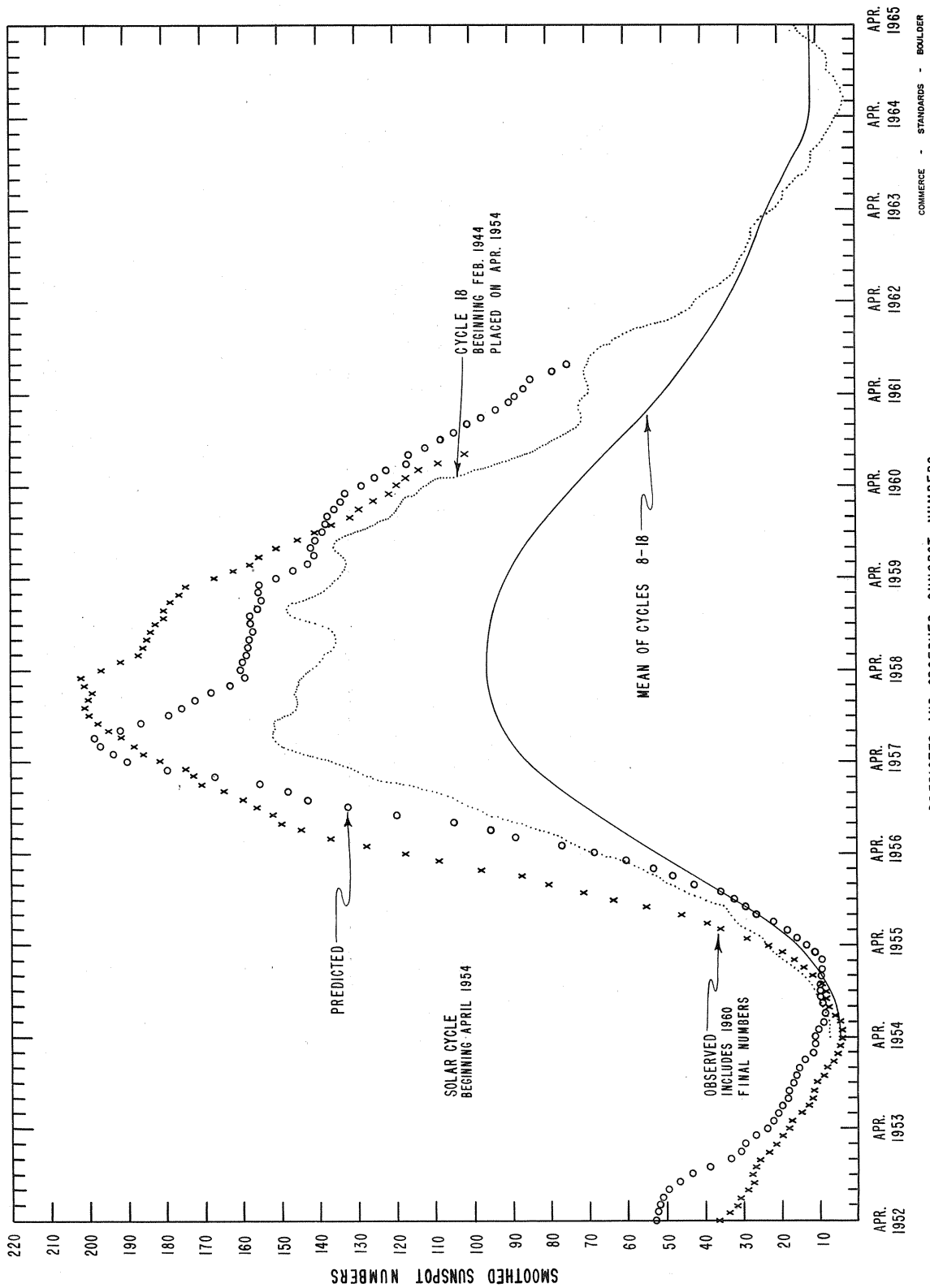
Please replace second paragraph, page 6, with the following:

The flare position reports from Hawaii have been corrected from July 1, 1957 to December 10, 1960. Flare coordinates reported since December 10, 1960 have been computed correctly. The measured and corrected areas for flares from Hawaii as published for July 1957 through November 1959 should be divided by two to make the entries correct.

## DAILY SOLAR INDICES

Jan. 1961	American Relative Sunspot Numbers R <sub>A</sub> '
1	116
2	109
3	108
4	82
5	69
6	57
7	55
8	45
9	39
10	32
11	33
12	19
13	14
14	17
15	24
16	30
17	44
18	44
19	44
20	38
21	38
22	34
23	19
24	15
25	22
26	26
27	36
28	63
29	58
30	52
31	53
Mean:	46.3

Feb. 1961	Zürich Provisional Relative Sunspot Numbers R <sub>Z</sub>	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	55	123
2	57	122
3	59	118
4	75	118
5	61	118
6	56	121
7	52	114
8	55	111
9	68	108
10	61	104
11	41	101
12	28	98
13	26	97
14	26	97
15	27	98
16	17	96
17	38	96
18	30	96
19	20	96
20	22	99
21	42	100
22	46	102
23	41	103
24	56	104
25	50	106
26	49	101
27	42	103
28	17	103
Mean:	43.5	105.5



## ZURICH FINAL RELATIVE SUNSPOT NUMBERS

1960

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	136	173	63	154	97	100	167	75	103	22	76	74
2	141	181	57	143	97	90	157	58	105	34	79	92
3	148	177	62	152	102	109	163	36	80	22	69	101
4	160	156	66	162	96	113	203	30	75	53	67	111
5	168	149	74	156	87	104	168	25	83	70	77	102
6	174	145	79	143	93	109	139	24	100	92	90	104
7	179	123	108	123	125	123	133	56	110	113	116	94
8	171	116	111	112	135	113	134	58	121	110	132	99
9	158	143	109	98	142	129	123	76	138	128	127	97
10	139	143	109	103	149	147	108	94	147	140	137	103
11	143	128	82	114	147	149	95	156	145	133	134	102
12	123	116	68	139	127	151	83	201	147	116	116	101
13	108	106	85	132	135	131	84	235	160	123	122	92
14	118	104	76	149	110	138	89	236	161	106	132	101
15	121	94	84	156	91	144	105	252	151	98	133	108
16	119	84	98	152	101	138	132	244	128	98	121	103
17	117	73	86	124	114	105	136	253	122	103	103	92
18	103	60	85	116	106	91	140	257	153	98	93	82
19	87	44	95	121	108	84	141	228	166	96	83	70
20	94	49	97	116	115	60	137	204	171	92	82	71
21	108	56	115	123	109	56	139	177	177	82	72	63
22	134	64	128	108	118	50	135	168	189	60	66	44
23	138	68	145	106	125	58	127	130	168	54	59	35
24	136	74	123	102	147	68	105	113	157	49	52	37
25	152	89	128	95	148	80	110	131	141	62	42	57
26	209	96	133	96	124	99	92	140	114	72	60	48
27	203	92	138	82	148	116	90	109	97	67	58	70
28	199	87	139	91	142	140	80	98	89	52	57	86
29	193	83	142	92	138	147	94	97	74	72	64	94
30	178		151	100	121	165	82	96	44	82	69	103
31	178		132		111		83	100		68		118
Mean	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6

CALCIUM PLAGE AND SUNSPOT REGIONS

IIa

FEBRUARY 1961

CMP Feb. 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values		History, Age	CMP Values		History	
Area	Int.	Area	Count							
01.6	S22	6014	New	900	3.5	l—l	1			
03.3	N25	6016	5991	1600	2	l—l	4	220	2	l—l
04.1	N10	6027a	New	400	3	b/l	1			
05.2	N34	6017	5994	300	1.5	l—l	4			
05.3	S12	6018	5992	1500	3	l—l	3	50	2	l\d
06.1	N11	6019	5993	1300	2	l—l	9			
06.4	S07	6020	5995	800	2.5	l/l	3	80	1	l—l
08.0	S17	6021	5995	1000	1	l\d	3			
10.0	S13	6023	5998	1800	3	l—l	7			
10.1	N06	6022	New	3700	3	l—l	1	420	9	l—l
11.4	S09	6025	New	1400	3	l—l	1	90	4	b/l
12.4	N26	6027b	*	600	1.5	b/l	6	100	2	b/l
14.0	N34	6028	*	200	1	b^d	6			
14.9	S04	6026	6001	1000	2	l\d	2			
18.8	N13	6030	6007	1000	1.5	l—l	4			
21.2	S04	6033	6010	200	1	l\d	4			
22.4	N07	6034	6009	1500	2.5	l—l	2			
23.5	N07	6047	New	600	2.5	b/l	1			
23.7	S17	6036	New	2800	3	l—l	1	150	12	l—l
24.2	N27	6037	6011	1200	2.5	l—l	3			
24.4	N16	6038	6011	700	2.5	l—l	3			
25.5	N22	6039	6011	1100	2	l—l	3			
26.2	S13	6040	New	700	3	l—l	1	40	2	l\d
27.4	N10	6041	6013	2100	2	l—l	5	80	2	l—l
27.5	S16	6042	New	600	2.5	b/l	1			

\*5999, 6000

The number 6027 was inadvertently used twice 6027a formed on disk near west limb, February 9, 6027b - CMP February 12.



FINAL CORONAL LINE EMISSION INDICES

OCTOBER 1960

CMP Oct. 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 <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>
1	31a	42a	x	x	44a	60a	15a	20a	44	79	4	17	50	58	5	23
2	46	54	25a	30a	77	162	30a	40a	x	x	x	x	x	x	x	x
3	46	53	22	46	59	105	28	75	44a	66a	x	x	35a	39a	x	x
4	56a	71a	45a	84a	107	95a	45a	102a	37	63	10	10	44	51	14	24
5	117	120	11	18	107	119	7	10	63	80	26	40	69	101	17	26
6	90	98	17	27	74	90	10	11	65	89	9	18	65	75	8	12
7	119	120	20	31	103	120	25	57	29	33	12	18	41	62	20	54
8	119	120	28a	42a	96	120	17a	36a	88	150	20	37	76	95	9	18
9	88	94	8	19	93	105	9	28	77	126	20	56	74	91	14	28
10	114	151	20	36	111	173	14	35	106	171	14	34	97	150	7	18
11	x	x	x	86a	x	x	x	x	x	x	x	x	x	x	x	x
12	61	68	52a	19	40	68	46a	60a	48	66	x	x	78	128	x	x
13	62	106	14	19	48	60	11	20	27	34	7	8	50	66	16	34
14	74	98	11	14	65	72	6	9	48	66	13	17	76	105	18	52
15	58	75	10	10	54	77	29	50	54	93	13	20	46	86	18	27
16	x	x	x	x	x	x	x	x	48	73	18	34	35	40	22	33
17	54a	60a	x	x	80a	112a	x	x	x	x	x	15	x	x	x	8
18	53	60	10	12	51	63	25	50	84	123	9	15	46	56	6	8
19	70	78	20	34	98	158	41	64	88	119	45	72	60	70	27	54
20	77	102	6	10	117	166	21	40	97	171	9	12	90	126	8	18
21	50	65	14	20	45	80	17	35	x	x	x	x	x	x	x	x
22	88	128	14	29	68	96	22	39	31	38	15	23	50	68	12	15
23	118	172	13	28	76	93	17	29	22	28	8	16	67	93	8	15
24	93	143	9	13	44	83	15	31	10	12	10	17	48	74	9	17
25	x	x	x	x	x	x	x	x	9	10	6	8	37	54	7	13
26	39	45	x	x	19	21	x	x	19	26	4	5	35	46	6	8
27	25	26	6	8	16	19	6	10	10	14	x	x	25	36	x	x
28	39	49	8	14	45	58	6	17	39	59	x	-	42	77	5	9
29	35	51	7	10	37	57	5	6	26a	28a	x	x	32a	36a	x	x
30	26	36	13	27	20	24	5	7	24	35	3	8	36	66	41	80
31	x	x	x	x	x	x	x	x	46	57	2	10	46	84	9	16

COMMERCE - STANDARDS - BOULDER

a = index computed from low weight data. \* = yellow line observed. x = no observations. - = below threshold of visibility.

FINAL CORONAL LINE EMISSION INDICES

NOVEMBER 1960

CMP Nov. 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 <sub>6</sub>	G <sub>1</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>1</sub>
1	78	121	18	37	53	5	29	56	10	64	90	42
2	90	116	66	51	65	18	69	124	54a	72	108	24
3	76	103	29	48	21	40	70	112	32a	75	98	43a
4	x	x	x	x	x	x	69	85	104	64	94	27
5	23	33	33	58	70	10	75	122	34	84	152	37
6	68	92	35	58	125	16	65	123	x	83	135	16
7	86	124	58	54	76	16	55	79	x	72	90	x
8	55	68	18	37	44	12	75	108	20	86	104	5
9	89	146	11	64	114	8	55	82	30	58	80	2
10	63	82	x	41	64	x	38a	56a	70	41a	66a	36
11	117	176	41	43	58	15	64	88	16a	76*	118	26a
12	97	146	109a	72	136	30a	x	x	16	x	x	21
13	108	132	17	64	100	14	43	56	x	48*	67	x
14	86	107	16	54	80	7	48	58	24	69	126	18
15	66	89	18	64	84	10	68	86	x	63	97	25a
16	75	104	21	66	102	12	38a	56a	8	40a	60a	8
17	92	131	84	73	102	20	40	55	32a	75	117	21a
18	68	80	18	50	64	18	46	60	21	70	114	13
19	67	77	16	36	58	18	20	29	27	50	68	16
20	47	62	x	22	28	x	x	x	28	x	x	24
21	53	68	15	22	26	13	13a	16a	x	22a	29a	x
22	59	68	17	30	49	10	14	15	16a	24	27	8a
23	35	41	82	25	30	22	28	41	20	48	55	17
24	27a	40a	59a	38a	60a	19a	97	132	x	45	56	x
25	31	40	15	63	88	9	50	75	x	30	39	x
26	x	x	x	x	x	x	45	74	50	26	34	x
27	66	121	64	36	61	26	20	34	x	32	40	6
28	72	95	64a	43	117	39a	x	x	12	x	x	x
29	50	67	20	38	89	9	47	77	17	x	117	19
30	53a	89a	66a	35a	62a	24a	43	60	9	114	153	38

COMMENT - STANDARDS - BOULDER

a = index computed from low weight data. \* = yellow line observed. x = no observations. -- = below threshold of visibility.

FINAL CORONAL LINE EMISSION INDICES

DECEMBER 1960

CMP Dec. 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 <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>
1	79	149	23	67	40	58	10	38	62	77	14	-	142	240	25	50
2	66	85	22	56	43	58	4	7	70	85	14	22	87	124	9	21
3	87*	111	x	x	60	101	x	x	57	96	13	13	100	148	6	13
4	x	x	x	x	x	x	x	x	34	50	13	25	32	44	8	14
5	58*	84	x	x	54	135	x	x	x	x	x	x	x	x	x	x
6	49	59	42	57	50	87	25	52	x	x	x	x	x	x	x	x
7	109	136	x	x	69	97	x	x	65	91	x	x	85	160	x	x
8	x	x	x	x	x	x	x	x	84	136	7	12	81*	144	16	38
9	101	124	68	104	67	103	31	72	55	76	18a	32a	92*	170	37a	91a
10	202	252	x	x	60	82	x	x	x	x	x	x	x	x	x	x
11	48	60	9	20	26	36	5	9	51	70	8	12	105	144	11	32
12	64	80	13	18	29	40	7	15	22	30	16	35	37	64	12	17
13	68	100	23	23	39	60	15	35	55	85	11	31	69	92	10	28
14	115	147	23	45	63	95	41	71	x	x	x	x	x	x	x	x
15	120	191	19	43	57	95	-	-	x	x	x	x	x	x	x	x
16	87	115	15	28	37	63	23	33	x	x	x	x	x	x	x	x
17	77	95	14	20	33	45	12	16	30	58	31	72	42	48	22	46
18	20	40	10	17	4	6	7	10	20	31	12	16	40	52	9	19
19	x	x	x	x	x	x	x	x	13	28	12	20	26	46	13	23
20	x	x	x	x	x	x	x	x	38	80	3	4	38	80	8	13
21	x	x	x	x	28	40	x	x	27	46	22	36	24	32	26	44
22	25	32	9	11	38	58	5	7	28	39	7	12	25	36	12	18
23	25	36	24	30	23	42	18	28	27	32	15a	20a	26	33	19a	33a
24	x	x	x	x	x	x	x	x	24	30	7	13	24	30	7	10
25	59	73	x	12	25	32	3	4	22	26	4	5	37	64	8	14
26	23	28	17	32	13	18	6	9	14	20	6	8	22	42	11	15
27	71	78	12	20	28	38	5	7	27	36	10	14	71	120	36	70
28	x	x	x	x	x	x	x	x	45	63	28	40	79	123	60	109
29	x	x	x	x	x	x	x	x	69	97	2	12	75	104	9	12
30	x	x	x	x	x	x	x	x	62	137	23	42	73	117	47	120
31	70*	109	18	28	63	114	27	72	60	92	24	68	75*	116	45	93

COMMERCE - STANDARDS - BOULDER

a = index computed from low weight data. \* = yellow line observed. x = no observations. - = below threshold of visibility.

PROVISIONAL CORONAL LINE EMISSION INDICES

FEBRUARY 1961

CMP Feb. 1961	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>	G <sub>6</sub>	G <sub>1</sub>	R <sub>6</sub>	R <sub>1</sub>
1	x	x	x	x	x	x	x	x	58	105	32	48	65	92	46	99
2	x	x	x	x	x	x	x	x	5	7	4	5	19	31	5	7
3	77a	113a	x	x	38a	x	x	x	x	x	x	x	x	x	x	x
4	60	89	35	52	19	28	50	x	x	x	x	x	x	x	x	x
5	58	82	43	69	36	34	62	x	x	x	x	x	x	x	x	x
6	57	64	x	x	57	x	x	x	48	70	x	x	45	51	x	x
7	80	91	16a	18a	85	27a	32a	x	53	81	19	31	46	53	14	18
8	x	x	x	x	x	x	x	x	34	52	12	17	27	38	8	18
9	x	x	x	x	x	x	x	x	71	149	24	35	74	110	5	7
10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
11	x	x	x	x	x	x	x	x	21	40	8	12	16	18	5	11
12	27	30	23a	29a	12	18a	26a	x	17	22	5	7	25	31	14	33
13	30	38	25a	38a	27	37	28a	x	x	x	x	x	x	x	x	x
14	23	34	x	x	31	66	x	x	18	30	11	17	21	28	13	17
15	32	46	20	30	70	258	66	x	17	40	8	14	17	23	7	10
16	7	9	7	9	6	8	6	x	x	x	x	x	x	x	x	x
17	x	x	x	x	x	x	x	x	8	10	9	12	17	20	6	8
18	x	x	x	x	x	x	x	x	8	14	7	12	20	26	6	10
19	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20	48	60	x	x	38	58	x	x	26a	36a	x	x	41a	53a	x	x
21	58	81	x	x	63	96	20a	x	x	x	x	x	x	x	x	x
22	64	106	9	12	40	68	14	x	33	54	12	21	38	64	6	7
23	122	165	13	22	81	140	33	x	59	124	11	18	49	62	11	20
24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25	60	88	8	17	35	60	6	x	x	x	x	x	x	x	x	x
26	84	100	8	16	35	78	19	x	x	x	x	x	40a	53a	x	x
27	x	x	x	x	x	x	38	x	21a	32a	x	x	x	x	11a	13a
28	58	92	20	47	33	62	x	x	x	x	x	x	x	x	x	x

COMMERCE - STANDARDS - BOLDER

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

# SOLAR FLARES

## FEBRUARY 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX. LAT.				McMATH FLARE REGION	MEAS. AREA Sq. Deg.	COOR. AREA Sq. Deg.		MAX. WIDTH H <sub>g</sub>
{ MEUDON UCCLE STOCKHOLM	01	0942 E	0953 D		N22 E26	6016	1	D	11				
	01	0950 E	1120 D	0952	N26 E26	6016	1+		90	6.00	7.20		
	01	1025 E	1040 D		N20 E22	6016	15	D	15	3.50	4.40		
{ HUANCAYO SAC PEAK	02	2227	2230 D		N09 W34	6013	1	D	3	1.80	2.20		
	02	2227	2246	2232	N10 W38	6013	1		19	2.02	2.21		20
ARCETRI	03	0926 E	0929 D		N03 E89	6022	1		3	.50	2.30		
ARCETRI	04	0820 E	0832 D		N03 E75	6022	2		12				
{ LOCKHEED SAC PEAK	04	1757	1850	1809	N03 E69	6022	1		53	2.30	4.30		20
	04	1817 E	2015	1820 U	N03 E74	6022	1		118	2.17	4.54		16
WENDEL	06	1200 E	1232 D		S10 E63	6025	1		32		4.00		
LOCARNO	06	1410	1425	1416	N23 W43	6016	1+		15		3.00		
{ SAC PEAK HUANCAYO	06	1845	1856 D		N26 W46	6016	1	D	11	2.60	3.42		19
	06	1848	1914	1851	N22 W46	6016	26		39	2.60	4.20		2.70
CLIMAX	06	1848	1927	1852	N25 W47	6016	3		1853	1.60	2.20		
	06	1850	1930		N25 W46	6016	40		1856	3.00	3.00		
ARCETRI	10	0826 E	0837 D		N10 W85	6027	1		11	.60	2.30		
ARCETRI	10	0930 E	0955 D		N10 W85	6027	1		25				
{ ARCETRI: LOCARNO	10	0938 E	0951 D		N10 W85	6027	1		13	.80	3.10		
	13	0945	1020	0950	N03 W54	6022	35		1000		5.00		
ARCETRI	14	0710 E	0736 D		N04 W69	6022	26	D	1				
WENDEL	14	0750 E	0810 D		N04 W63	6022	1+		20		5.00		
WENDEL	14	0836	0853		N21 W69	6022	17		17		3.00		
UCCLE	14	0847	0850 D		S10 W44	6025	3	D	1	1.50	1.80		
WENDEL	14	0855 E	0946 D		S09 W68	6023	51	D	1+		5.00		
WENDEL	14	0905	0925		S07 W41	6025	20		20		3.00		
LOCARNO	14	1035 E	1050		N05 W65	6022	15	D	1		2.00		
ZURICH	14	1040 E	1047		N04 W65	6022	7	D	1		3.00		
WENDEL	14	1052 E	1107 D		N04 W65	6022	15	D	1		3.00		
	14	1136	1153 D		N04 W66	6022	17	D	1		3.00		
WENDEL	14	1353	1415 D		N03 W68	6022	22	D	1		4.00		
UCCLE	14	1447	1525	1510	S13 W75	6023	38		38	2.00	2.80		
{ WENDEL ARCETRI	14	1507 E	1535 D		N04 W69	6022	28	D	1		3.00		
	14	1509 E			N04 W69	6022	□		1	.90	2.00		
ARCETRI	15	0740 E	0802 D		S12 W87	6023	22	D	1		3.00		
WENDEL	15	1105 E	1130 D		S10 W83	6023	25	D	1				
UCCLE	15	1200			S10 W87	6023	□		1				
ARCETRI	15	1224 E			N04 W85	6022	□		1	1.10	4.30		
UCCLE	15	1228			N05 W82	6022	□		3				
ARCETRI	15	1224 E	1241 D		S12 W87	6023	17	D	1	.50	2.10		
WENDEL	15	1225 E	1250 D		S12 W85	6023	25	D	1		3.00		
{ ONP REJOV ARCETRI	15	1243 E	1258 D		S12 W90	6023	15	D	1	.50	2.10		
	15	1351 E	1424 D		S12 W87	6023	33	D	1	.40	2.00		
LOCKHEED	15	1915	1940	1922	S12 W90	6023	25		1922		2.00		10

# SOLAR FLARES

## FEBRUARY 1961

OBSERVATORY	DATE FEB 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	MCMATH FLAGE. REGION				TIME U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hc	
WENDEL	16	1553 E	1625 D	N07 E70	E70	6034	32 D	1+				5.00		
UCCLE	17	1145	1215	S03 E55	E55	6033	30	1	3	1150	2.00	2.50		
{ WENDEL	18	1438 E	1508 D	S10 E72	E72	6036	30 D	1				3.00		
{ WENDEL	18	1513	1527 D	S10 E72	E72	6036	14 D	1				4.00		
{ WENDEL	19	0809	0829 D	S11 E60	E60	6036	20 D	1+				6.00		
{ ARCETRI	19	0811 E		S12 E68	E68	6036	□	1	3					
{ LOCARNO	19	0815 E	0830	S11 E62	E62	6036	15 D	1+	1					
WENDEL	20	1238 E	1335 D	S11 E45	E45	6036	57 D	1				3.00		
SAC PEAK	21	1818	1823	S15 E78	E78	6040	5	1	3		1.24	2.83		17
LOCKHEED	21	2259	2342	S13 E77	E77	6040	43	1	2	2310	1.20	2.70		20
WENDEL	22	0753	0820	S13 E69	E69	6040	27	1				3.00		
LOCARNO	23	1350	1450	S12 E35	E35	6040	60	1	2					
LOCARNO	27	1405	1435	S12 W48	W48	6036	30	1+	2					

COMMERCE - STANDARDS - BOULDER

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

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

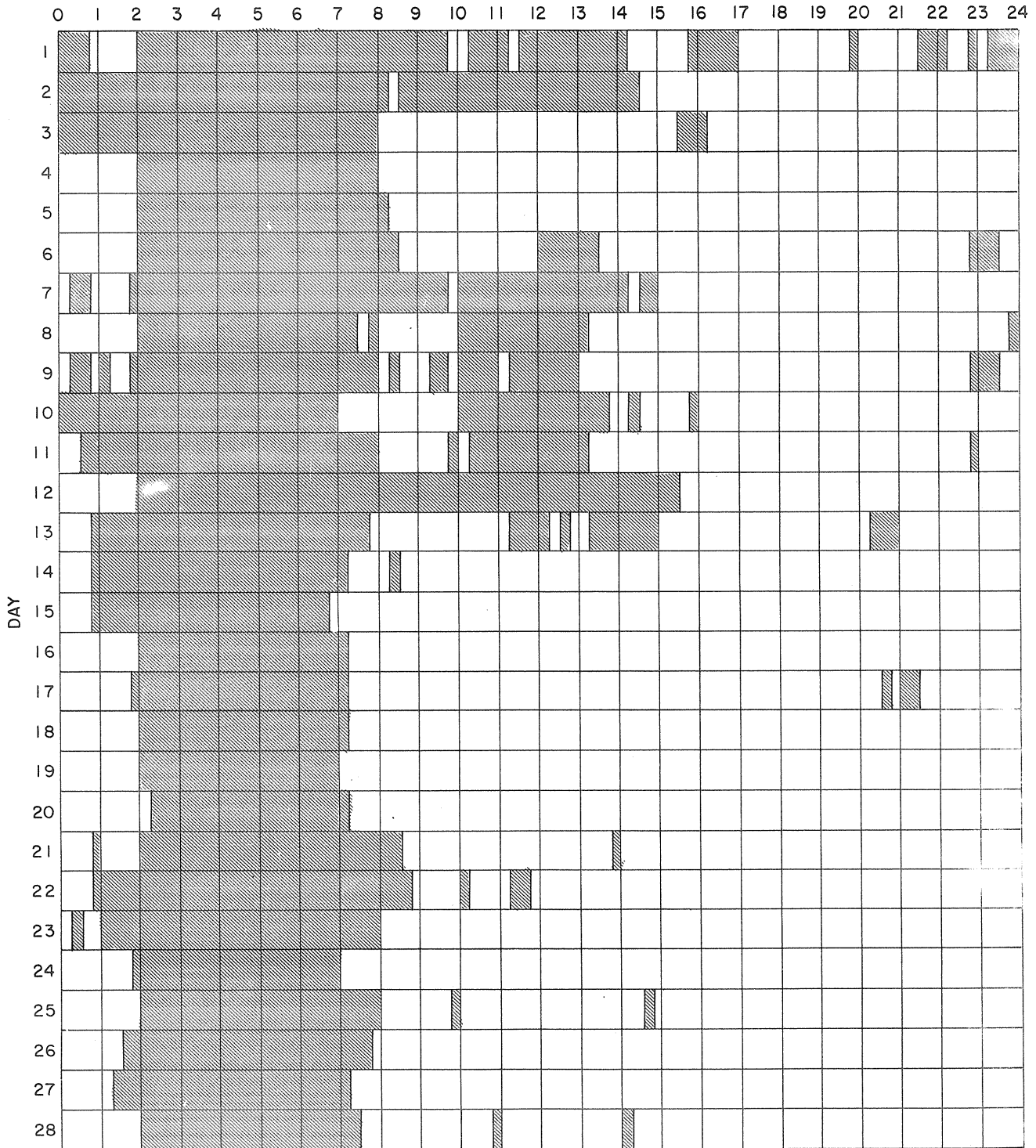
MCMATH MCMATH-HULBERT  
 MOSCOW-G MOSCOW - GAISH  
 R O HERST ROYAL GREENWICH OBSERVATORY,  
 HERSTMONCEUX  
 SAC PEAK SACRAMENTO PEAK  
 SCHAUNINS SCHAUNINSLAND  
 WENDEL WENDELSTEIN

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.  
 SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORR. AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SAC PEAK.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

FEBRUARY 1961

HOUR-UT



COMMERCE - STANDARDS - BOULDER

Stations Include:

- |                    |          |                |                             |
|--------------------|----------|----------------|-----------------------------|
| Anacapri (Swedish) | Hawaii   | McMath-Hulbert | Royal Greenwich Observatory |
| Arcetri            | Huancayo | Meudon         | Herstmonceux                |
| Climax             | Lockheed | Ondrejov       | Sacramento Peak             |
|                    |          |                | Uccle                       |

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

JANUARY 1961

LOCKHEED	01	1722	N17 W11	LOCKHEED	05	1928	N19 W59	HAWAII	17	1820 E	S04 E18
LOCKHEED	01	1755	N22 E63	LOCKHEED	05	1956	N17 W5	LOCKHEED	17	2003	S06 E68
LOCKHEED	01	1817	N15 W11	LOCKHEED	05	1936	N17 W5	LOCKHEED	17	2003	S06 E68
LOCKHEED	01	1846	N16 W08	LOCKHEED	05	1959	N19 W59	LOCKHEED	17	2003	S06 E68
LOCKHEED	01	1945	N16 W08	LOCKHEED	05	2040	N12 W70	LOCKHEED	18	0028	S03 E14
CLIMAX	01	1952 E	N15 W08	LOCKHEED	05	2104	N23 E09	WENDEL	18	0956 E	S04 E11
LOCKHEED	01	2023	N22 E62	LOCKHEED	05	2122	N22 E07	WENDEL	18	1106 E	S04 E10
LOCKHEED	01	2047	N18 W19	LOCKHEED	05	2155	N19 W59	WENDEL	18	1143 E	S05 E06
LOCKHEED	01	2120	N22 E62	LOCKHEED	05	2208	N23 E11	WENDEL	19	0900 E	S04 W05
LOCKHEED	01	2120	N22 E62	HAWAII	05	2250	N24 E07	WENDEL	19	0957 E	S04 W05
LOCKHEED	01	2128	N20 W13	LOCKHEED	05	2253	N23 E08	LOCKHEED	19	1731	S05 W11
LOCKHEED	01	2155	N22 E61	HAWAII	05	2258	N23 E11	LOCKHEED	19	2129	S03 W10
LOCKHEED	01	2155	N22 E61	LOCKHEED	05	2347	N23 E09	HAWAII	20	2306	S04 W29
LOCKHEED	01	2237	N22 E61	* CAPRI S	06	1207 E	N21 W07	LOCARNO	21	1032	S04 W31
LOCKHEED	01	2327	N18 W15	LOCKHEED	06	1244	N18 W63	HAWAII	21	2102	N15 E80
LOCKHEED	02	0000	N18 W15	* LOCKHEED	06	1610	S15 W12	HAWAII	22	0050	N12 W37
* WENDEL	02	1115 E	N17 W22	LOCKHEED	06	1610	N23 E01	WENDEL	22	1328 E	S05 W49
WENDEL	02	1208 E	N16 W16	* MCMATH	06	1614	S15 W10	LOCKHEED	23	1815	N17 E58
LOCARNO	02	1503	N17 W18	MCMATH	06	1616	N24 E03	HAWAII	23	1834 E	N17 E62
LOCKHEED	02	1600 E	N22 E52	LOCKHEED	06	1855	S12 E67	LOCKHEED	23	1907	S05 W12
LOCKHEED	02	1625	N22 E48	LOCKHEED	06	1855	N24 W05	LOCKHEED	24	1700 U	N10 E11
LOCKHEED	02	1702	N17 W18	HAWAII	06	1856	N23 W04	LOCKHEED	24	1925	N18 E35
SAC PEAK	02	1706	N22 E52	MCMATH	06	1857	N23 E01	HAWAII	24	2026	N03 E80
LOCKHEED	02	1713	N22 E52	MCMATH	06	1858	N23 W05	LOCKHEED	24	2031	S05 W45
SAC PEAK	02	1754	N13 W60	* HAWAII	06	1858	N21 W74	LOCKHEED	24	2126	N19 E35
LOCKHEED	02	1758	N22 E52	* MCMATH	06	1859	N21 W80	LOCKHEED	24	2210	N20 E34
LOCKHEED	02	1755	N22 E52	MCMATH	06	1910	N23 E08	HAWAII	25	2106 E	S25 E90
LOCKHEED	02	1930	N22 E50	HAWAII	06	2028	N21 W80	LOCARNO	26	1040	N07 E59
CLIMAX	02	2032	N23 E46	LOCKHEED	06	2056	N19 W71	STOCKHOLM	26	1040 E	N07 E63
LOCKHEED	02	2041	N22 E46	LOCKHEED	06	2205	N20 W78	* STOCKHOLM	26	1342 E	N07 E62
LOCKHEED	02	2138	N17 W19	LOCKHEED	06	2325	N20 W78	WENDEL	27	1029 E	S07 E62
LOCKHEED	02	2208	N22 E50	LOCKHEED	06	2325	N20 W78	WENDEL	27	1037 E	S07 W63
LOCKHEED	02	2214	N17 E17	LOCKHEED	07	0040	N24 W08	CLIMAX	27	1636	N09 E42
LOCKHEED	02	2214	S16 E38	LOCKHEED	07	0040	N23 W02	CLIMAX	27	1737	N09 E41
LOCKHEED	02	2300	N22 E47	HAWAII	07	0138 E	N22 W13	LOCKHEED	27	1914	N07 E39
HAWAII	03	0132 E	N19 W26	HAWAII	07	1037	N22 W09	LOCKHEED	27	1915	N09 E47
UCCLE	03	1105 E	N20 E45	LOCARNO	07	1037	N22 W09	LOCKHEED	28	0031	N11 E40
SAC PEAK	03	1520	N23 W36	CLIMAX	07	1519	N22 W11	WENDEL	28	0859 E	N07 E33
CLIMAX	03	1521	N18 W35	LOCKHEED	07	1638	N23 W19	WENDEL	28	1021 E	N07 W38
CLIMAX	03	1525	N22 E52	LOCKHEED	07	1734	N22 W12	CLIMAX	28	1258 E	N04 W30
SAC PEAK	03	1558	N27 W32	LOCKHEED	07	1902	S12 E53	WENDEL	28	1353 E	N08 E38
LOCKHEED	03	1600 E	N22 W33	LOCKHEED	07	2000	S12 E53	LOCKHEED	28	1649	N07 W31
LOCKHEED	03	1624	N22 E52	LOCKHEED	07	2053	S09 W83	LOCKHEED	28	1728	N09 E29
LOCARNO	03	1644	N21 E38	LOCKHEED	07	2053	N21 W17	CLIMAX	28	1819	N09 E27
LOCKHEED	03	1658	N18 W36	LOCKHEED	07	2124	N18 W40	LOCKHEED	28	1850	N05 W32
LOCKHEED	03	1725	N11 W72	LOCKHEED	07	2145	S12 E53	LOCKHEED	28	1853	S05 W45
LOCKHEED	03	1734	N17 W38	LOCKHEED	07	2234	S09 W83	LOCKHEED	28	1919	N09 E27
MCMATH	03	1737	N20 W37	LOCKHEED	08	1644	S10 E45	LOCKHEED	28	2027	N08 E32
LOCKHEED	03	1807	N18 W37	SAC PEAK	08	1718	N22 W38	LOCKHEED	28	2045	N11 E25
LOCKHEED	03	1807	N22 E37	LOCKHEED	08	1719	N21 W38	CLIMAX	28	2046	N09 E27
LOCKHEED	03	1807	N22 E37	LOCKHEED	08	1821	S11 E43	WENDEL	28	2048	N09 E26
SAC PEAK	03	1833	N22 W31	LOCKHEED	08	1850	S11 E43	CLIMAX	28	2116	N13 E27
LOCKHEED	03	1839	N17 W32	LOCKHEED	08	1945	S11 E43	LOCKHEED	28	2117	N11 E28
LOCKHEED	03	1856	N22 E31	LOCKHEED	08	2203	N11 E43	LOCKHEED	28	2131	N04 E36
HAWAII	03	1858 E	N19 E32	LOCKHEED	08	2359	N20 W35	LOCKHEED	28	2131	N04 E36
HAWAII	03	1858 E	N20 W29	WENDEL	09	1025 E	S10 E37	LOCKHEED	28	2138	N07 E28
CLIMAX	03	1858	N20 E32	LOCKHEED	09	1602 U	N22 W44	LOCKHEED	28	2222	N05 W32
SAC PEAK	03	1900	N19 W37	LOCKHEED	09	1907	N22 W44	HAWAII	28	2254	N05 E27
HAWAII	03	1901	N17 W38	LOCKHEED	09	1907	N22 W44	LOCKHEED	28	2254 E	N06 W33
CLIMAX	03	1902	N18 W38	LOCKHEED	09	1907	N22 W44	LOCKHEED	28	2302	N05 W32
LOCKHEED	03	1952	N17 W38	LOCKHEED	09	1907	N22 W44	LOCKHEED	28	2327	N12 E29
SAC PEAK	03	1952	N22 W40	SAC PEAK	09	2026	N08 E04	HAWAII	28	2328	N11 E29
LOCKHEED	03	1957	N17 W39	LOCKHEED	09	2026	N08 E03	HAWAII	28	2344	N09 E26
HAWAII	03	2020	N23 E36	HAWAII	09	2038	N08 E03	LOCKHEED	29	0004 E	N07 E24
LOCKHEED	03	2024	N23 E36	LOCKHEED	09	2046	S12 E29	HAWAII	29	0110	N12 E26
LOCKHEED	03	2024	N17 W39	LOCKHEED	09	2333	S08 E48	HAWAII	29	0110	N07 W35
LOCKHEED	03	2024	N17 W39	WENDEL	10	0900 E	N08 W78	WENDEL	29	0850 E	N04 W47
LOCKHEED	03	2042	N23 E36	MCMATH	10	1557	N30 E90	WENDEL	29	1216 E	N04 W42
LOCKHEED	03	2042	N23 E36	LOCKHEED	10	1650	N29 E85	WENDEL	29	1397 E	N09 E17
LOCKHEED	03	2050	N19 W37	LOCKHEED	10	1735	S11 E17	WENDEL	29	1400 E	N04 W44
LOCKHEED	03	2113	N17 W41	LOCKHEED	10	1830	N21 W54	MCMATH	29	1409	N09 E29
SAC PEAK	03	2115	N22 W42	LOCKHEED	10	1938 E	N30 E90	WENDEL	29	1413 E	N11 E18
HAWAII	03	2136	N21 E31	LOCKHEED	10	2135	N11 W85	MCMATH	29	1433	N11 E20
LOCKHEED	03	2145	N23 E33	LOCKHEED	10	2135	N11 W85	* MCMATH	29	1436 E	N06 W45
HAWAII	03	2146	N20 W39	LOCKHEED	11	1722	N10 W90	* SAC PEAK	29	1503	N10 E17
LOCKHEED	03	2146	N17 W38	LOCKHEED	11	2145	N20 W74	* CLIMAX	29	1505 E	N07 E18
LOCKHEED	03	2158	N21 E33	LOCKHEED	12	1722	S10 E13	WENDEL	29	1508 E	N06 E18
LOCKHEED	03	2216	N16 W39	LOCKHEED	12	2010	S09 E12	WENDEL	29	1516 E	N06 E17
HAWAII	03	2252	N22 E33	LOCKHEED	13	2000	S13 W24	WENDEL	29	1516 E	N06 E17
LOCKHEED	03	2252	N17 W41	HAWAII	13	2006	S13 W25	WENDEL	29	1516 E	N06 E17
HAWAII	03	2312 E	N22 E33	MCMATH	13	2015	S12 W25	WENDEL	29	1516 E	N06 E17
LOCKHEED	03	2315	N21 E33	SAC PEAK	13	2016	S12 W24	WENDEL	29	1516 E	N06 E17
LOCKHEED	03	2329	N23 E33	LOCKHEED	15	1730	S13 W49	WENDEL	29	1516 E	N06 E17
LOCKHEED	04	0002	N23 E33	LOCKHEED	15	1730	S13 W49	WENDEL	29	1516 E	N06 E17
LOCARNO	04	0948	N21 E28	LOCKHEED	15	2040	S13 W55	HAWAII	29	1516 E	N06 E17
UCCLE	04	1043	N21 W38	LOCKHEED	15	2040	S13 W55	HAWAII	29	1516 E	N06 E17
LOCARNO	04	1415	N20 W43	LOCKHEED	15	2133	S09 W29	CLIMAX	29	1516 E	N06 E17
LOCARNO	04	1415	N23 E20	SAC PEAK	15	2137	S08 W30	HAWAII	29	1516 E	N06 E17
LOCARNO	04	1437	N20 W44	LOCKHEED	15	2157	S04 E42	HAWAII	29	1516 E	N06 E17
LOCARNO	04	1444	N20 E30	WENDEL	16	0835 E	S09 W37	HAWAII	29	1516 E	N06 E17
LOCKHEED	04	1621	N22 E24	WENDEL	16	0905 E	N09 E59	HAWAII	29	1516 E	N06 E17
CLIMAX	04	1622	N22 E26	WENDEL	16	1010 E	S09 W37	HAWAII	29	1516 E	N06 E17
* SAC PEAK	04	1709 E	N18 W47	WENDEL	16	1023 E	S03 E38	HAWAII	29	1516 E	N06 E17
* CLIMAX	04	1710	N21 W46	WENDEL	16	1134 E	S09 W38	HAWAII	29	1516 E	N06 E17
LOCKHEED	04	1812	N21 E22	LOCKHEED	16	1208	S07 E30	HAWAII	29	1516 E	N06 E17
SAC PEAK	04	1836	N22 E24	LOCKHEED	16	1802	S11 W42	HAWAII	29	1516 E	N06 E17
LOCKHEED	04	1836	N21 E22	LOCKHEED	16	1804	S06 W40	HAWAII	29	1516 E	N06 E17
LOCKHEED	04	1918	N18 W58	LOCKHEED	16	1805	S12 W41	HAWAII	29	1516 E	N06 E17
SAC PEAK	04	1925	N22 E23	LOCKHEED	16	1942	S01 W44	HAWAII	29	1516 E	N06 E17
SAC PEAK	04	2104	N22 E21	LOCKHEED	16	2125	S04 E29	HAWAII	29	1516 E	N06 E17
HAWAII	04	2106 E	N22 E23	LOCKHEED	16	2220	S10 W53	HAWAII	29	1516 E	N06 E17
HAWAII	04	2144	N24 E16	LOCKHEED	16	2220	S10 W53	HAWAII	29	1516 E	N06 E17
LOCKHEED	04	2207	N23 E22	WENDEL	17	0826 E	N10 E48	HAWAII	31	1717	N11 W12
LOCKHEED	04	2324 E	N23 E22	WENDEL	17	1135 E	S04 E72	HAWAII	31	2026 E	N13 W13
HAWAII	04	2354	N22 E23	LOCKHEED	17	1700 E	S03 E19	CLIMAX	31	2108	N10 W19
UCCLE	05	0924	N25 E12	LOCKHEED	17	1815	S06 E68	SAC PEAK	31	2108	N11 W14
LOCKHEED	05	1720	N23 E07								
LOCKHEED	05	1851	N19 W73								
LOCKHEED	05	1854	N23 E13								
LOCKHEED	05	1916	N22 E12								

\*Rated as flare of importance > 1 by other observatories. (See CRLP-F 198 Part B for February 1961).



# SOLAR FLARES

## NOVEMBER 1960

OBSERVATORY	DATE	OBSERVED TIME		MAX. PHASE	LOCATION		DURA-TION MINUTES	IM. POR-TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	M-MATH PLAGE REGION				TIME U.T.	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
CAPRI G	02	0930 E	0940 D		S06 E22	5915	10 D	2	1	6.00			
	02	1250	1300		S06 E16	5915	10	1	1	3.00			
TASHKENT CAPRI G	03	0616	0644	0620	N15 W23	5913	28	1	3	1.45	2.00		
	03	0838 E	0850 D		N22 W28	5913	12 D	1	1	3.00			
ABASTUMANI	04	0559	0621	0604	N16 W36	5913	22	1	2	1.35	1.70		64
	04	0720 E	0829 D		S06 W06	5915	69 D	2	1	6.00			
ABASTUMANI	04	0721	0825 D	0808 U	S07 W06	5915	64 D	1	2	1.80	1.90		66
	04	0738	0827	0740	S07 W05	5915	49	1	1	3.20	3.20		
GOOD HOPE	04	0740	0827 D	0751	N16 E42	5921	47 D	1	2	3.90	5.20		
	04	0745	0830		N14 E40	5921	45	1+	2	4.00			
GOOD HOPE	05	0805	0836	0812 U	N22 E90	5925	31	1	1	.60			
	05	1157	1327	1217	N13 E22	5921	90	2	2	7.90	8.60		
GOOD HOPE	05	1232	1303	1241	N22 E88	5925	31	1	1	1.60			
	06	0004	0012	0007	N25 E78	5925	8	2	3	1.17			117
VOROSHILOV GOOD HOPE	06	1314	1340	1319	N24 W85	5909	26	1	1	.80			
	06	1325 E	1335 D		S16 E38	5923	10 D	1	2	3.00			
CAPRI G	07	0815 E	0830		N21 E60	5925	15 D	1	2	4.00			
	07	0819 E	0834 D		S03 W74	5926	15 D	1	2	4.00			
{ UCCLE	07	0822 E	0830		S03 W75	5926	8 D	2	2	4.00	9.60		
	07	1305 E	1320 D		S12 E20	5923	15 D	1	2	3.00			
GOOD HOPE	08	0635 E	0717		S03 W87	5926	42 D	1	2	1.20			
	08	0732	0804	0740	S03 W87	5926	32	1	2	.90			
CAPRI G	08	0754 E	0803 D		N23 E44	5925	9 D	1	2	3.00			
	08	0807	0821	0814 U	N24 E47	5925	14	1	2	1.37			50
CAPRI G	08	1444 E	1455 D		N28 E46	5925	11 D	2	2	6.00			
	08	1444 E	1455 D		S10 E44	5927	11 D	1+	2	4.00			
PIRCULI	09	0747	0855	0844 U	N23 E20	5925	68	1	3	4.56			54
	09	0925	0935	0932	N09 W44	5921	10	1	1	.91			50
PIRCULI	09	0931	0938	0935 U	N26 E41	5925	7	1	1	1.83			56
	09	0941 E	0957		S18 E08	5923	16 D	1	2	3.00			
{ PIRCULI	09	0956	1008	1000	N23 E31	5923	12	1	2	2.28			51
	09	1000	1007		N24 E33	5925	7	2	2	9.00			
CAPRI G	09	1214 E	1240 D		N12 W30	5921	26 D	1	2	4.00			
	09	1247	1257	1249	N10 W47	5921	10	1	1	2.40	3.60		
GOOD HOPE	09	1336	1344 D	1340	S10 E34	5927	8 D	1	1	1.70	2.20		
	10	0656 E	0740 D	0704	N26 E28	5925	44 D	1	1	1.80			118
PIRCULI	10	0744	0850	0818 U	N30 E30	5925	66	1+	3	7.29			60
	10	0754	0854 D	0804	N30 E34	5925	60 D	1	3	.90	1.20		76
ABASTUMANI	10	0756 E	0907 D	0819	N28 E32	5925	71 D	1	1	1.80			94
	10	0820 E	0910 D	0820	N28 W35	5921	50 D	1+	1	2.06			68
KIEV	10	0920	0935	0922	N07 W58	5921	15	1	1	1.09			59
	10	0920 E	0940 D	0922 U	S13 W17	5923	20 D	1	1	1.83			50
PIRCULI	10	1009	1230 D	1021	N29 E29	5923	141 D	3	1	14.00	17.80		
	10	1009	1230 D										

COMMERCE - STANDARDS - BOULDER

# SOLAR FLARES

NOVEMBER 1960

OBSERVATORY	DATE	OBSERVED TIME		MAX. PHASE	LOCATION		APPROX. LAT.	MAGNITUDE	DURATION	IM-PORTANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END		PLATE	NER. DIST.						TIME	MEAS. AREA	CORR. AREA	
	1960								MINUTES			Sq. Deg.	Hr	%	
{ CAPRI G NIZAMIAH CLIMAX	10	1018 E	1254 D	1025	N28 E30	5925		156 D	3		2	20.00	5.71	2.90	Slow S-SWF S-SWF
	10	1042 E	1103 D	1045	S24 W24	5923		21 D	1+	2		4.86	4.00		
	10	2145 E	2230 D	2200	N27 E19	5925		45	1			3.90			
{ VOROSHILOV VOROSHILOV NIZAMIAH	11	0044 E	0135 D	0046	N22 E13	5925		51	1+	3		3.32			Slow S-SWF S-SWF
	11	0305 E	0428 D	0340	N29 E12	5925		83 D	2+	3		15.71			
	11	0341 E	0356 D		N11 W27	5921		15 D	1+	3		6.08	6.85	2.20	
{ PIRCULI GOOD HOPE	11	0711 E	0808 D	0739 U	N32 E18	5925		57 D	1+	2		7.29			Slow S-SWF S-SWF
	11	0740 E	0818 D		N30 E19	5925		38 D	1			3.50	3.90		
	11	0746 E	0800 D	0755 U	S12 W28	5923		14 D	1			1.09	1.90		
{ GOOD HOPE CAPRI G	11	1011 E	1052 D	1014	N32 E16	5925		41	1	2		4.00			Slow S-SWF S-SWF
	11	1012 E	1031 D		N28 E19	5925		19 D	1	2		4.00			
	11	1142 E	1155 D		N25 E14	5925		13 D	1	2		3.00			
{ PIRCULI ABASTUMANI	12	0735 E	0748 D	0738 U	N28 E02	5925		13 D	1	2		1.73			Slow S-SWF S-SWF
	12	0739 E	0750 D	0741 U	N27 E03	5925		11	1	3		1.08	1.20		
	12	0807 E	0821 D	0810 U	N28 E02	5925		14	1			2.01			
{ PIRCULI GOOD HOPE	12	0925 E	0938 D	0930 U	N32 W03	5925		13 D	1			3.19			Slow S-SWF S-SWF
	12	0929 E	0945 D	0934 U	N31 W03	5925		16	1			2.60	2.90		
	12	0954 E	1025 D	1004 U	N27 W00	5925		31	1+			5.47			
{ GOOD HOPE UCCLE	12	0956 E	1041 D	1008	N27 W00	5925		45	1	4		3.20	3.50		Slow S-SWF S-SWF
	12	1001 E	1047 D	1010	N28 W00	5925		46	1+			5.00	5.00		
	12	1005 E	1025 D	1008 U	N33 E02	5925		20	1	3		1.09			
{ NEDERHORST MEUDON	12	1012 E	1030 D		N27 W00	5925		18 D	2			30.00	33.10		Slow S-SWF S-SWF
	12	1015 E	1030 D	1330	N24 W00	5925		15 D	1			30.00			
	12	1315 E	1425 D		N28 W01	5925		70 D	3+			25.00			
{ GOOD HOPE NEDERHORST	12	1327 E	1400 D		N27 W02	5925		33 D	3+			25.00			Slow S-SWF S-SWF
	12	1346 E	1400 D		N25 W02	5925		14 D	3+	1		25.00			
	12	1415 E	1435 D		N27 W02	5925		20 D	3+	3		12.50	12.50		
{ CAPRI G NEDERHORST CLIMAX	12	1444 E	1900 U		N27 W04	5925		256 D	3			12.50			Slow S-SWF S-SWF
	13	0000 E	0052 D	0016 U	N27 W20	5925		52	2	2		7.45			
	13	0728 E	0746 D	0730 U	N29 W09	5925		18 D	1	2		4.56			
{ TASHKENT GOOD HOPE	13	0731 E	0754 D	0732 U	N28 W10	5925		23	1	2		2.27	3.00		Slow S-SWF S-SWF
	13	0732 E	0750 D	0734 U	N29 W09	5925		18	1	2		2.80	3.10		
	13	0818 E	0828 D	0820 U	N29 W09	5925		10	1			5.47			
{ PIRCULI GOOD HOPE	13	1054 E	1122 D	1059 U	N30 W10	5925		28	1			3.00	3.40		Slow S-SWF S-SWF
	13	1117 E	1132 D	1120 U	N17 W90	5921		15 D	1			.90			
	13	1226 E	1240 D	1228 U	N15 E54	5932		14	1			1.50	2.70		
{ GOOD HOPE VOROSHILOV	13	1306 E	1347 D	1311 U	N25 E59	5932		41	2			2.80	5.80		Slow S-SWF S-SWF
	14	0022 E	0036 D	0024 U	S06 W28	5927		14	1	2		1.97	7.20		
	14	0310 E	0515 D		N27 W22	5925		125 D	2			6.08	2.00		
{ NIZAMIAH SIMEIZ PIRCULI	14	0800 E	0900 D	0815 U	N28 W27	5925		60 D	1	2		2.70			Slow S-SWF S-SWF
	14	0804 E	0818 D	0812 U	N28 W25	5925		14 D	1+	2		7.29			
	14	0813 E	0837 D		N27 W24	5925		24 D	2	2		6.00			
{ CAPRI G NEDERHORST CLIMAX	14	1155 E	1210 D		N28 W25	5925		15 D	1	2		4.00			Slow S-SWF S-SWF
	14	1554 E	1645 D		N28 W29	5925		51 D	1	2		2.80	3.10		
	14	2130 E	2147 D		N33 W28	5925		17 D	1	2		3.70	4.10		
{ VOROSHILOV NIZAMIAH	14	2300 E	2331 D		N28 W32	5925		31 D	1	2		2.87			Slow S-SWF S-SWF
	15	0240 E	0248 D		N25 W37	5925		8 D	2	1		6.08	8.21	1.90	

# SOLAR FLARES

## NOVEMBER 1960

OBSERVATORY	DATE NOV 1960	OBSERVED TIME		LOCATION			DUR. OF EXPOSURE MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT		
		START	END	MAX. PHASE	APPROX. LAT.	MAGNITUDE M3 REGION				MEAS. AREA Sq. Degs.	CORR. AREA Sq. Degs.	MAX. WIDTH Hr		MAX. INT. %	
{	PIRCULI	15	0624 E	0705 D	0627 U	N30 W32	5925	41 D	1+	3	6.56			56	
		15	0624 E	0758 D	0745 U	N22 W48	5925	94 D	1		1.83			65	
		15	0658 E	0750 D	0720 U	N22 W39	5925	52 D	1		3.19			64	
		15	0701 E	0739 D	0707 U	N22 W44	5925	38	1		0707	2.80			
		15	0703 E	0750 D	0718 U	N28 W30	5925	47 D	1		0745	2.30			67
{	GOOD HOPE	15	0740 E	0803 D	0745 U	N28 W42	5925	23	1		1.60				
		15	1240 E	1305 D		N26 W42	5925	25	1		4.00				
{	GOOD HOPE	16	0631 E	0652 D		N28 W51	5925	21 D	1		1.70	3.10			
		16	0808 E	0822 D	0811 U	N25 W88	5925	14	1		.80				
		16	0833 E	0856 D	0843 U	N25 W88	5925	23	1		.70				
		16	0838 E	0856 D	0846 U	N25 W88	5925	18 D	1+		1.83			57	
		16	0852 E	0924 D	0900 U	N17 E10	5932	4 D	1		2.70			160	
{	GOOD HOPE	16	0852 E	0924 D	0900 U	N17 E12	5932	32 D	1		4.37			64	
		16	0853 E	0931 D	0857 U	N18 E09	5932	38	1		2.20	2.30			
		16	1129 E	1142 D	1131 U	N29 W50	5925	13	1		1.50	2.50			
		17	1152 E	1205 D	1157 U	N26 W76	5925	13	1		1.50				
		17	1509 E	1525 D	2049 U	N16 W03	5932	16 D	1		3.00	3.00			
{	GOOD HOPE	17	2045 E	2105 D	2049 U	N27 W74	5925	20	2		1.00	2.10			
		17	2126 E	2150 D		N23 W90	5925	24	3		3.60	18.00			
		18	0222 E	0225 D		N29 W75	5925	3 D	1		1.07			63	
		18	0639 E	0650 D	0701 U	N28 W80	5925	11 D	1		.80				
		18	0659 E	0734 D	0701 U	N28 W80	5925	35	1		.50				
{	GOOD HOPE	18	0947 E	1013 D	0952 U	N28 W80	5925	26	1		.80				
		18	0947 E	1014 D	0952 U	N41 W90	5925	27 D	1+		2.25				
		18	0948 E	1009 D	0953 U	N29 W80	5925	21	1		4.00			60	
		18	0949 E	1034 D	0953 U	N19 W21	5932	45	1		1.60	1.70			
		18	0950 E	1024 D		N18 W18	5932	34	1		4.00				
{	GOOD HOPE	19	0634 E	0659 D	0729 U	N23 W13	5932	25 D	1		2.00	2.20			
		19	0727 E	0749 D	1059 U	N08 W29	5932	22	1		2.20	2.60			
		19	1057 E	1117 D		N28 W90	5925	20	1		.20				
		20	0840 E	0858 D	0918 U	N19 W38	5932	18	1		4.00	4.43			
		20	0850 E	0921 D		N16 W40	5932	31 D	1		3.16				
{	GOOD HOPE	20	1955 E	2032 D		N25 W90	5925	37	3		5.80	24.00			
		20	2117 E	2257 D		N28 W90	5925	100 D	3		4.60	23.00			
		21	0658 E	0714 D	0843 U	N09 W59	5932	16 D	1		1.60	3.20			
		21	0840 E	0901 D	1159 U	N09 W59	5932	21	1		1.00	2.00			
		21	1156 E	1221 D		N22 W44	5932	25	1		3.50	5.10			
{	GOOD HOPE	21	1157 E	1215 D	2105 U	N18 W43	5932	18 D	1+		8.00				
		21	2100 E	2135 D		N22 W48	5932	35	1		2.70	3.60			
		22	0758 E	0935 D	0812 U	N22 W53	5932	97	1		2.50	4.40			
		22	1126 E	1149 D	1135 U	N21 W55	5932	23	1		1.50	2.80			
		23	1048 E	1103 D	1051 U	N08 W90	5932	15	1		.30				
CAPRI G	26	1020 E	1040 D		N10 E50	5948	20 D	1		4.00					

# SOLAR FLARES

NOVEMBER 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.				MGRATH PLACE REGION	TIME - U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
	NOV 1960													
CAPRI G	27	1205	1213		N14 E33	5948	8	1	2	4.00				
CAPRI G	27	1326	1350		S03 E14	5946	24	1+	2	5.00				
CLIMAX	28	1559	1625	1630	S09 E75	5953	26	2		3.60	7.60			
VOROSHILOV	29	0106	0138	0109	N10 E07	5948	32	1+	2	2.60				88
CAPRI G	30	0923	0935		N09 W11	5948	12	1	2	2.00				
CAPRI G	30	1222	1237		N09 W13	5948	15	1	2	1.00				

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These flare reports are addenda to the November 1960 flares published in CRPL-F-196 Part B, December 1960.

**Errata:**

Two flares observed at UCCLE, August 18, 1959 and published in CRPL-F 184B page IIIJ December 1959 should be corrected by one hour. Flare starting at 1123 ending at 1127, the maximum at 1127 should be 1023, 1027 and 1027. The second flare starting time 1138E, no ending time reported, maximum 1138 should be 1038E and 1038 respectively. All hours given are Universal Times.

In CRPL-F 198B issued February 1961, page IIIg, the flare reported by UCCLE October 24, 1960 at 1459E U.T. should have been October 25, 1960 at 1459E U.T.

# SOLAR FLARES

OCTOBER 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.				MGRATH PLACE REGION	TIME - U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
	OCT 1960													
GOOD HOPE	25	1047	1113		N23 E85	5909	26	1		1.80				
GOOD HOPE	29	0659	0722	0701	S07 E86	5915	23	1		1.10				
GOOD HOPE	29	1026	1252	1030	N24 E29	5909	146	D 3		10.40	12.50			G-SMF

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These flare reports are addenda to the October 1960 flares published in CRPL-F195 Part B, November 1960 and CRPL-F198 Part B, February 1961.

**Note:**

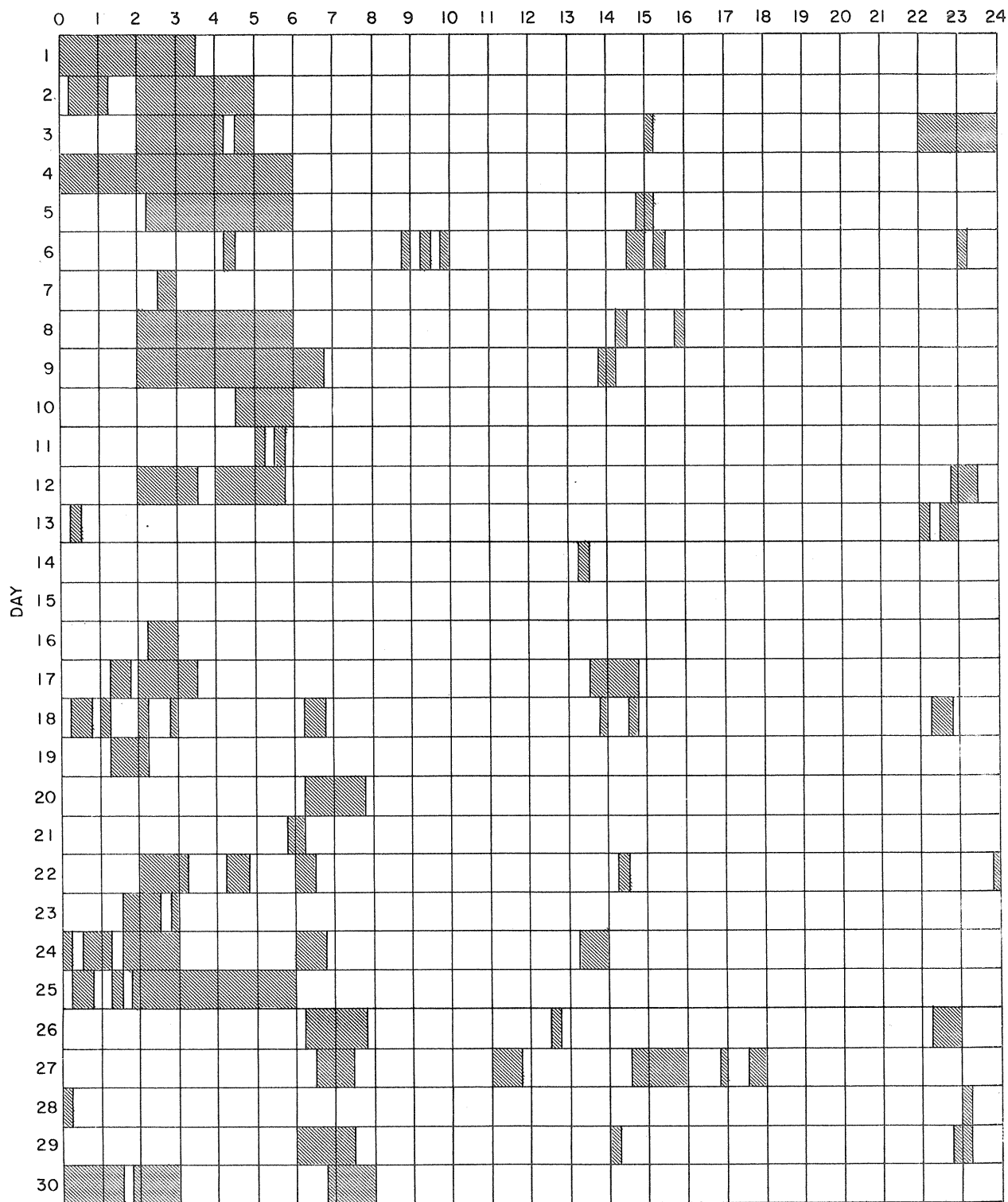
The hours of no flare patrol observations for October 1960 in CRPL-F 198 Part B page IIII issued February 1961 should be amended to include Good Hope patrol as follows:

- Oct. 25: 0215-0230, 0245-0330, 1315-1330.
- 26: 0400-0600, 1400-1415.
- 29: 0115-0130, 0290-0300, 1315-1415.
- 30: 0545-0600.
- 13: 0200-0600, 1315-1430.

# INTERVALS OF NO FLARE PATROL OBSERVATIONS

NOVEMBER 1960

HOUR-UT



Stations Include:

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

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

JANUARY 1961

Jan. 1961	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 198
3	1910	1925	Slow S-SWF	5	1-	FM, HU, <u>MC</u> , RP	
4	0207	0230	S-SWF	5	1	AD, CA, <u>OK</u> , TO	
4	1712	1755	Slow S-SWF	5	1+	BE, BO, FM, HU, <u>MC</u> , PR	*
5	1343	1435	Slow S-SWF	5	1+	<u>HU</u> , NE, PR	1729E
17	0452	0515	S-SWF	1	1-	<u>OK</u>	1345
						42 W = 1.0	*
						45 W = 0.7	
30	1423	1440	S-SWF	4	1	BE, MC, <u>PR</u>	1418
31	1512	1526	S-SWF	5	1	BE, HU, MC, <u>PR</u>	1502
						00E = 1.0	
						10W = 1.0	

CA = Canberra, Australia  
 NE = Nederhorst den Berg, Netherlands  
 TO = Hiraio Radio Wave Observatory, Japan

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

JANUARY 1961

Jan. 1961	CLASS			WIDESPREAD INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
1			1+	1	0154	0206	0242		<u>TY</u>
1			1	1	0742	0748	0804		<u>TY</u>
3			1	1	0019	0030	0057		<u>TY</u>
3			1	1	0130	0136	0156		<u>TY</u>
3			1+	1	0546	0554	0620		<u>TY</u>
3			1	1	0705	0712	0734		<u>TY</u>
4	1		1+	5	0206	0210	0223	25	<u>HA</u> , SY
4			2	5	0207	0225	0304		<u>HA</u> , <u>TY</u>
4			2	5	1707	1720	1803		<u>AI</u> , <u>A9</u>
4	1		2	5	1713	1721	1800	20	<u>BO</u> , <u>MC</u> , RE, SP
5			1	1	1145E		1205		<u>NE</u>
* 5			2	5	1349		1434		<u>NE</u> , PA
17			1-	1	0454	0458	0519		<u>TY</u>
27			1	5	1737		1741		<u>BO</u> , <u>MC</u> , RE, SP
28			1	3	1645	1652	1715		<u>AI</u> , <u>A3</u>
28			1	3	1921		1923		<u>BO</u> , SP
29			1	5	1846		1850		<u>BO</u> , <u>MC</u> , SP
30			1	1	0159		0203		<u>HA</u>
30			1	4	0633	0638	0654		<u>A11</u> , <u>TY</u>
*30			1	5	1425		1445		<u>A3</u> , <u>A10</u> , <u>NE</u> , PA
30			1	5	2004		2006		<u>BO</u> , <u>MC</u> , SP
*30			1	4	2005	2011	2033		<u>A3</u> , <u>BO</u>
30	1		1	5	2006E	2009	2010D	10	<u>BO</u> , <u>HA</u>
30			1	5	2010		2011		<u>BO</u> , <u>MC</u> , SP
31			1	5	2134		2137		<u>BO</u> , <u>HA</u> , SP
*31	1		1	5	2137	2140	2153	20	<u>BO</u> , <u>HA</u> , SY
31			1	1	2137	2145	2200		<u>AI</u> , <u>BO</u>

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SY = Sydney, Australia  
 TY = Research Institute of Atmospherics, Toyokawa, Japan.  
 \* = Sudden Enhancement of Signal from 18 kc (NBA-Panama Canal Zone) observed by A5.

IVa

**SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES**

FEBRUARY 1961

OTTAWA

2800 MC

Feb. 1961	Type	Start UT	Duration Hrs.Mins	Maximum		Remarks
				Time UT	Peak Flux	
4	3 Simple 3 A	1757	50	1807	3	
	1 Simple 1	1759.5	3	1801	2	
11	1 Simple 1	1404.5	4	1405.8	2	
12	3 Simple 3 f	1507	10	1509	2	
27	3 Simple 3	1406	1 05	1408 <sup>a</sup>	3	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION  
OUTSTANDING OCCURRENCES

IVb

BOULDER

FEBRUARY 1961

108MC

Feb. 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	7	2207	2229	69	2
2	3	2305.7	2306.1	0.4	2
3	2	1953.5	1955.2	2.5	2
4	3	2310.0	2310.2	0.4	2
7	3	2230.0	2230.3	1.0	2
7	3	2239.0	2239.5	0.5	2
7	3	2245.0	2245.4	0.4	2
7	3	2247.5	2247.8	0.4	2
7	3	2251.1	2251.4	0.4	2
8	3	2258.2	2258.6	0.4	2
9	3	1448.7	1449.4	2.3	2
9	3	1927.0	1927.4	0.5	2
10	6	1405 E	1517	199 D	2
11	2	1623.3	1624.6	2.2	1
11	3	1715.7	1717.0	2.8	2
11	3	2017.3	2017.5	0.4	2
11	3	2208.5	2210.6	2.8	2
12	3	1550.5	1551.0	0.7	3
12	3	1931.5	1932.2	2.0	1
12	7	1942.0		86	1
12	3	2330.2	2330.7	1.0	1
13	3	1512.5	1513.5	1.9	2
13	2	1658.9	1659.5	4.1	3
13	3	1745.0	1746.0	1.2	2
13	3	1802.5	1803.4	1.1	2

Feb. 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
13	3	1831.2	1831.6	0.5	2
13	3	2331.5	2331.9	0.4	1
13	3	2351.4	2351.8	0.5	2
14	3	1551.5	1552.0	0.6	2
14	3	2101.0	2102.0	1.1	2
15	3	0006.9	0007.3	0.5	2
15	3	2234.3	2235.0	1.2	2
16	3	1402.0	1402.6	0.7	3
16	3	2205.9	2206.2	0.4	2
17	3	0012.5	0013.0	0.5	2
17	3	1737.0	1737.3	0.5	2
18	3	2005.5	2006.0	0.6	2
18	3	2246.3	2246.8	0.5	3
18	3	2331.0	2331.6	0.6	2
19	3	1707.2	1707.5	0.3	2
19	3	1841.0	1841.3	0.4	2
20	3	1606.0	1606.2	1.3	1
20	3	1732.8	1733.0	0.3	2
20	3	1750.0	1750.5	0.5	1
20	3	2140.5	2140.7	0.4	2
20	3	2353.2	2353.6	0.4	2
22	3	1520.0	1520.5	0.5	2
23	3	2220.6	2221.7	1.7	1
24	3	2201.1	2201.5	0.8	3
25	3	1500.5	1500.9	0.4	2
28	3	1348.9	1349.4	0.5	2

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

BOULDER

108MC

Feb. 1961	U. T.	Feb. 1961	U. T.
1	1415-0003	13	1402-0018
2	1414-0004	14	1401-0018
3	1413-0005	15	1359-0020
4	1412-0007	16	1358-0021
5	1411-0008	17	1357-0022
6	1410-0010	18	1355-0023
7	1409-2314; 2330-0010	19	1354-0024
8	1500-1515; 1600-1630; 1645-1700; 1800-0011	20	1353-0025
9	1407-0013	21	1351-0027
10	1405-1724; 2230-0014	22	1350-0028
11	1404-0016	23	1349-0029
12	1403-0016	24	1347-0030
		25	1346-0031
		26	1344-0032
		27	1343-0033
		28	1341-0035

COMMERCE - STANDARDS - BOULDER



SOLAR RADIO EMISSION  
SPECTRUM OBSERVATIONS

JULY 1960

Fort Davis

25-580,2100-3900 Mc

Date 1960	Observing Hours	Type	Important Bursts Times U.T.	Int.	Frequency Range	Remarks
Jul. 1	0000-0150 1215-2400	I	0035-0108	1-2	320-100	
		III G	0100-0101	2	500-140	
		I	1215-2400	1-2	450-150	
		III G	1523-1526	2	450-25	
Jul. 2	0000-0150 1215-2400	I	0000-0146	2	400-150	
		I	1215-2400	1-2	320-150	
		III G	2243-2245	2	320-100	
Jul. 3	0000-0150 1216-2400	III G	0110-0113	2	300-100	Weak I 0000-0150
		I	1215-~1800	1-2	280-130	
		III G	2037-2040	2	500-50	
Jul. 4	0000-0150 1215-2400	III G	1607-1608	2	250-50	Weak I throughout day.
		III G	1917-1918	2	250-50	
		III G	2100-2101	2	220-60	
		I	~ 2100-~2300	1-2	320-150	
Jul. 5	0000-0150 1215-2400	III G	2019-2020	2	250-75	Weak I throughout day.
		III G	2024-2026	2	280-60	
		III G	2220-2221	3	320-70	
Jul. 6	0000-0150 1215-2400	III G	0059-0101	2	280-110	Weak I throughout day.
		I	1215-~1330	1	450-180	
		III G	1606-1608	1	320-180	
Jul. 7	0000-0150 1215-2400	I	~ 1300-~1450	1-2	320-170	Weak I throughout day.
Jul. 8	0000-0150 1215-2400	III G	1926-1928	3	500-25	
		III G	1929-1934	1-3	350-25	
		II	2336.5-2348	2	140-40	
Jul. 9	0000-0150 1215-2400					
Jul. 10	0000-0150 1215-2313 2350-2400	III G	2237-2239		240-60	
Jul. 11	0000-0137 1215-2400					
Jul. 12	0000-0150 1215-2400					
Jul. 13	0000-0150 1215-2400					Weak I throughout day.
Jul. 14	0000-0150 1215-2400					Weak I throughout day.
Jul. 15	0000-0150 1215-2400	III G	0002-0003	2	350-25	Weak I throughout day.
		III G	0121-0122	3	580-100	
Jul. 16	0000-0150 1230-2400					
Jul. 17	0000-0150 1253-2400					
Jul. 18	0000-0150 1230-2400					
Jul. 19	0000-0150 1230-2400	III G	1818-1820	3+	580-150	
		IV	1818-1825	1-2	2100-3900	
		II	1821.0-1828	3	290-40	

SOLAR RADIO EMISSION  
SPECTRUM OBSERVATIONS

Fort Davis

JULY - AUGUST 1960

25-580, 2100-3900 Mc/s.

Date 1960	Observing Hours	Important Bursts			Frequency Range	Remarks
		Type	Times U.T.	Int.		
Jul. 20	0000-0150 1230-2025 2351-2400	III G	1553-1554	1-	240-25	
		III G	1556-1559	1	280-25	
Jul. 21	0000-0150 1230-2400	III G	1930-1932	2	240-40	
Jul. 22	0000-0150 1230-2400	III G	1721-1725	2	300-25	
		III G	1908-1911	2	240-25	
Jul. 23	0000-0150					
Jul. 24	0145-0150 1230-2400	III G	2155-2157	1	150-25	
Jul. 25	0000-0150 1230-2400	III G	1655-1657	3	240-25	
Jul. 26	0000-0150 1230-2400	III G	1705-1708	3	580-100	
		III G	1828-1829	3	280-25	
		III G	1830-1833	2	240-25	
		III G	2224-2225	2	240-25	
		III G	2226-2230	2	320-25	
Jul. 27	0000-0150 1230-2400	Uncl.	2311-2318	1	75-50	Uncl: Resembles II
Jul. 28	0000-0150 1230-2400	III G	1731-1733	2	400-25	1731: Reverse slopes 400-200 Mc/s
Jul. 29	0000-0150 1230-2400					
Jul. 30	0000-0145 1230-2400	III G	2320-2321	2	240-100	
Jul. 31	0000-0145 1230-2400	III G	1650-1651	1	500-220	
		III G	2024-2026	2	240-30	
		III G	2320-2324	2	240-60	
		III G	2325-2327	2	300-60	
Aug. 1	0000-0145 1245-2400	III G	1425-1428	1	220-50	
		III G	1516-1518	2	300-25	
Aug. 2	0000-0140 1245-2400					
Aug. 3	0000-0140 1245-2400	III G	1616-1618	3	500-25	
		II	1623.8-1633	2	90-30	
Aug. 4	0000-0140 1245-2341	III G	1609-1612	3	500-25	
Aug. 5	0000-0140 1245-2400	III G	0052-0054	2	350-50	2127 Reverse slopes 500-350 Mc/s Many III throughout day.
Aug. 6	0000-0140 1245-2400	III G	0114-0116	2	400-240	Many III throughout day.
		III G	1529-1530	2	240-25	
		III G	1619-1625	3	400-25	
		II	1627-1636	2	90-30	
		III G	1637-1638	2	125-25	
		III G	1819-1820	2	150-25	
		III G	1902-1904	3+	500-25	
		III G	1906-1909	3	300-25	
Aug. 7	0000-0140 1245-2400	III G	1735-1740	3	400-25	Weak I throughout day
		III G	1748-1753	3	240-25	
		III G	1755-1758	3	580-25	
		III G	2029-2031	3	580-25	
Aug. 8	0000-0140 1245-2400					

SOLAR RADIO EMISSION  
SPECTRUM OBSERVATIONS

AUGUST 1960

Fort Davis

25-580, 2100-3900 Mc/s.

Date 1960	Observing Hours	Important Bursts			Frequency Range	Remarks
		Type	Times U.T.	Int.		
Aug. 9	0000-0140 1245-2400					
Aug. 10	0000-0140 1245-2400					
Aug. 11	0000-0140 1245-2400	III G	1821-1823	3	200-25	Weak I throughout day.
		III G	1926-1930	3+	580-25	
		II	1929.1-1938	3+	420-25	
		IV	1926-1938	1-2	580-150	
		IV	2003-2019	1-2	580-150	
Aug. 12	0000-0135 1245-2108 2113-2400	III G	0045-0047	2	200-25	Many III and Weak I throughout day
		III G	1453-1455	2	130-25	
		III G	2137-2138	2	580-150	
		III G	2326-2330	2	320-60	
Aug. 13	0000-0135 1235-2400	III G	0108-0110	2	300-100	Many III throughout day
		III G	0115-0120	3	420-25	
		I	1245-2400	1	300-50	
		III G	1359-1401	2	150-25	
Aug. 14	0000-0135 1235-2400	I	0000-0135	1	300-100	Many Weak III 100-25 Mc/s throughout day
		I	1245-~2225	1-2	300-50	
		III G	2040-~2056	1-2	150-25	
Aug. 15	0000-0130 1245-2400	I	1245-2400	1-2	300-50	Many III throughout day.
		III G	1646-1649	2	280-25	
		III G	1834-1836	3	125-25	
		III G	1926-1930	2-3	125-25	
		III G	1934-1936	2	580-25	
		III G	2202-2007	3	100-25	
		III G	2302-2304	2	200-25	
Aug. 16	0000-0125 1245-2400	I	0000-0125	1	300-100	
		III G	0058-0104	2	240-25	
		I	1245-2400	2-3	150-30	
Aug. 17	0000-0125 1245-2400	I	0000-~0125	1	150-30	
		I	1245-~2000	1	240-50	
		III G	2052-2055	2	240-25	
Aug. 18	0000-0125 1245-2400					Weak I throughout day.
Aug. 19	0000-0125 1245-2400	Uncl.	1245-1248	2	175-100	Uncl: End of II? Many III throughout day.
Aug. 20	0000-0125 1300-2400					
Aug. 21	0000-0125 1300-2400	I	1300-~1800	1	300-100	
Aug. 22	0000-0125 1300-2400					
Aug. 23	0000-0125 1305-2400					
Aug. 24	0000-0125 1305-2400	I	2000-2400	1-	300-200	
Aug. 25	0000-0120 1305-2400	I	1305-~1600	1	300-200	Weak I throughout day.
Aug. 26	0000-0120 1305-1637	II	1404.2-1412	2	125-50	Weak I throughout day.
Aug. 27	0040-0120 1305-2400					

SOLAR RADIO EMISSION  
SPECTRUM OBSERVATIONS

IVf

Fort Davis                      AUGUST - SEPTEMBER 1960                      25-580,2100-3900 Mc/s.

Date 1960	Observing Hours	Type	Important Bursts		Frequency Range	Remarks
			Times U.T.	Int.		
Aug. 28	0000-0115 1305-2400	III G	1500-1501	3	240-25	
		III G	1512-1514	3	420-25	
		III G	1555-1556	2	200-25	
		III G	1818-1820	3	125-25	
Aug. 29	0000-0115 1305-2400					Weak I throughout day.
Aug. 30	0000-0115 1305-2400	III G	1906-1909	2	90-25	
Aug. 31	0000-0016 0103-0115 1300-2106 2331-2400					Weak I throughout day
Sep. 1	0000-0115 1300-2400	III G	1322-1325	1-2	125-25	Many III 100-25 Mc/s after II (2120-2240)
		II	2041.5-2045.5	3	420-40	
		III G	2100-2102	3+	580-25	
		III G	2108-2112	2	240-25	
		I	~2204-~2340	1	100-50	
Sep. 2	0000-0110 1305-2400	I	1305-~2325	1	280-100	
		III G	1805-1817	2-3	100-25	
		III G	2309-2313	1-2	280-25	
Sep. 3	0000-0110 1305-2400	IV	0038-0054	2	580-320	
		III	0103-0105	3	240-50	
		I	1305-1408	1	240-50	
Sep. 4	0000-0105 1305-2400	IV	0006-0028	2	580-320	
		II	0021.2-0029	1	125-50	
		III G	1923-1925	2	320-25	
Sep. 5	0000-0106 1305-2001 ~2038-2400	III G	1821-1823	2	350-25	
		II	1942.2-1953	3	100-25	
Sep. 6	0000-0100 1300-1635 1637-1929 1956-2003 2005-2400	Uncl.	1504-1514	2	75-30	Uncl: Resembles II Weak I throughout day
		III G	2225-2229	2	320-35	
Sep. 7	0000-0100 1303-2400	Uncl.	1303-1316	2	350-50	2310 Reverse slopes 580-320 Mc/s 2317 Reverse slopes 100-90 Mc/s
		III G	2310-2311	2	580-320	
		III G	2316-2318	2	280-50	
Sep. 8	0000-0055 1305-2400	III G	1815.5-1817	3	240-30	
		II	1820.2-1826	3	140-35	
Sep. 9	0000-0055 1305-2400					
Sep. 10	0000-0050 1305-2400	III G	1934-1935	3	500-35	Weak I throughout day.
Sep. 11	0000-0050 1305-2400	I	1305-2400	1-2	320-75	
Sep. 12	0000-0050 1305-2400	I	0000-~0040	1	320-200	~1820-~2020 Noise storm down to 60 Mc/s.
		I	1305-2400	1-2	350-100	
		III G	1516-1520	3	400-25	
		III G	1621-1622	2	320-25	
		III G	1805-1813	2-3	420-25	
		III G	1821-1822	3+	500-25	
Sep. 13	0000-0045 1305-2400	I	0000-0045	1	300-100	
		I	1305-2400	1	300-100	
		III G	1515-1518	2	300-25	
		III G	2334-2337	3	350-40	
		III G	2338-2340	3	580-50	

SOLAR RADIO EMISSION  
SPECTRUM OBSERVATIONS

Fort Davis

SEPTEMBER 1960

25-580,2100-3900 Mc/s.

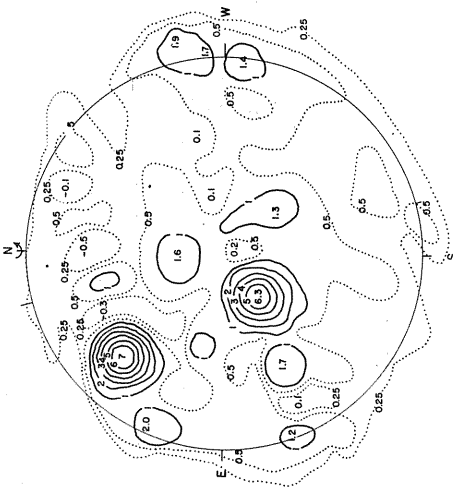
Date 1960	Observing Hours	Type	Important Bursts Times U.T.	Int.	Frequency Range	Remarks
Sep. 14	0000-0040 1305-2400	I	0000-0040	1	300-75	
		III G	1332-1333	2	300-50	
		III G	1758-1802	2	200-25	
		III G	2104-2110	3	240-25	
		III G	2346-2348	2	300-50	
Sep. 15	0000-0040 1305-2400	III G	1641-1643	2	300-50	
		III G	1954-1956	3	400-25	
Sep. 16	0000-0040 1320-2400	II	1714.0-1728	3	175-25	
		IV	1717-1911	1-3+	3500-25	
Sep. 17	0000-0040 1320-2400					
Sep. 18	0000-0035 1320-2400	III G	1645-1646	2	200-25	
		III G	1748-1750	3+	200-25	
		III G	1825-1837	1-3+	580-25	
		III G	1841-1842	3	280-25	
		III G	1908-1909	3+	580-25	
		III G	1948-1950	3+	300-25	
		III G	2040-2043	3+	500-25	
Sep. 19	0000-0035 1320-2400					Many III throughout day.
Sep. 20	0000-0035 1320-2400					
Sep. 21	0000-0035 1320-2400	I	1320-2400	1	350-100	~ 2010-~2100 Noise Storm down to 50 Mc/s.
Sep. 22	0000-0035 1320-2400					Weak I most of day.
Sep. 23	0000-0035 1320-2400	III G	1333-1336	2	500-75	1335: Reverse slopes 350-240 Mc/s Weak I throughout day.
Sep. 24	0000-0030 1320-2400	III G	2115-2120	2	3000-25	Weak I most of day.
Sep. 25	0000-0030 1320-2400	III G	2012-2014	2	450-100	2341-2343 Reverse slopes 250-150 Mc/s.
		III G	2220-2222	1	350-180	
Sep. 26	0000-0030 1320-2400	III G	1354-1357	2	420-50	
		III G	1847-1852	2-3	350-25	
Sep. 27	0000-0025 1320-2400	III G	1823-1826	2	140-30	
Sep. 28	0000-0025 1320-2400	III G	2041-2043	3	320-25	
Sep. 29	0000-0025 1320-2400					
Sep. 30	0000-0025 1320-2400					

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

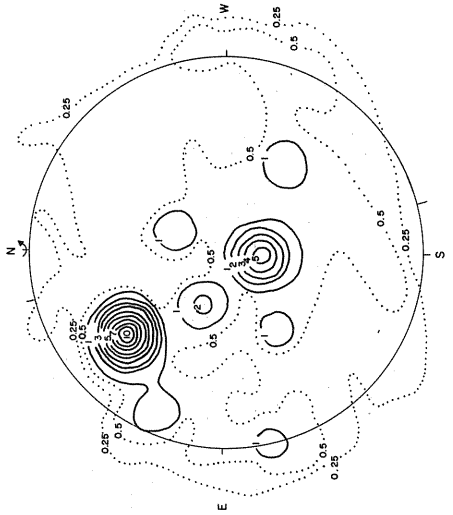
JUNE 1960

STANFORD

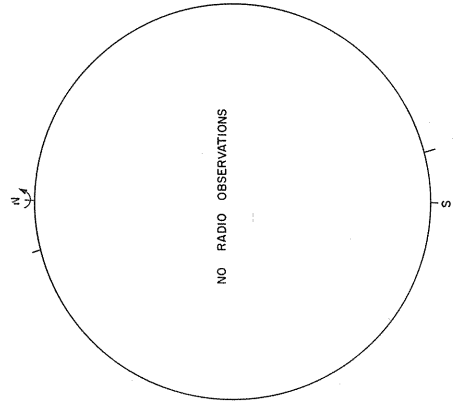
9.1 cm



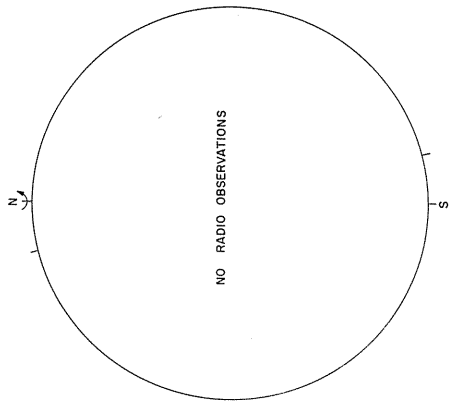
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CONTOUR BRIGHTNESS UNIT = 85,000 \*K



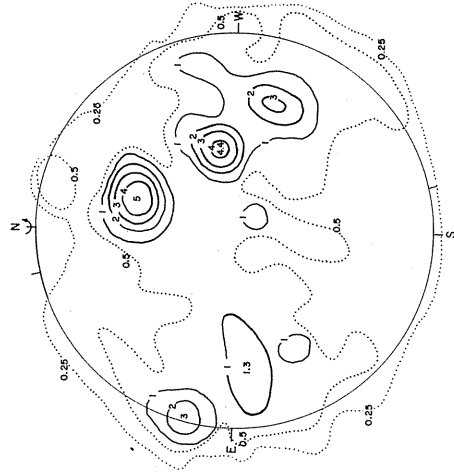
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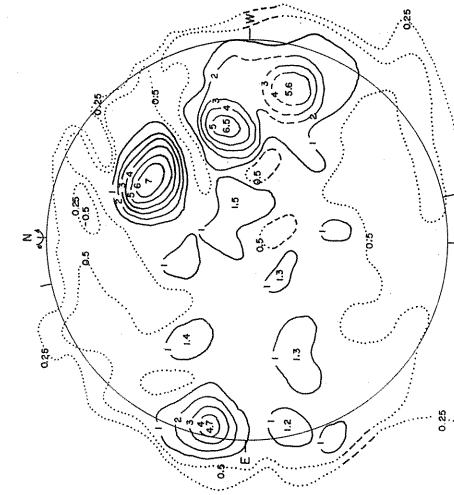
1960 JUNE 3



1960 JUNE 4



1960 JUNE 5<sup>d</sup>, 19<sup>h</sup>-20<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 93,000 \*K



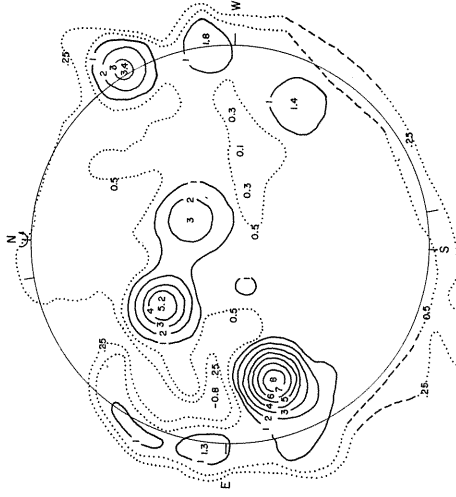
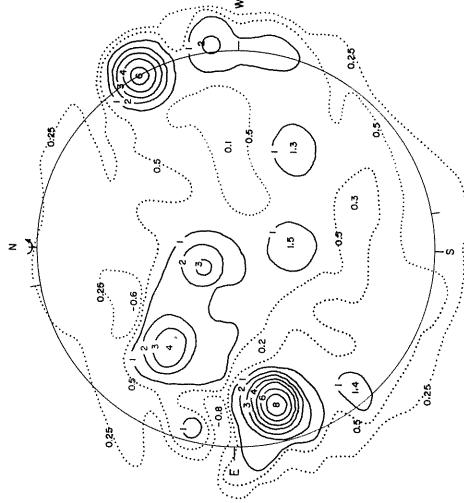
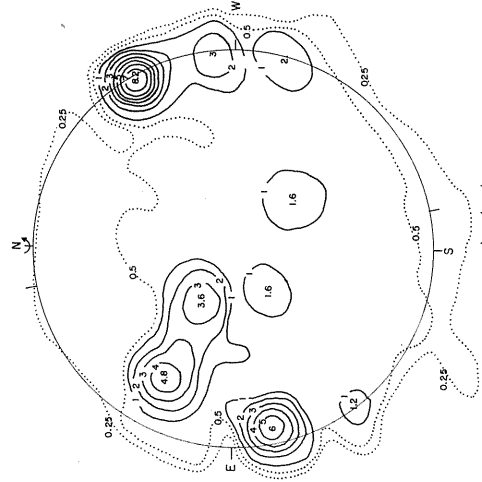
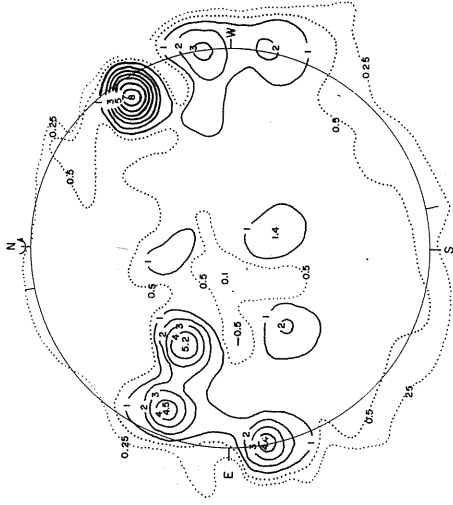
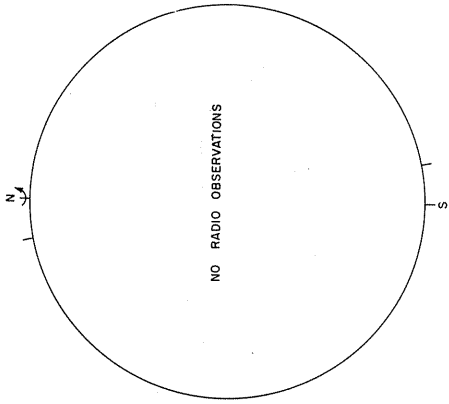
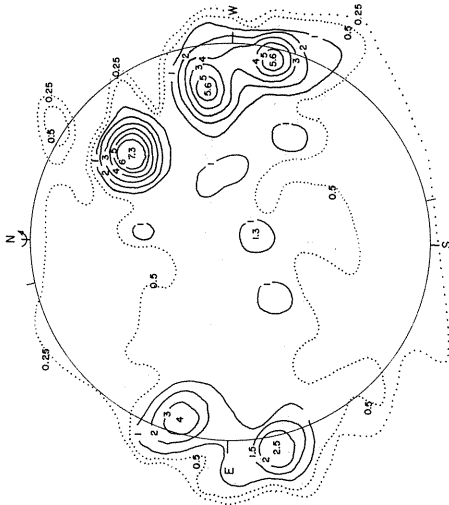
1960 JUNE 6<sup>d</sup>, 19<sup>h</sup>-20<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 68,000 \*K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

JUNE 1960

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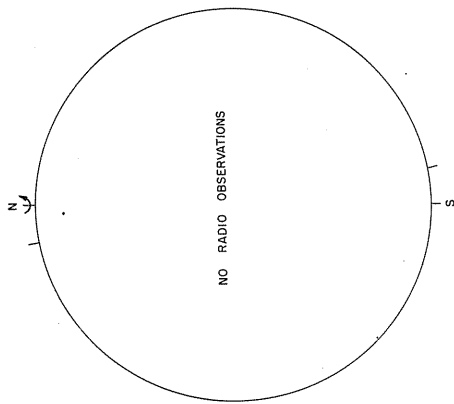
9.1 cm



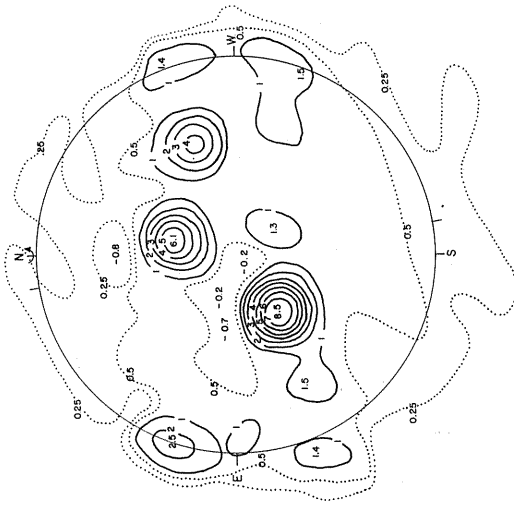
SOLAR RADIO EMISSION SPECTROHELIOGRAMS  
JUNE 1960.

STANFORD

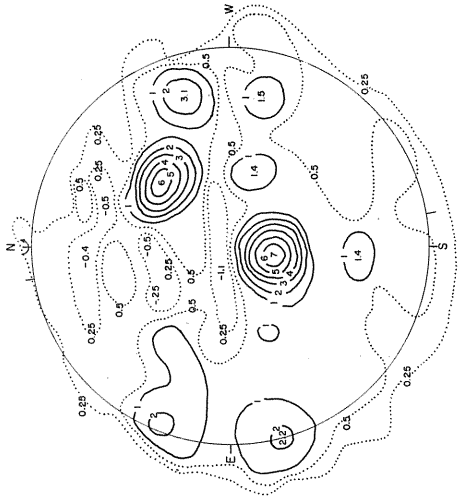
9.1 cm



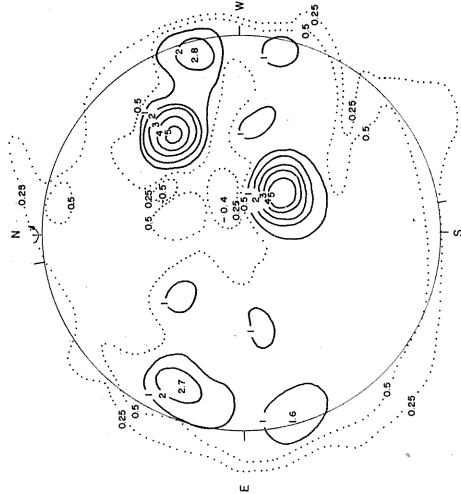
1960 JUNE 13



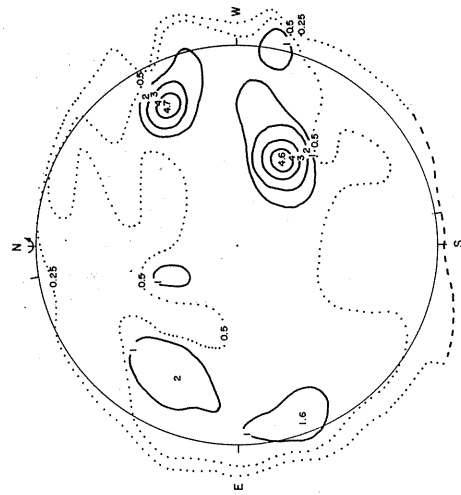
1960 JUNE 14<sup>d</sup>, 19-20<sup>h</sup> UT  
CONTOUR BRIGHTNESS UNIT = 72,000 \*K



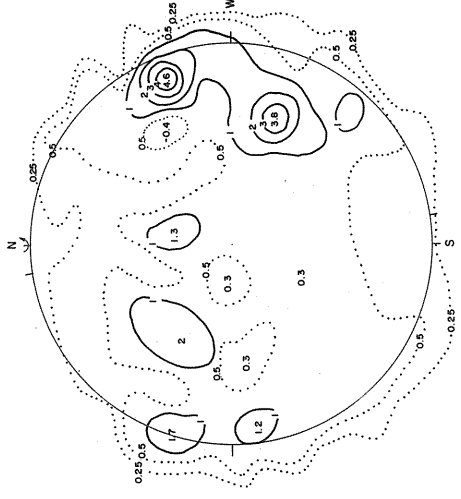
1960 JUNE 15<sup>d</sup>, 20-21<sup>h</sup> UT  
CONTOUR BRIGHTNESS UNIT = 75,000 \*K



1960 JUNE 16<sup>d</sup>, 20-21<sup>h</sup> UT  
CONTOUR BRIGHTNESS UNIT = 73,000 \*K



1960 JUNE 17<sup>d</sup>, 20-21<sup>h</sup> UT  
CONTOUR BRIGHTNESS UNIT = 76,000 \*K



1960 JUNE 18<sup>d</sup>, 20-21<sup>h</sup> UT  
CONTOUR BRIGHTNESS UNIT = 74,000 \*K

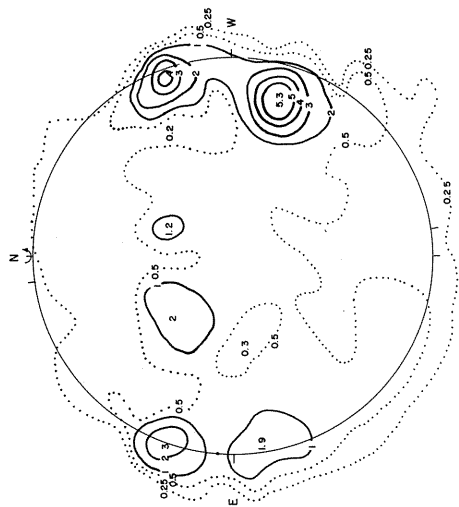


SOLAR RADIO EMISSION SPECTROHELIOGRAMS

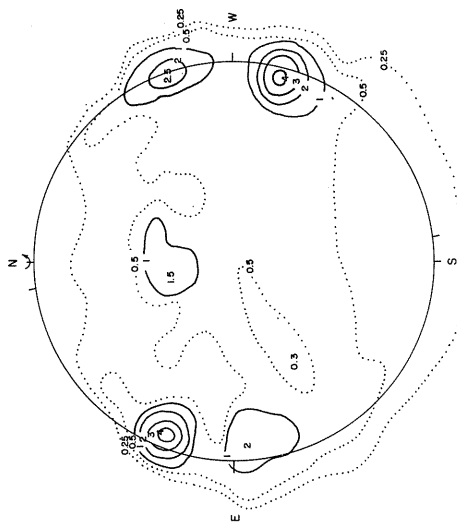
JUNE 1960

9.1 cm

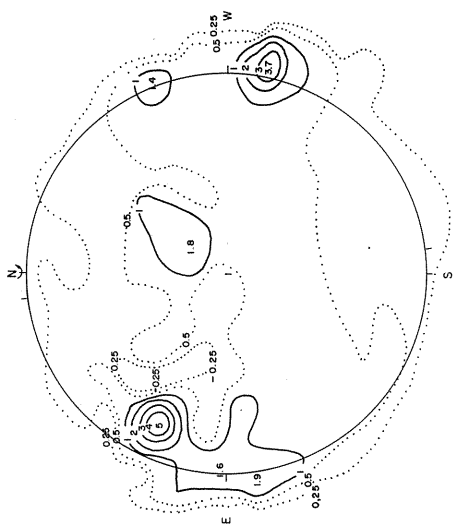
STANFORD



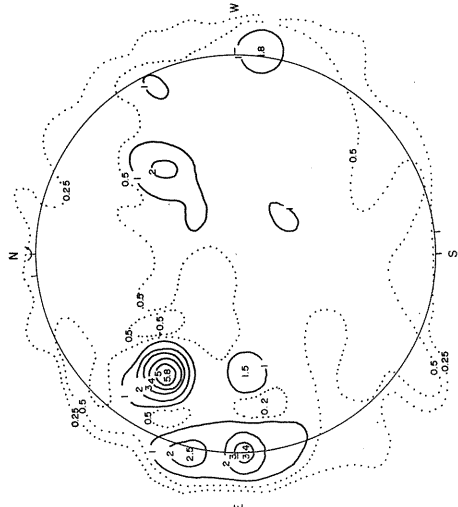
1960 JUNE 19<sup>d</sup> 20<sup>h</sup>-21<sup>h</sup> UT  
 CONTOUR BRIGHTNESS UNIT = 68,000°K



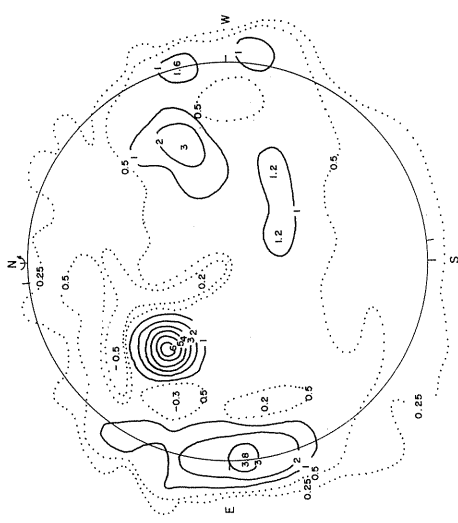
1960 JUNE 20<sup>d</sup> 20<sup>h</sup>-21<sup>h</sup> UT  
 CONTOUR BRIGHTNESS UNIT = 69,000°K



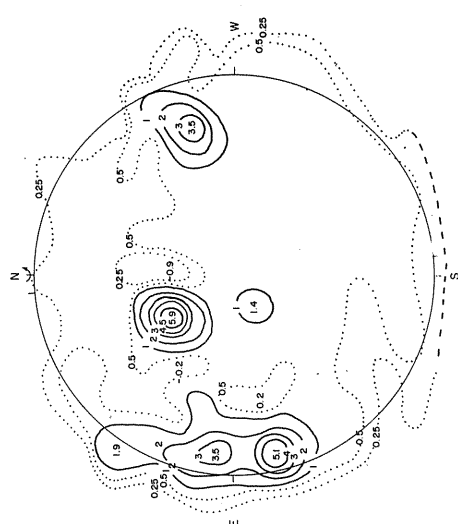
1960 JUNE 21<sup>d</sup> 20<sup>h</sup>-21<sup>h</sup> UT  
 CONTOUR BRIGHTNESS UNIT = 72,000°K



1960 JUNE 22<sup>d</sup> 20<sup>h</sup>-21<sup>h</sup> UT  
 CONTOUR BRIGHTNESS UNIT = 61,000°K



1960 JUNE 25<sup>d</sup> 20<sup>h</sup>-21<sup>h</sup> UT  
 CONTOUR BRIGHTNESS UNIT = 71,000°K



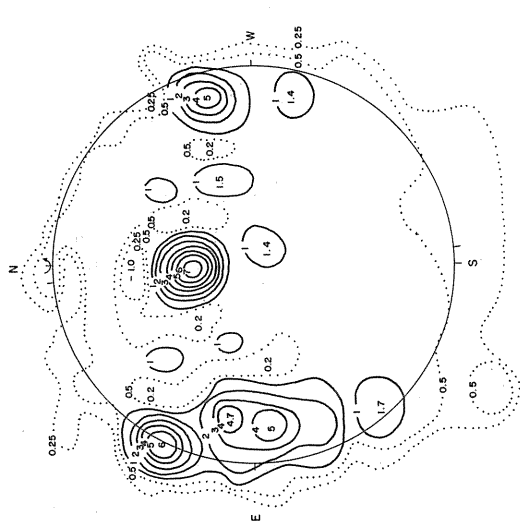
1960 JUNE 24<sup>d</sup> 19<sup>h</sup>-20<sup>h</sup> UT  
 CONTOUR BRIGHTNESS UNIT = 64,000°K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

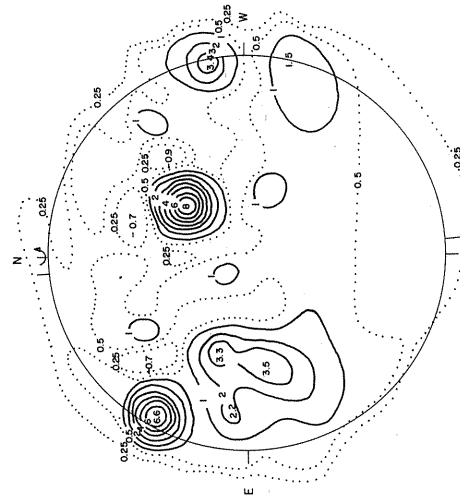
JUNE 1960

STANFORD

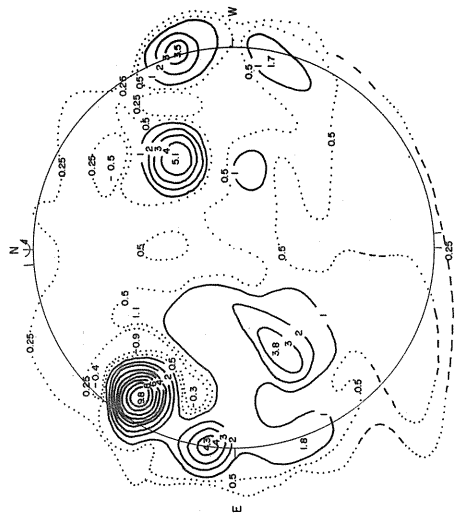
9.1 cm



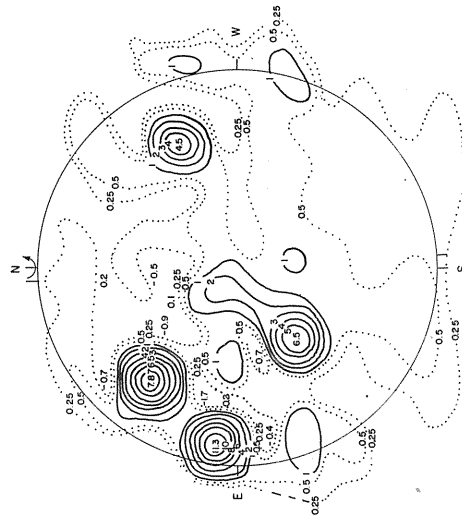
1960 JUNE 25<sup>d</sup> 19<sup>h</sup> 20<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 93,000 \*K



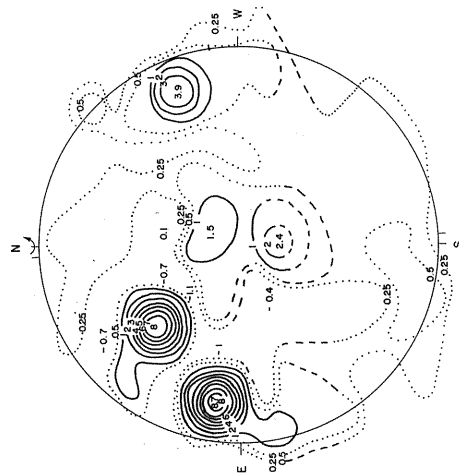
1960 JUNE 26<sup>d</sup> 19<sup>h</sup> 20<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 71,000 \*K



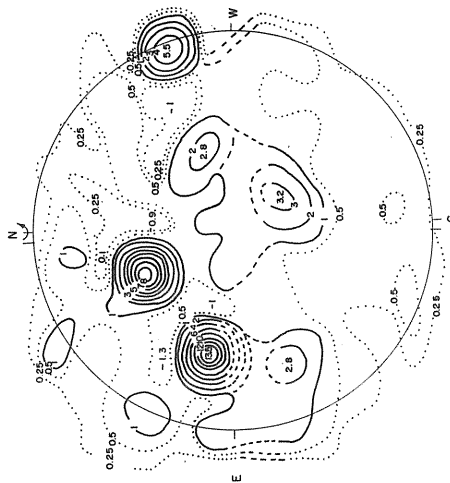
1960 JUNE 27<sup>d</sup> 20<sup>h</sup> 21<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 70,000 \*K



1960 JUNE 28<sup>d</sup> 19<sup>h</sup> 20<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 93,000 \*K



1960 JUNE 29<sup>d</sup> 19<sup>h</sup> 20<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 117,000 \*K



1960 JUNE 30<sup>d</sup> 20<sup>h</sup> 21<sup>m</sup> UT  
CONTOUR BRIGHTNESS UNIT = 79,000 \*K

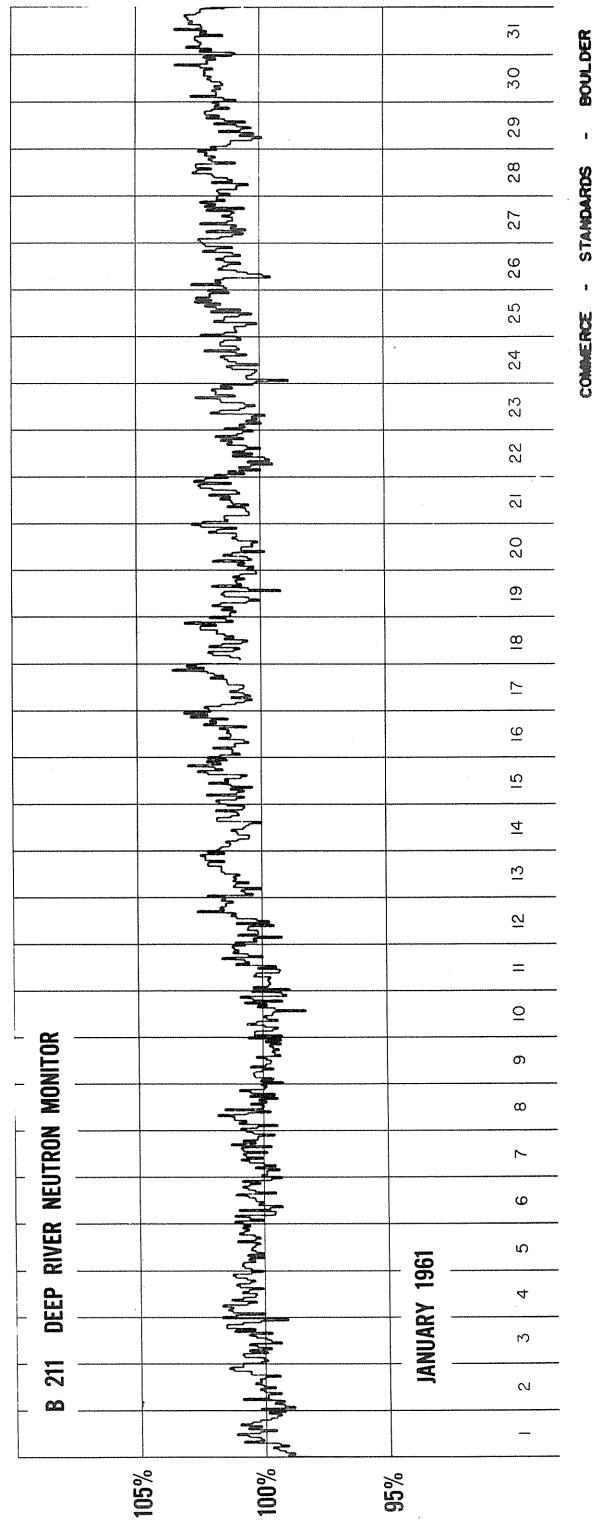
COSMIC RAY INDICES  
(Climax Neutron Monitor)

Jan. 1961	Daily average counts/hr	Jan. 1961	Daily average counts/hr
1	2911.9	17	2953.9
2	2909.4	18	2955.5
3	2917.3	19	2938.1
4	2921.0	20	2952.1
5	2922.3	21	2946.7
6	2920.0	22	2925.7
7	2912.0	*23	2933.7 (28)
8	2924.4	24	2929.0
9	2925.8	25	2960.7
10	2919.8	26	2960.5
11	2923.3	27	2961.7
12	2944.0	28	2957.7
13	2962.0	29	2948.0
14	2956.2	30	2956.8
15	2959.9	31	2970.4
16	2965.0		

\*Less than 40 section hours.

COMMERCE - STANDARDS - BOULDER

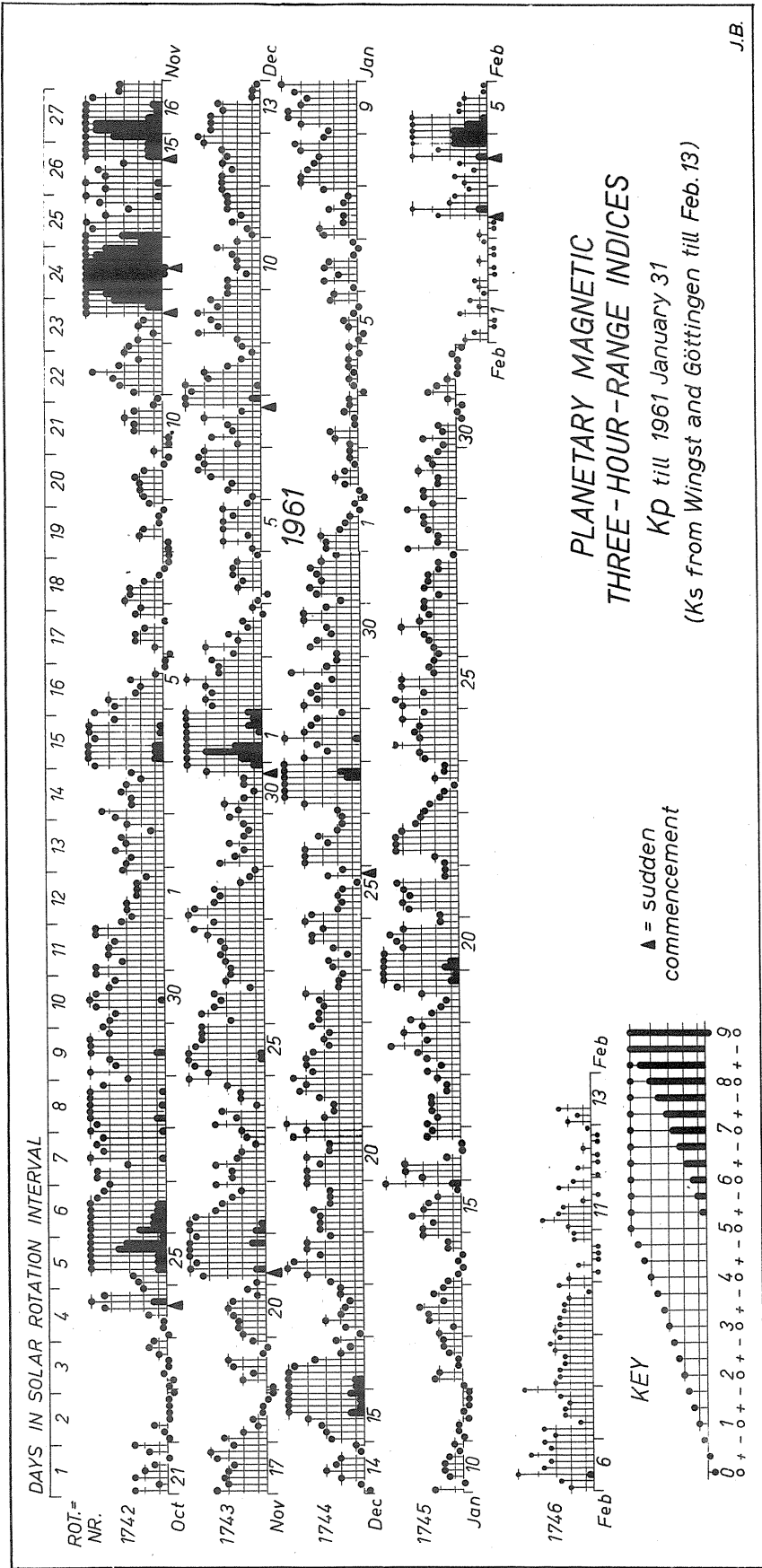
**COSMIC RAY INDICES**  
(Pressure Corrected Hourly Totals)



GEOMAGNETIC ACTIVITY INDICES

JANUARY 1961

Jan. 1961	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	0.2	3-	3-	3o	2-	1+	1o	0+	1-	13+	7	Five Quiet
2	0.1	0o	0+	1+	2o	1+	1-	1o	1o	8-	4	
3	0.1	1o	2o	2+	1-	1-	1+	1o	1o	10o	5	
4	0.1	0o	1-	1o	1-	1o	1o	0+	1o	6-	3	
5	0.2	0+	0o	1o	1+	1-	0+	2+	2o	8o	4	
6	0.2	1-	3-	2-	3-	2+	1-	0+	1-	12-	6	
7	0.5	3-	3o	1+	1+	2+	1+	1o	3-	16-	8	
8	1.2	4o	4o	4-	3+	3o	4o	4+	3-	29o	22	
9	1.2	2+	4o	5-	5-	4o	4-	4+	5o	33-	30	
10	0.1	2+	0+	1+	2-	2-	1+	1-	1o	10+	5	
11	0.0	0+	1-	1-	0o	0+	0o	0o	0o	2o	1	Five Disturbed
12	0.2	0+	2+	2o	1-	1-	1+	2-	2-	11-	5	
13	0.4	2o	1o	3-	3-	3+	2-	2+	2-	17+	9	
14	0.2	1+	1-	0+	1-	0+	1+	1+	3o	9o	5	
15	1.1	3o	2+	4-	3o	3-	2o	1-	6-	23o	19	
16	0.7	3o	4o	4o	1+	0+	0+	3-	2+	18o	12	
17	0.4	3-	2o	2+	2+	2+	1+	1+	2o	16+	8	
18	1.0	3-	2-	3-	3+	5-	3-	4-	3o	24+	17	
19	1.3	4-	2+	2-	1+	3o	4+	6-	5+	27+	26	
20	1.4	6o	6-	5o	4o	4+	5-	4o	2-	35+	41	
21	0.9	2-	4-	4o	4-	4o	4+	1+	1+	24o	18	Ten Quiet
22	1.0	1+	2o	4+	4+	4+	4o	3+	3o	27-	21	
23	0.3	3-	2+	2-	1+	1-	2o	1+	1+	13+	6	
24	1.1	3-	3o	4+	3o	3+	3o	4o	3-	26o	18	
25	0.8	4o	4+	3-	4o	4o	2o	2+	2o	25+	18	
26	0.8	2-	2o	2+	3-	4o	3o	2+	3-	21-	12	
27	0.3	3-	2-	3-	2+	2+	2-	2-	1-	16-	8	
28	0.8	4-	2-	2-	2+	3-	3-	4-	2o	20+	12	
29	0.5	3-	3-	2-	2-	3o	2o	2+	2-	18-	9	
30	0.1	1+	3-	1+	2-	0o	0+	0o	1o	8+	4	
31	0.0	2+	2-	1o	0+	0+	0+	1-	0o	7-	4	
Mean:	0.55									Mean:	12	



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS  
 NORTH ATLANTIC                      NORTH PACIFIC

JANUARY 1961

DATE	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 $K_p$	NORTH PACIFIC 12-HOURLY QUALITY FIGURES		SHORT-TERM FORECASTS ISSUED AT:		WHOLE INDEX	ADVANCE FORECASTS (K-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:		GEOMAGNETIC $K_s$				
	00 TO 06	06 TO 12	12 TO 18	18 TO 24	00	06		12	18		1-7	1-3	1-7	0700 TO 1900		1900 TO 0700	0600		1800	1-7	1-3	1-7
JAN. 1961																						
01	5-	4+	7-	6-	5	5	6	5	5	0	6	6	6	5	5	6	5	5	5	5	2	0
02	6-	5+	7	6	6	6	6	6	6	1	6	6	6	5	5	5	5	5	5	5	1	0
03	5+	5+	6+	5+	6	5	7	6	6	3	5	5	5	5	5	5	5	5	5	5	1	0
04	5-	5+	6	5	5	5	6	6	5+	1	5	5	5	5	5	5	5	5	5	5	0	0
05	5+	5+	6-	5+	5	5	6	5	5+	1	6	6	6	5	5	6	5	5	5	5	0	1
06	6-	5+	6	6+	5	5	6	5	6-	2	6	6	6	5	5	5	5	5	5	5	2	0
07	5+	6-	6	6-	6	5	6	6	6-	2	6	6	6	5	5	5	5	5	5	5	1	2
08	5	5	0	7-	5	5	5	6	6	3	6	6	6	5	5	5	5	5	5	5	(4)	3
09	5+	5-	6+	5	5	5	6	6	5+	(4)	6	6	6	5	5	5	5	5	5	5	3	4
10	5	0	5	0	7-	6+	5	6	6-	1	6	6	6	5	5	5	5	5	5	5	2	1
11	6	0	6	0	7	6	6	6	6+	1	5	5	5	4	5	5	4	4	5	5	0	0
12	5	0	5	+	6	7-	6	6	6-	2	6	6	6	5	5	5	5	5	5	5	0	1
13	5	+	5	+	7-	6+	6	6	6	2	6	6	6	5	5	5	5	5	5	5	2	2
14	5	0	5	+	7-	6	6	6	6-	1	6	6	6	5	5	5	5	5	5	5	0	1
15	6-	5	+	7-	6-	6	6	7	6	3	6	6	6	6	5	5	5	5	5	5	2	2
16	4	+	5-	6-	6-	4	4	6	6	3	6	6	6	6	5	5	5	5	5	5	3	1
17	5-	4	+	6-	6-	5	5	6	6	2	6	6	6	6	6	6	6	6	6	6	2	2
18	5-	4	+	6	6-	6	4	5	6	5	5	5	5	5	5	5	5	5	5	5	2	3
19	6-	4	+	6	3+	5	5	6	6	(4+)	5	5	5	4	4	5	5	5	5	5	1	(4)
20	3	0	3	0	5	5-	4	3	5	(4-)	5	5	5	3	4	5	4	6	6	6	(6)	(4)
21	3	0	6-	5	0	5	3	5	5	(4-)	6	6	6	4	5	5	5	5	5	5	3	3
22	5-	4-	6	5-	5-	4	4	5	5	(4+)	6	6	6	4	5	5	5	5	5	5	3	(4)
23	4-	4-	6	+	5-	4	3	6	5	(4+)	5	5	5	4	5	5	5	5	5	5	2	1
24	5-	4	+	6	0	4	4	6	5	5-	4	4	4	4	5	5	5	5	5	5	(4)	2
25	4	+	4	+	6-	6-	5	5	6	5-	4	4	4	4	5	4	5	5	5	5	(4)	3
26	4	+	4	+	6-	4	5	4	6	5-	5	5	5	4	6	4	5	5	5	5	2	3
27	5-	4	+	6	6-	5	4	6	6	5	5	5	5	4	5	4	5	5	5	5	2	1
28	5	0	4	+	6	5	5	4	6	5	6	6	6	5	6	4	5	5	5	5	2	2
29	5-	4	+	6	6-	5	5	7	6	5	6	6	6	5	6	5	5	5	5	5	2	2
30	5	+	5-	6	6-	5	4	7	6	6-	6	6	6	5	6	4	6	6	6	6	1	0
31	5	+	5	0	7	7-	5	4	6	6	6	6	6	7	6	4	6	6	6	6	0	0
Score: Quiet Periods	P	14	12	18	16	14	14	14	14	14	14	14	14	11	13	12	12	12	12	12	12	12
	S	11	5	13	12	12	12	12	12	12	12	12	12	10	10	11	11	11	11	11	11	11
	U	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	1	1	1	1
	F	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0
Disturbed Periods	P	2	8	0	0	0	0	0	0	0	0	0	0	2	2	1	1	1	1	1	1	1
	S	3	6	0	2	3	3	3	3	3	3	3	3	5	3	3	3	3	3	3	3	3
	U	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	F	0	0	0	0	1	2	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0

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

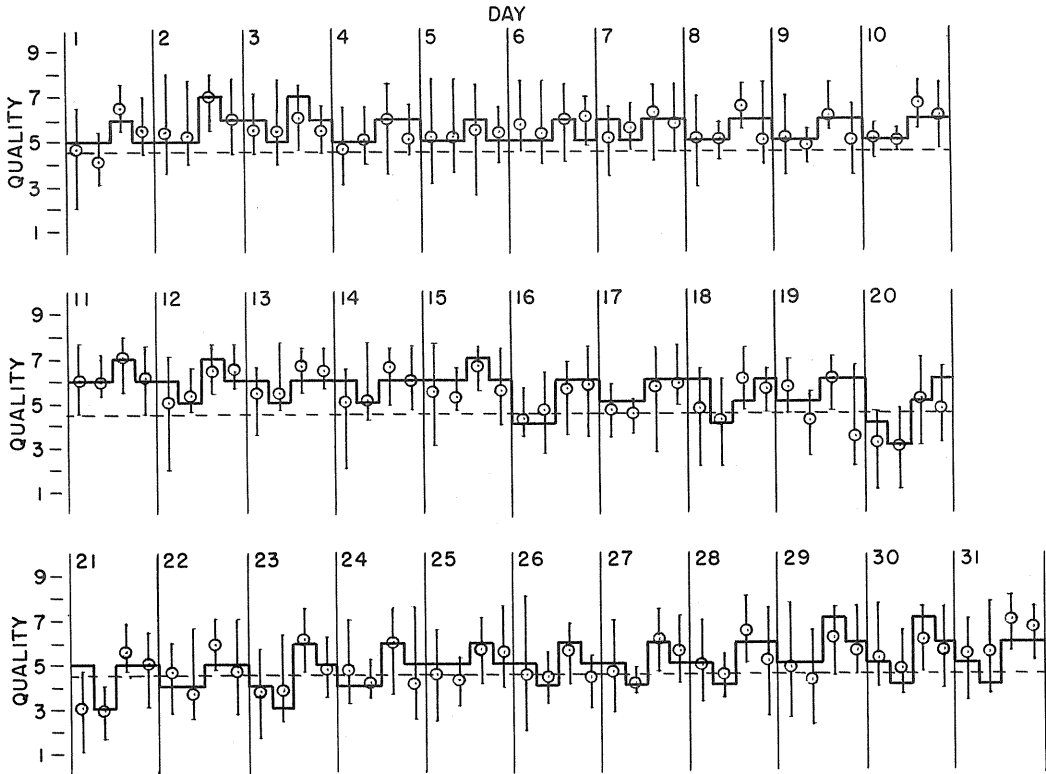
CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS  
NORTH ATLANTIC

VII b

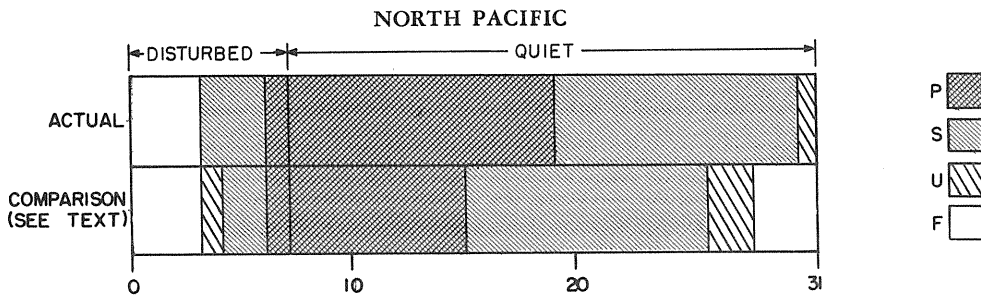
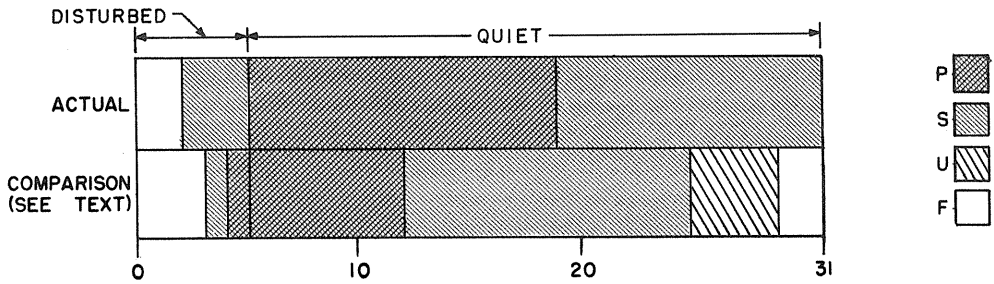
JANUARY 1961

— Short-term forecast  
o Quality figure

| Range of reports



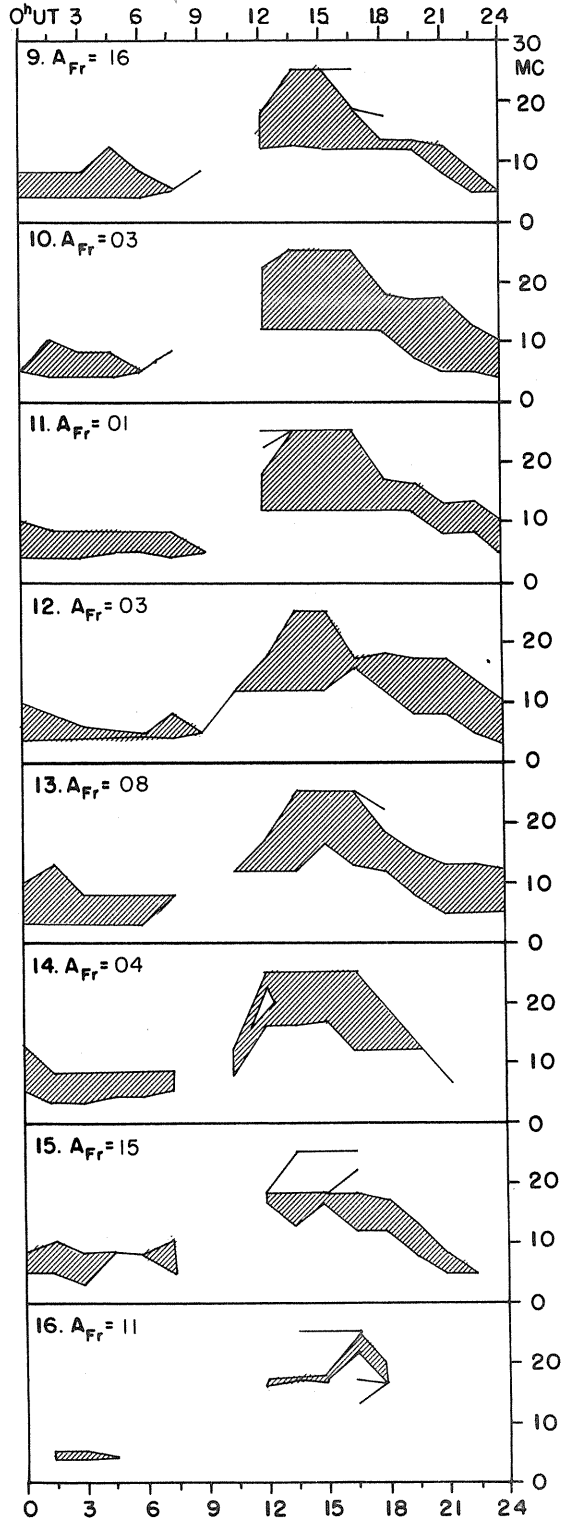
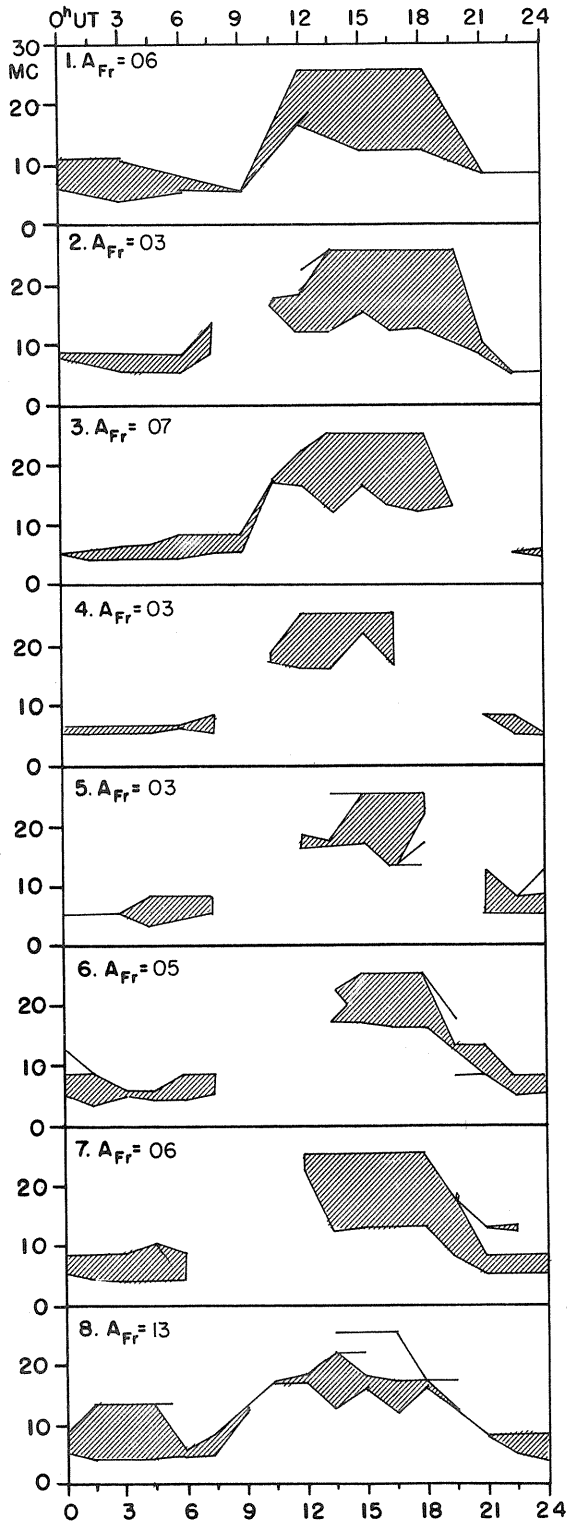
OUTCOME OF ADVANCED FORECASTS      FINAL ESTIMATE  
NORTH ATLANTIC

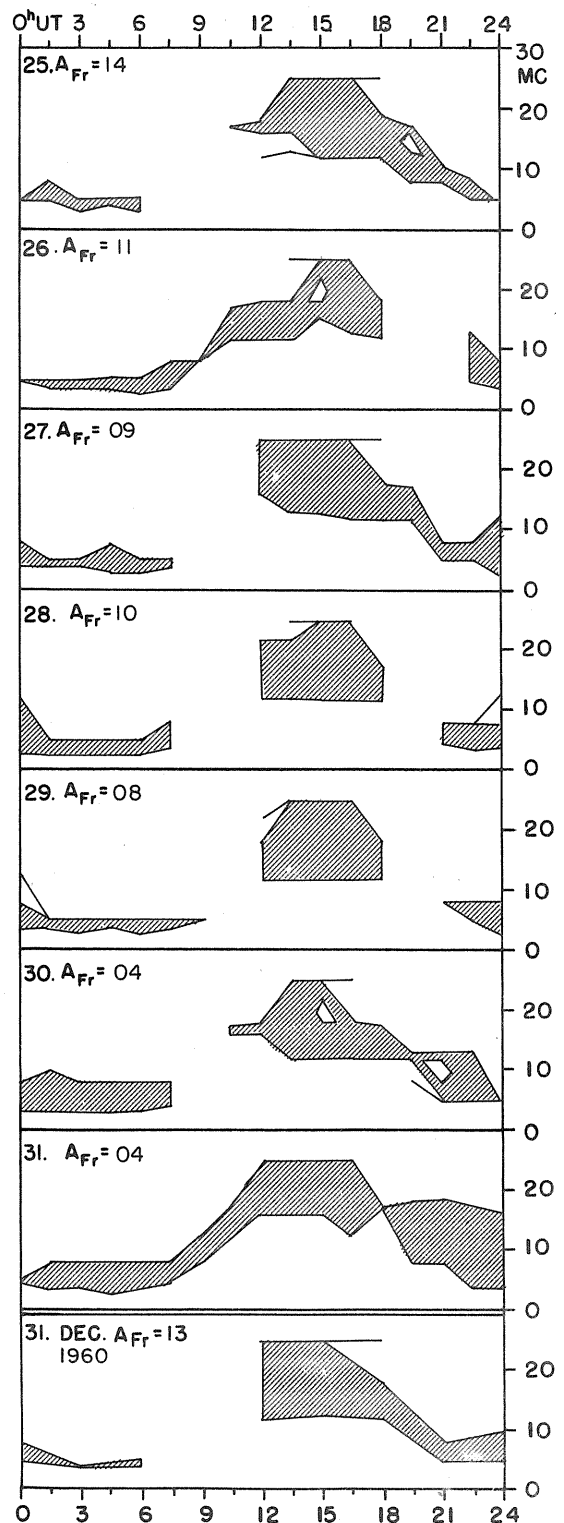
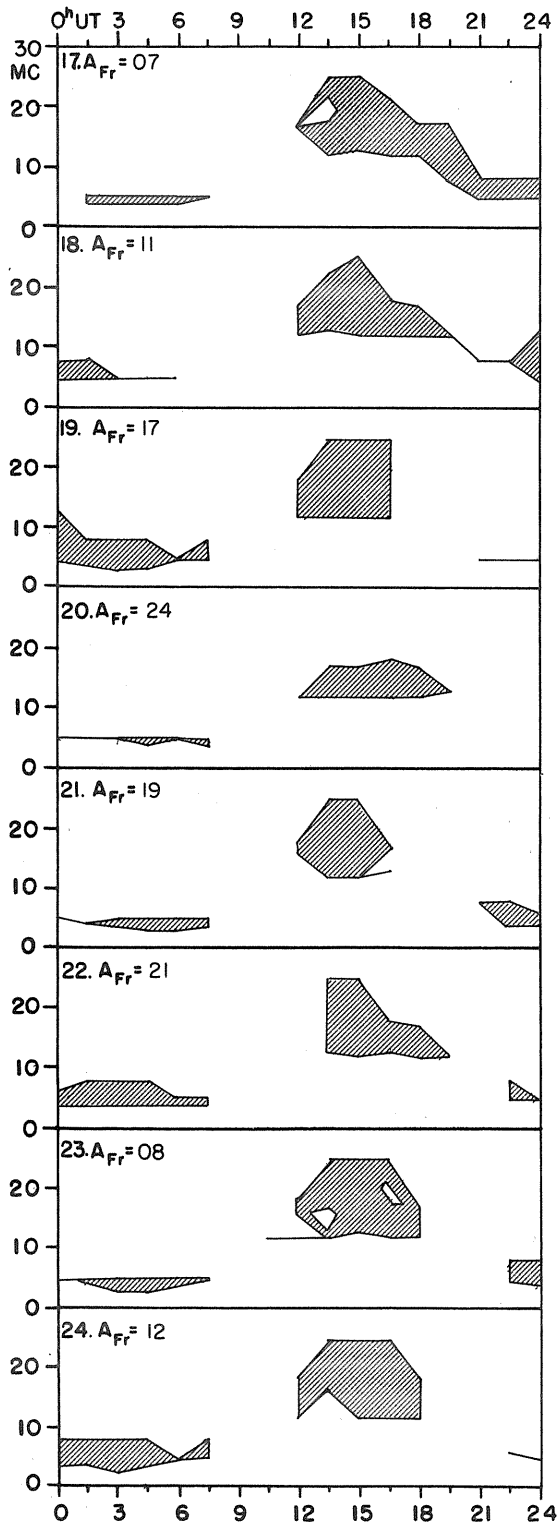




USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1961





## ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

FEBRUARY 1961

Issued Day/Time UT Feb. 1961	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
4/1600		108	Magnetic Storm 04/1330Z	
16/1600		109	Magnetic Storm 16/0044Z	

COMMERCE - STANDARDS - BOULDER