

Reference book not to be
taken from the library.

PART B

SOLAR - GEOPHYSICAL DATA

ISSUED

March 1962

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

SOLAR - GEOPHYSICAL DATA

CONTENTS

I DAILY SOLAR INDICES

- (a) Relative Sunspot Numbers and 2800 Mc Solar Flux - January - February 1962
- (b) Graph of Sunspot Cycle
- (c) Zurich Final Relative Sunspot Numbers 1961

II SOLAR CENTERS OF ACTIVITY

- (a) Calcium Plage and Sunspot Regions - February 1962
- (b) Magnetic Classifications of Sunspots (Mt. Wilson) - February 1962
- (c) Provisional Coronal Line Emission Indices - February 1962

III SOLAR FLARES

- (a-f) Optical Observations - February 1962
- (g) Flare Patrol Observations - February 1962
- (h-i) Subflares - January 1962
- (j) Optical Observations - November 1961
- (k) Flare Patrol Observations - November 1961
- (l) Ionospheric Effects (SWF-SEA-SCNA-SPA-Bursts) - January 1962

IV SOLAR RADIO WAVES

- (a) 2800 Mc - Outstanding Occurrences (Ottawa) - February 1962
- (b) 169 Mc - Interferometric Occurrences (Nançay) - February 1962
- (c) 108 Mc - Outstanding Occurrences (Boulder) - February 1962
- (d-e) 7.6-41 Mc - Spectrum Observations (HAO - Boulder) - February 1962
- (f-k) 9.1 cm - Spectroheliograms (Stanford) - August 1960

V COSMIC RAY INDICES

- (a) Climax Neutron Monitor - January 1962
- (b) Deep River Neutron Monitor - January 1962

VI GEOMAGNETIC ACTIVITY INDICES

- (a) C, Kp, Ap and Selected Quiet and Disturbed Days - January 1962
- (b) Chart of Kp by Solar Rotations - 1962

VII RADIO PROPAGATION QUALITY INDICES

- (a) CRPL Quality Figures and Forecasts - North Atlantic and North Pacific - January 1962
- (b) Graphs Comparing Forecasts and Observed Quality - North Atlantic and North Pacific - January 1962
- (c-d) Graphs of Useful Frequency Ranges - January 1962

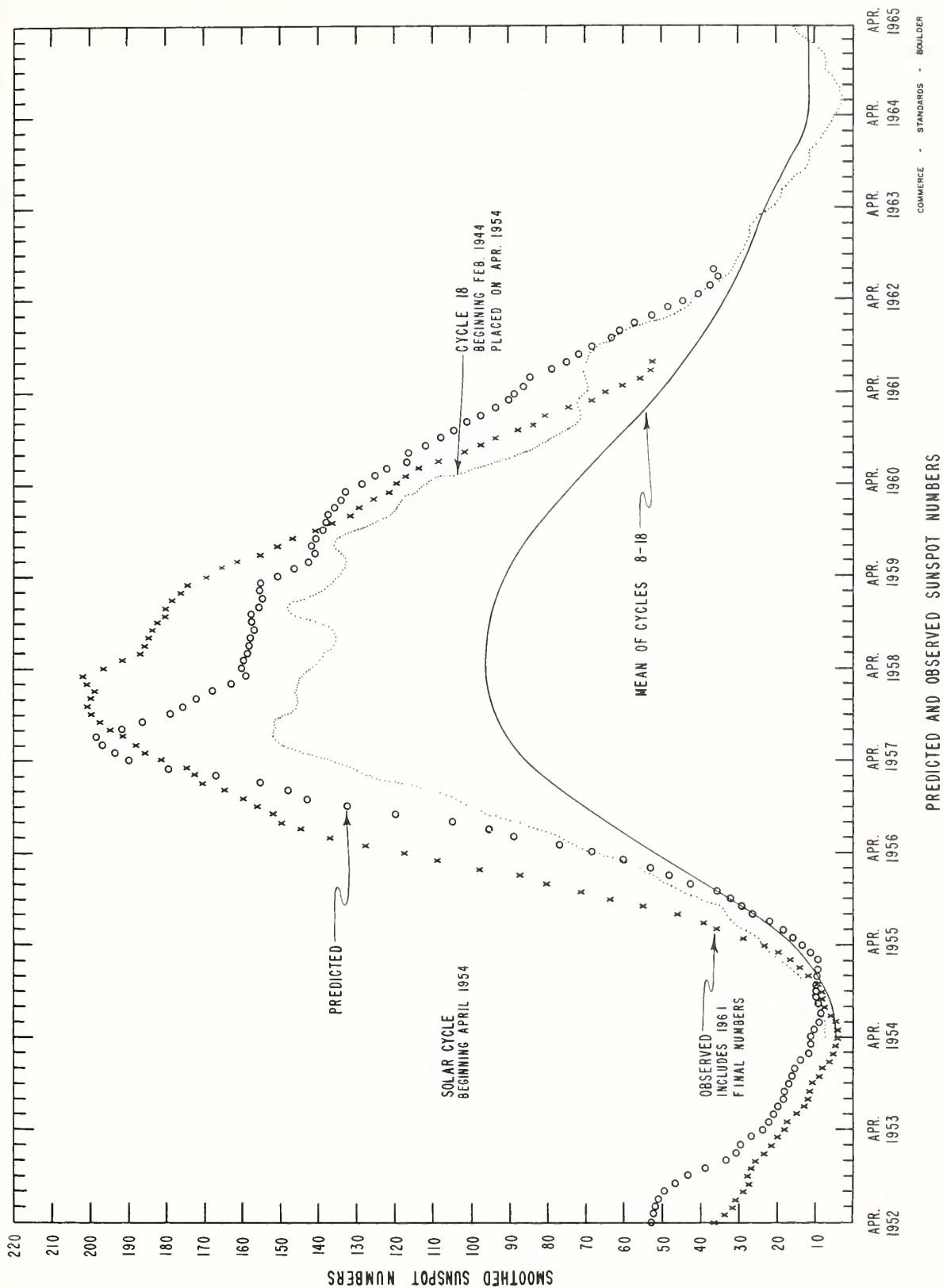
VIII ALERT PERIODS AND SPECIAL WORLD INTERVALS

- (a) Alerts and SWI - February 1962

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

Jan. 1962	American Relative Sunspot Numbers R_A'
1	19
2	13
3	17
4	14
5	12
6	12
7	12
8	3
9	2
10	0
11	0
12	0
13	12
14	28
15	21
16	13
17	3
18	17
19	24
20	24
21	31
22	47
23	61
24	84
25	61
26	70
27	69
28	67
29	61
30	57
31	67
Mean:	29.7

Feb. 1962	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, ARO-Ottawa, Canada Flux
1	73	110
2	59	103
3	57	101
4	43	104
5	39	92
6	36	86
7	30	82
8	23	82
9	15	83
10	12	81
11	10	82
12	7	81
13	7	84
14	16	83
15	18	83
16	12	86
17	20	87
18	26	91
19	28	108
20	53	107
21	65	114
22	72	121
23	108	136
24	124	134
25	103	129
26	95	129
27	108	136
28	95	122
Mean:	48.4	101.3



ZURICH FINAL RELATIVE SUNSPOT NUMBERS

1961

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	145	58	17	87	102	30	60	39	51	45	0	82
2	133	55	33	60	84	42	65	17	53	47	0	80
3	109	59	49	55	72	48	68	24	54	58	0	77
4	84	75	46	73	55	62	63	23	55	55	10	67
5	78	65	34	86	42	55	44	14	55	48	19	55
6	69	56	41	82	39	49	55	11	57	45	25	38
7	63	52	38	64	37	40	57	14	51	43	48	31
8	58	55	49	66	31	45	60	37	33	46	54	31
9	61	68	49	49	44	58	65	59	45	47	76	31
10	53	61	33	48	46	77	73	84	57	53	67	14
11	43	50	34	47	45	82	85	109	54	58	53	0
12	35	35	15	42	56	72	96	103	62	76	50	0
13	28	30	27	40	52	75	86	103	82	47	49	0
14	25	26	46	41	46	80	113	104	109	44	48	10
15	27	26	42	53	38	123	107	108	114	53	47	8
16	43	24	52	60	31	128	99	98	102	46	31	7
17	53	39	66	78	23	128	92	85	84	39	11	7
18	51	30	51	72	44	128	82	71	73	44	17	10
19	50	26	45	65	47	112	86	72	70	52	10	12
20	45	30	39	56	59	116	85	52	46	38	15	21
21	50	44	46	52	66	128	85	45	41	47	26	21
22	44	49	60	38	71	123	75	39	40	33	24	47
23	35	48	61	36	74	96	81	33	43	16	12	56
24	23	58	76	36	78	87	78	37	74	17	18	77
25	27	53	64	48	72	70	63	49	83	16	29	94
26	43	52	63	60	47	56	62	45	74	13	36	80
27	47	42	88	82	41	51	53	54	67	8	37	70
28	62	25	95	74	38	38	42	36	69	8	38	74
29	81		95	92	36	59	32	54	58	9	53	55
30	65		97	99	41	63	30	58	52	9	75	45
31	66		93		24		34	54		8		38
Mean	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9

COMMERCE - STANDARDS - BOULDER

CALCIUM PLAGE AND SUNSPOT REGIONS

Ha

FEBRUARY 1962

CMP Feb. 1962	Lat	McMath Plage Number	Return of Region	Calcium Plage Data			Sunspot Data		
				CMP Values Area Int.		History, Age	CMP Values Area Count		History
01.2	N17	6332	New	400	2	b / l 1	110	2	l — l
01.4	S05	6330	New	1200	2	l — l 1			
02.8	N09	6331	6315	700	2.5	l — l 2			
03.4	N26	6333	New	300	1	l — l 1			
05.1	N07	6334	6310	3000	3.5	l — l 2			
05.7	N17	6336	New	300	2	b / l 1	100	4	l — l
06.4	N08	6335	*	1800	3	l — l 2			
08.0	N14	6339	New	500	3	b / l 1			
10.1	N10	6340	**	300	2	b ^ d (1)			
12.2	N01	6345	New	(300)	(2)	b / l 1			
12.3	N04	6341	**	(600)	(2.5)	l \ d (1)	160	2	l — l
15.5	N15	6342	6319	1800	2.5	l — l 6			
17.7	N15	6344	New	800	2.5	l — l 1			
19.0	S04	6349	6321	(1400)	(2)	l \ l 3			
20.3	N10	6348	6324	3100	3	l — l 6			
23.2	S11	6350	***	600	2.5	l — l 1?	390	1	l — l
25.4	N11	6352	6326	5500	3	l — l 4			
26.1	S12	6351	****	6400	3	l — l 1			
28.2	N17	6353	6332	800	2	l \ l 2			

COMMERCE - STANDARDS - BOULDER

* Return of Region 6312 of last rotation. In last report 6312 was indicated as return of 6291 and therefore in its 5th rotation, perhaps a better identification would have been "primarily new or a resurgence of 6291."

** New and Ephemeral

*** New (?) near old 6328

**** Primarily new, or resurgence of 6327.

Regions with age indicated as (1) are small and were observed on only a few days.

FEBRUARY 1962

Feb. 1962	Time Meas.	Lat.	Mer. Dist.	Type
1	1735	N10	W41	$\beta\gamma$
		S10	W38	αf
		N08	E44	β
		N10	E57	αp
2	2230	N10	W57	$\beta\gamma$
		N07	E28	β
		N10	E40	αp
3	1730	N10	W66	$\beta\gamma$
		N07	E17	βp
		N10	E30	αp
4	2230	N07	W01	βp
		N10	E14	αp

Feb. 1962	Time Meas.	Lat.	Mer. Dist.	Type
5	1700	N06	W10	$\beta\gamma$
		N03	W03	β
		N07	E04	β
		N10	E04	βp
6	1750	N07	W22	βp
		N02	W17	αp
		N06	W12	βp
		N09	W10	αp
14	2005	N12	E65	αp
		N05	E68	αp

COMMERCE - STANDARDS - BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES

FEBRUARY, 1962

CMP Feb 1962	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	36	64	29a	52a	8	17	27a	56a	6	8	20	25	10	12	19	25
3	14	30	20	49	4	8	11	15	9	20	x	x	48	92	x	x
4	40	64	40	64	7	8	22	25	9	28	15	35	14	55	17	27
5	29	65	18	42	5	8	13	15	x	x	x	x	x	x	x	x
6	24	51	29	70	3	6	25	35	x	x	x	x	x	x	x	x
7	21	31	22a	32a	7	8	27a	37a	x	x	x	x	x	x	x	x
8	8	11	24	25	15	20	16	22	8	11	9	12	10	14	11	15
9	6	8	28	32	3	6	28	37	x	x	x	x	x	x	x	x
10	5	6	12	15	2	4	12	15	x	x	x	x	x	x	x	x
11	16	20	24	32	16	22	18	27	x	x	x	x	x	x	x	x
12	11	14	x	x	12	14	x	x	x	x	x	x	x	x	x	x
13	13	17	x	x	8	11	x	x	x	x	x	x	x	x	x	x
14	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
16	18	56	15	27	5	8	14	20	6	8	12	15	13	24	11	20
17	72	143	x	x	25	56	x	x	x	x	x	x	x	x	x	x
18	47	76	13	22	25	50	10	12	x	x	x	x	28	48	5	7
19	x	x	x	x	x	x	x	x	6	15	9	13	12	16	6	10
20	x	x	x	x	x	x	x	x	6	16	10	20	12	16	6	10
21	x	x	x	x	x	x	x	x	10	45	x	x	20	32	x	x
22	55	64	8	10	26	39	8	10	16	32	5	5	30	40	7	10
23	x	x	x	x	x	x	x	x	30	60	13	20	30	58	8	10
24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25	x	x	x	x	x	x	x	x	85	115	42	89	67	104	33	108
26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27	x	x	x	x	x	x	x	x	39	56	x	x	36	76	x	x
28	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

COMMERCE - STANDARDS - BOULDER

x = no observations

a = index computed from low weight data

* = yellow line observed

SOLAR FLARES

FEBRUARY 1962

OBSERVATORY	DATE FEB 1962	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	LAT.	LONG. DIST				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH He	MAX. INT. °
[MITAKA	01	0333	0355	0339	N09 W29	6326	22 D	1+	1	0339	5.42	5.36	125
[KODAIKANL	01	0334	0351	0337	N10 W29	6326	17 D	1	2	0337	2.30	2.70	114
[MITAKA	01	0454	0511	0454	N09 W30	6326	17	1	1	0456	1.96	2.37	110
[KODAIKANL	01	0550	0600	0552	N10 W33	6326	10 D	1	1	0552	2.30	2.80	122
[KODAIKANL	01	0647	0652	0648	N10 W33	6326	5 D	1	2	0648	2.30	2.80	114
[KODAIKANL	01	0830	0842		N11 W33	6326	102 D	1+	3	0806	1.10	1.40	
[SODREJOV	01	0900	0923		S09 W31	6326	22 D	1	1	0919	6.50	8.10	
[MENDEL	01	0901	0946		N08 W31	6326	44 D	2	1		1.10	1.40	
[CAPRI S	01	0902			N10 W35	6326		1	1				
[KODAIKANL	01	0912			N10 W33	6326		1	1				
[KODAIKANL	01	0925			N10 W40	6326	80 D	2	1				
[ARCETRI	01	0935			N12 W42	6326	30 D	2	1				
[KODAIKANL	01	0945			N09 W38	6326	125 D	1	1				
[SALTJORDAN	01	0946		1004	N09 W38	6326	50 D	1+	1	1030	7.00	9.10	
[MENDEL	01	1230			N10 W34	6326	16 D	1	1				
[KODAIKANL	01	1230			N10 W34	6326	16 D	1	1				
[KODAIKANL	01	1430			N09 W36	6326		1	2	1432	.40	.50	
[KODAIKANL	01	1508			N09 W35	6326		1	2	1510	.20	.30	
[KODAIKANL	01	1552			N10 W37	6326	26 D	1	3		1.88	2.08	19
[KODAIKANL	01	1552			N10 W38	6326		1	2	1555	1.10	1.50	
[KODAIKANL	01	1555			N09 W35	6326	20	1	2	1557	2.80	3.50	
[KODAIKANL	01	1555			N10 W40	6326		1	1	1608	.60	.70	20
[KODAIKANL	01	1634			N09 W41	6326	64	1	3		3.47	4.02	25
[KODAIKANL	01	1634			N09 W41	6326		1	1				
[KODAIKANL	01	1635			N10 W38	6326	55	1+	2	1659	2.00	2.50	
[KODAIKANL	01	1635			N10 W38	6326		1	2				
[KODAIKANL	01	1635			N09 W35	6326	17	1	2	1640	.90	3.70	3.10
[KODAIKANL	01	1655			N09 W35	6326	11 D	1	2	1659	2.70	3.30	
[KODAIKANL	01	1819			N10 W41	6326		1	3		1.63	1.90	
[KODAIKANL	01	1820			N11 W39	6326		1	2	1821	.40	.60	17
[KODAIKANL	01	1824			N18 W36	6326	44 D	1	3	1824	1.60	2.10	
[KODAIKANL	01	1840			N11 W40	6326		1	1		.54	.80	16
[KODAIKANL	01	1840			N10 W40	6326		1	2	1846	.40	.50	
[KODAIKANL	01	1842			N18 W36	6326		1	2	1910	1.00	1.20	
[KODAIKANL	01	1858			N10 W40	6326		1	3		.72	.85	17
[KODAIKANL	01	1940			N18 W37	6326		1	3	1944	.00	1.20	
[KODAIKANL	01	1940			N10 W40	6326		1	3	1945	.80	.90	20
[KODAIKANL	01	1942			N11 W41	6326		1	2	1945	.30	.40	
[KODAIKANL	01	2154			N10 W40	6326		1	2	2156	.40	.50	20
[KODAIKANL	01	2307			N11 W42	6326		1	2	2309	.10	.10	10
[KODAIKANL	01	2332			N10 W41	6326		1	2	2338	.40	.50	20
[KODAIKANL	02	2208			N09 W30	6326		1	3		1.07	1.07	17
[KODAIKANL	02	2215			N10 W35	6326	45	2	2	2220	4.50	7.00	20
[KODAIKANL	02	2213			N13 W62	6326	22 D	1	3	2222	3.10	4.80	
[KODAIKANL	03	0056			N11 W52	6326		1	1	0101	.20	.30	30
[KODAIKANL	03	1231			N09 W57	6326	69 D	1	3	1241	.90	2.70	
[KODAIKANL	03	1320			N09 W57	6326	29 D	1+	1				
[KODAIKANL	03	1336			N18 W56	6326	57 D	1	1				
[KODAIKANL	03	2126			N11 W81	6326		1	1				
[KODAIKANL	03	2126			N13 W73	6326	15	1	1	2130	.95	.95	19
[KODAIKANL	03	2126			N13 W73	6326		1	1	2130	.80	2.00	20

SOLAR FLARES

FEBRUARY 1962

OBSERVATORY	DATE	OBSERVED			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	LAT.	MER DIST.	MC-MATH PLAGE REGION				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH He		MAX. INT. f _o F ₂
[] HONOLULU LOCKHEED IKOMASAN MITAKA	03 FEB 1962	2346 E	2358 D	2350	N14	W70	6326	12 D	1	3	2350	1.00	2.50			
	03	2347	0008	2352	N13	W78	6326	21	2	1	2352	2.50	6.30	1.67	20	
	03	2353	2358 D		N09	W72	6326	5 D	1		2353	2.06		2.70	120	
	03	2355 E	0010		N13	W77	6326	15 D	1	1	2355	1.97				
[] KODAIKANU KODAIKANU SAC PEAK SAC PEAK	04	0158 E	0235 D	0222	N11	W60	6326	37 D	2+	3	0222	1.90	1.00	4.00	135	
	04	0315 E	0317 D	0315	N11	W60	6326	2 D	1	3	0315	1.60	3.70	1.36	114	
	04	1508	1618	1534	N10	W80			1-	3		1.59			18	
	04	1726	1746	1732	N10	W80			1-	3		.37			19	
[] LOCKHEED MC-MATH HONOLULU LOCKHEED	04	1726	1753	1731	N10	W80			1-	1	1731	.30	.90		10	
	04	1728	1751	1732	N10	W81	6326		1-	2	1732	.10				
	04	1828 E	1840 D	1830	N05	E01			1-	3	1830	.01	.01			
	04	1920	1942	1930	N09	E09			1-	1	1930	.30	.30		20	
[] LOCKHEED LOCKHEED	04	2015	2025	2018	N10	W80			1-	1	2018	.40	1.20		20	
	04	2053 U	2105	2056	N14	W30	6326	12 U	1	1	2056	.70	3.50		20	
	05	0150 E	0206 D	0152	N09	W01			1-	3	0152	.50	.50			
	05	0506	0529	0518	N07	W68	6326	23	1	1	0509	.49		2.28	18	
[] SAC PEAK SAC PEAK SAC PEAK	05	1610	1618	1612	N08	W70	6326	8	1	3		.62	3.09		14	
	05	2206	2218	2212	N07	W11			1-	3		.72	.72			
	06	1624	1634	1628	N09	W10			1-	3		.64	.64		16	
	06	1625	1630	1625	N09	W09			1-	2	1625	.80	.80	2.40		
[] MITAKA MITAKA SAC PEAK SAC PEAK	07	0005	0019	0013	N07	W30	6326	14	1	1	0013	2.45		4.93		
	07	0038	0114	0056	N07	W30	6326	36	1	1	0038	2.76		4.67		
	07	1834	1842	1838	N04	W39			1-	2		.21	.23		14	
	07	2058	2110	2100	N04	W39			1-	2		.29	.33		14	
[] SAC PEAK SAC PEAK SAC PEAK	07	2136	2210	2148	N04	W40			1-	2		1.07	1.20		17	
	07	2136	2210	2156	N04	W40			1-							
	08	1714 E	1720	1714 E	N03	W42			1-	3		.52	.66		16	
	08	1908	1918	1912	N07	W41			1-	3		.43	.56		14	
[] SAC PEAK SAC PEAK SAC PEAK	10	1638	1652	1642	N06	W78			1-	3		.72	1.53		17	
	10	1916	1940	1922	N07	W79			1-	3		.58	1.32		17	
	10	2124	2154	2128	N06	W80	6334	30	1	3		.89	2.25		19	
	16	0024	0030 U	0026	N15	E09			1-	2	0026	.30	.30		20	
[] MC-MATH SAC PEAK SAC PEAK	17	1319 E	1327		N09	E40	6348		1-	1	1319	.90	1.30		22	
	17	2104	2116	2110	N12	E25			1-	3		.23	.23			
	19	0911 E	0915 D	0914	S05	E90			1-	2						
	19	0913	0917		S11	E80	6351	4	1	2	0913		2.00			
[] ZURICH ZURICH CAPRI LOCRAN	19	1304 E	1530 D		N11	E73	6352	146 D	1	2	1304		4.00			
	19	1305 E	1401 E		N16	E80	6352	56 D	2	3	1315		8.40			
	19	1315 E	1430		N08	E74	6352	75 D	2	2						
	19	1333 E	1540 U	1342	N04	E80	6352	127 D	2	2	1342		9.90			
[] HUANCAYO ARCETRI SAC PEAK	19	1335 E	1451 D		S10	E80	6351	76 D	2	3		2.00		3.10		
	19	1610	1824	1618	S04	E88			1-	2		.43	1.53		20	

Slow S-SWF

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

FEBRUARY 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	MER DIST.	M-MATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o	
[HONOLULU SAC PEAK MITAKA	19	2134 E	2202 D	2144	S10	E90	6351	28 D	2	3	2144	1.60	5.40	15	S-SWF
	19	2145 E	2154 U	2148 U	S09	E85	6351	9 D	2	2		1.44	3.90		
	19	2342	0015	0001	N15	-	6352	33	1	1	0001	3.93	6.90		
MITAKA	20	0240 E	0246		S10	E80	6351	6 D	1	1	0246	1.01	2.40	100	
MITAKA	20	0444	0506	0456	S10	E79	6351	22	1	1	0456	2.36	2.06	102	
MITAKA	20	0550	0625	0557	S10	E78	6351	35	2	1	0557	5.70	5.10	180	
WENDEL	20	0745 E	0825 D		S10	E70	6351	40 D	1	1			4.00		
WENDEL	20	0812 E	0830 D		N07	E75	6352	18 D	1				3.00		
WENDEL	20	1152 E	1202 D		S11	E65		1-					3.00		
WENDEL	20	1204 E	1235 D		S12	E73	6351	31 D	1			.40	1.20		
CAPRI S	20	1405 E	1421 D		S08	E64		1-		3	1409		.70		
MCNATH	20	1701	1718	1706	S10	E70	6351	1-		2	1706	.20	2.50		
MCNATH	20	1621	1900 D	1827	S10	E72	6351	39 D	1	2	1827	1.50			
CAPRI S	21	0731 E	0739 D		N12	E63		1-		3	0731	.60	1.10		
CAPRI S	21	0731 E	0756 D		S10	E58	6351	25 D	1	3	0740	2.50	4.70		
CAPRI S	21	0759 E	0808 D		S09	E55		1-		3	0801	1.10	2.00		
CAPRI S	21	0816 E	0845 D		S09	E60	6351	29 D	2	3	0824	2.60	5.20		
BUCHAREST	21	0820 E	0838 D	0828	S03	E57	6351	18 D	1	2			5.05		
KODAIKANL	21	0821 E	0833 D	0822	S10	E60	6351	12 D	1	1		1.75	3.50		
KODAIKANL	21	0917 E	0922 D	0918	S10	E60		1-		1	0917	.87	1.73	1.76	
BUCHAREST	21	0917 E	0925 D		S03	E57	6351	8 D	1				4.04		
BUCHAREST	21	0940 E	0957 D		S03	E57	6351	17 D	1				3.03		
CAPRI S	21	0944 E	0958 D		S09	E54		1-		3	0953	.50	1.00		
CAPRI S	21	1005 E	1009 D		N12	E62		1-		3	1007	.40	1.00		
LOCKHEED	21	1835 E	1855	1835 U	N12	E56		1-		1	1835	1.00	1.50	10	
LOCKHEED	21	1836	1854	1845	S09	E53		1-		1	1845	.40	.60	10	
LOCKHEED	21	1910	1922 U	1916	S08	E21		1-		1	1916	.20	.20	10	
SAC PEAK	21	2158 E	2224 U	2206 U	N12	E55	6352	26 D	1	2		2.31	3.16	20	
LOCKHEED	21	2200 U	2217 U	2210	N11	E55	6352	17 U	1	1	2210	2.00	2.90	10	
KODAIKANL	22	0210 E	0222 D	0216	S09	E47		1-		2	0216	.58	.85	114	
KODAIKANL	22	0230 E	0240 D	0231	S10	E48	6351	10 D	1	2	0231	1.15	1.73	122	
KODAIKANL	22	0413 E	0429 D	0423	S10	E48		1-		1		.58	.86		
KODAIKANL	22	0612 E	0631 D	0612	S10	E50	6351	19 D	1	2		1.75	2.73		
LOCKHEED	22	1904	1910	1905	N10	E44		1-		1	1905	.30	.40	10	
LOCKHEED	22	1940 U	1952	1944 U	S10	E37		1-		1	1944	.50	.50	10	
LOCKHEED	22	2013	2033	2015	S10	E37		1-		2	2015	1.00	1.10	20	
LOCKHEED	22	2032	2040 U	2035 U	N08	E43		1-		1	2035	.30	.40	10	
LOCKHEED	22	2150	2202	2154	S12	E02		1-		2	2154	.20	.20	10	
LOCKHEED	22	2150	2202	2201	S08	E45		1-		2	2201	.30	.40	10	
LOCKHEED	22	2159	2209	2203	N13	E43		1-		2	2203	.40	.50	10	
WENDEL	23	0743 E	0755 D		S09	E31	6351	12 D	1				3.00		
WENDEL	23	0938 E	1011 D		S10	E34	6351	33 D	1+				6.00		
SAC PEAK	23	1534	1548	1544	N11	E32	6352	14	1	3		2.31	2.35	16	
SAC PEAK	23	1546	1616 U	1604	S11	E30		1-		3		.87	.89	17	
SAC PEAK	23	1654	1700 U	1656	S12	E29		1-		3		1.16	1.18	18	
SAC PEAK	23	1746	2228 U	1839	S11	E27	6351	282 D	2			9.80	9.92	35	
SAC PEAK	23	1746	2228 U	1848	S11	E27		2	2	3					

SOLAR FLARES
FEBRUARY 1962

OBSERVATORY	DATE FEB	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			MAX INT. % _s	PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX PHASE	LAT.	APPROX. MER. DIST.	M-MATH PLACE REGION				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		
HONOLULU	23	1818 E	1844 D	1835	S07	E25	6351	26 D	1	3	1835	2.40	2.40	3.90	Slow S-SWF
HUANCAYO	23	1823 E	1902	1848	S09	E29	6351	39 D	1+	2	1841	3.70	4.20		
SAC PEAK.	23	2202	2209 U	2205	N11	E28			1-	3		.33	.35		
ARCETRI	24	0820 E	0855 D		S10	E15	6351	35 D	1	3				3.00	
	24	0918 E	1000 D		S13	E21	6351	42 D	1						
	24	0930 E	1005 D		S10	E16	6351	5 D	1	3					
WENDEL	24	1029 E	1054 D		S12	E19	6351	25 D	1					3.00	
	24	1341	1349	1342	N14	E25	6352		1-	1	1342	.25	.30		
	24	1358	1408 D	1400	S12	E16	6351		1-	1	1400	.80	.80		
SCHAUINS	24	1430 E	1506 D		S11	W12	6350	36 D	1+	1				4.00	
	24	1452 E	1456	1454	S13	E12	6351	4 D	1	2	1453	1.10	1.20		
	24	1910	1920	1914	N07	W68			1-	2		.62	1.11	5.80	
SAC PEAK	24	1940	2000	1950	N18	E45	6353		1-	2	1947	.76	.93		
SAC PEAK	24	1945	1954	1947	N18	E45			1-	2		.30	.50		
SAC PEAK	24	2124	2146	2134	S08	E10			1-	2		.78	.76	20	
	24	2130	2144	2135	S07	E10			1-	1	2135	.40	.40		
	24														
SAC PEAK	25	1544	1558	1548	N14	E10			1-	3		.97	.97	15	
	25	1612	1620	1614	S08	W03			1-	3		1.65	1.63		
	25	1814	1817	1817	S11	W16			1-	3	1824	.50	.50		
LOCKHEED	25	1814	1831	1824	S11	W16			1-					10	
	25	1825	1836	1828	S11	W00			1-	1	1828	.60	.60		
	25	1912	1935	1920	S14	W15			1-	1	1920	.60	.60		
LOCKHEED	25	1914	1927	1918	S14	W04	6351		1-	1	1918	.30	.30	20	
	25	1924	1933	1927	S11	W16			1-	1	1927	.40	.40		
	25	1927 E	1958	1952	S14	W06			1	2		2.60	2.56		
SAC PEAK	25	1927 E	1958	1927	S14	W06	6351	31 D	1					24	
	25	1927 E	1958	1944	S14	W06			1		1943	.50	.50		
	25	1940	1955	1943	S11	W16			1-	1					
SAC PEAK	26	1630	1642	1636	S15	W17			1-	3		.72	.72	26	
	26	1652	1658	1654	S17	W18			1-	3		.93	.93		
	26	1908	2036	1934	S12	W13			1-	3		2.02	1.98		
SAC PEAK	26	2134	2144	2138	S10	W24			1-	2		.33	.33	20	
	27	1016 E	1027 D		S13	W27			1-						
	27	1052 E	1100 D		S09	W25			1-						
WENDEL	27	1101 E	1112 D		S13	W24			1-					1.60	
	27	1121 E	1130 D		S12	W23			1-						
	27	1124 E	1133 D		S10	W30			1-						
WENDEL	27	1314 E	1323 D		S10	W18			1-					1.50	
	27	1408 E	1422 D		S13	W22			1-	2	1412	1.50	1.60		
	27	1413 E	1420 D		S10	W17	6351		1-		1413	.30	.30		
CAPRI S	27	1422 E	1435 D		S13	W28			1-	3	1433	1.00	1.10	19	
	27	1514 E	1720 D		S12	W30	6351	126 D	1-	1	1547	1.50	2.00		
	27	1527 E	1536 D		S14	W28			1-	1	1532	1.00	1.10		
SAC PEAK	27	1534	1616	1550	S16	W40			1-	2		.68	.76	19	
	27	1537 E	1605 D		S09	W36	6351	28 D	1			3.00	3.00		
	27	1550	1608	1628	S07	W41			1-	2		.93	1.05		
WENDEL	27	1555 E	1637 D		S16	W39	6351	42 D	1		1645	.30	.30	18	
	27	1645 E	1653	1645 E	S13	W31			1-	1	1707	.20	.20		
	27	1700	1730	1707	S09	W29			1-	1					

SOLAR FLARES

FEBRUARY 1962

OBSERVATORY	DATE FEB 1962	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			MAX. WIDTH H _g	MAX. INT. °	PROVISIONAL IONOSPHERIC EFFECT
		START	END	LAT.	APPROX. MER. DIST.	MC MATH PLACE REGION			TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
[] SAC PEAK	27	1710	1756	S15 W32		6351	1	2	1717	4.33	4.54		21	
[] LOCKHEED	27	1715	1750	S13 W31			1	2		1.40	1.50		20	
[] LOCKHEED	27	1715	1750	S13 W31			1							
[] LOCKHEED	27	1715	1750	S13 W31			1							
[] MC MATH	27	1717 E	1723 D	S14 W30		6351	1	1	1722	.60	.70		10	
[] LOCKHEED	27	1731	1740	S10 W20			1	2	1734	.40	.40		20	
[] LOCKHEED	27	1746	1753	S12 W31			1	2	1749	.30	.30		20	
[] LOCKHEED	27	1807	1820	S09 W36			1	2	1810	.40	.40		10	
[] LOCKHEED	27	1824	1836	S09 W36			1	2	1828	.60	.60		20	
[] SAC PEAK	27	1826	1836	S10 W36			1	2		.78	.78		19	
[] LOCKHEED	27	1835	1848	N15 W21			1	2	1839	.50	.50		10	
[] LOCKHEED	27	1854	1918	S13 W32			1	2	1905	.40	.40		10	
[] LOCKHEED	27	1949	1959	S12 W29			1	1	1952	.30	.30		10	
[] LOCKHEED	27	1959	2045	S13 W33			1	2	2037	.60	.60		20	
[] LOCKHEED	27	1959	2045	S13 W33			1	2						
[] LOCKHEED	27	1959	2045	S13 W33			1	2						
[] LOCKHEED	27	2050	2120	S12 W29		6351	1	2	2055	2.60	2.70		20	
[] SAC PEAK	27	2059 E	2120 U	S13 W27		6351	1	2	2137	2.74	2.83		21	
[] LOCKHEED	27	2119	2158	S13 W34			1	2		1.40	1.50		20	
[] LOCKHEED	27	2119	2158	S13 W34			1	2						
[] SAC PEAK	27	2134 E	2136 U	S15 W33			1	2		1.24	1.30		20	
[] LOCKHEED	27	2200	2217	S08 W38			1	2	2202	1.00	1.10		30	
[] SAC PEAK	27	2202 E	2202 D	S09 W38			1	1		1.59	1.73		22	
[] LOCKHEED	27	2300 E	2315	S12 W34			1	2	2301	1.50	1.60		20	
[] LOCKHEED	27	2358	0015	S12 W35			1	2	0002	.40	.40		20	
[] LOCKHEED	28	0015	0032	S12 W30			1	2	0021	.40	.40		10	
[] LOCKHEED	28	0026	0040	S13 W35			1	2	0031	.50	.50		10	
[] LOCKHEED	28	0027	0050	S10 W28			1	2	0031	.50	.50		20	
[] KODAIKANL	28	0650 E	0713 D	S14 W33		6351	2	2	0555	2.91	3.55	2.24	135	S-SWF
[] WENDEL	28	0654 E	0730	S13 W39		6351	2	2		8.00	8.00			
[] CAPRI S	28	0822 E	0830 D	S11 W37			1	2	0824	.50	1.00			
[] WENDEL	28	0906 E	0912 D	S09 W38			1							
[] WENDEL	28	1105 E	1112 D	S09 W40			1							
[] WENDEL	28	1141 E	1152 D	S10 W32			1							
[] WENDEL	28	1148	1226	S13 W37		6351	2							
[] CAPRI S	28	1152 E	1206 D	S11 W33		6351	1	1	1157	2.10	2.50			
[] SALISJOBADN	28	1154	1213 D	S13 W32		6351	1	2	1154	3.50	4.20			
[] WENDEL	28	1211 E	1213 D	S12 W35			1							
[] WENDEL	28	1228 E	1302 D	S12 W39			1							
[] WENDEL	28	1228 E	1302 D	S12 W39			1							
[] LOCKHEED	28	1714	1735	S08 W26			1	1	1725	.40	.40		10	
[] LOCKHEED	28	1741	1756	S08 W26			1	1	1748	.30	.30		20	
[] LOCKHEED	28	1806	1915	S15 W45		6351	1	2	1810	2.10	2.50		20	
[] SAC PEAK	28	1806	1930	S15 W44		6351	1	3	1814	3.75	4.35		26	G-SWF
[] MC MATH	28	1807	1900 D	S14 W43		6351	1	1		1.50	2.00			

SOLAR FLARES

FEBRUARY 1962

OBSERVATORY	DATE FEB	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX.	M-MATH					TIME — U T	MEAS. AREA Sq Deg	CORR. AREA Sq Deg	MAX. WIDTH Ha		MAX. INT %
					LAT.	MER. DIST.									
LOCKHEED	28	1934	2028	1941	S15	W44	54	1	2	1941	2.50	2.90	20		
	28	1936	2032	1940	S15	W41	56	1	3		3.82	4.31	23		
	28	2012	2016	2014	S16	W41		1-	3		.58	.66	17		
LOCKHEED	28	2202	2242	2214	S07	W28		1-	3		1.69	1.73	22		
	28	2206	2228	2215	S08	W28		1-	2	2215	1.10	1.10	10		
	28	2339	0004	2345	N09	E39		1-	2	2345	.50	.60	10		

COMMERCE - STANDARDS - BOULDER

Note: Beginning with this issue of the CRPL-F Part B both flares and subflares have been listed chronologically in the above table. No separate listing of subflares will be made hereafter. Rather than just selected information all available data on the subflares are published. Normally McMath place region designations and durations will not be computed for the subflare entries which will tend to set them apart from the flare entries

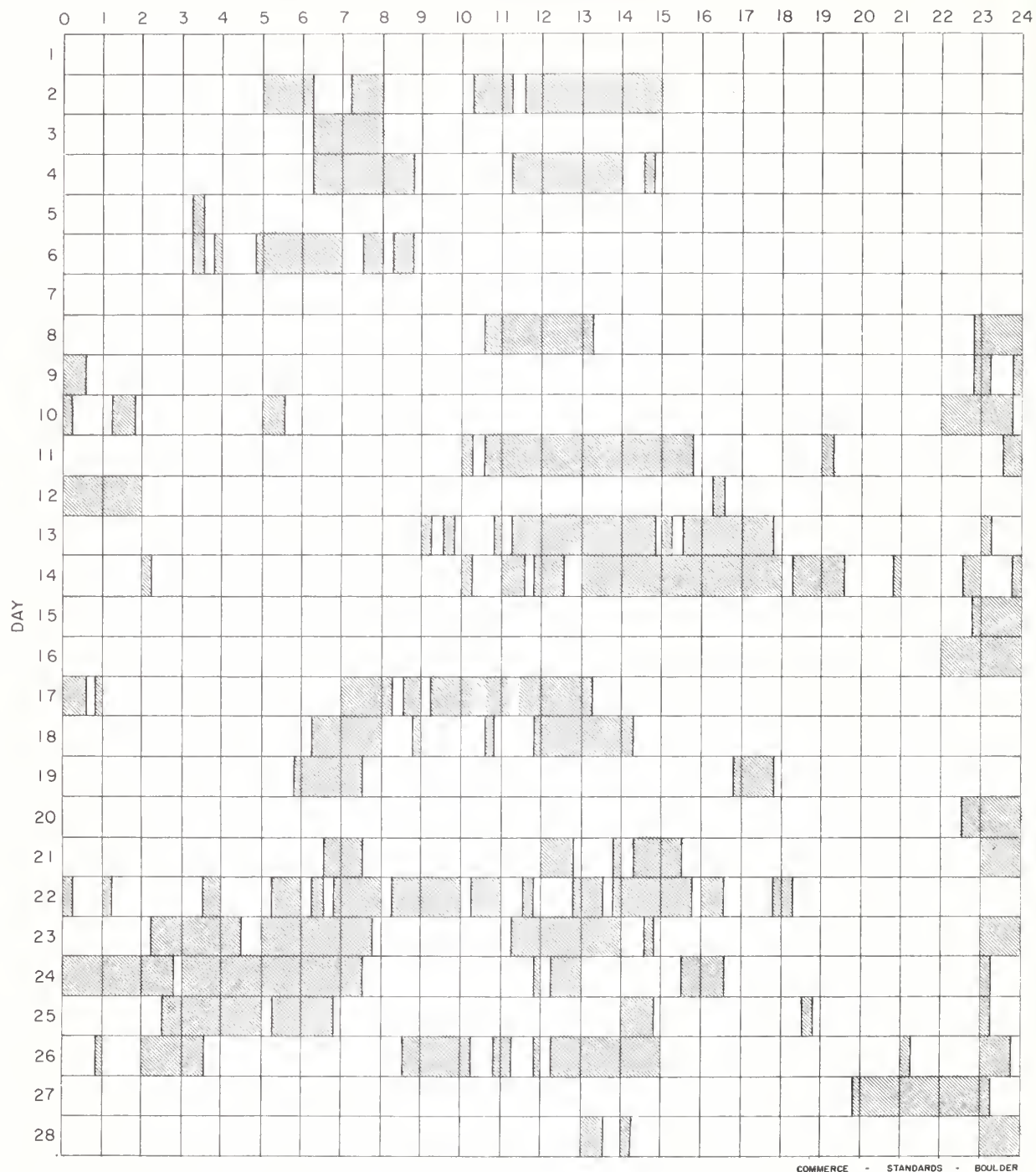
ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH,
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN		NETHERLANDS
CAPETOWN	ROYAL OBSERVATORY,	KIEV KO	KIEV GAO, USSR	NIZMIR	KRASNAYA PAKHRA, USSR
	CAPE OF GOOD HOPE	KIEV KY	KIEV UNIVERSITY, USSR	SAC PEAK	SACRAMENTO PEAK, N.MEX. USA
CAPRI F	CAPRI, ITALY (GERMAN)	LOCKHEED	LOS ANGELES, CALIF., USA	SALTSJÖRADEN	STOCKHOLM, SWEDEN
CAPRI S	CAPRI, ITALY (SWEDISH)	MCNATH	MCNATH-HULBERT	SCHAUTINS	SCHAUTINSLAND, GFR
CRIMEE	SIMEIZ, USSR		PONTIAC, MICH., USA	TACKHENT	TASHKENT, USSR
HERSTMONEU	ROYAL GREENWICH OBSERVATORY,	MOSCOU	MOSCOM-GAISH, USSR	WENDEL	WENDELSTEIN, GFR
	HERSTMONEUX, ENGLAND				

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

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

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

FEBRUARY 1962
HOUR-UT

Stations Include:

Arcetri
Bucharest
Capri (Swedish)Herstmonceux
Honolulu
HuancayoIkomasan
Kodaikanal
McMath-HulbertMitaka
Ondrejov
Sacramento PeakSchauinsland
Wendelstein

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

IIIh

JANUARY 1962

LOCKHEED	02	2006	N12 W70		LOCKHEED	26	2001	N20 W28
LOCKHEED	02	2303	N12 W80		SAC PEAK	26	2042	N22 W30
					LOCKHEED	26	2042	N20 W28
LOCKHEED	03	1639	S01 E71		LOCKHEED	26	2243	N20 W28
					LOCKHEED	26	2326	N11 E39
SAC PEAK	07	1604	N15 E05					
					CAPRI S	27	1017	N21 W33
LOCKHEED	08	2215	S13 W21		UCCLE	27	1029 E	N20 W35
					UCCLE	27	1033	S15 E42
LOCKHEED	09	1811	N05 W39		UCCLE	27	1038	N12 E38
					UCCLE	27	1058	N12 E38
LOCKHEED	11	1645 E	N17 E90		UCCLE	27	1125	N10 E24
					MCMATH	27	1430	N11 E21
WENDEL	12	1053 E	N06 W47		MCMATH	27	1457	N21 W38
ONDREJOV	12	1158 E	N10 W25		SAC PEAK	27	1516	N11 E22
					SAC PEAK	27	1612	N11 E22
* SAC PEAK	13	1616	N14 E90		SAC PEAK	27	1654	S07 E63
MCMATH	13	1859	N14 E87		LOCKHEED	27	2039	N04 W40
LOCKHEED	13	2100	N02 W64		SAC PEAK	27	2042	N05 W40
					LOCKHEED	27	2102	N04 W40
LOCKHEED	14	1805	N06 W72		LOCKHEED	27	2135	N10 E26
					LOCKHEED	27	2328	N11 E16
LOCKHEED	15	1648 E	S14 W65					
					MCMATH	28	1533 E	N10 E14
* KODAIKANL	16	0920 E	N14 E45		LOCKHEED	28	1600 E	S28 E32
MCMATH	16	1555	N18 E24		LOCKHEED	28	1600 E	N10 E12
					LOCKHEED	28	1611	N05 W49
LOCKHEED	17	1929	N06 E90		* MCMATH	28	1614	N04 W52
HONOLULU	17	1952 E	N08 E26		LOCKHEED	28	1752	N11 E06
LOCKHEED	17	2007	N10 E31		HUANCAYO	28	1915 E	N09 E12
LOCKHEED	17	2055	N06 E90		* LOCKHEED	28	1919	N11 E11
					* MCMATH	28	1929	N10 E10
* MCMATH	18	1404 E	N06 E82		SAC PEAK	28	2048	N05 W51
SAC PEAK	18	1626	N07 E74		LOCKHEED	28	2048	N05 W52
MCMATH	18	1826	N04 E76		LOCKHEED	28	2048	N05 W52
SAC PEAK	18	1838 E	N04 E72		* LOCKHEED	28	2214	N10 E10
LOCKHEED	18	2027	N06 E72		LOCKHEED	28	2300	N10 E10
SAC PEAK	18	2100	N04 E72		LOCKHEED	28	2355	N10 E10
LOCKHEED	18	2102	N05 E72					
SAC PEAK	18	2156	N04 E70		UCCLE	29	0933	N10 E05
LOCKHEED	18	2307	N06 E72		UCCLE	29	0951	N10 E07
					UCCLE	29	1028	N10 E07
SALTSJOBADN	19	1357 E	N07 E65		UCCLE	29	1046	N09 E06
CAPRI S	19	1437 E	N04 E65		UCCLE	29	1048	N06 E00
SAC PEAK	19	1650	N08 E60		SALTSJOBADN	29	1048 E	N09 E08
					UCCLE	29	1058	N09 E03
KODAIKANL	20	0327 E	N07 E50		UCCLE	29	1107	N09 E06
MCMATH	20	1531	N05 E50		SALTSJOBADN	29	1110 E	N09 E08
SAC PEAK	20	1534	N08 E50		SALTSJOBADN	29	1134 E	N09 E08
MCMATH	20	1616	N05 E50		UCCLE	29	1155	N08 E06
MCMATH	20	1625	N06 E50		UCCLE	29	1252	N09 E05
MCMATH	20	1711	N05 E49		UCCLE	29	1351	N08 E06
SAC PEAK	20	2216	N07 E46		UCCLE	29	1401	N07 E05
					LOCKHEED	29	1650	N06 E90
UCCLE	22	1006	N18 E23		LOCKHEED	29	1656	N04 W65
UCCLE	22	1435	N03 E18		LOCKHEED	29	1909	S11 E09
SAC PEAK	22	2026	N05 E18		LOCKHEED	29	1930	N10 W80
					SAC PEAK	29	1932	N10 W82
HONOLULU	23	0148 E	N02 E08		LOCKHEED	29	2225	N09 W06
UCCLE	23	0917	N20 E20		LOCKHEED	29	2345	N10 W02
UCCLE	23	0942	N13 E87					
UCCLE	23	0956	N20 W46		LOCKHEED	30	0016	N10 W04
UCCLE	23	1026	N10 E85		LOCKHEED	30	0016	N10 W04
UCCLE	23	1033	N05 E10		LOCKHEED	30	0034	S13 E06
UCCLE	23	1041	N22 E22		UCCLE	30	0835 E	S12 W01
MCMATH	23	1938	N08 E02		* CAPRI S	30	0951 E	N09 W05
					UCCLE	30	0953	N08 W14
MCMATH	24	1712	N11 E66		UCCLE	30	1012	S12 W01
LOCKHEED	24	2006	N04 W15		UCCLE	30	1054	N09 W10
LOCKHEED	24	2006	N04 W15		UCCLE	30	1103	N09 W10
					UCCLE	30	1113	N10 W06
SALTSJOBADN	25	1329 E	N20 W13		SALTSJOBADN	30	1116 E	N09 W06
LOCKHEED	25	2336	N05 W31		UCCLE	30	1134	N10 W06
LOCKHEED	25	2337	N06 W25		UCCLE	30	1150	S10 W05
					UCCLE	30	1156	N10 W07
SALTSJOBADN	26	1146 E	N08 E33		UCCLE	30	1226	S18 W22
SALTSJOBADN	26	1146 E	N08 E46		UCCLE	30	1247	N10 W07
SALTSJOBADN	26	1344 E	N10 E45		SALTSJOBADN	30	1313 E	N09 W06
LOCKHEED	26	1659	S17 E04		UCCLE	30	1331	N10 W07
LOCKHEED	26	1734	N06 E29		SALTSJOBADN	30	1339 E	N09 W06
LOCKHEED	26	1841	N19 W27		UCCLE	30	1355	N10 W20
HONOLULU	26	1950 E	N28 W18		SAC PEAK	30	1512	N10 W09

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

JANUARY 1962

UCCLE	30	1513	N10 W10		UCCLE	31	1005	N11 W30
MCMATH	30	1515	N10 W09	*	WENDEL	31	1133 E	N11 W23
UCCLE	30	1519	N10 W17		UCCLE	31	1321	N12 W25
UCCLE	30	1532	N10 W14		UCCLE	31	1338	N11 W26
SAC PEAK	30	1710	N11 W21		UCCLE	31	1340	N13 W22
SAC PEAK	30	1738	N11 W11		WENDEL	31	1349 E	N10 W24
LOCKHEED	30	1739	N11 W14		UCCLE	31	1356	N12 W25
MCMATH	30	1742	N10 W11	*	UCCLE	31	1440	N12 W35
LOCKHEED	30	1817	N09 W11	*	MEUDON	31	1442	N11 W30
SAC PEAK	30	1818	N10 W12		LOCKHEED	31	1625	N10 W33
MCMATH	30	1819	N10 W12		SAC PEAK	31	1628	N11 W34
LOCKHEED	30	1904	N10 W18		LOCKHEED	31	1655	N10 W26
SAC PEAK	30	2225	N10 W13		LOCKHEED	31	1833	N10 W21
LOCKHEED	30	2225	N10 W16	*	LOCKHEED	31	1900	N10 W35
LOCKHEED	30	2226	S09 W09		LOCKHEED	31	1916	N12 W25
LOCKHEED	30	2316	N09 W15		SAC PEAK	31	1920	N13 W23
					LOCKHEED	31	2033	N10 W30
LOCKHEED	31	0011	S04 W02		SAC PEAK	31	2036	N10 W30
LOCKHEED	31	0036	N10 W15		LOCKHEED	31	2110	N14 W35
HONOLULU	31	0038 E	N10 W14		SAC PEAK	31	2154	N08 W30
HONOLULU	31	0126 E	N10 W14		SAC PEAK	31	2154	N08 W30
KODAIKANL	31	0333 E	N07 W27					

COMMERCE - STANDARDS - BOULDER

*Rated as flare of importance \geq by other observatories (See CRPL-F 210 Part B for February 1962).

SOLAR FLARES

NOVEMBER 1961

OBSERVATORY	DATE NOV 1961	OBSERVED UNIVERSAL TIME		MAX FLARE INDEX	LOCATION		DURA TION MINUTES	IM FOR TANCE	OBS COND	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END		LAT. LONG.	APPROX LAT. LONG.				TIME UT	MEAS AREA Sq. Deg.	CORR AREA Sq. Deg.	MAX WIDTH Km	
CAPETOWN	05	1311	1350	1318	N09 W25	6264	39	1		1318	1.90	2.10		S-SMF
BUCHAREST	09	0955	1014	1005	N09 W80	6264	19	1	2					
CAPETOWN	09	1047	1114	1052	N09 W83	6264	27	1		1052	.30			
IKOMASAN	10	0032 E	0212 D	1136	N18 E02	6270	100 D	1		0035	4.54		.78	100
CAPETOWN	10	1121	1146	1132	N09 W90	6265	25	1		1136	.60			
CAPETOWN	10	1328	1405	1332	N09 W90	6265	37	1		1332	.40			
VOROSHILOV	11	0402	0430 D	0413	N18 W12	6270	28 0	1+	1		2.60			
CAPETOWN	11	0827	0849	0834	N18 W15	6270	22	1		0834	2.00	2.10		
CAPETOWN	11	0949	1005	0953	N18 W16	6270	16	1		0953	2.00	2.10		
CAPETOWN	11	1230	1249	1237	N06 E49	6271	19	1		1237	1.60	2.40		
VOROSHILOV	12	0216 E	0302	1247	N05 E41	6271	46 0	1+	1	0242	2.42			98
CAPETOWN	12	1236	1303		N18 W26	6270	27	1		1247	3.30	3.80		
MITAKA	15	0400	0406		N18 W65	6270	6	1	1	0400	1.18	2.51	2.13	93
CAPETOWN	20	1306	1339	1310 U	N09 W80	6271	33	1		1310	.90			
CAPETOWN	21	0636 E	0656		N10 W56	6273	20 0	1		0637	1.50	2.80		
CAPETOWN	21	0914	0934	0921	N10 W56	6273	20	1		0921	1.40	2.60		
CAPETOWN	21	1111	1129	1113	N09 W59	6273	18	1		1113	1.40	2.70		
CAPETOWN	21	1326	1355	1331	N09 W60	6273	29	1		1331	1.80	3.60		
CAPETOWN	22	0635 E	0825		N10 W70	6273	110 0	2		0635	2.20	7.10		
CAPETOWN	22	0840	0909	0848	N10 W70	6273	29	1		0848	.80	2.60		
CAPETOWN	22	0915	1015	0918	N10 W70	6273	60	1		0930	.90	2.90		
NIZAMIAH	22	0915	1015	0930	N10 W70	6273	31 D	1+	2	0927	1.52	6.84	2.17	
CAPETOWN	22	0920 E	0951 D	1033	N09 W77	6273	31 D	1		1033	.90	2.90		
CAPETOWN	22	1029	1057	1033	N10 W70	6273	28	1		1142	1.20	4.70		
CAPETOWN	22	1135	1206	1142	N10 W72	6273	31	1		1146	4.00	3.90		
ZURICH	22	1146 E	1159 D		N09 W72	6273	13 D	1	2	1146	1.00			
CAPETOWN	22	1309	1328	1312	N10 W72	6273	19	1		1312				
ALMA-ATA	23	0550	0556	0552	N19 W82	6273	6	1		0552	1.03			62
TASHKENT	23	0744	0755	0748	N13 W80	6273	15	1	3	0748	.30		2.90	115
CAPETOWN	23	0744	0756	0746	N10 W89	6273	10	1		0746	1.24			59
ALMA-ATA	23	0746	0756	0750	N19 W82	6273	10	1		0750	1.00			
BUCHAREST	23	0752 E	0759	0753	N10 W90	6273	7 0	1	3					
CAPETOWN	23	1012 E	1028	1014 U	N10 W89	6273	16 D	1		1014				
MITAKA	25	0443	0506	0448	N06 E58	6280	23	1	1	0448	.98		3.25	100
IKOMASAN	30	0043	0058		N09 E10	6280	15	1		0045	3.92		1.49	120
IKOMASAN	30	0417	0428		N09 E09	6280	11	1	2	0423	2.06	3.00		110
ZURICH	30	1300 E	1303		S08 E34	6282	3 D	1		1300				

These flare reports are addenda to the November 1961 flares published in CRPL-F 208 Part B, December 1961.

ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERCH.
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN	NETHERLANDS	
CAPETOWN	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	KIEV KO	KIEV GAO, USSR	NIZMIR	KASIMAYA PAKHRA, USSR
CAPRI S	CAPRI, ITALY (GERMAN)	LOCKHEED	KIEV UNIVERSITY, USSR	SAC PEAK	SACRAMENTO PEAK, N.MEX. USA
CAPRI S	CAPRI, ITALY (SWEDISH)	MCMAH	LOS ANGELES, CALIF., USA	SALTSJÖBÄDEN	STOCKHOLM, SWEDEN
GRINEE	SHEIZ, USSR	MCMAH	MCMAH-HULBERT	SCHAUTINS	SCHAUTINSLAND, CFR
HERSTMONCEU	ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND	MOSCOU	PONTIAC, MICH., USA	TASHKENT	TASHKENT, USSR
			MOSCOW-GAISH, USSR	WENDEL	WENDELSTEIN, GFR

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

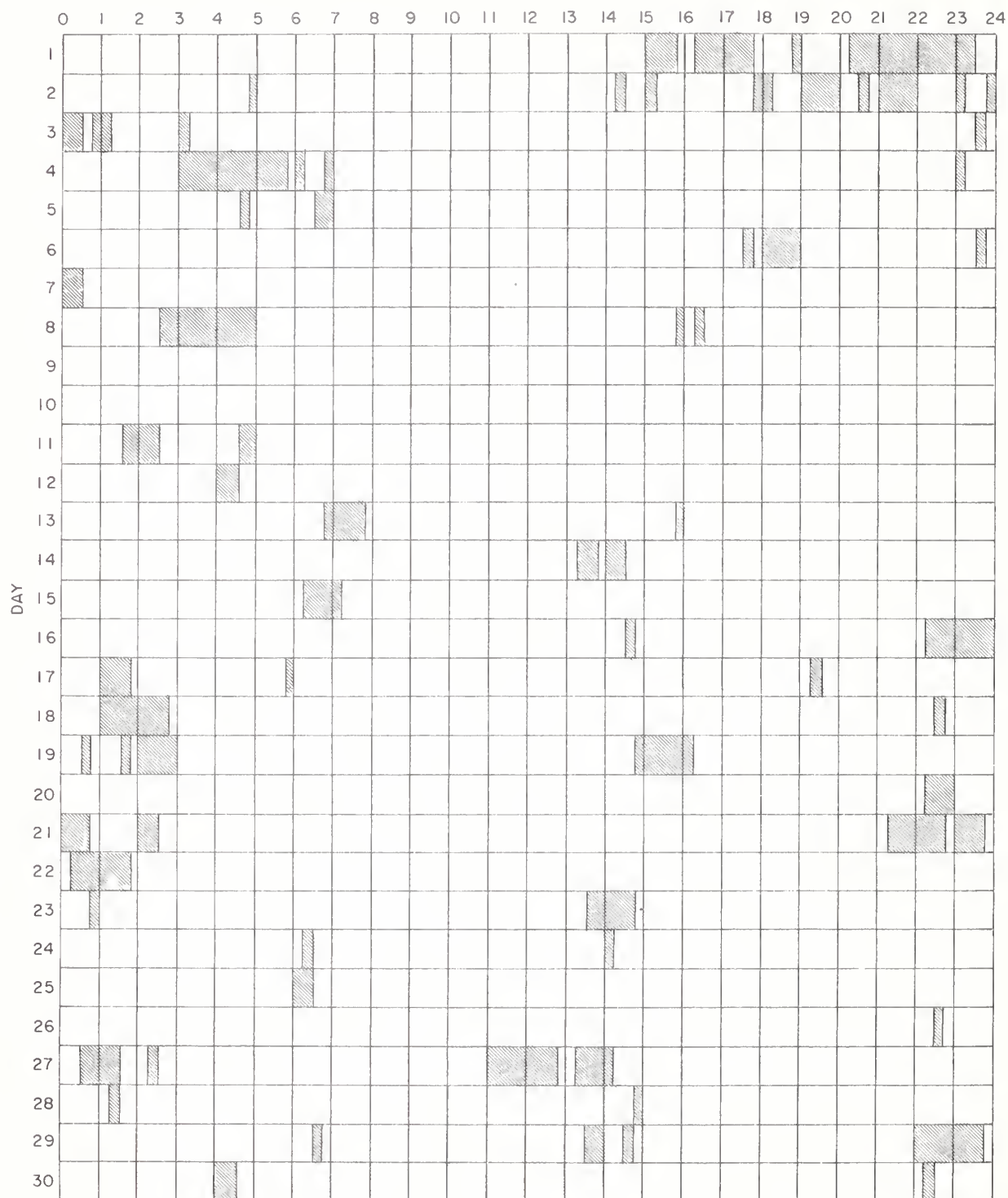
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIPAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

NOVEMBER 1961

HOUR-UT



Stations include:

COMMERCE - STANDARDS - BOULDER

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

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIII

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

JANUARY 1962

JANUARY 1962	UNIVERSAL TIME			SWF TYPE	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX		IMP	ABS	SCNA	SEA	SPA	BUR		
31	1859	1948	1912					1			5 A9 A1 A5	1902

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

FEBRUARY 1962

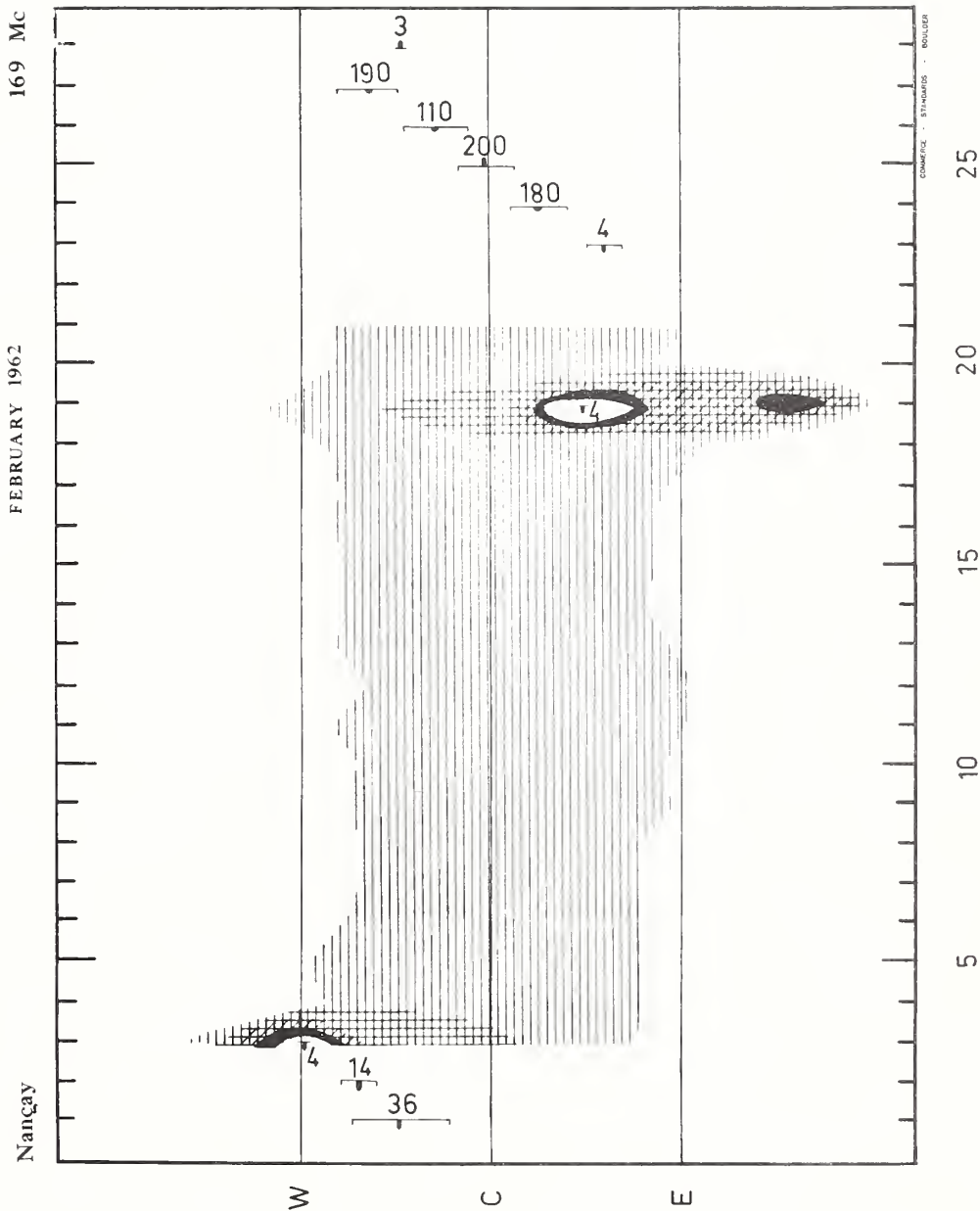
ARO-OTTAWA

2800 MC

FEBRUARY 1962	TYPE	START UT	DURATION HRS MINS	MAXIMUM			REMARKS
				TIME UT MAX	PEAK FLUX	MEAN FLUX	
1	3 Simple 3 A	1550	20	1554	3	1.5	
	1 Simple 1	1552	1	1552.3	1.5	0.8	
1	2 Simple 2	1636	5	1640	8	4	
1.	3 Simple 3 A	1654	50	1723	3	2	
	2 Simple 2 f	1654	11	1657	7	2.3	
2	1 Simple 1	1925.3	6.3	1926.5	4	1.5	
3	- Record Incomplete	b 1245	> 6 45	1322	58*	-	*Max. reached in this period
4	3 Simple 3 f	1400	4 45	1550	8	4	
4	3 Simple 3	1927	44	1945	3	2.5	
19	- Record Incomplete	b 1230	> 7 55	1319	39*	-	*Max. reached in this period
21	3 Simple 3	1320	18	1326.5	3	1.5	
21	3 Simple 3 A f	1805	1 23	1841.5	3	1.5	
	1 Simple 1 f	1831.8	3.3	1833.2	3	1.5	
22	1 Simple 1	1411	4	1412.3	1	0.7	
22	1 Simple 1	1441	1.2	1441.5	2	1	
	4 Post Increase		5		1	0.8	
22	3 Simple 3 f	1637	1 33	1657	6	4	
22	3 Simple 3	2000	55	2030	4	2	
23	1 Simple 1	1524.3	0.7	1524.8	1	0.4	
23	1 Simple 1 f	1527.2	1	1527.8	5	2	
23	1 Simple 1	1529	1	1529.4	1	0.5	
23	3 Simple 3 A f	1750	> 4 10	1913	28	-	
	6 Complex f	1814	27	1831.3	36	10	
24	3 Simple 3	1631	9	1632	2	1.6	
25	3 Simple 3 A f	1415	6 15	1513	5	3	
	1 Simple 1 f	1429	1	1429.5	5	3	
	1 Simple 1 f	1918	2.3	1918.5	3	1.5	
26	3 Simple 3	1914	1 00	1926	5	2.5	
27	3 Simple 3	1426	16	1434.2	2	1	
27	3 Simple 3 A f	1517	4 00	1625	8	5.5	
	1 Simple 1	1532.5	1.2	1533	2	1	
27	3 Simple 3 A	2050	1 10	2058	8	4	
	2 Simple 2	2050	3	2051.8	14	6	
28	1 Simple 1	1229	5	1232	6	3	
28	6 Complex f	1245	7	1249	10	6	
28	3 Simple 3	1655	45	1720	3	2	
28	6 Complex f	1804	21	1815	29	13	
	4 Post Increase		34		5	3	
28	2 Simple 2	1937	3	1938.5	10	3	
	4 Post Increase		18		2	1.8	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS



POSITION OF ACTIVE CENTERS

FEBRUARY 1962

FEB.	POSITION EW	POSITION NS
1	W 0.50 R	N 0.60 R
2	W 0.70 R	N 0.10 R
3	W 1.00 R	N 0.50 R
19	E 1.65 R	
19	E 0.50 R	N 1.00 R
23	E 0.45 R	N 1.00 R
24	E 0.25 R	N 0.10 R
25	W 0.00 R	S 0.30 R
26	W 0.30 R	N 0.10 R
27	W 0.60 R	N 0.30 R
28	W 0.45 R	S 0.60 R

SOLAR RADIO EMISSION

FEBRUARY 1962

BOULDER

108 Mc.

Feb. 1962	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	6	1414 E	1509	589 D	2
3	6	1412 E	1525	298 D	2
6	9a	2156.0	2157	8.0	2
6	9b	2204.0	2229	86	2
13	3	2310.9	2311.5	01.2	2
14	3	2120.5	2120.6	01.5	2
18	3	2033.9	2034.7	1.7	2
22	2	1643	1708	44	1
23	6	1348 E	1424	146 D	1
23	9	1949	-	280 D	3
24	6	1346 E	-	644 D	3
25	6	1345 E	-	646 D	3
26	6	1343 E	-	292 D	2
27	6	1342 E	1552	446 D	2
27	3	2146.5	2146.9	1.3	3
27	3	2257.0	2257.8	1.2	2
28	3	1810.1	1811.6	1.6	2

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

FEBRUARY 1962

BOULDER

108 Mc.

Feb. 1962	U.T.	Feb. 1962	U.T.
1	1414-0003	16	1357-0021
2	1413-0004	17	1356-0022
3	1412-0005	18	1354-0023
4	1411-0007	19	1353-0024
5	1410-0008	20	1352-2220; 2310-0025
6	1409-0009		
7	1408-0010	21	1717-0027
8	1407-0011	22	1349-0028
9	1406-0013	23	1348-0029
10	1404-0014	24	1346-0030
		25	1345-0031
11	1403-0015		
12	1402-1755; 2050-0016	26	1343-0032
		27	1342-0033
13	1401-0017	28	1340-0035
14	1400-0018		
15	1358-0020		

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVd

FEBRUARY 1962

HAO BOULDER

7.6-41 Mc

Date 1962	Bursts			Frequency Range (mc)	Date 1962	Bursts			Frequency Range (mc)
	Type	Time (U.T.)	Intensity			Type	Time (U.T.)	Intensity	
1 Feb	continuum	1410-2320	1-	21 - 41	18 ^c Feb	III	1457.45-1459.30	1+	19 - 41
	III	1829-1829.30	1+	19 - 41		III	1507.15-1508	1-	28 - 41
2	III	1551.45-1552.30	1	24 - 41		III	1709.30-1710	1	18 - 40
	III	1818-1818.15	1-	24 - 38		III	1749.30-1749.45	1-	24 - 32
	III	1903-1903.45	1	22 - 35		III	1756-1756.30	1-	21 - 41
	III	2027.45-2028.30	1-	21 - 33		continuum	1805.30-1820	1-	25 - 41
	III	2254-2254.45	1-	23 - 41		III	1805.30-1806.15	1-	21 - 40
3	continuum	1402-1601.30	1+	22 - 41		III	1811.15-1811.30	1-	21 - 38
	continuum	1601.30-1740	1-	22 - 41		III	1818.15-1819.30	1	20 - 34
	III	1644-1645	1+	21 - 41		III	1827.30-1828	1-	20 - 38
	III	1729-1729.45	1+	20 - 41		III	1939.15-1940	1-	16 - 37
	III	1753.30-1753.45	1-	23 - 35		III	2058.30-2059.15	1	20 - 36
	III	1801.15-1801.45	1	22 - 41		III	2336.30-2337.15	1	21 - 38
	III	1834.15-1835	1	22 - 41	19	continuum	1420-1555	1-	25 - 41
	III	1949.45-1950	1	23 - 38		III	1842-1842.15	1-	22 - 41
	III	2022.30-2024.30	1-	24 - 41		III	2355.15-2355.30	1	22 - 41
	III	2028.15-2028.30	1-	27 - 38		III	2355.45-2356	1	22 - 41
	III	2035.45-2036	1-	22 - 36		III	2416-2416.30	1-	23 - 41
	III	2221-2221.30	1-	23 - 34	20	continuum	2115-2225	1-	23 - 41
	III	2330-2330.30	1-	21 - 38		III	2116.30-2117.15	1	21 - 41
4	III	1444.30-1445.15	1-	22 - 41		III	2117.45-2118	1-	21 - 34
	III	1452.30-1453	1	21 - 41		III	2126-2127.45	1-	22 - 41
5	III	1912.45-1913.15	1-	24 - 36		III	2133-2133.45	1+	15 - 41
	III	2023.45-2024	1-	22 - 36		III	2208-2208.45	1-	19 - 41
	III	2203-2204.30	1	21 - 41		III	2215.45-2216.15	1-	24 - 41
	III	2257-2257.30	1	20 - 41 ^d		III	2238-2238.45	1+	23 - 41
	III	2302.15-2302.45	1+	19 - 41 ^d		III	2256-2256.45	1	23 - 41
6	III	1827.30-1828	1-	22 - 32		III	2257-2258	1	24 - 41
	III	1833.45-1834.30	1+	21 - 32		III	2304.15-2306.45	1+	22 - 41
	II	2203-2223	3	16 - 41	21	III	1434.30-1435	1-	24 - 37
	IV	2223-2326	1+	24 - 41		III	1534.45-1535	1-	26 - 38
12	III	2135.45-2136	1-	24 - 41		III	1644-1645	1-	22 - 41
	III	2137.30-2137.45	1-	25 - 41		III	1648.30-1649	1-	25 - 37
13	III	2311.30-2313.30	1+	22 - 41		III	1653.30-1654.30	1	22 - 41
	III	2313.45-2314.15	1+	22 - 41		III	1655.45-1656.30	1	23 - 41
14	III	2314.45-2315.15	1	28 - 41		III	1746.15-1747	1	21 - 41
	III	2050.15-2051.15	1	23 - 41		III	1806-1806.30	1	23 - 41
	III	2055-2056	1+	21 - 41		III	1832-1833	1+	16 - 41
	III	2105.30-2106	1-	30 - 41		III	1833-1834	1+	16 - 41
	III	2121.30-2123	2	21 - 41		III	1845-1845.30	1	23 - 41
	III	2124.30-2125	1-	31 - 41		III	1920.30-1922.45	1+	21 - 41
	continuum	2225-2325	1-	26 - 41		continuum	2040-2300	1-	24 - 41
16	III	1806.15-1807.15	1	21 - 41		III	2048-2048.30	1+	21 - 41
	III	2310.30-2311.15	1-	23 - 41		III	2134.30-2135	1+	22 - 41
17	III	1545.30-1546	1-	23 - 34		III	2139.45-2140.30	1	23 - 35
	III	1609-1609.30	1-	23 - 41		III	2200-2201.45	2	21 - 41
	III	1639.45-1640	1-	21 - 41		III	2207.30-2209	2	16 - 41
	III	1835.45-1836	1-	21 - 31		III	2209-2210.30	1+	22 - 41
	III	2012.30-2013	1-	21 - 35		III	2219.15-2219.45	1	24 - 41
	III	2017-2017.30	1+	16 - 41 ^d		III	2221.30-2222	1+	24 - 41
	III	2028.15-2028.45	1	21 - 38	22	III	2237.45-2238.15	1	22 - 37
	III	2106-2106.30	1	19 - 40 ^d		III	2401.45-2402.30	1-	27 - 41
	III	2208.15-2209	1	22 - 41		III	1647.45-1648.15	1-	21 - 41
	III	2345.45-2346.45	1-	19 - 41		III	1903.30-1905	1+	15 - 41
	III	2349.30-2350.30	1-	23 - 36		III	1928-1929.45	2	7.6 - 41

COMMERCIAL - STANDARDS - BOULDER

^d = harmonic structure

^c = many faint type III's not reported

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

FEBRUARY 1962

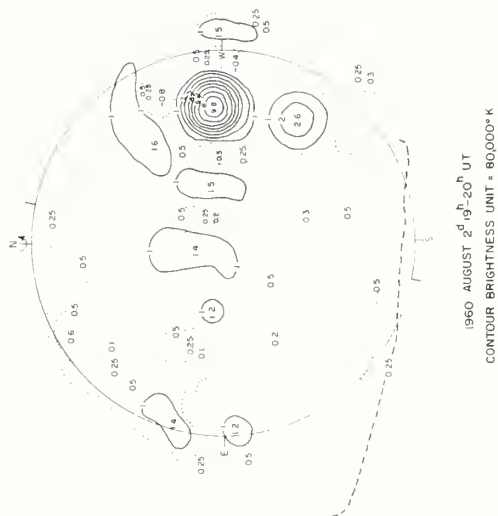
HAO BOULDER

7.6-41 MC

Date 1962	Bursts			Frequency Range (mc)	Date 1962	Bursts			Frequency Range (mc)
	Type	Time (U.T.)	Intensity			Type	Time (U.T.)	Intensity	
22 Feb	III	1937.30-1938	1	15 - 41	25 Feb	III	1640.15-1641.45	1+	22 - 41
	III	2001.15-2002	1+	16 - 41		III	1646.30-1647.15	1+	23 - 41
	III	2002-2003.30	1	23 - 41		III	1911-1914.15	2	16 - 41
	III	2033-2034.30	1+	21 - 41		III	1918.15-1920	2	16 - 41
	III	2049.15-2050	1+	21 - 41		III	1942.15-1943	1+	21 - 41
	continuum	2115-2400	1-	26 - 41		III	2208-2208.45	1+	23 - 41
	III	2123.30-2125.30	1+	16 - 41		III	2312.45-2313.30	1+	23 - 41
	III	2200-2200.30	1+	23 - 41		continuum	2400-2435	1-	25 - 41
	III	2201-2204.30	1	23 - 41		continuum	2450-2400	1-	23 - 41
	III	2214.30-2217	1	22 - 41		III	1718-1718.30	1+	16 - 41
23	III	2245-2246.30	1	24 - 41	26	III	1914-1914.45	1+	16 - 41
	III	2254.15-2254.30	1	23 - 40		III	2105-2106	1	30 - 41
	III	2316-2316.45	1	22 - 41		continuum	2400-2400	1-	23 - 41
	III	2332-2333	1+	24 - 41		III	1450-1453.30	2	21 - 41
	III	2333-2334	1+	23 - 41		III	1503-1503.45	1+	24 - 41
	III	2354.45-2355	1	24 - 41		III	1537.30-1540.15	1+	23 - 41
	III	2357.30-2358.30	1	23 - 41		continuum	2400-2423	1-	25 - 41
	III	1422-1422.30	1	23 - 41		continuum	14352-1855	1-	24 - 41
	III	1433.45-1434.30	1-	22 - 41		III	1457-1457.45	2	22 - 41
	III	1441.15-1441.45	1-	24 - 34		III	1507.45-1508.30	1+	23 - 41
24	III	1657-1659.15	1-	24 - 41	28	III	1511.15-1514	2	16 - 41
	III	1746.45-1747.30	1-	20 - 36		III	1542-1542.45	1+	22 - 41
	continuum	2015-2105	1-	23 - 41		III	1737-1737.45	1+	22 - 41
	continuum	2105-2435	2	22 - 41		III	1816-1817	1	12 - 41
	continuum	2400-1800	1-	22 - 41		III	1819-1820	1	12 - 41
	III	1550.15-1551	1+	21 - 41		III	1848-1849	1+	11 - 41
	III	1617-1617.30	1+	22 - 41		continuum	1855-2000	1	24 - 41
	III	1626.30-1627.15	1+	16 - 41		III	1948.45-1949.30	1	12 - 41
	III	1706.30-1707	1+	23 - 41		continuum	2000-2345	1-	24 - 41
	III	1718.30-1722	1+	16 - 41		III	2211.30-2212	1+	22 - 41
25	continuum	1800-2400	1	21 - 41		III	2212.15-2213	2	22 - 41
	III	2022.30-2023.15	1+	21 - 41		III	2235.30-2236	1+	25 - 41
	continuum	2400-2420	1-	28 - 41		III	2247.15-2247.45	1+	22 - 41
	III	2405.45-2406.15	1	24 - 41		III	2256-2256.30	1+	21 - 41
	continuum	2400-2400	1-	21 - 41		III	2300.30-2301.30	2	21 - 41
						III	2356-2356.30	2	21 - 41
						III	2408.30-2409	1+	23 - 31

COMMERCE - STANDARDS - BOULDER

AUGUST 1960



STANFORD

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

AUGUST 1960

9.1 cm



1960 AUGUST 10 20^h 21^m UT
CONTOUR BRIGHTNESS UNIT = 80,000°K



1960 AUG 11 19^h 20^m UT
CONTOUR BRIGHTNESS (NOT NORMALIZED) UNIT = 70,000°K



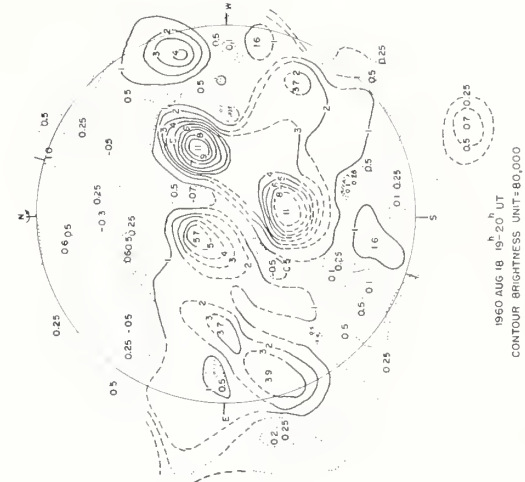
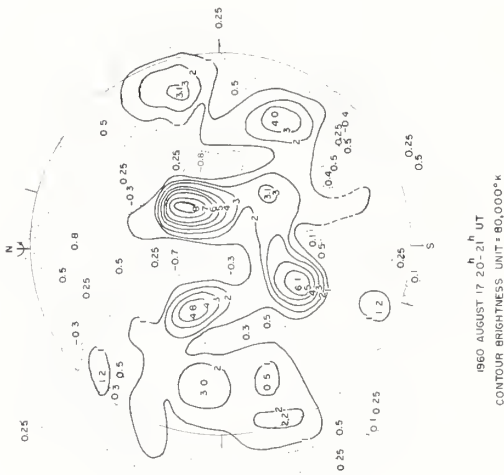
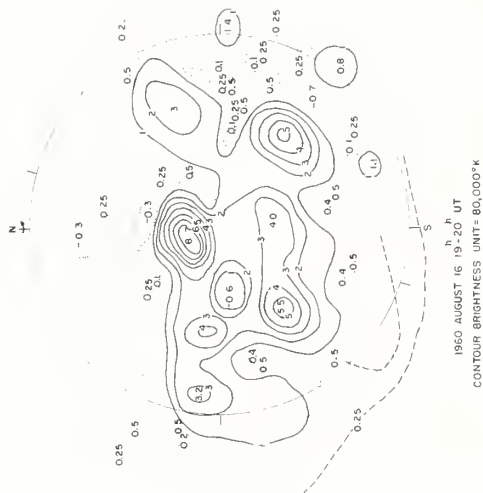
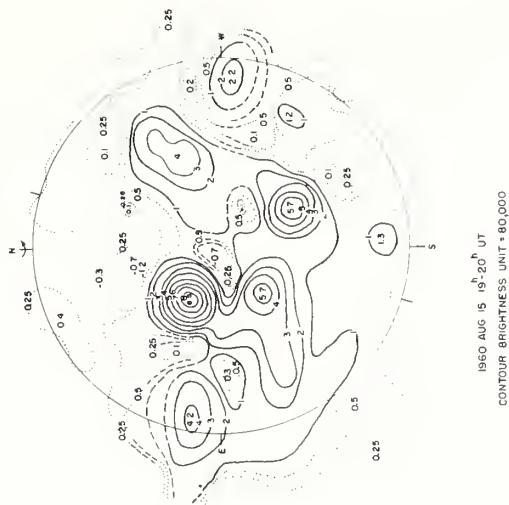
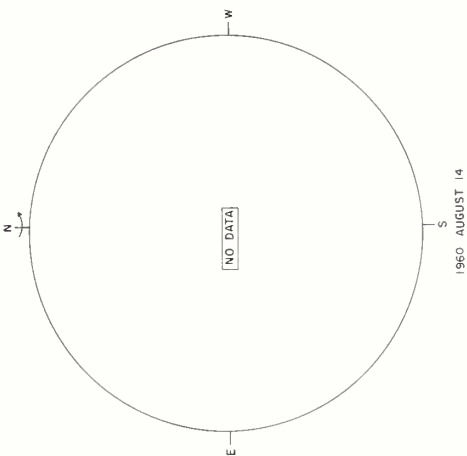
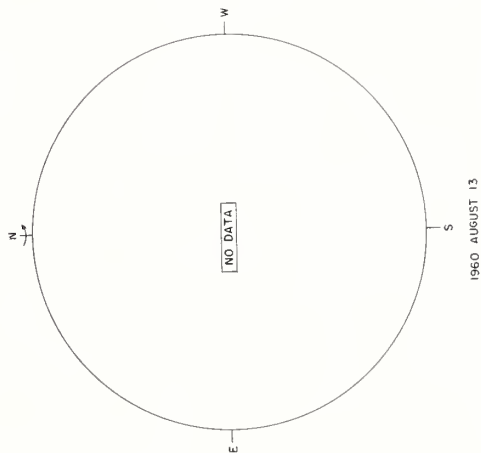
1960 AUGUST 12 19^h 20^m UT
CONTOUR BRIGHTNESS UNIT = 80,000°K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

STANFORD

AUGUST 1960

9.1 cm

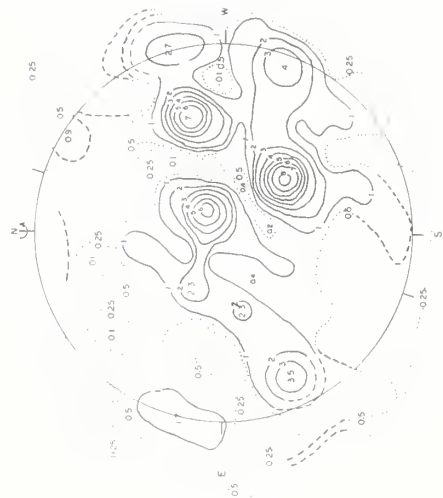


SOLAR RADIO EMISSION SPECTROHELIOGRAMS

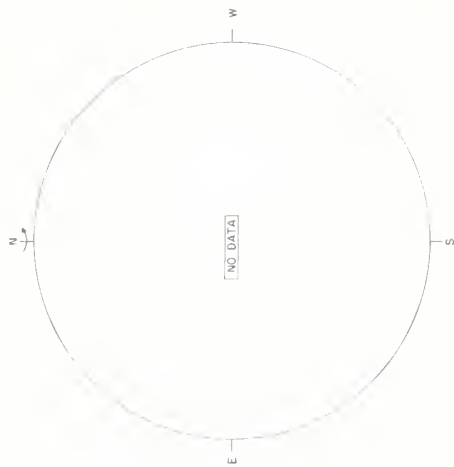
AUGUST 1960

STANFORD

9.1 cm



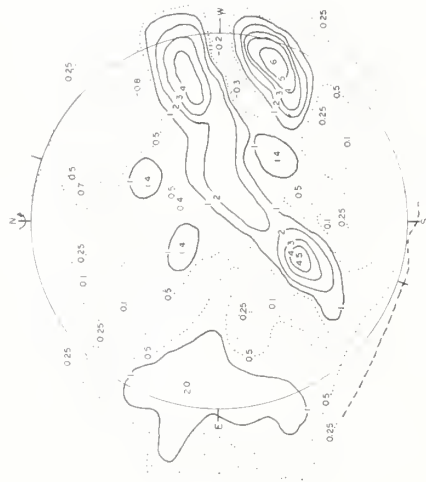
1960 AUGUST 19^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000° K



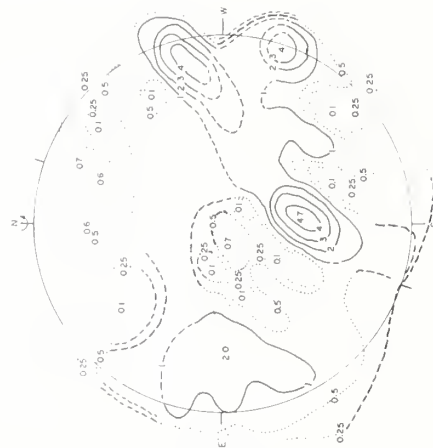
1960 AUGUST 20



1960 AUGUST 21^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000° K



1960 AUGUST 22^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000° K



1960 AUGUST 23^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000° K



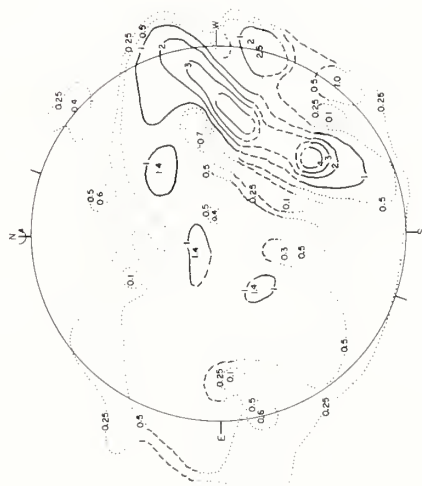
1960 AUGUST 24^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000° K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

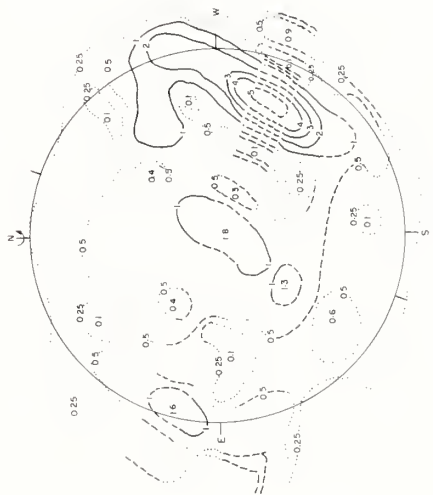
AUGUST 1960

STANFORD

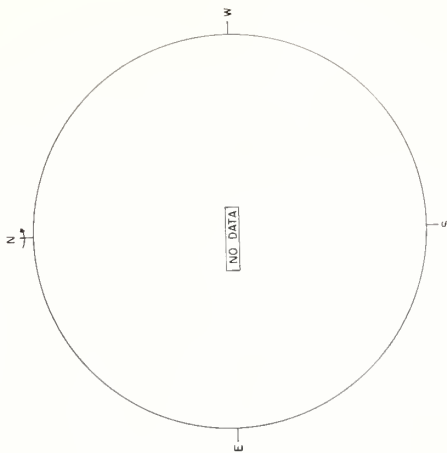
9.1 cm



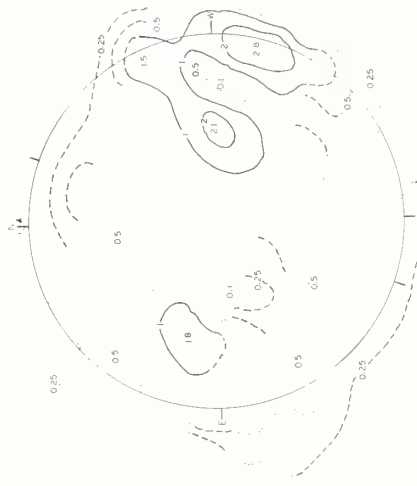
1960 AUGUST 25^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000°K



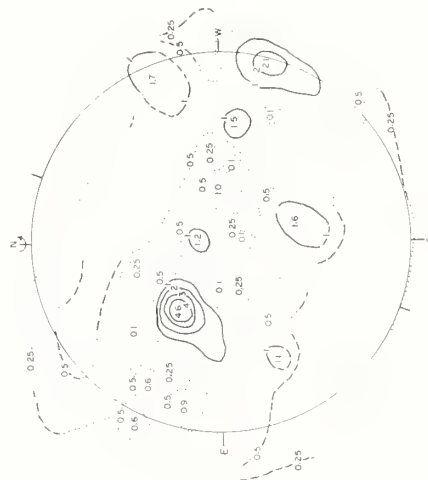
1960 AUGUST 26^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000°K



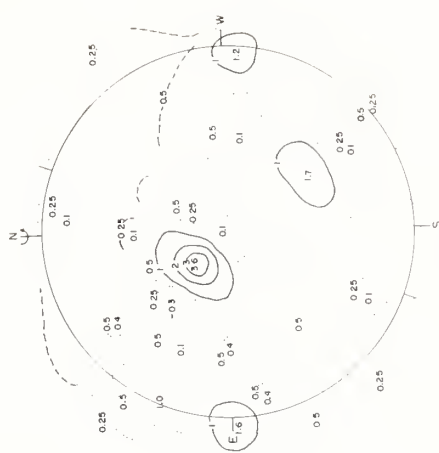
1960 AUGUST 27



1960 AUGUST 28^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000°K



1960 AUGUST 29^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 80,000°K



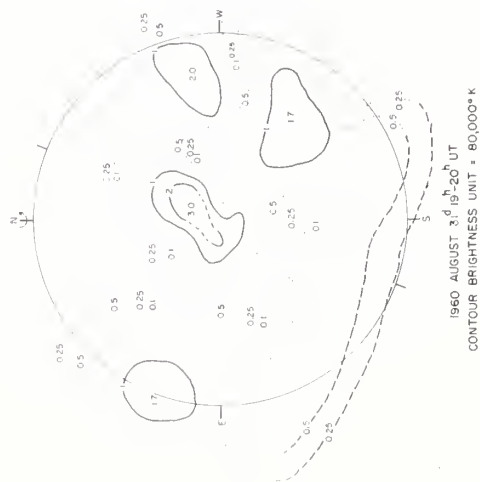
1960 AUGUST 30^d 19^h-20^h UT
CONTOUR BRIGHTNESS UNIT = 64,000°K

SOLAR RADIO EMISSION SPECTROHELIOGRAMS

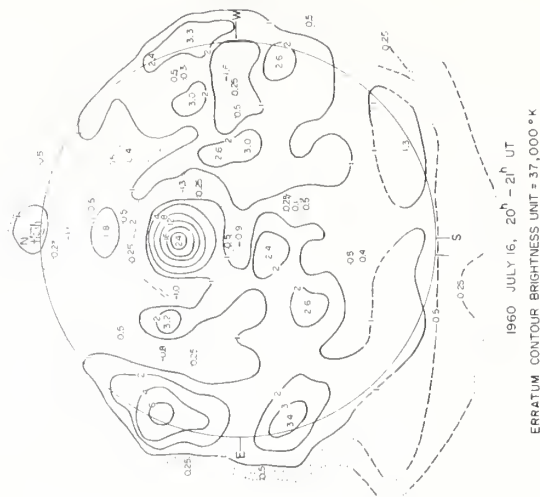
AUGUST 1960

9.1 cm

STANFORD



ERRATUM: JULY 1960



COSMIC RAY INDICES

Climax Neutron Monitor

IGC STATION B 305

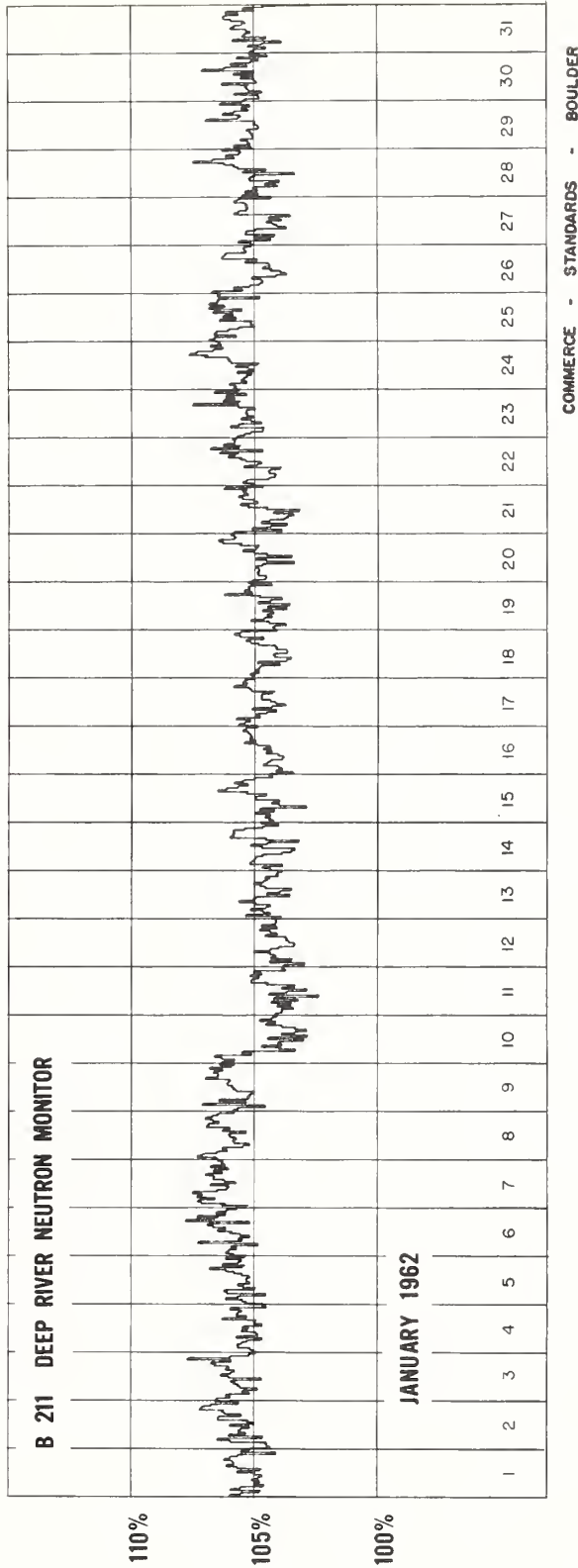
JANUARY 1962

Jan. 1962	Daily average counts/hr.*	Jan. 1962	Daily average counts/hr.*
1	3073.0	17	3094.6
2	3080.8	18	3109.4
3	3089.9	19	3110.7
4	3099.2	20	3123.1
5	3108.6	21	3129.6
6	3125.9	22	3120.0
7	3117.3	23	3130.1
8	3111.9	24	3130.1
9	3121.9 (32 hrs.)	25	3137.3
10	3110.0	26	3114.5
11	3085.5	27	3105.1
12	3092.0	28	3109.8
13	3117.5	29	3105.6
14	3105.1	30	3093.0
15	3094.6 (36 hrs.)	31	3096.0
16	3089.1		

COMMERCE - STANDARDS - BOULDER

*Scaling Factor 128

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



GEOMAGNETIC ACTIVITY INDICES

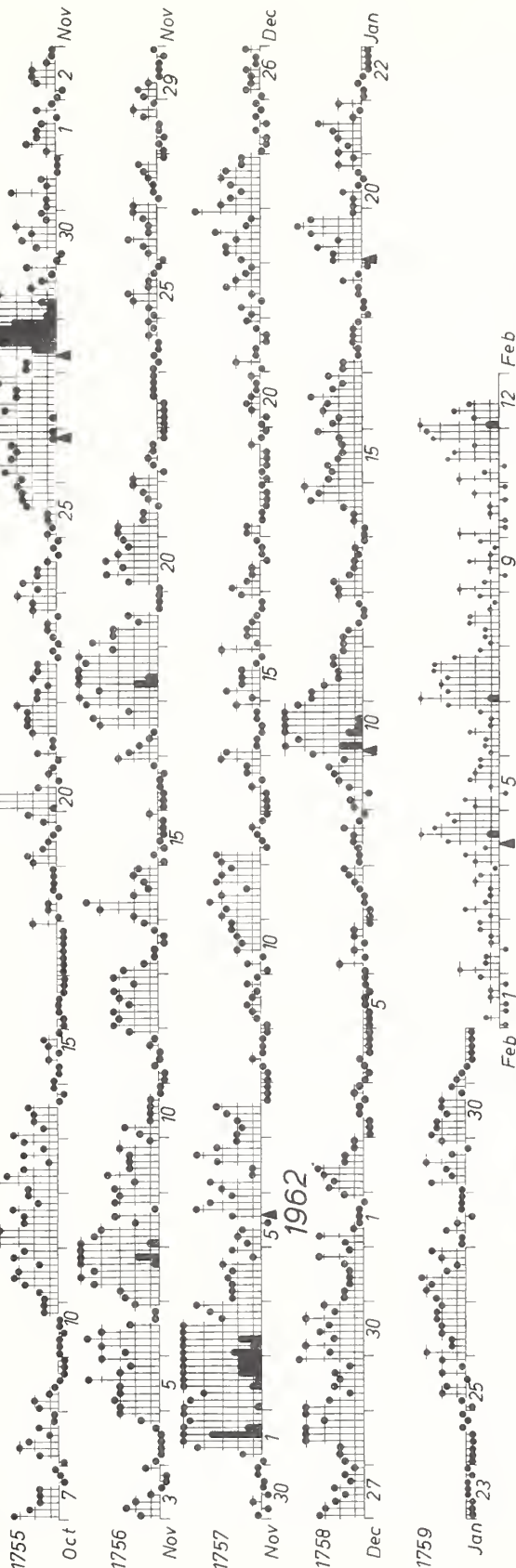
JANUARY 1962

Jan. 1962	C	Values Kp								Sum	Ap	Final Selected Days	
		Three hour Gr. interval											
		1	2	3	4	5	6	7	8				
1	0.2	2-	3+	1o	1-	1-	1-	0+	2-	10o	6	Five Quiet	
2	0.5	3-	2+	3o	3+	2-	2-	1o	1o	17-	9		
3	0.0	0o	0o	0o	1-	1-	0+	1o	1-	3+	2		
4	0.0	0+	0o	0+	1-	0o	0o	0o	0o	1+	1		4
5	0.0	0o	0o	0o	0+	0+	0o	0+	0+	1+	1		5
												22	
6	0.0	0+	2o	0+	1o	0+	1o	1o	0o	6o	3	23	
7	0.2	0o	0o	0+	0+	1-	1o	1+	2-	5+	3	24	
8	0.1	1-	1-	1-	1o	1o	2-	1-	0+	7-	4		
9	0.4	1o	1+	0o	1+	2o	2+	3-	2-	12+	6		
10	1.8	4-	6+	4+	6o	5+	5+	5o	4+	40+	52		
11	0.7	4-	4-	3o	2o	2o	2+	2+	2-	21-	12	Five Disturbed	
12	0.1	2-	2-	1+	1-	0+	0+	1-	2o	9-	4		
13	0.1	2o	2+	1+	1o	1o	1-	1o	0+	10-	5		
14	0.9	0+	0+	1o	1o	2-	4-	3+	4o	15+	11		10
15	0.6	3-	2+	3-	2o	2-	2-	3o	3+	18+	10		11
												16	
16	0.6	2+	2o	3o	3-	4-	2+	2-	3-	20+	12	19	
17	0.1	2-	2-	1-	1-	1o	1o	1o	1-	8+	4	27	
18	0.1	0o	0+	0+	1-	1-	2-	1-	0o	4+	2		
19	1.1	2+	2+	3+	2o	4-	4+	4-	1o	23-	15		
20	0.1	1o	1o	2-	1-	0+	1-	2o	1o	8+	4		
21	0.5	2o	1+	2o	2+	3+	1o	0+	2o	14+	7	Ten Quiet	
22	0.0	0+	0+	1-	0+	0o	0o	0o	0o	2-	1		
23	0.0	0o	0o	0o	0+	0+	0+	0o	0+	1+	1		
24	0.0	0o	0o	0o	0o	0o	1-	0+	1-	2-	1		3
25	0.2	0o	1-	2o	2-	0+	2o	1-	2o	9+	4		4
												5	
26	0.4	3o	1+	1+	2o	2o	2+	2+	2o	16+	8	7	
27	0.6	2+	3o	3-	3+	2-	1o	2o	3-	19-	10	18	
28	0.0	1-	1-	2-	1o	0o	1-	1-	1-	6o	3	22	
29	0.2	1-	3-	1+	2-	3o	1+	0+	2o	13o	7	23	
30	0.4	3-	2+	2+	2-	2o	2o	1-	1+	15o	7	24	
31	0.0	1o	1-	0+	0o	0o	0o	0o	0o	2o	1	28	
												31	
Mean:	0.32									Mean:	7		

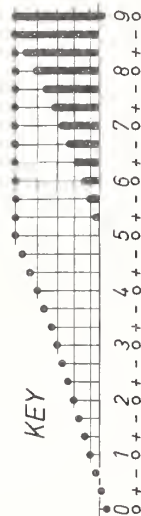
COMMERCE - STANDARDS - BOULDER

DAYS IN SOLAR ROTATION INTERVAL

ROT. =
NR.



KEY



▲ = sudden
commencement

PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 1962 January 31
(Ks from Wingst and Göttingen till Febr. 12)

J.B.

COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

JANUARY 1962

NORTH ATLANTIC

NORTH PACIFIC

DATE JANUARY 1962	NORTH ATLANTIC 8-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				WHOLE DAY INDEX	ADVANCE FORECASTS (1-7 REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY				GEOMAGNETIC K _{eff}	NORTH PACIFIC 12-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED AT		WHOLE DAY INDEX	ADVANCE FORECASTS (1-7 REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY				GEOMAGNETIC K _{eff}																																																																																																																																																																																																																																																																																																															
	00 06 12 18				00 06 12 18					1-7 1-7 1-3 1-7 DAYS DAYS DAYS DAYS FINAL J.S. J.S. J.S. J.S.					0700 1900 TO TO 1800 0700				0600 1800			1-7 1-7 1-3 1-7 DAYS DAYS DAYS DAYS FINAL J.S. J.S. J.S. J.S.																																																																																																																																																																																																																																																																																																																			
	5- 5+ 5- 50 4+	5- 40 4+ 50 4+	6+ 6+ 6- 5- 40	6+ 5- 50 60 60	5- 4 5 5 5	6 4 6 7 4	6 6 6 7 5	5 5 5 5 5		5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5		5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5		5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5		5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5	5 5 5 5 5

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

COMMERCE - STANDARDS - BOULDER

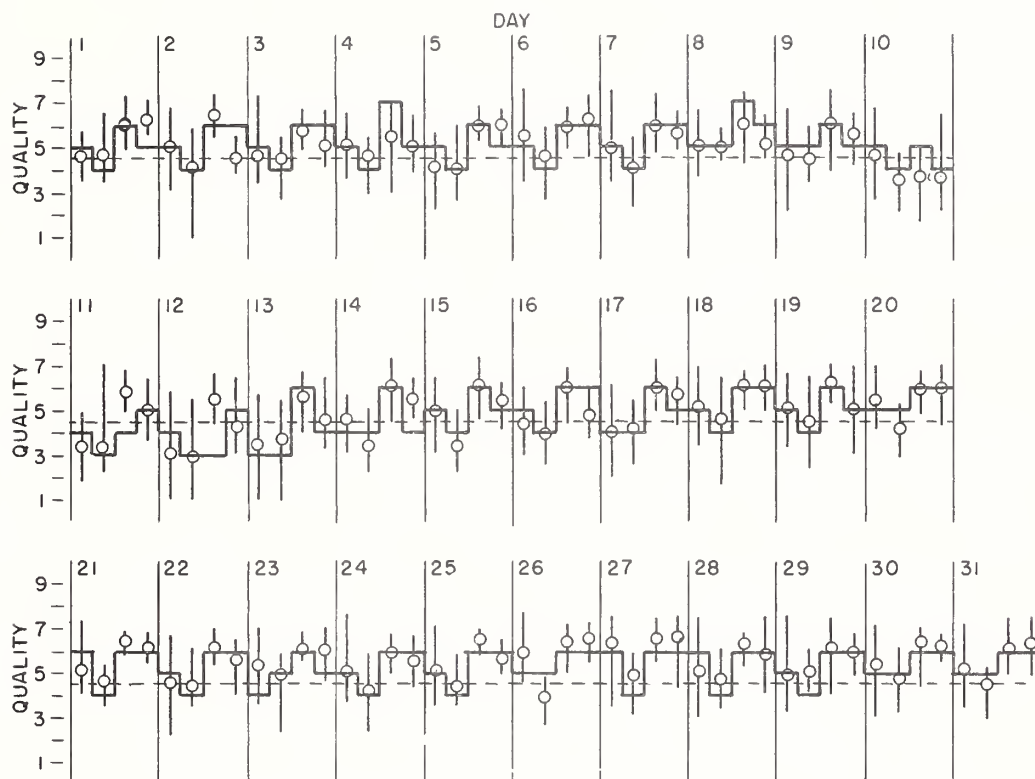
NORTH ATLANTIC

JANUARY 1962

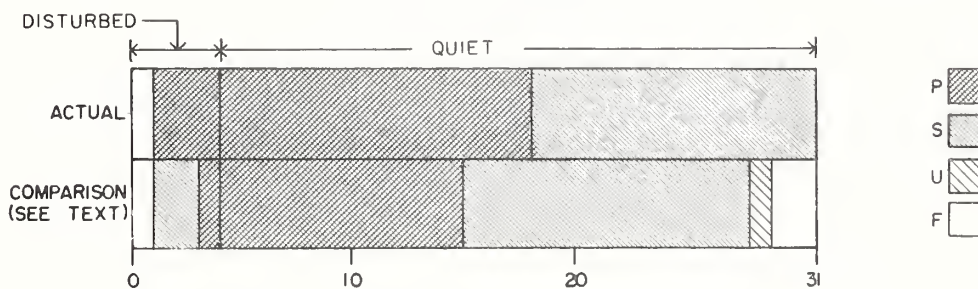
— Short-term forecast

| Range of reports

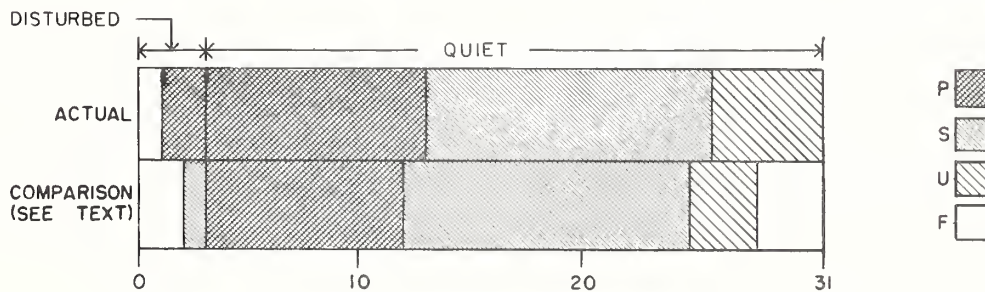
o Quality figure

OUTCOME OF ADVANCED FORECASTS
NORTH ATLANTIC

FINAL ESTIMATE

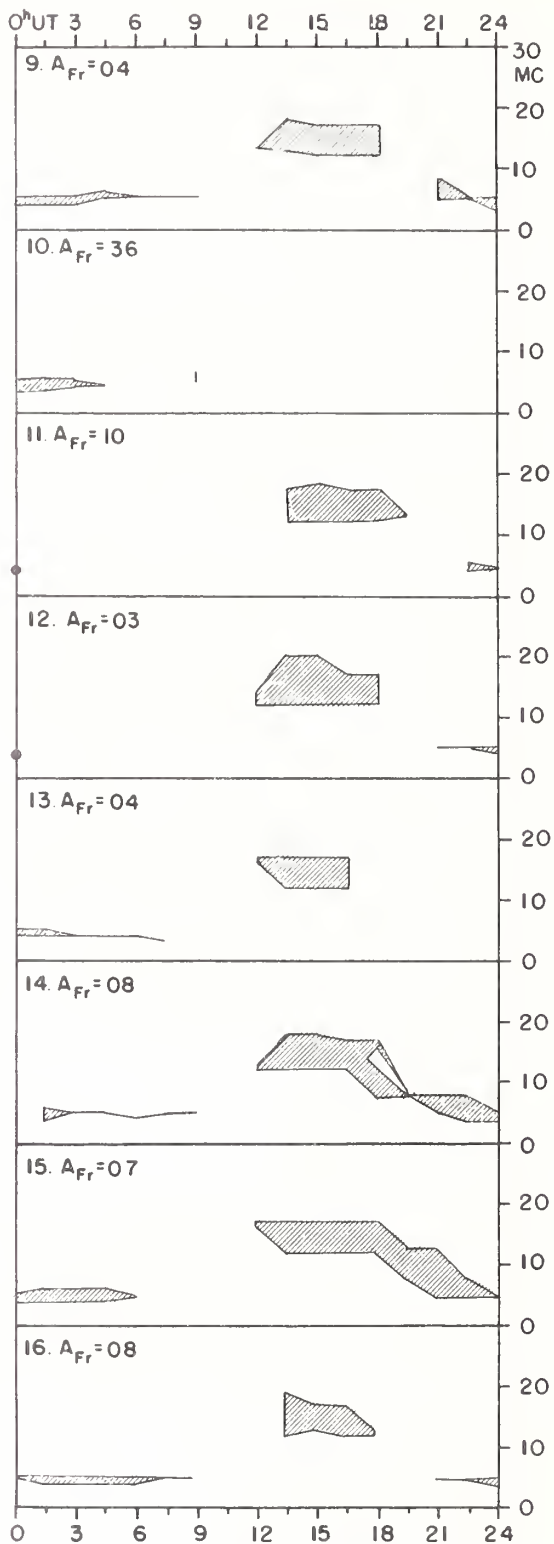
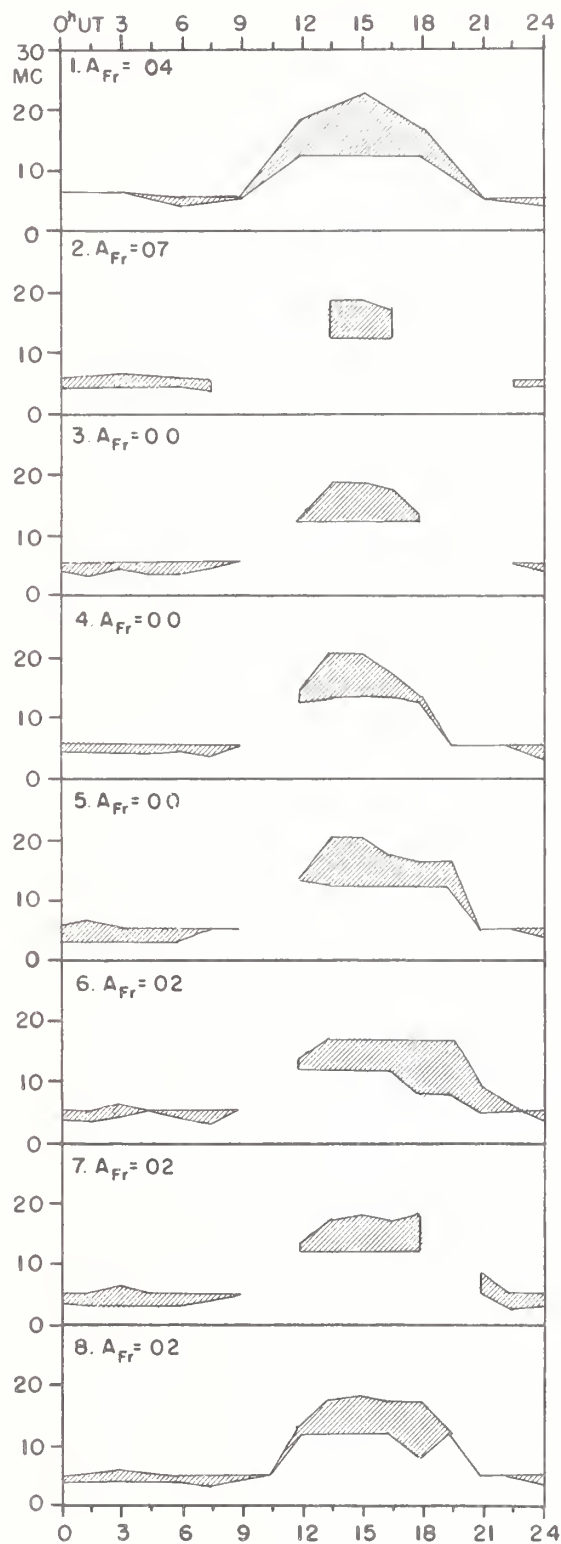


NORTH PACIFIC



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

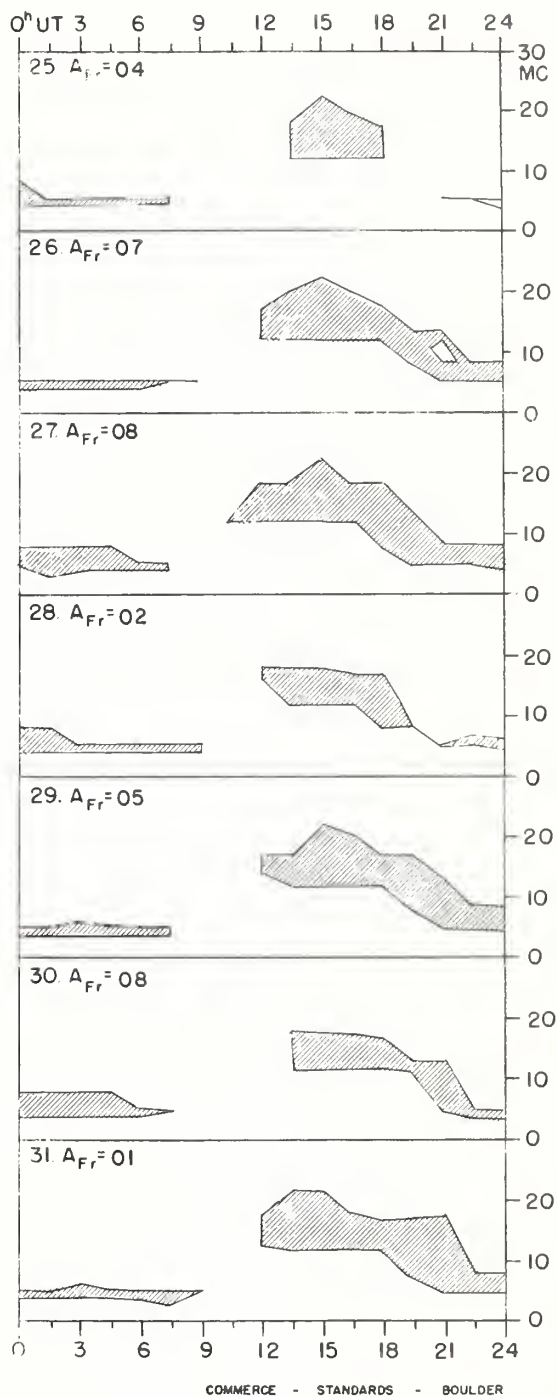
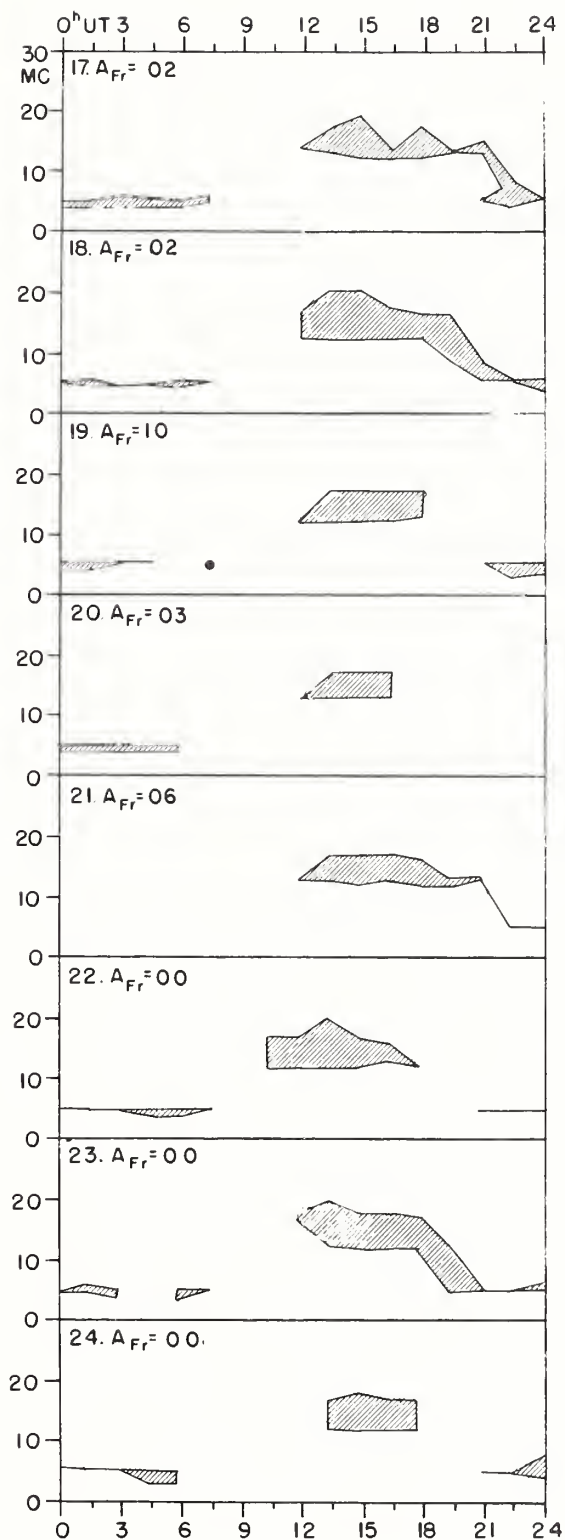
JANUARY 1962



COMMERCE - STANDARDS - BOULDER

USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1962



Adapted from Observations by Deutsches Bundespost

INTERNATIONAL WORLD DAY SERVICE

FEBRUARY 1962

Issued February 1962 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
01/1815	McMath, Solar Flare 01/1636Z	160	Magnetic Storm, 16/01XXZ	Start Finish
03/0340	Climax, Solar Flare One Plus 02/2215Z			
04/0120	Lockheed, Solar Flare, Two 03/2357Z			
16/1330	Ft. Belvoir, Magnetic Storm 16/0100Z			
16/1600				
17/1600				
20/0240	Huancayo, Solar Flare, Two 19/1333Z			
22/1853	Climax, Solar Flare, One Plus 22/1730Z			
23/1955	Sac Peak, Solar Flare, Two 23/1800Z			

COMMERCE - STANDARDS - BOULDER

