CRPL-F 223 PART B

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PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
MARCH 1963

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

SOLAR - GEOPHYSICAL DATA

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The text describing the contents of Part B was republished in November 1962. A revision was made December 1962, and an addenda January 1963.

DAILY SOLAR INDICES

Jan. 1963	American Relative Sunspot Numbers R_A
1	21
2	22
3	29
4	14
5	2
6	1
7	6
8	0
9	0
10	10
11	12
12	14
13	23
14	32
15	31
16	28
17	34
18	27
19	22
20	18
21	11
22	5
23	7
24	4
25	0
26	1
27	5
28	21
29	19
30	23
31	15
Mean:	14.7

Feb. 1963	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	30	87
2	25	86
3	44	85
4	53	88
5	47	87
6	50	85
7	40	83
8	33	82
9	32	79
10	20	79
11	11	76
12	11	74
13	9	74
14	16	75
15	17	76
16	7	77
17	18	79
18	9	81
19	20	79
20	20	77
21	19	74
22	19	76
23	22	75
24	20	76
25	16	78
26	11	77
27	17	75
28	0	74
Mean:	22.7	79.1

PREDICTED AND OBSERVED SUNSPOT NUMBERS

ZURICH FINAL RELATIVE SUNSPOT NUMBERS

1962

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	29	76	85	37	49	35	54	0	48	51	22	27
2	25	59	77	31	48	34	42	7	57	39	19	29
3	20	57	63	30	46	26	39	7	80	22	17	37
4	10	48	46	24	42	21	30	10	87	13	16	44
5	18	43	27	28	37	26	28	14	88	13	7	46
6	13	39	32	21	41	33	26	11	80	25	12	49
7	11	36	36	23	31	35	21	9	66	37	16	48
8	10	27	25	22	34	38	18	8	58	40	18	29
9	8	15	19	15	37	46	11	7	53	42	16	25
10	15	14	13	10	44	41	13	0	44	51	18	13
11	0	19	7	21	44	40	19	0	50	62	25	13
12	10	8	9	35	46	39	17	15	60	64	33	16
13	20	9	13	55	39	39	29	24	58	72	47	19
14	31	20	15	75	27	40	34	40	53	67	57	24
15	24	22	27	84	15	59	22	50	60	61	60	12
16	24	15	27	90	18	58	28	50	42	51	82	0
17	19	22	29	82	26	70	34	54	33	43	67	14
18	25	28	36	71	29	68	29	46	35	33	58	26
19	29	29	61	71	32	62	14	46	24	29	47	34
20	34	53	75	72	37	44	14	39	24	28	28	45
21	42	65	86	75	45	35	29	37	31	32	23	34
22	63	72	94	78	59	46	29	32	32	41	8	28
23	82	108	84	72	62	33	17	29	38	43	0	23
24	83	124	79	46	62	30	14	36	53	41	13	32
25	88	103	74	39	60	43	12	16	54	43	24	24
26	86	95	71	37	60	46	10	7	55	48	23	14
27	92	108	48	32	57	36	11	7	51	40	16	0
28	85	95	38	41	60	44	15	14	44	31	14	7
29	66		37	40	63	44	9	15	36	15	8	0
30	66		44	34	53	49	8	25	46	20	14	0
31	71		38		48		0	22		23		7
Mean	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2

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DAILY VALUES OF SOLAR FLUX AT 2800 Mc/s (10.7 cm)
 RECORDED AT NATIONAL RESEARCH COUNCIL
 OTTAWA, CANADA

Id

FLUX IN WATTS/M²/CYCLES/SECOND BANDWIDTH ($\times 10^{-22}$) - 2 POLARIZATIONS

1962

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1	---	110	121	88	94	98	---	71	84	86	80	77
2	---	103	112	83	95	92	---	73	73	86	80	81
3	79	101	100	80	94	87	---	72	98	83	80	83
4	81	104	89	78	91	85	90	73	99	82	82	82
5	78	92	86	76	87	85	88	70	98	86	82	
6	77	86	81	78	87	87	86	72	100	84	83	83
7	77	82	80	77	83	92	88	71	100	85	84	86
8	74	82	77	77	84	90	83	72	97	87	85	84
9	74	83	79	78	87	91	80	73	94	86	86	83
10	75	81	76	81	91	90	81	76	91	93	---	84
11	76	82	78	88	98	89	83	74	90	93	87	78
12	77	81	82	93	98	88	82	76	93	93	88	76
13	78	84	81	102	96	89	86	79	92	95	93	77
14	82	83	82	110	94	89	86	83	95	95	99	76
15	86	83	84	111	91	93	85	92	93	94	95	76
16	84	86	86	119	89	95	84	90	91	91	99	76
17	87	87	94	114	93	98	84	89	78	91	94	78
18	94	91	98	110	95	97	82	85	86	89	88	83
19	99	108	116	109	97	98	80	83	84	87	89	84
20	107	107	118	109	103	96	80	84	84	88	86	86
21	112	114	127	112	106	90	79	82	83	87	81	85
22	111	121	128	113	110	90	80	80	81	85	79	82
23	116	136	130	108	111	86	78	79	82	84	77	79
24	114	134	126	105	111	87	78	79	82	89	80	79
25	115	129	128	101	112	90	74	77	84	87	77	---
26	115	129	118	100	110	92	76	75	84	87	77	---
27	115	136	117	100	109	93	74	73	84	86	75	---
28	115	122	109	96	103	91	74	72	83	82	74	74
29	109		103	93	104	---	73	72	86	80	75	---
30	101		99	91	105	---	72	72	90	82	77	---
31	102		92		104		73	75		81		---
Mean	93	101	100	96	98	91	81	77	89	87	84	81

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CALCIUM PLAGE AND SUNSPOT REGIONS

FEBRUARY 1963

CMP Feb. 1963	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	N05	6686	6663	1200	3	$\ell - \ell$ 2			
01.5	S14	6685	6661	(1000)	(2.5)	$\ell - \ell$ 4			
04.2	N16	6687	6665	400	2.5	$\ell \sim d$ 2			
05.5	S12	6688	6668	600	2.5	$\ell \sim d$ 5			
05.8	N06	6690	*	(200)	(2)	$b - d$ 1			
06.5	S16	6689	**	3000	3.5	$\ell \sim \ell$ 1	390	15	$\ell \sim \ell$
08.4	S04	6694a	6677	(400)	(1.5)	$b \wedge d$ 2			
08.8	N13	6691	New	2500	3.5	$\ell \sim \ell$ 1	(140)	(4)	$\ell \sim d$
10.2	N09	6692	6672	700	2.5	$\ell - \ell$ 2			
10.7	S10	6695a	*	(300)	1.5	$b \wedge d$ 1			
11.8	N08	6693	***	1800	2.5	$\ell - \ell$ 3	100	1	$\ell \sim \ell$
12.4	S40	6696b	*	(200)	(1.5)	$b - d$ 1			
12.5	S12	6696a	*	(200)	(1)	$b \wedge d$ 1			
15.1	N09	6694b	*	(300)	(1.5)	$b \wedge d$ 1			
16.0	N04	6705	New	(300)	(1.5)	$b \nearrow \ell$ 1			
16.2	S14	6695b	*	(400)	(1)	$b - d$ 1			
16.2	S28	6697	New	300	1	$b - d$ 1			
17.0	N29	6702	*	200	1	$b \sim d$ 1			
17.6	S10	6698	*	(400)	(1)	$b - d$ 1			
18.8	S13	6699	New	500	2.5	$b \wedge d$ 1			
19.7	N07	6704	New	200	1	$b \nearrow d$ 1			
20.3	S25	6700	+	(500)	(1.5)	$\ell - d$ 1			
21.1	N07	6701	6678	500	3	$\ell - \ell$ 2			
21.7	N31	6708	*	(500)	(2)	$b \sim d$ 1			
22.4	N11	6703	++	3900	3.5	$\ell - \ell$ 2			
22.9	S04	6706	+++	400	2	$b \wedge d$ 1	(50)	(1)	$b - \#$
24.2	S12	6707	New	(200)	(1)	$b \sim d$ 1			
25.6	S36	6716	*	(200)	(2)	$b - d$ 1	100	1	$\ell \sim \#$
25.9	N29	6721	New	(500)	(2)	$b - d$ 1			
26.8	N19	6717	*	(300)	(1.5)	$b - d$ 1			
26.9	S32	6709	*	(200)	(2)	$b - d$ 1			
27.8	N15	6713	New	500	2.5	$b - \#$ 1			
28.3	N06	6711	##	800	3	$b \nearrow \#$ 1			
28.6	S09	6710	6685	200	1	$b \sim d$ 5			

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* New but small and ephemeral
 ** New in position of 6668
 *** 6673 and 6674
 + New in position of small and ephemeral 6683
 ++ Part of 6680
 +++ New and ephemeral in position of 6682
 # No data available
 ## New in position of old 6686

MT. WILSON MAGNETIC CLASSIFICATIONS OF SUNSPOTS

Iib

FEBRUARY 1963

Feb. 1963	Time Meas.	Lat.	Mer. Dist.	Type	Feb. 1963	Time Meas.	Lat.	Mer. Dist.	Type
1	No Obs.				14	1640	W33 E55	N09 S11	α α
2	1650	S15 N14	E38 E80	βf α	15	1650	W47	N09	α
3	No Obs.				16	No Obs.			
4	No Obs.				17	1730	W76 E58	N09 N10	α α
5	2210	S05 N13	E05 E40	βf β	18	1655	E46	N10	α
6	2250	S15 N13 N11	W09 E26 E69	β β α	19	No Obs.			
7	1815	S16 N13 N10	W20 E15 E58	βp β α	20	1645	E05 E21	N07 N09	$\beta \gamma$ α
8	No Obs.				21	No Obs.			
9	No Obs.				22	No Obs.			
10	No Obs.				23	No Obs.			
11	1800	N09	E05	α	24	1810	W34	N09	α
12	1725	N09	W08	α	25	1725	W47 E41	N09 N07	$\alpha \alpha$ β
13	No Obs.				26	No Obs.			
					27	No Obs.			
					28	No Spots			

COMMERCE - STANDARDS - BOULOF

Erratum: On page Iib in the February 1963 CRPL-F, Part B #222 that data listed in the latitude and meridian distance columns are interchanged.

PROVISIONAL CORONAL LINE EMISSION INDICES

FEBRUARY 1963

CMP Feb 1963	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	11	23	9	12	14	34	11	17	12	25	x	x	11	14	x	x
2	11	18	13	19	7	18	14	25	x	14	x	x	x	6	x	x
3	9	21	17	30	5	6	9	10	11	x	x	x	x	x	x	x
4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	5	7	14	15	5	8	16	25	43	87	x	x	9	14	x	x
6	4	5	12	15	5	11	14	29	8	14	x	x	3	4	x	x
7	x	x	x	x	x	x	x	x	8	12	8	12	10	14	10	14
8	14	28	10	20	4	5	7	10	x	x	x	x	x	x	x	x
9	x	x	x	x	x	x	x	9	x	x	x	x	x	x	x	x
10	19	40	14	35	4	8	7	9	x	x	x	x	x	x	x	x
11	16	34	15	22	3	5	10	12	14	40	7	8	9	18	6	6
12	16	37	10	18	2	3	8	9	x	x	x	15	x	x	x	8
13	14	20	x	x	x	x	x	x	2	4	11	10	5	6	5	7
14	5	8	6	7	1	3	10	12	2	3	8	x	10	4	7	x
15	15a	28a	x	x	1a	6a	x	x	5	8	x	x	x	14	x	x
16	x	x	x	x	x	x	x	x	3	4	6	8	8	4	5	12
17	8	11	x	x	2	3	x	x	1	2	6	7	4	4	4	5
18	x	x	x	x	x	x	x	x	1	4	8	10	4	4	5	5
19	14	17	x	x	6	11	x	x	3	5	5	5	6	8	6	12
20	4	5	x	x	4	8	x	x	2	4	6	7	12	17	7	11
21	19	45	14	19	2	2	10	12	x	x	x	x	x	x	x	x
22	x	x	x	x	x	x	x	x	2	3	5	6	13	21	4	7
23	x	x	x	x	x	x	x	x	27	38	3	4	16	20	5	6
24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
25	4	5	7	9	4	4	8	10	x	x	x	x	x	x	x	x
26	x	x	x	x	x	x	x	x	3	6	x	x	11	17	x	x
27	3	3	11	15	2	3	9	10	x	x	x	7	x	x	x	7
28	3	4	9	10	3	3	6	7	6	8	6	7	8	14	6	7

x = no observations

a = index computed from low weight data

SOLAR FLARES

FEBRUARY 1963

IIIa

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX.	McMATH FLARE REGION	MEAS. AREA Sq. Deg.				CORR. AREA Sq. Deg.	MAX. WIDTH H _s	MAX. INT. %		
	FEB 1963			MAX. PHASE	LAT.	MER. DIST.								
ATHENES WENDELSTEIN WENDELSTEIN ATHENES	01	0000	0145	NO FLARE	PATROL									
	01	0825	0830	NO FLARE	PATROL									
	01	0915	0930	NO FLARE	PATROL									
	01	0953 E	0957		S15 E64			1-	3		.20	.40		
	01	1022 E	1051 D		S15 E65			1+			5.00			
	01	1020 E	1037 D		N09 W75			1-						
	01	1023 E	1025		N10 W80			1-	3		.10	.70		
	01	1110	1125	NO FLARE	PATROL									
	01	1150 E	1208 D		N09 W75			1			3.00			
	01	1256 E	1312 D		N09 W76			1-						
WENDELSTEIN HERSTONCEU ONDREJOV	01	1356 E	1402 D	1358	S14 E67			1-	2		.50	1.10		
	01	1404 E	1432	1406	S15 E70			1-	3			2.70		
	01	1440	1550	NO FLARE	PATROL									
	01	1610	1615	NO FLARE	PATROL									
	01	1620	1635	NO FLARE	PATROL									
	01	1640	1655	NO FLARE	PATROL									
	01	1733	1800	1741	S16 E64			1-	3		1.07	1.67		17
	01	1735 E	1750	1740	S16 E54			1-	2		.54	.78	2.10	16
	01	2134	2141	2135	S16 E59			1-	3					
	02	0055 E	0115 D		N16 E28			1		0055	1.24		1.29	110
IKOMASAN MITAKA MITAKA	02	0105 E	0132 D	0105	N15 E33			1	1	0106	1.28	1.61	1.74	96
	02	0122 E	0147 D	0132	S16 E57			1	1	0128	.49	.96	1.96	120
	02	1135	1510	NO FLARE	PATROL									
	02	2320	2400	NO FLARE	PATROL									
	03	0000	0140	NO FLARE	PATROL									
	03	1035	1510	NO FLARE	PATROL									
	04	0025	0030	NO FLARE	PATROL									
	04	0956	1020		S17 E26			1			3.00			
	04	1048 E	1113 D		S17 E25			1-						
	04	1055	1110	NO FLARE	PATROL									
WENDELSTEIN WENDELSTEIN WENDELSTEIN SAC PEAK SAC PEAK	04	1100 E	1118 D		S16 E23			1-						
	04	1250	1505	NO FLARE	PATROL									
	04	1510	1513	1511	S15 E20			1-	3		.14	.14		15
	04	2035	2050	2040	S18 E21			1-	3		.74	.74		15
	04	2330	2335	NO FLARE	PATROL									
	05	0818 E	0900 D		N13 E47			1		42 D		3.00		
	05	0853 E	0902 D		S17 E13			1-						
	05	0930 E	0941 D		S16 E12			1-						
	05	1045	1135	NO FLARE	PATROL									
	05	1210	1220	NO FLARE	PATROL									
SAC PEAK SAC PEAK SAC PEAK SAC PEAK SAC PEAK	05	1230	1255	NO FLARE	PATROL									
	05	1335	1510	NO FLARE	PATROL									
	05	1558	1610	1604	N13 E44			1-	3		.27	.31		17
	05	1843	1904	1851	N12 E43			1-	3		.33	.39		17
	05	1845	1905	1848	N12 E43			1-	2	1848	.80	1.20		
	05	1922	1945	1942	S18 E13			1-	3		.14	.14		15
	05	1947	1955	1951	S19 E12			1-	3		.14	.14		16
	05	1947	1955	1951	S19 E12									
	05	1947	1955	1951	S19 E12									
	05	1947	1955	1951	S19 E12									

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

FEBRUARY 1963

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		IM- POR- TANCE	OBS. COND.	TIME — U T	MEASUREMENTS		MAX WIDTH H ₀	MAX INT I ₀	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX.	MC-MATH PLAGE REGION								
	FEB 1963			LAT. MER DIST.					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
LOCKHEED	05	2340	2350	NO FLARE		1-	2	0002	.20	.20		20	
	05	2358	0016	2402	PATROL S15 E04								
	06	0015	0030	NO FLARE									
	06	0210	0215	NO FLARE	PATROL								
	06	0315	0325	NO FLARE	PATROL								
	06	0450	0645	NO FLARE	PATROL								
	06	0836	0848	E 0848 D	S16 E01	1-							
	06	0840	0848	E 0848 D	S14 W04	1-							
	06	0850	1200	NO FLARE	PATROL								
	06	1144	1156	E 1156 D	S17 W01	1-							
WENDELSTEIN	06	1144	1156	E 1156 D	S15 E00	1-							
	06	1336	1407	E 1407 D	N13 E36	1+							
	06	1354	1435	E 1435 D	N16 E30	1-	1	1428	1.40	5.00			
	06	1723	1732	1725	S15 W05	1-	2	1725	.30	.30		20	
	06	1750	1830	NO FLARE	PATROL	1-							
	06	1752	1830	1800	S15 W06	1-	2	1812	.40	.40		20	
	06	1812	1830	1812	S15 W06	1-							
	06	1925	2008	D 1950	S16 W08	1-	3	1950	2.52	2.45		19	
	06	1938	2015	1950	S15 W07	1-	2	1944	1.20	1.20		20	
	06	1938	2026	E 2026 D	S17 W09	1	2	1944	2.48				
HONOLULU	06	2123	2133	2024	N11 E71	1-	2	2024	.10	.20		10	
	06	2127	2133	2127	N09 F72	1-	3		.29			15	
	06	2212	2220	2216	N12 E28	1-			.41	.43		16	
	06	2212	2223	2215	N06 E25	1-	2	2215	.30	.30		10	
	06	2219	2230	U 2251 D	S17 W08	2	3	2215	6.77	6.62		20	
	06	2219	2400	2235	S15 W09	1-	2	2324	2.20	2.20		30	
	06	2219	2400	2312	S15 W09	1-							
	06	2219	2400	2324	S15 W09	1-							
	06	2300	2340	NO FLARE	PATROL	1-							
	07	0045	0050	NO FLARE	PATROL								
SAC PEAK	07	0350	0405	NO FLARE	PATROL								
	07	0510	0620	NO FLARE	PATROL								
	07	0905	1400	NO FLARE	PATROL								
	07	1420	1505	NO FLARE	PATROL								
	07	1930	1950	1933	S12 W05	1-	3	1937	.27	.27		15	
	07	1930	1958	1937	S11 W03	1-	1	1937	.10	.10		10	
	07	2345	2400	NO FLARE	PATROL								
	08	0000	0345	NO FLARE	PATROL								
	08	0405	0700	NO FLARE	PATROL								
	08	0710	0815	NO FLARE	PATROL								
ARCETRI	08	0910	1350	NO FLARE	PATROL								
	08	0942	0948	D 0944	S14 W30	1	2	0944					
	08	1410	1420	NO FLARE	PATROL								
	09	0000	0005	NO FLARE	PATROL								
ATHENES	09	0700	0708	E 0708	S14 W45	1-	2		1.20	1.60			
	09	1035	1335	NO FLARE	PATROL								
WENDELSTEIN	09	1141	1150	D 1150 D	N10 W04	1-							

SOLAR FLARES

FEBRUARY 1963

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM. POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER DIST.	McMATH FLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o		MAX. INT. °
LOCKHEED MCMATH LOCKHEED MCMATH	FCB 1963														
	09	1655	1715	NO FLARE	PATROL										
	09	1800	2315	NO FLARE	PATROL										
	09	2320	2325	NO FLARE	PATROL										
	10	0020	0105	NO FLARE	PATROL										
	10	0750	0810	NO FLARE	PATROL										
	10	0830	0920	NO FLARE	PATROL										
	10	1035	1520	NO FLARE	PATROL										
	10	1735	1910	NO FLARE	PATROL										
	10	1940	2400	NO FLARE	PATROL										
	11	0000	0205	NO FLARE	PATROL										
	11	1035	1710	NO FLARE	PATROL										
	12	0205	0220	NO FLARE	PATROL										
	12	1105	1405	NO FLARE	PATROL										
	12	1435	1520	NO FLARE	PATROL										
LOCKHEED MCMATH LOCKHEED MCMATH	12	1705	1725	1709	N11 W50	6691		1-	2				1.30		20
	12	1706	1714	1707	N11 W49			1-	1				1.70		
	12	1757	1815	1804	N11 W50			1-	2				1.20		10
	12	1759	1811	1803	N10 W51	6691		1-	1				.50		
	12	1835	1840	NO FLARE	PATROL								.40		
	12	2035	2225	NO FLARE	PATROL								.20		
	12	2330	2340	NO FLARE	PATROL										
	13	0005	0015	NO FLARE	PATROL										
	13	0140	0205	NO FLARE	PATROL										
	13	0245	0250	NO FLARE	PATROL										
	13	0320	0330	NO FLARE	PATROL										
	13	0830	0845	NO FLARE	PATROL										
	13	0910	1000	NO FLARE	PATROL										
	13	1045	1125	NO FLARE	PATROL										
	13	1140	1225	NO FLARE	PATROL										
MCMATH	13	1245	1450	NO FLARE	PATROL										
	13	1500	1515	NO FLARE	PATROL										
	13	2245	2400	NO FLARE	PATROL										
	14	0000	0005	NO FLARE	PATROL										
	14	1040	1450	NO FLARE	PATROL										
	14	1715	1755	NO FLARE	PATROL										
	14	1815	1850	NO FLARE	PATROL										
	14	1910	1940	NO FLARE	PATROL										
	14	2245	2305	NO FLARE	PATROL										
	14	2320	2400	NO FLARE	PATROL										
	15	0115	0210	NO FLARE	PATROL										
	15	0215	0220	NO FLARE	PATROL										
	15	1105	1315	NO FLARE	PATROL										
	15	1320	1335	NO FLARE	PATROL										
	15	1440	1500	NO FLARE	PATROL										
15	2020	2035	2022	N08 E72	6701		1-	1				.20	.80		

SOLAR FLARES

FEBRUARY 1963

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME U T	MEASUREMENTS		MAX WIDTH H α	MAX INT. °	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER DIST.	MC-MATH PLACE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
KODAIKNL	16	0248 E	0254 D	N07 E70		6701	6 D	1	2	0252	.96	2.70	1.76	114	
	16	0950	1005	PATROL											
	16	1105	1145	PATROL											
	16	1300	1325	PATROL											
KODAIKNL	17	0155	0200	PATROL											
	17	0725 E	0738 D	N10 E72				1-	2	0725			1.44		
	17	1035	1445	PATROL											
	17	1552	1555 U	N08 E58				1-	2		.27	.39		16	
SAC PEAK	17	1605	1625	PATROL											
	17	1710	1740	PATROL											
	18	0933 E	0938 D	N07 E38		6701	5 D	1				3.00			
	18	1105	1310	PATROL											
MC-MATH	18	1437	1545	N10 E45		6703		1-	2	1445	1.00	1.40			
	18	1443 E	1545	N09 E44				1-	2		.41	.50		16	
	18	1557	1620 U	N15 E51		6703	23 U	1	2		1.51	2.04		17	
	18	1557	1630	N15 E50		6703	14	1	2	1559	1.80	3.00			
SAC PEAK	18	1849	1902	N14 E48				1-	2		.54	.68		16	
	18	1849	1903	N14 E48		6703		1-	2	1852	.80	1.20			
	18	2130	2145	PATROL											
	18	2200	2250	PATROL											
	18	2255	2355	PATROL											
	19	0005	0015	PATROL											
	19	0215	0220	PATROL											
	19	0345	0350	PATROL											
	19	0420	0610	PATROL											
	19	0925	0955	PATROL											
	19	1030	1055	PATROL											
	19	1105	1435	PATROL											
	20	0600	0840	PATROL											
	20	0900	0940	PATROL											
	20	1005	1050	PATROL											
	20	1110	1305	PATROL											
MC-MATH	20	1425	1520	PATROL											
	20	1537	1615	N10 E17		6703		1-	2	1540	1.30	1.40			
	20	1550	1555	PATROL											
	20	1602	1626	N09 E17				1-	2		.83	.83		17	
SAC PEAK	20	1700	1745	PATROL											
	20	2040	2050	PATROL											
	20	2319	2338	N14 E21				1-	1	2325	.50	.50		20	
	20	2345	2400	PATROL											
LOCKHEED	21	0455	0505	PATROL											
	21	0735	0840	PATROL											
	21	0935	1020	PATROL											
	21	1025	1330	PATROL											
LOCKHEED	21	2012	2155	N17 E11				1-	2	2035	3.90	3.90		20	
	21	2012	2200 U	N18 E10		6703	108 U	1	3	2035	4.35	4.39		18	
	21	2012	2033	PATROL											
	21	2012	2033	PATROL											

SOLAR FLARES

FEBRUARY 1963

OBSERVATORY	DATE FEB 1963	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	M-MATH FLARE REGION	MER DIST				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	
HONOLULU M-MATH	21	2014 E	2112 D	2026	N18 E11		40 D	1-	2	2036	1.75			
	21	2026 E	2106 D		N18 E10			1	1	2033	1.90	2.00		
	21	2250	2335	NO FLARE	PATROL									
	21	2345	2350	NO FLARE	PATROL									
	21	2355	2400	NO FLARE	PATROL									
	22	0000	0010	NO FLARE	PATROL									
	22	0040	0100	NO FLARE	PATROL									
	22	0205	0240	NO FLARE	PATROL									
	22	0325	0340	NO FLARE	PATROL									
	22	0350	0355	NO FLARE	PATROL									
OTTAWA OTTAWA OTTAWA	22	0400	0415	NO FLARE	PATROL									
	22	0505	0520	NO FLARE	PATROL									
	22	0530	0535	NO FLARE	PATROL									
	22	0540	0545	NO FLARE	PATROL									
	22	0555	0605	NO FLARE	PATROL									
	22	0615	0630	NO FLARE	PATROL									
	22	0640	0810	NO FLARE	PATROL									
	22	0900	0920	NO FLARE	PATROL									
	22	1005	1150	NO FLARE	PATROL									
	22	1155	1240	NO FLARE	PATROL									
LOCKHEED	22	1327	1359	1336	N13 E90		32	1	1	1336	1.80	9.00		
	22	1451	1535 D		N16 E90			1-	1	1512	.88	4.40		
	22	1646	1659	1651	N51 W90			1-	1	1651	.64	3.20		
	23	0045	0055	NO FLARE	PATROL									
	23	0205	0215	NO FLARE	PATROL									
	23	0335	0340	NO FLARE	PATROL									
	23	0510	0515	NO FLARE	PATROL									
	23	0530	0600	NO FLARE	PATROL									
	23	0610	0620	NO FLARE	PATROL									
	23	2201	2229	2215	N09 W27			1-	2	2215	.30	.30		20
LOCKHEED	23	2300	2400	NO FLARE	PATROL									
	24	0210	0225	NO FLARE	PATROL									
	24	0300	0315	NO FLARE	PATROL									
	24	0320	0330	NO FLARE	PATROL									
	24	0335	0340	NO FLARE	PATROL									
	24	0350	0420	NO FLARE	PATROL									
	24	0440	0655	NO FLARE	PATROL									
	24	0900	0905	NO FLARE	PATROL									
	24	0910	0930	NO FLARE	PATROL									
	24	0935	0950	NO FLARE	PATROL									
LOCKHEED	24	0955	1015	NO FLARE	PATROL									
	24	1020	1040	NO FLARE	PATROL									
	24	1045	1105	NO FLARE	PATROL									
	24	1110	1130	NO FLARE	PATROL									
	24	1135	1155	NO FLARE	PATROL									
	24	1305	1420	NO FLARE	PATROL									
	24	1425	1435	NO FLARE	PATROL									
	24	1818	1855	1830	N23 W11			1-	2	1830	.20	.20		20

SOLAR FLARES

FEBRUARY 1963

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURATION — MINUTES	IM. POR. TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MCCNATH PLAGE REGION					TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX WIDTH Ha		MAX. INT %
					MER. DIST										
LOCKHEED	FEB 1963														
	24	2255	2335	NO FLARE	PATROL										
	24	2340	2345	NO FLARE	PATROL										
	25	0355	0400	NO FLARE	PATROL										
	25	0500	0630	NO FLARE	PATROL										
	25	2228	2243	2233	N12 W50		1-	1	2233	.30	.30		20		
	26	0150	0210	NO FLARE	PATROL										
	26	0305	0325	NO FLARE	PATROL										
	26	0340	0410	NO FLARE	PATROL										
	26	0605	0610	NO FLARE	PATROL										
WENDELSTEIN WENDELSTEIN WENDELSTEIN SAC PEAK LOCKHEED	26	0720	0745	NO FLARE	PATROL										
	26	0945	1000	NO FLARE	PATROL										
	26	1035	1225	NO FLARE	PATROL										
	27	0545	0550	NO FLARE	PATROL										
	27	0605	0610	NO FLARE	PATROL										
	27	0615	0625	NO FLARE	PATROL										
	27	0841 E	0856 D		N07 E17	6711	15 D								
	27	0942 E	0958 D		N04 E65	6714	16 D				3.00	3.00			
	27	1135	1155	NO FLARE	PATROL										
	27	1208 E	1220 D		N05 E15		1-								
LOCKHEED	27	1817	1845	1831	N09 E12		1-								
	27	1820	1843	1833	N08 E11		1-	3	1833	.95	.95	16			
	27	2310	2335	NO FLARE	PATROL		1-	2		.50	.50	20			
	27	2345	2350	NO FLARE	PATROL										
	28	0001	0025	0005	N04 E54		1-	2	0005	.80	1.10	20			
	28	0010	0020	NO FLARE	PATROL										
	28	0445	0515	NO FLARE	PATROL										
	28	0810	0825	NO FLARE	PATROL										
	28	0835	0900	NO FLARE	PATROL										
	28	0920	0930	NO FLARE	PATROL										
SAC PEAK OTTAWA WENDELSTEIN	28	0940	1000	NO FLARE	PATROL										
	28	1015	1045	NO FLARE	PATROL										
	28	1055	1105	NO FLARE	PATROL										
	28	1115	1145	NO FLARE	PATROL										
	28	1452	1505	1456	N09 W00		1-	3		.19	.19	17			
	28	1454	1502 D	1456	N08 W00		1-	2	1456	.18	.18				
	28	1456 E	1512 D		N08 E03		1-								
	28	2135	2150	NO FLARE	PATROL										
	28	2255	2335	NO FLARE	PATROL										

SOLAR FLARES

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	SALTSJÖBADEN	STOCKHOLM, SWEDEN
CAPRI S	CAPRI, ITALY (SWEDISH)	MCWATH	MCWATH-HULBERT	SCHAUINS	SCHAUINSLAND, GFR
CRIMÉE	SIMEIZ, USSR		PONTIAC, MICH., USA	TACHKENT	TASHKENT, USSR
HERSTHONCEU	ROYAL GREENWICH OBSERVATORY,	MOSCOU	MOSCOM-GAISH, USSR	WENDEL	WENDELSTEIN, GFR
	HERSTHONCEUX, ENGLAND				
HTE-PROVEN	HAUTE-PROVENCE				
			NEW SCHAUN FREIBURG, 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 CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

FEBRUARY 1963

Stations Include:

Athenes	McMath-Hulbert	Sacramento Peak
Honolulu	Mitaka	Herstmonceux
Kodaikanal	Ottawa	Ondrejov

SOLAR FLARES

NOVEMBER 1962

OBSERVATORY	DATE	OBSERVED TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — UT	MEASUREMENTS		MAX. WIDTH H _g	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. MER. DIST.	McMATH PLACE REGION				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
ABASTUMANI CAPETOWN	NOV 1962													
	01	0255	0330	NO FLARE	PATROL									
	01	0340	0345	NO FLARE	PATROL									
	01	1125	1130	NO FLARE	PATROL									
	01	1225	1230	NO FLARE	PATROL									
	01	1245	1255	NO FLARE	PATROL									
	01	1330	1335	NO FLARE	PATROL									
	02	0150	0155	NO FLARE	PATROL									
	02	0205	0450	NO FLARE	PATROL									
	03	0045	0050	NO FLARE	PATROL									
UCCLE KIEV KO CAPETOWN	03	0125	0500	NO FLARE	PATROL									
	04	0110	0545	NO FLARE	PATROL									
	04	0753 E	0857 D	0754	S15 W89	6604	1+	2	0827	.81	5.92		59	
	04	0813	0853	0827	S14 W88	6604	1			.80				
	05	1235	1300	NO FLARE	PATROL									
	07	0240	0325	NO FLARE	PATROL									
	07	0335	0345	NO FLARE	PATROL									
	07	0837	0914	1139	S31 E67	6611	1-	4	1139	2.06			74	
	07	1137	1153	1145	S14 E77	6611	1+	2	1145	2.70				
	07	1141	1215		S16 E75	6611	1+							
CAPETOWN	08	0130	0430	NO FLARE	PATROL									
	08	0735	0800	NO FLARE	PATROL									
	08	0805	0820	NO FLARE	PATROL									
	08	0952 E	1025	NO FLARE	S16 E58	6611	1		1003	1.20	2.40			
	08	1310	1410	NO FLARE	PATROL									
	08	1420	1435	NO FLARE	PATROL									
	09	0900	0905	NO FLARE	PATROL									
	09	1320	1330	NO FLARE	PATROL									
	09	1328 E	1336	1328	S15 E33		1-	2	1330	1.40	1.60	2.30		
	09	1410	1420	NO FLARE	PATROL									
HUANCAYO	10	0155	0200	NO FLARE	PATROL									
	10	0530	0620	NO FLARE	PATROL									
	10	0700	0710	NO FLARE	PATROL									
	10	1320	1330	NO FLARE	PATROL									
	10	1400	1425	NO FLARE	PATROL									
	10	1430	1435	NO FLARE	PATROL									
	11	1335	1440	NO FLARE	PATROL									
	11	1625	1644	1632	N12 E76		1-			.20	.40			
	12	0000	0010	NO FLARE	PATROL									
	12	1225	1245	NO FLARE	PATROL									
CLIMAX	12	1255	1315	NO FLARE	PATROL									
	12	1325	1345	NO FLARE	PATROL									
	12													
	12													

SOLAR FLARES

NOVEMBER 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX PHASE	APPROX.					TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o		MAX. INT. ° _o
					LAT.	MER DIST									
CAPETOWN	NOV 1962														
	13	1050	1135	NO FLARE	PATROL										
	13	1140	1155	NO FLARE	PATROL										
	14	0100	0140	NO FLARE	PATROL										
	14	1338	1350	1341	N22 W19										
	14	1425	1430	NO FLARE	PATROL										
CAPETOWN	14	1455	1500	NO FLARE	PATROL										
	14	2305	2350	NO FLARE	PATROL										
	15	0935	1003	0945	N22 W29										
	15	0941	0952	0942	N18 W25										
	15	1335	1345	NO FLARE	PATROL										
	15	1350	1410	NO FLARE	PATROL										
KODAIKNL	15	1805	1810	NO FLARE	PATROL										
	16	0143 E	0147 D		N11 E14										
	16	0600	0605	NO FLARE	PATROL										
	16	0615	0620	NO FLARE	PATROL										
	16	0625	0630	NO FLARE	PATROL										
	16	0923 E	0947		S15 W09										
UCCLE	16	0923 E	1009 D		N12 W12										
	16	1201 E	1209 D		N12 W12										
	16	1203	1243	1206	N12 W12										
	16	1330	1335	NO FLARE	PATROL										
	16	1345	1650	NO FLARE	PATROL										
	16	1811	1834	1826	S14 E00										
CAPETOWN	17	0550	0605	NO FLARE	PATROL										
	17	0718	0730	0720	N16 W03										
	17	0720	0722	0720	N11 W02										
	17	0733	0747	0736	N16 W03										
	17	0950 E	1000		S14 E12										
	17	1405	1600	NO FLARE	PATROL										
CAPETOWN	18	0020	0100	NO FLARE	PATROL										
	18	0955	1000	NO FLARE	PATROL										
	18	1020	1025	NO FLARE	PATROL										
	18	1045	1050	NO FLARE	PATROL										
	18	1055	1120	NO FLARE	PATROL										
	18	1200	1500	NO FLARE	PATROL										
CAPETOWN	19	1055	1140	NO FLARE	PATROL										
	19	1210	1225	NO FLARE	PATROL										
	19	1235	1350	NO FLARE	PATROL										
	19	1355	1415	NO FLARE	PATROL										
	19	1440	1445	NO FLARE	PATROL										
	19	1455	1515	NO FLARE	PATROL										
CAPETOWN	20	0000	0030	NO FLARE	PATROL										
	20	0330	0340	NO FLARE	PATROL										
	20	0500	0525	NO FLARE	PATROL										
	20	0500	0525	NO FLARE	PATROL										
	20	0500	0525	NO FLARE	PATROL										
	20	0500	0525	NO FLARE	PATROL										

SOLAR FLARES

NOVEMBER 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURATION — MINUTES	IM. POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	McMATH FLAGE REGION					TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H ₃₀		MAX. INT. f _o F ₂
					MAX. PHASE	MER. DIST.									
CLIMAX CLIMAX	NOV 1962														
	20	0530	0540	NO FLARE	PATROL										
	20	0550	0600	NO FLARE	PATROL										
	20	1355	1410	NO FLARE	PATROL										
	20	1425	1440	NO FLARE	PATROL										
	22	1315	1440	NO FLARE	PATROL										
	22	2315	2325	NO FLARE	PATROL										
	22	2355	2400	NO FLARE	PATROL										
	23	1435	1440	NO FLARE	PATROL										
	23	1535	1610	NO FLARE	PATROL										
VOROSHILOV	24	0510	0520	NO FLARE	PATROL										
	24	0530	0535	NO FLARE	PATROL										
	24	0540	0555	NO FLARE	PATROL										
	24	1756	1820	1812	N10 W21		1-			.60	.60				
	24	2218	2230 D	2222	N10 W24		1-			1.90	1.90				
CAPRI F	25	0111	0121	0117	N09 W26		1-			1.62			59		
	25	0200	0210	NO FLARE	PATROL										
	25	0215	0500	NO FLARE	PATROL										
	25	0655	0720	NO FLARE	PATROL										
	25	1103 E	1128 D	1124	N10 W28	6621	1	2	1124	.75	.86				
VOROSHILOV	26	0230	0235	NO FLARE	PATROL										
	26	0250	0500	NO FLARE	PATROL										
	26	2210	2245	NO FLARE	PATROL										
	26	2315	2355	NO FLARE	PATROL										
	27	0250	0255	NO FLARE	PATROL										
	27	0300	0455	NO FLARE	PATROL										
	28	0205	0245	NO FLARE	PATROL										
	28	2245	2250	NO FLARE	PATROL										
	28	2305	2315	NO FLARE	PATROL										
	29	0200	0310	NO FLARE	PATROL										
KODAIKUNL	30	0425	0430	NO FLARE	PATROL										
	30	0042	0050	0048	N18 W78		1-	2		.54			90		
	30	0215	0235	NO FLARE	PATROL										
	30	0305	0400	NO FLARE	PATROL										
	30	0407 E	0412	NO FLARE	N12 W77		1-	2	0407			1.28	114		
	30	0430	0500	NO FLARE	PATROL										
	30	0855 E	0912 D	0857	N18 W80	6630	1	2	0857	1.00	3.25				
	30	1045 E	1105	1050 U	N18 W87	6630	1		1050	.60					
	30	1200	1218	1204	N18 W87		1-		1204	.60					
	30	1256	1318	1302	N18 W87	6630	1		1302	.60					
HUANCAYO	30	1308 E	1322		N16 W85	6630	1+	1	1310	2.78	8.35				
	30	1540	1613		N17 W88	6630	1	1	1556	2.05	6.56				
	30	1635 E	1655	1647	N17 W82	6630	1+	2	1647	1.40	9.20	6.70			

SOLAR FLARES

NOVEMBER 1962

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. MER DIST	MC-MATH PLACE REGION			MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	MAX INT. °
OTTAWA CLIMAX [OTTAWA	NOV 1962											
	30	1807	1839	N17 W88		6630	1	2	1.76	5.62		
	30	1927	1938	N19 W90		6630	1	2	.70	3.50		
	30	1929	1937	N18 W87		6630	1	2	2.34	7.50		

COMMENCE - STANDARDS - BUILDUP

These flare reports are addenda to the November 1962 flares published in CRPL-F 220B December 1962.

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

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

III_m

NOVEMBER 1962

COMMERCE - STANDARDS - BOULDER

Stations Include:

Abastumani	Capri-F (German)	Herstmonceux	Kiev KO	Nizamiah	Schauinsland
Arcetri	Capri-S (Swedish)	Honolulu	Kodaikanal	Nizmir	Tashkent
Athens	Climax	Huancayo	Lockheed	Ondrejov	Uccle
Bakou	Crimee	Ikomasan	McMath-Hulbert	Ottawa	Voroshilov
Capetown	Haute-Provence	Kharkov	Mitaka	Sacramento Peak	

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

JANUARY 1963

JAN. 1963	UNIVERSAL TIME			SWF TYPE	IMP	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX			ABS	SCNA	SEA	SPA	BUR			
04	2018	2030								1		MC BO HA (Small group of bursts)	

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

IVa

FEBRUARY 1963

ARO - OTTAWA

2800 Mc.

Feb. 1963	Type	Start UT	Duration Hrs.Mins	Maximum			Remarks
				Time UT	Peak Flux	Mean Flux	
1	3 Simple 3 f	1738	1 05	1740	2	1	
6	9 Precursor	1921	17		2	1.7	
	2 Simple 2 f	1938	4	1941	14	8	
	4 Post Increase		55		7	3	
18	3 Simple 3 A	1440	1 10	Indet.	2	1	
	1 Simple 1 f	1450	2	1450.6	5	2.5	
18	9 Precursor	1556.5	1.5		3	2	
	6 Complex f	1558	2	1559	50	10	
	4 Post Increase		45		3	1.5	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

FEBRUARY 1963

BOEING - SEATTLE

221 Mc.

Feb. 1963	Type	Starting time	Time of max.	Dura- tion	Flux density $10^{-22} \text{ W m}^{-2} (\text{c/s})^{-1}$	
		UT	UT	minutes	peak	mean
16	ef	1830	1834	4	73	17
18	ec	2245	2247	2	26	8

COMMERCE - STANDARDS - BOULDER

Normal observing period: 1700-2300 UT

*The heading of the date column of the table appearing on page IVb in the February 1963 CRPL-F 222 Part B should have been January 1963 instead of January 1962.

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

FEBRUARY 1963

NANÇAY

169 Mc.

FEBRUARY 1963

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

FEBRUARY 1963

BOULDER

108 Mc.

Feb. 1963	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
19	3	1618.7	1619.9	1.5	3

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION
OUTSTANDING OCCURRENCES

FEBRUARY 1963

BOULDER

108 Mc.

Feb. 1963	U.T.			Feb. 1963	U.T.		
1	1414-2258	I	1838-2258	16	1357-0022	I	2231-2243
2	1413-0005			17	1430-0023		
3	1412-2247; 2258-0006			18	1354-0024	I	2238-2245; 2330-2339;
4	1411-0008	I	1841-1901; 2011-2018				0006-0024D
5	1410-0009	I	1938-1940; 2235-2243; 2316-2340	19	1353-0025	I	1415-1425; 2305-2354
6	1409-0010	I	1423-1434; 1505-1510	20	1352-0026		
7	1408-0011			21	1350-0028		
8	1407-1412			22	1349-0029	I	1436-1438
9	1406-0014	I	1749-1753; 1911-1930	23	1348-0030	I	2010-2147
10	1404-0015			24	1346-0031		
11	1403-2252; 2308-0016			25	1345-0032	I	1459-1504
12	1402-2030; 2231-0017			26	1343-0033	I	1414-1418; 1443-1456
13	1401-0018			27	1342-0034	I	1432-1443
14	1400-0019			28	1340-0036	I	1437-1523
15	1358-0021	I	1759-1806				

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVc

FEBRUARY 1963

HAO BOULDER

7.6 - 41 Mc.

Date 1963	Bursts			Frequency Range (mc)	Date 1963	Bursts			Frequency Range (mc)
	Type	Time (U.T.)	Intensity			Type	Time (U.T.)	Intensity	
5 Feb	III	1939.45-1940.15	1	21-41	18 Feb	continuum	1513-1645	1-	29-41
	III	2033.30-2034	1	19-41		continuum	1752-1831	1-	25-38
6	III	1533.30-1534.30	1	20-41	19	III	1651.45-1652	1-	25-41
	III	1542.45-1543.45	1-	31-41		III	1716-1716.15	1-	22-41
7	III	2102.15-2102.30	1-	29-41	20	III	1507-1508	1-	16-41
8	III	1820-1820.45	1	31-41		III	1910.15-1910.30	1-	31-41
	III	1827.15-1828	1	20-41		III	1920.30-1922.15	1-	31-41
	III	1958.15-1959.45	1+	15-41		III	1924-1927.30	1-	31-41
	III	2121-2123	1	25-41					
	III	2338.30-2341.30	1+	16-41					
9	III	1839.45-1840	1-	22-41					
	III	1841.30-1842.30	1-	22-41					
15	II	2019.15-2034	2	22-41					
	II	2048-2056.15	2	25-38					
17	III	1711.30-1712	1-	19-41					

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTROHELIOGRAMS
FEBRUARY 1963

STANFORD

9.1 cm

DATA UNAVAILABLE DURING FEBRUARY 1963 DUE TO EQUIPMENT FAILURE AND RENOVATION.

COSMIC RAY INDICES

(Climax Neutron Monitor)

IGC Station B 305

JANUARY 1963

Jan. 1963	Daily average counts/hr*	Jan. 1963	Daily average counts/hr*
1	3163.6	17	3157.4
2	3143.6	18	3165.8
3	3156.7	19	3171.6
4	3153.3	20	3161.0
5	3150.1	21	3165.5
6	3150.5	22	3159.7
7	3152.7 +36	23	3153.7
8	3160.7	24	3157.9
9	3174.2	25	3172.9
10	3187.4	26	3182.5
11	3188.1	27	3176.7
12	3172.4	28	3160.1
13	3170.0	29	3169.9
14	3170.0 +36	30	3171.5
15	3166.5	31	3163.7
16	3159.9		

COMMERCE - STANDARDS - BOULDER

*Scaling Factor 128

+Number of Section Hours

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

The graphs for the new pile in Deep River have been replotted for the months of May through October using a new barometer coefficient of 0.74% per millibar instead of 0.70% millibar. The difference is very small except on a few days of high or low barometric pressure. The replotted graphs appear on pages Vc through Vh.

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

(REVISED GRAPH)

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

(REVISED GRAPH)

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

(REVISED GRAPH)

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES (Pressure Corrected Hourly Totals)

(REVISED GRAPH)

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

(REVISED GRAPH)

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

(REVISED GRAPH)

GEOMAGNETIC ACTIVITY INDICES

JANUARY 1963

1963 Jan.	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	0.2	1-	2o	2-	1o	1o	2-	1o	1o	10o	5	Five Quiet 2 6 9 27 28
2	0.0	0o	0o	0o	0o	0+	1o	0+	0+	2o	1	
3	0.0	0o	1o	0+	1-	0+	0+	0+	0+	3+	2	
4	0.5	2o	1o	0+	1-	3-	3+	3-	1o	14-	8	
5	0.1	0o	1-	2o	1+	1+	0+	0o	1o	7-	3	
6	0.0	0o	0o	0o	0o	0o	0+	0o	0o	0+	0	
7	0.5	2o	2+	1+	1-	1o	3+	2-	0+	13-	7	
8	0.0	0o	0o	1o	1o	0+	0o	1o	1+	5-	2	
9	0.0	0o	0o	0o	0o	0+	0o	0o	0+	1-	0	
10	0.0	1o	1o	1o	0+	1o	0+	1-	0o	5+	3	
11	0.5	0o	0o	1-	1-	2+	2o	4-	2-	11o	6	Five Disturbed 13 14 15 30 31
12	0.4	0+	2-	1-	1-	0+	1-	2-	3o	9o	5	
13	1.4	5-	5+	4o	5-	3+	4-	3-	4-	32o	29	
14	1.4	3+	4-	4o	5o	4o	5-	5o	3+	33o	31	
15	1.1	4-	5o	5+	4o	3+	2+	3o	2+	29o	26	
16	1.2	4o	2o	4-	3o	4+	4+	4+	4o	30-	24	
17	1.0	3o	4o	5-	2+	2+	4o	3o	3-	26o	19	
18	0.9	3-	3-	2+	3-	2+	3-	3-	5-	23-	15	
19	1.0	3+	3-	4-	4-	4o	4o	2+	3+	27o	19	
20	0.3	2+	1-	3-	2+	2o	1-	1o	1o	13-	6	
21	0.1	0+	1o	1-	2-	1-	0+	0+	1-	6-	3	Ten Quiet 2 3 6 8 9 10 21 26 27 28
22	0.2	1+	1o	2-	1o	1-	1o	2o	1+	10o	5	
23	0.6	3-	3-	3-	1+	2+	1+	2-	2+	17o	9	
24	0.7	1+	2-	2-	2+	1o	2o	3-	4+	17o	10	
25	0.5	3-	3-	1+	1o	1+	2o	2+	1o	14+	7	
26	0.0	0+	1-	1o	1o	0o	0o	1-	0+	4o	2	
27	0.0	0o	0o	0o	1o	0+	0o	0+	0o	2-	1	
28	0.0	0+	1-	0+	0+	0+	0o	0o	1-	3-	2	
29	0.4	0o	0o	0o	1-	1-	1o	2+	3+	8o	5	
30	1.4	3+	3o	3o	4+	4+	3+	4+	5o	33-	29	
31	1.5	5+	6-	5+	5-	5+	5-	4o	2-	37-	43	
Mean:	0.51									Mean:	11	

COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS JANUARY 1963

NORTH ATLANTIC

NORTH PACIFIC

JANUARY 1963	NORTH ATLANTIC QUALITY FIGURES			SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF			WHOLE DAY INDEX	ADVANCE FORECASTS (24 REPORTS) FOR WHOLE DAY, ISSUED BY			GEOMAGNETIC K _p	NORTH PACIFIC 12-HOURLY QUALITY FIGURES			SHORT-TERM FORECASTS ISSUED AT			WHOLE DAY INDEX	ADVANCE FORECASTS (24 REPORTS) FOR WHOLE DAY, ISSUED BY			GEOMAGNETIC K _p
	00 06 12 18 TO TO TO TO	06 12 18 24 TO TO TO TO	00 06 12 18 TO TO TO TO	00 06 12 18 TO TO TO TO	00 06 12 18 TO TO TO TO	00 06 12 18 TO TO TO TO		1-7 1-7 1-7 FINAL J ₃ S ₃ S ₃ J ₃	1-7 1-7 1-7 FINAL J ₃ S ₃ S ₃ J ₃	1-7 1-7 1-7 FINAL J ₃ S ₃ S ₃ J ₃		0700 1900 TO TO	0700 1900 TO TO	0700 1900 TO TO	0600 1800 ISSUED AT	0600 1800 ISSUED AT	0600 1800 ISSUED AT		1-7 1-7 1-7 FINAL J ₃ S ₃ S ₃ J ₃	1-7 1-7 1-7 FINAL J ₃ S ₃ S ₃ J ₃	1-7 1-7 1-7 FINAL J ₃ S ₃ S ₃ J ₃	
01	3+ 30 6- 50			4 3 6 5			(4-)	5	5	5	1	6 5			4 6			5	5	5	2	1
02	4+ 3+ 6- 5+			4 4 6 5			(4+)	5	5	5	0	5 5			5 5			5	5	5	0	0
03	4+ 40 6- 5+			4 4 6 5			5-	4	4	4	1	5 6			5 5			5	5	5	0	0
04	5- 40 60 5+			4 4 6 5			5-	4	4	4	1	5 6			4 6			5	5	5	0	2
05	5- 4- 6- 6-			5 4 6 5			5-	5	5	5	1	6 6			5 6			5	5	5	2	0
06	4+ 4- 60 6-			5 4 6 5			5-	5	5	5	0	5 4			5 6			5	6	6	0	0
07	4+ 40 60 6-			4 3 6 5			5-	5	5	5	2	5 7			5 6			6	6	6	1	2
08	5- 5- 60 50			4 3 6 5			50	4	4	4	1	6 7			5 6			6	5	5	1	0
09	4+ 4+ 6+ 6-			5 4 6 5			5-	4	4	4	0	6 7			5 6			4	4	4	0	0
10	4+ 4+ 6- 6-			4 4 6 5			5-	5	5	5	1	6 6			5 6			6	5	5	0	1
11	50 5- 60 6-			4 4 6 5			5+	5	5	5	0	6 6			5 7			6	6	6	0	2
12	50 6- 60 60			5 5 6 6			6-	5	5	5	1	6 7			6 7			6	6	6	0	1
13	50 4+ 6- 5+			5 3 5 4			50	4	4	4	(4)	5 7			4 6			6	4	4	(4)	3
14	50 4- 50 4+			4 4 5 4			(4+)	3	3	3	(4)	4 6			4 6			3	3	3	(4)	(4)
15	40 30 6- 50			4 3 5 4			(40)	3	3	3	(4)	5 6			4 6			4	4	4	(4)	2
16	40 4- 50 40			4 4 6 5			(40)	4	4	4	3	5 6			5 6			5	4	4	3	(4)
17	40 3+ 6- 5-			4 3 6 5			(4+)	5	5	5	3	5 6			5 7			5	5	5	(4)	2
18	40 40 5+ 5-			4 4 6 5			(4+)	5	5	5	2	5 5			5 6			5	6	6	2	2
19	40 30 5+ 5-			4 4 6 5			(40)	5	5	5	3	4 6			4 5			5	6	6	(4)	3
20	4- 30 6- 50			4 3 5 5			(40)	5	5	5	2	5 6			5 6			6	6	6	2	0
21	3+ 3- 5+ 4+			4 3 5 5			(4-)	5	5	5	1	5 7			6 7			6	6	6	0	0
22	40 4- 60 5+			4 3 6 5			(4+)	4	4	4	1	5 6			6 7			6	5	5	1	1
23	4+ 4+ 60 5+			4 4 6 5			5-	4	4	4	2	6 6			4 7			6	4	4	1	2
24	5- 3+ 6- 50			5 4 6 5			(4+)	5	5	5	2	4 6			5 6			5	6	6	2	2
25	50 4+ 6- 6-			4 4 6 5			50	5	5	5	2	5 6			5 6			6	6	6	1	2
26	4+ 40 6+ 6-			5 4 5 5			5-	5	5	5	1	6 6			5 6			6	6	6	1	0
27	4+ 30 6+ 6-			5 4 5 5			(4+)	5	5	5	0	6 6			5 6			6	6	6	0	0
28	4+ 40 7- 6-			4 3 6 5			50	5	5	5	1	5 5			5 6			6	6	6	0	0
29	5- 4+ 6+ 6-			5 4 6 5			50	5	5	5	0	5 7			4 6			6	6	6	0	2
30	4+ 4- 60 5+			5 4 5 5			5-	6	6	6	(4)	5 5			5 5			6	6	6	(4)	(4)
31	3+ 20 4- 30			4 3 5 3			(30)	4	4	4	(4)	4 4			3 4			(4)	3	3	(5)	(4)
Score: Quiet Periods	P			5 0 21 13				9	9						12 15				11			
	S			5 2 9 14				8	8						13 14				14			
	U			0 1 0 0				0	0						0 0				1			
	F			0 0 0 0				0	0						2 0				4			
Disturbed Periods	P			13 17 0 2				2	2						2 1				0			
	S			8 11 1 2				12	12						2 0				1			
	U			0 0 0 0				0	0						0 0				0			
	F			0 0 0 0				0	0						0 1				0			

NORTH ATLANTIC

JANUARY 1963

NORTH PACIFIC

JANUARY 1963

JANUARY 1963

VIIIa

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

FEBRUARY 1963

Issued February 1963 Day/Time U.T.	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Intervals
01/1600	Sac Peak, Solar Flare, One Plus 06/2222Z	195		Finish
07/0200				
10/1600		196	Magnetic Storm 09/2102Z	

COMMERCE - STANDARDS - BOULDER