PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
MARCH 1959

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

CRPL-F 175
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
31 March 1959

SOLAR - GEOPHYSICAL DATA

CONTENTS

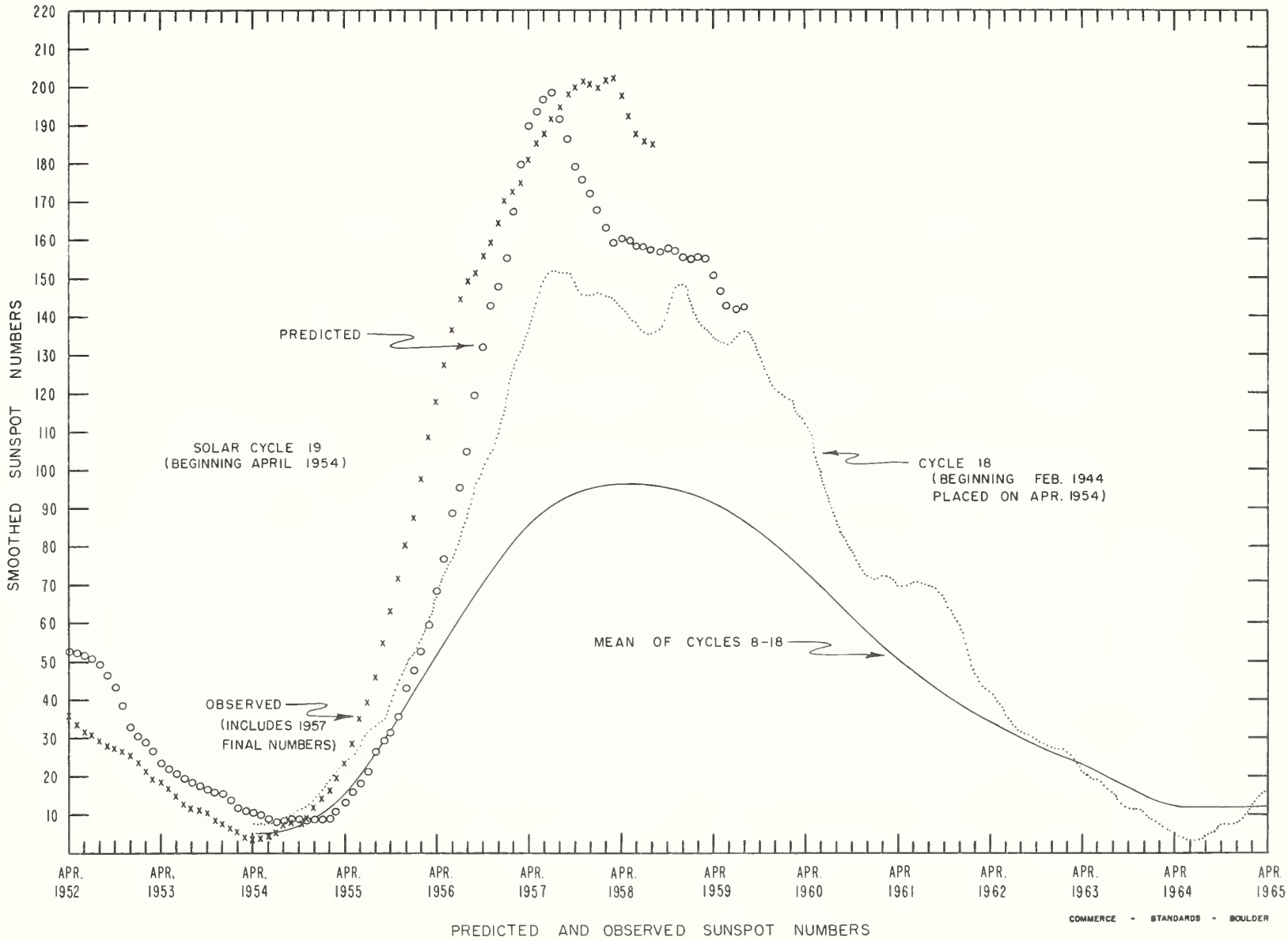
INTRODUCTION

The descriptive text is published quarterly or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F174 Part B issued February 1959.

DAILY SOLAR INDICES

Jan. 1959	American Relative Sunspot Numbers R_A'
1	234
2	224
3	238
4	213
5	195
6	208
7	233
8	270
9	209
10	181
11	170
12	168
13	133
14	116
15	109
16	146
17	143
18	166
19	165
20	240
21	275
22	234
23	234
24	223
25	256
26	213
27	258
28	242
29	205
30	155
31	114
Mean:	199.3

Feb. 1959	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	110	205
2	139	205
3	129	204
4	130	201
5	126	191
6	103	195
7	124	182
8	90	182
9	87	174
10	100	190
11	100	199
12	101	199
13	106	201
14	129	199
15	133	213
16	144	214
17	170	220
18	159	218
19	175	218
20	150	228
21	163	224
22	158	219
23	186	212
24	190	220
25	181	227
26	176	219
27	163	211
28	186	201
Mean:	139.6	206.1


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

Zurich Final Relative Sunspot Numbers

1958

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	214	150	109	290	250	200	165	262	200	223	217	241
2	213	168	90	292	246	154	164	250	221	220	212	234
3	200	161	140	245	269	183	190	200	230	207	205	228
4	217	144	185	253	268	203	203	177	240	175	192	221
5	191	177	203	244	267	206	209	198	206	157	177	233
6	192	187	215	238	223	192	214	209	220	140	152	227
7	205	197	220	246	198	185	212	223	175	125	133	242
8	210	181	198	246	177	200	205	230	160	115	114	255
9	232	168	186	204	150	202	193	253	166	116	97	252
10	252	167	181	197	181	200	201	244	219	121	85	258
11	253	171	173	159	166	193	175	253	245	123	84	237
12	255	177	162	140	172	197	130	228	267	135	85	211
13	271	168	154	127	114	178	138	220	265	138	93	198
14	279	174	158	96	103	160	135	202	233	142	97	185
15	291	159	165	99	106	132	135	190	230	160	95	150
16	278	148	155	108	110	100	144	177	206	219	95	142
17	247	147	164	147	116	113	160	163	189	231	80	124
18	230	139	162	168	123	100	181	152	205	243	80	109
19	212	141	155	191	140	114	191	128	187	238	98	80
20	190	160	154	192	132	107	188	131	163	232	106	83
21	171	170	156	212	162	141	196	145	156	212	125	92
22	173	170	163	212	165	157	184	160	172	241	142	114
23	182	173	187	201	171	187	178	192	175	230	155	150
24	137	182	204	181	199	185	170	183	174	190	178	185
25	137	187	180	206	189	191	179	198	161	176	211	218
26	143	174	194	182	170	207	213	180	169	171	237	229
27	169	153	226	192	157	207	238	196	177	164	247	218
28	160	125	292	198	160	193	250	202	208	179	258	183
29	130		302	207	192	200	261	225	217	200	259	168
30	110		338	208	178	159	268	225	201	193	260	175
31	132		342		181		263	210		210		175
Mean:	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6

CALCIUM PLAGE AND SUNSPOT REGIONS

FEBRUARY 1959

CMP Feb. 1959	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area	Int.	History, Age		CMP Values Area	Count	History
01.1	N13	4986	4945	1500	2.5	ℓ — ℓ	3	100	2	ℓ \ d
01.4	S12	4985	New	1000	3	ℓ — ℓ	1	120	1	ℓ ⌝\ d
01.6	N04	4989	4946	(900)	(2)	ℓ \ d	2			
02.2	N45	4999	New	600	2	b Λ d	1			
02.8	S16	4993	4947	1400	2	ℓ — ℓ	2	50	1	ℓ ⌝\ d
03.4	S08	4991	4949	1500	2	ℓ — ℓ	5			
04.2	N18	4992	4951	3500	2	ℓ — ℓ	2	940	12	ℓ — ℓ
04.2	S04	4994	4949	1200	2	ℓ — ℓ	5			
04.8	S17	4996	4952	(2100)	(1.5)	ℓ \ d	3			
04.9	S13	5000	*	(700)	(1.5)	b Λ d	-			
06.4	S24	4995	4958	1800	2.5	ℓ \ ℓ	2			
07.2	N13	4997	4953	12,500	3	ℓ \ ℓ	3	50	1	ℓ ⌝\ d
07.3	S12	4998	4956	900	2	ℓ ⌝\ d	6			
08.8	N31	5005	4966	(1,200)	(2)	b Λ d	2			
10.2	N22	5003	4959	4000	2.5	ℓ — ℓ	3	880	8	ℓ — ℓ
11.3	S05	5004	4967	500	2	ℓ \ d	2			
12.0	N24	5006	4962	300	2	ℓ \ ℓ	3			
13.6	N21	5008	4965	1500	2.5	ℓ — ℓ	4	60	1	b Λ d
13.8	S10	5019	New	(800)	(2.5)	b ⌜ ℓ	1			
16.2	N12	5009	4969	4500	3	ℓ / ℓ	4	950	23	ℓ — ℓ
16.5	S12	5010	4970	500	2	ℓ \ d	3			
16.5	S33	5020	New	(300)	(2)	b ⌜ ℓ	1			
18.0	N21	5011	**	2200	3	ℓ / ℓ	3,4	(140)	(2)	b / ℓ
18.2	N32	5012	New	700	2.5	ℓ — ℓ	1			
18.5	N09	5013	4973	4000	2.5	ℓ — ℓ	2	90	1	ℓ — ℓ
18.7	S15	5014	4972	1300	2	ℓ ⌝\ d	6			
19.8	N10	5016	***	4500	2	ℓ — ℓ	2,3	290	2	ℓ — ℓ
20.2	N24	5015	4974	2000	2.5	ℓ — ℓ	3			
20.5	S08	5017	4977	1900	2.5	ℓ ⌝ d	2			
21.5	N20	5018	4976	11,000	3.5	ℓ — ℓ	3	2420	15	ℓ — ℓ
22.0	S17	5021	New	2000	2.5	ℓ — ℓ	1			
24.0	N38	5022	4978	500	1	ℓ — ℓ	2			
24.2	S32	5030	New	200	2	b Λ d	1			
24.5	N19	5023	New	6000	3	ℓ — ℓ	1	720	9	ℓ — ℓ
26.1	N08	5025	4982	700	2	ℓ \ d	3			
26.2	S32	5027	New	2600	3.5	ℓ — ℓ	1	400	6	ℓ — ℓ
26.9	N22	5026	4983	6000	3	ℓ / ℓ	3	690	8	b / ℓ
28.2	S13	5028	4985	1400	2.5	ℓ ⌝ d	2	10	1	b Λ d
28.4	N21	5033	4986	1700	2	b Λ d	4			
28.5	N09	5029	New	1400	2.5	ℓ \ ℓ	1	10	1	ℓ \ d

COMMERCE - STANDARDS - BOULDER

* Same as 4996.
** 4969, 4974.
*** 4973, 4976.

CORONAL LINE EMISSION INDICES

FEBRUARY 1959

CMP Feb. 1959	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	120	168	50	84	73	108	27	56	x	x	x	x	x	x	x	x
2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	108	152	36	68	82	120	30	54	96	139	25	42	96	128	39	54
4	148	172	39	82	177	216	34	42	91	124	20	30	141	172	28	72
5	x	x	x	x	x	x	x	x	108	131	7	9	139	180	25	54
6	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
7	x	x	x	x	x	x	x	x	94	123	15	24	152	172	38	48
8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	141	176	51	72	51	68	17	30	44	52	19	30	139	171	63	102
10	x ✲	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
11	141 ✲	200	37	56	72	136	26	56	x	x	x	x	x	x	x	x
12	131	228	51	120	67	90	17	66	57	67	15	43	107	144	63	108
13	111	162	62	144	39	44	8	10	67	88	11	15	84	120	36	60
14	120	181	x	x	97	128	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	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
17	111 ✲	148	52	115	96	116	16	24	133	188	29	75	148	204	69	90
18	135 ✲	196	53	72	134	160	20	36	x	x	x	x	x	x	x	x
19	194 ✲	295	69	102	141	184	26	54	x	x	x	x	x	x	x	x
20	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
21	163 ✲	215	49	73	135	192	21	66	63	88	21	48	93	128	49	72
22	x	x	x	x	x	x	x	x	77	88	31	48	110	160	14	21
23	88	120	54	78	69	92	18	42	59	76	9	12	130	196	46	84
24	x	x	x	x	x	x	x	x	57	85	11	15	143	182	55	99
25	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
26	134	173	65	101	41	56	19	25	x	x	x	x	x	x	x	x
27	141	188	41	66	72	104	17	59	59	89	22	42	88	109	32	42
28	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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

SOLAR FLARES

FEBRUARY 1959

OBSERVATORY	DATE FEB 1959	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SYDNEY	01	0425 E	0450 D		N12	E75	4997	25	2							S-SWF
UCCLE	01	1056	1104	1058	N11	E75	4997	8	1	4						
UCCLE	01	1153	1226 D	1204	N23	W16	4983	33 D	2b	4	1204	9.50	11.00			
MCMATH	01	1624	1710	1637	N21	W21	4983	46	1b	1	1637		3.90			
MCMATH	01	1714	1750	1723	N11	E71	4997	36	1	1	1723		2.06			Slow S-SWF
MEUDON	02	1017	1221	1040	N22	W60	4976	124	3		1040		18.00			
UCCLE	02	1023	1146 D	1026	N23	W30	4983	78 D	2b	4	1026	10.00	12.00			
STOCKHOLM	02	1035 E	1200		N22	W27	4983	85 D	3	3	1044	14.00	18.00			
ONDREJOV	02	1214 E	1227 D		N20	W37	4983	13 D	1b	3	1223			2.50		
MEUDON	02	1255	1320	1308	N13	E65	4997	25	1				6.00			
USNRL	02	1300 E	1324	1308	N18	E67	4997	24 D	1			1.02	2.76		48	
MCMATH	02	1445 E	1550 D		N14	E66	4997	65 D	1	1	1450		2.50			
MCMATH	02	1702	1728 D	1708	N12	E63	4997	26 D	1	1	1715		3.00			G-SWF
USNRL	02	1815	2019 D	1821	N12	E60	4997	124 D	2b			3.85	8.06		141	
MCMATH	02	1816	2019 D	1822	N06	E62	4997	123 D	3	1	1822		14.00			
SAC PEAK	02	1817	1940	1825	N11	E59	4997	83	3	2		13.30			30	S-SWF
USNRL	02	1907	2019 D	1912	N08	E63	4997	72 D	1b			1.65	2.92		123	
SAC PEAK	02	1945	2055	2002	N05	E57	4997	70	1	2		2.30			15	
SAC PEAK	02	1922	1940	1927	N16	E08	4992	18	1	2		2.50			17	
WENDEL	03	0805 E	0818		N16	W01	4992	13 D	1				4.00			
WENDEL	03	0816	0838 D		N16	E20	4992	22 D	1				4.00			
WENDEL	03	0846 E	0920		N16	W02	4992	34 D	1				3.00			
CAPRI-S	03	0848	1110 D		N17	E01	4992	142 D	1	2	0859	3.00	3.00			
WENDEL	03	1005	1104		N16	E00	4992	59	1b				7.00			
ONDREJOV	03	1015	1049	1024	N16	W02	4992	34	1b	3	1024			3.10		
OCCLE	03	1016	1030	1020	N18	W01	4992	14	1	3	1020	4.00				
STOCKHOLM	03	1017	1047		N15	E01	4992	30	1	3	1025	2.00	2.00			
WENDEL	03	1020	1037		N17	E03	4992	17	1				4.00			
WENDEL	03	1132	1214		N13	E51	4997	42	2				11.00			
CAPRI-S	03	1132	1215 D		N13	E49	4997	43 D	2	2	1204	4.00	6.60			
WENDEL	03	1137	1211		N23	E54	4997	34	1b				6.00			
ONDREJOV	03	1138	1156	1139	N14	E50	4997	18	2	3	1139			3.30		
OCCLE	03	1144 E	1155	1148	N14	E54	4997	11 D	1b	3	1148	5.00	7.00			
WENDEL	03	1225	1248 D		N24	W38	4983	23 D	2				9.00			
ONDREJOV	03	1226	1245		N24	W40	4983	19	1	3	1234			2.50		
WENDEL	03	1300	1316 D		N16	W01	4992	16 D	1				3.00			
WENDEL	03	1307 E	1321 D		N20	E18	4992	14 D	1				4.00			
USNRL	03	1943 E	2006 D		N17	W06	4992	23 D	1			1.70	1.86		60	
WENDEL	04	0830	0846 D		N16	W15	4992	16 D	1				3.00			
WENDEL	04	0844 E	0906		N21	E06	4992	22 D	1				4.00			
WENDEL	04	0858	0912 D		N17	E00	4992	14 D	1				4.00			
ONDREJOV	04	1416 E	1455 D		N19	W60	4983	39 D	1b	2	1425			2.20		
CAPRI-S	04	1443 E	1540 D		N20	W60	4983	57 D	2	1	1448	4.00	9.20			
SAC PEAK	04	1457 E	1540	1500 D	M21	W60	4983	43 D	1	2		2.70			15	
WENDEL	05	0858 E	0917 D		N16	W26	4992	19 D	1				4.00			
CAPRI-S	05	0902 E	0915 D		N17	W25	4992	13 D	1							
SAC PEAK	05	1515	1600	1527	N12	E20	4997	45	1	2		3.00			18	
MCMATH	06	1442	1550 D	1453	N19	E13	4997	68 D	1b	1	1453		5.00			

SOLAR FLARES

FEBRUARY 1959

OBSERVATORY	DATE FEB 1959	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MEUDON	06	1443	1553	1505	N17	E10	4997	70	2		1505		13.00			
WENDEL	06	1444	1518 D		N12	E06	4997	34 D	1				3.00			
WENDEL	06	1444	1542 D		N17	E07	4997	58 D	1b				7.00			
USNRL	06	1444 E	1620	1453	N18	E10	4997	96 D	1b			4.18	4.67		79	
WENDEL	06	1446 E	1542 D		N22	E10	4997	56 D	1				4.00			
CAPRI-S	06	1448 E	1610 D		N15	E11	4997	82 D	2	1	1500	7.00	7.70			
MCMATH	06	1900	1916 D	1911	N22	W42	4992	16 D	1	1	1911		2.25			
CAPRI-S	07	1007 E	1029 D		N10	W02	4997	22 D	1	3	1011	3.00	3.00			
MEUDON	07	1212	1237		N20	W50	4992	25	1							
WENDEL	07	1213	1234	1217	N20	W50	4992	21	1b				5.00			
CAPRI-S	07	1214	1228 D		N25	W51	4992	14 D	2	3	1222	3.00	5.70			
ONDREJOV	07	1215 E	1229 D	1221	N21	W54	4992	14 D	1	3	1221			2.20		
STOCKHOLM	07	1217	1232		N21	W47	4992	15	2	2	1222	3.00	5.10			
HAWAII	07	2318 E	2324 D		N17	W58	4992	6 D	1b	1	2321	4.00	9.00			
WENDEL	08	1029 E	1050 D		N09	W47	4992	21 D	1				3.00			
WENDEL	08	1342 E	1516 D		N26	E68	5008	94 D	1b				7.00			
MEUDON	08	1400	1445	1410	N27	E70	5008	45	1		1410		5.00			S-SWF
MCMATH	08	1402	1428 D	1409	N26	E70	5008	26 D	1	1	1409		3.00			
MCMATH	08	1404	1430 D	1408	N15	W19	4997	26 D	1	1	1408		4.00			
MCMATH	08	1627	1700 D	1631	N18	W18	4997	33 D	1	1	1631		2.00			
SIMEIZ	09	0810 E	1013 D		N08	E90	5009	123	3							
WENDEL	09	0825 E	1029 D		N07	E85	5009	124 D	1				4.00			
MEUDON	09	0828	0843		N10	E90	5009	15	1							
ARCETRI	09	0830 E	0848 D		N08	E86	5009	18 D	3	3	0836	3.30	47.30			
ARCETRI	09	0905 E	0923 D		N08	E85	5009	18 D	3	3	0914	3.30	47.30			
NIZAMIAH	09	0945	1010	0955	N05	E79	5009	25	1b	2	0955	.91	4.38	2.90		
MEUDON	09	0946	1015	1000	N10	E88	5009	29	2		1000					S-SWF
ARCETRI	09	1003 E			N08	E86	5009		2	3						
CAPRI-S	09	1103 E	1235 D		N12	E90	5009	92 D	2	1						
WENDEL	09	1108 E	1117 D		N07	E85	5009	9 D	1				4.00			G-SWF
MEUDON	09	1230	1440 D		N12	E88	5009	130 D	2							
WENDEL	09	1318 E	1356 D		N07	E84	5009	38 D	2				12.00			
WENDEL	09	1423 E	1454 D		N25	E11	5003	31 D	1				4.00			
MITAKA	10	0000 E	0021		N21	E04	5003	21 D	1	1	0015	3.19	3.73	3.05	115	
MITAKA	10	0216	0228	0226	N10	E75	5009	12	2b	1	0226	4.70	15.00	4.18	176	Slow-S-SWF
MITAKA	10	0238 E	0256		N05	E73	5009	18 D	2	1	0238	6.81	21.80	2.71	146	
MITAKA	10	0346	0405	0352	N05	E73	5009	19	2	1	0357	3.80	12.20	4.06	188	S-SWF
MITAKA	10	0347	0404	0352	N10	E74	5009	17	1b	1	0358	3.80	12.20	4.33	140	
WENDEL	10	0815 E	0848 D		N07	E68	5009	33 D	2				9.00			
MEUDON	10	0815	0900		N12	E72	5009	45	1							
ARCETRI	10	0817 E	0843 D		N08	E73	5009	26 D	3	3	0830	4.10	14.00			
ARCETRI	10	0817 E	1047 D		N08	E90	5009	150 D	□	3						
ARCETRI	10	0910 E	0934 D		N10	E78	5009	24 D	3	3	0910	8.30	39.60			
WENDEL	10	1130 E	1202		N08	W28	4997	32 D	1				4.00			
CAPRI-S	10	1131 E	1207 D		N10	W30	4997	36 D	1	1	1135	2.00	2.30			
CAPRI-S	10	1135 E	1245 D		N08	E62	5009	70 D	2	1	1215	2.00	6.00			S-SWF
DUNSINK	10	1328	1350 D	1339	N07	E73	5009	22 D	2	2	1347	3.00	7.65			
WENDEL	10	1335 E	1410 D		N12	E70	5009	35 D	1b				8.00			
CAPRI-S	10	1344 E	1353 D		N08	E62	5009	9 D	2	1	1347	4.00	11.20			

SOLAR FLARES

FEBRUARY 1959

OBSERVATORY	DATE Feb 1959	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
WENDEL	10	1435 E	1528		N04	E73	5009	53 D	2				8.00			S-SWF
SAC PEAK	10	2035	2117	2045	N05	E67	5009	42	1	2		3.30			20	
SAC PEAK	10	2207	2247	2215	N08	E70	5009	40	1	2		2.90			18	
MITAKA	11	0602 E	0609		N05	E60	5009	7 D	1	1	0608	.41	.93	2.26	105	
MITAKA	11	0618 E	0639 D	0630	N02	E60	5009	21 D	2	1	0622	2.78	5.92	4.06	204	
WENDEL	11	0903	0926		N04	E61	5009	23	1				3.00			
MEUDON	11	1032	1045	1036	N08	E60	5009	13	1		1036		3.00			
WENDEL	11	1032	1053		N04	E60	5009	21	1&				5.00			
WENDEL	11	1221 E	1303 D		N25	W16	5003	42 D	1&				5.00			
CAPRI-S	11	1224 E	1245 D		N25	W16	5003	21 D	1	1	1233	2.00	2.30			
WENDEL	11	1230	1255 D		N10	E62	5009	25 D	1				4.00			
MCMATH	11	1348 E	1420 D		N08	E60	5009	32 D	1	1	1410		2.50			
ONDREJOV	11	1409 E	1414		N10	E55	5009	5 D	1	3	1409			2.70		
USNRL	11	1603	1624	1610	N10	E05		21	1			.56	1.05		64	
USNRL	11	2052	2108 D	2056	N11	E62	5009	16 D	1			1.02	2.34		52	
HAWAII	11	2136 E	2222 D		N15	E60	5009	46 D	1	2	2136	2.50	5.70			
MITAKA	12	0334 E	0347		N10	E50	5009	13 D	1	1	0334	.27	.47	2.04	98	
WENDEL	12	0748 E	0805 D		N09	E51	5009	17 D	1				3.00			
MEUDON	12	0750 E	0825		N10	E53	5009	35 D	1				6.00			
ONDREJOV	12	0753 E	0758		N09	E51	5009	5 D	1	2	0755			2.00		
ARCETRI	12	0949 E			N05	E47	5009		1	3	0949	2.00	2.90			
CAPRI-S	12	1122 E	1144 D		N09	E47	5009	22 D	1	3	1124	2.00	3.20			
WENDEL	12	1122 E	1155 D		N11	E55	5009	33 D	1				4.00			
WENDEL	12	1313 E	1351		N34	E69	5016	38 D	1				3.00			
WENDEL	12	1447 E	1514 D		N19	E23	5008	27 D	1				4.00			
USNRL	12	1656	1732	1701	N10	W65	4997	36	1			1.24	3.18		42	
SAC PEAK	12	2117	2132	2125	N20	E70	5011	15	1	2		2.60			16	
SYDNEY	12	2300 E	2410 D	2315	N15	E55	5009	90	3							Slow S-SWF
ABASTUMANI	13	0630 E			N02	E03			2&							
MEUDON	13	0747 E	0815		N12	E40	5009	28 D	1				5.00			
CAPRI-S	13	0752 E	0915 D		N08	E37	5009	83 D	1	3	0850	5.00	6.50			
ARCETRI	13	0837 E	0849 D		N09	E39	5009	12 D	1	2	0849	1.70	2.30			
ARCETRI	13	0906 E	0920 D		N11	E40	5009	14 D	2	2	0906	5.00	6.80			
MEUDON	13	1403	1416	1407	N12	E70	5013	13	1		1407		7.00			
CAPRI-S	13	1404	1420 D		N13	E69	5013	16 D	1	3	1406	1.00	3.20			
WENDEL	13	1405 E	1419 D		N13	E68	5013	14 D	1				4.00			
ONDREJOV	13	1410 E	1415		N15	E68	5013	5 D	1	3	1410			2.40		
HAWAII	13	2344	0000	2348	N22	E54	5013	16	1	3	2348	3.50	6.70			
ARCETRI	14	0926 E	0949 D		N10	E26	5009	23 D	2	2	0926	6.60	7.60			
ONDREJOV	14	1239	1313		N13	E25	5009	34	1	3	1254			2.50		
CAPRI-S	14	1241	1315 D		N10	E24	5009	34 D	1	3	1258	3.00	4.50			
WENDEL	14	1302 E	1315 D		N12	E29	5009	13 D	1				4.00			
WENDEL	15	1324 E	1351 D		N13	E53	5013	27 D	1				4.00			
CAPRI-S	15	1329	1349 D		N17	E60	5013	20 D	1	3	1344	1.30	3.40			
CAPRI-S	16	0839	1028 D		N07	E35	5013	109 D	2	3	0910	5.00	6.00			
STOCKHOLM	16	0857 E	0923		N09	E38	5013	26 D	1	3	0915	3.00	3.90			
ARCETRI	16	0942 E	0954 D		N08	E37	5013	12 D	1	3	0946	1.70	2.20			

SOLAR FLARES

FEBRUARY 1959

OBSERVATORY	DATE FEB 1959	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
OCCLE	16	0950 E	0950		N10	E37	5013		16	2						
WENDEL	17	0838 E	0853 D		N25	W77	5023	15 D	1				4.00			
WENDEL	17	0850 E	0914 D		N14	E62	5018	24 D	2				10.00			
MEUDON	17	0851	0900		N13	E65	5018	9	1				3.00			
ARCETRI	17	0855 E			N11	E69	5018		2	3	0855	2.50	6.40			
WENDEL	17	0912 E	0943 D		N14	E48	5018	31 D	16				5.00			
CAPRI-S	17	0915 E	0940 D		N15	E46	5018	25 D	1	1	0919	2.00	3.20			
MEUDON	17	1017	1050		N15	E42	5018	33	1				2.00			
MEUDON	17	1504	1535		N20	E40	5018	31	1				2.00			
MCMATH	17	1505	1530	1510	N19	E45	5018	25	1	1	1510		2.00			
MEUDON	17	1540	1600		N15	E40	5018	20	1				3.00			
HAWAII	17	2136	2238	2148	N12	W19	5009	62	2	3	2148	5.90	6.60			
HAWAII	17	2220	2232	2222	N23	E37	5018	12	1	3	2222	2.50	3.70			S-SWF
WENDEL	18	0855 E	0910 D		N22	E40	5018	15 D	16				5.00			
MEUDON	18	0945	1020	0953	N20	E30	5018	35	1		0953		5.00			
WENDEL	18	0945 E	1027		N20	E35	5018	42 D	16				6.00			
CAPRI-S	18	0950 E	1018 D		N19	E32	5018	28 D	1	3	0953	2.50	3.10			
STOCKHOLM	18	0952	1017		N18	E31	5018	25	1	3	0954	2.00	2.50			
ARCETRI	18	0955 E	1009 D		N23	E35	5018	14 D	1	2						
DONSINK	18	1040 E	1109	1050	N15	E33	5018	19 D	2	2	1053	5.00	6.10			
MEUDON	18	1040	1115	1054	N15	E27	5018	35	16		1054		10.00			
STOCKHOLM	18	1048	1108		N14	E31	5018	20	2	3	1053	4.00	5.00			
CAPRI-S	18	1049 E	1112 D		N14	E32	5018	23 D	2	3	1058	5.00	6.00			
WENDEL	18	1052	1110		N15	E31	5018	18	16				6.00			
WENDEL	18	1104	1125		N06	W33	5009	21	16				6.00			
CAPRI-S	19	0745 E	0925 D		N18	E32	5018	100 D	1	3	0818	3.00	3.80			
WENDEL	19	0748 E	0858 D		N20	E28	5018	70 D	1				4.00			
WENDEL	19	0834 E	0907 D		N18	E33	5018	33 D	1				4.00			
WENDEL	19	0928 E	1009 D		N22	E27	5018	41 D	16				6.00			
CAPRI-S	19	0929 E	1028 D		N17	E24	5018	59 D	2	3	0942	8.00	9.20			
MEUDON	19	0929	1045	0937	N25	E27	5018	76	1		0937		4.00			
WENDEL	19	1411	1435 D		N18	E22	5018	24 D	1				3.00			
CAPRI-S	19	1416	1427 D		N17	E19	5018	11 D	1	3	1419	2.00	2.10			
CAPRI-S	19	1500 E	1510 D		N17	E19	5018	10 D	1	3	1503	2.00	2.10			
OSNRL	19	2029	2138 D		N10	W09	5013	69 D	26			7.57	7.90		100	
HAWAII	19	2032	2134	2038	N12	W08	5013	62	2	3	2038	8.00	8.60			Slow S-SWF
SAC PEAK	19	2035	2200 D	2037	N09	W11	5013	25 D	3	1		14.00			20	
WENDEL	20	0747 E	0824 D		N20	E54	5023	37 D	16				5.00			
ONDREJOV	20	0756 E	0813		N17	E58	5023	17 D	1	3	0756			2.40		
CAPRI-S	20	0804 E	0812 D		N13	E57	5023	8 D	1	3	0808	2.00	4.40			
ONDREJOV	20	1219 E	1227		N13	W24	5016	8 D	1	3	1221			2.30		
ONDREJOV	20	1318	1322	1319	N05	W11	5016	4	1	3	1319			2.60		
CAPRI-S	20	1432 E	1448 D		N13	E53	5023	16 D	2	2	1437	3.00	5.70			
WENDEL	20	1434	1545		N19	E54	5023	71	16				6.00			
ARCETRI	20	1436 E	1506 D		N17	E58	5023	30 D	1	2						
CAPRI-S	20	1529 E	1617 D		N15	E52	5023	48 D	1	1	1542	2.50	4.50			
WENDEL	20	1520	1539 D		N25	W13	5016	19 D	1				3.00			
MCMATH	20	1735	1840	1814	N21	E07	5018	65	16	1	1814		4.00			
SAC PEAK	20	1735	1905	1752	N23	E07	5018	90	1	2		3.40			22	

SOLAR FLARES

FEBRUARY 1959

OBSERVATORY	DATE FEB 1959	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
HAWAII	20	1815 E	1820 D		N25	E04	5018	5 D	1	1	1820	2.60	3.00			
SAC PEAK	20	2005	2055	2022	N26	W30	5011	50	1	2		2.10			17	
NIZAMIAH	21	0312	0325	0317	N06	W64	5009	13	1	3	0317	.91	2.14	2.10		
NIZAMIAH	21	0550 E	0600	0550	N17	E45	5023	10 D	1	2	0550	1.82	2.89	1.40		
CAPRI-S	21	0943 E	0948 D		N18	W43	5011	5 D	1	1	0944	1.50	2.40			
CAPRI-S	21	0948 E	1022 D		N27	W33	5011	34 D	1	1	0954	2.50	3.20			
CAPRI-S	21	1130 E	1156 D		N23	W31	5011	26 D	1	1	1134	1.50	2.20			
MEUDON	21	1155	1220		N25	W35	5011	25	1				5.00			
CAPRI-S	21	1451 E	1502 D		N28	W35	5011	11 D	1	3	1453	2.00	3.20			
USNRL	21	1550	1625	1559	N28	W39	5011	35	1			.90	1.44		77	
MEUDON	21	1551	1607 D	1600	N27	W37	5011	16 D	1b		160		10.00			
MCMATH	21	1557 E	1608 D		N29	W40	5011	11 D	1	1	1558		2.20			
MCMATH	21	1731	1747	1735	N29	W40	5011	16	1	2	1735		2.10			
CAPRI-S	22	0945 E	0954 D		N20	W17	5018	9 D	1	3	0949	2.00	2.20			
NIZAMIAH	22	1035	1047	1040	N20	W15	5018	12	1	1	1040	1.82	2.13	1.80		
UCCLE	22	1045	1107	1051	N23	W19	5018	22	1b	2	1051	4.50				
MEUDON	22	1047 E	1049 D		N22	W18	5018	2 D	1							
CAPRI-S	22	1048 E	1106 D		N20	W17	5018	18 D	1	2	1053	3.50	3.90			
CAPRI-S	22	1440 E	1618 D		N21	E80	5029	98 D	1	2	1450	1.00	5.00			
CAPRI-S	22	1510 E	1554 D		N20	W19	5018	44 D	1	2	1519	2.50	2.70			
SAC PEAK	22	2155	2230	2202	N25	E14	5023	35	1	3		3.90			20	
NIZAMIAH	23	0330 E	0341	0333	N13	W25	5018	11 D	1	2	0333	2.13	2.50	2.20		
CAPRI-S	23	1124 E	1158 D		N27	W07	5023	34 D	1	1	1132	1.00	3.10			
UCCLE	23	1129 E	1145		N29	W70	5011	16 D	2	3	1129	4.00	9.00			
CAPRI-S	24	0803 E	0811 D		N27	W29	5018	8 D	1	3	0805	2.00	2.40			
WENDEL	24	1100 E	1114		N33	E23	5023	14 D	1b				5.00			
CAPRI-S	24	1104 E	1120 D		S33	E22	5027	16 D	1	3	1106	2.50	3.20			
CAPRI-S	24	1135 E	1140 D		S33	E22	5027	5 D	1	3	1137	2.00	2.60			
WENDEL	24	1135	1154 D		N33	E23	5023	19 D	1				4.00			
MCMATH	24	1500 E	1530 D		N30	W36	5018	30 D	1	1	1510		2.00			
SAC PEAK	24	1650	1712	1652	N22	W14	5023	22	1	2		2.40			15	
MCMATH	24	1650	1725	1655	N21	W12	5023	35	1	1	1655		2.40			
MCMATH	24	1905	1950		N21	W42	5018	45	1	1	1918		2.10			
MITAKA	24	2357 E	2411		N19	W12	5023	14 D	1	1	2403	1.10	1.24	2.27	122	
MITAKA	25	0244 E	0300		N14	W42	5018	16 D	1	1	0244	2.78	4.06	2.32	120	
ARCETRI	25	0907 E			S32	E14	5027		1	3	0907	3.30	3.80			
WENDEL	25	1136 E	1153		S31	E03	5027	17 D	1				3.00			
MCMATH	25	1303 E	1400		N28	W47	5018	57 D	1	1	1310		2.10			
WENDEL	25	1322	1408		N28	W44	5018	46	1				4.00			
WENDEL	25	1331	1416		N35	W55	5018	45	1b				5.00			
USNRL	25	1342 E	1422		N16	W60	5018	40 D	1			1.24	2.14		61	
MCMATH	25	1355	1418	1403	N17	W60	5018	23	1	1	1403		3.50			
CAPRI-S	25	1358	1417 D		N16	W58	5018	19 D	2	3	1403	4.00	9.20			
MEUDON	25	1400	1415	1407	N13	W62	5018	15	1				8.00			
WENDEL	25	1400	1424 D		N15	W60	5018	24 D	2				8.00			
WENDEL	25	1458 E	1516 D		N28	W42	5018	18 D	1				3.00			
MCMATH	25	1826	1900	1830	N20	W22	5023	34	1	1	1837		2.40			
NIZAMIAH	26	0310	0335	0320	N19	W60	5018	25	1b	2	0320	1.82	4.15	2.60		

SOLAR FLARES

FEBRUARY 1959

OBSERVATORY	DATE FEB 1959	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Ha	MEASUREMENTS MAX INT. %	PROVISIONAL IONOSPHERIC EFFECT
CAPRI-S	26	0727 E	0740 D		S32	W06	5027	13 D	1	3	0728	2.00	2.40			
WENDEL	26	0730 E	0745 D		S30	W07	5027	15 D	1				3.00			
WENDEL	26	0839	0854		N13	W55	5018	15	1				4.00			
ONDREJOV	26	0843 E	0849		N13	W57	5018	6 D	1	3	0845			2.20		
WENDEL	26	0918	0939		N20	W22	5023	21	1				4.00			
MEUDON	26	0935	0955		S07	E45	5031	20	1				4.00			
ONDREJOV	26	0944	0954		S07	E47	5031	10	1	3	0945			3.00		
CAPRI-S	26	0945 E	0953 D		S07	E43	5031	68 D	1	3	0947	2.00	2.80			
WENDEL	26	0945	1001 D		S06	E50	5031	16 D	16				5.00			
WENDEL	26	1046	1144 D		S10	E50	5031	58 D	1				3.00			
WENDEL	26	1050	1131 D		N23	W70	5018	41 D	1				4.00			
WENDEL	26	1116 E	1135 D		N28	W53	5018	19 D	1				3.00			
WENDEL	26	1238	1249 D		S31	E12	5027	11 D	1				4.00			
SAC PEAK	26	1815	1840	1825	N16	W65	5018	25	1	2		2.30			16	
USNRL	26	2031	2045	2034	N25	W37	5023	14	1			1.13	1.71		84	
MITAKA	27	0230 E	0259 D		N19	W11	5026	29 D	1	1	0230	2.23	2.52	1.97	131	
WENDEL	27	0740	0837		N23	W44	5023	57	2				10.00			
CAPRI-S	27	0745 E	0842 D		N23	W43	5023	57 D	2	3	0859	3.00	5.10			
ONDREJOV	27	0746 E	0829	0815	N23	W46	5023	43 D	16	3	0815			2.70		
MEUDON	27	0837	0846	0840	N22	W14	5026	9	1				2.00			
ONDREJOV	27	0838	0846		N20	W12	5026	8	16	3	0839			3.40		
CAPRI-S	27	0838 E	0848 D		N21	W08	5026	10 D	1	3	0841	2.50	2.80			
CAPRI-S	27	1036	1105 D		N21	W09	5026	29 D	1	3	1045	2.00	2.20			
MEUDON	27	1141	1200		S18	E75	5034	19	1							
WENDEL	27	1415	1524 D		N21	W13	5026	69 D	16				7.00			
MCMATH	27	1558	1625 D	1615	N24	W15	5026	27 D	1	1	1615		2.20			
MCMATH	27	1818	1945	1846	N16	E60	5035	87	1	1	1846		2.20			Slow S-SWF
USNRL	27	1840	1943		N17	E62	5035	63	1			1.58	3.62			
MCMATH	27	1935	2009 D	1954	N24	W16	5026	34 D	1	1	1954		2.10			
SAC PEAK	27	2015	2040	2030	N15	E80	5035	25	1	3		2.30			17	G-SWF
USNRL	27	2026	2047		N16	E79	5035	21	1			.68	3.40			
USNRL	27	2026	2100 D		N22	W19	5026	34 D	1			1.58	1.96			
WENDEL	28	0742	0804		N21	E50	5035	22	1				4.00			
WENDEL	28	0858 E	0928 D		N20	E28	5026	30 D	1				3.00			
UCCLE	28	0927 E			N30	W87	5018		16	2						
WENDEL	28	0942 E	1030 D		N30	E86	5037	48 D	1				4.00			
WENDEL	28	1019	1446 D		N21	W25	5026	267 D	1				3.00			
WENDEL	28	1020	1034		N23	W24	5026	14	1				4.00			
ONDREJOV	28	1026	1038		N21	W26	5026	12	16	3	1027			2.80		
WENDEL	28	1038 E	1152 D		N18	E51	5035	74 D	16				6.00			
UCCLE	28	1040			N19	E55	5035		16	2	1040	5.00	10.00			
MEUDON	28	1040	1130		N18	E54	5035	50	1				3.00			
ONDREJOV	28	1052	1140		N14	E53	5035	48	1	3	1057			2.60		
CAPRI-S	28	1055 E	1200 D		N13	E46	5035	65 D	1	3	1056	3.00	5.10			
WENDEL	28	1142 E	1154 D		N22	W25	5026	12 D	1				4.00			
CAPRI-S	28	1603 E	1629 D		N13	E53	5035	26 D	1	1	1604	1.50	2.60			
SAC PEAK	28	1720	1750	1725	N23	W26	5026	30	1	2		2.40			16	S-SWF

CERMERCE - STANDARDS - BOULDER

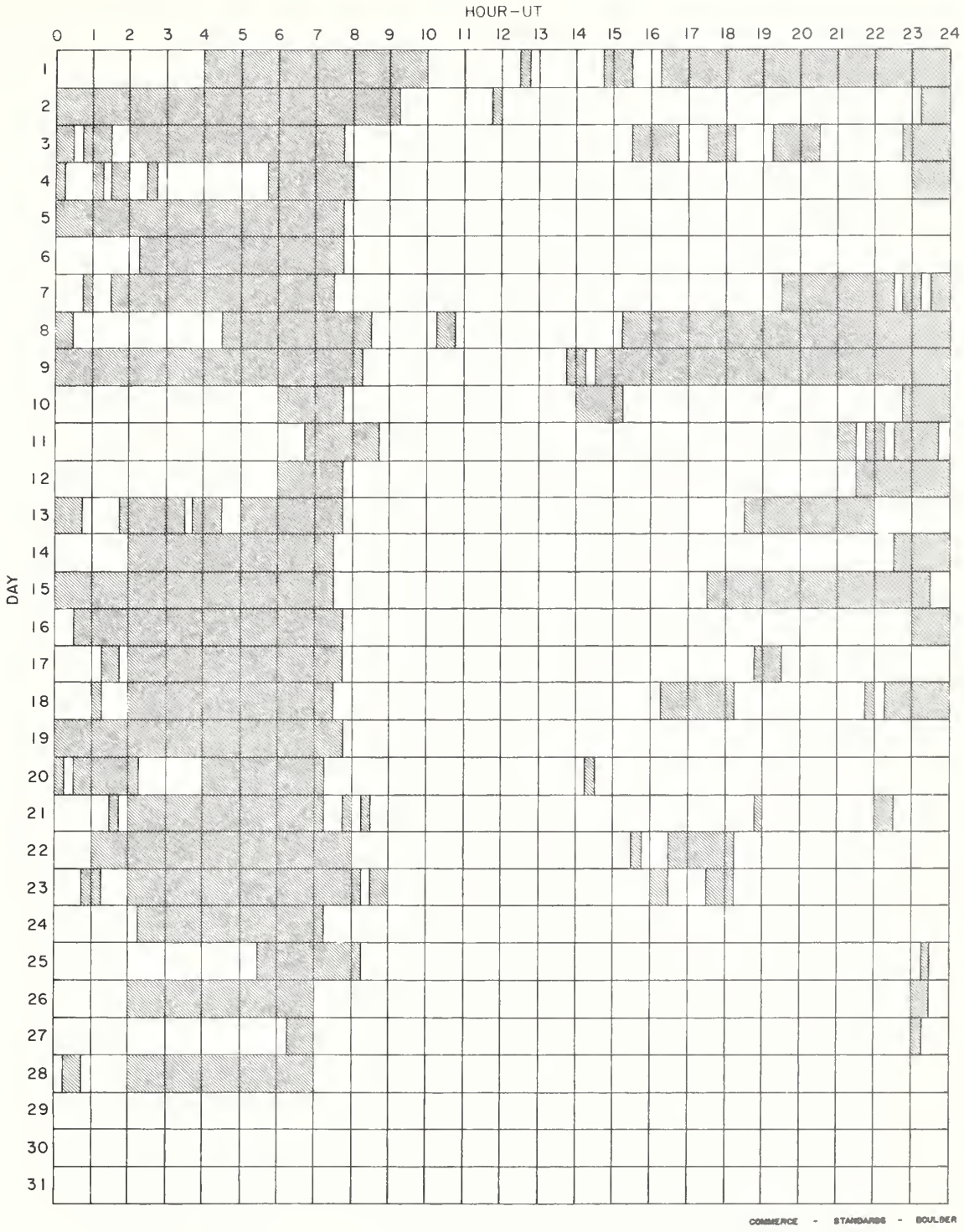
CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNAL	KODAIKANAL
KRASNYA	KRASNAYA PAKHRA
MOSCOW	NIZMIR
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK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

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

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

FEBRUARY 1959



Stations Include:

Anacapri (Swedish)	Ondrejov
Arcetri	Royal Greenwich Observatory
Climax	Herstmonceux
Dunsink	Sacramento Peak
Hawaii	Uccle
Meudon	U.S. Naval Research
Mitaka	Laboratory.

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

JANUARY 1949

CAPRI-S	01	0823 E	N23 E36	
SAC PEAK	01	1645	S12 W60	
SAC PEAK	01	1717	N23 E33	
SAC PEAK	01	1717	N18 W33	
SAC PEAK	01	1745	S21 E34	
SAC PEAK	01	1745	N17 W34	
SAC PEAK	01	1857	S20 E33	
SAC PEAK	01	2017	N23 E31	
SAC PEAK	01	2040	S11 E79	
CLIMAX	01	2129	S19 E29	
SAC PEAK	01	2130	S20 E30	
SAC PEAK	01	2142	N22 W20	
WENDEL	02	0948 E	N20 E66	
WENDEL	02	1009 E	N12 E44	
WENDEL	02	1048 E	N21 E65	
WENDEL	02	1127 E	N21 E28	
WENDEL	02	1214 E	S14 W72	
USNRL	02	1301 E	N22 W30	
USNRL	02	1308	N12 W65	
USNRL	02	1331	N20 W62	
* SAC PEAK	02	1518	S11 W74	
SAC PEAK	02	1642	S16 E18	
USNRL	02	1646	S15 E18	
SAC PEAK	02	1700	N20 E65	
USNRL	02	1703	N21 E68	
SAC PEAK	02	1715	S15 E18	
USNRL	02	1716	S15 E18	
USNRL	02	1730	S15 E18	
SAC PEAK	02	1805	S15 E55	
USNRL	02	1806	S16 E53	
SAC PEAK	02	1807	S15 E17	
USNRL	02	1821	N03 W39	
SAC PEAK	02	1845 U	S15 E17	
* SAC PEAK	02	1950	S14 E53	
USNRL	02	1954	N22 W33	
USNRL	02	2031	S14 E17	
SAC PEAK	02	2032	N22 E17	
SAC PEAK	02	2032	S15 E17	
SAC PEAK	02	2130	S15 E52	
USNRL	03	1318 E	N11 W66	
USNRL	03	1336	N22 E06	
USNRL	03	1351	N21 W47	
USNRL	03	1353	S12 W85	
USNRL	03	1447	S05 E55	
USNRL	03	1549	S12 W86	
USNRL	03	1600	S12 W87	
SAC PEAK	04	1630	N11 W90	
USNRL	04	1632 E	N11 W90	
SAC PEAK	04	1652	N09 E18	
SAC PEAK	04	1712	S10 E40	
SAC PEAK	04	1727	N10 E90	
SAC PEAK	04	1750 E	N11 W90	
SAC PEAK	04	1810	N12 W90	
SAC PEAK	04	1855	N12 E85	
SAC PEAK	04	1955	N34 E28	
SAC PEAK	04	2000	N13 E87	
SAC PEAK	04	2202	N12 E85	
USNRL	05	1307 E	S16 W20	
USNRL	05	1333	N27 E26	
USNRL	05	1454	N27 E25	
USNRL	05	1517	N20 W72	
CLIMAX	05	1519	N22 W78	
SAC PEAK	05	1520	N22 W75	
SAC PEAK	05	1552	S14 E13	
USNRL	05	1553	S13 E13	
SAC PEAK	05	1635	N25 E27	
CLIMAX	05	1647	N26 E23	
USNRL	05	1649	N25 E22	
SAC PEAK	05	1735	N05 W27	
SAC PEAK	05	1827	N17 E15	
USNRL	05	1833	N18 E14	
* USNRL	05	1915 E	N13 E69	
SAC PEAK	05	2000	S14 E11	
USNRL	05	2001	S14 E12	
* CLIMAX	05	2032	N10 E68	
* HAWAII	05	2034	N12 E70	
* SAC PEAK	05	2035	N11 E68	
USNRL	05	2052	N15 E59	
* HAWAII	05	2058	N26 E22	
USNRL	06	1429	S16 W46	
USNRL	06	1441	N03 W40	
USNRL	06	1504	N03 W83	
* SAC PEAK	06	1515 E	N12 E58	
SAC PEAK	06	1540	S25 E34	
SAC PEAK	06	1542	N04 W40	
SAC PEAK	06	1642	N17 E53	
CLIMAX	06	1643	N17 E53	
USNRL	06	1645	N18 E52	
USNRL	06	1658	N21 E57	
SAC PEAK	06	1707	N10 E48	
USNRL	06	1711	N12 E48	
SAC PEAK	06	1740	S20 W43	
USNRL	06	1741	S20 W42	
SAC PEAK	06	1812	N18 W42	
USNRL	06	1816	N18 W42	
USNRL	06	2012	S17 W40	
SAC PEAK	06	2030	S16 W40	
USNRL	06	2032	S17 W39	
SAC PEAK	06	2050	S16 W39	
SAC PEAK	06	2050	N12 E55	
USNRL	06	2052 E	S17 W39	
USNRL	06	2052 E	N17 E53	
SAC PEAK	06	2137	N12 E56	
SAC PEAK	06	2202	N08 E49	
SAC PEAK	07	1822	N16 W06	
SAC PEAK	07	1900	N20 W52	
SAC PEAK	07	1922	N10 E39	
SAC PEAK	07	1952	N17 E37	
SAC PEAK	07	2047	N05 W90	
SAC PEAK	07	2100	N22 W08	
SAC PEAK	07	2145	N23 W50	
USNRL	08	1329	N24 E56	
USNRL	08	1330	N22 W21	
USNRL	08	1408	N24 E56	
USNRL	08	1425	N24 E55	
SAC PEAK	08	1555	S12 W30	
SAC PEAK	08	1657	S04 E17	
SAC PEAK	08	1755	S09 W18	
SAC PEAK	08	1802	N24 E53	
SAC PEAK	08	1817	S03 E15	
SAC PEAK	08	1827	N09 E24	
SAC PEAK	08	2017	N22 W62	
SAC PEAK	08	2030	N03 W70	
SAC PEAK	08	2157	S04 E15	
HAWAII	08	2158	S04 E14	
SAC PEAK	08	2212	S09 W21	
* SAC PEAK	09	1545	N22 W36	
MCMATH	09	1609	S12 W46	
USNRL	09	1611 E	S12 W45	
SAC PEAK	09	1617	S14 W72	
USNRL	09	1714	N28 W25	
SAC PEAK	09	1717	N29 W26	
USNRL	09	1723	S18 W41	
USNRL	09	1802	N24 W38	
USNRL	09	1802	S18 W41	
MCMATH	09	1810	S16 W42	
* SAC PEAK	09	1820	N17 W57	
SAC PEAK	09	1835	N25 W30	
HAWAII	09	1836	N17 E35	
MCMATH	09	1837	N26 W31	
USNRL	09	1846 E	N24 W29	
MCMATH	09	1906	S24 W11	
SAC PEAK	09	1907	S24 W13	
USNRL	09	1907	S25 W10	
SAC PEAK	09	1930	S17 W42	
USNRL	09	1932	S19 W42	
HAWAII	09	1934	S19 W42	
MCMATH	09	1934	S17 W42	
ARCETRI	10	0839 E	N16 W41	
ARCETRI	10	0840 E	N18 W25	
CAPRI-S	10	1100 E	S14 W08	
CAPRI-S	10	1120 E	N17 E08	
* MEUDON	10	1235	N13 E08	
MEUDON	10	1252	S14 W61	
USNRL	10	1529	N17 W32	
SAC PEAK	10	1530	N19 W32	
SAC PEAK	10	1552	N23 E69	
SAC PEAK	10	1620	N27 W37	
SAC PEAK	10	1645	N18 W31	
MCMATH	10	1907 E	N08 W02	
MCMATH	10	1925 E	N18 W35	
MCMATH	10	1948	S15 W16	
SAC PEAK	10	1950	S14 W16	
SAC PEAK	10	1955	N08 W02	
MCMATH	10	2000	N18 W35	
SAC PEAK	10	2000	N17 W34	
HAWAII	10	2008	N16 W35	
SAC PEAK	10	2205	N09 W03	
USNRL	11	1631	N18 W48	
USNRL	11	1652	S26 W38	
MEUDON	12	0907	N09 W36	
MEUDON	12	1107	N13 W18	
USNRL	12	1300 E	N11 W27	
USNRL	12	1355	N19 W58	
USNRL	12	1357	N13 W23	
USNRL	12	1451	N11 W29	
SAC PEAK	12	1510 E	N10 W27	
SAC PEAK	12	1530	N19 E45	
SAC PEAK	12	1547	N10 W27	
SAC PEAK	12	1610	N18 W23	
SAC PEAK	12	1612	N22 E40	
USNRL	12	1613	S05 W36	
USNRL	12	1613	N23 E40	
SAC PEAK	12	1745	N10 W29	
USNRL	12	1802	N08 W29	
SAC PEAK	12	1825	N10 W30	
USNRL	12	1916 E	N11 W30	
SAC PEAK	12	1917	N12 W32	
USNRL	12	2039	N22 E39	
* USNRL	12	2046 E	N12 W33	
SAC PEAK	12	2207	N22 E37	
* ARCETRI	13	0906 E	N23 E3	
ARCETRI	13	1007 E	N23 E33	
* CAPRI-S	13	1036 E	N22 E29	
USNRL	13	1520	N14 E60	
USNRL	13	1622	N19 W34	
USNRL	13	1709	N22 E26	
USNRL	13	1737	N27 W02	
USNRL	13	2039	N23 E24	
CAPRI-S	14	1105 E	N28 W08	
CAPRI-S	14	1118	N17 E20	
USNRL	14	1332	N12 W48	
USNRL	14	1431	N17 W19	
USNRL	14	1434	N23 E50	
USNRL	14	1440	N23 W46	
USNRL	14	1529	N24 E13	
SAC PEAK	14	1537 E	N21 E24	
USNRL	14	1551	S03 E20	
* SAC PEAK	14	1645	N27 W16	
* USNRL	14	1647	N28 W16	
SAC PEAK	14	1650	N18 W90	
USNRL	14	1653	N17 W90	
SAC PEAK	14	1730	N27 W16	
SAC PEAK	14	1737	N20 W89	
USNRL	14	1739	N19 W89	
SAC PEAK	14	1815	N21 E12	
USNRL	14	1816 E	N21 E13	
SAC PEAK	14	1847	N26 W16	
USNRL	14	1855	N21 E13	
SAC PEAK	14	1855	N22 E12	
SAC PEAK	14	1907	S04 E17	
SAC PEAK	14	1907	N22 E12	
* SAC PEAK	14	1947	S03 W67	
SAC PEAK	14	2020	N21 E12	
SAC PEAK	14	2140	N21 E11	
HAWAII	14	2358	N24 E09	
STOCKHOLM	15	1340	N23 E10	
SAC PEAK	15	1737	N12 W73	
SAC PEAK	15	1757	S05 W40	
SAC PEAK	15	1802	N18 E02	
USNRL	15	1804	N18 E03	
SAC PEAK	15	1840	N16 W65	
SAC PEAK	15	1840	N14 E80	
HAWAII	15	1842	N18 E84	
USNRL	15	1843	N13 E77	
SAC PEAK	15	1937	N20 E73	
USNRL	15	1939	N19 E72	
USNRL	15	2004	N18 E74	
USNRL	15	2005	N12 W64	
HAWAII	16	0138	N20 E70	
STOCKHOLM	16	1032 E	N05 E90	
SAC PEAK	16	1535 E	N07 E88	
HAWAII	16	1906	N29 E41	
SAC PEAK	16	1909 E	N17 E50	
SAC PEAK	16	2102	N08 E85	
SAC PEAK	16	2202	N08 E84	
WENDEL	17	0835 E	N21 W23	
ARCETRI	17	0913 E	N10 E69	
WENDEL	17	1205 E	N19 E72	
WENDEL	17	1217 E	N12 E63	
SAC PEAK	17	1645	N07 E72	
* SAC PEAK	17	1705	N17 E48	
* MCMATH	17	1717 E	N16 E50	
USNRL	17	1835	N07 E69	
SAC PEAK	17	2120	N17 E53	
WENDEL	18	1111 E	N07 E60	
WENDEL	18	1141 E	N07 E60	
WENDEL	18	1312 E	N09 E41	
USNRL	18	1454	N17 E40	
SAC PEAK	18	1610	N13 E90	
MCMATH	18	1617 E	N17 E42	
USNRL	18	1630	N18 E42	
SAC PEAK	18	1900	N17 E42	
SAC PEAK	18	2005	N17 E42	
SAC PEAK	18	2115	N19 E37	
SAC PEAK	18	2130	N12 E27	
SAC PEAK	18	2140	N19 E53	
WENDEL	19	0937 E	N07 E50	
WENDEL	19	1220 E	N13 E86	
USNRL	19	1346	N14 E89	
SAC PEAK	19	1542 E	N12 E87	
SAC PEAK	19	1645	N13 E85	
SAC PEAK	19	1705	N16 E47	
SAC PEAK	19	1720	N16 E80	
SAC PEAK	19	1730	N13 E44	
SAC PEAK	19	1800	N12 E80	
MCMATH	19	1804 E	N14 E90	
MCMATH	19	1826	N13 E76	
SAC PEAK	19	1842	N13 E85	
MCMATH	19	1844 E	N14 E90	
SAC PEAK	19	1920	N13 E80	
SAC PEAK	19	1927	N12 E79	
MCMATH	19	1933	N14 E85	
HAWAII	19	1956	N18 E80	
* HAWAII	19	2042	N17 E43	
SAC PEAK	19	2057	N13 E80	
HAWAII	19	2058	N17 E79	
SAC PEAK	19	2115	N19 E25	
HAWAII	19	2116	N22 E23	
SAC PEAK	19	2135	N13 E78	
SAC PEAK	19	2232	N15 E76	
HAWAII	19	2344	N17 E79	
HAWAII	20	0036	N17 E79	
CAPRI-S	20	1036 E	N14 E19	
CAPRI-S	20	1041 E	S06 E66	
CAPRI-S	20	1254 E	N18 E18	
CAPRI-S	20	1355 E	N14 E60	
HAWAII	20	1822 E	N17 E12	
HAWAII	20	1922	N17 E11	
USNRL	20	2011 E	N10 E58	
HAWAII	20	2128	S04 E66	
* HAWAII	21	0018	N08 E05	
CAPRI-S	21	1219 E	N13 E53	
* CAPRI-S	21	1232 E	N13 E05	
WENDEL	21	1328 E	N14 E56	
CAPRI-S	21	1334	N14 E00	
SAC PEAK	21	1513	N16 E03	
SAC PEAK	21	1532	S14 E26	
SAC PEAK	21	1535	N10 E09	
HUANCAYO	21	1600	N09 E08	
SAC PEAK	21	1600	N10 E09	
* SAC PEAK	21	1612	N17 E07	
SAC PEAK	21	1627	S14 E24	
SAC PEAK	21	1735	N22 W85	
SAC PEAK	21	1835	N10 E07	
HAWAII	21	1840 E	N11 E05	
SAC PEAK	21	1910	N14 E55	
SAC PEAK	21	1955	N06 E18	
HAWAII	21	2352	N09 E03	
HAWAII	22	0042	S12 E27	
* CAPRI-S	22	1115 E	N04 W03	
CAPRI-S	22	1115 E	N07 W16	
WENDEL	22	1150 E	N08 E07	
* WENDEL	22	1201 E	N18 W10	
USNRL	22	1334 E	N18 W10	
USNRL	22	1343	N17 W08	
MCMATH	22	1428	N35 E46	
USNRL	22	1428	N38 E45	
USNRL	22	1439	N17 E38	
MCMATH	22	1440	N15 E40	
USNRL	22	1512	N18 W10	
MCMATH	22	1552	N19 W20	
SAC PEAK	22	1552	N20 W21	
USNRL	22	1552	N20 W22	
SAC PEAK	22	1602	N13 W16	
USNRL	22	1621	N08 W02	
USNRL	22	1624	N17 E38	
SAC PEAK	22	1727	N16 E38	
SAC PEAK	22	1755	S12 E16	
USNRL	22	1755	S02 E17	
SAC PEAK	22	1757	N15 E38	
MCMATH	22	1758	N15 E40	
USNRL	22	1812	N17 E36	
* SAC PEAK	22	1815	N07 W07	
* MCMATH	22	1817	N07 W06	
* HAWAII	22	1818	N08 W08	
USNRL	22	1821	N16 W14	
SAC PEAK	22	1825	N16 W13	
USNRL	22	1850	N17 E36	
USNRL	22	1853	N16 E38	
SAC PEAK	22	1857	N13 W18	
HAWAII	22	1858	N13 W18	
USNRL	22	1858	N13 W18	
USNRL	22	1914	N16 W14	
* SAC PEAK	22	1925	N16 E32	
USNRL	22	1934	N09 W21	
SAC PEAK	22	1935	N10 W20	
SAC PEAK	22	2100 E	N10 E04	
SAC PEAK	22	2100 E	N18 E35	
MEUDON	23	0944	N18 W02	
MCMATH	23	1438	N08 W05	
MCMATH	23	1503	N08 W05	
USNRL	23	1526	N08 W07	
MCMATH	23	1526	N08 W05	
MCMATH	23	1606 E	N08 W18	
HUANCAYO	23	1609	N08 W17	
USNRL	23	1609	N07 W18	
USNRL	23	1715	N18 W26	
MCMATH	23	1717	N18 W24	
MCMATH	23	1723	N10 W10	
SAC PEAK	23	1812	N11 W15	
* USNRL	23	1818	N19 W27	
* SAC PEAK	23	1822	N17 W26	
SAC PEAK	23	1927 E	N19 W23	
USNRL	23	1932	N18 W22	
SAC PEAK	23	1932	N10 W18	
USNRL	23	1937	N18 W17	
* SAC PEAK	23	2032	N17 E24	

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

JANUARY 1959

* SAC PEAK	23	2040	N17 E24	
SAC PEAK	23	2137	N12 W35	
SAC PEAK	23	2142	N17 E25	
SAC PEAK	23	2210	N20 W27	
HAWAII	24	0004 E	N11 W14	
* CAPRI-S	24	1138	N18 W20	
USNRL	24	1312 E	N11 W18	
* CAPRI-S	24	1314	N09 W17	
USNRL	24	1340	N15 E15	
CAPRI-S	24	1341	N05 W29	
USNRL	24	1342	N08 W30	
USNRL	24	1425	N20 W37	
USNRL	24	1426	N18 W18	
* SAC PEAK	24	1502 E	S05 E19	
SAC PEAK	24	1505	N12 W21	
SAC PEAK	24	1542	N14 E08	
USNRL	24	1545	N13 E09	
SAC PEAK	24	1557	N10 W28	
USNRL	24	1559	N11 W28	
USNRL	24	1603	N13 E07	
SAC PEAK	24	1710	N10 W21	
SAC PEAK	24	1722	S07 E21	
SAC PEAK	24	1722	N08 W24	
SAC PEAK	24	1835	N11 W22	
SAC PEAK	24	1850	N18 W27	
SAC PEAK	24	1855	N18 W41	
SAC PEAK	24	1925	N23 E90	
SAC PEAK	24	2010	N17 W42	
SAC PEAK	24	2020	N09 W25	
SAC PEAK	24	2035	S07 E19	
SAC PEAK	24	2050	N16 W45	
SAC PEAK	24	2120	N10 W23	
HAWAII	24	2126 E	N07 W27	
SAC PEAK	24	2202	N13 E04	
SAC PEAK	24	2225	N13 W20	
SAC PEAK	24	2245	N13 E04	
HAWAII	25	0020	S05 E15	
MEUDON	25	1247	N20 E40	
MEUDON	25	1250	N10 W30	
* USNRL	25	1430	N12 W47	
* USNRL	25	1437	N16 W46	
* USNRL	25	1440	N17 W48	
USNRL	25	1511	N13 W07	
SAC PEAK	25	1515	N13 W07	
USNRL	25	1535	N21 E12	
SAC PEAK	25	1535	N20 E12	
SAC PEAK	25	1547	N22 E29	
SAC PEAK	25	1550	N13 W07	
SAC PEAK	25	1645	N21 E79	
USNRL	25	1649	N23 E79	
SAC PEAK	25	1705	N08 W47	
SAC PEAK	25	1715	N15 E90	
SAC PEAK	25	1752	N11 W37	
SAC PEAK	25	1852	N12 W38	
SAC PEAK	25	1910	N22 W53	
SAC PEAK	25	1952	N17 W04	
HAWAII	25	1954	N18 W03	
SAC PEAK	25	1955	N09 E76	
SAC PEAK	25	2135	N11 W38	
HAWAII	25	2326	N07 W41	
R O HERST	26	0928	N11 W08	
CAPRI-S	26	0929	N08 W04	
STOCKHOLM	26	0952 E	N11 W41	
CAPRI-S	26	0952 E	N06 W40	
MEUDON	26	1341	N20 W55	
MEUDON	26	1344	N12 W50	
* MCMATH	26	1430	N10 W60	
* MEUDON	26	1450	N10 W58	
MEUDON	26	1454	N20 W60	
MEUDON	26	1510	N11 W52	
SAC PEAK	26	1525	N10 W60	
* SAC PEAK	26	1545	N10 W49	
SAC PEAK	26	1602	N12 E49	
SAC PEAK	26	1607	N19 E62	
SAC PEAK	26	1630	N15 W22	
MCMATH	26	1702	N22 W70	
SAC PEAK	26	1705	N22 W68	
SAC PEAK	26	1712	N18 W48	
MCMATH	26	1713	N17 W48	
SAC PEAK	26	1737	N10 W14	
* SAC PEAK	26	1820	N20 E60	
MCMATH	26	1859	N16 E80	
SAC PEAK	26	1907	N12 W12	
MCMATH	26	1945	N28 W23	
HAWAII	26	1952 E	N08 W14	
SAC PEAK	26	2055	N12 W53	
HAWAII	26	2100	N13 W48	
HAWAII	26	2140	N11 W75	
MEUDON	27	0910	N04 E40	
* R O HERST	27	0947 E	N11 W12	
MEUDON	27	1000	N01 E50	
MEUDON	27	1100	N04 E40	
WENDEL	27	1228 E	N17 E46	
* WENDEL	27	1228 E	N19 E50	
MEUDON	27	1315	N15 W20	
CAPRI-S	27	1315	N14 W21	
WENDEL	27	1400 E	N16 E40	
* MCMATH	27	1410 E	S10 E06	
MEUDON	27	1521	N17 E62	
MCMATH	27	1540 E	S10 E06	
SAC PEAK	27	1542 E	S10 E04	
SAC PEAK	27	1545	N03 E33	
SAC PEAK	27	1607	N16 E66	
SAC PEAK	27	1640	N17 E65	
MCMATH	27	1640 E	S10 E05	
MCMATH	27	1642	N17 E67	
SAC PEAK	27	1742	N13 W32	
MCMATH	27	1745	N13 W33	
* SAC PEAK	27	1755	N19 E47	
MCMATH	27	1755	N19 W31	
SAC PEAK	27	1800	N19 W31	
SAC PEAK	27	1827	N03 E40	
MCMATH	27	1830	N02 E40	
SAC PEAK	27	1832	N17 W60	
SAC PEAK	27	1840	N15 E65	
* SAC PEAK	27	1842	N23 E51	
SAC PEAK	27	1847	N03 E31	
HAWAII	27	1848	N06 E32	
MCMATH	27	1852 E	N03 E32	
SAC PEAK	27	1857	N13 W27	
MCMATH	27	1920	N16 W15	
MCMATH	27	2006	N14 W27	
MCMATH	27	2009	N08 E67	
SAC PEAK	27	2042	N13 W27	
HAWAII	27	2044	N11 W29	
SAC PEAK	27	2120	N10 W65	
SAC PEAK	27	2212	N10 W65	
SAC PEAK	27	2222	N04 E34	
HAWAII	27	2246	N07 W55	
MEUDON	28	1100	N05 E22	
WENDEL	28	1149 E	N44 W75	
WENDEL	28	1230 E	N12 W34	
* CAPRI-S	28	1243 E	N08 W79	
USNRL	28	1315 E	N05 W35	
* USNRL	28	1408	N15 W37	
* MCMATH	28	1409	N15 W38	
USNRL	28	1410	S10 W10	
WENDEL	28	1414 E	S09 W11	
* MCMATH	28	1430	N15 W36	
MCMATH	28	1445	N10 W38	
USNRL	28	1454	N05 E22	
MCMATH	28	1455	N03 E23	
SAC PEAK	28	1457 E	N03 E23	
MCMATH	28	1505	N20 E36	
SAC PEAK	28	1505	N22 E36	
USNRL	28	1506	N23 E36	
SAC PEAK	28	1520	N08 W77	
USNRL	28	1525	S09 W09	
HCMATH	28	1525	N10 W80	
SAC PEAK	28	1525	S09 W09	
MCMATH	28	1527	S09 W09	
SAC PEAK	28	1620	N22 E31	
* SAC PEAK	28	1622	N21 W72	
SAC PEAK	28	1625	N06 E28	
USNRL	28	1626	N07 E28	
MCMATH	28	1628	N06 E28	
HCMATH	28	1630	S09 W09	
SAC PEAK	28	1632	S10 W10	
USNRL	28	1632	S10 W11	
MCMATH	28	1704	S09 W09	
SAC PEAK	28	1705	N15 W90	
SAC PEAK	28	1722	S14 E48	
USNRL	28	1725	S11 E49	
USNRL	28	1728	S01 W43	
* SAC PEAK	28	1735	N09 W40	
MCHATH	28	1856	N11 W85	
SAC PEAK	28	1932	N18 E33	
MCMATH	28	1932	N20 E33	
USNRL	28	1933	N18 E30	
* HAWAII	28	1946	N08 W80	
* SAC PEAK	28	1947	N13 W80	
* MCMATH	28	1948	N10 W87	
* USNRL	28	1951	N19 W39	
USNRL	28	2025	S10 W12	
SAC PEAK	28	2130	S13 E45	
* MEUDON	29	0945 E	N08 W85	
WENDEL	29	1250 E	N18 W28	
* R O HERST	29	1444 E	N05 E10	
MEUDON	29	1502	N23 E90	
MEUDON	29	1537	N20 W43	
SAC PEAK	29	1635	N22 E21	
SAC PEAK	29	1657	N23 W33	
SAC PEAK	29	1710	N15 W54	
SAC PEAK	29	2202	N20 W60	
MEUDON	30	0810	N20 E28	
* MEUDON	30	1045	N22 E08	
SAC PEAK	30	1525	N21 W75	
* MEUDON	30	1536	N22 W70	
SAC PEAK	30	1755	N22 E60	
HAWAII	30	1940	N03 W04	
SAC PEAK	30	1940	N02 W02	
CAPRI-S	31	1339	N10 E55	
* USNRL	31	1341 E	N20 E54	
* USNRL	31	1443	N20 W06	
SAC PEAK	31	1602	N18 E53	
HCMATH	31	1610	N18 E53	
SAC PEAK	31	1657	S09 W30	
SAC PEAK	31	2140	N13 W02	
SAC PEAK	31	2232	N22 W07	

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F174 Part B).

SOLAR FLARES

NOVEMBER 1958

OBSERVATORY	DATE NOV 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
VOROSHILOV	01	0247	0330	0255	S14	E34	4849	43	1&	2	0255		2.17		134	
ABASTUMANI	01	0704	0732	0709	S17	E30	4849	28	1&	3	0710		6.80	3.70	78	S-SWF
ABASTUMANI	01	0727	0735	0730	N17	E50	4854	8	1	3			3.10		60	
MEUDON	01	1026	1115	1045	S17	E25	4849	49	1		1045		6.00			
KHARKOV	01	1030 E	1140		S16	E24	4849	70 D	1&	2	1130		5.40	2.00		
KIEV	01	1045 E	1200 D	1046 U	S14	E21	4849	75 D	1&	2	1046		4.90		70	S-SWF
MEUDON	01	1120	1135		S17	E25	4849	15	1				5.00			
KIEV*	01	1128	1145	1130	S17	E24	4849	17	1	1	1130		1.20			S-SWF
MEUDON	01	1415	1602	1510	S17	E24	4849	107	1&		1510		10.00			S-SWF
VOROSHILOV	01	2313	0027 D	2330	S15	E23	4849	74 D	1&	3	2330		4.55		122	
MEUDON	02	0913	0944	0920	N05	E14	4851	31	1		0920		4.00			
KIEV*	02	0914 E	0931	0915	N04	E13	4851	17 D	1	2	0915		1.30			
KHARKOV	02	0915	0941	0919	N03	E12	4851	26	1&	2	0918		4.60	2.60		
KIEV	02	0917	0930	0923	N07	E13	4851	13	1	2	0922		1.65		91	
KRASNYA	02	0918	0928	0919 U	N06	E13	4851	10	1&	1	0919		1.15		85	
KRASNYA	02	0919	0931 D	0920 U	S18	E12	4849	12 D	1	1	0920		2.45		60	
KHARKOV	02	0923 E	0958	0929	S18	E11	4849	35 D	1&	2	0930		5.00	2.00		
KIEV*	02	0928 E	0938		S18	E12	4849	10 D	1	2	0932		1.50			
KHARKOV	02	0934	1025		S15	E16	4849	51	1	2	1015		1.90			
KRASNYA	02	0958	1003	1001	S17	W41	4846	5	1	1	1001		3.24		65	
WENDEL	02	1330 E	1358 D		S16	E13	4849	28 D	1&				7.00			
WENDEL	02	1333 E	1356 D		N07	E12	4851	23 D	1&				5.00			
WENDEL	02	1435	1444		S17	E10	4849	9	1				3.00			
WENDEL	02	1439	1446		S15	E18	4849	7	1&				5.00			
VOROSHILOV	03	0049	0121	0055	S15	E07	4849	32	1&	3	0055		2.08		121	
ABASTUMANI	03	0717	0752	0727	S16	W01	4849	35	1	3			4.00		50	
TASHKENT	03	0717	0800 D		S15	E03	4849	43 D	2	2	0717		8.00	2.60	90	
SIMEIZ	04	0751	0800	0752 U	S12	W72	4846	9	1	2	0755		4.40	2.80	52	
SIMEIZ	04	0753 E	0900		S19	W23	4858	67 D	1	2	0800		2.30	2.80	56	
ALMA-ATA	04	0755 E	0833 D	0806	S20	W23	4858	38 D	1	2	0806		2.20		66	
MEUDON	04	0801 E	0950		S16	W28	4858	109 D	1				4.00			
SYDNEY	04	2257	2308	2300	S17	E36	4860	11	1	2	2300	1.50	2.00			
ALMA-ATA	05	0613 E	0628 D	0618	S09	W19	4849	15 D	1&	2	0618		6.40		70	
WENDEL	05	0925 E	0945 D		S12	W33	4849	20 D	1				3.00			
KHARKOV	05	1012 E	1032	1015	S15	W85	4846	20 D	2&	2	1015		21.20	3.70		
WENDEL	05	1014	1045		S10	W88	4846	31	1&				7.00			S-SWF
GOOD HOPE	05	1015	1035	1020	S14	W88	4846	20	1		1020	.50				
KRASNYA	05	1016 E	1032	1023	S17	W90	4846	16	2	1	1023		7.13		93	
WENDEL	05	1124	1151 D		N21	E55	4863	27 D	1				3.00			
WENDEL	05	1236 E	1253 D		N08	W25	4851	17 D	1				4.00			
WENDEL	05	1331	1346		S15	W04		15	1				3.00			
MEUDON	06	1500	1522 D		S18	W36	4849	22 D	1				2.00			
MT WILSON	06	1930	1957	1936	S15	W45	4849	27	1							
SYDNEY	07	0311	0439	0338	N07	W47	4851	88	2	1	0338	3.00	5.00			S-SWF
WENDEL	07	0907 E	0940 D		N38	W59	4850	33 D	1				3.00			
WENDEL	07	1116	1140		S16	W42	4849	24	1				4.00			
WENDEL	07	1213	1241		N33	E30	4863	26	1				3.00			

SOLAR FLARES

NOVEMBER 1958

OBSERVATORY	DATE NOV 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MT WILSON	07	1827	1854	1839	N08	W60	4851	27	1&							G-SWF
WENDEL	08	0804	0820		S15	W53	4849	16	1				4.00			
WENDEL	08	0821 E	0844 D		N08	W68	4851	23 D	1&				8.00			
WENDEL	08	0914 E	0935 D		S15	W54	4849	21 D	1				3.00			
WENDEL	08	0956	1007 D		N39	W73	4850	11 D	1				4.00			
WENDEL	08	1009	1202 D		N17	W42	4854	113 D	1&				8.00			
KHARKOV	08	1111	1151		N17	W43	4854	40	1&	3	1115		7.50	1.50		
WENDEL	08	1143	1204 D		S15	W56	4849	21 D	1				3.00			
MT WILSON	08	1827	1839	1829	S15	W70	4849	12	1&							Slow S-SWF
KHARKOV	09	0956 E	1012 D		N23	W62	4854	16 U	1	3	0959		.80	1.50		
KRASNYA	09	1003	1009	1004 U	N14	W56	4854	6	1	1	1004		.78		84	
KRASNYA	09	1050	1056	1053 U	N08	W79	4851	6	1	1	1053		.22		80	
KHARKOV	09	1057 E	1109 D		N08	W76	4851	12 D	1	3	1100		2.90	1.60		
MT WILSON	09	1954	2022	1957	N15	W65	4854	28	1							
WENDEL	13	1124	1156		S00	E34	4873	32	1&				7.00			
GOOD HOPE	13	1126	1155	1133	N02	E32	4873	29	1		1133	2.20	2.60			
SYDNEY	14	0119 E	0207		S15	E51	4877	48 D	3	2	0123	8.00	16.00			
SYDNEY	14	0155	0209	0157	N02	E25	4873	14	1	2	0157	2.00	2.00			
SYDNEY	14	0155	0253	0209	N22	E05	4872	58	2	2	0209	6.00	7.00			
ABASTUMANI	14	0756	0851	0809	N02	E19	4873	55	1	3			4.20		53	
ABASTUMANI	15	0750 E	0902 D	0754	S07	W30	4871	72 D	1	3			2.60		52	
MEUDON	15	1040 E	1115		S00	E03	4873	35 D	1				3.00			Slow S-SWF
MEUDON	15	1413	1500		S09	E33	4877	47	1				2.00			
MT WILSON	16	2030	2054	2031	N21	E19	4880	24	1							
SYDNEY	16	2332 E	2347		S12	W49	4871	15 D	1	2	2332	1.50	2.00			
SYDNEY	18	0034 E	0112		N15	W87	4864	38 D	1	2	0034	.50				
VOROSHILOV	18	0214	0223	0215	S33	W45	4870	9	1	3	0215		3.10		73	
SYDNEY	18	0214 E	0233	0217	S32	W41	4870	19 D	1	2	0217	1.00	2.00			
SYDNEY	18	0558	0614 D	0607	N14	E35	4881	16 D	1	2	0607	3.00	4.00			
MT WILSON	18	2029	2100	2038	S10	E80	4883	31	1&							Slow S-SWF
SYDNEY	19	0055	0104	0058	S11	E68	4883	9	1	2	0058	.75	2.00			
SYDNEY	19	0145	0154	0151	S11	E67	4883	9	1	2	0151	1.00	3.00			
ALMA-ATA	19	0457 E	0504	0457	S12	E80	4883	7 D	1&	2	0457		11.50		73	
SIMEIZ	19	0733	0745 D	0736 U	S09	E78	4883	12 D	1	1	0736		4.00		64	
SYDNEY	19	2357	0032	0008	N02	W63	4875	35	1	2	0008	2.00	4.00			
SYDNEY	20	0412	0423	0415	S10	E46	4883	11	1	2	0415	1.50	3.00			
MEUDON	20	1202	1237		S12	E55	4883	35	1				2.00			
SYDNEY	20	2302	2334	2308	S18	E50	4883	32	1	2	2308	1.00	2.00			
GOOD HOPE	21	1227	1323	1230	N31	W10	4879	56	1		1230	2.20	2.60			
VOROSHILOV	23	0256	0310	0258	N22	E42	4884	14	1	2	0258		2.07		72	
GOOD HOPE	23	0732	0800	0740	S18	E66	4889	28	1		0740	2.00	5.10			
SCHAUINS	23	0856 E	0905 D		N19	E38	4884	9 D	1&	2			2.08	2.30		

SOLAR FLARES

NOVEMBER 1958

OBSERVATORY	DATE NOV 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
GOOD HOPE	23	1150	1215	1153	S05	E03	4883	25	1		1153	3.00	3.00			
SCHAUINS	23	1425 E	1434 D		N25	E20	4884	9 D	1&	2			2.00	3.90		
MT WILSON	23	1955	2009	1959	S11	W00	4883	14	1							
SYDNEY	23	2353	0005	2358	S10	W03	4883	12	1	1	2358	2.00	3.00			
SYDNEY	24	0032	0100		S02	W28	4882	28	2	1	0035	6.00	6.00			
SYDNEY	24	0053	0118	0100	N36	E75	4891	25	1	2	0100	1.00	3.00			
ALMA-ATA	24	0613	0624	0615	S19	W07	4883	11	1	2	0615		3.40		77	
TASHKENT	24	0756	0805	0758	S12	W06	4883	9	1	1	0759		2.00	3.80	85	
SIMEIZ	24	0756	0808	0758 U	S12	W07	4883	12	1	2	0758		2.00	2.10	64	
SIMEIZ	24	0920	0935 D	0921 U	N37	E73	4891	15 D	1	2	0921		5.00	2.70	68	
GOOD HOPE	24	0931	0942	0933	S15	E78	4897	11	1		0933	.50	2.90			
SCHAUINS	24	1235 E	1250		S11	E08	4883	15 D	1&	2			3.00	2.20		
TASHKENT	25	0658	0745	0724	S10	W22	4883	47	1	1	0724		5.00		85	S-SWF
GOOD HOPE	25	0720	0749	0722	S10	W22	4883	29	1		0722	3.70	4.10			
GOOD HOPE	25	0807	0855	0816	N19	E12	4884	48	1		0816	2.40	2.60			
GOOD HOPE	25	0858	0958	0915	N19	E11	4884	60	1		0915	2.10	2.20			
SCHAUINS	25	0912 E	0925		N18	E08	4884	13 D	1	2			4.00	1.60		
ABASTUMANI	26	0853	0936 D	0859	N18	W03	4884	43 D	1	2	0926		4.20	2.70	73	
GOOD HOPE	26	1139	1225	1151	S11	W31	4883	46	1		1151	2.80	3.30			
SCHAUINS	26	1201 E	1221		N17	W03	4884	20 D	1	2			5.00	1.60		Slow S-SWF
GOOD HOPE	26	1355	1413	1404	S13	W29	4883	18	1		1404	3.00	3.60			
ALMA-ATA	27	0614	0655	0626	N24	W15	4884	41	1	2	0626		3.40		76	
TASHKENT	27	0614	0708	0624	N23	W17	4884	54	1	3	0629		5.00	2.60	65	
KODAIKNL	27	0630 E	0637 D		N22	W12	4884	7 D	1	1	0635			1.30	115	
GOOD HOPE	27	0637 E	0705		N24	W15	4884	28 D	1		0639	2.30	2.60			
KIEV	27	0914 E	0926	0923	N11	E28	4892	12 D	1	2	0923		3.94		50	
KIEV	27	1122	1128	1125	S12	W50	4883	6	1&	2	1125		5.10		58	
MT WILSON	27	1857	1909	1859	N18	W12	4884	12	1							S-SWF
SYDNEY	27	2356 E	0011		N19	W18	4884	15 D	1	2	2356	2.00	3.00			S-SWF
SYDNEY	27	2356 E	0015		N15	W37	4884	19 D	1	2	2356	2.00	3.00			
ALMA-ATA	28	0429	0457	0436	S16	E14	4897	28	1&	3	0436		5.80		78	
TASHKENT	28	0521	0530	0526	N22	W30	4884	9	1	3	0526		4.00			
GOOD HOPE	28	0717	0725	0720	S08	W58	4883	8	1		0720	2.00	4.00			
ALMA-ATA	28	0812	0848 D	0825	S10	E80	4904	36 D	1&	1	0825		11.40		77	
SIMEIZ	28	0816 E		0823 U	S10	E85	4904	7 D	1&	1	0822		11.00	3.40	60	
GOOD HOPE	28	0817	0840	0825	S09	E85	4904	23	1		0825	1.00				Slow S-SWF
SCHAUINS	28	0821 E	0837 D		S12	E80	4904	11 D	1	1			4.00	5.10		
KIEV	28	1035	1043	1039	N19	W25	4884	8	1	2	1038		1.53		88	
SCHAUINS	28	1038 E	1048		N18	W23	4884	10 D	1	2			3.00	2.80		
GOOD HOPE	28	1159	1230	1206	S16	E30	4897	31	1		1206	1.80	2.20			
GOOD HOPE	28	1246	1322 D	1258	N22	W30	4884	36 D	1		1258	3.70	4.60			
SCHAUINS	28	1257 E	1345		N19	W27	4884	48 D	2	2			8.00	3.60		
MT WILSON	28	2125	2240	2145	N19	W31	4884	75	2-							
MT WILSON	28	2313	2400 D	2331	N40	E33	4896	47 D	1							
GOOD HOPE	29	0658	0715	0702	N17	W57	4884	17	1		0702	1.70	3.20			
ABASTUMANI	29	0818	0906 D	0839	N17	W47	4884	48 D	1	3	0838		6.88	2.40	76	
GOOD HOPE	29	0818	0920	0839	N19	W46	4884	62	1		0839	1.30	2.00			

SOLAR FLARES

NOVEMBER 1958

OBSERVATORY	DATE NOV 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MEUDON	29	0820	1015	0936	N20	W40	4884	115	2		0936		15•00			
SCHAUINS	29	0824	0910		N18	W46	4884	46	1	2			3•00	2•70		
GOOD HOPE	29	0928	1012	0940	N20	W39	4884	44	2		0940	4•50	6•10			
SCHAUINS	29	0933 E	1010		N19	W39	4884	37 D	2	2			9•00	5•50		S-SWF
KIEV	29	0954 E	1022	0958 U	N18	W40	4884	28 D	1	2	0957		2•34		52	
GOOD HOPE	29	1023	1120	1046	S16	E12	4897	57	1		1046	4•00	4•30			
MEUDON	29	1032	1130	1053	S16	E06	4897	58	1				3•00			
KIEV	29	1034	1149	1057	S18	E09	4897	75	1	2	1056		1•40		58	
SCHAUINS	29	1043 E	1115		S18	E06	4897	32 D	2	2			7•00	2•70		
MEUDON	29	1315	1333	1325	S13	E17	4897	18	1				3•00			
GOOD HOPE	29	1319 E	1345		S11	E15	4897	26 D	1		1320	2•50	2•70			
GOOD HOPE	30	0853	0918		S22	E85	4906	25	1		0859	•50				
SIMEIZ	30	0856 E	0915 D	0858 U	S21	E89	4906	19 D	1&	2	0858		10•00		64	
SIMEIZ	30	0858	0806	0759	S17	E04	4897	8	1	2	0759		2•00		72	
SIMEIZ	30	0906 E	1005 D	0909	S10	E52	4904	59 D	1	2	0931		5•20	2•60	60	
GOOD HOPE	30	0911 E	0918 D	0913 U	S11	E51	4904	7 D	1		0913	1•50	2•40			
ABASTUMANI	30	0930	0948 D	0929	S09	E53	4904	18 D	1&	1			7•00			
SIMEIZ	30	1003		1006 U	N18	W57	4884	3 D	1&	2	1006		5•80	3•80	68	
SCHAUINS	30	1012 E	1030		N17	W53	4884	18 D	1&	2			6•00	2•40		
GOOD HOPE	30	1125 E	1218		N18	W62	4884	53 D	2		1159	4•00	8•50			
SCHAUINS	30	1139 E	1217		N18	W60	4884	38 D	1&	2			4•00	5•30		Slow S-SWF
KIEV	30	1145 E	1217 D	1157 U	N17	W63	4884	32 D	2	1	1057		15•90		69	
GOOD HOPE	30	1301	1325 D	1304	N15	E20	4898	24 D	2		1304	5•00	5•60			
SCHAUINS	30	1310 E	1320 D		N15	E20	4898	10 D	1	2			2•00	2•60		
VOROSHILOV	30	2330 E	0008		S17	E73	4906	38 D	1	2	2342		3•13		79	

These flare reports are addenda to the November 1958 flares published in CRPL-F 172 Part B, December 1958.

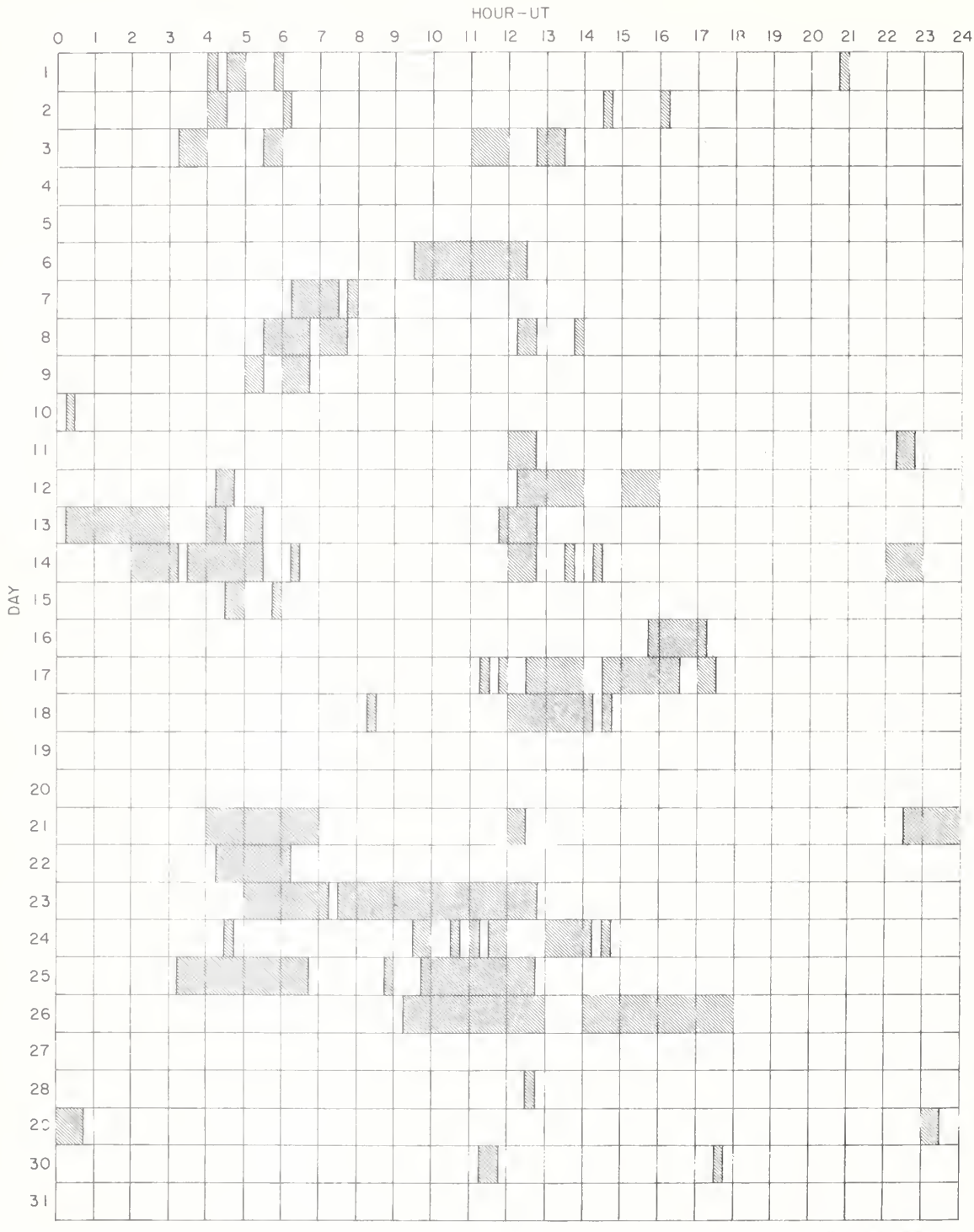
CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNAL	KODAIKANAL
KRASNYA	KRASNAYA PAKHRA
MOSCOW	NIZMIR
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK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

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

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

NOVEMBER 1958



Abastumani
Alma-Ata
Anacapri (Swedish)
Arcetri
Arosa
Athens
Climax
Dunsink
Hawaii
Huancayo
Kharkov
Kiev GAO
Kiev University
Kodaikanal
Krasnaya Pakhra
Locarno
McMath
Mitaka
Meudon
Moscow University
Mt. Wilson
Nederhorst
Nizamiah
Ondrejov
Ottawa
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Simeiz
Sydney
Tashkent
Uccle
Utrecht
U.S. Naval Research
Laboratory
Voroshilov
Zurich.

SOLAR FLARES

DECEMBER 1958

OBSERVATORY	DATE DEC 1958	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SCHAUINS	01	0830 E	0904 D		N07	W18	4895	34 D	16	1			4.00	2.00		
CAPRI-G	01	1225 E	1240 D		S14	W07	4897	15 D	1	2			4.00			
CAPRI-G	01	1245 E	1248 D		□			3 D	1	2						
CAPRI-G	01	1254 E	1315 D		S14	W07	4897	21 D	1	2			4.00			
CAPRI-G	01	1308 E	1315 D		N07	E38	4903	7 D	1	2			4.00			
MT WILSON	01	1639	1643 D	1643	S14	W55	4889	4 D	1							Slow S-SWF
ABASTUMANI	02	0646	0705	0650	S08	W61	4889	19	1	3	0650		2.75		88	
GOOD HOPE	02	0829 E	0940		S14	W20	4897	71 D	1		0850	2.30	2.50			
ABASTUMANI	02	0832	0926 D	0856	S14	W21	4897	24	16	3	0855		7.44	2.27	70	
KRASNYA	02	0837	0933	0846	S14	W18	4897	56	16	1	0846		2.20		83	Slow S-SWF
CAPRI-G	02	0852 E	0927 D		S13	W19	4897	35 D	16	3			5.00			
SCHAUINS	02	0900 E	0953 D		S15	W20	4897	53 D	2	1			9.00	2.00		
ABASTUMANI	02	0841	0846	0843	S12	W62	4889	5	1	3	0843		2.62		73	
KRASNYA	02	0858 E	0913	0906 U	N12	E79	4911	15 D	1				2.22		67	
CAPRI-G	02	0902 E	0912 D		N12	E74	4911	10 D	1	3			2.00			
CAPRI-G	02	0920 E	0927 D		N06	W37	4895	27 D	1	3			3.00			
GOOD HOPE	02	0935	0955	0938	N12	E11	4899	20	1		0938	2.30	2.40			
KRASNYA	02	0936	0944	0937	N12	E11	4899	8	1		0937		.47		96	
SCHAUINS	02	0940 E	0954 D		N11	E07	4899	14 D	16	1			3.00	2.20		
CAPRI-G	02	1040 E			N15	E90	4911		1	3						
CAPRI-G	02	1050 E			S19	E90	4909		1	3						
CAPRI-G	02	1100 E	1110 D		N19	W38	4892	10 D	1	3			2.00			
CAPRI-G	02	1129 E	1137 D		N13	W61	4884	8 D	1	3			2.00			
CAPRI-G	02	1152 E	1227 D		S11	W59	4889	35 D	1	3			3.00			
CAPRI-G	02	1152 E	1227 D		N07	E27	4903	35 D	1	3			3.00			
SCHAUINS	02	1230 E	1240 D		N15	W40	4892	10 D	16	1			3.00	2.20		
CAPRI-G	02	1235 E	1240 D		N19	W40	4892	5 D	1	3			3.00			
CAPRI-G	02	1323 E	1340 D		N08	W33	4895	17 D	1	3			2.00			
CAPRI-G	02	1347 E	1415 D		S08	E23	4904	28 D	1	2			3.00			
MT WILSON	02	1922	2000	1926	S13	W24	4897	38	1							
MT WILSON	02	2112	2211	2124	S08	E17	4904	59	1							
MT WILSON	03		0730 D		N15	E89	4911		3	1	0705		28.00	4.30		
TASHKENT	03	0702	0733	0706	N19	E85	4911	31	2	3	0705			5.00	160	S-SWF
GOOD HOPE	03	0703	0726	0706	N16	E88	4911	23	1		0706	1.10				
GOOD HOPE	03	0716	0730	0719	N18	W58	4892	14	1		0719	1.50	2.80			
MT WILSON	03	0950	1005	0955 U	N15	E90	4911	15	26	2	0959		20.00	4.00	124	
GOOD HOPE	03	0957	1015	1001	N15	E88	4911	18	1		1001	1.20				
NEDERHORST	03	0958 E	1002		N18	E78	4911	4 D	26	1						
GOOD HOPE	03	1219	1252	1227	N13	W59	4892	33	1		1227	1.00	2.00			
SCHAUINS	03	1232 E	1243		N07	E15	4903	11 D	1	2			3.00	1.50		
GOOD HOPE	03	1240	1312	1300	N05	W53	4895	32	1		1300	1.40	2.50			
MT WILSON	03	2009	2021	2011	N15	E71	4911	12	1							
GOOD HOPE	04	1049	1110	1056	N15	E73	4899	21	1		1056	1.20	4.40			
CAPRI-G	04	1050 E	1114 D		N15	E68	4911	24 D	2	3			6.00			S-SWF
SCHAUINS	04	1050	1125 D		N15	E67	4911	35 D	16	2			5.00	3.30		
CAPRI-G	04	1137 E	1149		N11	W22	4899	12 D	1	3			3.00			
CAPRI-G	04	1207 E	1213 D		N15	E68	4911	6 D	1	3			4.00			
CAPRI-G	04	1346 E	1348 D		N13	W75	4892	2 D	1	3			2.00			
CAPRI-G	04	1350 E	1438		S07	W05	4904	48 D	1	3			3.00			
CAPRI-G	04	1358 E	1412		N09	W01	4903	14 D	1	3			4.00			

SOLAR FLARES

DECEMBER 1958

OBSERVATORY	DATE DEC 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SYDNEY	05	0148	0213	0151	S15	W50	4897	25	1	3	0151	2.00	3.00			
SYDNEY	05	0257	0313	0300	N15	E67	4911	16	2	2	0300	3.00	7.00			
VOROSHILOV	05	0317	0333	0321	N18	E60	4911	16	16	2	0321		2.17		127	
SYDNEY	05	0434	0445	0439	S15	W51	4897	11	1	3	0439	1.50	3.00			
SCHAUINS	05	0909 E	1404 D		S16	E54	4912	295 D	16	2			3.00	3.40		
VOROSHILOV	06	0319	0326	0320	N16	E47	4911	7	16	1	0320		2.21		93	
CAPRI-G	06	1202 E	1230 D		N16	E40	4911	28 D	16	3			5.00			
CAPRI-G	06	1215 E	1230 D		S11	W13	4905	15 D	1	3			3.00			
CAPRI-G	06	1322 E	1341 D		S02	E73	4913	19 D	1	3			2.00			
CAPRI-G	06	1426 E	1432 D		S13	W71	4897	6 D	1	3			2.00			
CAPRI-G	06	1436 E	1505 D		S07	W12	4905	29 D	1	3			4.00			
CAPRI-G	06	1506 E	1522 D		S08	E78	4913	12 D	1	2			3.00			
GOOD HOPE	07	0650	0740	0712	N18	E34	4911	50	1		0712	3.60	4.60			
CAPRI-G	07	0838 E	1025 D		S07	W24	4905	107 D	1	3			2.00			
CAPRI-G	07	0846 E	0927 D		S18	E79	4916	41 D	1	3			3.00			
CAPRI-G	07	0905 E	0920 D		S01	E53	4913	15 D	1	3			3.00			
CAPRI-G	07	0932 E	1005 D		S07	E65	4913	33 D	1	3			3.00			
CAPRI-G	07	0951 E	1025 D		N14	E32	4911	34 D	16	3			5.00			
CAPRI-G	07	1040 E	1051		N18	E11	4907	11 D	1	3			4.00			
CAPRI-G	07	1040 E	1136		N15	W68	4898	56 D	1	3			4.00			S-SWF
CAPRI-G	07	1050 E	1105 D		N14	E32	4911	15 D	1	3			4.00			
CAPRI-G	07	1053 E	1120 D		S18	E80	4916	27 D	1	3			3.00			
CAPRI-G	07	1052	1127		S17	W85	4897	35	1	3			5.00			
CAPRI-G	07	1210 E	1216		N14	E36	4911	6 D	1	3			4.00			
CAPRI-G	07	1243 E	1305 D		S18	E80	4916	22 D	1	3			2.00			
CAPRI-G	07	1313 E	1318		S07	W26	4905	5 D	16	2			6.00			
CAPRI-G	07	1325 E	1402 D		S18	E80	4916	37 D	1	2			2.00			
CAPRI-G	07	1356 E	1430 D		N09	W43	4899	34 D	1	2			4.00			
CAPRI-G	08	0753 E	0800 D		S16	W90	4897	7 D	1	3						
CAPRI-G	08	0804 E	0808		N08	W55	4899	4 D	1	3			3.00			
CAPRI-G	08	0817 E	0910 D		N15	E21	4911	53 D	1	3			3.00			
SCHAUINS	08	0906 E	0929		S03	E45	4913	23 D	2	2			7.00	2.90		
CAPRI-G	08	0908 E	0955 D		S03	E46	4913	37 D	2	3			8.00			
MT WILSON	08	0935 E	0935 D		S03	E46	4913		16	1	0918		5.70	2.30	80	
CAPRI-G	08	1036 E	1054		N24	E43	4914	18 D	1	3			3.00			
CAPRI-G	08	1053 E	1118		N07	E90	4919	25 D	1	3						
CAPRI-G	08	1240 E	1302 D		N15	E17	4911	22 D	1	3			3.00			
CAPRI-G	08	1409 E	1424 D		S08	E51	4913	15 D	1	2			3.00			
CAPRI-G	08	1413	1435 D		N13	E17	4911	22 D	1	2			2.00			
SCHAUINS	08	1420 E	1428		S17	E67	4916	8 D	1	2			4.00	1.20		
CAPRI-G	08	1423 E	1433		S17	E66	4916	10 D	1	2			4.00			
CAPRI-G	08	1429 E	1456 D		S03	E47	4913	27 D	1	2			3.00			
CAPRI-G	08	1456 E	1515 D		S07	E50	4913	19 D	1	2			3.00			
SYDNEY	08	2328	2329 D		N14	W77	4899	1 D	2	2	2328	1.00	5.00			
KIEV	09	1007	1026	1013	S15	E55	4916	19	1	1	1012		2.01		70	
KRASNYA	09	1008	1016	1011	S16	E55	4916	8	16	1	1011		1.55		82	
GOOD HOPE	09	1008	1030	1012	S17	E53	4916	22	1		1012	2.20	4.00			
MOSCOW-G	09	1013 E	1027		S19	E58	4916	14 D	1	1	1016		3.10	3.30	90	
GOOD HOPE	09	1355	1411 D	1356	N29	E28	4914	16 D	1		1356	1.60	2.10			

SOLAR FLARES

DECEMBER 1958

OBSERVATORY	DATE DEC 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ho	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MT WILSON	09	1757	1810	1802	N14	W02	4911	13	1							S-SWF
VOROSHILOV	10	0032	0122	0046	S02	E25	4913	50	1b	2	0048		2.52		100	Slow S-SWF
SYDNEY	10	0039	0124	0047	S03	E27	4913	45	1	2	0047	3.00	3.00			
VOROSHILOV	10	0218	0254	0220	N02	E20	4913	36	2	2	0220		5.22		117	S-SWF
SYDNEY	10	0423 E	0436		N03	W67	4910	13 D	1	1	0418	1.00	2.00			
ABASTUMANI	10	0746	0811	0801	S03	E22	4913	25	1	3	0801		2.99		70	
GOOD HOPE	10	1158	1220	1204	S04	E17	4913	22	1		1204	3.00	3.10			
SYDNEY	11	0012	0040	0024	N14	E61	4919	28	1	2	0024	2.00	4.00			
SYDNEY	11	0036	0101	0044	S01	E15	4913	25	2	1	0044	6.00	6.00			Slow S-SWF
SYDNEY	11	0036	0101	0054	N00	E09	4913	25	1	1	0054	1.00	1.00			
SYDNEY	11	0355	0435	0411	S19	W62	4906	40	2	2	0411	3.50	8.00			Slow S-SWF
SYDNEY	11	0456	0542	0519	S10	W72	4905	46	1	2	0519	.75	2.00			
SYDNEY	11	0458	0522 D	0503	N00	E06	4913	24 D	1	1	0503	4.00	4.00			Slow S-SWF
ABASTUMANI	11	0718	0736	0727	S13	W26	4912	18	1	3	0727		2.74		62	
CAPRI-G	11	0820 E	0832 D		S11	W28	4912	12 D	1	2			4.00			
ABASTUMANI	11	0801	0855	0845	S02	E05	4913	54	1	3	0846		2.62	2.70	84	
CAPRI-G	11	0820 E	0842 D	0840	S02	E08	4913	22 D	1b	2			6.00			
KIEV	11	0908	0923	0914	N03	W90	4910	15	1	2	0913				72	
KIEV	11	0943	1011	0951	S20	W66	4906	28	1	2	0951		2.25		46	
KIEV*	11	1003	1007	1004	S01	E04	4913	4	1	2	1004		1.70			
GOOD HOPE	11	1116	1153	1127	S01	E03	4913	37	1		1127	3.30	3.30			
KIEV	11	1117	1147	1127	S02	E02	4913	30	1b	2	1127		4.40		110	S-SWF
KIEV*	11	1124	1146	1127	S01	E03	4913	22	2	2	1127		4.20			
CAPRI-G	11	1138 E	1215 D		S02	E02	4913	37 D	1b	2			5.00			
CAPRI-G	11	1215 E	1215 D		□				1	1						
CAPRI-G	11	1418 E	1430 D		S11	W28	4912	12 D	1	2			3.00			
CAPRI-G	11	1430	1445 D		S02	E03	4913	15 D	1	2			3.00			
MT WILSON	11	1800	1809	1801	S01	W05	4913	9	1							
MT WILSON	11	1808	1835	1817	S03	W05	4913	27	2-							S-SWF
MT WILSON	11	1854	1918	1857	S03	W05	4913	24	1							
MT WILSON	11	1931	2000	1937	S03	W05	4913	29	1b							S-SWF
SYDNEY	12	0049	0130	0054	S14	W48	4912	41	1	1	0054	3.00	4.00			
SYDNEY	12	0054	0123	0107	S02	W08	4913	29	2	1	0107	5.00	5.00			S-SWF
VOROSHILOV	12	0055 E	0115	0106	S02	W06	4913	20 D	1b	3	0106		2.88		102	
SYDNEY	12	0106	0148	0108	N08	W05	4913	42	2	2	0108	5.00	5.00			
VOROSHILOV	12	0210	0243	0225	S03	W02	4913	33	1b	3	0225		4.81		84	Slow S-SWF
SYDNEY	12	0211	0240	0219	S05	W04	4913	29	2	1	0219	5.00	5.00			
GOOD HOPE	12	0637 E	0800	0657	S02	W07	4913	83 D	2		0707	5.80	5.80			Slow S-SWF
MT WILSON	12	0703 E		0703 U	S02	W06	4913		1b	1	0700		9.00	3.40	120	
GOOD HOPE	12	1229	1320 D	1305	S02	W09	4913	51 D	2		1305	9.90	10.00			S-SWF
CAPRI-G	12	1232	1422 D	1302	S03	W09	4913	110 D	2b	3			10.00			
MT WILSON	12	2159	2242	2159	S05	W20	4913	43	1							
VOROSHILOV	13	0021 E	0111		S05	W15	4913	50 D	1b	3	0036		2.12		110	S-SWF
SYDNEY	13	0027 E	0054	0030	S06	W15	4913	27 D	2	2	0030	5.00	5.00			
MT WILSON	13	1833	1904	1837	S03	W27	4913	31	2-							S-SWF
MT WILSON	13	2206	2259	2230	S02	W32	4913	53	1							
SYDNEY	14	0434	0552	0450	N13	E07	4919	78	2	2	0450	10.50	11.00			Slow SWF
GOOD HOPE	14	0738	0910	0750	S00	W33	4913	92	1		0750	3.30	3.90			

SOLAR FLARES

DECEMBER 1958

OBSERVATORY	DATE DEC 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MT WILSON	14	0745	0905 D	0748	N02	W33	4913	80 D	1b	2	0844		6.00	2.50	104	
GOOD HOPE	14	1133	1215	1138	S00	W35	4913	42	1		1138	2.60	3.20			
SYDNEY	15	0240	0253	0246	N22	E20	4920	13	1	2	0246	3.00	3.00			
VOROSHILOV	15	0243	0250	0246	N22	E19	4920	7	1b	3	0246		2.91		81	
TASHKENT	15	0549	0611	0553	N26	E19	4920	22	1	2	0553		5.00	2.80	80	
ALMA-ATO	15	0550	0606	0555	N23	E21	4920	16	1	3	0555		3.30		63	
ALMA-ATO	15	0551	0601	0559	N25	E18	4920	10	1	3	0559		1.20		80	
TASHKENT	15	0624	0700	0626	N26	E19	4920	36	2	2	0630		6.00	2.60	165	
ALMA-ATO	15	0625	0640	0627	N24	E20	4920	15	2	3	0627		7.60		92	
GOOD HOPE	15	0638 E	0702		N25	E21	4920	24 D	1		0638	1.90	2.20			
GOOD HOPE	15	1030	1130	1041	S14	W19	4916	60	1		1041	2.20	2.60			
GOOD HOPE	15	1307	1329	1311	N18	E47	4924	22	1		1311	1.50	2.20			
VOROSHILOV	16	0105	0127	0113	N24	E08	4920	22	1b	3	0113		2.30		101	
VOROSHILOV	16	0405	0515 D	0416	S18	W36	4916	70 D	2	3	0416		6.10		90	Slow S-SWF
ALMA-ATO	16	0427 E	0512	0439	S15	W42	4916	45 D	1b	1	0439		8.00		57	
ALMA-ATO	16	0621	0629	0625	N20	E06	4920	8	1	2	0625		1.30		54	
ALMA-ATO	16	0651	0706	0659	N23	E07	4920	15	1	2	0659		1.60		63	
ALMA-ATO	16	0652	0717	0701	N25	E03	4920	25	1	2	0701		2.00		73	
TASHKENT	16	0653	0722	0705	N23	E04	4920	29	1	2	0709		3.00	2.20	80	
SYDNEY	17	0255 E	0310 D		N06	W27	4919	15 D	1	1	0255	2.00	2.00			
TASHKENT	17	0655 E	0727		N12	W28	4919	32 D	1	2			2.00		85	
GOOD HOPE	17	0702 E	0722		N11	W28	4919	20 D	1		0702	2.80	3.20			
GOOD HOPE	17	0702 E	0730		S06	W79	4913	28 D	1		0702	.80	4.60			
TASHKENT	17	0739	0755 D	0743	S18	W52	4916	16 D	1	2	0743		3.00		85	
GOOD HOPE	17	0739	0755	0744	S17	W52	4916	16	1		0744	1.30	2.20			
GOOD HOPE	17	1047	1115	1053	S16	W57	4916	28	1		1053	1.20	2.30			
GOOD HOPE	17	1052	1115	1059	S05	W79	4913	23	1		1059	.40	2.10			
GOOD HOPE	17	1156 E	1233	1200	S05	W79	4913	37 D	1		1200	.90	5.20			
GOOD HOPE	17	1245	1308	1253	S05	W80	4913	23	1		1253	.80	4.60			
MT WILSON	17	1859	1944	1901	N04	W33	4919	45	2-							S-SWF
VOROSHILOV	18	0056 E	0104 D	0056	S12	W86	4913	8 D	1b	1	0056		2.10		144	
VOROSHILOV	18	0128	0210 D	0135	S09	E37	4926	42 D	1	1	0135		2.63		68	
GOOD HOPE	18	0724 E	0734		S05	W80	4913	10 D	1		0726	.50	2.90			
MT WILSON	18	1640 E	1654 D	1650	N05	W46	4919	14 D	1							
MT WILSON	18	2235	2258	2242	N05	W49	4919	23	1							
VOROSHILOV	21	0046	0105	0049	S11	E89	4934	19	2	3	0049		10.60		139	Slow S-SWF
TASHKENT	21	0655	0704	0659	S16	E88	4934	9	1	1	0657		6.00	5.00		
MT WILSON	21	0702 E	0702		S15	E90	4934		1	2	0659		6.70		64	
ABASTUMANI	21	0920	0949 D	0938	S14	E89	4934	29 D	2	2	0938		7.50		71	
MT WILSON	21	0922 E	0955	0929	S16	E87	4934	33 D	1b	2	0930		10.00	1.10	72	
GOOD HOPE	21	1355	1400 D		S15	E85	4934	5 D	1		1400	1.50				
VOROSHILOV	22	0116	0132	0119	S09	E75	4934	16	2	3	0119		6.51		81	
GOOD HOPE	22	0923	0940	0927	S16	E66	4934	17	1		0927	.90	2.20			
SCHAUINS	22	0930 E	0944		S17	E59	4934	14 D	1	2			3.00	1.90		
SCHAUINS	22	0932	0946		N12	E90	4936	14	1	2						
GOOD HOPE	22	1315	1335	1321	S15	E68	4934	20	1		1321	1.40	3.70			
SCHAUINS	22	1316 E	1331		S16	E65	4934	15 D	1	2			4.00	1.80		

SOLAR FLARES

DECEMBER 1958

OBSERVATORY	DATE DEC 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
ABASTUMANI	23	0609 E	0803 D	0624	S16	E65	4934	114 D	3	3	0620		26•80	1•60	66	G-SWF
GOOD HOPE	23	0642 E	0730		S15	E66	4934	48 D	2		0644	4•00	10•20			
ABASTUMANI	24	0558 E	0609 D	0601 U	S16	E62	4934	11 D	1&	3	0601		5•10		70	
ABASTUMANI	24	0839 E	0913 D	0859	S16	E45	4934	34 D	2	3	0858		12•40	2•20	105	
GOOD HOPE	24	0946	1010	0947	S15	E59	4934	24	1		0947	2•50	5•00			S-SWF
GOOD HOPE	24	1011	1025	1017	N12	E69	4938	14	1		1017	•80	2•30			
TASHKENT	25	0750	0810	0756	S17	E32	4934	20	1	1	0753		2•00	2•50	80	
GOOD HOPE	25	1317	1332	1321	N18	E47	4936	15	1		1321	2•20	3•40			
GOOD HOPE	26	1059	1119	1107	N20	E44	4936	20	1		1107	1•50	2•20			
GOOD HOPE	26	1118	1132	1121	N06	E58	4938	14	1		1121	2•00	3•90			
GOOD HOPE	26	1210	1250	1223	S13	E08	4934	40	1		1223	2•60	2•70			
GOOD HOPE	26	1216	1300	1227	N11	W58	4927	44	1		1227	2•30	4•60			
GOOD HOPE	26	1224	1250	1230	N06	E57	4938	26	1&		1230	2•70	5•00			
GOOD HOPE	26	1302	1330	1308	S14	E14	4934	28	1		1308	2•30	2•40			
GOOD HOPE	28	0957	1020	1000	S11	E00	4934	23	1		1000	2•20	2•20			
KRASNYA	28	1019 E	1025 D		N18	W40	4932	6 D	1	1	1022		1•24		80	
GOOD HOPE	28	1212 E	1233		N22	E15	4938	21 D	1		1213	1•90	2•10			
VOROSHILOV	29	0106	0126	0110	N05	W51	4932	20	1&	3	0110		2•26		126	
GOOD HOPE	29	0732	0810	0741	N14	W09	4936	38	1		0741	3•70	3•90			
GOOD HOPE	29	0831	0849	0833	N21	W11	4936	18	1		0833	2•10	2•30			
NEDERHORST	29	1042	1048 D		N06	E18	4938	6 D	1	2						
MT WILSON	29	2022	2041	2030	N05	E12	4938	19	1							
VOROSHILOV	31	0124	0135	0126	N08	W72	4932	11	1&	2	0126		2•50		90	
SYDNEY	31	0124	0142	0125	N11	W74	~~4932~~	18	1	2	0125	•75	2•00			
MT WILSON	31	0957	1015	1004 U	N16	W36	4936	18	1	2	1003		1•20	2•30	76	
MT WILSON	31	1710 E	1732	1710	S19	W63	4934	22 D	2							S-SWF

[illegible] - [illegible] - [illegible]

These flare reports are addenda to the December 1958 flares published in CRPL-F 173 Part B, January 1959.

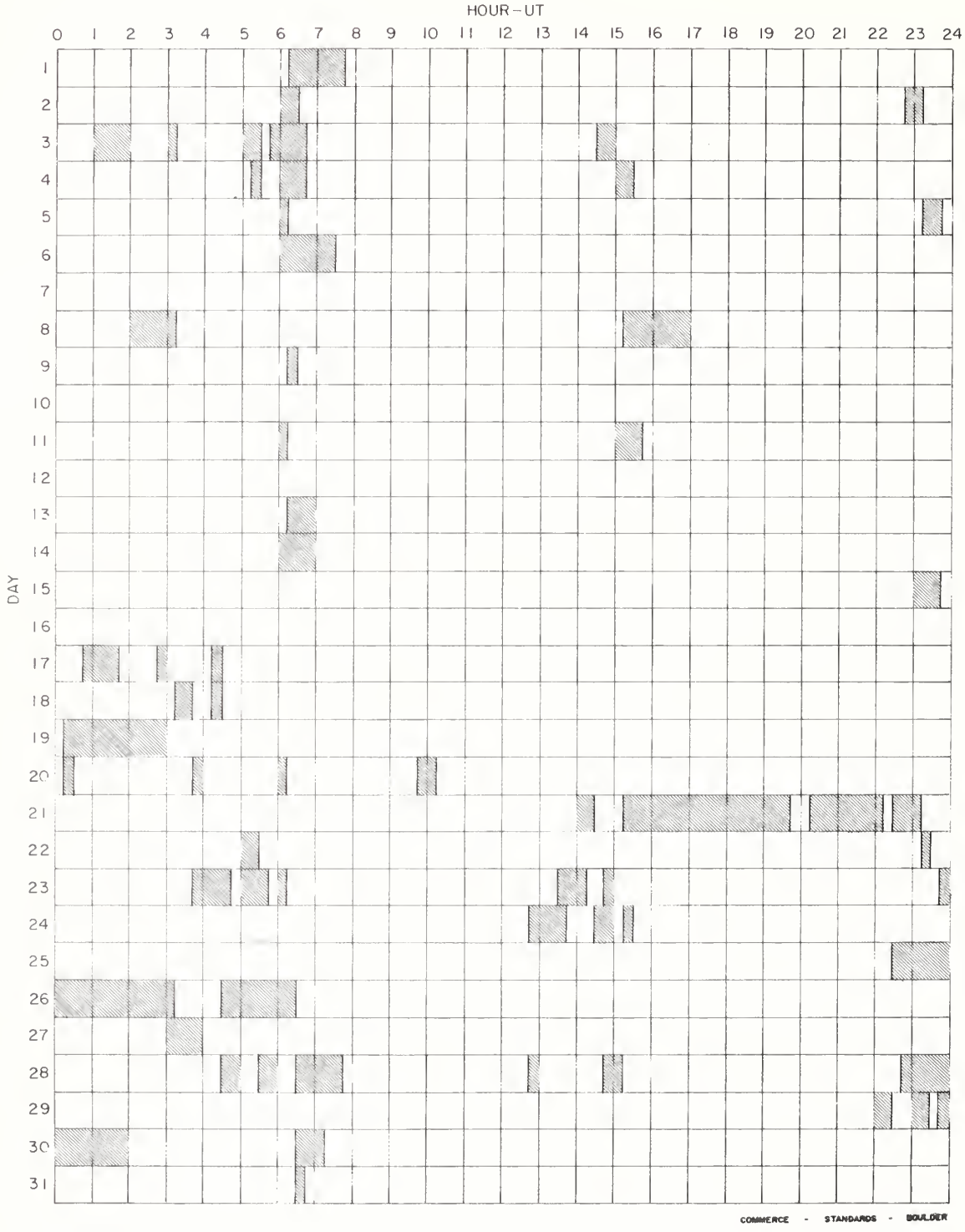
CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNAL	KODAIKANAL
KRASNYA	KRASNAYA PAKHRA
MOSCOW	NIZMIR
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK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

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

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

DECEMBER 1958



Stations Include:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Arosa
Capetown
Climax
Dunsink
Hawaii
Huancayo
Kiev GAO
Kiev University
Kodaikanal
Krasnaya Pakhra
Locarno
McMath
Meudon
Mitaka
Moscow University
Mt. Wilson
Nederhorst
Nizamiah
Ondrejov
Ottawa
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Simeiz
Sydney
Tashkent
Uccle
Utrecht
U.S. Naval Research Laboratory
Voroshilov
Zurich.

SOLAR FLARES

SEPTEMBER 1957

OBSERVATORY	DATE SEPT 1957	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
TASHKENT	01	0209 E	0224 D		N13	W09	4124	15 D	1&					3.40	90	S-SWF
TASHKENT	01	0214 E	0226		N12	W43	4122	12 D	1					2.60	70	
TASHKENT	01	0242	0340	0245 U	N12	W08	4124	58	1					1.20	80	
TASHKENT	01	0502	0554	0528 U	N15	W03	4124	52	1&					1.90	90	
ABASTUMANI	01	0506	0614	0535	N13	W05	4124	68	1&					2.10	182	
ABASTUMANI	01	0506 E	0806 D	0514 U	S31	W15	4125	180 D	1					1.90	159	
TASHKENT	01	0511 E	0530		S29	W16	4125	19 D	1					1.60	70	
ABASTUMANI	01	0614 E	0806 D	0624 U	N14	W16	4124	112 D	1					1.80	166	
ABASTUMANI	01	0622	0640 D	0624	N11	W08	4124	18 D	1					2.90	60	
ABASTUMANI	01	0624	0641	0625	N11	W08	4124	17	1&					1.90	170	
ABASTUMANI	01	0802	0827	0804	N14	W13	4124	25	1&					2.60	45	S-SWF
ABASTUMANI	01	0806	0830 D	0820	N14	W12	4124	24 D	1&					2.00		
KIEV*	01	1258 E	1306 D	1301 U	N14	W17	4124	8 D	1&							
KIEV	01	1302 E	1323	1302 U	N15	W15	4124	21 D	3						64	S-SWF
KIEV	01	1318	1402 D	1401 U	N14	W20	4124	44 D	1&						28	
TASHKENT	02	0409 E	0445	0412 U	N15	W25	4124	36 D	1&					3.00	100	Slow S-SWF
ABASTUMANI	02	0734	0805	0740 U	N26	W17	4124	31	1					2.10		
ABASTUMANI	02	0802	0815	0805	S13	W25	4126	13	2-					2.00		S-SWF
ABASTUMANI	02	1016 E	1051	1030	N14	W27	4124	35 D	2							
ABASTUMANI	02	1046 E	1241 D	1049 U	S30	W34	4125	125 D	2&							
KIEV*	02	1113 E	1130 D		S34	W39	4125	17 D	2							
KIEV	02	1117 E	1145	1122 U	N15	W31	4124	28 D	1						240	
KIEV	02	1117 E	1237	1120 U	S31	W37	4125	20 D	2						260	
KIEV	02	1257	1324	1305 U	N10	W26	4124	27	2						430	
KIEV*	02	1302 E	1325 D		N10	W28	4124	23 D	2							G-SWF
KIEV*	02	1325 E	1410 D		S34	W39	4125	45 D	1&							
MOSCOW-G	03	0647 E	1127 D	0410 U	N12	W40	4124	280 D	3					7.20	350	Slow S-SWF
ABASTUMANI	03	0754	0841	0759	N14	W38	4124	47	2&						200	
MOSCOW-G	03	0921 E	1052 D	1040 U	N11	W39	4124	91 D	2					4.05	160	S-SWF
KIEV	03	1100 E	1200	1123 U	N14	W40	4124	60 D	1						180	
KIEV	03	1120	1150	1130 U	N25	W29	4124	30	1&						190	
KIEV	03	1130	1142	1130 U	S33	W41	4125	12	1&						290	
KIEV	03	1319	1335	1319 U	N25	W47	4124	16	1&						300	
KIEV*	03	1342 E	1344 D		S19	E66	4133	2 D	2							
MOSCOW-G	04	0720 E	1036 D	0922 U	N22	W41	4124	196 D	1					1.86	160	
TASHKENT	05	0319 E	0346	0320 U	N11	W68	4124	27 D	1&					4.00	90	Slow S-SWF
ABASTUMANI	05	0704	0713	0707 U	N08	E87		9	1						200	
KIEV	05	1209 E	1307 D	1218 U	N15	W67	4124	58 D	2						420	
MOSCOW-G	05	1213 E	1231 D		N08	W65	4124	22 D	1&					3.52	200	G-SWF
KIEV*	05	1234 E	1241 D		N12	W69	4124	7 D	2							
KIEV	05	1249	1402 D	1339 U	S25	E17	4136	73 D	2						300	Slow S-SWF
ABASTUMANI	06	0800 E	0900	0804	N25	W64	4124	60 D	2							Slow S-SWF
MOSCOW-G	06	0801 E	0908 D	0801 U	N24	W63	4124	67 D	3					5.82	300	
MOSCOW-G	06	0930 E	1114 D	0955 U	N09	E66	4134	104 D	1					2.11	170	
KIEV	06	1252 E	1255	1253 U	N15	W90	4124	3 D	1&						310	
KIEV	06	1336 E	1355	1336 U	S28	W90	4125	19 D	2						260	G-SWF
ABASTUMANI	07	0821 E	0845	0823 U	N12	W90	4124	24 D	1&							S-SWF

SOLAR FLARES
SEPTEMBER 1957

OBSERVATORY	DATE SEPT 1957	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MOSCOW-G	07	1046 E	1059 D	1056 U	S26	W07	4136	13 D	1b					2.06	160	
ABASTUMANI	09	0755	0855 D	0815	N14	E24	4134	60 D	2b					2.50	155	
KHARKOV	09	0812 E	0839 D		N10	E20	4134	27 D	3							
KHARKOV	09	0812 E	0839 D		N16	E28	4134	27 D	2							
MOSCOW-G	10	0728 E	1118 D	0821 U	S16	E19	4141	230 D	1b					2.51	250	
MOSCOW-G	10	0734 E	0838 D		N14	W73	4124	64 D	1					3.27	140	
ABASTUMANI	10	0814 E	0903 D	0822 U	S16	E17	4141	49 D	2					2.30		
TASHKENT	11	0236 E	0640 D	0300 U	N15	W04	4134	244 D	3					3.40	170	Slow S-SWF
ABASTUMANI	11	0449 E	0722		N13	W02	4134	153 D	2					2.00	204	
TASHKENT	12	0710 E	0735	0715 U	N09	W14	4134	25 D	1b					3.30	160	S-SWF
KIEV	12	1130 E	1234 D	1228 U	S16	W14	4141	64 D	1b						290	
TASHKENT	13	0248 E	0358 D	0251 U	S16	W21	4141	70 D	1b					3.10	80	S-SWF
ABASTUMANI	13	0622	0804	0823	S17	W23	4141	102 D	1b						263	Slow S-SWF
MOSCOW-G	13	1028 E	1208 D		N22	E80	4151	100 D	2					5.89	250	
TASHKENT	14	0230 E	0300 D		N11	W40	4134	30 D	2b					4.30	200	S-SWF
TASHKENT	14	0254	0312	0256 U	S16	W32	4141	18	1b					3.80	150	
TASHKENT	14	0335	0401	0337 U	N23	E68	4151	26	1					4.40	80	
KIEV*	14	0620 E	0643	0635	N23	E63	4151	23 D	1					3.60		
ABASTUMANI	14	0722	0751 D	0728	N09	E83	4152	29 D	1b						182	S-SWF
KIEV*	14	0725 E	0729 D	0726	N10	E82	4152	4 D	1					4.20		
KIEV	14	1215 E	1245 D	1224 U	S25	W01	4143	30 D	2						210	
KIEV*	14	1224 E	1302 D		S26	W05	4143	38 D	1b							
KIEV*	14	1336 E	1351 D	1339 U	N09	E78	4152	15 D	1							
ABASTUMANI	16	0450 E	0525 D	0506 U	N07	W66	4134	35 D	1b					2.20	86	S-SWF
TASHKENT	16	0457 E	0515 D		N09	W71	4134	18 D	1b					4.30	130	
MOSCOW-G	16	0739 E	1121 D	0936 U	N26	E42	4151	222 D	1					3.63	170	
MOSCOW-G	16	0838 E	0936 D		N10	E36	4151	58 D	1b					2.25	120	
KIEV	16	1106 E	1145	1111 U	N08	W75	4134	39 D	1						98	
KIEV	16	1106 E	1238	1111 U	N25	E45	4151	92 D	1						96	
KIEV*	16	1307 E	1330 D		N10	E57	4152	23 D	1b							G-SWF
KIEV	16	1322	1329	1324 U	N07	E50	4152	7	1						97	
ABASTUMANI	17	0504 E	0837 D	0807 U	N24	E26	4151	213 D	2b					2.50	86	
TASHKENT	19	0402 E	0555	0405 U	N20	E02	4151	113 D	3					10.60	200	Slow S-SWF
ABASTUMANI	19	0749	0858	0808 U	N24	E00	4151	69	2					3.70	133	S-SWF
MOSCOW-G	19	0750 E	1016 D	0809 U	N22	E01	4151	146 D	2b					4.80	280	
TASHKENT	20	0352 E	0430 D		N20	W11	4151	38 D	1b					2.30	80	Slow S-SWF
TASHKENT	20	0446 E	0507		S23	W02	4155	21 D	1b							
TASHKENT	21	0404	0421	0410 U	S22	W15	4155	17	2					3.70	110	Slow S-SWF
TASHKENT	21	0420	0558 D	0422 U	N23	W23	4151	98 D	2b					2.90	170	
ABASTUMANI	21	0518	0812 D	0614	N09	W02	4152	174	3					1.80	189	
ABASTUMANI	21	0604	0635	0609 U	N21	W25	4151	31	2					2.40	166	
ABASTUMANI	21	0644	0727	0703	N17	E88	4159	43	1b						73	S-SWF

SOLAR FLARES
SEPTEMBER 1957

OBSERVATORY	DATE SEPT 1957	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
TASHKENT	22	0255 E	0306		N10	W18	4152	11 D	1					2.90	100	
TASHKENT	22	0344	0351	0345 U	N09	W33	4152	7	1					3.40	100	
ABASTUMANI	22	0558	0715	0614	N09	W15	4152	77	1					2.10	60	
ABASTUMANI	22	0643	0725	0650	N06	W34	4152	37	1					2.00	73	
TASHKENT	22	0648	0716	0653 U	N09	W34	4152	28	1					3.00	70	
ABASTUMANI	22	0732	0905	0750	N20	W41	4151	93	2					2.50	80	
TASHKENT	22	0744 E	0753 D	0747 U	N23	W39	4151	9 D	1					3.50	90	S-SWF
TASHKENT	23	0400 E	0411		N23	W48	4151	11 D	1					3.50	70	
ABASTUMANI	23	0752	0809 D	0800 U	S23	W43	4155	17 D	1						57	
ABASTUMANI	23	0757	0827	0800 U	N20	W52	4151	30	1						60	
KIEV	23	1211 E	1340 D	1242 U	N09	W44	4152	89 D	2B						77	
TASHKENT	24	0510 E	0520		N15	E90	4162	10 D	1B					6.00	150	
TASHKENT	24	0605	0818	0809 U	N15	E88	4162	133	1B					6.70	140	
ABASTUMANI	24	0714	0908	0809	N18	E89	4162	114	1					3.10	53	
TASHKENT	24	0740 E	0750 D		N24	W63	4151	10 D	1					2.90	80	
MOSCOW-G	24	0758 E	1142 D	0812 U	N15	E85	4162	224	1B					4.94	130	
MOSCOW-G	25	0921 E	1007 D	0924 U	S15	W58	4155	46 D	1					3.54	120	
MOSCOW-G	25	1033 E	1201 D		N08	E78	4162	88 D	2					2.71	130	
KIEV	25	1141	1159	1146 U	N26	E34	4159	18	□							
KIEV	25	1141	1200	1146 U	S23	E46	4161	19	□							
KIEV	25	1144	1222	1146 U	N16	E79	4162	38	□							
TASHKENT	27	0531 E	0612 D		S28	E21	4161	41 D	1B					3.20	100	S-SWF
MOSCOW-G	27	1200	1207 D	1201 U	N18	E04	4159	7 D	1B					2.05	150	
ABASTUMANI	28	0741	0818	0743	N16	W07	4159	37	1							
TASHKENT	29	0337	0424	0348 U	N15	W34	4159	47	1					3.40	190	
TASHKENT	29	0408	0457	0416 U	N12	W06	4159	49	1B					2.20	100	
TASHKENT	29	0704 E	0715		N23	W22	4159	11 D	1B					3.00	70	
ABASTUMANI	29	0707	0728	0718 U	N23	W24	4159	21	1							
ABASTUMANI	29	0745	0850 D	0749 U	N16	W25	4159	65 D	1B							
TASHKENT	29	0748	0805	0752 U	N15	W25	4159	17	1B					3.50	70	
ABASTUMANI	30	0557 E	0756 D	0628 U	N29	E33	4165	119 D	1							
ABASTUMANI	30	0557 E	0804 D	0751 U	S14	E83	4175	127 D	1							

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the September 1957 solar flares reported in CRPL-F 158 Part B, October 1957. Other addenda to the September 1957 flares have appeared in CRPL-F 168 Part B, August 1958, and CRPL-F 174 Part B, February 1959.

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

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

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

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

JANUARY 1959

Jan. 1959	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 174B
1	0900	0930	S-SWF	1	2	NE	0855
2	0913	0938	S-SWF	1	2	PU	0912
3	0141	0315	G-SWF	1	3	OK	*
3	1600	1745	Slow S-SWF	5	3	BE, FM, MC, NE, PR, SW, WS, CW***	1617
4	0310	0400	S-SWF	5	2	AD, NE, OK, TO, CW++	*
5	2300	2321	S-SWF	4	1	AD, WS	
11	1950	2015	S-SWF	5	2-	BE, HU, MC, PR	*
12	0303	0325	S-SWF	1	2-	OK	
14	1410	1430	S-SWF	5	2-	HU, NE, PR	1406
14	2350	0000	Slow S-SWF	4	1+	AN, OK,	
15	0432	0443	S-SWF	1	1+	OK	*
19	0035	0103	Slow S-SWF	1	1	OK	0030
19	0318	0343	S-SWF	1	1+	OK	*
19	1557	1610	Slow S-SWF	5	1+	HU, PR, WS	1554
19	1724	1758	Slow S-SWF	5	2-	BE, FM, HU, PR, WS	
21	0330	0433	G-SWF	4	2	OK, TO	0258E
21	1702	1743	S-SWF	5	2+	BE, FM, HU, LA, MC, NE, PA, PR, WS, CW*	1700
24	1518	1535	G-SWF	5	1	MC, PR, WS	1454
24	1538	1620	Slow S-SWF	5	1-	HU, MC, PR, WS	1532
25	0210	0245	S-SWF	4	2	TO, CW++	0210
25	1410	1505	Slow S-SWF	5	2	BE, FM, HU, MC, NE, PR	1406
25	2003	2027	S-SWF	4	1	LA, MC, PR, WS	1925
26	0855	0915	S-SWF	4	2	PU, CW**, CW***	0849
27	1428	1455	S-SWF	5	2	BE, FM, HU, MC, NE, PR, SW, WS	1403
27	1800	1842	S-SWF	3	1	HU, MC, PR	1755
28	1528	1557	Slow S-SWF	3	1	HU, PR, WS	1521
28	1937	2005	Slow S-SWF	5	1	BE, HU, MC, PR, WS	1932
31	0448	0518	S-SWF	5	2	OK, TO, CW++	*

*No known flare patrol.

LA = Los Angeles, Calif.
NE = Nederhorst den Berg, Netherlands
PA = Paramaribo, Dutch Guiana
SW = Enkoping, Sweden
TO = Hiraiso Radio Wave Observatory, Japan

CW* = Cable and Wireless, Barbadoes
CW** = Cable and Wireless, Somerton, England
CW*** = Cable and Wireless, Brentwood, England
CW+ = Cable and Wireless, Hong Kong
CW++ = Cable and Wireless, Singapore.

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

JULY 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	WIDESPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
1		1		3	1330		1350		KU, NU
1			1+	5	1659		1702		BO, MC, SP
1			1	5	1821	1822	1823		BO, MC, SP
2			1	5	1732	1733	1734		BO, MC, SP
2			1+	5	1737	1739	1741		BO, MC, SP
2			1-	3	1830	1831	1832		BO, SP
2			1	5	1835	1838	1840		BO, MC, SP
2			1	5	1855	1856	1858		BO, MC, SP
2			1+	4	1900	1902	1903		MC, SP
2			2	4	1905	1906	1907		MC, SP
2			1	4	1942	1944	1946		MC, SP
3			1-	4	1451	1453	1456		BO, MC
3			1	4	1649	1651	1652		BO, MC
3			1+	5	1658	1659	1700		BO, MC, SP
3			1+	5	1752	1755	1756		BO, MC, SP
3			1+	5	1847	1850	1852		BO, MC, SP
3			2+	4	2013	2015	2018		MC, SP
4		3		1	0514		0530		NE
4			1	4	2130	2132	2133		MC, SP
7		-		1	0700		0715		KU
7	1-			3	1633	1638	1651	8	BO, MC
7		1		3	1637	1645	1652		A5, BO
7			2+	5	1735	1741	1745		BO, MC, SP
7		1+		4	1737	1743	1815		A3, A5, BO, KU
7	1-			3	1745	1750	1802	5	BO, MC
8			1+	4	1336	1339	1341		BO, MC
8		-		1	1341		1356		KU
8			1-	4	1722	1723	1724		MC, SP
8			1+	5	1753	1755	1756		BO, MC, SP
8			1	5	1840	1841	1842		BO, MC, SP
8			1	5	1844	1845	1846		BO, MC, SP
9		1		1	0903		1003		PU
9			3	4	1942	1947	1948		MC, SP
10		2		3	0910		0952		KU, PU
10			1+	4	1906	1908	1910		MC, SP
11		2		3	0821	0829	0853		DU, PU
11		2		3	1038		1126		KU, PU
11			2-	3	2135	2139	2141		BO, SP
12		1		5	0758	0803	0832		ED, HO
13			1	3	1359	1403	1404		BO, SP
14			1+	5	1825	1830	1831		BO, MC, RE, SP
14			1-	4	2054	2055	2056		BO, MC
14			1-	5	2151	2153	2154		BO, MC, SP
15		2+		3	0921	0934	0953		ED, KU, PU
15		1		5	1240	1248	1310		DE, KU
15	1-			3	2053	2106	2145	8	BO, RE
15		2+		1	2054	2113	2145		BO
16		-		1	1125		1145		KU
16			1+	5	2052	2055	2056		BO, MC, SP
17		-		1	0537	0617	0653		DU
17		1		3	1408	1414	1440		A3, BO
17	1-			1	1411	1414	1425	5	BO
17	1-			1	2003	2005	2024	5	MC
17		1		3	2003	2009	2051		A5, MC
18			2	5	1719	1722	1725		BO, MC, SP
18			1-	3	1814	1815	1818		BO, SP
18			1	3	1907		1909		BO, SP
19		1		1	0803		0818		KU
19		-		3	1227		1242		KU, NU
19	1			4	1331	1338	1353	15	BO, MC, RE
19		1		5	1332	1337	1400		BO, DU, ED, KU, MC, NE, NU

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

JULY 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	WIDESPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
19			1	5	1609	1610	1615		MC, RE, SP
19			1-	4	1720	1722	1729		MC, SP
19	1+			1	1905U	1917U	1940	20	BO
19			3	5	1905	1909	1910		BO, MC, RE, SP
19			1+	5	1910	1914	1916		BO, MC, RE, SP
19		3-		5	1912	1930	2000		A2,A3,A4,A5,A6,BO,DE,DU,ED,KU, NE,NU,PA
19			3	5	1917	1922	1930		BO, MC, RE, SP
19			1	5	1937	1938	1941		MC, RE, SP
19			1+	5	2213	2215	2217		BO, MC, RE, SP
19	1			4	2216	2219	2234	40	BO, MC, RE
19		2		5	2217	2225	2255		A3, A4, A5, A6, BO, DE
20		1		5	0644		0700		HO, KU, NU
20			1-	3	1207	1208	1208		MC, RE
20	1+			3	1209	1214	1250	40	MC, RE
20		1+		5	1211	1213	1249		ED, KU, MC, NU
20		-		1	1300	1306	1330		ED
20			1-	3	1405	1410	1414		MC, RE
20			1+	3	1754	1757	1800		MC, RE
20			2	3	1933	1950	1950		MC, RE
21	1			3	2022	2030	2105	20	MC, RE
23		1+		5	1325		1415		A3, KU, NU, PU
23			1	3	1325	1328	1329		MC, RE
23	1-			1	1329	1333	1347	5	BO
23			1-	3	1834	1836	1837		BO, SP
23			1-	5	2024	2025	2029		BO, MC, SP
24		2+		3	1008		1058		DU, PU
24		1		3	1319		1338		KU, PU
24			1-	4	1416	1417	1418		BO, MC
24	1-			1	1724	1728	1754	10	BO
24		1-		1	1727	1736	1750		BO
24			1-	3	1916	1918	1919		BO, SP
25		-		1	0630		0700		NU
25	1-			1	1343	1347	1403	5	BO
25		1		5	1344	1347	1411		BO, DU, ED, KU, PU
26		1		1	0300		0322		HO
26		1		4	0638		0708		KU, NU, PU
26		2		4	0859		0935		KU, NE, NU, PU
26		2+		3	1258		1323		KU, PU
26		-		1	1402		1417		KU
26	1			3	1950	1955	2008	25	BO, MC
26		2		3	1950	2006			A4, A5
26			1-	3	2035	2037	2039		BO, SP
26			2	5	2225	2229	2234		BO, MC, RE, SP
27		-		3	0648		0711		KU, NU
27		-		1	0859		0909		KU
27		2+		3	1352		1430		KU, PU
27			1+	5	1443	1445	1448		MC, RE, SP
27			1+	5	1520	1522	1523		MC, RE, SP
27			1	5	1819	1820	1822		BO, MC, RE, SP
27			1+	5	2015	2017	2019		BO, MC, RE, SP
27			1+	5	2210	2214	2215		BO, MC, RE, SP
28		-		3	0808		0828		KU, NU
28		-		1	1009		1039		NU
28	1-			1	1436	1439	1508	5	BO
28		1-		5	1437	1452	1520		BO, ED, KU, NU
28			1-	5	1456	1458	1459		BO, MC, RE
28			1+	5	1745	1748	1750		BO, MC, RE, SP
28			1+	3	1946		1949		BO, SP
28			1-	3	2244	2245	2245		BO, SP
29		3		1	0303		0406		HO

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

JULY 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	WIDESPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	MAX.	END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
29	1-			4	1417	1432	1500	12	BO, MC, SP
29		1+		5	1423	1433	1520		A3, BO, ED, KU, MC, NE
29	1-			4	1545	1557	1617	5	BO, MC, RE
29		1		4	1545	1559	1619		A3, A4, BO
29			1	5	1817	1818	1819		BO, MC, SP
29			1+	5	1822	1824	1826		BO, MC, SP
29			1-	5	1853	1854	1858		BO, MC, SP
29			1	5	1951	1953	1954		BO, MC, SP
29		1-		1	2016	2026	2045		BO
29	1-			1	2020	2026	2051	9	BO
29			1-	5	2043	2045	2046		BO, MC, SP
29			1	5	2122	2123	2124		BO, MC, SP
30		1		5	1432	1436	1446		A2, A5, PU
30	3			4	1527	1533	1628	90	BO, RE, SP
30		2+		5	1527	1536	1638		A1,A2,A3,A5,BO,ED,KU,NE,NU,PU,SP
30			1+	4	1550	1552	1556		RE, SP
30			2	5	1753	1758	1803		BO, RE, SP
30			1-	3	1932	1933	1934		BO, SP
30			1-	3	1937	1938	1938		BO, SP
30			1-	3	1952	1953	1953		BO, SP
30			1+	5	2032	2037	2039		BO, RE, SP
30			1-	3	2132	2132	2133		BO, SP
30	3			4	2132	2141	2220	75	BO, RE, SP
30		2+		5	2134	2155	2300		A1, A3, A5, BO, HO, SP
30			1-	3	2255	2255	2256		BO, SP
31		2		3	1112	1117	1219		DU, ED, NE
31	1			1	1120	1127	1130	15	RE
31			1	3	1503	1505	1507		MC, RE
31			1	3	1600	1605	1606		MC, RE
31			1	5	1632	1633	1635		BO, MC, SP
31			1-	4	1637	1639	1641		MC, SP
31			1-	3	1718	1720	1721		BO, SP
31			2	5	1747	1750	1803		BO, MC, RE
31			1	4	1843	1845	1846		BO, MC
31			1	4	2036		2039		BO, RE
31			1	5	2048	2051	2052		BO, MC, RE

SOLAR RADIO EMISSION
DAILY DATA

MARCH 1958

Washington, D.C. — 9530 Mc.

Day	Flux	Day	Flux	Day	Flux
1	252	11	276	21	274
2		12	264	22	
3	258	13	240	23	
4	268	14	254	24	311
5	274	15		25	323
6	278	16		26	307
7	290	17	225	27	331
8	288	18	248	28	319
9		19	248	29	
10	270	20		30	
				31	284

OUTSTANDING OCCURRENCES

Mar. 1958	Type	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
1	Simple 3f	1647.0	>15.0	1649.8	73	1350-2125	
3	Simple 3f	2100.8	16.0	2104.9	148	1342-2125	
4	Simple 1f	1532.5	2.0	1533.5	8	1350-2130	
	Simple 2	1604.8	2.0	1605.5	22		
	Simple 2f	1723.0	3.0	1724.2	9		
5	Simple 3	1636.0	27.0	Ind	10	1345-2135	
	Simple 2f	1738.8	7.3	1739.1	24		
	Simple 2	2002.3	2.8	2002.9	14		
	Simple 2	2047.7	4.0	2048.2	45		
6	Simple 2	1719.3	5.0	1719.6	20	1335-2130	
	Simple 2	1942.8	7.0	1945.1	10		
	Simple 2	2004.0	5.3	2004.7	35		
7	Complex	1814.2	1.6	1814.6	16	1335-2135	
8	Simple	Ind	Ind	1723.6	114	1350-2130	
	Complex	Ind	Ind	1801.5	14		
	Simple 2	1855.5	2.0	1856.1	12		
	Simple 3A	1858.3	31.7	1910.0	30		
	Simple 2	1903.0	0.5	1903.2	39		
	Simple 2	1903.6	3.6	1904.8	24		
10						1410-2130	
11	Complex	1511.7	15.0	1513.0	18	1330-2130	
12	Complex	1435.0	4.4	1438.2	128	1400-2130	
	Simple 2	1702.3	1.3	1702.9	16		
13						1400-1820	
14						1400-2130	
17						1450-2130	
18						1400-2130	
19	Complex	1727.0	2.5	1728.2	41	1400-2130	
	Simple	Ind	Ind	~1910.	~26		
21						2000-2140	
24	Complex	1605.7	4.7	1608.1	61	1340-2135	
	Complex	1637.8	1.5	1638.1	24		
	Group (3)	1728.1	4.5				
	Complex	1728.1	1.0	1728.7	18		
	Complex	1729.6	1.1	1730.0	28		
	Simple 2	1732.0	0.6	1732.1	12		
25	Complex	1413.2	2.1	1414.1	132	1340-2120	
	Simple 2f	1452.1	7.1	1455.1	120		
	Complex	1711.5	3.1	1713.0	140		
26						1340-2130	
27	Simple 2	1505.3	2.7	1505.8	57	1410-2150	
	Complex	1534.5	5.1	1537.6	168		
	Complex	1543.0	11.0	1546.3	1003		
	Post Inc A	1553.8	>6 30.0		69		
	Complex	1701.2	6.0	1702.6	345		
28	Complex	1437.7	1.2	1438.0	16	1400-2130	
	Complex	1707.8	12.2	1711.2	887		
	Post Inc A	1720.0	>3 00.0		32		
	Complex	1834.5	2.8	1835.6	>1580		
	Simple 2	1914.9	0.2	1915.0	51		
	Simple 2	1948.5	0.3	1948.6	39		
	Complex	2022.8	13.0	2026.7	390		
	Complex	2042.8	22.0	2044.8	>1580		
	Complex	2122.5	0.2	2122.6	126		
31	Complex	1440.5	1.7	1441.2	65	1345-2130	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
DAILY DATA

FEBRUARY 1959

Washington,D.C. 9530 Mc.

Day	Flux	Day	Flux	Day	Flux
1		11	252	21	268
2	299	12	252	22	
3	278	13	225	23	
4	256	14		24	272
5	240	15		25	260
6	246	16	225	26	254
7		17	246	27	266
8		18	268	28	
9	268	19	278		
10	236	20	299		

OUTSTANDING OCCURRENCES

Feb 1959	Type	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
2	Simple 3A	1814.6	1 10	1902.2	75	1230-2140	
	Complex	1819.7	9.5	1821.6	471		
	Simple 2	1847.2	9.0	1851.7	116		
	Complex	1904.2	13.0	1911.8	223		
3						1330-2140	
4						1400-2130	
5						1330-2030	
6						1230-2130	
9	Simple 2	1309.9	17.8	1317.5	134	1230-2145	
	Post A	1327.6	24.0		32		
	Simple 2	1328.6	6.0	1330.0	16		
	Simple 2	2118.4	4.3	2119.8	26		
	Ind	1640	~10.0	Ind	~65		
10	Simple	Ind	Ind	1735.3	16	1230-2115	
	Simple 2	1823.9	6.8	1824.6	97		
	Group (2)	2036.9	7.6				
	Simple 2	2036.9	1.0	2037.2	37		
	Simple 2	2044.2	0.3	2044.3	21		
11	Simple	Ind	~15.0	~2030	11	1230-2140	
	Complex	Ind	~37.0	~2103	32		
	Post Inc	2115	>30.0		11		
12						1230-2140	
13						1230-2135	
16						1230-2135	
17	Complex	1504.3	5.4	1508.2	83	1230-2145	
	Complex	1837.1	6.9	1837.8	45		
	Simple 2f	1910.8	2.6	1911.6	31		
18						1230-2130	
19	Complex f	~2030	~12.0	~2035	53	1230-2145	
	Post Inc	2042.0	~40.0		32		
20	Simple 3	1812.6	45.0	1815.2	36	1230-2155	
	Simple 2	2041.0	1.5	2041.1	62		
21	Simple 2	1350.0	3.6	1351.2	10	1230-2135	
	Simple 2f	1733.9	2.3	1734.6	16		
	Simple 2	1914.7	4.3	1915.2	30		
24	Complex	1650.0	Ind	Ind	8	1230-2135	
25						1225-2130	
26						1225-2135	
27						1220-2150	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
DAILY DATA

MARCH 1958

Washington, D.C. — 3200 Mc.

Day	Flux	Day	Flux	Day	Flux
1	210	11	229	21	219
2		12	201	22	
3	226	13	217	23	
4	231	14	210	24	250
5	236	15		25	245
6	240	16		26	264
7	245	17	191	27	273
8	228	18	198	28	278
9		19	198	29	
10	217	20		30	
				31	275

OUTSTANDING OCCURRENCES

Mar. 1958	Type	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
1	Simple 2	1649.0	7.0	1650.1	11	1349-2125	
3						1342-2125	
4	Simple 2	1532.5	2.5	1533.5	9	1350-2130	
	Simple 2	1604.3	2.6	1605.5	38		
	Simple 1	1723.2	5.2	1724.5	8		
5	Simple 3	1635.0	29.0	Ind	10	1345-2135	
	Simple 1	1720.5	1.0	1720.9	4		3 peaks 5 sec apart
	Simple 1	2055.2	7.0	2059.5	3		
6	Simple 3	2019.1	30.0	2022.2	16	1335-2130	
	Simple 1	2104.0	1.3	2104.7	2		
7	Complex	1814.2	1.8	1815.0	40	1335-2135	
8	Simple 1	1443.1	1.5	1443.6	7	1350-2130	
	Simple	Ind	Ind	1723.8	30		
	Complex	1759.3	6.0	1800.8	9		
	Simple 1	2100.8	1.2	2101.1	8		
10	Simple	Ind	Ind	2028.3	29	1410-2130	
	Complex	Ind	Ind	2032.6	87		
11	Simple 3	1511.7	12.0	1516.3	50	1330-2130	
12	Complex	1435.0	4.4	1438.2	41	1400-2130	
13						1400-1820	
14						1400-2130	
17						1450-2130	
18						1400-2130	
19	Simple 2	1727.0	2.5	1728.3	22	1400-2130	
	Simple 3	1908.7	17.0	1911.0	47		
	Simple 3	2107.7	10.3	2109.3	14		
21	Simple 3f	1855.1	41.0	1859.1	24	1400-2140	
24	Group (2)	1637.2	2.1			1340-2135	
	Simple 2	1637.2	0.1	1637.25	23		
	Complex	1637.8	1.5	1638.3	38		
	Simple 3f	1728.4	7.3	1729.0	11		
25	Complex	1413.2	2.1	1414.1	47	1340-2120	
	Complex	1712.5	0.8	1713.0	9		
26						1340-2130	
27	Complex	1505.0	2.0	1506.1	78	1410-2150	
	Simple	Ind	Ind	1536.2	21		
	Complex	1543.8	11.0	1546.4	138		
	Post IncA	1553.8	>6 30.0		43		
	Complex	1701.2	6.0	1703.0	108		
	Complex	2148.3	4.5	2149.4	85		
28	Complex	1545.8	3.7	1547.5	25	1400-2130	
	Complex	1707.8	12.2	1711.3	585		
	Post IncA	1720.0	~3 00.0		62		
	Complex	1834.8	2.5	1835.6	94		
	Complex	2022.9	8.0	2025.0	13		
	Complex	2042.5	22.0	2045.0	683		
31	Simple 2	1440.5	1.7	1441.2	41	1345-2130	
	Simple 2	1652.0	1.5	1652.5	16		
	Simple 2	2117.5	2.0	2117.8	10		

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
DAILY DATA

FEBRUARY 1959

Washington, D.C. — 3200 Mc.

Day	Flux	Day	Flux	Day	Flux
1		11	159	21	
2	158	12	155	22	
3	159	13	161	23	177
4	160	14		24	177
5	152	15		25	172
6	148	16	186	26	176
7		17	186	27	174
8		18	177	28	
9	151	19	170		
10	151	20	186		

OUTSTANDING OCCURRENCES

Feb. 1959	Type	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
2	Simple 3A	1814.6	1 10	1957.0	39	1230-2140	
	Complex	1819.7	9.5	1822.2	122		
	Simple 2	1844.6	11.0	1851.7	45		
	Complex	1904.2	11.3	1910.5	106		
3						1230-2145	
4						1230-2130	
5						1230-2030	
6						1230-2130	
9	Simple 2	1309.9	17.8	1317.4	168	1230-2145	
	Post A	1327.6	24.0		41		
	Simple 2	1328.6	6.0	1330.0	21		
	Ind	1639.2	~10	Ind	~56		
10	Simple 2	1735.0	3.0	1735.3	11	1230-2115	
	Complex	1823.9	6.8	1824.6	241		
	Group (2)	2036.9	8.3				
	Simple 2	2036.9	1.2	2037.2	43		
	Complex	2043.9	1.3	2044.3	34		
11	Simple 3	2020.6	15.0	2030.3	17	1230-2140	
	Complex	2038.3	37.0	2103.8	88		
	Post Inc	2115.0	>30.0		30		
12						1230-2140	
13	Simple 2	1402.2	1.2	1404.8	12	1230-2135	
16						1230-2130	
17	Complex	1506.4	3.3	1507.9	92	1325-2145	
	Complex	1837.1	6.1	1837.4	24		
	Simple 1f	1910.8	2.5	1911.2	6		
18						1230-2130	
19	Complex	2030.0	12.0	2034.5	417	1230-2140	
	Post Inc	2042.0	40		30		
20	Complex	1243.7	2.3	1245.1	13	1230-2155	
	Complex	1330.5	12.2	1335.7	14		
	Complex	1812.6	45.0	1815.2	93		
	Simple 2f	2027.2	5.9	2030.9	16		
	Simple 2	2040.9	0.6	2041.1	20		
21	Simple 2	1920.9	0.2	1921.0	9	1230-2135	
24	Complex	1650.0	5.0	1651.4	12	1230-2135	
	Simple 3	1937.6	11.2	1939.7	6		
	Complex	2010.2	>1 20.	2017.4	15		
25						1225-2130	
26						1225-2135	
27						1220-2150	

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

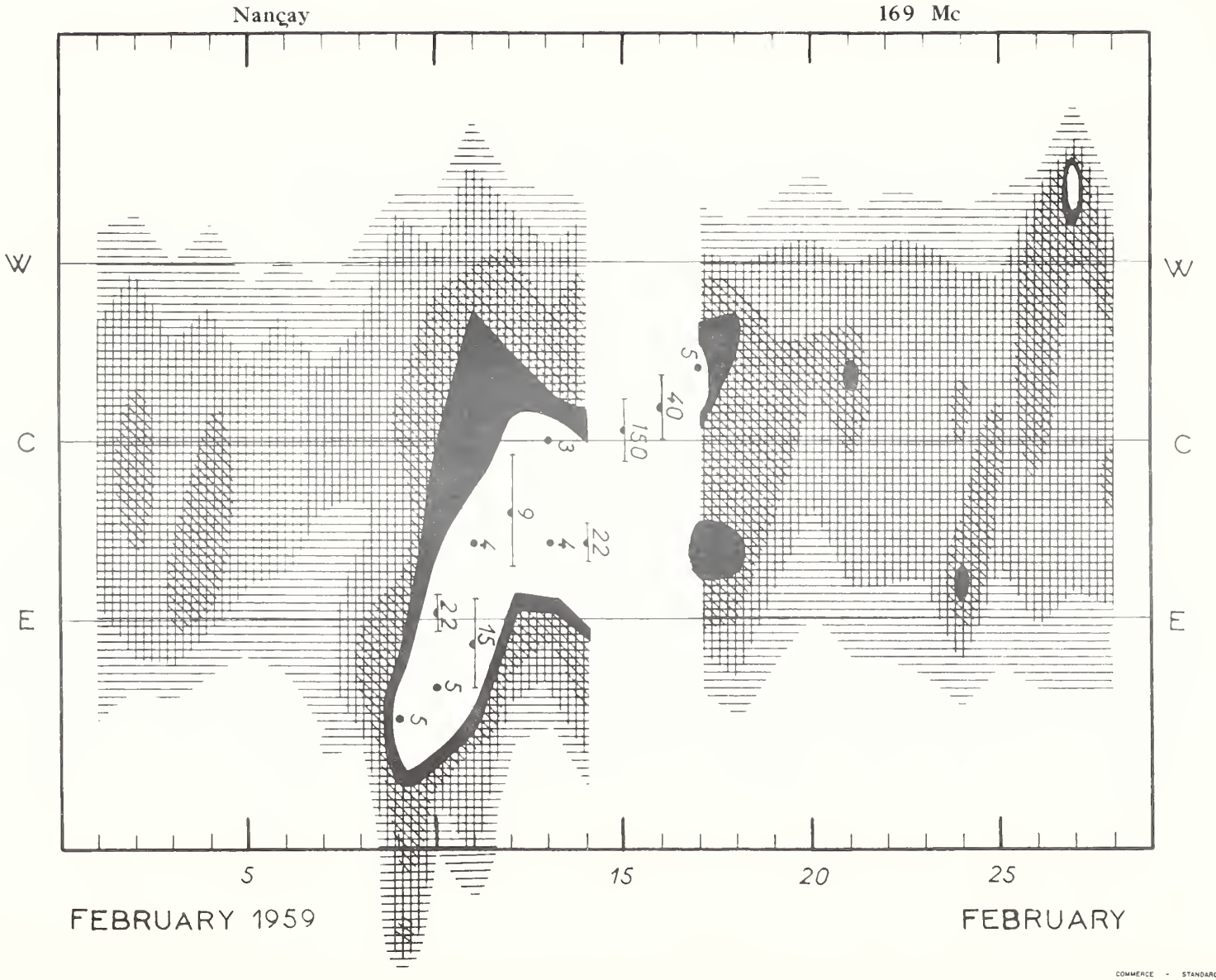
FEBRUARY 1959

Ottawa **2800 Mc.**

Feb. 1959	Type*	Start UT	Duration Hrs:Mins	Maximum Time UT	Maximum Peak Flux	Remarks
1	2 Simple 2	1717	6	1718.3	23	
	4 Post Increase		25		4	
2	3 Simple 3 A	1817	1 5	indet.	30	
	8 Croup (3)	1819	58			
	6 Complex f	1819	9	1821.2	115	
	6 Complex f	1847	7	1851.3	27	
	6 Complex f	1904	13	1910.3	120	
2	1 Simple 1	2000	4	2001	7	
3	2 Simple 2	1334	1.5	1334.5	15	
5	3 Simple 3	1510	1 30	1526	10	
6	3 Simple 3	1440	2	1447	15	
8	6 Complex f	1342.5	8	1343.2	180	
8	2 Simple 2	1612.9	2.5	1613.3	13	
8	6 Complex f	2038	9	2043.5	25	
9	3 Simple 3 A	1308	3 50	indet.	17	
	2 Simple 2 f	1313	30	1317.8	160	
	6 Complex f	1639	11	1642.5	80	
10	1 Simple 1	1435	5	1436	5	
10	1 Simple 1	1649	8	1652	7	
10	2 Simple 2	1735	1.5	1735.5	9	
10	2 Simple 2	1824	4	1824.8	175	
10	8 Croup (2)	2037	8			
	2 Simple 2	2037	1	2037.2	35	
	2 Simple 2	2044	1	2044.3	28	
11	3 Simple 3 A	2049	>1	indet.	25	
	6 Complex	2101	14	2106.5	45	
12	7 Period Irregular Activity	1535.8	17	1536.8	10	doubtful
14	3 Simple 3	2107	35	2110.8	18	
15	2 Simple 2	1629.5	2	1629.8	15	
15	3 Simple 3 f	2117	25	2126	15	
17	1 Simple 1	1445.5	1	1446	4	
17	6 Complex f	1506	5	1508	70	
19	2 Simple 2	1803.3	1.5	1803.7	22	
19	2 Simple 2	2030	10	indet.	>200	in interference
	4 Post Increase		1 10		30	
20	2 Simple 2	1435	1.5	1435.5	14	
20	6 Complex f	1812.5	15	1815.7	105	
	4 Post Increase		30		12	
20	2 Simple 2 f	2027	5	2030	10	
22	1 Simple 1	2106	2	2106.8	6	
22	2 Simple 2 f	2126	20	2131.3	45	
24	1 Simple 1	1650	4	1651.5	7	
24	2 Simple 2	1822	3	1823.3	17	
24	1 Simple 1	2116.5	2	2117.2	7	
27	6 Complex	2225.5	> 8	2230.3	90	in sunset - doubtful

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS



COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION

DAILY DATA

NOVEMBER 1958

BOULDER

167 MC

Nov. 1958	Flux Density 10^{-22}w m^{-2}(c/s)$^{-1}$ Hours UT 0 3	12 15	15 18	18 21	21 24	Day	Variability 0 to 3 Hours UT 0 3	12 15	15 18	18 21	21 24	Day	Observing Periods Hours UT
1	-	-	72	27	22	45	-	2	2	2	2	2	13.5 - 23.7
2	-	-	19	17	19	19	-	1S	1S	1S	1S	1S	13.6 - 23.7
3	-	-	23	23	23	24	-	0S	1S	1S	1S	1S	13.6 - 23.7
4	-	-	19	19	19	19	-	0S	1S	0S	0S	0S	13.6 - 23.7
5	-	-	17	29	33	25	-	0	1	2S	2S	2S	13.6 - 23.6
6	-	-	19	24	-	21	-	0S	1S	2S	1S	1S	13.7 - 21.3; 22.6 - 23.6
7	-	-	20	20	-	20	-	0	0	0S	-	0S	13.7 - 20.7; 22.6 - 23.6
8	-	-	-	20	20	20	-	0	0	1S	0	0	13.7 - 23.6
9	-	-	-	15	15	16	-	0	0	0	0S	0	13.7 - 14.4; 15.2 - 23.6
10	-	-	16	16	-	16	-	0S	0S	0S	0S	0S	13.8 - 21.3; 22.8 - 23.5
11	-	-	13	14	14	14	-	0S	0	0	0S	0S	13.8 - 19.5; 20.8 - 23.5
12	-	-	13	14	16	14	-	0S	0S	1S	0S	0S	13.8 - 23.5
13	-	-	13	13	13	13	-	0S	0S	0S	0S	0S	13.8 - 14.4; 14.8 - 23.5
14	-	-	13	13	14	14	-	0S	0S	0S	0S	0S	13.8 - 23.5
15	-	-	13	12	12	12	-	0	0S	0S	0S	0S	13.8 - 23.5
16	-	-	12	12	13	12	-	0	0	1S	2S	1S	13.8 - 23.4
17	-	-	13	12	12	12	-	0S	1S	1S	0S	1S	13.8 - 23.4
18	-	-	14	13	14	13	-	0S	0S	0S	1S	0S	13.8 - 23.4
19	-	-	15	13	11	13	-	0S	0S	1S	0S	0S	13.9 - 23.4
20	-	-	14	13	14	13	-	0S	1S	0S	0S	0S	13.9 - 23.4
21	-	-	15	13	13	14	-	0S	0S	0S	0S	0S	13.9 - 23.4
22	-	-	18	-	20	19	-	1S	1S	1S	1S	1S	13.9 - 23.3
23	-	-	31	28	28	29	-	1S	2S	2S	2S	2S	14.0 - 23.3
24	-	-	108	106	58	95	-	1S	2S	2S	2S	2S	14.0 - 23.3
25	-	-	19	17	19	18	-	2S	1S	2S	2S	2S	14.0 - 23.3
26	-	-	18	16	16	16	-	0S	0S	0S	0S	0S	14.0 - 23.3
27	-	-	21	35	76	40	-	1S	2	2	2	2	14.0 - 23.3
28	-	-	25	18	19	21	-	2S	2S	2S	1S	2S	14.0 - 23.3
29	-	-	32	36	37	35	-	2S	1S	2S	2S	2S	14.1 - 23.3
30	-	-	24	41	49	37	-	2S	2S	2S	2S	2S	14.1 - 23.3

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

NOVEMBER 1958

BOULDER 167 MC

Nov. 1958	Type Ap.J	Start UT	Time of Maximum	Duration Minutes	Type IAU	Max. Flux Density 10^{-22} w $m^{-2}(c/s)^{-1}$ Inst.	Smooth	Remarks
1	6	1330 B	1437.5	610 D	CA	540	58	S
1	2	1656.2	1656.4	1.1	ECD	2500 D	360	
1	8	1822	1823.0	2.0	CD	1100	320	
3	1	1335 D	1531.0	605 D	MF	150 X	-	S
5	6	1900 X	2023.5	210 X	CA	320	29	S
6	1	1530 X	2010.0	485 X	MF	210 X	-	S,I 2120-2238
6	8	1850	1851.2	4.0	ECD	560	190 X	
12	2	1907.8	1911.3	4.0	ECD	110 X	-	
16	2	2148	2154.7	68	ECD	600	-	S
22	1	1355 B	1540.1	565 D	MF	130 X	-	S
22	3	1457.8	1458.1	1.1	ECD	180 X	-	
23	6	1400 B	1742.4	560 D	CA	770	19	S, Large burst 1802.9
24	1	1400 B	1605.3	128 X	MF	490	-	S
24	6	1608 X	1612.7	432 X	CA	1300	130	S
25	1	1400 B	1431.5	560 D	MF	220 X	-	S
27	1	1400 B	1540	180 D	MF	270	-	S
27	6	1700 X	2207	380 X	CA	660	52	S, Large burst 2054
27	9a	1856	1859	7.0	ECD	2400 D	-	
27	9b	1905	1906.4	3.0	CD	420	180 X	
27	8	2101.5	2102.5	2.5	ECD	2200 D	-	
27	8	2211.5	2212.8	2.0	ECD	2100 D	-	
28	6	1400 B	1638.6	255 D	CA	480	14	S
28	1	1815	1938.8	305 D	MF	590	-	S, Large burst 2001.8
28	3	1906.8	1907.0	1.2	ECD	1700	-	
28	2	1949.3	1949.8	2.1	ECD	1000	180 X	Bursts 2001.7 2133.6
29	6	1405 B	1933.3	555 D	CA	1200	26	S, N2
30	6	1405 B	2249.5	555 D	CA	870	43	S, N3
30	8	2251	2253	3.0X	CD	2300 D	-	I 2254 - 2304

Notes: 1. Interference may occasionally obscure or be mistaken for solar events.

2. November 29, large burst 1417.9, burst 1432.1.

3. November 30, large bursts 1416.1, 1420.5, 1440.5, 2104.6, 2249.8.

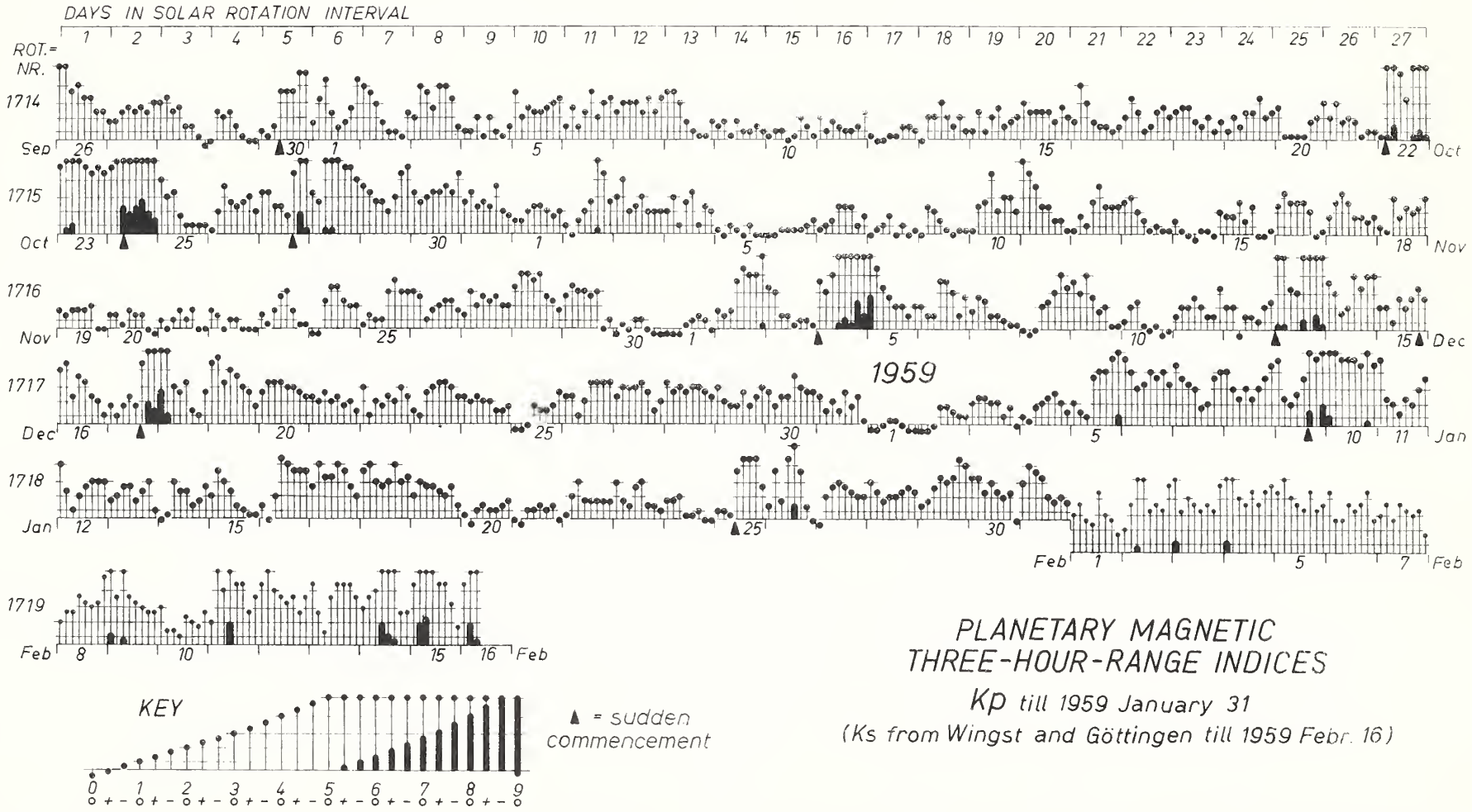
GEOMAGNETIC ACTIVITY INDICES

JANUARY 1959

Jan. 1959	C	Values Kp Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.0	0o 0o 0+ 1-	1- 0+ 0o 0o	2o	1	Five
2	0.1	0o 0o 0+ 2-	2- 1+ 1o 1o	7o	3	Quiet
3	0.2	2o 2+ 2+ 2o	2o 1o 2- 0+	14-	6	
4	0.5	1o 1- 2- 2o	2+ 3-2o 1+	14-	7	1
5	1.3	2o 1+ 1o 4-	4o 4o 5- 6-	26+	25	2
						20
6	1.2	5- 4o 3o 3+	4o 4- 4o 3+	30o	24	21
7	1.1	4+ 4- 3+ 3o	2- 2o 4- 4o	26-	19	24
8	1.1	4o 3o 2+ 3o	2+ 3o 4- 4+	26-	18	
9	1.5	5- 2+ 2o 3-	4- 6o 5- 6+	32+	38	
10	1.6	6- 5o 5- 5o	5- 4+ 5+ 4+	39o	45	
11	1.0	5- 2+ 2o 1+	2+ 2o 3o 4-	21+	14	Five
12	0.9	4o 2+ 1o 2o	3- 3o 3o 3o	21o	13	Disturbed
13	0.5	2- 2o 3- 3-	2- 2+ 3o 1o	17o	9	
14	0.5	0+ 1- 3o 2+	2+ 1+ 2- 3-	14+	8	6
15	0.3	2o 4- 3o 2+	1+ 1o 1- 1-	15-	8	7
						9
16	1.2	1+ 0+ 2o 4+	4o 4- 4- 4-	23o	17	10
17	1.0	3- 4o 3+ 3+	4o 4- 3- 2o	26-	18	26
18	1.0	4- 4o 3o 3-	3o 4o 3o 3+	27-	19	
19	0.4	2o 3o 3- 3-	2+ 2o 3- 1+	19-	10	
20	0.1	1- 0o 1o 1+	1o 1o 1+ 2-	8o	4	
21	0.1	0+ 0o 1o 1o	1+ 1o 1+ 0+	6+	3	Ten
22	0.4	1- 2o 3o 2-	2- 2- 2- 2-	14o	7	Quiet
23	0.5	3o 2- 1+ 3-	3o 1+ 1+ 1o	15+	8	
24	0.1	2- 2- 2o 1-	1- 1o 0+ 0+	8+	4	1
25	1.3	1o 1o 1- 4-	4+ 4+ 4+ 3-	22o	18	2
						3
26	1.2	1+ 4- 2- 4+	6o 4- 1+ 0+	22+	22	4
27	0.6	0o 2o 3- 3o	3- 2+ 2o 2o	17-	9	14
28	0.5	3o 2+ 2- 2o	2o 2+ 3- 2+	18+	9	20
29	1.2	1+ 2- 3- 3+	3o 3+ 4+ 4o	24-	17	21
30	0.7	3+ 3+ 2+ 3o	2+ 2o 2+ 0+	19o	11	22
31	0.8	3o 4o 4- 3+	2o 2- 2o 2-	21+	14	23
						24
Mean:	0.74			Mean:	14	

Errata: The geomagnetic Kp indices for December 24, 1958, reported in CRPL-F 174 Part B of February 1959 should be 2+ 2o 2+ 2o 2o 1+ 1+ 2-.

COMMERCE - STANDARDS - BOULDER



COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

JANUARY 1959

Jan. 1959	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day index	Advance forecasts (J-reports) for whole day; issued in advance by:				Geomagnetic K_{Fr}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-7 days Final	1-7 days Js	1-7 days SDW	1-7 days J	Half (1)	Day (2)
1	7o	7-	7o	8-	7	7	7	7	7o	7			7	0	0
2	7-	6+	7o	7o	6	6	7	7	7-	4			4	0	2
3	7o	7-	7-	7+	6	7	7	7	7o	4			4	2	1
4	7+	7+	7+	7o	7	7	7	7	7+	6			6	1	1
5	7o	6o	7o	5o	7	6	7	7	6+	7			7	2	(4)
6	5+	6-	7-	6-	5	6	7	6	6o	7			7	(4)	3
7	5+	6o	7-	6-	5	5	7	6	6o	7			7	3	2
8	5+	7-	7-	5+	6	6	7	6	6o	7			7	2	2
9	6-	7-	7-	5-	6	6	7	6	6o	7			7	2	(4)
10	5-	5o	7-	5+	5	6	6	4	5+	7			7	(4)	(4)
11	6-	6+	7+	6+	4	6	7	6	6+	6			6	2	3
12	6-	7-	7o	7o	6	7	7	6	7-	6			6	2	3
13	7o	7-	7o	7+	6	7	7	7	7o	6			6	3	2
14	7o	7o	7o	7o	7	7	7	7	7o	6			6	2	2
15	7-	7o	7o	7o	7	7	7	7	7o	7			7	3	1
16	7-	7-	7-	7-	7	7	7	7	7-	7			7	2	3
17	7-	6+	7o	7o	6	6	7	7	7-	7			7	3	3
18	6+	6+	7+	7-	7	7	7	7	7-	7			7	2	3
19	6+	7-	7o	7-	6	7	7	7	7-	7			7	2	1
20	6+	7-	7+	7+	7	7	7	7	7o	7			7	0	1
21	7o	7o	8-	7o	7	7	7	7	7+	7			7	0	2
22	7+	7-	7o	7o	7	7	7	7	7o	7			7	2	2
23	7-	7-	7+	7+	7	7	7	7	7o	7			7	1	2
24	7-	7-	7+	7+	7	7	7	7	7o	4		4	7	1	1
25	8-	7-	7o	7-	7	7	7	7	7o	4		4	7	1	(4)
26	7-	7-	7o	7+	7	6	7	7	7o	6		6	7	2	2
27	7o	7-	8-	7+	7	7	7	7	7o	6	6		7	2	2
28	7o	8-	8-	7o	7	7	7	7	7+	6	6		7	1	2
29	7+	7+	8-	7o	7	7	7	7	7+	7			7	2	3
30	7-	7o	7+	7+	7	7	8	7	7o	7			7	2	2
31	7+	6+	7o	7o	7	7	7	7	7-	7			7	3	2

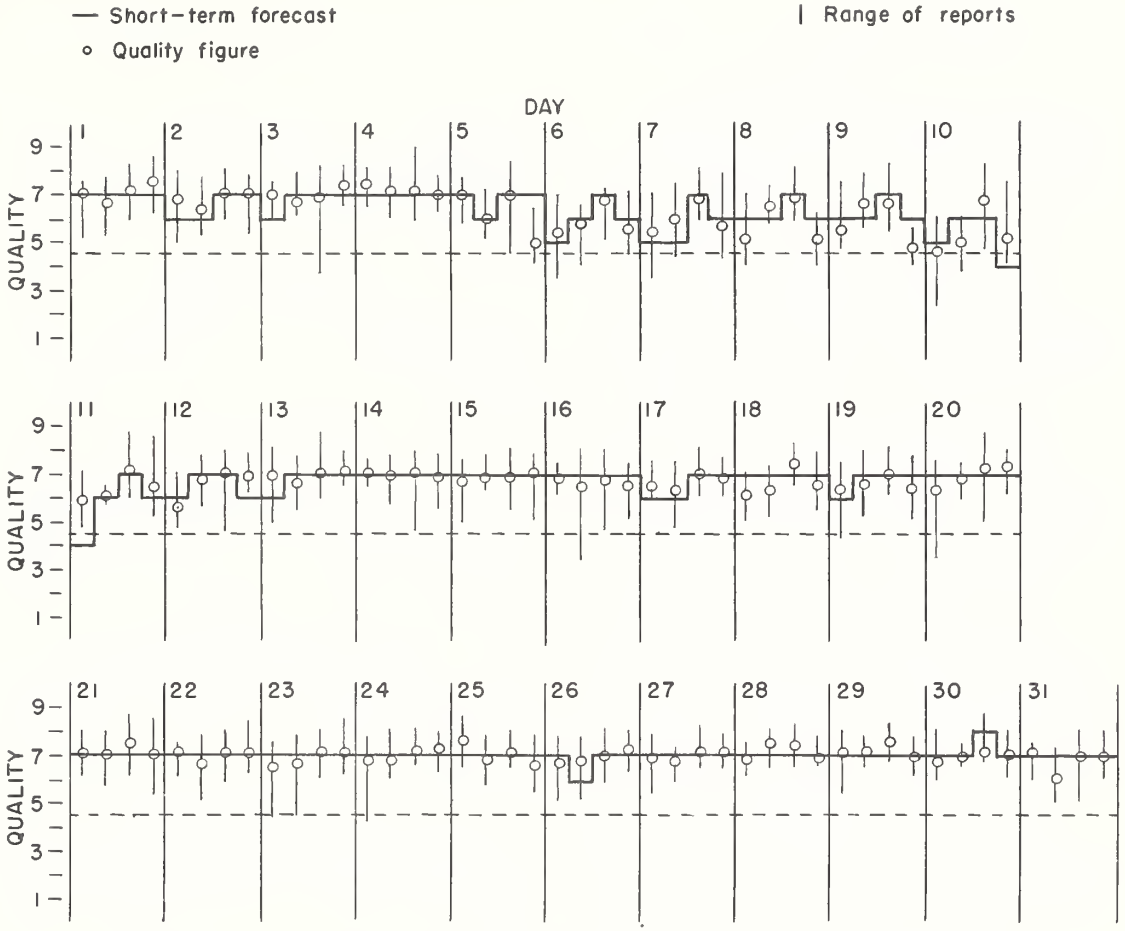
Score:															
Quiet Periods	P	22	23	25	25					14			19		
	S	8	8	6	5					12			9		
	U	0	0	0	1					1			1		
	F	1	0	0	0					4			2		
Disturbed Periods	P	0	0	0	0					0			0		
	S	0	0	0	0					0			0		
	U	0	0	0	0					0			0		
	F	0	0	0	0					0			0		

( ) represent disturbed values.

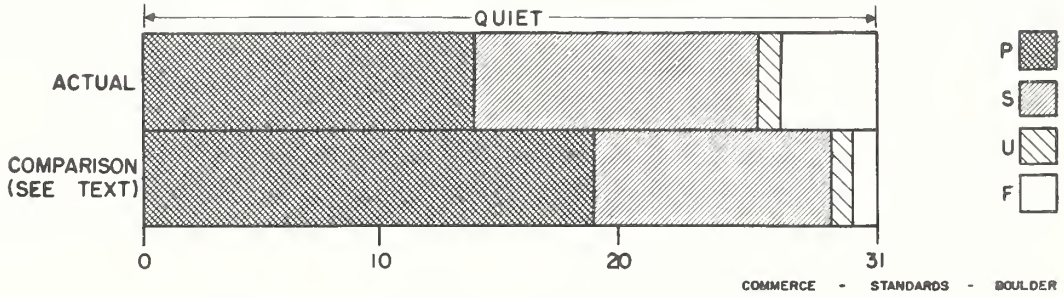
CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

JANUARY 1959

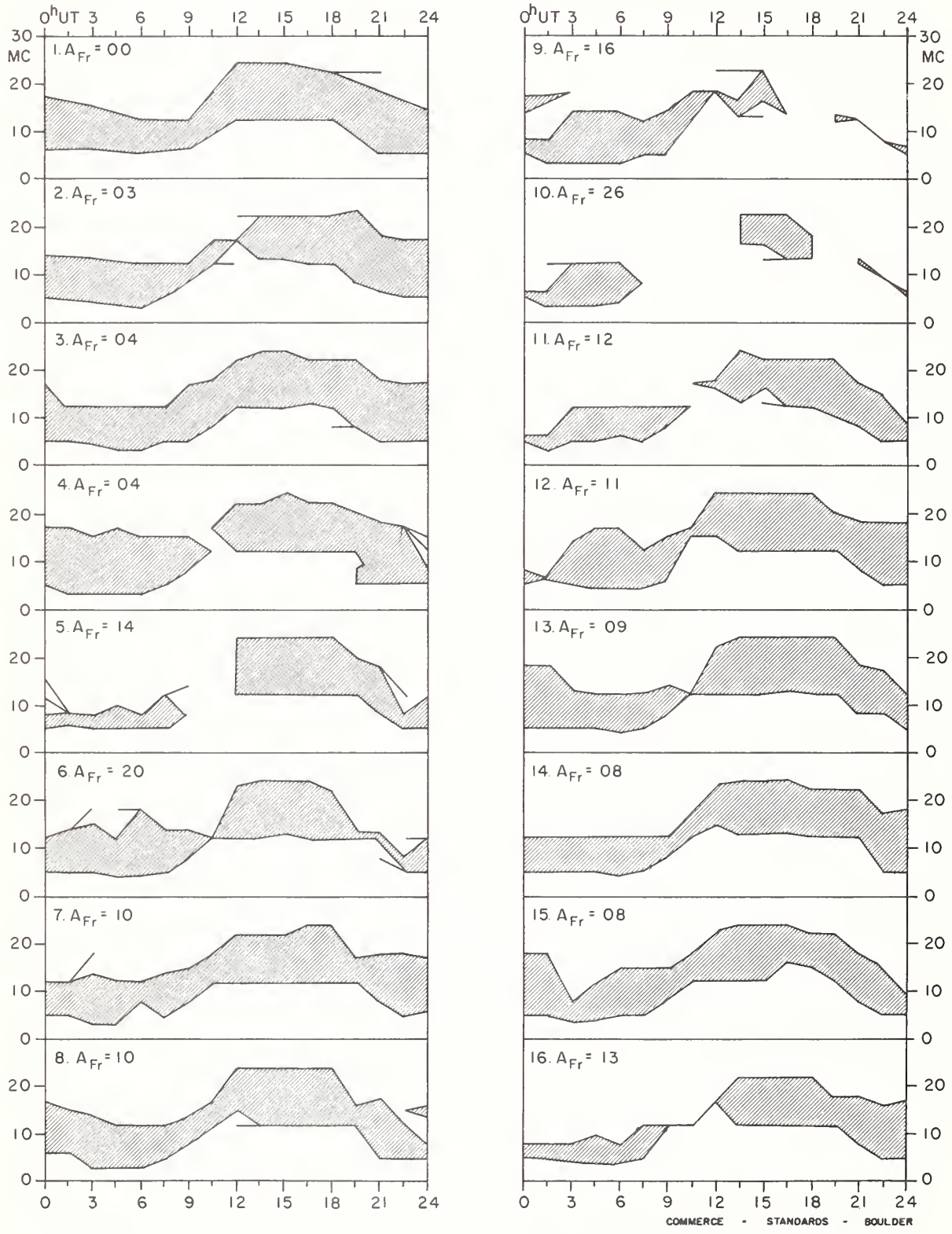


OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE

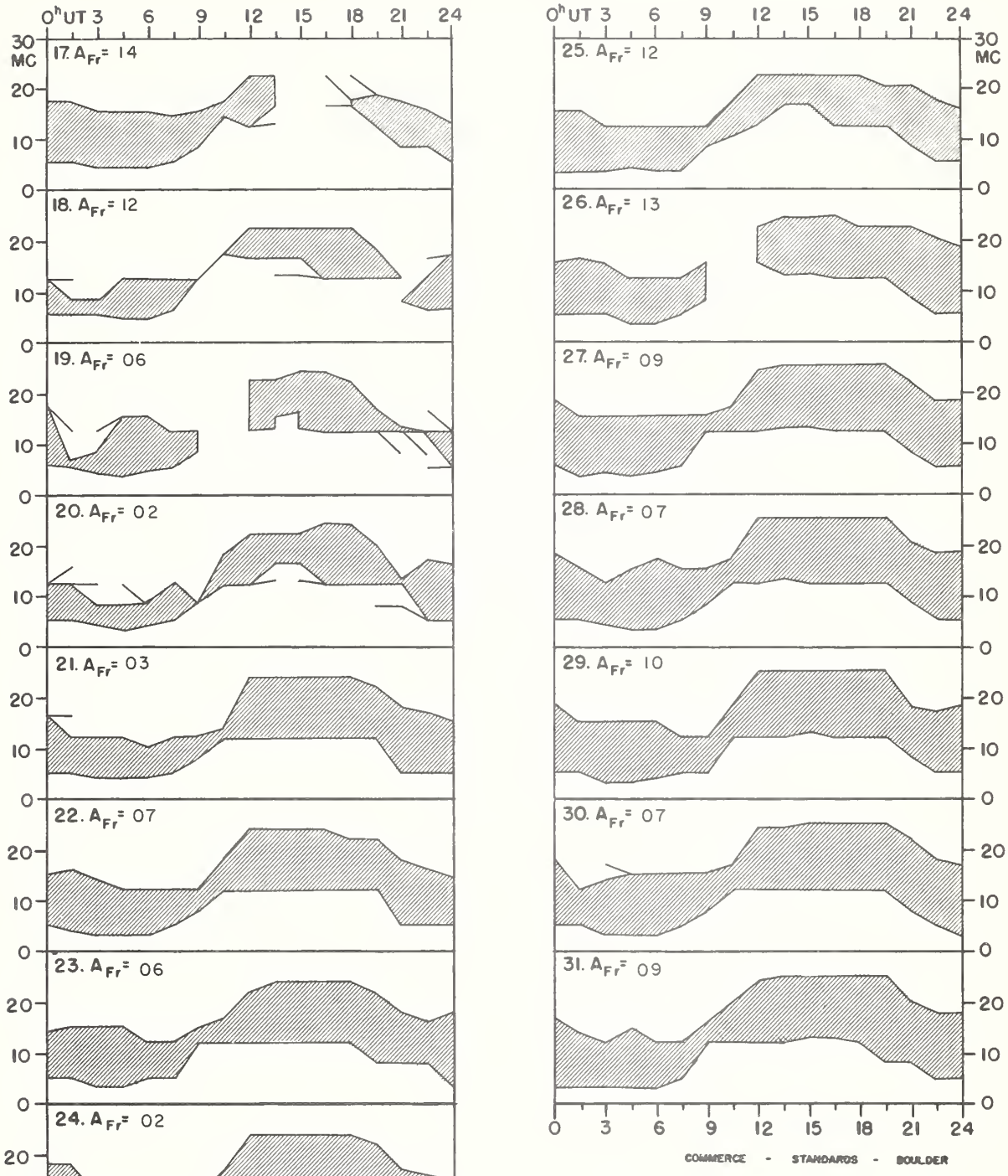


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1959



JANUARY 1959



Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

JANUARY 1959

Jan. 1959	North Pacific 8-hourly quality figures			Short-term forecasts issued at			Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:				Geomagnetic K_{S1}	
	03 to 11	11 to 19	19 to 03	02	10	18		1-7 days Final	1-7 days Jps	1-7 days SDW	1-7 days Jp	Half (1)	Day (2)
1	5	5	6	6	4	6	6	7			7	0	0
2	5	5	6	6	5	6	5	7			7	0	1
3	7	6	6	6	6	7	7	7			7	2	1
4	6	5	6	6	6	6	6	7			7	1	2
5	5	7	6	6	6	5	6	6			6	2	(4)
6	5	4	6	5	5	5	5	6			6	(4)	(4)
7	5	5	5	4	5	6	5	6			6	3	2
8	4	5	5	5	5	6	5	5			5	2	3
9	4	3	5	5	5	5	(4)	6			6	2	(6)
10	4	2	3	5	4	3	(3)	6			6	(6)	(5)
11	5	5	4	4	5	6	5	6			6	2	3
12	4	4	6	5	5	6	5	6			6	1	2
13	5	6	5	6	5	6	5	6			6	2	2
14	5	5	5	6	6	6	5	6			6	1	2
15	6	6	5	6	6	6	5	6			6	2	1
16	6	5	5	6	5	6	5	6			6	2	(4)
17	6	5	6	6	5	7	6	6			6	3	(4)
18	6	5	6	6	5	6	6	6			6	3	3
19	6	6	6	6	5	6	6	6			6	2	2
20	6	5	5	6	5	6	6	6			6	0	1
21	6	5	5	6	5	6	6	6			6	0	1
22	6	6	6	6	6	6	6	5			5	2	2
23	6	5	7	6	5	5	6	6			6	1	1
24	6	6	6	5	6	6	6	3		3	6	0	0
25	5	5	6	6	6	5	6	4		4	6	1	(4)
26	7	6	6	6	6	6	7	6		6	6	3	3
27	7	6	6	6	7	7	6	6	6		5	2	2
28	6	6	6	7	6	7	6	5	5		5	2	3
29	7	6	6	7	6	7	7	6			6	2	(4)
30	6	6	6	6	6	6	6	6			6	3	1
31	6	7	7	6	5	6	6	6	6		6	(4)	2

Score:					
Quiet Periods	P	14	18	11	12
	S	13	8	17	14
	U	0	0	1	1
	F	0	0	0	2
Disturbed Periods	P	0	0	1	0
	S	4	2	0	0
	U	0	2	0	0
	F	0	0	1	2

( ) represent disturbed values.

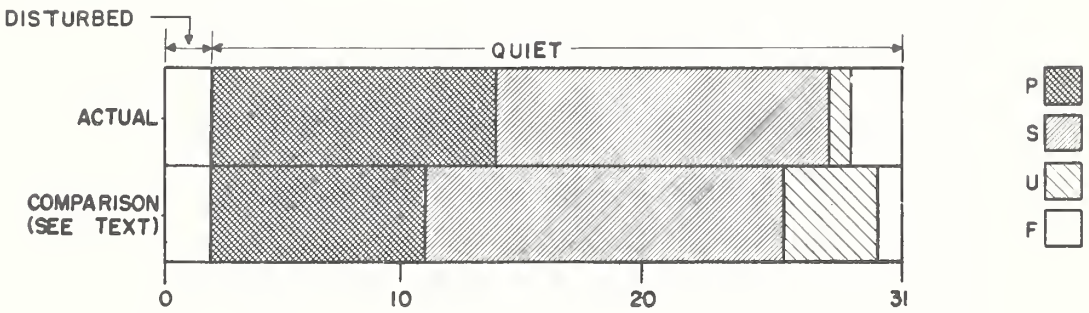
COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

JANUARY 1959

OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



COMMERCE - STANDARDS - BOULDER

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL GEOPHYSICAL COOPERATION 1959

Issued Day/Time UT Feb. 1959	Advance Geophysical Alert	No.	Worldwide Geophysical Alert	Special World Interval
11/1015	Agiwarn Magnetic Storm 11/0800Z			
11/1600		1	Magnetic Storm 11/0756Z	Start Special World Interval
12/1600		2		Finish Special World Interval
14/1415	Agiwarn Magnetic Storm 14/1140Z			
25/0900	Ft. Belvoir Magnetic Storm 25/0215Z			
25/1600		3	Aurora Inferred Magnetic Storm 25/0215Z	Start Special World Interval*
26/1600		4		Finish Special World Interval

*The statement "START SPECIAL WORLD INTERVAL" was sent to NIZMIR and broadcast on WWV/H, but through oversight it was not issued to the World.Meteorological Networks or other telegraphic addresses.

This table gives the Advance Geophysical Alerts as initiated by the Western Hemisphere Regional Warning Center at Ft. Belvoir, Va., and also the Worldwide Geophysical Alerts and Special World Intervals as designated by the World Warning Agency, Ft. Belvoir, Va.

Advance Alerts are of four types, defined as follows:

1. Solar Flare Alert -- this warning is issued whenever a solar flare of median importance 2 plus or greater has been reported. There will be only one alert issued per flare and only one a day at most.
2. Magnetic Storm Alert -- this warning is issued whenever a significant magnetic storm, K figure 5 or greater at a middle latitude station has begun.
3. Cosmic Ray Alert -- this warning is issued whenever a very outstanding change in cosmic ray flux has been observed -- increase or decrease.
4. Aurora Alert -- this warning is issued whenever a magnetic storm in middle latitudes has reached K figure 7 intensity or whenever selected auroral stations report the presence of outstanding aurora.

Worldwide Alerts are of the same types as the Advance Alerts, except that the Solar Flare Alert is omitted. Alert announcements include the event and time of event upon which the alert is based, and, in the case of the Advance Alerts, the station reporting the event.

The World Alerts and Special World Intervals are issued by the World Warning Agency on decisions based on Advance Alerts, advice received from Regional Warning Centers and overall policy.