PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
JANUARY 1959

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

CRPL-F 173
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
31 Jan. 1959

SOLAR - GEOPHYSICAL DATA

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INTRODUCTION

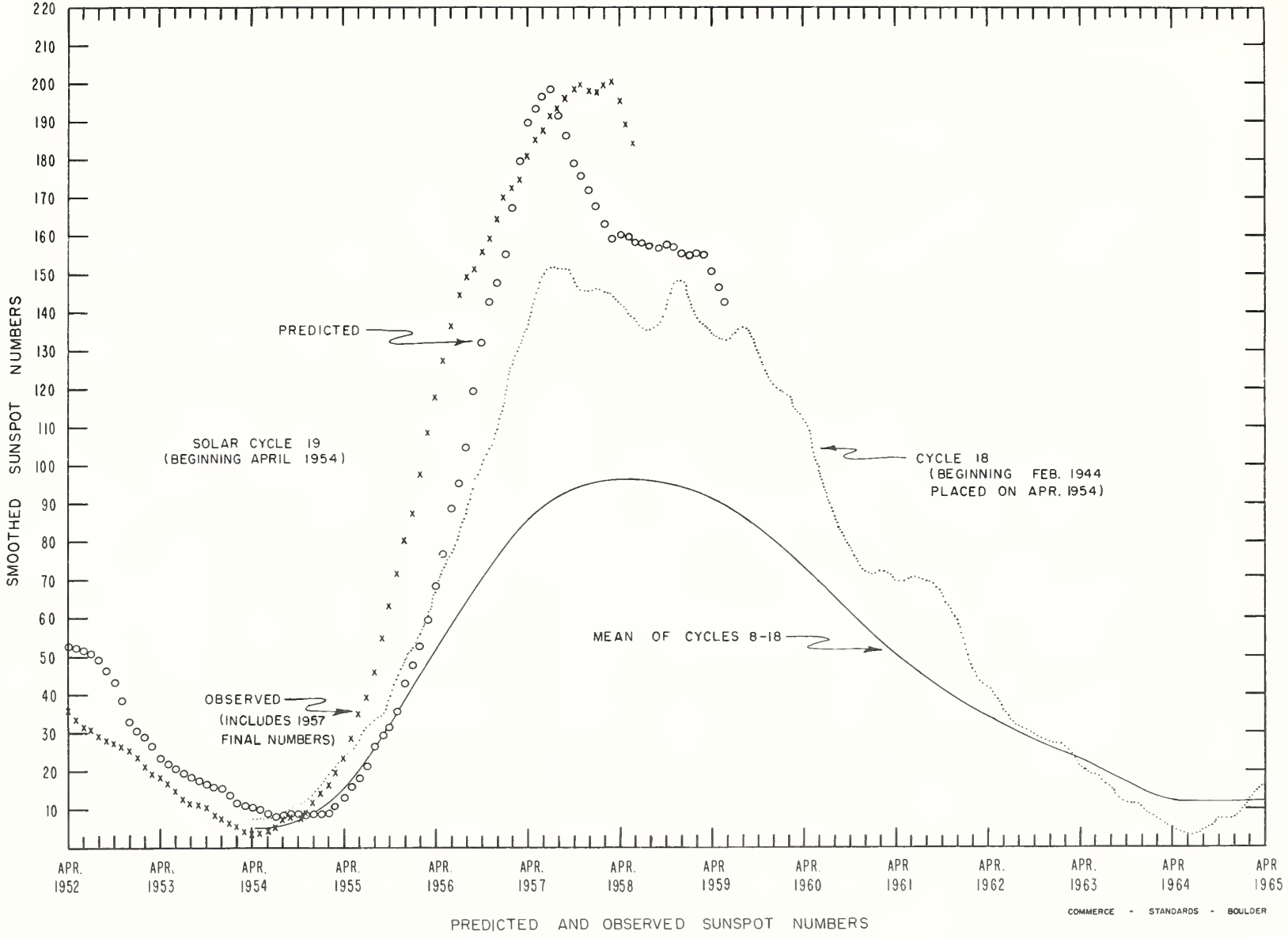
The descriptive text is published quarterly or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F170 Part B issued October 1958, with an addendum in CRPL-F171 Part B issued November 1958.

DAILY SOLAR INDICES

Nov. 1958	American Relative Sunspot Numbers $R_{A'}$
1	170
2	196
3	192
4	136
5	125
6	87
7	108
8	99
9	75
10	86
11	69
12	75
13	59
14	54
15	68
16	66
17	34
18	51
19	73
20	85
21	105
22	118
23	135
24	179
25	197
26	242
27	200
28	279
29	222
30	215
Mean:	126.7

Dec. 1958	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	241	268
2	234	259
3	228	241
4	221	241
5	238	253
6	218	249
7	242	253
8	262	260
9	247	254
10	232	269
11	224	256
12	211	257
13	198	260
14	185	258
15	150	235
16	142	217
17	124	204
18	109	202
19	91	187
20	77	199
21	92	198
22	114	211
23	150	215
24	185	224
25	222	---
26	239	238
27	206	227
28	170	223
29	162	219
30	172	224
31	156	226
Mean:	185.2	234.2

COMMERCE - STANDARDS - BOULDER



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

DECEMBER 1958

CMP Dec. 1958	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area	Int.	History, Age		CMP Values Area	Count	History
1.7	N40	4896	4850	1700	2	ℓ — ℓ	2	50	1	ℓ \ d
2.1	N15	4898	4854	2800	2.5	ℓ — ℓ	4	390	3	ℓ ∧ ℓ
3.2	S20	4900	4860	1000	1.5	b / ℓ	4			
4.0	N09	4899	4857	2300	3	ℓ — ℓ	4	100	22	b ⌜ ℓ
4.2	N18	4903	4857	700	2	ℓ — ℓ	4	460	45	ℓ ∧ d
4.3	S08	4904	New	2800	2.5	ℓ — ℓ	1	220	4	ℓ \ d
5.3	S05	4905	New	800	3	ℓ / ℓ	1	700	6	b / ℓ
5.3	N03	4910	New	800	2.5	b ⌜ ℓ	1	190	2	b / ℓ
6.5	S16	4906	New	1700	2.5	ℓ — ℓ	1	240	1	ℓ — ℓ
7.4	N18	4907	*	1500	2	ℓ \ ℓ	5			
8.0	N12	4908	*	300	1.5	ℓ \ ℓ	5			
8.3	S15	4909	4865	800	1.5	ℓ \ ℓ	3			
9.7	N16	4911	New	5000	3.5	ℓ \ ℓ	1	630	20	ℓ \ ℓ
9.8	S11	4912	**	2900	2.5	ℓ \ ℓ	7	110	7	ℓ — ℓ
11.7	N25	4914	4872	2300	2.5	ℓ \ ℓ	6			
11.7	S27	4917	4870	2300	2	b ⌜ ℓ	3	50	3	b ∧ d
12.0	S03	4913	4873	8500	3	ℓ — ℓ	3	3050	45	ℓ ∧ ℓ
12.8	N12	4915	New	3700	2.5	ℓ \ ℓ	1			
13.4	S16	4916	New	6000	3	ℓ — ℓ	1	1190	12	ℓ ∧ ℓ
15.2	S10	4918	4877	2000	2	ℓ — ℓ	4			
15.3	N09	4919	New	1500	3	ℓ \ ℓ	1	390	5	ℓ \ ℓ
17.0	N19	4920	New	2300	3.5	ℓ — ℓ	1	850	7	ℓ ∧ ℓ
17.7	S20	4921	New	(1000)	(1.5)	ℓ \ d	1			
18.3	N08	4922	4881	800	1.5	ℓ — ℓ	4			
18.4	S07	4925	4885	300	1.5	ℓ — ℓ	2			
19.4	N17	4924	New	(1200)	(3)	ℓ \ ℓ	1			
20.2	N07	4935	New	200	1.5	b ∧ d	1			
20.3	S12	4923	4882	1000	2.5	ℓ / ℓ	4			
22.3	S16	4926	4883	2000	2	ℓ — ℓ	2	20	2	ℓ ∧ ℓ
22.7	N15	4927	+	1800	2.5	ℓ — ℓ	2	80	6	ℓ — ℓ
23.7	N08	4941	New	(300)	(2)	b / ℓ	1			
24.0	S16	4933	4889	400	1.5	ℓ \ d	5			
24.1	N20	4928	+	1300	2.5	ℓ — ℓ	2	190	1	ℓ — ℓ
24.5	S09	4930	New	1200	2	ℓ ∧ ℓ	1			
24.8	S22	4929	4888	2600	3	ℓ \ ℓ	7	20	1	ℓ \ d
25.5	N21	4931	4890	300	2.5	ℓ ∨ ℓ	2			
26.0	N15	4932	++	2800	2.5	ℓ — ℓ	2,5	200	8	b / ℓ
27.7	N21	4937	New	(300)	(2)	ℓ ⌒ d	1			
27.9	S17	4934	4897	10,000	3.5	ℓ — ℓ	4	1640	26	ℓ — ℓ
28.7	N15	4936	4898	10,000	3.5	ℓ / ℓ	1	270	59	ℓ — ℓ
30.6	S12	4939	+++	1100	1	ℓ — ℓ	5,2			
30.8	N09	4938	4899	2200	2.5	ℓ — ℓ	5	390	13	ℓ \ ℓ

* 4866 and 4864.
** 4867 and 4871.
\+ 4884, 4887 and 4894.
++ 4901, 4902 and 4892.
+++ 4900 and 4904.

CORONAL LINE EMISSION INDICES

DECEMBER 1958

CMP Dec. 1958	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	154	188	56	99	*138	184	23	48	x	x	x	x	x	x	x	x
2	145a	172a	47a	91a	150a	192a	25a	36a	x	x	x	x	x	x	x	x
3	x	x	x	x	x	x	x	x	114a	220a	27a	84a	151a	218a	61a	114a
4	x	x	x	x	x	x	x	x	135	208	30	96	131	248	53	91
5	86	126	14	18	126	234	36	73	131	184	29	51	83	127	31	90
6	71	92	25a	36a	113	169	61a	72a	108	123	24	54	81	100	16	30
7	137	244	35	67	130	195	35	60	93	128	28	54	81	113	37	90
8	162	218	32	70	150	222	x	x	86	132	20	35	98	185	39	89
9	*135	223	41	66	93	146	41	116	95	148	x	x	96	188	x	x
10	*111	134	x	x	176	212	x	x	123	137	47	60	113	178	38	69
11	* x	x	x	x	x	x	x	x	*151	182	26	46	170	214	43	102
12	*129	180	27	54	*138	167	31	72	x	x	x	x	x	x	x	x
13	111	136	31	48	113	140	27	54	x	x	x	x	x	x	x	x
14	180	284	17	30	*177	271	44	127	143	198	x	x	*148	302	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	91a	92a	26	42	95a	119a	22	30
17	69a	84a	41a	48a	82a	100a	45a	90a	x	x	x	x	x	x	x	x
18	117	169	36	66	76	179	82	66	57	92	26	36	125	186	x	x
19	123	182	34	60	82	146	40	89	101	132	12	18	92	149	11	12
20	117	160	18	27	107	161	35	79	85	120	28	42	95	120	25	48
21	87	124	23	30	106	145	27	54	90	134	32	84	136	148	49	88
22	90	136	31	55	106	155	37	93	x	x	x	x	x	x	x	x
23	110	124	x	x	99	117	x	x	x	x	x	x	x	x	x	x
24	101	126	47	120	74	112	45	72	110	171	17	39	172	255	43	88
25	*128	203	46	84	*151	198	37	72	119	171	29	67	143	166	55	75
26	x	x	x	x	x	x	x	x	* 93	144	42	54	*129	196	67	78
27	x	x	x	x	* x	x	x	x	x	x	x	x	x	x	x	x
28	*194	330	x	x	* 54	141	x	x	99	160	x	x	*121	151	x	x
29	x	x	x	x	x	x	x	x	166	210	22	36	137	182	46	84
30	166a	184a	63	132	119a	128a	26	48	128	188	17	26	144	174	45	78
31	x	x	x	x	x	x	x	x	107	120	17	30	82	132	32	51

a = index computed from low weight data
* = yellow line observed

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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	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
KODAIKNL	01	0614 E	0625 D		S19	W18	4897	11 D	1	1	0614			1.20		
LOCARNO	01	0825 E	0850		N18	W24	4895	25 D	1	3	0825		2.00			
UCCLE	01	0844	0851		N06	W20	4895	7	1	1						
LOCARNO	01	0850	0915	0900	N07	W18	4895	25	1	3			2.00			
STOCKHOLM	01	0858 E	0906 D		N07	W21	4895	8 D	1	2	0905	2.00	2.20			
UCCLE	01	0926	0931	0929	N17	W34	4892	5	1	2	0929	2.20				
UCCLE	01	0942	1017	0944	S10	E37	4904	35	1&	3	0944	3.40				
LOCARNO	01	1000	1045	1006	S10	E37	4904	45	1	3			3.00			
MEUDON	01	0955 E	1015	1002	S18	E58	4906	20 D	1				4.00			
UCCLE	01	1111	1122	1113	N16	W32	4892	11	1&	3	1113	3.40				
LOCARNO	01	1250 E	1310		S15	W06	4897	20 D	1	3	1250		1.00			
CAPRI-S	01	1306 E	1325 D		S08	E34	4904	19 D	1	2	1315	2.00	2.50			
UCCLE	01	1331	1341	1332	S10	E38	4904	20	1	2	1332	2.20				
UCCLE	01	1331	1345	1332	N08	E38	4903	14	1&	2	1332	3.40				
UCCLE	01	1417	1429	1421	N08	E39	4903	12	1&	2	1421	3.40				
UCCLE	01	1357	1401		S12	W55	4889	4	1	2		2.20				
UCCLE	01	1423	1439		N16	W85	4884	16	1	3		2.20	4.40			
SAC PEAK	01	1615	1725	1645	S12	W55	4889	10	1	2		2.00			25	
CLIMAX	01	1639	1658	1645	S11	W55	4889	19	1		1645	2.20				Slow S-SWF
HUANCAYO	01	1641	1706	1648	S11	W48	4901	25	2	2	1648	4.20	6.30	3.80		
HUANCAYO	01	2006 E	2016	2006	N09	W23	4895	10 D	1	2	2006	2.40	2.60	2.60		
USNRL	01	2043	2100 D	2049	S09	E32	4904	17 D	1	2	2049	1.92	2.31		99	
USNRL	01	2051	2058	2052	N18	W79	4884	7	1	2	2052	.34	2.41		61	
HAWAII	01	2334 E	2342 D		S12	W17	4897	8 D	1	1	2336	2.30	2.40			
MITAKA	01	2354 E	2406		N16	W34	4892	12 D	1	1	2354	1.84	2.30	2.75	110	
MITAKA	02	0028 E	0041	0032	N11	E14	4899	13 D	1	1	0030	.71	.75	3.70	169	
MITAKA	02	0054 E	0059		N13	W55	4892	5 D	1	1	0055	.53	.94	1.68	107	G-SWF
MITAKA	02	0227 E	0235		N15	W33	4895	8 D	1	1	0227	1.78	2.20	1.63	110	
MITAKA	02	0348 E	0407 D		S16	W21	4897	19 D	1	1	0355	.89	.97	2.15	96	
CAPRI-S	02	0837 E	0947 D		S13	W20	4897	70 D	1	2	0858	2.30	2.50			
ARCETRI	02	0839 E	0930 D		S15	W25	4897	51 D	1	2						
ONDREJOV	02	0936 E	0943 D		N12	E09	4899	7 D	1&	1	0637			6.70		Slow S-SWF
UCCLE	02	1354 E	1358 D		S10	E23	4904	4 D	1	2		2.20				
USNRL	02	1446	1631	1457	S16	W22	4897	105	1	2	1457	1.58	1.81	2.00	109	S-SWF
SAC PEAK	02	1455	1545	1520	S15	W26	4897	50	1	2		2.50			18	
USNRL	02	1506	1528	1512	S13	W57	4889	22 D	1	2	1512	1.30	3.32	1.00	93	
HUANCAYO	02	1528 E	1609	1528	S13	W22	4897	41 D	1&	2	1531	7.80	8.60	2.00		
CLIMAX	02	1918	1950	1926	S15	W27	4887	32	1		1926	4.40				
USNRL	02	1918	1954	1930	S16	W23	4897	46	1&	1	1929	1.81	2.06	1.00	122	
SAC PEAK	02	1920	1955	1924	S14	W26	4897	35	1	2		2.70			18	
HAWAII	02	1922 E	1956	1926	S12	W28	4897	34 D	1&	2	1926	4.20	4.90			
MT WILSON	02	1922	2000		S14	W25	4897	38	1							
HUANCAYO	02	1927 E	1947 D	1930	S13	W24	4897	20 D	1	2	1930	3.30	3.70	2.80		
SAC PEAK	02	2110	2202	2125	S03	E17	4904	52	1	2		2.40			20	
MT WILSON	02	2112	2211		S09	E17	4904	59	1							
HAWAII	02	2112	2212	2122	S10	E16	4904	60	1&	2	2122	3.60	3.90			
CLIMAX	02	2114	2142	2122	S08	E18	4904	28	1		2122	3.60				
HAWAII	02	2326	2352 D	2330	N07	E20	4903	26 D	1	1	2330	2.20	2.30			
TASHKENT	03	0701	0730	0703	N16	E85	4911	29	2							S-SWF
ONDREJOV	03	0720 E	0741		N16	E85	4911	21 D	1&	1	0720			4.20		
ONDREJOV	03	0720 E	0747		N15	W56	4892	27 D	1&	3	0726			3.00		

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 Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
ONDREJOV	03	0818 E	0828		N14	W60	4892	10 D	1	3	0821			2.40		
WENDEL	03	0823 E	1022		N15	E85	4911	119 D	1&				7.00			
WENDEL	03	0842	0931		N04	E29	4910	49	1				3.00			
WENDEL	03	0906	0914 D		N09	E15	4903	8 D	1				3.00			
ARGETRI	03	1000 E	1107 D		N13	E86	4911	67 D	2	2						
ONDREJOV	03	1001 E	1008		N16	E85	4911	7 D	1&	3	1004			3.10		
WENDEL	03	1054	1130		N14	E83	4911	36	1				3.00			
UCCLE	03	1112	1132		N15	E88	4911	20	1&	2		2.20	4.40			
UCCLE	03	1114	1119		N08	E09	4903	5	1	1						
WENDEL	03	1128 E	1141 D		S16	W36	4897	13 D	1				3.00			
UCCLE	03	1133	1141	1135	S17	W38	4897	8	1&	2	1135	3.40				
ONDREJOV	03	1135 E	1140		S15	W36	4897	5 D	1	3	1136			2.10		
WENDEL	03	1133 E	1150 D		N16	W52	4892	17 D	1				3.00			
ONDREJOV	03	1225 E	1251		N13	W61	4892	26 D	1	3	1227			2.40		
ONDREJOV	03	1343	1349	1344	N16	E85	4911	6	1	3	1344			3.20		
WENDEL	03	1343	1407 D		N14	E79	4911		1				4.00			
WENDEL	03	1407 E	1419 D		N03	E27	4910		1				3.00			
SAC PEAK	03	1725	1825	1755	N47	W31	4891	60	1	2		2.90			14	S-SWF
SAC PEAK	03	2005	2025	2010	N15	E90	4911	20	1	2		2.10			20	S-SWF
MT WILSON	03	2009	2021		N15	E72	4911	12	1							
HAWAII	03	2246	2308	2250	N15	E80	4911	22	1	3	2250	1.90	9.50			
MT WILSON	03	2248	2253		N15	E71	4911	5	1							
MITAKA	04	0237 E	0247		N12	W18	4899	10 D	1	1	0237	1.78	1.90	2.29	115	
NIZAMIAH	04	0257	0315	0303	N15	E74	4911	18	1	2	0303	.61	2.25	2.11		
MITAKA	04	0408	0417		S17	W42	4897		1	1	0411	.85	1.15	1.54	87	
WENDEL	04	0910	0936 D		N15	E70	4911	26 D	1				4.00			
STOCKHOLM	04	1040 E	1116		N16	E70	4911	36 D	2	2	1101	1.70	5.10			
WENDEL	04	1051	1113		N15	E74	4911	22	1&				6.00			S-SWF
CAPRI-S	04	1053 E	1111 D		N16	E70	4911	18 D	1&	3	1053	2.00	5.40			
ONDREJOV	04	1055 E	1103		N16	E72	4911	8 D	1&	3	1057			3.00		
ONDREJOV	04	1137 E	1146		N13	W23	4899	9 D	1	3	1140			2.10		
WENDEL	04	1341	1349		N17	W77	4892	8	1				3.00			
MITAKA	05	0319	0327		N16	E59	4911	8	1	1	0319	.71	1.42	2.33	128	
LOCARNO	05	0855	0920	0905	N15	E57	4911	25	1	2			3.00			
STOCKHOLM	05	0902 E	0918 D		N15	E59	4911	16 D	1&	2	0908	1.70	3.40			
WENDEL	05	1300 E	1324 D		N15	E53	4911	24 D	1				3.00			
USNRL	05	1904	1943 D	1914	N13	E52	4911	39 D	1&	3	1914	1.30	2.99		115	
SAC PEAK	05	1905	1930	1912	N13	E52	4911	25	1	3		2.10			16	
USNRL	05	2056	2102	2059	S02	E90	4913	6	1	1	2059	.68	4.82		58	
UCCLE	06	1019	1026	1021	N17	E47	4911	7	1&	3	1021	3.40				
WENDEL	06	1021 E	1028 D		N16	E47	4911	27 D	1&				6.00			
CAPRI-S	06	1157	1214 D		N15	E45	4911	17 D	1	3	1201	2.00	3.00			
USNRL	06	1614	1700	1622	S18	W80	4897	46	2	2	1622	1.59	5.55		87	
SAC PEAK	06	1935	2035 U	1955	N15	E38	4911	60 D	1	2		3.90			24	Slow S-SWF
HAWAII	06	1942	2024		N12	E39	4911	42	1	1	1948	2.40	3.10			
MITAKA	07	0217 E	0228 D		N16	E33	4911	11 D	1	2	0219	5.67	7.15	1.69	96	
WENDEL	07	0825 E	0928 D		S19	E77	4916	63 D	1&				5.00			
ONDREJOV	07	0900 E	0920		S17	E85	4916	20 D	1	3	0906			2.30		
WENDEL	07	0930	1008		S05	E51	4913	38	1				3.00			

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ONDREJOV	07	0941 E	0957		S07	E58	4913	16 D	1	3	0955			2.20		
WENDEL	07	0945	1011		N17	E39	4911	26	1				3.00			
ONDREJOV	07	1106 E	1112		S17	W85	4897	6 D	1	3	1107			3.60		S-SWF
WENDEL	07	1106 E	1130 D		S16	W87	4897	24 D	□							
WENDEL	07	1324	1421 D		S19	E76	4916	57 D	1				3.00			
UCCLE	07	1412	1421		S18	E85	4916	9	1	3						
CLIMAX	07	1556	1600 D		S20	E78	4916	4 D	1		1600	2.30				
HAWAII	08	0140	0158	0142	S02	E43	4913	18	1	1	0142	2.50	3.50			
NIZAMIAH	08	0554 E	0601 D		S04	E46	4913	7 D	1	2	0554	1.52	2.21	1.33		
WENDEL	08	0858	0911		S03	E46	4913	13	2&				15.00			
UCCLE	08	0904	0911	0908	S03	E48	4913	7	1&	3	0908	4.20				
CAPRI-S	08	0905 E	0937 D		S03	E46	4913	32 D	2	3	0915	3.00	4.50			
SCHAUINS	08	0906 E	0929		S04	E45	4913	23 D	2							
ARCETRI	08	0906 E	0935		S03	E45	4913	29 D	2	2						
KODAIKNL	08	0907 E	0915 D		S04	E48	4913	8 D	1	1	0907			1.60		
UCCLE	08	0909	0935		S04	E49	4913	26	1	3						
NIZAMIAH	08	0912 E	0914 D		S04	E46	4913	2 D	1&	2	0912	2.43	3.53	2.00		
UCCLE	08	0913	0930		S03	E50	4913	17	1	3						
UCCLE	08	0932	0939		N13	E20	4911	7	1	3						
WENDEL	08	1232	1315 D		N16	E17	4911	43 D	1&				7.00			
WENDEL	08	1231	1255		S04	E53	4913	24	1				4.00			
WENDEL	08	1313 E	1338 D		N11	W39	4910	25 D	1				3.00			
WENDEL	08	1405	1418 D		S08	E50	4913	13 D	1				3.00			
LOCARNO	08	1400 E	1420		S16	E52	4916	20 D	1&	2	1405		2.00			
WENDEL	08	1418	1424 D		S16	E64	4916	6 D	1&				7.00			
OTTAWA	08	1418	1440		S14	E65	4916	22 D	1	3	1423	2.20	5.51			
USNRL	09	1305 E	1325		N15	W02	4911	20 D	1	2	1305	1.02	1.05		120	S-SWF
USNRL	09	1354	1421	1357	N29	E26	4914	27	1	2	1357	1.02	1.28	2.00	109	
MCMATH	09	1629	1640 D		N28	E25	4914	11 D	1	1	1631	.32	.42		57	
SAC PEAK	09	1642	1730	1655	N10	W90	4899	48	1&	1		3.80			22	S-SWF
USNRL	09	1644	1735	1654	N11	W90	4899	51	1	2	1654	2.71		2.00	47	
MT WILSON	09	1652 E			S02	E29	4913		1							
MT WILSON	09	1652 E			N14	W01	4911		1							
MT WILSON	09	1757	1810		N14	W01	4911	13	1&							S-SWF
USNRL	09	1757 E	1826	1803	N15	W05	4911	29 D	1	2	1803	1.13	1.17	2.00	137	
MT WILSON	09	1803	1832		S08	W02	4912	29	1							
MT WILSON	09	1824	1930		S02	E28	4913	66	1							
MT WILSON	09	2243	2257		S02	E27	4913	14	1							
HAWAII	10	0034	0108 D	0044	S05	E26	4913	34 D	1&	2	0044	4.40	5.00			
MITAKA	10	0048 E	0118		S03	E27	4913	30 D	2&							Slow S-SWF
MITAKA	10	0048 E	0124	0049	S01	E26	4913	36 D	2&	2	0058	8.49	9.59	2.50	256	
MITAKA	10	0221	0303		S00	E23	4913	42	2&							S-SWF
MITAKA	10	0221	0306	0221	N00	E20	4913	45	2&	1	0221	9.02	9.74	7.28	251	
MITAKA	10	0456	0504		S19	E43	4916	8	1	1	0458	2.73	3.97	1.89	91	
UCCLE	10	1134 E	1144 D		S03	E22	4913	10 D	1&	3		4.20				
CAPRI-S	10	1140 E	1220 D		S03	E20	4913		□							
CAPRI-S	10	1224 E	1257 D		S03	E20	4913	33 D	1	1	1237	4.00	4.20			
USNRL	10	1312 E	1514	1318	S02	E19	4913	62 D	1	2	1428	1.81	1.92	2.00	157	
SAC PEAK	10	2027	2055	2032	S21	W55	4906	28	1	2		2.60			14	
USNRL	10	2029	2100 D	2034	S21	W57	4906	31 D	1	2	2034	1.92	3.67	1.00	92	

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HAWAII	11	0106 E	0110 D		S01	E09	4913	4 D	1	1	0106	2.20	2.20			
NIZAMIAH	11	0510 E	0527	0515	S01	E03	4913	17 D	1&	3	0515	3.04	3.05	2.31		
CAPRI-S	11	0820 E	0903 D		S00	E07	4913	43 D	1	1	0841	2.00	2.00			
ARCETRI	11	0943 E	1002 D		S21	W64	4906	19 D	1&	2	0948	2.00	4.90			
KIEV*	11	1124	1146	1127	S01	E03	4913	22	2							
ARCETRI	11	1125 E	1140 D		S01	E02	4913	15 D	2	2						S-SWF
CAPRI-S	11	1130 E	1200 D		S00	E05	4913	30 D	1&	2	1135	1.80	1.80			
MT WILSON	11	1800	1809		S01	E05	4913	9	1&							
SAC PEAK	11	1802	1842	1812	S02	E00	4913	40	2	2		6.20			40	S-SWF
MT WILSON	11	1808	1835		S03	E05	4913	27	2							
HAWAII	11	1814 E	1826 D		S02	E00	4913	12 D	2	1	1814	5.10	5.10			
MT WILSON	11	1854	1910		S03	E05	4913	24	1							
SAC PEAK	11	1930	2012	1939	S02	W04	4913	42	2	2		9.60			40	S-SWF
MT WILSON	11	1931	2000		S03	E05	4913	29	1&							
HAWAII	11	1950 E	2006		S02	W02	4913	16 D	1	1	1950	3.10	3.10			
SAC PEAK	11	2120	2215 D	2150	S09	E26	4916	55	2&	2		22.50			25	
SAC PEAK	11	2150	2217 D	2212	S00	W04	4913	27	1	2		3.10			23	
MT WILSON	11	2204 E	2219		S02	E07	4913	15 D	1							
MITAKA	11	2355 E	2422	2406	S03	W05	4913	27 D	1	1	2406	1.84	1.84	2.33	149	
MITAKA	12	0042	0049		S11	W34	4912	7	1	1	0042	.89	1.09	2.23	107	
MITAKA	12	0049 E	0055		S16	E18	4916	6 D	1	1	0049	.82	.90	1.91	102	
MITAKA	12	0057 E	0120	0107	S00	W05	4913	23 D	2&	1	0107	4.62	4.62	8.34	278	
HAWAII	12	0106 E	0116		N02	W06	4913	10 D	2&	1	0106	7.90	8.00			S-SWF
MITAKA	12	0209	0235 D	0211	S18	E17	4916	26 D	1	1	0210	4.35	4.78	1.72	134	
MITAKA	12	0214 E	0247	0230	S02	W06	4913	33 D	2&	1	0230	7.38	7.38	4.31	251	S-SWF
NIZAMIAH	12	0320	0347	0329	S02	W06	4913	27	1&	2	0329	2.13	2.14	3.33		S-SWF
MITAKA	12	0328	0345	0332	S01	W08	4913	17	2	1	0333	2.78	2.78	4.11	278	
NIZAMIAH	12	0532	0554	0545	S02	W06	4913	22	1&	3	0545	2.43	2.45	2.81		
LOCARNO	12	1045 E	1110		S05	W08	4913	25 D	1&	3	1050		4.00			
CAPRI-S	12	1215	1435 D		S01	W08	4913	140 D	2&	3	1306	10.00	10.00			
SALTSJOBAD	12	1257 E	1304 D		S05	W07	4913	7 D	2&							S-SWF
STOCKHOLM	12	*1257 E	1304 D		S05	W07	4913	7 D	2&	1	1302	7.00	7.00			
MCMATH	12	1345 E	1443 D		S02	W07	4913	58 D	1	1	1353	2.43	2.48			
USNRL	12	1416	1547		S03	W08	4913	91	1	1	1447	1.36	1.38	1.00	100	
USNRL	12	1500	1535	1506	S02	W14	4913	35	1	2	1506	1.24	1.28	2.00	138	S-SWF
USNRL	12	1603	1618	1604	S03	W09	4913	15	1	1	1612	1.47	1.51		150	
USNRL	12	1927	2007	1927	S18	E08	4916	40	1	1	1927	.90	.94	1.00	123	
SAC PEAK	12	2155	2205 D	2200	S01	W16	4913	10	1	2		2.70			17	
MT WILSON	12	2159	2242		S05	W20	4913	43	1							
MITAKA	13	0003 E	0030 D	0004	N21	E53	4920	27 D	1	2	0004	1.84	3.46	2.40	134	
HAWAII	13	0020 E	0100 D		S01	W15	4913	40 D	1	1	0020	3.40	3.50			S-SWF
MITAKA	13	0025 E	0103	0031	S02	W13	4913	38 D	2	2	0033	3.80	3.88	3.51	278	
SYDNEY	13	0025 E	0130		S09	W15	4913	65 D	2							
MITAKA	13	0200	0207		S05	W13	4913	7	1	2	0201	1.34	1.37	1.57	91	
MITAKA	13	0213 E	0216		S01	W20	4913	3 D	1	1	0213	1.86	1.95		149	
MITAKA	13	0402	0411 D	0403	N00	W20	4913	9 D	1	1	0404	.89	.91	2.68	192	
MITAKA	13	0425 E	0446	0433	S05	W15	4913	21 D	1	1	0433	.89	.91	2.32	152	

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SYDNEY	13	0445	0530 D	0450	N12	E17	4919	45 D	2							
MITAKA	13	0449	0459	0456	S17	E01	4916	10	1&	1	0449	3.14	3.23	1.98	110	
USNRL	13	1605	1651	1607	S09	W21	4913	46	1	2	1607	1.02	1.11		104	
SAC PEAK	13	1830	1920	1835	S03	W27	4913	50	2	2		5.00			22	
HAWAII	13	1832	1922	1834	S01	W27	4913	50	1&	3	1834	5.00	5.60			S-SWF
MT WILSON	13	1833	1904		S03	W27	4913	31	2							
MT WILSON	13	2206	2259		S02	W32	4913	53	1&							
MITAKA	14	0231 E	0239		S00	W30	4913	8 D	1	1	0233	.41	.46	2.62	96	
SYDNEY	14	0445	0530 D	0450	N12	E17	4919	45 D	2							Slow S-SWF
ATHENS	14	0745 E	0840 D		S02	W33	4913	55 D	2							
MEUDON	14	1008 E	1100		N17	E50	4924	52 D	1				2.00			
MEUDON	14	1130	1200	1140	N00	W30	4913	30	1&				7.00			
LOCARNO	14	1245	1306		S09	E90	4923	15	1	3	1250					
CLIMAX	14	1527 E	1527		N22	E34	4920		1		1706	3.00				
SAC PEAK	14	1615	1630	1620	N01	W36	4913	15	1	2		2.10			17	
SAC PEAK	14	1825	1910	1857	S03	W36	4913	45	1	2		3.30			16	
HAWAII	14	1830 E	1910 D	1834	S02	W37	4913	40 D	1&	2	1834	4.20	5.30			
HAWAII	15	0052	0110	0056	N22	E23	4920	18	1	2	0056	3.10	3.70			
MITAKA	15	0053	0101		N22	E18	4920	8	1	1	0058	1.78	2.12	1.43	118	
MITAKA	15	0133 E	0136		S08	W39	4913	3 D	1	1	0135	.89	1.17	1.81	91	
MITAKA	15	0244 E	0252		N21	E20	4920	8 D	1&	1	0244	7.57	9.01	2.27	118	
NIZAMIAH	15	0550 E	0557 D		N23	E19	4920	7 D	1&	2	0550	2.13	2.44	1.92		
MITAKA	15	0554 E	0606	0558	N25	E21	4920	14 D	1&	1	0554	3.14	3.74	2.08	196	
TASHKENT	15	0624	0700	0626	N23	E18	4920	36	2							
WENDEL	15	1022 E	1040 D		N22	E16	4920	18 D	1&				6.00			
ONDREJOV	15	1036 E	1105 D		S20	W19	4916	29 D	1	3	1050			2.00		
CAPRI-S	15	1105 E	1114 D		S16	W17	4916	9 D	1	1	1112	4.00	6.00			
WENDEL	15	1120 E	1230 D		S13	W18	4916	70 D	3				20.00			
WENDEL	15	1134 E	1137 D		N22	E15	4920	3 D	1				4.00			
ONDREJOV	15	1310	1320 D		N17	E45	4924	10 D	1	3	1315			2.40		
WENDEL	15	1326 E	1346 D		N19	E45	4924	20 D	1				3.00			
USNRL	15	1507 E	1532		N24	E14	4920	25 D	1	1	1512	1.02	1.17		103	
USNRL	15	1507 E	1533		S08	W50	4913	26 D	1	1	1512	1.13	1.82		107	
USNRL	15	1548	1619	1552	S08	W50	4913	31	1	1	1552	1.02	1.63	1.00	102	
SAC PEAK	15	2012	2100 U	2020	N24	E11	4920	48	1	2		3.10			22	
USNRL	15	2014	2051	2026	N24	E10	4920	37	1	2	2026	2.49	2.80		88	
CLIMAX	15	2018	2030 D	2023	N23	E12	4920	12 D	1		2023	2.90				
SAC PEAK	15	2132	2150	2135	N23	E10	4920	18	1	2		2.50			18	
SAC PEAK	15	2200	2222 D	2205 C	N24	E11	4920	22	1	2		2.40			25	
CLIMAX	15	2203	2218	2206	N23	E11	4920	15	1		2206	2.10				
HAWAII	15	2226	2232 D	2230	S02	W60	4913	6 D	1	2	2230	2.40	4.50			
CLIMAX	15	2226	2235	2230	S07	W61	4913	9	1		2230	2.10				
MITAKA	15	2354	2414 D	2354	N22	E09	4920	20 D	1	1	2354	.41	.45	2.03	115	
MITAKA	16	0005	0018 D	0018	N22	E08	4920	13 D	1	1	0018			1.76	107	
KODAIKNL	16	0230 E	0236 D		N24	E08	4920	6 D	1	2	0232	1.60	1.80	2.80	106	
NIZAMIAH	16	0415 E	0431		S15	W36	4916	16 D	2	3	0415	5.47	6.99	2.05		Slow S-SWF
NIZAMIAH	16	0434 E	0441		S08	W48	4913	7 D	1	3	0434	1.82	2.75	1.59		
WENDEL	16	0826 E	0832 D		S06	W61	4913	6 D	1				3.00			
WENDEL	16	0835 E	0912 D		N23	E02	4920	37 D	1				3.00			
WENDEL	16	0836	0845 D		S22	E43	4926	9 D	1				4.00			

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WENDEL	16	1016	1032 D		N20	E04	4920	16 D	16				6.00			
ZURICH	16	1021	1028		N20	E01	4920	7	1	2	1021		2.00			
ONDREJOV	16	1128 E	1142		S06	W64	4913	14 D	1	3	1129			2.40		
WENDEL	16	1129 E	1148 D		S08	W59	4913	19 D	16				5.00			
USNRL	16	1348	1408	1351	S07	W63	4913	20	1	2	1351	1.36	2.96		89	
WENDEL	16	1350 E	1405 D		S06	W63	4913	15 D	16				5.00			
USNRL	16	1449	1503	1450	N24	E04	4920	14	1	2	1450	1.36	1.48		100	
USNRL	16	1511	1556	1517	S07	W63	4913	45	1	2	1517	.90	1.98		106	
USNRL	16	1630	1647 D	1634	S15	E67	4926	17 D	16	2	1634	1.47	3.74	2.00	105	
HUANCAYO	16	1633	1645	1634	S14	E66	4926	10	1	2	1634	1.00	2.40	3.30		
SAC PEAK	16	1727	1817	1730	S01	W65	4913	50	1	2		2.10			16	
CLIMAX	16	1728	1748	1734	S03	W66	4913	20	1		1734	2.90				
USNRL	16	1729	1819	1733	S02	W63	4913	50	1	2	1733	1.70	3.89	2.00	94	
MITAKA	17	0145 E	0241		S08	W70	4913	56 D	16	1	0204	2.27	6.13	3.45	165	
MITAKA	17	0207 E	0240		N04	W26	4919	33 D	1	1	0207	1.78	1.99	2.93	183	
WENDEL	17	0830 E	1038 D		S08	W70	4913	128 D	16				8.00			
ONDREJOV	17	1123 E	1139 D		N06	W32	4919	16 D	1	2	1131			2.50		
ONDREJOV	17	1137 E	1211		S06	W77	4913	34 D	1	3	1138			3.30		
CAPRI-S	17	1138 E	1235 D		S05	W68	4913	57 D	1	2	1156	1.00	3.50			
ONDREJOV	17	1254 E	1301		S06	W78	4913	7 D	1	3	1255			3.10		
USNRL	17	1537	1547	1542	S07	W79	4913	70	1	2	1542	.45	2.29		81	
HUANCAYO	17	1539	1601	1541	S07	W77	4913	22	1	2	1541	1.20	4.80	4.10		
SAC PEAK	17	1855	1927	1900	N07	W35	4919	32	16	2		3.90			25	S-SWF
MT WILSON	17	1859	1944		N04	W33	4919	45	2							
HAWAII	18	0126 E	0200 D	0132	S12	E35	4926	34 D	1	3	0132	2.10	2.60			
NIZAMIAH	18	0347 E	0354 D		N11	W36	4919	7 D	16	2	0347	2.43	3.07	2.05		
WENDEL	18	1136	1157		N24	W23	4920	21	1				4.00			
SAC PEAK	18	1607	1635	1612	N07	W47	4919	28	1	2		2.30			20	
USNRL	18	1611	1634	1612	N08	W48	4919	23	1	2	1612	1.69	2.54		94	
HUANCAYO	18	1611 E	1639 D	1612	N07	W45	4919	28 D	16	2	1612	4.40	5.80	2.30		
SAC PEAK	18	1635	1720 D	1642	N06	W48	4919	45 D	1	2		2.50			23	
CLIMAX	18	1636	1701	1643	N08	W47	4919	25	1		1643	3.00				Slow S-SWF
USNRL	18	1638	1656	1643	N08	W48	4919	20	16	3	1643	2.26	3.36		125	
MT WILSON	18	1640 E	1654 D		N05	W46	4919	14 D	1							
HUANCAYO	18	2003	2010	2008	S05	W90	4913	7	1	2	2008			6.10		
SAC PEAK	18	2125	2155	2147	N22	W23	4920	30	1	2		2.90			17	
MT WILSON	18	2235	2256		N05	W49	4919	23	1							
STOCKHOLM	19	1055 E	1107 D		S25	E74	4929	12 D	1	1	1055	.70	2.40			
CAPRI-S	19	1135 E	1158 D		S22	E70	4929	23 D	2	3	1137	2.00	6.80			
USNRL	19	1744	1829		S16	E90	4929	45	1	1	1808	2.83			57	
HAWAII	19	2322	2356 D	2328	S12	E11	4926	34 D	16	3	2328	5.00	5.10			
SAC PEAK	20	1749	1811	1759	S16	E12	4926	22	1	2		2.40			24	
MITAKA	21	0027 E	0034 D		S16	E85	4934	7 D	1	1	0027	1.84		3.20		
HAWAII	21	0046	0110	0048	S16	E90	4934	24	1	2	0048	1.70				Slow S-SWF
MITAKA	21	0047 E	0114 D		S16	E85	4934	27 D	1	1	0048	1.12		5.06		
WENDEL	21	0920	1059		S10	E80	4934	79	2				11.00			
USNRL	21	1422 E	1438 D		S14	E78	4934	16 D	1	1	1437	.91	3.66			Slow S-SWF
HAWAII	22	0116	0132	0120	S17	E75	4934	16	1	3	0120	2.60	11.00			

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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
ZURICH	22	1007	1016		S13	E86	4934	9	1	2	1010		5.00			
UCCLE	22	1303	1310		S15	E75	4934	7	1	2						
WENDEL	22	1311 E	1350 D		S13	E70	4934	39 D	1B				7.00			
UCCLE	22	1314	1342	1320	S15	E72	4934	28	1B	2	1320	3.40	5.10			
ZURICH	22	1315	1336		S15	E62	4934	11	1	2	1320		5.00			
USNRL	22	1316	1320 D		S11	E66	4934	4 D	1	1	1320	.91	2.31		93	
AROSA	22	1320 E	1335		S14	E65	4934	15 D	1B							
USNRL	22	1456	1729	1502	S14	E62	4934	33	2B	2	1502	5.10	11.20	2.00	120	G-SWF
USNRL	22	1708	1719	1710	S12	E81	4934	11	1B	2	1710	1.13	5.69		67	
USNRL	22	1714	1730	1719	S23	E70	4934	16	1	2	1719	1.36	4.33		65	
MT WILSON	22	2030			S23	E54	4934		1							
HAWAII	23	0044	0200	0102	S21	W09	4929	76	1	3	0102	2.90	3.10			
NIZAMIAH	23	0545 E	0552 D		S14	E66	4934	7 D	1	2	0545	.91	2.21	1.43		G-SWF
MT WILSON	23	2207	2213		S19	E65	4934	6	1							
MITAKA	24	0057 E	0110	0103	S15	E63	4934	13 D	1	1	0057	1.34	2.85	4.16	110	
MITAKA	24	0423 E	0432		S26	E58	4934	9 D	1	1	0425	.21	.44	2.16	87	
MITAKA	24	0555	0603	0559	S13	E60	4934	8	1	1	0555	1.34	1.85	3.63	120	
NIZAMIAH	24	0947 E	1005	0954	S14	E50	4934	18 D	1B	3	0954	1.82	2.91	3.14		
HUANCAYO	24	1534 E	1547 D		N17	E66	4936	13 D	1B	1	1539	2.90	7.30	2.90		Slow S-SWF
USNRL	24	1604 E	1615		N18	E65	4936	11 D	1	1	1604	1.22	2.60			
MITAKA	24	2345 E	2347		S16	E31	4934	2 D	1	1	2345	1.78	2.17	1.19	96	
LOCARNO	25	0830 E	0910		S15	E31	4934	40 D	1B	4	0830		3.00			
LOCARNO	25	1316	1330	1324	N14	E48	4936	14	1	2			2.00			
USNRL	25	1629	1659 D	1634	S17	E30	4934	30 D	1B	2	1634	2.32	2.76		114	
SAC PEAK	25	1935	2005	1937	N20	E53	4936	30	1	1		2.20			16	S-SWF
LOCARNO	26	1105 E	1115 D		N20	E41	4936	10 D	1	2	1110		2.00			
CAPRI-S	26	1217	1255 D		N10	W53	4927	38 D	2	2	1235	4.00	7.40			
CAPRI-S	26	1235 E	1250 D		N07	W53	4927	15 D	1	2	1237	2.00	3.50			
USNRL	26	1300	1403	1311	S14	E11	4934	63	1	2	1311	1.02	1.07	1.00	122	
HUANCAYO	26	1602	1613	1603	N10	E48	4938	13	1	2	1606	.50	.80	2.00		
SAC PEAK	26	1640	1700	1647	N05	E55	4938	20	1	2		2.10			22	
USNRL	26	*1640	1700 D		N06	E54	4938	20 D	1	1	1646	1.07	1.88	1.00	132	
MCMATH	26	1643	1707	1648	N07	E57	4938	24	1B	1	1648	3.74	5.50		79	
HUANCAYO	26	1644	1701	1647	N07	E53	4938	17	1B	2	1647	4.90	4.80	5.20		
SAC PEAK	26	1840	1940	1917	N05	E54	4938	60	1	2		2.10			20	
HAWAII	26	1912	1936	1918	N03	E55	4938	24	1	3	1918	2.10	3.90			
MCMATH	26	1912	1937 D	1917	N06	E56	4938	25 D	1	1	1917	2.03	3.53		73	
WENDEL	27	0838 E	0857		N16	E02	4936	19 D	1				3.00			
AROSA	27	0855	0900		S15	E00	4934	5	1							
USNRL	27	1454	1515	1457	N24	E23	4936	21	1	3	1457	1.13	1.30		106	
LOCARNO	28	0955	1015	1002	S11	E00	4934	20	1B	4			2.00			
LOCARNO	28	1305	1355	1320	N07	W40	4932	50	2	4			6.00			S-SWF
MCMATH	28	1710	1730	1714	S14	W20	4934	20	1	1	1714	2.76	2.98			
SAC PEAK	28	1830	1902	1847	S19	W01	4934	32	1	2		2.10			15	
HAWAII	28	1854	1910	1858	N13	W05	4936	16	1	2	1858	2.10	2.20			
SAC PEAK	28	2150	2220 U	2152	N11	W07	4936	30	1	2		2.20			14	
MITAKA	29	0050 E	0054		N11	W11	4936	4 D	1	2	0050	.41	.43	1.69	100	

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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 Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MITAKA	29	0105 E	0115 D		N11	W11	4936	10 D	1	2	0105	.89	.93	1.79	134	
MITAKA	29	0109 E	0115 D		S17	W29	4934	6 D	1	2	0109				96	
MITAKA	29	0113 E	0127	0116	N07	W47	4932	14 D	2	2	0117	5.85	5.62	2.63	196	
MITAKA	29	0146	0157	0149	N15	W09	4936	11	1&	2	0146	8.04	8.52	3.23	120	
MITAKA	29	0326	0335		N08	W11	4936	9	1	2	0327	1.23	1.27	1.00	100	
LOCARNO	29	0835 E	0850		N26	E12	4938	15 D	1	3	0840		1.00			
UCCLE	29	0922 E	0926		N08	W54	4932	4 D	1	2						
UCCLE	29	0924	0931	0925	N19	E36	4936	7	1	2	0925	2.20				
LOCARNO	29	1032	1047	1036	N05	E16	4938	15	1	3			1.00			
LOCARNO	29	1045	1100	1052	N06	W51	4932	25	1	3			3.00			
CAPRI-S	29	1048 E	1105 D		N11	W52	4932	20 D	1	3	1050	1.60	2.60			
MCMATH	29	1721	1745	1733	N09	W60	4932	24	1	1	1733	1.22	2.44		78	
MITAKA	30	0437 E	0455	0442	N09	W24	4936	18 D	1	1	0442	2.64	2.84	1.97	122	
MITAKA	30	0453 E	0511	0455	S23	W23	4934	18 D	1	1	0455	1.34	1.51	2.04	115	
AROSA	30	1034	1057		S17	W38	4934	23	1							
AROSA	30	1111	1123		S11	W25	4934	12	1							
HUANCAYO	30	1545	1556	1546	N11	W57	4932	11	1	1	1546	1.20	2.60	2.70		
USNRL	30	1545	1616		N10	W66	4932	31	1	1	1546	.97	2.62		93	
MCMATH	30	1909	1935 D	1922	N16	W30	4936	24 D	1	1	1922	1.54	1.88		70	
USNRL	30	1915	1952	1923	N16	W30	4936	37	1	3	1923	1.13	1.39	2.00	111	
MITAKA	31	0211 E	0227 D		S15	W48	4934	16 D	1	1	0213	.89	1.32	2.16	107	
WENDEL	31	0930 E	1000 D		S13	W49	4934	30 D	1				3.00			
WENDEL	31	0957 E	1016		N17	W36	4936	19 D	1&				5.00			
WENDEL	31	1129 E	1135 D		S17	E47	4944	6 D	1&				5.00			
WENDEL	31	1257 E	1315 D		S14	E48	4944	18 D	1				3.00			
USNRL	31	1312	1400		S20	W54	4934	48	1	1	1322	1.24	2.13			
AROSA	31	1315	1346		S18	W55	4934	31	1							
WENDEL	31	1316 E	1400		S19	W52	4934	44 D	1&				5.00			
AROSA	31	1312	1430		N03	W10	4938	78	1&							
MITAKA	31	1358 E	1440		N05	W09	4938	42 D	2	2	1408	7.71	7.93			
USNRL	31	1316	1449		N13	W39	4938	93	1	1	1322	2.37	2.43			
WENDEL	31	1320 E	1406 D		N05	W08	4938	46 D	1&				7.00			
CAPRI-S	31	1322	1438 D		S06	W06	4940	76 D	1	3	1348	3.00	3.00			
USNRL	31	1335	1340	1336	N16	W40	4936	5	1	1	1336	.45	.64			
USNRL	31	1656	1741	1702	S19	W56	4934	45	3	2	1702	9.02	14.65	2.00	144	S-SWF
HUANCAYO	31	1659	1803 D	1704	S18	W52	4934	64 E	3	1	1704	12.10	22.50	6.10		
SAC PEAK	31	1827	1852	1832	S16	W46	4934	25	1	2		3.90			14	
USNRL	31	1830	1903	1834	S20	W47	4934	33	1&	2	1834	3.39	5.05		108	

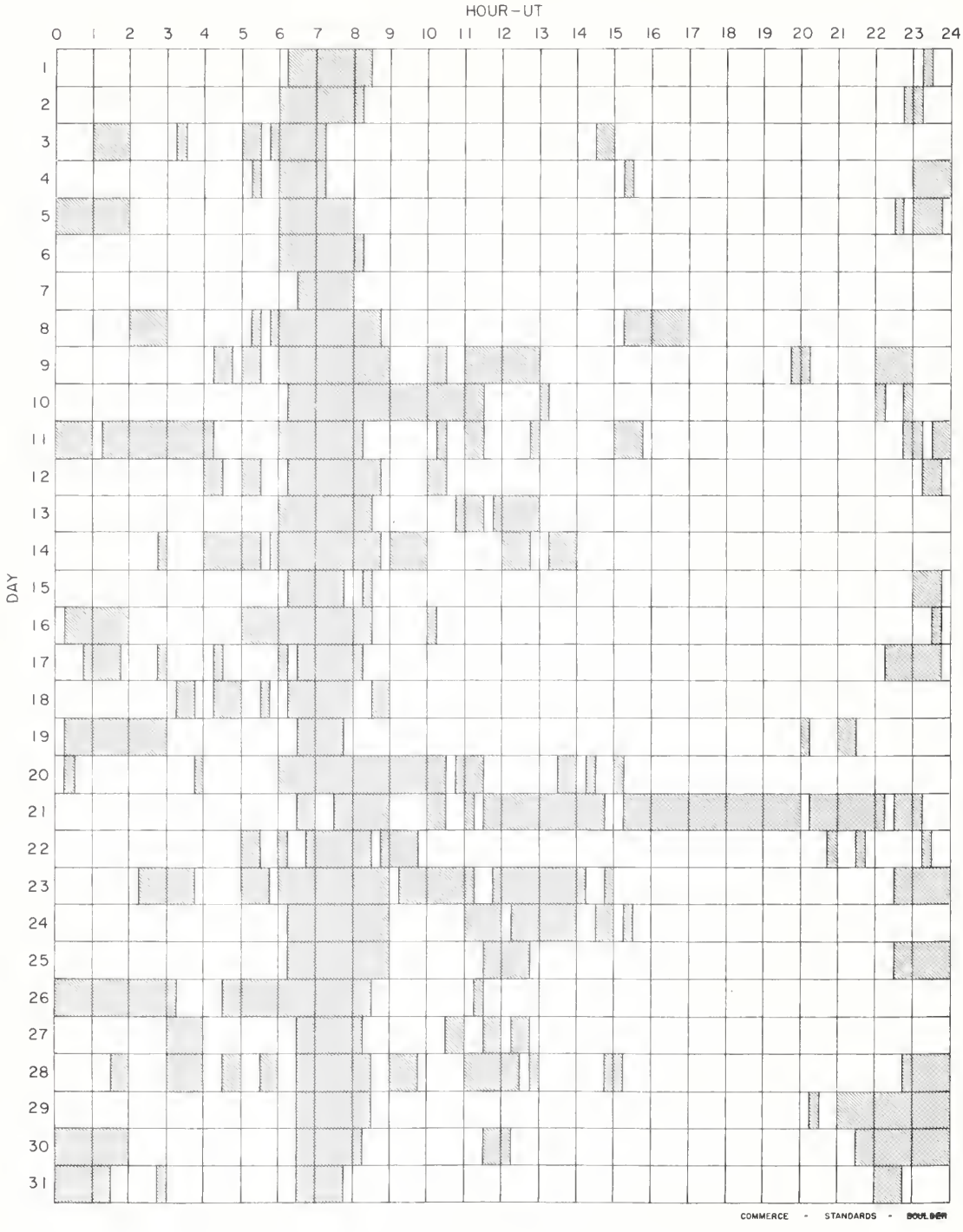
CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNL KODAIKANAL
KRASNYA KRASNAYA PAKHRA
MOSCOW NIZMIR
MOSCOW-G MOSCOW - GAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK 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 included:

Anacapri (Swedish)
Arcetri
Arosa
Climax
Dunsink
Greenwich
Hawaii
Huancayo
Kodaikanal
Locarno
McMath
Meudon
Mitaka
Nizamiah
Ondrejov
Ottawa
Sacramento Peak
Uccle
U.S. Naval Research Laboratory
Zürich.

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

NOVEMBER 1958

HAWAII	01	0056	S14 E15
UCCLE	01	1143	S14 W26
UCCLE	01	1228	S17 E26
USNRL	01	1234 E	S17 E26
USNRL	01	1301	S21 W36
USNRL	01	1310	S17 E22
MCMATH	01	1405	S14 W36
* USNRL	01	1445 E	S18 E21
USNRL	01	1539 E	S16 E31
* CAPRI-S	02	0858 E	S19 E09
* CAPRI-S	02	0930 E	N05 E11
OTTAWA	02	1314	S15 E11
OTTAWA	02	1315	S14 E18
AROSA	02	1318	S12 W46
AROSA	02	1318	S15 E17
* OTTAWA	02	1329	S16 E10
* CAPRI-S	02	1331	S14 E09
* OTTAWA	02	1334	N06 E11
* CAPRI-S	02	1335	N08 E13
OTTAWA	02	1354	S12 E08
LOCARNO	02	1438	S15 E15
SAC PEAK	02	1616 E	S16 E06
SAC PEAK	02	1725	S12 W48
SAC PEAK	02	2032	S12 W50
SAC PEAK	02	2152 E	N08 E08
OTTAWA	03	1303	S15 E00
* SAC PEAK	03	1425	S14 W00
* MCMATH	03	1431	S15 W02
* OTTAWA	03	1437 E	S15 W02
USNRL	03	1536 E	S16 W02
MCMATH	03	1539	S16 W02
SAC PEAK	03	1540	S15 W03
HUANCAYO	03	1545 E	S14 W02
* OTTAWA	03	1635	S15 W02
* USNRL	03	1636	S15 W01
* SAC PEAK	03	1637	S14 W03
* HUANCAYO	03	1638	S15 E02
SAC PEAK	03	1735	S14 W04
USNRL	03	1740	S16 W01
USNRL	03	1752	S19 W15
SAC PEAK	03	1905	S12 W09
SAC PEAK	03	1927	S14 W06
USNRL	03	2017	S16 W05
* CAPRI-S	04	1105 E	S17 W12
LOCARNO	04	1300 E	S09 W12
LOCARNO	04	1322	S15 W65
OTTAWA	04	1329	S16 W15
USNRL	04	1435	S15 W03
OTTAWA	04	1436	S15 W02
SAC PEAK	04	1437	S14 W03
SAC PEAK	04	1520	N41 W41
SAC PEAK	04	1550	S13 W68
MCMATH	04	1555 E	N38 W45
USNRL	04	1557	N39 W44
MCMATH	04	1823	S16 W20
MCMATH	04	1824	N38 W47
USNRL	04	1826	S17 W18
SAC PEAK	04	1840	S15 W18
USNRL	04	1848	S14 W17
MCMATH	04	1931	N39 W48
* SAC PEAK	04	2002	S12 W75
SAC PEAK	04	2050	N41 W47
SAC PEAK	04	2152	N40 W25
* USNRL	05	1236 E	N09 W27
USNRL	05	1333	S17 W01
USNRL	05	1415	S16 W35
* SAC PEAK	05	1502	S18 W82
USNRL	05	1541	S15 W17
SAC PEAK	05	1542	S13 W17
USNRL	05	1615	S15 W27
MCMATH	05	1627 E	N38 W41
SAC PEAK	05	1630 U	N39 W40
SAC PEAK	05	1705	N37 E61
USNRL	05	1711	N37 E61
MCMATH	05	1739	S16 W28
USNRL	05	1739	S14 W27
SAC PEAK	05	1740 E	S13 W28
SAC PEAK	05	1742	S14 W18
SAC PEAK	05	1747	N38 W40
USNRL	05	1803 E	N38 W40
SAC PEAK	05	1847	S14 W18
USNRL	05	1851	S14 W19
USNRL	05	1856 E	N38 W40
USNRL	05	1957	N38 W40
SAC PEAK	05	2125	N10 W31
* USNRL	06	1233 E	S15 W30
USNRL	06	1241	N06 W43
USNRL	06	1300	S14 W38
USNRL	06	1351	N06 W43
MCMATH	06	1352	N05 W47
* SAC PEAK	06	1455	S13 W41
* SAC PEAK	06	1537	N34 E42
* MCMATH	06	1538	N32 E42
* HUANCAYO	06	1540	N31 E41
MCMATH	06	1815	N22 E42
SAC PEAK	06	1815	N22 E40
USNRL	06	1818 E	N22 E40
HAWAII	06	1820 E	N15 E42
* USNRL	06	1939	S15 W35
* USNRL	06	1950	S12 W42
SAC PEAK	06	2020	N38 W36
SAC PEAK	06	2055	S14 W42
SAC PEAK	06	2102	N40 W55
* SAC PEAK	06	2107	N06 W47
SAC PEAK	06	2140	S13 W36
USNRL	07	1256	N38 W65
USNRL	07	1320	N40 W59
MCMATH	07	1324 E	N38 W61
MCMATH	07	1337	N38 W60
USNRL	07	1340	N38 W64
* OTTAWA	07	1418	N05 W58
* USNRL	07	1419	N06 W58
MCMATH	07	1450	N38 W60
USNRL	07	1523	S18 W58
MCMATH	07	1702	N15 W31
USNRL	07	1704	N16 W30
SAC PEAK	07	1737	N33 E29
MCMATH	07	1738	N16 W32
USNRL	07	1739	N17 W30
USNRL	07	1740	N34 E28
SAC PEAK	07	1740	N17 W29
SAC PEAK	07	1842	N40 W60
SAC PEAK	07	1850	N17 W29
USNRL	07	1851 E	N16 W29
SAC PEAK	07	1855	N40 W60
USNRL	07	2026	S24 E70
SAC PEAK	07	2030	S14 W62
USNRL	07	2032	S14 W60
SAC PEAK	07	2033	N43 W62
SAC PEAK	07	2132	S13 W57
SAC PEAK	07	2202	S13 W62
MITAKA	08	0159 E	N41 W64
LOCARNO	08	0805 E	S12 W53
CAPRI-G	08	1002 E	N36 E51
SAC PEAK	08	1445	S13 W59
SAC PEAK	08	1512	S13 W59
USNRL	08	1522	S15 W58
SAC PEAK	08	1637	S13 W60
USNRL	08	1638	S15 W58
SAC PEAK	08	1742	N33 E17
SAC PEAK	08	1750	S13 W60
SAC PEAK	08	1810	S16 W17
* HAWAII	08	1824	S08 W78
SAC PEAK	08	1900	N15 W41
* UCCLE	09	0902	S05 E55
UCCLE	09	0902	N06 W90
UCCLE	09	0902	S20 W90
USNRL	09	1300	N07 W85
* SAC PEAK	09	1502	N24 E90
SAC PEAK	09	1518	N09 W88
SAC PEAK	09	1535	N07 W90
SAC PEAK	09	1847	N12 W44
* SAC PEAK	09	1952	N16 W62
USNRL	10	1740	N14 E06
USNRL	10	1746	N15 E06
SAC PEAK	10	1747	S09 W09
MCMATH	10	1752 E	N13 E06
SAC PEAK	10	1855	S32 E42
SAC PEAK	10	2025	S09 W46
CLIMAX	10	2220	S01 W90
USNRL	11	1316	S14 E90
SAC PEAK	11	1622	S32 E38
USNRL	11	1622	S32 E39
MCMATH	11	1958	S34 E40
USNRL	12	1596 E	N12 W33
USNRL	13	1340	S12 E67
USNRL	13	1355	S06 W42
USNRL	13	1830	S14 E57
* SAC PEAK	13	1955	S14 E57
USNRL	14	1302 E	N01 E18
LOCARNO	15	1325 E	N19 E34
* SAC PEAK	15	1438 E	S14 E33
* SAC PEAK	15	1527	N20 E34
SAC PEAK	15	1908 E	N20 E34
SAC PEAK	15	1925	N06 W75
* ARCETRI	18	0946 E	N12 E34
SAC PEAK	18	1455	N15 W45
SAC PEAK	18	1652	S03 W09
SAC PEAK	18	1800	S03 W36
* HAWAII	18	2026	S18 E80
HAWAII	18	2212	S20 E70
SAC PEAK	19	1437	N15 W56
UCCLE	19	1443 E	N16 W57
SAC PEAK	19	1452	S10 E60
SAC PEAK	19	1510	N30 E16
SAC PEAK	19	1702	N14 W58
USNRL	19	1716	N18 W60
USNRL	19	1800	S17 E68
SAC PEAK	19	1810	N20 W16
USNRL	19	1858	S13 E62
SAC PEAK	19	2042	N20 W17
HUANCAYO	19	2045	N21 W14
USNRL	19	2048 E	N20 W17
USNRL	19	2100	S16 E63
HAWAII	20	0000	N08 W64
USNRL	20	1239 E	S06 E42
* WENDEL	20	1308 E	S05 E42
USNRL	20	1416	S04 E41
USNRL	20	1438	S10 E50
* MCMATH	20	1515 E	S08 E44
* USNRL	20	1520	S07 E43
* MCMATH	20	1535	S08 E44
* USNRL	20	1547 E	S08 E43
SAC PEAK	20	1557	S11 E48
SAC PEAK	20	1642	S11 E48
USNRL	20	1644	S10 E48
SAC PEAK	20	1707	S15 E47
MCMATH	20	1708	S13 E50
USNRL	20	1708	S12 E48
USNRL	20	1757	S06 E39
SAC PEAK	20	1810	S10 E47
MCMATH	20	1814 E	S12 E49
USNRL	20	1821	S10 E48
USNRL	20	1831	S06 E38
SAC PEAK	20	1832	S07 E38
SAC PEAK	20	1907	S08 E39
MCMATH	20	1907	S07 E39
SAC PEAK	20	1922	S14 E39
USNRL	20	1923	S15 E60
MCMATH	20	1925 E	S13 E63
USNRL	20	1958	S06 E38
SAC PEAK	20	2145	S10 E52
USNRL	21	1318	S10 E40
USNRL	21	1324	S04 E08
MCMATH	21	1431	S10 E27
USNRL	21	1558	S10 E28
SAC PEAK	21	1607 E	S10 E25
USNRL	21	1612 E	S17 E90
USNRL	21	1611	N19 E52
USNRL	21	1758 E	S09 E40
* SAC PEAK	21	1805	S10 E25
USNRL	21	1948	S17 E90
* WENDEL	22	0807 E	S16 E75
WENDEL	22	0807 E	S25 E55
WENDEL	22	1022 E	N24 E78
WENDEL	22	1155 E	S27 E49
USNRL	22	1358 E	S17 E55
WENDEL	22	1403 E	S10 E22
SAC PEAK	22	1659 U	N33 E77
HAWAII	22	1858	N12 E30
MCMATH	22	1907 E	N16 E28
WENDEL	23	0826 E	N20 E37
WENDEL	23	0949 E	S27 E41
WENDEL	23	1002 E	N26 E66
WENDEL	23	1103 E	S10 E05
WENDEL	23	1219 E	N35 E71
USNRL	23	1249 E	N27 E65
USNRL	23	1259	N12 E77
USNRL	23	1345	N30 E76
USNRL	23	1418	S13 E90
USNRL	23	1420	N36 E76
MCMATH	23	1545	S28 E40
USNRL	23	1546	S28 E39
MCMATH	23	1659	S13 E90
MCMATH	23	1738	N36 E80
MCMATH	23	1753	S11 W00
* MCMATH	23	1756	N16 E16
HAWAII	23	2028	S25 E80
WENDEL	24	0849 E	N20 E24
WENDEL	24	0928 E	S16 E75
WENDEL	24	1009 E	S11 W08
WENDEL	24	1119 E	N34 E64
WENDEL	24	1342 E	S02 W35
SAC PEAK	24	1515	S11 W13
SAC PEAK	24	1550	S11 W13
SAC PEAK	24	1612	N06 E77
SAC PEAK	24	1624	S17 E67
USNRL	24	1722 E	N36 E60
MCMATH	24	1730	N36 E62
SAC PEAK	24	1730	N36 E62
USNRL	24	1731	N36 E60
USNRL	24	1751	S18 E67
USNRL	24	1806 E	N35 E62
HAWAII	24	1830 E	S10 W08
USNRL	24	1834	S18 E67
USNRL	24	1839	N06 E73
USNRL	24	1855	N36 E60
USNRL	24	1858	S12 E05
USNRL	24	1901	N12 E62
USNRL	24	1903	S18 E67
HAWAII	24	1912	S09 W17
SAC PEAK	24	1912	S11 W15
MCMATH	24	1943 E	S11 W18
USNRL	24	2039	N21 E41
SAC PEAK	24	2047	S11 W16
HAWAII	25	0132	N18 E12
WENDEL	25	0850 E	S10 W23
* WENDEL	25	0850 E	N20 E09
* ATHENS	25	0903	N18 E12
WENDEL	25	0908 E	S17 E66
WENDEL	25	1009 E	S05 W57
USNRL	25	1243 E	N21 E09
USNRL	25	1314	S13 W04
* OTTAWA	25	1417	S15 E38
USNRL	25	1524	N21 E08
USNRL	25	1617	N22 E10
USNRL	25	1632	N18 E07
USNRL	25	1641	S09 W29
USNRL	25	1645	S04 W50
SAC PEAK	25	1650 E	N20 E07
SAC PEAK	25	1650 E	S10 W29
USNRL	25	1719	S09 W29
USNRL	25	1732	S17 E66
SAC PEAK	25	1753 E	S10 W30
USNRL	25	2035	S15 E54
HAWAII	25	2036	S22 E52
USNRL	25	2039	S09 W30
HAWAII	25	2040	S06 W32
USNRL	25	2045	S17 E53
HAWAII	25	2246	S21 E53
* STOCKHOLM	26	1041	S11 E49
WENDEL	26	1324 E	S15 E22
HAWAII	26	2002	S23 E53
HAWAII	26	2036	N08 E75
HAWAII	26	2304	S04 W30
CAPRI-G	27	0733 E	S14 W45
CAPRI-G	27	0742 E	N18 W30
WENDEL	27	0827 E	N16 W29
WENDEL	27	0912 E	N34 E26
* ARCETRI	27	1043 E	S13 E14
LOCARNO	27	1045	S14 E42
USNRL	27	1310	S18 E07
USNRL	27	1324	S17 E10
USNRL	27	1330	N10 W90
* CAPRI-S	27	1344 E	S15 E15
* MCMATH	27	1345	S15 E10
* MCMATH	27	1414	N14 E53
* USNRL	27	1508	S17 E45
USNRL	27	1509	N19 W13
MCMATH	27	1511	S14 E47
CAPRI-G	27	1512 E	N19 W09
MCMATH	27	1521	N20 W16
MCMATH	27	1542	S15 E09
USNRL	27	1544 E	S16 E08
USNRL	27	1605	N16 W18
MCMATH	27	1622	N37 E23
USNRL	27	1623	N36 E23
* HAWAII	27	2354	N16 W23
* MITAKA	28	0523 E	N22 W26
CAPRI-G	28	0920 E	S08 W63
CAPRI-G	28	0940 E	S09 W49
WENDEL	28	0945 E	S18 W08
* CAPRI-S	28	1035 E	N17 W21
* WENDEL	28	1039 E	N21 W33
WENDEL	28	1131 E	S09 E78
CAPRI-G	28	1420 E	S19 W08
SAC PEAK	28	1505	N15 E10
SAC PEAK	28	1540	S15 E26
SAC PEAK	28	1550	N20 W28
SAC PEAK	28	1612 E	N17 W37
SAC PEAK	28	1642	N18 W32
SAC PEAK	28	1950	N17 W50
SAC PEAK	28	2017	N17 E05
SAC PEAK	28	2047	N18 E48
* ATHENS	29	0827 E	N17 W43
* WENDEL	29	0844 E	S15 E23
LOCARNO	29	0910	S15 E05
WENDEL	29	0920 E	S16 E06
* WENDEL	29	0923 E	N17 W44
WENDEL	29	0927 E	S28 E24
WENDEL	29	0945 E	N21 W47
WENDEL	29	1051 E	S18 E07
WENDEL	29	1242 E	S13 W77
* USNRL	29	1329	S18 E10
WENDEL	29	1336 E	S21 E09
WENDEL	29	1341 E	N18 W50
* LOCARNO	29	1350 E	N16 E33
* USNRL	29	1352	N16 W08
WENDEL	29	1357 E	S11 W23
USNRL	29	1413	S12 W23
SAC PEAK	29	1505	S11 W26
USNRL	29	1512	S14 E14
USNRL	29	1548	S17 E02
SAC PEAK	29	1657	S20 E06
USNRL	29	1658	S19 W07
SAC PEAK	29	1740	N06 E03
HAWAII	29	1934	S21 E02
HAWAII	29	2012	N06 E40
SAC PEAK	29	2017 E	N11 E40
SAC PEAK	29	2035	N35 W05
SAC PEAK	29	2120	S20 E90
HAWAII	29	2356	S12 W48
ATHENS	30	0854	N12 E31
* ATHENS	30	0910 E	S10 E49
ATHENS	30	0914 E	S23 E84
* WENDEL	30	0950 E	N17 W08
WENDEL	30	1001 E	S19 E89
WENDEL	30	1058 E	N16 W25
USNRL	30	1247 E	S08 E47
USNRL	30	1341	S12 W90
USNRL	30	1413	S15 W01
* USNRL	30	1413	N18 W17
SAC PEAK	30	1450	N17 W65
SAC PEAK	30	1455	S20 E85
SAC PEAK	30	1455	N15 W23
SAC PEAK	30	1500	N11 E28
MCMATH	30	1501	N16 E26
SAC PEAK	30	1502	N17 E22
SAC PEAK	30	1505	S14 W01
MCMATH	30	1508	S12 W01
USNRL	30	1508	S15 E01
MCMATH	30	1529	N12 W40
USNRL	30	1540	N17 W22
MCMATH	30	1605	N18 E24
CLIMAX	30	1831	S12 W90
HAWAII	30	1900	S26 E80
HAWAII	30	1942	S12 W08
HAWAII	30	2240	N13 E22
HAWAII	30	2336	S29 E78

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OBSERVATORY	DATE JULY 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	01	0448 E	0456	0449 U	N11	W16	4623	10 D	1	2	0449		3.30			
ALMA-ATA	01	0448	0500	0454	N11	W16	4623	12	1b	2	0454		2.60		70	
KRASNYA	01	0536	0548	0543	N31	E63	4630	12	1b	2	0543		4.80		122	
ABASTUMANI	01	0538	0549	0543 U	N29	E65	4630	11	2	2	0543		20.00			
KRASNYA	01	0539 E	0544		N14	W88	4616	5 D	1	2	0542		1.90		52	
TASHKENT	01	0539	0551	0540	N31	E60	4630	13	1	3	0546		8.00	2.90	50	
ALMA-ATA	01	0540	0550	0544	N30	E60	4630	10	1	2	0544		5.20		80	
CAPRI-G	01	0543 E	0552		N29	E60	4630	9 D	1	2			3.00			
KRASNYA	01	0551	0645		N14	W88	4616	54	1	2	0556		1.90		65	
CAPRI-G	01	0606 E	0630		N04	W90	4614	24 D	1	2						
NEDERHORST	01	1055 E	1100 D		N26	E50	4630	5 D	1	1						
ONDREJOV	01	1140 E	1145		N09	E06	4627	5 D	1	2	1144			4.70		
ONDREJOV	01	1215	1220		S08	W33	4624	5	1	1	1218			1.80		
ONDREJOV	01	1339 E	1344		N25	E63	4630	5 D	1	3	1340			3.60		
CAPRI-G	01	1340 E	1345		N26	E63	4630	5 D	1	2			3.00			
CAPRI-G	01	1650 E	1705 D		S20	W36	4622	15 D	1	2			3.00			G-SWF
ONDREJOV	01	1655 E	1743 D		S15	W36	4622	48 D	2	3	1713			3.00		
MT WILSON	01	1946	1959	1950	N25	E55	4630	13	1							
KRASNYA	02	0619 E	0636 D	0619 U	N29	E34	4630	17 D	1	2	0619		.30		84	
SCHAUINS	02	0655 E	0726 D		N25	E45	4630	31 D	1b	2			6.00	2.10		
KRASNYA	02	0657	0739	0715	N26	E44	4630	42	1b	2	0715		1.50		88	
ABASTUMANI	02	0658	0904	0832	N27	E42	4630	126	1b	2	0708		10.40	2.70	76	
CAPRI-G	02	0659 E	0725 D		N28	E45	4630	26 D	1	2			3.00			
MOSCOW-G	02	0659 E	0802	0727	N28	E45	4630	63 D	1b	2	0728		6.50	2.80	110	
ONDREJOV	02	0703 E	0739		N25	E42	4630	36 D	1b	3	0714			2.30		
KRASNYA	02	0750	0846	0802	N23	W15	4626	56	1b	2	0846		2.30		96	
CAPRI-G	02	0817 E	0900		N28	E46	4630	43 D	2	2			7.00			
KRASNYA	02	0824	0906	0829	N25	E42	4630	42	1b	2	0829		2.20		140	S-SWF
SCHAUINS	02	0825 E	0830 D		N25	E45	4630	5 D	1	2			5.00	1.60		
MOSCOW-G	02	0839 E	0950	0843	N25	E40	4630	71 D	1b	2	0843		9.60	3.00	120	
KRASNYA	02	0921	0927	0924 U	S23	E78	4636	6	1	2	0924		1.80		80	
ABASTUMANI	02	0921 E	0927 D	0923 U	S24	E75	4636	6 D	1b	2	0923		12.00		68	
MT WILSON	02	1907	1929	1919	N28	E41	4630	22	1	3						
VOROSHILOV	03	0001	0047	0012	N05	E22	4631	46	1	3	0012		2.50		76	
VOROSHILOV	03	0028	0037	0030	S23	E62	4636	9	1b	3	0030		2.35		84	
SYDNEY	03	0036	0052	0047	S20	E51	4636	16	1	1	0047	2.00	3.00			
VOROSHILOV	03	0037	0053	0041	S19	E56	4636	16	1b	3	0041		3.40		98	
SYDNEY	03	0041	0113	0051	N28	E37	4630	32	1	2	0051	2.00	3.00			
VOROSHILOV	03	0041	0114	0050	N32	E36	4630	33	2	3	0050		3.70		232	
MT WILSON	03	0044	0110	0050	N29	E37	4630	26	1b	2						
SIMEIZ	03	0618	0650	0621	N27	E29	4630	32	1	2	0621		2.60	2.20	80	
SIMEIZ	03	0748	0855	0800 U	N26	W16	4628	67	2	2	0803		10.00	2.60	80	
ONDREJOV	03	0755 E	0834		N25	W18	4628	39 D	2	2	0802			3.30		
MOSCOW-G	03	0804 E	0837 D		N26	W15	4628	33 D	1b	2	0814		10.70	2.90	150	
ONDREJOV	03	0910	0919	0912	N24	E32	4630	9	1	3	0912			2.40		
CAPRI-G	03	1030 E	1105 D		N26	E32	4630	35 D	1	2			3.00			
ONDREJOV	03	1058 E	1102		N24	E30	4630	4 D	1	3	1058			2.00		
CAPRI-G	03	1210 E	1300		N04	E14	4631	50 D	1	2			2.00			
MOSCOW-G	03	1317 E	1343 D	1325	N27	E36	4630	26 D	1	2	1323		2.20	3.10	90	
MT WILSON	03	2010	2045	2014	N28	E21	4630	33	2							Slow S-SWF
MT WILSON	03	2010	2249	2037	N10	W56	4623	159	1b							

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OBSERVATORY	DATE JULY 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
TASHKENT	04	0513	0534	0517	N29	E26	4630	23	1&	1	0519		5.00	3.80	105	S-SWF
CAPRI-G	04	0612 E	0623		N30	E90	4639	11 D	1	2						
CAPRI-G	04	0612 E	0700		N04	E02	4631	38 D	2	2			6.00			
KRASNYA	04	0938	0952	0940 U	N29	E90	4639	14	1	2	0940		3.20		86	
MOSCOW-G	04	0950 E	1047		N06	E03	4631	57 D	1	2	1002		3.20	2.40	80	
KRASNYA	04	0958	1015	1001	N04	E01	4631	17	1	2	1001		1.10		80	
CAPRI-G	04	1127 E	1135		N09	E02	4631	8 D	1	2			2.00			
TASHKENT	05	0338	0432	0343	N27	E05	4630	54	2	1	0344		6.00	2.10	90	
ALMA-ATA	05	0347	0422	0355	N26	E08	4630	35	1	3	0355		2.10		55	
ALMA-ATA	05	0347	0425	0358	N25	E03	4630	38	1	3	0358		2.60		80	S-SWF
ALMA-ATA	05	0347	0430	0355	N28	E04	4630	43	1	3	0355		2.10		61	
ABASTUMANI	05	0355 E	0504 D	0400 U	N26	E05	4630	69 D	1&	3	0400		8.90		75	
ALMA-ATA	05	0401	0440	0432	N24	W03	4630	39	1	3	0432		1.20		58	
ABASTUMANI	05	0529	0616	0530	N04	W11	4631	47	1	3	0530		2.40		66	
ALMA-ATA	05	0615	0619	0616	N04	W11	4631	4	1&	3	0616		5.80		59	
ALMA-ATA	05	0616	0621	0618	N05	W13	4631	5	1	3	0618		2.80		67	
KRASNYA	05	0817 E	0823 D		N27	E27	4634	6 D	1		0820		.30		105	
CAPRI-G	05	1014 E	1026		S22	E22	4636	12 D	1	2			1.50			
CAPRI-G	05	1306 E	1315		N04	W16	4631	9 D	1	2			2.50			
CAPRI-G	05	1312 E	1320		N25	W05	4630	8 D	1	2			1.50			
CAPRI-G	05	1345 E	1400		N26	W41	4628	15 D	1	2			5.00			
ABASTUMANI	06	0512 E	0958 D	0852 U	N13	W40	4628	286 D	1&	2	0851		10.00	2.10	73	
ABASTUMANI	06	0525	0612	0534	N24	W55	4628	47	1	2	0536		5.00	2.20	71	
SIMEIZ	06	0605 E	0640		N12	W60	4627	35 D	1	2	0605		2.90	1.70	56	
SIMEIZ	06	0746 E	0835	0802	N23	E14	4634	49 D	1	2	0805		2.20	1.70	60	
ABASTUMANI	06	0746	0901	0800	N24	E13	4634	75	1	2	0800		2.80		66	
CAPRI-G	06	0805 E	0835 D		N26	E17	4634	30 D	1	2			2.50			
CAPRI-G	06	1456 E	1505		N33	E62	4639	9 D	1	2			4.00			
MT WILSON	06	2110	2135		N24	W25	4630	25	1							
MT WILSON	06	2121	2140		N20	E05	4637	19	1							G-SWF
MT WILSON	07	0020	0239 D	0136	N28	W07	4634	139	3							Slow S-SWF
SYDNEY	07	0048 E	0242 D		N25	W10	4634	114 D	3&	1		50.00	52.00			
SYDNEY	07	0049	0056 D	0052	N04	W25	4631	7 D	1	1	0052	2.00	2.00			
TASHKENT	07	0058 E	0414		N26	W08	4634	196 D	3&	1	0103		59.00		265	
MT WILSON	07	0204	0239 D	0209	N28	W20	4630	35 D	1&	2						
TASHKENT	07	0416	0438	0421	N30	E09	4634	22	1	1	0422		2.00	2.20	70	
TASHKENT	07	0555	0610	0601	N30	E08	4634	15	1	1	0600		5.00	1.80	55	
SIMEIZ	07	0556 E	0615		N31	E06	4634	19 D	1	1	0556		5.10	1.70	60	
PIRCULI	07	0635 E	0704 D		N30	E07	4634	29 D	1	2	0704		3.60			
SIMEIZ	07	0655	0745	0703	N31	E06	4634	50	1&	1	0700		6.20	2.70	80	
SCHAUINS	07	0659 E	0718		N30	E08	4634	19 D	1&	2			4.00	2.50		S-SWF
CAPRI-G	07	0700 E	0710 D		N29	E09	4634	10 D	1	2			2.00			
ABASTUMANI	07	0705 E	0712 D	0705 U	N31	E07	4634	7 D	1	1	0705		3.30			
CAPRI-G	07	0900 E	0910 D		N27	W18	4630	10 D	1	2			2.00			
CAPRI-G	07	0920 E	0940 D		N31	E49	4639	20 D	1	2			3.00			
CAPRI-G	07	1025 E	1105		N30	E13	4634	40 D	1	2			3.00			
CAPRI-G	07	1116	1130 D		S23	E02	4636	14 D	1	2			2.00			
ONDREJOV	07	1533 E	1539		S22	E01	4636	6 D	1	1	1535			2.30		
MT WILSON	07	1628	1631 D	1631	N27	W03	4634	3 D	1							
*CAPRI-G	07	1632 E	1655 D		N28	E03	4634	23 D	1	2			3.00			S-SWF

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ONDREJOV	07	1638 E	1656		N29	E04	4634	18 D	1	3	1639			2.80		
ONDREJOV	07	1736 E	1803 D		S19	E71	4642	27 D	1&	2	1740			5.20		S-SWF
MT WILSON	07	1748	1820	1753	S21	E74	4642	32	1							
KRASNYA	08	0525 E	0610 D	0538 U	N23	W39	4630	45 D	1&		0610		3.30		70	
TASHKENT	08	0526 E	0616 D		N24	W41	4630	50 D	1&	1	0535		10.00	2.10	80	
ALMA-ATA	08	0529	0619 D	0556	N28	W32	4630	50 D	1	2	0556		2.10		61	
ALMA-ATA	08	0536	0618	0557	N26	W38	4630	42	1&	2	0557		8.00		62	
CAPRI-G	08	0552 E	0610		N24	W40	4630	18 D	2	2			7.00			
SIMEIZ	08	0606 E	0640		N26	W36	4630	34 D	1	1	0606		5.30	1.80	56	
SIMEIZ	08	0618	0902 D	0625	N29	E02	4634	164 D	1&	1	0629		7.00	2.20	60	
KRASNYA	08	0619	0748	0650 U	N30	E01	4634	89	1&		0650		2.70		70	
CAPRI-G	08	0623 E	0800		N26	W00	4634	97 D	1	2			5.00			
GOOD HOPE	08	0708 E	0850		N29	E02	4634	42 D	1		0708	3.20	3.50			
KRASNYA	08	0813	0827	0816	N29	E00	4634	14	1		0816		2.00		88	
NEDERHORST	08	1335 E	1355 D		S22	E60	4642	20 D	2	3						S-SWF
CAPRI-G	08	1337 E	1350		S22	E59	4642	13 D	1	1			3.00			
MT WILSON	09	0016 E	0019 D		N35	E29	4639	3 D	1							
ONDREJOV	09	0516 E	0518 D		N30	W20	4634	2 D	1	1	0517			2.20		
ALMA-ATA	09	0526	0530	0528	N30	W18	4634	4	1	1	0528		2.30		66	
SIMEIZ	09	0610 E	0700 D		N29	W26	4634	50 D	1	2	0611		2.20	1.90	44	
SIMEIZ	09	0640	0750 D	0642	N36	E24	4639	70 D	1	2	0717		1.00	2.20	88	
GOOD HOPE	09	0709 E	0750		N34	E25	4639	41 D	1		0712	1.90	2.40			
ONDREJOV	09	0711 E	0728 D		N33	E24	4639	17 D	1	2	0712			2.50		
SIMEIZ	09	0835	0900 D	0900 U	S22	W21	4636	25 D	1	2	0904		5.00	2.00	92	
CAPRI-G	09	0850 E	0915 D		S22	W19	4636	25 D	1	1			3.00			
SCHAUINS	09	0850 E	0925 D		S21	W18	4636	35 D	1	2			4.00	1.70		S-SWF
GOOD HOPE	09	0850	0927	0903	S21	W21	4636	37	1		0903	3.00	3.60			
ONDREJOV	09	0901 E	0934 D		S22	W25	4636	33 D	1&	2	0902			2.20		
GOOD HOPE	09	1012	1030	1019	S21	W23	4636	18	1		1019	2.00	2.40			
GOOD HOPE	09	1132	1310	1145	S21	W25	4636	38	1		1145	1.50	1.80			
ONDREJOV	09	1207	1212		N27	E12	4639	5	1	3	1209			1.60		
ONDREJOV	09	1217	1221		S22	E47	4642	4	1	3	1217			1.90		
CAPRI-G	09	1217 E	1235		S22	W21	4636	18 D	1	1			3.00			
GOOD HOPE	09	1258	1319 D	1306	N34	E20	4639	21 D	1		1306	2.00	2.50			
NEDERHORST	09	1340 E	1405 D		S22	W23	4636	25 D	2	3						
CAPRI-G	09	1345 E	1415		S22	W22	4636	30 D	1	1			3.00			
MT WILSON	09	2201	2325	2259	S21	W31	4636	84	1&							
ALMA-ATA	10	0304	0626	0317	S22	W33	4636	202	2	2	0317		7.00		84	
VOROSHILOV	10	0416 E	0530		S21	W25	4636	74 D	2	2	0417		5.40		84	
ALMA-ATA	10	0530	0628 D	0616	S23	W43	4636	58 D	1&	2	0616		4.00		82	
ONDREJOV	10	0635 E	0641		S23	E36	4642	6 D	1	3	0635			2.00		
ONDREJOV	10	0639	0643 D		S22	W37	4636	4 D	1	2	0643			2.20		
SIMEIZ	10	0805	0814	0808	S22	W38	4636	9	1	1	0807		2.00	2.20	88	
ONDREJOV	10	0808 E	0814		S22	W38	4636	6 D	1	3	0809			2.90		
GOOD HOPE	10	0854	1010	0857	S22	W38	4636	76	1		0915	1.80	2.60			
CAPRI-G	10	0907 E	0925		S21	W38	4636	18 D	1	2			4.00			
ONDREJOV	10	1027 E	1033		N20	W65	4630	6 D	1	3	1027			2.40		
OTTAWA	10	1027	1036	1028	N19	W59	4630	9	1	3	1028	2.03	4.02			
GOOD HOPE	10	1027	1042	1029	N24	W60	4630	15	1		1029	1.20	2.60			
CAPRI-G	10	1339 E	1356		S21	W37	4636	17 D	1	2			3.00			

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ONDREJOV	10	1340 E	1346 D		S21	W41	4636	6 D	1	3	1341			2.00		
ONDREJOV	10	1352 E	1353 D		N25	W54	4630	1 D	1	3	1353			2.20		
OTTAWA	10	1443	1449 D	1449	S22	W37	4636	6 D	1	3	1449	2.32	3.22			
CAPRI-G	10	1513 E	1520 D		S22	W41	4636	7 D	1	2			3.00			
ONDREJOV	10	1515 E	1521		S20	W37	4636	6 D	1	3	1516			2.40		
SCHAUINS	10	1520 E	1529 D		S21	W31	4636	9 D	1	2			3.00	1.10		
ONDREJOV	10	1621 E	1629		N26	W63	4630	8 D	1	3	1622			2.50		
MT WILSON	10	2133	2402 D	2201	N16	E53	4643	149 D	2							
ONDREJOV	11	0557 E	0605		S24	W60	4636	8 D	1	3	0559			2.00		
GOOD HOPE	11	0724	0740	0726	S21	W54	4636	16	1		0726	1.00	2.10			
SIMEIZ	11	0740 E	0825	0758	S12	E31	4640	45 D	1	2	0758		2.00		52	
SIMEIZ	11	0740	1033 D	0816 U	S25	E27	4642	173 D	2&	2	0820		20.00	3.40	128	
GOOD HOPE	11	0740	1155		S25	E28	4642	255	2		0839	6.00	7.80			
KRASNYA	11	0746 E	0928 D	0824 U	S25	E30	4642	102 D	1&		0824		4.70		82	
CAPRI-G	11	0750 E	0950	0830	S27	E29	4642	120 D	2&	2	0830		14.00			
KRASNYA	11	0751	0759	0753 U	S21	W56	4636	8	1&		0953		.20		62	
ONDREJOV	11	0751 E	1148 D		S30	E31	4642	237 D	2	3	0816			3.40		
SCHAUINS	11	0755 E	1012 D	0813	S24	E27	4642	137 D	2	2	0813		8.00	2.60		
UTRECHT	11	0807	0830	0812	¤		4642	23	1	2						G-SWF
NEDERHORST	11	0810	0855 D		S22	E22	4642	45 D	2	2						
KHARKOV	11	0833 E	1035 D	0835	S27	E24	4642	122 D	2&	4	0834		17.10	2.40		
KIEV	11	0932 E	0954 D	0934 U	S23	E22	4642	22 D	2	2	0934		11.40		51	
SIMEIZ	11	1024	1030 D	1030 U	S20	W49	4636	6 D	1	2	1030		2.60		80	
KHARKOV	11	1025 E	1102 D		S20	W50	4636	37 D	1	4	1040		3.40	1.30		
ONDREJOV	11	1026 E	1030 D		S20	W51	4636	4 D	1	2	1030			2.40		
GOOD HOPE	11	1026	1102	1034	S19	W48	4636	36	1		1034	2.30	3.80			
KIEV	11	1248 E	1256 D	1250 U	N22	W61	4634	8 D	1	2	1250		4.00		59	
GOOD HOPE	11	1254	1307 D	1256	S22	W58	4636	13 D	1		1256	1.00	2.10			
CAPRI-G	11	1255 E	1305 D		S22	W58	4636	10 D	1	2			3.00			
ONDREJOV	11	1259 E	1308		S22	W58	4636	9 D	1	3	1301			3.00		
CAPRI-G	11	1641	1651		N23	W80	4630	10 D	1	2			3.00			
TASHKENT	12	0313	0321	0315	S22	W58	4636	8	1	2	0316		2.00	1.90	160	
SIMEIZ	12	0744 E	0826 D	0757 U	S25	W80	4636	42 D	3	1	0817		3.00	5.20		
KRASNYA	12	0754 E	0821	0818	S28	W72	4636	27 D	2	2	0818		6.50	11.40	114	
ONDREJOV	12	0757 E	0811		S22	W68	4636	14 D	2	3	0759			7.10		
CAPRI-G	12	0758 E	0812		S24	W75	4636	14 D	2	2			8.00			S-SWF
SCHAUINS	12	0802 E	0843	0816	S23	W73	4636	41 D	2	2	0816		8.00	6.60		
CAPRI-G	12	0814	0824		S25	W70	4636	10	1	2			3.00			
NEDERHORST	12	0814	0825 D		S24	W70	4636	11 D	1	2						
ONDREJOV	12	0817 E	0824	0818	S24	W67	4636	7 D	2	3	0818			9.70		
MOSCOW-G	12	0950 E	1122 D		S18	W65	4636	92 D	1	2	1017		2.90	2.70	90	
ONDREJOV	12	1010 E	1018		S23	W69	4636	8 D	1	3	1014			2.10		
ONDREJOV	12	1141 E	1144 D		S24	W69	4636	3 D	1	3	1142			3.60		
TASHKENT	13	0339	0346	0339	S25	W88	4636	7	1&	2	0343		8.00	4.50	105	
ALMA-ATA	13	0352 E	0603 D	0549	N09	E67	4646	131 D	1&	2	0549		11.10		71	
ONDREJOV	13	0635 E	0730		S14	E01	4640	55 D	1	3	0720			3.70		
SIMEIZ	13	0635	0735 D	0640 U	S14	W00	4640	60 D	1	1	0636		1.00	3.20	80	
KRASNYA	13	0636	0710 D	0641	S13	E01	4640	34 D	1	2	0641		1.50		83	
SCHAUINS	13	0655 E	0713 D		S13	W05	4640	18 D	1	2			4.00	3.00		
ONDREJOV	13	0721	0728		S22	W03	4642	7	1	3	0722			2.10		

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ONDREJOV	13	0741 E	0748		S26	W82	4636	7 D	1	3	0745			3.00		
ONDREJOV	13	0741 E	0804		S16	W04	4640	23 D	1&	3	0751			2.00		
SIMEIZ	13	0744	0810 D	0749 U	S20	W04	4642	26 D	1&	1	0750		10.90	1.80	64	
VOROSHILOV	13	0745 E	0755 D		S20	W02	4642	10 D	2	2	0748		10.50		108	
ABASTUMANI	13	0745	0808	0749	S20	W04	4642	23	1	3	0749		4.40		66	
CAPRI-G	13	0750 E	0804		S20	W02	4642	14 D	1	2			2.00			
CAPRI-G	13	0800 E	0930		S14	W01	4640	90 D	1	2			2.50			
AROSA	13	1405	1420		S20	W05	4642	15	1							
CAPRI-G	13	1406	1419		S20	W05	4642	13	1	2			5.00			
VOROSHILOV	13	2219 E	2240 D	2226	N09	E62	4646	21 D	1&	2	2226		2.34		136	
VOROSHILOV	13	2352	0006	2357	N10	E60	4646	14	1&	2	2357		3.66		110	
ALMA-ATA	14	0428 E	0503 D	0431	N07	E55	4646	35 D	2	2	0431		14.40		76	
ABASTUMANI	14	0455 E	0815 D	0639 U	N08	E56	4646	200 D	1&	3	0639		6.00		78	
SIMEIZ	14	0745	0759	0749	S26	E58	4648	14	1	1	0752		2.00	2.60	64	
ABASTUMANI	14	0748	0759	0750	S25	E56	4648	11	1	3	0750		3.20		59	
KHARKOV	14	1050 E	1100 D		N06	E52	4646	10 D	1	2	1056		11.40			
GOOD HOPE	14	1124	1220	1132	S18	W18	4642	56	1		1132	4.00	4.50			
CAPRI-G	14	1130 E	1210		S21	W15	4642	40 D	2	2			8.00			
GOOD HOPE	14	1146	1208	1151	S08	E63	4647	22	1		1151	2.00	4.30			
VOROSHILOV	14	2152	2212	2155	S17	E50	4648	20	2	2	2155		7.63		90	
VOROSHILOV	14	2234	2308 D	2242	S21	W26	4642	34 D	2	2	2242		5.90		90	
VOROSHILOV	14	2236	2352 D	2242	S10	E57	4647	16 D	2	2	2242		5.80		118	
MT WILSON	14	2237	2331	2243	S03	E55	4647	54	1&							
ONDREJOV	15	0713 E	0717		N01	E85	4654	4 D	1	3	0713			4.40		
KHARKOV	15	0755 E	0942 D	0820	N05	E42	4646	107 D	1&	4	0802		5.70	1.20		
SIMEIZ	15	0806	0844	0809 U	N09	E35	4646	38	1	1	0808		1.40	3.00	60	
KRASNYA	15	0807	0811 D	0808	N09	E33	4646	4 D	1	2	0808		.80		84	
ABASTUMANI	15	0807 E	0814	0809 U	N09	E35	4646	7 D	1	3	0809		2.90		62	
SCHAUINS	15	0807 E	0815	0810	N07	E37	4646	8 D	1	3	0810		3.00	2.00		
KHARKOV	15	0809	0815		N06	E34	4646	6	1	4	0812		2.30			
KRASNYA	15	0822	0854	0836 U	N09	E40	4646	32	1	2	0836		.50		81	
MOSCOW-G	15	0915	1026	0919	N06	E42	4646	71	2	2	0919		9.90	4.70	90	
GOOD HOPE	15	0915	1045	0922	N09	E39	4646	90	2		0922	4.50	5.90			
SCHAUINS	15	0918 E	0932 D	0926	N08	E40	4646	14 D	1&	3	0926		6.00	3.40		
KRASNYA	15	0918	1000	0922 U	N09	E39	4646	42	1&	2	0922		4.80		120	S-SWF
KHARKOV	15	0918	1140	0923	N06	E38	4646	142	3	4	0927		23.00	1.60		
ONDREJOV	15	0920 E	0927		N02	E37	4646	7 D	1&	3	0920			2.80		
PIRCULI	15	0920 E	0930 D	0930	N01	E40	4646	10 D	1	2	0930		3.20			
CAPRI-G	15	0922 E	1020		N09	E40	4646	58 D	1	2			5.00			
GOOD HOPE	15	1234	1256 D	1240	N09	E38	4646	22 D	1		1240	2.00	2.50			
CAPRI-G	15	1234 E	1325 D		N09	E38	4646	51 D	1	2			3.00			Slow S-SWF
KIEV	15	1235	1301	1238	N09	E35	4646	26	1	1	1238		2.69		63	
ONDREJOV	15	1236 E	1244		N09	E35	4646	8 D	1&	3	1237			3.00		
CAPRI-G	15	1427 E	1440		N09	E37	4646	13 D	1	2			5.00			
ONDREJOV	15	1736 E	1740 D		N06	E33	4646	4 D	1	2	1740			2.10		
VOROSHILOV	15	2120 E	2208	2127	N10	E35	4646	48 D	1&	2	2127		3.30		91	
VOROSHILOV	15	2146	2241	2207	N13	E27	4646	55	1&	2	2207		2.15		100	
VOROSHILOV	15	2147	2235	2216	S16	W34	4642	48	1	2	2216		3.30		69	
VOROSHILOV	15	2218	2314	2236	N11	E30	4646	56	2&	2	2236		15.80		93	
VOROSHILOV	15	2252	2303	2257	N13	E27	4646	11	1	2	2257		1.70		105	
VOROSHILOV	15	2318	2341 D	2328	N09	E34	4646	23 D	1&	2	2328		2.60		148	

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VOROSHILOV	15	2328	2337 D	2328	S23	W38	4642	9 D	1&	2	2328		2.00		170	
SYDNEY	15	2350	0012	2355	S20	W40	4642	22	1	2	2355	1.50	2.00			
VOROSHILOV	15	2353 E	0001	2355	S23	W38	4642	8 D	1&	2	2355		3.40		170	
KRASNYA	16	0814	0826	0817	S23	W08	4650	12	1	2	0817		1.20		105	
ONDREJOV	16	0816 E	0837		S28	W10	4650	21 D	1	1	0816			2.20		
GOOD HOPE	16	1053	1202	1124	N09	E25	4646	69	1		1124	3.00	3.30			
CAPRI-G	16	1110 E	1155 D		N09	E26	4646	45 D	1	2			2.00			
KIEV	16	1112	1146	1122	N10	E22	4646	34	1	1	1122		1.98		52	
ONDREJOV	16	1206 E	1209		S22	W35	4642	3 D	1	3	1206			3.00		
VOROSHILOV	16	2318	2333 D	2324	N12	E12	4646	15 D	1&	2	2324		2.90		93	
VOROSHILOV	16	2346	0019	2356	N41	W79	4635	33	1&	2	2356		2.50		83	
VOROSHILOV	17	0051	0106	0052	S24	W17	4650	15	1&	2	0052		7.00		74	
ABASTUMANI	17	0546	0552	0547	N21	E48	4651	6	1	2	0547		3.36		68	
KRASNYA	17	0726	0733	0727	N22	E52	4651	7	1	2	0721		.60		82	
ABASTUMANI	17	0726	0735	0728	N20	E53	4651	9	1	2	0728		3.68		70	
SIMEIZ	17	0726 E	0737 D	0728 U	N19	E52	4651	11 D	1	1	0727		2.20	2.20		
SIMEIZ	17	0751 E	0756 D	0753 U	S24	W24	4650	5 D	1	1	0753		2.6			
CAPRI-G	17	1023 E	1028		S21	W55	4642	5 D	1	2			2.50			
OTTAWA	17	1400	1423	1405	N25	E40	4651	23	2	3	1405	4.06	5.51			
KIEV	17	1401	1422	1405	N21	E42	4651	21	1	3	1405		.77		83	
CAPRI-G	17	1415 E	1425		N22	E42	4651	10 D	1	2			4.00			
CAPRI-G	17	1617 E	1624 D		S05	E23	4647	7 D	1	1			4.00			
MT WILSON	17	2001	2021	2004	N09	E07	4646	20	1	2						Slow S-SWF
SYDNEY	18	0050	0057	0054	N15	W36	4643	7	1	1	0054	1.50	2.00			
SYDNEY	18	0100	0119	0106	N16	W40	4643	19	1	1	0106	2.00	2.00			
SCHAUINS	18	0515 E	0530 D	0520	S20	E06	4648	15 D	1	3	0520		2.00	1.60		
ONDREJOV	18	0517 E	0524		S22	E06	4648	7 D	1	3	0520			2.10		
TASHKENT	18	0518 E	0538		S22	E06	4648	20 D	1	2	0520		3.00	1.60	55	
CAPRI-G	18	0520 E	0540		S20	E06	4648	20 D	1	2			3.00			
CAPRI-G	18	0631 E	0650 D		N26	E29	4651	19 D	1	2			4.00			
ABASTUMANI	18	0733 E	0750	0740 U	N16	W39	4643	17 D	1&	2	0740		5.80		59	
KHARKOV	18	0923 E	0935		S02	E09	4647	12 D	1	4	0925			1.20		
AROSA	18	1049	1055 D		S24	W37	4650	6 D	1							
OTTAWA	18	1232	1243	1237	S15	E65	4655	11	1	3	1237	.87	2.41			
OTTAWA	18	1325	1333	1326	S23	W38	4650	8	1	3	1326	1.45	2.10			
OTTAWA	18	1350	1354 D	1354	N15	W43	4643	4 D	1	2	1354	1.62	2.21			
ONDREJOV	18	1726 E	1734 D		S25	E04	4648	8 D	1&	3	1727			2.50		
ABASTUMANI	19	0644	0702	0649	S17	E58	4655	18	1&	2	0649		4.53		82	
SCHAUINS	19	0646	0725 D		S16	E53	4655	39 D	1	2			2.00	1.60		
SIMEIZ	19	0647	0710	0648	S17	E55	4655	23	1	1	0656		2.00	2.00	80	
KRASNYA	19	0648	0701	0649	S14	E58	4655	13	1	2	0649		1.10		87	
ONDREJOV	19	0650 E	0654		S16	E56	4655	4 D	1	3	0650			2.50		
KRASNYA	19	0728	0737	0733	S25	W49	4650	9	1	2	0733		1.30		81	
AROSA	19	0803	0810		N22	E20	4651	7 D	1							
ONDREJOV	19	0804 E	0812		N22	E20	4651	8 D	1	3	0805			2.10		
CAPRI-G	19	0806 E	0812		N21	E21	4651	6 D	1	2			3.00			
GOOD HOPE	19	1001	1020	1006	S22	W53	4650	19	1		1006	1.30	2.60			
ONDREJOV	19	1004 E	1013		S21	W51	4650	9 D	1&	3	1007			3.50		
AROSA	19	1045	1100		N06	W14	4646	15	1							

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CAPRI-G	19	1230 E	1245		S17	E53	4655	15 D	1	1			4.00			
SCHAUINS	19	1233 E	1243 D		S16	E54	4655	10 D	1	2			2.00	1.80		S-SWF
ONDREJOV	19	1236 E	1242 D		S18	E51	4655	6 D	1	3	1237			2.70		
GOOD HOPE	19	1255	1413 D	1317	S22	W53	4650	78 D	2		1337	3.10	5.90			
CAPRI-G	19	1310 E	1420		S23	W50	4650	70 D	2	2			7.00			
SCHAUINS	19	1327 E	1346 D		S22	W50	4650	24 D	1&	2			4.00	2.10		S-SWF
NEDERHORST	19	1330 E	1347 D		S23	W51	4650	17 D	2	2						
AROSA	19	1330 E	1436		S22	W55	4650	66 D	2							
ONDREJOV	19	1339 E	1355		S11	W54	4653	16 D	1&	3	1344			3.00		
ONDREJOV	19	1516 E	1525 D		S20	W59	4650	9 D	1	3	1517			2.10		
CAPRI-G	19	1610 E	1623		S21	W11	4648	13 D	1	2			3.00			
TASHKENT	20	0302	0316	0304	S12	E34	4655	14	1	2	0305		4.00	2.70	50	
ONDREJOV	20	0549 E	0558 D		S22	W63	4650	9 D	1	3	0550			2.30		S-SWF
CAPRI-G	20	0552 E	0603		S24	W66	4650	11 D	1	2			4.00			
ONDREJOV	20	0636	0712	0643	S22	W64	4650	36	2	3	0643			4.60		Slow S-SWF
CAPRI-G	20	0636 E	0720 D		S24	W63	4650	44 D	2	2			8.00			
GOOD HOPE	20	0740 E	0756		S21	W65	4650		□		0741	.30	.70			
GOOD HOPE	20	0924	0950	0928	S17	E40	4655	26	1		0928	1.50	2.10			
ONDREJOV	20	0926 E	0930		S17	W40	4660	4 D	1	3	0926			1.50		
CAPRI-G	20	0927 E	0936		S16	E40	4655	9 D	1	2			3.00			
GOOD HOPE	20	1030	1040	1035	S23	W68	4650	10	1		1035	1.00	2.90			
KIEV	20	1203	1225	1216	S23	W65	4650	22	1	3	1215		5.05		76	
GOOD HOPE	20	1203	1330	1211	S22	W68	4650	87	2		1211	4.00	11.70			
KHARKOV	20	1204 E	1305		S23	W65	4650	61 D	2	3	1226		20.00	1.80		S-SWF
KIEV*	20	1205 E	1240 D		S22	W70	4650	35 D	2	2			38.20			
ONDREJOV	20	1205 E	1257	1210	S22	W66	4650	52 D	2&	3	1210			6.10		
SCHAUINS	20	1208 E	1216 D		S22	W66	4650	8 D	1&	2			5.00	5.80		
ONDREJOV	20	1217 E	1224		N12	W25	4646	7 D	1	3	1217			1.90		
CAPRI-G	20	1221 E	1255 D		S24	W66	4650	34 D	1	2			4.00			
AROSA	20	1230 E	1305 D		S22	W64	4650	35 D	2							
AROSA	20	1256	1305 D		S16	E90	4659	9 D	1							
KIEV*	20	1303 E	1308 D		S04	E88	4658	5 D	1				18.50			
CAPRI-G	20	1526 E	1550 D		S13	E21	4655	24 D	1&	2			7.00			S-SWF
MT WILSON	20	1527	1542	1530	S13	E23	4655	15	1							
CAPRI-G	20	1650 E	1657		N21	W08	4651	7 D	1	2			2.50			
MT WILSON	20	2151	2215 D	2158	N09	W35	4646	24 D	1							
SYDNEY	21	0208	0222	0211	S13	E85	4659	14	□	2	0211	1.50				Slow S-SWF
SYDNEY	21	0425	0430 D	0429	S23	E77	4659	5 D	1	1	0429	1.00	4.00			
ONDREJOV	21	0429 E	0437		S23	W80	4650	8 D	1	2	0429			3.40		
ONDREJOV	21	0507 E	0518		S13	E31	4655	11 D	1	2	0510			2.80		
ABASTUMANI	21	0533 E	0628	0625	N11	W46	4646	55 D	1	2	0625		4.74		70	
ABASTUMANI	21	0558	0624	0602	S14	E14	4655	26	2	2	0602		6.71		86	
CAPRI-G	21	0558 E	0625		S13	E12	4655	27 D	1	2			3.00			
KRASNYA	21	0600 E	0618		S11	E17	4655	18 D	1&	2						S-SWF
SIMEIZ	21	0600 E	0640		S13	E14	4655	40 D	1	2	0600		3.00	3.10	68	
ONDREJOV	21	0601 E	0617		S13	E13	4655	16 D	1&	1	0601			3.30		
KRASNYA	21	0624 E	0625 D		N09	W43	4646	1 D	1	2						
KRASNYA	21	0940 E	0945	0942 U	N21	W07	4651	5 D	1	2	0942		1.10		105	
CAPRI-G	21	0942 E	0946		N19	W10	4651	4 D	1	1			3.00			
AROSA	21	1120	1126		N08	W49	4646	6	1							
KIEV	21	1201	1208	1204	S16	E90	4672	7	1	2	1203				81	

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KIEV	21	1215	1224	1217	S23	W90	4650	9	1	2	1217				87	
OTTAWA	21	1215	1226	1218	S24	W75	4650	11	1	4	1218	•93				
KIEV	21	1314	1319	1316	S23	W90	4650	5	1	2	1315				75	
KIEV	21	1348	1357	1352	S23	W90	4650	9	1	2	1351				69	
MT WILSON	21	1912	1940	1914	N19	W14	4651	28	1							
SYDNEY	21	2356	0006	0002	S21	W86	4650	10	□	2	0002	•75				
ONDREJOV	22	0519	0526		N01	W61	4646	7	1	2	0519			1•90		
CAPRI-G	22	1410 E	1433		S17	W68	4660	23 D	1	2			3•00			
NEDERHORST	22	1444 E	1506		S10	W05	4655	22 D	1	1						
CAPRI-G	22	1450 E	1505		S13	W02	4655	15 D	1&	2			6•00			
SYDNEY	23	0135	0147	0141	N22	E90	4664	12	□	1	0141	1•50				
TASHKENT	23	0501	0545	0512	S16	E58	4672	44	1	3	0520		9•00	1•70	55	
ALMA-ATA	23	0503	0551	0516	S07	E38	4658	48	3	2	0516		46•10		81	
TASHKENT	23	0518	0605 D	0528	S10	E40	4658	47 D	2	3	0527		9•00	2•40	100	
ALMA-ATA	23	0519	0534	0528	N24	W33	4651	15	1	2	0528		2•10		70	
ABASTUMANI	23	0523 E	0614 D	0533 U	S08	E40	4658	51 D	□	2	0533		8•93			
TASHKENT	23	0534	0548	0537	S23	W33	4648	14	1	3	0536		2•00	2•20	85	
KRASNYA	23	0811	0818	0815	N21	W02	4652	7	1	2	0815		•50		105	
CAPRI-G	23	1021	1034		N16	W31	4651	13	1	2			4•00			
CAPRI-G	23	1056	1115		S13	W19	4655	19	1	2			5•00			
CAPRI-G	23	1125	1415	1310	N21	E40	4657	170	2	2			15•00			
KIEV	23	1126 E	1517	1346	N19	E41	4657	231 D	2&	2	1346		22•90		83	
KIEV*	23	1128 E	1438 D	1143	N16	E33	4657	190 D	2	2			24•70			
MOSCOW-G	23	1135 E	1219 D		N15	E44	4657	44 D	2	1	1151		5•90	2•60	130	
MT WILSON	23	1400 E	1503 D		N16	E29	4657	63 D	1							
ONDREJOV	23	1619 E	1640 D		N27	W35	4651	21 D	1	2	1635			2•60		
MT WILSON	23	1947	1957	1948	S12	W20	4655	10	1&							
VOROSHILOV	24	0110	0126	0116	N02	W78	4646	16	1	2	0116		3•20		74	
VOROSHILOV	24	0230	0239 D	0233	S16	W23	4655	9 D	1	2	0233		2•07		72	
ALMA-ATA	24	0453	0510	0500	S18	E30	4659	17	1	1	0500		4•00		62	
ONDREJOV	24	0510 E	0513 D		S16	E28	4659	3 D	1	1	0510			2•70		
KRASNYA	24	0552	0704	0556	S12	E29	4659	72	1&	2	0556		1•50		140	
ABASTUMANI	24	0558 E	0803 D	0559 U	S14	E25	4659	125 D	1&	2	0559		7•78		70	
KRASNYA	24	0801	0817	0803 U	S12	E29	4659	16	1&	2	0803		1•60		140	
KRASNYA	24	0837	0844	0839 U	S12	E29	4659	7	1	2	0839		1•60		82	
KRASNYA	24	0917 E	1004 D	0959 U	S12	E29	4659	47 D	1&	2	0959		2•10		98	
GOOD HOPE	24	1004	1045	1012	S14	E24	4659	41	1		1012	3•70	4•30			
KHARKOV	24	1005 E	1045 D	1010	S13	E24	4659	40 D	1	2	1008		2•00	1•50		S-SWF
CAPRI-G	24	1010	1040		S16	E26	4659	30	1	2			4•00			
GOOD HOPE	24	1315	1340	1321	S14	E23	4659	25	1		1321	2•00	2•30			S-SWF
ONDREJOV	24	1318 E	1335		S16	E26	4659	17 D	1&	2	1321			2•60		
OTTAWA	24	1419	1427	1420	S14	E22	4659	8	1	3	1420	1•85	2•09			
ONDREJOV	24	1548 E	1603		S15	E26	4659	15 D	1	2	1550			1•80		Slow S-SWF
SCHAUINS	24	1552 E	1615 D		S15	E22	4659	23 D	1&	2			4•00	2•70		
VOROSHILOV	24	2327 E	0128 D	0043	N10	E85	4665	121 D	2	3	0043		7•90		123	
VOROSHILOV	25	0041	0128 D	0042	N06	E83	4665	47 D	2&	3	0042		6•9		232	G-SWF
SYDNEY	25	0237	0306	0301	N07	E79	4665	29	□	2	0301	•75				
ALMA-ATA	25	0353	0410	0401	S18	E22	4659	17	1	2	0401		3•20		76	
SYDNEY	25	0435	0442	0437	N07	E78	4665	7	□	2	0437	•75				

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ABASTUMANI	25	0630	0637	0632	S15	E08	4659	7	1	2	0632		4.71		78	
SIMEIZ	25	0630	0640 D	0632	S15	E12	4659	10 D	1	3	0632		2.00		68	
ABASTUMANI	25	0706	0714	0707	S18	E07	4659	8	1	2	0707		3.06		73	
SIMEIZ	25	0706	0718	0707	S16	E09	4659	12	1	3	0708		1.50	2.20	68	
ONDREJOV	25	0710 E	0714		S16	E10	4659	4 D	1	2	0710			2.40		
KRASNYA	25	0842	0853	0847 U	S20	W21	4655	11	1	2	0847		2.80		78	
KRASNYA	25	0849	0903 D	0856 U	S17	E09	4659	14 D	1&	2	0856		2.10		105	
SIMEIZ	25	0850	0907	0856	S16	E06	4659	17	1	3	0856		2.00		60	
KHARKOV	25	1004 E	1042		N27	W56	4651	38 D	1	1			2.00			
GOOD HOPE	25	1005	1107	1022	S15	E12	4659	62	1		1022	2.00	2.20			
GOOD HOPE	25	1116	1153	1129	S15	E05	4659	37	1		1129	2.50	2.70			
CAPRI-G	25	1122 E	1142		S16	E04	4659	20 D	1	1			2.00			
OTTAWA	25	1122	1149	1129	S16	E05	4659	27	1&	4	1129	2.78	2.97			
KHARKOV	25	1125	1152		S16	E06	4659	27	1	1	1132		5.00	2.00		
KHARKOV	25	1200	1211		N27	W56	4651	11	1	1						
KHARKOV	25	1219	1235		N14	E04	4657	16	1	1	1228		3.00	1.10		
OTTAWA	25	1219	1237	1223	N17	E02	4657	18	1	4	1223	3.13	3.23			
OTTAWA	25	1328	1346	1331	N09	E73	4665	18	2	3	1331	1.86	6.10			
GOOD HOPE	25	1336	1405	1345	S15	E05	4659	29	1		1345	4.00	4.20			
OTTAWA	25	1337	1344 D	1344	S16	E04	4659	7 D	1&	3	1344	4.35	4.64			
CAPRI-G	25	1337 E	1400		S15	E02	4659	23 D	1	1			4.00			S-SWF
NEDERHORST	25	1338 E	1350 D		S07	E04	4659	12 D	2	2						
SCHAUINS	25	1342 E	1348 D	1342	S13	E06	4659	6 D	1	1	1342		5.00	1.80		
AROSA	25	1355 E	1415		S17	E04	4659	20 D	1&							
CAPRI-G	25	1543	1606		S15	E07	4659	23	1	2			4.00			
AROSA	25	1547	1605		S15	E09	4659	18	1&							
SAC PEAK	25	1610	1715	1700	S16	E02	4659		1	1			2.00		16	
SAC PEAK	25	1715	1815	1730	S15	E02	4659		1	1			2.00		14	
KODAIKNL	26	0205	0222	0209	S15	W04	4659	17 D	1	1	0206	4.50	4.90	1.60	114	Slow S-SWF
ONDREJOV	26	0513 E	0529	0517	S16	W05	4659	16 D	1&	3	0517			3.30		
CAPRI-G	26	0513 E	0606		S15	E00	4659	53 D	1&	3			5.00			
AROSA	26	0525 E	0545		S16	W07	4659	20 D	1							
CAPRI-G	26	0622 E	0648		S15	E00	4659	26 D	1	3			5.00			
KRASNYA	26	0628	0659		S16	W07	4659	31	1&	2	0638		3.80		98	S-SWF
ONDREJOV	26	0631 E	0649		S16	W06	4659	18 D	2	3	0633			3.50		
SIMEIZ	26	0641 E	0715 D		S16	W02	4659	34 D	1	2	0641		6.00	1.70	68	
AROSA	26	0816	0823		S14	E20	4672	7	1							
GOOD HOPE	26	0856	0935	0901	S15	W09	4659	39	2		0901	4.50	4.80			
AROSA	26	0857	0925		S16	W09	4659	28	2							
MOSCOW-G	26	0857 E	0929 D	0903	S15	E05	4659	32 D	1&	2	0903		6.00	3.80	130	
ONDREJOV	26	0858 E	0924	0901	S16	W07	4659	26 D	2	3	0901			4.20		S-SWF
SIMEIZ	26	0858	0936	0904 U	S18	W10	4659	38	1&	2	0907		8.00	2.50	56	
CAPRI-G	26	0905 E	0924		S16	W09	4659	19 D	2	2			7.00			
KRASNYA	26	0910 E	0925		S16	W07	4659	15 D	1&	2	0910		2.70		140	
SCHAUINS	26	0915 E	0934 D	0915	S16	W08	4659	19 D	1	2	0917		5.00	2.00		
AROSA	26	1000	1126		N04	E61	4665	86	1							
ONDREJOV	26	1003 E	1016		N00	E63	4665	13 D	1	3	1006			2.60		
MOSCOW-G	26	1007 E	1018 D		N09	E65	4665	11 D	1	1	1010		2.50	2.40	80	
SCHAUINS	26	1028 E	1040	1030	N04	E64	4665	12 D	1	2	1030		4.00	1.70		
ONDREJOV	26	1130 E	1141		S14	W04	4659	11 D	1	3	1130			2.60		
ONDREJOV	26	1212 E	1218		S15	E15	4659	6 D	1	3	1214			2.30		
ONDREJOV	26	1251 E	1311 D		S16	W01	4659	20 D	1	1	1254			3.30		

SOLAR FLARES

JULY 1958

OBSERVATORY	DATE JULY 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 Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
GOOD HOPE	26	1330	1411 D	1343	N16	W74	4651	41 D	1&		1343	2.20	8.50			
CAPRI-G	26	1332	1416		N24	W72	4651	44	2	2			8.00			
ONDREJOV	26	1335 E	1350 D		N23	W73	4651	15 D	1&	3	1339			3.90		
GOOD HOPE	26	1353	1411 D	1401	S15	W13	4659	18 D	1		1401	3.50	3.80			G-SWF
CAPRI-G	26	1354	1428		S16	W12	4659	34	1&	2			5.00			
ONDREJOV	26	1529 E	1537 D		S16	W10	4659	8 D	1	3	1531			2.20		
ALMA-ATA	27	0342	0358	0349	S17	W20	4659	16	2&	2	0349		15.00		130	
ONDREJOV	27	0530 E	0537 D		S16	W22	4659	7 D	1&	1						
SIMEIZ	27	0648 E	0652 D		S18	W21	4659	4 D	1	1	0652		1.90	2.00	112	S-SWF
ONDREJOV	27	0652 E	0701		S16	W22	4659	9 D	1&	3	0653			2.30		
CAPRI-G	27	0718 E	0741		S19	E04	4659	23 D	1	3			5.00			
ONDREJOV	27	0719 E	0736		S20	E05	4659	17 D	1	3	0720			2.20		
KRASNYA	27	0723 E	0723 D		S20	E04	4659		1	1	0724		1.80		155	
AROSA	27	0734	0800		S23	W26	4659	26	1							
ONDREJOV	27	0736 E	0755		S16	W23	4659	19 D	1	1	0750			2.50		
CAPRI-G	27	0855 E	0906		S15	W24	4659	11 D	1	3			5.00			S-SWF
CAPRI-G	27	0957	1014		N07	E51	4665	17	1&	2			6.00			
ONDREJOV	27	1323 E	1330		S16	W22	4659	7 D	1&	1	1324			2.10		Slow S-SWF
CAPRI-G	27	1356 E	1407		S14	W23	4659	11 D	1	2			4.00			
CAPRI-G	27	1618	1638		S19	W02	4659	20	1	2			5.00			
MT WILSON	27	1805	1831	1807	S17	W30	4659	26	1							Slow S-SWF
MT WILSON	27	2018	2026	2018	S12	W31	4659	8	1							
MT WILSON	27	2211	2217	2213	S12	W31	4659	6	1							
CAPRI-G	28	0543 E	0610		S20	E90	4674	27 D	1&	2						S-SWF
CAPRI-G	28	0710 E	0732		S13	W36	4659	22 D	1	2			4.00			
CAPRI-G	28	0812	0821		S15	W31	4659	9	1	1			4.00			S-SWF
SIMEIZ	28	0812 E	0912 D	0812 U	S16	W36	4659	60 D	2	1	0812		5.60	4.30	84	
CAPRI-G	28	0856	0907		S16	W22	4659	11	1	2			3.00			
SIMEIZ	28	0858	0912 D	0902	S18	W23	4659	14 D	1	1	0901		3.00	3.10	72	
ONDREJOV	28	0902	0908		S17	W25	4659	6	1	3	0903			3.00		Slow S-SWF
ONDREJOV	28	0904 E	0912		S17	W35	4659	8 D	2	3	0904			4.20		
SCHAUINS	28	0905 E	0912 D	0905	S15	W19	4659	7 D	1	1	0905		4.00	1.70		
ONDREJOV	28	0917	0929		S17	W38	4659	12	1	3	0918			2.90		
ONDREJOV	28	0934	0936 D		S16	W62	4655	2 D	1	2	0936			2.20		
ONDREJOV	28	1018 E	1038 D		S17	W36	4659	20 D	2	2	1018			4.70		G-SWF
CAPRI-G	28	1024	1032		S15	W32	4659	8	1	2			3.00			
KIEV	28	1143 E	1346 D	1337 U	S15	W33	4659	123 D	1	2	1337		3.30		43	
SCHAUINS	28	1200 E	1207 D	1206	S12	W37	4659	7 D	1	1	1206		3.00	2.00		
GOOD HOPE	28	1210	1339 D	1228	S14	W70	4655	89 D	2		1228	2.30	8.30			
KIEV	28	1211 E	1346 D	1310 U	S20	W70	4655	95 D	1	2	1310		4.00		69	
KIEV*	28	1213	1310 D		S16	W69	4655	57 D	1	2			6.00			
ONDREJOV	28	1249 E	1301 D		S30	W70	4655	12 D	1	3	1251			2.40		
ONDREJOV	28	1301 E	1315 D		S17	W37	4659	14 D	1	1	1305			3.70		
CAPRI-G	28	1325 E	1342		S15	W70	4655	17 D	1	1			4.00			
ONDREJOV	28	1457 E	1539 D		N19	W02	4668	42 D	1	1	1437			2.90		
SYDNEY	29	0046	0106	0058	S22	E80	4674	20	□	1						
VOROSHILOV	29	0050 E	0108	0055 U	S22	E77	4674	18 D	2	2	0051		8.50		106	
VOROSHILOV	29	0050 E	0216 D	0124	S06	E80	4670	146 D	2	2	0124		8.00		94	
VOROSHILOV	29	0050	0216 D	0146	S19	W42	4659	146 D	2&	2	0146		13.00		84	
TASHKENT	29	0259 E	0408	0304	S14	W44	4659	69 D	3	3	0309		17.00	6.50	230	Slow-SWF

SOLAR FLARES

JULY 1958

OBSERVATORY	DATE JULY 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 Ha	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
TASHKENT	29	0458	0526	0458	S14	W38	4659	28	1	3	0510		7.00	2.40	65	
CAPRI-G	29	0612 E	0621		S24	E78	4674	9	1	1			3.00			
SIMEIZ	29	0737	0805	0742	S16	W46	4659	28	1	2	0743		1.50	3.10	68	
ONDREJOV	29	0748 E	0752 D		S16	W50	4659	4 D	1&	1						
ONDREJOV	29	0856 E	0906 D		N03	E28	4665	10 D	1	2	0902			2.10		
ONDREJOV	29	0920 E	0921 D		S16	W32	4659	1 D	1	1	0920					
GOOD HOPE	29	1125	1300	1136	N15	W01	4664	95	2		1136	6.00	6.10			
CAPRI-G	29	1128	1224		N15	E01	4664	56	2&	3			10.00			
MOSCOW-G	29	1142 E	1223 D	1150	N16	E00	4664	41 D	1&	1	1150		10.70	2.70	120	
KIEV*	29	1145 E	1200 D		N13	E01	4664	15 D	1	2			16.50			
KIEV	29	1155 E	1241 D	1209 U	N15	W00	4664	46	1	1	1209		7.20		59	
OTTAWA	29	1237 E	1254		S07	E71	4670	17 D	1	3	1241	.70	2.31			
OTTAWA	29	1410	1429	1418	S07	E70	4670	19	1	4	1418	1.33	4.14			
OTTAWA	29	1418	1425 D	1425	S17	W44	4659	7 D	2	4	1425	4.06	6.14			
NEDERHORST	29	1420	1430 D		S15	W45	4659	10 D	1	2						Slow S-SWF
CAPRI-G	29	1420	1459		S15	W47	4659	39	1&	2			5.00			
ONDREJOV	29	1428 E	1443 D		S14	W47	4659	15 D	2	2	1428			2.60		
OTTAWA	29	1647	1725 D	1725	S01	E16	4665	38 D	2&	4	1725	9.80	10.20			G-SWF
ONDREJOV	29	1701 E	1756 D		N02	E19	4665	55 D	2	2	1701			2.60		
MT WILSON	29	1840 E	1844 D		S10	E70	4670	4 D	2-							
ONDREJOV	30	0517	0532		N22	W59	4657	15 D	1	3	0524			1.90		
ONDREJOV	30	0534 E	0536		N25	E33	4667	2 D	1	3	0534			2.50		
ONDREJOV	30	0545 E	0548		S08	E60	4670	3 D	1	3	0545			2.30		
CAPRI-G	30	0923	0941		S08	E62	4670	18	1	1			5.00			
ONDREJOV	30	0925 E	0930 D		S08	E58	4670	5 D	1	2	0925			2.60		
ONDREJOV	30	1436 E	1444		S10	E57	4670	8 D	1&	3	1436			2.80		S-SWF
CAPRI-G	30	1436 E	1454		S08	E60	4670	18	1&	2			5.00			
CAPRI-G	30	1527	1617		S12	W65	4659	50	2	2			7.00			
NEDERHORST	30	1532	1545 D		S14	W64	4659	13 D	2	2						S-SWF
ONDREJOV	30	1534 E	1556 D		S12	W64	4659	22 D	2	1	1534			6.00		
OTTAWA	30	1601 E	1637		S15	W65	4659	36 D	1	1	1604	1.57	4.18			
OTTAWA	30	1715	1716 D	1716	S09	E57	4670	1 D	1	2	1716	1.16	2.24			
SCHAUINS	30	1756	1803		N07	E09	4665	7	1	2			3.00	1.70		
SYDNEY	31	0102	0108	0106	S10	W84	4659	6	1	1	0106	.50	3.00			
ONDREJOV	31	0445 E	0449		N18	W37	4668	4 D	1	3	0446			2.40		
ONDREJOV	31	0512 E	0517		S17	W54	4659	5 D	1	3	0514			2.50		
ONDREJOV	31	0620 E	0630		S18	W56	4659	10 D	1	3	0623			2.60		
SIMEIZ	31	0622	0640	0624	S19	W60	4659	18	1	1	0628		4.30	2.10	60	
SIMEIZ	31	0639	0653	0642	S13	W70	4659	14	1	1	0642		3.10		64	
KRASNYA	31	0731	0744	0731	S20	W53	4659	13	1&	1	0731		4.60		120	
CAPRI-G	31	0735 E	0757		S15	E52	4670	22 D	1	2			5.00			
ONDREJOV	31	0739 E	0753		S26	E48	4674	14 D	1	2	0740			2.20		
ONDREJOV	31	0746 E	0750		N09	E03	4665	4 D	1	3	0747			1.90		
KRASNYA	31	0759	0812	0800	N18	W41	4668	13	1	2	0800		1.80		97	
SIMEIZ	31	0804 E	0834 D	0810 U	S14	W80	4659	30 D	1	1	0810		5.00	3.20	72	
KRASNYA	31	0806	0816	0811	S19	W75	4659	10	1&	2	0811		2.10		105	
ONDREJOV	31	0807	0820	0812	S13	W72	4659	13	1&	3	0812			4.00		
KRASNYA	31	0819	0834 D	0828	S20	W57	4659	15 D	1	1	0828		1.90		98	
SIMEIZ	31	0827 E	0858 D	0828 U	S19	W59	4659	31 D	1	1	0828		4.30	2.40	64	
ONDREJOV	31	0829 E	0835		S18	W58	4659	6 D	1	3	0830			2.50		
ONDREJOV	31	0852	0859		S18	W58	4659	7	1	3	0854			2.50		

SOLAR FLARES

JULY 1958

OBSERVATORY	DATE JULY 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	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
ONDREJOV	31	0930 E	0936		N13	W19	4664	6 D	1	2	0932			2.70		
KRASNYA	31	0940	0940 D		N11	E02	4665		1	2	0940		.50		96	
KHARKOV	31	1010 E	1043 D		N18	W44	4668	33 D	1	1	1015		3.00	1.50		
OTTAWA	31	1058	1146	1122	S14	W74	4659	48	1	4	1122	.70	3.03			
SCHAUINS	31	1059 E			N20	W41	4668		1	1			3.00	1.70		
ONDREJOV	31	1121 E	1127 D		S13	W73	4659	6 D	1&	2	1121			5.60		
MOSCOW-G	31	1125 E	1145		S13	W70	4659	20 D	1&	1	1134		4.50	4.50	100	
SCHAUINS	31	1127 E	1131 D		S12	W75	4659	3 D	1	1			3.00	4.00		Slow S-SWF
NEDERHORST	31	1128	1140 D		S15	W80	4659	12 D	2	2						
CAPRI-G	31	1128 E	1141		S14	W76	4659	13 D	1	1			4.00			
NEDERHORST	31	1330 E	1339 D		S11	W90	4659	9 D	2&	2						
SCHAUINS	31	1700 E	1703 D		S09	E23	4676	3 D	1	1			2.00	1.20		
OTTAWA	31	1746	1749 D		S21	E44	4674	3 D	1&	2	1749	2.49	3.97			

COMMERCE - STANDARDS - BOULDER

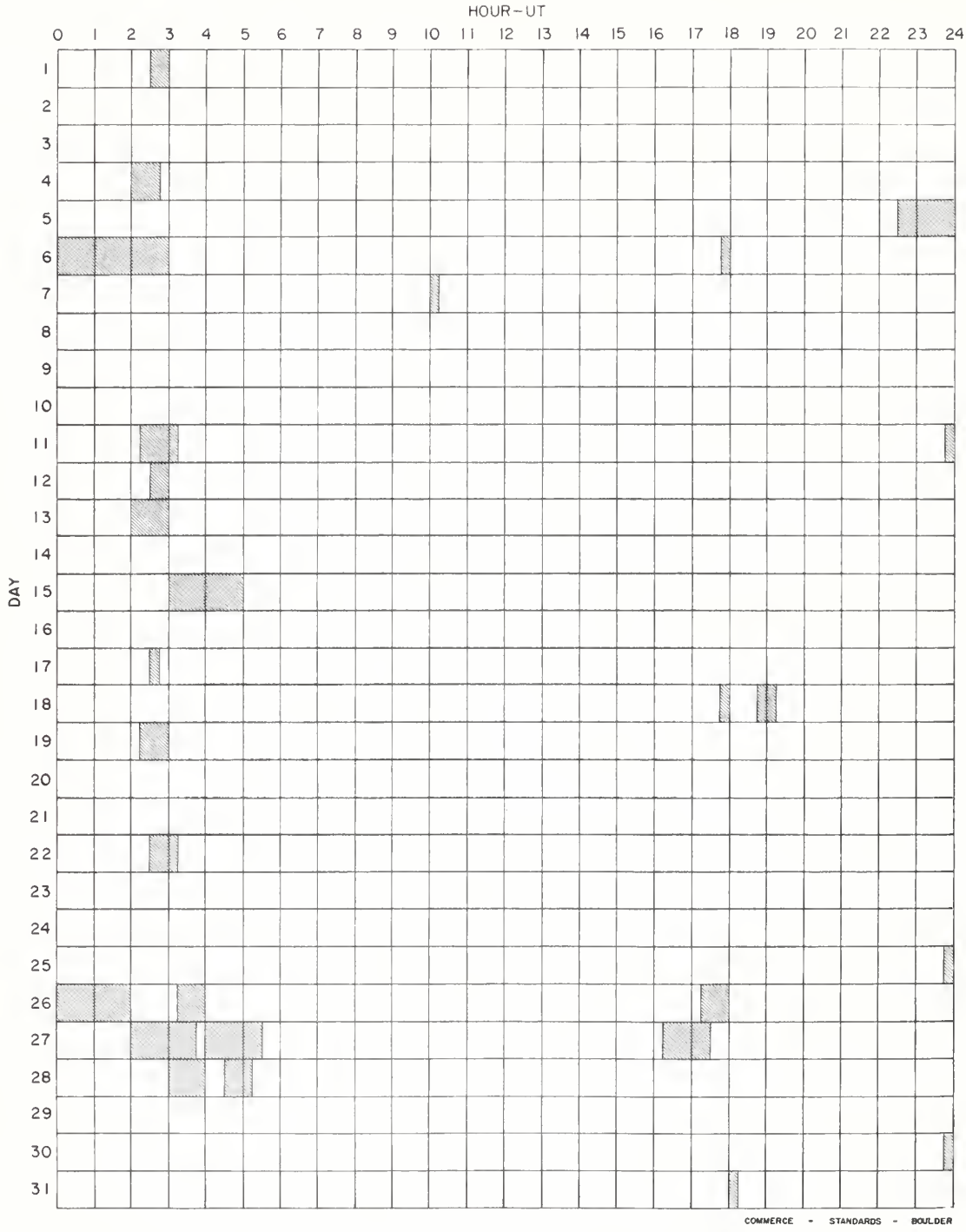
CAPRI G	ANACAPRI - GERMAN
CAPRI S	ANACAPRI - SWEDISH
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV*	KIEV UNIVERSITY
KODAIKNL	KODAIKANAL
KRASNYA	KRASNAYA PAKHRA
MOSCOW	NIZMIR
MOSCOW-G	MOSCOW - GAISH
R O EDIN	ROYAL OBSERVATORY, EDINBURGH
R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK	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

JULY 1958



Stations included:

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

SOLAR FLARES

AUGUST 1958

OBSERVATORY	DATE AUG 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
SYDNEY	01	0028	0049	0033	S09	W72	4659	21	2	1	0033	2.00	6.00			
SYDNEY	01	0140	0204	0155	S08	W79	4659	24	□	1	0155	1.00				
SYDNEY	01	0239 E	0303	0246	N11	W49	4668	24 D	1	1	0246	2.00	3.00			
TASHKENT	01	0540	0600 D	0546	S18	W82	4659	20 D	1&	1	0546		22.00		135	
KRASNYA	01	0724	0730	0724	S17	W90	4659	6	1	2	0724		3.20		50	
KRASNYA	01	0737	0809	0742	N17	E11	4669	32	1	2	0742		1.60		110	Slow S-SWF
MCMATH	01	1327	1402	1331	N08	W19	4665	35	1	3	1331	2.43	2.58		75	
MT WILSON	01	1442 E	1447 D	1445	N15	E03	4669	5 D	1							
GOOD HOPE	02	0747	0810	0756	S16	W85	4659	23	1		0756	.40	4.60			S-SWF
MOSCOW-G	02	0905 E	1014 D		S20	W80	4659	69 D	1	1	0909		4.80	2.50	70	
GOOD HOPE	02	1214	1300		N09	W32	4665	46	1		1227	2.50	2.90			
KIEV*	02	1220	1320 D	1225	N09	W34	4665	60 D	1	2			9.50			S-SWF
MCMATH	02	1244 E	1355 D		N08	W33	4665	71 D	1	1	1342	2.44	2.98			
GOOD HOPE	02	1337	1355	1343	N08	W34	4665	18	1		1343	2.00	2.40			
MCMATH	02	1907	1929	1910	S09	E05	4670	22	1	2	1910	2.45	2.53		71	
MT WILSON	02	2141	2154	2147	N28	W18	4667	13	1							
TASHKENT	03	0322	0402	0336	S09	E04	4670	40	1	3	0336		1.00	3.00	100	
TASHKENT	03	0510	0550	0514	N28	W23	4667	40	1&	3	0517		5.00	4.70	110	S-SWF
KRASNYA	03	0822	0834 D	0825	N25	W06	4667	12 D	1	2	0825		1.10		83	
NEDERHORST	03	0830 E	0834 D		N27	W25	4667	4 D	1	2						
KRASNYA	03	0832	0903	0839	N28	W26	4667	31	1	2	0839		.80		109	S-SWF
KHARKOV	03	0845 E	0858 D		N28	W26	4667	13 D	1&	2	0850		3.00	2.20		
NEDERHORST	03	0901 E	0907 D		N35	E25	4678	6 D	1	2						
KRASNYA	03	0901	0911	0903	N33	E29	4678	10	1	2	0903		.50		112	S-SWF
KHARKOV	03	0901 E	0925 D		N36	E27	4678	24 D	1	2	0909		2.00	1.20		
KRASNYA	03	0929	1004	0935	S09	W04	4670	35	1	2	0935		1.10		95	
KHARKOV	03	0930	0951		S07	W02	4670	21	1	2	0940		1.00	1.80		
MOSCOW-G	03	1012 E	1027 D		S18	E80	4682	25 D	1	2	1014		2.40	2.20	80	
KHARKOV	03	1108	1127		N15	W21	4669	19	1	2	1121		1.00	1.20		
MOSCOW-G	03	1110 E	1128		N14	W18	4669	18 D	1	1	1111		3.20	2.40	90	
MCMATH	03	1318	1345	1322	N13	W22	4669	27	1	3	1322	1.94	2.10		65	
MT WILSON	03	2145	2237	2154	N04	W52	4665	52	1&							Slow S-SWF
VOROSHILOV	03	2200 E	2257	2206	N09	W47	4665	57 D	2&	2	2206		19.10		130	
TASHKENT	04	0310	0345	0327	S28	E88	4682	35	1	2	0312		12.00	2.20	65	
TASHKENT	04	0409	0600 D	0435	N35	W25	4673	111 D	3	2	0431		35.00	2.90	115	G-SWF
KRASNYA	04	0722	0746	0728	S08	W12	4670	24	1	2	0728		.80		105	Slow S-SWF
KRASNYA	04	0742	0746 D	0743	N27	W35	4667	4 D	1	2	0743		1.20		115	S-SWF
KIEV*	04	1212 E	1216 D	1214	S09	W13	4670	4 D	1	1			4.30			
KIEV*	04	1302 E	1308 D	1305	N28	W38	4667	6 D	1				3.10			
MT WILSON	04	1919	1931	1920	N26	W45	4667	12	1&							
MT WILSON	04	2112	2127	2114	S07	W09	4670	15	1							
KHARKOV	05	0930	1010		S13	E90	4684	40	1	2	0955		12.00	2.30		
KRASNYA	06	0607 E	0610		S11	W37	4670	3 D	1	2	0608		.60		82	
KRASNYA	06	0610	0626	0615	N23	W23	4678	16	1	2	0615		1.60		84	
SYDNEY	07	0010	0033	0017	S15	W88	4676	23	□	2	0017	1.50				
SYDNEY	07	0228	0234	0231	S06	W90	4676	6	□	2	0231	.75				
KRASNYA	07	0621 E	0625		N22	W50	4675	4 D	1	1	0621		1.60		94	

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KRASNYA	07	0621 E	0627		S12	W01	4691	6 D	1	1	0621		•50		88	
KRASNYA	07	0647	0707	0654	N22	W50	4667	20	1	1	0654		•80		94	G-SWF
KRASNYA	07	0650	0701	0654	N23	W65	4667	11	1&	1	0654		3.60		105	
MCMATH	07	1501	1657 D	1508	S15	E75	4686	116 D	3	1	1508	5.21	18.20		102	S-SWF
SYDNEY	08	0344	0440	0405	N24	W70	4675	56	1	2	0405	•75	3.00			
TASHKENT	08	0402	0432	0405	S24	E36	4684	30	1	3	0405		6.00		125	
SYDNEY	08	0402	0442	0406	S23	E42	4684	40	2	2	0406	4.00	5.00			
KRASNYA	08	0659	0708	0702	S10	E53	4686	9	1	1	0702		1.60		84	
KRASNYA	08	0705	0716	0706	N22	W64	4674	11	1	1	0706		2.20		74	
KRASNYA	08	0714	0716 D	0714	S09	E12	4682	2 D	1	1	0714		•80		80	
KRASNYA	08	0732	0744	0735	S10	E53	4686	12	1	1	0735		1.60		133	
KRASNYA	08	0833	0837	0833 U	S14	E52	4686	4	1	1	0833		1.50		116	
KRASNYA	08	0855	0907	0901	S10	E52	4686	12	1	1	0901		1.30		105	
KRASNYA	08	0925	0937	0928	S14	E54	4686	12	1	1	0928		•90		88	
KHARKOV	08	0925	0950	0935	S12	E52	4686	25	1	5	0935		2.00	1.30		
KRASNYA	08	0933	0941	0936	S10	E52	4686	8	1	1	0936		•30		116	
KHARKOV	08	1025	1040		S12	E52	4686	15	1	5			2.00			
MCMATH	08	1312	1526	1351	S26	W57	4674	134	1&	3	1351	2.60	5.73		62	G-SWF
MCMATH	08	1434	1531	1446	S12	W17	4690	57	1	3	1446	2.44	2.69		71	
MCMATH	08	1702 E	1720	1705	S14	E50	4686	18 D	1	2	1705	2.28	3.55		65	
MCMATH	08	1852	1923	1858	N32	W47	4678	31	1	2	1858	1.95	3.07		63	
MT WILSON	08	1854 E	1913 D	1907	N25	W49	4678	19 D	1							
MT WILSON	08	1953	2008	1959	N27	W88	4667	15	1							
TASHKENT	09	0342	0410	0351	S16	E42	4686	28	2&	2	0348		16.00	5.10	190	S-SWF
ABASTUMANI	09	0616	0717	0632 U	S24	E21	4684	61	2	2	0632		11.20		90	
PIRCULI	09	0620 E	0715 D	0635	S29	E00	4682	55 D	1	2	0635		6.00		60	
KRASNYA	09	0640 E	0654		S23	E22	4684	14 D	1&	2	0642		3.30		80	
MCMATH	09	1317	1352 D	1333	S24	E16	4684	35 D	1	1	1333	2.12	2.54		67	
MCMATH	09	1421	1452	1426	S13	E38	4686	31	1	3	1426	3.25	4.55		75	
MCMATH	09	1609	1654	1610	S25	E15	4684	45	1	3	1610	2.27	2.66		88	G-SWF
ABASTUMANI	10	0528	0548	0537	S16	E36	4686	20	1	2	0537		1.46		76	
VOROSHILOV	10	0537 E	0628	0612	S17	E37	4686	51 D	1&	2	0612		4.50		110	
ABASTUMANI	10	0714	0720	0716	S12	W17	4682	6	1	2	0716		1.44		80	
SCHAUINS	10	1650 E	1650		S16	E35	4686		1	2			3.00			
TASHKENT	11	0340	0413	0351	S14	E18	4686	33	1	3	0351		2.00		85	
TASHKENT	11	0415	0436	0419	S21	W52	4694	21	1	3	0419		7.00	2.40	65	
SCHAUINS	11	0536 E	0540		S22	W52	4694	4 D	1	2			2.00	1.30		
KRASNYA	11	0723	0729	0725 U	S26	E15	4684	6	1	2	0725		1.00		96	
SCHAUINS	11	0732 E	0737		S22	W52	4694	5 D	1	2			2.00	1.60		
KHARKOV	11	0847 E	0905		N20	W47	4680	18 D	1&	3	0850		7.00	2.20		
GOOD HOPE	11	0848	0910	0850	N22	W47	4680	22	1		0850	2.00	3.00			S-SWF
SCHAUINS	11	0852 E	0859		N21	W43	4680	7 D	1	2			3.00	2.06		
KHARKOV	11	0908 E	0950 D		S16	E90	4712	42 D	1	3	0912			4.10		
GOOD HOPE	11	1009	1050	1019	S15	E09	4686	41	1		1019	3.50	3.80			
KHARKOV	11	1010	1038		S16	E07	4686	28	1	3	1012		4.00	1.80		Slow S-SWF
PIRCULI	11	1011	1035	1018	S13	W03	4686	24	2	3	1018		10.60		80	
NEDERHORST	11	1015	1025 D		S15	E12	4686	10 D	2	1						
PIRCULI	11	1030	1045		S15	E05	4686	15	□	3	1040		2.20			
SCHAUINS	11	1033 E	1041		S11	E18	4686	8 D	1	2			2.00	1.80		

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KHARKOV	11	1034 E	1040		S12	E12	4686	6 D	1	3	1036		4.00			
MCMATH	11	1330 E	1343 D		S21	W58	4694	13 D	1	1	1330	1.62	3.65		68	
MT WILSON	11	1454	1527	1502	S12	W34	4682	33	1							S-SWF
MCMATH	11	1457 E	1553		S15	W34	4682	56 D	2	1	1513	5.68	7.27		77	
MCMATH	11	1623 E	1648		S14	E07	4686	25 D	1	1	1628	1.94	2.10		62	
MCMATH	11	1650	1710	1658	N21	W50	4680	20	1	1	1658	1.78	2.82		72	
SYDNEY	12	0015	0035	0023	S23	W65	4694	20	1	2	0023	1.00	3.00			
SYDNEY	12	0235	0244 D	0230	N20	W54	4680	9 D	1	1	0230	2.00	3.00			
SYDNEY	12	0236 E	0244 D		S14	W01	4686	8 D	1	2	0239	2.00	2.00			
SYDNEY	12	0339	0400	0350	S19	W69	4694	21	1	2	0350	.50	2.00			
SYDNEY	12	0352	0515 D	0415	N21	W49	4680	83 D	1	1	0415	1.50	2.00			
TASHKENT	12	0419	0501	0427	S17	W41	4682	42	2	3	0428		11.00	2.10	130	Slow S-SWF
SYDNEY	12	0420	0505	0430	S13	W39	4682	45	2	2	0430	7.00	11.00			
SYDNEY	12	0433	0446	0435	N20	W59	4680	13	1	1	0435	1.00	2.00			
VOROSHILOV	12	0459 E	0559 D		N18	W50	4680	60 D	1	3	0501		2.30		76	
ABASTUMANI	12	0505 E	0700 D	0521 U	N21	W49	4680	115 D	1	2	0521		3.31		66	
ABASTUMANI	12	0553	0748 D	0716	S23	E06	4684	115 D	2	2	0712		8.09	3.70	88	
ABASTUMANI	12	0609	0614 D	0611	N20	W60	4680	5 D	1	2	0611		2.65		61	
PIRCULI	12	0653	0745	0710	S15	W05	4686	52	1&	2	0710		9.50		60	S-SWF
GOOD HOPE	12	0654 E	0805	0712	S15	E05	4686	71 D	1		0712	3.00	3.60			
KHARKOV	12	0730 E	0809		N20	W49	4680	39 D	1	2	0745		5.00			
KHARKOV	12	0754 E	0803		S12	E04	4686	9 D	1	2	0659		3.00			
KHARKOV	12	0945 E	1131	1107	S08	W89	4690	106 D	1	2	1052		11.00	2.80		
KHARKOV	12	0957	1015	0959	S22	W19	4684	18	1	2	0959		5.00	1.50		
MCMATH	12	1652 E	1728	1655	N17	W68	4680	36 D	1	1	1655	1.05	2.50		58	
MCMATH	12	1731 E	1813	1735	S14	W48	4682	41 D	1	1	1735	1.54	2.41		64	
MCMATH	12	1848 E	1918	1850	N17	W68	4680	30 D	1	1	1850	1.30	3.08		59	
MCMATH	12	1958	2028	2008	N17	W68	4680	30	1	1	2008	1.38	3.27		54	
VOROSHILOV	12	2238	2251	2239	S16	W10	4686	13	1	2	2239		2.57		75	
VOROSHILOV	12	2311	2348	2321	S26	W26	4684	37	1&	2	2321		2.24		82	
VOROSHILOV	12	2318	2330	2324	N16	W70	4680	12	1&	2	2324		2.18		90	
VOROSHILOV	12	2354	0036	2354	S23	W27	4684	42	1&	2	2354		3.42		103	
SYDNEY	13	0013	0024	0020	N27	W91	4680	11	□	2	0020	1.00				
VOROSHILOV	13	0036	0046	0039	S13	W55	4682	10	1&	2	0039		3.45		138	
VOROSHILOV	13	0046	0115	0050	N45	E10	4691	29	1&	2	0050		2.95		107	
VOROSHILOV	13	0054	0207	0117	S15	W08	4686	73	2	2	0117		7.32		132	
SYDNEY	13	0102	0138	0111	S11	W13	4686	36	1	2	0111	3.00	3.00			
SYDNEY	13	0103	0112	0107	S15	W54	4682	9	1	2	0107	1.00	2.00			
SYDNEY	13	0113	0120	0116	N19	W71	4680	7	1	2	0116	1.50	4.00			
SYDNEY	13	0121	0205	0141	N21	W71	4680	44	1	1	0141	1.00	3.00			S-SWF
VOROSHILOV	13	0124	0206	0138	N16	W75	4680	42	1&	2	0138		2.66		120	
VOROSHILOV	13	0143	0207 D	0202	S20	W06	4686	24 D	1&	2	0202		2.09		91	
SYDNEY	13	0200	0208	0203	S09	W55	4682	8	1	1	0203	1.50	3.00			
SYDNEY	13	0240	0253	0244	N18	W73	4680	13	1	1	0244	1.50	4.00			
SYDNEY	13	0309	0323	0316	S09	W56	4682	14	1	1	0316	1.50	3.00			
TASHKENT	13	0528	0600 D	0546	S12	W14	4686	32 D	1	3	0552		2.00	2.20	75	
ABASTUMANI	13	0605 E	0622 D	0607 U	N24	W70	4680	17 D	1&	2	0607		6.98		76	
GOOD HOPE	13	0903	1040	0935	S13	W57	4682	97	1		0935	2.00	3.80			S-SWF
GOOD HOPE	13	1055	1120	1108	S14	W19	4686	25	1		1108	2.00	2.20			
GOOD HOPE	13	1155	1230	1201	N23	W75	4680	35	1		1201	.60	2.30			
GOOD HOPE	13	1205	1323 D	1220	S15	W18	4686	78 D	2		1220	7.00	7.90			S-SWF

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KIEV*	13	1214	1330	1220	S16	W10	4686	76	1&	2			6.00			
PIRCULI	13	1218 E	1310		S13	W25	4686	52 D	3	2	1218		14.30		100	
MCMATH	13	1306 E	1320 D		S13	W20	4686	14 D	2	2	1311	7.15	8.22		71	
MCMATH	13	1326 E	1338 D		N20	W78	4680	12 D	1	1	1343	.57	2.19			
MCMATH	13	1345	1515 D		S14	W14	4686	30 D	1&	1	1405	4.06	4.47		79	
MCMATH	13	1530	1630		S13	W20	4686	60	1&	2	1537	4.22	4.77		89	S-SWF
MCMATH	13	1730 E	1810		S14	W18	4686	40	1	1	1715	2.44	2.73		65	
MCMATH	13	1805	1830 D	1809	S14	W23	4686	25 D	1	1	1809	2.19	2.50		64	
MCMATH	13	1943 E	2045 D		S14	W23	4686	62 D	1	1	1943	2.19	2.50		65	
MCMATH	13	2134	2200	2140	S13	W24	4686	26	1	1	2140	2.44	2.78		69	
VOROSHILOV	13	2135	2205	2140	S14	W24	4686	30	2	3	2140		5.90		107	
VOROSHILOV	13	2216	2230	2219	N19	W87	4680	14	2	3	2219		8.80		117	
VOROSHILOV	13	2248	2324	2315	S14	W24	4686	36	1&	2	2315		4.00		106	
ALMA-ATA	14	0332	0459	0437	S13	W27	4686	87	2	2	0437		9.50		87	
ABASTUMANI	14	0756	0820 D	0810	S15	W27	4686	24 D	1	2	0815		1.75	2.30	80	
KHARKOV	14	0948	0958		S12	W31	4686	10	1	2	0955		4.00	1.20		
MCMATH	14	1208	1220 D	1211	S13	W30	4686	12 D	1	1	1211	2.11	2.62		69	
MCMATH	14	1231	1325	1246	S13	W30	4686	54	1	1	1246	2.27	2.82		87	S-SWF
MCMATH	14	1408 E	1416 D	1413	S13	W30	4686	8 D	1&	1	1413	3.09	3.83		79	
MCMATH	14	1410	1455	1417	N19	W90	4680	45	1	1						
MCMATH	14	1417	1500	1426	S13	W30	4686	43	1&	1	1426	4.87	6.04			
MCMATH	14	1612	1710 D	1631	S12	W30	4686	58 D	2	1	1631	4.88	5.85		85	Slow S-SWF
MCMATH	14	1715	1755	1722	S11	W34	4686	40	1	1	1722	2.11	2.66		70	
MCMATH	14	1756	1905 D	1803	S14	W35	4686	9 D	1	1	1816	2.52	3.30		87	Slow S-SWF
MCMATH	14	1905	2000 D	1927	S13	W26	4686	55 D	1&	1	1927	4.47	5.36		81	
VOROSHILOV	14	2137	2224	2202	S14	W37	4686	47	1&	2	2202		3.90		99	S-SWF
VOROSHILOV	14	2211	2305	2220	N31	E76	4704	54	1&	2	2220		3.40		91	
GOOD HOPE	15	0855	0945		S12	W41	4686	50	2		0915	6.00	9.00			
GOOD HOPE	15	0918	0928	0923	S29	W68	4684	10	1		0923	.80	2.40			
TASHKENT	16	0433	0614	0440	S12	W47	4686	101	3&	2	0441		25.00	7.20	255	S-SWF
GOOD HOPE	16	0915	0925	0918	N18	E80	4708	10	1		0918	.80	4.60			
MCMATH	16	1211 E	1227 D		S13	W60	4686	16 D	1	1	1211	1.62	3.49		74	
NEDERHORST	16	1317 E	1320 D		S14	W50	4686	3 D	1	1						
SYDNEY	17	0131 E	0139	0132	S12	E69	4710	8 D	1	2	0132	1.00	3.00			
SYDNEY	17	0233	0247	0240	S28	W70	4684	14	□	2	0240	1.00				
SYDNEY	17	0331	0405 D	0335	S07	W47	4686	34 D	1	2	0335	3.00	4.00			
TASHKENT	17	0333	0405	0334	S07	W47	4686	32	1	3	0335		3.00	3.00	80	
TASHKENT	17	0539	0602	0547	S14	W72	4686	23	1	3	0541		6.00	2.40	75	
MCMATH	17	1332	1359	1350	S15	W75	4686	27	1	1	1350	1.95	7.50		55	
MCMATH	17	1401	1423	1406	S25	W70	4684	22	1	1	1406	1.46	4.38		67	
SCHAUINS	17	1407 E	1416 D		S25	W65	4684	9 D	1	1			3.00	2.20		
MCMATH	17	1603	1629 D	1608	N09	E29	4707	26 D	1	1	1608	1.95	2.18		65	
SYDNEY	18	0021	0037	0024	N22	E94	4711	17	□	2	0024	1.00				
SYDNEY	18	0048	0100	0054	N23	E92	4711	12	□	2	0054	.75				
SYDNEY	18	0155	0203 D	0157	S18	W81	4686	8 D	□	2	0157	.50				
SYDNEY	18	0239	0259	0247	S20	W80	4686	20	1	2	0247	.50	2.00			
GOOD HOPE	18	0750	0950	0817	N18	E50	4708	120	1		0817	2.80	4.30			
UTRECHT	18	0805	0815		□		4708	10	2	2						

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ABASTUMANI	18	0805	0908 D	0820	N20	E50	4708	63 D	2	3	0816		11.00	3.80	86	Slow S-SWF
SCHAUINS	18	0815 E	0858		N19	E33	4708	43 D	1	1			4.00	1.60		
NEDERHORST	18	0820	0850 D		N20	E49	4708	30 D	2	2						
ARCETRI	18	0828 E	0839 D		N19	E51	4708	11 D	1&	3	0839	2.70	4.20			
KRASNYA	18	0828 E	0857 D		N19	E51	4708	29 D	2	1	0828		2.20		175	
KRASNYA	18	0853	0857	0853	N27	E01	4701	4	1	1	0853		.30		140	
ARCETRI	18	0855 E	0908 D		N19	E50	4708	13 D	1&	3	0855	2.50	3.80			
MT WILSON	18	2054 E	2122	2054	S08	W74	4686	28 D	1							
SYDNEY	19	0142	0153	0143	S09	W73	4686	11	1	2	0143	.50	2.00			
SYDNEY	19	0232 E	0237	0233	N20	E85	4711	5 D	□	2	0233	.75				
SYDNEY	19	0232 E	0244	0233	N17	E72	4711	12 D	1	2	0233	1.00	3.00			
TASHKENT	19	0407	0510	0437	N19	E36	4708	63	1	2	0412		3.00	1.90	80	
ABASTUMANI	19	0620	0642	0628	N18	E35	4708	22	1&	3	0628		5.40		62	
ARCETRI	19	0823 E	0840 D		N18	E34	4708	17 D	1	4	0823	3.10	3.80			
ARCETRI	19	0900 E	0914 D		N18	E34	4708	14 D	1	3	0900	2.20	2.70			
GOOD HOPE	19	1315	1326 D	1319	S11	W54	4706	11 D	1		1319	1.10	2.10			
MCMATH	19	2035 E	2100 D	2050	N16	E25	4708	25 D	1	2	2050	2.76	3.04		85	
MCMATH	19	2110	2145	2122	N20	E66	4711	35	1	2	2122	2.03	3.53		79	
MCMATH	19	2120	2201 D	2201 U	N16	E25	4708	41 D	2	2	2201	7.31	8.04		106	G-SWF
MT WILSON	19	2122	2359 D	2254	N18	E28	4708	157 D	2-							
SYDNEY	19	2320 E	0103	2331	N19	E20	4708	103 D	2	2	2331	8.00	10.00			
SYDNEY	20	0031	0127	0045	N15	E16	4708	56	3	2	0045	20.00	22.00			S-SWF
KIEV	20	1244 E	1251	1244	N18	E18	4708	7 D	1	1	1244		2.17		62	
SYDNEY	21	0324	0336	0334	N04	E67	4715	12	1	1	0334	1.50	3.00			
MCMATH	21	1950	2020	2004	N10	E62	4715	30	1	2	2004	1.30	2.27		71	
VOROSHILOV	21	2349	2356 D	2351	N16	W02	4704	7 D	1	2	2351		4.60		74	
VOROSHILOV	22	0150 E	0209 D	0151	N16	W05	4708	19 D	1&	2	0151		2.80		95	
ABASTUMANI	22	0521 E	0832 D	0800	N20	W05	4708	11 D	2&	3	0544		18.10	4.20	86	S-SWF
PIRCULI	22	0647 E	0844 D	0757	N18	W05	4708	117 D	2&	3	0757		19.00		8	
ABASTUMANI	22	0725	0734	0726	N16	W11	4708	9	1	3	0726		2.20		70	S-SWF
GOOD HOPE	22	0748 E	0845 D		N17	W07	4708	57 D	1		0752	3.00	3.10			
PIRCULI	22	0858 E	0915 D	0859	N10	E52	4715	17 D	1&	3	0859		6.00			
MCMATH	22	1214	1255 D	1235	N18	W08	4708	41	1	3	1233	3.09	3.21		76	
MCMATH	22	1315	1350	1330	N18	W08	4708	35	1&	3	1330	4.38	4.56		82	
KIEV	22	1334 E	1407 D	1337	N20	W08	4708	33 D	1	1	1337		4.28		56	
MCMATH	22	1428	1700 D	1448	N17	W12	4708	32 D	3	3	1448	14.00	14.50		109	Slow S-SWF
SCHAUINS	22	1457 E	1544 D		N18	W10	4708	47 D	2	1			12.00	2.70		
MT WILSON	22	1615 E	1632 D		N17	W16	4708	17 D	1&							
MCMATH	22	1848	1943	1905	N14	W14	4708	55	1	2	1905	2.76	2.87		67	
VOROSHILOV	22	2223	2235 D	2227	N21	W12	4708	12 D	1&	2	2227		2.27		90	
VOROSHILOV	22	2247 E	2400	2249	S16	E70	4712	73 D	2&	2	2249		12.60		86	
VOROSHILOV	23	0055	0119	0059	N17	W15	4708	24	1	2	0059		2.35		78	
TASHKENT	23	0455	0503		N25	W67	4701	8	1	2	0457		5.00	2.80	50	
TASHKENT	23	0538	0555		S15	W08	4712	17	1	2	0538		8.00	1.90	75	
GOOD HOPE	23	0812	0850	0820	S45	E85	4720	38	1		0820	.90				
GOOD HOPE	23	0955	1120	1020	N08	E37	4715	85	1		1020	3.00	3.70			
GOOD HOPE	23	1012	1037	1015	S12	W67	4703	25	1		1015	2.00	5.80			Slow S-SWF
MOSCOW-G	23	1014 E	1033	1017	S12	W68	4703	19 D	2	2	1017		5.70	4.90	90	

SOLAR FLARES

AUGUST 1958

OBSERVATORY	DATE AUG 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
GOOD HOPE	23	1017	1046	1025	N20	W19	4708	29	1		1025	2.50	2.70			
MOSCOW-G	23	1022 E	1041 D	1028	N20	W22	4708	19 D	1	1	1028		3.90	3.10	90	
MCMATH	23	1325 E	1340	1330	N17	W23	4708	15 D	1	3	1330	2.43	2.75		80	
MCMATH	23	1403	1442	1420	N18	W22	4708	39	1&	3	1420	3.89	4.40		90	S-SWF
VOROSHILOV	24	0510 E	0533 D	0520	N21	W17	4708	23 D	1&	2	0520		3.90		97	
ABASTUMANI	24	0626	0632	0629	N16	W38	4708	6	1	3	0629		2.09		76	
ABASTUMANI	24	0648	0653	0650	S12	W85	4703	5	1&	3	0650		7.78		70	
GOOD HOPE	24	0653 E	0705		S12	W85	4703	12	1		0653	.50	5.70			
KIEV	24	1149 E	1212 D	1156	N19	W34	4708	23 D	1	1	1156		2.17		52	
VOROSHILOV	24	2209	0213 D	0008	S35	W75	4714	244 D	2&	2	0008		17.60		112	
VOROSHILOV	25	0151	0213 D	0157	N11	E14	4715	22 D	2	1	0157		7.80		88	
GOOD HOPE	25	0949	1040	1003	N18	W47	4708	51	2		1003	5.30	7.80			
KHARKOV	25	1000 E	1045	1006	N17	W45	4708	45 D	2	3	1006		23.90	2.00		S-SWF
KHARKOV	25	1000 E	1045	1005	N16	W39	4708	45 D	2	3	1006		13.40	2.00		
KHARKOV	25	1027	1045		N07	E08	4715	18	1&	3	1030		9.20	1.80		
KHARKOV	25	1030 E	1138		S12	W48	4710	8 D	1	3	1031		3.60	1.00		
KHARKOV	25	1135	1151 D		N15	W47	4708	16 D	1	3	1141		6.80	1.70		
GOOD HOPE	25	1307	1350 D	1311	N09	E24	4715	43 D	1		1333	3.50	3.80			
KIEV*	25	1321	1342 D	1329	N09	E20	4715	21 D	2	2			11.20			
KIEV	25	1328	1353	1333	N08	E26	4715	25	2	1	1332		7.75		83	
SCHAUINS	25	1329	1341 D		N08	E22	4715	12 D	1	2			5.00	1.80		
MCMATH	25	1329 E	1351 D	1332	N08	E24	4715	22 D	1&	1	1332	4.06	4.38		89	
MCMATH	25	1418 E	1431 D	1418	N16	W52	4708	13 D	1	1	1418	1.46	2.28		63	
MCMATH	25	2044 E	2131		N20	W45	4708	47 D	2	1	2044	7.47	11.20			
MCMATH	25	2135 E	2200 D		N16	W55	4708	25 D	1	1	2153	1.30	2.23			
MCMATH	25	2144 E	2154 D		N20	W40	4708	10 D	1	1	2146	1.79	2.34			
MT WILSON	25	2158 E	2219 D	2214	S17	W31	4712	20 D	1							
SYDNEY	26	0141 E	0307 D		N17	W54	4708	86 D	2	1	0147	6.00	10.00			Slow S-SWF
GOOD HOPE	26	0802	0816 D	0806	N24	E67	4721	14 D	1		0806	1.30	3.20			
KHARKOV	26	1140	1212		N06	E14	4715	32	1	4	1142		3.40	1.50		
KHARKOV	26	1148	1215		N07	E06	4715	27	1	4	1149		2.30	1.50		
GOOD HOPE	26	1156 E	1240	1204	N06	E10	4715	44 D	2		1204	6.00	6.10			
MCMATH	26	1608	1618 D	1613	N17	W65	4708	10 D	1	2	1613	.97	2.24		68	
SYDNEY	27	0014	0037	0023	N28	E57	4721	23	1	1	0023	1.50	3.00			
SYDNEY	27	0046	0132	0055	S17	W44	4712	46	2	2	0055	5.00	8.00			
MT WILSON	27	0047 E	0130	0055	S17	W47	4712	43 D	1&							
SYDNEY	27	0121	0142	0132	S12	E45	4722	21	1	1	0132	3.00	4.00			
SYDNEY	27	0136	0157	0141	S23	W69	4710	21	1	2	0141	1.00	5.00			
SYDNEY	27	0437	0506	0445	S23	W77	4710	29	□	1	0445	2.00				
TASHKENT	27	0555	0630	0559	S07	E53	4722	35	1	3	0558		2.00	2.10	85	
TASHKENT	27	0557	0606	0600	N26	E56	4721	9	1	3	0600		2.00		125	
PIRCULI	27	0634 E	0723 D	0640	S10	E80	4745	49 D	2&	3						
ABASTUMANI	27	0731	0748	0732 U	S13	E80	4745	17	1&	3	0732		11.20			
PIRCULI	27	0900 E	0917 D	0902	S10	E60	4722	17 D	1							
MCMATH	27	1242	1330	1302	N09	W38	4715	48	1	2	1302	2.03	2.64		64	
MCMATH	27	1440	1520	1456	S12	E50	4722	40	1&	2	1456	4.06	6.25		68	
MCMATH	27	1928 E	1950	1935	N09	W06	4715	22 D	1	2	1935	3.09	3.12		70	
SYDNEY	28	0302	0324	0318	S12	W89	4710	22	□	2	0318	.50				

SOLAR FLARES

AUGUST 1958

OBSERVATORY	DATE AUG 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
SYDNEY	28	0419	0427	0421	N33	E94	4733	8	□	2	0421	1.00				
ABASTUMANI	28	0713	0738	0732	S08	E36	4722	25	1	2	0731		2.75			
ABASTUMANI	28	0731	0746	0732	N08	W13	4715	17	1	2	0732		2.49			
NEDERHORST	28	1027	1033 D		S17	W65	4712	6 D	2	3						
SCHAUINS	28	1029	1038		S18	W63	4712	9	2	2			10.00	1.10		
NEDERHORST	28	1032 E	1200 D		S11	W90	4710	88 D	2&	3						S-SWF
SCHAUINS	28	1157	1208		N18	W83	4708	11	1	2			4.00	1.60		
MCMATH	28	1226 E	1245 D		N09	W17	4715	19 D	1	1	1228	2.84	2.98			
MCMATH	28	1800	1900 D	1805	S15	W75	4712	60 D	2	3	1805	2.76	8.14		69	S-SWF
MT WILSON	28	1803	2003	1809	S15	W68	4712	123	1							
MCMATH	28	1840	1920 D		N08	W22	4715	40 D	1	1	1848	2.84	3.07		64	
SYDNEY	28	2336	2347	2342	N22	W94	4708	11	□	2	2342	.50				
SYDNEY	28	2349	2359	2351	N25	W82	4708	10	□	2	2351	1.00				
SYDNEY	29	0022	0032	0028	N20	W69	4711	10	1	2	0028	1.00	3.00			
ARCETRI	29	0836 E	1035 D		S10	E39	4722	138 D	1	3	0836	3.30	4.30			
ARCETRI	29	0913 E	0923 D		S09	E26	4722	10 D	1	3	0917	1.70	1.90			G-SWF
MCMATH	29	1721	1800 D		S09	W27	4718	39 D	1&	1	1733	3.08	3.64		85	
MCMATH	29	1753	1805 D	1758	N17	E20	4725	12 D	2	1	1758	5.04	5.44		69	
MCMATH	29	2138	2210 D	2157	N07	W38	4715	32 D	1&	1	2157	3.08	4.01		60	
ABASTUMANI	30	0456 E	0835 D	0824	S08	E24	4722	219 D	1&	2	0825		7.34	2.80	73	
SCHAUINS	30	0713	0720		S08	E23	4722	7	1&	2			2.00	2.80		
ABASTUMANI	30	0756 E	0833	0758	S12	W56	4718	37 D	1&	2	0759		7.85		59	
MT WILSON	30	1419 E	1542 D	1433	S09	E18	4722	83 D	2-							
MT WILSON	30	1605 E	1609 D		S08	E16	4722	4 D	1&							S-SWF
MCMATH	30	1933 E	2040 D		S06	W43	4718	67 D	2	1	2020	8.61	12.05		68	
MT WILSON	30	2010	2044		S08	W40	4718	34	1							
TASHKENT	31	0306 E	0430		S09	E17	4722	24 D	1&	3	0310		8.00	3.30	80	
ABASTUMANI	31	0515	0542 D	0516	S06	E11	4722	27 D	1	2	0516		2.60		73	
ABASTUMANI	31	0546	0800 D	0743	S08	E03	4722	136 D	1&	2	0748		5.67	2.00	76	G-SWF
ABASTUMANI	31	0612	0638	0616	S20	E51	4732	26 D	1	2	0616		2.81		58	
MT WILSON	31	2246	2301	2246	S09	E07	4722		1-							

COMMERCE - STANDARDS - BOULDER

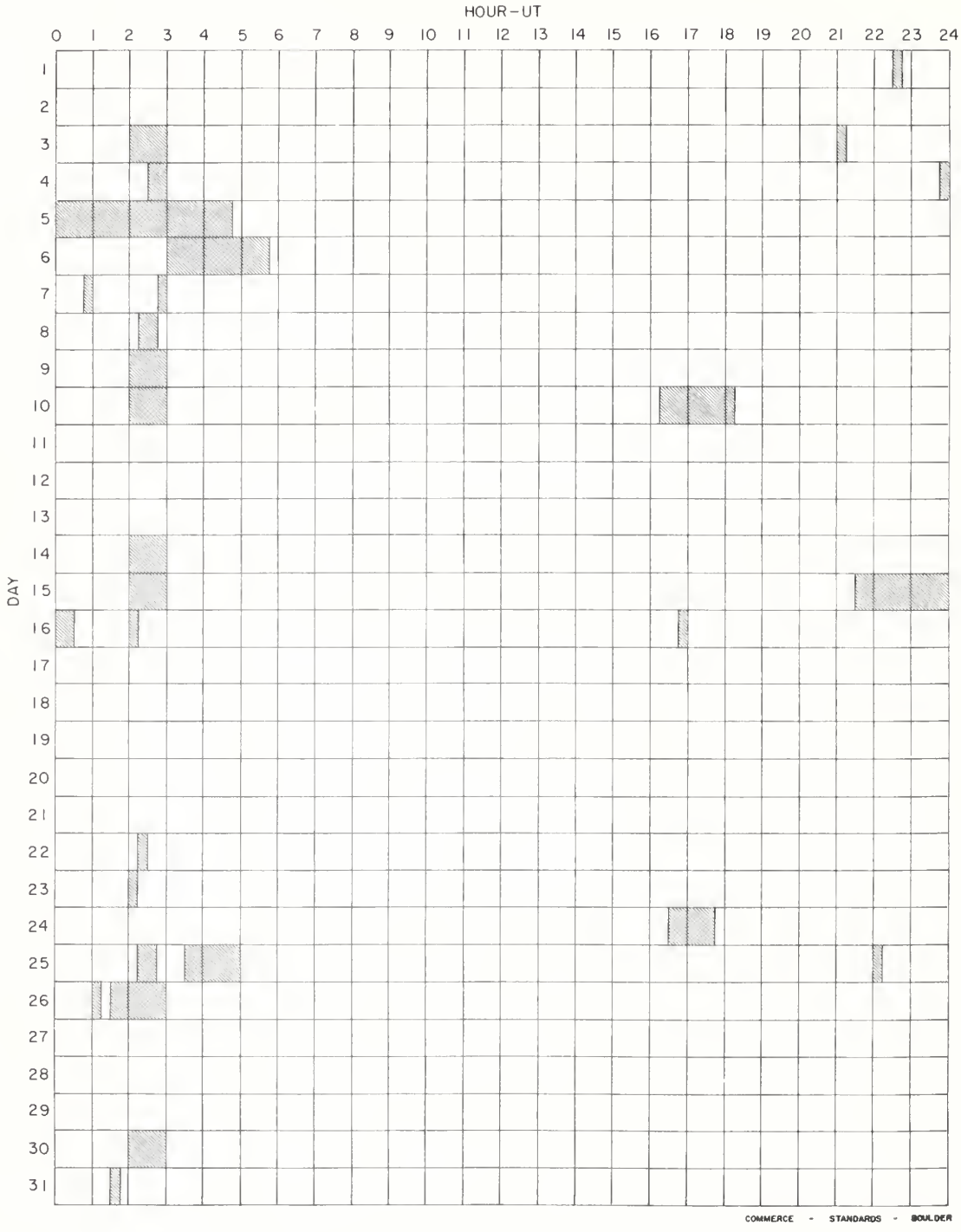
CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNAL KODAIKANAL
KRASNYA KRASNAYA PAKHRA
MOSCOW NIZMIR
MOSCOW-G MOSCOW - GAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK 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

AUGUST 1958



Stations included:

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

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

NOVEMBER 1958

Nov. 1958	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 172B
1	0710	0730	S-SWF	1	-	CW**	
1	1037	1105	S-SWF	3	1+	NE, PU	*
1	1127	1137	S-SWF	3	1	KU, MA	*
1	1447	1504	S-SWF	4	1	MC, NE, PR	1444
1	1500	1540	G-SWF	5	1+	BE, FM, HU, LA, MC, NE, PR, WS	1503E
1	1818	1842	S-SWF	5	2-	BE, FM, HU, LA, MC, NE, PR, WS	1815
4	2004	2028	S-SWF	5	2-	AD, AN, BE, FM, HU, LA, MC, PR, WS	2005
5	0815	0839	S-SWF	1	1	NE	0815E
5	1015	1040	S-SWF	5	2	BE, DA, JU, KU, NE, PU, CW**,***	1015
5	2215	2238	S-SWF	5	1	AD, AN, OK, TO, WS	
6	1126	1131	S-SWF	1	1	JU	*
7	0320	0350	S-SWF	1	2	OK	0329E
7	1829	1855	G-SWF	4	1	HU, MC, PR, WS	1820
8	1826	0140	Slow S-SWF	4	1-	AN, MC, PR, WS	1822
14	0039	0140	Slow S-SWF	5	3	AD, CA, OK, TO	0036
15	1041	1204	Slow S-SWF	1	1	NE	1040E
18	2028	2105	Slow S-SWF	5	1	AD, AN, HU, MC, PR, WS	2011E
22	1415	1535	G-SWF	3	1	HU, PR	1420
23	1701	1722	Slow S-SWF	4	1	BE, HU, MC, PR, WS	1657
24	1615	1735	Slow S-SWF	5	3-	BE, FM, HU, MC, NE, PR, WS	1607
25	0715	0721	S-SWF	1	1	NE	*
26	1201	1231	Slow S-SWF	1	2	NE	*
27	1857	1908	S-SWF	5	1	AD, HU, LA, PR, WS	*
27	2358	0008	S-SWF	4	1-	AD, OK	2350E
28	0823	0834	Slow S-SWF	3	1	NE, PU	0824E
29	0933	0952	S-SWF	3	1+	NE, PU	0928
30	1148	1218	Slow S-SWF	4	1	NE, PR	1140E

CA = Canberra, Australia
DA = Darmstadt, G.F.R.
FM = Ft. Monmouth, N.J.
JU = Juhlesruh, G.D.R.
KU = Kuhlungsborn, G.D.R.
LA = Los Angeles, Calif.
MA = Madrid, Spain
NE = Nederhorst den Berg, Netherlands
PU = Prague, Czechoslovakia
TO = Hiraiso Radio Wave Observatory, Japan
CW** = Cable and Wireless, Somerton, England
CW *** = Cable and Wireless, Brentwood, England

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

MAY 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	DEFINITENESS	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	REMARKS
1		-		3	0631		0646		KU, NU
1		2		4	0830	0842	0920		ED, KU, PU
1		2		3	1004		1036		KU, NE
1		1+		4	1040	1051	1145		ED, KU, NE, PU
1		1		5	1410	1422	1504		DU, ED, KU, MC, NE NU, PU, SP
1	1			4	1413	1418	1434	15	MC, SP
1			1+	4	1703	1705	1707		MC, SP
1			1+	4	1751	1752	1754		MC, SP
1		1+		5	1806	1822	1910		AJ, BO, DU, ED, KU, MC, NU, SP
1	2			5	1814	1821	1855	35	BO, MC, SP
1			2	5	1848	1852	1854		BO, MC, SP
1			1-	3	1925	1926	1926		BO, SP
1			1-	5	1928	1929	1929		BO, MC, SP
1			1+	5	1935	1937	1937		BO, MC, SP
1			1+	4	2052	2058	2058		MC, SP
1		1-		1	2128	2138			MC
1		1		1	2331		2358		HO
2		3		1	0533		0630		HO
2		-		1	0755		0820		NU
2		-		1	0833		0853		NU
2		1		5	0952	1009U	1054		ED, KU, NU, PU
2			2+	4	1616	1620	1623		MC, SP
3		2		5	1307	1331	1440		AJ, DU, ED, KU, MC, NE, NU
3	1			5	1322	1337	1357	10	ED, MC SP
3		-		1	1615		1635		KU
3			2+	4	2051	2053	2055		MC, SP
4		2		5	0745	0747	0813		ED, HO, KU, NE, NU, PU
4	1+			5	1644	1646	1703	40	BO, MC, SP
4		2		5	1645	1649	1726		BO, DU, ED, KU, MC, NE, NU, PU, SP
5		2		5	0409		0440		HO, PU
5	-			1	0910	0923	0931		ED
5		1+		4	0910	0923	1008		ED, KU, NE, PU
5		1+		4	1022	1028	1115		ED, KU, NE, NU, PU
5		1+		4	1217	1227	1314		ED, KU, NE, PU
5		1		3	1329	1346	1425U		ED, KU
5			1	1	1930	1934	1936		SP
5		1-		1	1933	2003	2015		SP
5	1			1	1936	1946	2025	25	SP
5			1	1	2024	2025	2027		SP
5	2			5	2036	2039	2052	50	BO, MC, SP
5		1		3	2036	2041	2052		BO, SP
6			1+	4	1923	1925	1927		MC, SP
8		-		1	0915		0925		KU
8			1	3	1752	1754	1755		BO, SP
10		1		3	0854		0911		KU, NU, PU
10			1	5	1430	1431	1432		MC, RE, SP
10			1-	4	1716	1717	1718		MC, SP
10			1	5	1819	1825	1826		BO, MC, RE, SP

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

MAY 1958

DATE	CLASS SCNA	CLASS SEA	CLASS Burst	DEFINITENESS	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	REMARKS
10			2	5	2033	2035	2037		BO, MC, RE, SP
10			1+	5	2136	2137	2138		BO, MC, SP
11			1	4	1613	1615	1616		MC, SP
11			1+	4	1946	1948	1950		MC, SP
11			1	4	2028	2031	2032		MC, SP
12			1	3	1541	1546	1551		MC, RE
12		-		3	1843	1900	1947		DU, ED
13			1+	4	1618	1619	1620		BO, MC
15		-		3	1152		1226		KU, NU
16	1			1	1630U	1646	1700		RE
16			1+	3	1903	1904	1908		BO, SP
17		1+		4	1355		1449		KU, NE, PU
17			1-	1	1357	1359	1359		SP
17			1-	4	1406	1407	1408		RE, SP
17			2	5	1852	1855	1857		BO, MC, SP
17	1+			5	2135	2151	2200	10	BO, RE, SP
17		1+		4	2135	2151	2200		A1, BO
18			2+	4	1922	1925	1926		MC, SP
19			1-	4	1810	1813	1815		MC, SP
19			1+	4	1936	1937	1938		MC, SP
20			1	4	1812	1816	1817		MC, SP
23			1+	4	1940	1942	1944		BO, MC
27		-		3	1531	1542	1628		DU, ED
27	1-			1	1652	1658	1704		BO
27		1-		1	1652	1704	1713		BO
27			1+	5	2030	2032	2033		BO, MC, RE, SP
27			2	5	2252	2254	2255		BO, MC, SP
28			1+	5	1508	1511	1513		MC, RE, SP
28			1	5	1723	1724	1724		BO, MC, SP
28			1	5	1823	1825	1825		BO, RE, SP
28			1	5	1831	1833	1834		BO, MC, SP
28			1-	5	1906	1909	1910		BO, RE, SP
28			1	4	1931	1934	1935		RE, SP
28			1-	3	1955	1956	1956		BO, SP
30			2+	5	1729	1732	1734		BO, MC, RE, SP
30			1+	5	1825	1827	1829		BO, MC, RE, SP
30		1		1	1843	1845	1900		DE
30			2+	5	1844	1847	1848		BO, MC, RE, SP
30		1+		3	2007	2035	2100		A1, DE
30		1+		3	2134	2149	2250		A1, DE
30			2+	5	2213	2216	2219		BO, MC, RE, SP
31		1		3	0557		0630		KU, NE, NU
31			1	5	2040	2041	2041		BO, RE, SP

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
DAILY DATA

DECEMBER 1958

Washington, D.C. 9530 Mc.

Day	Flux	Day	Flux	Day	Flux
1	267	11	268	21	
2	269	12	252	22	241
3	247	13		23	272
4	259	14		24	268
5	273	15	264	25	
6		16	266	26	
7		17	268	27	
8	271	18	266	28	
9	266	19	246	29	
10	277	20		30	272
				31	260

OUTSTANDING OCCURRENCES

Dec. 1958	Type	IAU	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
1							1230-2110	
2							1230-2120	
3	Indeter		Indeter	Indeter	1416.0	Indet	1236-2115	
	Simple 2	SD	2006.2	7.9	1416.1	32		
	Simple 2	SD	2047.7	3.3	2009.5	25		
4							1538-2120	
5							1334-1835	
6							1337-2116	
7	Complex	CD	1257.1	9.4	1257.8	132	1230-2125	
	Simple 2	SD	1656.0	7.2	1656.9	109		
	Group (2)		1755.3					
	Simple 1	SD	1755.3	1.3	1755.7	8		
	Simple 1	SD	1800.3	1.7	1800.6	19		
10	Simple 1	SD	1549.6	0.5	1549.7	7	1332-2125	
	Simple 1	SD	1916.5	2.3	1917.8	4		
	Simple 2	SD	2112.2	3.0	2113.4	75		
11	Complex	CD	1426.7	6.5	1429.6	93	1305-2125	
	Group (2)		1506.3					
	Simple 2	SD	1506.3	1.3	1506.6	11		
	Complex	CD	1516.2	29.6	1519.5	433		
	Post Inc		1548.5	25.0		6		
	Indeter		~1700.0	Indeter	Indeter	Indet		
	Complex	CD	1805.0	25.0	1809.7	2612		
	Complex	CD	1933.3	19.0	1935.8	493		
12	Complex	CD	1251.2	30.0	Indeter	>1095	1235-2110	
	Complex	CD	1339.7	4.7	1340.2	51		
	Complex	CD	1503.6	5.3	1505.3	49		
	Complex	CD	1651.7	5.6	1652.0	87		
13	Complex	CD	1536.3	4.8	1537.9	30	1300-2120	
16	Complex	CD	1455.0	3.5	1455.2	19	1240-2130	
	Simple 1	SD	1530.0	1.0	1530.5	16		
	Simple 1	SD	1728.1	3.7	1729.8	16		
17	Complex	CD	1857.3	5.5	1858.9	245	1230-2135	
18							1240-2115	
19							1235-2120	
22	Complex	CD	1438.9	0.6	1439.4	11	1300-2140	
	Complex	CD	Indeter	Indeter	1501.2	32		
	Simple 1	ESD	2030.8	1.1	2031.0	11		
	Simple 1	SD	2038.2	2.1	2040.4	13		
23							1235-2055	
24	Complex	CD	1437.8	1.5	1438.4	35	1255-2110	
	Simple 1	SD	1959.4	2.1	2000.3	6		
29							1240-2120	
30							1230-2110	
31	Simple 2f	SD	1658.5	7.0	1700.9	339	1438-2113	
	Post Inc			19.0		55		

SOLAR RADIO EMISSION
DAILY DATA

DECEMBER 1958

Washington, D.C. 3200 Mc.

Day	Flux	Day	Flux	Day	Flux
1	214	11	207	21	
2	216	12	224	22	168
3	193	13		23	170
4	207	14		24	178
5	218	15	201	25	
6		16	203	26	
7		17	183	27	
8	220	18	170	28	
9	221	19	169	29	165
10	220	20		30	175
				31	188

OUTSTANDING OCCURRENCES

Dec. 1958	Type	IAU	Start UT	Duration Hrs.Mins	Maximum Time UT	Maximum Peak Flux	Observing Period UT	Remarks
1							1230-2110	
2							1230-2120	
3	Simple 3	SD	1406.2	19.6	1415.1	8	1230-2110	
	Complex	CD	2007.8	6.7	2009.5	19		
	Simple 2	SD	2049.6	2.1	2049.9	13		
4							1230-2120	
5							1334-1835	
8	Simple 1	SD	1733.9	2.7	1734.4	6	1337-2116	
9	Complex	CD	1257.0	9.5	1258.1	86	1230-2125	
	Simple 2	SD	1353.2	4.2	1356.8	20		
	Simple 3	SD	1654.1	13.7	1655.6	39		
	Group (3)		1750.0					
	Simple 2	SA	1755.0	2.1	1755.8	8		
	Simple 2	SA	1800.2	2.3	1800.7	8		
	Simple 2	SD	1821.3	2.6	1822.2	11		
10	Complex	CD	1414.8	3.7	1415.3	12	1332-2120	
	Simple 1f	SD	1451.5	0.6	1451.9	5		
	Simple 1	SD	1448.9	1.0	1449.5	4		
	Simple 2	SD	1916.8	3.0	1917.5	10		
	Simple	SD	2111.8	3.4	2113.4	39		
11	Complex	CD	1420.3	5.9	1429.7	44	1305-2145	
	Group (2)		1506.3					
	Simple 1	SD	1506.3	1.3	1506.6	5		
	Complex	CD	1514.7	31.0	1519.4	173		
	Complex	CD	1804.0	21.9	1809.8	1640		
	Complex	CD	1932.0	18.8	1935.8	303		
12	Complex	CD	1252.2	29.1	indeter	>1313	1230-2110	
	Complex f	CD	1339.3	4.0	1342.1	14		
	Complex	CD	1451.9	1.5	1452.5	7		
	Complex f	CD	1504.0	4.6	1508.3	35		
	Complex	CD	1651.7	2.5	1652.0	35		
	Simple 2f	ESD	1744.6	3.7	1745.0	17		
15	Simple 1	ESD	1459.1	3.7	1500.1	55	1300-2120	
	Complex	CD	1536.8	5.2	1538.0	9		
	Simple 2	SD	1938.7	1.4	1939.1	8		
16	Simple 2	ESD	1449.0	1.8	1449.3	10	1240-2125	
	Simple 2f	SD	1726.9	5.8	1728.8	47		
17	Complex	CD	1857.2	5.6	1858.9	192	1230-2135	
18							1230-2115	
19							1235-2120	
22	Complex	CD	1436.9	1.0	1439.4	7	1300-2140	
	Complex	CD	1446.6	30.1	1449.7	21		
	Group (3)		2020.3	12.9				
	Simple 1	SD	2020.3	1.7	2021.2	7		
	Simple 1	SD	2026.6	6.2	2027.6	7		
	Simple 1	SD	2033.6	5.0	2034.3	4		
23							1235-2005	
24	Simple 2	SD	1437.6	1.7	1438.4	39	1237-2110	
	Simple 1	SD	1959.6	2.3	2000.3	6		
29							1240-2130	
30							1230-2110	
31	Complex	CD	1657.1	13.7	1701.3	394	1230-2113	
				0.9		21		

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

DECEMBER 1958

Ottawa — **2800 Mc.**

	Type*	Start UT	Duration Hrs:Mins	Maximum Time UT	Maximum Peak Flux	Remarks
3	2 Simple 2	1232.5	0.8	1232.8	18	
3	6 Complex	2007.5	4	2009.5	16	
3	2 Simple 2	2049	2	2049.8	12	
4	3 Simple 3	1958	15	2002	6	
6	3 Simple 3	1613	12	1614	5	
6	2 Simple 2	1942.5	3	1944	23	
	4 Post Increase		25		8	
8	1 Simple 1	1734	2	1734.5	5	
9	8 Group (3)	1257	6			
	6 Complex	1257	3.5	1258	90	in sunrise
	2 Simple 2	1300.5	1	1301	15	interference
	2 Simple 2	1301.5	1.5	1302	20	pattern
9	2 Simple 2	1355	2	1355.8	18	
9	2 Simple 2	1654.5	8	1656.5	32	
9	8 Group (2)	1756	8			
	1 Simple 1	1756	3	1756.7	7	
	1 Simple 1	1801	3	1801.8	7	
9	2 Simple 2	1822.5	1.5	1823.2	35	
10	1 Simple 1	1917	3	1918	7	
11	2 Simple 2 f	1426.5	7	1429.5	35	
11	2 Simple 2	1516.5	4.5	1519.2	150	
11	2 Simple 2	1533	3	1534	13	
11	8 Group (3)	1759	1			
	2 Simple 2 f	1759	4	1800	20	
	2 Simple 2 f	1805	20	1809.8	1225	
	4 Post Increase		25		15	
	2 Simple 2 f	1855	4	1856.5	55	
11	2 Simple 2 f	1934.5	8	1935.9	300	
12	2 Simple 2 f	1252	1	1252.5	35	
12	2 Simple 2 f	1257	18	1300.5	1500	
	4 Post Increase A		4 20		20	
	6 Complex	1340	5	1343	14	
	1 Simple 1	1452	2	1452.5	7	
	2 Simple 2	1504	1	1504.3	10	
	2 Simple 2 f	1651.5	3	1652	45	
12	2 Simple 2	1744	2.5	1745	28	
13	3 Simple 3 A	1831	35	indet.	10	
	2 Simple 2	1832.8	7	1834	345	
14	1 Simple 1	1521.3	1	1521.8	7	
14	2 Simple 2	1617	4	1618	72	
15	2 Simple 2	1459.5	1.5	1500	25	
16	1 Simple 1	1448.7	1	1449	7	
16	2 Simple 2	1619	4	1621	20	
16	2 Simple 2	1727	8	1728.9	45	
17	2 Simple 2 f	1857.5	5	1859	250	
	4 Post Increase		1		5	
18	2 Simple 2 f	1636	10	1641	14	
18	2 Simple 2	1922	2	1922.5	11	
20	3 Simple 3	1752	18	1758	4	
21	9 Precursor	1405	23		12	
	6 Complex f	1428	14	1429.5	90	
22	8 Group (2)	1457	2 23			
	2 Simple 2	1457	8	1502	25	
	4 Post Increase		15		8	
	3 Simple 3	1520	2	1550	8	
24	2 Simple 2	1437.7	2.5	1438.3	40	
24	3 Simple 3	1452	1 20	1505	8	
25	2 Simple 2	1630	10	1633	9	
25	1 Simple 1	1934	4	1936	7	
26	2 Simple 2	1645	2	1646	18	
28	6 Complex f	1335.5	9	1337	120	
28	2 Simple 2 f	1506	5	1508	13	
28	3 Simple 3	1711	20	1714	7	
28	1 Simple 1	1842	1	1842.5	6	
28	1 Simple 1	2000	1	2000.5	7	
29	3 Simple 3	1623	25	indet.	6	
29	2 Simple 2	2027	1	2027.5	25	
30	1 Simple 1	1652	2	1653	6	
30	2 Simple 2	1925	1	1925.5	22	
31	6 Complex	1330	10	1331.5	22	
31	6 Complex	1350	10	1355.5	11	
31	6 Complex f	1657.5	18	1701.5	340	
	4 Post Increase		20		5	
31	3 Simple 3	1823	20	1834	16	
	4 Post Increase		45		8	

HOURS OF OBSERVATIONS: OCTOBER, NOVEMBER, DECEMBER 1958

OBSERVING PERIOD: October 1155 UT - 2155 UT (approx.)
November 1225 UT - 2115 UT (approx.)
December 1255 UT - 2100 UT (approx.)

with the following exceptions:

(1) Periods of interference obscuring the records on:
October 2, 3, 6, 7, 9, 10, 14, 16, 17, 28
November 4, 13, 14, 18, 25
December 5, 16, 17, 22, 23, 30

(2) No observations:
October 8 1335-1615

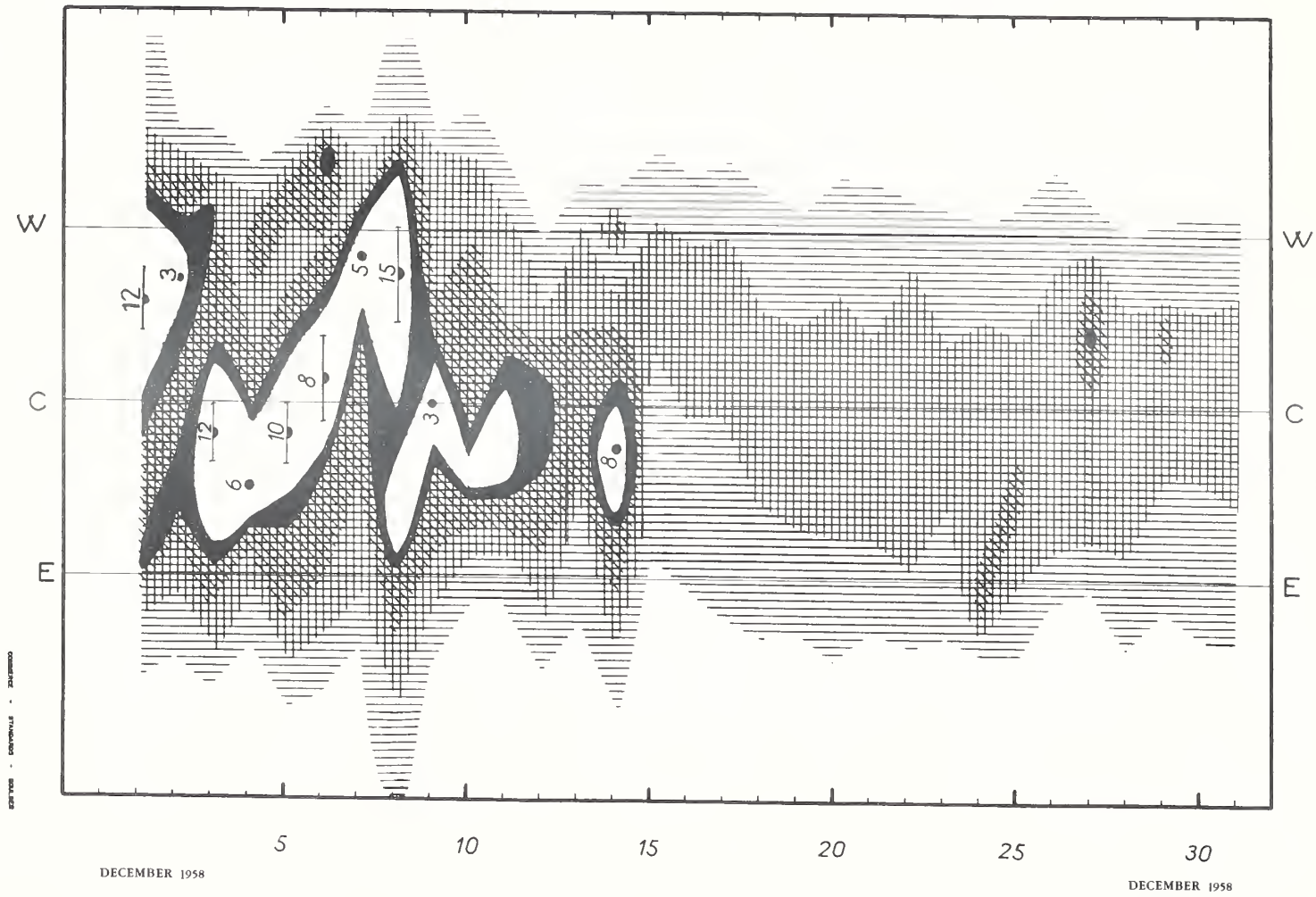
(3) Interruption in observing period of approximately 20 minutes sometime between 1500 UT and 1700 UT on:
October 1 - 14 inclusive
November 1, 12
December 24, and 26 - 31 inclusive

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

Nançay

169 Mc



SOLAR RADIO EMISSION

DAILY DATA

DECEMBER 1958

CORNELL 200 MC

Dec. 1958	Flux Density 10^{-22}w m^{-2}(c/s)$^{-1}$ Hours UT 12-15	15-18	18-21	Variability 0 to 3 Hours UT 12-15	15-18	18-21	Observing Periods Hours UT
1	[[24	30	20]	[[2	2	2]	1350-2110
2	[[52	34	23]]	[[3	2	2]]	1350-1900
3	[[23	22	23]]	[[2	2	2]]	1350-1845
4	[[22	21	24]	[[2	2	2]	1345-2050
5	-	[34	26]	-	[2	2]	1600-2045
6	-	22]	-	-	2]	-	1515-1700
7	[13	18]	-	[1	3]	-	1335-1705
8	[[40	30	26]	[[2	2	2]	1355-1930, 1955-2025
9	[[14	12	12]]	[[2	1	1]]	1350-1900
10	[[38	38	16]	[[3	3	2]	1400-2025
11	[[19	23	24]	[[2	2	3]	1350-2045
12	[[25	28	16]	[[2	2	2]	1440-2100
13	[[14	13	12]	[[1	1	1]	1405-2005
14	[[21	24]	-	[[2	2]	-	1400-1700
15	[[12	13	12]	[[1	1	1]	1430-2010
16	[[11	11	11]	[[0	1	0]	1345-2000
17	[[11	11	11]	[[0	0	1]	1350-2030
18	[[11	11	11]	[[0	0	0]	1345-2000
19	[[12	12	12]]	[[0	0	0]]	1400-1910
20	[[12	12]	-	[[0	0]	-	1400-1705
21	[12	12]	-	[0	1]	-	1330-1700
22	-	12	12]	-	0	1]	1540-2055
23	[12	12	12]	[0	0	1]	1340-2015
24	[[16	15	13]	[[2	2	1]	1350-2030
25	-	-	-	-	-	-	- -
26	[[13	13	13]	[[0	1	1]	1400-2020
27	[[13	13]	-	[[1	0]	-	1350-1700
28	[[12	16	-	[[1	2	-	1355-1720
29	[[12	12	12]	[[0	1	0]	1350-2010
30	[[11	11	11]	[[0	0	0]	1350-1950
31	[[11	12	11]	[[1	2	1]	1345-2000

[= 1st hour missing.
[[= 1st two hours missing.
] = last hour missing.
]] = last two hours missing.

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

DECEMBER 1958

Cornell — **200 Mc.**

Dec. 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	1349		>270	F			
2	6	1350		>180	F			
4	0	1929		33	F			
5	3	1608	1608.5	1.5	CA	210	120	
6	6	1513		>110	F			
7	3	1412.5		.5	CA	91	72	
	7	1457.5		>126	E			
8	2	1553.5	1554	2.5	CA	150	65	
	2	1828.5		1.5	CA	100	62	
	3	1846		1	CA	210	140	
	3	1850.5		.5	CA	120	72	
9	6	b1352		> 57	F			
	3	1354.5		1.5	CA	320	260	
	2	1458	1459	2.5	CD	380	320	
	3	1621		1	CD	180	140	
	8	1655	1700.5	16	CD	1000	880	
10	6	b1359		>246	F			
	8	1430	1441.5	15.5	CD	2800	1700	
	8	1446	1450.5	7.5	CD	260	140	
	9	1501	1515.5	27	CD	630	380	
	9	1545	1559.5	134	F	91	41	
11	7	1426	1429	63	F	740	630	
	2	1539	1539	17	F	2800	2000	
	9	1804	1808.5	19	ECD	5500	5000	
	9	1834	1855.5	48.5	F	320	210	
11	8	1934	1936.5	11	ECD	4700	3800	
12	3	1451.5	1452.5	2	CA	380	260	
	8	1503	1505.5	4.5	CA	1200	880	
	2	1649	1651.5	10.5	F	1000	740	
	2	1728	1729.5	2	CA	120	72	
	3	1958	1959.5	2	CA	72	55	
13	3	1748.5		.5	CA	740	630	
	3	1832.5	1833	1.5	CA	120	91	
	3	1846.5		.5	SA	1700	1500	
15	3	1534		.5	SA	46	28	
	2	1537	1537	1.5	CA	37	18	
	3	1647	1647	1.5	CA	43	26	
	3	1908		1	CD	46	30	
	3	1912.5		1.5	CD	46	30	
16	2	1628	1630	12.5	F	380	320	
	3	1716.5	1717	5	CD	52	34	
	3	1930		.5	CD	52	34	
17	3	1859		.5	CD	120	91	
	2	2005.5		1	CD	38	21	
19	2	1901.5	1907.5	7	F	46	28	
22	3	1802.5	1803	1.5	CD	4400	3800	
	3	1810		1	CD	72	55	
23	2	1343.5	1343.5	1.5	CD	39	22	
	3	1956		.5	CD	52	34	
24	2	1420.5	1438	19	F	210	180	
	3	1616.5		.5	CD	52	32	
	3	1736	1736.5	1.5	CD	52	32	
	3	1738		.5	CD	52	32	
	3	1857.5		.5	CD	52	32	
26	2	1623	1623.5	3	CD	91	72	
	2	1845	1848	8	CD	52	34	
	3	2014	2014.5	1.5	CD	52	34	
27	2	1359		40	F			
	3	1432.5		1.5	CD	91	72	
28	3	1414		.5	CD	65		
	2	1506		4.5	CD	~65		
	3	1603.5	1604	2.5	CD'	46	26	
	3	1623	1624	2	CD	65		
	7	1653.5		> 29	F			
29	3	1725.5		1	CD	440	380	
31	8	1658.5	1659.5	16.5	ECD	530	440	
	2	1716.5	1717	1.5	CD	~65		
	3	1849		<.25	SD	~65		
	3	1958.5		1	CD	33	18	

SOLAR RADIO EMISSION

DAILY DATA

SEPTEMBER 1958

BOULDER 167 MC

Sept. 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	-	-	77	66	63	67	-	3	2S	2S	2S	2S	12.5-01.3
2	-	-	64	53	-	61	-	2S	2	2	2	2	12.5-20.1; 22.5-01.3
3	-	-	38	46	40	41	-	2	2S	2	2S	2S	12.5-14.2; 14.5-22.1; N1
4	-	-	-	18	23	20	-	-	-	0S	0S	0S	12.5-16.0; 16.9-20.3; N2
5	-	-	19	19	19	19	-	1S	0S	0S	0S	0S	12.6-15.8; 16.8-01.1
6	-	-	19	20	19	19	-	0S	0S	0S	1S	0S	12.6-01.1
7	-	-	22	18	17	19	-	2S	1S	0S	0S	1S	12.6-01.1
8	-	-	19	20	21	20	-	1S	0S	1S	2S	1S	12.6-01.1
9	-	-	20	21	22	21	-	0S	2S	2S	2S	2S	12.6-01.0
10	-	-	19	25	21	21	-	1S	2S	2S	2S	2S	12.7-14.0 14.5-01.0
11	-	-	20	30	21	23	-	2S	1S	0S	0S	1S	12.7-00.9
12	-	-	21	21	23	21	-	1S	1S	2S	2S	2S	12.7-14.8; 15.2-00.9
13	-	-	19	21	24	21	-	0S	1S	1S	2S	1S	12.7-00.9
14	-	-	18	18	18	18	-	2S	0S	0S	0S	1S	12.8-00.8
15	-	-	19	21	18	19	-	1S	0S	0S	1S	1S	12.8-20.5; 21.7-00.8
16	-	-	-	-	28	-	-	-	-	-	2S	-	21.2-00.8
17	-	-	19	18	19	19	-	0	0	0	1S	0	12.8-00.8
18	-	-	17	18	17	17	-	0	0	0S	1S	0S	12.8-00.8
19	-	-	19	19	18	19	-	0	0	0	0S	0	12.8-00.8
20	-	-	20	19	-	19	-	0	0	0	-	0	12.8-20.0
21	-	-	-	22	18	20	-	-	-	1S	0S	1S	17.0-00.7
22	-	-	20	19	17	19	-	0	0S	0S	0S	0S	12.8-00.7
23	-	-	20	18	19	19	-	1S	0S	0S	0S	0S	12.8-00.6
24	-	-	19	19	18	19	-	1	1S	1S	0S	1S	12.8-00.6
25	-	-	19	18	17	18	-	1	2	0S	0S	1S	12.9-00.6
26	-	-	19	19	18	18	-	1	2	1S	1S	1S	12.9-00.5
27	-	-	18	18	16	17	-	0	0	1	1	1	12.9-00.5
28	-	-	19	18	19	19	-	1	0	2	2	2	12.9-00.5
29	-	-	20	20	20	20	-	0	2S	1S	2S	2S	12.9-00.5
30	-	-	18	18	18	18	-	2	2S	0S	2S	2S	13.0-00.4
31													

Notes: 1. September 3, observed periods continued 22.6-01.2.
2. September 4, observed periods continued 20.9-01.1.

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

SEPTEMBER 1958

BOULDER 167 MC

Sept. 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	1230 B	1612.1	765 D	CA	1300	62	S,N2
2	6	1230 B	1416.4	765 D	CA	760	58	S,I 2003-2230
3	6	1230 B	1416.2	760 D	CA	480	27	S,I 1412-1432, 2205-2236
6	3	2215.4	2216.0	1.3X	ESD	150 X	-	S,I 1600-1653, 2015-2055
7	8	1450	1450.1	8	ECD	990	80	
8	3	1829.3	1829.4	0.5	ESD	420	-	
8	1	2000 X	2159.1	150 X	MF	5300 D	-	S
9	3	1513.7	1513.9	1	ESD	110	-	
9	3	1719.3	1719.4	0.5	ESD	640	-	
9	1	1730 X	1959.3	450 X	MF	430	-	S
10	1	1340	1933.6	680 D	MF	460	-	S,I 1402-1430
11	1	1240 B	1733.0	735 D	M	480	-	S
11	2	1319.3	1320.0	1.4	ECD	100	-	
11	2	1407.2	1407.8	3.8	ECD	690	120	
11	0	1815 X	2008 X	160 X	CD	40	13	S
12	1	1240 B	2036.5	735 D	MF	1100	-	S,I 1444-1510
13	1	1240 B	1500.7	735 D	MF	560	-	S
13	0	2245	2248.9	9	CD	54	13	S
14	1	1245 B	1318.0	725 D	M	460	-	S, I 2030-2140, N3
15	3	1408.7	1408.9	0.5	ESD	780	-	
16	1	2110 B	2211.9	220 D	MF	2200 D	-	S
17	3	2243.5	2244.0	1.1	ESD	170	-	
25	3	1454.4	1454.7	0.9	ESD	1200	-	
25	2	1633.0	1633.4	1.9	ECD	110	41	
25	2	1643	1646	6	CD	110	30	Burst 2203
26	1	1255 B	1701.9	695 D	M	900	-	S
27	2	2402.7	2403.5	1.0	ECD	140	-	
28	2	1306.7	1307.5	1.3	ECD	180	-	
28	3	2004.3	2004.8	0.6	ESD	160	-	
28	9a	2046.1	2047.1	1.6	ECD	400	-	
28	9b	2047.8	2049.8	4.1	ECD	2000 D	-	
28	3	2237.9	2238.1	2.0	ECD	470	-	
29	1	1255 B	2232.8	695 D	M	2200 D	-	S, N4
29	2	2114	2115.8	4.0	ECD	1200	480	
30	1	1300 B	1735.5	685 D	M	600	-	S
30	3	1338.7	1339.4	1.0	ECD	1200	-	

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

2. September 1, large bursts 1315.9,1903.8,1932.9,1949.9,2156.0.

3. September 14, large bursts 1246.9, 1326.9, 1355.1, 1458.8.

4. September 29, large bursts 1555.8, 1607.3.

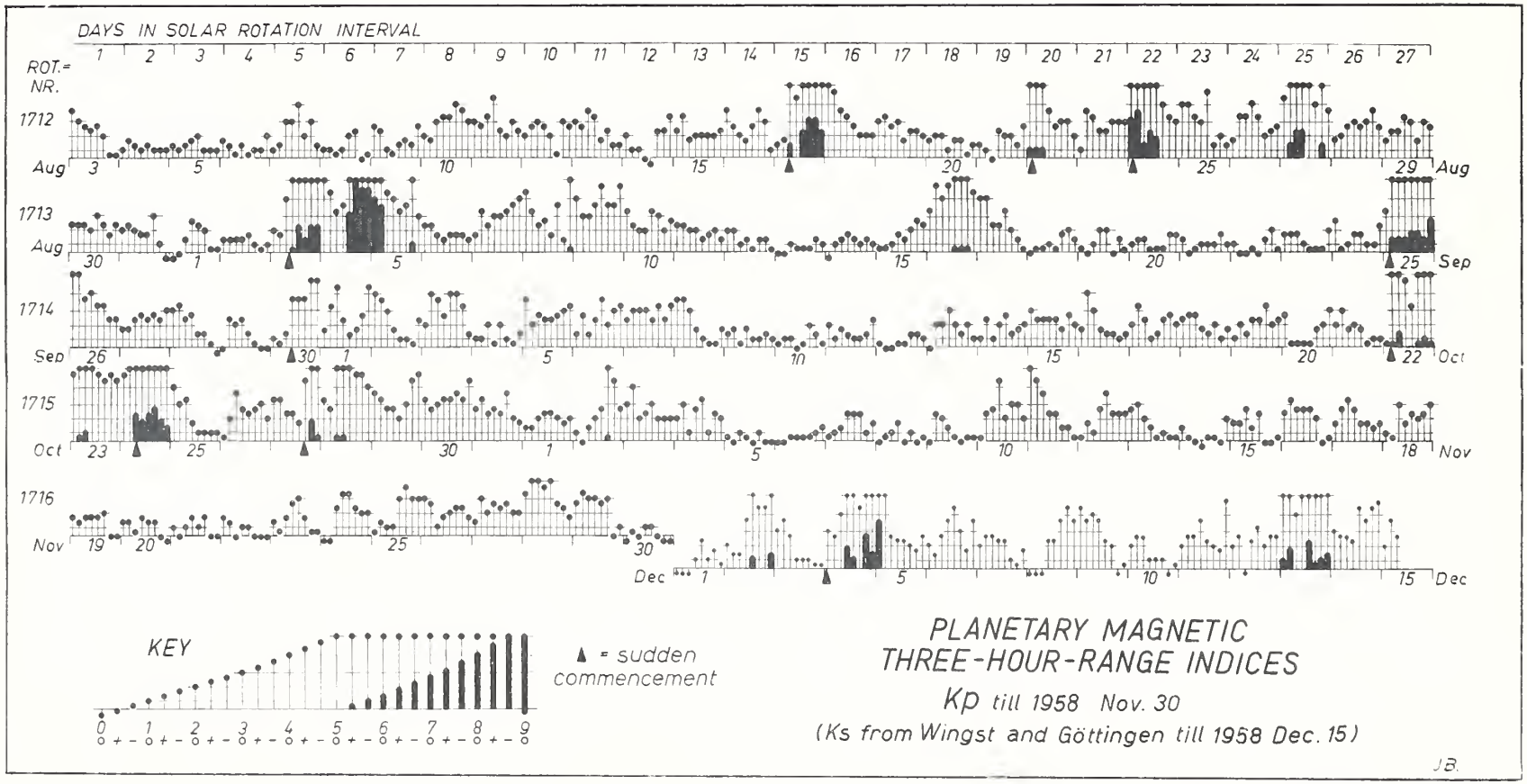
COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

NOVEMBER 1958

Nov. 1958	C	Values Kp Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	0.3	1+ 1+ 2o 2+	2+ 2o 2- 2o	15o	7	Five
2	1.1	1o 0+ 1+ 2o	3- 5+ 4+ 3-	20-	16	Quiet
3	0.8	3o 4o 2o 2+	3o 2o 2o 2o	20+	12	
4	0.4	2o 3o 1o 3-	3+ 1o 2+ 2o	17+	10	5
5	0.1	1- 0+ 1o 1-	0+ 1o 0+ 0+	5-	3	6
						8
6	0.1	0+ 0+ 1- 1-	1- 1- 1o 1+	6-	3	22
7	0.2	1- 1o 1+ 2+	2+ 2+ 1o 2-	13-	6	30
8	0.0	0+ 1- 1o 2-	0+ 1o 0+ 1-	6o	3	
9	0.1	0+ 2+ 2o 1+	1- 0+ 1- 1-	8+	4	
10	1.0	1- 2+ 3- 4+	2o 3o 3o 2o	20o	12	
11	0.9	5o 4+ 4- 2+	2+ 1+ 1+ 1-	21o	17	Five
12	0.6	1- 2- 1o 3-	4- 2+ 2+ 2+	17-	9	Disturbed
13	0.2	3- 3o 2o 1+	1- 1o 1- 1-	12o	6	
14	0.1	1+ 1- 0+ 0o	1- 1- 0+ 2o	6o	3	2
15	0.2	2- 2- 3- 1+	2+ 0+ 0+ 1-	11o	6	3
						10
16	0.5	2+ 3+ 3- 3-	3- 2o 0+ 1-	17-	9	11
17	0.3	2- 3- 3+ 3-	2- 2- 1+ 2-	17-	9	28
18	0.5	1o 1- 3o 2-	2+ 2o 2+ 3o	16o	8	
19	0.1	2- 1+ 2- 2-	2- 2o 0+ 0+	11-	5	
20	0.1	1+ 1+ 1- 2-	1+ 1+ 0+ 0o	8o	4	
21	0.1	1o 0+ 1o 2-	1o 2- 0+ 0+	7+	4	Ten
22	0.1	2- 1+ 0+ 1o	1o 0+ 0+ 0+	6+	3	Quiet
23	0.4	1+ 1- 2- 3-	3o 2- 1- 1-	12+	7	
24	0.5	0o 0o 2+ 3+	3+ 2+ 2o 2o	15+	8	5
25	0.8	1- 1+ 1o 1o	3o 4- 3o 3o	17-	10	6
						8
26	0.5	3o 3- 1o 2-	2o 2+ 2+ 2-	17-	8	9
27	0.6	1+ 3o 2o 3-	2+ 3- 2o 2o	18o	9	14
28	1.1	3+ 4o 4o 4-	4o 3- 2+ 2-	26-	18	19
29	0.8	3- 3+ 3o 3o	3- 3o 0+ 1o	19o	12	20
30	0.1	0o 1- 0+ 1o	1o 0+ 0o 0o	3+	2	21
						22
						30
Mean:	0.42			Mean:	8	

COMMERCE - STANDARDS - BOULDER



COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

NOVEMBER 1958

Nov. 1958	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 Day (1)	(2)
1	7+	7+	7+	7+	7	7	7	7	7+	7			7	1	2
2	7+	7+	7+	6+	7	7	7	7	7o	7			7	1	3
3	7o	6+	7+	7o	7	7	7	7	7o	7			7	2	2
4	7+	7+	7+	7+	7	7	7	7	7+	6			6	2	2
5	7+	7+	8-	7+	7	7	7	7	7+	6			6	0	1
6	7+	7+	7+	8-	7	7	7	7	7+	7			7	0	1
7	7+	7+	7+	7+	7	7	7	7	7+	7			7	2	2
8	7+	7o	7+	7+	7	7	7	7	7+	7			7	1	0
9	7+	7-	7+	7+	7	7	7	7	7+	7			7	1	1
10	7+	7-	7+	7o	7	7	7	7	7o	7			7	2	2
11	6o	7-	7o	7o	7	7	7	7	7-	7			7	3	2
12	7+	7-	7+	7o	7	7	7	7	7o	7			7	1	3
13	6+	7-	8-	7+	7	7	7	7	7o	7			7	2	1
14	7o	7-	7+	7o	7	7	7	7	7o	7			7	0	1
15	7o	7-	8-	7+	7	7	7	7	7^+	7			7	2	1
16	7o	7+	8-	7+	7	6	7	7	7+	7			7	2	1
17	7o	7o	8-	7+	7	7	7	7	7+	7			7	3	1
18	7-	6+	7+	7o	7	7	7	7	7-	7			7	2	2
19	7o	7o	8-	7o	7	7	7	7	7o	7			7	2	1
20	7o	7+	7+	7+	7	7	7	7	7+	7			7	1	1
21	7+	7o	7+	7+	7	7	7	7	7+	7			7	1	1
22	7+	7o	7+	7+	7	7	7	7	7+	7			7	1	0
23	7+	7o	7+	7+	7	7	7	7	7+	7			7	2	1
24	7o	7o	7+	7o	7	7	7	7	7+	7			7	2	2
25	7-	7+	8-	6o	7	7	7	7	7-	7			7	1	2
26	6+	7+	7o	6+	6	6	7	6	7-	4	4		7	1	2
27	6+	6+	7+	7-	6	6	7	7	7-	4	4		4	2	1
28	6o	7-	7o	7o	6	6	7	7	7-	5	6		5	3	2
29	7-	7o	7+	7+	6	7	7	7	7o	6			6	3	2
30	7+	7o	8-	7o	7	7	7	7	7+	7			7	0	0

Score:								
Quiet Periods	P	27	25	22	27	24		
	S	3	5	8	3	3		
	U	0	0	0	0	1		
	F	0	0	0	0	2		
Disturbed Periods	P	0	0	0	0	0		
	S	0	0	0	0	0		
	U	0	0	0	0	0		
	F	0	0	0	0	0		

( ) represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

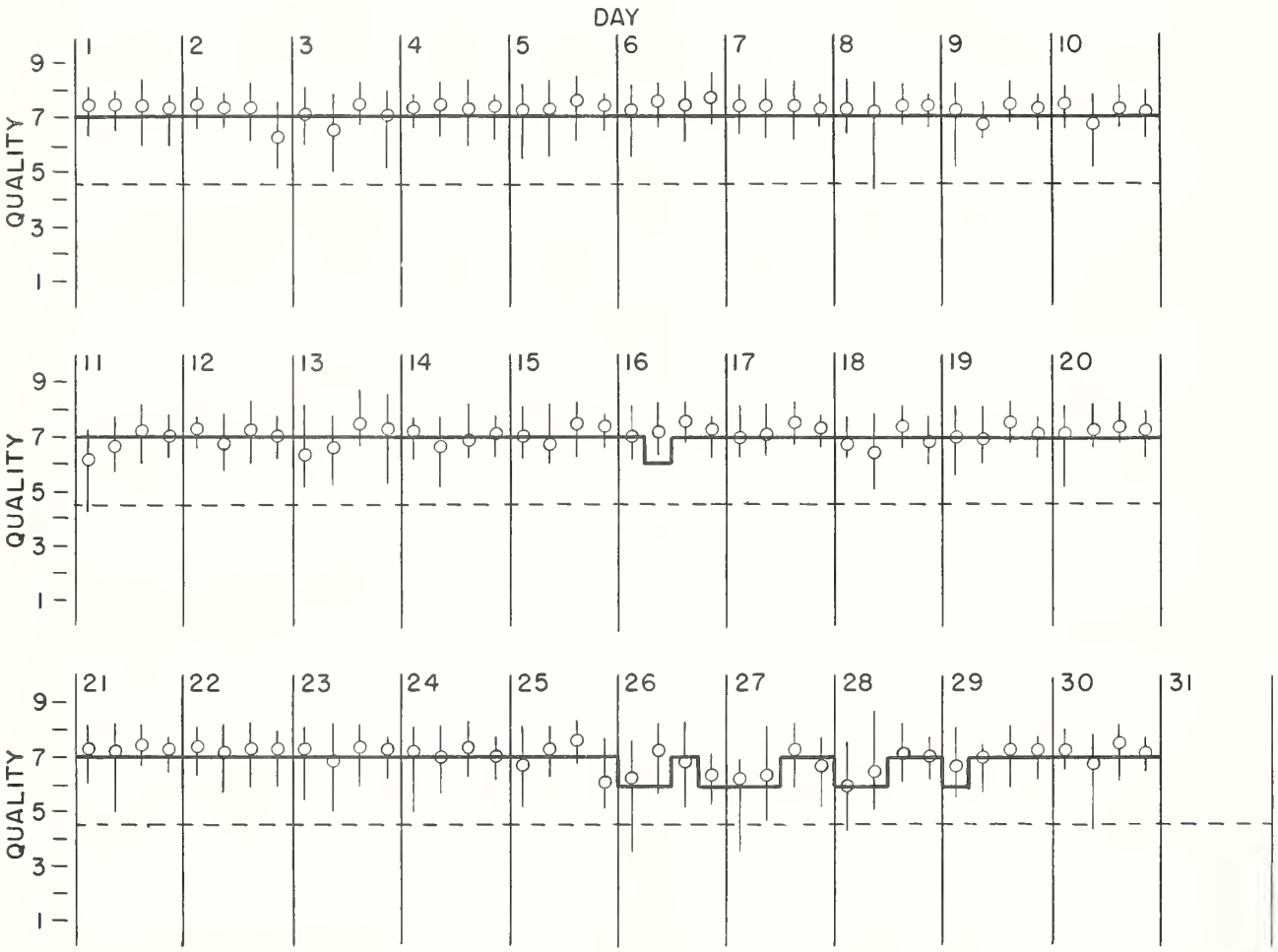
NORTH ATLANTIC

NOVEMBER 1958

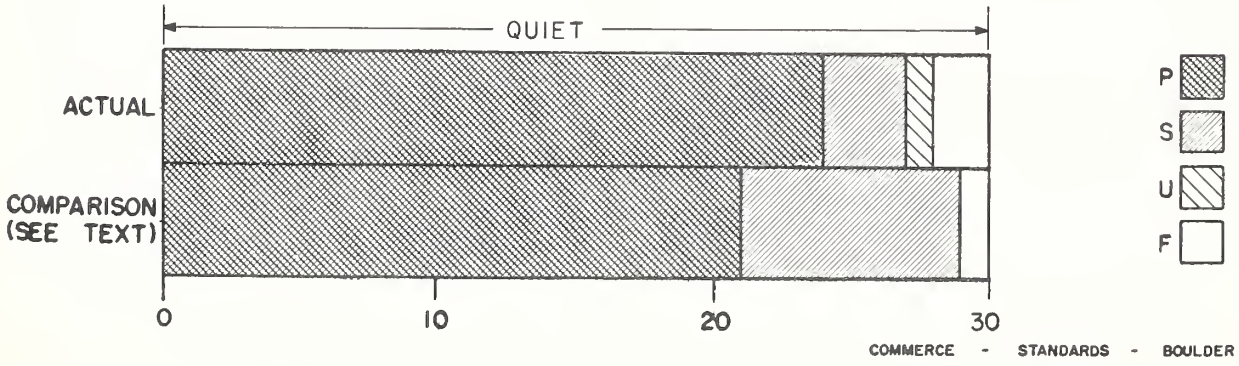
— Short-term forecast

o Quality figure

| Range of reports

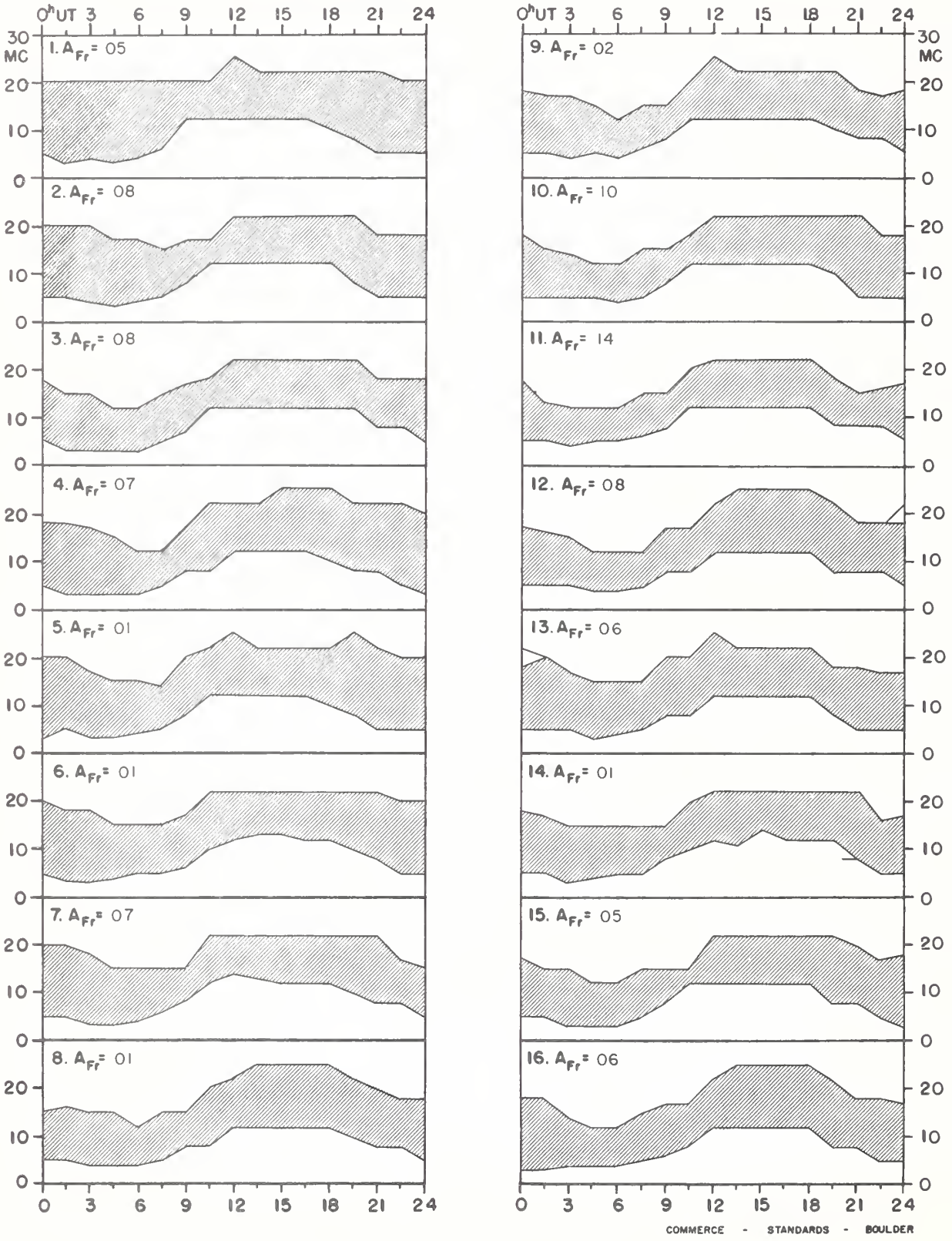


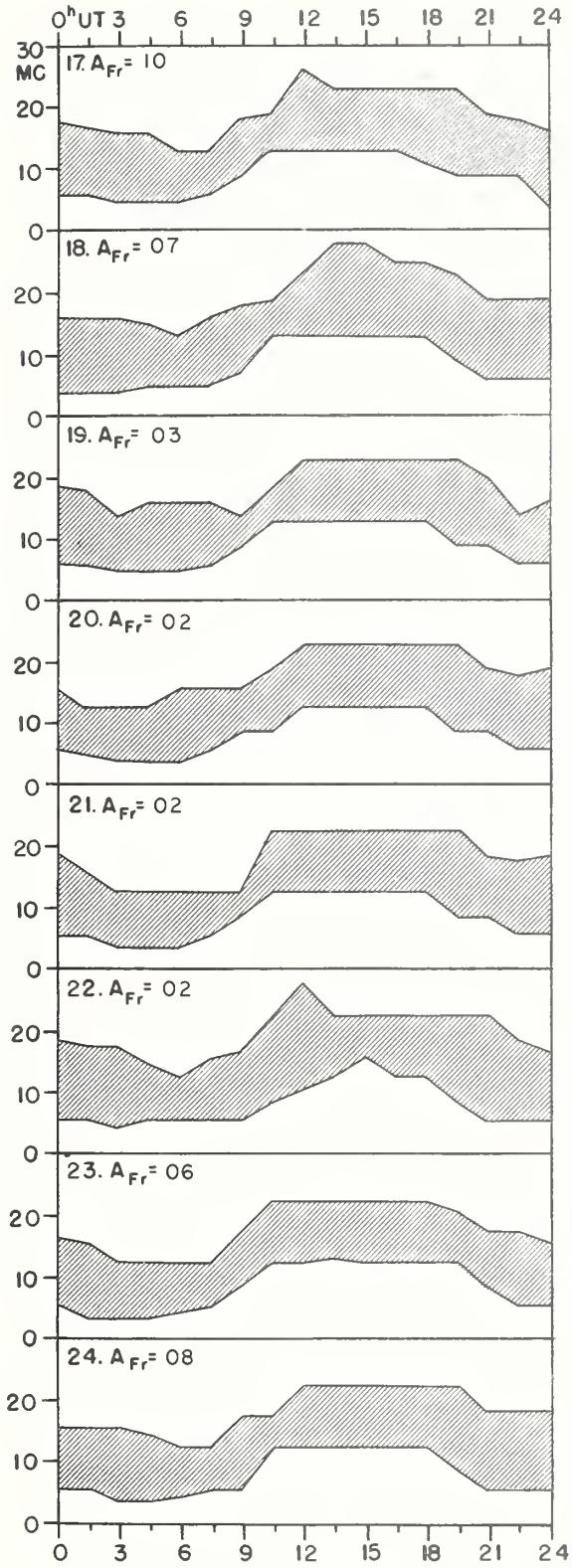
OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE

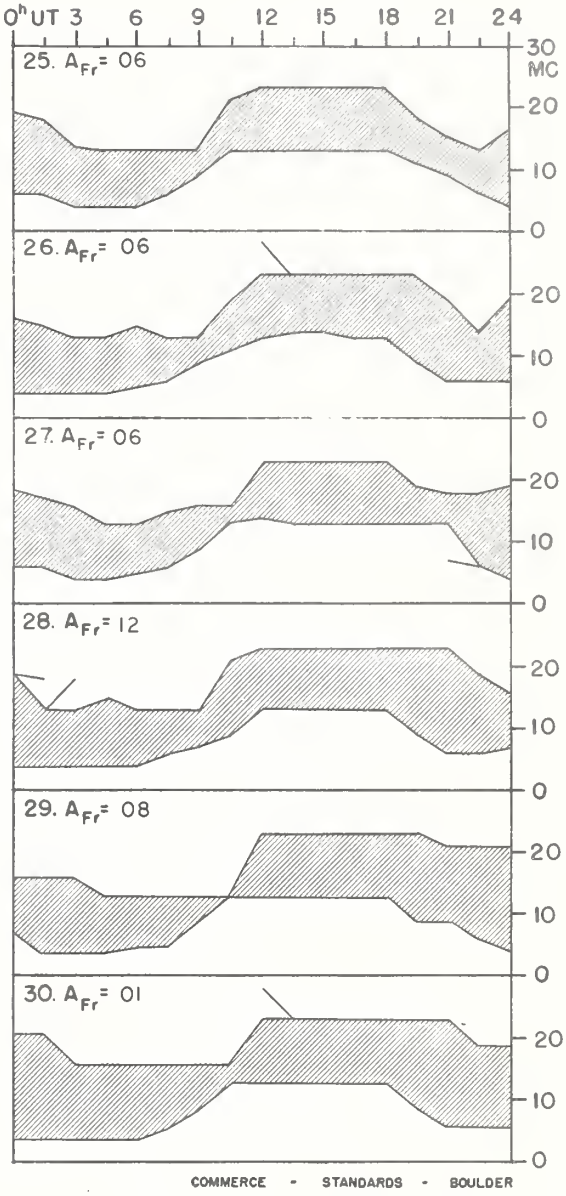


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

NOVEMBER 1958




0h UT 3 6 9 12 15 18 21 24
30 MC
17. AFr= 10
18. AFr= 07
19. AFr= 03
20. AFr= 02
21. AFr= 02
22. AFr= 02
23. AFr= 06
24. AFr= 08
0 3 6 9 12 15 18 21 24


0h UT 3 6 9 12 15 18 21 24
25. AFr= 06
26. AFr= 06
27. AFr= 06
28. AFr= 12
29. AFr= 08
30. AFr= 01
30 MC
COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

NOVEMBER 1958

Nov. 1958	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_{Si}	
	03 to 11	11 to 19	19 to 03	02	10	18		Final 1-7 days	1-7 days SDW	1-7 days Jp	Half (1)	Day (2)
1	7	6	6	6	6	7	6	6		6	1	2
2	6	6	6	6	7	4	6	6		6	0	(4)
3	6	7	6	7	6	6	7	6		6	2	2
4	6	6	6	6	6	7	6	7		7	2	2
5	6	6	6	6	7	7	6	7		7	0	1
6	6	6	6	6	6	7	6	7		7	0	0
7	6	6	6	6	6	6	6	6		6	1	1
8	6	6	7	7	6	7	6	6		6	1	0
9	6	6	6	7	6	6	6	7		7	0	0
10	6	7	6	7	6	7	7	7		7	2	2
11	6	7	7	6	5	6	7	7		7	(4)	1
12	7	6	7	6	6	6	7	7		7	1	2
13	7	6	6	7	7	6	7	6		6	2	1
14	6	6	7	6	5	6	6	6		6	0	0
15	6	6	7	6	6	7	7	6		6	2	1
16	7	7	7	6	6	7	7	6		6	2	2
17	6	6	6	7	7	7	7	6		6	2	2
18	4	5	6	6	5	6	5	6		6	2	2
19	6	5	7	6	5	6	6	5		5	2	1
20	5	7	7	7	6	6	6	6		6	1	0
21	5	6	7	7	5	7	6	6		6	1	1
22	6	6	7	6	6	7	7	6		6	1	0
23	5	6	7	6	6	7	6	6		6	1	2
24	4	6	7	6	5	6	6	6		6	2	2
25	6	6	6	6	6	6	6	6		6	0	3
26	6	5	7	6	5	6	7	3	3	6	1	2
27	6	6	7	6	6	7	7	5	4	5	2	2
28	6	6	7	6	5	7	7	5	6	5	(4)	2
29	6	5	7	6	6	7	7	6		6	3	2
30	6	5	6	6	5	7	6	6		6	0	0

Score:					
Quiet Periods	P	17	16	15	14
	S	9	13	14	13
	U	2	1	0	2
	F	0	0	1	1
Disturbed Periods	P	0	0	0	0
	S	0	0	0	0
	U	0	0	0	0
	F	2	0	0	0

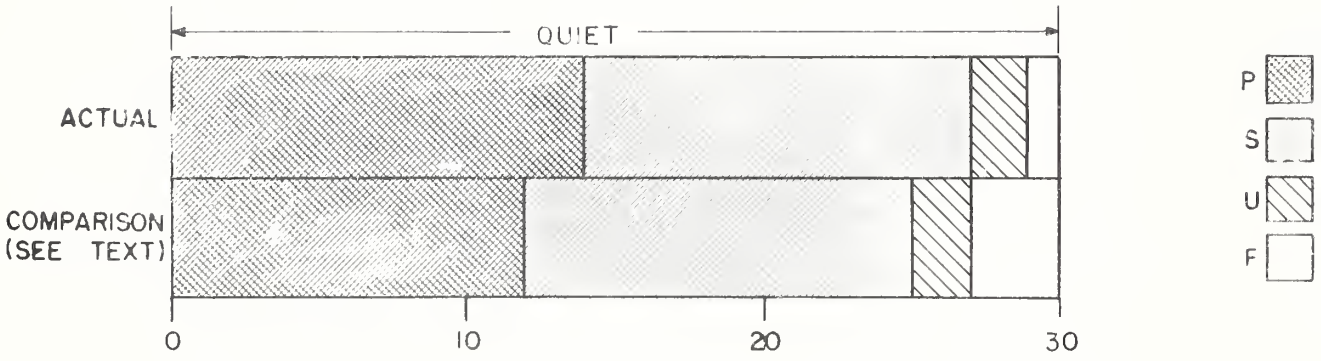
( ) represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

NOVEMBER 1958

OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



COMMERCE - STANDARDS - BOULDER

ALERT PERIODS AND SPECIAL WORLD INTERVALS

Alert Issued Ends 1600 UT 1600 UT	SWI Starts Ends 0000 UT 2359 UT	A_{Be} On Days of Alert Period (SWI Underlined)	Number of Flares of IMP $\geq$ 2 Reported Promptly on Days of Alert Period
1958			
Dec 4 Dec 7		27-13-06-03	1-0-0-0
Dec 10 Dec 16	Dec 13 Dec 14	04-08-03-<u>26</u>-<u>12</u>-07-13	2-2-4-3-1-2-0

COMMERCE - STANDARDS - BOULDER