

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	APPROX. MATH. FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	MAX. INT. %	
{ SIMEIZ CAPRI-S MEUDON	01	0855	0950	0902	S11	W64	4934	55	16							
	01	0855 E	1001 D		S14	W58	4934	66 D	2	2	0905	3.50	7.70			S-SWF
	01	0913 E			S13	W63	4934		1							
MITAKA	02	0147 E	0154		N14	W60	4936	7 D	1	2	0147	.89	1.78	1.41	100	
	02	0826 E	0843 D		N18	W87	4932	17 D	1							
	02	0912	0951	0917	S13	W67	4934	39	2							S-SWF
{ WENDEL CAPRI-S	02	0912	0951		S13	W67	4934	42 D	2	3	0924	3.00				
	02	0914 E	0956 D		N22	E28	4943	37 D	1							
	02	1033	1110 D		N18	W88	4932	25 D	16							
WENDEL	02	1104 E	1129 D		N22	E29	4943	19 D	1							
WENDEL	02	1209 E	1228 D		N12	W64	4936	36	1	1	1343	1.08	2.60	2.00	69	
USNRL	02	1337	1413	1343	S16	W85	4934	46	2	2	1430	4.52		2.00	103	Slow S-SWF
USNRL	02	1421	1507	1430	S13	W82	4934	14 D	26							
{ KANZELHOHE	02	1436 E	1450		S12	W70	4934	49	1	2	1521	.96	2.82	2.00	80	G-SWF
USNRL	02	1518	1607	1521	S16	E53	4947	12	1	1	1954	1.75	2.96		88	
USNRL	02	1949	2001	1954												
USNRL	03	1335	1357	1339	S22	W77	4934	22	1	3	1339	.90	4.55		81	
USNRL	03	1617	1702 D	1638	S12	W90	4934	45 D	16	3	1638	3.50			82	Slow S-SWF
CAPRI-S	04	1125 E	1225 D		N10	W90	4938	60 D	1	1	1208	2.00				
SAC PEAK	04	1720	1750	1725	S08	E45	4949	30	1	2		2.20			16	
SAC PEAK	04	2057	2125	2102	N13	E86	4953	28	1	2					20	
MITAKA	05	0110 E	0113		N12	E84	4953	3 D	1	1	0111	.89		2.11	96	
MITAKA	05	0255	0307 D	0305	S11	E13	4947	12 D	1	1	0255	3.80	4.06	1.52	137	
MITAKA	05	0322 E	0400	0322	S11	E13	4947	38 D	16	1	0342	5.58	5.97	1.42	152	G-SWF
{ UCCLE	05	1020 E			N23	E26	4951		2							
STOCKHOLM	05	1052 E	1138 D		N26	E30	4951	46 D	2	1	1102	5.00	6.50			
CAPRI-S	05	1110 E	1220 D		N25	E25	4951	70 D	2	3	1126	4.50	5.40			
NEDERHORST	05	1120 E			N26	E24	4951		26							
CAPRI-S	05	1140 E	1220 D		S18	W23	4944	40 D	1	3	1150	1.80	2.20			
CLIMAX	05	1832	1918	1859	N23	E26	4951	46	1		1859	2.10				
MCMATH	05	1856	1915	1859	N25	E22	4951	19	1	2	1859	1.95	2.38		68	
SAC PEAK	05	1857	1917	1900	N25	E22	4951	20	1	2					16	
MCMATH	05	1911	1921	1916	N11	E77	4953	10	1	2	1916	.97	2.58			
USNRL	05	2036	2050	2038	N12	E68	4953	14	1	1	2038	1.02	2.10	1.50	80	
CLIMAX	05	2055	2132	2113	N24	E23	4951	37	1		2113	2.20				
USNRL	05	2056	2101 D		N25	E21	4951	5 D	1	1	2101	2.60	3.14		78	
SAC PEAK	05	2105 E	2130	2109	N25	E22	4951	25 D	1	2		3.50			15	
MITAKA	06	0247	0253		N04	W30	4954	6	1	1	0249	.89	1.01	1.86	96	
CAPRI-S	06	1518 E	1547 D		N11	E58	4953	29 D	1	2	1537	3.00	6.00			
MITAKA	07	0115	0123		N07	W73	4954	8	1	1	0117	.82	.94	2.01	102	G-SWF
MITAKA	07	0218	0241		S14	W03	4947	23	1	1	0233	.41	.41		107	
MITAKA	07	0218	0305		S12	W10	4947	47	16	1	0220	5.66	5.76	2.86	120	
MITAKA	07	0420	0430		N07	E47	4953	10	1	1	0421	1.30	2.03	2.43	143	
SAC PEAK	07	1750 E	2045	1935	N25	W03	4951	175 D	2	2		8.40			17	
SAC PEAK	08	1627	1700	1637	N20	W18	4951	33	1	2		2.50			17	

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		START	END	MAX. PHASE	APPROX.						TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
					LAT.	MER. DIST.	MC-MATH FLAGE REGION									
DUNSINK	09	1154	1215		S10	W42	4947	21	1	1	1203			2.55		Slow S-SWF
MCMATH	09	1541	1624	1556	N22	W33	4951	43	1	1	1556	3.25	4.29		63	
MCMATH	09	1823	1910	1828	N18	W58	4945	47	1	1	1828	1.95	3.90		59	
USNRL	09	1826 E	1859		N15	W54	4945	33 D	1	1	1828	1.92	3.76		91	
MCMATH	09	1936	2000 D	1943	N19	W34	4951	24 D	1	1	1943	2.11	2.77		67	
HAWAII	10	0044	0100		N16	W05	4953	16	1	2	0046	2.50	2.70			
USNRL	10	1316	1352	1319	N17	W29	4951	36	1	2	1319	1.36	1.69		127	
MEUDON	10	1200 E	1432 D		N10	E10	4953	152 D	1				15.00			
USNRL	10	1339	1419	1349	N13	E09	4953	40	1	2	1349	1.24	1.32	1.00	107	
USNRL	10	1430	1540	1432	N07	E05	4953	70	1	2	1432	1.02	1.05		101	
USNRL	10	1451	1527	1455	N13	E09	4953	36	1	2	1455	1.02	1.07		107	
USNRL	10	1354	1418	1357	S15	W60	4947	24	1	3	1357	.79	1.61	1.00	109	
MITAKA	11	0117	0135	0124	N18	W33	4951	18	1	2	0125	1.30	1.70	2.08	125	
MITAKA	12	0431 E	0437		N23	E49	4962	6 D	1	1	0431	.62	1.07	1.80	120	
MITAKA	12	0443	0451	0446	N18	W15	4953	8	1	1	0443	.89	.99	1.83	137	
MEUDON	12	0948	1105		N22	E47	4962	77	1				3.00			
MEUDON	12	1441	1525 D		N09	W36	4953	44 D	1				4.00			
SAC PEAK	12	2045	2105	2052	N11	W32	4953	20	1	2		4.80			16	
MEUDON	13	0757 E	0915		N22	E36	4962	78 D	1				7.00			
MEUDON	13	1030	1115 D	1033	N22	E36	4962	45 D	1				7.00			
CAPRI-S	13	1207	1300 D		N20	E29	4962	53 D	1	2	1238	2.00	2.50			
USNRL	13	1440	1516	1444	N11	W36	4953	36	1	2	1444	.79	1.07		106	
USNRL	13	1459	1551	1502	N23	E28	4962	52	1	2	1502	1.81	2.37		93	
USNRL	13	1520	1545	1524	N18	W75	4951	25	1	2	1524	1.47	4.70	1.00	91	
USNRL	13	1648	1702	1651	N22	E26	4962	14	1	2	1651	2.32	2.99		88	
USNRL	13	1651	1846	1655	N11	W37	4953	115	1	2	1705	1.52	2.06		126	
USNRL	13	1838	1929	1841	N22	E26	4962	51	1	2	1841	2.04	2.55	1.00	91	
USNRL	13	1928	2029	1933	N11	W39	4953	61	1	2	1933	1.19	1.62	1.00	113	
USNRL	13	2020	2053	2022	N18	W80	4951	33	1	2	2022	.68	2.80		68	
USNRL	14	1406	1516	1410	N28	W12	4959	70	2	2	1410	4.97	5.97	2.00	130	S-SWF
HUANCAYO	14	1649 E	1655	1649	N26	W17	4959	6 D	1	2	1651	2.20	2.60	2.60		
USNRL	14	1949	2005 D	1950	S03	W67	4955	16 D	1	1	1950	.56	1.36	1.00	124	
SAC PEAK	14	2020	2050	2032	N27	W15	4959	30	1	2		2.10			18	
HAWAII	14	2030 E	2050 D	2034	N29	W13	4959	20 D	1	3	2034	2.10	2.60			
USNRL	14	2039 E	2047 D		N28	W16	4959	8 D	1	1	2039	.68	.84		138	
HAWAII	16	1914	1936		N28	E55	4969	22	1	2	1920	2.20	5.00			
HAWAII	16	2336	2340 D	2340	S06	E72	4972	4 D	1	3	2340	2.50	7.90			
ONDREJOV	17	0758 E	0808 D		S11	E67	4972	10 D	1	3	0800			2.30		
WENDEL	17	0830 E	0901 D		N06	E64	4973	31 D	1				3.00			137
USNRL	17	1705	1724 D	1712	N18	E47	4969	19 D	1	2	1712	1.48	2.41			
HAWAII	18	0030 E	0032 D		N15	E40	4969	2 D	1	1	0030	4.10	5.70			
MITAKA	18	0209	0218		S01	E55	4971	9	1	1	0210	1.84	3.13	1.86	120	Slow S-SWF
MITAKA	19	0030	0118	0035	N20	E35	4969	48	2	1	0039	6.44	8.24	2.04	165	

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		UNIVERSAL TIME			APPROX.		McMATH PLACE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
		START	END	MAX. PHASE	LAT.	MER. DIST.										
	1959															
WENDEL	19	1016	1044 D		N07	E49	4973	28 D	1				4.00			
WENDEL	19	1013	1025 D		N07	E80	4976	12 D	16				6.00			
ONDREJOV	19	1023 E	1031 D		N13	E85	4976	8 D	16	3	1024			3.90		
WENDEL	19	1024 E	1032 D		N13	E85	4976	8 D	16				5.00			
WENDEL	19	1125			N09	E54	4973		1				3.00			
WENDEL	19	1204 E	1216		N13	E84	4976	12 D	1				4.00			
HUANCAYO	19	1554	1603	1555	N15	E81	4976	9	1	2	1555	4.40	2.60	5.40		Slow S-SWF
SAC PEAK	19	2037	2117 U	2052	N12	E45	4973	40	16	2		4.50			15	
SAC PEAK	19	2130	2155	2147	N07	E43	4973	25	1	2		2.30			15	
CAPRI-S	20	0922	1005 D		N10	E62	4976	43 D	2	3	0943	4.00	9.20			
CAPRI-S	20	1104	1156 D		N17	E17	4969	52 D	2	3	1121	5.00	5.50			
DUNSINK	20	1110	1135		N18	E15	4969	25	1	1	1117	1.25	1.40	2.50		
DUNSINK	20	1237 E	1254		N22	E90	4979	17 D	1	1	1239			3.85		
CAPRI-S	20	1248 E	1317 D		N15	E70	4976	29 D	1	2	1257	6.50	1.40			
HAWAII	21	0048	0100	0052	N07	E08	4969	12	1	3	0052	2.10	2.30			
MITAKA	21	0258 E	0331	0305	N16	W04	4969	33 D	16	1	0302	4.12	4.45	2.08	162	G-SWF
NIZAMIAH	21	0315 E	0359	0337	N20	E03	4969	44 D	2							
MITAKA	21	0337	0414	0351	N20	E04	4969	37	16	1	0350	7.48	8.38	2.71	146	
WENDEL	21	1202	1305 D		N16	E07	4969	63 D	16				6.00			
WENDEL	21	1232	1250		N13	E10	4969	18	16				6.00			
ONDREJOV	21	1234 E	1240 D		N13	E11	4969	6 D	1	2	1238			2.50		
WENDEL	21	1225	1242		N13	E54	4976	17	1				4.00			
CAPRI-S	21	1252 E	1423 D		S13	E25	4972	91 D	2	2	1357	5.00	5.70			
WENDEL	21	1347 E	1436 D		S14	E30	4972	49 D	26				13.00			
CAPRI-S	21	1333	1343 D		N17	E57	4976	10 D	1	2	1335	2.00	4.00			
HUANCAYO	21	1623	1720	1625	N15	E10	4969	57	1	1	1625	3.60	3.90	2.40		Slow S-SWF
SAC PEAK	21	1700	1750	1709	N09	E48	4976	50	3	2		12.80			35	S-SWF
HUANCAYO	21	1702 E	1719 D	1709	N10	E48	4976	17 D	26	1	1709	5.70	9.00	6.50		
SAC PEAK	21	2217	2242	2225	N09	E05	4969	25	1	1		2.10			20	
HAWAII	21	2218	2250	2226	N11	E04	4969	32	16	3	2226	4.00	4.20			
R O HERST	22	1122 E	1145	1130 U	N08	W02	4969	23 D	1	2	1131	1.80	1.80	3.51	109	Slow S-SWF
WENDEL	22	1132 E	1146		N08	W03	4969	14 D	16				5.00			
WENDEL	22	1136	1202 D		N20	W10	4969	26 D	1				4.00			
USNRL	22	1521	1557	1523	N09	W18	4969	36	16	3	1523	1.92	2.10		143	Slow S-SWF
CAPRI-S	22	1523 E	1547		N06	W18	4969	24 D	1	2	1523	4.00	4.00			
MCMATH	22	1544	1600	1547	N08	W05	4973	16	16	2	1547	2.76	2.87		86	
CAPRI-S	22	1545	1553 D		N05	W05	4973	8 D	1	2	1547	3.00	3.00			
HUANCAYO	22	1545	1608	1547	N08	W03	4973	23	1	2	1547	2.50	2.50	6.50		
USNRL	22	1545	1614	1548	N07	W04	4973	29	16	3	1548	2.71	2.78		189	
SAC PEAK	22	1550 E	1607	1550	N07	W05	4973	17 D	1	1		2.80			32	
USNRL	22	1815	1910	1823	N07	W07	4973	55	1	3	1823	1.42	1.44	2.00	162	
USNRL	22	1924	2033	1934	N17	E36	4976	69	16	3	1934	1.75	2.39	2.00	130	G-SWF
HAWAII	22	1928	2022	1934	N19	E36	4976	54	16	3	1934	3.70	5.20			
MCMATH	22	1929	2006 D	1935	N24	E34	4976	37 D	1	1	1945	2.43	3.31		63	
SAC PEAK	22	2025	2107	2030	N09	E33	4976	42	1	1		2.10			25	
USNRL	22	2025	2113 D	2028	N09	E32	4976	48 D	16	2	2028	1.69	2.06	2.00	138	
HAWAII	22	2026	2103	2030	N10	E32	4976	37	16	3	2030	3.70	4.60			
HUANCAYO	22	2027	2059	2028	N08	E32	4976	32	1	1	2028	3.60	4.50	3.90		

COMMERCE - STANDARDS - BOLDER

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE	OBSERVED			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT	
		UNIVERSAL TIME			APPROX.		McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %		
		START	END	MAX. PHASE	LAT.	MER. DIST.											
1959																	
{ USNRL USNRL HUANCAYO HAWAII SAC PEAK	22	2046	2113 D	2053	N17	E36	4976	27 D	1	2	2053	1.07	1.47		104		
	22	2050	2113 D	2057	N08	W08	4973	23 D	16	2	2057	3.96	4.11	2.00	172		
	22	2057	2111	2059	N08	W05	4973	14	1	2	2059	4.10	4.20	4.70			
	22	2058	2126	2058	N08	W09	4973	28	2	3	2058	6.30	6.50				
	22	2100 E	2145	2100 U	N09	W09	4973	45 D	1	1		3.80			20		
ONDREJOV MEUDON USNRL USNRL	23	0827	0848		N16	W18	4969	21	1	3	0832			2.60			
	23	1023 E			N19	W04	4974		1								
	23	1824	1850	1827	N16	W27	4969	26	1	1	1827	1.02	1.24	1.00	128		
	23	2033	2100 D	2035	N17	E24	4976	27	1	2	2035	.90	1.07		134		
{ HAWAII CAPRI-S ONDREJOV ONDREJOV DUNSINK USNRL USNRL SAC PEAK USNRL	24	0028	0042 D	0032	S13	W11	4972	14 D	1	2	0032	2.90	3.00				
	24	1115	1206 D		N09	W16	4973	51 D	1	3	1137	3.00	3.00				
	24	1129 E	1146 D		N11	W19	4973	17 D	16								
	24	1130 E	1146 D		N11	W20	4973	16 D	16	2	1130			3.00			
	24	1306 E	1311		N03	W15	4973	5 D	1	1	1306	1.25	1.31	2.80			
	24	1452	1638	1453	N12	W19	4973	106	1	1	1520	1.81	2.00		116		
	24	1454	1524	1457	S07	E22	4977	30	1	2	1457	1.41	1.52		163		
	24	1532	1635	1540	N18	W20	4974	63	1	2		2.90			20		
	24	1532	1701 D	1537	N19	W21	4974	89 D	16	2	1537	1.87	2.16	2.00	166		
{ HAWAII MITAKA MEUDON MEUDON KANZELHOHE USNRL STOCKHOLM STOCKHOLM ONDREJOV ONDREJOV USNRL USNRL STOCKHOLM KANZELHOHE USNRL SAC PEAK SAC PEAK HAWAII	25	0210	0240 D	0220	N14	W47	4969	30 D	2	3	0220	5.40	8.10				
	25	0225 E	0238		N16	W44	4969	13 D	1	1	0229	3.20	4.61	2.20	105		
	25	0807 E	0840		N20	E05	4976	33 D	16				8.00				
	25	1108	1125	1114	N12	W33	4973	17	1				3.00				
	25	1325 E	1435		N07	W30	4973	70 D	26								
	25	1332	1433	1337	N09	W32	4973	61	1	2	1337	1.24	1.51	1.50	159		
	25	1333	1420 D		N09	W32	4973	47 D	2	1	1358	4.00	4.80				
	25	1333	1420 D		N09	W32	4973	47 D	2								
	25	1402 E	1412		N11	W36	4973	10 D	1	2	1402			3.00			
	25	1406	1419 D		N11	W32	4973	13 D	16	1	1408			3.60			
	25	1424	1455	1428	N12	W35	4973	31	16	2	1428	1.81	2.31	1.50	137		
	25	1406	1550	1410	N17	W52	4969	104	1	2	1410	2.04	3.56	1.50	101		
	25	1410 E	1420 D		N21	W47	4969	10 D	1	1	1420	2.00	3.20				
	25	1415	1447		N18	W44	4969	32	2								
	25	1437	1703 D	1549	N16	W46	4969	146 D	16		1549	1.92	2.95	2.00	108		
	25	1540	1810 U	1620	N15	W49	4969	150 D	1	2		2.50			17		
	25	1925	2045	2005	N12	W36	4973	80	2	2		8.70			22		
	25	2002	2026	2006	N08	W37	4973	24	2	3	2006	7.20	9.50				
{ KANZELHOHE CAPRI-S ONDREJOV CAPRI-S MEUDON UCCLE STOCKHOLM MEUDON MCMATH MEUDON MCMATH	26	0800 E	0810		N08	W44	4973	10 D	2								
	26	0849	1017 D		N14	W62	4969	88 D	2	3	0903	5.00	12.00				
	26	0902 E	0925 D		N05	W65	4969	23 D	16	3	0902			3.00			
	26	1041 E	1210 D		N12	W60	4969	89 D	2	3	1050	5.00	10.20				
	26	1050 E	1110 D		N17	W65	4969	20 D	16								
	26	1055 E	1135		N15	W62	4969	40 D	3								
	26	1118 E	1145 D		N17	W59	4969	27 D	1	1	1120	1.50	3.00				
	26	1135 E	1315		N17	W62	4969	100 D	16				8.00				
	26	1400 E	1445 D	1414	N10	W50	4973	45 D	16	2	1414	2.76	4.31		79		
	26	1401	1420	1412	N12	W50	4973	19	1				5.00				
26	1541	1555 D	1548	N08	W50	4973	14 D	1	2	1548	1.46	2.28					

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	McMATH FLARE REGION				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
MCMATH	26	1601	1625 D	1611	N10	W50	4973	24 D	1	2	1611	1.62	2.53		63	G-SWF
MCMATH	26	1606	1626	1611	N18	E62	4983	20	1	2	1611	1.62	3.85		63	
MCMATH	26	1720	1755 D	1728	N10	W50	4973	35 D	1	1	1728	2.44	3.80		68	
SAC PEAK	26	1720	1802	1727	N10	W50	4973	42	1	2					15	
SAC PEAK	26	1732	1745	1737	N12	E90	4989	12	1	2					20	
MCMATH	26	1734 E	1800 D		N11	E90	4989	26 D	1	1						
MCMATH	26	1738	1840 D		N09	W13	4976	62 D	1	1	1750	2.27	2.41			
MCMATH	26	1823 E	1900 D		N18	E61	4983	37 D	1	1	1839	.89	2.10		66	
MCMATH	26	1830 E	1908		N10	W50	4973	38 D	1	1	1840	2.11	3.29		72	
MCMATH	26	1858	2015 D	1925 U	N09	W13	4976	77 D	16	2	1925	3.58	3.79		75	
MCMATH	26	2002	2017 D		N11	W51	4973	15 D	1	1	2012	1.30	2.26			S-SWF
SAC PEAK	26	2057	2140	2115	N19	W46	4974	43	1	2		2.50			14	
HAWAII	27	0038	0056 D	0044	N05	W56	4973	18 D	1	2	0044	2.90	5.50			
MEUDON	27	0930	1030	0937	N12	W20	4976	60	16				6.00			
STOCKHOLM	27	0934 E	0955 D		N08	W21	4976	21 D	1	2	0942	3.50	3.80			
MEUDON	27	1212	1246 D		N20	E58	4983	34 D	1				3.00			
CAPRI-S	27	1216 E	1250 D		N20	E45	4983	34 D	1	1	1222	2.00	3.20			
MEUDON	27	1325	1410	1335	N06	E45	4982	45	16				4.00			
CAPRI-S	27	1329 E	1422 D		N05	E40	4982	53 D	1	1	1340	3.00	4.50			
NEDERHORST	27	1330 E	1400 D		N06	E43	4982	30 D	2							
WENDEL	27	1358	1415 D		S09	E05	4987	17 D	1				4.00			Slow S-SWF
WENDEL	27	1350 E	1415 D		N07	W59	4973	25 D	2				12.00			
CAPRI-S	27	1403	1505 D		N06	W58	4973	62 D	2	2	1434	4.50	9.00			S-SWF
MCMATH	27	1410 E	1520	1432	N10	W62	4973	70	26	2	1432	4.38	9.64		98	
MEUDON	27	1424	1500	1432	N12	W60	4973	36	2				12.00			S-SWF
UCCLE	27	1425 E			N10	W60	4973		2							
MEUDON	27	1426	1500	1432	N12	W60	4973	34	2							S-SWF
R O HERST	27	1428 E	1447	1428 U	N10	W60	4973	16 D	1	2	1430	1.80	4.10	3.16		
ARCETRI	27	1435 E			N08	W60	4973		2	3	1435	3.00	6.00			S-SWF
NEDERHORST	27	1438 E	1441 D		N10	W60	4973	3 D	2							
MEUDON	27	1408	1423		N02	E37	4982	15	1				3.00			S-SWF
MCMATH	27	1410 E	1435 D		N02	E40	4982	25 D	16	1	1412	3.08	4.01		69	
SAC PEAK	27	1630	1655	1637	N21	E48	4983	25	1	2		2.70			18	S-SWF
MCMATH	27	1633	1710	1638	N22	E50	4983	37	2	3	1638	3.41	5.46		80	
MCMATH	27	1755	1828	1803	N18	E47	4983	33	16	3	1803	2.03	3.25		74	S-SWF
MCMATH	27	1852 E	1930 D		N23	E51	4983	38 D	1	1	1919	1.46	2.54			
SAC PEAK	27	1940	2010	1945	S12	E05	4987	30	16	2		4.80			28	S-SWF
HAWAII	27	1940	2012	1944	S12	E06	4987	32	1	3	1944	3.40	3.40			
MCMATH	27	1940	2013	1945	S11	E04	4987	33	2	3	1945	5.85	5.85		93	S-SWF
SAC PEAK	27	2117	2142	2122	S10	E04	4987	25	1	2		2.50			14	
ARCETRI	28	0819 E			N20	W82	4969		1	2	0819	.70	5.00			S-SWF
WENDEL	28	1242 E	1340 D		N08	W75	4973	58 D	16				6.00			
USNRL	28	1315 E	1338		N07	W72	4973	23 D	1	1	1324	.79	2.53		68	S-SWF
STOCKHOLM	28	1317 E	1325 D		N06	W71	4973	8 D	1	1	1320	1.00	3.30			
WENDEL	28	1408 E	1423		N13	W37	4976	15 D	1				3.00			S-SWF
CAPRI-S	28	1505 E	1544 D		N13	W37	4976	39 D	1	3	1529	2.00	2.60			
MCMATH	28	1521	1558	1529	N16	W39	4976	37	1	1	1529	1.95	2.73		82	Slow S-SWF
USNRL	28	1522	1554	1525	N16	W40	4976	32	1	2	1525	1.36	2.10		132	
SAC PEAK	28	1522	1600	1530	N15	W37	4976	38	1	2		2.30			18	Slow S-SWF

COMMERCIAL - STANDARDS - BOULDER

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX.		McMATH FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
					LAT.	MER. DIST.										
{ USNRL MCMATH MCMATH MCMATH SAC PEAK USNRL HAWAII MCMATH USNRL HAWAII	28	1621	1630	1625	N21	W70	4974	9	1	2	1625	0.79	2.84		95	Slow S-SWF
	28	1623	1634	1627	N22	W76	4974	11	1	1	1627	1.95	6.43		58	
	28	1734	1830 D		N10	W40	4976	56 D	1	1	1747	2.19	3.09			
	28	1800	1840 D		N23	W50	4976	40 D	1	1	1818	2.43	4.26			
	28	1932	2030 U	1937	N14	W40	4976	58 D	2	2		6.60			30	
	28	1933	2027	1938	N16	W40	4976	54	1	1	1938	1.36	1.90		120	
	28	1934	2008	1938	N13	W45	4976	34	16	3	1938	4.10	6.20			
	28	1934	2020 D	1939	N14	W42	4976	46 D	16	1	1939	2.43	3.43		89	
	28	1947	2007	1951	N12	W81	4973	20	16	1	1951	0.79	4.02	1.00	170	
	28	2310	2330	2314	N17	E47	4986	20	1	3	2314	2.60	3.40			
{ HAWAII WENDEL MEUDON WENDEL MEUDON CAPRI-S HAWAII	29	0040	0118	0048	N20	E26	4983	38	16	3	0048	3.90	4.90			
	29	0942 E	1001 D		N08	W79	4973	19 D	16				5.00			
	29	1013	1019	1017	N20	W90	4974	6	1							
	29	1439 E	1455 D		N04	E15	4982	16 D	2				10.00			
	29	1444 E	1503		N05	E10	4982	19 D	2				8.00			
	29	1448 E			N01	E12	4982		1	1	1450	4.00	4.00			
	29	2112 E	2126		N17	W43	4976	14 D	1	3	2112	2.10	3.10			
{ ONDREJOV MEUDON CAPRI-S ONDREJOV WENDEL MEUDON WENDEL ONDREJOV CAPRI-S DUNSINK CAPRI-S HAWAII	30	0808 E	0819		N19	W29	4979	11 D	1	3	0810			2.20		
	30	0834	0937	0907	N07	E05	4982	63	1				4.00			
	30	0848 E	0925 D		N02	E04	4982	37 D	1	3	0850	3.50	3.50			
	30	0858 E	0913 D		N03	E02	4982	15 D	1	3	0900			2.60		
	30	1047 E	1100 D		N19	E05	4983	13 D	1				4.00			
	30	1321	1400	1330	N22	E60	4992	39	1				4.00			
	30	1324 E	1404		N20	E55	4992	40 D	16				6.00			
	30	1325 E	1341 D		N22	E54	4992	16 D	16	3	1330			2.80		
	30	1327 E	1350 D		N30	E55	4992	23 D	1	3	1327	2.50	5.00			
	30	1331 E	1340		N25	E59	4992	9 D	1	1	1331	2.00	4.06	1.90		
	30	1540 E	1558 D		N19	W72	4976	18 D	1	3	1545	1.50	5.70			
	30	2342	0010	2348	N14	E90	4997	28	2	3	2348	6.20				
																Slow S-SWF
{ HAWAII MITAKA MEUDON CAPRI-S CAPRI-S WENDEL WENDEL MCMATH CAPRI-S	31	0108	0152	0112	N22	E00	4983	44	2	3	0112	6.20	7.10			
	31	0114 E	0136 D	0115	N22	E05	4983	22 D	2	1	0114	5.94	6.71	2.96	188	
	31	0827	0844		S10	W44	4987	17	1				3.00			
	31	0828 E	0843 D		S11	W42	4987	15 D	1	3	0831	2.00	2.80			
	31	0845 E	0925 D		N18	W75	4976	40 D	1	3	0847	0.50	2.20			
	31	1010 E	1034 D		N12	E59	4992	24 D	16				5.00			
	31	1258 E	1420 D		N21	E56	4992	82 D	16				6.00			
	31	1441	1515	1448	N21	W04	4983	34	1	1	1448	2.28	2.55		88	
	31	1442 E	1508 D		N12	W02	4983	26 D	1	3	1450	4.50	4.70			

CAPRI G ANACAPRI - GERMAN
 CAPRI S ANACAPRI - SWEDISH
 GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
 KIEV* KIEV UNIVERSITY
 KODAIKANAL KODAIKANAL
 KRASNAYA 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 & - PLUS
 D - GREATER THAN - - MINUS
 U - APPROXIMATE □ - NOT REPORTED

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX.		McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %		
					LAT.	MER. DIST.											
VOROSHILOV	01	0015 E	0022		N16	W47	4936	7 D	1	2	0018		2.17		71	S-SWF	
SIMEIZ	01	0726	0738 D	0729 U	S09	E87	4949	12 D	1	2	0729		6.40		68		
SIMEIZ	01	0753	0820	0755 U	S18	W66	4934	27	1	2	0755		3.80	2.20	76		
SIMEIZ	01	0813 E	0850	0818 U	N24	E40	4943	37 D	1	2	0827		1.80	2.00	60		
SIMEIZ	01	0855	0950	0902 U	S12	W62	4934	55	1 1/2	2	0855		6.50	2.60	128		
GOOD HOPE	01	0903 E	0942 D		S13	W64	4934	39 D	2		0903	2.90	6.60				
GOOD HOPE	02	0639 E	0700		N20	W88	4936	21 D	1		0639	.10				S-SWF	
GOOD HOPE	02	0733	0745	0738	S10	W70	4934	12	1		0738	.80	2.30				
GOOD HOPE	02	0911	0945		S08	W70	4934	34	2		0915	2.50	7.30				
KIEV	02	0911	1002	0916 U	S09	W70	4934	51	1 1/2	2	0915		3.40		90		
SIMEIZ	02	0915 E	0940 D		S07	W69	4934	25 D	1 1/2	1	0915		8.20	3.80	120		
KIEV	02	1103	1117	1108	N21	W90	4936	14	1 1/2	2					111		
VOROSHILOV	03	0337	0354	0342	S30	W35	4948	17	1	2	0342		2.41		64		
GOOD HOPE	03	0708	0730	0718	N13	W66	4936	22	1		0718	1.30	3.20				
GOOD HOPE	03	0715	0735	0718	S11	E64	4949	20	1		0718	1.30	3.00				
UCCLE	03	0914 E	0916 D		S12	E09	4944	2 D	1	1							
UCCLE	03	0930 E	0933 D		S08	E60	4949										
UCCLE	04	1132 E			N10	W85	4938		1 1/2	4							
UCCLE	05	1049	1127	1108	N26	E28	4951	38	2 1/2	4	1108	7.50	9.20				
GOOD HOPE	05	1049	1135	1102	N26	E27	4951	46	1		1102	2.60	3.30				
NEDERHORST	05	1120	1125		N26	E24	4951	5	2 1/2	2							
SYDNEY	06	0010	0018	0015	N15	E58	4953	8	1	2	0015	1.00	2.50				
SYDNEY	06	0134	0142	0137	N18	E57	4953	8	1	2	0137	2.00	4.50				
SYDNEY	06	0157	0204	0158	N17	E56	4953	7	2	2	0158	3.50	7.00				
SYDNEY	06	0443	0501	0446	N15	E56	4953	18	1	2	0446	2.00	5.00				
ABASTUMANI	06	0638 E	0723 D	0703 U	N22	W89	4936	45 D	2 1/2	1	0703		16.14				
VOROSHILOV	07	0215	0404 D	0240 U	S16	W11	4947	109 D	2 1/2	3	0237		15.90		91		
GOOD HOPE	07	0639 E	0725	0652	N07	W90	4954	46 D	2		0652	1.30					
GOOD HOPE	07	0847	0915	0853	N07	W90	4954	28	1		0853	.40					
CLIMAX	07	1851	2035		N23	W03	4951	104	1		1935	4.60					
VOROSHILOV	09	0047	0109	0053	S04	E13	4955	22	1	2	0053		2.47		66	S-SWF	
VOROSHILOV	09	0240	0247	0241	N17	W71	4943	7	1 1/2	1	0241		2.13		128		
ABASTUMANI	10	0812 E	0856 D	0830	N19	W41	4951	44 D	2 1/2	2	0830		15.70	1.40	78		
UCCLE	10	1100 E			S12	W09	4952		1 1/2	2							
SYDNEY	11	0234	0239	0236	N21	E60	4962	5	1	2	0236	1.00	2.00				
KODAIKNL	11	0311 E			S16	W63	4947		1	2							
UCCLE	11	1100	1105 D		N20	E62	4955	5 D	1	3							
SYDNEY	11	2300 E	2309 D		N21	E51	4962	9 D	1	2	2300	1.00	2.00				
SYDNEY	12	0252	0321	0300	N18	W69	4951	29	1	2	0300	1.50	4.00				
NIZAMIAH	12	0259 E	0309		N27	W60	4951	10 D	1	3	0259	1.82	4.20	1.50			
SYDNEY	12	0412	0455	0426	N26	E48	4962	43	1	2	0426	2.00	3.00				
VOROSHILOV	13	0238	0241	0239	N20	W80	4951	3	1 1/2	1	0239		2.18		80		

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX.		McMATH FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	MAX. INT. %	
					LAT.	MER. DIST.										
ABASTUMANI	13	0558 E	0616 D	0604	N17	W70	4951	18 D	1	2	0604		3.50			
ABASTUMANI	13	0616	0629 D	0619 U	N23	E34	4962	13 D	1	2	0619		1.70			
{ SYDNEY	14	0225	0456	0321	S21	W45	4958	151	2	2	0321	7.00	10.00			
{ VOROSHILOV	14	0239	0417 D	0311	S26	W41	4958	98 D	2	1	0311		16.40		66	
{ GOOD HOPE	14	1053	1124	1103	N29	W08	4959	31	1		1103	2.20	2.40			
{ UCCLE	14	1057	1107 D	1059	N29	W10	4959	10 D	16	1	1059	6.00	6.00			
{ UCCLE	14	1107 E			N27	W10	4959		1	1						
GOOD HOPE	15	0645 E	0657		N23	E09	4962	12 D	1		0645	1.80	2.10			
GOOD HOPE	15	0702	0725	0707	N18	E85	4969	23	1		0707	.70				
GOOD HOPE	15	1233	1300 D	1243	N18	E82	4969	27 D	1		1243	1.00				
SYDNEY	15	2234	2240	2237	N12	E71	4969	6	1	2	2237	1.00	3.00			
SYDNEY	15	2326	0015	2332	N15	W39	4959	49	1	2	2332	2.00	3.00			
SYDNEY	16	0102	0112	0105	N15	E68	4969		1	2	0105	1.00	5.00			
SYDNEY	16	0114	0153 D	0126	N12	W69	4953	39 D	1	2	0126	1.00	3.00			
SYDNEY	16	0138	0150	0141	N15	E66	4969	12	1	2	0141	.75	2.50			
SYDNEY	16	0339	0403	0352	N09	W73	4953	24	1	2	0352	1.00	3.00			
SYDNEY	16	2336	2347	2341	S10	E68	4972	11	2	2	0341	2.00	5.50			
SYDNEY	17	0204	0223	0213	S02	E67	4972	19	1	2	0213	.75	2.00			
SYDNEY	17	0235	0240	0236	N20	E64	4974	5	1	2	0236	2.00	4.00			
SYDNEY	17	0243	0312	0251	S11	E68	4972	29	1	2	0251	1.00	3.00			
SYDNEY	17	0316	0329	0320	S02	E66	4972	13	1	2	0320	1.00	3.00			
SYDNEY	17	0348	0416	0400	S08	E68	4972	28	2	2	0400	3.00	7.00			
SYDNEY	17	0419	0437	0425	S02	E66	4972	18	1	2	0425	2.00	4.00			
GOOD HOPE	17	0752	0813	0754	S10	E67	4972	21	1		0754	1.10	2.80			
VOROSHILOV	18	0032	0048	0034	N15	E39	4969	16	16	1	0034		8.01		77	
SYDNEY	18	0206	0224	0208	S02	E55	4972	18	2	2	0208	3.00	5.00			
VOROSHILOV	18	0207	0218		N03	E55	4973	11	16	1	0209		2.82		100	
SYDNEY	19	0018	0030	0022	S17	E53	4972	12	1	2	0022	1.00	2.00			
{ SYDNEY	19	0010	0104	0042	N17	E38	4969	54	2	2	0042	7.00	9.00			
{ VOROSHILOV	19	0020	0122	0047	N16	E30	4969	62	2	2	0047		7.25		130	Slow S-SWF
SYDNEY	19	0230	0250	0237	S15	E59	4972	20	2	2	0237	4.00	7.00			
VOROSHILOV	19	0233	0247	0237	N20	E54	4974	14	16	2	0237		4.10		112	
VOROSHILOV	20	0226	0235	0231	N17	E77	4976	9	16	2	0231		4.00		95	
NIZAMIAH	20	0409	0423	0415	N14	E63	4976	14	1	3	0415	.91	2.22	1.50		
SIMEIZ	20	0750	0757	0752	N17	E22	4969	7	1	1	0751		2.80	2.60	84	
{ NIZAMIAH	20	0920	0947	0929	N12	E61	4976	27	1	3	0929	1.22	2.98	2.10		
{ SIMEIZ	20	0925 E	1000 D	0929 U	N08	E66	4976	35 D	1	1	0932		2.30	3.00	92	
{ GOOD HOPE	20	0926	1000	0935	N08	E65	4976	34	1		0935	1.00	2.40			
{ GOOD HOPE	20	1102	1153	1118	N20	E15	4969	51	1		1118	4.30	4.90			
KIEV	20	1109	1144	1130	N16	E14	4969	35	1	2	1130		3.30		59	
GOOD HOPE	20	1237	1255	1242	N22	E90	4979	18	1		1242	1.10				
VOROSHILOV	21	0235	0347	0303	N20	E01	4969	72	16	2	0303		2.35		94	
NIZAMIAH	21	0315 E	0359	0337	N20	E03	4969	44 D	2	2	0337	7.29	8.06	3.20		
VOROSHILOV	21	0329	0434 D	0347	N21	E40	4969	65 D	2	2	0347		6.45		108	G-SWF
GOOD HOPE	21	0637 E	0700		N01	W77	4967	23 D	1		0637	1.00	4.40			

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX.		McMATH FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
					LAT.	MER. DIST.										
GOOD HOPE	21	0806	0900	0825	S11	E50	4977	54	1		0825	3.00	4.70			
CAPRI-G	21	1246 E	1250 D		N13	E07	4969	4 D	1	1	1247		2.00			
CAPRI-G	21	1246 E	1301 D		N15	E51	4976	15 D	1	1	1247		3.00			
CAPRI-G	21	1249	1501 D		N17	E05	4969	132 D	1	1	1250		2.00			
GOOD HOPE	21	1246	1334 D		S15	E28	4972	48 D	2		1334	5.00	5.80			
CAPRI-G	21	1249	1412 D		S10	E25	4972	83 D	2	1	1320		6.00			
CAPRI-G	21	1327 E	1332 D		N13	E19	4973	5 D	1	1	1330		3.00			
CAPRI-G	21	1445 E	1458 D		N18	E05	4974	13 D	1	1	1450		3.00			
CAPRI-G	21	1537 E	1547 D		N10	E11	4973	10 D	1	1	1538		3.00			
GOOD HOPE	22	0706	0715	0709	N11	E10	4973	9	1		0709	3.00	3.20			
SIMEIZ	22	0739 E	0750	0742 U	N12	W11	4969	11 D	1	1	0742		2.00		100	
ABASTUMANI	22	0739 E	0752 D		N12	W11	4969	13 D	1	3	0750		2.70	2.30		
ABASTUMANI	22	0805	0827 D	0813	N19	W17	4969	22 D	16	3	0811		7.50	1.20	76	
SIMEIZ	22	0805	0840	0808 U	N19	W18	4969	35	1	1	0808		3.70		68	
ABASTUMANI	22	0832 E	0918 D	0905	N14	E37	4976	46 D	16	3	0907		12.00	1.50	82	
SIMEIZ	22	0854	0946 D	0909 U	N14	E40	4976	52 D	1	1	0855		5.60	3.20	112	
GOOD HOPE	22	0856	0937	0902	N16	E38	4976	41	1		0902	2.90	3.90			
KIEV	22	0856 E	0938 D	0901	N18	E41	4976	42	16	3	0900		5.50		74	
NIZAMIAH	22	0904 E	0908 D		N10	E38	4976	4 D	16	3	0904	3.65	4.84	1.70		
KIEV	22	1011	1026	1012	N12	W04	4973	15	1	3	1012		3.90		65	
GOOD HOPE	22	1011	1032	1012	N09	W01	4973	21	1		1012	2.10	2.20			
NIZAMIAH	22	1012 E	1019 D		N07	E02	4973	7 D	1	2	1012	2.43	2.48	1.70		
KHARKOV	22	1012	1050	1015	N09	W05	4973	18	1	2	1015		3.40	2.70		
KHARKOV	22	1102	1126	1110	N10	W16	4969	24	1	2	1110		5.70	1.50		
KHARKOV	22	1108	1145	1125	N08	W04	4973	37	3	2	1125		33.10	4.00		
GOOD HOPE	22	1108	1147	1125	N10	W03	4973	39	2		1125	5.40	5.60			
KIEV*	22	1109	1138 D	1125	N10	E13	4973	29 D	2	2	1125		3.30			
KIEV	22	1109	1144	1127	N10	W02	4973	35	2	3	1127		9.00		138	
CAPRI-G	22	1515 E	1542 D		N10	W14	4969	27 D	2	1			6.00			
CAPRI-G	22	1546 E	1552 D		N09	W01	4973	6 D	16	1			5.00			
NIZAMIAH	23	0322	0333	0327	N15	E32	4976	11	1	3	0327	2.43	3.09	1.60		
GOOD HOPE	23	0713	0810	0718	N20	W26	4969	57	1		0718	2.20	2.70			
ABASTUMANI	23	0828 E	0858 D	0844 U	N16	W20	4969	30 D	16	3	0844		7.70	1.80	66	
UCCLE	23	0944	1040	0945	N18	W02	4974	56	1	3						
UCCLE	23	1025	1055	1031	N13	W34	4969	30	16	3						
GOOD HOPE	23	1027	1053	1032	N11	W30	4969	26	1		1032	2.30	2.90			
UCCLE	23	1116	1130	1119	N16	E30	4976	14	1	3	1119	1.50				
CAPRI-G	23	1530 E	1532 D		N09	W04	4973	2 D	1	1			4.00			
CAPRI-G	24	1114 E	1215 D	1124	N12	W16	4973	61 D	16	3	1124		5.00			
GOOD HOPE	24	1121	1215	1126	N10	W20	4973	54	1		1126	1.90	2.10			
UCCLE	24	1123 E			N13	W19	4973		1	2						
CAPRI-G	24	1138 E	1155 D		N21	W22	4974	17 D	1	3	1141		3.00			
CAPRI-G	24	1240 E	1247 D		N11	W23	4973	7 D	1	3	1243		2.00			
CAPRI-G	24	1315 E	1420 D		N13	W16	4973	65 D	1	2	1316		3.00			
CAPRI-G	24	1430 E	1432 D		N20	W15	4974	2 D	1	2	1432		3.00			
SYDNEY	25	0030 E	0038		S08	E17	4977	8 D	1	2	0030	2.00	2.00			
SYDNEY	25	0203 E	0315	0216	N17	W42	4969	72 D	2	2	0216	7.00	11.00			
VOROSHILOV	25	0211	0253	0220	N14	W46	4969	42	2	2	0220		5.33		127	S-SWF
KODAIKNL	25	0217 E	0223 D	0220	N17	W43	4969	5 D	2	2	0217	5.45	8.18	1.40		

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	McMATH PLACE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	MAX. INT. %	
NIZAMIAH	25	0523 E	0531		N19	W41	4969	8 D	1	2	0523	1.82	2.68	1.50		Slow S-SWF
ABASTUMANI	25	0730 E	0833 D	0747 U	N19	W04	4976	33 D	2	2	0747		20.10			
KIEV*	25	1042	1052 D	1046 U	N16	W51	4969	10 D	1	2	1046					
CAPRI-G	25	1125 E	1132 D		N11	W29	4973	7 D	1	1						
GOOD HOPE	25	1249 E	1305	1250	N22	E31	4979	16 D	1		1250	2.60	3.50			
UCCLE	25	1330	1418	1355	N11	W35	4973	48	18	4	1355	3.50				
GOOD HOPE	25	1333	1406 D		N09	W34	4973	33 D	1		1350	3.30	4.10			
UCCLE	25	1407	1417 D	1417	N18	W55	4969		2	4	1417	5.00	8.00			
UCCLE	25	1423	1434 D	1434	N14	W35	4973		2	4	1434	5.00	6.00			
SYDNEY	26	0013 E	0110	0037	N09	W42	4973	57 D	2	2	0037	4.00	5.00			S-SWF
SYDNEY	26	0112	0125	0116	N17	W45	4974	13	1	2	0116	2.00	3.00			
SYDNEY	26	0216	0244	0230	N16	W54	4969	28	1	2	0230	2.00	4.00			
SYDNEY	26	0227	0239	0232	N20	E76	4983	12	1	2	0232	.75	2.00			
SYDNEY	26	0244	0254		N08	W51	4973	10	1	1	0252	1.50	2.00			
NIZAMIAH	26	0444 E	0450 D		N18	W58	4969	6 D	1	2	0444	1.52	3.28	1.70		
GOOD HOPE	26	0647 E	0735		N21	W40	4974	48 D	2		0647	4.00	5.90			
GOOD HOPE	26	0647 E	0752 D		N11	W45	4973	65 D	2		0647	5.00	7.20			
GOOD HOPE	26	0650	0705	0652	N09	W56	4969	15	1		0652	1.50	2.70			
GOOD HOPE	26	0705	0710 D	0707	N22	W63	4969	5 D	1		0707	1.00	2.40			
GOOD HOPE	26	0842	1000	0903	N17	W67	4969	78	3		0903	5.00	12.80			
NIZAMIAH	26	0844	0917	0857	N16	W63	4969	33	26	2	0857	6.08	13.12	3.40		
CAPRI-G	26	0845	1030 D		N17	W60	4969	105 D	2	2	0900		6.00			
KODAIKNL	26	0855 E	0906 D	0902	N17	W57	4969	11 D	2	2	0855			2.00	118	
CAPRI-G	26	0930	1030 D		N12	W08	4976	60 D	1	2	0935		5.00			
CAPRI-G	26	0951	1030 D	0955	N11	W42	4973	39 D	1	2	0955		4.00			
GOOD HOPE	26	0952	1002	0954	N11	W44	4973	10	1		0954	1.80	2.50			
GOOD HOPE	26	1027	1315	1050	N15	W60	4969	168	3		1050	6.50	14.30			
CAPRI-G	26	1044 E	1215 D		N18	W60	4969	91 D	2	2	1100		8.00			
NIZAMIAH	26	1052 E	1058 D		N15	W60	4969	6 D	18	2	1052	3.65	7.87	1.90		
UCCLE	26	1057 E	1152 D		N14	W60	4969	55 D	3	4		11.00	20.00			
CAPRI-G	26	1500 E	1550 D		N22	E62	4983	50 D	1	1	1502		4.00			
KODAIKNL	27	0210 E	0235 D	0230	N13	W75	4969	25 D	1	2	0210	1.36	5.15	1.60	99	
NIZAMIAH	27	0412 E	0419 D		N18	W20	4976	7 D	1	2	0412	3.04	3.31	1.50		
SIMEIZ	27	0910	0925 D	0912	N04	E36	4982	15 D	1	1	0912		1.20	2.00	60	
UCCLE	27	0930	0950	0938	N09	W21	4976	20	2	4	0938	6.00				
GOOD HOPE	27	0930	1035	0937	N10	W22	4976	65	1		0937	2.90	3.20			
SIMEIZ	27	0931 E	0938 D	0938 U	N09	W26	4976		18	1	0937		5.20	2.80	92	
UCCLE	27	1000	1009	1006	N04	E36	4982	9	1	4	1006	1.50				
UCCLE	27	1125	1138		N07	W60	4973	13	1	4		2.50	5.00			
GOOD HOPE	27	1129	1142	1135	N15	W61	4969	13	1		1135	1.00	2.10			
GOOD HOPE	27	1213	1255	1215	N19	E50	4983	42	1		1215	1.40	2.40			
CAPRI-G	27	1220 E	1227 D		N20	E47	4974	7 D	1	1	1221		5.00			S-SWF
NEDERHORST	27	1320 E	1330 D		N11	W21	4976	10 D	1	3						
CAPRI-G	27	1323 E	1327 D		N15	W23	4976	4 D	1	1	1325		3.00			
NEDERHORST	27	1330 E	1400		N06	E43	4982	30 D	2	3						
GOOD HOPE	27	1331	1333 D		N06	E43	4982	2 D	1		1333	2.40	3.30			
UCCLE	27	1348 E	1430		N05	E43	4982	42 D	2	4		5.00				
CAPRI-G	27	1340 E	1347 D		N06	W60	4973	7 D	1	1	1341		5.00			
UCCLE	27	1408	1420		N05	E35	4982	12	1	4		1.30				
UCCLE	27	1420	1430 D	1430	N10	W68	4973		26	4	1430	8.00	11.00			
NEDERHORST	27	1438	1443		N10	W60	4973	.5	2	3						

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT							
		START	END	MAX. PHASE	APPROX.		McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hz	MAX. INT. %								
					LAT.	MER. DIST.																	
CAPRI-G	27	1452 E	1457 D		N06	E41	4982	5 D	1	1	1453		4.00		Slow S-SWF								
VOROSHILOV	28	0059	0108	0105	N10	W70	4973	9	16	3	0105		2.18			98							
SYDNEY	28	0412	0420	0416	N13	W69	4969	8	1	1	0416	.75	2.00										
ABASTUMANI	28	0716 E	0809 D	0745 U	N08	W74	4973	53 D	1	3	0745		7.00										
CAPRI-G	28	1046 E	1047 D		□			1 D	1	1													
UCCLE	28	1110	1120		N04	E23	4982	10	1	4		1.50											
CAPRI-G	28	1120 E	1132 D		N22	E37	4983	12 D	1	1	1130		4.00										
CAPRI-G	28	1240 E	1246 D		□			6 D	1	1													
CAPRI-G	28	1455 E	1502 D		N05	E24	4982	7 D	1	1	1457		3.00										
CAPRI-G	28	1532 E	1537 D		N15	W35	4976	5 D	1	1	1534		5.00										
NIZAMIAH	29	0457 E	0503 D		N12	W45	4976	6 D	16	2	0457	3.04	4.55	2.00	71								
ALMA-ATA	29	0525	0550	0525	N14	W49	4976	25 D	1	2	0525		3.30										
UCCLE	29	0934	0955		N21	E90	4992	21	1	4													
CAPRI-G	29	0948 E	0956 D		N26	E76	4992	8 D	1	2	0950		4.00										
NEDERHORST	29	0949 E	0955 D		N08	W87	4973	6 D	1	3													
CAPRI-G	29	0957 E	1030 D		S07	W48	4977	33 D	1	2	1000		3.00										
UCCLE	29	1112	1145 D		N08	E90	4992	33 D	16	4													
CAPRI-G	29	1445 E	1502 D	1447	N05	E17	4982	17 D	2	2	1447		6.00										
CAPRI-G	30	0902 E	0920 D		N05	E03	4982	18 D	1	3	0904		4.00										
CAPRI-G	30	1322 E	1402 D	1328	N24	E59	4992	40 D	1	3	1328		5.00										
VOROSHILOV	30	2341	0006	2350	N13	E90	4997	25	26	3	2350												
SYDNEY	31	0110	0139	0117	N18	E03	4983	29	2	2	0117	5.00	6.00			93							
VOROSHILOV	31	0111	0137	0111	N21	W01	4983	26	16	3	0111		2.60										
CAPRI-G	31	0825 E	0847		S08	W44	4987	22 D	1	3	0827		4.00										
GOOD HOPE	31	0842	0945	0845	N21	W78	4976	63	2		0913	1.80	8.80										
GOOD HOPE	31	1009	1028 D	1013	N11	E57	4992	19 D	16		1013	3.20	6.00										
CAPRI-G	31	1020 E	1032 D		N12	E51	4992	12 D	1	3	1021		3.00										
CAPRI-G	31	1108 E	1112 D		N18	E54	4992	4 D	1	3	1110		3.00										
CAPRI-G	31	1347 E	1416		N20	E59	4992	29 D	1	3	1349		3.00										
CAPRI-G	31	1440 E	1522 D		N14	W18	4982	42 D	1	2	1442		7.00										
GOOD HOPE	31	1442	1510	1450	N22	W04	4983	28	1		1450	2.20	2.50										

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the January 1959.
flares published in CRPL-F 174 Part B, February 1959.

CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKANAL KODAIKANAL
KRASNAYA 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
SCHAUNINS SCHAUNINSLAND
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 & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

SOLAR FLARES

JANUARY 1959

III

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX.		McMATH FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _a	MAX. INT. %	
					LAT.	MER. DIST.										
	JAN 1959															
AROSA	01	0910 E	0915 D		S13	W57	4934	5 D	2							S-SWF
{ ZURICH AROSA	02	0913 E	0941		S09	W68	4934	28 D	1	2	0920		6.00			S-SWF
	02	0935 E	0950		S11	W68	4934	15 D	1							
{ AROSA LOCARNO AROSA	05	1040 E	1210		N25	E26	4951	90 D	2	3	1110		1.50			
	05	1055	1130 D		N26	E26	4951	35 D	2							
	05	1200 E	1208		S19	W26	4944	8 D	1							
TASHKENT	07	0637	0717 D	0650	N06	W84	4954	40 D	1	3	0550				100	
LOCARNO	09	1132	1200	1138	S03	E07	4955	28	1	3			1.00			
LOCARNO	11	1035	1050	1038	S06	W22	4955	15	1-	2			1.00			
LOCARNO	12	0910	0925	0915	N12	W26	4953	15	1-	2			1.00			
LOCARNO	12	0940	1025		N20	E76	4965	45	1	2	1000		2.00			
LOCARNO	12	1010	1045 D	1020	N23	E43	4962	35 D	16	2			3.00			
LOCARNO	12	1453	1510 D		N11	W28	4953	17 D	16	3	1500		5.00			
LOCARNO	13	1025	1140		N23	E30	4962	75	16	2	1100		3.00			
{ LOCARNO LOCARNO	13	1025	1200		N11	W31	4953	95	1-	2	1100					
	13	1110	1205		N13	W32	4953	55	1	2	1130		1.00			
LOCARNO	13	1210 E	1305	1220	N22	E30	4962	55 D	2	2			6.00			
LOCARNO	13	1227	1236		N26	W00	4959	9	1-	2	1230		1.00			
LOCARNO	14	1100 E	1130		N10	W26	4953	30 D	1	3	1100		1.00			
LOCARNO	14	1120	1135		S18	W18	4961	15	1	3	1130		1.00			
LOCARNO	15	1155	1215		N21	E06	4962	20	1	2	1200		1.00			
LOCARNO	15	1235	1305	1243	N17	E74	4969	30	16	2			3.00			
LOCARNO	16	1305	1350		N08	E90	4973	45	16	3						
LOCARNO	17	1445	1455		N18	E52	4969	10	1-	3	1450					
LOCARNO	19	0956	1004		N08	E82	4976	8	1-	3	1000					
TASHKENT	20	0541	0554	0542 U	N18	E22	4969	13	1-	3	0543		2.00	2.30	65	
TASHKENT	20	0617	0647	0620 U	N18	E71	4979	30	1	3	0622		10.00	2.20	60	
SCHAUINS	20	1112 E			N20	E14	4969		□				4.00			
ZURICH	22	0900 E	0913		N15	E37	4976	13 D	1	2	0900		6.00			
ZURICH	22	1010	1023		N10	W01	4973	13	1	2	1010		1.00			
OTTAWA	22	1521	1540 D	1526	N09	W19	4969	19 D	1	3	1526	3.94	4.33			
LOCARNO	25	0910 E	0950		N17	W47	4969	40 D	2	3	0910		6.00			
LOCARNO	25	1020 E	1100 D		N17	W48	4969	40 D	16	3	1030		5.00			
LOCARNO	25	1102	1120 D		N12	W31	4973	18 D	16	3	1120		5.00			
LOCARNO	25	1246	1420		N08	W32	4973	94	2	2	1300		8.00			
LOCARNO	25	1248	1313	1255	N22	E31	4979	25	1	2			2.00			
LOCARNO	25	1407	1450	1415	N17	W50	4969	43	2	3			6.00			Slow S-SWF
LOCARNO	25	1425	1448	1430	N11	W34	4973	23	2	3			10.00			

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE JAN 1959	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX.		McMATH FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
					LAT.	MER. DIST.										
↑ ZURICH	25	1430	E	1439			N12 W37 4973	9 D	2	2	1430		10.00		S-SWF	
ZURICH	25	1430	E	1443			N16 W53 4969	13 D	1	2	1430		6.00			
{ LOCARNO	26	0845	E	0955			N15 W60 4969	70 D	2-	2	0845		8.00			
{ SCHAUINS	26	0850	E	0950			N16 W60 4969	60 D	16	2			5.00	2.40		
{ LOCARNO	26	0930		1010	0940		N10 W08 4976	40	16	2			5.00			
{ SCHAUINS	26	0937	E	0958			N09 W08 4976	21 D	1	2			4.00	2.40		
{ SCHAUINS	26	0948		1003			N09 W44 4973	15	1	2			3.00			
{ LOCARNO	26	0950		1005	0953		N10 W43 4973	15	1	2			2.00			
LOCARNO	26	1045	E	1120	D		N13 W58 4969	35 D	2	2	1100		10.00			
{ LOCARNO	26	1400	E	1420			N12 W48 4973	20 D	1	3	1400		2.00			
{ SCHAUINS	26	1413		1427			N09 W47 4973	14	1	2			3.00	2.90		
OTTAWA	26	1435		1444	D	1438	N07 W58 4973	9 D	1-	3	1438	.64	1.26			
OTTAWA	26	1451		1458	1455		N07 W58 4973	7	1-	3	1455	.70	1.38			
OTTAWA	26	1525		1537	1527		N08 W58 4973	12	1-	3	1527	1.04	2.09			
OTTAWA	26	1542		1557	1545		N08 W58 4973	15	1	3	1545	1.22	2.49			
OTTAWA	26	1714		1724	D		N15 W47 4973	10 D	1-	3	1720	.64	1.03			
SCHAUINS	27	0915	E	0917			N03 E35 4982	2 D	1-	2			1.00	3.30		
{ LOCARNO	27	0930	E	1018			N10 W20 4976	48 D	2-	2	0930		6.00			
{ SCHAUINS	27	0934	E	1000			N18 W21 4976	26 D	16	2			5.00	3.50		
LOCARNO	27	0957		1015	1006		N02 E42 4982	18	1	2			2.00			
LOCARNO	27	1057		1114	1103		N03 E34 4982	17	1	3			1.00			
SCHAUINS	27	1133	E	1138	D		N06 W57 4973	5 D	1	2			3.00	2.10		
SCHAUINS	27	1221	E	1237	D		N16 E47 4983	16 D	1	2			3.00	1.80		
{ LOCARNO	27	1316		1336	1320		N13 W22 4976	20	1	2			2.00			
{ SCHAUINS	27	1317	E	1331			N14 W33 4976	14 D	1-	2			2.00	2.30		
{ LOCARNO	27	1324		1403	1336		N03 E41 4982	39	16	2			5.00			
{ SCHAUINS	27	1329	E	1400			N03 E42 4982	31 D	16	2			5.00	3.00		
{ LOCARNO	27	1358		1510	1410		N06 W60 4973	72	26	2			14.00			
{ SCHAUINS	27	1404	E	1500	1430		N08 W57 4973	56 D	26	2			9.00	7.00		
{ LOCARNO	27	1408		1420	1411		N03 E33 4982	12	1	2			2.00			
{ SCHAUINS	27	1413	E	1419			N00 E37 4982	6 D	1-	2			1.00	2.30		
LOCARNO	28	1045		1058			N04 E24 4982	13	1-	2	1050					
LOCARNO	28	1100		1105			S09 W07 4987	5	1-	2	1100					
LOCARNO	28	1111		1125			N03 E23 4982	14	1	2	1115					
LOCARNO	28	1500		1515			N22 E37 4983	15	1-	3	1505		1.00			
LOCARNO	28	1521		1532	D	1526	N13 W36 4976	11 D	16	3			3.00			
LOCARNO	28	1526		1532	D		S10 W09 4987	6 D	1	3	1530		1.00			
LOCARNO	29	0930	E	0950			N23 E90 4992	20 D		2						
LOCARNO	29	0945		1000	0950		N09 W85 4973	15	1	2			1.00			
SCHAUINS	29	1441	E	1500			N02 E10 4982	19 D	16	2			5.00	3.20		
{ LOCARNO	30	1323		1355	1329		N24 E55 4992	32	16	2			4.00			
{ SCHAUINS	30	1327	E	1350			N22 E56 4992	23 D	16	2			5.00	2.90		
LOCARNO	31	0820	E	0840			S10 W45 4987	20	1	2	0820					
{ LOCARNO	31	0840		0910			N17 W80 4976	30	1	2	0900					
{ SCHAUINS	31	0915	E	0928	D		N10 W85 4976	13 D	1-	2			4.00	1.60		
LOCARNO	31	1010		1020			N20 W78 4976	10	1	2	1015					
LOCARNO	31	1010		1040			N11 E53 4992	30	1	2	1020					

SOLAR FLARES

JANUARY 1959

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT	
					APPROX.		McMATH FLARE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %		
		START	END	MAX. PHASE	LAT.	MER. DIST.											
	JAN 1959																
{ OTTAWA LOCARNO SCHAUINS LOCARNO OTTAWA SCHAUINS	31	1340	1412		N20	E52	4992	32	1	3	1343	1.97	3.77				
	31	1340	1415		N20	E57	4992	35	1	2	1350						
	31	1348 E	1525 D		N19	E56	4992	97 D	1	2			4.00	1.80			
	31	1440	1520		N18	W06	4983	40	2	2	1500						
	31	1442	1521 D		N21	W04	4983	39 D	1	3	1447	2.61	2.95				
	31	1453 E	1509 D		N18	W06	4983	16 D	1	2			5.00	1.60			

These flares are addenda to the January 1959 flares published in CRPL-F 174B, February 1959 and CRPL-F 176B April 1959.

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

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

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

Errata: In CRPL-176B, April 1959, page IIIm, the McMath plage region should be 4962 for the flare reported by Uccle January 11 at 1100 UT.

COMMERCE - STANDARDS - BOULDER