

SOLAR FLARES

MAY 1957

Observatory	Date May 1957	Time Observed		Duration Min.	Total Area Mill.	McMath Plage Region Number	Approx. Position Lat. Mer. Dist.		Time Max. Phase UT	Max. Int. Arb.	Rel. Area of Max. Tenths	Importance	Provis. Ionospheric Effect
		Start UT	End UT										
S. Peak	02	1350	1420	30	122	3960	N25 E08		1355	15	3	1	Slow S-SWF
Mitaka	03	b0631	0642	>11		3969	S26 E11					1	
Capri-S	03	b1316	a1317	>01	102	3964	S20 E30					1	
{McMath	03	b1350				3969	S25 W00					1	
{Neder.	03	b1350				3969	S24 E03					1	
S. Peak	03	1705	1720	15	110	3953	S18 W72		1712	20	8	1	Slow S-SWF
S. Peak	03	1920	2045	85	130	3969	S25 W00		1950	18	3	1	G-SWF
S. Peak	03	2045	a2125	>40	110	3969	S25 W01		2102	13	4	1	S-SWF
Honolulu	05	be145	1063	>18		3974	N32 E80					2	S-SWF
{S. Peak	05	1432	1455	23	41	3969	S25 W25		1435	17	5	1-	Slow S-SWF
{Capri-S	05	1434	a1444	>10	107	3969	S24 W24					1	
Capri-S	06	b0924	a0924		121	3971	S17 E43					1	S-SWF G-SWF
Capri-S	06	b1020	a1028	>08	121	3971	S17 E43					1	
Capri-S	06	1143	1158	15	136	3972	S32 E65					1	
Honolulu	06	b2016	2035	>19		3974	N29 E60		2018			1+	
Honolulu	06	b2226	2238	>12		3974	N29 E60		2230			1	
Honolulu	06	b2345	2421	>36		3971	S19 E45		2353			2	Slow S-SWF
Capri-S	07	b0646	a0737	>51	204	3972	S26 E38					1+	S-SWF
Capri-S	07	0842	a0858	>16	107	3972	S26 E37					1	
{Capri-S	07	0853	0937	44	233	3974	N13 E45					1+	
{Arcetri	07	b0907	0914	>07		3974	N12 E45					1+	
Capri-S	07	1016	1258	162	437	3972	S26 E41					2+	
Capri-S	08	b0500	a0523	>23	136	3972	S24 E41					1	S-SWF
Capri-S	08	0515	0548	33	121	3974	N15 E46					1	
Capri-S	08	b0712	0901	>109	219	3974	N15 E45					1+	
Capri-S	08	0857	a0921	>24	97	3972	S32 E28					1	
{S. Peak	08	2317	2350	33	155	3974	N14 E32		2327	20	2	1+	Slow S-SWF
Honolulu	08	2316	2342	16		3974	N21 E25		2328			2+	
Mitaka	08	b2317	a2354	>37	275	3974	N10 E29		2329			1+	
Mitaka	09	b0441	a0528	>47		3974	N15 E37		0506			1+	
Capri-S	09	0846	a0910	>24	112	3972	S27 E23					1	
Capri-S	09	b0911	0931	>20	136	3973	S22 E21					1	S-SWF
Capri-S	09	1147	1203	16	97	3974	N13 E25					1	
Honolulu	09	1940	1948	08		3973	S21 E29		1942			1	
{S. Peak	09	2230	2243	13	50	3972	S29 E21		2235	15	4	1-	
{Mitaka	09	b2231	a2244	>13		3972	S28 E20					1	
{Honolulu	10	0008	0034	26		3972	S22 E15		0022			1	S-SWF
Mitaka	10	b0011	0031	>20		3972	S25 E07		0013			1	
Mitaka	10	b0526	0538	>12		3972	S25 E08		0530			1	
Mitaka	10	0702	0711	09		3972	S31 E18		0704			1+	
Neder.	10	1016	1048	32		3969	S25 W90					1	
Simeiz	11	b1103				3972	S25 W04		1103			1	S-SWF
Simeiz	11	b1116				3973	S18 W25		1116			1	
Simeiz	11	b1121				3972	S28 E10		1121			1	
{Schaus.	11	b1235	1250	>15		3967	S19 W31					2+	
{Simeiz	11	b1236				3971	S17 W21		1236			2	
{Capri-S	11	1229	a1319	>50	170	3967	S18 W33					1+	Slow S-SWF
Capri-S	11	b1516	a1528	>12	141	3972	S29 E01					1	
Schaus.	12	b0738	0805	>27		----	S12 W11					1	
{Ottawa	12	1202	1337	95		3974	N13 W12					2	
{Simeiz	12	b1204				3974	N11 W14		1204			1	
Capri-S	12	1205	a1324	>79	112	3974	N13 W11					1	Slow S-SWF

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		Start UT	End UT									
Simeiz	12	b1215				3967	S20 W48	1215			1	
S. Peak	12	~1715	1800	~45	105	3974	N13 W16	1735	23	5	1	S-SWF
Mitaka	12	b2300	2327	>27	330	3979	S22 E62	2308			1+	
Mitaka	13	0020	0030	10	135	3974	N12 W22				1	
Mitaka	13	0218	0250	32	180	3974	N12 W18				1	S-SWF
Mitaka	13	0341	0410	29		3974	N13 W17				1	S-SWF
{S. Peak	13	b1305	1400	>55	130	3974	N13 W28	1323	26	3	1 }	Slow S-SWF
{Capri-S	13	b1318	a1337	>19	160	3974	N13 W24				1+ }	
{Capri-S	13	1516	1537	21	102	3974	N13 W24				1	S-SWF
Mitaka	13	2351	2405	14	180	3972	S29 W35	2355			1	
{Wendel.	14	0840	0910	30		3980	S24 E77				1 }	
{Capri-S	14	0845	0859	14	165	3980	S22 E83				1 }	
{Capri-S	14	1045	1056	11	107	3974	N12 W35				1	S-SWF
{Capri-S	14	1310	1500	110	462	3967	S17 W73				2 }	G-SWF
{S. Peak	14	1315	1425	70	134	3967	S19 W73	1343	18	5	1 }	
{Capri-S	14	1418	1500	42	272	3980	S20 E69				2 }	S-SWF
{S. Peak	14	1418	1428	10	69	3980	S22 E75	1420	17	6	1- }	
{Schaus.	14	b1420	1455	>35		3980	S20 E74				1+ }	
{S. Peak	14	1423	1438	15	62	3979	S11 E33	1428	20	7	1- }	S-SWF
{Capri-S	14	b1426	1441	>15	92	3979	S11 E33				1 }	
S. Peak	14	1840	1850	10	127	3974	N09 W50	1843	20	5	1	S-SWF
Honolulu	14	b2002	2052	>50		3974	N12 W44	2002			1+	S-SWF
Honolulu	15	0150	0158	08		3974	N15 W50	0152			1	
{Capri-S	15	0738	a0807	>29	87	3979	S11 E23				1- }	
{Mitaka	15	b0748	a0758	>10	135	3979	S11 E25				1 }	
{S. Peak	15	1234	1300	26	76	3979	S12 E20	1238	19	8	1- }	G-SWF
{Capri-S	15	1235	1301	26	121	3979	S12 E22				1 }	
{S. Peak	15	1405	1418	13	48	3979	S11 E15	1410	25	7	1- }	S-SWF
{Capri-S	15	1407	a1415	>08	34	3979	S09 E15				1- }	
{McMath	15	b1408	a1420	>12		3979	S11 E18				1+ }	
S. Peak	15	1815	1833	18	110	3982	S16 W44	1823	15	8	1	Slow S-SWF
Mitaka	15	b2208	2323	>75	180	3982	S18 W44				1+	G-SWF
Mitaka	15	2320	2333	13		3974	N12 W60				1	S-SWF
Mitaka	16	0003	0014	11		3979	S11 E10				1	
Mitaka	16	0101	0119	18		3974	N11 W56				1	
Mitaka	16	b0350	0417	>27		3980	S26 E60				1	Slow S-SWF
Capri-S	16	b0907	a0908	>01	175	3980	S24 E51				1+	S-SWF
{Ottawa	16	1242	1304	22		3979	S11 E07	1245			1+ }	S-SWF
{Capri-S	16	b1245	a1315	>30	146	3979	S12 E10				1+ }	
Mitaka	16	b2221	a2246	>25	184	3982	S15 W58	2235			1	
S. Peak	16	2325	2340	15	120	3982	S16 W60	2330	16	9	1	{S-SWF
Mitaka	17	b0046	a0129	>43	221	3982	S15 W58	0051			1	
Honolulu	17	0048	0120	32		3984	S15 E60				1	{S-SWF
{S. Peak	17	~1557	a1610	>13	130	3979	S11 W05	1605	20	7	1 }	
{Mt. Wilson	17	b1601	1611	>10		3979	S15 W05				1 }	
Mt. Wilson	17	b1726	1746	>20		3982	S15 W55				1	
S. Peak	17	2207	a2315	>68	110	3972	S35 W90	2252	18	8	1	
Capri-S	18	0719	0736	17	112	3983	N07 E34				1	
{Schaus.	18	b0810	0827	>17		3979	S12 W15				1+ }	S-SWF
{Capri-S	18	0810	a0939	>89	151	3979	S10 W14				1+ }	

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		Start UT	End UT				Lat. Mer.	Dist.					
Schaus.	18	b0902	0950	>48		3979	S13 W14					1	
{ Capri-S	18	b1010	a1034	>24	267	3988	S16 E76					1 }	
Schaus.	18	b1015	1017	>02		3988	S22 E75					1 }	
S. Peak	19	b1249	1310	>21	172	3980	S29 E15					1	
Neder.	20	b0840	0935	>55		3990	S12 E80					1	
Honolulu	20	2142	2216	34		3980	S11 W07		2150			2	
Honolulu	20	2334	2346	12		3983	N10 W01		2336			1	
Mitaka	21	0109	0120	11	89	3990	S10 E71		0111			1	
{ Honolulu	21	0204	0228	24		3980	S22 W08		0208			2 }	Slow S-SWF
Mitaka	21	b0212	0227	>15		3980	S23 W12		0218			1+	
Ottawa	21	b1208	1229	>21		3987	N15 E44		1220			1	Slow S-SWF
S. Peak	21	b1245	1300	>15	110	3987	N13 E46		1255	14	8	1	
{ Honolulu	21	1856	1938	42		3990	S11 E60		1908			1 }	Slow S-SWF
S. Peak	21	1900	1935	35	159	3990	S12 E63		1908	18	9	1 }	
Honolulu	21	2252	a2304	>12		3987	N18 E38		2304			1+	
Honolulu	22	0008	0022	14		3980	S20 W22		0012			1	
{ Honolulu	22	1830	a1834	>04			S07 E21		1834			1 }	
S. Peak	22	1830	1845	15	93		S12 E21		1833	16	2	1- }	
{ Capri-S	23	b1244	1302	>18	112		S12 E09					1 }	
S. Peak	23	b1246	1305	>19	55		S12 E08		1250	16	9	1- }	
{ Capri-S	23	b1355	1416	>21	97	3990	S13 E40					1 }	
S. Peak	23	b1355	1408	>13	48	3990	S15 E39		1355	20	9	1- }	
S. Peak	23	1800	1815	15	121	3976	N28 W90		1803	17	9	1	G-SWF
{ McMath	24	b1418				3990	S10 E25					1 }	G-SWF
Capri-S	24	1424	a1443	>19	107	3990	S11 E23					1 }	
{ S. Peak	24	b1617	1637	>20	125	3993	N10 W53		~1618	28	2	1+ }	S-SWF
McMath	24	b1620	1645	>25		3993	N10 W50					1+ }	
{ Kiev.	25	b1438				3980	S20 W70					2 }	S-SWF
S. Peak	25	1440	1500	20	40	3980	S20 W89		1442	22	6	1- }	
McMath	25	1450				3980	S20 W90					1 }	
S. Peak	25	1540	1655	75	190	3983	N10 W65		1552	22	1	1	S-SWF
S. Peak	26	2040	2135	55		3988	S17 W15		2048	18	8	1+	
Mitaka	27	b2307	a2344	>37	147	3988	S16 W17					1	
Mitaka	27	b2329	2335	>06		3984	S13 W63					1	
Capri-S	29	0658	0706	08	121	3997	S17 E84					1	
Capri-S	29	b1046	a1100	>14	185	3997	S15 E82					1	
Honolulu	30	0240	a0246	>06			S26 W30		0246			1	
{ S. Peak	30	1250	1305	15	49	3987	N26 W71		1252	16	3	1- }	S-SWF
Capri-S	30	b1251	a1302	>11	185	3987	N26 W68					1 }	
S. Peak	30	1620	1630	10	118	3987	N26 W76		1623			1	S-SWF
Capri-S	31	b0810	a0819	>09	107	3987	N26 W80					1	Slow S-SWF
Capri-S	31	0910	a0920	>10	49	3987	N25 W90					1	
{ S. Peak	31	1258	1318	20	145	3987	N25 W82		1305	20	9	1 }	Slow S-SWF
Neder.	31	1300	1340	40		3987	N27 W85					1 }	
McMath	31	b1320				3987	N23 W90					1 }	
{ S. Peak	31	1558	1613	15	115	3987	N25 W82		1603	18	7	1 }	Slow S-SWF
Capri-S	31	b1558	1605	>07	49	3987	N25 W90					1- }	
McMath	31	b1604				3987	N23 W90					?	
S. Peak	31	1905	1933	28	115	3996	S21 E20		1910	18	5	1	Slow S-SWF

Subflares noted as follows (Date, time (UT), coordinates):

S. Peak: unmarked McMath: ++
 Capri-S: + Mitaka: *

May 01, 1420 (S14,W20)
 1815 (S26,E50)

May 02, 1720 (S10,W67)
 2253 (S24,E90)

May 03, b1300 (S26,E04)
 1515 (S25,E03)

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S. Peak: unmarked McMath: ++
 Capri-S: + Mitaka: *

May 03,	1745 (S26,E02)	May 13,	b0205 (N12,W18)*	May 21,	1630 (N14,E43)
	b2312 (S26,W02)		1315 (S22,W38)	22,	1535 (S17,W46)
04,	b1252 (S05,W66)+		1322 (S29,W30)		1608 (S17,W46)
	{ 1340 (S23,W17)		{ 1433 (N08,W37)		2127 (N09,W24)
	b1343 (S22,W16)+		b1437 (N09,W35)+		2335 (S15,W39)
	1542 (S27,E87)		1515 (N13,W26)	23,	b0057 (S17,W51)*
	1800 (S07,W65)		1805 (N12,W27)		b0828 (S15,W52)+
	2242 (S27,E88)		1820 (N12,W30)		b1120 (S11,E40)+
	2248 (S30,E77)		1937 (N09,W22)		1357 (N18,E19)
05	1215 (S26,W18)+		2045 (S22,W38)		1742 (N17,E60)
	1315 (S25,W25)	14,	b0829 (S22,E79)+		1800 (S20,W60)
	1330 (S28,W90)		1432 (S22,E75)		2022 (S23,W52)
	1542 (S12,W70)		{ 1502 (N11,W42)		2325 (N15,E12)
	1600 (N15,E90)		{ 1503 (N12,W42)+	24,	1740 (N20,E04)
	b1657 (S25,W26)		1655 (N12,W44)		1810 (S20,W68)
06,	b1145 (S17,E42)+		1735 (S21,E75)		b1837 (S20,W33)
	b1635 (N15,E70)++	15,	0738 (S11,E23)+		1855 (S20,W68)
	b2030 (N15,E65)++		0903 (S20,W53)+		2245 (N11,W55)
07	1334 (N13,E58)+		1315 (S19,W40)	25,	1635 (S20,W83)
	b1440 (N13,E51)		1405 (S10,E15)		1640 (S17,W80)
	b1632 (N13,E50)++		1518 (S19,W90)		1745 (S10,E10)
	b2110 (S10,W25)		1530 (S19,W41)	26,	1336 (N09,W78)
	b2200 (S30,E34)		1538 (S34,W70)		1452 (N23,E11)
08,	b1221 (S32,E26)+		1607 (S18,W42)		1607 (N20,W26)
	2252 (S26,E20)		1630 (S17,W42)		1742 (N09,W80)
	2307 (S30,E34)		1705 (S12,E22)		2215 (S17,W16)
	2335 (S30,E35)		1740 (S17,W43)		2327 (S14,W62)
09,	b0018 (N11,E31)*		1748 (S20,W90)	27,	2015 (S16,W60)
	b0522 (N13,E34)+		1755 (N11,W58)		b2329 (S15,W76)
	0728 (S17,W08)+		2020 (N15,W55)		2345 (S16,W76)
	0921 (S23,E14)+		2045 (N15,W58)	28,	1518 (S19,W31)
	b0949 (S27,E22)+		2152 (S12,E10)		1540 (N25,W43)
	1220 (S26,E24)+		b2206 (S11,E08)*		1725 (N25,W44)
	1329 (N13,E24)+		2237 (S17,W47)		2105 (S17,E90)
	1353 (N12,E22)	16,	b0417 (S11,E10)*	29,	1119 (S16,E82)+
	{ b1440 (S27,E24)+		b1712 (S16,W56)		b1700 (S10,W31)
	{ 1442 (S29,E24)		1730 (S11,W01)		1712 (N25,W59)
	1450 (S29,E26)		1905 (S10,W02)		b2123 (N25,W62)
	1940 (S30,E23)		1925 (S15,W57)		2124 (S10,W32)
	b2117 (N10,E26)		2340 (N06,E53)	30,	b1004 (N19,W51)+
	2107 (S30,E22)	17,	1302 (S19,E90)		{ 1315 (S18,E36)
	2312 (N12,E22)		1330 (S23,W90)		{ 1318 (S16,E37)+
	2325 (S22,W90)		1405 (S12,W08)		1327 (N19,W55)
10,	b0241 (S31,E20)*		1805 (N11,W90)		1400 (N25,W71)
	b0614 (N10,E17)*		2102 (N11,W87)		1415 (S23,W12)
	1932 (S31,W03)	18,	0853 (N07,E33)+		1420 (N40,W59)
	b2000 (S18,W25)	19,	1415 (S16,W90)		1510 (S24,W14)
11,	1350 (N11,W05)		1715 (S18,E70)		1700 (N25,W71)
	b1418 (S17,W35)		1750 (S13,E90)		1852 (S19,E34)
	1640 (S17,W35)	20,	b0611 (S10,E85)+		2202 (N25,W80)
	b1958 (S17,W37)		b1947 (S12,E75)		2300 (N25,W80)
12,	0734 (N11,W09)+	21,	b0613 (S18,W23)*	31,	b0852 (S15,E24)+
	0952 (S24,W21)+		1317 (N14,E46)		1405 (N09,E90)
	1500 (N13,W16)		1350 (S11,W14)		1632 (S19,E21)
	1515 (N13,W12)+		1432 (S11,E65)		1722 (N08,E88)
	b1745 (S25,W20)		b1603 (N14,E46)		1957 (N25,W88)