Hα SOLAR FLARES

JUNE 1977

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	01	0403	0406	NO FLARE PATROL													
	01	0424	0429	NO FLARE PATROL													
	01	0430	0435	NO FLARE PATROL													
	01	0457	0500	NO FLARE PATROL													
	01	1820	1914	NO FLARE PATROL													
	01	1928	1954	NO FLARE PATROL													
	01	2000	2051	NO FLARE PATROL													
	01	2123	2205	NO FLARE PATROL													
	02	0024	0112	NO FLARE PATROL													
	02	0116	0137	NO FLARE PATROL													
	02	0143	0157	NO FLARE PATROL													
GRP63983	02	0715+1	0717+3	0738	S24	E87	.999	14796	8.8	23	N						A
CATA	02	0715E	0720	0725D	S25	E90	1.000	14796	9.1	100	N	2		0715	140		A
	IMP.2 IMP.S																
KANZ	02	0716	0717	0738	S24	E85	.996	14796	8.7	22	-N		C				A
GRP63984	02	0821+5	0826 0833	0845	S25	E87	.999	14796	8.9	24	-N						AK
HEUD	02	0821	0826	0840	S26	E85	.997	14796	8.7	19	-N		C				T
KANZ	02	0826	0833	1146	S24	E85	.996	14796	8.7	200	-N		C				TK
CATA	02	0830E	0840	0845D	S26	E90	1.000	14796	9.1	150	1N	2		0840	129		A
GRP63985	02	1155>9	1210+5 1223	1230	S26	E90	1.000	14796	9.2	35	1F						
HEUD	02	1155	1210	1230	S26	E89	1.000	14796	9.2	35	-F		C				
ZURI	02	1207	1223	1231	S25	E90	1.000	14796	9.3	24	1F		C	1223	60		
KIEV	02	1210E	1215	1230	S27	E90	1.000	14796	9.3	200	1N		C				
986 HTPR	02	1246E		1353D	S25	E85	.997	14796	8.9	67D	-F		C	1328	50		E Y5
987 KANZ	02	1515	1521	1534	S24	E83	.993	14796	8.9	19	-F		C				Y5
	02	1829	1939	NO FLARE PATROL													
	02	1948	2044	NO FLARE PATROL													
	02	2123	2155	NO FLARE PATROL													
988 CULG	02	2339	2345	0009	S27	E78	.982	14796	8.8	30	1N		C	2345	70		Y5
GRP63989	03	0907+1	0914+6	0935	N20	E16	.435	14794	4.6	28	-B				130	1.4	E
HTPR	03	0907	0920	0935	N20	E19	.464	14794	4.8	28	-B		C	0920	130	1.3	E
ZURI	03	0908	0914	0930D	N20	E14	.417	14794	4.4	22D	-B		P	0914	140	1.6	
GRP63990	03	0940E	0940	1005	N20	E15	.425	14794	4.5	25	-N						
CATA	03	0940E	0940	1000	N19	E15	.413	14794	4.5	20D	-N	2		0940	140	1.6	
KHAR	03	0950E	0950	1010	N22	E16	.459	14794	4.6	20D	-F		P				B
991 HTPR	03	0949	0951	1002	N22	W73	.963	14785	28.9	13	-F		C	0951	20		Y5
992 HTPR	03	1004	1008	1021	S25	E72	.959	14796	8.8	17	-F		C	1008	20		Y5
993 RAMY	03	1233E	1238	1241	N23	E11	.435	14794	4.3	8D	-F	3	C		31		H R Y5
GRP63994	03	1608	1621	1722	S22	W70	.947	14791	29.4	74	-N						E
RAMY	03	1608	1621U	1636	S21	W70	.947	14791	29.4	28	-N	3	C		95		FDE
MCMA	03	1610E		1755D	S22	W70	.947	14791	29.4	105D	-N		C	1700	50	1.8	E
HUAN	03	1705E		1722D	S22	W70	.947	14791	29.5	17D	-F	1	P	1710	45		E
995 HUAN	03	1834	1836	1843	S25	E65	.922	14796	8.6	9	-F	1	C	1836	40		Y5
996 HUAN	03	2030		2038	S25	E65	.922	14796	8.7	8	-F	1	C				Y5
GRP63997	03	2100>9	2102	2115	S25	E65	.922	14796	8.7	15	-F						
VORO	03	2100	2102	2114	S25	E65	.922	14796	8.8	14	-F		C	2102	72	1.8	E
HUAN	03	2110		2115D	S26	E65	.924	14796	8.8	5D	-F	1	P	2114	25		D
998 CULG	04	0021	0023	0048	N18	W90	1.000	14785	28.3	27	? N		C	0023	90		Y5
	IMP.1 NO		: PALE2	VORO1													
999 CULG	04	0112	0118	0158	S23	W78	.981	14791	29.2	46	-F		C	0118	35		Y5
	04	0641	0701	NO FLARE PATROL													
	04	0815	0828	NO FLARE PATROL													
0 MONT	04	0950E	0953	1009D	S22	W83	.993	14791	29.2	19D	-F		C	0953	20		D Y5
	04	1009	1012	NO FLARE PATROL													

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	04	1023	1025	NO FLARE PATROL														
	04	1029	1112	NO FLARE PATROL														
1 HUAN	04	1337		1345D	N22	W90	1.000	14785	28.8	8D	-F	1	P					Y5
2 HUAN	04	1530	1533	1536	N18	W90	1.000	14785	28.9	6	-F	1	C	1533	20		D	Y5
3 HUAN	04	1621	1628	1633	N19	W90	1.000	14785	28.9	12	-F	1	C	1628	25			Y5
4 HUAN	04	1643		1655	N20	W90	1.000	14785	28.9	12	-F	1	C					Y5
	04	1916	1934	NO FLARE PATROL														
	04	2137	2222	NO FLARE PATROL														
5 MITK	04	2352	2355	0011	N18	W90	1.000	14785	29.2	19	?N		C	2355	80		E	Y5
	IMP.1 NO t PALE2 CULG1																	
	05	1509	1531	NO FLARE PATROL														
	05	1547	1610	NO FLARE PATROL														
	05	1654	1720	NO FLARE PATROL														
	05	1728	1731	NO FLARE PATROL														
	05	1931	2021	NO FLARE PATROL														
	05	2033	2050	NO FLARE PATROL														
	05	2054	2105	NO FLARE PATROL														
	05	2108	2111	NO FLARE PATROL														
	05	2116	2119	NO FLARE PATROL														
	05	2126	2210	NO FLARE PATROL														
6 CULG	06	0002	0026	0053	S28	E37	.708	14796	8.8	51	-F		C	0026	25	.4		Y5
7 CATA	06	0835	0835	0840	N23	W50	.807	14799	2.6	5	-N	1		0835	56	.9		Y5
GRP64008	06	0850	0855 0903	0915	S22	E24	.531	14796	8.2	25	-N						E	
CATA	06	0850	0855	0910	S24	E23	.540	14796	8.1	20	-N	2		0855	112	1.3		
BUCA	06	0902E	0903	0919	S21	E26	.543	14796	8.3	17D	-F		P	0903	63	.8	E	
9 BUCA	06	1255		1305D	S24	E35	.663	14796	9.2	10D	-F		C	1305	15	.2	D	Y5
10 BUCA	06	1312	1313	1320	S24	E35	.663	14796	9.2	8	-N		C	1313	15	.2	D	Y5
11 WEND	06	1332		1355	N20	W36	.650	14794	3.9	23	-N							Y5
	06	2036	2039	NO FLARE PATROL														
	06	2115	2142	NO FLARE PATROL														
12 HTPR	07	0631	0634	0651	S23	E18	.484	14796	8.6	20	-F		C	0634	10	.1		Y5
GRP64013	07	1320+1	1323	1330	S25	E18	.507	14796	8.9	10	-N				40	.5	E	
HTPR	07	1320	1323	1328	S25	E16	.491	14796	8.8	8	-N		C	1323	50	.5	E	
MCMA	07	1321		1323D	S25	E17	.499	14796	8.8	20	-N		C	1323	40	.5	E	
BUCA	07	1324E		1332	S25	E20	.524	14796	9.1	8D	-N		C	1324	34	.4	CE	
14 HUAN	07	1345	1357	1405D	N22	W70	.948	14799	2.3	20D	-F	1	P	1357	25		D	Y5
GRP64015	07	1503>9	1516+2	1522	N21	W69	.942	14799	2.5	19	-F						E	
HTPR	07	1503	1516	1522	N22	W68	.938	14799	2.5	19	-F		C	1516	50		E	
KANZ	07	1514	1518	1522	N21	W70	.948	14799	2.4	8	-N		P					
16 HUAN	07	2125	2129	2135D	S25	E12	.463	14796	8.8	10D	-F	1	P	2129	30	.3	E	Y5
	08	1648	1655	NO FLARE PATROL														
	08	1700	1704	NO FLARE PATROL														
	08	1711	1712	NO FLARE PATROL														
	08	1814	1816	NO FLARE PATROL														
	08	1827	1902	NO FLARE PATROL														
	08	1916	1923	NO FLARE PATROL														
	08	1947	2002	NO FLARE PATROL														
	08	2022	2030	NO FLARE PATROL														
17 HUAN	08	2058		2102D	S23	W06	.405	14796	8.4	40	-F	1	P					Y5
18 HUAN	08	2137E		2143	S24	W05	.417	14796	8.5	60	-F	1	P	2139	35	.4	E	Y5
19 CULG	08	2238	2245	2318	S29	E60	.900	14801	13.4	40	-F		C	2245	30	.8		Y5
	09	0145	0146	NO FLARE PATROL														

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP64020	09	1233+4	1237+1	1247	S27	W16	.520	14796	8.3	14	-N				30	.4	E	
HUAN	09	1233	1238	1246	S26	W16	.507	14796	8.3	13	-N	1	C	1238	30	.4	E	
HCMA	09	1233	1237	1250	S27	W16	.520	14796	8.3	17	-N		C	1237	30	.4	E	
KANZ	09	1237	1237	1247	S27	W15	.513	14796	8.4	10	-N		C				D	
GRP64021	09	1826+0	1828	1845	S26	W19	.531	14796	8.3	19	-N						EH	
HCMA	09	1826E		1838D	S26	W20	.539	14796	8.3	120	-N		P	1837	40	.5	EH	
HUAN	09	1826	1828	1845	S26	W19	.531	14796	8.3	19	-N	1	C	1828	120	1.4	E	
GRP64022	09	1943+5	2016	2035	S23	E47	.780	14801	13.3	52	-N							
HUAN	09	1943E		2000D	S24	E47	.784	14801	13.3	17D	-F	1	P	1954	30	.4	D	
HCMA	09	1948	2016	2035	S23	E48	.789	14801	13.4	47	-N		C	2016	50	.8	E	
	09	2134	2201	NO FLARE PATROL														
GRP64023	10	0747+3	0752+4	0806	S24	E44	.756	14801	13.6	19	-F						E	
KANZ	10	0747	0756	0811	S24	E44	.756	14801	13.6	24	-N		C				E	
MONT	10	0750	0752	0800	S24	E44	.756	14801	13.6	10	-F		C	0752	40		E	
GRP64024	10	0845+1	0850+2 0858	0919	S25	E37	.693	14801	13.1	34	-F				60	.8	E	
CATA	10	0845	0850	0940	S25	E36	.683	14801	13.1	55	-N	2		0850	140	1.9		
KANZ	10	0846	0851	0911	S25	E37	.693	14801	13.1	25	-F		C				E	
ZURI	10	0846	0852	0908	S26	E37	.699	14801	13.1	22	-F		C	0852	60	.9		
MONT	10	0846	0858	0911	S25	E38	.703	14801	13.2	25	-N		C	0858	150			
BUCA	10	0850E		0935	S22	E36	.664	14801	13.1	45D	-F		C	0850	63	.9	CE	
GRP64025	10	0935+5	0938+3	0950	S23	E41	.722	14801	13.5	15	-F				50	.7	E	
CATA	10	0935	0940	0950	S24	E41	.727	14801	13.5	15	-N	2		0940	56	.8		
MONT	10	0937	0938	0950	S24	E43	.747	14801	13.6	13	-F		C	0938	40		E	
KANZ	10	0939	0939	0939D	S23	E40	.712	14801	13.4		-F		C				E	
BUCA	10	0940	0941	1006	S22	E41	.717	14801	13.5	26	-N		C	0941	47	.7	E	
26 BUCA	10	1105	1124	1128	S23	W23	.535	14796	8.7	23	-F		C	1124	15	.2	D	Y5
27 HUAN	10	1625		1645	S20	E33	.619	14801	13.2	20	-F	1	C	1637	20	.2	D	Y5
GRP64028	11	0605+2	0605+4	0620	S23	E28	.588	14801	13.4	15	-N				90	1.1		
CATA	11	0605E	0605	0620D	S23	E30	.608	14801	13.5	15D	-N	2		0605	112	1.4		
ATHN	11	0607	0609	0620	S24	E27	.586	14801	13.3	13	-N	1			66			
	11	1700	2230	NO FLARE PATROL														
29 CATA	12	0555E	0555	0700	S23	E17	.483	14801	13.5	65D	-N	2		0555	112	1.3		Y5
GRP64030	12	0745+3	0750+4 0800	0819	S24	E07	.431	14801	12.8	34	-N						D	
CATA	12	0745E	0800	0845	S24	E08	.436	14801	12.9	60D	-N	2		0800	56	.6		
KANZ	12	0745	0754	0819	S24	E07	.431	14801	12.8	34	-F		P				D	
ATHN	12	0748	0750	0806	S24	E07	.431	14801	12.9	18	-N	1			33			
31 WEND	12	1722		1740	S20	W22	.498	14796	11.1	18	?N							Y5
	IMP.1 NO : HUAN2 PALE2																	
	12	1916	1922	NO FLARE PATROL														
	12	1926	1959	NO FLARE PATROL														
	12	2304	2312	NO FLARE PATROL														
GRP64032	13	0354>9	0408+1 0415+1	0517	S20	E04	.360	14801	13.5	83	-N				140	1.5		
MITK	13	0354	0409	0539D	S20	E03	.358	14801	13.4	105D	-B		C	0409	110	1.2	E	
CULG	13	0358E	0416	0512D	S21	E05	.379	14801	13.5	74D	-N		C	0416	80	.9		
TEHR	13	0400	0415	0521	S18	E06	.337	14801	13.6	81	-N	9	C		190		DE	
TACH	13	0404	0408	0503	S22	E03	.390	14801	13.4	59	-B		C	0410	179	2.0	F	
33 CATA	13	0605E	0605	0640D	S21	E03	.374	14801	13.5	35D	-N	2		0605	112	1.2		Y5
	13	1524	1653	NO FLARE PATROL														
	13	1741	1816	NO FLARE PATROL														
	13	1824	1853	NO FLARE PATROL														
	13	1953	2025	NO FLARE PATROL														
	13	2033	2149	NO FLARE PATROL														
	13	2332	2343	NO FLARE PATROL														
	13	2345	2348	NO FLARE PATROL														
	13	2353	2358	NO FLARE PATROL														

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX LNG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP64034	14	1305+2	1309	1317	S22	W19	.492	14801	13.1	12	-F				25	.3	E	
MCMA	14	1305E		1317D	S23	W19	.503	14801	13.1	120	-F		P	1306	30	.3	E	
HTPR	14	1307	1309	1317	S22	W20	.501	14801	13.0	10	-F		C	1309	20	.2		
	14	1903	1918	NO FLARE PATROL														
	14	1940	1952	NO FLARE PATROL														
	14	1958	2020	NO FLARE PATROL														
	14	2055	2146	NO FLARE PATROL														
	14	2258	2303	NO FLARE PATROL														
35 HTPR	15	0822	0824	0847	S23	W31	.623	14801	13.0	25	-F		C	0824	10	.1		Y5
36 HTPR	15	1507	1510	1520	S23	W27	.582	14801	13.6	13	-F		C	1510	10	.1		Y5
37 MCMA	15	1520E		1630D	S23	W34	.654	14801	13.1	70D	-N		C	1535	40	.5	ELT	Y5
	16	2154	2235	NO FLARE PATROL														
	17	0057	0108	NO FLARE PATROL														
GRP64038	17	0638		0707D	S09	E87	.999	14814	23.8	29	-F						D	
HTPR	17	0638	0722	0750	S09	E85	.997	14814	23.7	72	-F		C	0722	20			
MONT	17	0657E	0657	0707	S10	E90	1.000	14814	24.0	10D	-F		C	0657	20		D	
GRP64039	17	1042+3	1049+9	1116	S22	W53	.835	14801	13.5	34	1N				140	2.5	E	
MONT	17	1042	1052	1126D	S22	W53	.835	14801	13.5	44D	-N		C	1052	180			
KANZ	17	1042	1052	1103	S23	W53	.838	14801	13.5	21	-N		P				E	
ZURI	17	1044	1050	1112	S22	W53	.835	14801	13.5	28	-B		C	1050	60	1.2		
HTPR	17	1045	1049	1110	S23	W54	.846	14801	13.4	25	1N		C	1049	150	2.5	E	
ATHN	17	1055E	1055	1114	S18	W56	.851	14801	13.3	19D	-N	1			98			
RAMY	17	1055E	1058U	1120	S21	W55	.849	14801	13.3	25D	-F	1	C		159		F	
KHAR	17	1100E	1100	1113	S23	W52	.830	14801	13.6	13D	1F		P				E	
CATA	17	1105E	1105	1130	S23	W52	.830	14801	13.6	25D	-F	2		1105	84	1.5		
40 KANZ	17	1414	1424	1429	N25	E90	1.000	14813	24.3	15	-N		C					Y5
41 KANZ	17	1516	1528	1531	N25	E90	1.000	14813	24.4	15	-N		C					Y5
	17	2120	2132	NO FLARE PATROL														
	17	2146	2155	NO FLARE PATROL														
	17	2158	2219	NO FLARE PATROL														
	17	2258	0030	NO FLARE PATROL														
	18	0050	0054	NO FLARE PATROL														
	18	0106	0230	NO FLARE PATROL														
	18	0545	0551	NO FLARE PATROL														
GRP64042	18	0835	0837	0845	S21	W64	.916	14801	13.6	10	-F						D	
MONT	18	0835	0837	0845	S22	W64	.918	14801	13.6	10	-F		C	0837	20		D	
KANZ	18	0844E	0844	0844D	S21	W65	.923	14801	13.5		-N		C				D	
GRP64043	18	0947+6	0957 1005	1013	S21	W65	.923	14801	13.5	26	-F						D	
MONT	18	0947	0957	1013	S22	W65	.924	14801	13.5	26	-F		C	0957	20		D	
HTPR	18	0952	1005	1009	S21	W72	.960	14801	13.0	17	-F		C	1005	20	.4		
WEND	18	0953		1014	S21	W65	.923	14801	13.5	21	-N							
GRP64044	18	0957>9	1030 1046	1110	S20	E90	1.000	14815	25.2	73	-F						DK	
MONT	18	0957	1030	1115D	S21	E90	1.000	14815	25.2	78D	-F		C	1030	20		DK	
KANZ	18	1027	1046	1105	S20	E90	1.000	14815	25.2	38	-N		C					
45 HTPR	18	1453E		1458D	S21	W73	.964	14801	13.1	5D	-F		C	1454	10	.2		Y5
46 KANZ	18	1518	1518	1533	S21	W74	.969	14801	13.1	15	-F		C				E	Y5
	18	2115	2144	NO FLARE PATROL														
	18	2212	2227	NO FLARE PATROL														
47 HUAN	19	1942		1953	S30	E78	.986	14815	25.7	11	-F	1	C					Y5
48 HUAN	19	2146	2150	2157	N24	E72	.956	14813	25.3	11	-F	1	C	2150	25		D	Y5
49 MONT	20	0808	0811	0822	N25	E57	.863	14813	24.6	14	-F		C	0811	20		D	Y5
	20	2158	2205	NO FLARE PATROL														
	21	0021	0025	NO FLARE PATROL														
	21	0032	0050	NO FLARE PATROL														
	21	0149	0204	NO FLARE PATROL														

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JUNE 1977

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	21	0206	0229	NO FLARE PATROL														
	21	0234	0316	NO FLARE PATROL														
50 CATA	21	0730	0730	0730D	S23	E54	.849	14815	25.4		-N	2		0730	28	.5		Y5
51 KANZ	21	0732	0732	0732D	S23	E57	.872	14815	25.6		-F		P				D	Y5
	21	2143	2201	NO FLARE PATROL														
	21	2230	2235	NO FLARE PATROL														
	21	2236	2255	NO FLARE PATROL														
	22	0002	0050	NO FLARE PATROL														
	22	0158	0219	NO FLARE PATROL														
52 HUAN	22	1518	1522	1523	N16	E90	1.000	14822	29.4	5	-F	1	C	1522	20		D	Y5
53 HUAN	22	1857	1858	1900	N11	E90	1.000	14822	29.5	3	-F	1	C	1859	40			Y5
54 HUAN	22	1923		1933	N12	E90	1.000	14822	29.6	10	-F	1	C	1930	40		E	Y5
55 HUAN	22	1951	1957	1957	N16	E88	.999	14822	29.4	6	-F	1	C	1957	30			Y5
56 HUAN	22	2018	2020	2025	N14	E90	1.000	14822	29.6	7	-F	1	C	2020	20		D	Y5
	22	2046	2050	NO FLARE PATROL														
	22	2211	2236	NO FLARE PATROL														
	23	0115	0140	NO FLARE PATROL														
57 CATA	23	0650	0650	0705D	S21	E31	.616	14815	25.6	15D	-N	2		0650	28	.3		Y5
58 HTPR	23	0755		0759D	N14	E86	.997	14822	29.8	4D	-F		C	0756	20			Y5
GRP64059	23	1032	1051 1102	1149	N21	E21	.469	14813	25.0	77	-F				70	.8	E	
MONT	23	1032	1102	1120D	N21	E21	.469	14813	25.0	48D	-F		C	1102	40		E	
ZURI	23	1035E	1051	1149	N21	E21	.469	14813	25.0	74D	-F		P	1051	80	1.0		
HTPR	23	1041E		1112D	N22	E22	.490	14813	25.1	31D	-F		C	1053	60	.6	E	
60 HUAN	23	1411	1412	1417	S27	E24	.602	14815	25.4	6	-F	1	C	1412	35	.4		Y5
61 HUAN	23	1426	1428	1435	N20	E20	.448	14813	25.1	9	-F	2	C	1428	35	.4	E	Y5
62 HUAN	23	1540	1543	1551	N26	E12	.449	14813	24.6	11	-F	2	C	1543	50	.6	E	Y5
63 HUAN	23	1611		1616	N24	E07	.392	14813	24.2	5	-F	1	C					Y5
64 HUAN	23	1613		1631	N13	E85	.996	14822	30.1	18	-N	1	C	1617	20		DT	Y5
65 HUAN	23	1634		1649	N13	E85	.996	14822	30.1	15	-F	1	C					Y5
GRP64066	23	1710+8	1723	1731	S24	E27	.600	14815	25.7	21	-N				35	.4	EH	
MCMA	23	1710		1724D	S24	E28	.610	14815	25.8	14D	-N		C	1723	30	.4	EH	
HUAN	23	1718	1723	1731	S24	E27	.600	14815	25.7	13	-N	2	C	1723	40	.5		
67 HUAN	23	1727		1734	N13	E85	.996	14822	30.1	7	-F	1	C					Y5
68 HUAN	23	1747	1750	1752	N13	E85	.996	14822	30.1	5	-F	1	C	1750	20		D	Y5
GRP64069	23	1824+1	1833+2	1903	N13	E86	.997	14822	30.2	39	-N						EL	
HUAN	23	1824	1835	1903	N13	E85	.996	14822	30.1	39	-B	1	C	1835	50		E	
MCMA	23	1825	1833	1838D	N14	E88	.999	14822	30.4	13D	-N		C	1833			EL	
70 HUAN	23	1921		2005	N13	E85	.996	14822	30.2	44	-F	1	C					Y5
71 HUAN	23	1943	1954	2005	S26	E26	.610	14815	25.8	22	-F	2	C	1954	20	.2	D	Y5
72 HUAN	23	2029	2050	2106	N13	E83	.992	14822	30.1	37	-N	1	C	2050	35			Y5
73 HUAN	23	2111	2112	2122	S24	E26	.591	14815	25.8	11	-N	2	C	2112	35	.4	E	Y5
74 HUAN	23	2200	2208	2213	N13	E82	.990	14822	30.1	13	-N	1	C	2208	40			Y5
	23	2208	2211	NO FLARE PATROL														
	23	2217	2232	NO FLARE PATROL														
	23	2240	2316	NO FLARE PATROL														
	23	2323	2330	NO FLARE PATROL														
75 MANI	23	2359E	2402	0020	N16	E77	.974	14822	29.8	21D	-N		P	2402	70	1.8		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	24	0130	0140	NO FLARE PATROL														
	24	0150	0152	NO FLARE PATROL														
76 TACH	24	0340	0347	0353	N14	E78	.978	14822	30.0	13	1N		C	0345	176			Y5
GRP64077	24	0613+2	0613+2	0624	N14	E73	.956	14822	29.7	11	-N				80			
ATHN	24	0613E	0613	0622	N14	E72	.951	14822	29.7	9D	-N	1			98			
CATA	24	0615	0615	0625	N15	E74	.961	14822	29.8	10	-B	2		0615	56			
78 HTPR	24	0637	0637	0644	S23	E24	.563	14815	26.1	7	-F		C	0637	40	.4	E	Y5
GRP64079	24	0652+2	0701	0706	N14	E73	.956	14822	29.8	14	-F				25		D	
HTPR	24	0652		0706D	N14	E70	.940	14822	29.5	140	-F		C	0701	30			
MONT	24	0654	0701	0705	N14	E76	.970	14822	30.0	11	-F		C	0701	20		D	
GRP64080	24	0734+6	0742+3	0750	N14	E73	.956	14822	29.8	16	1N				90			
MONT	24	0734	0742	0751	N14	E76	.970	14822	30.0	17	-N		C	0742	60			
HTPR	24	0735	0742	0746	N14	E70	.940	14822	29.6	11	-B		C	0742	100			
CATA	24	0740	0745	0750	N15	E73	.957	14822	29.8	10	1N	2		0745	112			
GRP64081	24	0800+1	0817 0826	0926	N15	E75	.966	14822	30.0	86	-F						EK	
HTPR	24	0800	0817	0925	N15	E75	.966	14822	30.0	85	-N		C	0817	50	1.0	E	
MONT	24	0801	0826	0926	N15	E76	.970	14822	30.0	85	-F		C	0826	60		EK	
GRP64082	24	0830+4	0833+0 0838	0840	S22	E12	.450	14815	25.3	10	-F				35	.4		
MONT	24	0830	0833	0839	S22	E12	.450	14815	25.3	9	-F		C	0833	40			
HTPR	24	0831	0833	0840	S22	E12	.450	14815	25.3	9	-F		C	0833	30	.3		
KANZ	24	0834	0838	0842	S23	E11	.458	14815	25.2	8	-N		P				B	
GRP64083	24	0909	0924	0933	S22	E11	.444	14815	25.2	24	-F							
MONT	24	0909	0924	0931	S22	E12	.450	14815	25.3	22	-F		C	0924	40			
CATA	24	0915E	0915	0935D	S23	E11	.458	14815	25.2	20D	-N	2		0915	84	.9		
GRP64084	24	0930+8	0934 0942	0945	N14	E72	.951	14822	29.8	15	-N				50		E	
LOCA	24	0930	0934	0945	N16	E73	.957	14822	29.9	15	-N		V	0934	51	1.9		
MONT	24	0937	0942	0945	N15	E75	.966	14822	30.0	8	-N		C	0942	60		E	
HTPR	24	0938		0943D	N13	E70	.940	14822	29.7	50	-B		C	0939	40	.8		
CATA	24	0940E	0945	0950	N13	E71	.946	14822	29.7	100	-N	2		0945	56			
GRP64085	24	0956+4	0957+3	1004	S22	E10	.438	14815	25.2	8	-N				50	.6	D	
MONT	24	0956	0959	1002	S22	E11	.444	14815	25.2	6	-F		C	0959	40		D	
ZURI	24	0957	0957	0959D	S22	E10	.438	14815	25.2	2D	-N		P	0957	60	.7		
CATA	24	1000	1000	1005	S23	E10	.452	14815	25.2	5	-N	2		1000	56	.6		
86 MONT	24	1006	1007	1010	N15	E75	.966	14822	30.0	4	-F		C	1007	20		D	Y5
87 ZURI	24	1026	1027	1028	S22	E10	.438	14815	25.2	2	-F		C	1027	60	.7		Y5
GRP64088	24	1123+2	1126+7	1138	N15	E73	.957	14822	29.9	15	-N				60		D	
MONT	24	1123	1126	1130D	N15	E75	.966	14822	30.1	7D	-F		C	1126	20		D	
ZURI	24	1125	1133	1135	N15	E72	.952	14822	29.9	10	-N		C	1133	60			
CATA	24	1130E	1130	1140D	N14	E72	.951	14822	29.9	10D	-N	2		1130	56			
GRP64089	24	1142>9	1208	1214D	N13	E71	.946	14822	29.8	32	-F						D	
LVOV	24	1142	1208	1302	N14	E71	.946	14822	29.8	80	1F		C	1208	100	2.7	D	
HUAN	24	1209		1214	N13	E71	.946	14822	29.8	5	-F		C					
GRP64090	24	1230+0	1241 1253+3	1338	S23	E11	.458	14815	25.3	68	1F						EJKW	
LVOV	24	1230	1256	1518	S22	E09	.432	14815	25.2	168	2F		C	1256	500	5.8	KJ	
MCMA	24	1230	1241	1250D	S23	E08	.442	14815	25.1	20D	-F		C	1241	50	.5	E	
HUAN	24	1249	1253	1332	S24	E13	.484	14815	25.5	43	1F	2	C	1253	110	1.3	TH	
HUAN	24	1249	1322	1332	S24	E13	.484	14815	25.5	43	1F		C	1322	22	2.6		
MCMA	24	1250	1253	1344D	S23	E12	.464	14815	25.4	54D	-N		C	1253	60	.6	EW	
ZURI	24	1251	1255	1311	S22	E10	.438	14815	25.3	20	-N		C	1255	150	1.8		
UPIC	24	1257E		1258D	S24	E11	.472	14815	25.4	1D	-F		P	1258	82			
GRP64091	24	1309+0	1309+1	1312	N11	E69	.934	14822	29.7	3	-N				20		D	
HUAN	24	1309	1310	1312	N11	E69	.934	14822	29.7	3	-F	1	C	1310	15		D	
MCMA	24	1309	1309	1311	N12	E69	.934	14822	29.7	2	-B		P	1309	15	.5	D	
92 HUAN	24	1352	1352	1359	S23	E08	.442	14822	25.2	7	-N	1	C	1352	40	.5	E	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY			COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP64093	24	1405+4	1412+3	1423	S22	E08	.427	14815	25.2	18	-N						E	
HUAN	24	1405	1412	1423	S22	E07	.423	14815	25.1	18	-N	*	C	1412	65	.7	E	
ZURI	24	1409	1415	1415D	S22	E10	.438	14815	25.3	6D	-N	*	P	1415	170	2.0		
94 HUAN	24	1438	1440	1447	N14	E75	.966	14822	30.2	9	-F	1	C	1440	40		E	Y5
GRP64095	24	1454+1	1456+2 1550	1554	S21	E07	.408	14815	25.1	60	-N				35	.4	E	
HUAN	24	1454	1456	1503	S23	E07	.438	14815	25.1	9	-N	*	C	1456	40	.5	E	
RAMY	24	1455	1458	1555	S21	E08	.412	14815	25.2	60	-N	*	C		32			
HUAN	24	1548	1550	1553	S22	E06	.419	14815	25.1	5	-F	*	C	1550	30	.3		
96 HUAN	24	1639	1640	1652	S23	E07	.438	14815	25.2	13	-F	1	C	1640	25	.3		Y5
97 HUAN	24	1710	1711	1712	S22	E05	.416	14815	25.1	2	-N	2	C	1711	40	.4	E	Y5
GRP64098	24	1719	1721	1929	S24	E05	.446	14815	25.1	130	-N						EL	
HUAN	24	1719	1721	1929	S23	E06	.434	14815	25.2	130	-F	2	C	1721	75	.8	E	
MCMA	24	1824E		1828D	S24	E05	.446	14815	25.1	4D	-N		C	1827	125	1.4	EL	
MCMA	24	1903E		1905D	S24	E05	.446	14815	25.2	2D	-N		P	1903	40	.4	E	
99 MCMA	24	1824E		1828D	N28	W05	.444	14813	24.4	4D	-N		C	1827	25	.3	E	Y5
GRP64100	24	2023+1	2026	2034	N15	E67	.922	14822	29.9	11	-F							
RAMY	24	2023	2026	2033	N16	E67	.923	14822	29.9	10	-F	3	C		32			
HUAN	24	2024		2035	N14	E68	.928	14822	30.0	11	-F	1	C					
101 HUAN	24	2104		2125	N25	E55	.845	14819	29.0	21	-F	1	C				E	Y5
GRP64102	24	2202	2210+5	2219D	N15	E66	.916	14822	29.9	17	-F				50			
HUAN	24	2202	2210	2214D	N14	E67	.922	14822	29.9	12D	-F	1	P	2210	40			
RAMY	24	2212E	2215	2219D	N16	E65	.909	14822	29.8	7D	-N	2	C		64			
103 RAMY	24	2217	2219	2221D	S21	E05	.400	14815	25.3	4D	-N	2	C		128		OE	Y5
104 CULG	24	2222	2253	0000	S23	E03	.426	14815	25.2	98	-N		C	2253	85	.9		Y5
105 CULG	25	0030	0031	0041	S23	E02	.426	14815	25.2	11	-F		C	0031	30	.3		Y5
	25	0217	0218	NO FLARE PATROL														
106 CULG	25	0246	0302	0314	S23	W01	.426	14815	25.0	28	-F		C	0302	30	.3		Y5
107 HTPR	25	0617E		0621D	N14	E60	.869	14822	29.8	4D	-F		C	0618	10	.2		Y5
108 HTPR	25	0653	0655	0700	N14	E60	.869	14822	29.8	7	-F		C	0655	20	.4	E	Y5
GRP64109	25	0851+1	0851+1	0855D	N13	E59	.860	14822	29.8	4	-F						E	
HTPR	25	0851	0851	0855	N13	E59	.860	14822	29.8	4	-F		C	0851	20	.4	E	
KANZ	25	0852	0852	1152	N13	E60	.869	14822	29.9	180	-F		C				T	
GRP64110	25	1040+0	1042+3	1053	S22	W04	.414	14815	25.1	13	-N							
RAMY	25	1040E	1042	1049	S21	W05	.402	14815	25.1	9D	-N	3	C		159		FDE	
KANZ	25	1040	1043	1055	S22	W05	.417	14815	25.1	15	-N		C					
UPIC	25	1040E		1053	S23	W02	.426	14815	25.3	13D	-F		P	1040	61			
UPIC	25	1040E	1045U	1053	S21	W04	.399	14815	25.1	13D	-F		P	1045	61			
GRP64111	25	1052+6	1052 1059+3	1113	N15	E58	.853	14822	29.8	21	-N				90	1.8	KS	
ATHN	25	1052E	1052	1120	N22	E65	.914	14822	30.3	28D	-N	*			114			
HTPR	25	1053E		1102D	N14	E58	.852	14822	29.8	9D	-N	*	C	1054	30	.5	E	
UPIC	25	1053	1109	1115	N16	E58	.854	14822	29.8	22	-F	*	P	1109	41		K	
RAMY	25	1056	1059	1110D	N17	E58	.856	14822	29.8	14D	-B	*	C		80		FDE	
TEHR	25	1058	1102	1108	N13	E57	.842	14822	29.7	10	-F	*	C		127		DE S	
112 HUAN	25	1239		1241	S20	W05	.386	14815	25.2	2	-F	1	C					Y5
GRP64113	25	1425+2	1429+5	1443	N15	E57	.845	14822	29.9	18	1N				130	2.4	Y	
RAMY	25	1425E	1429	1441D	N17	E56	.838	14822	29.8	16D	-N	4	C		144		DE	
LVOV	25	1427	1434	1439	N14	E60	.869	14822	30.1	12	1F		C	1434	150	3.2	D	
MCMA	25	1434E		1447D	N15	E57	.845	14822	29.9	13D	1B		P	1434	125	2.4	EY	
UPIC	25	1435E	1435U	1435D	N14	E57	.843	14822	29.9		-F		P	1435	82			
CATA	25	1438E	1438	1445D	N14	E57	.843	14822	29.9	7D	-B	2		1438	56	1.0		
GRP64114	25	1458+3	1503+2	1509	N14	E58	.852	14822	30.0	11	-F				35	.7		
HUAN	25	1458	1503	1507	N14	E58	.852	14822	30.0	9	-N	1	C	1503	30	.6		
UPIC	25	1501	1505	1510U	N14	E59	.861	14822	30.1	9D	-F		P	1505	41			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
115 MCMA	25	1543E		1608D	N16	E57	.846	14822	29.9	25D	-F		P	1543	30	.6	D	Y5
	25	1905	1907	NO FLARE PATROL														
GRP64116	25	1952	1953	2002	N15	E55	.826	14822	30.0	10	-B						E	
MCMA	25	1952	1953	2002	N16	E55	.828	14822	30.0	10	-B		C	1953	50	.9	E	
HUAN	25	1958E		2001	N15	E55	.826	14822	30.0	3D	-F	1	P					
GRP64117	25	2015	2032+3	2050	S22	W11	.445	14815	25.0	35	-F						E	
MCMA	25	2015	2032	2050	S22	W11	.445	14815	25.0	35	-F		C	2032	30	.3	E	
RAMY	25	2031E	2035U	2038D	S22	W12	.452	14815	25.0	7D	-F	3	C		80		DE	
GRP64118	25	2038	2040	2059	N16	E55	.828	14822	30.0	21	-B				80	1.4		
MCMA	25	2038	2040	2100	N16	E55	.828	14822	30.0	22	-B		C	2040	80	1.4	E	
VORO	25	2044E		2058	N16	E56	.837	14822	30.1	14D	-B		C	2045	81	1.4	D	
GRP64119	25	2102+1	2103+2	2111	N16	E55	.828	14822	30.0	9	-N				30	.5	D	
VORO	25	2102	2103	2110	N16	E56	.837	14822	30.1	8	-B		C	2103	27	.4	D	
MCMA	25	2103	2105	2112	N16	E55	.828	14822	30.0	9	-N		C	2105	25	.4	D	
GRP64120	25	2119+1	2124+1	2133	N16	E55	.828	14822	30.0	14	-N				60	1.1	DJ	
MCMA	25	2119	2124	2125D	N16	E55	.828	14822	30.0	6D	-B		P	2124	40	.7	D	
VORO	25	2120	2125	2133	N16	E56	.837	14822	30.1	13	-F		C	2125	90	1.6	DJ	
121 VORO	25	2151	2159	2211	N16	E56	.837	14822	30.1	20	-F		C	2159	10	1.9	J	Y5
122 CULG	25	2329E	2329E	2340	N15	E51	.787	14822	29.8	11D	-N		P	2329	80	.9		Y5
	26	0029	0102	NO FLARE PATROL														
	26	0103	0110	NO FLARE PATROL														
	26	0120	0125	NO FLARE PATROL														
123 UPIC	26	0610E		0615D	S21	W15	.462	14815	25.1	5D	-F		P	0615	61			Y5
124 UPIC	26	0710	0720	0805D	N18	E48	.761	14822	29.9	55D	1F		P	0720	224		K	Y5
125 KHAR	26	0913	0913	0925	N16	E48	.757	14822	30.0	12	-F		P				E	Y5
GRP64126	26	1018+1	1021+0 1026	1043	N15	E44	.710	14822	29.7	25	1N				160	2.3	UZ	
TEHR	26	1018	1021	1043	N14	E44	.707	14822	29.7	25	1N	4	C		286		U Z	
ATHN	26	1019	1021	1030D	N20	E40	.680	14822	29.4	11D	-N	1			131			
RAMY	26	1024E	1026U	1038D	N15	E44	.710	14822	29.7	14D	-N	2	C		159		ZOE	
127 MCMA	26	1110	1114	1230D	N15	E45	.721	14822	29.8	80D	-N		C	1114	60	.9	E	Y5
128 MCMA	26	1243	1246	1248	N15	E43	.698	14822	29.8	5	-N		C	1246	40	.6	E	Y5
129 MCMA	26	1304	1309	1335	N15	E45	.721	14822	29.9	31	-B		C	1309	50	.7	EF	Y5
GRP64130	26	1334	1340+2	1405	S22	W16	.483	14815	25.4	31	2N				480	5.4	IJ	
MCMA	26	1334	1340	1405	S23	W18	.512	14815	25.2	31	1B		C	1340	300	3.3	FI	
RAMY	26	1336E	1341	1349D	S21	W16	.470	14815	25.4	13D	2N	4	C		891		FOE	
HUAN	26	1337E		1404	S23	W16	.496	14815	25.4	27D	2N	1	P	1338	450	5.4	E	
TEHR	26	1338E	1341	1357	S22	W13	.460	14815	25.6	19D	1N	3	C		477		DE	
LVOV	26	1341E	1342	1414	S23	W17	.503	14815	25.3	33D	1N		C	1342	500	5.9	CJ	
GRP64131	26	1407+1	1410+0	1412	N13	E44	.705	14822	29.9	5	-N				35	.5	D	
MCMA	26	1407	1410	1412	N15	E45	.721	14822	30.0	5	-B		C	1410	25	.4	D	
HUAN	26	1408	1410	1412	N12	E43	.691	14822	29.8	4	-N	1	C	1410	40	.6		
GRP64132	26	1422+7	1430 1438+1	1545	S22	W18	.500	14815	25.2	83	1N				340	3.9	HI	
MCMA	26	1422	1438	1605	S23	W18	.512	14815	25.2	103	1B		C	1438	300	3.3	EFIH	
LOCA	26	1424	1430	1545	S21	W18	.488	14815	25.3	81	2N		V	1430	611	7.3		
RAMY	26	1425E	1439	1443D	S21	W17	.479	14815	25.3	18D	1N	4	C		350		FOE	
HUAN	26	1429	1439	1538	S23	W20	.529	14815	25.1	69	1N	1	C	1439	360	4.0	E	
133 MCMA	26	1455	1456	1500	N15	E45	.721	14822	30.0	5	-N		C	1456	25	.4	D	Y5
GRP64134	26	1507+2	1509+2	1530	N16	E44	.712	14822	29.9	23	-N				70	1.0	E	
MCMA	26	1507	1511	1540	N17	E44	.715	14822	29.9	33	-B		C	1511	65	1.0	E	
HUAN	26	1509	1509	1519	N15	E45	.721	14822	30.0	10	-N	1	C	1509	65	1.0	E	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP64135	26	1546+2	1548+1	1552	N15	E44	.710	14822	30.0	6	-N				70	1.0	E
MCMA	26	1546	1548	1552	N14	E45	.719	14822	30.0	6	-B		C	1548	55	.8	E
HUAN	26	1548	1549	1552	N13	E46	.728	14822	30.1	4	-N	1	C	1549	55	.8	E
RAMY	26	1550E	1552U	1557	N17	E41	.680	14822	29.7	70	-F	3	C		95		FDE
136 HUAN	26	1611	1613	1614	S22	W23	.546	14815	24.9	3	-F	1	C	1613	20	.2	D Y5
GRP64137	26	1623+0	1626+1	1632	N14	E44	.707	14822	30.0	9	-F				50	.7	E
HUAN	26	1623	1627	1632	N14	E45	.719	14822	30.1	9	-F	1	C	1627	55	.8	E
MCMA	26	1623	1626	1631	N14	E43	.695	14822	29.9	8	-N		C	1626	40	.6	E
GRP64138	26	1644+1	1648+1	1658	N13	E45	.717	14822	30.1	14	-N				50	.7	E
MCMA	26	1644	1648	1658D	N14	E45	.719	14822	30.1	14D	-B		C	1648	50	.7	E
HUAN	26	1645	1649	1658	N13	E46	.728	14822	30.1	13	-N	2	C	1649	50	.8	E
GRP64139	26	1709	1718+3	1727	N14	E44	.707	14822	30.0	18	-F				35	.5	E
MCMA	26	1709	1718	1725	N15	E43	.698	14822	29.9	16	-N		C	1718	40	.6	E
HUAN	26	1717E	1721	1729	N14	E45	.719	14822	30.1	12D	-F	1	P	1721	30	.4	
140 HUAN	26	1801		1805	N13	E42	.681	14822	29.9	4	-F	1	C				Y5
141 HUAN	26	1832	1832	1840	N14	E45	.719	14822	30.1	8	-F	1	C	1832	50	.7	Y5
142 HUAN	26	1849		1852	N15	E41	.674	14822	29.9	3	-F	1	C				Y5
143 HUAN	26	1947		1951	S22	W25	.566	14815	24.9	4	-F	1	C				Y5
144 HUAN	26	1956	1958	1959	N15	E43	.698	14822	30.1	3	-F	1	C	1958	30	.4	Y5
145 HUAN	26	2016	2018	2022	N13	E45	.717	14822	30.2	6	-F	1	C	2018	25	.4	D Y5
146 HUAN	26	2034		2037	S22	W22	.536	14815	25.2	3	-F	1	C				Y5
147 HUAN	26	2049		2102D	N15	E43	.698	14822	30.1	13D	-F	1	P				E Y5
GRP64148	26	2153	2154	2223	S23	W25	.575	14815	25.0	30	-N						E
CULG	26	2153	2154	2223	S24	W25	.585	14815	25.0	30	-N		C	2154	95	1.2	
HUAN	26	2207E		2212D	S22	W26	.576	14815	25.0	5D	-F	1	P				E
149 CULG	26	2215	2218	2239	N13	E40	.656	14822	29.9	24	-N		C	2218	65	.9	Y5
GRP64150	27	0127	014E	0205D	N14	E37	.620	14822	29.8	38	-N						E
CULG	27	0127	0146	0205	N13	E37	.617	14822	29.8	38	-N		C	0146	110	1.4	
VORO	27	0159E		0241	N16	E38	.640	14822	29.9	42D	1N		P	0201	170	2.2	E
151 MANI	27	0333E	0338U	0347	S22	W25	.567	14815	25.3	14D	-F		P	0338	50	.6	Y5
GRP64152	27	0418+2	0419+2	0436	S22	W24	.557	14815	25.4	18	-F						JRU
CULG	27	0352	0420	0504	S23	W25	.576	14815	25.3	72	-N		C	0420	135	1.8	J
PALE	27	0418	0419	0423	S22	W25	.567	14815	25.3	5	-F	2	C		57		U R
TACH	27	0420	0421	0436	S21	W23	.537	14815	25.5	16	1F		C	0423	309	3.9	
153 CULG	27	0420	0424	0450	N14	E36	.607	14822	29.9	30	-F		C	0424	75	1.0	Y5
GRP64154	27	0505	0529+0 0542	0600	N14	E36	.607	14822	29.9	55	1N				260	3.3	Z
CULG	27	0505	0529	0600	N13	E35	.591	14822	29.8	55	1N		C	0529	215	2.7	
KODA	27	0529E	0529	0544	N15	E37	.624	14822	30.0	15D	1B		P	0529	314	3.2	CE
TEHR	27	0531	0542	0601	N15	E35	.598	14822	29.9	30	1N	3	C		382		Z F
155 CULG	27	0525	0530	0545	S22	W25	.567	14815	25.4	20	-F		C	0530	30	.4	Y5
GRP64156	27	0600>9	0623 0628+2	0648	S22	W26	.577	14815	25.3	48	-F						E
CULG	27	0600	0630	0640D	S23	W25	.576	14815	25.4	40D	-F		C	0630	60	.8	
HTPR	27	0620	0623	0624	S20	W26	.558	14815	25.3	4	-N		C	0623	50	.6	
HTPR	27	0626	0628	0648	S22	W28	.597	14815	25.2	22	-F		C	0628	30	.3	E
157 MONT	27	0920	0932	0942	S22	W31	.628	14815	25.1	22	-F		C	0932	40		Y5
GRP64158	27	1000+1	1007 1014	1017	N17	E34	.594	14822	30.0	17	-F				35	.4	E
HTPR	27	1000		1009D	N18	E34	.599	14822	30.0	9D	-F		C	1006	30	.3	E
MONT	27	1001	1007	1016	N19	E34	.604	14822	30.0	15	-F		C	1007	40		E
KHAR	27	1013E		1013D	N16	E34	.590	14822	30.0		-F		C				D
MONT	27	1014	1014	1017	N15	E35	.598	14822	30.1	3	-F		C	1014	20		D

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP64159	27	1024	1026	1032	N12	E33	.560	14822	29.9	8	-F						D	
MONT	27	1024	1026	1032	N13	E33	.564	14822	29.9	8	-F		C	1026	20		D	
KHAR	27	1027E		1027D	N12	E33	.560	14822	29.9		-F		C				D	
160 HTPR	27	1130	1132	1135	N16	E35	.602	14822	30.1	5	-F		C	1132	10	.1		Y5
GRP64161	27	1144+6	1148+3	1200	N16	E34	.590	14822	30.0	16	-N				70	.9		
MCMA	27	1144	1150	1203	N15	E34	.585	14822	30.0	19	-B		C	1150	60	.7	E	
HTPR	27	1144		1155D	N16	E35	.602	14822	30.1	11D	-F		C	1149	40	.5		
KHAR	27	1145	1148	1155	N15	E33	.572	14822	30.0	10	-F		C	1148	110	1.4	D	
RAMY	27	1148	1151	1156	N17	E33	.581	14822	30.0	8	-N	4	C		80		FDE	
CATA	27	1150	1150	1205	N15	E33	.572	14822	30.0	15	-N	2		1150	56	.7		
GRP64162	27	1458+7	1510	1520	N14	E32	.554	14822	30.0	22	-N						E	
HUAN	27	1458		1518	N14	E31	.541	14822	29.9	20	-F	1	C				E	
MCMA	27	1505E		1538D	N15	E32	.559	14822	30.0	33D	-N		P	1518	60	.7	E	
CATA	27	1505	1510	1520D	N14	E32	.554	14822	30.0	15D	-N	2		1510	112	1.3		
GRP64163	27	1539+1	1544 1555+1	1605	N15	E30	.532	14822	29.9	26	-N						E	
HUAN	27	1539		1549	N14	E30	.527	14822	29.9	10	-F	1	C				E	
RAMY	27	1540	1555	1615	N16	E29	.524	14822	29.8	35	-N	4	C		140		F	
MCMA	27	1541E	1544	1558D	N15	E30	.532	14822	29.9	17D	-N		C	1544	70	.8	E	
KANZ	27	1550	1556	1611	N14	E32	.554	14822	30.1	21	-N		C				E	
GRP64164	27	1656+1	1659 1705+2	1720	S21	W34	.652	14815	25.2	24	-F				45	.6	E	
MCMA	27	1656E	1705	1725	S22	W33	.648	14815	25.2	29D	-N		C	1705	60	.7	E	
HUAN	27	1657	1705	1720	S21	W36	.673	14815	25.0	23	-F	1	C				E	
HTPR	27	1657	1659	1705	S21	W33	.641	14815	25.2	8	-F		C	1659	20	.2		
HTPR	27	1700	1707	1719	S21	W35	.662	14815	25.1	19	-F		C	1707	30	.3		
HTPR	27	1700	1703	1713	S23	W28	.606	14815	25.6	13	-F		C	1703	10	.1		
165 HTPR	27	1739	1739	1744	N16	E31	.551	14822	30.1	5	-F		C	1739	20	.2	E	Y5
GRP64166	27	1851+0	1854	1900	N14	E29	.514	14822	30.0	9	-F						E	
HUAN	27	1851	1854	1900	N14	E28	.500	14822	29.9	9	-F	1	C				E	
MCMA	27	1851		1852D	N15	E30	.532	14822	30.0	10	-N		P	1852	40	.5	E	
	27	2102	2146	NO FLARE PATROL														
GRP64167	27	2146E		2330	N21	W37	.650	14813	25.1	104	1F				200	2.7	E	
HUAN	27	2146E		2222D	N22	W37	.655	14813	25.1	360	1F	1	P	2149	170	2.3	E	
CULG	27	2147E	2147E	2330	N21	W38	.661	14813	25.1	1030	1N		P	2147	240	3.4		
168 CULG	27	2323	2324	2340	N13	E25	.453	14822	29.8	17	-F		C	2324	25	.3		Y5
169 CULG	27	2330E	2331	2343	S22	W40	.720	14815	25.0	13D	-F		P	2331	50	.7		Y5
GRP64170	27	2347	0012+1	0028	N14	E25	.458	14822	29.9	41	-N				70	.8		
MANI	28	0003E	0013	0023D	N15	E26	.477	14822	30.0	20D	-N		P	0013	80	.9		
CULG	27	2347	2412	0028	N14	E25	.458	14822	29.9	41	-N		C	2412	60	.7		
171 CULG	27	2356	2413	0245	N30	W45	.774	14813	24.6	169	-F		C	2413	60	1.0		Y5
172 CULG	28	0238E	0242	0440	N15	E24	.450	14822	29.9	122D	-F		P.	0242	60	.7	KF	Y5
173 CULG	28	0339	0407	0510	S22	W37	.690	14815	25.4	91	-N		C	0407	110	1.5	F	Y5
174 HTPR	28	0619	0620	0621	N16	E23	.444	14822	30.0	2	-F		C	0620	10	.1		Y5
GRP64175	28	0713+1	0721+3	0742	S21	W40	.715	14815	25.3	29	-F						E	
HTPR	28	0713	0721	0740	S20	W40	.710	14815	25.3	27	-F		C	0721	40	.5		
MONT	28	0714	0724	0743	S22	W40	.721	14815	25.3	29	-N		C	0724	110		E	
GRP64176	28	0819+1	0825 0832	0853	N15	E21	.410	14822	29.9	34	-F						E	
MONT	28	0819	0825	0852	N15	E21	.410	14822	29.9	33	-F		C	0825	40		E	
HTPR	28	0820	0832	0853	N15	E22	.423	14822	30.0	33	-F		C	0832	30	.3	E	
177 RAMY	28	1250E	1258	1303	N16	E19	.392	14822	30.0	13D	-N	3	C		160		DE	Y5
GRP64178	28	1518+1	1520+5	1534	S21	W47	.784	14815	25.1	16	-F				40	.6	E	
HTPR	28	1518	1520	1534	S20	W46	.771	14815	25.2	16	-F		C	1534	30	.4	E	
HUAN	28	1519	1520	1548	S20	W48	.790	14815	25.0	29	-F	2	C	1520	35	.6	E	
MCMA	28	1519	1525	1534	S22	W48	.797	14815	25.0	15	-F		C	1525	40	.6	E	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 1977 JUN	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.		
179 MCMA	28	1810	1813	1826	N14	E16	.334	14822	30.0	16	-N		C	1813	25	.3	D	Y5
180 HUAN	28	2016		2037	S20	W50	.809	14815	25.1	21	-F	1	C					Y5
	28	2225	2335	NO FLARE PATROL														
	28	2346	2351	NO FLARE PATROL														
	29	0052	0145	NO FLARE PATROL														
	29	0152	0157	NO FLARE PATROL														
	29	0200	0207	NO FLARE PATROL														
	29	0210	0229	NO FLARE PATROL														
	29	0245	0320	NO FLARE PATROL														
GRP64181	29	0906	0908	0913	N14	E13	.295	14822	30.4	7	-F						DH	
MONT	29	0906	0908	0913	N14	E13	.295	14822	30.4	7	-F		C	0908	40		DH	
KANZ	29	0909E	0909	09090	N14	E13	.295	14822	30.4		-N		C				C	
182 CATA	29	0935E	0940	0955	N24	W58	.865	14813	25.0	200	-F	2		0940	56	1.1		Y5
183 MONT	29	0959	1001	1008	S21	W57	.871	14815	25.1	9	-F		C	1001	60		E	Y5
GRP64184	29	1342		1354	N17	E03	.253	14822	29.8	12	-F							
HUAN	29	1342		1354	N19	E04	.290	14822	29.9	12	-F	2	C	1344	20	.2	D	
HUAN	29	1342		1353	N15	E03	.220	14822	29.8	11	-F	2	C					
185 HUAN	29	1811	1813	1815	N15	E03	.220	14822	30.0	4	-F	1	C	1813	15	.2	D	Y5
	29	2011	2015	NO FLARE PATROL														
186 HUAN	29	2015E		20380	N15	E02	.217	14822	30.0	230	-F	1	P	2024	15	.2	D	Y5
	29	2100	2105	NO FLARE PATROL														
187 HUAN	29	2105E		2135	N14	E02	.200	14822	30.0	300	-N	2	P	2118	20	.2	D	Y5
	29	2151	2203	NO FLARE PATROL														
188 MANI	30	0305E	0306	0310	N16	W02	.232	14822	30.0	50	-F		P	0306	50	.5	F	Y5
189 HTPR	30	0812	0814	0827	S21	W68	.943	14815	25.2	15	-F		C	0814	10	.2		Y5
190 HTPR	30	0922	0926	0929	S20	W69	.947	14815	25.2	7	-F		C	0926	30	.6		Y5
GRP64191	30	1042+0	1044+6	1108	S21	W70	.953	14815	25.2	26	1N				110		E	
KHAR	30	1028	1045	1108	S22	W72	.963	14815	25.0	40	1F		C				E	
HTPR	30	1042	1044	1056	S20	W69	.947	14815	25.3	14	-N		C	1044	120	2.4	E	
MCMA	30	1042	1050	1112	S21	W68	.943	14815	25.3	30	1N		C	1050	100	3.0	E	
192 HTPR	30	1127	1132	1140	N20	E42	.700	14829	3.6	13	-F		C	1132	50	.7		Y5
	30	2224	2231	NO FLARE PATROL														

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

JUNE 1977

DAILY FLARE INDICES
Includes all Flares

Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS.
770601	0.00	20.9	770611	5.47	18.5	770621	3.05	21.6
770602	9.76	20.0	770612	8.66	23.2	770622	4.47	22.4
770603	24.54	24.0	770613	15.69	19.3	770623	42.47	22.6
770604	5.07	21.6	770614	.34	22.3	770624	98.10	23.8
770605	0.00	20.6	770615	8.66	24.0	770625	56.12	24.0
770606	12.90	23.5	770616	0.00	23.3	770626	255.61	23.3
770607	9.29	24.0	770617	13.42	21.6	770627	114.77	23.3
770608	11.83	22.7	770618	4.53	21.7	770628	32.64	22.8
770609	5.78	23.5	770619	1.69	24.0	770629	29.97	21.7
770610	11.88	24.0	770620	.84	23.9	770630	15.25	23.9

When no Flare Index is given, it is 0 for that day.