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Solar - Geophysical Data

NO.412 DECEMBER 1978

Part II (Comprehensive Reports)

DATA FOR
JUNE 1978
MAY 1978
& MISCELLANEA

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 412

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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----- = no data available.
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JUNE 1978 DATA

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ACTIVE REGIONS

CARRINGTON ROTATION 1668

(May 6 to June 3, 1978)

Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1667	Activity at West Limb
1	30°S	357°	>6	1	x		dispersed
2	17 N	355	>6	1	x		dispersed
3	17 N	348	>6	2			decreasing
4	22 N	347	>6	1	x		dispersed
5	26 S	347	>6	3			decreasing
6	17 N	333	-3	1	x		decreasing
7	18 S	331	>6	1	x		disappeared
8	29 S	325	>6	1	x		dispersed
9	14 S	313	+3	1	x		stable
10	36 S	305	+5	1	x		dispersed
11	20 N	304	>6	1	x		dispersed
12	19 S	299	+2	1	x		dispersed
13	24 S	296	-2	1	x		increasing
14	16 N	295	>6	2			decreasing
15	33 S	291	>6	1	x		dispersed
16	17 N	283	>6	3		(13)	decreasing
17	36 N	281	-4	1	x		stable
18	18 N	271	>6	1	x		decreasing
19	33 S	267	+2	1	x		disappeared
20	20 N	260	>6	1	x	(18)	decreasing
21	20 S	257	>6	3			stable
22	21 N	214	>6	3			decreasing
23	16 N	203	+2	1	x		stable
24	27 S	195	>6	2			decreasing
25	19 N	194	>6	1	x		decreasing
26	11 N	191	>6	2			decreasing
27	16 N	184	>6	1	x		decreasing
28	24 N	179	>6	1	x		decreasing
29	19 S	176	-6	1	x		(?)
30	16 N	174	>6	1	x		decreasing
31	18 S	171	+4	1	x		disappeared
32	14 S	158	+3	1	x		disappeared
33	31 S	151	+1	1	x		disappeared
34	15 S	141	-1	1	x		dispersed
35	28 N	131	-1	1	x		decreasing
36	30 S	131	>6	2		(39)	decreasing
37	23 S	115	-3	2			increasing
38	17 S	111	+5	2			decreasing
39	18 N	96	>6	1	x		dispersed
40	23 N	92	>6	3			decreasing
41	35 N	87	-3	2			decreasing
42	16 S	81	+2	2			stable
43	18 N	80	>6	5			decreasing
44	19 N	63	>6	1	x		decreasing
45	16 S	61	0	2			decreasing
46	26 S	61	-5	1	x		(?)
47	26 N	60	>6	3			decreasing
48	18 S	49	+2	1	x		stable
49	18 N	40	>6	3			decreasing
50	22 N	37	>6	3			decreasing
51	23 S	23	+6	2			decreasing
52	26 S	8	+1	3			increasing
53	28 S	2	>6	1	x		dispersed

ACTIVE REGIONS

CARRINGTON ROTATION 1669

(June 3 to June 30, 1978)

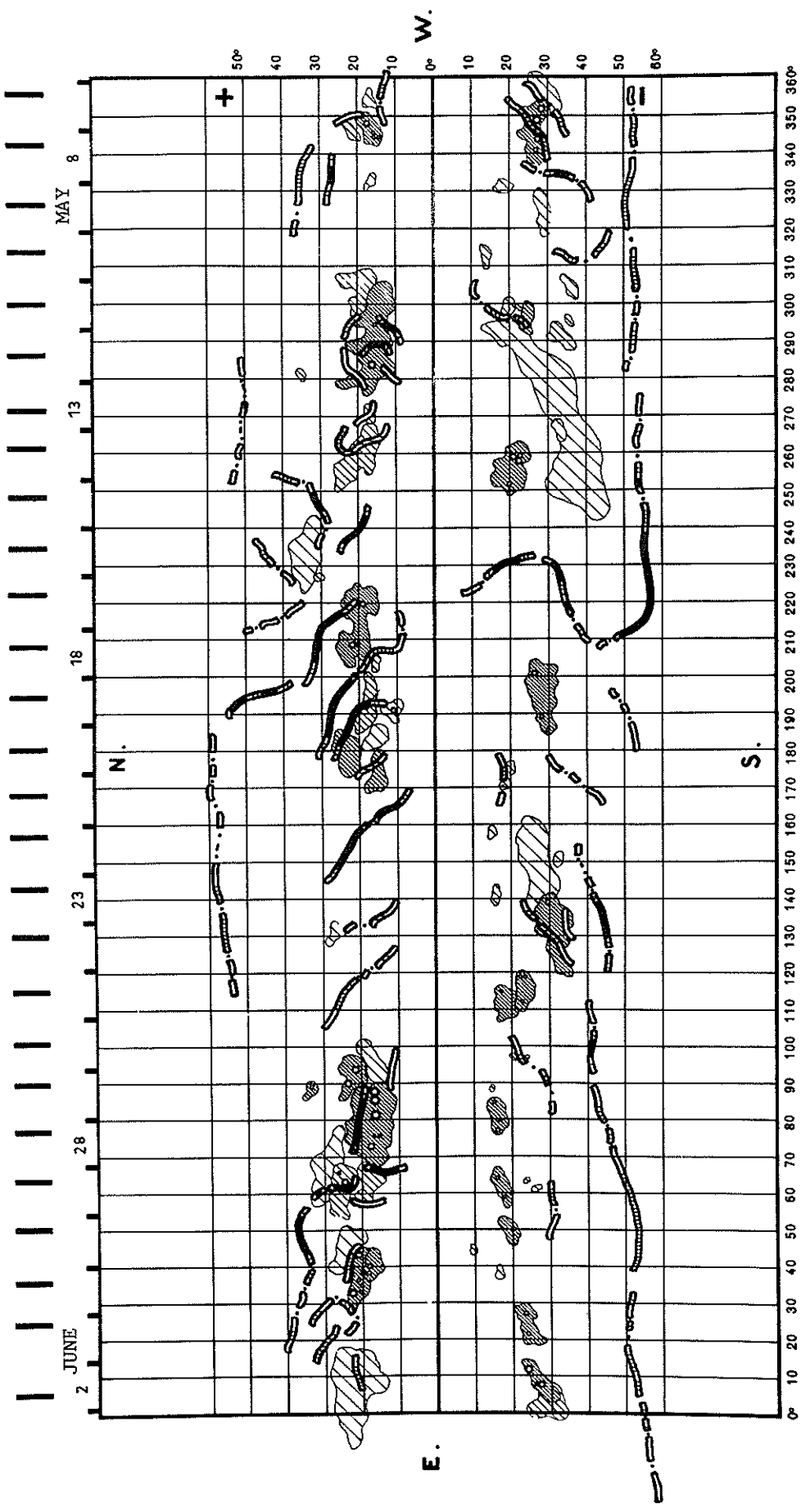
Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP.	Spot-less Region	Region No. in Rotation 1668	Activity at West Limb
1	15°N	355°	+1	1	x		disappeared
2	28 S	353	>6	1	x		dispersed
3	18 N	340	>6	1	x		dispersed
4	21 S	340	+2	2			dispersed
5	14 S	336	-2	1	x		decreasing
6	16 N	328	-4	2			stable
7	15 S	320	>6	1	x		dispersed
8	23 N	306	>6	1	x	(11)	decreasing
9	13 N	305	0	1	x		disappeared
10	18 N	300	>6	1	x	(14)	dispersed
11	18 N	281	>6	2		(16)	decreasing
12	17 N	267	-1	2			decreasing
13	17 N	261	>6	1	x		decreasing
14	23 S	255	>6	1	x	(21)	decreasing
15	17 N	244	+1	4			stable
16	13 S	240	+5	2			dispersed
17	23 N	212	>6	1	x	(22)	dispersed
18	17 N	209	>6	3			decreasing
19	23 N	209	+4	1	x		dispersed
20	25 S	200	>6	1	x	(24)	decreasing
21	31 S	197	+6	1	x		dispersed
22	20 N	190	-1	2			dispersed
23	13 N	188	>6	1	x	(26+27)	decreasing
24	26 N	187	+2	2			decreasing
25	21 S	174	>6	1	x		dispersed
26	21 N	172	>6	1	x	(28)	decreasing
27	16 N	166	>6	1	x		dispersed
28	17 N	163	0	4			decreasing
29	20 N	151	>6	3			decreasing
30	12 N	149	>6	1	x		dispersed
31	26 N	143	>6	1	x		dispersed
32	13 N	136	+2	4			decreasing
33	23 S	116	+5	2			decreasing
34	24 S	110	>6	2		(37)	decreasing
35	34 S	109	>6	1	x	(36)	dispersed
36	21 N	98	>6	1	x	(40)	dispersed
37	13 S	97	>6	1	x		decreasing
38	13 N	97	0	2			decreasing
39	24 S	91	-3	1	x		dispersed
40	40 N	88	>6	1	x		disappeared
41	15 S	86	>6	1	x	(42)	decreasing
42	32 N	82	>6	2			dispersed
43	21 N	80	>6	2		(43)	decreasing
44	15 N	76	>6	1	x		dispersed
45	18 S	67	>6	1	x		dispersed
46	17 N	63	>6	5			decreasing
47	16 S	59	-1	2			decreasing
48	25 N	58	>6	3		(47)	decreasing
49	19 S	47	>6	7			decreasing
50	23 N	34	>6	3		(49+50)	decreasing
51	24 N	33	+2	4			decreasing
52	29 N	26	>6	2			decreasing
53	30 S	0	>6	1	x		dispersed

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1668

MAY 6 TO JUNE 3, 1978

MEUDON OBSERVATORY

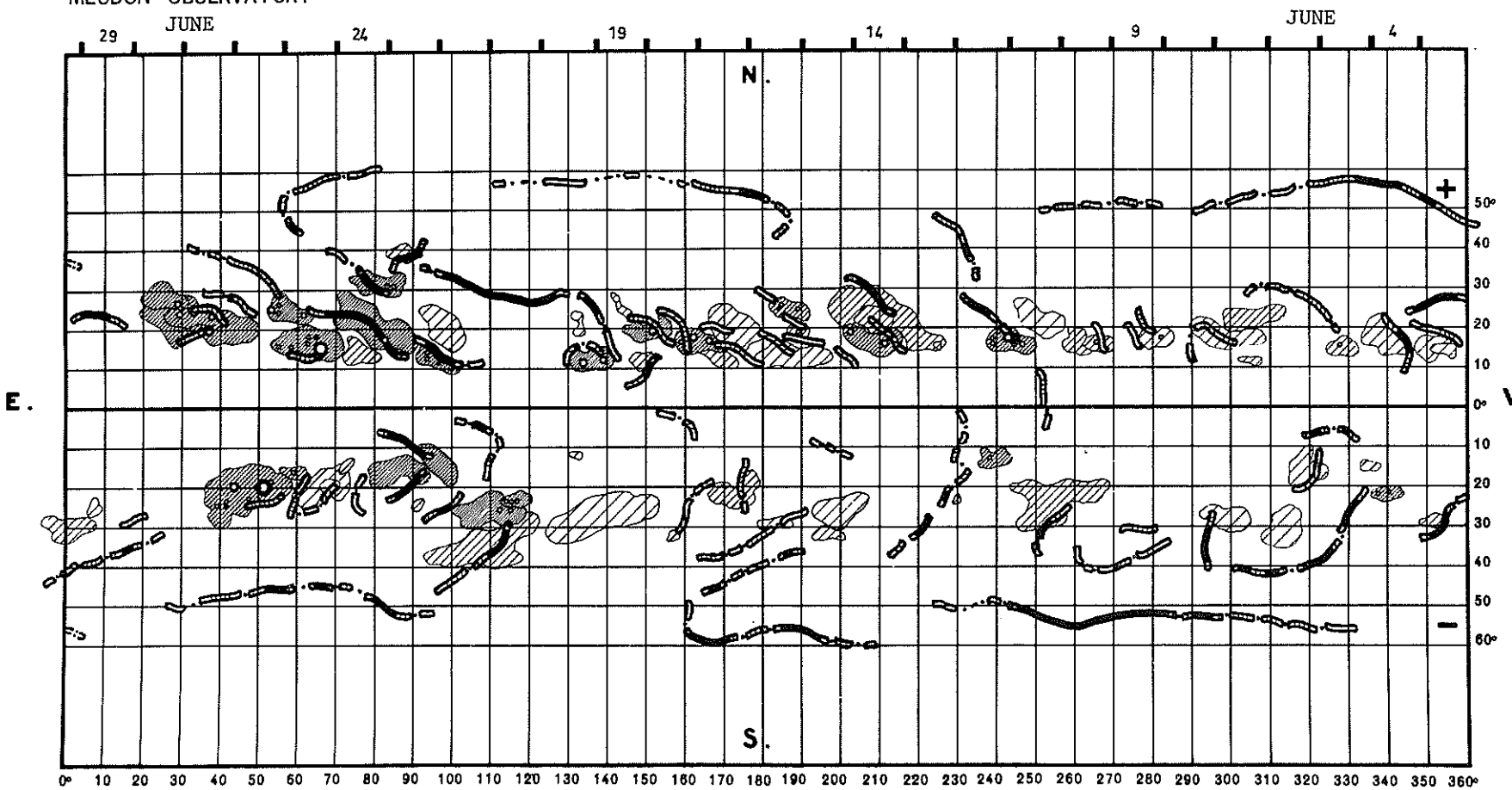


SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1669

JUNE 3 TO JUNE 30, 1978

MEUDON OBSERVATORY



7 Jun 78

Hα SOLAR FLARES

JUNE 1978

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	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.	
	JUN																
GRP67474	01	0006+2	0012 0019	0109	N19	W08	.362	15319	31.4	63	1N				410	4.5	EJ
MITK	01	0006	0012	0108	N19	W08	.362	15319	31.4	62	1B		C	0012	420	4.7	E
VORO	01	0008	0019	0109	N19	W08	.362	15319	31.4	61	1N		C	0019	412	4.5	EJ
475 BUCA	01	0649	0650	0700	N21	W10	.403	15319	31.5	11	-F		C	0650	86	1.0	E Y5
476 BUCA	01	0735E		0800D	N22	W09	.412	15319	31.6	25D	-F		C	0745	53	.6	E Y5
477 ZURI	01	0822E	0822	0824	N17	W60	.880	15314	27.8	2D	-F		P	0822	50	1.1	Y5
478 ZURI	01	0920	0924	0926	S16	W59	.867	15321	28.0	6	-F		C	0924	50	1.1	Y5
479 MONT	01	0940	1009	1016	S17	W59	.868	15321	28.0	36	-F		C	1009	50		E Y5
480 HTPR	01	1002	1003	1011	S18	W26	.513	15332	30.5	9	-F		C	1003	10	.1	Y5
481 HTPR	01	1027	1030	1034	N20	W17	.447	15319	31.2	7	-F		C	1030	20	.2	E Y5
GRP67482	01	1142+9	1152+2	1159	S16	W59	.867	15321	28.1	17	-N				25	.5	F
RAMY	01	1142	1152	1159	S16	W59	.867	15321	28.1	17	-B	3	C		22		F
KANZ	01	1143	1154	1201	S15	W61	.882	15321	27.9	18	-F		C				
HTPR	01	1151	1153	1153	S17	W56	.843	15321	28.3	2	-F		C	1153	30	.5	
GRP67483	01	1214+0	1214+1	1223	N26	W41	.740	15314	29.4	9	-N						
ZURI	01	1214	1214	1222	N28	W42	.760	15314	29.4	8	-F		C	1214	60	1.0	
RAMY	01	1214	1215	1223	N25	W40	.725	15314	29.5	9	-B	3	C		21		
GRP67484	01	1300+1	1315+4	1334	S24	W84	.995	15331	26.2	34	-N						
CATA	01	1300	1315	1335D	S25	W90	1.000	15331	25.8	35D	1N	2	P	1315	56		T
KANZ	01	1301	1319	1332	S23	W78	.981	15331	26.7	31	-N		C				
GRP67485	01	1326+1	1326+1	1353	N21	W17	.459	15319	31.3	27	-N						
RAMY	01	1326	1326	1354	N21	W17	.459	15319	31.3	28	-B	3	C		25		F
KANZ	01	1327	1327	1352	N22	W18	.480	15319	31.2	25	-F		C				E
GRP67486	01	1328+1	1329+0	1333	N21	W68	.938	15314	27.5	5	-N				20		
RAMY	01	1328	1329	1333	N22	W70	.950	15314	27.3	5	-B	3	C		16		F
HTPR	01	1329	1329	1332	N20	W66	.926	15314	27.6	3	-N		C	1329	20	.4	E
GRP67487	01	1350+5	1356+4	1410	S24	W90	1.000	15331	25.8	20	-N				50		
HTPR	01	1350	1356	1406	S24	W90	1.000	15331	25.8	16	-N		C	1356	50		
KANZ	01	1352	1356	1414	S23	W78	.981	15331	26.7	22	-N		C				
CATA	01	1355	1400	1400D	S25	W90	1.000	15331	25.8	5D	1N	2	P	1400	56		T
GRP67488	01	1448+6	1449 1510+7	1541	N21	W16	.450	15319	31.4	53	-N				100	1.1	
HTPR	01	1448		1511D	N21	W17	.459	15319	31.3	23D	-N		C	1501	130	1.3	E
RAMY	01	1448	1510	1540	N21	W18	.468	15319	31.3	52	-B	3	C		116		F
RAMY	01	1448	1449	1540	N21	W18	.468	15319	31.3	52	-N	3	C		259		F
KANZ	01	1450	1517	1643	N22	W16	.462	15319	31.4	113	1N		C				F
MCMA	01	1457E		1541D	N21	W15	.441	15319	31.5	44D	-N		P	1457	80	.9	E
GRP67489	01	1514+7	1525+1	1551	S15	W62	.890	15321	28.0	37	-N						F
KANZ	01	1514	1525	1600	S15	W63	.897	15321	27.9	46	-N		C				
RAMY	01	1521	1526	1542	S16	W62	.891	15321	28.0	21	-N	3	C		16		F
490 RAMY	01	1600	1602	1627	N21	W19	.478	15319	31.2	27	-N	3	C		42		F Y5
491 PALE	01	1658	1700	1702	S17	W64	.906	15321	27.9	4	-N	3	C		16		DE Y5
GRP67492	01	1700+0	1701+2	1706	N21	W17	.459	15319	31.4	6	-F						F
RAMY	01	1700	1701	1704	N21	W19	.478	15319	31.3	4	-N	3	C		20		F
KANZ	01	1700	1703	1707	N22	W16	.462	15319	31.5	7	-F		C				
GRP67493	01	1730+2	1738+6	1748	N21	W72	.959	15314	27.3	18	-N				20		
MCMA	01	1730	1738	1750	N20	W70	.948	15314	27.5	20	-N		C	1738	30	.6	E
RAMY	01	1732	1739	1747	N22	W72	.959	15314	27.3	15	-N	3	C		25		F
PALE	01	1743	1744	1748	N21	W74	.967	15314	27.2	5	-N	3	C		14		DE
494 PALE	01	1743	1743	1750	S17	W64	.906	15321	27.9	7	-N	3	C		12		DE Y5
	01	1855	1917	NO FLARE PATROL													
495 PALE	01	1917	1917	1923	S17	W65	.913	15321	27.9	6	-N	3	C		12		DE Y5
496 PALE	01	1928	1928	1937	N20	W20	.477	15319	31.3	9	-N	3	C		21		DE Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg		
	JUN																	
GRP67497	01	1939+0	1939+2	1945	N17	W66	.923	15314	27.9	6	-N				25		D	
MCMA	01	1939	1941	1946	N18	W66	.924	15314	27.9	7	-N		C	1941	30	.9	D	
PALE	01	1939	1939	1943	N16	W67	.928	15314	27.8	4	-N	3	C		16		DE	
498 MCMA	01	1945	1952	1959D	N16	E37	.645	15333	4.6	140	-N		C	1952	30	.4	EK	Y5
499 PALE	01	1947	1947	1952	S17	W66	.920	15321	27.9	5	-N	3	C		15		DE	Y5
	01	1959	2016	NO FLARE PATROL														
	01	2026	2037	NO FLARE PATROL														
	01	2043	2240	NO FLARE PATROL														
500 PALE	01	2113E	2113U	2115D	N23	W45	.763	15314	29.5	20	1B	3	C		254		FDE	Y5
	01	2249	2310	NO FLARE PATROL														
	01	2325	2331	NO FLARE PATROL														
	01	2342	2349	NO FLARE PATROL														
	01	2351	0035	NO FLARE PATROL														
	02	0114	0119	NO FLARE PATROL														
	02	0251	0326	NO FLARE PATROL														
501 TEHR	02	0258	0303	0319	N25	W46	.780	15314	29.7	21	-B	2	C		127			Y5
	02	0332	0333	NO FLARE PATROL														
	02	0336	0337	NO FLARE PATROL														
GRP67502	02	0652+3	0730 0822+2	0845	N26	W30	.633	15319	31.0	113	-F							
HTPR	02	0652	0730	0845	N26	W32	.652	15319	30.9	113	-F		C	0730	40	.4		
KANZ	02	0655	0824	0840	N27	W30	.642	15319	31.0	105	-F		C					
HTPR	02	0815	0822	0835	N22	W31	.612	15319	31.0	20	-F		C	0822	10	.1		
ZURI	02	0819E	0822	0850	N26	W30	.633	15319	31.1	31D	-N		P	0822	60	.8		
GRP67503	02	0750+0	0754	0800	S17	W77	.976	15321	27.6	10	-N							
MONT	02	0750	0754	0759	S18	W78	.980	15321	27.5	9	1N		C	0754	240			
KANZ	02	0750		0801	S17	W76	.972	15321	27.6	11	-N		C				T	
504 HTPR	02	0843	0844	0849	S14	W78	.979	15321	27.5	6	-F		C	0844	20			Y5
505 HTPR	02	0952	0955	0957	S14	W78	.979	15321	27.6	5	-F		C	0955	20			Y5
506 ZURI	02	1002	1016	1018	S17	W50	.787	15335	29.7	16	-F		C	1016	50	.9		Y5
GRP67507	02	1102+1	1106 1110+2	1122	S16	W79	.983	15321	27.5	20	1N							
KANZ	02	1051	1111	1122	S16	W75	.968	15321	27.8	31	1N		C					
ZURI	02	1102	1106	1110	S14	W81	.988	15321	27.4	8	-F		C	1106	50			
HTPR	02	1103	1110	1118	S17	W80	.986	15321	27.5	15	-N		C	1110	150			
ZURI	02	1108	1112	1128	S18	W78	.980	15321	27.6	20	2N		C	1112	260			
508 KANZ	02	1520E		1527D	N17	E29	.553	15333	4.8	70	-F		C					Y5
GRP67509	02	1645+2	1647+2	1655	N25	W56	.865	15314	29.5	10	-N				25	.5		
KANZ	02	1645	1649	1653	N27	W55	.862	15314	29.6	8	-F		C					
PALE	02	1646	1647	1658	N23	W56	.860	15314	29.5	12	-N	3	C		19		DE	
RAMY	02	1647	1648	1655	N25	W56	.865	15314	29.5	8	-B	2	C		26		F	
510 RAMY	02	1648	1648	1652	N21	W32	.616	15319	31.3	4	-N	2	C		48		F	Y5
511 KANZ	02	1650	1658	1701	S22	E26	.547	15341	4.7	11	-F		C				DG	Y5
512 PALE	02	1800	1809	1824	N23	W57	.868	15314	29.5	24	-N	3	C		17			Y5
513 PALE	02	1803	1803	1902	N23	W43	.743	15319	30.5	59	-N	3	C		19		DE	Y5
	02	1832	2035	NO FLARE PATROL														
514 PALE	02	1935	1937	1953	S17	W79	.983	15321	27.9	18	-N	3	C		36		FDE	Y5
515 PALE	02	2121	2122	2138D	S17	W80	.986	15321	27.9	17D	-B	3	C		15		DE	Y5
	02	2218	2329	NO FLARE PATROL														
516 PALE	02	2307E	2313U	2330D	N25	W60	.894	15314	29.5	23D	-N	3	C		72		FDE	Y5
	02	2330	2344	NO FLARE PATROL														
	02	2345	0009	NO FLARE PATROL														

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 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.		
	03	0017	0036	NO FLARE PATROL														
	03	0240	0450	NO FLARE PATROL														
	03	0527	0533	NO FLARE PATROL														
517 TEHR	03	0535	0542	0551	N26	W65	.926	15314	29.4	16	-B	1	C		95			Y5
518 HTPR	03	0738	0743	0750	N28	W63	.918	15314	29.6	12	-N		C	0743	20	.4		Y5
GRP67519	03	0801E	0828+2	0900D	S14	W87	.999	15321	27.8	59	?F							
KANZ	03	0801E	0828	0900D	S15	W84	.995	15321	28.0	59D	F		C					
	IMP.	S IMP.																
CATA	03	0825E	0830	0845D	S14	W90	1.000	15321	27.6	20D	2F	1	P	0830	196			
520 HTPR	03	1408	1408	1412	N22	W42	.728	15319	31.4	4	-F		C	1408	20	.3		Y5
	03	1711	1719	NO FLARE PATROL														
	03	1731	1746	NO FLARE PATROL														
	03	1758	1810	NO FLARE PATROL														
	03	1857	1906	NO FLARE PATROL														
	03	2015	2202	NO FLARE PATROL														
521 CULG	03	2211	2215	2235	N28	W72	.963	15314	29.5	24	-N		C	2215	30			Y5
	03	2300	2310	NO FLARE PATROL														
	04	0349	0350	NO FLARE PATROL														
522 KANZ	04	0814		0901	N14	W11	.309	15339	3.5	47	-F		C				GL	Y5
523 KANZ	04	0857	0857	0901	S24	W25	.557	15337	2.5	4	-F		C				E	Y5
	04	1814	0110	NO FLARE PATROL														
	05	0210	0250	NO FLARE PATROL														
524 TACH	05	0314E		0400D	N21	W64	.913	15319	31.3	46D	1N		V	0315	194	4.7	E	Y5
GRP67525	05	0729E	0736+2 0750+0	0812	N23	W65	.922	15319	31.4	43	1B				290			
KANZ	05	0729E	0736	0812	N24	W65	.923	15319	31.4	43D	1B		C					
MONT	05	0729E	0736	0812	N23	W68	.939	15319	31.2	43D	1B		C	0736	300			
TEHR	05	0730E	0738	0803	N21	W63	.906	15319	31.6	33D	1B	2	C		286		FDE	
ATHN	05	0740E	0750	0817	N22	W65	.921	15319	31.4	37D	-B	1		0750	65	1.6		
CATA	05	0750E	0750	0800D	N23	W66	.928	15319	31.4	10D	1B	2	P	0750	196			
526 HEUD	05	0954	0958	1000D	N23	W65	.922	15319	31.5	6D	-N		C					Y5
GRP67527	05	1057	1102	1110	N24	W68	.940	15319	31.4	13	1N						D	
KANZ	05	1057	1102	1110	N24	W66	.929	15319	31.5	13	1N		C					
KHAR	05	1104E	1104	1108D	N24	W70	.950	15319	31.2	4D	-F		P				D	
GRP67528	05	1247+3	1318+0 1331+0	1345	N22	W69	.944	15319	31.4	58	1B				170		EK	
ZURI	05	1247	1331	1333D	N23	W68	.939	15319	31.4	46D	1N		P	1331	190			
MCMA	05	1250E	1318	1345	N22	W70	.949	15319	31.3	55D	1N		C	1318	50	2.0	EK	
RAMY	05	1250	1318	1354	N21	W72	.958	15319	31.1	64	1B	3	C		113		DE	
MCMA	05	1250E	1331	1345	N22	W70	.949	15319	31.3	55D	1N		C	1331	60	2.4	EK	
TEHR	05	1308	1312	1340	N21	W65	.919	15319	31.7	32	1B	3	C		222			
CATA	05	1315	1330	1330D	N23	W68	.939	15319	31.5	15D	1B	2	P	1330	168			
529 VORO	05	2126	2127	2129	N24	W75	.972	15319	31.3	3	-F		C	2127	27			Y5
GRP67530	05	2217+1	2219+2	2228	N22	W77	.978	15319	31.2	11	1F				80		E	
CULG	05	2217	2221D	2221D	N23	W76	.975	15319	31.2	4D	1F		P	2221	80			
VORO	05	2218	2219	2228	N22	W78	.982	15319	31.1	10	1F		C	2219	90		E	
GRP67531	06	1107+4	1117	1148	N18	E39	.674	15342	9.4	41	-F				20	.3	D	
HTPR	06	1107		1141D	N18	E37	.651	15342	9.2	34D	-F		C	1113	10	.1		
MCMA	06	1111	1117	1150	N18	E39	.674	15342	9.4	39	-F		C	1117	25	.4	D	
KANZ	06	1117E		1145	N18	E39	.674	15342	9.4	28D	-F		C					
GRP67532	06	1217+0	1217+1	1222	N21	W80	.987	15319	31.5	5	-F							
KANZ	06	1217E	1217	1223	N21	W81	.989	15319	31.4	6D	-F		C					
HTPR	06	1217	1218	1220	N22	W80	.987	15319	31.5	3	-F		C	1218	20			
533 VORO	06	2113	2114	2115	N22	W90	1.000	15319	31.1	2	-F		P	2114	27		D	Y5
534 KANZ	07	0753	0800	0811	N18	E41	.696	15344	10.4	18	-F		C					Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE JUN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP67535	07	0805+0	0810+1	0843	S24	W63	.910	15337	2.6	38	-N							
KANZ	07	0805	0811	0843	S24	W63	.910	15337	2.6	38	-B		C					
CATA	07	0805E	0810	0835D	S24	W64	.916	15337	2.5	30D	-N	1	P	0810	56			
536 KHAR	07	1041E		1055D	S28	W66	.933	15337	2.5	14D	-F		P	1045			D	Y5
537 PALE	07	1735	1736	1737	S27	W69	.948	15337	2.6	2	-N	3	C		12		DE	Y5
538 CULG	07	2219	2226	2238	S28	W73	.966	15337	2.5	19	1N		C	2226	80			Y5
539 CULG	08	0020	0027U	0029	S28	W73	.966	15337	2.5	9	-F		C	0027	20			Y5
540 CULG	08	0236E	0238	0259	N16	E88	.999	15354	14.7	23D	?N		P	0238	50		JT	Y5
	IMP.1 NO # MITK1																	
GRP67541	08	1110	1112	1126	N18	E81	.989	15354	14.5	16	-N						D	
RAMY	08	1110	1112	1126	N18	E77	.977	15354	14.2	16	-N	3	C		15			
KHAR	08	1113E	1113	1120D	N18	E85	.996	15354	14.8	7D	-F		P				D	
542 KANZ	08	1606E		1606D	S24	E31	.623	15345	11.0		-N		C				EG	Y5
543 KANZ	08	1649	1649	1653D	N17	E74	.964	15354	14.3	4D	-F		C				D	Y5
	08	2045	2058	NO FLARE PATROL														
GRP67544	09	0730	0734	0746	S22	W90	1.000	15337	2.6	16	-F				50		H	
ZURI	09	0730	0734	0742	S22	W90	1.000	15337	2.6	12	-F		C	0734	50		H	
CATA	09	0740E	0740	0750	S23	W90	1.000	15337	2.6	10D	1F	1	P	0740	56			
	10	0610	0630	NO FLARE PATROL														
	10	0747	0750	NO FLARE PATROL														
	10	0810	0813	NO FLARE PATROL														
	10	0840	0849	NO FLARE PATROL														
	10	1109	1111	NO FLARE PATROL														
545 RAMY	10	1221	1222	1254	N15	W79	.983	15333	4.6	33	-N	3	C		8			Y5
GRP67546	10	1253+0	1254+2	1303	S13	E22	.432	15348	12.2	10	-F							
RAMY	10	1253	1254	1300	S12	E23	.438	15348	12.3	7	-N	3	C		32			
MEUD	10	1253	1256	1305	S14	E22	.440	15348	12.2	12	-F		C					
547 MCMA	10	1548	1559	1608	N16	E19	.413	15352	12.1	20	-N		C	1559	25	.3	DL	Y5
	10	2102	2107	NO FLARE PATROL														
	11	0105	0111	NO FLARE PATROL														
	11	0115	0118	NO FLARE PATROL														
	11	0130	0154	NO FLARE PATROL														
548 MANI	11	0204	0206	0214	N14	W50	.780	15351	7.3	10	-F		P		40	.6		Y5
549 TACH	11	0345E		0526D	N20	E90	1.000	15360	17.9	101D	1F		P	0350	354		E	Y5
550 ABST	11	0750E	0752	0759D	N18	E09	.335	15352	12.0	9D	-F		P	0752	87	.9	DJ	Y5
GRP67551	11	1040	1100	1140	N16	E90	1.000	15360	18.2	60	-N						A	
CATA	11	1040	1100	1140	N16	E90	1.000	15360	18.2	60	1N	2	C	1100	112		A	
MCMA	11	1052E		1115D	N17	E90	1.000	15360	18.2	23D	-N		C					
552 RAMY	11	1338	1339	1422	S32	E52	.856	15356	15.5	44	-F	3	C		17			Y5
	12	0135	0144	NO FLARE PATROL														
	12	0202	0235	NO FLARE PATROL														
	12	0241	0252	NO FLARE PATROL														
553 PALE	12	0311	0315	0323	N16	W02	.267	15352	12.0	12	-N	3	C		134		FDE	Y5
	12	0401	0434	NO FLARE PATROL														
GRP67554	12	0534E		0540	N17	W04	.289	15352	11.9	6	-F						DZ	
ABST	12	0534E	0536	0536D	N18	W04	.306	15352	11.9	2D	-F		P	0536	87	1.0	DZ	
MEUD	12	0535E	0535	0540	N17	W05	.294	15352	11.9	5D	-F		C				D	
555 CATA	12	0645	0645	0645D	N17	W05	.294	15352	11.9		-B	2	P	0645	84	.9		Y5
556 MEUD	12	0648	0650	0653	N17	W05	.294	15352	11.9	5	-F		C					Y5
557 ZURI	12	0909	0923	0937	N21	W10	.384	15352	11.6	28	-F		C	0923	50	.6		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
558 ABST	12	1040	1042	1046D	N19	W06	.330	15352	12.0	60	-F		P	1042	87	.9	D	Y5
559 KHAR	12	1107E		1126D	N04	E90	1.000	0	19.2	190	-F		P	1107			CH	Y5
GRP67560	12	1135+1	1136+3	1153D	N17	W07	.305	15352	12.0	18	-F				35	.4		
ZURI	12	1135	1139	1153	N18	W07	.320	15352	12.0	18	-F		C	1139	40			
RAMY	12	1136	1136	1224	N17	W07	.305	15352	12.0	48	-N	3	C		28			
561 KHAR	12	1147E		1214D	N15	W90	1.000	15355	5.7	270	?N		P	1153			C	Y5
	IMP.1 NO. ZURI2			RAMY2														
GRP67562	12	1246+8	1258+0 1306	1314	N17	W07	.305	15352	12.0	28	-N						J	
ZURI	12	1246	1306	1314	N18	W08	.327	15352	11.9	28	-N		C	1306	50	.6		
LVOV	12	1252	1258	1307	N16	W06	.283	15352	12.1	15	-F		C	1258	150	1.6	J	
RAMY	12	1254	1258	1316	N17	W07	.305	15352	12.0	22	-B	3	C		53			
563 RAMY	12	1637	1637	1720	N17	W09	.319	15352	12.0	43	-B	3	C		156		F	Y5
564 PALE	12	1818	1821	1834	N16	W10	.313	15352	12.0	16	-B	3	C		88		FDE	Y5
565 PALE	12	1845	1846	1859	S33	E38	.756	15356	15.6	14	-N	3	C		19		DE	Y5
566 PALE	12	1855	1859	1903	N16	W11	.322	15352	12.0	8	-N	3	C		66		DE	Y5
567 PALE	12	2012	2012	2017	N16	W11	.322	15352	12.0	5	-N	3	C		28		DE	Y5
568 PALE	12	2035	2042	2045	N16	W11	.322	15352	12.0	10	-N	3	C		90		DE	Y5
	12	2107	2108	NO FLARE PATROL														
569 PALE	12	2116	2121	2138	N16	W12	.332	15352	12.0	22	-B	3	C		109		FDE	Y5
570 PALE	12	2239	2242	2250	N16	W13	.342	15352	12.0	11	-B	3	C		109		FDE	Y5
	12	2337	2349	NO FLARE PATROL														
571 PALE	12	2352	2357	0000	N16	W13	.342	15352	12.0	8	-N	3	C		62		FDE	Y5
572 MANI	13	0136E	0137	0146D	N16	W16	.374	15352	11.9	10D	-N		V		90	1.0		Y5
	13	0137	0146	NO FLARE PATROL														
573 PALE	13	0155	0156	0210D	N16	W15	.362	15352	12.0	15D	-B	3	C		153		DE S	Y5
	13	0203	0207	NO FLARE PATROL														
574 TEHR	13	0444	0452	0525	N17	W15	.374	15352	12.1	41	-N	2	C		159			Y5
575 BUCA	13	0706E		0717	N17	W19	.419	15352	11.9	11D	-F		C	0706	43	.5	D	Y5
GRP67576	13	0727	0733	0802	N18	E71	.950	15360	18.6	35	1F						D	
ABST	13	0727	0733	0758	N18	E70	.944	15360	18.6	31	1F		C	0733	79		D	
ZURI	13	0747E	0747	0805D	N19	E73	.960	15360	18.8	18D	-F		P	0747	60			
GRP67577	13	0830E	0834+6	0853	N18	W20	.441	15352	11.9	23	-N				110	1.2	E	
LOCA	13	0830E	0840	0910	N17	W19	.419	15352	11.9	40D	-N		V	0840	82	.9		
ABST	13	0833E	0834	0844	N18	W20	.441	15352	11.9	11D	-F		P	0834	148	1.7	E	
TEHR	13	0836E	0837	0853	N18	W20	.441	15352	11.9	17D	-N	3	C		96			
578 TEHR	13	1112	1114	1125	N17	W22	.455	15352	11.8	13	-B	2	C		64			Y5
GRP67579	13	1400	1400 1408	1410D	N16	W22	.446	15352	11.9	10	-B						F	
CATA	13	1400	1400	1410D	N17	W22	.455	15352	11.9	10D	-B	2	P	1400	45	.5		
RAMY	13	1407E	1408	1410D	N16	W22	.446	15352	11.9	3D	-B	3	C		21		F	
GRP67580	13	1505	1507	1520	N16	E59	.867	15360	18.1	15	-N							
RAMY	13	1505	1507	1517	N15	E58	.857	15360	18.0	12	-N	3	C		28		F	
MCMA	13	1515E		1522D	N17	E60	.876	15360	18.1	7D	-N		P	1515	60	1.3	E	
GRP67581	13	1510+0	1511+4	1520	N16	W25	.485	15352	11.8	10	-B				50	.6		
CATA	13	1510	1515	1515D	N16	W25	.485	15352	11.8	50	-B	2	P	1515	39	.4		
RAMY	13	1510	1511	1518	N16	W23	.459	15352	11.9	8	-B	3	C		38		F	
MCMA	13	1515E		1522D	N17	W25	.492	15352	11.8	7D	-N		P	1517	60	.7	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
GRP67582	13	1716+1	1717+1	1722	N16	W24	.472	15352	11.9	6	-B				40	.5	D	
PALE	13	1716	1717	1720	N16	W24	.472	15352	11.9	4	-B	3	C		47		DE	
RAMY	13	1717	1718	1722	N16	W24	.472	15352	11.9	5	-B	3	C		38			
MCMA	13	1720E	1720	1724	N17	W25	.492	15352	11.8	4D	-N		C	1720	25	.3	D	
GRP67583	13	1737+2	1739+1	1750	N16	W24	.472	15352	11.9	13	-B				45	.5	D	
PALE	13	1737	1739	1750	N16	W24	.472	15352	11.9	13	-B	3	C		50		DE	
MCMA	13	1739	1740	1742D	N17	W25	.492	15352	11.9	3D	-B		C	1740	35	.4	D	
584 PALE	13	1820	1821	1823	N15	W25	.477	15352	11.9	3	-B	3	C		35		DE	Y5
GRP67585	13	1858	1858	1909D	N16	W26	.497	15352	11.8	11	-B				35	.4		
RAMY	13	1858	1858	1909D	N16	W26	.497	15352	11.8	11D	-B	3	C		38		F	
MCMA	13	1900E		1902D	N17	W27	.517	15352	11.8	2D	-N		C	1900	25	.3	D	
586 PALE	13	1919	1920	1930	N15	W26	.490	15352	11.9	11	-B	3	C		140		HDE	Y5
587 PALE	13	2002	2004	2008	N15	W26	.490	15352	11.9	6	-N	3	C		36		DE	Y5
GRP67588	13	2016+2	2018+1	2053	N15	W26	.490	15352	11.9	37	-B				90	1.0	H	
RAMY	13	2016	2019	2053	N16	W26	.497	15352	11.9	37	-B	3	C		72			
PALE	13	2018	2018	2053	N15	W26	.490	15352	11.9	35	-B	3	C		114		HDE	
GRP67589	13	2121+0	2124+0	2143	N15	W26	.490	15352	11.9	22	1B				200	2.3	H	
PALE	13	2121	2124	2141	N15	W27	.503	15352	11.9	20	1B	3	C		206		HDE	
RAMY	13	2121	2124	2145	N16	W26	.497	15352	11.9	24	-B	3	C		190			
590 PALE	13	2218	2218	2223	N15	W27	.503	15352	11.9	5	-N	3	C		36		HDE	Y5
591 PALE	13	2320	2320	2325	N15	W28	.517	15352	11.9	5	-N	3	C		20		DE H	Y5
592 ABST	14	0545	0547	0553	N19	E55	.837	15360	18.4	8	-F		P	0547	96	1.8	D	Y5
GRP67593	14	0555+0	0555+4	0605	N16	W32	.573	15352	11.8	10	-N				60	.7		
CATA	14	0555	0555	0605	N15	W32	.568	15352	11.8	10	-B	2	C	0555	56	.7		
HTPR	14	0555	0559	0605	N17	W33	.591	15352	11.8	10	-N		C	0559	60	.7		
594 ABST	14	0629	0631	0635	N18	E54	.826	15360	18.3	6	-F		C	0631	87	1.6	D	Y5
GRP67595	14	0721>9	0731+2	0747	N16	W34	.599	15352	11.8	26	-B							
ZURI	14	0721	0731	0753	N16	W33	.586	15352	11.8	32	-B		C	0731	80	1.0		
TEHR	14	0731	0733	0740	N16	W35	.611	15352	11.7	9	-B	2	C		32			
596 MEUD	14	0845	0846	0848	N17	W34	.604	15352	11.8	3	-F		C				D	Y5
GRP67597	14	0905+5	0909+2	0917	N16	W34	.599	15352	11.8	12	-N				50	.6		
ZURI	14	0905	0909	0917	N16	W34	.599	15352	11.8	12	-N		C	0909	50	.6		
MEUD	14	0910	0911	0915	N17	W34	.604	15352	11.8	5	-N		C					
CATA	14	0910	0910	0920	N15	W35	.606	15352	11.8	10	-B	2	C	0910	56	.7		
598 ZURI	14	0909	0911	0917	N17	E58	.859	15360	18.7	8	-F		C	0911	100	2.0		Y5
599 ABST	14	1035	1039	1100D	N17	E48	.765	15360	18.0	25D	-F		P	1039	105	1.6	D	Y5
600 RAMY	14	1135	1136	1156	N16	W57	.849	15344	10.2	21	-N	3	C		14		F	Y5
GRP67601	14	1153+2	1200+2 1215	1235	N15	E47	.749	15360	18.0	42	-N				45	.7		
RAMY	14	1153	1200	1244	N14	E46	.735	15360	17.9	51	-B	3	C		50		F	
MCMA	14	1153	1202	1235	N16	E47	.751	15360	18.0	42	-N		C	1202	35	.5	E	
ZURI	14	1155	1215	1231	N15	E47	.749	15360	18.0	36	-F		C	1215	60	.9		
602 RAMY	14	1209	1210	1236	N16	W57	.849	15344	10.2	27	-N	3	C		25			Y5
GRP67603	14	1414+1	1415+0	1428	N16	W35	.611	15352	12.0	14	-N				45	.6	D	
MCMA	14	1414	1415	1430	N17	W35	.616	15352	12.0	16	-N		C	1415	30	.4	D	
ZURI	14	1415	1415	1425	N16	W36	.624	15352	11.9	10	-N		C	1415	60	.8		
GRP67604	14	1615+1	1615+3	1629	N17	E53	.815	15360	18.7	14	-F						D	
RAMY	14	1615	1615	1627	N18	E55	.835	15360	18.8	12	-N	3	C		56			
MCMA	14	1616	1618	1630	N17	E52	.805	15360	18.6	14	-F		C	1618	20	.4	D	
605 MCMA	14	1721		1737D	N17	W37	.640	15352	11.9	16D	-N		C	1725	25	.4	OK	Y5
GRP67606	14	2003	2005	2025	N18	E53	.817	15360	18.8	22	-N				50	.9		
PALE	14	2003	2005	2027D	N19	E55	.837	15360	19.0	24D	-N	3	C		60		FDE	
MCMA	14	2008E		2022	N18	E51	.798	15360	18.7	14D	-B		C	2008	40	.7	E	

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	DATE	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.		
	JUN																	
607 MCMA	14	2008E		2018	N17	W38	.652	15352	12.0	10D	-F		C	2008	40	.6	E	Y5
	14	2114	2144	NO FLARE PATROL														
	14	2201	2302	NO FLARE PATROL														
	14	2307	2313	NO FLARE PATROL														
	15	0016	0035	NO FLARE PATROL														
	15	0036	0041	NO FLARE PATROL														
	15	0111	0119	NO FLARE PATROL														
608 PALE	15	0141	0143	0154	N15	W42	.692	15352	11.9	13	-B	3	C		42		FDE	Y5
609 TEHR	15	0342E	0344	0351	N18	W43	.713	15352	11.9	9D	-B	2	C		127		F	Y5
610 CULG	15	0506	0509	0550	N15	W46	.737	15352	11.8	44	-F		C	0509	50	.7	T	Y5
611 ABST	15	0531	0536	0546D	N21	E53	.823	15360	19.2	15D	-F		P	0536	87	1.6	D	Y5
612 CULG	15	0611	0616U	0635	N11	E58	.852	15361	19.6	24	-F		C	0616	20	.4		Y5
613 ZURI	15	0820	0822	0830	N16	W07	.284	15354	14.8	10	-F		C	0822	70	.8		Y5
614 ABST	15	0951E	0952	1004	N18	E45	.735	15360	18.8	13D	-F		P	0952	131	2.0	E	Y5
615 KANZ	15	1058	1154	1237	N16	W09	.300	15354	14.8	99	-F		C				T	Y5
616 KANZ	15	1131	1139	1144	N18	E41	.691	15360	18.6	13	-F		C					Y5
617 KANZ	15	1223	1231	1237	N31	E90	1.000	0	22.3	14	-F		C					Y5
618 KANZ	15	1225	1231	1237A	N18	E46	.746	15360	19.0	12D	-F		C				D	Y5
619 RAMY	15	1415	1423	1445	N16	W19	.407	15354	14.2	30	-B	3	C		59			Y5
GRP67620	15	1628+0	1628+3	1636	N25	E07	.422	15363	16.2	8	-B						E	
RAMY	15	1628	1628	1637	N25	E07	.422	15363	16.2	9	-B	3	C		33			
KANZ	15	1628	1631	1635	N25	E07	.422	15363	16.2	7	-B		C				E	
621 MCMA	15	1759E		1930D	N17	W13	.350	15354	14.8	91D	-N		C	1820	50	.6	EK	Y5
622 MCMA	15	1906	1907	1915	N16	W52	.803	15352	11.9	9	-F		C	1907	25	.4	D	Y5
GRP67623	15	2029+2	2033+1	2055	N25	E06	.418	15363	16.3	26	-N				45	.5	E	
MCMA	15	2029	2033	2055	N26	E08	.441	15363	16.5	26	-N		C	2033	35	.4	E	
RAMY	15	2031	2034	2041D	N25	E04	.412	15363	16.2	10D	-N	3	C		51			
624 PALE	16	0054	0055	0057	N18	W58	.860	15352	11.7	3	-N	3	C		32		FDE	Y5
625 PALE	16	0057	0100	0104	N25	E02	.406	15363	16.2	7	-N	3	C		32		FDE	Y5
	16	0118	0132	NO FLARE PATROL														
	16	0133	0137	NO FLARE PATROL														
	16	0150	0155	NO FLARE PATROL														
	16	0315	0320	NO FLARE PATROL														
626 CULG	16	0342	0350	0410	N15	E25	.474	15360	18.0	28	-F		C	0350	60	.7		Y5
627 CULG	16	0415	0423U	0555	S28	W67	.942	15345	11.2	100	1N		C	0423	90		FSG	Y5
628 RAMY	16	1125	1126	1131	N16	W61	.882	15352	11.9	6	-B	3	C		45			Y5
GRP67629	16	1143+7	1153+2	1204	N16	W62	.890	15352	11.8	21	-N				35	.8	D	
RAMY	16	1143	1153	1202	N16	W62	.890	15352	11.8	19	-B	3	C		40			
CATA	16	1150	1155	1205	N14	W60	.872	15352	12.0	15	-B	2	C	1155	28	.5		
KHAR	16	1153E	1153	1200D	N19	W63	.900	15352	11.8	7D	-F		P				D	
	16	1220	1245	NO FLARE PATROL														
	16	1345	1346	NO FLARE PATROL														
	16	1349	1420	NO FLARE PATROL														
GRP67630	16	1401	1405	1435D	N16	E19	.405	15360	18.0	34	-B							
RAMY	16	1401	1405	1435D	N16	E20	.418	15360	18.1	34D	-B	3	C		54			
CATA	16	1420E	1420	1430D	N16	E18	.393	15360	17.9	10D	-N	2	P	1420	140	1.5		
	16	1430	1801	NO FLARE PATROL														
631 RAMY	16	1525	1532	1545	S24	E64	.920	15365	21.4	20	-B	3	C		32			Y5

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq Deg		
	JUN																	
632 RAMY	16	1650	1651	1658	S24	E63	.914	15365	21.4	8	-B	3	C		21			Y5
	16	1804	1820	NO FLARE PATROL														
	16	1824	1835	NO FLARE PATROL														
	16	2023	2029	NO FLARE PATROL														
GRP67633	16	2219	2233	2322	N16	W68	.931	15352	11.8	63	1N						EU	
VORO	16	2219	2233	2255D	N17	W67	.925	15352	11.9	36D	1F		C	2233	108	2.7	E	
CULG	16	2252E	2252E	2323D	N16	W68	.931	15352	11.9	31D	1N		P	2252	110		BU	
MITK	16	2259E		2321	N13	W68	.929	15352	11.9	22D	1N		C	2259	170		E	
634 CULG	16	2318	2321	2327	S20	E90	1.000	15366	23.7	9	-N		C	2321	20			Y5
635 CULG	16	2323	2338U	0023	N16	W68	.931	15352	11.9	60	-N		C	2338	60			Y5
636 CULG	17	0032	0034	0044D	N14	E14	.323	15360	18.1	12D	-F		P	0034	50	.5		Y5
637 CULG	17	0110E	0114U	0115D	N14	E14	.323	15360	18.1	5D	-F		P	0114	90	.9		Y5
638 CULG	17	0159	0205	0219	N15	W69	.936	15352	11.9	20	-N		C	0205	30			Y5
GRP67639	17	0214+1	0222+3	0301	N16	E07	.281	15360	17.6	47	1N				230	2.4	FSU	
CULG	17	0214E	0222	0255D	N16	E08	.288	15360	17.7	41D	1N		P	0222	220	2.3	FSU	
MITK	17	0215	0225	0301	N17	E07	.296	15360	17.6	46	1N		C	0225	240	2.6	F	
640 KHAR	17	1047E	1047	1100D	N16	W35	.609	15354	14.8	13D	-F		P				D	Y5
GRP67641	17	1313	1317+2	1325	N30	E88	.999	15371	24.2	12	-F							
HTPR	17	1313	1317	1325	N30	E90	1.000	15371	24.3	12	-F		C	1317	50			
KANZ	17	1316E	1319	1324	N30	E87	.998	15371	24.1	8D	-F		C					
642 RAMY	17	1548	1549	1553	N19	W21	.457	15369	16.1	5	-N	3	C		26		F	Y5
GRP67643	17	1826E	1827 1836	1858D	N15	W40	.667	15354	14.8	32	-B				130	1.7		
RAMY	17	1826E	1836	1839D	N15	W41	.679	15354	14.7	13D	-B	3	C		132		F	
RAMY	17	1826E	1827	1830D	N15	W41	.679	15354	14.7	4D	-B	3	C		68		F	
MCMA	17	1835E		1858D	N15	W40	.667	15354	14.8	23D	1B		C	1840	130	2.0	E	
GRP67644	17	2150	2152	2308	N15	W44	.714	15354	14.6	78	1B							
PALE	17	2150	2152	2228D	N14	W44	.711	15354	14.6	38D	1B	3	C		161		DE F	
CULG	17	2211E	2211E	2308	N16	W44	.717	15354	14.6	57D	-N		P	2211	110	1.5	B	
645 CULG	17	2219	2234U	2242D	N17	E13	.347	15360	18.9	23D	-N		P	2234	40	.4		Y5
646 CULG	17	2317	2325	2335	N17	W85	.996	15352	11.6	18	-N		C	2325	20			Y5
647 CULG	17	2352	2354	0000	N17	E11	.328	15360	18.8	8	-F		C	2354	20	.2		Y5
GRP67648	18	0010+1	0013 0022+5	0055	N18	E10	.331	15360	18.8	45	-N						IJK	
MITK	18	0010	0027	0106	N18	E10	.331	15360	18.8	56	1N		C	0027	310	3.4	F	
CULG	18	0010	0027	0130	N16	E10	.303	15360	18.8	80	-N		C	0027	140	1.5	KFI	
MANI	18	0011	0013	0032	N19	E10	.345	15360	18.8	21	-N		P		100	1.1	F	
PALE	18	0022	0022	0038	N18	E10	.331	15360	18.8	16	-N	3	C		38		DE	
VORO	18	0033E		0102	N17	E10	.317	15360	18.8	29D	1F		C	0034	242	2.6	EJ	
GRP67649	18	0030+3	0033+4	0100	N15	W44	.713	15354	14.7	30	1N						EJ	
PALE	18	0030	0033	0100	N14	W45	.722	15354	14.6	30	1B	3	C		133		DE	
CULG	18	0031	0037U	0102	N16	W44	.716	15354	14.7	31	-N		C	0037	100	1.5		
MANI	18	0033	0036	0040D	N15	W44	.713	15354	14.7	7D	1N		P		150	2.2		
VORO	18	0033E		0049	N15	W45	.725	15354	14.6	16D	1N		C	0035	215	3.1	EJ	
GRP67650	18	0111+1	0114 0121	0127	N16	W88	.999	15352	11.4	16	-F						DH	
VORO	18	0111	0114	0123	N16	W90	1.000	15352	11.3	12	-F		C	0114	36		DH	
CULG	18	0112	0121	0130	N16	W87	.998	15352	11.5	18	-N		C	0121	30			
651 VORO	18	0117	0118	0124	S16	E79	.984	15366	24.0	7	-N		C	0118	27		D	Y5
652 PALE	18	0123	0123	0132	N14	W46	.734	15354	14.6	9	-N	3	C		45		DE	Y5
653 CULG	18	0130	0134	0143	N17	W24	.474	15369	16.3	13	-F		C	0134	20	.2		Y5
654 VORO	18	0356	0357	0400D	N20	E12	.375	15360	19.1	4D	-N		C	0357	72	.7	D	Y5

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JUNE 1978

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE 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.		
GRP67655	18	0718	0742	0809	N26	W30	.615	15363	16.1	51	-N						E	
MITK	18	0718	0742	0806	N26	W30	.615	15363	16.1	48	-N		C	0742			E	
BUCA	18	0720E		0800D	N25	W30	.607	15363	16.1	40D	-N		C	0740	107	1.4	E	
KANZ	18	0736E	0736	0739D	N26	W32	.635	15363	15.9	3D	-F		C					
CATA	18	0750E	0750	0800D	N28	W27	.603	15363	16.3	10D	-B	1	P	0750	112	1.4		
ABST	18	0757E	0757	0811D	N24	W31	.610	15363	16.0	14D	-F		P	0757	70	.9	D	
GRP67656	18	0842	0848+1	0904	N19	E09	.338	15360	19.0	22	-N							
KANZ	18	0842	0849	0904	N20	E09	.352	15360	19.0	22	-B		C					
ABST	18	0848E	0848	0851D	N18	E10	.331	15360	19.1	3D	-F		P	0848	105	1.2	D	
ABST	18	0848E	0848	0851D	N18	E07	.309	15360	18.9	3D	-F		P	0848	70	1.2	D	
657 MCMA	18	1208	1210	1212D	N20	E06	.335	15360	19.0	4D	-B		C	1210	30	.3	D	Y5
GRP67658	18	1636+1	1638+2	1657	N16	W53	.811	15354	14.7	21	-N						E	
KANZ	18	1636	1638	1652	N16	W53	.811	15354	14.7	16	-N		C					
RAMY	18	1637	1638	1656	N15	W53	.809	15354	14.7	19	-B	2	C		49		F	
MEUD	18	1639E	1640	1658	N17	W56	.841	15354	14.5	19D	-F		C				E	
MCMA	18	1650E		1700D	N17	W52	.803	15354	14.8	10D	-F		C	1650	50	.9	E	
659 CULG	18	2205	2215	2229D	S32	E36	.739	15365	21.6	24D	-F		P	2215	50	.8		Y5
	18	2214	2215	NO FLARE PATROL														
	18	2358	0010	NO FLARE PATROL														
660 CULG	19	0049	0102	0111	S23	E90	1.000	15374	25.8	22	-F		C	0102	30			Y5
661 CULG	19	0158	0202	0209	S21	E90	1.000	15374	25.8	11	-F		C	0202	10			Y5
GRP67662	19	0354+6	0357+2 0407	0418	N18	W04	.292	15360	18.9	24	-N				120	1.3	E	
MITK	19	0354	0359	0422	N18	W05	.296	15360	18.8	28	-N		C	0359			E	
TACH	19	0355	0357	0422	N18	W04	.292	15360	18.9	27	-N		C	0357	133	1.4	E	
PALE	19	0355	0357	0404	N19	W06	.317	15360	18.7	9	-B	3	C		123		DE	
TEHR	19	0400	0407	0414	N19	W03	.305	15360	18.9	14	-N	2	C		127			
663 CULG	19	0529	0531	0535	S35	W53	.878	15356	15.3	6	-F		C	0531	20	.5		Y5
664 KANZ	19	1327	1330	1348	N25	W46	.768	15363	16.1	21	-N		C					Y5
GRP67665	19	1550E	1551+0	1603	N17	W21	.436	15360	18.1	13	-F						E	
MEUD	19	1550E	1551	1600	N17	W21	.436	15360	18.1	10D	-F		C				CE	
MCMA	19	1550E	1551	1605D	N17	W21	.436	15360	18.1	15D	-N		C	1551	50	.6	E	
GRP67666	19	1816+0	1816	1826	N25	W48	.787	15363	16.2	10	-F				35	.6		
PALE	19	1816	1816	1821	N25	W46	.768	15363	16.3	5	-N	3	C		17		F	
MCMA	19	1816E		1830	N25	W50	.805	15363	16.0	14D	-F		P	1819	50	.9	E	
GRP67667	19	2336+1	2338+1	0000	N25	W51	.814	15363	16.2	24	-B				110	1.9		
MITK	19	2336	2339	2356	N26	W53	.834	15363	16.0	20	-B		C	2339			E	
CULG	19	2337	2339	0004	N24	W51	.811	15363	16.2	27	-N		C	2339	70	1.3		
PALE	19	2337	2338	2343D	N25	W49	.796	15363	16.3	6D	1B	3	V		150		FDE	
668 CULG	19	2341	2357	0006	S19	E90	1.000	15375	26.7	25	-F		C	2357	10			Y5
669 CULG	19	2355	2401	0020	N18	E72	.953	15368	25.4	25	-F		C	2401	20			Y5
670 PALE	20	0045	0045	0052	N17	E69	.936	15368	25.2	7	-N	3	C		24		FDE	Y5
671 CULG	20	0124	0135	0150	S18	E46	.758	15366	23.5	26	-F		C	0135	20	.3		Y5
672 CULG	20	0159	0216U	0245	N15	W22	.431	15360	18.4	46	-N		C	0245	30	.3		Y5
673 CULG	20	0336	0338	0355	N18	W22	.456	15360	18.5	19	-N		C	0338	40	.5		Y5
674 MEUD	20	0643	0644	0647	N12	W04	.193	15370	20.0	4	-F		C				D	Y5
GRP67675	20	0807+1	0812+0	0814	N17	E66	.918	15368	25.3	7	-F				70		D	
HTPR	20	0807	0812	0814	N17	E66	.918	15368	25.3	7	-N		C	0812	70	1.6		
MONT	20	0808	0812	0814	N17	E67	.924	15368	25.4	6	-F		C	0812	70		D	
676 HTPR	20	0813	0817	0819	S19	E90	1.000	15375	27.1	6	-F		C	0817	20			Y5
677 HTPR	20	0839	0843	0845	N16	E66	.917	15368	25.3	6	-F		C	0843	10	.2		Y5

Hα SOLAR FLARES

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
GRP67678	20	0857+1	0859+3	0917	N20	E76	.972	15368	26.1	20	1N				100			
HTPR	20	0857	0859	0915	N20	E77	.975	15368	26.1	18	1N		C	0859	100			
ZURI	20	0858	0902	0918	N20	E75	.968	15368	26.0	20	1N		P	0902	100			
GRP67679	20	0908+4	0912 0924+0	0934	S20	E90	1.000	15375	27.1	26	1F				70		E	
HTPR	20	0908	0912	0917	S19	E90	1.000	15375	27.1	9	-F		C	0912	10			
ZURI	20	0910E	0924	0932	S20	E90	1.000	15375	27.1	22D	1N		P	0924	100			
MONT	20	0912	0924	0935	S20	E90	1.000	15375	27.1	23	-F		C	0924	50		E	
CATA	20	0920E	0930	0930D	S22	E90	1.000	15375	27.1	10D	1F	2	P	0930	67			
HTPR	20	0922	0924	0934	S19	E90	1.000	15375	27.1	12	-N		C	0924	50			
GRP67680	20	1015+0	1020+0	1043	N12	W05	.200	15370	20.1	28	-N				45	.5	E	
HTPR	20	1015	1020	1035	N12	W05	.200	15370	20.1	20	-F		C	1020	30	.3	E	
CATA	20	1015	1020	1050	N12	W05	.200	15370	20.1	35	-B	2	C	1020	56	.6		
GRP67681	20	1143+9	1152+1	1159	S19	E87	.999	15375	27.0	16	-N						E	
MCMA	20	1143	1152	1201	S20	E88	1.000	15375	27.1	18	-N		C	1152			E	
HTPR	20	1152	1153	1156	S19	E87	.999	15375	27.0	4	-N		C	1153	30			
682 ZURI	20	1212	1220	1228	S29	E16	.562	15365	21.7	16	-F		C	1220	70	.9		Y5
GRP67683	20	1250+2	1258+0	1303	N17	E63	.897	15368	25.3	13	-N				45	1.0	EH	
ZURI	20	1250	1258	1302	N18	E64	.905	15368	25.3	12	-N		C	1258	60	1.5		
MCMA	20	1252	1258	1303	N16	E63	.896	15368	25.3	11	-N		C	1258	30	.7	EH	
684 RAMY	20	1325	1327	1347	N26	E70	.948	15373	25.8	22	-N	4	C		13			Y5
685 MCMA	20	1330	1336	1400D	N16	E65	.910	15368	25.4	30D	-N		C	1336	50	1.2	E	Y5
GRP67686	20	1355+1	1356+2	1405	S29	E15	.556	15365	21.7	10	-F				40	.5	E	
HTPR	20	1355	1356	1405	S29	E15	.556	15365	21.7	10	-F		C	1356	40	.4	E	
MCMA	20	1355	1357	1420	S30	E15	.569	15365	21.7	25	-N		C	1357	35	.4	E	
RAMY	20	1356	1358	1404	S30	E15	.569	15365	21.7	8	-N	4	C		30		F	
ZURI	20	1356	1356	1404	S29	E15	.556	15365	21.7	8	-F		C	1356	60	.8		
687 MCMA	20	1431	1435	1437	S20	E87	.999	15375	27.1	6	-N		C	1435			D	Y5
688 HTPR	20	1632	1634	1641	S19	E85	.997	15375	27.1	9	-F		C	1634	20			Y5
GRP67689	20	1701+2	1709	1730	N25	E71	.952	15373	26.0	29	-F				15		D	
MCMA	20	1701	1709	1730	N25	E69	.942	15373	25.9	29	-N		C	1709	20	.6	D	
HTPR	20	1703		1711D	N25	E74	.965	15373	26.3	8D	-F		C	1708	10			
GRP67690	20	1721+1	1726+2	1750	N20	E50	.790	15368	24.5	29	-B							
RAMY	20	1721	1726	1744	N18	E42	.699	15368	23.9	23	-B	3	C		92			
MCMA	20	1722		1808D	N20	E51	.800	15368	24.5	46D	1B		C	1734	125	2.2	E	
KANZ	20	1725E	1728	1750	N22	E50	.795	15368	24.5	25D	-B		C				F	
GRP67691	20	1734+0	1735+0	1742	S17	E47	.765	15366	24.3	8	-F				25	.4	E	
MCMA	20	1734	1735	1743D	S18	E48	.779	15366	24.3	9D	-F		C	1735	30	.5	E	
RAMY	20	1734	1735	1741	S17	E47	.765	15366	24.3	7	-N	3	C		19			
GRP67692	20	1754+1	1758+0	1811	S19	E80	.988	15375	26.7	17	-F							
KANZ	20	1754	1758	1811	S19	E81	.990	15375	26.8	17	-F		C					
RAMY	20	1755	1758	1810	S19	E79	.985	15375	26.7	15	-F	3	C		11			
693 MCMA	20	1908	1910	1917	S18	E47	.769	15366	24.3	9	-N		C	1910	15	.2	D	Y5
GRP67694	20	1918+1	1928+0	1950	S19	E79	.985	15375	26.7	32	1N				90		EU	
RAMY	20	1918	1928	1954	S19	E79	.985	15375	26.7	36	1B	2	C		99			
PALE	20	1919	1928	1931D	S18	E78	.982	15375	26.7	12D	1N	3	V		88		DE	
MCMA	20	1919	1928	1945	S19	E83	.994	15375	27.0	26	1N		C	1928			EU	
695 RAMY	20	2012	2015	2034	S19	E78	.982	15375	26.7	22	-F	2	C		23			Y5
696 MCMA	20	2150	2153	2201D	S18	E46	.758	15366	24.4	11D	-F		C	2153	15	.2	D	Y5
GRP67697	20	2208+2	2211+1	2220	S18	E80	.988	15375	26.9	12	-N				20			
CULG	20	2208	2212	2225	S20	E80	.988	15375	26.9	17	-F		C	2212	30			
MCMA	20	2209	2212	2220D	S18	E82	.992	15375	27.1	11D	-N		C	2212			D	
PALE	20	2210	2211	2218	S18	E76	.975	15375	26.6	8	-N	3	C		13		F	
698 PALE	20	2255	2255	2309	N18	W40	.676	15360	18.0	14	-N	3	C		23		F	Y5
699 CULG	20	2332	2340	0003	N16	E57	.847	15368	25.3	31	-N		C	2340	10	.2		Y5

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	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.	
	JUN																
700 PALE	20	2337	2338	0008	N25	W49	.795	15358	17.3	31	?B	3	C		175		U F Y5
	IMP.1	NO	VORO1	CULG1	MITK1												
701 VORO	21	0007	0014	0028	S18	E82	.992	15375	27.2	21	?F		C	0014	54		EJ Y5
	IMP.1	NO	CULG1	PALE1													
GRP67702	21	0030	0034	0048	S17	E42	.713	15366	24.2	18	-F						D
CULG	21	0030	0034U	0058	S18	E40	.695	15366	24.0	28	-F		C	0034	40	.6	
MITK	21	0034E		0038	S17	E44	.734	15366	24.3	4D	-F		C	0034			D
GRP67703	21	0109+2	0114+1	0123	N14	W90	1.000	15354	14.3	14	-N				50		EH
CULG	21	0109	0115	0125	N14	W90	1.000	15354	14.3	16	-N		C	0115	40		
VORO	21	0111	0114	0121	N14	W90	1.000	15354	14.3	10	1F		C	0114	63		EH
GRP67704	21	0129+0	0131+0	0139	S17	E42	.713	15366	24.2	10	-N				50	.7	EJ
CULG	21	0129	0131	0144	S18	E40	.695	15366	24.1	15	-N		C	0131	40	.6	
VORO	21	0129	0131	0133	S17	E45	.745	15366	24.4	4	-N		C	0131	72	1.0	EJ
705 CULG	21	0130	0134	0146	S19	W45	.753	15359	17.7	16	-N		C	0134	20	.3	Y5
706 CULG	21	0210	0213	0219	N14	W90	1.000	15354	14.3	9	-F		C	0213	10		Y5
707 CULG	21	0350	0353	0358	S18	E39	.684	15366	24.1	8	-F		C	0353	10	.1	Y5
708 CULG	21	0505	0505	0510	S18	E39	.684	15366	24.1	5	-F		C	0505	30	.4	Y5
GRP67709	21	0512	0514+2	0535	S18	E75	.972	15375	26.8	23	-N				45		
CULG	21	0512	0514U	0543	S18	E80	.988	15375	27.2	31	-F		C	0514	30		
TEHR	21	0514E	0516	0526	S18	E71	.954	15375	26.5	12D	-B	2	C		64		
710 CULG	21	0530	0533	0544	S18	E39	.684	15366	24.2	14	-N		C	0533	30	.4	Y5
711 HTPR	21	0804	0806	0815	N16	E56	.838	15368	25.5	11	-F		C	0808	30	.5	Y5
712 HTPR	21	0925	0927	0931	N18	E52	.804	15368	25.3	6	-F		C	0927	30	.5	Y5
GRP67713	21	1001+4	1005+0	1015	S16	E71	.952	15375	26.7	14	-F						
HTPR	21	1001	1005	1015	S17	E73	.963	15375	26.9	14	-F		C	1005	20		
KANZ	21	1005	1005	1014	S16	E70	.947	15375	26.7	9	-F		C				
714 RAMY	21	1200	1209	1332	S19	E66	.927	15375	26.5	92	-B	3	C		47		Y5
715 RAMY	21	1242	1242	1301	N16	E51	.790	15368	25.4	19	-N	3	C		20		Y5
716 HTPR	21	1306	1309	1319	S18	E37	.661	15366	24.3	13	-N		C	1309	60	.7	EG Y5
GRP67717	21	1420	1442	1453	N11	W21	.388	15370	20.0	33	-N				110	1.2	EK
RAMY	21	1420	1442	1452	N11	W20	.373	15370	20.1	32	-B	3	C		150		
MCMA	21	1442E		1453D	N12	W22	.409	15370	20.0	11D	-N		C	1442	75	.8	EK
GRP67718	21	1531+3	1538+3	1549	S21	E70	.951	15375	26.9	18	1B				150		E
RAMY	21	1400	1541	1543D	S19	E66	.927	15375	26.5	103D	1B	*	V		200		
ZURI	21	1531	1539	1547D	S21	E73	.965	15375	27.1	16D	1B	*	P	1539	100		
MCMA	21	1534E	1538	1550D	S22	E73	.966	15375	27.1	16D	1B	*	C	1538	100	4.0	E
HTPR	21	1534	1539	1546	S22	E72	.961	15375	27.0	12	-N	*	C	1539	130		
RAMY	21	1541E	1541	1612	S19	E66	.927	15375	26.6	31D	1B	*	C		200		
719 MCMA	21	1618	1622	1635	N20	E35	.626	15368	24.3	17	-F		C	1622	40	.6	E Y5
720 MCMA	21	1715	1724	1731D	S16	E69	.942	15375	26.9	16D	-N		C	1724	25	.8	E Y5
GRP67721	21	2146E	2151	2222	N11	W24	.432	15370	20.1	36	-N						
CULG	21	2146E	2151	2210	N12	W25	.451	15370	20.0	24D	-N		C	2151	50	.6	
PALE	21	2155E	2155U	2234D	N11	W24	.432	15370	20.1	39D	-B	3	C		162		FDE
722 VORO	21	2349	2351	2356	S20	E68	.940	15375	27.1	7	-B		C	2351	81		D Y5
723 VORO	22	0007	0010	0019	S19	E12	.406	15366	22.9	12	-N		C	0010	134	1.4	EJ Y5
GRP67724	22	0103+2	0106+2	0113	N12	W24	.436	15370	20.2	10	-N						D
CULG	22	0103	0106	0107D	N12	W25	.451	15370	20.2	4D	-N		P	0106	20	.2	
VORO	22	0105	0108	0113	N13	W24	.442	15370	20.2	8	-N		C	0108	108	1.2	D
GRP67725	22	0117	0120	0130	N11	W27	.475	15370	20.0	13	-N						EJ
VORO	22	0117	0120	0130	N12	W28	.493	15370	20.0	13	-N		C	0120	152	1.7	EJ
CULG	22	0119E		0119D	N11	W26	.460	15370	20.1		-N		P	0119	50	.6	

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	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.	
	JUN																
GRP67726	22	0235	0245+2	0301	S20	E66	.929	15375	27.1	26	1N				120		K
VORO	22	0235	0247	0303	S20	E67	.934	15375	27.1	28	1N		C	0247	152		EK
MANI	22	0236E	0236U	0240D	S20	E67	.934	15375	27.1	4D	-F		V		40	.9	F
PALE	22	0237E	0237U	0250D	S19	E63	.908	15375	26.8	13D	-B	3	C		120		FDE
MANI	22	0243E	0245	0258	S20	E66	.929	15375	27.1	15D	-N		V		90	1.9	F
727 TACH	22	0347E		0419D	S24	W03	.438	15365	21.9	32D	-N		V	0415	88	1.0	Y5
728 HTPR	22	0519E	0532	0552	S26	W08	.483	15365	21.6	33D	-F		C	0532	70		E Y5
GRP67729	22	0600+1	0604 0610+0	0632	S26	W06	.476	15365	21.8	32	1B				230	2.6	EJ
CATA	22	0600	0610	0610D	S27	W05	.488	15365	21.9	10D	1B	2	P	0610	281	3.3	
HTPR	22	0601	0604	0650	S26	W08	.483	15365	21.7	49	1N		C	0604	260	2.9	E
TEHR	22	0605E	0610	0629	S28	W05	.503	15365	21.9	24D	-B	1	C		190		FDE
ABST	22	0626E	0628	0632D	S25	W09	.473	15365	21.6	6D	-F		P	0628	105	1.2	EJ
ABST	22	0626E	0628	0632D	S26	W04	.471	15365	22.0	6D	-F		P	0628	87	1.0	E
730 HTPR	22	0843	0849	0900	N09	W27	.466	15370	20.3	17	-F		C	0849	40	.4	Y5
GRP67731	22	1025+2	1028+2	1033	S22	E60	.892	15375	26.9	8	-F						E
ABST	22	1025	1028	1036	S22	E62	.906	15375	27.1	11	1F		C	1028	201		E
HTPR	22	1027	1030	1030	S23	E59	.887	15375	26.9	3	-F		C	1030	40	.8	E
732 HTPR	22	1356		1404D	N32	E20	.582	15371	24.1	8D	-F		C	1401	20	.2	E Y5
	22	1404	1406	NO FLARE PATROL													
733 KANZ	22	1434		1442	N13	W33	.567	15370	20.1	8	-F		C				Y5
734 KANZ	22	1436	1442	1446	S17	E55	.842	15375	26.7	10	-B		C				Y5
	22	1545	1552	NO FLARE PATROL													
GRP67735	22	1600+1	1600 1610	1616	N12	W33	.563	15370	20.2	16	-B						
RAMY	22	1600	1600	1612	N11	W35	.587	15370	20.0	12	-B	3	C		19		
KANZ	22	1601	1610	1620	N12	W33	.563	15370	20.2	19	-B		C				
HTPR	22	1601		1609D	N12	W30	.521	15370	20.4	8D	-F		C	1608	20	.2	
GRP67736	22	1643+2	1654 1745	2240D	N18	E16	.383	15368	23.9	357	2B						FLU
KANZ	22	1643	1721	1804D	N19	E21	.451	15368	24.3	81D	2B		C				FU
RAMY	22	1645	1745	2002D	N17	E16	.372	15368	23.9	197D	2N	3	C		992		FDE
RAMY	22	1645	1654	2002D	N17	E16	.372	15368	23.9	197D	1B	3	C		320		FDE
PALE	22	1734E	1805U	2240	N19	E17	.406	15368	24.0	306D	2B	3	C		550		U F
MCMA	22	2103E		2341D	N17	E16	.372	15368	24.1	158D	1F		C	2104	200	2.1	BFL
	22	1804	2100	NO FLARE PATROL													
GRP67737	22	1940+9	1953+2	2101	S19	E53	.830	15375	26.8	81	1B				230	4.1	FZ
PALE	22	1940	1955	2101	S20	E54	.841	15375	26.9	81	1B	3	C		265		Z F
RAMY	22	1949	1953	1956D	S19	E53	.830	15375	26.8	7D	1B	3	C		188		
GRP67738	22	2117+1	2127+3 2149	2157	N26	E39	.702	15373	25.8	40	-B				100	1.4	EJL
MCMA	22	2117	2130	2201D	N24	E37	.670	15373	25.7	44D	-B	*	C	2130	75	1.1	EL
VORO	22	2118	2127	2157	N25	E36	.666	15373	25.6	39	-N	*	C	2127	134	1.8	EJL
PALE	22	2118	2130	2155	N27	E44	.756	15373	26.2	37	-B	3	C		84		FDE
VORO	22	2148	2149	2154	N28	E42	.742	15373	26.1	6	-N		C	2149	27	.4	D
739 VORO	22	2144	2147	2152	N19	E64	.905	15376	27.7	8	-N		C	2147	54	1.2	D Y5
GRP67740	22	2243+5	2250+1	2300	N19	E62	.891	15376	27.6	17	-N				30	.7	DJ
CULG	22	2243	2250	2301	N19	E62	.891	15376	27.6	18	-F		C	2250	20	.5	
MCMA	22	2246	2251	2300	N18	E63	.897	15376	27.7	14	-B		C	2251	25	.6	D
VORO	22	2246	2250	2300	N19	E64	.905	15376	27.7	14	-F		C	2250	63	1.4	DJ
PALE	22	2248	2251	2259	N21	E58	.863	15376	27.3	11	-N	3	C		31		FDE
GRP67741	23	0116+2	0119+1	0125	N20	E61	.884	15376	27.6	9	-N				40	.9	
PALE	23	0104	0120	0125	N21	E57	.854	15376	27.3	21	-N	3	C		34		FDE
CULG	23	0116	0119	0128	N18	E61	.882	15376	27.6	12	-N		C	0119	30	.7	
VORO	23	0118	0119	0124	N20	E63	.899	15376	27.8	6	-N		C	0119	63	1.4	D
GRP67742	23	0215+1	0216+1	0226	N28	E39	.712	15373	26.0	11	-F				40	.6	D
CULG	23	0215	0216	0230	N28	E39	.712	15373	26.0	15	-F		C	0216	30	.4	
VORO	23	0216	0217	0221	N29	E40	.728	15373	26.1	5	-F		C	0217	45	.6	D

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
743 VORO	23	0234	0237	0239	N28	E40	.722	15373	26.1	5	-N		C	0237	72	1.0	D	Y5
	23	0300	0305	NO FLARE PATROL														
	23	0339	0346	NO FLARE PATROL														
744 CULG	23	0345E	0350U	0412	N23	E33	.620	15373	25.6	27D	-F		C	0350	40	.5		Y5
745 CULG	23	0512	0509	0519	N23	E33	.620	15373	25.7	7	-F		C	0509	40	.5		Y5
746 CULG	23	0551	0556	0602	S16	E43	.721	15375	26.5	11	-N		C	0556	20	.3		Y5
747 CULG	23	0605	0610	0618D	N21	W64	.907	15360	18.5	13D	-F		P	0610	40	1.0		Y5
748 CULG	23	0615	0615U	0618D	N23	E33	.620	15373	25.7	3D	-F		P	0615	10	.1		Y5
GRP67749	23	0735>9	0744+5 0800+1	0816	N25	E30	.602	15373	25.6	41	1N						EI	
MONT	23	0735	0744	0829	N26	E29	.599	15373	25.5	54	1N		C	0744	500			
KIEV	23	0741	0749	0806D	N23	E30	.586	15373	25.6	25D	2N		C	0749	700	8.8	EI	
BUCA	23	0744E	0749	0830D	N25	E30	.602	15373	25.6	46D	1B		C	0749	322	4.1	CE	
ISTA	23	0745		0800	N26	E31	.620	15373	25.6	15	-N						E	
TEHR	23	0749E	0801	0808	N24	E38	.680	15373	26.2	19D	1B	2	C		222		FDE	
ATHN	23	0750E	0800	0812	N25	E28	.581	15373	25.4	22D	-N	1		0800	196	2.2		
KHAR	23	0813E	0813	0827D	N27	E30	.618	15373	25.6	14D	-F		P	0813	110	1.4	E	
750 KHAR	23	0813E	0813	0827D	N27	E18	.506	15368	24.7	14D	-F	*	P				D	Y5
751 KHAR	23	0823E		0823D	S23	E50	.816	15375	27.1		-F		P				D	Y5
752 KHAR	23	0836E		0836D	N24	E57	.860	15376	27.6		-F		P	0836	100	1.8	D	Y5
753 KHAR	23	0836E		0920D	N27	E18	.506	15368	24.7	44D	-F	*	P	0839			DL	Y5
754 KHAR	23	0934E		0941D	N27	E62	.901	15376	28.0	7D	?N		P	0934	110	2.4	D	Y5
	IMP.1	NO	MONT2	KIEV1	CATA1													
755 KHAR	23	1002E		1014D	N18	E29	.540	15368	25.6	12D	-F		P	1002			D	Y5
756 CATA	23	1020	1020	1035	N18	E27	.515	15368	25.5	15	-N	2	C	1020	112	1.3		Y5
GRP67757	23	1043+2	1050+0	1059	N12	W46	.727	15370	20.0	16	-N				60	.9	E	
MCMA	23	1043	1050	1102	N13	W46	.729	15370	20.0	19	-N		C	1050	70	1.0	E	
CATA	23	1045	1050	1055	N12	W47	.739	15370	19.9	10	-B	2	C	1050	56	.8		
758 MCMA	23	1132	1135	1154	S28	W24	.613	15365	21.7	22	-N		C	1135	30	.4	E	Y5
759 MCMA	23	1143	1146	1154	N24	E29	.583	15373	25.7	11	-N		C	1146	30	.4	E	Y5
GRP67760	23	1206+4	1207 1214	1218	N23	E56	.849	15376	27.7	12	-N						EK	
RAMY	23	1206	1207	1215	N23	E56	.849	15376	27.7	9	-N	3	C		21			
MCMA	23	1210	1214	1220	N23	E57	.858	15376	27.8	10	-N		C	1214	40	.8	EK	
761 RAMY	23	1234	1234	1239	N23	E56	.849	15376	27.7	5	-N	3	C		16			Y5
GRP67762	23	1318>9	1323+5	1344	N23	E54	.833	15376	27.6	26	-N						E	
MCMA	23	1318	1323	1348	N23	E53	.824	15376	27.5	30	-B		C	1323	60	1.1	E	
RAMY	23	1328	1328	1340	N23	E55	.841	15376	27.7	12	-N	3	C		18			
GRP67763	23	1328+3	1337+3	1401	N24	E29	.583	15373	25.7	33	-N				70	.9	E	
MCMA	23	1328	1340	1404D	N23	E27	.553	15373	25.6	36D	-B		C	1340	90	1.1	E	
RAMY	23	1331	1337	1401	N25	E31	.612	15373	25.9	30	-B	3	C		56			
MEUD	23	1336E	1338	1350	N25	E33	.633	15373	26.0	14D	-F		C				E	
HTPR	23	1346E		1401	N24	E27	.562	15373	25.6	15D	-F		C	1348	50	.5	E	
GRP67764	23	1416+1	1418+2	1428	S28	W26	.629	15365	21.6	12	-N				90	1.1	E	
HTPR	23	1416		1422D	S28	W26	.629	15365	21.6	6D	-N		C	1419	120	1.4	E	
MEUD	23	1416E	1420	1430	S30	W28	.664	15365	21.5	14D	-N		C				E	
RAMY	23	1417	1418	1426	S27	W24	.602	15365	21.8	9	-B	3	C		62			
	23	1422	1426	NO FLARE PATROL														
	23	1432	1501	NO FLARE PATROL														
765 RAMY	23	1619	1620	1625	N25	E28	.581	15373	25.8	6	-N	3	C		22			Y5
766 RAMY	23	1624	1627	1636	N27	E57	.866	15376	28.0	12	-N	3	C		18			Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	JUN																	
	23	1627	1636	NO FLARE PATROL														
	23	1637	1639	NO FLARE PATROL														
GRP67767	23	1731+2	1735+1	1753	N25	E27	.570	15373	25.8	22	-B				120	1.5		
RAMY	23	1731	1735	1748	N25	E27	.570	15373	25.8	17	-B	3	C		111		F	
MCMA	23	1732	1736	1757	N25	E26	.560	15373	25.7	25	-B		C	1736	130	1.7	E	
PALE	23	1733	1735	1740D	N27	E27	.588	15373	25.8	7D	-B	3	C		120		FDE	
	23	1851	2145	NO FLARE PATROL														
768 VORO	23	2146	2147	2150	N21	E16	.417	15368	25.1	4	-F		C	2147	72	.8	D	Y5
769 PALE	23	2215	2216	2218	S21	E39	.701	15375	26.9	3	-N	3	C		23		F	Y5
GRP67770	23	2300+5	2309+1	2336	S21	E37	.680	15375	26.7	36	-F				40	.5	F	
CULG	23	2300	2310U	2350	S23	E37	.692	15375	26.7	50	-F		C	2310	30	.4	F	
PALE	23	2305	2309	2322	S20	E38	.685	15375	26.8	17	-N	3	C		51		F	
771 CULG	23	2317	2322	2326D	N20	W75	.967	15360	18.3	9D	-F		C	2322	10			Y5
GRP67772	24	0007+1	0009+1	0024	S20	E40	.707	15375	27.0	17	-F				50	.7		
CULG	24	0007	0010	0027	S21	E40	.712	15375	27.0	20	-F		C	0010	20	.3		
VORO	24	0008	0010	0013D	S20	E42	.728	15375	27.2	5D	-F		C	0010	45	.6	E	
PALE	24	0008	0009	0021	S20	E38	.686	15375	26.9	13	-N	3	C		56		F	
773 CULG	24	0148	0156	0212	N18	E19	.415	15368	25.5	24	-F		C	0156	20	.2		Y5
774 CULG	24	0252	0253	0257	N12	W90	1.000	0	17.4	5	-F		C	0253	20			Y5
775 CULG	24	0340	0341	0354	N19	W79	.981	15360	18.2	14	-N		C	0341	10			Y5
776 CULG	24	0350	0356	0413	N16	W59	.863	15370	19.7	23	-F		C	0356	30	.6		Y5
	24	0408	0410	NO FLARE PATROL														
777 CULG	24	0447	0451	0505	N19	W02	.293	15368	24.0	18	-F		C	0451	30	.3		Y5
778 CULG	24	0513	0514	0531	N23	E43	.727	15376	27.4	18	-F		C	0515	30	.4		Y5
779 KHAR	24	0840E		0840D	N25	E50	.802	15376	28.1		-F		P				D	Y5
780 KHAR	24	0850E		0850D	N24	E45	.751	15376	27.7		-F		P				D	Y5
GRP67781	24	0943+7		1002D	N26	E47	.778	15376	27.9	19	-F							
KHAR	24	0943E		1002D	N27	E47	.782	15376	27.9	19D	1F		P	0950			D	
HTPR	24	0950		0953D	N25	E48	.784	15376	28.0	3D	-F		C	0952	20	.3	E	
782 KHAR	24	0950E		1002D	S19	E39	.691	15375	27.3	12D	-F		P				D	Y5
783 HTPR	24	1015	1019	1028	N20	W05	.319	15368	24.1	13	-F		C	1019	20	.2		Y5
GRP67784	24	1036+2	1039+3	1103	N26	E47	.778	15376	28.0	27	-N				20	.3	D	
MCMA	24	1036	1039	1105	N25	E49	.793	15376	28.1	29	-B		C	1039	20	.3	D	
KHAR	24	1038E		1105D	N27	E47	.782	15376	28.0	27D	1F		P	1039			D	
HTPR	24	1038	1042	1100	N25	E47	.774	15376	28.0	22	-F		C	1042	20	.3		
CATA	24	1040E	1040	1055	N28	E47	.786	15376	28.0	15D	-B	2	P	1040	28	.4		
GRP67785	24	1205+3	1208+0	1211	S23	E34	.663	15375	27.1	6	-B				30	.4	DH	
RAMY	24	1205	1208	1223	S20	E30	.599	15375	26.8	18	-B	4	C		43		H	
MCMA	24	1207	1208	1211	S24	E34	.670	15375	27.1	4	-B		C	1208	20	.3	D	
HTPR	24	1208	1208	1209	S23	E35	.673	15375	27.1	1	-N		C	1208	30	.4		
786 RAMY	24	1249	1259	1314	N17	W08	.290	15368	23.9	25	-B	4	C		60			Y5
GRP67787	24	1320+1	1324+8	1401	S21	E33	.639	15375	27.0	41	-N				80	1.0		
RAMY	24	1253	1324	1404	S20	E29	.588	15375	26.7	71	-B	4	C		88		FDE	
HTPR	24	1320	1329	1350	S22	E33	.646	15375	27.0	30	-N		C	1329	70	.8	E	
TEHR	24	1321E	1325	1357	S21	E34	.649	15375	27.1	36D	-B	2	C		95		F	
MCMA	24	1321	1332	1410D	S23	E33	.653	15375	27.0	49D	-N		C	1332	70	.9	E	
GRP67788	24	1413	1414+2 1437	1522	N18	W87	.998	15360	18.1	69	-N							
RAMY	24	1413	1414	1522	N16	W87	.998	15360	18.1	69	-B	4	C					
RAMY	24	1413	1437	1522	N16	W87	.998	15360	18.1	69	-N	4	C					
TEHR	24	1414E	1416	1417D	N20	W88	.999	15360	18.0	3D	-N	2	V		64			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
GRP67789	24	1528+2	1531+0	1538	N28	E21	.542	15373	26.2	10	-N		C		30	.4	E	
HTPR	24	1528	1531	1539	N28	E21	.542	15373	26.2	11	-F		C	1531	20	.2		
MCMA	24	1529	1531	1538D	N28	E21	.542	15373	26.2	9D	-N		C	1531	40	.5	E	
RAMY	24	1530	1531	1536	N25	E15	.456	15373	25.8	6	-B	4	C		27			
790 RAMY	24	1542	1547	1608	N17	W10	.307	15368	23.9	26	-N	3	C		31			Y5
791 RAMY	24	1733	1734	1756	S20	E27	.566	15375	26.8	23	-N	3	C		22			Y5
	24	1900	2140	NO FLARE PATROL														
792 PALE	24	2042	2043	2050	S20	E25	.544	15375	26.7	8	-N	3	C		26		F	Y5
793 CULG	25	0146	0150	0206	N20	W09	.340	15368	24.4	20	-F		C	0150	30	.3		Y5
794 CULG	25	0236	0238	0250	N26	E13	.453	15373	26.1	14	-F		C	0238	20	.2		Y5
795 CULG	25	0334	0344	0410	S18	E21	.483	15375	26.7	36	-F		C	0344	20	.2		Y5
796 CULG	25	0359	0400	0407	N18	W22	.450	15368	23.5	8	-F		C	0400	30	.3		Y5
797 CULG	25	0410	0410	0420	N18	E39	.661	15376	28.1	10	-F		C	0410	10	.1		Y5
798 CULG	25	0529E	0529	0532	N23	E08	.378	15373	25.8	3D	-F		P	0529	10	.1		Y5
799 CULG	25	0627E	0627U	0631D	S23	E16	.494	15375	26.5	4D	-F		P	0627	40	.5		Y5
800 KHAR	25	0740E	0759	0810D	N13	W28	.496	15368	23.2	30D	-F		P	0759			E	Y5
GRP67801	25	0800	0800+6	0817	N28	E12	.473	15373	26.2	17	-F						E	
CATA	25	0800	0800	0805	N28	E11	.468	15373	26.2	5	-N	1	C	0800	56	.6		
KHAR	25	0803E	0805	0819D	N29	E13	.493	15373	26.3	16D	-N		P	0806			E	
MEUD	25	0803E	0805	0810	N27	E13	.466	15373	26.3	7D	-F		C				E	
BUCA	25	0805E		0825	N28	E12	.473	15373	26.2	20D	-F		C	0808	31	.4		
KANZ	25	0806	0806	0822	N28	E12	.473	15373	26.2	16	-F		C					
802 KHAR	25	0840E		0910D	S12	W67	.927	15379	20.3	30D	-N		P	0847			DH	Y5
803 KHAR	25	0940E	0940	0950D	S28	W47	.812	15365	21.9	10D	-F		P				E	Y5
804 KHAR	25	1107E		1107D	N15	E09	.269	15368	26.1		-F		P				D	Y5
GRP67805	25	1140+0	1140+0	1155	N27	E35	.665	15376	28.1	15	-F				90	1.2	E	
CATA	25	1140	1140	1155	N27	E35	.665	15376	28.1	15	-N	2	C	1140	112	1.5		
KHAR	25	1140E	1140	1147D	N27	E36	.675	15376	28.2	7D	-F		P	1140	66	.8	E	
806 MCMA	25	1337	1342	1405D	N22	E28	.554	15376	27.7	28D	-N		C	1342	60	.7	E	Y5
807 MEUD	25	1642	1645	1650D	S19	W05	.370	15374	25.3	8D	-F		C				E	Y5
	25	1650	2138	NO FLARE PATROL														
	25	2154	2159	NO FLARE PATROL														
	25	2228	2240	NO FLARE PATROL														
808 CULG	25	2324	2328	2336	S10	W80	.986	15379	20.0	12	-F		C	2328	20			Y5
809 CULG	26	0108	0114	0127	N25	E29	.588	15376	28.2	19	-N		C	0114	40	.5		Y5
	26	0136	0153	NO FLARE PATROL														
810 ABST	26	0526	0531	0548	N16	E88	.999	15381	2.8	22	?F		C	0531	87		D	Y5
	IMP.1 NO 2 MEUD2 TACH1																	
GRP67811	26	0818+2	0820+0	0840	S16	E07	.335	15375	26.9	22	-F				70	.7	EJ	
ABST	26	0818E	0820	0840D	S17	E05	.340	15375	26.7	22D	-F		P	0820	87	.9	EJ	
BUCA	26	0820E		0840D	S16	E07	.335	15375	26.9	20D	-F		C	0830	63	.7	E	
CATA	26	0820	0820	0840	S16	E07	.335	15375	26.9	20	-N	1	C	0820	56	.6		
812 KHAR	26	1103E		1103D	N23	E16	.437	15376	27.7		-F		V				D	Y5
GRP67813	26	1123+7	1130 1137+3	1150	S16	W01	.314	15375	26.4	27	-N						EH	
KHAR	26	1123E	1137	1150D	S16	W01	.314	15375	26.4	27D	-N		P	1132			EH	
MEUD	26	1129	1130	1143	S16	W04	.321	15375	26.2	14	-F		C				E	
CATA	26	1130	1140	1155	S17	W01	.331	15375	26.4	25	-N	2	C	1140	112	1.2		
814 KHAR	26	1207E	1210	1237D	S16	W02	.315	15375	26.4	30D	-N		P				E	Y5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
815 KHAR	26	1220E		1240D	N13	W90	1.000	15370	19.8	20D	-F		P					Y5
816 KHAR	26	1227E	1237	1250D	N20	W12	.362	15368	25.6	23D	-F		P				E	Y5
GRP67817	26	1436E	1440	1456D	S16	W04	.321	15375	26.3	20	-N						EH	
KANZ	26	1436E	1440	1455D	S16	W04	.321	15375	26.3	19D	-N		C					
MCMA	26	1453E		1456D	S17	W04	.337	15375	26.3	3D	-N		P	1453	40	.5	EH	
818 KANZ	26	1440	1444	1454	N15	E78	.977	15381	2.5	14	-F		C					Y5
	26	1756	1804	NO FLARE PATROL														
	26	1858	1928	NO FLARE PATROL														
	26	2015	2036	NO FLARE PATROL														
819 MCMA	26	2036E		2040D	S17	W07	.350	15375	26.3	4D	-N		P	2036	40	.5	EH	Y5
	26	2040	2130	NO FLARE PATROL														
	26	2248	2305	NO FLARE PATROL														
	27	0024	0043	NO FLARE PATROL														
820 VORO	27	0102E		0123	S17	W08	.357	15375	26.4	21D	1B		C	0104	188	2.0	CE	Y5
821 VORO	27	0154	0156	0204	N15	E75	.965	15381	2.7	10	-N		C	0156	63		D	Y5
822 TACH	27	0456E		0519D	N11	W59	.858	15368	22.8	23D	-N		C	0507	44	.8	DI	Y5
823 ABST	27	0601E	0603	0611D	N31	E52	.836	15380	1.2	10D	?F		P	0603	87	1.6	DJK	Y5
	IMP,1 NO # CATA1																	
824 HTPR	27	0658	0705	0720	N26	E10	.430	15376	28.0	22	-F		C	0705	20	.2		Y5
GRP67825	27	0807	0809+3	0825	S17	W05	.342	15375	27.0	18	-F				20	.2	EJ	
HTPR	27	0807	0809	0823	S17	W05	.342	15375	27.0	16	-F		C	0809	20	.2	E	
ABST	27	0810E	0812	0821D	S15	W05	.311	15375	27.0	11D	-F		P	0812	61	.6	EJ	
BUCA	27	0810E		0827	S17	W04	.339	15375	27.0	17D	-F		C	0817	23	.3	E	
GRP67826	27	0816+6	0817	0847	N22	E07	.354	15376	27.9	31	-F						DJ	
ABST	27	0816E	0817	0823D	N22	E08	.360	15376	27.9	7D	-F		P	0817	70	.8	DJ	
BUCA	27	0822		0847	N22	E07	.354	15376	27.9	25	-N		C	0825	19	.2		
GRP67827	27	0838+5	0840	0853	N18	W41	.683	15368	24.3	15	-N				50	.7	E	
HTPR	27	0838	0840	0852	N18	W40	.672	15368	24.4	14	-N		C	0840	70	.9	E	
BUCA	27	0840		0856D	N20	W41	.691	15368	24.3	16D	-N		C	0845	31	.4		
ISTA	27	0843		0853	N15	W42	.686	15368	24.2	10	-F						E	
GRP67828	27	0916>9	0941 1003+1	1012	N15	E69	.934	15381	1.6	56	-N						EH	
KHAR	27	0916E	1003	1136D	N16	E65	.909	15381	2.3	140D	1N		P	0921			EHT	
MONT	27	0939	0941	0946	N15	E70	.940	15381	2.7	7	-F		C	0941	50			
HTPR	27	1001	1003	1017	N15	E69	.934	15381	2.6	16	1N		C	1003	100	2.4	E	
MEUD	27	1003	1004	1006D	N15	E70	.940	15381	2.7	3D	-F		C				E	
829 MCMA	27	1101	1107	1125D	N14	E70	.940	15381	2.7	24D	-F		C	1107	40	1.2	E	Y5
830 KHAR	27	1104E		1135D	N18	W42	.695	15368	24.3	31D	-F		P				D	Y5
831 MCMA	27	1105	1107	1115	N25	E07	.400	15376	28.0	10	-N		C	1107	35	.4	E	Y5
GRP67832	27	1110+2	1130 1140+5	1215	S18	W13	.408	15375	26.5	65	-N				120	1.3	EHK	
HTPR	27	1110	1140	1200	S17	W16	.423	15375	26.3	50	-N		C	1140	80	.8	EK	
MCMA	27	1112	1145	1240	S18	W14	.417	15375	26.4	88	-B		C	1145	120	1.3	EK	
KHAR	27	1113E	1130	1200D	S18	W12	.400	15375	26.6	47D	1N		P	1120	220	2.4	EH	
CATA	27	1125E	1141	1215D	S18	W13	.408	15375	26.5	50D	-N	2	P	1141	168	1.9		
833 MCMA	27	1130	1132	1145D	N25	E07	.400	15376	28.0	15D	-F		C	1132	30	.3	D	Y5
GRP67834	27	1145+5	1149+3	1203	N22	E04	.342	15376	27.8	18	-N				70	.8	EI	
KIEV	27	1145	1150	1200	N21	E06	.334	15376	27.9	15	-F		C	1150	100	1.3	DI	
HTPR	27	1147	1151	1200	N22	E04	.342	15376	27.8	13	-N		C	1151	60	.6	E	
KHAR	27	1148E	1149	1200D	N22	E02	.337	15376	27.6	12D	-N		P	1150			E	
MCMA	27	1148	1152	1205	N23	E04	.358	15376	27.8	17	-B		C	1152	50	.6	E	
CATA	27	1150	1150	1205	N23	E03	.355	15376	27.7	15	-B	2	C	1150	84	.9		
GRP67835	27	1158+1	1201	1207	N20	E90	1.000	15382	3.2	9	-N						X	
KHAR	27	1158E		1209D	N21	E90	1.000	15382	4.2	11D	-N		P	1158			X	
MCMA	27	1159	1201	1205	N20	E90	1.000	15382	4.2	6	-N		C	1201				

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	JUN																	
GRP67836	27	1242+2	1243+2	1254	N14	E70	.940	15381	1.8	12	-N				35		E	
KHAR	27	1230E	1243	1303D	N15	E70	.940	15381	2.8	33D	-N		P				TE	
HTPR	27	1242	1243	1254	N14	E67	.921	15381	2.6	12	-F		C	1243	30	.7	E	
MCMA	27	1244	1245	1254	N14	E70	.940	15381	2.8	10	-N		C	1245	40	1.2	E	
837 MCMA	27	1340E		1410D	N20	E79	.981	15382	3.5	30D	-N		C	1350			EKLY	Y5
838 HTPR	27	1358	1400	1408	N17	W30	.543	15368	25.3	10	-F		C	1400	30	.3	E	Y5
	27	1525	1530	NO FLARE PATROL														
	27	1541	1544	NO FLARE PATROL														
	27	1602	1611	NO FLARE PATROL														
	27	1613	1626	NO FLARE PATROL														
	27	1649	1654	NO FLARE PATROL														
	27	1709	1754	NO FLARE PATROL														
	27	1823	1854	NO FLARE PATROL														
839 MCMA	27	1916	1921	1930D	N14	E66	.915	15381	2.8	14D	-N		C	1921	50	1.3	D	Y5
840 MCMA	27	1921	1924	1930	S17	W13	.395	15375	26.8	9	-B		C	1924	80	.9	EH	Y5
841 MCMA	27	1922	1927	1933	N27	E04	.421	15376	28.1	11	-N		C	1927	25	.3	D	Y5
842 VORO	28	0112	0117	0130	N16	E62	.886	15381	2.7	18	?F		C	0117	197	4.4	EL	Y5
	IMP	1 NO	PALE1															
GRP67843	28	0244	0246	0307	S20	W16	.461	15375	26.9	23	2B				640	7.1		
			0256															
VORO	28	0244	0246	0300	S16	W22	.478	15375	26.5	16	2N		C	0246	717	8.2		
PALE	28	0248E	0248	0252D	S20	W16	.461	15375	26.9	4D	2B	3	V		570		FDE	
TEHR	28	0252E	0256	0314	S20	W15	.452	15375	27.0	22D	-B	2	C		127		F	
GRP67844	28	0748+3	0751+2	0802	S22	W24	.558	15375	26.5	14	-F						E	
HTPR	28	0748	0751	0800	S23	W24	.568	15375	26.5	12	-F		C	0751	50	.5	E	
KANZ	28	0751	0753	0803	S22	W24	.558	15375	26.5	12	-F		C					
GRP67845	28	0837+4	0841+4	0856	N14	E58	.852	15381	1.7	19	-F				60	1.2	EJ	
ABST	28	0837	0841	0848D	N14	E60	.869	15381	2.9	11D	-F		P	0841	87	1.8	FJ	
MONT	28	0838	0841	0859	N15	E58	.853	15381	2.7	21	-N		C	0841	60		E	
HTPR	28	0840	0842	0850	N14	E58	.852	15381	2.7	10	-F		C	0842	40	.8	E	
KANZ	28	0841	0845	0856	N15	E58	.853	15381	2.7	15	-F		C					
GRP67846	28	1046+3	1053+0	1123	S18	W44	.742	15374	25.1	37	-F				50	.7	EL	
HTPR	28	1046	1053	1115	S18	W43	.732	15374	25.2	29	-F		C	1053	60	.8		
MCMA	28	1049	1053	1130D	S18	W45	.753	15374	25.1	41D	-N		C	1053	40	.6	EL	
847 MCMA	28	1125	1136	1215	N23	W08	.373	15376	27.9	50	-N		C	1136	45	.5	E	Y5
GRP67848	28	1305+4	1311+1	1323	S21	W27	.579	15375	26.5	18	-N				50	.6		
MCMA	28	1305	1312	1324	S23	W27	.597	15375	26.5	19	-N		C	1312	50	.6	E	
TEHR	28	1306E	1312	1318	S19	W28	.573	15375	26.4	12D	-B	2	C		64		F	
HTPR	28	1308	1311	1322	S23	W27	.597	15375	26.5	14	-F		C	1311	40	.4	E	
RAMY	28	1309	1311	1324	S19	W22	.508	15375	26.9	15	-B	4	C		36		F	
849 HTPR	28	1533	1533	1538	N27	W07	.429	15376	28.1	5	-F		C	1533	60	.7	E	Y5
850 MCMA	28	1535	1540	1600D	N19	W11	.337	15376	27.8	25D	-N		C	1540	50	.7	D	Y5
851 RAMY	28	1535	1538	1601	N17	W41	.679	15368	25.6	26	-B	3	C		25			Y5
852 RAMY	28	1546	1552	1557	S15	E67	.931	15384	3.7	11	-F	3	C		13			Y5
GRP67853	28	1551+0	1552+0	1604	N16	E50	.777	15381	1.4	13	-N				50	.8	EL	
MCMA	28	1551	1552	1601	N15	E52	.796	15381	2.6	10	-N		C	1552	50	.9	EL	
RAMY	28	1551	1552	1606	N17	E48	.758	15381	2.3	15	-N	3	C		63			
854 RAMY	28	1614	1614	1627	N17	W42	.691	15368	25.5	13	-N	3	C		18			Y5
855 RAMY	28	1615	1615	1621	N17	E48	.758	15381	2.3	6	-N	3	C		16			Y5
GRP67856	28	1636+9	1652+4	1710	N15	W45	.720	15368	25.3	34	-B				80	1.2	E	
RAMY	28	1636	1656	1710	N17	W42	.691	15368	25.5	34	-B	3	C		76			
MCMA	28	1643	1655	1714	N15	W48	.754	15368	25.1	31	-B		C	1655	80	1.3	E	
HTPR	28	1645	1652	1708	N14	W45	.718	15368	25.3	23	-N		C	1652	80	1.1	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.	
	JUN																
GRP67857	28	1720+0	1722+1	1741	S19	W25	.540	15375	26.8	21	-N		C		60	.7	K
HTPR	28	1720	1722	1735	S20	W25	.549	15375	26.8	15	-F		C	1722	60	.7	EK
RAHY	28	1720	1723	1747	S19	W25	.540	15375	26.8	27	-B	3	C		57		F
858 HTPR	28	1800	1808	1818	N27	W08	.433	15376	28.2	18	-F		C	1808	20	.2	E Y5
GRP67859	28	1850E	1852+2	1905	N15	W47	.743	15368	25.3	15	-N				50	.8	U
MCMA	28	1850E	1852	1905	N15	W49	.765	15368	25.1	15D	-B		C	1852	50	.8	D
PALE	28	1853E	1854U	1902D	N16	W46	.734	15368	25.3	9D	-N	3	C		55		U F
860 MCMA	28	1912	1914	1928	N26	W10	.429	15376	28.1	16	-N		C	1914	60	.7	E Y5
861 MCMA	28	1955	2010	2030D	S31	E23	.643	15377	30.6	35D	-F		C	2010	40	.5	E Y5
862 MCMA	28	2018	2026	2033	N27	W09	.438	15376	28.2	15	-N		C	2026	70	.8	E Y5
863 MCMA	28	2020	2027	2038D	N15	E49	.765	15381	2.5	18D	-N		C	2027	90	1.4	E Y5
	28	2043	2100	NO FLARE PATROL													
864 MCMA	28	2108		2125D	N15	E48	.754	15381	2.5	17D	-B		C	2122	100	1.5	EU Y5
	29	0148	0149	NO FLARE PATROL													
865 TEHR	29	0240E	0244	0258	S20	W29	.593	15375	26.9	18D	-B	2	C		159		F Y5
GRP67866	29	0335E	0335 0344	0354	S18	W30	.588	15375	26.9	19	-N						FU
MANI	29	0335E	0335U	0350	S16	W31	.586	15375	26.8	15D	-N		P		80	1.0	U
TEHR	29	0340E	0344	0358	S20	W29	.593	15375	27.0	18D	-B	2	C		159		F
GRP67867	29	0432E	0434 0442	0449	N24	W15	.436	15376	28.1	17	-N						
MANI	29	0432E	0434	0449	N26	W14	.454	15376	28.1	17D	-F		P		40	.4	
TEHR	29	0434E	0442	0448	N22	W17	.430	15376	27.9	14D	-B	2	C		95		DE
GRP67868	29	0501+0	0501+5	0512	N26	W14	.454	15376	28.2	11	-F						
MANI	29	0501	0501	0508	N26	W14	.454	15376	28.2	7	-F		P		20	.2	F
CULG	29	0501E	0502	0512	N25	W13	.433	15376	28.2	11D	-N		P	0512	20	.2	
ABST	29	0503E	0506	0512	N27	W15	.474	15376	28.1	9D	-F		P	0506	61	.7	D
GRP67869	29	0518+4	0537+6 0550	0601	N19	W50	.783	15368	25.5	43	-F						K
CULG	29	0518E	0543U	0623	N19	W50	.783	15368	25.5	65D	-N		C	0543	80	1.4	F
HTPR	29	0522	0537	0553	N17	W51	.789	15368	25.4	31	-F		C	0537	30	.5	EK
KANZ	29	0537	0550	0601	N19	W50	.783	15368	25.5	24	-F		C				
870 HTPR	29	0546	0549	0552	S17	W37	.662	15375	26.5	6	-F		C	0549	10	.1	Y5
GRP67871	29	0702>9	0715 0731	0813	N15	E44	.708	15381	1.6	71	-F				70	1.0	EJK
ABST	29	0702	0715	0813	N14	E46	.729	15381	2.7	71	-F		C	0715	52	.8	EJ
KANZ	29	0712		0726A	N15	E45	.720	15381	2.7	14D	-F		C				
ABST	29	0714	0731	0741	N17	E40	.667	15381	2.3	27	-F		C	0716	87	1.2	DK
872 ABST	29	0708	0714	0735	S17	E60	.886	15384	3.8	27	-F		C	0714	44	1.0	DJ Y5
873 HTPR	29	0826	0828	0835	S18	W40	.700	15375	26.4	9	-F		C	0828	20	.3	Y5
GRP67874	29	0830+5	0833+3	0850	N15	E34	.584	15381	.9	20	-N				40	.5	D
ABST	29	0830	0833	0850	N15	E34	.584	15381	1.9	20	-N		C	0833	52	.7	D
ABST	29	0830	0833	0850D	N15	E36	.610	15381	2.1	20D	-N		P	0833	44	.6	D
HTPR	29	0835	0836	0847	N16	E34	.588	15381	1.9	12	-F		C	0836	30	.3	E
875 KHAR	29	0900E	0927	0935D	N20	E90	1.000	15385	6.1	35D	?N		P				D Y5
	IMP.1	NO	: HTPR2	CATA1	KANZ1												
GRP67876	29	0953	0954+1 1005	1018	N19	E90	1.000	15385	5.2	25	-N						
MONT	29	0953E	1005	1021	N18	E90	1.000	15385	6.2	28D	-N		C	1005	70		
HTPR	29	0953	0955	1005	N20	E90	1.000	15385	6.2	12	-N		C	0955	60		
KHAR	29	0954E	0954	1013D	N21	E90	1.000	15385	6.2	19D	1N		P	0956			
ZURI	29	1006E	1006	1020	N19	E90	1.000	15385	6.2	14D	-F		P	1006	100		
KANZ	29	1010E		1021	N19	E87	.998	15385	5.9	11D	-N		C				
877 KHAR	29	1007E		1103D	N23	W26	.536	15376	27.5	56D	?N	*	P	1043	165	2.0	E Y5
	IMP.1	NO	: HTPR2	MONT2	ZURI2												

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	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.	
	JUN																
878 KHAR	29	1007E		1043D	N17	E43	.702	15381	2.6	36D	-F		P				DH Y5
GRP67879	29	1030+0	1030+2	1048	N15	W58	.852	15368	25.1	18	-N				40	.8	
CATA	29	1030	1030	1035D	N10	W58	.848	15368	25.1	5D	-N	2	P	1030	56	1.0	
HTPR	29	1030	1031	1045	N17	W60	.871	15368	24.9	15	-F		C	1031	20	.4	
ZURI	29	1030	1032	1050	N15	W58	.852	15368	25.1	20	-N		C	1032	40		
GRP67880	29	1043>9	1117 1232	1240	N19	E90	1.000	15385	5.2	117	-N						
KHAR	29	1043E	1117	1233D	N19	E90	1.000	15385	6.2	110D	1N		P				T
ZURI	29	1228	1232	1240	N19	E90	1.000	15385	6.3	12	-F		C	1232	50		
881 KHAR	29	1102E		1111D	N17	E43	.702	15381	2.7	9D	-F		P				D Y5
882 RAMY	29	1134	1141	1154	N16	E36	.614	15381	2.2	20	-N	3	C		26		Y5
GRP67883	29	1152>9	1210+3 1220+1	1230	S19	W39	.695	15375	26.6	38	-N						E
RAMY	29	1152	1210	1301	S19	W35	.651	15375	26.9	69	-B	3	C		82		
HTPR	29	1209	1211	1220	S21	W41	.726	15375	26.4	11	-F		C	1211	20	.3	
KHAR	29	1210E	1213	1223D	S18	W47	.773	15375	26.0	13D	-F		P				E
HTPR	29	1218	1221	1225	S18	W38	.679	15375	26.7	7	-F		C	1221	10	.1	
KHAR	29	1220E	1220	1230D	S18	W40	.700	15375	26.5	10D	-F		P				D
GRP67884	29	1215+1	1216+2	1224	N24	W21	.492	15376	27.9	9	-N				20	.2	E
HTPR	29	1215	1217	1222	N26	W19	.495	15376	28.1	7	-F		C	1217	10	.1	
MCMA	29	1216	1218	1223	N27	W20	.515	15376	28.0	7	-N		C	1218	25	.3	E
RAMY	29	1216	1216	1224	N23	W22	.492	15376	27.9	8	-B	3	C		22		
KHAR	29	1223E		1233D	N23	W27	.547	15376	27.5	10D	-F		P				E
885 RAMY	29	1230	1232	1235	N15	W55	.825	15368	25.4	5	-N	3	C		16		F Y5
886 ZURI	29	1244	1248	1256	N19	E90	1.000	15385	6.3	12	-F		C	1248	50		Y5
887 ZURI	29	1414E	1418	1444	N19	E90	1.000	15385	6.3	30D	?F		P	1418	120		Y5
	IMP.1	NO	HTPR2	MCMA2	RAMY2												
GRP67888	29	1414+2	1416+4	1432	N26	W20	.504	15376	28.1	18	-B				150	1.8	EH
RAMY	29	1414	1417	1432	N25	W20	.493	15376	28.1	18	-B	*	C		157		
HTPR	29	1414	1417	1430	N27	W20	.515	15376	28.1	16	-B	*	C	1417	180	2.0	E
MCMA	29	1414	1416	1435	N26	W21	.513	15376	28.0	21	-B	*	C	1416	100	1.3	EH
TEHR	29	1415E	1420	1431	N24	W22	.502	15376	27.9	16D	-B	*	C		127		
ZURI	29	1416	1416	1432	N27	W20	.515	15376	28.1	16	1B	*	C	1416	200	2.4	
889 MCMA	29	1542	1543	1550	S22	W43	.751	15375	26.4	8	-N		C	1543	40	.6	E Y5
GRP67890	29	1600+7	1608+2	1631	S15	E54	.832	15384	2.7	31	-F				60	1.1	
MCMA	29	1600	1610	1640D	S16	E55	.843	15384	3.8	40D	-F	*	C	1610	70	1.3	E
ZURI	29	1606	1608	1614D	S15	E54	.832	15384	3.7	8D	-F	*	P	1608	60	1.2	
RAMY	29	1607	1608	1622	S15	E54	.832	15384	3.7	15	-N	*	C		22		F
891 ZURI	29	1602	1604	1608	S21	W44	.756	15375	26.4	6	-F		C	1604	80	1.3	Y5
892 RAMY	29	1636	1637	1647	N16	E33	.575	15381	2.2	11	-N	3	C		25		F Y5
GRP67893	29	1816+1	1820	1844	N15	E35	.597	15381	1.4	28	-B						U
MCMA	29	1816E		1841D	N15	E38	.635	15381	2.6	25D	-B		C	1830	80	1.1	E
PALE	29	1817	1820	1844	N16	E32	.562	15381	2.2	27	-B	3	C		103		U F
894 PALE	29	1831	1835	1838	N22	W27	.539	15376	27.7	7	-N	3	C		25		DE Y5
GRP67895	29	1901+0	1901	1912D	N15	E33	.571	15381	1.3	11	-N						E
MCMA	29	1901E		2005D	N15	E35	.597	15381	2.4	64D	-N		C	1914	125	1.7	E
PALE	29	1901	1901	1912	N16	E32	.562	15381	2.2	11	-N	3	C		26		DE
896 PALE	29	1913E	1915	1940	N19	W67	.923	15368	24.8	27D	-F	3	C		95		FDE Y5
897 PALE	29	1920	1923	1945	N16	E26	.483	15381	1.8	25	-N	3	C		36		DE Y5
898 PALE	29	2134	2146	2153	N22	W29	.562	15376	27.7	19	-N	3	C		27		DE Y5
899 PALE	29	2134	2155	2155	N16	W61	.878	15368	25.3	21	-N	3	C		27		FDE Y5
GRP67900	29	2203+3	2214+0	2231	N26	W24	.542	15376	28.1	28	-B				160	1.9	U
CULG	29	2203	2214	2230	N27	W23	.542	15376	28.2	27	-B		C	2214	110	1.3	
PALE	29	2206	2214	2232	N25	W25	.543	15376	28.0	26	1B	3	C		206		UDE

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
GRP67901	29	2206>9	2217+3	2233	N18	E48	.760	15382	2.5	27	-F				45	.7		
CULG	29	2206	2220	2245	N15	E45	.720	15382	3.3	39	-F		C	2220	60	.8	F	
PALE	29	2217	2217	2221	N22	E51	.800	15382	3.8	4	-N	3	C		26		FDE	
902 CULG	29	2216	2217	2218	N20	W61	.882	15368	25.4	2	-N		C	2217	10	.2		Y5
GRP67903	29	2221+5	2233 2243	2303D	N17	W59	.863	15368	25.5	42	1N				130	2.6	U	
CULG	29	2221	2243E	2303D	N18	W57	.847	15368	25.7	42D	1N		P	2243	130	2.5	FU	
PALE	29	2226	2233	2236D	N16	W61	.878	15368	25.4	10D	1B	3	V		131		FDE	
904 CULG	29	2303	2307	0000	N18	W56	.838	15368	25.8	57	-B		C	2337	80	1.5	SFH	Y5
905 CULG	29	2347	2355U	0027	N23	W29	.569	15376	27.8	40	-F		C	2355	40	.5		Y5
906 CULG	30	0105E	0107	0130	S20	W50	.810	15375	26.3	25D	-F		C	0107	40	.7		Y5
907 PALE	30	0123	0123	0125	N16	W63	.893	15368	25.3	2	-N	3	C		16		F	Y5
GRP67908	30	0149	0155+7 0219	0258	N17	W60	.871	15368	25.6	69	-N						F	
CULG	30	0149	0155U	0311	N19	W60	.873	15368	25.6	82	-N		C	0155	80	1.6	F	
MITK	30	0153E	0202	0230	N18	W61	.880	15368	25.5	37D	1F		C	0202	110	2.4	E	
PALE	30	0215	0237	0301	N16	W64	.901	15368	25.3	46	-B	3	C		105		F	
TEHR	30	0215E	0219	0255	N17	W58	.854	15368	25.7	40D	-N	2	C		127			
909 PALE	30	0236	0236	0250	N22	W31	.584	15376	27.8	14	-N	3	C		27		F	Y5
910 CULG	30	0402E	0402E	0420D	N26	W25	.551	15376	28.3	18D	-F		P	0402	70	.8		Y5
911 ABST	30	0704	0707	0710	N22	E85	.995	15385	6.7	6	?F		C	0707	87		D	Y5
	IMP.1	NO	KIEV1	CATA1	MITK1													
GRP67912	30	0744+1	0751+0	0806	N25	W30	.594	15376	28.1	22	-N				100	1.3	EH	
KANZ	30	0744	0751	0806	N26	W30	.602	15376	28.1	22	-B		C					
MONT	30	0745	0751	0805	N21	W29	.554	15376	28.1	20	-N		C	0751	80		EH	
ABST	30	0747E	0750	0750D	N25	W30	.594	15376	28.1	3D	-N		P	0750	131	1.7	E	
GRP67913	30	0910>9	0919+6	0947	N22	W36	.641	15376	27.7	37	-N							
MONT	30	0910	0923	0944	N23	W35	.636	15376	27.8	34	-N		C	0923	180			
ZURI	30	0913E	0919	0949	N23	W38	.669	15376	27.5	36D	-N		P	0919	70	1.0		
KANZ	30	0917	0925	0940	N22	W38	.664	15376	27.5	23	-F		C					
CATA	30	0920	0925	0950	N21	W35	.625	15376	27.8	30	1B	2	C	0925	224	2.9		
914 KANZ	30	0944	0948	1002	N23	E86	.997	15385	6.9	18	-F		C					Y5
GRP67915	30	1051+1	1053+3	1112	N17	E18	.386	15381	.8	21	-B				140	1.5		
ZURI	30	1051E	1053	1107D	N16	E19	.389	15381	1.9	16D	-B		P	1053	140	1.6		
MCMA	30	1052	1053	1113	N17	E18	.386	15381	1.8	21	-B		C	1053	80	.9	E	
KANZ	30	1052	1056	1112	N17	E19	.399	15381	1.9	20	-B		C					
TEHR	30	1052	1054	1112	N18	E18	.396	15381	1.8	20	-B	2	C		190		F	
GRP67916	30	1145+7	1149+4	1225	N19	E31	.565	15381	1.8	40	-N						E	
ZURI	30	1145	1149	1211D	N19	E31	.565	15381	2.8	26D	1F		P	1149	200	2.6		
KANZ	30	1145	1153	1225	N18	E31	.559	15381	2.8	40	-N		C					
MCMA	30	1146	1149	1159D	N19	E31	.565	15381	2.8	13D	-B		C	1149	60	.8	E	
CATA	30	1150	1150	1200D	N21	E30	.566	15381	2.7	10D	-B	2	C	1150	140	1.7		
RAMY	30	1152	1153	1156D	N16	E22	.429	15381	2.1	4D	-N	2	C		29			
GRP67917	30	1252+2	1257+3	1303	N25	W35	.648	15376	27.9	11	-N				50	.7	E	
KANZ	30	1252	1300	1303	N27	W33	.640	15376	28.1	11	-N		C					
RAMY	30	1254	1257	1303	N23	W36	.647	15376	27.8	9	-B	3	C		62			
MCMA	30	1254	1258	1304	N25	W35	.648	15376	27.9	10	-N		C	1258	50	.7	E	
918 KANZ	30	1300		1407	N21	E79	.981	15385	6.5	67	-N		C					Y5
GRP67919	30	1331+5	1336+2	1353	N19	E30	.553	15381	1.8	22	-N				70	.8		
MCMA	30	1331	1338	1355	N19	E32	.577	15381	3.0	24	-B		C	1338	60	.8	E	
KANZ	30	1333	1337	1400	N19	E31	.565	15381	2.9	27	-N		C					
TEHR	30	1334E	1336	1342	N20	E25	.498	15381	2.4	8D	-N	2	C		64		F	
RAMY	30	1336	1337	1350	N19	E30	.553	15381	2.8	14	-B	3	C		95			
920 RAMY	30	1411	1411	1427	N19	E31	.565	15381	2.9	16	-N	3	C		20			Y5

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JUNE 1978

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	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.		
	JUN																	
GRP67921	30	1445+3	1450+4	1525	N18	W68	.929	15368	25.5	40	1B				170			
RAMY	30	1445	1450	1525	N17	W68	.928	15368	25.5	40	1B	3	C		206		FDE	
KANZ	30	1446	1454	1525	N18	W66	.916	15368	25.7	39	1N		C					
MCMA	30	1448	1450	1516D	N18	W68	.929	15368	25.5	28D	1B		C	1450	125	3.7	E	
922 KANZ	30	1454	1506	1506D	N20	E75	.966	15385	6.2	12D	-N		C					Y5
GRP67923	30	1525+2	1543+1	1603	S15	E41	.698	15384	2.7	38	-B							
KANZ	30	1525	1543	1553D	S15	E41	.698	15384	3.7	28D	-B		C					
RAMY	30	1527	1544	1603	S15	E41	.698	15384	3.7	36	-B	3	C		148			
924 MCMA	30	1631E		1635D	N27	W35	.661	15376	28.1	4D	-N		P	1631	20	.3	O	Y5
GRP67925	30	1704E	1710	1718D	N26	W36	.665	15376	28.0	14	-B						U	
MCMA	30	1704E		1718D	N27	W36	.671	15376	28.0	14D	-B		P	1704	50	.7	E	
PALE	30	1706E	1710	1711D	N25	W36	.658	15376	28.0	5D	1B	3	C		182		U F	
926 PALE	30	1709E	1713	1719	N18	E28	.521	15381	2.8	10D	-N	3	C		34		DE	Y5
927 PALE	30	1815E	1846U	1846D	N22	W41	.697	15376	27.7	31D	-N	3	C		58		DE	Y5
GRP67928	30	1838>9	1845+4	1903	N19	E75	.966	15385	5.4	25	-B				60			
RAMY	30	1838	1845	1903	N20	E78	.977	15385	6.6	25	-B	3	C		76		F	
PALE	30	1848	1849	1857D	N19	E72	.952	15385	6.2	9D	-B	3	C		41		FDE	
929 RAMY	30	1919	1921	1930	N23	W39	.680	15376	27.9	11	-B	3	C		60			Y5
930 PALE	30	2107E	2107U	2117	N22	W42	.708	15376	27.7	10D	-N	3	C		40		DE	Y5
931 PALE	30	2118E	2118U	2127D	N15	E15	.329	15381	2.0	9D	-N	3	C		32		DE	Y5
932 PALE	30	2146E	2148U	2150D	N15	E15	.329	15381	2.0	4D	-N	3	C		20		DE	Y5
	30	2204	2205	NO FLARE PATROL														
GRP67933	30	2345+6	2353+3	0007	N24	W33	.620	15376	28.5	22	-N							
PALE	30	2345	2353	0010	N22	W30	.572	15376	28.7	25	-N	*	C		64		FDE	
CULG	30	2351	2356	0003	N26	W37	.675	15376	28.2	12	-N	*	P	2356	20	.3		
	30	2400	0252	NO FLARE PATROL														

DAILY FLARE INDICES

Includes all Flares

JUNE 1978

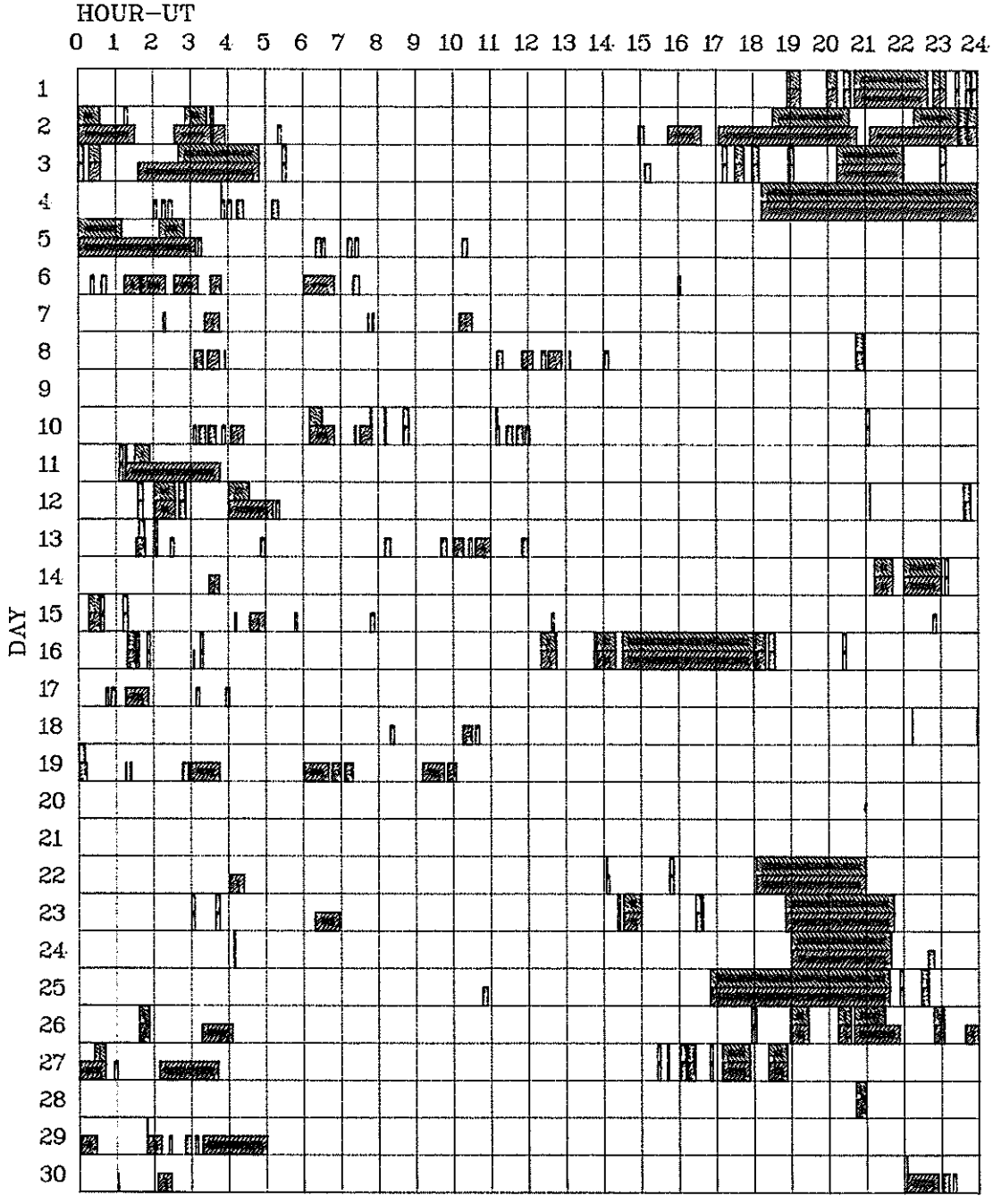
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
780601	165.30	19.9	780611	12.37	23.5	780621	51.95	24.0
780602	29.03	19.4	780612	85.04	22.4	780622	636.66	20.9
780603	5.50	18.7	780613	86.53	23.8	780623	101.06	20.2
780604	11.64	17.1	780614	31.82	22.4	780624	57.29	21.3
780605	71.46	23.3	780615	44.63	23.5	780625	66.99	18.9
780606	1.90	24.0	780616	32.38	18.5	780626	43.65	21.6
780607	7.81	24.0	780617	84.34	24.0	780627	105.20	21.8
780608	5.96	23.8	780618	45.60	23.8	780628	277.40	23.7
780609	1.32	24.0	780619	26.03	24.0	780629	109.10	24.0
780610	11.48	23.3	780620	55.52	24.0	780630	97.32	21.1

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

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JUNE 1978



Observatories included in total patrol:

Abastumani	Haute Provence	Kanzelhohe	Lvov	Monte Mario	Upice
Athenes	Herstmonceux	Kharkov	Manila	Palehua	Voroshilov
Bucharest	Holloman	Kiev	McMath-Hulbert	Ramey	Wendelstein
Catania	Huancayo	Kodaikanal	Meudon	Tashkent	Zurich
Culgoora	Instanboul	Locarno	Mitaka	Tehran	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1978

JUN 1978	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
1	1415	MANI	2 S/F	0200.9	0201.5	1.9	3.7	1.2		
	2695	MANI	2 S/F	0201.3	0201.9	1.5	7.9	2.6		
	260	ONDR	44 NS	0625		524 D	61			
	245	SGMR	44 NS	0913 E	2033.3	896 D	73.6			3
	410	SGMR	44 NS	0913 E	2118.8	896 D	24.1			3
	29	UPIC	45 C	0814.8	0816.2	2.1				
	33	UPIC	45 C	0815.7	0816.4	1.5				
	9100	ARCE	1 S	0817.5	0817.9	1.5				
	9100	ARCE	29 PBI	0819		18				
	1420	ARCE	20 GRF	0914.7	0928.4	49.5				
	9100	ARCE	3 S	0928	0928.6	4				ATH ATT
	9100	GORK	20 GRF	1028.4	1028.8	7.8	10.6	4.5		
	260	ONDR	4 S/F	1202.7	1202.7	1.2	219 D			
	260	ONDR	4 S/F	1228	1228	.5	189			
	4995	ATHN	3 S	1323.1	1328.5	21.4	41.1	12.3		
	7000	SAOP	2 S/F	1324.3	1328.6		36.2			
	7000	SAOP	1 S	1324.3	1325.9		18.1			
	7000	SAOP	46 C	1324.3						
	4995	BOUL	46 C	1324.5	1328	5	21	7		
	8800	ATHN	3 S	1324.7	1328.7	10.3	42.6	12.8		
	9400	HUAN	21 GRF	1324.7	1351.7	27	8.2			0
	2800	OTTA	21 GRF	1324		34	2.8	1.4		
	4995	SGMR	3 S	1325.2	1328.5	5.8	35.3	14.1		
	2800	OTTA	1 S	1325.3	1326	1.5	3	1.5		
	2695	ATHN	3 S	1325.3	1328.7	8.4	19.3	5.8		
	8800	SGMR	3 S	1325.9	1329	5.1	25.3	10.1		
	1470	BERL	4 S/F	1325		4				
	3000	BERL	4 S/F	1325	1328.4	15	20			
	9500	BERL	4 S/F	1325	1328.3	4.2	18			
	2695	SGMR	3 S	1326	1328.5	4.5	19.5	7.8		
	10400	BERN	2 S/F	1327.2	1328.6	2	6	18		
	8900	BERN	2 S/F	1327.2	1328.6	2	13	36		0
	8400	BERN	2 S/F	1327.2	1328.6	2	12	32		0
	9400	HUAN	3 S	1327.7	1329.3	1.6	24.6			0
	1420	BOUL	2 SF	1327	1327.5	2	2	1		
	2800	OTTA	3 S	1328	1328.7	2.5	15	5		
	2695	BOUL	4 SF	1328	1329	2.5	13	4		
	2800	OTTA	22 GRF	1415	1514	115	4.2	2.1		
	9400	HUAN	20 GRF	2020.3	2125	64.7	19.6			0
	200	HIRA	46 C	2033	2034	2	200	70		WL
	100	HIRA	46 C	2033.5	2034.5	1.5	630	200		0
	2800	OTTA	21 GRF	2100	2118	78	3.6	1.4		
	4995	BOUL	46 C	2100	2103	14.5	29	10		
	8800	SGMR	3 S	2101.5	2104	3.5	12.6	5		2,5,SWF
	200	HIRA	46 C	2101.5	2103	6	1500	500		WL
	1420	BOUL	46 C	2101	2102.5	8	20	7		
	245	SGMR	48 GB	2102	2102.3	5	876	351		2,5,SWF
	2695	SGMR	3 S	2102	2103.5	7	37.8	15.1		2,5,SWF
	100	HIRA	46 C	2102	2102.5	4	9000	2000		WL
	500	HIRA	45 C	2102.3	2105.1	4.5	120	50		SR
	4995	SGMR	3 S	2102.3	2103.5	4.7	31	12.4		2,5,SWF
	1415	SGMR	3 S	2102.3	2103.2	5.7	35	14		2,5,SWF
	410	SGMR	6 S	2102.4	2102.9	4.6	93.7	37.5		2,5,SWF
	606	SGMR	3 S	2102.5	2103.7	4.5	278.4	111.4		2,5,SWF
	2800	OTTA	4 S/F	2102	2102.4	7	32	10.5		
	2695	BOUL	46 C	2102	2104	13.5	27	9		
	18	MCMA	41 F	2102	2107	14			2	
	2800	OTTA	1 S	2111	2113.2	4.5	5.8	2.9		
	2695	BOUL	29 PBI	2116	2119.5	5	3	1		
	200	HIRA	46 C	2118	2119	4	180	70		WL
	100	HIRA	46 C	2118.5	2119	2	130	70		WR
	2800	OTTA	20 GRF	2210	2225	60	2.8	1.4		
	2695	PENT	20 GRF	2336	2340	24	3.4	1.7		
2	200	HIRA	43 NS	0025	0050	565 D	40	10		SR
	200	GORK	43 NS	0303		597		5		
	260	ONDR	44 NS	0624 E		524 D	219	9		
	100	GORK	43 NS	0806 U		294		5		
	127	TORN	44 NS	0830 E	1202.5	390 D	37	4		V1
	245	SGMR	44 NS	0912 E	1212.9	898 D	118			3
	410	SGMR	44 NS	0912 E	2306.5	898 D	56.7			3
	200	HIRA	44 NS	2345 E	0510	605 D	20	5		MR
	930	BORD	8 S	0847.8	0847.8	.1	13	1		
	234	POTS	2 S/F	0848.1	0849.2	2	1600	15		
	237	TRST	41 F	0848.2	0848.3	.3	1140			5R
	202	IZMI	41 F	0848.3	0849.5	1.7	1800			
	237	TRST	41 F	0849.2	0849.4	.6	2250			0
	33	UPIC	45 C	0849.3	0849.7	1.2				
	29	UPIC	4 S/F	0849.4	0850	.8				
	234	POTS	48 C	0954.5	0954.6	4.8	160	1		
	113	POTS	48 C	0954.6	0954.9	4.9	315	3		
	237	TRST	41 F	0954.6	0954.7	1.2	285			0
	202	IZMI	41 F	0954.6	0955.7	1.5	140			
	234	POTS	48 C	1103.2	1108.4	5.7	1150	10		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1978

JUN 1978	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	113	POTS	48 C	1103.8	1108.7	5.1	7000	45		
	237	TRST	41 F	1103.8	1104.1	.7	490			3L
	245	SGMR	7 S	1104	1104.2	1.1	373	149		3G
	33	UPIC	4 S/F	1104.1	1104.2	1.4				
	29	UPIC	4 S/F	1104.2	1104.4	1.2				
	408	TRST	8 S	1108.5	1108.6	.1	16			
	237	TRST	41 F	1108.5	1108.5	.2	1450			0
	200	GORK	27 RF	1145	1154	15	23	10		
	2800	OTTA	20 GRF	1425	1500	60	2.2	1.7		
	2800	OTTA	20 GRF	1620	1915	280	5.6	2.8		
	930	BORD	41 F	1704.6	1705	.6	42	2		
	9400	HUAN	20 GRF	1820.7	1827.1	6.4	6.7			0
3	100	GORK	44 NS	0254 E		297		5		
	200	GORK	44 NS	0254 E		426		5		
	260	ONDR	44 NS	0516 E		547 D	104	5		
	127	TORN	44 NS	0630 E	0939.1	500 D	51	1.5		V0
	410	SGMR	44 NS	0912 E	1308.1	899 D	36.2			3G
	245	SGMR	44 NS	0912 E	1308	899 D	67.5			3G
	6100	KISV	1 S	0720	0720.3	2	2			
	930	BORD	8 S	1018	1018.1	.2	21	1		
	9100	ARCE	22 GRF	1045.5	1051.4	12.8				
	113	POTS	45 C	1205.6	1205.7	.8	100	10		
	234	POTS	S	1205.7	1205.8	.3	140	50		
	237	TRST	41 F	1205.7	1205.9	.3	375			6L
	237	TRST	42 SER	1307.8	1310.3	2	165			4R
	113	POTS	45 C	1310.2	1310.3	1.5	120	20		
	930	BORD	8 S	1750.2	1750.2	.2	15	1		
	930	BORD	8 S	1752.5	1752.5	.2	18	1		
	9400	HUAN	3 S	1826.1	1828.4	2.3	14.7			0
	9400	HUAN	1 S	2104.1	2105.1	1	8.2	22		R
	2800	OTTA	1 S	2212.5	2214	2.5	2.4	1.4		
4	100	GORK	44 NS	0257 E		135		5		
	200	GORK	44 NS	0300 E		414		5		
	260	ONDR	44 NS	0510 E		610 D	94	3		
	410	SGMR	44 NS	0912 E	1214.3	900 D	93.1			3,5
	245	SGMR	44 NS	0912 E	1212.9	900 D	283			3,5
	127	TORN	43 NS	1050	1147.2	190 U	30	1		V1
	1470	BERL	3 S	1130	1139.5	20	3.9			
	408	TRST	42 SER	1211.7	1214.2	2.7	100			
	113	POTS	45 C	1211.9	1212.8	1.9	125	25		
	234	POTS	2 S/F	1211.9	1212.5	3.5	315	20		
	237	TRST	41 F	1212.1	1212.6	1.5	760			0
	33	UPIC	45 C	1212.6	1213.1	2.3				
	29	UPIC	45 C	1213	1213.6	2.3				
	1470	BERL	3 S	1336.5	1336.7	2	5.9			
	536	ONDR	8 S	1347.2	1347.2	.3	75			
	930	BORD	8 S	1348.4	1348.4	.1	15	1		
	237	TRST	41 F	1349	1349.1	.7	755			4R
	33	UPIC	4 S/F	1349.1	1349.3	.9				
	234	POTS	45 C	1349.1	1349.2	1.3	385	70		
	113	POTS	45 C	1349.1	1349.2	1.5	770	70		
	245	SGMR	7 S	1349.1	1349.3	1.7	390	117		5
	29	UPIC	4 S/F	1349.2	1349.6	.7				
	234	POTS	S	1412.4	1412.5	.7	160	50		
	113	POTS	45 C	1412.5	1412.9	.7	385	100		
	237	TRST	41 F	1412.7	1412.7	.3	210			6L
	237	TRST	41 F	1440.2	1440.5	.7	315			2L
	234	POTS	45 C	1440.4	1440.5	.9	210	20		
	113	POTS	45 C	1440.4	1440.6	1	350	60		
5	6100	KISV	3 S	0410	0415	10	8			
	6100	KISV	20 GRF	0520	0540	45	5			
	260	CNDR	44 NS	0530 E		514 D	37			
	245	SGMR	44 NS	0911 E	2303.8	901 D	456.5			3,5
	410	SGMR	44 NS	0911 E	1905.1	901 D	129			3,5
	200	FIRA	43 NS	2125	0020	740 D	30	5		MR
	6100	KISV	21 GRF	0727	0742	48	14			
	3000	BERL	20 GRF	0727	0742	42	5.8			
	9500	BERL	20 GRF	0728	0742	30	11			
	3100	CRIM	20 GRF	0729	0743	103	4	1		
	536	ONDR	41 F	0940.8	0943.1	3	17			
	6100	KISV	21 GRF	0954	0956	10	1			
	2800	OTTA	22 GRF	1240	1325	110	3.4	1.7		
	7000	SAOP	22 GRF	1257			9			
	6100	KISV	21 GRF	1300	1306	43	10			
	9500	BERL	20 GRF	1304	1340.5	116	13			
	3000	BERL	20 GRF	1304	1305.4	51	4.1			
6	200	GORK	43 NS	0300		330		5		
	260	ONDR	44 NS	0522 E		528 D	44	4		
	127	TORN	44 NS	0720 E	0843.8	120 U	210	4		V2
	245	SGMR	44 NS	0911 E	1104.1	902 D	12.8			3
	234	POTS	48 C	0711.7	0711.8	11	160	1		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1978

JUN 1978	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
	3100	CRIM	24 R	0816	1205		4			
	930	BORD	8 S	0952.2	0952.2	.2	15	2		
	930	BORD	41 F	1532	1532.8	1	18	2		
7	536	ONDR	8 S	1054.2	1054.2	.3	91			
	245	SGMR	43 NS	1345	1724.8	629 D	34			5
	2800	OTTA	1 S	1851	1852	2	1	.5		
8	245	SGMR	44 NS	0910 E	1018.6	565.4D	42			
	9100	ARCE	1 S	1426.2	1426.3	1				
	9100	ARCE	2 S/F	1736.7	1736.9	1				
	2800	OTTA	20 GRF	1820	2005	170	2	1		
9	245	SGMR	44 NS	0910 E	1803.6	905 D	48			
	536	ONDR	8 S	1100	1100	.3	45			
	245	SGMR	6 S	1241.2	1242.5	2.1	90.7	36.3		3G
	33	UPIC	4 S/F	1241.4	1241.4	1.8				
	113	POTS	45 C	1241.9	1242	1.3	850	40		
	234	POTS	45 C	1241.9	1242.2	1.6	100	5		
	29	UPIC	4 S/F	1242.2	1242.6	1.2				
	260	ONDR	4 S/F	1242	1242.7	2	78	22		
	9100	ARCE	1 S	1536.3	1536.4	.7				
	9400	HUAN	1 S	2156.4	2158.5	2.1	10			0
10	3100	CRIM	20 GRF	0718	0756	100	1.5	.5		
	3100	CRIM	20 GRF	0905	0918	90	2	1		
	245	SGMR	44 NS	0910 E	2034.1	710 D	14			
11	260	ONDR	45 C	1027.6	1028.6	1.5	20	17		
12	2800	OTTA	20 GRF	1240	1317	85	3.2	1.6		
	7000	SAOP	22 GRF	1636	1641		15.7	17		
	4995	SGMR	3 S	1636.2	1641	5.8	13.5	5.4		SHF
	2695	SGMR	1 S	1636.5	1637.7	5.8	7.5	3		SHF
	2800	OTTA	2 S/F	1636	1637.7	6	8	2.7		
	930	BORD	8 S	1641.6	1641.8	.2	16	1		
	2800	OTTA	29 PBI	1642	1642	60	2.8	1.4		
	2800	OTTA	21 GRF	2030	2125	110	2.6	1.4		
	2800	OTTA	1 S	2120	2120.8	2	2	.8		
	2695	PENT	240 R	2350	2500	70	3.6	2		
13	9100	GORK	2 SF	0928.7	0929.6	6.6	9.4	3.5		
	2800	OTTA	27 RF	1218		152	1.2	1.1		
	2800	OTTA	24 R	1218	1230	12	1.2	.6		
	2800	OTTA	24P R	1230		128	1.2			
	930	BORD	41 F	1438.8	1438.8	.3	16	1		
	2800	OTTA	26 FAL	1438	1450	12	-1.2	-.6		
	2800	OTTA	20 GRF	1454	1605	95	1.6	.8		
	2800	OTTA	20 GRF	1640	1645	25	1	.5		
	2800	OTTA	8 S	1717.8	1718	.4	1.6			
	930	BORD	41 F	1718	1718.2	.3	61	2		
	7000	SAOP	2 S/F	1738.4	1739.9		8			
	9400	HUAN	1 S	1739.4	1740.8	1.4	8.8			0
	930	BORD	41 F	1739	1739.7	1.4	16	2		
	2800	OTTA	23 GRF	1900	2035	170	3.8	1.9		
	2800	OTTA	1 S	1908.5	1909.1	1.5	.8	.4		
	1420	BOUL	4 SF	1918.5	1920	3.5	29	10		
	2800	OTTA	40 F	1918.8	1919.5	3	1.4			
	2695	BOUL	4 SF	1919	1920.5	3	12	4		
	15400	SGMR	3 S	2122.3	2123.2	1.7	35.5	14.2		SHF
	8800	SGMR	3 S	2122.5	2122.7	1	18.6	7.4		SHF
	9400	HUAN	3 S	2122.6	2124.1	1.5	15.9			0
	2695	SGMR	3 S	2122.7	2123.1	1.3	25.5	10.2		SHF
	2300	OTTA	4 S/F	2122.8	2123	1.2	22	6		
	4995	SGMR	3 S	2122.8	2123	1.2	23.6	9.4		SHF
	1420	BOUL	45 C	2122	2122.5	3	26	9		
	4995	BOUL	8 S	2122	2122.5	1	18	6		
	1415	SGMR	3 S	2123	2123.3	3	234	23.4		SHF
	410	SGMR	6 S	2123.2	2123.3	.5	77	7.7		SHF
	2695	BOUL	8 S	2123.5	2124	1.5	18	6		
14	2695	PENT	1 S	0046.2	0046.9	1	2.6	1.3		
	1420	BOUL	45 C	0128	0128.5	2.5	22	7		
	2695	PENT	2 S/F	0129	0129.8	1.2	4			
	2695	BOUL	1 S	0130	0131	1	4	1		
	1400	SYDN	40 F	0142.8	0143.7	1.3	23			
	700	SYDN	8 S	0143.6	0143.8	.4	25			
	6100	KISV	45 C	0440	0440.4	4	7			
	15000	KISV	21 GRF	0440	0440.4	2	9			
	6100	KISV	45 C	0557	0600	8	10			
	15000	KISV	1 S	0559	0559	2	15			
	8900	BERN	2	0559.2	0559.9	3	8	21		0
	8400	BERN	2 S/F	0559.2	0559.9	3	7	18		0
	3100	CRIM	1 S	0559.5	0600	2	6	2		
	9100	GORK	1 S	0559.7	0600.1	1.4	16.6	8		

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	3100	CRIM	21	GRF	0633	0646	21	2	1		
	6100	KISV	45	C	0642	0646	6	7			
	15000	KISV	45	C	0642.3	0646	5	10			
	8900	BERN	2		0644.2	0645.9	1.5	6	15		0
	8400	BERN	2	S/F	0644.2	0645.9	1.5	6	15		0
	3100	CRIM	1	S	0645.5	0646	1	2	.5		
	650	GORK	1	S	0649.8	0650.2	1	18	9		
	15000	KISV	8	S	0830	0830.3	1	12			
	6100	KISV	1	S	0842	0844	4	4			
	1470	BERL	4	S/F	0843.8	0844.5	1.2	8.5			
	930	BORD	41	F	0843	0844	2	80	2		
	3000	BERL	1	S	0844	0844.1	1	3.4			
	9500	BERL	1	S	0844	0844.6	1	7.9			
	3100	CRIM	1	S	0844	0845	5	4	1		
	15000	KISV	8	S	0851	0852	1	17			
	6100	KISV	8	S	0904	0909.1	6	13			
	8900	BERN	45		0908.2	0909.4	1.5	10	28		0
	8400	BERN	45	C	0908.2	0909.4	1.5	10	27		0
	10400	BERN	45		0908.2	0909.4	1.5	13	38		
	536	ONDR	4	S/F	0908.3	0909	1.5	49			
	8800	ATHN	3	S	0909	0909.6	7.2	30.1	9		
	9500	BERL	4	S/F	0909	0909.5	1	25			
	1470	BERL	4	S/F	0909	0909.4	1	17			
	3000	BERL	4	S/F	0909	0909.4	1	12			
	950	GORK	1	S	0909	0909.4	1.2	18	9		
	15000	KISV	45	C	0909	0909.1	1	30			
	3100	CRIM	1	S	0909	0909.5	1	9	3		
	3100	CRIM	29	PBI	0909	0953		4			
	9100	GORK	2	SF	0909.2	0909.6	.9	26	13		
	4995	ATHN	3	S	0909.2	0909.4	2.8	13.8	4.1		
	1415	ATHN	3	S	0909.2	0909.6	1.3	19.1	11.4		
	2695	ATHN	3	S	0909.2	0909.4	1.8	11.7	7		
	2950	GORK	3	S	0909.3	0909.4	1	16	8		
	650	GORK	3	S	0909.3	0909.5	65	32			
	10715	DWIN	2	S	0909		1	40	10		
	2650	DWIN	2	S	0909		1	15	5		
	930	BORD	41	F	0909	0909	.8	44	3		
	808	ONDR	2	S/F	0909	0909.6	1	52			
	808	ONDR	3	S	0936.2	0936.2	.2	50			
	930	BORD	8	S	0936.2	0936.2	.1	72	1		
	536	ONDR	1	S	0936.3	0936.3	.2	8			
	2800	OTTA	21	GRF	1100	1220	150	3.4	1.6		
	930	BORD	41	F	1235.4	1235.4	.2	61	2		
	2800	OTTA	8	S	1235.5	1235.6	.5	1.8	.6		
	930	BORD	8	S	1340	1340	.1	16	1		
	2800	OTTA	20	GRF	1405	1415	25	1.8	.9		
	2800	OTTA	24	R	1500	1550	50	2.2	1.1		
	2800	OTTA	27A	RF	1500		180	2.2	1.8		
	1420	BOUL	4	SF	1542	1542.5	3	5	2		
	2695	BOUL	1	S	1543.5	1544	.5	2	1		
	2800	OTTA	24P	R	1550		110	2.2			
	9400	HUAN	3	S	1601	1603.1	2.1	10.9			0
	930	BORD	46	C	1601.2	1601.5	3.8	118	5		
	2800	OTTA	40	F	1601.2	1602.1	2	8			
	1420	BOUL	45	C	1601	1602	2	17	6		
	2695	BOUL	2	SF	1602.5	1603	1.5	9	3		
	7000	SAOP	3	S	1618.2	1620.2		17.8			
	930	BORD	46	C	1618.4	1620.2	4.6	205	5		
	8400	BERN	1	S	1619.9	1620.3	3	6	15		0
	10400	BERN	1		1619.9	1620.3	3	10	31		
	8900	BERN	1		1619.9	1620.3	3	8	20		0
	1420	BOUL	4	SF	1619	1620	1.5	19	6		
	606	SGHR	1	S	1620	1620.4	.8	9.5	2.9		
	1415	SGHR	3	S	1620	1620.4	1	33.6	10.1		
	4995	SGHR	3	S	1620	1620.4	1	10.9	4.3		
	9400	HUAN	3	S	1620	1621.7	1.7	24.9			0
	2695	SGHR	3	S	1620.2	1620.5	.8	37.7	11.3		
	8800	SGHR	3	S	1620.2	1620.6	1.7	21.8	6.6		
	15400	SGHR	3	S	1620.3	1620.5	.7	37.2	11.2		
	2800	OTTA	3	S	1620	1620.3	2	15	3.4		
	2650	DWIN	2	S	1620		1	20	5		
	10715	DWIN	2	S	1620		1	30	10		
	2695	BOUL	8	S	1621	1621.5	1.5	14	5		
	930	BORD	41	F	1638.7	1639.4	2.4	76	4		
	2800	OTTA	8	S	1639	1639.1	.5	4.4	2.6		
	930	BORD			1704	1713.6		20			
	930	BORD	42	SER	1704	1704.8	32	182	2		
	930	BORD			1704	1734		40			
	930	BORD			1704	1730.9		10			
	930	BORD			1704	1722.8		266			
	10400	BERN	40	F	1719.8	1720.9	4	4	12		
	2800	OTTA	40	F	1720.8	1723	3.5	3.8			
	1420	BOUL	45	C	1720	1720.5	6	16	5		
	2695	BOUL	40	F	1721.5	1722	2.5	3	1		
	9400	HUAN	3	S	1733.5	1734.8	1.3	10.9			0

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	10400	BERN	2 S/F	1733.5	1734.1	2	6	18		
	1420	BOUL	45 C	1733	1733.5	2	14	5		
	2695	BOUL	4 SF	1734.5	1735	2	13	4		
	2800	OTTA	3 S	1734	1734	2.2	16.6	4.2		
	2800	OTTA	26 FAL	1740	1800	20	-2.2	-1.1		
	930	BORD	8 S	1802.8	1802.8	.1	13	1		
	2800	OTTA	240 R	1920	2010	50	3.2	1.6		
	2800	OTTA	1 S	2132.5	2132.9	1	2.2			
	2800	OTTA	1 S	2220.2	2220.5	1	4	2		
	2695	PENT	21 GRF	2235	2315	115	3.4	2		
	2695	PENT	1 S	2403	2403.2	1	3.2	1.4		
	2695	PENT	1 S	2407.9	2408	2	7	2.4		
15	808	ONDR	3 S	0731.4	0731.4	.2	41			
	245	SGMR	43 NS	1745	1825.1	355.8D	39			
	410	SGMR	43 NS	1822.2	2020.7	393 D	26.3			
	2800	OTTA	240 R	1955	2020	25	2.2	1.1		
	2800	OTTA	1 S	2049.9	2050	1.5	6.6	2.2		
	4995	BOUL	8 S	2049	2049.5	1.5	18	6		
	2695	BOUL	2 SF	2050.5	2051	1	7	2		
16	1420	BOUL	8 S	0007	0007.5	1	19	6		
	2695	BOUL	8 S	0008.5	0009	1	8	3		
	6100	KISV	21 GRF	0838	0841.3	11	6			
	245	SGMR	44 NS	0910 E	1853.5	908 D	3.4			
	1470	BERL	3 S	1015	1015.3	.5	15			
	260	ONDR	4 S/F	1039.6	1040.8	2.5	25	16		
	2800	OTTA	240 R	1230	1255	25	1.8	.9		
	2800	OTTA	22 GRF	1630	1740	215	2.4	1.6		
	9400	HUAN	20 GRF	1824.7	1842.3	17.6	8.6			0
	2800	OTTA	240 R	1955	2020	25	1.8	.9		
	2800	OTTA	240AR	2210	2250	40	5.8	3.2		
	1420	BOUL	45 C	2233.5	2234	7.5	6	2		
	2800	OTTA	1 S	2235.2	2235.8	3	2.2	1.1		
	2695	BOUL	2 SF	2236	2237	1	4	1		
	2695	PENT	20 GRF	2320	2355	100	3.4	1.7		
17	9400	HUAN	21 GRF	1355.4	1404.8	9.4	7.9			0
	9400	HUAN	1 S	1359.3	1400.2	.9	9.5	35.8		L
	2800	OTTA	240 R	1415	1550	35	4.6	2.3		
	245	SGMR	43 NS	1430	1645.5	589 D	13			
	2800	OTTA	240 R	1820	1840	20	3.4	1.7		
	2600	OTTA	20 GRF	1900	1910	18	1.8	.9		
	2800	OTTA	20 GRF	2015	2025	25	1.8	.9		
	2800	OTTA	1 S	2054	2054.5	2	1.2	.5		
	2800	OTTA	1 S	2108	2108.5	3	1.8	.9		
	2800	OTTA	20 GRF	2120	2140	90	2.2	1.4		
	245	SGMR	6 S	2222	2222.9	1.3	234	93.6		
	410	SGMR	6 S	2222.7	2222.9	.3	29.6	11.8		
	606	SGMR	3 S	2222.8	2222.9	.2	29.8	11.9		
18	2695	PENT	21 GRF	0008	0045	100 D	7.8			
	2695	PENT	1 S	0009	0010.8	5	6.2	3		
	2695	PENT	1 S	0118	0119	3	3.2	1.6		
	3100	CRIM	22 GRF	0719	0739	55	5	2		
	234	POTS	45 C	0957.2	0958.1	2	5000	1500		
	29	UPIC	2 S/F	1025.8	1026.2	1.4				
	33	UPIC	2 S/F	1025.9	1026.2	1.2				
	930	BORD	8 S	1210	1210	.1	174	1		
	2800	OTTA	20 GRF	1300		90	2.2			
	245	SGMR	43 NS	1400	1637.1	560	47.8			3G
	2800	OTTA	23 GRF	1515	1700	170	2.8	1.8		
	2695	PENT	1 S	1706	1707	2	2	1		
	2800	OTTA	240 R	2020	2035	15	1.8	.9		
	1420	BOUL	1 S	2146.5	2148	1.5D	3	1		
	2800	OTTA	1 S	2147	2148	4	2.6	1.3		
	2695	BOUL	2 SF	2148 E	2148.5	1.5D	4	1		
19	4995	BOUL	2 SF	0009.5	0010	2.5	9	3		
	2695	BOUL	2 SF	0010.5	0011.5	2 D	6	2		
	3100	CRIM	24 R	0707	1231		13			
	536	ONDR	3 S	0946.8	0946.8	.2	22			
	260	ONDR	41 F	1024.6	1027.4	4	15			
	536	ONDR	3 S	1108.8	1108.8	.2	22			
	7000	SAOP	1 S	1224	1225.8		6			
	2800	OTTA	21 GRF	1300	1410	130	2.8	1.4		
	6100	KISV	4 S/F	1324.3	1325.3	7	8			
	2800	OTTA	1 S	1324	1325.5	4	2.2	1.4		
	930	BORD	41 F	1423.4	1423.5	.2	18	2		
	33	UPIC	2 S/F	1510.3	1510.5	1.3				
	29	UPIC	2 S/F	1510.5	1510.9	1.7				
	2800	OTTA	24 R	1540	1550	10	2.2	1.1		
	2800	OTTA	27A RF	1540		230	2.2	2		
	2800	OTTA	24P R	1550		200	2.2			

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	2800	OTTA	1	S	1815	1816	3	2.6	1		
	2800	OTTA	26	FAL	1910	1930	20	-2.2	-1.1		
	9400	HUAN	1	S	1914.1	1915.3	1.2	8.4	21.9		R
	2695	PENT	21	GRF	2215	2350	165	4	2		
	2695	PENT	3	S	2336	2337.6	2.5	13	6		
	4995	BOUL	2	SF	2336	2337	1.5	10	3		
	2695	MANI	3	S	2345	2347.6	3.3	17.6	5.9		
	4995	MANI	1	S	2345.5	2347.7	3.3	8.7	3.5		
	1415	MANI	1	S	2346	2347.6	2.5	8.5	3.2		
20	930	BORD	8	S	0656.6	0656.7	.4	29	2		
	9100	GORK	1	S	0808.7	0808.8	.4	7.3	3.5		
	1470	BERL	3	S	0810.5	0810.8	.5	6.2			
	3000	BERL	3	S	0810.5	0810.8	.8	7.3			
	1415	MANI	2	S/F	0811	0811.3	.8	13.4	6.7		
	3100	CRIM	1	S	0811	0811.5	1	5	2		
	2695	MANI	2	S/F	0811.2	0811.3	.8	11.1	5.6		
	950	GORK	1	S	0811.5	0811.6	.4	19	8		
	650	GORK	1	S	0811.5	0811.5	.4	8	4		
	2950	GORK	1	S	0811.6	0811.6	.6	8.6	4.3		
	930	BORD	41	F	0811	0811.3	.6	78	4		
	808	ONDR	3	S	0811	0811	.2	48			
	410	SGMR	44	NS	0910 E	2001.8	909 D	10.7			SHF
	245	SGMR	44	NS	0910 E	1907.4	909 D	97.5			SHF
	650	GORK			0922	0924.4		13			
	650	GORK	45	C	0922	0923	4	72			
	9500	BERL	20	GRF	1152	1221	36	7.4			
	2800	OTTA	20	GRF	1310	1333	120	1.4	.7		
	2800	OTTA	21	GRF	1705	1723	315	8.4	3.2		
	2800	OTTA	2	S/F	1724.5	1725	2.5	7.6	3.8		
	9400	HUAN	22	GRF	1911.2	1933.4	22.2	25.5	23.7		L
21	1415	MANI	1	S	0041.5	0041.7	.6	2.2	1.1		
	2695	MANI	3	S	0041.5	0041.8	1.1	13.1	4.4		
	4995	MANI	3	S	0041.6	0041.8	1.7	15.7	4.7		
	2695	PENT	3	S	0041	0041.8	2	13.4	3.6		
	202	IZMI	4	S/F	0538.1	0538.7	.6	260	75		
	260	ONDR	44	NS	0553 E		574 D	62			
	410	SGMR	44	NS	0910 E	1131.4	910 D	32.2			
	245	SGMR	44	NS	0910 E	2030.1	910 D	176			
	3100	CRIM	24	R	0745	0843		10			
	234	POTS		S	0746.9	0747	.2	175	60		
	237	TRST	5	S	0747.6	0747.7	.1	605	200		12L
	408	TRST	8	S	1020.6	1020.7	.1	90			
	2800	OTTA	20	GRF	1120		100	3.2	2		
	2800	OTTA	20	GRF	1340	1425	75	2.2	1.8		
	2800	OTTA	21	GRF	1515	1623	190	6.2	3.1		
	8800	SGMR	3	S	1534.2	1536.6	3.3	20.5	8.2		
	8900	BERN	46		1534.2	1534.5	6	10	28		-21
	8400	BERN	46	C	1534.2	1534.5	6	12	31		-20
	10400	BERN	46		1534.2	1534.5	6	11	31		
	2695	SGMR	1	S	1534.4	1535.5	3.2	3.7	1.5		
	4995	BOUL	45	C	1534.5	1536	2.5	26	9		
	4995	SGMR	3	S	1534.5	1535.6	3.1	14.9	6		
	4995	ATHN	3	S	1534.5	1535.7	8.3	29	8.7		
	8800	ATHN	3	S	1534.5	1535.7	8.2	49.8	15		
	15400	SGMR	3	S	1534.9	1536.5	2.9	21.8	8.7		
	9400	HUAN	4	S/F	1535.1	1538.4	3.3	29	37.7		L
	2800	OTTA	2	S/F	1535	1536.5	3	3.2	1.8		
	245	SGMR	6	S	1725.5	1729.8	6.7	148	59		
	2800	OTTA	20	GRF	1830	1904	90	3	1.4		
	2800	OTTA	240	R	2110	2140	30	4.6	2.6		
22	4995	BOUL	8	S	0041	0041.5	1	25	8		
	8400	BERN	20	GRF	0458	0611.3	150	6	15		0
	10400	BERN	20		0458	0611.3	150	7	22		
	8900	BERN	20		0458	0611.3	150	4	11		0
	260	ONDR	44	NS	0524 E		588 D	44			
	245	SGMR	44	NS	0910 E	2039.1	910 D	298			3,5,CONT
	410	SGMR	44	NS	0910 E	2126.9	910 D	29.6			3,5,CONT
	200	HIRA	44	NS	1925 E	2125	875 D	45	5		ML
	3100	CRIM	1	S	0602	0605	4	13	4		
	3100	CRIM	29	PBI	0606	0718	72	6	2		
	650	GORK	4	SF	0716.2	0717.2	2	30	7.5		
	9100	GORK	1	S	0942	0942.3	.6	9.4	4.5		
	408	TRST	42	SER	1021.6	1022	.5	15			
	237	TRST	41	F	1022.6	1022.8	.3	180			14L
	9100	GORK	1	S	1024.1	1024.3	.6	11	5.5		
	408	TRST	2	F/S	1121.1	1121.2	.1	29			
	237	TRST	41	F	1340.4	1340.7	.6	205			9L
	113	POTS	45	C	1340.4	1340.9	1	200	50		
	234	POTS	45	C	1340.4	1340.5	1.5	100	25		
	9500	BERL	1	S	1430.7	1431.9	1.7	7.1			
	3000	BERL	3	S	1430.9	1431.5	2.1	8.4			
	1470	BERL		S	1431	1431.8	2	4.6			

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JUN 1978	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} W m^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	2800	OTTA	1 S	1431.5	1432	2	7.4	2.4		
	930	BORD	41 F	1558	1558.6	1	32	2		
	2650	DWIN	47 GB	1640		140 D	130			
	2695	SGMR	3 S	1641	1706.3	95	129	51.6		4,SWF
	606	SGMR	46 C	1641	1811		164			4,SWF
	245	SGMR	49 GB	1641	1757.9		407			4,SWF
	606	SGMR	46 C	1641	1729.8		224			4,SWF
	245	SGMR	49 GB	1641	1706.5	98	824	330		4,SWF
	410	SGMR	6 S	1641	1707.3	98	183	73.2		4,SWF
	606	SGMR	46 C	1641	1707.5	96	205	89.6		4,SWF
	1415	SGMR	4 S/F	1641	1703.4	96	474	180		4,SWF
	4995	SGMR	20 GRF	1642	1706.1	94	68.4	27.4		4,SWF
	1420	ARCE	28 PRE	1642.3	1651.3	13				SUNSET
	237	TRST	47 GB	1643	1706.2	80	1150			32L
	1420	BOUL	48 C	1643.5E	1704	67.5D	388	129		
	930	BORD	46 C	1643	1729.6	130	350	37		
	2695	ATHN	20 GRF	1644.8	1727.5	56.2	138.2	41.4		
	2800	OTTA	45 C	1644	1706	90	113	66		
	228	HARS	47 GB	1645	1705 U	85	700	100		
	1415	ATHN	45 C	1648.3	1704.2	52.7	408	122.4		
	1415	ATHN	45 C	1648.3	1724.6		190	57		
	10400	BERN	22	1651.2	1741.8	85	19	54		
	8900	BERN	22	1651.2	1741.8	85	12	33		0
	8400	BERN	22 GRF	1651.2	1741.8	85	12	32		0
	8800	SGMR	20 GRF	1652	1709	83	38.4	15.4		4,SWF
	2695	BOUL	20 GRF	1652.5E	1703.5	80 D	117	39		
	9400	HUAN	21 GRF	1653.4	1915	141.6	64.6	16.5		R
	1420	ARCE	4 S/F	1655.3	1703.9	15				
	15400	SGMR	20 GRF	1656	1747	79	56.9	17.1		4,SWF
	4995	ATHN	20 GRF	1656.2	1727.5	44.8	99	59.4		
	8800	ATHN	20 GRF	1657.5	1726.1	43.5	62.3	37.4		
	18	MCMA	41 F	1657	1719	57			3	
	9400	HUAN	1 S	1705.2	1706.6	1.4	9.9			0
	29	UPIC	46 C	1707.1	1711.8	10.5				
	33	UPIC	46 C	1710 U	1714.4	7.6U				
	2800	OTTA	30 PBI	1814	1814	265	39	18.2		
	410	SGMR	6 S	1855	1900.9	25	15.2	6.1		
	9400	HUAN	1 S	1902.6	1904.2	1.6	9.9			0
	606	SGMR	47 GB	1905.4	1907.1	14.6	584	234		
	9400	HUAN	21 GRF	1945.9	2101.7	75.8	26.5			0
	4995	SGMR	3 S	1946.4	1951	14.6	31.6	12.7		SWF
	2695	SGMR	3 S	1947	1950.6	14	11.1	4.4		SWF
	9400	HUAN	4 S/F	1948.6	1952.2	3.6	19.9	44.7		L
	8800	SGMR	3 S	1948.8	1952.8	12.2	18.3	7.3		SWF
	2800	OTTA	1 S	1949	1951	8	6.4	3.1		
	4995	BOUL	2 SF	1949	1950.5	2.5D	24	8		
	2800	OTTA	1 S	2010	2014	10	3.6	1.8		
23	202	IZMI	44 NS	0500		195	40			
	260	ONDR	44 NS	0522 E		592 D	96	9		
	127	TORN	44 NS	0640 E		300 D				V0
	245	SGMR	44 NS	0911 E	1405.6	909 D	241			
	410	SGMR	44 NS	0911 E	1548.4	909 D	28.8			
	1420	ARCE	25 R	0725.3		45				
	8400	BERN	20 GRF	0726	0755.6	100	5	15		0
	10400	BERN	20	0726	0755.6	100	7	20		
	8900	BERN	20	0726	0755.6	100	7	20		0
	1420	ARCE	4 S/F	0739.8	0744.5	7.5				
	2695	ATHN	20 GRF	0740.4	0745	29.9	15.8	9.5		
	4995	ATHN	20 GRF	0740.9	0745.7	28.5	14.1	8.5		
	2650	DWIN	1 S	0740	0745	7	20	15		
	9500	BERL	20 GRF	0740	0751	95	15			
	1470	BERL	3 S	0740	0744.4	125	20			
	3000	BERL	20 GRF	0740	0743.4	99	25			
	3100	CRIM	22 GRF	0741	0814	259 D	15	5		
	8800	ATHN	20 GRF	0741.2	0748.6	27.2	18.4	11		
	1415	MANI	3 S	0742	0744.9	4.2	11.2	4.1		
	930	BORD	46 C	0742	0742.3	8	59	5		
	9100	GORK	20 GRF	0744.3	0752.5	36.2	21.5	8.5		
	2695	MANI	3 S	0744.6	0745	1.8	10.2	4.4		
	202	IZMI	41 F	0927.6	0929.7	2.3	600			
	237	TRST	41 F	0929.4	0929.5	.2	240			12L
	2800	OTTA	240 R	1150	1210	20	2.6	1.3		
	8900	BERN	3	1320.2	1322	16	11	30		
	8400	BERN	3 S	1320.2	1322	16	11	29		0
	10400	BERN	3	1320.2	1322	16	11	29		
	15400	SGMR	3 S	1320.5	1322.2	4	24.1	7.2		
	3000	BERL	3 S	1320.5	1321.8	2.3	9.1			
	8800	SGMR	3 S	1320.8	1322.1	3.2	14.5	4.3		
	2800	OTTA	21 GRF	1320	1350	40	2.2	1.1		
	4995	SGMR	3 S	1321.1	1322	2.5	14.3	4.3		
	2695	SGMR	3 S	1321.4	1322	1.5	11.2	3.4		
	9400	HUAN	3 S	1321.4	1323	1.6	19.4			0
	9500	BERL	3 S	1321	1321.5	1	15			
	2800	OTTA	1 S	1321	1322	3	5.2	1.8		

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	228	HARS	7 C	1646.5	1647 U	1	85	30		
	2800	OTTA	20 GRF	1730	1735	20	1.8	.9		
	9400	HUAN	20 GRF	1752.8	1908.2	75.4	11.3			0
	2800	OTTA	1 S	1944	1945	2.5	2.2	1		
	2800	OTTA	1 S	2024	2024.5	1	2.2	1.1		
	2800	OTTA	20 GRF	2105	2113	20	2	1		
24	100	GORK	44 NS	0500 E		240		20		
	200	GORK	43 NS	0520 E		400		5		
	260	ONDR	44 NS	0633 E		497 D	98	3		
	127	TORN	44 NS	0640 E	1100.3	510 D	120	6		V1
	245	SGMR	44 NS	0911 E	1038.8	909 D	636			3G
	410	SGMR	44 NS	0911 E	1505.8	909 E	21.5			3G
	234	POTS	45 C	0601.8	0601.9	.6	190	20		
	237	TRST	41 F	0701.4	0702.2	1	225			0
	237	TRST		0706.6	0708.3		375			4L
	237	TRST	42 SER	0706.6	0706.8	2.4	295			11L
	3100	CRIM	1 S	0810	0821	21	6	2		
	3100	CRIM	24 R	0852	0915		6			
	234	POTS	2 SF	1036.3	1038.4	6.1	420	10		
	237	TRST		1037.5	1038.9		310			0
	237	TRST	42 SER	1037.5	1038.6	4.5	910			0
	234	POTS	S	1218	1218.1	.1	350	120		
	237	TRST	41 F	1218.1	1218.2	.2	625			0
	237	TRST	41 F	1505.6	1505.6	.1	705			5L
	237	TRST	41 F	1506	1506	.2	680			4L
	2800	OTTA	22 GRF	1525	1615	120	3.8	1.9		
	2800	OTTA	20 GRF	1730	1740	30	1.2	.8		
	2800	OTTA	240 R	2227	2240	13	3.6	2		
25	200	GORK	43 NS	0300		315		10		
	100	GORK	44 NS	0300 E		300		40		
	260	ONDR	44 NS	0628 E		508 D	30	2		
	245	SGMR	44 NS	0911 E	1236.8	909 D	127.4			
	410	SGMR	44 NS	0911 E	1857.6	909 D	26.2			
	29	UPIC	2 S/F	0845.1	0845.6	1.1				
	33	UPIC	2 S/F	0845.2	0845.4	.6				
	3000	BERL	1 S	1135	1136.5	2.3	5.8			
	1470	BERL	1 S	1136	1136.5	1.5	2.6			
	700	SYDN	1 S	2349.2	2349.5	.5	10			
26	200	GORK	44 NS	0303 E		570		10		
	260	ONDR	44 NS	0545 E		565 D	71	5		
	127	TORN	43 NS	0900 U	1104.4	370 D	340	6		V1
	245	SGMR	44 NS	0912 E	1759.4	908 D	715			3,5,CONT
	410	SGMR	44 NS	0912 E	1802.9	908 D	322			3,5,CONT
	100	GCRK	43 NS	1040		110		5		
	200	HIRA	44 NS	1930 E	2220	870 D	70	30		ML
	100	HIRA	44 NS	1930 E	2230	870 D	200	50		ML
	536	ONDR	4 S/F	1110.5	1111.5	3	31	2		
	234	POTS	45 C	1126.6	1126.8	1.1	250	80		
	237	TRST	41 F	1126.7	1126.9	.4	455			0
	245	SGMR	3 S	1126.8	1127	1	262	105		
	202	IZMI	5 S	1128.7	1128.8	1	750	370		
	2800	OTTA	22 GRF	1200	1230	75	5.6	2.8		
	33	UPIC	48 C	1218.5U	1221.8	8.8U				
	29	UPIC	48 C	1220.7	1222.2	9.1				
	1470	BERL	3 S	1259	1259.5	1	8.8			
	237	TRST	41 F	1304.8	1304.9	.2	100			0
	234	POTS	45 C	1429.3	1434.8	11	440	8		
	245	SGMR	6 S	1434	1436.7	8	148.5	44.6		5,SWF
	237	TRST	41 F	1434.2	1434.3	.6	880			0
	536	ONDR	41 F	1434.5	1438.6	6.5	32	3.9		
	1415	ATHN	3 S	1436	1438.5	6.1	12.2	3.7		
	33	UPIC	48 C	1436.2	1446	17.3				
	237	TRST	41 F	1436.2	1436.6	.5	430			3L
	410	SGMR	6 S	1436.3	1438.4	4.9	96.2	28.9		5,SWF
	2695	ATHN	3 S	1436.4	1438.4	6.2	16	4.8		
	8800	SGMR	3 S	1436.5	1438.8	3.4	14.1	4.2		5,SWF
	29	UPIC	48 C	1436.6	1448.4	17.6				
	4995	ATHN	3 S	1436.9	1438.4	5.4	37.5	11.3		
	8800	ATHN	3 S	1437	1438.5	5.6	12.3	3.7		
	606	SGMR	3 S	1437	1438.2	3.3	54.6	16.4		5,SWF
	2695	SGMR	3 S	1437.1	1438.3	4.1	21.3	6.4		5,SWF
	8400	BERN	2 S/F	1437.2	1438.2	3	7	19		0
	10400	BERN	2	1437.2	1438.2	3	4	13		
	8900	BERN	2	1437.2	1438.2	3	6	16		0
	1470	BERL	4 S/F	1437.5	1438	2.5	10			
	3000	BERL	3 S	1437.5	1438	2.5	25			
	9500	BERL	1 S	1437.7	1438	.8	9.6			
	1420	ARCE	4 S/F	1437.8	1438.1	2				
	2800	OTTA	3 S	1437.9	1438.1	1.8	17.2	8		
	4995	BOUL	8 S	1437	1437.5	1.5	36	12		
	9100	ARCE	1 S	1438.1	1438.6	2				
	1415	SGMR	3 S	1438.2	1438.9	2.3	45.1	13.5		5,SWF

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	930	BORD	46	C	1438	1438.5	2	15	4		
	808	ONDR	3	S	1438	1438.6	2	20	6.2		
	245	SGMR	7	C	1526.5	1618.6		186.3			2,4,5,SWF
	245	SGMR	7	C	1526.5	1537.3	108.5	251	75.3		2,4,5,SWF
	930	BORD	46	C	1527	1537	112	259	80		
	237	TRST	47	GB	1528.8	1538.3	91.5	525			24L
	237	TRST			1528.8	1643.9		340			0
	2800	OTTA	47	GB	1528	1539.5	32	1160	262		
	1420	ARCE	4	S/F	1529.5	1539.8	26.2				
	2695	BOUL	47	GB	1529 E	1541	73.5D	1730	576		
	1420	BOUL	48	C	1530.5E	1540	95.5D	388	129		
	410	SGMR	7	C	1530.5	1621		209.7			2,4,5,SWF
	410	SGMR	7	C	1530.5	1537.3	104.5	367	110		2,4,5,SWF
	1415	ATHN	2	S/F	1530.9	1540.3	76.4	412	247.2		
	2650	DWIN	47	GB	1530		60 U	160 D			
	10715	DWIN	2	S	1530	1537	25	150	75		
	4995	BOUL	20	GRF	1530 E	1543.5	65 D	281	93		
	2695	SGMR	47	GB	1531.1	1539.5	37.7	1787	536		2,4,5,SWF
	2695	ATHN	5	GB	1531.4	1543.2	74.9	521	312.6		
	4995	ATHN	2	S/F	1531.8	1543.1	79.7	404	242.4		
	606	SGMR	45	C	1532	1618.8		275			2,4,5,SWF
	606	SGMR	45	C	1532	1537.5	88	426	128		2,4,5,SWF
	10400	BERN	3		1532.1	1542.2	44	64	181		
	8900	BERN	3		1532.1	1542.2	44	69	188		-2
	8400	BERN	3	S	1532.1	1542.2	44	82	216		-3
	9100	ARCE	3	S	1533.2	1542.7	26.4				
	8800	ATHN	2	S/F	1533.2	1542.9	61.6	326	195.6		
	1415	SGMR	45	C	1534	1620.4		72.6			2,4,5,SWF
	1415	SGMR	45	C	1534	1540.2	75	380	114		2,4,5,SWF
	4995	SGMR	3	S	1534.5	1543	31.5	314	94.3		2,4,5,SWF
	15400	SGMR	3	S	1534.5	1543	29.9	109	32.6		2,4,5,SWF
	8300	SGMR	3	S	1534.5	1543	27.7	218	65.5		2,4,5,SWF
	18	MCMA	41	F	1536	1553	28			2	
	29	UPIC	46	C	1537.2	1537.8	3.3				
	33	UPIC	46	C	1537.5	1537.5	2.5				
	2695	ATHN	5	GB	1538.5	1540.1	4.7	1561	468.3		
	1420	ARCE	30	PBI	1555.7		60 D				SUNSET
	9100	ARCE	29	PBI	1559.6		97				
	2800	OTTA	30	PBI	1600	1600	230	38	14		
	1420	ARCE	4	S/F	1614.8	1620	13				
	2800	OTTA	3	S	1615	1619.5	17	22.6	10.2		
	2800	OTTA	1	S	1633	1635	6	3.8	1.9		
	2800	OTTA	1	S	1718.5	1719.2	2	2.6	1.3		
	18	MCMA	6	S	1732	1738	7			2	
	4995	BOUL	8	S	1734.5	1735	1	44	14		
	8400	BERN	2	S/F	1734.7	1735.5	3	11	30		0
	10400	BERN	2		1734.7	1735.5	3	10	26		
	8900	BERN	2		1734.7	1735.5	3	10	26		0
	2695	SGMR	3	S	1735.2	1735.7	1.8	64.2	25.7		
	1415	SGMR	3	S	1735.2	1735.9	2.8	24.9	9.9		
	4995	SGMR	3	S	1735.3	1735.7	1.7	47.9	19.2		
	245	SGMR	7	S	1735.3	1735.7	1.2	367.2	147		
	410	SGMR	6	S	1735.3	1735.9	1.7	53.3	21.3		
	29	UPIC	45	C	1735.3	1735.6	1.3				
	606	SGMR	3	S	1735.4	1735.8	2.4	22.1	8.8		
	8800	SGMR	3	S	1735.4	1735.5	2.6	18.1	7.2		
	2800	OTTA	3	S	1735	1735.7	2	43	14.4		
	2650	DWIN	8	S	1735		1	50	10		
	930	BORD	3	S	1735	1735.8	2	14	7		
	4995	BOUL	1	S	1801.5	1802	1	8	3		
	2800	OTTA	4	S/F	1802.3	1803	1.5	19	10		
	2650	DWIN	8	S	1803		1	90	10		
	4995	BOUL	45	C	2204.5	2205	2.5	51	17		
	2695	MANI	4	S/F	2204.8	2205.9	3.2	56.2	18.7		
	410	SGMR	7	S	2204.9	2205.7	12.1	445	178		
	245	SGMR	49	GB	2205	2210.1	12	669	267		
	500	HIRA	46	C	2205	2206.5	4	750	150		SR
	1400	SYDN	3	S	2205	2206	4	80			
	700	SYDN	3	S	2205	2207	3	220 D			
	1415	SGMR	3	S	2205.1	2206.3	9.9	107	42.8		
	2695	SGMR	3	S	2205.1	2205.9	9.9	55.1	22		
	4995	MANI	4	S/F	2205.2	2205.8	3.5	41.4	13.8		I
	606	SGMR	3	S	2205.2	2206	2.8	494	198.1		
	4995	SGMR	3	S	2205.5	2205.7	9.5	29.7	11.9		
	8800	SGMR	3	S	2205.5	2205.7	9.5	19.2	7.7		
	2800	OTTA	4	S/F	2205	2205.5	4	55	18.2		
	18	MCMA	6	S	2205	2208	6			1	
	200	HIRA	46	C	2205	2205.5	3	600	30		MR
	100	HIRA	46	C	2205	2206	3				
	4995	BOUL	2	SF	2238	2239	1.5	10	3		
	2800	OTTA	4	S/F	2239	2241	3	12.4	4.2		
	2695	PENT	21	GRF	2247	2325	75	3.6	1.8		
	2695	PENT	2	S/F	2315	2315.1	1	1.8			
	1400	SYDN	1	S	2340	2340.7	1	5			
	700	SYDN	4	S	2340	2341	2	22			

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	2695	PENT	1	S	2340	2340.5	1	4.4	1.4		
27	2695	PENT	21	GRF	0055	0110	30	2.8	1.4		
	200	HIRA	46	C	0059	0102	5	170	100		MR
	500	HIRA	45	C	0100	0101.1	4	70	40		SR
	1400	SYDN	4	S	0100	0101.2	4.5	47			
	700	SYDN	4	S	0100	0101.5	4.3	60			
	2695	PENT	3	S	0100.3	0101.2	6	47	12		
	2695	MANI	3	S	0100.6	0101.4	3.5	48.9	14.4		
	4995	MANI	3	S	0100.7	0101.6	2.8	14.5	4.5		IG
	4995	BOUL	4	SF	0100	0101	3	23	8		
	100	HIRA	46	C	0101 E	0101 U	3 D	4000	500		0
	700	SYDN	4	S	0111	0111.6	1.2	33			
	2695	PENT	1	S	0111	0111.9	4	3.6	1.8		
	200	GORK	44	NS	0300 E		600		5		
	260	ONDR	44	NS	0532 E		585 D	78	3		
	127	TORN	44	NS	0640 E		510 D				VO
	410	SGMR	44	NS	0912 E	1630	908 D	14.1			5,CONT
	245	SGMR	44	NS	0912 E	1235.8	908 D	67.2			5,CONT
	650	GORK	1	S	0650	0653.4	3.9	8	4		
	9100	GORK	1	S	0654.6	0654.8	.7	14	7		
	930	BORD	41	F	0700	0700.5	7	19	2		
	930	BORD	41	F	0821	0822.4	6	16	2		
	202	IZMI	4	S/F	0940.6	0941	1.1	130	45		
	3000	BERL	1	S	1001.5	1003	8.5	5.1			
	8900	BERN	1		1127.7	1128.1	5	4	10		0
	8400	BERN	1	S	1127.7	1128.1	5	5	15		0
	10400	BERN	1		1127.7	1128.1	5	4	11		
	9100	GORK	1	S	1128.1	1128.2	.5	12.2	6		
	100	GORK	8	S	1140		2	50			
	33	UPIC	45	C	1143.2	1143.6	1.4				
	29	UPIC	45	C	1143.3	1144.1	1				
	930	BORD	41	F	1143	1143.4	2	18	2		
	8400	BERN	1	S	1357.3	1358.2	6	19	50		8
	10400	BERN	1		1357.3	1358.2	6	7	22		
	8900	BERN	1		1357.3	1358.2	6	20	55		10
	9500	BERL	3	S	1357.5	1357.8	2.5	21			
	8800	ATHN	3	S	1357.9	1358.7	8.6	38	11.4		
	4995	ATHN	3	S	1358	1358.7	8.2	19	5.7		
	9400	HUAN	3	S	1358.1	1359.2	1.1	27.7			0
	536	ONDR	3	S	1412.2	1412.2	.2	24			
	536	ONDR	8	S	1511	1511	.3	60			
	10400	BERN	1		1512.4	1513.4	8	5	15		
	8900	BERN	1		1512.4	1513.4	8	7	15		0
	8400	BERN	1	S	1512.4	1513.4	8	7	15		0
	9400	HUAN	3	S	1512.7	1513.8	1.1	13	27.3		L
	245	SGMR	6	S	2159	2200.5	2.2	153	49.9		5,CONT
	1415	MANI	3	S	2257	2257.8	2.2	29.1	19.4		
28	4995	MANI	47	GB	0243.1	0245.9	10	418.3	171.9		
	4995	MANI	47	GB	0243.1	0246.3		516.2			
	500	HIRA	46	C	0244	0247.6	21	2000	150		MRWL
	1415	MANI	45	C	0244.6	0245.7	6.2	176.8	63.9		
	1415	MANI	45	C	0244.6	0246.4		191.7			
	2695	MANI	45	C	0244.8	0246.2		331.2			
	2695	MANI	45	C	0244.8	0245.7	9.9	310.5	110.4		
	5730	IRKU			0244.9	0246.5		350			R
	5730	IRKU	45	C	0244.9	0245.9	15	250			R
	1400	SYDN	40	F	0245	0264	10	180			
	700	SYDN	40	F	0245	0261	10	240			
	200	HIRA	46	C	0245	0246	9	10000	500		ML
	8800	MANI	45	C	0245.1	0246.3		430.5			
	8800	MANI	45	C	0245.1	0245.9	4.6	369	114.7		IG
	606	MANI	4	S/F	0245.2	0246.5	2.6	46.4	15.5		
	100	HIRA			0245.5	0251		25000			WL
	100	HIRA	46	C	0245.5	0246.5	12	50000	1000		0
	35000	NAGO	5	S	0246	0247	3	91			
	200	GORK	46	C	0248 E	0251 U	6	6000			
	100	GORK			0248 E	0251.1		999999			
	100	GORK	45	C	0248 E	0249.8	3.6	4400			
	35000	NAGO	29	PBI	0249	0252	10	15			
	100	GORK	43	NS	0254		606		20		
	200	GORK	44	NS	0300		600		5		
	260	ONDR	44	NS	0528 E		586 D	25	2		
	127	TORN	44	NS	0800 E	1031.8	430 D	56	6.5		V1
	245	SGMR	44	NS	0912 E	1139.3	908 D	150			2,3G
	410	SGMR	44	NS	0912 E	1914.4	908 D	155			2,3G
	3100	CRIM	25	R	0906	0920		6			
	3100	CRIM	20	GRF	0932	0942	27	3	1		
	2800	OTTA	1	S	1649	1651.5	5	9.8	4.6		
	4995	BOUL	2	SF	1720.5	1721.5	1.5	9	3		
	2800	OTTA	20	GRF	2016	2023.5	16	4.8	2.2		
	2800	OTTA	20	GRF	2105	2155	110	4.8	2.4		
29	5730	IRKU	20	GRF	0301.9	0302.7	13	8	4		R

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	5730	IRKU	2 S	0324	0324.5	6	32	5		
	4995	MANI	3 S	0324.2	0324.6	1.2	20.9	7		
	8800	MANI	3 S	0324.2	0324.5	1.2	58.1	19.3		
	8800	ATHN	3 S	0428.1	0430.6	7.1	37.4	11.2		
	4995	ATHN	4 S/F	0428.4	0430.7	10	91.7	27.5		
	2695	ATHN	4 S/F	0428.7	0430.8	14.6	67.5	20.3		
	200	GORK	46 C	0428.9	0430.5	4	30			
	5730	IRKU	2 S	0428.9	0429.9	12	43	5		R
	2950	GORK	3 S	0429.4	0430.7	5.3	76			
	4995	MANI	3 S	0429.5	0430.9	5.5	69.2	23.1		
	2695	MANI	3 S	0429.8	0430.9	3.5	64.8	21.6		
	100	GORK	8 S	0429.8		4.5	200			
	1415	ATHN	3 S	0429.9	0430.8	3	14.4	4.3		
	29	UPIC	2 S/F	0430	0430.6	1.5				
	700	SYDN	1 S	0430	0430.5	3	13			
	1400	SYDN	1 S	0430	0430.7	1.6	10			
	8800	MANI	3 S	0430.1	0430.7	1.9	35.6	11.9		IG
	1415	MANI	3 S	0430.2	0430.9	2.9	13.2	4.4		
	15000	KISV	29 PRI	0456	0458	4	30 D			
	8800	ATHN	4 S/F	0456.2	0457.8	7.8	422	126.6		
	8400	BERN	3 S	0456.4	0457.7	6	95	251		-19
	10400	BERN	3	0456.4	0457.7	6	68	197		
	8900	BERN	3	0456.4	0457.7	6	85	231		-17
	4995	ATHN	4 S/F	0456.5	0457.9	10.8	377	113.1		
	2695	ATHN	4 S/F	0456.7	0457.8	9.2	180	54		
	700	SYDN	4 S	0457	0457.8	4.5	100			
	2950	GORK	3 S	0457	0457.8	2.3	96			
	228	HARS	C	0457	0457.7U	1.7	320 D	90		
	5730	IRKU	2 S	0457.2	0457.8	14	220	10		R
	4995	MANI	3 S	0457.3	0457.9	3.7	276.9	91.8		
	9100	GORK	3 S	0457.4	0457.8	2.9	232	116		
	950	GORK	3 S	0457.5	0458	5.3	23	11		
	100	GORK	8 S	0457.5	0458.7U	2	1820			
	650	GORK	29 PBI	0457.5	0458.2	9.9	15	4.3		
	650	GORK		0457.5	0457.9		32			
	650	GORK	45 C	0457.5	0457.7	.7	38			
	100	HIRA	7 C	0457.5	0457.8	1	30000	9999		ML
	200	HIRA	7 C	0457.5	0457.6	1	30000	7000		O
	500	HIRA	46 C	0457.5	0457.8	4	150	20		WR
	1415	ATHN	4 S/F	0457.5	0458	4	71.8	21.5		
	29	UPIC	4 S/F	0457.6	0458.1	1.3				
	1415	MANI	3 S	0457.6	0458.2	3.4	77.9	26.4		
	2695	MANI	3 S	0457.6	0458	2.5	171.4	57.1		
	200	GORK		0457.6	0457.9	3	30			
	8800	MANI	3 S	0457.7	0457.9	1	264	88		I
	606	MANI	3 S	0457.7	0457.9	1	31.8	10.5		
	1400	SYDN	3 S	0507	0508	6	65			
	260	ONDR	44 NS	0520 E		597 D	64	4		
	245	SGMR	44 NS	0913 E	0952.2	907 D	99			
	410	SGMR	44 NS	0913 E	2213.7	907 D	36.8			
	237	TRST	41 F	0658.2	0658.2	.2	95			O
	3000	BERL	3 S	0712	0713.5	3	7.9			
	3100	CRIM	1 S	0712	0714	5	3	1		
	930	BORD	46 C	0717	0717.2	.7	183	8		
	808	ONDR	8 S	0717	0717	.3	65			
	33	UPIC	45 C	0834.7	0835	1.9				
	29	UPIC	45 C	0835.1	0835.3	1.4				
	2695	ATHN	3 S	0843.6	0844.1	2.9	41.3	12.4		
	4995	ATHN	3 S	0843.6	0844.1	2.6	49.8	14.9		
	1420	ARCE	4 S/F	0843.6	0843.7	2				
	1420	ARCE	41 SER	0843.6	0847.2	7				
	8900	BERN	3	0843.7	0844	3	15	42		O
	8400	BERN	3 S	0843.7	0844	3	19	50		O
	10400	BERN	3	0843.7	0844	3	12	36		
	1415	ATHN	3 S	0843.7	0844.3	2.8	7.2	2.2		
	8800	ATHN	3 S	0843.7	0844.1	2.1	43.6	13.1		
	930	BORD	42 SER	0843.7	0843.7	6.6	200	1		
	9100	GORK	41 F	0843.9	0844.2	5.9	41			
	9100	GORK		0843.9	0847.7		112			
	9100	ARCE	3 S	0843.9	0844.2	1.5				
	9100	ARCE	41 SER	0843.9	0847.7	6				
	6100	KISV	8 S	0844	0844.1	2	35			
	3100	CRIM	1 S	0844	0844.5	3	18 D	6		
	8800	MANI	41 F	0844	0847.8	4.5	101.2	33.7		
	2695	MANI	41 F	0844	0847.9	5.6	73.6	24.1		
	1415	MANI	41 F	0844	0847.5	5.4	44.1	14.7		
	4995	MANI	41 F	0844.2	0847.8	5.6	88.5	29		
	2650	DWIN	1 S	0844	0844	2	30	5		
	10715	DWIN	1 S	0844	0844	1	30	5		
	3100	CRIM	3 S	0847	0847.5	4	75 D	25		
	6100	KISV	8 S	0847	0847.3	2	87			
	9100	ARCE	3 S	0847.1	0847.7	2.8				
	8400	BERN	3 S	0847.1	0847.5	9	41	110		12
	10400	BERN	3	0847.1	0847.5	9	26	77		
	8900	BERN	3	0847.1	0847.5	9	35	95		12

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	2950	GORK	1	S	0847.2	0847.6	1.6	16			
	950	GORK	8	S	0847.3	0847.5	.4	52	26		
	2650	DWIN	1	S	0847	0848	4	80	10		
	10715	DWIN	1	S	0847	0847	2	75	10		
	1420	ARCE	4	S/F	0847	0847.2	3.6				
	930	BORD	8	S	0911	0911	.3	111	2		
	3100	CRIM	25	R	0955	1015		7			
	930	BORD	41	F	0956.5	0957	1	18	2		
	930	BORD	41	F	1003.5	1004.6	2	128	2		
	10400	BERN	46		1112	1121.3	4	6	17		
	8900	BERN	46		1112	1121.3	4	7	20		7
	8400	BERN	46	C	1112	1121.3	4	9	25		12
	9100	ARCE	1	S	1112.2	1112.5	.8				
	1420	ARCE	40	F	1119.8	1120.2	2.5				
	3000	BERL	4	S/F	1120	1121	2.5	13			
	9500	BERL	3	S	1120	1121	2	12			
	8800	SGMR	3	S	1120	1121	2	14.7	5.9		
	9100	GORK	2	SF	1120.1	1121.4	2	18	6.8		
	1415	SGMR	1	S	1120.3	1120.5	1.7	9.7	3.9		
	9100	ARCE	45	C	1120.3	1121.5	3.7				
	2695	SGMR	3	S	1120.5	1122.5	2.4	10.2	4.1		
	4995	SGMR	3	S	1120.7	1121.4	1.8	15.1	6		
	930	BORD	41	F	1120.7	1121	.8	57	2		
	808	ONDR	8	S	1120.8	1120.8	1.5	50			
	2800	OTTA	3	S	1120	1121.7	2.5	10.4	4		
	650	GORK	1	S	1121	1121.2	.6	18	9		
	950	GORK	1	S	1121	1121	.2	5	2.5		
	606	SGMR	3	S	1121.4	1121.4	.8	77.7	31.1		
	4995	BOUL	4	SF	1410.5E	1416	9.50	34	11		
	536	ONDR	46	C	1412	1413.8	10	50	6.4		
	4995	SGMR	3	S	1413.5	1415.6	16	81	32		5,SWF
	9400	HUAN	3	S	1413.6	1422.2	8.6	34.4	50.3		L
	1420	ARCE	4	S/F	1413.6	1415.7	8				
	3000	BERL	4	S/F	1414	1415.7	7.5	71			
	260	ONDR	45	C	1414.6		4	206 D	37		
	10400	BERN	4		1414.8	1416.2	7	11	31		
	8900	BERN	4		1414.8	1416.2	7	14	39		-25
	8400	BERN	4	S/F	1414.8	1416.2	7	20	52		-30
	606	SGMR	3	S	1415	1416.2	4.9	24.1	9.6		5,SWF
	245	SGMR	48	GB	1415.1	1416	3.5	1070	432		5,SWF
	234	POTS	45	C	1415.1	1416.1	4.1	1500	200		
	113	POTS	45	C	1415.2	1415.4	4.9	9000	2000		
	237	TRST	41	F	1415.2	1416	1.6	1810			3L
	2695	SGMR	3	S	1415.3	1415.5	14.6	66.3	27		5,SWF
	9100	ARCE	3	S	1415.3	1416.3	4				
	410	SGMR	7	S	1415.4	1415.5	6.1	253	102		5,SWF
	1415	SGMR	3	S	1415.4	1415.6	4.2	32.6	13		5,SWF
	9500	BERL	4	S/F	1415.4	1415.6	2.1	28			
	228	HARS	48	C	1415.5	1416.5	3.5	450	200 D		
	127	TORN	47	GB	1415.5	1416 D	3.8	1600 D	530 D		
	8800	ATHN	4	S/F	1415.5	1416.2	2.7	54.2	16.3		
	1415	ATHN	3	S	1415.5	1415.8	1.8	14.4	4.3		
	2695	ATHN	4	S/F	1415.5	1416	2	54.2	16.3		
	4995	ATHN	4	S/F	1415.5	1416.2	2	75.5	22.7		
	808	ONDR	3	S	1415	1416.2	10	32	12.2		
	930	BORD	3	S	1415	1416	6	23	7		
	2695	BOUL	4	SF	1415 E	1417	11 D	63	21		
	1420	BOUL	4	SF	1415 E	1416	11.5D	35	11		
	29	UPIC	4	S/F	1416.4	1417	1.5				
	18	MCMA	6	S	1416	1417	3			1	
	33	UPIC	4	S/F	1417	1417.3U	2.3				
	9400	HUAN	29	PBI	1422.2	1440.5	18.3	4.7	34		L
	2800	OTTA	20	GRF	1500	1530	30	3	1.5		
	9100	ARCE	2	S/F	1612.4	1612.9	1.4				
	2800	OTTA	20	GRF	1850	1930	140	5.8	2.9		
	2600	OTTA			2210	2233	40 D	8.4			
30	8800	MANI	3	S	0152.8	0153.2	1.7	40.3	13.4		
	2695	MANI	1	S	0153.1	0153.6	1	6.8	2.3		
	4995	MANI	1	S	0153.1	0153.7	1.4	3.2	1.1		
	8800	MANI	3	S	0210.3	0210.8	1	31.7	10		
	4995	MANI	3	S	0210.4	0211	2.2	8	3.2		
	1415	MANI	3	S	0221.3	0221.9	1	20.2	7.1		
	4995	MANI	3	S	0231.9	0233.8	3.8	11.2	3.2		
	8800	MANI	3	S	0233	0233.7	1.9	15.8	5.2		
	1400	SYDN	1	S	0233	0234	1	5			
	1415	MANI	1	S	0233.2	0233.5	.6	2.4	.7		
	2695	MANI	1	S	0233.3	0233.6	.9	4.1	1.3		
	260	ONDR	44	NS	0522		332	81			
	6100	KISV	21	GRF	0711	0716	10	8			
	237	TRST	41	F	0741.5	0741.6	.3	235			4L
	237	TRST	41	F	0820.2	0820.3	.4	295			5L
	3100	CRIM	3	S	0905	0915	27	16	5		
	3100	CRIM	29	PBI	0905	0915		6			
	2650	DWIN	6	S	0912	0915	15	15	10		

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	9100	ARCE	45 C	1050	1050.3	2.2				
	408	TRST	48 C	1051	1052.3	1.1	160 D			
	1420	ARCE	4 S/F	1051.7	1052.2	1.6				
	234	POTS	45 C	1051.8	1052.7	1.8	420	50		
	200	GORK	8 S	1052	1052.3	1.3	45			
	2950	GORK	1 S	1052	1052.4	.9	4.8	2.4		
	2695	SGMR	1 S	1052	1052.5	1.9	7.2	3.6		3
	245	SGMR	6 S	1052	1052.8	3.5	130	65		3
	3100	CRIM	1 S	1052	1052.5	4	6	2		
	6100	KISV	8 S	1052	1052.3	1	7			
	410	SGMR	7 S	1052.1	1052.6	2.7	301	151		3
	1415	SGMR	3 S	1052.1	1052.5	1.6	10.7	5.4		3
	100	GORK	8 S	1052.1	1052.3	1.2	190			
	650	GORK	1 S	1052.1	1052.3	2.3	4	2		
	237	TRST	41 F	1052.1	1052.6	.8	920			2L
	536	ONDR	8 S	1052.1	1052.1	.4	53			
	29	UPIC	8 S	1052.2	1052.4	.7				
	33	UPIC	8 S	1052.2	1052.2	1				
	950	GORK	1 S	1052.2	1052.6	.8	5	2.5		
	228	HARS	48 C	1052.2	1052.7	1.2	600 D	100		
	4995	SGMR	3 S	1052.2	1052.4	1.6	10.1	5.1		3
	606	SGMR	3 S	1052.2	1052.5	1.3	23.6	11.8		3
	930	BORD	3 S	1052	1052.5	1.6	12	6		
	2800	CTTA	20 GRF	1055	1155	105	3.4	1.7		
	2695	ATHN	3 S	1446.4	1449	6.8	45.2	13.6		
	4995	ATHN	4 S/F	1446.4	1449	8.4	58.5	17.6		
	9500	BERL	3 S	1446.5	1448.6	5	19			
	3000	BERL	3 S	1446.5	1448.5	8.5	51			
	2800	OTTA	3 S	1446.5	1449	10	44	13		
	8900	BERN	20	1446.8	1451.2	8	9	20		0
	8400	BERN	20 GRF	1446.8	1451.2	8	10	25		0
	10400	BERN	20	1446.8	1451.2	8	6	18		
	1420	BOUL	4 SF	1446	1449	5.5	6	2		
	4995	BOUL	4 SF	1446	1448.5	6.5	38	12		
	9400	HUAN	3 S	1447.2	1455.7	8.5	26.9	29.2		L
	9100	ARCE	1 S	1447.2	1449.4	7				
	2695	SGMR	3 S	1447.3	1449.1	4.1	54.5	16.4		
	8800	SGMR	3 S	1447.3	1449.1	4	24.5	7.4		
	4995	SGMR	3 S	1447.3	1449.1	3.9	51.8	15.5		
	8800	ATHN	3 S	1447.4	1449.1	6.1	27.3	8.2		
	2650	DWIN	3 S	1447	1449	8	50	20		
	2695	BOUL	1 S	1447 E	1450.5	9.5D	30	10		
	1420	ARCE	1 S	1447	1449	6				
	9400	HUAN	29 PBI	1455.7	1510.8	15.1	5			0
	245	SGMR	43 NS	1512	1716.4	548 D	36.6			5
	410	SGMR	43 NS	1512	1716.4	548 D	30			5
	9100	ARCE	20 GRF	1529.5	1546	35				
	1420	BOUL	2 SF	1535.5	1536	1	3	1		
	1420	ARCE	1 S	1536.1	1536.2	.5				
	2695	SGMR	3 S	1624.5	1627.3	7.5	46.5	14		
	4995	SGMR	3 S	1624.5	1627.1	5.7	37.1	11.1		
	2800	OTTA	3 S	1625.2	1627	4.8	42	10.6		
	9400	HUAN	3 S	1625.6	1631.5	5.9	11.8	22.2		L
	2695	ATHN	3 S	1625.6	1627	3.6	38.8	11.6		
	4995	ATHN	3 S	1625.9	1627	3.2	32.5	1		
	4995	BOUL	4 SF	1625	1626.5	3	24	8		
	1415	SGMR	3 S	1626.4	1627.4	5.1	10.1	3		
	2695	BOUL	1 S	1626.5	1628.5	6	30	10		
	1420	ARCE	2 S/F	1626.5	1627.1	4.5				
	9100	ARCE	2 S/F	1626.8	1627.2	1.6				
	8800	ATHN	3 S	1626.9	1627.1	0.6	6.8	2		
	2650	DWIN	2 S	1626	1627	4	45	15		
	1420	BOUL	2 SF	1626	1627.5	4 D	9	3		
	606	SGMR	1 S	1627.2	1627.3	.4	4.2	1.3		
	2800	OTTA	29 PBI	1630	1630	15	4.8	2.4		
	2800	OTTA		1650	1705.2	40	30			
	9400	HUAN	20 GRF	1702.1	1737.2	35.1	8.4			0
	1420	BOUL	41 F	1702.5	1714	13.5	20	7		
	4995	SGMR	3 S	1702.5	1714.5	16.7	31.6	9.5		SWF
	2695	SGMR	3 S	1702.6	1715.2	16.6	51.6	15.5		SWF
	4995	BOUL	41 F	1702	1713.5	12.5D	18	6		
	2695	BOUL	41 F	1703.5	1716	13.5	30	10		
	930	BORD	42 SER	1706	1710.5	11	137	2		
	1415	SGMR	3 S	1707.1	1714.3	11.4	39	11.7		SWF
	606	SGMR	3 S	1707.4	1707.8	9.1	317	95.1		SWF
	8800	SGMR	3 S	1719.4	1719.6	1.6	164	32.8		SWF
	2800	OTTA	32A ABS	1735	1750	35	4	2		
	9400	HUAN	20 GRF	1754.4	1904.4	70	11.8			0
	2800	OTTA	1 S	1800.5	1802	3	5.2	2.6		
	4995	BOUL	4 SF	1800.5	1801.5	3 D	15	5		
	2695	BOUL	4 SF	1801.5	1803	3 -	7	2		
	2800	OTTA	20 GRF	1815	2000	235	4.8	2.6		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1978

Reports received from the following observatories:

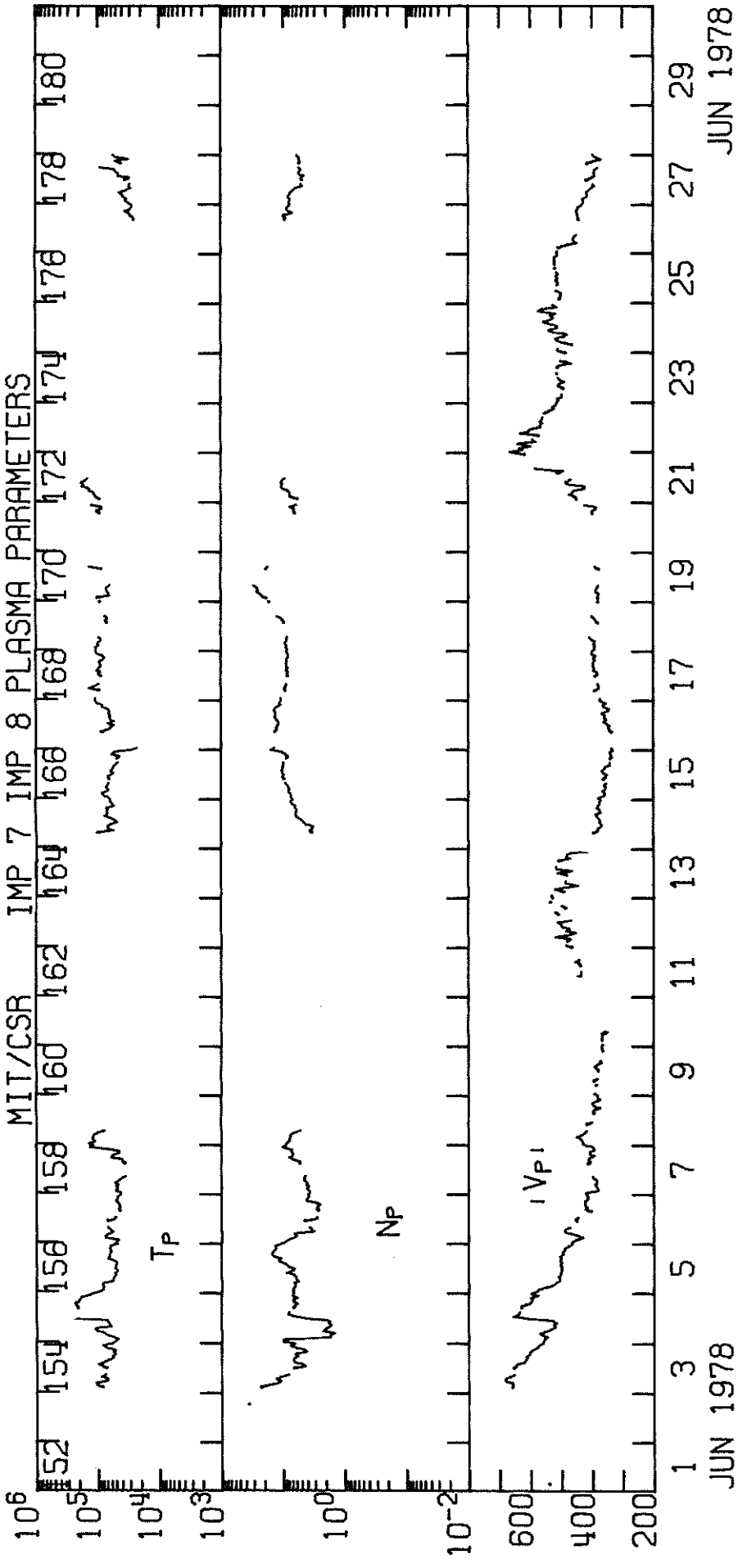
ARCE = Arcetri
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
VORO = Voroshilov (Ussurisk)

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

IMP 7 AND 8 SOLAR WIND PLASMA

JUNE 1978



SGD 412 Part II (Comprehensive)

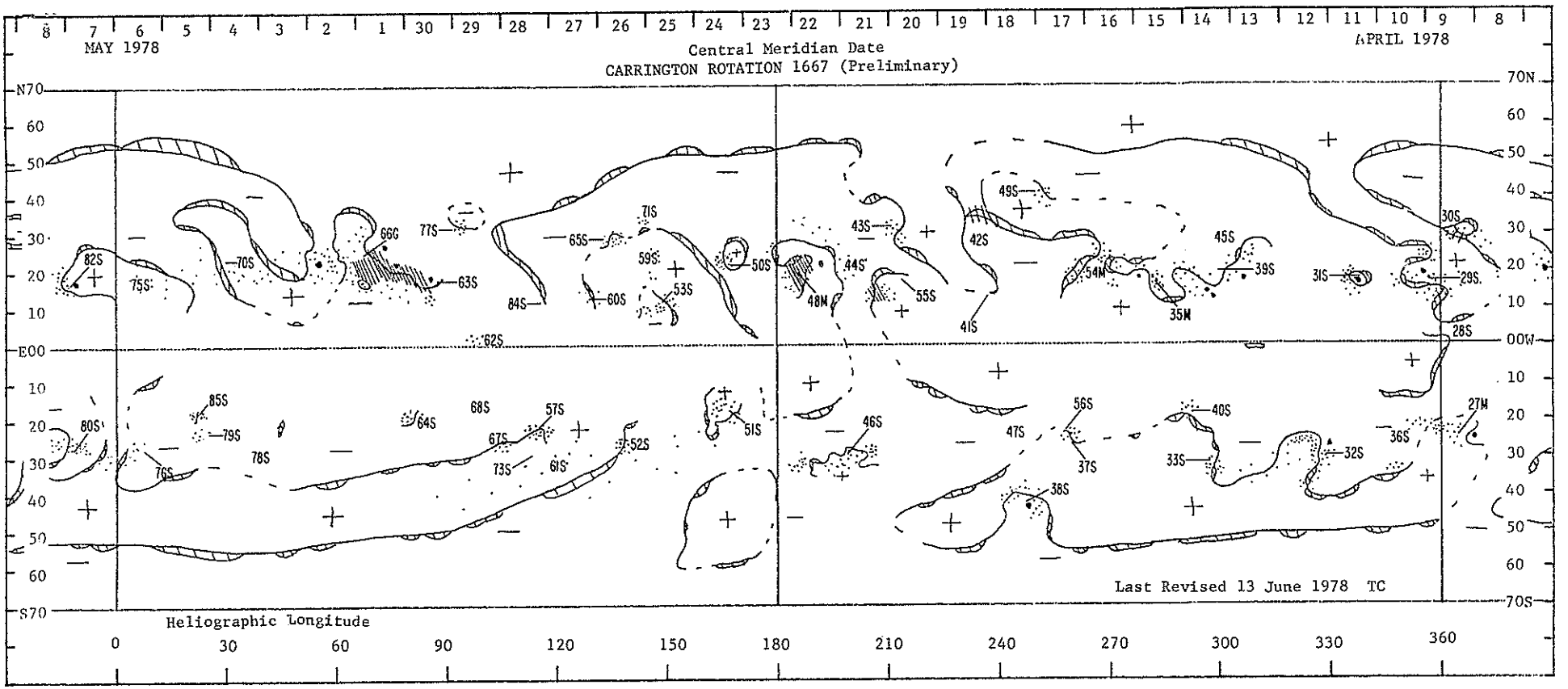
MAY 1978 DATA

Contents

ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART

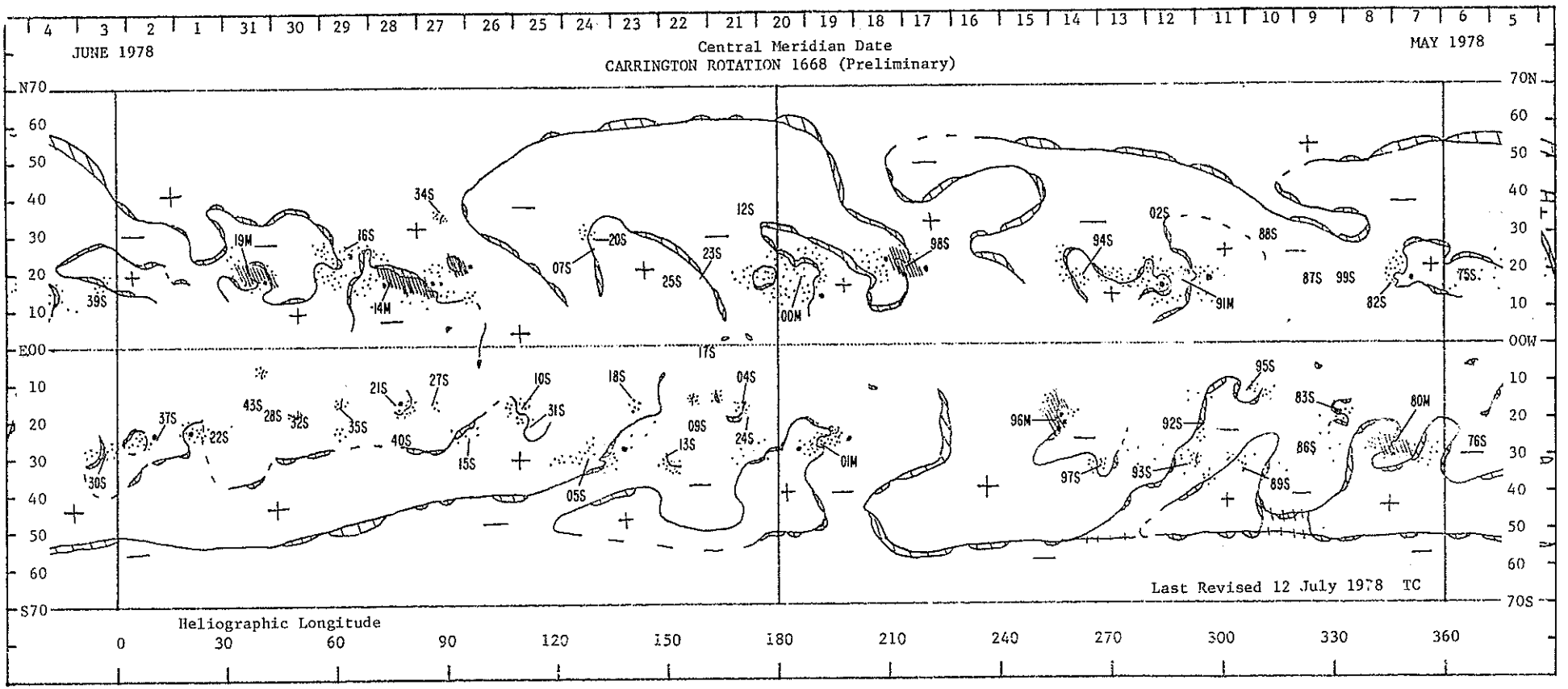
APRIL - MAY 1978



ABBREVIATED CALENDAR RECORD

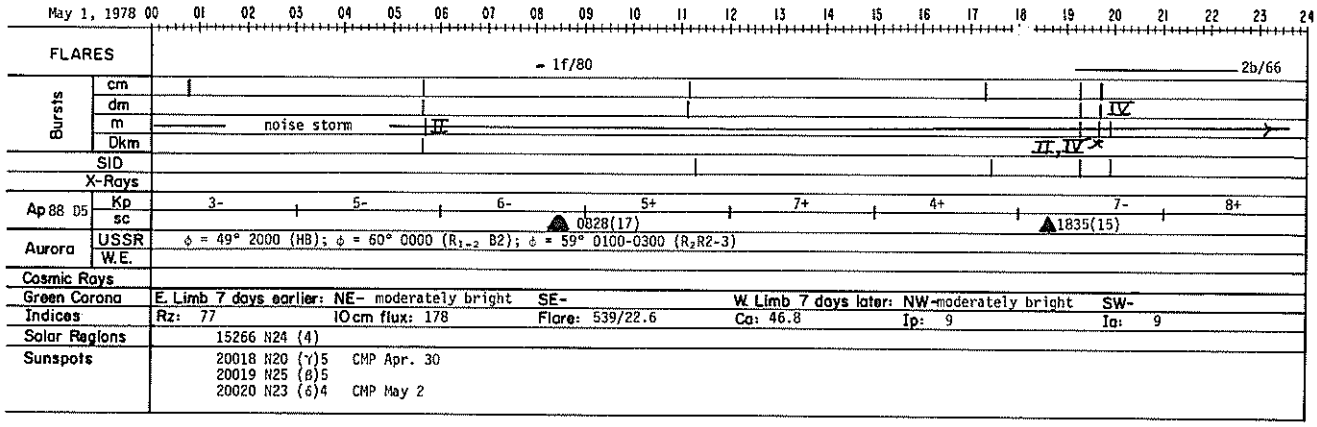
Hα SYNOPTIC CHART

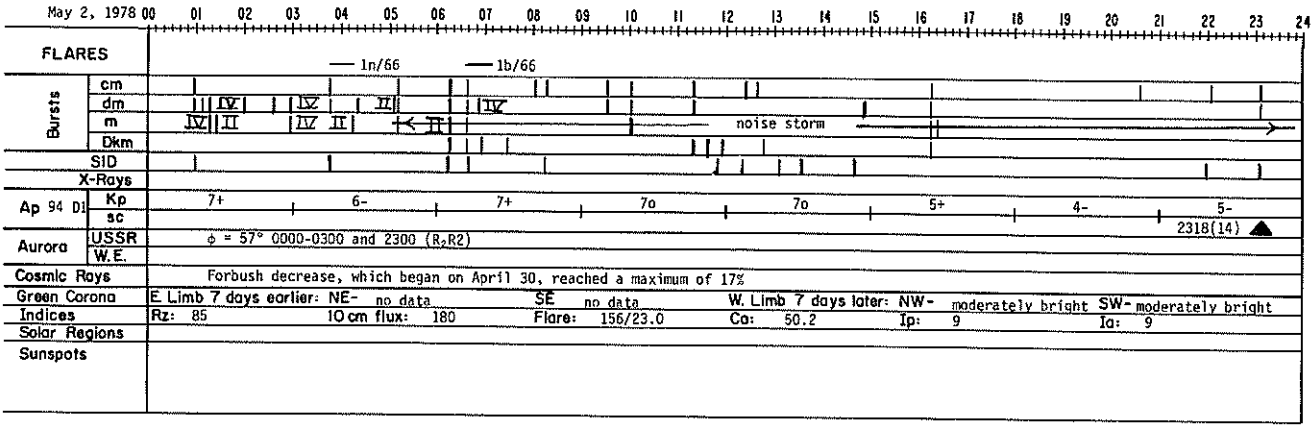
MAY - JUNE 1978

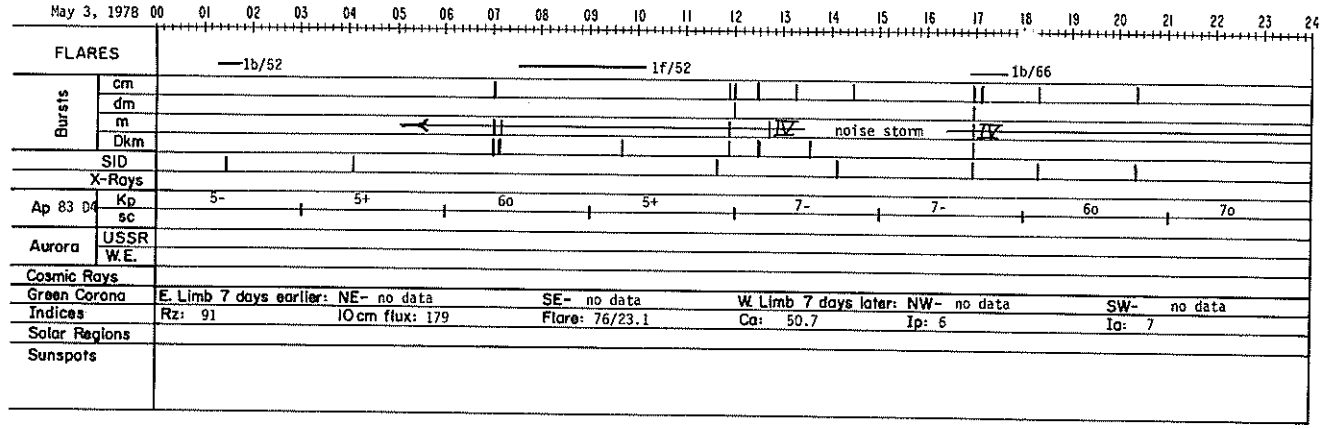


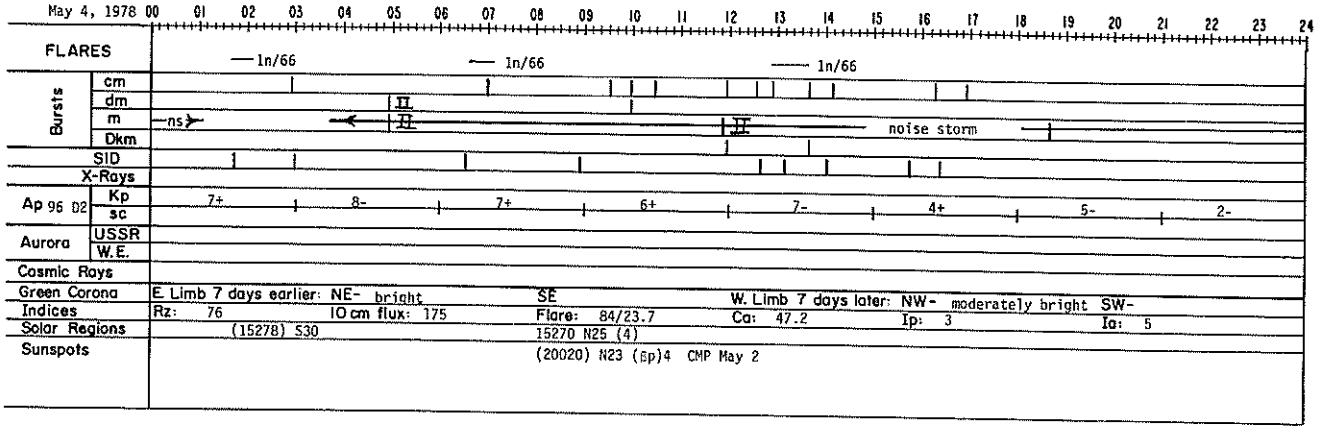
ABBREVIATED CALENDAR RECORD

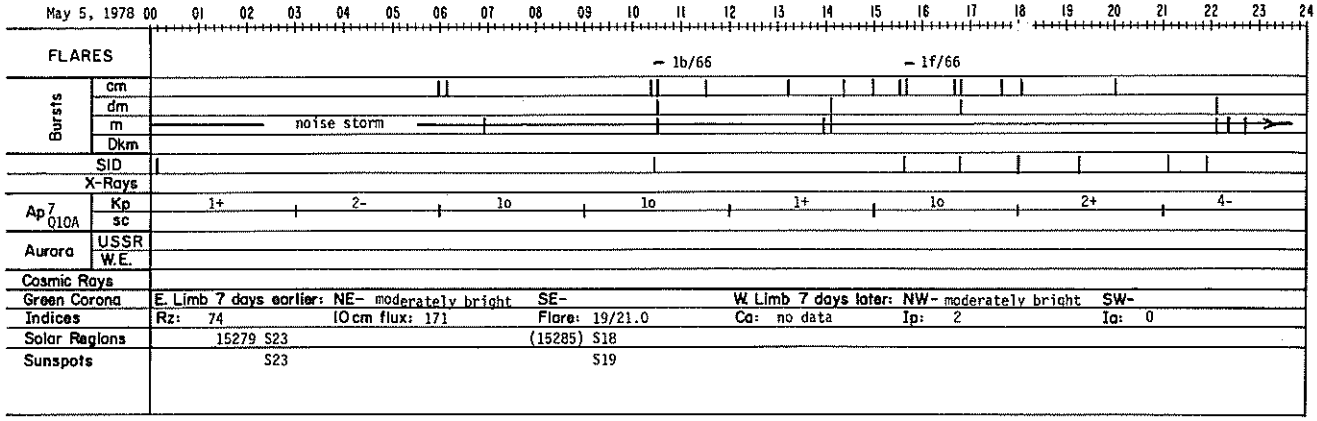
MAY 1978

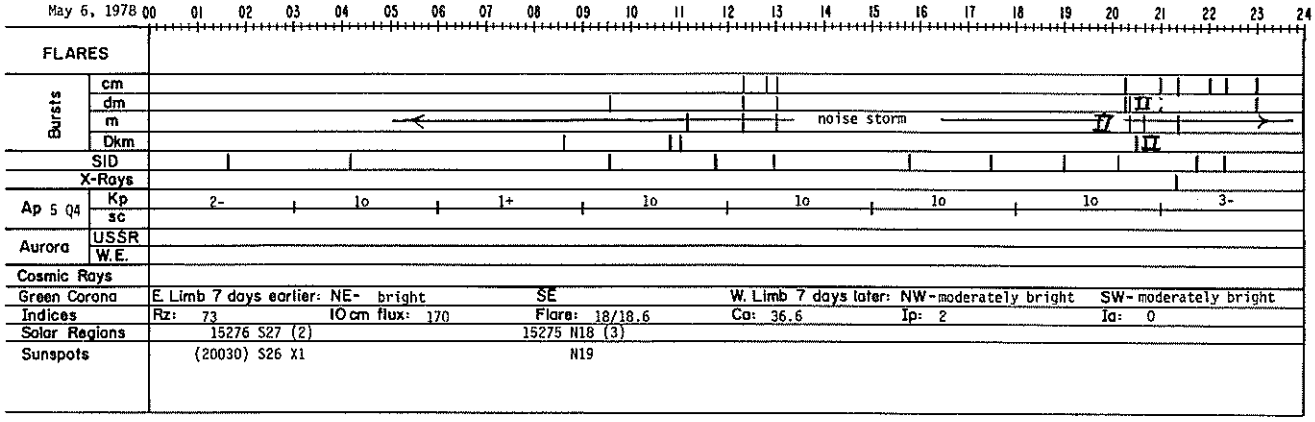


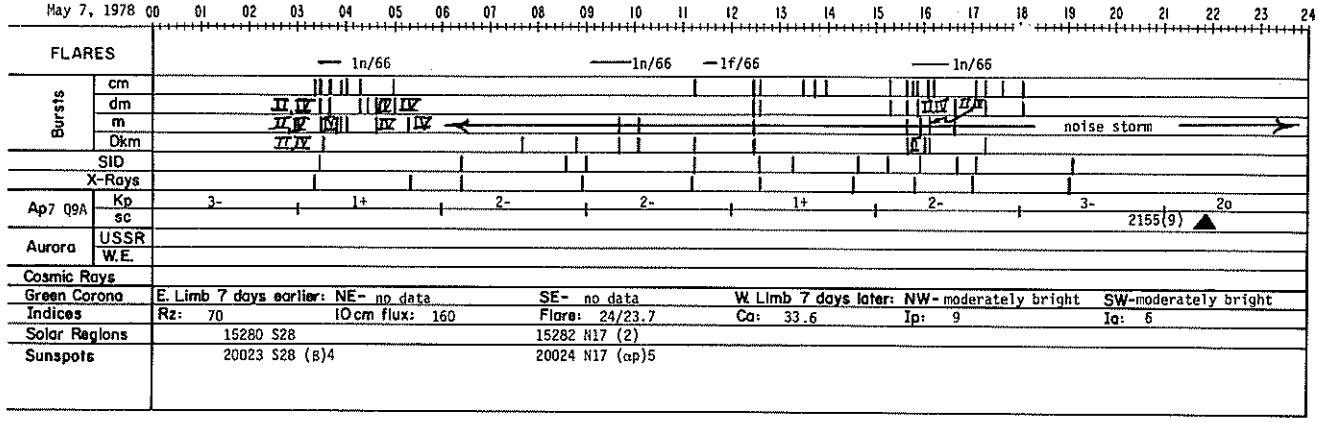


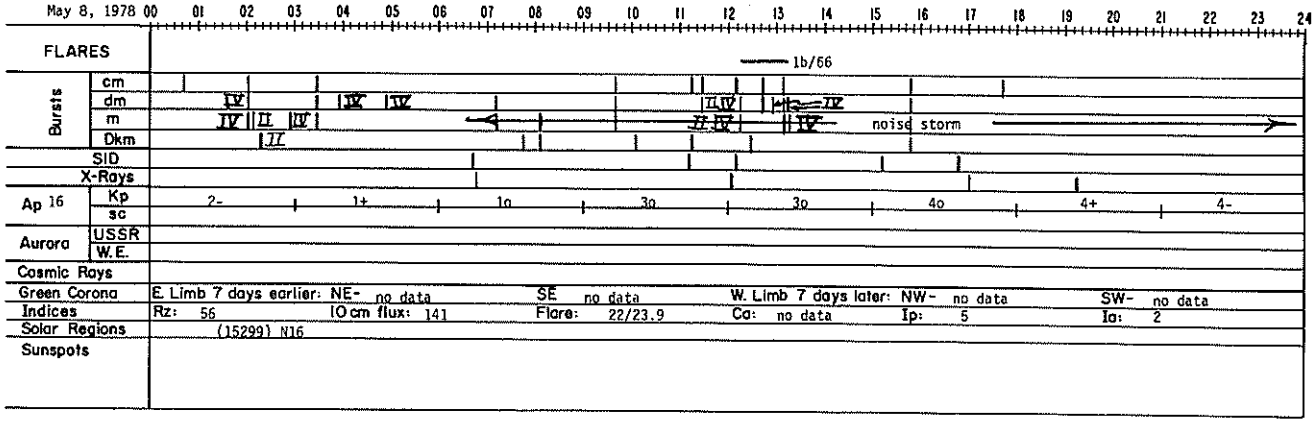


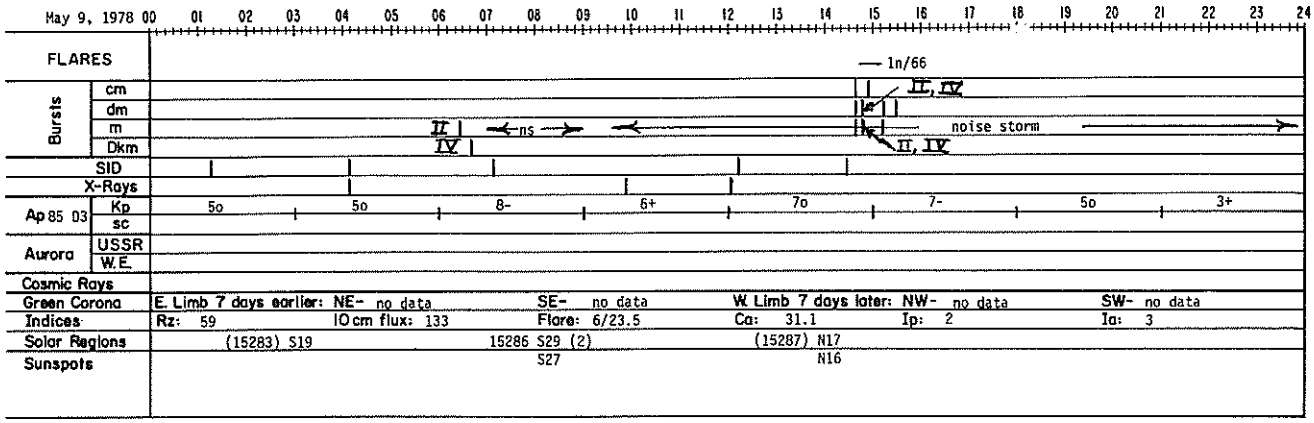


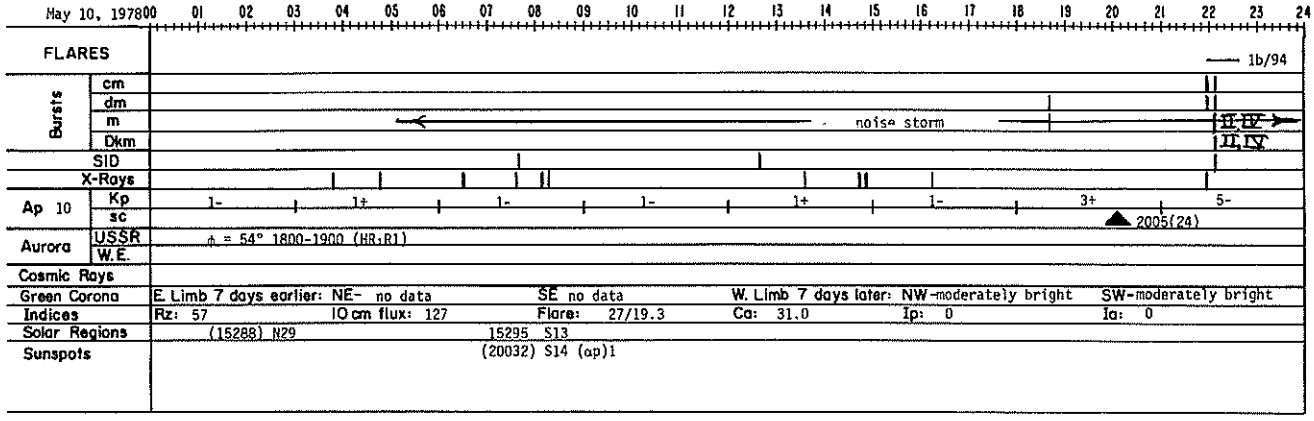

May 5, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/66
1f/66
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 7 Q10A
Kp
1+ 2- 1o 1o 1+ 1o 2+ 4-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE-
W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 74 10cm flux: 171 Flare: 19/21.0 Ca: no data Ip: 2 Ia: 0
Solar Regions
15279 S23 (15285) S18
Sunspots
S23 S19

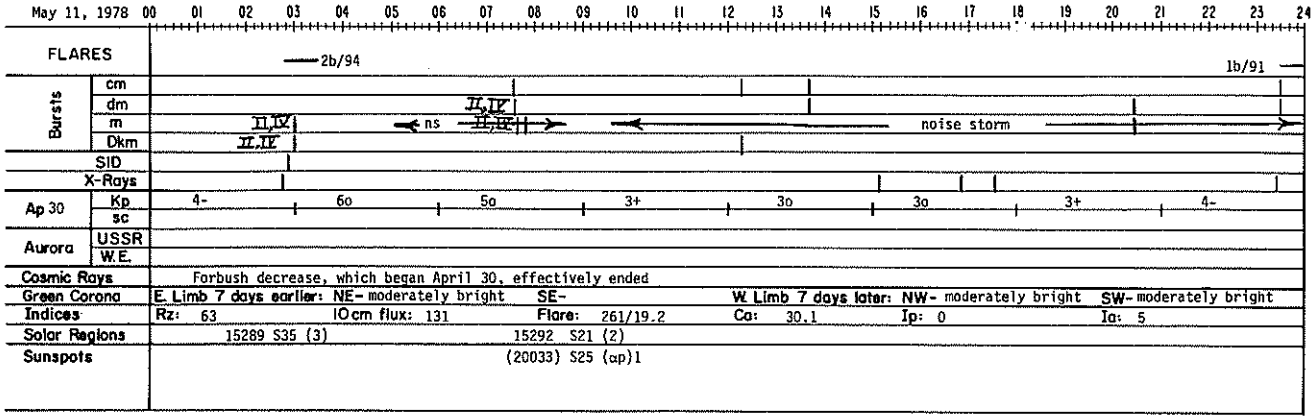

May 6, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 5 Q4
Kp
2- 1o 1+ 1o 1o 1o 1o 3-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE
W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 73 10cm flux: 170 Flare: 18/18.6 Ca: 36.6 Ip: 2 Ia: 0
Solar Regions
15276 S27 (2) 15275 N18 (3)
Sunspots
(20030) S26 X1 N19

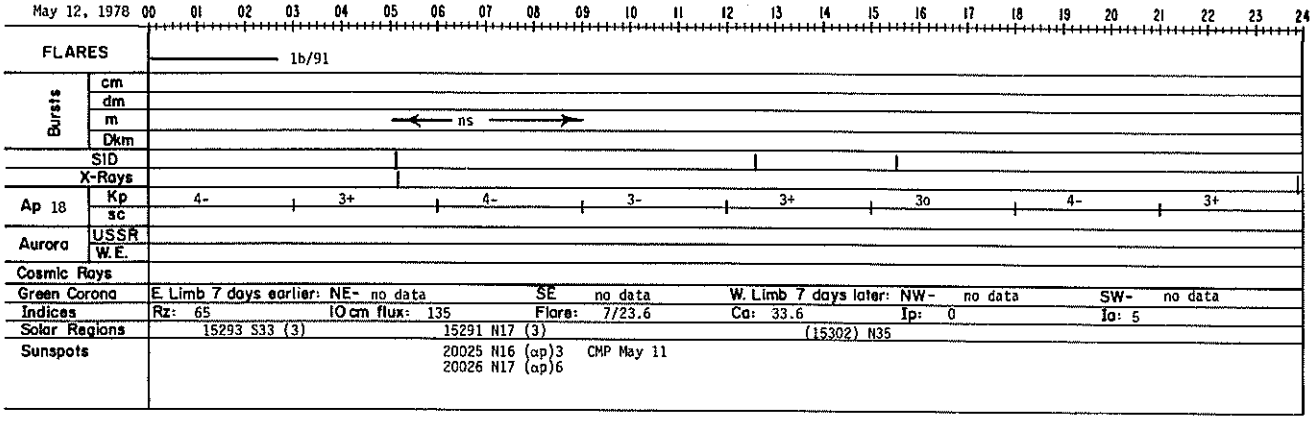

May 7, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/66
1n/66
1f/66
1n/66
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap7 Q9A
Kp
3- 1+ 2- 2- 1+ 2- 3- 2o
sc
2155(9)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data
W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 70 10cm flux: 160 Flare: 24/23.7 Ca: 33.6 Ip: 9 Ia: 6
Solar Regions
15280 S28 15282 N17 (2)
Sunspots
20023 S28 (β)4 20024 N17 (αp)5

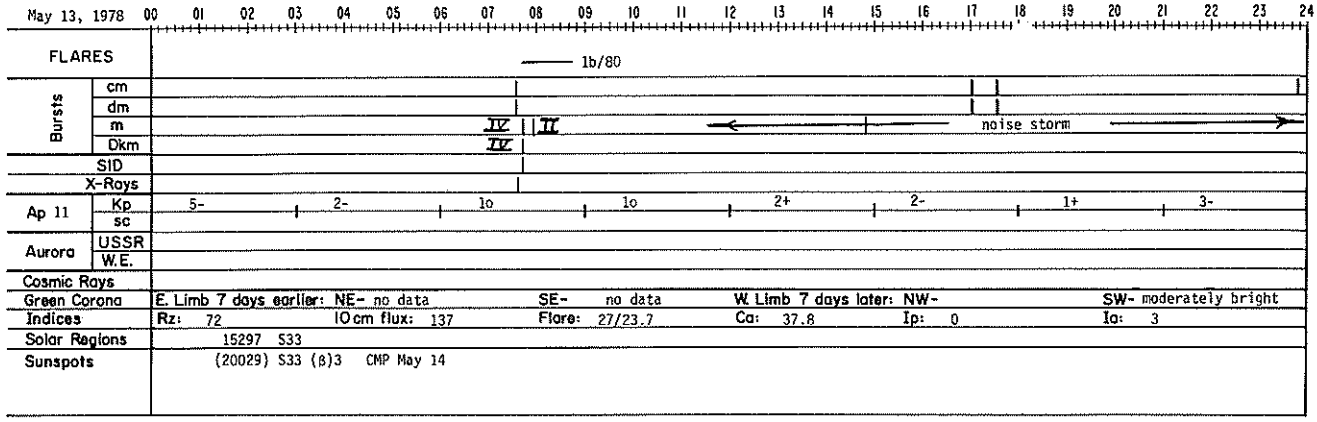

May 8, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/66
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 16
Kp
2- 1+ 1o 3o 3o 4o 4+ 4-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data
W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 56 10cm flux: 141 Flare: 22/23.9 Ca: no data Ip: 5 Ia: 2
Solar Regions
(15299) N16
Sunspots

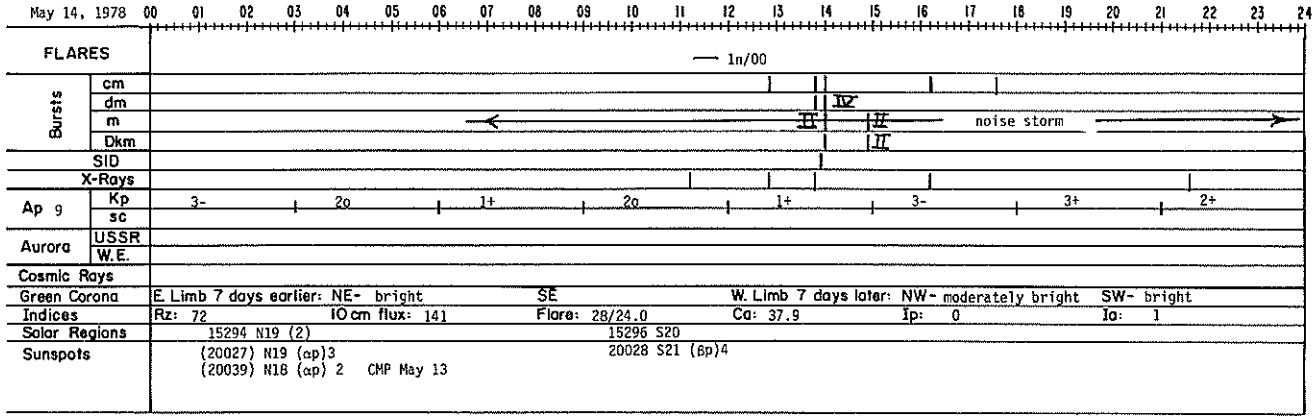

May 9, 1978
FLARES
1n/66
Bursts
cm
dm
m
Dkm
II, IV
ns
noise storm
SID
X-Rays
Ap 85 03
Kp
sc
5o 5o 8- 6+ 7o 7- 5o 3+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 59 10cm flux: 133 Flare: 6/23.5 Ca: 31.1 Ip: 2 Ia: 3
Solar Regions
(15283) S19 15286 S29 (2) (15287) N17
Sunspots
S27 N16

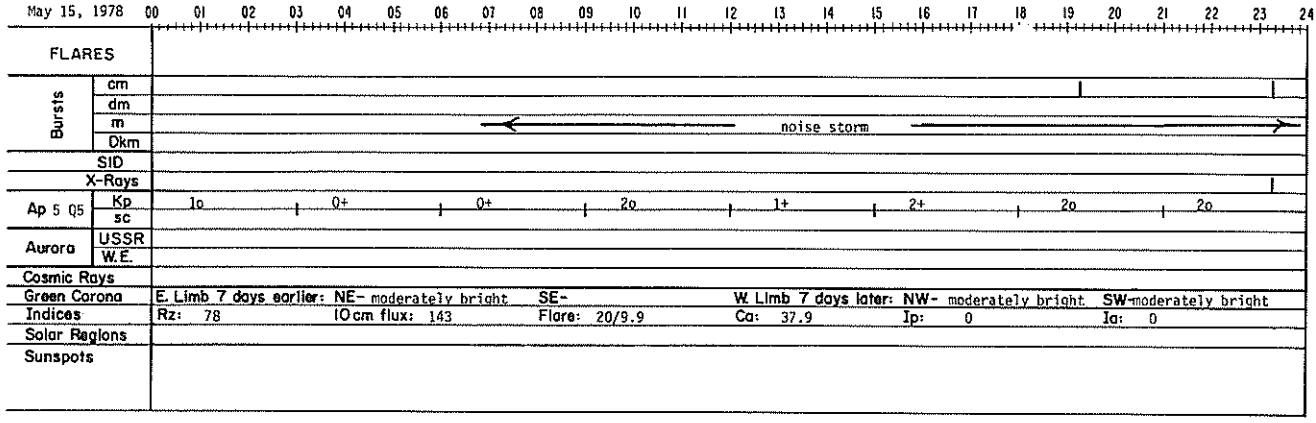

May 10, 1978
FLARES
1b/94
Bursts
cm
dm
m
Dkm
noise storm
II, IV
SID
X-Rays
Ap 10
Kp
sc
1- 1+ 1- 1- 1+ 1- 3+ 5-
2005(24)
Aurora
USSR
W.E.
ϕ = 54° 1800-1900 (HR:R1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW-moderately bright SW-moderately bright
Indices
Rz: 57 10cm flux: 127 Flare: 27/19.3 Ca: 31.0 Ip: 0 Ia: 0
Solar Regions
(15288) N29 15295 S13
Sunspots
(20032) S14 (ap)1

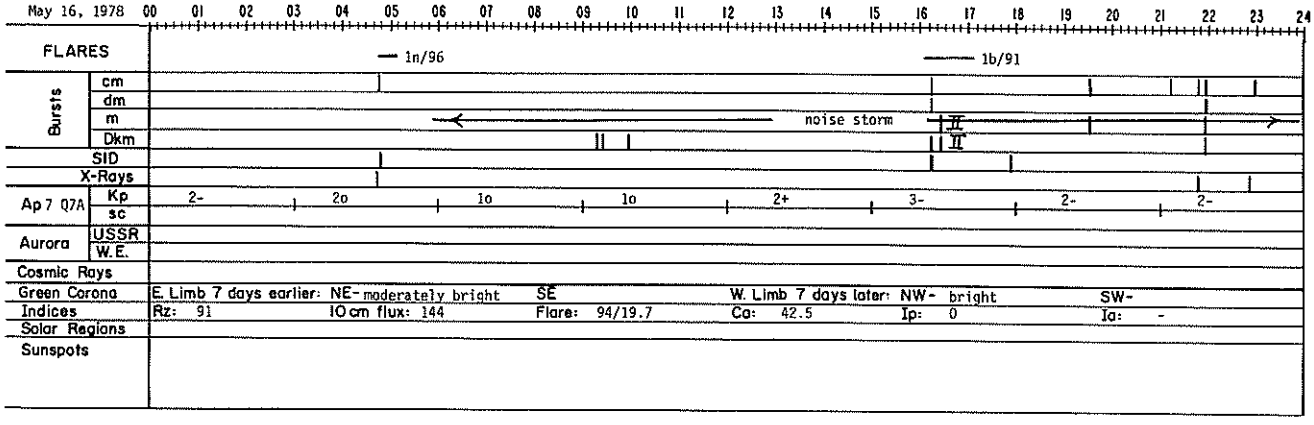

May 11, 1978
FLARES
2b/94
1b/91
Bursts
cm
dm
m
Dkm
II, IV
ns
noise storm
SID
X-Rays
Ap 30
Kp
sc
4- 6o 5o 3+ 3o 3o 3+ 4-
Aurora
USSR
W.E.
Cosmic Rays
Forbush decrease, which began April 30, effectively ended
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 63 10cm flux: 131 Flare: 261/19.2 Ca: 30.1 Ip: 0 Ia: 5
Solar Regions
15289 S35 (3) 15292 S21 (2)
Sunspots
(20033) S25 (ap)1


May 12, 1978
FLARES
1b/91
Bursts
cm
dm
m
Dkm
ns
SID
X-Rays
Ap 18
Kp
sc
4- 3+ 4- 3- 3+ 3o 4- 3+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 65 10cm flux: 135 Flare: 7/23.6 Ca: 33.6 Ip: 0 Ia: 5
Solar Regions
15293 S33 (3) 15291 N17 (3) (15302) N35
Sunspots
20025 N16 (ap)3 CMP May 11
20026 N17 (ap)6


May 13, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/80
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 11
Kp
sc
5- 2- 1o 1o 2+ 2- 1+ 3-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- SW- moderately bright
Indices
Rz: 72 10cm flux: 137 Flare: 27/23.7 Ca: 37.8 Ip: 0 Ia: 3
Solar Regions
15297 S33
Sunspots
(20029) S33 (β)3 CMP May 14


May 14, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/00
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 9
Kp
sc
3- 2o 1+ 2o 1+ 3- 3+ 2+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE W. Limb 7 days later: NW- moderately bright SW- bright
Indices
Rz: 72 10cm flux: 141 Flare: 28/24.0 Ca: 37.9 Ip: 0 Ia: 1
Solar Regions
15294 N19 (2)
15296 S20
Sunspots
(20027) N19 (αp)3
20028 S21 (βp)4
(20039) N18 (αp) 2 CMP May 13


May 15, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 5 Q5
Kp
sc
1o 0+ 0+ 2o 1+ 2+ 2o 2o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 78 10cm flux: 143 Flare: 20/9.9 Ca: 37.9 Ip: 0 Ia: 0
Solar Regions
Sunspots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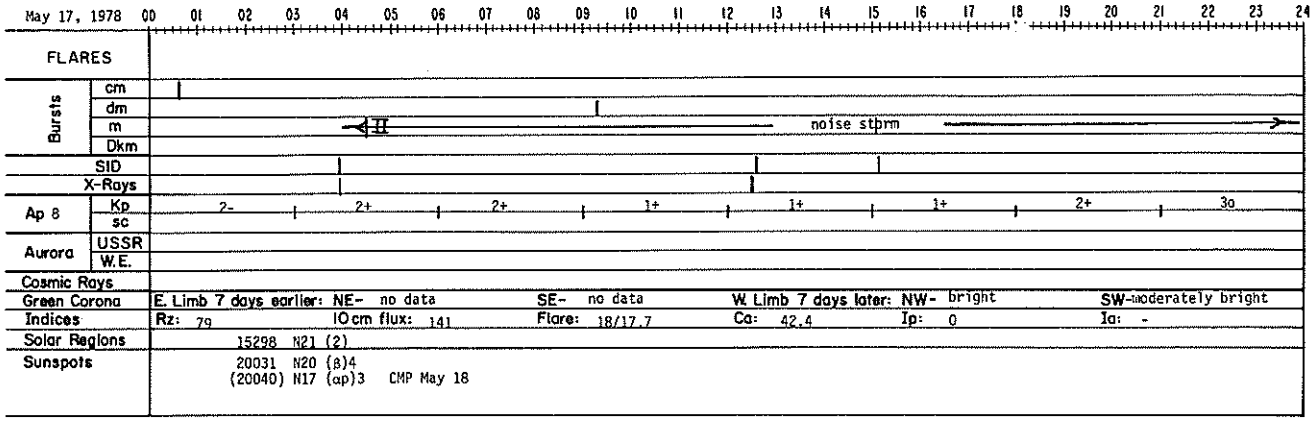
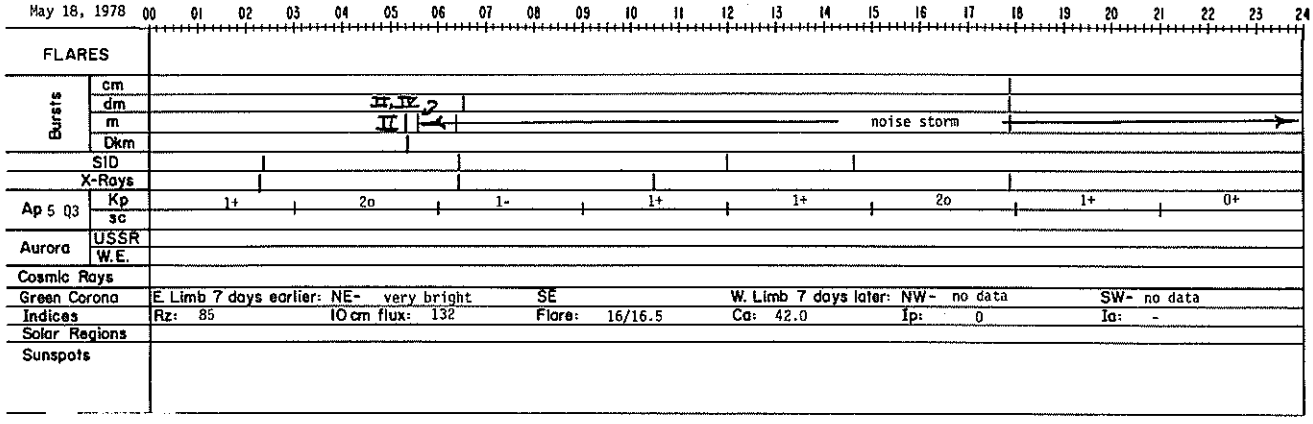
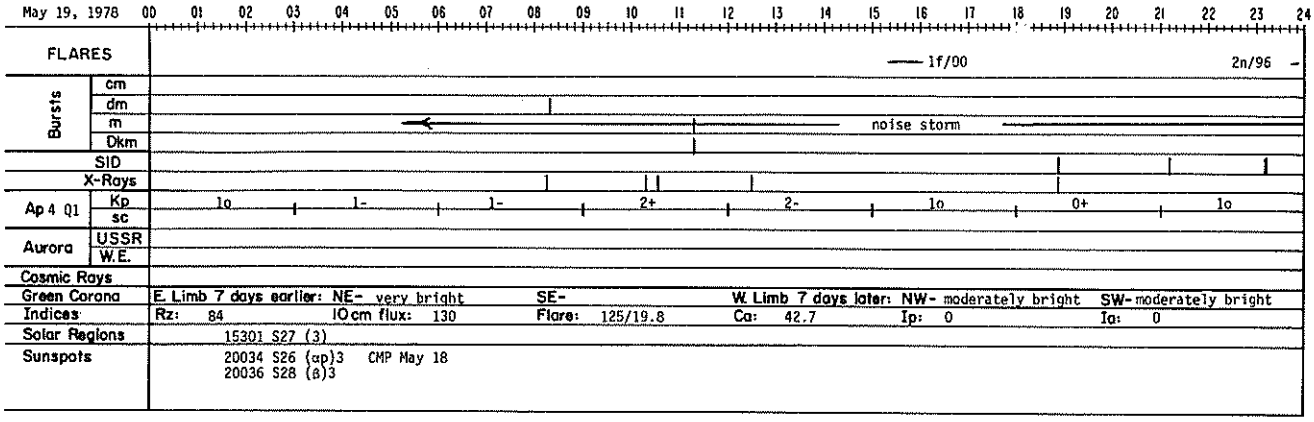
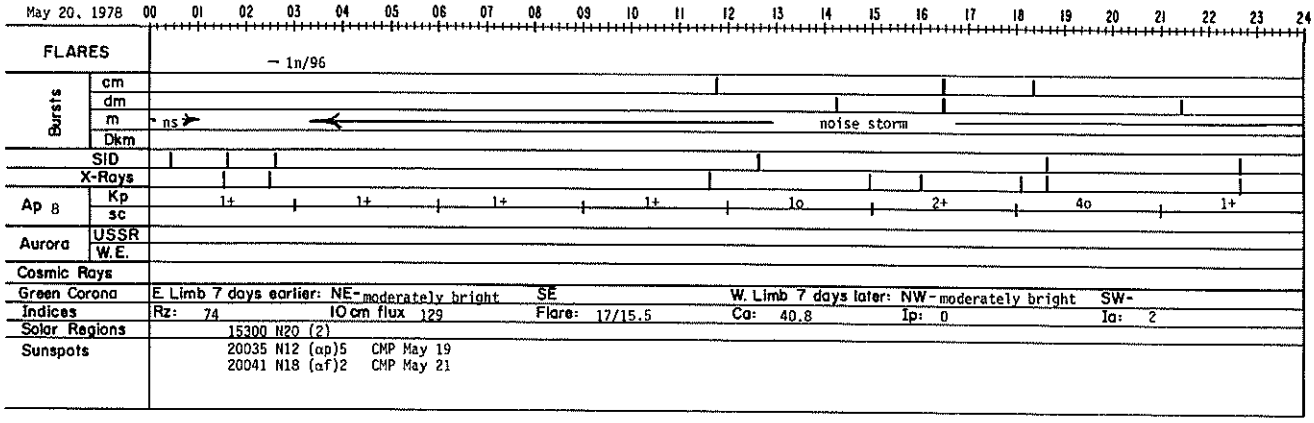
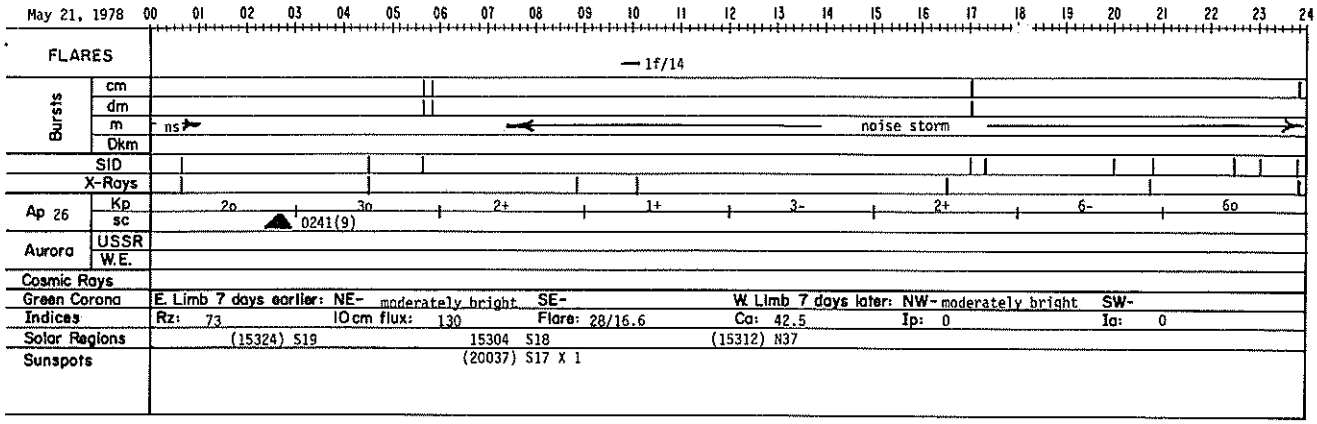
FLARES
1n/96
1b/91
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 7 Q7A
Kp
sc
2- 2o 1o 1o 2+ 3- 2- 2-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- bright SW-
Indices
Rz: 91 10cm flux: 144 Flare: 94/19.7 Ca: 42.5 Ip: 0 Ia: -
Solar Regions
Sunspots

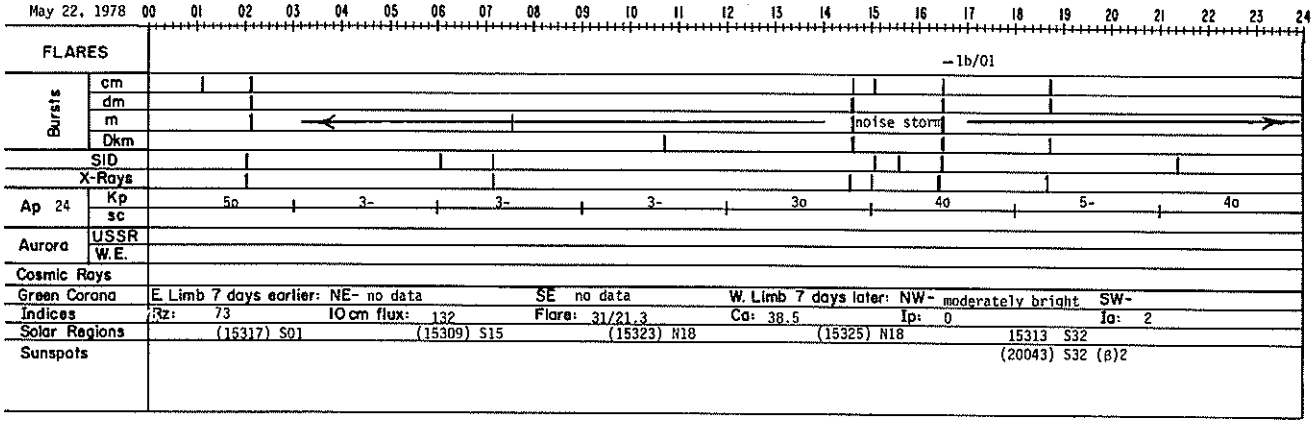

May 17, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
II
noise storm
SID
X-Rays
Ap 8
Kp
sc
2- 2+ 2+ 1+ 1+ 1+ 2+ 3o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- bright SW-moderately bright
Indices
Rz: 79 10cm flux: 141 Flare: 18/17.7 Ca: 42.4 Ip: 0 Ia: -
Solar Regions
15298 N21 (2)
Sunspots
20031 N20 (β)4
(20040) N17 (αp)3 CMP May 18

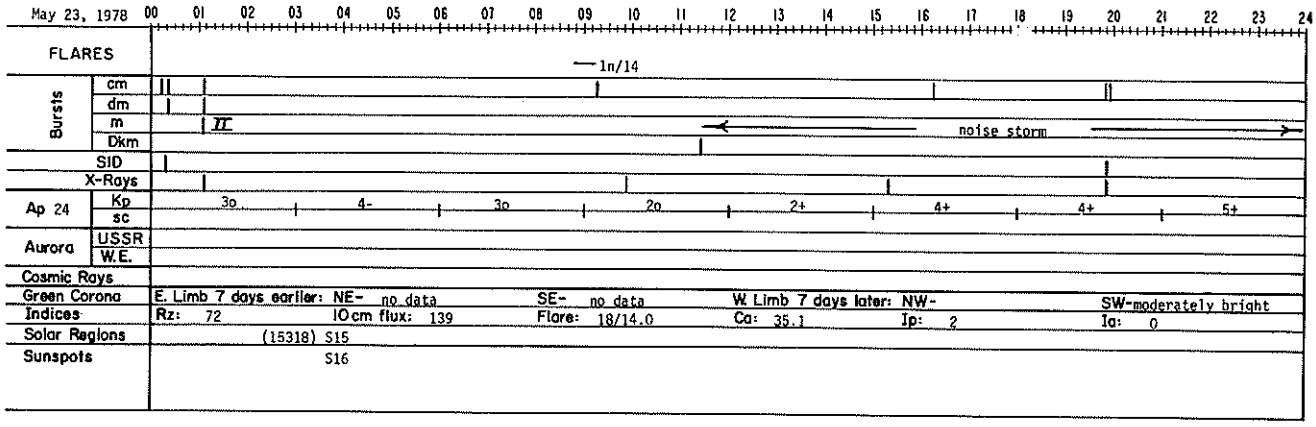

May 18, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
II, IV, ?
II
noise storm
SID
X-Rays
Ap 5 Q3
Kp
sc
1+ 2o 1- 1+ 1+ 2o 1+ 0+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright SE W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 85 10cm flux: 132 Flare: 16/16.5 Ca: 42.0 Ip: 0 Ia: -
Solar Regions
Sunspots

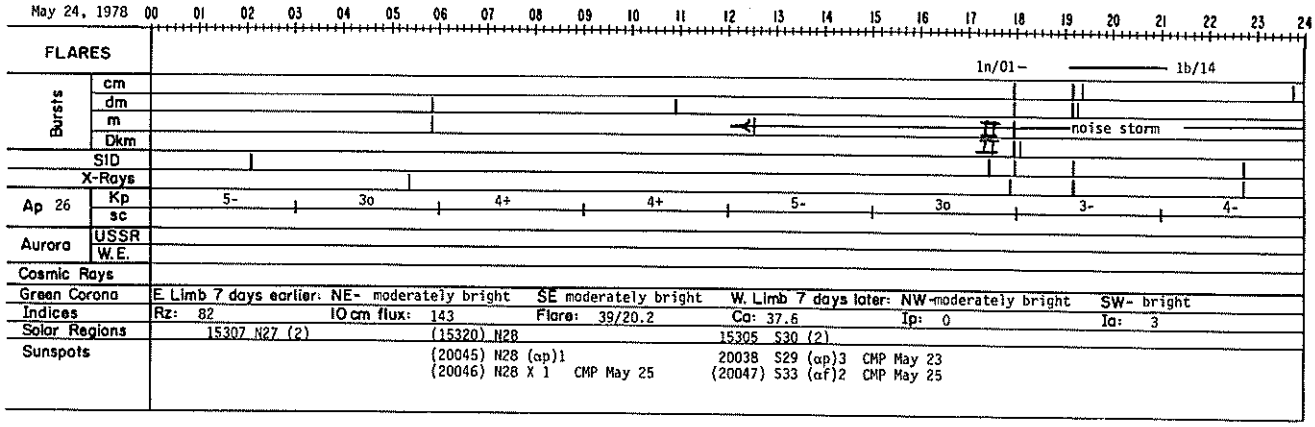

May 19, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/90
2n/96
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 4 Q1
Kp
sc
1o 1- 1- 2+ 2- 1o 0+ 1o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- very bright SE- W. Limb 7 days later: NW- moderately bright SW- moderately bright
Indices
Rz: 84 10cm flux: 130 Flare: 125/19.8 Ca: 42.7 Ip: 0 Ia: 0
Solar Regions
15301 S27 (3)
Sunspots
20034 S26 (αp)3 CMP May 18
20036 S28 (β)3

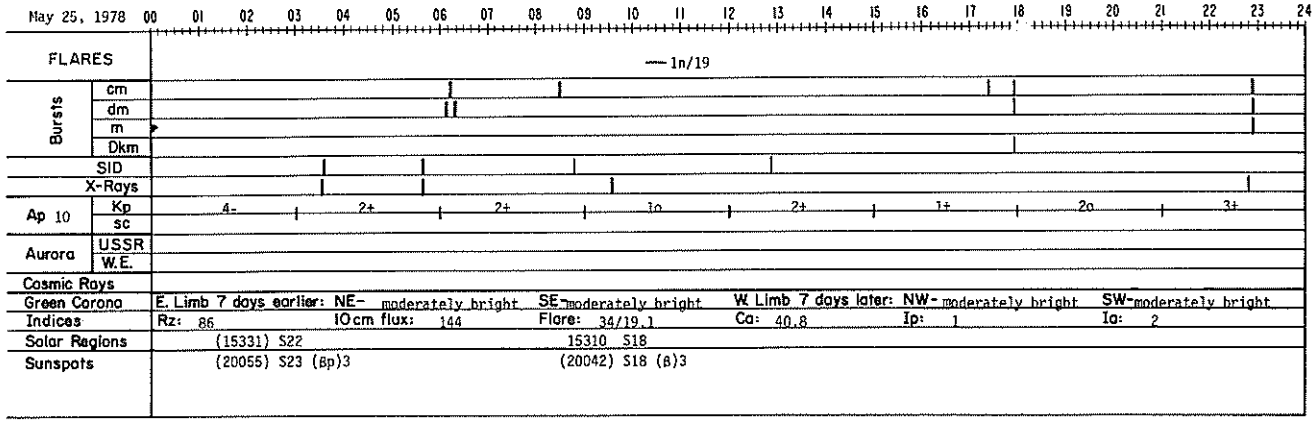

May 20, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/96
Bursts
cm
dm
m
Dkm
ns
noise storm
SID
X-Rays
Ap 8
Kp
sc
1+ 1+ 1+ 1+ 1o 2+ 4o 1+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 74 10cm flux 129 Flare: 17/15.5 Ca: 40.8 Ip: 0 Ia: 2
Solar Regions
15300 N20 (2)
Sunspots
20035 N12 (αp)5 CMP May 19
20041 N18 (αf)2 CMP May 21

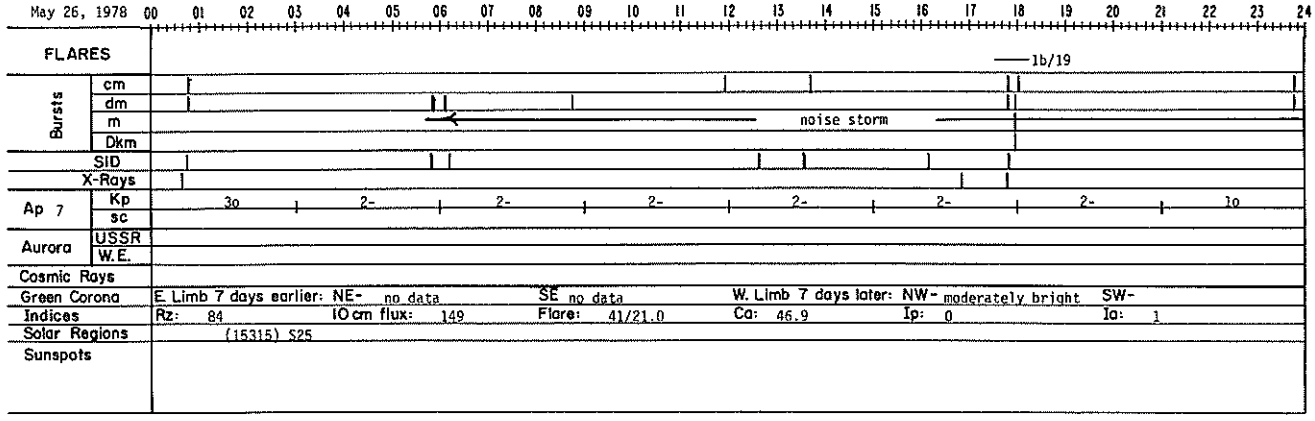

May 21, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/14
Bursts
cm
dm
m
Dkm
ns
noise storm
SID
X-Rays
Ap 26
Kp
sc
2o 3o 2+ 1+ 3- 2+ 6- 6o
0241(9)
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE-
W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 73 10cm flux: 130 Flare: 28/16.6 Ca: 42.5 Ip: 0 Ia: 0
Solar Regions
(15324) S19 15304 S18 (15312) N37
Sunspots
(20037) S17 X 1

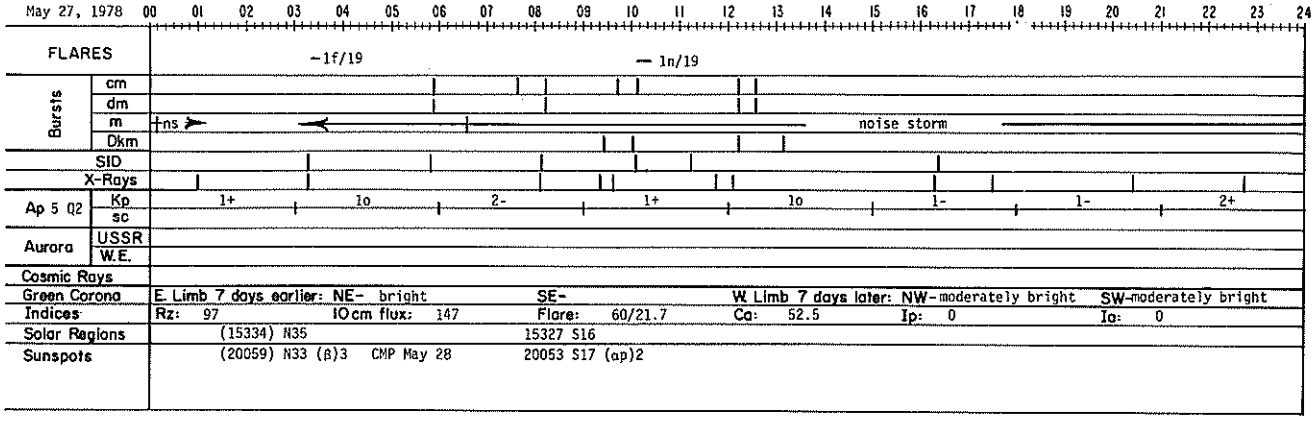

May 22, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/01
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 24
Kp
sc
5o 3- 3- 3- 3o 4o 5- 4o
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data
W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 73 10cm flux: 132 Flare: 31/21.3 Ca: 38.5 Ip: 0 Ia: 2
Solar Regions
(15317) S01 (15309) S15 (15323) N18 (15325) N18 15313 S32
Sunspots
(20043) S32 (β)2

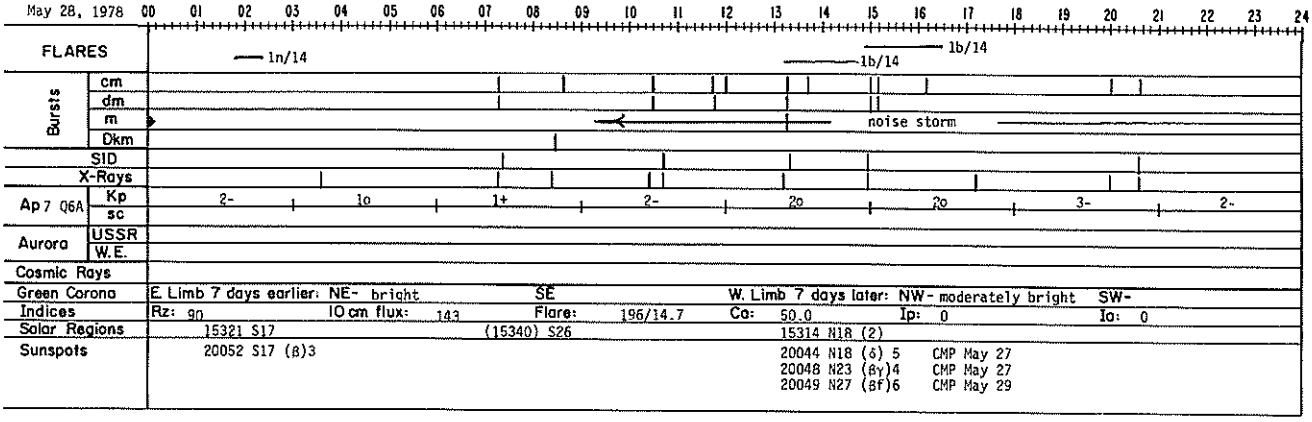

May 23, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/14
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 24
Kp
sc
3o 4- 3o 2o 2+ 4+ 4+ 5+
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data
W. Limb 7 days later: NW- SW-moderately bright
Indices
Rz: 72 10cm flux: 139 Flare: 18/14.0 Ca: 35.1 Ip: 2 Ia: 0
Solar Regions
(15318) S15
Sunspots
S16

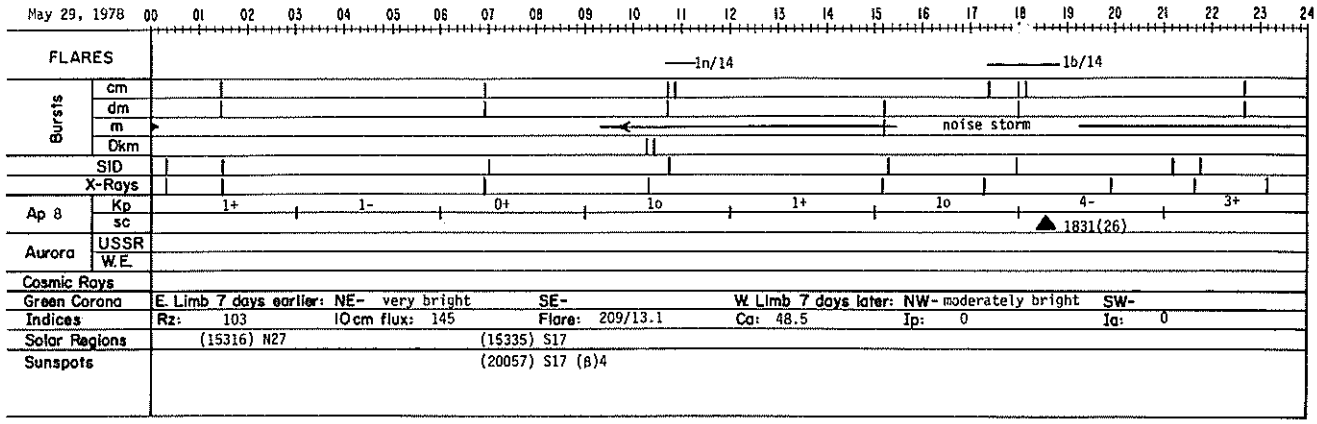

May 24, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/01- 1b/14
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 26
Kp
sc
5- 3o 4+ 4+ 5- 3o 3- 4-
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE moderately bright
W. Limb 7 days later: NW-moderately bright SW- bright
Indices
Rz: 82 10cm flux: 143 Flare: 39/20.2 Ca: 37.6 Ip: 0 Ia: 3
Solar Regions
15307 N27 (2) (15320) N28 15305 S30 (2)
Sunspots
(20045) N28 (αp)1 20038 S29 (αp)3 CMP May 23
(20046) N28 X 1 CMP May 25 (20047) S33 (αf)2 CMP May 25

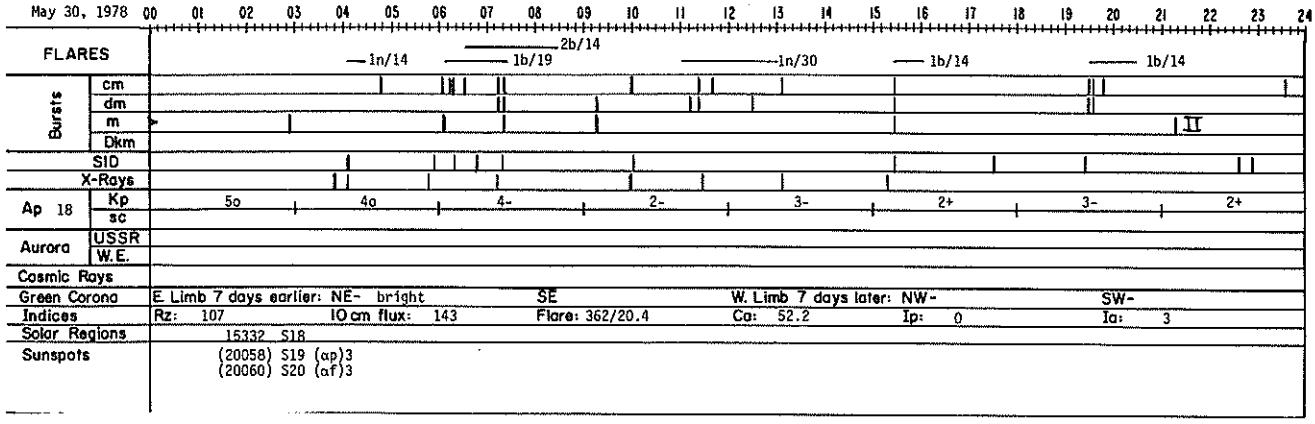

May 25, 1978
FLARES
1n/19
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 10
Kp
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE-moderately bright W. Limb 7 days later: NW- moderately bright SW-moderately bright
Indices
Rz: 86 10cm flux: 144 Flare: 34/19.1 Ca: 40.8 Ip: 1 Ia: 2
Solar Regions
(15331) S22 15310 S18
Sunspots
(20055) S23 (Bp)3 (20042) S18 (B)3

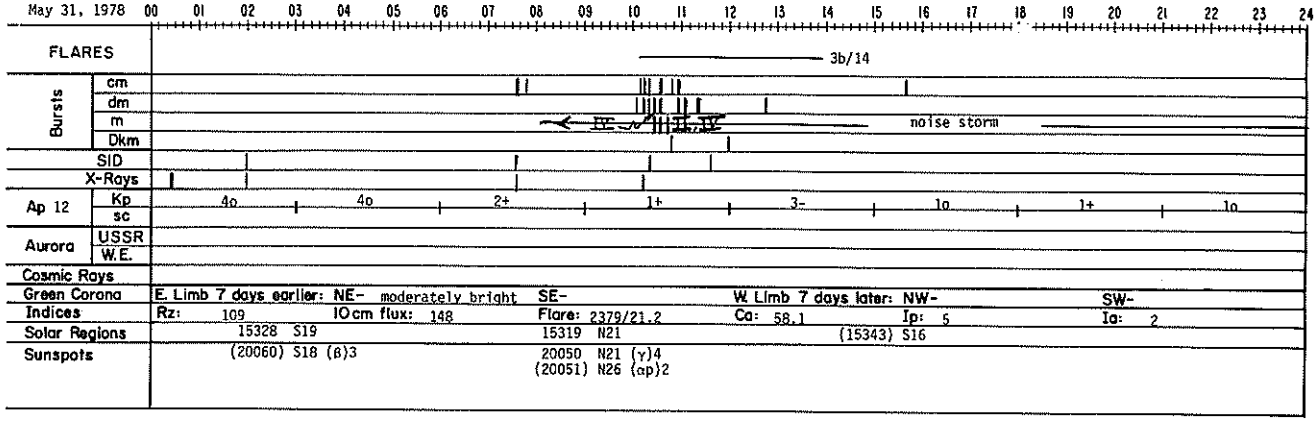

May 26, 1978
FLARES
1b/19
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 7
Kp
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 84 10cm flux: 149 Flare: 41/21.0 Ca: 46.9 Ip: 0 Ia: 1
Solar Regions
(15315) S25
Sunspots


May 27, 1978
FLARES
1f/19
1n/19
Bursts
cm
dm
m
ns
noise storm
Dkm
SID
X-Rays
Ap 5 Q2
Kp
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE- W. Limb 7 days later: NW-moderately bright SW-moderately bright
Indices
Rz: 97 10cm flux: 147 Flare: 60/21.7 Ca: 52.5 Ip: 0 Ia: 0
Solar Regions
(15334) N35 15327 S16
Sunspots
(20059) N33 (B)3 CMP May 28 20053 S17 (ap)2


May 28, 1978
FLARES
1n/14
1b/14
1b/14
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 7 Q6A
Kp
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 90 10cm flux: 143 Flare: 196/14.7 Ca: 50.0 Ip: 0 Ia: 0
Solar Regions
15321 S17 (15340) S26 15314 N18 (2)
Sunspots
20052 S17 (B)3
20044 N18 (δ) 5 CMP May 27
20048 N23 (Bγ)4 CMP May 27
20049 N27 (Bf)6 CMP May 29







REGIONAL FLARE INDEX

INCLUDES ALL FLARES

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15270	N24	78/05/04.7	78/04/27	78/05/02	4.22	.70	2
15280	S27	78/05/07.9	78/04/30	78/05/14	22.87	1.47	14
15282	N18	78/05/07.9	78/05/02	78/05/08	22.36	3.19	11
15292	S23	78/05/11.8	78/05/17	78/05/17	3.16	3.16	3
15291	N17	78/05/12.2	78/05/05	78/05/17	140.93	10.84	11
15293	S33	78/05/12.3	78/05/12	78/05/12	3.38	3.38	1
15294	N19	78/05/14.4	78/05/10	78/05/21	203.54	16.96	8
15296	S20	78/05/14.8	78/05/13	78/05/21	172.43	19.16	31
15298	N21	78/05/17.9	78/05/13	78/05/18	54.82	9.14	13
15301	S27	78/05/19.6	78/05/14	78/05/24	55.42	5.04	11
15300	N19	78/05/19.9	78/05/14	78/05/25	57.77	4.81	9

Miscellaneous Data

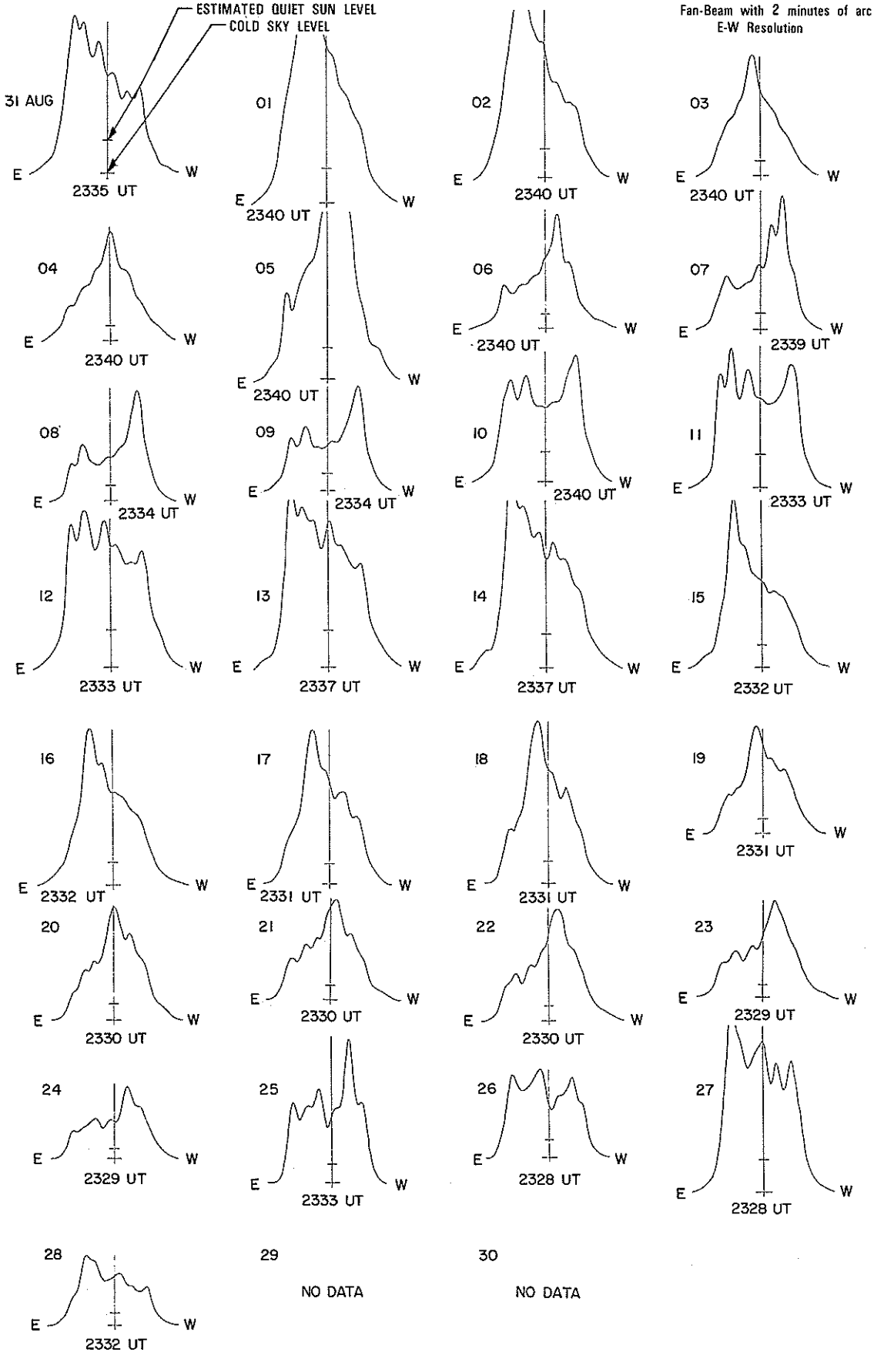
Contents

EAST-WEST SOLAR SCANS

SEPTEMBER 1978

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



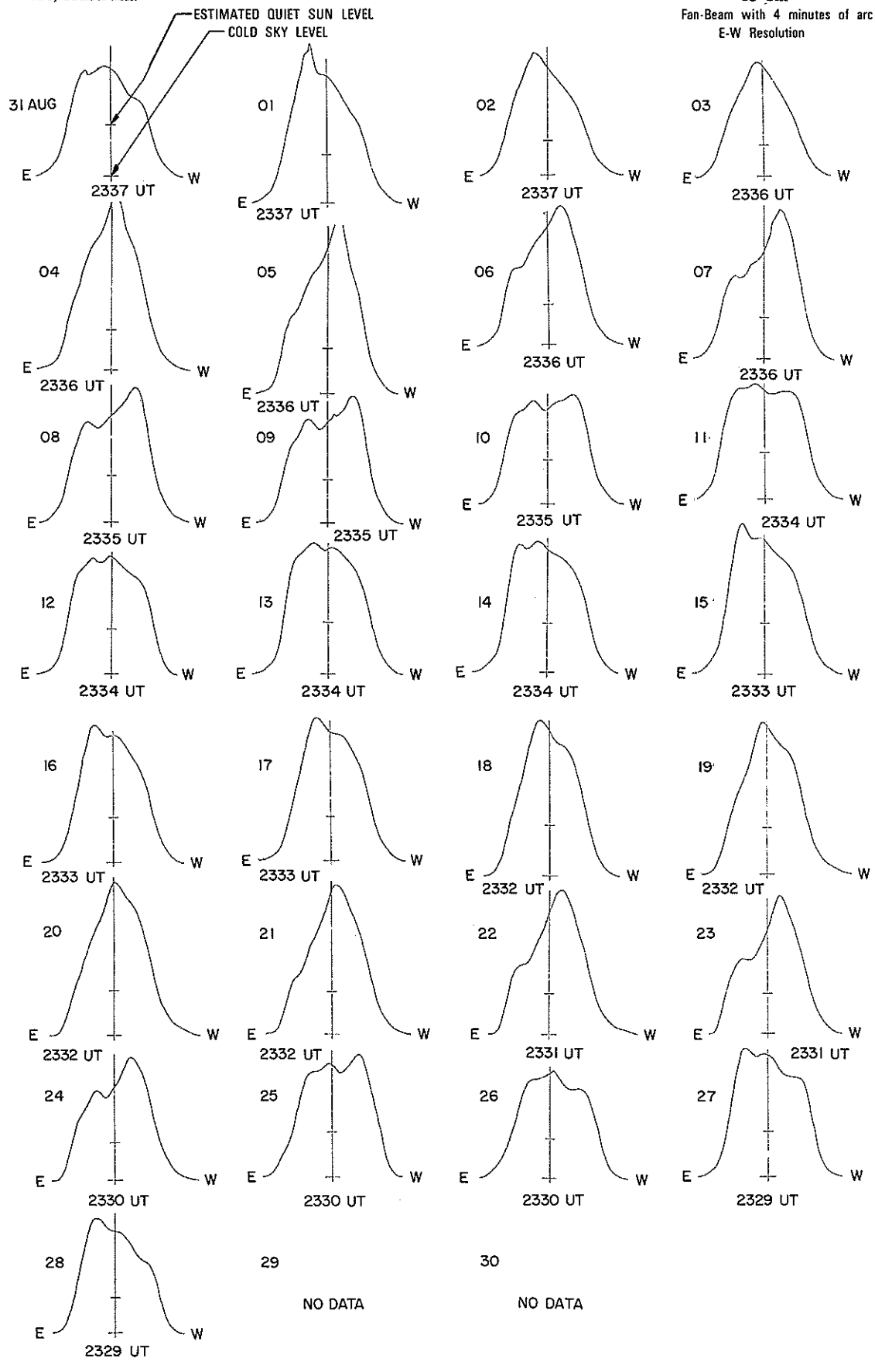
EAST-WEST SOLAR SCANS

SEPTEMBER 1978

Fleurs, Australia

43 cm

Fan-Beam with 4 minutes of arc E-W Resolution



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1978

SEP 1978	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT	MONTH 09	START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0732	CULG				0000	0439					IS,W
			CULG	0007.5		1	0007.5		1				IIIB
			CULG				0008.5						IIIB,W
			CULG				0037.5	0125					IIIN,W
			CULG				0037.5	0038	2				IIIG
			CULG				0038.5		2				IIIB
			CULG				0049	0049.5	1				IIIG
			CULG				0055		1				IIIB
			CULG				0058.5		1	0058.5		1	IIIB
			CULG	0100.5	0102	1	0100.5	0102	1				IIIG,U
			CULG				0108.5	0109	2	0108.5	0109	2	IIIG,U
			CULG				0123	0124	1				IIIG,U
			CULG				0206	0709	1				IIIN
			CULG				0232.5	0233	1				IIIG
			CULG				0331.5	0332.5	2				IIIG
			CULG				0435.5	0436	2				IIIG
			CULG				0439	0732					IN,W
			CULG				0522	0732					IIIS,W
			CULG				0530.5	0533.5	1				UNCLF
			CULG				0541	0542	1				IIIG
			CULG	0623		1	0623		2				IIIB
			CULG				0624	0627.5	2				IIIGG
			CULG				0624	0628	1				UNCLF,SLOW
			CULG				0630	0631	1				UNCLF,SLOW
			CULG				0703		2				IIIG,U
	2033	2400	CULG				2033	2113					IIIS,W
			CULG	2055	2400	1	2033	2400	1				IS
			CULG				2113	2230	1				IIIS
			CULG				2113	2300	2				IIIN
			CULG				2153	2154	1	2153.5		1	UNCLF
			CULG				2230	2332					IIIS,W
			CULG				2255	2300	1				IIIGG
			CULG				2255	2300	1				UNCLF
			CULG				2332	2400	1				IIIS
02			CULG				0000	0135					IIIS,W
	0000	0732	CULG	0000	0709	1	0000	0630	1				IS
			CULG				0117	0119.5	1				IIIG
			CULG				0135	0237	1				IIIS
			CULG	0231		1	0231	0231.5	2				IIIG,U
			CULG				0237	0330					IIIS,W
			CULG				0238.5		1	0238.5		1	IIIB
			CULG				0319.5	0320	1				DC
			CULG				0325	0330	1				UNCLF,DC
			CULG				0330	0547	1				IIIS
			CULG				0333	0640	2				IIIN
			CULG				0547	0607	2				IIIS,C
			CULG							0554	0601	1	S.W.F.
			CULG				0607	0646	1				IIIS
			CULG				0646	0730					IIIN,W
	2033	2400	CULG				2033	2053	1				IS
			CULG				2045	2318					IIIN,W
			CULG				2053	2310					IN,W
			CULG	2209	2209.5	1	2209	2209.5	2				IIIG,U
			CULG				2310	2400	1				IS,C
			CULG				2318	2400	1				N,RSDP
			CULG				2318	2400	1				IIIN
03			CULG				0000	0120	1				IS,C,DC
	0000	0731	CULG				0000	0050	2				IIIS
			CULG							0023	0027	1	IIIN
			CULG				0050	0115	1				IIIS
			CULG	0110	0731	1							IN
			CULG				0115	0731					IIIN,W
			CULG				0238	0731	1				IS
	2033	2400	CULG	2033	2400	1	2033	2400	1				IS,DC
			CULG				2033	2400	1				IIIS
			CULG				2043.5	2400	2				IIIN
			CULG	2110	2400	1				2248	2400	1	IIIN
			CULG	2111	2112.5	1	2111	2112.5	3				IIIG,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1978

SEP 1978	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
03			CULG	2120.5	2122	1	2119	2122.5	3				IIIGG
			CULG				2135	2255	1				IS,C
			CULG				2156.5	2157.5	2				IIIG,U
			CULG	2223	2223.5	2	2223	2224.5	3	2223	2223.5	2	IIIG
			CULG	2255	2345	2	2255	2345	2				IS,C
			CULG	2311		1	2311		2	2311		2	IIIB
			CULG				2324.5	2326	2	2325	2326	2	IIIG
			CULG				2328.5	2329.5	2	2328.5	2329.5	2	IIIG
			CULG				2330.5	2331	2	2330.5	2331	1	IIIG
04	0000	0730	CULG				0000	0730	1				N,RS,DP
			CULG	0000	0730	1				0000	0730	1	IIIN
			CULG	0000	0059	1	0000	0059	1				IS,DC
			CULG				0000	0730	2				IIIN
			CULG				0000	0230	1				IIIS
			CULG				0004	0005	2	0004	0005	2	IIIG
			CULG				0013.5	0015	3	0013.5	0015	2	IIIGG
			CULG				0055.5	0056	2	0055.5	0056	2	IIIG
			CULG	0059	0130	1	0059	0130	2				IS,C,DC
			CULG	0130	0730	1	0130	0730	1				IS,C,DC
			CULG	0139.5	0140.5	1	0139.5	0140.5	2	0139.5	0140.5	2	IIIG
			CULG	0221.5		2	0221.5	0222	3	0221.5	0222	3	IIIG,V
			CULG				0230	0657	2				IS,C,DC
			CULG				0230	0657	2				IIIS
			CULG				0657.5	0658.5	3				IIIG
			CULG				0658	0730	1				IIIS
	2032	2400	CULG	2032	2400	1							IS,DC
			CULG				2032	2400	2				IIIS
			CULG				2032	2400	2				IS,C,DC
			CULG				2053	2202	2				IIIG,N
			CULG							2228	2400	1	IIIG,N
05			CULG				0000	0518	2				IS,C
	0000	0730	CULG	0000	0040	1							IS,DC
			CULG	0000	0525								IIIN,W
			CULG				0000	0730	2				IIIS
			CULG							0022	0525	1	IIIG,N
			CULG	0040	0705	1							IS
			CULG				0124	0124.5	3	0124.5	0125	3	IIIG
			CULG				0415.5	0416	3	0416	0417.5	3	IIIG,V
			CULG				0421	0421.5	2	0421	0421.5	1	IIIB,U
			CULG				0430.5	0432	2	0430.5	0431.5	2	IIIG,V
			CULG	0433.5		1	0433.5		1				IIIB
			CULG				0518	0730	1				IS,C,DC
			CULG	0705	0730	2							IS
	2031	2400	CULG	2031	2230	1							IS
			CULG				2031	2400	1				IIIS
			CULG				2031	2400	2				IS,C
			CULG				2037	2400	1				N,RS,DP
			CULG				2037	2400	2				IIIN
			CULG				2107		1				DP
			CULG							2107		1	RS,DP
			CULG							2108	2400	2	IIIN
			CULG	2125	2126.5	2							IIIG
			CULG	2230	2321	1							IS
			CULG				2231		1				DP
			CULG				2238.5		1				DP
			CULG	2243	2253	2	2242.5	2253	3	2243	2253	3	IIIS
			CULG				2320.5	2321	3	2320.5	2321	3	IIIG
			CULG	2321	2400								IS,W
06			CULG				0000	0730	1				IIIS
	0000	0730	CULG				0000	0730	2				IS,C,DC
			CULG				0001	0456	2	0001	0456	2	IIIG,N
			CULG	0012	0730	1							IS
			CULG	0022	0022.5	2	0022	0022.5	2	0022	0023	2	IIIG
			CULG	0131	0131.5	2							FAST DRIFT
			CULG				0200.5	0201.5	1				UNCLF
			CULG				0238.5	0241.5	2	0238.5	0241.5	2	IIIGG
			CULG	0303	0303.5	2							IIIG

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SEP 1978	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
06			CULG	0306.5	0307	2							IIIG
			CULG				0341	0342.5	2				DC
			CULG	0508.5	0509	2	0508.5	0509	1				IIIG
			CULG	0518	0518.5	1	0518	0522	2				IIIG,U
			CULG				0537	0632	2				IIIS
			CULG							0544	0632	2	IIIG,N
			CULG				0644.5		2				IIIB
			CULG	0649	0650	3	0649	0650	1				IIIG
			CULG	0653	0654	3	0652	0654	2				IIIG
			CULG	0710		2							IIIG
			CULG	0712.5	0713.5	2	0710.5	0714.5	2				IIIGG
			CULG				2030	2400	1				IS,C,DC
	2030	2400	CULG	2030	2400								IS,W
			CULG				2030	2400	1				IIIS
			CULG	2039.5	2040.5	1							IIIC
			CULG	2239	2239.5	1	2239	2240	3	2239.5	2240	3	IIIG,V,U
			CULG				2349	2349.5	2	2349	2349.5	1	IIIG
07			CULG				0000	0730	1				IIIN
			CULG				0000	0730					IIIS,W
			CULG				0000	0730	1				IS,DC
	0000	0730	CULG	0000	0730								IS,W
			CULG	0002	0002.5	3	0002	0002.5	2				IIIG
			CULG				0346	0349.5	1	0346	0347.5	1	IIIGG
			CULG				0534	0535	2	0534.5	0535	1	IIIG
			CULG				0542.5	0705	2				IIIG,N
			CULG	0549	0551	1	0549	0551	3	0549	0550.5	3	IIIG
			CULG	0552.5		1	0552.5		3	0552.5		1	IIIB
			CULG	0704.5	0705		0704.5	0705	3	0704.5	0705	3	IIIG
			CULG	0721.5		1	0721.5		3	0721.5		2	IIIB
			CULG				0722.5	0723.5	2				IIIG
	2030	2400	CULG	2030	2123	1	2030	2400	1				IS,DC
			CULG				2030	2400					IIIS,W
			CULG	2138.5	2140.5	2	2139.5	2141	2				IIIG
			CULG	2208	2208.5	1	2208	2208.5	1				IIIG
			CULG	2228.5	2229	3	2228.5	2229	3				IIIG
			CULG				2233.5		1				IIIB
			CULG							2315	2325	1	S.W.F.
			CULG				2330.5	2331.5	1				UNCLF
			CULG				2333	2400	3	2337	2356.5	3	IIH B
			CULG	2334.5	2355	3	2337	2400	3				IVF
08	0000	0730	CULG				0000	0004.5	2				II
			CULG	0006	0025	2	0000	0033.5	2				IVF
			CULG				0031	0730					IIIS,W
			CULG				0035	0148	1				IS
			CULG				0043	0646	1				IIIN
			CULG	0103	0103.5	2	0103	0103.5	2				IIIB
			CULG				0104.5	0105	2	0104.5	0105	1	IIIG
			CULG	0130.5	0730	1	0148	0214	1				IS,DC
			CULG				0148		2				IIIB
			CULG				0158	0158.5	2				IIIG
			CULG	0209.5		1							IIIB
			CULG				0214	0324	1				IS,DC
			CULG				0323.5	0324	2				IIIB
			CULG				0324	0527	1				IS,DC
			CULG				0325.5		2				IIIB
			CULG	0326.5	0327	1	0326.5	0327	1				IIIG
			CULG	0353.5	0354	2							IIIG
			CULG	0358	0358.5	2	0358	0358.5	2	0358	0358.5	1	IIIG
			CULG				0440.5		1				IIIB
			CULG				0451	0507					POSS II,W
			CULG				0527	0730	1				IS
			CULG				0646	0704	1				IIIS
	2030	2400	CULG				2030	2400					IS,DC
			CULG				2030	2400					IIIN,W
			CULG	2056	2206	1							IN
			CULG				2108.5	2110	2				IIIG
09	0000	0730	CULG				0000	0200	1				IS,DC

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
09			CULG				0000	0730					IIIN,W
			CULG				0200	0441	1				IS
			CULG				0212	0213.5	2	0213	0213.5	1	IIIG
			CULG				0441	0730					IS,W
			CULG	0451	0451.5	1	0451	0452	3	0451	0451.5	2	IIIG,V
			CULG				0509	0605	1				I,DC
			CULG				0513.5	0514.5	1				IIIG
			CULG				0628	0628.5	2				IIIB
			CULG				0630	0634	1				IIIN
			CULG				0636		2				IIIB
			CULG				2031	2301					IN,W
	2031	2219	CULG				2031	2219					IIIS,W
			CULG				2052.5		1				IIIB,U
	2224	2400	CULG				2248	2253	1				DC
			CULG	2259.5	2230		2259.5	2230					IIIG,W
			CULG	2310	2310.5	1	2310	2310.5	1				IIIG
			CULG	2356	2356.5	1	2356	2356.5	1	2356	2356.5	1	IIIG
10	0000	0729	CULG				0011.5	0729					IIIN,W
			CULG				0704.5	0705					IIIG,W
	2029	2400	CULG				2029	2400					IN,W
			CULG				2031	2400					IIIN,W
			CULG				2039	2039.5	1				IIIB,U
			CULG	2252	2253		2252	2253					IIIG,W
11	0000	0729	CULG				0000	0729					IIIN,W
			CULG				0000	0145					IN,W
	2029	2400	CULG	2029	2248	1	2029	2400	1				IS
			CULG				2029	2400					IIIS,W
			CULG				2147	2147.5	1				IIIB,U
			CULG				2230	2309	1				IS,DC
12	0000	0728	CULG				0000	0728					IIIN,W
			CULG				0000	0450	1				IN
			CULG				0124.5	0125.5	1				DC
			CULG				2028	2400	1				IS,DC
	2028	2400	CULG				2028	2149					IIIS,W
			CULG				2149	2400					IIIN,W
			CULG				2249.5	2251	1				IIIG
13			CULG				0003	0703					IIIN,W
	0000	0728	CULG	0256	0333		0000	0221					IS,W
	2028	2400	CULG				2033	2119					IN,W
			CULG				2036	2036.5					IIIG,W
			CULG				2106						IIIB,W
			CULG				2108.5	2109	1				IIIG
			CULG				2109	2110					IIIG,W
			CULG				2124.5						IIIB,W
			CULG	2242	2243.5		2242	2244					IIIG,W
			CULG				2318.5						IIIB,W
14	0000	0727	CULG				0003	0235					IIIN,W
			CULG				0610.5	0612	1				IIIG,U
	2027	2400	CULG				2206.5	2324.5					IIIN,W
			CULG				2326	2327	1	2326.5	2327	1	IIIG
			CULG				2327.5	2328	2	2327.5	2328	2	IIIG
			CULG				2330.5	2331.5	1				IIIG
			CULG				2349.5	2351.5	1	2349.5	2351.5	1	IIIG
15	0000	0727	CULG				0119.5	0120					IIIG,W
			CULG				0124.5		1				IIIB
			CULG	0338									IIIB,W
			CULG				0536.5	0658					IIIN,W
			CULG	0549.5			0549.5						IIIG,W
			CULG	0550.5	0551	1	0550.5	0551	1				IIIG
			CULG	0555.5	0557	1							IIIG
			CULG				0555.5	0556					IIIG,W
			CULG				0613	0614	1				IIIG
	2027	2400	CULG				2037.5						IIIB,W
			CULG	2050.5		1							IIIB

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
15			CULG	2051	2051.5	3							IIIG
			CULG	2132	2132.5	3							IIIG
			CULG				2154	2155					IIIG,W
			CULG				2157.5	2159					IIIG,W
			CULG				2207.5	2211					IIIG,W
			CULG	2210.5	2211	3							IIIG
			CULG				2224	2306					IN,W
16	0000	0727	CULG										
	2027	2400	CULG	2114	2200	1	2127	2158	1				IS
			CULG				2158	2245					IS,W
			CULG	2200	2250	1							IS
			CULG	2246.5		1							IIIB
			CULG				2258.5	2300	2	2258.5	2300	2	IIIG
			CULG				2301	2301.5					IIIG,W
			CULG				2324.5	2325.5	2	2324.5	2325	2	IIIG
			CULG				2328	2400	1				IS
			CULG				2329	2329.5					IIIG,W
			CULG				2344.5	2345	1				IIIG
			CULG				2346.5	2347.5	2	2347	2347.5	1	IIIG
17	0000	0726	CULG				0000	0007	1				IS
			CULG				0004	0307					IIIN,W
			CULG				0006.5	0007		0006.5	0007		IIIB,W
			CULG				0007	0056					IS,W
			CULG	0103	0129	1							IS
			CULG	0140.5	0141	3	0140.5	0141.5	3				IIIG
			CULG	0231		2	0231	0231.5	3	0231.5	0232	3	IIIG,V
			CULG				0332.5	0435					IN,W
			CULG				0641.5	0643	1				IIIGG
			CULG				0653.5	0654.5	3				IIIG
			CULG				0708.5	0709	2				IIIG
	2026	2400	CULG				2026	2118					IIIN,W
			CULG				2228.5						IIIB,W
			CULG				2332.5	2333	1				IIIG
18	0000	0715	CULG				0016	0620					IIIN,W
			CULG	0019.5	0020.5	1	0019.5		1				IIIG
			CULG				0149.5	0150.5	2				IIIG
			CULG	0157.5	0158	1	0157.5	0158.5	3	0157.5	0158	3	IIIG,V
			CULG				0213.5		1				IIIB
			CULG				0236		1				IIIB
			CULG				0253	0253.5	1				IIIG
			CULG				0524	0525	1				IIIG
			CULG	0531	0548	1							IS
			CULG				0620	0715					IIIS,W
			CULG	0702	0703	2	0702.5	0703	1				IIIG
	2026	2400	CULG				2026	2129					IIIS,W
			CULG				2030	2133	1				IS
			CULG				2129	2400					IIIN,W
			CULG				2158	2158.5	3				IIIG
			CULG				2337	2338	2				IIIG
19	0000	0725	CULG				0015.5	0018.5	1				IIIGG
			CULG				0018.5	0022	2				IIIGG,U
			CULG				0027	0029.5					IIIG,W
			CULG	0027		1							IIIB
			CULG				0124	0725					IIIN,W
			CULG				0140	0141.5	3				IIIGG,U
			CULG				0157.5		1	0157.5		2	IIIB
			CULG				0203.5		1				IIIB
			CULG	0210			0210						IIIB,W
			CULG				0212.5	0213.5	2	0212.5	0213.5	2	IIIG
			CULG				0234	0246					IS,W
			CULG	0238	0238.5	1							IIIG
			CULG	0249	0250.5	1							IIIG
			CULG	0256	0256.5		0256	0256.5					IIIG,W
			CULG				0258	0258.5	1				IIIG
			CULG				0313.5	0314.5	2				IIIG
			CULG				0354.5	0355	1				IIIG,U

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
19			CULG				0354		1				IIIB,U
			CULG				0415	0725	1				IS
			CULG	0459	0601	1							IN
	2025	2400	CULG				2028	2333					IIIN,W
			CULG				2053	2101					IS,W
			CULG	2059	2251	1							IS
20	0000	0725	CULG				0038	0150	1				IS
			CULG				0105	0157					IIIN,W
			CULG				0252						IIIB,W
			CULG				0403.5						IIIB,W
			CULG				0413		1				IIIB
			CULG				0459		1				IIIB
			CULG				0707.5						IIIB,W
	2025	2147	CULG				2027	2147					IIIN,W
			CULG				2104.5	2105	2				IIIG
			CULG	2104	2136	1							IN
			CULG				2107.5		1				IIIB
			CULG				2123.5		2				IIIB
			CULG				2127		2				IIIB
			CULG				2137		1				IIIB
			CULG				2143		1				IIIG
	2203	2400	CULG										
			CULG				2208	2337					IIIN,W
			CULG	2210.5	2319								IS,W
			CULG	2217		1	2217		1				IIIB
			CULG				2228	2233.5					IIIGG,W
			CULG				2240		1	2240		1	IIIB
			CULG				2241		1				IIIB
			CULG				2243.5	2244.5	2				IIIG
			CULG	2319	2341	1							IS
			CULG				2321.5	2322.5	1				IIIG
			CULG				2337	2400					IIIS,W
21			CULG	0000	0248								IS,W
	0000	0725	CULG				0000	0115					IIIS,W
			CULG				0016.5		1				IIIB
			CULG				0032.5		1				IIIB
			CULG				0033		2	0033		1	IIIB,U
			CULG				0115	0411					IIIN,W
			CULG	0248	0725	1	0237	0725	1				IS
			CULG	0313	0314	1							IIIG
			CULG				0331	0332	3	0331	0332	3	IIIG,V
			CULG	0410	0414	1							IIIG
			CULG				0411	0411.5	3	0411.5	0412	2	IIIB,V
			CULG				0411	0725	1				IIIS
			CULG	0411	0505	2	0412.5	0725	2	0500	0725	1	IV
			CULG				0412	0413.5	2				IIIG
			CULG							0414	0445	1	S.W.F.
			CULG				0415.5	0435	2				II
			CULG				0415.5	0416.5	2	0415.5	0416.5	1	IIIG
			CULG							0415	0435	2	IIIG,N
			CULG				0418	0418.5	1	0418	0418.5	1	IIIG
			CULG				0423.5	0424	2	0423.5	0424	2	IIIG
			CULG	0628	0658	2							IS
	2025	2400	CULG				2025	2400	1				IIIS
			CULG				2025	2400	1				IS,DC
			CULG	2049.5		1							IIIB
			CULG	2108	2400								IS,W
			CULG				2152	2327	1				IIIN
22			CULG	0000	0725								IS,W
	0000	0725	CULG				0000	0348	1				IS,DC
			CULG				0000	0725					IIIS,W
			CULG				0137.5		2	0137.5		1	IIIB
			CULG				0348	0429	1				IS,DC
			CULG				0429	0500	2				IS,C,DC
			CULG				0500	0615	2				IS,DC
			CULG				0615	0725	1				IS
			CULG				0702		1				UNCLF,RS

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
22			CULS				0703		1				IIIB
			CULG				2025	2400	1				IIIN
			CULG				2025	2400					IIIS,W
	2025	2400	CULG				2025	2209	1				IS
			CULG				2142.5	2143.5	1				UNCLF
			CULG				2209	2400	1				IN
23	0000	0724	CULG				0000	0215					IIIS,W
			CULG				0000	0215	1				IN
			CULG				0003	0724	1				IIIN
			CULG				0122.5	0123	2	0122.5	0123	1	IIIB
			CULG	0153	0154	1							IIIG,RS
			CULG				0207	0207.5	2	0207	0207.5	1	IIIB
			CULG				0215	0354	2				IS
			CULG				0215	0350	2				IIIS
			CULG							0222	0356	1	IIIN
			CULG	0236.5	0238	1							FAST DRIFT
			CULG	0238	0724								IN,W
			CULG				0328	0334	2				IIIS
			CULG				0350	0724					IIIS,W
			CULG				0354	0715	1				IS
			CULG				0715	0724	1				IS,DC
			CULG	0720.5	0721	2	0720.5	0721	2				IIIG
			CULG	0723.5	0724	1							FAST DRIFT
			CULG				2025	2400					IIIS,W
	2025	2400	CULG				2025	2400	1				IIIN
			CULG				2025	2400	1				N,RS,DP
			CULG				2025	2400	1				IS,DC
			CULS				2343		2	2343		1	IIIB
24	0000	0724	CULG				0000	0724	1				IIIN
			CULG				0000	0724					IS,W
			CULG				0000	0724					IIIS,W
			CULG				0006	0712	1				N,RS,DP
			CULG	0046.5	0047	1							FAST DRIFT
			CULG				0159	0159.5	1	0159	0159.5	1	IIIG
			CULG				0402	0402.5	1				IIIB,U
			CULG				0641.5	0642.5	2				IIIG
	2025	2400	CULS				2025	2258	1				IS,DC
			CULG				2025	2026	3				IIIG,V,U
			CULG				2025	2335					IIIS,W
			CULG				2030		2				IIIB
			CULG				2033	2121	1				IIIN
			CULG				2056.5		2				IIIB
			CULG	2108.5	2238	2	2116	2315	2				IV
			CULG				2122	2141	3				II
			CULG	2150	2208	1	2335	2400	1				IIIN
25	0000	0724	CULG				0006	0100	1				IIIN
			CULG				0100	0451					IIIS,W
			CULG				0115	0453	1				IS
			CULG							0150	0352		IIIN,W
			CULG				0153		2	0153		1	IIIB
			CULG				0351.5	0352	2				IIIG
			CULG				0518	0724					IIIN,W
			CULG	0610	0612	1							IIIGG
			CULG				0611.5	0612	1				IIIG
			CULG				0635	0724	1				IN
			CULG				0704.5		1				IIIB
	2024	2400	CULG				2024	2128	1				IS
			CULG				2024	2124					IIIS,W
			CULG				2046.5	2047	1				IIIG,U
			CULG				2128	2400					IN,W
			CULG				2132	2349					IIIN,W
			CULG				2349	2400					IIIS,W
			CULG	2352	2400								IS,W
26			CULG				0000	0326					IIIS,W
	0000	0723	CULG	0000	0028	1	0000	0552	1				IS
			CULG				0000	0723	1				IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1978

SEP 1978	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
26			CULG				0016	0235	1				IS,DC
			CULG	0028	0158								IN,W
			CULG	0057.5	0058	2	0057.5	0058	2				IIIG
			CULG				0245.5	0246	2				IIIG,U
			CULG	0338.5	0339	1	0338.5	0339	1				IIIG
			CULG	0341	0342.5	1	0341	0342.5	2				IIIGG
			CULG				0347	0723					IIIN,W
			CULG	0423	0423.5	1							IIIG
			CULG				0437.5		1	0437.5		1	IIIB
			CULG	0453	0617								IS,W
			CULG				0552	0702					IN,W
			CULG	0552	0552.5	1	0552	0552.5	1				IIIG
			CULG	0604.5	0605	1	0604.5	0605	2				IIIG
			CULG	0630.5	0631.5	1	0630.5	0632	2				IIIGG
			CULG				0717.5	0718.5	2				IIIG
			CULG				2023	2400	1				IS
			CULG				2023	2121	1				N,RS,DP
	2023	2400	CULG				2023	2110	1				IIIS
			CULG	2037	2049	1	2037.5	2041	3	2038	2041	3	IIIGG
			CULG				2051.5	2053	3				IIIGG
			CULG				2052	2054.5	2				UNCLF
			CULG				2110	2400	2				IIIS
			CULG	2122	2244	2	2122	2400	2				IS,C
			CULG							2203	2338	1	IIIN
			CULG	2217.5		1							IIIB
27			CULG				0000	0126	1				IIIS
	0000	0723	CULG				0000	0554	2				IS,DC,C
			CULG	0000	0200								IN,W
			CULG				0126.5	0144	2				IIIS
			CULG				0126.5	0127.5	2	0127	0128	2	IIIG
			CULG				0143.5		3	0143.5		2	IIIB
			CULG				0156	0723					IIIS,W
			CULG				0335		2	0335.5		2	IIIB
			CULG				0615	0718	1				N,RS,DP
			CULG	0658	0723	1	0554	0723	1				IS
			CULG				2022	2400					IIIN,W
	2022	2400	CULG				2022	2400	1				IS
			CULG				2105.5		1				IIIB
			CULG				2109	2110	1				IIIG
			CULG							2211.5	2212	1	IIIB
			CULG				2220.5	2221	1	2220.5	2221	1	IIIG
28			CULG				0000	0723					IIIN,W
	0000	0723	CULG				0000	0336	1				IS
			CULG				0129	0129.5	1				IIIG
			CULG				0312.5	0313	1	0312.5	0313	1	IIIG
			CULG				0322.5	0323	2	0323	0323.5	2	IIIG
			CULG	0333.5	0334.5	1	0333	0335	2	0334.5	0335	2	IIIGG
			CULG	0434	0436.5	2	0434	0437	3	0434	0436.5	3	IIIGG,V
			CULG				0437.5	0438	1				IIIG
			CULG				0557	0559.5	2				IIIG
			CULG	0632	0633.5	1	0632	0634	3				IIIGG
			CULG				0637.5		2				IIIB
			CULG				0643	0714	1				IIIN
	2023	2400	CULG				2031	2056					IIIS,W
			CULG				2039	2058					IS,W
			CULG	2242	2242.5	1	2242	2242.5	1				IIIB
29	0000	0722	CULG				0047	0048.5	1	0047.5	0048	1	IIIG
			CULG				0148.5	0149	2	0148.5	0149	1	IIIG
			CULG				0150						IIIB,W
			CULG				0359	0400					IIIG,W
	2126	2400	CULG				2126	2400					IIIN,W
			CULG	2145.5	2245	1							IN
			CULG				2152	2400					IN,W
			CULG	2339.5			2339.5	2340					IIIG,W
30	0000	0722	CULG				0415.5	0416.5					IIIG,W
			CULG				0658.5						IIIG,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

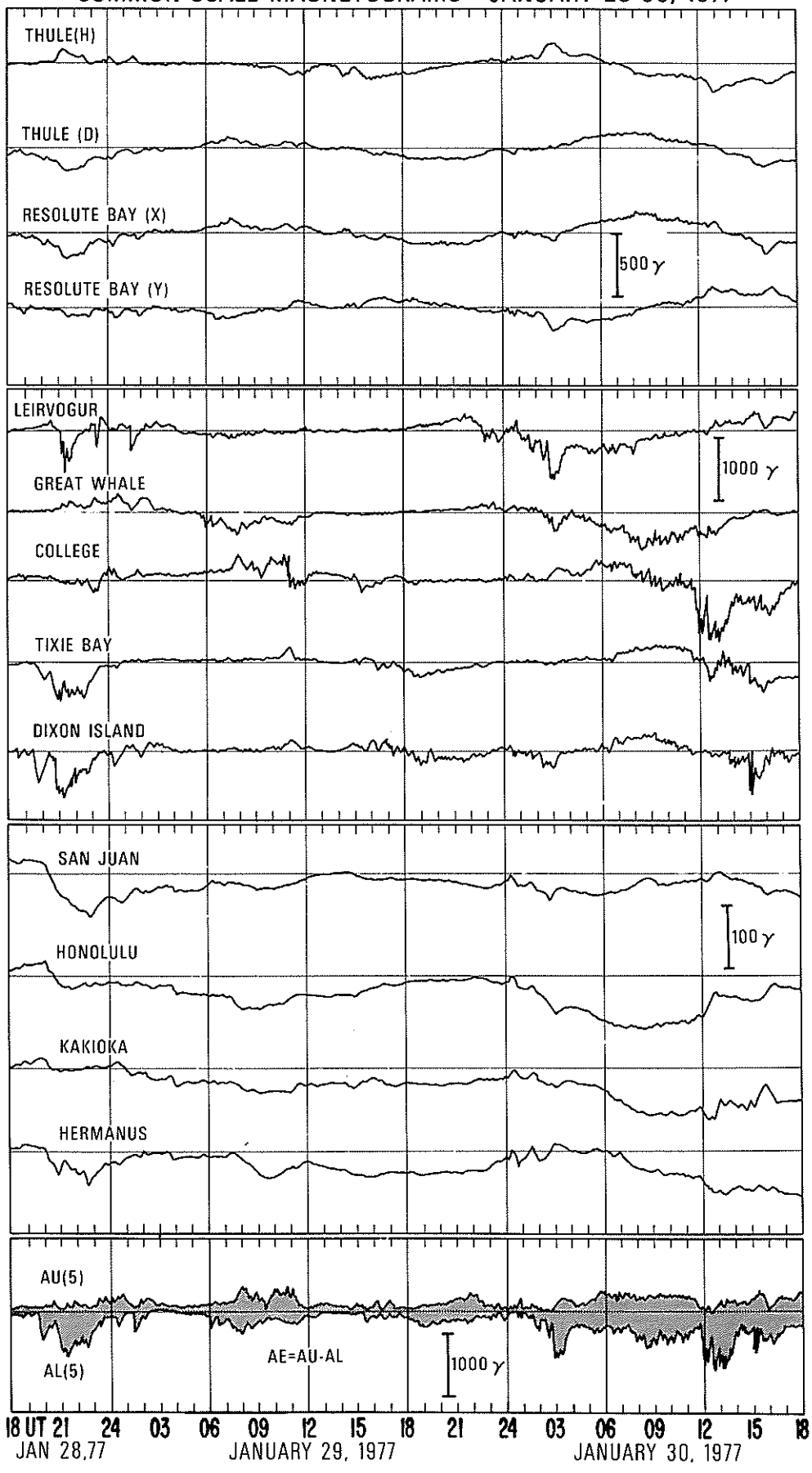
SEPTEMBER 1978

SEP 1978	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
30	2027	2400	CULG				0721.5	0722					IIIG,W
			CULG				2027	2056					IIIN,W
			CULG	2201.5	2202.5	1	2201.5	2203	2	2201.5	2202.5	2	IIIGG

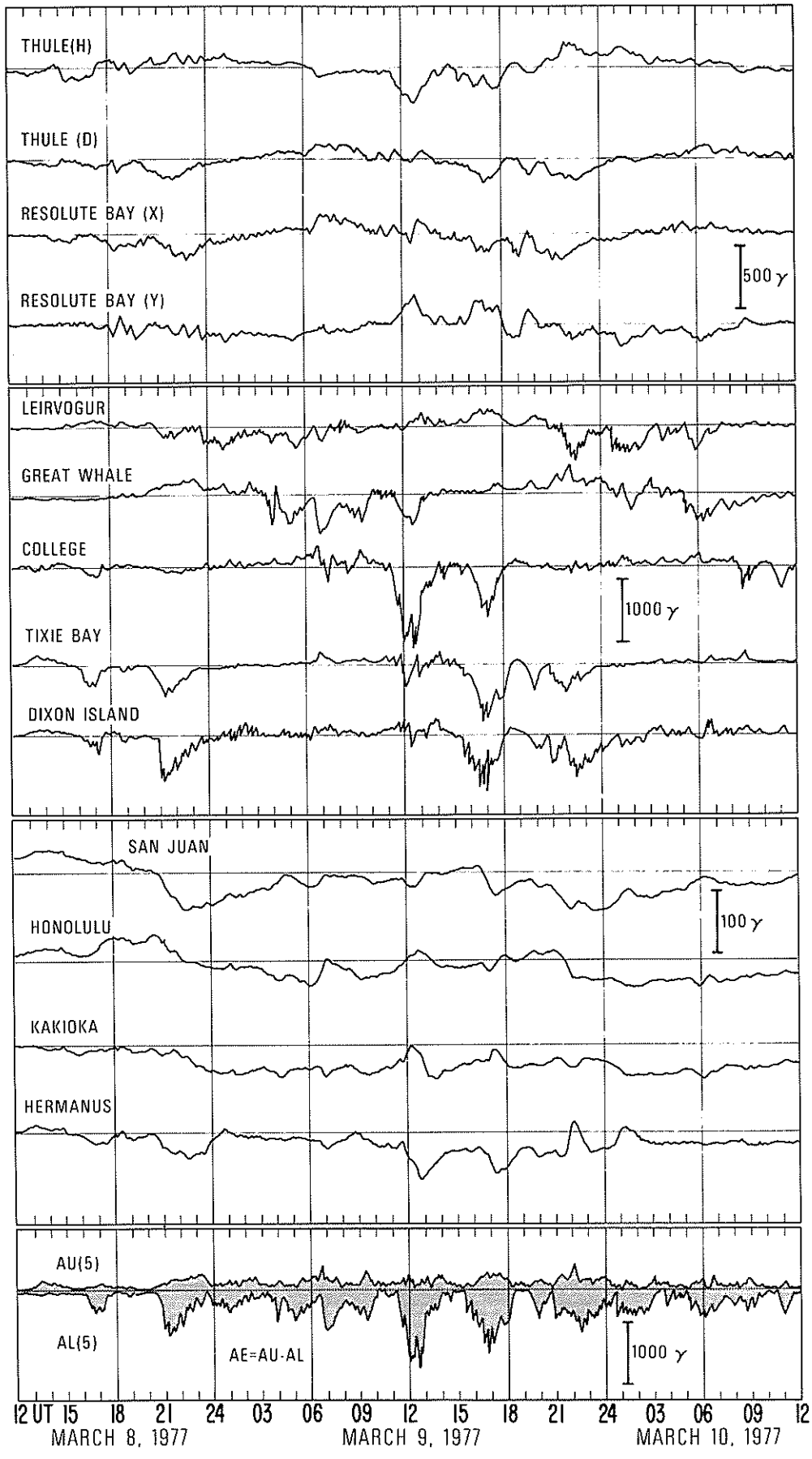
The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

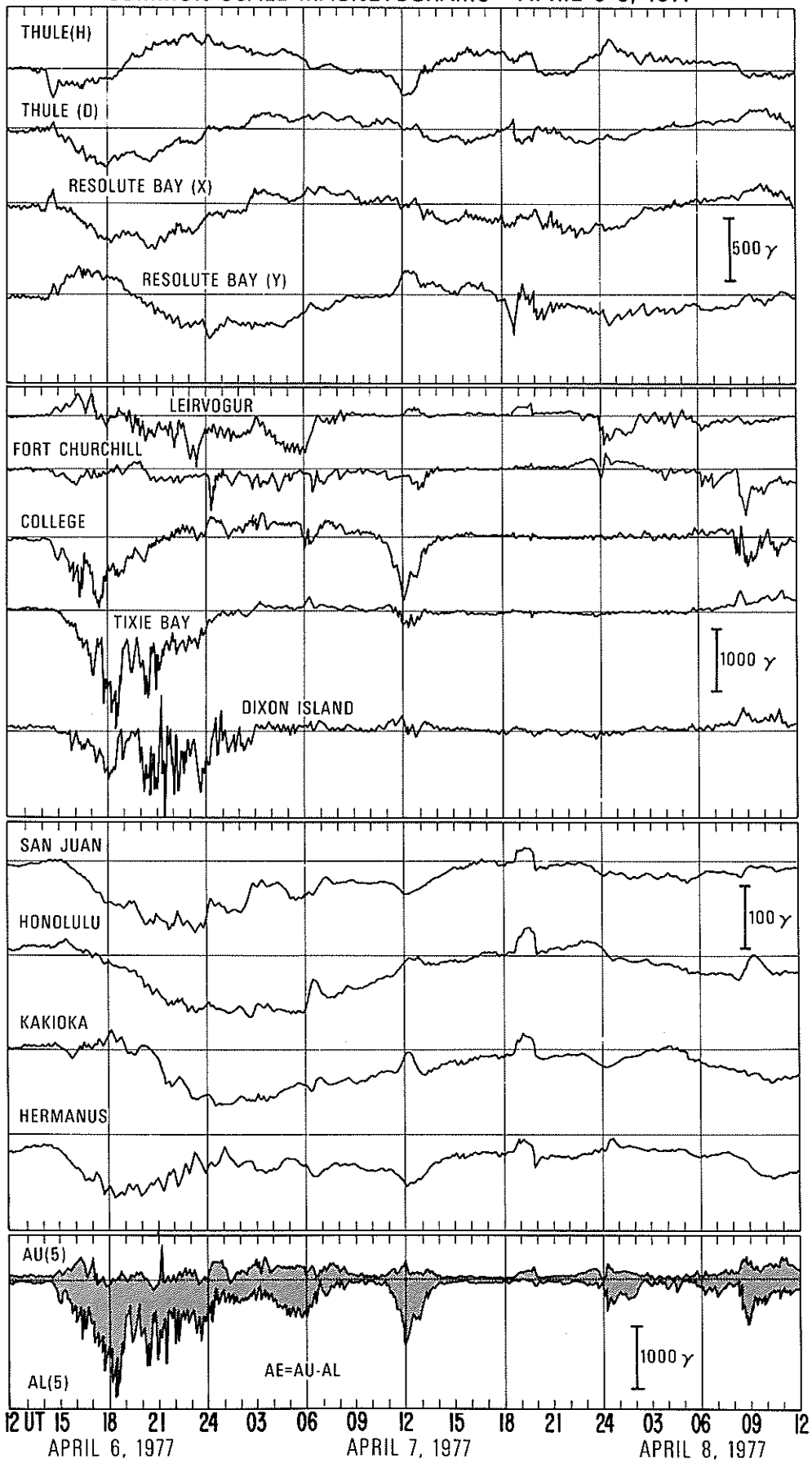
COMMON-SCALE MAGNETOGRAMS JANUARY 28-30, 1977



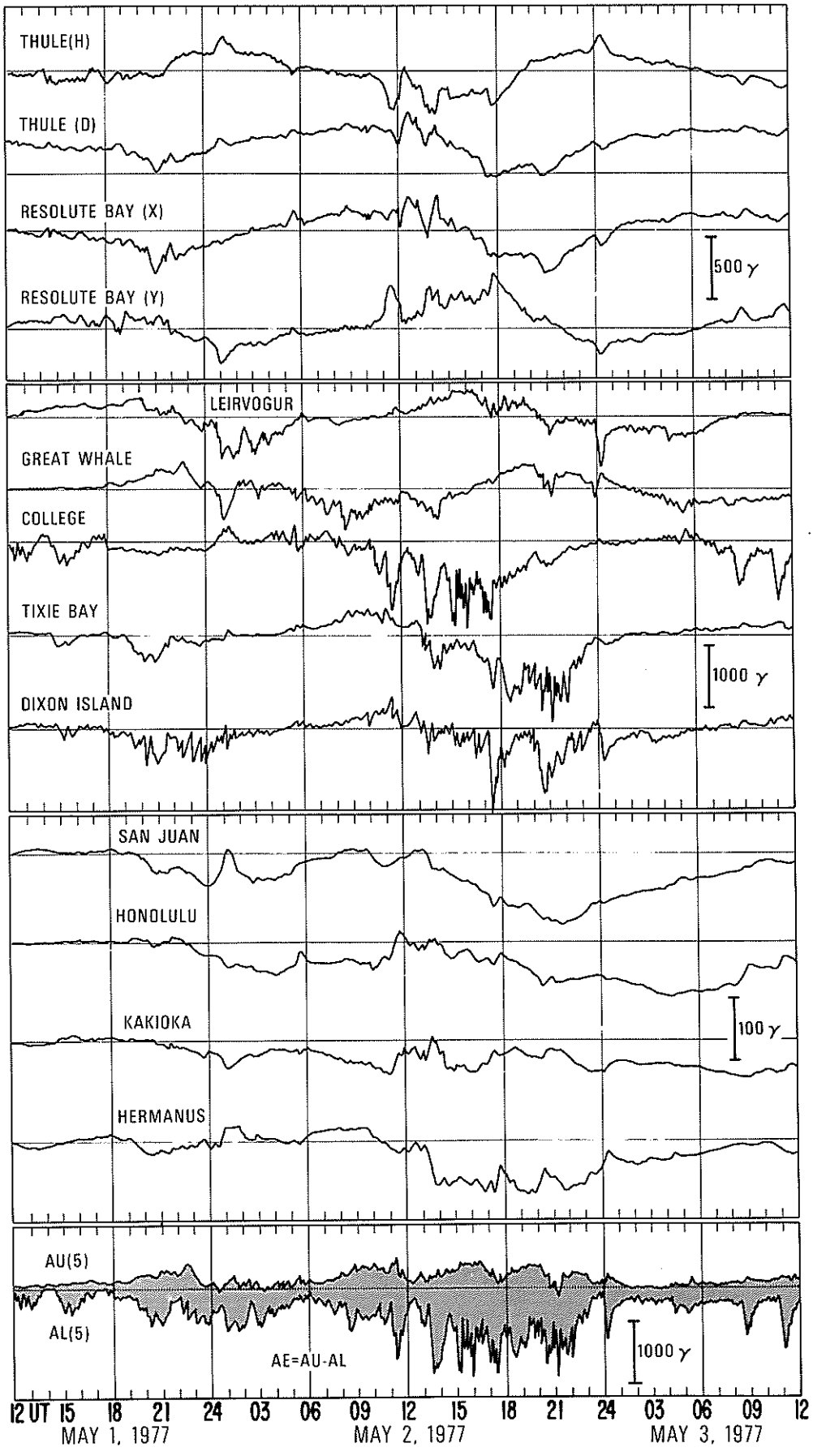
COMMON-SCALE MAGNETOGRAMS MARCH 8-10, 1977



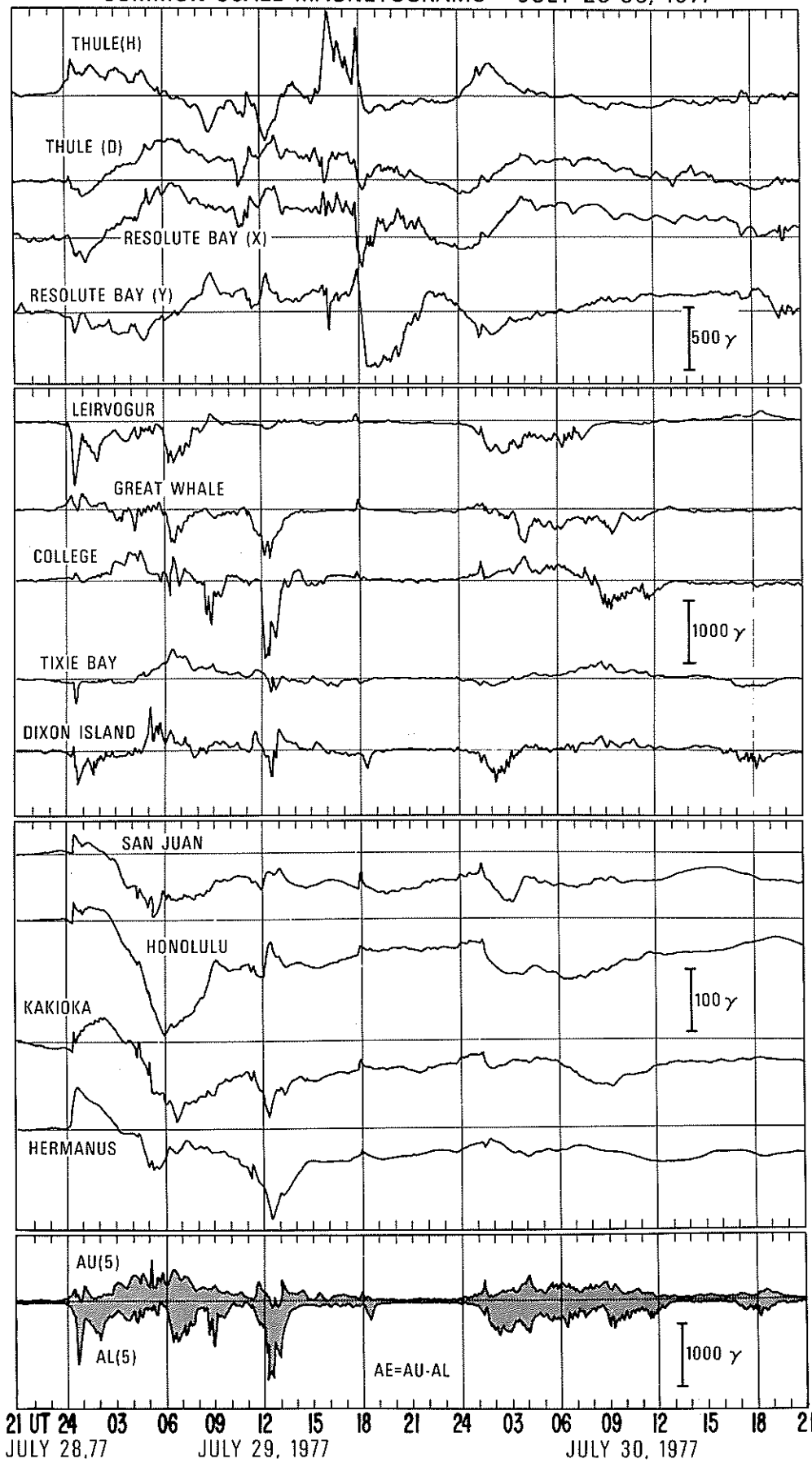
COMMON-SCALE MAGNETOGRAMS APRIL 6-8, 1977

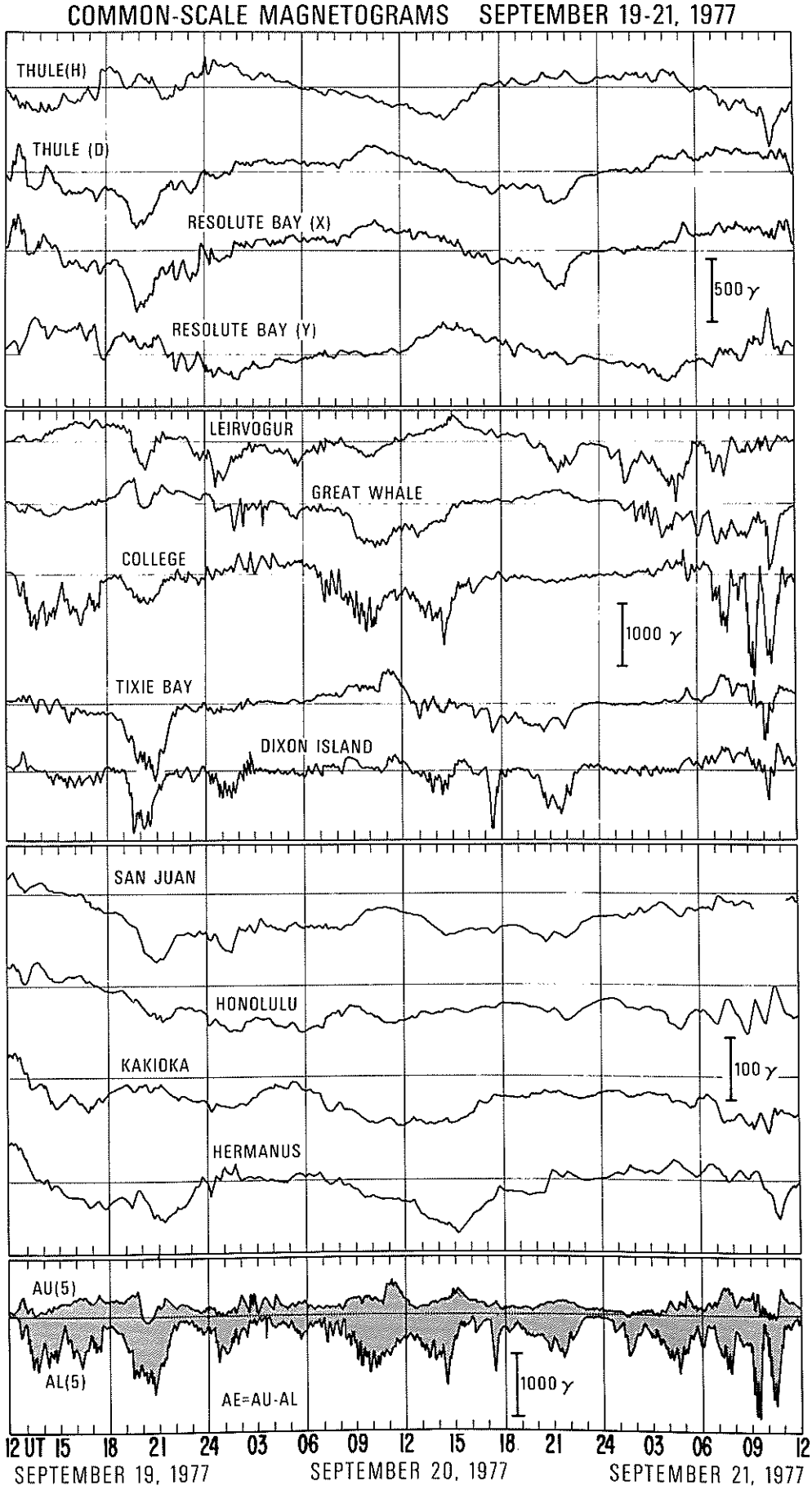


COMMON-SCALE MAGNETOGRAMS MAY 1-3, 1977

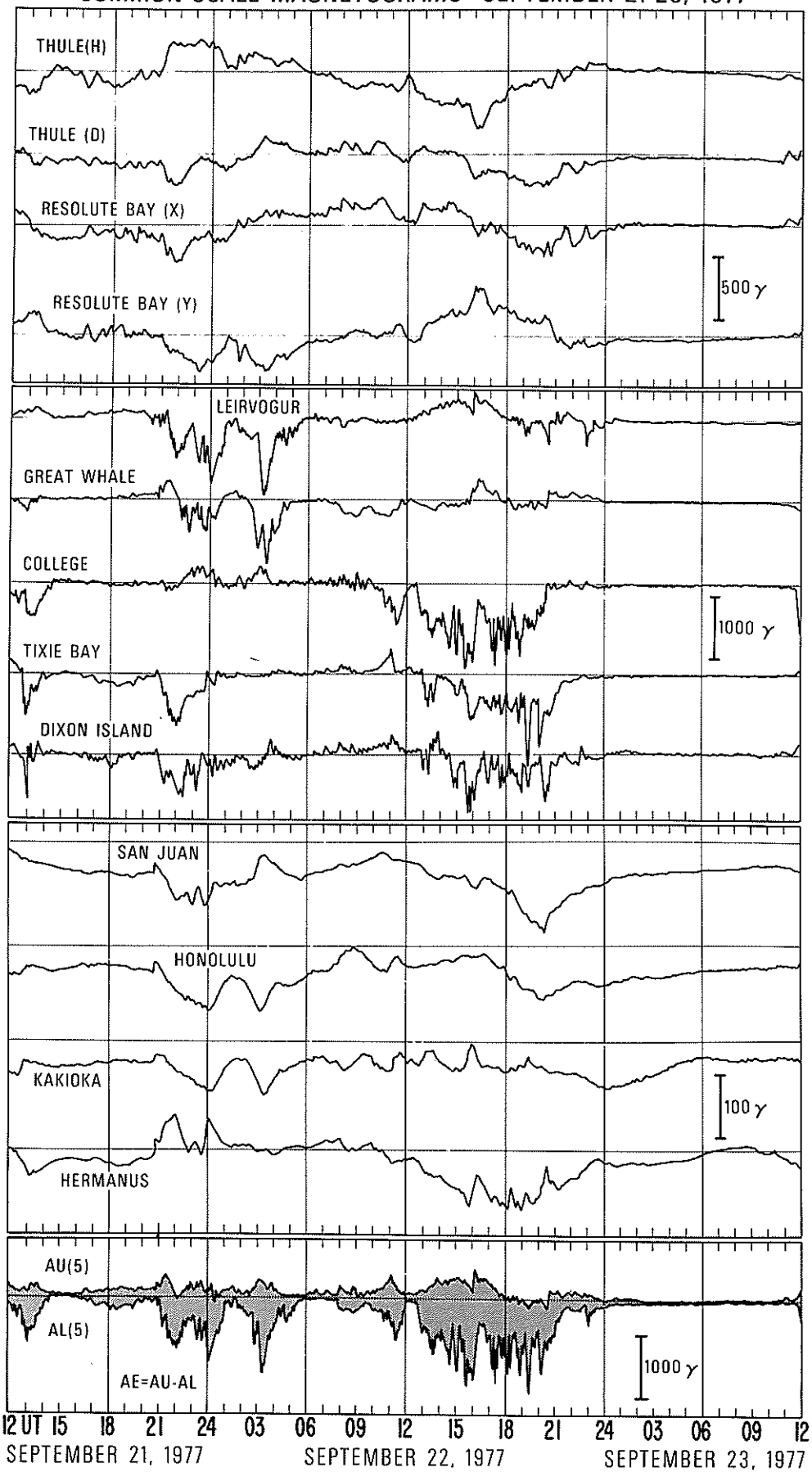


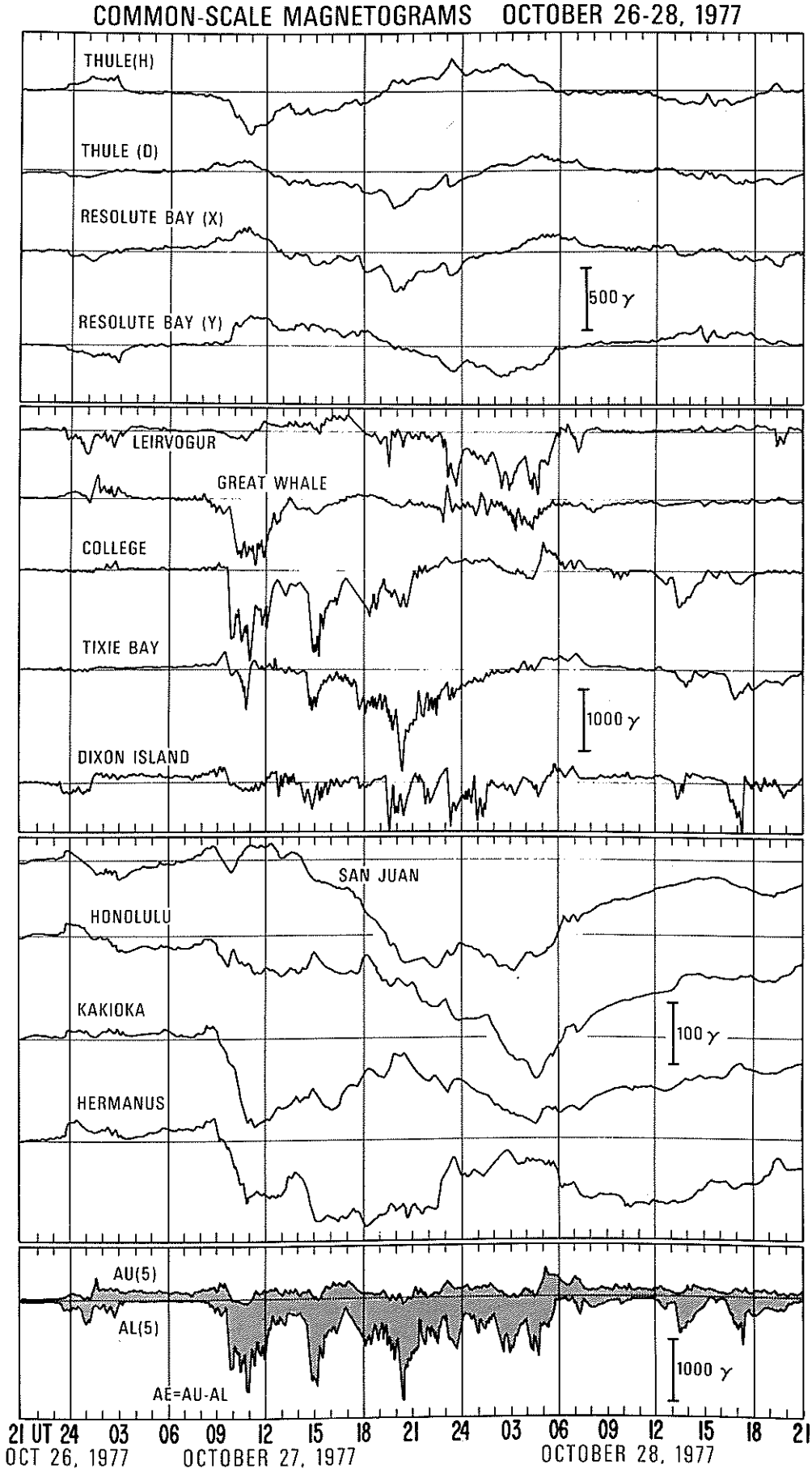
COMMON-SCALE MAGNETOGRAMS JULY 28-30, 1977



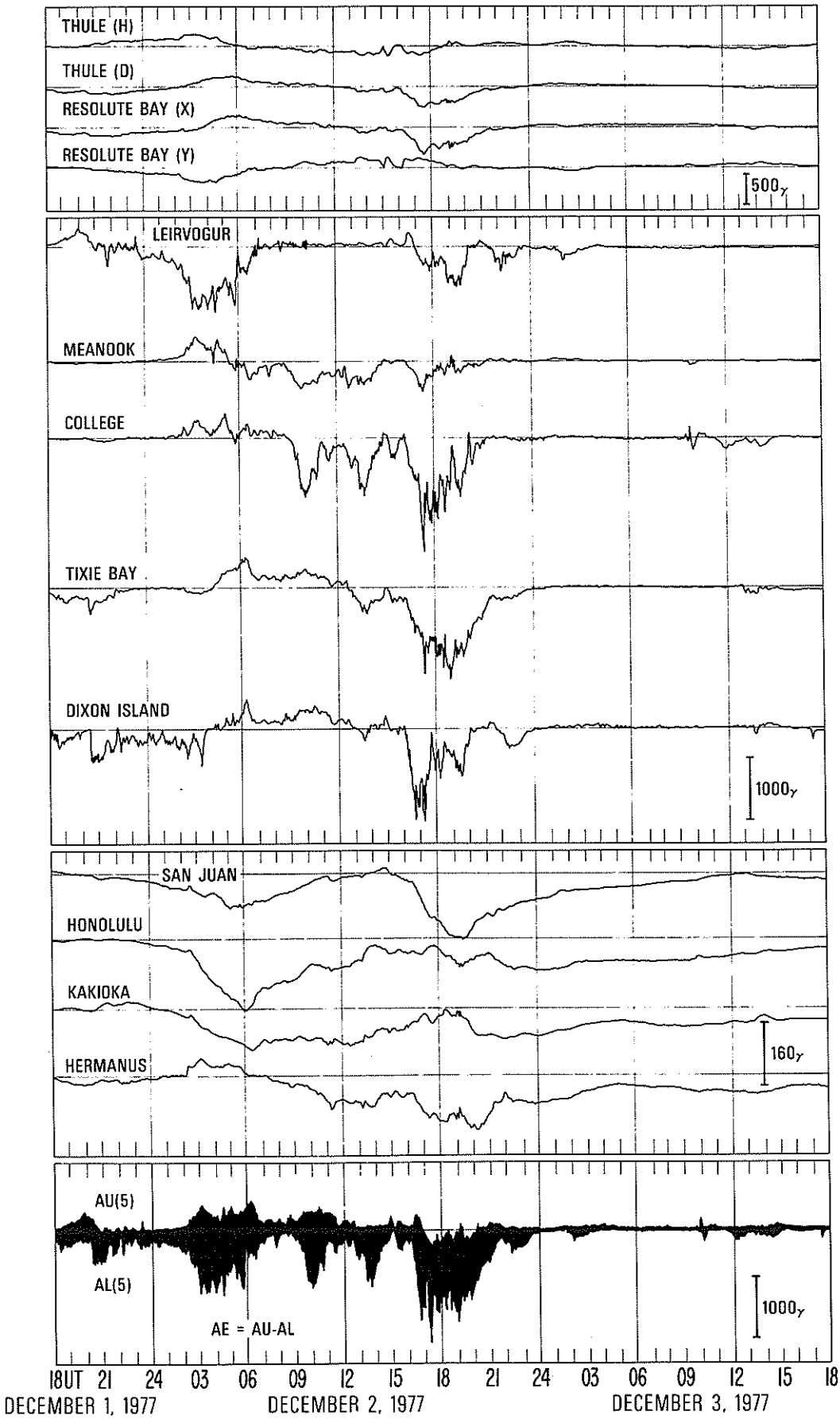

COMMON-SCALE MAGNETOGRAMS SEPTEMBER 19-21, 1977
THULE(H)
THULE (D)
RESOLUTE BAY (X)
500 γ
RESOLUTE BAY (Y)
LEIRVOGUR
GREAT WHALE
COLLEGE
1000 γ
TIXIE BAY
DIXON ISLAND
SAN JUAN
HONOLULU
100 γ
KAKIOKA
HERMANUS
AU(5)
AL(5)
AE=AU-AL
1000 γ
12 UT 15 18 21 24 03 06 09 12 15 18 21 24 03 06 09 12
SEPTEMBER 19, 1977
SEPTEMBER 20, 1977
SEPTEMBER 21, 1977

COMMON-SCALE MAGNETOGRAMS SEPTEMBER 21-23, 1977



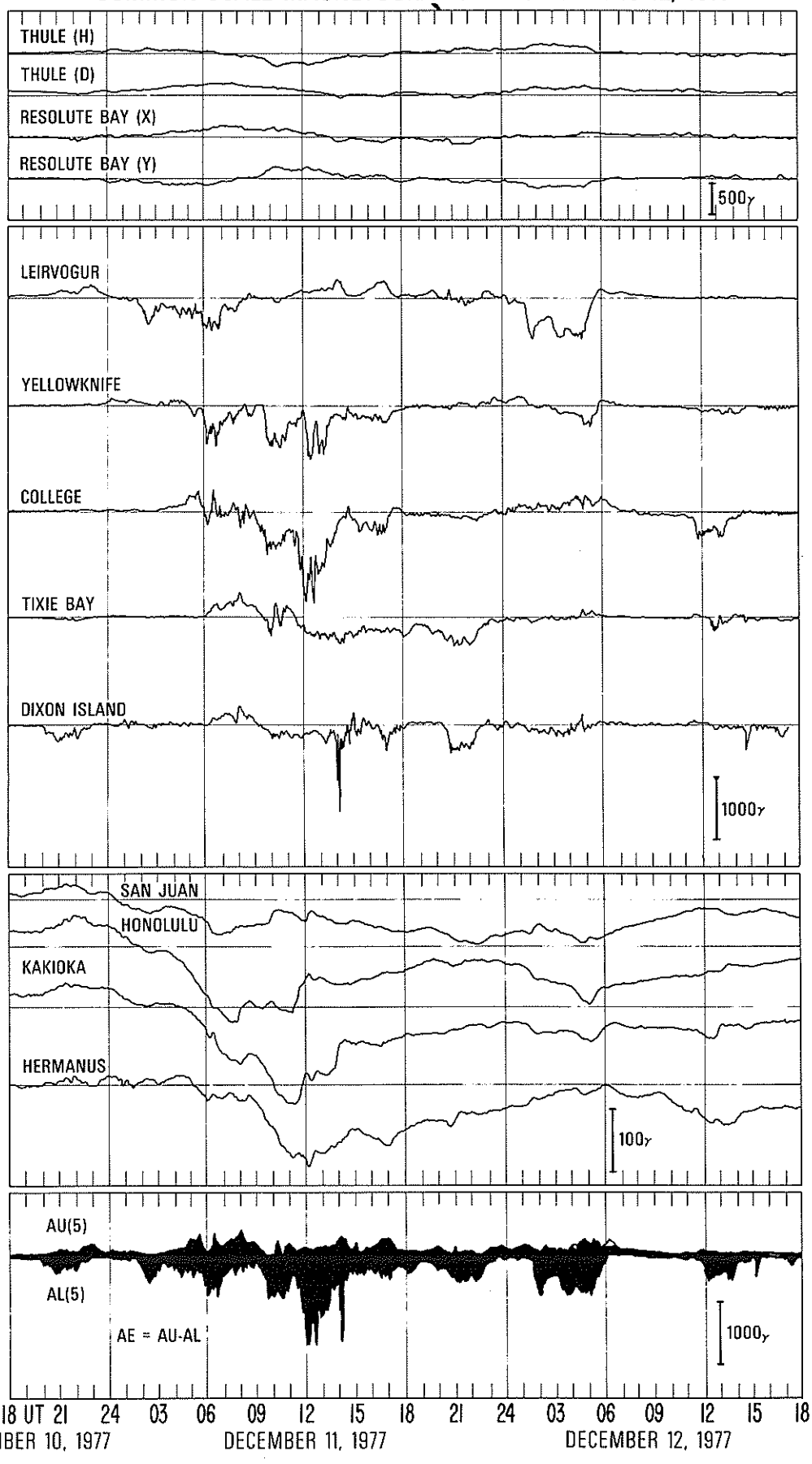

COMMON-SCALE MAGNETOGRAMS OCTOBER 26-28, 1977
THULE(H)
THULE (D)
RESOLUTE BAY (X)
RESOLUTE BAY (Y)
500 γ
LEIRVOGUR
GREAT WHALE
COLLEGE
TIXIE BAY
DIXON ISLAND
1000 γ
SAN JUAN
HONOLULU
KAKIOKA
HERMANUS
100 γ
AU(5)
AL(5)
AE=AU-AL
1000 γ
21 UT 24 03 06 09 12 15 18 21 24 03 06 09 12 15 18 21
OCT 26, 1977
OCTOBER 27, 1977
OCTOBER 28, 1977

COMMON-SCALE MAGNETOGRAMS DECEMBER 1-3, 1977



78
Misc
Dec 77

COMMON-SCALE MAGNETOGRAMS DECEMBER 10-12, 1977



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WORLD DATA CENTER A
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SOLAR-TERRESTRIAL PHYSICS

The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."