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NO. 415 MARCH 1979

Part II (Comprehensive Reports)

DATA FOR
SEPTEMBER 1978
AUGUST 1978

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SOLAR-GEOPHYSICAL DATA

No. 415

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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---- = no data available.
blank = data not yet received.

SEPTEMBER 1978 DATA

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ACTIVE REGIONS

CARRINGTON ROTATION 1672

(August 23 to September 20, 1978)

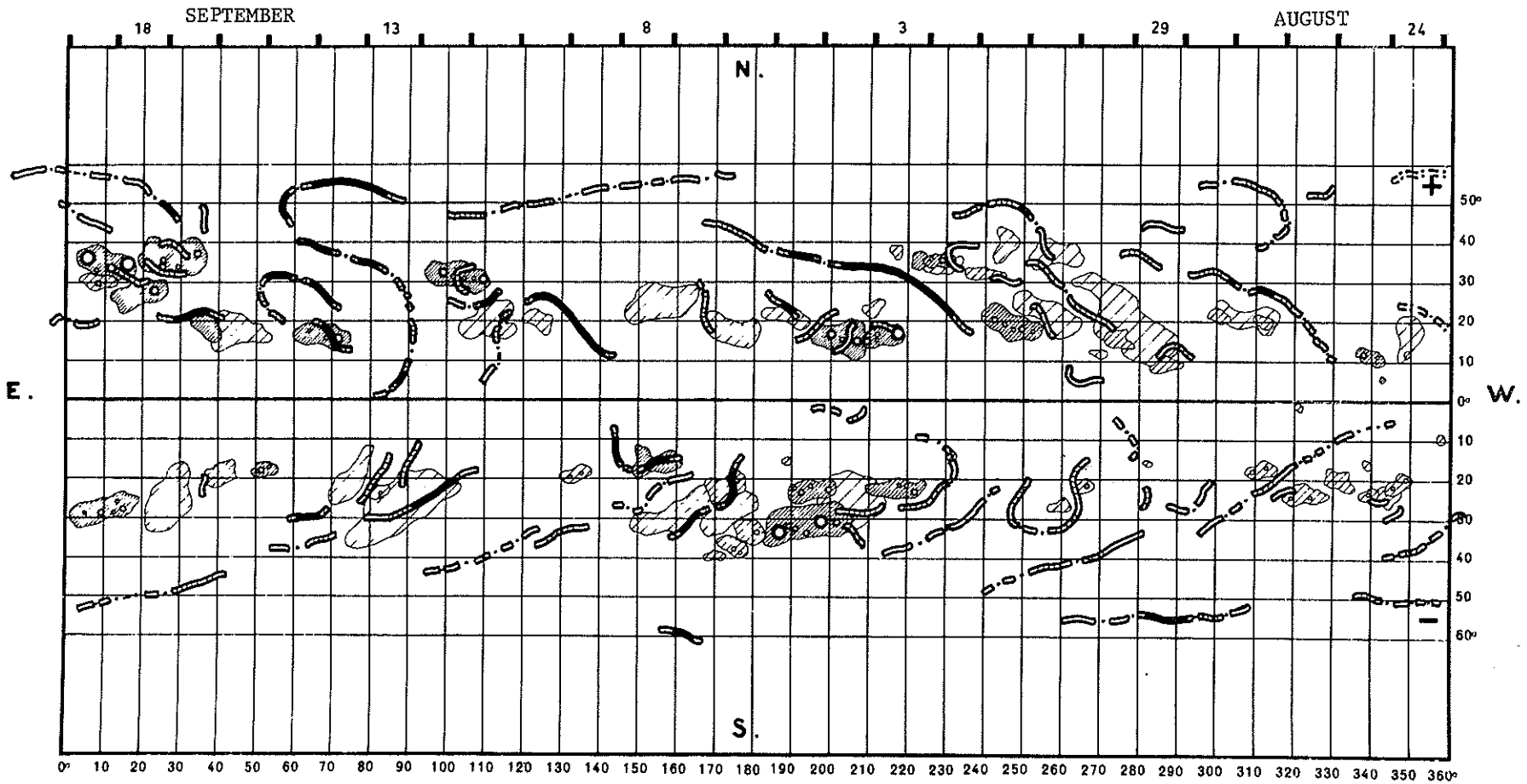
Region No.	Coordinates Lat.	Coordinates Long.	Age at CMP	IMP	Spot-less Region	Region No. in Rotation 1671	Activity at West Limb
1	9°S	359°	+3	1	x		disappeared
2	20 S	348	-3	2			decreasing
3	23 S	345	+4	1	x		dispersed
4	12 N	340	-2	3			decreasing
5	15 N	340	-4	1	x		(?)
6	23 S	340	-2	2			increasing
7	19 S	333	+5	1	x		disappeared
8	23 S	324	+5	2			decreasing
9	21 N	313	-3	1	x		decreasing
10	16 S	312	+4	2			decreasing
11	23 N	301	-4	1	x		stable
12	10 N	288	+5	1	x		disappeared
13	17 N	275	>6	1	x		dispersed
14	13 N	270	+2	1	x		disappeared
15	21 S	267	+5	2			decreasing
16	20 N	248	>6	4			decreasing
17	41 N	246	>6	1	x		disappeared
18	34 N	240	>6	1	x		dispersed
19	13 S	232	-4	1	x		stable
20	36 N	230	>6	1	x		disappeared
21	37 N	229	0	3			decreasing
22	37 N	223	0	1	x		decreasing
23	21 S	218	>6	3			decreasing
24	39 N	217	-6	1	x		(?)
25	18 N	214	+2	3			decreasing
26	25 N	212	>6	1	x		disappeared
27	18 N	203	>6	5			decreasing
28	22 S	196	+2	4			decreasing
29	30 S	194	>6	8			decreasing
30	14 S	189	-4	1	x		stable
31	23 N	189	>6	1	x	(23)	decreasing
32	32 S	180	>6	2			decreasing
33	37 S	176	>6	2			decreasing
34	19 N	175	>6	1	x	(26)	dispersed
35	20 S	173	>6	2			decreasing
36	38 S	170	-3	1	x		stable
37	27 S	166	>6	1	x	(27)	decreasing
38	15 S	155	>6	1	x		decreasing
39	26 N	155	>6	1	x	(28)	dispersed
40	18 S	134	+5	2			decreasing
41	21 N	124	>6	1	x		decreasing
42	19 N	114	-1	1	x		decreasing
43	33 N	103	>6	5			decreasing
44	23 S	82	0	2			decreasing
45	17 N	67	>6	4			decreasing
46	17 S	52	0	3			decreasing
47	18 N	45	>6	1	x		disappeared
48	19 S	41	>6	1	x	(45)	decreasing
49	19 N	36	+3	2			decreasing
50	36 N	28	>6	5			decreasing
51	25 S	27	>6	1	x		dispersed
52	27 N	19	>6	4			decreasing
53	35 N	11	>6	8			decreasing
54	28 S	10	>6	3			decreasing
55	30 N	8	>6	2			decreasing

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1672

AUGUST 23 TO SEPTEMBER 20, 1978

MEUDON OBSERVATORY



5
Sep 78

Hα SOLAR FLARES

SEPTEMBER 1978

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX HER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
813 PALE	01	0037	0052	0110	N20	E03	.227	15496	1.3	33	-N	3	C		42		DE	Y5
GRP68814	01	0100+1	0102+1	0112	S21	E31	.662	15507	3.4	12	-N				50	.7		
VORO	01	0100	0103	0115	S22	E30	.662	15507	3.3	15	-N		C	0103	54	.7	D	
PALE	01	0101	0102	0108	S21	E32	.672	15507	3.4	7	-B	3	C		54		FDE	
GRP68815	01	0211+1	0213+0	0219	N15	W24	.419	15493	30.3	8	-F						E	
VORO	01	0211	0213	0221	N16	W24	.424	15493	30.3	10	-F		C	0213	90	1.0	E	
PALE	01	0212	0213	0217	N15	W25	.434	15493	30.2	5	-F	3	C		32		DE	
816 PALE	01	0235E	0308	0315	N17	E45	.707	15508	4.5	40D	-N	2	C		30		FDE	Y5
817 PALE	01	0255	0255	0259	N20	E02	.224	15496	1.3	4	-N	3	C		21		DE	Y5
818 PALE	01	0323	0324	0340	N20	E02	.224	15496	1.3	17	-N	2	C		75		FDE	Y5
819 PALE	01	0325	0330	0335	N17	E45	.707	15508	4.5	10	-N	2	C		80		FDE	Y5
820 TACH	01	0446E	0448	0508D	S22	E55	.877	0	5.3	22D	-B		C	0448	17	.4	D	Y5
GRP68821	01	0610	0620+3 0629	0641	S34	E53	.905	15509	5.2	31	1N						I	
TEHR	01	0610	0623	0631	S30	E56	.908	15509	5.5	21	-B	1	C		64		F	
CULG	01	0611E	0629U	0650U	S34	E53	.905	15509	5.2	39D	3F		P	0629	600	15.0	I	
ABST	01	0620E	0620	0621D	S34	E50	.889	15509	5.0	1D	1N		P	0620	175	3.7	E	
822 CULG	01	0656	0658U	0659D	S38	E69	.979	15509	6.5	3D	-N		P	0658	20			Y5
GRP68823	01	0734+2	0737+2	0751	S32	E54	.904	15509	5.4	17	1N				150	3.3	EH	
TEHR	01	0734	0737	0751	S30	E54	.897	15509	5.4	17	-B	1	C		127		FDE	
HTPR	01	0736	0739	0748	S32	E52	.892	15509	5.2	12	-N		C	0739	130	1.9	E	
KHAR	01	0736E	0737	0802D	S34	E55	.916	15509	5.4	26D	1N		P	0743	190	4.3	EHT	
824 KANZ	01	0807		0833	N16	E33	.551	15508	3.8	26	-F		C					Y5
825 KHAR	01	0822E	0836	0900D	S37	E68	.975	15509	6.4	38D	-N		P	0841	80		H	Y5
GRP68826	01	0834+1	0837+3	0845	S32	E51	.886	15509	5.2	11	-N						AH	
KANZ	01	0834	0840	0845	S32	E50	.880	15509	5.1	11	-B		C				AH	
HTPR	01	0835	0837	0845	S32	E52	.892	15509	5.3	10	-N		C	0837	80	1.2		
GRP68827	01	0945	0950 0958	1003D	S34	E51	.894	15509	5.2	18	1N				110	2.3	OHJO	
HTPR	01	0945	0950	1003	S32	E51	.886	15509	5.2	18	-B		C	0950	100	1.5		
KHAR	01	0948E	0958	1050D	S34	E52	.900	15509	5.3	62D	2N		P	0957	250	6.0	HOT	
ABST	01	0954E	0954	0954D	S34	E50	.889	15509	5.2		1N		P	0954	105	2.2	DJ	
828 KHAR	01	0959E		1027	S37	E68	.975	15509	6.5	28D	-F		V	0959			D	Y5
829 KHAR	01	1108E		1125D	N22	E02	.258	15496	1.6	17D	-F		V	1110			H	Y5
830 KHAR	01	1110E		1143D	N16	E34	.565	15508	4.0	33D	-F		P	1123	90	1.1	H	Y5
GRP68831	01	1130>9	1241+6	1303	S36	E66	.967	15509	6.4	93	-N				45		H	
KHAR	01	1130		1206D	S37	E66	.969	15509	6.4	36D	1N		P	1138	80			
RAMY	01	1149	1242	1320	S33	E65	.959	15509	6.4	91	-B	4	C		61		HDE	
HTPR	01	1237	1241	1257	S37	E68	.975	15509	6.6	20	-F		C	1241	30	.7		
MCMA	01	1237	1242	1300	S38	E72	.986	15509	6.9	23	-N		C	1242	25	1.0	EH	
TEHR	01	1244E	1247	1305	S30	E62	.940	15509	6.2	21D	-B	2	C		64		FDE	
GRP68832	01	1132+3	1136+1	1206	S32	E49	.874	15509	5.2	34	-N				90	1.6	EH	
KHAR	01	1132E		1206D	S34	E53	.905	15509	5.5	34D	1N		P	1138	100	2.4	EHT	
HTPR	01	1134	1136	1146	S32	E49	.874	15509	5.2	12	-F		C	1136	30	.4		
RAMY	01	1135	1137	1208	S27	E45	.823	15509	4.9	33	-B	4	C		94			
833 TEHR	01	1221E	1222	1231	S30	E54	.897	15509	5.6	10D	-B	2	C		127		F	Y5
GRP68834	01	1310+3	1311+2	1320	S31	E48	.863	15509	5.1	10	-N				30	.6	E	
HTPR	01	1310	1311	1316	S31	E48	.863	15509	5.1	6	-F		C	1311	30	.5	E	
MCMA	01	1310	1312	1340	S32	E50	.880	15509	5.3	30	-N		C	1312	30	.6	E	
RAMY	01	1313	1313	1320	S28	E46	.839	15509	5.0	7	-B	4	C		84		F	
835 RAMY	01	1313	1347	1429	N18	E35	.584	15508	4.2	76	-B	4	C		47			Y5
GRP68836	01	1318+5	1322+1	1335	N18	W05	.205	15496	1.2	17	-F				40	.4	E	
MCMA	01	1318	1322	1343	N18	W06	.213	15496	1.1	25	-F		C	1322	50	.5	E	
RAMY	01	1323	1323	1326	N19	W04	.215	15496	1.3	3	-N	4	C		31			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
					APPROX													
	DATE SEP	START	MAX. PHASE	END	LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.		
837 MCMA	01	1404	1408	1419	S32	E50	.880	15509	5.3	15	-F		C	1408	40	.8	E	Y5
838 RAMY	01	1430	1430	1437	N18	E35	.584	15508	4.2	7	-B	4	C		24			Y5
GRP68839	01	1435+2	1441+0	1503	N21	E57	.836	15512	5.9	28	-F				40	.8	EH	
HTPR	01	1435	1441	1500	N20	E58	.844	15512	6.0	25	-F		C	1441	40	.7	E	
MCMA	01	1437	1441	1505	N22	E57	.837	15512	5.9	28	-N		C	1441	40	.7	EH	
840 RAMY	01	1452	1458	1523	N18	E34	.571	15508	4.2	31	-N	4	C		23			Y5
841 MCMA	01	1518	1519	1525	S32	E39	.809	15509	4.6	7	-F		C	1519	30	.5	E	Y5
GRP68842	01	1627+3	1632+2	1649	S32	E47	.862	15509	5.2	22	-N						E	
RAMY	01	1627	1632	1649D	S28	E44	.821	15509	5.0	22D	-B	4	C		119		DE	
MCMA	01	1628E		1720D	S33	E48	.873	15509	5.3	52D	-N		C	1633	60	1.2	E	
HTPR	01	1630	1634	1644	S32	E47	.862	15509	5.2	14	-F		C	1634	30	.4	E	
GRP68843	01	1708+3	1712+2	1725	S35	E64	.959	15509	6.5	17	-B				45		EH	
MCMA	01	1703	1714	1725	S39	E69	.980	15509	6.9	17	-B		C	1714	40	1.2	EH	
RAMY	01	1711	1712	1725D	S32	E60	.935	15509	6.2	14D	-B	4	C		45		DE H	
GRP68844	01	1722+7	1723 1734	1748	N16	E29	.495	15508	3.9	26	-F						EH	
MCMA	01	1722	1723	1755	N15	E30	.506	15508	4.0	33	-N		C	1723	30	.4	EH	
HOLL	01	1729	1734	1740	N17	E28	.485	15508	3.8	11	-F	3	C					
845 MCMA	01	1807	1812	1825	S39	E68	.978	15509	6.9	18	-N		C	1812	40	1.2	E	Y5
846 MCMA	01	1836	1837	1841	N15	E41	.655	15508	4.9	5	-N		C	1837	50	.7	DHV	Y5
847 HOLL	01	1839	1839	1844	N17	E27	.471	15508	3.8	5	-F	3	C					Y5
848 HOLL	01	1842	1850	1856	S30	E43	.825	15509	5.0	14	-N	3	C		30			Y5
849 MCMA	01	2011	2013	2017	N15	E41	.655	15508	4.9	6	-N		C	2013	30	.4	D	Y5
850 PALE	01	2022E	2034U	2042D	S30	E43	.825	15509	5.1	20D	-N	3	C		21		FDE	Y5
	01	2101	2110	NO FLARE PATROL														
GRP68851	01	2144>9	2154 2225	2300	S31	E43	.830	15509	5.1	76	? N							
PALE	01 IMP.S IMP.2	2144	2154	2259	S30	E42	.817	15509	5.1	75	B	3	C		52		FDE	
CULG	01	2223	2225	2300	S33	E44	.848	15509	5.2	37	2N		C	2225	350	6.7		
GRP68852	02	0004>9	0011 0122+3	0154	S31	E43	.830	15509	5.2	110	-B				110	1.9	FU	
PALE	02	0004	0125	0158	S30	E42	.818	15509	5.2	114	-N	3	C		122		U F	
PALE	02	0004	0157	0158	S30	E42	.818	15509	5.2	114	-N	3	C		122		U F	
PALE	02	0004	0011	0158	S30	E42	.818	15509	5.2	114	1B	3	C		154		U F	
CULG	02	0108	0122	0150	S33	E45	.854	15509	5.4	42	-N		C	0122	100	1.9		
853 CULG	02 IMP.1 NO	0254E	0300	0328 PALE1 MITK1	S19	E80	.993	15521	8.1	34D	? N		C	0300	120			Y5
GRP68854	02	0459>9	0533+6	0559	S34	E51	.894	15509	6.0	60	? N						DV	
CULG	02 IMP.2 IMP.S	0459	0539	0611	S36	E51	.902	15509	6.0	72	N		C	0539	320	7.5	V	
TACH	02	0529	0533	0546	S32	E52	.892	15509	6.1	17	-N		C	0533	62	1.3	D	
GRP68855	02	0533>9	0550+9	0621	S32	E43	.836	15509	5.5	48	2B				320	5.6	EJKU	
ABST	02	0533	0555	0620D	S33	E45	.854	15509	5.6	47D	2B		P	0555	297	6.4	FJK	
TEHR	02	0546E	0550	0614	S29	E40	.797	15509	5.2	28D	-B	2	C		127		FDE	
CULG	02	0547	0558	0621	S33	E42	.835	15509	5.4	34	2N		C	0558	300	5.4		
MITK	02	0551	0559	0643	S33	E44	.848	15509	5.5	52	2B		C	0559	380	7.2	E	
TACH	02	0551	0556	0616	S32	E43	.836	15509	5.5	25	2B		C	0556	287	5.2	EJU	
BUCA	02	0557E		0626	S31	E42	.823	15509	5.4	29D	2N		P	0600	429	7.9	BE	
856 CULG	02	0650	0655	0726D	N12	E21	.362	15508	3.9	36D	-N		C	0655	70	.8	F	Y5
857 ISTA	02	0740E		0757	N18	E23	.421	15508	4.0	17D	-N						E	Y5
858 ISTA	02	0740E		0800	S30	E43	.825	15509	5.5	20D	-F	*					Z	Y5
859 ISTA	02	0820E		0824	S30	E39	.796	15509	5.3	4D	-F						E	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	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
860 ISTA	02	0822E		0840D	N17	E25	.443	15508	4.2	18D	-N						D	Y5
861 HTPR	02	1030	1036	1043	S32	E38	.803	15509	5.3	13	-F		C	1036	40	.5	K	Y5
GRP68862	02	1045+2	1048+5 1059	1113	S31	E39	.803	15509	5.4	28	1N				130	2.1	J	
HTPR	02	1045	1049	1110	S32	E38	.803	15509	5.3	25	-F		C	1049	60	.8	E	
ABST	02	1046E	1048	1110	S33	E43	.841	15509	5.7	24D	1N		P	1048	174	3.7	EJ	
TEHR	02	1047	1053	1120	S29	E40	.797	15509	5.4	33	-B	2	C		127		F	
RAMY	02	1056	1059	1115D	S30	E38	.789	15509	5.3	19D	1B	3	C		211		F	
GRP68863	02	1131+3	1134+5 1146	1212	S30	E37	.782	15509	5.3	41	1N							
TEHR	02	1131E	1134	1145D	S29	E40	.797	15509	5.5	14D	1B	2	C		159		F	
HTPR	02	1134	1139	1202	S31	E35	.775	15509	5.1	28	-F		C	1139	50	.6	E	
RAMY	02	1144E	1146	1222	S30	E37	.782	15509	5.3	38D	1B	4	C		226		DE	
864 RAMY	02	1147	1150	1204	N20	W17	.356	15496	1.2	17	-B	4	C		62			Y5
865 MCMA	02 IMP.1	1204E NO	HTPR2	1225D CATA1	S38	E52	.915	15509	6.4	21D	?F		C	1204	100	2.4	BE	Y5
866 MCMA	02	1204E	1209	1220D	N16	E18	.337	15508	3.9	16D	-F		C	1209	60	.7	E	Y5
867 RAMY	02	1220	1223	1230	N18	E25	.448	15508	4.4	10	-B	4	C		23			Y5
GRP68868	02	1226+4	1229+3	1242	S37	E53	.916	15509	6.5	16	-N				30	.7	E	
MCMA	02	1226	1229	1250	S38	E56	.933	15509	6.7	24	-N		C	1229	40	1.0	E	
RAMY	02	1229	1230	1242	S32	E53	.898	15509	6.5	13	-B	4	C		37			
HTPR	02	1230	1232	1239	S37	E53	.916	15509	6.5	9	-F		C	1232	20	.3		
869 TEHR	02	1246E	1250	1255D	S29	E40	.797	15509	5.5	9D	-B	2	V		127		FDE	Y5
GRP68870	02	1247+7	1253+2	1306	N13	E19	.335	15508	4.0	19	-B				120	1.3	EV	
MCMA	02	1247	1254	1307	N13	E19	.335	15508	4.0	20	-B		C	1254	100	1.1	EV	
TEHR	02	1249	1253	1305	N15	E23	.404	15508	4.3	16	-B	2	C		127			
HTPR	02	1254	1255	1306	N13	E18	.320	15508	3.9	12	-B		C	1255	130	1.3		
GRP68871	02	1258>9	1308+4	1327	S31	E39	.803	15509	5.5	29	-B				80	1.3	E	
RAMY	02	1259	1308	1415	S30	E38	.789	15509	5.4	77	1B	4	C		184			
TEHR	02	1305E	1308	1314	S30	E40	.803	15509	5.5	9D	-B	2	C		95			
MCMA	02	1305	1310	1330	S34	E41	.835	15509	5.6	25	-B		C	1310	50	.9	E	
HTPR	02	1309	1312	1323	S32	E35	.782	15509	5.2	14	-N		C	1312	60	.7	E	
872 MCMA	02	1354E	1358	1408	S30	E90	1.002	0	9.3	14D	-F		C	1358			A	Y5
GRP68873	02	1415+8	1424+2	1551	S32	E36	.789	15509	5.3	96	-B				60	1.0	EK	
RAMY	02	1415	1425	1554	S30	E37	.782	15509	5.4	99	1B	*	C		283		DE	
MCMA	02	1420	1424	1600	S35	E36	.811	15509	5.3	100	-B	*	C	1424	60	1.0	E	
KANZ	02	1420		1449D	S32	E36	.789	15509	5.3	29D	-B	*	C				E	
HTPR	02	1423	1426	1500	S31	E35	.775	15509	5.2	37	-N	*	C	1426	60	.7	EK	
KANZ	02	1456E		1548	S33	E38	.809	15509	5.5	52D	-N	*	C					
874 MCMA	02	1431	1432	1435	N18	E28	.490	15508	4.7	4	-F		C	1432	30	.4		Y5
GRP68875	02	1450+1	1451+1	1459	N14	E24	.415	15508	4.4	9	-F				30	.3	D	
MCMA	02	1450	1452	1500D	N12	E23	.393	15508	4.3	10D	-F		C	1452	30	.3	D	
RAMY	02	1451	1451	1458	N16	E26	.453	15508	4.6	7	-N	4	C		34			
GRP68876	02	1513+2	1515+1	1530	N14	E20	.355	15508	4.1	17	-N						E	
MCMA	02	1513	1516	1539	N14	E20	.355	15508	4.1	26	-N		C	1516	50	.5	E	
KANZ	02	1515	1515	1521	N15	E20	.360	15508	4.1	6	-N		C				E	
GRP68877	02	1600>9	1620	1650	N17	W46	.718	15493	30.2	50	-F						E	
MCMA	02	1600	1620	1650	N17	W47	.730	15493	30.1	50	-F		C	1620	50	.8	E	
KANZ	02	1620		1623D	N17	W46	.718	15493	30.2	3D	-F		C					
GRP68878	02	1644+2	1648	1730	S31	E25	.708	15509	4.6	46	-F				35	.5		
MCMA	02	1644	1648	1730	S32	E23	.706	15509	4.4	46	-N	*	C	1648	35	.5	D	
HTPR	02	1646		1715D	S30	E27	.711	15509	4.7	29D	-F	*	C	1650	30	.3	E	
GRP68879	02	1644+4	1652+6	1705	N13	E22	.381	15508	4.3	21	-N				30	.3	E	
MCMA	02	1644	1654	1720	N12	E22	.378	15508	4.3	36	-N		C	1654	40	.4	E	
HTPR	02	1647	1658	1705	N13	E16	.289	15508	3.9	18	-F		C	1658	40	.5	E	
RAMY	02	1648	1652	1700	N16	E25	.438	15508	4.6	12	-N	4	C		24			
	02	1730	1748	NO FLARE PATROL														

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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		
	SEP																	
GRP68880	02	1810+2	1815+0	1840	S31	E34	.768	15509	5.3	30	-N		C		60	.9		
MCMA	02	1810E	1815	1827	S33	E36	.796	15509	5.5	170	-N		C	1815	60	1.0	E	
PALE	02	1812	1815	1853	S30	E32	.746	15509	5.2	41	-B	3	C		66		FDE	
881 MCMA	02	1832		1905	N14	E13	.250	15508	3.7	33	-N		C	1851	60	.6	E	Y5
GRP68882	02	1902+0	1906+0	1920	S31	E33	.761	15509	5.3	18	-N				60	.9	EU	
PALE	02	1902	1906	1925	S30	E32	.746	15509	5.2	23	-B	3	C		66		U	
MCMA	02	1902	1906	1915	S33	E34	.783	15509	5.3	13	-N		C	1906	50	.8	E	
883 PALE	02	1928	1929	1940	S30	E32	.746	15509	5.2	12	-N	3	C		29		FDE	Y5
884 PALE	02	1944	1944	1949	S30	E32	.746	15509	5.2	5	-N	3	C		27		DE	Y5
GRP68885	02	2008+0	2010+2	2019	S30	E31	.739	15509	5.2	11	-B				20	.3		
PALE	02	1952	2011	2017	S30	E31	.739	15509	5.2	25	-B	3	C		27		DE	
HOLL	02	2008	2012	2019	S30	E30	.732	15509	5.1	11	-B	3	C		17		FDE	
RAMY	02	2008	2010	2042	S30	E34	.760	15509	5.4	34	-B	3	C		24			
GRP68886	02	2018+1	2019+1	2028	S33	E50	.884	15509	6.6	10	-N				20	.4		
HOLL	02	2018	2020	2032	S33	E50	.884	15509	6.6	14	-N	3	C		18		FDE	
PALE	02	2019	2019	2028	S34	E50	.889	15509	6.6	9	-N	3	C		14		F	
RAMY	02	2019	2019	2021	S33	E47	.866	15509	6.4	2	-N	3	C		16			
GRP68887	02	2020+0	2020+1	2026	N20	W21	.407	15496	1.3	6	-B				110	1.2	U	
RAMY	02	2020	2021	2026	N19	W20	.386	15496	1.3	6	-B	3	C		144			
HOLL	02	2020	2021	2025	N22	W22	.436	15496	1.2	5	-B	3	C		112		FDE	
PALE	02	2020	2020	2030	N20	W21	.407	15496	1.3	10	-N	3	C		89		U	
GRP68888	02	2034+1	2037 2047+2	2203	S30	E31	.739	15509	5.2	89	-B				130	1.9		
RAMY	02	2008	2037	2042	S30	E34	.760	15509	5.4	34	-N	*	C		30			
PALE	02	2034	2047	2211	S30	E31	.739	15509	5.2	97	-B	*	C		146		DE F	
HOLL	02	2035	2049	2203	S30	E29	.725	15509	5.0	88	-B	*	C		118		FDE	
889 PALE	02	2347	2355	0047	S30	E29	.725	15509	5.2	60	-B	3	C		140		DE F	Y5
GRP68890	03	0207+6	0215+2	0249	S32	E41	.823	15509	6.2	42	1N				240	4.1		
CULG	03	0207	0217U	02390	S33	E39	.816	15509	6.0	320	1N		P	0217	240	4.3		
PALE	03	0213	0215	0249	S32	E44	.843	15509	6.4	36	1B	3	C		242		DE F	
891 TACH	03	0523E	0530	0545	S32	E30	.749	15509	5.5	220	1N		C	0530	132	2.0	EU	Y5
GRP68892	03	0707>9	0734 0741+8	0754	S31	E27	.721	15509	5.3	47	-N				90	1.3	DJKU	
KANZ	03	0707	0741	0749	S31	E28	.728	15509	5.4	42	-N		C				D	
ABST	03	0731	0734	0737	S35	E25	.747	15509	5.2	6	-F		C	0734	87	1.3	DJ	
ABST	03	0734	0745	0827	S33	E30	.758	15509	5.6	53	-F		C	0745	87	1.4	DJK	
TEHR	03	0745	0749	0754	S31	E26	.715	15509	5.3	9	-N	2	C		95		UDE	
893 ABST	03	0802	0804	0808	S35	E25	.747	15509	5.2	6	-F		C	0804	105	1.5	DJ	Y5
894 ABST	03	0808	0811	0818	S14	E67	.938	15521	8.4	10	-F		C	0811	87		DJ	Y5
895 KANZ	03	0843	0843	0851	S33	E23	.717	15509	5.1	8	-B		C				D	Y5
GRP68896	03	0929+6	0931+7	1007	S32	E25	.718	15509	5.3	38	-N						EJU	
ABST	03	0929	0931	10130	S33	E25	.728	15509	5.3	440	1F		P	0931	192	2.8	EJU	
KANZ	03	0931	0936	1000	S31	E25	.708	15509	5.3	29	-N		C					
TEHR	03	0935	0938	0946	S31	E24	.702	15509	5.2	11	-N	2	C		95		UDE	
KHAR	03	0947E		10200	S33	E28	.746	15509	5.5	330	1F		V					
897 RAMY	03	1604	1604	1626	S12	E59	.881	15521	8.1	22	-N	4	C		14		FDE	Y5
898 RAMY	03	1604	1605	1622	S30	E23	.686	15509	5.4	18	-B	4	C		37		FDE	Y5
899 PALE	03	1655E	1655U	1701	S32	E24	.712	15509	5.5	60	-B	3	C		31		F	Y5
	03	1729	1737	NO FLARE PATROL														
	03	1745	1834	NO FLARE PATROL														
900 PALE	03	1746	1748	1804	S30	E21	.673	15509	5.3	18	-B	3	C		44		FDE	Y5
901 PALE	03	1806	1807	1812	S30	E21	.673	15509	5.3	6	-B	3	C		29		FDE	Y5
902 PALE	03	1822E	1823	1825	N16	E11	.240	15508	4.6	30	-B	3	C		29		F	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.	
	SEP																
GRP68903	03	1828>9	1838 1850	1913	S30	E21	.673	15509	5.3	45	-B				70	.9	
PALE	03	1828	1838	1916D	S30	E21	.673	15509	5.3	480	-B	3	C		68		FDE
HOLL	03	1838	1850	1900	S30	E20	.668	15509	5.3	22	-B	3	C		48		F
MCMA	03	1840E		18430	S33	E25	.728	15509	5.7	3D	-N		P	1841	80	1.2	E
HOLL	03	1906	1906	1910	S30	E20	.668	15509	5.3	4	-N	3	C		20		
GRP68904	03	1921	1926	1948D	S30	E20	.668	15509	5.3	27	-B				100	1.3	U
PALE	03	1828	2017	2036	S30	E20	.668	15509	5.3	128	-B	3	C		120		FDE
HOLL	03	1921	1926	1948	S30	E19	.662	15509	5.2	27	-B	3	C		88.		U F
MCMA	03	1925E		1932D	S33	E24	.722	15509	5.6	7D	-B		C	1925	120	1.7	E
	03	2006	2025	NO FLARE PATROL													
	03	0401	0409	NO FLARE PATROL													
	03	0420	0427	NO FLARE PATROL													
	03	0430	0500	NO FLARE PATROL													
	03	0600	0603	NO FLARE PATROL													
	03	0607	0610	NO FLARE PATROL													
905 PALE	03	2039	2041	2048	S30	E20	.668	15509	5.4	9	-B	3	C		61		FDE Y5
GRP68906	03	2158+1	2158+2	2211	S20	W07	.471	15507	3.4	13	-N				35	.4	F
PALE	03	2158	2158	2210	S21	W06	.482	15507	3.5	12	-N	3	C		25		F
HOLL	03	2159	2200	2211	S20	W08	.475	15507	3.3	12	-N	3	C		35		
907 PALE	03	2223	2226U	2227D	S30	E18	.657	15509	5.3	4D	-B	3	C		56		DE F Y5
908 CULG	03	2231	2244	2305	S19	W24	.578	0	2.1	34	-F		C	2244	80	1.0	SL Y5
909 CULG	03	2255	2259	2312	N30	E90	.998	0	10.7	17	-N		C	2259	40		Y5
910 CULG	03	2315	2324	2338	N31	E90	.998	0	10.7	23	-N		C	2324	40		T Y5
GRP68911	03	2318+8	2327	2330D	S30	E17	.651	15509	5.2	12	-B						F
PALE	03	2318	2403	0020	S30	E18	.657	15509	5.3	62	-B	3	C		78		F
HOLL	03	2326	2327	2330	S30	E17	.651	15509	5.3	4	-B	3	C		18		
912 CULG	03	2348	2352	0008	N31	E90	.998	0	10.7	20	?N		C	2352	60		T Y5
	IMP 1 NO 3 HOLL1																
913 PALE	03	2348	2358U	0020	S36	E35	.812	15509	6.6	32	-B	3	C		150		DE F Y5
914 CULG	04	0018	0033	0100	N34	W45	.758	0	31.6	42	-F		C	0033	50	.8	Y5
915 CULG	04	0035	0047	0120	N15	W18	.330	0	2.7	45	-F		C	0047	100	1.1	Y5
916 CULG	04	0106	0113	0157	S15	E40	.713	0	7.0	51	-N		C	0113	20	.3	Y5
917 CULG	04	0126	0129	0202	S35	W03	.673	0	3.8	36	-N		C	0129	120	1.6	Y5
918 PALE	04	0149	0154	0209	S30	E17	.651	15509	5.4	20	-B	3	C		88		DE F Y5
919 PALE	04	0259	0308	0324	S30	E16	.646	15509	5.3	25	-B	3	C		42		DE F Y5
920 CULG	04	0408	0424	0435	N21	W22	.428	0	2.5	27	-N	*	C	0424	40	.4	Y5
921 PALE	04	0408	0408	0416D	S30	E16	.646	15509	5.4	8D	-N	3	C		69		DE F Y5
GRP68922	04	0420E	0440+5	0502	S30	E15	.642	15509	5.3	42	-B						U
TEHR	04	0420E	0440	0507	S29	E15	.629	15509	5.3	47D	-B	2	C		127		U F
TACH	04	0440E	0445	0456	S32	E16	.670	15509	5.4	16D	-B		C	0445	53	.7	E
923 CULG	04	0511	0514	0533	N32	E90	.998	0	11.0	22	-B		C	0514	40		T Y5
GRP68924	04	0800+2	0813	0819	S31	E14	.650	15509	5.4	19	1F						
BUCA	04	0800	0813	0819	S31	E15	.654	15509	5.5	19	1F		C	0813	214	3.0	
KANZ	04	0802	0809	0809D	S31	E14	.650	15509	5.4	7D	-N		C				

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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		
	SEP																	
GRP68925	04	0812+8	0823+4	0927	S15	E52	.830	15521	8.2	75	2N				340	6.0	EGHOUV	
BUCA	04	0812	0827	09200	S15	E53	.839	15521	8.3	680	2N		C	0827	429	8.2	GV	
TEHR	04	0820	0823	0903	S14	E53	.836	15521	8.3	43	1B	2	C		190		U F	
ZURI	04	0822E	0825	0926	S14	E52	.827	15521	8.2	640	2B		P	0825	340	6.2		
WEND	04	0825E		08330	S14	E51	.818	15521	8.2	80	1N		V		300	5.0	EG	
KANZ	04	0836E		0930	S15	E51	.821	15521	8.2	540	1B		C				GH	
KHAR	04	0845		10200	S16	E52	.834	15521	8.3	950	2N		P	0900	410	7.9	CEO	
HERS	04	0900E	0900	0933	S16	E50	.816	15521	8.1	330	1N		P	0900	113	2.3	U	
926 KANZ	04	0911	0911	0916	N14	W05	.145	15508	4.0	5	-N		C				O	Y5
927 ZURI	04	0923	0924	0927	S31	E10	.635	15509	5.1	4	-N		C	0924	50	.7		Y5
GRP68928	04	0951E	0956	10070	S16	E54	.851	15521	8.5	16	-F						J	
ABST	04	0951E	0956	10070	S17	E52	.837	15521	8.3	160	-F		P	0956	44	.8	DJ	
ABST	04	0951E	0956	10070	S15	E56	.864	15521	8.6	160	-F		P	0956	44	.8	DJ	
929 KHAR	04	1005		10150	S22	E75	.982	15524	10.0	100	-F		V	1005			D	Y5
GRP68930	04	1014+1	1015+1	1021	S30	E09	.619	15509	5.1	7	-N						DH	
ZURI	04	1014	1015	1020	S31	E10	.635	15509	5.2	6	-N		C	1015	50	.7		
KHAR	04	1015	1016	10220	S30	E08	.616	15509	5.0	70	-N		P	1016			DH	
931 ZURI	04	1145	1149	1203	S29	E11	.612	15509	5.3	18	-F		C	1149	70	.9		Y5
932 RAMY	04	1221	1221	1242	N36	W21	.568	15522	2.9	21	-N	3	C		22			Y5
GRP68933	04	1250+1	1252+2	1313	S31	E10	.635	15509	5.3	23	-N				35	.5	E	
MCMA	04	1250	1254	1316	S32	E08	.642	15509	5.1	26	-N		C	1254	40	.5	E	
MEUD	04	1250	1253	1312	S31	E10	.635	15509	5.3	22	-F		C				E	
KANZ	04	1250	1253	1313	S31	E10	.635	15509	5.3	23	-N		C				D	
RAMY	04	1251	1252	1313	S30	E11	.625	15509	5.4	22	-B	3	C		25			
GRP68934	04	1340+4	1343+2 1351	1358	N36	W21	.568	15522	3.0	18	-F				50	.6	E	
MCMA	04	1340	1345	1415	N37	W22	.586	15522	2.9	35	-F		C	1345	50	.6	E	
KANZ	04	1340	1343	1349	N37	W20	.572	15522	3.1	9	-F		C					
ZURI	04	1341	1345	1351	N36	W21	.568	15522	3.0	10	-F		C	1345	50	.6		
HOLL	04	1344	1351	1405	N36	W23	.583	15522	2.8	21	-N	3	C		38			
GRP68935	04	1343+0	1343+1	1346	N16	E04	.167	15508	4.9	3	-F							
ZURI	04	1343	1343	1345	N16	E04	.167	15508	4.9	2	-F		C	1343	50	.5		
KANZ	04	1343	1344	1346	N17	E04	.183	15508	4.9	3	-F		C					
936 MCMA	04	1355	1405	1420	S32	W02	.633	15509	4.4	25	-F		C	1405	35	.5	E	Y5
GRP68937	04	1407+2	1412+1	1423	N14	W11	.221	15508	3.8	16	-F				45	.5	EL	
KANZ	04	1407	1413	1419	N16	W12	.253	15508	3.7	12	-F		C					
MCMA	04	1408	1412	1430	N14	W11	.221	15508	3.8	22	-F		C	1412	30	.3	EL	
ZURI	04	1409	1413	1423	N13	W08	.170	15508	4.0	14	-F		C	1413	60	.6		
938 ZURI	04	1427	1429	1429	S31	E08	.629	15509	5.2	2	-F		C	1429	60	.8		Y5
GRP68939	04	1447+2	1450+1 1501	1507	N15	W10	.217	15508	3.9	20	-N				90	.9	L	
MCMA	04	1436	1450	1515	N16	W13	.266	15508	3.6	39	-N		C	1450	75	.8	EL	
ZURI	04	1447	1451	1507	N15	W11	.230	15508	3.8	20	-F		C	1451	130	1.4		
RAMY	04	1449	1450	1457	N16	W10	.227	15508	3.9	8	-N	3	C		62			
MEUD	04	1459	1501	1507	N12	W09	.175	15508	3.9	8	-F		C				O	
940 ZURI	04	1531	1541	15450	N20	W15	.331	15508	3.5	140	-F		P	1541	80	.9		Y5
GRP68941	04	1558+2	1611 1619+1	1709	N16	W12	.253	15508	3.8	71	-B				170	1.8	FHUZ	
HOLL	04	1558	1619	1702	N16	W12	.253	15508	3.8	64	1B	3	C		194		F	
MCMA	04	1558	1620	17120	N16	W13	.266	15508	3.7	740	-B		C	1620	150	1.5	EHU	
RAMY	04	1600	1611	1709	N16	W11	.240	15508	3.8	69	-B	3	C		162		Z F	
942 PALE	04	1720	1720	1728	S18	E69	.954	15524	9.9	8	-N	3	C		19		F	Y5
	04	1906	1920	NO FLARE PATROL														
943 PALE	04	1907	1910	1917	S30	E08	.616	15509	5.4	10	-N	3	C		29		F	Y5
944 PALE	04	1943	2035	2039	N32	E90	.998	15525	11.6	56	-N	3	C		31		F	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.	
	SEP																
GRP68945	04	2038+1	2043	2051	N36	W26	.606	15522	2.9	13	-N				40	.5	F
PALE	04	2038	2043	2051	N37	W26	.616	15522	2.9	13	-N	3	C		37		F
HOLL	04	2039	2042U	2042D	N36	W26	.606	15522	2.9	30	-N	3	C		37		F
	04	2042	2043	NO FLARE PATROL													
	04	2103	2106	NO FLARE PATROL													
GRP68946	04	2318>9	0003+1	0017	S30	E17	.651	15509	6.2	59	-B						FU
PALE	04	2318	2403	0020	S30	E18	.657	15509	6.3	62	-B	*	C		78		F
HOLL	04	2351	2404	0014	S30	E17	.651	15509	6.3	23	-B	*	C		32		U F
947 VORO	04	2324	2326	2330	N33	E90	.998	15525	11.7	6	-F		C	2326	45		D Y5
948 HOLL	04	2347	2359	0021	S33	E35	.790	15518	7.6	34	1B	*	C		181		U F Y5
949 VORO	04	2352	2355	2359	N33	E90	.998	15525	11.7	7	1F		C	2355	108		D Y5
950 TACH	05	0345E		0405	N22	E90	.999	0	11.9	20D	1F		V	0345	354		E Y5
951 TACH	05	0515	0521	0538D	N22	E90	.999	0	12.0	23D	2F		C	0521	203		E Y5
GRP68952	05	0720+4	0729	0734	N16	W04	.167	15508	5.0	14	-N				60	.6	DH
BUCA	05	0720		0729	N16	W05	.174	15508	4.9	9	-F		C	0725	64	.7	D
TEHR	05	0724	0729	0739	N17	W04	.182	15508	5.0	15	-B	2	C		63		H
953 KANZ	05	0733E	0736	0742	N33	E90	.998	15525	12.1	9D	-B		C				Y5
GRP68954	05	0902	0904+1	0925	N33	E87	.994	15525	11.9	23	-B						H
KANZ	05	0902	0905	0910	N33	E90	.998	15525	12.1	8	-B		C				
HURB	05	0903E	0904	0930	N35	E82	.983	15525	11.5	27D	1B		V				
KHAR	05	0910E		0925D	N27	E87	.995	15525	11.9	15D	-N		P	0920	120		H
955 KANZ	05	1003	1008	1015	N16	W07	.193	15508	4.9	12	-N		C				Y5
GRP68956	05	1048+0	1049+1	1057	S20	W02	.459	15526	5.3	9	-N						
HURB	05	1048E	1049	1051D	S21	W05	.480	15526	5.1	3D	-N		V				
RAMY	05	1048	1050	1057	S20	E01	.458	15526	5.5	9	-B	2	C		57		
GRP68957	05	1053	1112+3	1125	N33	E85	.990	15525	11.8	32	-N						
RAMY	05	1053	1112	1134D	N35	E85	.990	15525	11.8	41D	-N	3	C				
HURB	05	1110E	1114	1125	N33	E82	.983	15525	11.6	15D	1B		V				
KANZ	05	1113E	1115	1119	N32	E89	.997	15525	12.1	6D	-N		C				
GRP68958	05	1225	1233+1	1246	N32	E85	.990	15525	11.9	21	-N						D
RAMY	05	1225	1234	1246	N35	E85	.990	15525	11.9	21	-N	4	C				
LVOV	05	1233E	1233	1240D	N30	E85	.990	15525	11.9	7D	1F		P	1233	150		BD
959 RAMY	05	1336	1342	1346	N35	W38	.702	15522	2.7	10	-N	4	C		19		Y5
GRP68960	05	1350+0	1351+2	1404	N18	W56	.824	15496	1.4	14	1B				140	2.6	
RAMY	05	1350	1353	1406	N19	W55	.815	15496	1.5	16	-B	4	C		148		
HOLL	05	1350	1353	1401	N18	W56	.824	15496	1.4	11	-B	2	C		131		F
HURB	05	1351E	1351	1356D	N15	W65	.899	15496	31.7	5D	-N		V				D
GRP68961	05	1413	1414	1422	S30	W04	.608	15509	5.3	9	-N				40	.5	
HOLL	05	1413	1414	1416	S30	W03	.607	15509	5.4	3	-N	2	C		25		
ZURI	05	1415E	1415	1427	S30	W05	.609	15509	5.2	12D	-F		P	1415	50	.7	
962 RAMY	05	1431	1432	1437	N35	W38	.702	15522	2.8	6	-N	4	C		17		Y5
963 RAMY	05	1451	1452	1459	S22	W03	.491	15526	5.4	8	-B	4	C		21		Y5
964 HCMA	05	1525E		1529D	S35	E00	.672	15509	5.6	4D	-N		C	1528	40	.5	E Y5
965 RAMY	05	1538	1539	1549	N35	W39	.710	15522	2.7	11	-B	4	C		25		Y5
966 RAMY	05	1538	1541	1543	N35	E83	.985	15525	11.9	5	-N	4	C				Y5
967 RAMY	05	1630	1631	1637	N35	E83	.985	15525	11.9	7	-B	4	C		17		Y5
968 HOLL	05	1635	1635	1645	N36	W36	.690	15522	3.0	10	-N	3	C		19		Y5
969 RAMY	05	1641	1643	1658	N19	W57	.834	15496	1.4	17	-N	4	C		18		Y5
970 HOLL	05	1718	1718	1732	N36	W37	.699	15522	2.9	14	-N	3	C		19		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.		
	SEP																	
GRP68971	05	1724+0	1724+0	1731	S30	W03	.607	15509	5.5	7	-N				20	.3		
HOLL	05	1724	1724	1728	S30	W05	.609	15509	5.4	4	-B	3	C		22			
RAMY	05	1724	1724	1734	S30	W02	.606	15509	5.6	10	-N	4	C		23			
972 HOLL	05	1752	1758	1803	S21	W05	.480	15526	5.4	11	-N	3	C		26			YS
973 MCMA	05	1850	1852	1900	S35	W04	.674	15509	5.5	10	-F		D	1852	75	1.0	E	YS
974 MCMA	05	1853	1855	1900	S25	W30	.688	15507	3.5	7	-F		C	1855	30	.4	DH	YS
975 RAMY	05	1947	2023	2036	S22	W06	.497	15526	5.4	49	-B	3	C		37			YS
976 MCMA	05	2009		20110	N32	E88	.995	15525	12.4	20	-F		C	2010			D	YS
977 RAMY	05	2013	2016	2022	N34	E81	.980	15525	11.9	9	-B	3	C		23			YS
GRP68978	05	2024	2043	2058	S32	W05	.636	15509	5.5	34	-B				50	.6	E	
RAMY	05	2024	2043	2058	S30	W04	.608	15509	5.6	34	-B	3	C		73			
MCMA	05	2045E		20550	S34	W07	.666	15509	5.3	100	-N		C	2045	40	.5	E	
979 MCMA	05	2051E		20550	N32	E88	.995	15525	12.5	40	-F		C	2051			E	YS
980 RAMY	05	2105	2106	2110	N34	E80	.977	15525	11.9	5	-B	3	C		18			YS
981 RAMY	05	2115	2123	2127	S22	W06	.497	15526	5.4	12	-N	3	C		24			YS
	05	2154	2230	NO FLARE PATROL														
	05	0152	0204	NO FLARE PATROL														
	05	0214	0230	NO FLARE PATROL														
982 VORO	05	2254E		2337	N17	W28	.485	15508	3.9	430	1F		C	2257	358	4.1	EJ	YS
GRP68983	06	0023+5	0023	0034	N32	E81	.980	15525	12.1	11	-N							
PALE	06	0023E	0023U	0031	N33	E78	.970	15525	11.9	80	-N	3	C		29		F	
VORO	06	0028		0037	N32	E85	.990	15525	12.4	9	-N		C	0031	45		D	
984 PALE	06	0031E	0036	0038	S21	W11	.504	15526	5.2	70	-N	3	C		29		FDE	YS
985 VORO	06	0131	0132	0136	N18	W36	.597	15508	3.4	5	-F		C	0132	63	.7	D	YS
GRP68986	06	0217+3	0221+4	0239	S33	W07	.653	15509	5.6	22	-B				70	.9	J	
VORO	06	0217	0221	0240	S35	W05	.676	15509	5.7	23	-B		C	0221	99	1.3	DJ	
PALE	06	0220	0225	0237	S31	W09	.632	15509	5.4	17	-B	3	C		46		F	
987 PALE	06	0249	0249	0258	S23	W11	.531	15526	5.3	9	-N	3	C		22		DE	YS
988 ABST	06	0711E	0714	07180	N20	W39	.641	15508	3.4	70	-F		P	0714	87	1.1	DJ	YS
GRP68989	06	0826	0830	0842	S23	W16	.560	15526	5.2	16	1N						EJ	
ABST	06	0826	0830	0842	S23	W16	.560	15526	5.2	16	1N		C	0830	236	2.9	EJ	
HTPR	06	0832E		08400	S24	W17	.579	15526	5.1	80	-F		C	0834	60	.6	E	
990 ABST	06	1037	1042	1057	N19	W41	.663	15508	3.4	20	-N		C	1042	87	1.2	DJ	YS
991 RAMY	06	1052	1056	12100	S23	W15	.554	15526	5.3	780	-B	3	C		90		FDE	YS
GRP68992	06	1118	1126+6	1134	S30	W11	.625	15509	5.6	16	-B				60	.8	U	
RAMY	06	1118	1126	11280	S30	W11	.625	15509	5.6	100	-B	3	V		63			
TEHR	06	1129E	1132	1134	S30	W11	.625	15509	5.7	50	-B	2	C		64		U	
993 RAMY	06	1218	1219	1226	S20	W42	.760	15507	3.4	8	-N	4	C		22			YS
994 MCMA	06	1222	1223	1227	N32	E80	.977	15525	12.5	5	-N		C	1223			D	YS
GRP68995	06	1308>9	1325+0 1335	1344	N18	W41	.660	15508	3.5	36	-N				35	.5	E	
MCMA	06	1308	1325	1344	N18	W41	.660	15508	3.5	36	-N	*	C	1325	35	.5	E	
RAMY	06	1325	1325	1331	N18	W40	.648	15508	3.6	6	-N	*	C		28			
KANZ	06	1329E	1335	1345	N18	W43	.685	15508	3.3	160	-F	*	C					
GRP68996	06	1314+1	1316+0 1330+1	1404	S32	W03	.634	15509	6.3	50	-N				110	1.4	KU	
MCMA	06	1314	1330	1415	S32	W03	.634	15509	6.3	61	-N		C	1330	150	1.9	EFK	
MCMA	06	1314	1316	1415	S32	W03	.634	15509	6.3	61	-N			1316	125	1.6		
RAMY	06	1315	1316	13180	S32	W13	.658	15509	5.6	30	-B	4	V		102		FDE	
TEHR	06	1320E	1323	1330	S31	W11	.638	15509	5.7	100	-B	2	C		127		F	
HOLL	06	1328	1330	1358	S33	E03	.647	15509	6.8	30	-N	2	C		32		U	
KANZ	06	1329E	1331	1359	S30	W01	.605	15509	6.5	300	-N		C					

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
					APPROX		CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY									
	DATE	START	MAX. PHASE	END	LAT.	MER. DIST.				MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
GRP68997	06	1338+9	1348+1	1407	S22	W15	.541	15526	5.4	29	-N				30	.4		
HOLL	06	1338	1349	1426	S23	W15	.554	15526	5.4	48	-B	2	C		35		F	
KANZ	06	1345	1348	1403	S22	W18	.561	15526	5.2	18	-F		C					
MCMA	06	1347	1348	1355	S22	W15	.541	15526	5.4	8	-F		C	1348	20	.3	D	
RAMY	06	1347	1348	1410	S23	W16	.560	15526	5.4	23	-B	4	C		19			
GRP68998	06	1448+1	1452+1	1501	S23	W16	.560	15526	5.4	13	-B				60	.7	U	
MCMA	06	1448	1453	1500	S22	W16	.547	15526	5.4	12	-N		C	1453	50	.5	E	
RAMY	06	1448	1452	1502	S23	W17	.567	15526	5.3	14	-B	4	C		68		FDE	
HOLL	06	1449	1452	1501	S23	W16	.560	15526	5.4	12	-B	3	C		54		U F	
999 RAMY	06	1600	1601	1615	S23	W18	.573	15526	5.3	15	-B	4	C		46			Y5
0 RAMY	06	1617	1618	1621	S32	W15	.666	15509	5.6	4	-N	4	C		27			Y5
GRP69001	06	1641+6	1647 1654	1713	S23	W17	.567	15526	5.4	32	-B				100	1.2		
HOLL	06	1641	1654	1709	S23	W17	.567	15526	5.4	28	-B	3	C		65		F	
RAMY	06	1647	1647	1715	S23	W18	.573	15526	5.3	28	-B	4	C		19		F	
MCMA	06	1651E		1731D	S22	W17	.554	15526	5.4	40D	-N		C	1655	125	1.6	E	
PALE	06	1655E	1703	1710	S23	W19	.581	15526	5.3	15D	-N	3	C		76		DE	
GRP69002	06	1759+0	1759+1	1811	N16	W38	.618	15508	3.9	12	-N				30	.4		
RAMY	06	1759	1800	1811	N16	W38	.618	15508	3.9	12	-B	4	C		34			
MCMA	06	1759	1800	1811	N19	W46	.721	15508	3.3	12	-N		C	1800	40	.6	D	
PALE	06	1759	1759	1806	N16	W36	.592	15508	4.0	7	-N	3	C		25		F	
3 PALE	06	1856	1856	1907	S23	W20	.588	15526	5.3	11	-N	3	C		36		DE	Y5
GRP69004	06	1921>9	1939+1	1955	N33	E66	.925	15525	11.9	34	-B						F	
HOLL	06	1921	1940	2008	N35	E67	.921	15525	11.8	47	-B	3	C		98		F	
MCMA	06	1921E		1935D	N28	E72	.944	15525	12.2	14D	-F		C	1928			D	
RAMY	06	1935	1939	1955	N34	E68	.926	15525	11.9	20	-B	3	C		41			
PALE	06	1938	1939	1947	N33	E69	.930	15525	12.0	9	-N	3	C		22		F	
GRP69005	06	1934+1	1935+0	1939	S32	W16	.670	15509	5.6	5	-B				50	.7	F	
PALE	06	1934	1935	1939	S31	W18	.668	15509	5.5	5	-B	3	C		40		F	
HOLL	06	1935	1935	1937	S32	W15	.666	15509	5.7	2	-N	3	C		46			
RAMY	06	1935	1935	1944	S32	W16	.670	15509	5.6	9	-B	3	C		62			
6 RAMY	06	2006	2006	2011	S32	W17	.675	15509	5.6	5	-N	3	C		29		F	Y5
7 RAMY	06	2047	2050	2053	N17	W72	.944	15496	1.5	6	-N	3	C		15			Y5
GRP69008	06	2219	2223+0	2256	S23	W21	.596	15526	5.4	37	-B				80	1.0		
HOLL	06	2219	2223	2250	S23	W20	.588	15526	5.4	31	-B	3	C		79		FDE	
PALE	06	2223E	2223U	2301D	S23	W22	.603	15526	5.3	38D	-B	3	C		89		FDE	
GRP69009	06	2327	2332+0	2353	S31	W18	.668	15509	5.6	26	-N				50	.7		
HOLL	06	2327	2332	2353	S32	W17	.675	15509	5.7	26	-N	3	C		47		F	
PALE	06	2330E	2332U	2350D	S31	W20	.679	15509	5.5	20D	-B	3	C		46		FDE	
10 HOLL	06	2330	2333	2354	N35	E65	.909	15525	11.9	24	-N	3	C		57		FDE	Y5
GRP69011	06	2331+1	2336+5	2350	S23	W21	.596	15526	5.4	19	-N				30	.4		
PALE	06	2331E	2341U	2349D	S23	W22	.603	15526	5.3	18D	-N	3	C		29		FDE	
HOLL	06	2332	2336	2350	S23	W21	.596	15526	5.4	18	-N	3	C		31			
GRP69012	07	0605	060 8+4	0619	S34	W22	.722	15509	5.6	14	-N				110	1.6	FJ	
ABST	07	0605	060 8	0615	S35	W22	.732	15509	5.6	10	-F		C	0608	87	1.3	FJ	
TEHR	07	0608E	0612	0619	S30	W21	.674	15509	5.7	11D	-B	2	C		95		F	
CULG	07	0610E	0610U	0619D	S34	W23	.727	15509	5.5	9D	1N		P	0610	150	2.2	FB	
GRP69013	07	0650	0657	0700D	S31	W27	.721	15509	5.3	10	-F						E	
HTPR	07	0650	0657	0700	S31	W30	.741	15509	5.0	10	-F		C	0657	20	.2		
ISTA	07	0700E		0740	S32	W24	.713	15509	5.5	40D	-F						E	
14 ISTA	07	0755E		0805D	N16	W36	.592	15508	4.6	10D	-F						E	Y5
15 ISTA	07	0840E		0855D	S38	W20	.754	15509	5.9	15D	-F						D	Y5
16 RAMY	07	1232	1233	1247	S23	W29	.662	15526	5.3	15	-N	3	C		27			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.	
	SEP																
GRP69017	07	1353	1359 1425	1547	N33	E58	.860	15525	11.9	114	1B						U
HOLL	07	1353	1414	1547	N35	E58	.864	15525	11.9	114	1B	2	C		260		U F
RAMY	07	1356E	1359	1422	N33	E57	.853	15525	11.9	26D	-B	3	C		46		
MCMA	07	1403E		1550	N28	E61	.875	15525	12.2	107D	1B		C	1415	110	2.4	E
RAMY	07	1422E	1425U	1508	N33	E57	.853	15525	11.9	46D	-B	3	C		110		
18 RAMY	07	1427	1427	1430	S32	W26	.725	15509	5.7	3	-N	3	C		26		Y5
GRP69019	07	1534+3	1537+3	1548	N18	W58	.842	15508	3.3	14	-F				30	.6	D
HTPR	07	1534	1540	1550	N18	W58	.842	15508	3.3	16	-F		C	1540	30	.6	
MCMA	07	1536	1537	1548	N19	W58	.843	15508	3.3	12	-F		C	1537	30	.6	D
RAMY	07	1537	1538	1546	N15	W50	.761	15508	3.9	9	-N	3	C		20		
20 MCMA	07	1620E	1632	1650	N32	E63	.894	15525	12.4	30D	-F		C	1632	40	.9	E Y5
21 RAMY	07	1750	1751	1809	S23	W32	.689	15526	5.3	19	-B	3	C		20		Y5
22 RAMY	07	1809	1811	1814	N15	W52	.783	15508	3.9	5	-B	3	C		41		Y5
23 RAMY	07	1828	1830	1836	N33	E55	.838	15525	11.9	8	-N	3	C		25		Y5
24 RAMY	07	1908	1909	1912	N15	W52	.783	15508	3.9	4	-N	3	C		19		Y5
25 RAMY	07	1936	1936	1942	S32	W29	.743	15509	5.6	6	-B	3	C		57		Y5
GRP69026	07	2026+1	2028+1	2044	N18	W44	.696	15508	4.6	18	-N				35	.5	E
RAMY	07	2026	2028	2042	N16	W42	.669	15508	4.7	16	-B	3	C		36		
MCMA	07	2027	2029	2045D	N21	W46	.725	15508	4.4	18D	-N		C	2029	30	.4	E
27 RAMY	07	2048	2049	2104	N15	W53	.793	15508	3.9	16	-N	3	C		30		Y5
28 RAMY	07	2132	2134	2136	S32	W30	.750	15509	5.6	4	-B	3	C		47		Y5
	07	2212	2224	NO FLARE PATROL													
	07	2234	2314	NO FLARE PATROL													
GRP69029	07	2330+1	2332 2351	0039D	S28	W17	.628	15518	6.7	69	?N						S
PALE	07 IMP.1	2330E	2332U S IMP.2	2350D	S31	W20	.679	15518	6.5	20D	B	3	C		46		FDE
MITK	07	2331	2351	0039D	S25	W15	.579	15518	6.9	68D	2F		C	2351	570	7.1	ES
GRP69030	08	0122E	0123+2	0137	S22	W36	.717	15526	5.4	15	-N				100	1.4	
PALE	08	0122E	0123U	0142D	S23	W36	.724	15526	5.4	20D	-B	3	C		103		FDE
MANI	08	0124E	0125	0132	S21	W36	.710	15526	5.4	8D	-N	3	V		100	1.4	F
GRP69031	08	0230E	0234 0243	0307	S30	W37	.782	15509	5.3	37	-B						
TEHR	08	0230E	0234U	0307	S31	W37	.789	15509	5.3	37D	-B	1	C		63		
PALE	08	0239E	0243U	0302D	S30	W38	.789	15509	5.3	23D	-B	3	C		76		FDE
32 TEHR	08	0357	0403	0420	S21	W38	.729	15526	5.3	23	-B	1	C		63		Y5
33 ABST	08	0529	0532	0550	N33	E58	.860	15525	12.6	21	-F		C	0532	87	1.7	DJ Y5
34 ABST	08	0714	0715	0720	S35	W34	.799	15509	5.8	6	-F		C	0715	87	1.4	DJV Y5
GRP69035	08	0938+1	0948 0956+2	1030	S21	W40	.748	15526	5.4	52	-F				110	1.6	FJ
ZURI	08	0938	0948	1034	S20	W40	.742	15526	5.4	56	1F		C	0948	160	2.5	
ABST	08	0939	0958	1022	S23	W40	.760	15526	5.4	43	-N		C	0958	131	2.0	FJ
HTPR	08	0950	0956	1030	S22	W42	.771	15526	5.3	40	-F		C	0956	100	1.3	E
KANZ	08	0958E		1013D	S20	W40	.742	15526	5.4	15D	-N		C				F
36 RAMY	08	1115	1117	1124	S32	W37	.796	15509	5.7	9	-B	3	C		69		Y5
37 RAMY	08	1152	1152	1202	N33	E46	.763	15525	11.9	10	-B	3	C		23		Y5
38 RAMY	08	1208	1215	1222	N15	W62	.876	15508	3.9	14	-N	3	C		46		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 LER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	SEP																
GRP69039	08	1250+2	1253+2 1301	1313	S23	W42	.777	15526	5.4	23	1N				160	2.5	E
ZURI	08	1250	1254	1310	S20	W41	.751	15526	5.5	20	1N		C	1254	200	3.2	
HTPR	08	1251	1253	1310	S23	W43	.786	15526	5.3	19	1F		C	1253	200	3.0	E
RAMY	08	1251	1253	1257	S23	W42	.777	15526	5.4	6	-B	3	C		152		DE
MCMA	08	1252	1255	1335D	S23	W44	.794	15526	5.2	43D	1B		C	1255	120	2.0	E
TEHR	08	1253E	1254	1302	S22	W41	.763	15526	5.5	9D	-B	2	C		127		F
RAMY	08	1257	1301	1319	S23	W42	.777	15526	5.4	22	1B	3	C		169		DE
40 RAMY	08	1320	1325	1347	S23	W42	.777	15526	5.4	27	-B	3	C		38.		Y5
41 ZURI	08	1413	1413	1415	S20	W42	.760	15526	5.4	2	-F		C	1413	80	1.3	Y5
42 RAMY	08	1618	1618	1622	S23	W44	.794	15526	5.4	4	-B	3	C		20		Y5
GRP69043	08	1622+6	1624+5	1641	S27	W47	.838	15509	5.2	19	-N				70	1.2	E
HTPR	08	1622	1624	1640	S27	W47	.838	15509	5.2	18	-F	*	C	1624	30	.4	E
MCMA	08	1625E	1629	1657	S27	W47	.838	15509	5.2	32D	1N	*	C	1629	110	2.1	E
RAMY	08	1628	1629	1641D	S26	W42	.794	15509	5.5	13D	-B	*	C		65		F
GRP69044	08	1625>9	1626+3	1636	N18	W70	.932	15508	3.4	11	-N				25		D
HTPR	08	1625	1626	1636	N18	W70	.932	15508	3.4	11	-N		C	1626	20	.4	
MCMA	08	1626	1629	1632	N18	W72	.944	15508	3.3	6	-N		C	1629	25	.8	D
RAMY	08	1635	1639	1641D	N15	W64	.892	15508	3.9	6D	-B	3	C		19		
45 RAMY	08	1639	1639	1641D	N16	W53	.793	15508	4.7	2D	-N	3	C		19		Y5
GRP69046	08	1739	1740	1744	S22	W47	.815	15526	5.2	5	-N				45	.8	E
PALE	08	1739	1740	1744	S22	W46	.806	15526	5.3	5	-B	3	C		35		DE
MCMA	08	1740E		1743D	S23	W49	.835	15526	5.1	3D	-N		P	1742	50	.9	E
GRP69047	08	1804+0	1810	1813	N15	W64	.892	15508	4.0	9	-N				30	.7	E
PALE	08	1804	1810	1813	N15	W64	.892	15508	4.0	9	-B	3	C		27		DE
MCMA	08	1804E		1810D	N16	W64	.892	15508	4.0	6D	-F		P	1809	30	.7	E
GRP69048	08	1836	1839	1926	N15	W66	.906	15508	3.8	50	-B						
PALE	08	1836	1839	1926	N15	W64	.892	15508	4.0	50	-B	3	C		39		FDE
MCMA	08	1838E		1900D	N16	W68	.920	15508	3.7	22D	1N		C	1840	130	3.5	E
	08	2106	2120	NO FLARE PATROL													
	08	2144	2227	NO FLARE PATROL													
	08	0029	0037	NO FLARE PATROL													
	08	0039	0043	NO FLARE PATROL													
49 CULG	08	2236	2240	2303	S26	W61	.926	15509	4.4	27	-F		C	2240	50		Y5
50 CULG	08	2253	2311	2333	N16	W75	.960	15508	3.3	40	-F		C	2311	40		Y5
GRP69051	08	2335+3	2339+1	2347	N30	E41	.703	15525	12.1	12	-F						E
CULG	08	2335	2340	2350	N29	E41	.698	15525	12.1	15	-N		C	2340	70	1.0	
MITK	08	2338	2339	2343	N32	E41	.712	15525	12.1	5	-F		C	2339			E
GRP69052	09	0000+6	0007	0014D	S29	W48	.855	15509	5.4	14	-N						
CULG	09	0000	0016	0054U	S27	W53	.880	15509	5.0	54D	-N		C	0016	80	1.6	F
HOLL	09	0006	0007	0014	S32	W43	.836	15509	5.8	8	-B	3	C		29		FDE
53 CULG	09	0127	0145	0203	S27	W66	.953	15507	4.1	36	-F		C	0145	40		Y5
54 CULG	09 IMP.1	0624 NO	0635 ! MITK1	0652 CATA1	N20	W79	.975	15508	3.3	28	?B		C	0635	80		Y5
GRP69055	09	0914+1	0915+2	0935	S28	W66	.955	15509	4.4	21	1N				110		DJ
KHAR	09	0914E	0915	0940D	S27	W68	.962	15509	4.3	26D	1N		P	0923	130		
ABST	09	0915	0917	0930	S30	W64	.950	15509	4.6	15	1N		C	0917	87		DJ
56 HTPR	09	1048	1052	1102	N37	W87	.993	15522	2.9	14	-F		C	1052	30		Y5
57 HTPR	09	1126	1127	1136	N15	E65	.899	15530	14.4	10	-N		C	1127	40	.9	Y5
GRP69058	09	1305>9	1433	1438	N36	W88	.995	15522	2.9	93	-N						
HTPR	09	1305		1415D	N37	W88	.995	15522	2.9	70D	-F		C	1415	30		
RAMY	09	1404	1433	1438	N35	W88	.995	15522	3.0	34	-N	3	C				
GRP69059	09	1438+2	1441 1502	1522D	N36	W89	.996	15522	2.9	44	-N						
HTPR	09	1438E		1630D	N37	W89	.996	15522	2.9	112D	-F		C	1504	40		
RAMY	09	1440	1441	1450	N35	W88	.995	15522	3.0	10	-N	3	C				
RAMY	09	1458	1502	1522	N35	W89	.996	15522	2.9	24	-B	3	C				

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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.		
	SEP																	
60 RAMY	09	1545	1550	1608	N35	W89	.996	15522	3.0	20	-N	3	C					Y5
61 HTPR	09	1550	1553	1557	S32	W60	.935	15509	5.2	7	-F		C	1553	20	.4		Y5
GRP69062	09	1716>9	1747	1750	N36	W86	.991	15522	3.3	34	-N						FK	
MCMA	09	1716E		1750D	N36	W88	.995	15522	3.1	34D	-N		C	1746			K	
PALE	09	1747	1747	1750	N37	W85	.989	15522	3.4	3	-N	3	C		9		F	
	09	2133	2138	NO FLARE PATROL														
63 CULG	09	2321	2328	2333	N38	W90	.997	15522	3.2	12	-N		C	2328	20			Y5
64 HOLL	09	2355	2355	2359	S33	W56	.918	15509	5.8	4	-N	3	C		12			Y5
65 CULG	10	0105U	0120U	0210U	N17	W86	.995	15508	3.6	65D.	1F		C	0120	80			Y5
GRP69066	10	0124+5	0130+3	0142	S32	W53	.898	15509	6.1	18	-B						E	
VORO	10	0124	0133	0144D	S34	W47	.872	15509	6.5	20D	1N		C	0133	108	2.1	E	
PALE	10	0129	0130U	0140	S31	W60	.933	15509	5.6	11	-B	3	C		42		DE	
67 CULG	10	0303	0309	0316	S30	W76	.989	15509	4.4	13	-N		C	0309	50			Y5
68 CULG	10	0325U	0334U	0355U	N17	W86	.995	15508	3.7	30D	?F		C	0334	80			Y5
	IMP.1	NO	VORO1															
69 CULG	10	0422U	0450U	0537U	N17	W88	.998	15508	3.6	75D	2N		C	0450	200			Y5
70 ABST	10	0552	0600	0612	N37	W90	.997	15522	3.5	20	-F		C	0600	87		ADJK	Y5
71 ABST	10	0741E	0745	0749D	N20	E63	.885	15530	15.0	8D	-F		P	0745	87		E	Y5
72 ABST	10	0741E	0746	0806D	N32	E30	.606	15525	12.6	25D	-F	*	P	0746	87	1.1	D	Y5
73 ABST	10	0858E	0858	0900D	S36	W63	.957	15509	5.6	2D	-N		P	0858	87		D	Y5
74 ABST	10	1027E	1028	1045	N32	E30	.606	15525	12.7	18D	-N		P	1028	131	1.6	EJ	Y5
75 ABST	10	1035E	1037	1045	N20	E62	.877	15530	15.1	10D	-F		P	1037	87	1.8	D	Y5
GRP69076	10	1150	1151+2	1214	N33	E20	.526	15525	12.0	24	1B				230	2.7		
TEHR	10	1150	1153	1207	N33	E21	.534	15525	12.1	17	-B	1	C		159		DE	
RAMY	10	1151E	1151U	1221	N33	E20	.526	15525	12.0	30D	1B	3	C		296		DE	
GRP69077	10	1436+2	1438+3	1455	S33	W61	.942	15509	6.0	19	-N				50		EL	
HOLL	10	1436	1441	1455	S33	W64	.955	15509	5.8	19	-N	3	C		54			
MCMA	10	1438E	1441	1455D	S35	W61	.947	15509	6.0	17D	1N		C	1441	70	2.1	EL	
RAMY	10	1438	1438	1448	S33	W52	.896	15509	6.7	10	-N	3	C		15			
GRP69078	10	1510+5	1515	1521	N19	E55	.815	15530	14.8	11	-N						E	
WEND	10	1510E		1520D	N18	E54	.805	15530	14.7	10D	-N		P				E	
HOLL	10	1515	1515	1521	N20	E56	.825	15530	14.8	6	-N	3	C		21			
GRP69079	10	1542+0	1544+3	1550	S23	W73	.976	15526	5.2	8	-N						DH	
RAMY	10	1542	1544	1549	S23	W69	.961	15526	5.5	7	-B	4	C		12			
MCMA	10	1542	1547	1551D	S23	W78	.990	15526	4.8	9D	-N		P	1547			DH	
GRP69080	10	1628+1	1630+1	1648	S33	W66	.963	15509	5.7	20	1N						AH	
RAMY	10	1628	1631	1648	S32	W68	.969	15509	5.6	20	-B	4	C		47		F H	
HOLL	10	1629	1630	1648	S33	W65	.959	15509	5.8	19	-B	3	C		48		FDE	
WEND	10	1630E		1648	S33	W58	.928	15509	6.3	18D	2N		P		500	11.6	AH	
MCMA	10	1631E		1638D	S35	W68	.973	15509	5.6	7D	1N		P	1636	60	2.2	EH	
GRP69081	10	1708>9	1730+7	1801	N19	E54	.806	15530	14.8	53	1B				170	3.0		
RAMY	10	1708	1730	1801D	N19	E54	.806	15530	14.8	53D	1B	3	C		168			
HOLL	10	1722	1734	1802	N20	E54	.807	15530	14.8	40	1B	3	C		169			
PALE	10	1730	1737	1749	N18	E55	.815	15530	14.9	19	-B	3	C		65		FDE	
	10	1809	1926	NO FLARE PATROL														
GRP69082	10	2153+1	2155+0	2204	N18	E56	.824	15530	15.1	11	-N				50	.9		
VORO	10	2153	2155	2202	N18	E56	.824	15530	15.1	9	-N		C	2155	45	.8	E	
CULG	10	2153	2155	2215	N18	E56	.824	15530	15.1	22	-N		C	2155	50	.9		
HOLL	10	2154	2155	2204	N20	E52	.787	15530	14.8	10	-N	3	C		53		F	
83 CULG	10	2259	2307	2321D	S21	W86	1.000	15507	4.4	22D	-N		P	2307	40			Y5
84 CULG	11	0206E	0213U	0237D	S20	W80	.993	15526	5.1	31D	?N		P	0213	120			Y5
	IMP.1	NO	VORO1															

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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		
	SEP																	
85 KANZ	11	0743	0743	0751	S20	E57	.886	0	15.6	8	-F		C				G	Y5
GRP69086	11	1057	1101+1	1109	N26	E90	.998	15536	18.2	12	-N						AD	
KANZ	11	1057	1102	1109	N28	E90	.998	15536	18.2	12	-N		C				T	
ABST	11	1059E	1101	1102D	N25	E90	.999	15536	18.2	30	1F		P	1101	87		AD	
GRP69087	11	1109+1	1114+0	1145	N18	E44	.696	15530	14.8	36	-N							
KANZ	11	1109	1114	1145	N17	E44	.695	15530	14.8	36	-N		C					
RAMY	11	1110	1114	1145D	N19	E44	.698	15530	14.8	35D	-B	3	C		82			
88 MCMA	11	1625	1630	1635	N26	E90	.998	15536	18.4	10	-F		C	1630			D	Y5
GRP69089	11	1653	1659	1700	N17	E43	.683	15530	14.9	7	-N						E	
KANZ	11	1653		1657	N17	E44	.695	15530	15.0	4.	-N							
MCMA	11	1656E	1659	1703D	N17	E43	.683	15530	14.9	7D	-N		C	1659	60	.9	E	
	11	1703	1717	NO FLARE PATROL														
	11	1719	1723	NO FLARE PATROL														
	11	1733	1737	NO FLARE PATROL														
	11	1739	1748	NO FLARE PATROL														
	11	1750	1805	NO FLARE PATROL														
GRP69090	11	1830>9	1833 1841+0	1855	N18	E43	.685	15530	15.0	25	-F				35	.5	EK	
MCMA	11	1830	1841	1855D	N16	E45	.705	15530	15.1	25D	-F		C	1841	40	.6	EK	
MCMA	11	1830	1833	1855D	N16	E45	.705	15530	15.1	25D	-F			1833				
HOLL	11	1841	1841	1847	N20	E41	.665	15530	14.9	6	-N	2	C		26			
GRP69091	11	2248+1	2258>9	2332	N18	E39	.635	15530	14.9	44	-N				70	.9	HJ	
VORO	11	2248	2258	2333	N18	E42	.673	15530	15.1	45	-N		C	2258	81	1.1	EJ	
HOLL	11	2248	2305	2331	N20	E38	.629	15530	14.8	43	-N	2	C		74		F H	
PALE	11	2249	2308	2332	N18	E39	.635	15530	14.9	43	-B	3	C		60		DE F	
CULG	11	2254E	2301	2330	N16	E40	.644	15530	15.0	36D	-N		C	2301	80	1.0	F	
GRP69092	11	2350+0	2353+2	0009	N26	E90	.998	15536	18.7	19	-N				50		DH	
CULG	11	2350	2355	0015	N25	E90	.999	15536	18.7	25	-N		C	2355	40			
VORO	11	2350	2353	0002	N28	E90	.998	15536	18.7	12	1F		C	2353	63		DH	
93 VORO	12	0040E		0051	N28	E90	.998	15536	18.8	11D	?N		C	0041	63		D	Y5
	IMP.1 NO CULG1 HOLL1 PALE1																	
94 CULG	12	0128	0137	0150	N25	E87	.995	15536	18.6	22	-F		C	0137	30			Y5
95 CULG	12	0435	0439	0451	N21	W90	.999	15512	5.4	16	-F		C	0439	20			Y5
96 ABST	12	0543	0547	0553D	N25	E90	.999	15536	19.0	10D	?N		P	0547	87		AD	Y5
	IMP.1 NO CULG1																	
97 RAMY	12	1459	1459	1506	N35	E60	.878	15532	17.1	7	-N	3	C		28			Y5
	12	1702	1703	NO FLARE PATROL														
GRP69098	12	2057	2100	2117D	N19	E26	.467	15530	14.8	20	-N							
HOLL	12	2057	2100	2117	N19	E25	.454	15530	14.7	20	-N	3	C		36			
PALE	12	2111E	2111U	2149D	N19	E27	.481	15530	14.9	38D	-N	3	C		36			
99 CULG	12	2134	2145	2210	N34	E86	.992	15543	19.3	36	-F		C	2145	40			Y5
GRP69100	12	2255+2	2256+9	2343	N19	E27	.481	15530	15.0	48	-B				170	2.0	FJ	
CULG	12	2255	2305	0000	N18	E27	.476	15530	15.0	65	-B		C	2305	170	1.9		
PALE	12	2256	2256	2343	N19	E26	.467	15530	14.9	47	-B	3	C		160		F	
VORO	12	2257	2301	2323	N19	E30	.521	15530	15.2	26	1N		C	2301	179	2.1	J	
GRP69101	13	0304+2	0306+1	0310	N19	E24	.440	15530	14.9	6	-N				60	.7		
CULG	13	0304	0307	0310D	N18	E24	.434	15530	14.9	6D	-N		C	0307	50	.6		
VORO	13	0306		0309	N19	E25	.454	15530	15.0	3	-N		P	0306	45	.5	E	
PALE	13	0306E	0306	0313	N19	E24	.440	15530	14.9	7D	-B	3	C		67		F	
GRP69102	13	0939+4	0941+1	0947	N19	E26	.467	15530	15.4	8	-F				45	.5	E	
HTPR	13	0939	0941	0946	N18	E27	.476	15530	15.4	7	-F		C	0941	30	.3	E	
ZURI	13	0939	0941	0945	N19	E26	.467	15530	15.4	6	-F		C	0941	60	.7		
KANZ	13	0942	0942	0948	N20	E26	.473	15530	15.4	6	-N		C					
ISTA	13	0943		0947	N20	E27	.487	15530	15.4	4	-F						E	
103 ZURI	13	1003	1009	1015	N35	E80	.977	15543	19.4	12	-F		C	1009	120			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.		
	SEP																	
GRP69104	13	1059+1	1101+1	1115	N35	E82	.983	15543	19.6	16	1F				80		D	
ZURI	13	1059	1101	1115	N35	E80	.977	15543	19.5	16	-F		C	1101	70			
ABST	13	1100	1102	1105D	N36	E85	.990	15543	19.8	5D	1F		P	1102	87		D	
105 ZURI	13	1317	1317	1331	S15	W72	.965	15521	8.2	14	-F		C	1317	70			Y5
106 HUAN	13	1637		1646	N35	E75	.959	15543	19.3	9	-F	1	C					Y5
107 HUAN	13	1704	1709	1717	S28	E87	1.000	15541	20.2	13	-F	1	C	1709	20		D	Y5
108 HUAN	13	1838	1839	1841	S29	E85	1.000	15541	20.2	3	-F	1	C	1839	20		D	Y5
109 HUAN	13	1843	1846	1850	N35	E75	.959	15543	19.4	7	-N	1	C	1846	30			Y5
	13	1918	1921	NO FLARE PATROL														
	13	1924	1928	NO FLARE PATROL														
110 HUAN	13	1928E		1944D	N35	E50	.804	15532	17.6	16D	-F	1	P	1932	25	.4	D	Y5
111 HUAN	13	1930		1939	N35	E73	.951	15543	19.3	9	-F	1	C				E	Y5
112 HUAN	13	2103		2111D	N35	E73	.951	15543	19.4	8D	-F	1	P	210E	60		E	Y5
	13	2157	2200	NO FLARE PATROL														
113 VORO	13	2306	2307	2310	N34	E70	.936	15543	19.2	4	-F		C	2307	63		DJ	Y5
114 VORO	14	0008	0009	0011	N22	E47	.738	15535	17.5	3	-F		C	0009	27	.3	D	Y5
115 PALE	14	0053	0110	0217	N37	E67	.923	15543	19.1	84	?N	3	C		134		DE F	Y5
	IMP. 1 NO VORO1																	
116 KANZ	14	0704	0704	0719	N18	E10	.251	15530	15.0	15	-N		C				D	Y5
GRP69117	14	0810+2	0820+2	0917	N36	E69	.932	15543	19.5	67	-F				60		DJ	
ABST	14	0810	0820	0828	N37	E74	.956	15543	19.9	18	1F		C	0820	79		DJ	
KANZ	14	0812	0822	0857	N36	E67	.922	15543	19.4	45	-F		C					
ZURI	14	0814E	0820	0936	N37	E69	.933	15543	19.5	82D	-N		P	0820	50			
KHAR	14	0900E	0900	1005D	N34	E69	.931	15543	19.6	65D	-F		P	0918	60		D	
118 HUAN	14	1439	1441	1442	N28	E53	.810	15536	18.6	3	-F	1	C	1441	20	.3	D	Y5
GRP69119	14	1440+1	1446+6	1508	N37	E63	.900	15543	19.3	28	-N				20		D	
HTPR	14	1440	1446	1508	N37	E63	.900	15543	19.3	28	-F		C	1446	20	.4		
HUAN	14	1441	1452	1457	N37	E63	.900	15543	19.3	16	-F	1	C	1452	20		D	
HOLL	14	1506	1541	1625	N38	E59	.877	15543	19.1	79	-B	3	C		106			
120 HOLL	14	1507	1514	1528	N30	W33	.622	15525	12.2	21	-N	3	C		21			Y5
121 HOLL	14	1534	1610	1615	N30	W33	.622	15525	12.2	41	-B	3	C		20			Y5
GRP69122	14	1603+1	1605+0	1608	N32	E58	.859	15543	19.0	5	-N				40	.8		
HTPR	14	1603	1605	1608	N30	E58	.855	15543	19.0	5	-N		C	1605	40	.8		
HUAN	14	1604	1605	1607	N35	E58	.864	15543	19.0	3	-N	1	C	1605	40	.8		
GRP69123	14	1617>9	1643+2	1654	N18	E05	.205	15530	15.1	37	-N							
HOLL	14	1617	1643	1702	N18	E02	.190	15530	14.8	45	-B	3	C		60			
HTPR	14	1641	1643	1650	N18	E06	.212	15530	15.1	9	-F		C	1643	20	.2		
KANZ	14	1645	1645	1654D	N19	E05	.221	15530	15.1	9D	-F		C					
124 HUAN	14	1801	1802	1807	N37	E59	.875	15543	19.2	6	-F	1	C	1802	20	.4	D	Y5
125 CULG	14	2130	2133	2153D	S28	E90	1.002	0	21.6	23D	?B		C	2133	120			Y5
	IMP. 1 NO PALE1																	
GRP69126	14	2328+3	2332+1	2344	N19	E02	.207	15530	15.1	16	-N				50	.5	E	
CULG	14	2328	2333	2346	N19	E02	.207	15530	15.1	18	-N		C	2333	50	.5		
VORO	14	2331	2332	2341	N20	E02	.224	15530	15.1	10	-N		C	2332	54	.5	E	
127 CULG	14	2333	2339	2355	S30	E55	.903	15541	19.1	22	-F		C	2339	30	.8		Y5
GRP69128	15	0543E	0548 0550	0617	N36	E58	.867	15543	19.6	34	-F						J	
ABST	15	0543E	0548	0557	N36	E56	.853	15543	19.4	14D	-F		P	0548	87	1.6	DJ	
ABST	15	0543E	0550	0617	N37	E60	.882	15543	19.7	34D	-F		P	0550	87	1.6	DJ	
129 HTPR	15	0603	0603	0610	S29	E58	.917	15541	19.6	7	-F		C	0603	20	.4	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	CMR. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
	SEP																	
GRP69130	15	0733+0	0734+1	0738	N34	E53	.825	15543	19.3	5	-N						DJ	
ABST	15	0733	0735	0739	N34	E54	.833	15543	19.4	6	-N		C	0735	87	1.6	DJ	
HTPR	15	0733	0734	0736	N34	E52	.817	15543	19.2	3	-N		C	0734	30	.5		
131 KHAR	15	0845E		0910D	N34	E56	.848	15543	19.6	25D	-F		P	0859	70	1.5		Y5
132 HTPR	15	0911	0918	0931	N34	E50	.801	15543	19.1	20	-F		C	0918	20	.3		Y5
GRP69133	15	0935+9	0946+6	1005	N35	E52	.820	15543	19.3	30	-N				100	1.8	DJ	
ZURI	15	0935	0947	0959	N34	E51	.809	15543	19.2	24	-N		C	0947	100	1.8		
HTPR	15	0939	0947	0956	N34	E50	.801	15543	19.2	17	-F		C	0947	100	1.5		
KANZ	15	0942	0946	1001	N35	E51	.812	15543	19.2	19	-N		C					
ABST	15	0944	0947	0959	N33	E54	.830	15543	19.5	15	-N		C	0947	96	1.7	DJ	
ZURI	15	0947	0951	1009	N36	E55	.845	15543	19.5	22	-N		C	0951	50	1.0		
HTPR	15	0948	0952	1023	N35	E53	.828	15543	19.4	35	-N		C	0952	20	.3		
134 ZURI	15	1103	1111	1127	N34	E50	.801	15543	19.2	24	-F		P	1111	60	1.1		Y5
GRP69135	15	1127+1	1151+0	1205	N34	E49	.793	15543	19.2	38	-N						E	
KANZ	15	1127	1151	1205	N34	E46	.767	15543	18.9	38	-N		C					
MCMA	15	1128	1151	1225	N33	E50	.798	15543	19.2	57	1N		C	1151	150	2.7	E	
HTPR	15	1145	1151	1155	N34	E49	.793	15543	19.2	10	-F		C	1151	20	.3	E	
136 KANZ	15	1236	1240	1251	N19	W07	.235	15530	15.0	15	-N		C				E	Y5
GRP69137	15	1350+2	1356+1 1418	1447	N34	E49	.793	15543	19.3	57	-N				45	.8	EK	
HTPR	15	1350	1357	1401	N34	E48	.784	15543	19.2	11	-F		C	1357	30	.4		
MCMA	15	1352	1356	1530D	N34	E50	.801	15543	19.3	98D	-N			1356	60	1.1		
MCMA	15	1352	1418	1530D	N34	E50	.801	15543	19.3	98D	-N		C	1418	80	1.4	EK	
KANZ	15	1355E		1403D	N34	E46	.767	15543	19.0	8D	-N		C					
GRP69138	15	1453+3	1457+2	1508	N25	E40	.671	15536	18.6	15	-N				35	.5	E	
MCMA	15	1453	1457	1509	N25	E40	.671	15536	18.6	16	-N		C	1457	40	.5	E	
HTPR	15	1453	1458	1507	N25	E37	.637	15536	18.4	14	-N		C	1458	30	.4	E	
KANZ	15	1456	1459	1459D	N26	E40	.675	15536	18.6	3D	-N		C					
139 HTPR	15	1625		1702D	N35	E48	.788	15543	19.3	37D	-F		C	1655	30	.4		Y5
140 PALE	15	1714	1722	1809	N36	E45	.767	15543	19.1	55	-B	3	C		130		DE F	Y5
GRP69141	15	1824>9	1922+6	2019	N36	E46	.776	15543	19.2	115	-B				120	2.0		
PALE	15	1824	1922	2009	N36	E47	.784	15543	19.3	105	1B	3	C		172		DE F	
HOLL	15	1909	1928	2028	N38	E45	.777	15543	19.2	79	-B	3	C		112		F	
HUAN	15	1914		1945D	N35	E46	.771	15543	19.3	31D	-N	1	C	1926	80	1.3		
142 HOLL	15	1927	1929	1932	N39	E26	.636	15532	17.8	5	-N	3	C		51			Y5
GRP69143	15	2049+8	2057+2	2202	N37	E43	.756	15543	19.1	73	-B							
HOLL	15	2049	2059	2204	N39	E44	.774	15543	19.2	75	-B	3	C		106		F	
PALE	15	2057	2057	2159	N36	E43	.751	15543	19.1	62	-B	3	C		146		FDE	
144 HOLL	15	2235	2237	2251	N29	E30	.583	15536	18.2	16	-B	3	C		49		F	Y5
145 HOLL	15	2252	2254	2306	N39	E43	.766	15543	19.2	14	-B	3	C		17			Y5
146 TEHR	16	0401	0405	0435	N39	E43	.766	15543	19.4	34	-B	2	C		159		U	Y5
147 CULG	16	0529	0533	0545	S28	E42	.806	15541	19.4	16	-F		C	0533	20	.3		Y5
148 HTPR	16	0725	0726	0740	N35	E30	.631	15532	18.6	15	-F		C	0726	20	.2		Y5
GRP69149	16	0736+4	0742+1	0746	N35	E39	.711	15543	19.2	10	-N				110	1.6	DJ	
KANZ	16	0736	0743	0746	N35	E41	.728	15543	19.4	10	-B		C					
HTPR	16	0740	0742	0745	N34	E39	.705	15543	19.2	5	-N		C	0742	80	1.0		
ABST	16	0740	0742	0759	N37	E37	.706	15543	19.1	19	1N		C	0742	148	2.1	DJ	
150 HTPR	16	0929	0931	0934	S29	E39	.790	15541	19.3	5	-F		C	0931	20	.3		Y5
151 KHAR	16	0948E		1026D	N37	E43	.756	15543	19.6	38D	-F		P	0950			E	Y5
GRP69152	16	1000+0	1000+1	1004	S28	E41	.798	15541	19.5	4	-F						D	
ABST	16	1000	1001	1005	S27	E44	.815	15541	19.7	5	-N		C	1001	87	1.5	D	
HTPR	16	1000	1000	1003	S29	E39	.790	15541	19.3	3	-F		C	1000	20	.3		
153 HTPR	16	1011	1015	1020	S29	E73	.993	15542	22.3	9	-F		C	1015	20			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	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
154 KANZ	16	1258	1303	1306	N34	E34	.659	15543	19.1	8	-F		C					Y5
GRP69155	16	1326+2	1327+3 1402	1412	N36	E37	.700	15543	19.3	46	-B				130	1.9		
MEUD	16	1326	1327	1400	N34	E36	.678	15543	19.3	34	-B		C	1327	11		F	
TEHR	16	1329	1330	1400	N39	E41	.751	15543	19.6	32	-B	2	C		159		FDE	
MCMA	16	1334E		1430	N35	E38	.702	15543	19.4	560	-N		C	1340	60	.9	E	
HTPR	16	1339E		1415	N34	E34	.659	15543	19.1	360	-N		C	1339	50	.6		
HTPR	16	1339E		1425	N35	E41	.728	15543	19.6	460	-N		C	1339	30	.4		
KANZ	16	1347E	1347	1406C	N35	E37	.693	15543	19.3	190	-B		C				F	
HOLL	16	1355	1402	1417	N39	E35	.704	15543	19.2	22	-B	3	C		42		FDE	
156 HTPR	16	1350	1353	1400	N28	E26	.533	15536	18.5	10	-F		C	1353	20	.2		Y5
GRP69157	16	1450+2	1453+1	1520	N28	E26	.533	15536	18.6	30·	-F				40	.5	D	
MCMA	16	1450	1454	15290	N28	E27	.544	15536	18.6	390	-N		C	1454	35	.4	D	
HTPR	16	1450	1453	1520	N28	E26	.533	15536	18.6	30	-F		C	1453	40	.5		
MEUD	16	1452	1452	1506	N20	E26	.474	15536	18.6	14	-F		C					
GRP69158	16	1529>9	1543+0	1604	N28	E25	.522	15536	18.5	35	-N				80	.9	AEV	
HTPR	16	1529	1543	1603	N28	E25	.522	15536	18.5	34	-N		C	1543	80	.9	E	
MCMA	16	1530	1543	1607	N28	E27	.544	15536	18.7	37	-B		C	1543	70	.9	EV	
MEUD	16	1539	1543	1555	N28	E25	.522	15536	18.5	16	-N		C				E	
HOLL	16	1540	1543	1602	N29	E21	.492	15536	18.2	22	-B	3	C		94		F	
WEND	16	1546E		1606	N30	E24	.531	15536	18.5	200	1N		V		400	5.1	AE	
GRP69159	16	1741+1	1756+1	1818	N28	E23	.502	15536	18.5	37	1N				200	2.3	V	
MCMA	16	1741	1757	1815	N28	E27	.544	15536	18.8	34	1N		C	1757	160	2.0	EV	
HOLL	16	1742	1756	1820	N29	E19	.473	15536	18.2	38	1B	3	C		246		FDE	
GRP69160	16	1834+1	1837+4	1854	N37	E20	.573	15532	18.3	20	-N				70	.9	E	
MCMA	16	1834	1841	1854	N36	E26	.607	15532	18.7	20	-F		C	1841	100	1.4	E	
HOLL	16	1835	1837	1854	N39	E14	.562	15532	17.8	19	-B	3	C		50			
161 HOLL	16	1927	1958	2026	N39	E13	.558	15532	17.8	59	2B	3	C		600		U F	Y5
162 HOLL	16	1955	1958	2002	N39	E32	.681	15543	19.2	7	-B	3	C		48		Z	Y5
	16	2030	2043	NO FLARE PATROL														
	16	2054	2059	NO FLARE PATROL														
163 CULG	16	2323	2345	2352	N31	E36	.659	15543	19.7	29	-N		C	2345	30	.4		Y5
164 CULG	17	0053	0101	0115	N38	E08	.525	15532	17.6	22	-F		C	0101	20	.2		Y5
165 CULG	17	0140	0141	0150	N38	E11	.536	15532	17.9	10	-N		C	0141	50	.6		Y5
GRP69166	17	0358+6	0403+2 0458	0515	N35	E30	.631	15543	19.4	77	1B				160	2.1	JK	
CULG	17	0358	0408	0550	N33	E30	.615	15543	19.4	112	1B		C	0408	180	2.3	FK	
MITK	17	0404	0410	0509	N35	E27	.606	15543	19.2	65	-B		C	0410			E	
PALE	17	0404E	0408U	0415D	N36	E30	.640	15543	19.4	110	-B	1	C		140		F	
TACH	17	0415E		0507D	N36	E30	.640	15543	19.4	520	1N		V	0423	350	4.7	E	
ABST	17	0456E	0458	0515D	N36	E34	.674	15543	19.8	190	-F		P	0458	87	1.2	DJ	
ABST	17	0456E	0458	0515D	N33	E26	.578	15543	19.2	190	-F		P	0458	87	1.1	DJ	
167 ABST	17	0517	0519	0525	N40	E33	.696	15543	19.7	8	-N		C	0519	87	1.2	DJ	Y5
168 CULG	17	0528	0531	0537	N35	W64	.904	15525	12.4	9	-N		C	0531	80	1.8		Y5
GRP69169	17	0600+0	0603 0615	0621	N29	E20	.482	15536	18.7	21	-F						DJ	
CULG	17	0600	0615	0626D	N29	E21	.492	15536	18.8	260	-F		P	0615	40	.5		
ABST	17	0600	0603	0615	N29	E19	.473	15536	18.7	15	-F		C	0603	87	1.0	DJ	
170 ABST	17	0735	0741	0750	S33	E35	.790	15541	19.9	15	-N		C	0741	87	1.4	DJ	Y5
171 ABST	17	0807	0808	0820	N29	E19	.473	15536	18.8	13	-F		C	0808	87	1.0	DJU	Y5
GRP69172	17	0826+4	0829+4	0917	N35	E27	.606	15543	19.4	51	1N				230	2.9	AEJ	
ABST	17	0826	0829	0905	N34	E27	.596	15543	19.4	39	1N		C	0829	262	3.3	EJ	
ABST	17	0827	0832	0905	N35	E33	.656	15543	19.8	38	-N		C	0832	87	1.2	DJ	
ATHN	17	0830	0833	0905	N35	E26	.597	15543	19.3	35	-N	2		0833	147	1.8		
WEND	17	0840E		0920	N37	E26	.616	15543	19.3	400	2N		P		600	8.6	AF	
LOCA	17	0900E	0900	0925	N35	E27	.606	15543	19.4	250	1B		V	0900	204	2.6		
ABST	17	0905E	0905	0930	N33	E26	.578	15543	19.3	250	1N		P	0905	174	2.1	EJ	
ABST	17	0905E	0905	0930	N35	E33	.658	15543	19.9	250	-N		P	0905	87	1.2	DJ	

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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		
	SEP																	
GRP69173	17	1256+6	1302	1320	N35	E27	.606	15543	19.6	24	-N						Z	
WEND	17	1256E		1322	N37	E28	.632	15543	19.6	26D	-N		P				D	
WEND	17	1256E		1315	N35	E26	.597	15543	19.5	19D	-N		P				Z	
TEHR	17	1300	1302	1317	N35	E30	.631	15543	19.8	17	-B	2	C		159		FDE	
MEUD	17	1302		1307D	N35	E24	.581	15543	19.3	5D	-N		C				F	
	17	1347	1352	NO FLARE PATROL														
GRP69174	17	1459	1505+0	1615	N36	E23	.583	15543	19.3	76	2N						FIUZ	
HOLL	17	1459	1505	1555	N37	E22	.587	15543	19.3	56	1B	3	C		204		Z U	
LOCA	17	1503E	1505	1615	N35	E23	.573	15543	19.4	72D	2N		V	1505	530	6.5		
WEND	17	1536E		1622	N36	E23	.583	15543	19.4	46D	2N		P		500	6.9	8FIT	
175 HOLL	17	1508	1509	1517	S24	E22	.614	15541	19.3	9	-N	3	C		21			Y5
176 MCMA	17	1819E		1850D	N30	E14	.444	15536	18.8	31D	-F		P	1821	30	.4	O	Y5
GRP69177	17	1949	1954	2008	N36	E20	.561	15543	19.3	19	-N				80	1.0	U	
HOLL	17	1949	1954	2008	N37	E20	.573	15543	19.3	19	-N	3	C		92		U F	
PALE	17	1955E	1955U	20040	N36	E21	.568	15543	19.4	9D	-N	3	C		79		FDE	
178 HOLL	17	2025	2030	2056	N37	E20	.573	15543	19.4	31	-B	3	C		120		FDE	Y5
179 HOLL	17	2125	2128	2205	S24	E18	.585	15541	19.2	40	-B	3	C		135		FDE	Y5
180 HOLL	17	2226	2232	2253	S24	E18	.585	15541	19.3	27	-B	3	C		71		DE	Y5
GRP69181	17	2242	2243 2343	0024	N36	E19	.554	15543	19.4	102	-B						U	
HOLL	17	2242	2243	0019	N37	E18	.560	15543	19.3	97	-B	3	C		138		U F	
MITK	17	2323E	2343	0023	N35	E20	.550	15543	19.5	65D	1B		C	2343	180	2.2	E	
GRP69182	18	0119	0132+1	0212D	N35	E18	.536	15543	19.4	53	1N				210	2.5	E	
MITK	18	0119	0133	0212D	N36	E18	.548	15543	19.4	53D	1N		C	0133	260	3.2	E	
CULG	18	0127E	0132U	0148D	N34	E18	.524	15543	19.4	21D	1N		P	0132	170	2.0		
183 CULG	18	0520	0525	0534	N38	E16	.560	15543	19.4	14	-F		C	0525	80	1.0		Y5
184 ISTA	18	0703E		0709	S28	E19	.638	15541	19.7	6D	-N						D	Y5
GRP69185	18	0727+6	0734+0	0739	N36	E17	.541	15543	19.6	12	-N				70	.8	OJ	
ABST	18	0727	0734	0740	N34	E17	.516	15543	19.6	13	-N		C	0734	87	1.0	OJ	
ISTA	18	0730E		0738	N36	E17	.541	15543	19.6	8D	-F			0735			O	
TEHR	18	0733	0734	0739	N36	E18	.548	15543	19.7	6	-B	1	C		64			
GRP69186	18	0923+4	0928+3	0932	S28	E19	.638	15541	19.8	9	-B						E	
ISTA	18	0923E		0932	S28	E19	.638	15541	19.8	9D	-B						E	
MEUD	18	0927	0928	0932	S29	E19	.650	15541	19.8	5	-B		C					
TEHR	18	0929E	0931	0937	S24	E19	.591	15541	19.8	8D	-B	2	C		64			
187 TEHR	18	1001E	1005	1009	N36	E17	.541	15543	19.7	8D	-B	2	C		127		UDE	Y5
188 MEUD	18	1047	1048	1050	S29	E18	.644	15541	19.8	3	-N		C				E	Y5
189 MEUD	18	1103E	1103	1107	S29	E18	.644	15541	19.8	4D	-N		C				E	Y5
GRP69190	18	1523+3	1526+0	1531	N18	W53	.795	15530	14.7	8	-F							
KANZ	18	1523	1526	1530	N18	W53	.795	15530	14.7	7	-F		C					
ZURI	18	1526	1526	1532	N18	W53	.795	15530	14.7	6	-F		C	1526	50	.9		
	18	1615	1937	NO FLARE PATROL														
191 PALE	18	1932E	1932U	1942	S27	E05	.566	15541	19.2	10D	-N	3	C		25		DE	Y5
	18	1953	2007	NO FLARE PATROL														
192 PALE	18	2009E	2012	2021	S17	W37	.693	15539	16.1	12D	-N	3	C		58		FDE	Y5
	18	2251	2302	NO FLARE PATROL														
	18	0212	0217	NO FLARE PATROL														
	18	0226	0255	NO FLARE PATROL														
193 CULG	19	0147	0147	0150	N37	E11	.522	15543	19.9	3	-F		C	0147	20	.2		Y5
194 PALE	19	0147	0147	0150	S17	W40	.723	15539	16.1	3	-N	3	C		78		DE	Y5
195 PALE	19	0235	0235	0245	S17	W40	.723	15539	16.1	10	-N	2	C		41		DE	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.		
	SEP																	
GRP69196	19	0249	0252 0303	0312	N18	W60	.860	15530	14.6	23	-N						DH	
VORO	19	0249	0252	0302	N16	W60	.859	15530	14.6	13	-N		C	0252	63	1.2	DH	
CULG	19	0302E	0303U	0321	N20	W60	.861	15530	14.6	190	-F		P	0303	40	.8		
197 CULG	19	0358E	0403U	0404D	S17	W42	.743	15539	16.0	60	-N		P	0403	130	1.9	I	Y5
GRP69198	19	0358E	0414 0421	0436D	N34	W11	.480	15532	18.3	37	-N						I	
CULG	19	0358E	0421	0433D	N34	W10	.476	15532	18.4	35D	-N	*	P	0421	160	1.8	I	
MITK	19	0410E		0435D	N34	W11	.480	15532	18.3	25D	-N	*	C	0410			E	
MANI	19	0412	0414	0416D	N37	W13	.532	15532	18.2	6D	-F	2	V		80	1.0	F	
199 HTPR	19	0701	0705	0717	S17	W43	.753	15539	16.1	16	-F		C	0705	30	.4	E	Y5
200 HTPR	19	0736	0738	0750	S27	E03	.563	15541	19.5	14	-N		C	0738	60	.7	E	Y5
201 KHAR	19	1038E	1044	1058D	N16	E63	.884	0	24.2	20D	-N		P	1038	50	1.4	DH	Y5
GRP69202	19	1043+0	1044+1 1052	1056	N35	E02	.468	15543	19.6	13	-N						U	
MONT	19	1043	1045	1110D	N36	E02	.484	15543	19.6	27D	-N		C	1045	70			
HTPR	19	1043	1044	1055	N35	E03	.469	15543	19.7	12	-F		C	1044	30	.4	E	
KHAR	19	1046E		1055	N35	E03	.469	15543	19.7	9D	-N		P	1052	80	.9	D	
TEHR	19	1049	1052	1056	N38	E02	.514	15543	19.6	7	-N	2	C		95		U	
GRP69203	19	1116+2	1122+0	1142	S27	E01	.561	15541	19.5	26	-N				100	1.2	E	
HTPR	19	1116	1122	1135	S27	E02	.562	15541	19.6	19	-N		C	1122	100	1.1	E	
ZURI	19	1118	1122	1122D	S26	E00	.547	15541	19.5	4D	-N		P	1122	110	1.4		
KHAR	19	1125E	1125	1148D	S28	E01	.576	15541	19.6	23D	1N		P	1129	220	2.7	E	
204 KHAR	19	1138E		1144	N13	E32	.530	15547	21.9	6D	-F		V	1140			D	Y5
205 HTPR	19	1229	1232	1240	N14	E34	.560	15547	22.1	11	-F		C	1232	50	.6	E	Y5
206 HTPR	19	1302	1303	1308	N37	E03	.500	15543	19.8	6	-N		C	1303	40	.5	E	Y5
207 MCMA	19	1405E	1412	1430	N28	W07	.373	15536	19.1	25D	-F		C	1412	30	.4	D	Y5
GRP69208	19	1434+0	1450+0 1508	1605	S14	E62	.907	15549	24.3	91	-F						EHK	
MCMA	19	1434	1450	1605	S14	E62	.907	15549	24.3	91	-F		C	1540	50	1.2	EHK	
MCMA	19	1434	1450	1605	S14	E62	.907	15549	24.3	91	-F			1450	30	.7		
HTPR	19	1505	1508	1550	S11	E60	.886	15549	24.1	45	-F		C	1508	80	1.6	EKT	
GRP69209	19	1604+4	1611+0	1625	S21	E25	.607	15542	21.5	21	-F				25	.3	D	
HTPR	19	1604	1611	1625	S21	E25	.607	15542	21.5	21	-F		C	1611	30	.3		
MCMA	19	1608	1611	1613D	S21	E25	.607	15542	21.5	5D	-N		C	1611	20	.3	D	
GRP69210	19	1640	1652	1655	N34	W03	.454	15543	19.5	15	-F				45	.5		
HTPR	19	1640		1656D	N35	E02	.468	15543	19.8	16D	-F		C	1650	60	.7	E	
MCMA	19	1649E	1652	1654	N33	W08	.453	15543	19.1	5D	-F		C	1652	25	.3	D	
	19	1704	1706	NO FLARE PATROL														
211 HUAN	19	1727	1730	1739	N33	W08	.453	15543	19.1	12	-N	1	C	1730	40	.4		Y5
GRP69212	19	1813+1	1815	1822	N25	E57	.840	15546	24.0	9	-F							
HUAN	19	1813		1822	N26	E59	.858	15546	24.2	9	-F	1	C					
PALE	19	1814	1815	1821	N25	E56	.832	15546	24.0	7	-N	3	C		35		DE	
213 HUAN	19	1821		1825	N33	W08	.453	15543	19.2	4	-F	*	C					Y5
214 HUAN	19	1821	1834	1839	S13	E60	.890	15549	24.3	18	-F	1	C	1834	20	.4	D	Y5
215 HOLL	19	1934	1941	1957	N37	W05	.503	15543	19.4	23	-N	3	C		50		FDE	Y5
216 MCMA	19	2020E		2132D	S14	E60	.892	15549	24.3	72D	-N		C	2020	50	1.1	E	Y5
GRP69217	19	2046E	2055	2142	N33	W07	.449	15543	19.3	56	-N				110	1.2	E	
MCMA	19	2046E	2055	2132D	N33	W07	.449	15543	19.3	46D	-N		C	2055	120	1.4	E	
CULG	19	2057E	2057E	2142	N34	W07	.464	15543	19.3	45D	-N		P	2057	110	1.3	B	
GRP69218	19	2159	2205	2218	N25	W15	.389	15536	18.8	19	-F				130	1.4	E	
CULG	19	2159	2205	2221	N25	W15	.389	15536	18.8	22	-N		C	2205	110	1.2		
VORO	19	2200E		2214	N26	W16	.411	15536	18.7	14D	-F		P	2200	152	1.7	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	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
GRP69219	19	2322+1	2324+3	2343	S16	W51	.824	15539	16.1	21	-N				70	1.2	J	
CULG	19	2322	2327	2347	S15	W44	.754	15539	16.7	25	-N		C	2327	60	1.1	JT	
HOLL	19	2322	2324	2343	S16	W51	.824	15539	16.1	21	-N	3	C		86		F	
PALE	19	2323	2324	2341	S18	W52	.840	15539	16.1	18	-N	3	C		63		DE	
220 VORO	20	0336	0337	0347	N28	E54	.819	15546	24.2	11	-N		C	0337	90	1.5	E	Y5
GRP69221	20	0548	0556 0606	0625	N15	E22	.390	15547	21.9	37	-N						EJ	
CULG	20	0548	0606	0629	N14	E23	.401	15547	22.0	41	-N		C	0606	140	1.5		
ABST	20	0553E	0556	0625	N16	E22	.395	15547	21.9	32D	-N		P	0556	87	.9	EJ	
MITK	20	0613E		0622	N15	E22	.390	15547	21.9	9D	-F		C	0613			E	
GRP69222	20	0953>9	1003+4	1010	S12	E48	.782	15549	24.0	17	1N				150	2.4	J	
ABST	20	0953	1003	1010	S12	E49	.792	15549	24.1	17,	1N		C	1003	174	2.9	EJ	
ZURI	20	0953	1005	1009	S12	E48	.782	15549	24.0	16	1N		C	1005	140	2.4		
KANZ	20	0957	1007	1012	S12	E47	.772	15549	23.9	15	-N		C					
MEUO	20	1003	1005	1007	S12	E49	.792	15549	24.1	4	-F		C				D	
223 TEHR	20	1112	1116	1124	S12	E38	.674	0	23.3	12	-N	2	C		63			Y5
GRP69224	20	1217+0	1223+2	1233	S16	E47	.787	15549	24.0	16	-F						H	
ZURI	20	1217E	1223	1233	S16	E48	.797	15549	24.1	16D	-F		P	1223	80	1.4		
KANZ	20	1217	1225	1232	S16	E47	.787	15549	24.0	15	-F		C				H	
GRP69225	20	1349	1353	1407	N22	E43	.695	15546	23.8	18	-N				40	.6	D	
ZURI	20	1349	1353	1405	N22	E45	.717	15546	24.0	16	-N		C	1353	50	.8		
MCMA	20	1352E		1408	N22	E42	.683	15546	23.7	16D	-N		C	1354	30	.4	D	
226 MCMA	20	1522	1523	1530	N22	E41	.672	15546	23.7	8	-N		C	1523	30	.4	E	Y5
227 MCMA	20	1617	1618	1622	N33	W21	.536	15543	19.1	5	-F		C	1618	30	.4	E	Y5
228 MCMA	20	1645	1700	1830D	S13	E45	.755	15549	24.1	105D	-N		C	1700	40	.6	E	Y5
229 MCMA	20	1651	1652	1655	N30	W13	.437	15543	19.7	4	-F		C	1652	25	.3	DH	Y5
GRP69230	20	2000	2001	2007	N24	E39	.656	15546	23.8	7	-B				30	.4	L	
HOLL	20	2000	2001	2005	N27	E41	.690	15546	23.9	5	-B	3	C		29		FDE	
MCMA	20	2003E		2009	N22	E38	.636	15546	23.7	6D	-F		P	2003	30	.4	EL	
	20	2023	2031	NO FLARE PATROL														
GRP69231	20	2041	2049+6	2103	S13	E43	.734	15549	24.1	22	-N							
MCMA	20	2041	2049	2102D	S13	E43	.734	15549	24.1	21D	-N		C	2049	35	.5	E	
PALE	20	2054E	2055	2103	S13	E43	.734	15549	24.1	9D	-N	2	C		135		FDE	
232 CULG	20	2124E	2124	2139	N35	W15	.517	15543	19.8	15D	-F		P	2124	90	1.1		Y5
GRP69233	20	2229	2230 2243	2318D	N23	W45	.720	15535	17.6	49	?N						EHILS	
VORO	20	2229 IMP.	2230 S IMP.2	2318	N24	W44	.712	15535	17.6	49	N		C	2230	117	1.7	EHL	
CULG	20	2237E	2243	0112	N23	W46	.730	15535	17.5	155D	2N		P	2243	350	5.3	IS	
234 HOLL	20	2304	2311	2333	N39	W38	.728	15532	18.1	29	-N	3	C		22			Y5
GRP69235	20	2315+0	2318+3	2353	S12	E40	.696	15549	24.0	38	-N				110	1.5		
VORO	20	2315	2319	2343	S12	E42	.718	15549	24.1	28	-N		C	2319	134	1.9	E	
HOLL	20	2315	2318	2354	S07	E37	.636	15549	23.7	39	-B	3	C		103		FDE	
PALE	20	2315	2318	2357	S13	E41	.712	15549	24.0	42	-B	3	C		115		DE F	
CULG	20	2319E	2321	2352D	S15	E40	.712	15549	24.0	33D	-N		P	2321	110	1.5		
GRP69236	21	0314	0317 0324	0334	N34	W24	.572	15543	19.3	20	-N				160	2.0	EJU	
VORO	21	0314	0317	0335	N34	W25	.580	15543	19.3	21	1F		C	0317	197	2.4	EJ	
CULG	21	0318E	0318U	0334	N34	W24	.572	15543	19.3	16D	-B		P	0318	120	1.4		
TEHR	21	0321E	0324	0327	N36	W19	.555	15543	19.7	6D	-B	2	C		95		U	
GRP69237	21	0416E	0420 0443	0508	N23	E40	.664	15546	24.2	52	1B						E	
TEHR	21	0416E	0420	0442	N23	E40	.664	15546	24.2	26D	1B	2	C		222		F	
TACH	21	0438E	0443	0508D	N20	E37	.617	15546	24.0	30D	1B		V	0443	354	4.6	E	
ABST	21	0506E	0507	0525	N26	E40	.676	15546	24.2	19D	1N		P	0507	148	2.1	BE	
238 ABST	21	0557	0602	0616	S12	E39	.685	15549	24.2	19	-F		C	0602	87	1.2	DJ	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	
	SEP																
239 KANZ	21	0853	0858	0907	N36	W22	.577	15543	19.7	14	-F		C				Y5
240 ZURI	21	1254E	1256	1302	N14	E06	.158	15547	22.0	80	-F		P	1256	50	.5	Y5
241 ZURI	21	1314	1322	1324D	N33	W25	.570	15543	19.7	100	-F		P	1322	50	.6	Y5
	21	1403	1621	NO FLARE PATROL													
	21	1637	1643	NO FLARE PATROL													
	21	1653	1943	NO FLARE PATROL													
242 PALE	21	1917	1921	1927	N36	W29	.632	15543	19.6	10	-B	3	C		21		DE Y5
	21	1953	2019	NO FLARE PATROL													
243 PALE	21	2005	2006	2053	N36	W30	.641	15543	19.6	48	-B	3	C		19		DE Y5
	21	2022	2026	NO FLARE PATROL													
244 HUAN	21	2026E		2033D	S24	W04	.520	15542	21.6	70	-N	1	P	2032	80	.9	Y5
	21	2033	2150	NO FLARE PATROL													
245 PALE	21	2321E	2321U	2326	N14	W01	.122	15547	21.9	50	-N	3	C		52		FDE Y5
GRP69246	21	2324+1	2325+0	2328	N35	W34	.667	15543	19.4	4	-N						
PALE	21	2324	2325	2329	N36	W31	.649	15543	19.7	5	-B	3	C		41		FDE
VORO	21	2325	2325	2327	N35	W38	.703	15543	19.1	2	-N		C	2325	134	1.9	
GRP69247	22	0147+4	0152+6 0213	0235D	N35	W37	.694	15543	19.3	48	-N				40	.6	
CULG	22	0147	0158	0217D	N35	W36	.685	15543	19.4	30D	-N		P	0158	30	.4	
VORO	22	0151	0152	0201	N35	W39	.712	15543	19.2	10	-N		C	0152	45	.6	D
VORO	22	0211	0213	0235D	N35	W39	.712	15543	19.2	24D	-N		C	0213	36	.5	D
248 CULG	22	0209E	0209E	0217	S20	W08	.472	15542	21.5	80	-F		P	0209	40	.5	Y5
249 ABST	22	0549	0553	0625	N34	W40	.715	15543	19.2	36	-N		C	0553	131	1.8	EJ Y5
250 ABST	22	0552	0559	0610	N25	E54	.814	15551	26.3	18	-N		C	0559	87	1.5	DJ Y5
GRP69251	22	0915+5	0918 0924+1	0950	N27	E53	.809	15551	26.4	35	1N				120	2.1	E
MONT	22	0915	0924	0955	N28	E56	.837	15551	26.6	40	-N		C	0924	110		E
ZURI	22	0916	0918	0928D	N27	E53	.809	15551	26.4	12D	1N		P	0918	160	2.8	
TEHR	22	0920	0925	0947	N27	E54	.818	15551	26.4	27	-B	1	V		127		FDE
MEUD	22	0927E		0950	N28	E53	.811	15551	26.4	230	-N		C				E
GRP69252	22	1052+4	1054 1103	1110	N27	E52	.800	15551	26.4	18	1N				150	2.6	
ZURI	22	1052	1054	1106	N27	E52	.800	15551	26.4	14	1N		C	1054	200	3.6	
MEUD	22	1052		1110	N27	E51	.791	15551	26.3	18	-N		C	1055	10		E
TEHR	22	1056	1103	1115	N27	E54	.818	15551	26.5	19	-B	1	V		127		FDE
GRP69253	22	1128	1134	1143	N30	E49	.780	15551	26.2	15	-F				45	.7	DH
ZURI	22	1128	1134	1140	N30	E49	.780	15551	26.2	12	-F		C	1134	60	1.0	
MCMA	22	1139E		1145	N30	E49	.780	15551	26.2	60	-N		C	1139	30	.5	DH
254 ZURI	22	1230	1230	1236	N27	E51	.791	15551	26.3	6	-F		C	1230	100	1.8	Y5
GRP69255	22	1240>9	1257+4	1308	N30	E48	.771	15551	26.1	28	-B				120	1.9	DH
MCMA	22	1240	1258	1310	N30	E49	.780	15551	26.2	30	-B		C	1258	80	1.3	EH
KANZ	22	1243	1257	1308	N30	E48	.771	15551	26.1	20	-B		C				
ZURI	22	1252	1300	1306	N30	E48	.771	15551	26.1	14	1B		C	1300	160	2.7	
WEND	22	1253E		1304D	N30	E48	.771	15551	26.1	11D	-N		V				D
MEUD	22	1255	1301	1307	N29	E49	.777	15551	26.2	12	-N		C				DH
GRP69256	22	1313+1	1317+1	1338	N27	E50	.781	15551	26.3	25	-F						E
MCMA	22	1313	1317	1345D	N29	E49	.777	15551	26.2	32D	-N		C	1317	30	.5	E
KANZ	22	1314	1318	1331	N26	E51	.788	15551	26.4	17	-F		C				
GRP69257	22	1345+6		1500D	N28	E48	.765	15551	26.2	75	-N						E
MCMA	22	1345		1500D	N29	E49	.777	15551	26.2	75D	-N		C	1400	50	.8	E
KANZ	22	1351		1439D	N28	E48	.765	15551	26.2	48D	-N		C				
258 MCMA	22	1415	1418	1430	N34	W43	.742	15543	19.4	15	-F		C	1418	50	.8	E Y5
259. MCMA	22	1430E	1448	1535D	S25	W11	.556	15542	21.8	65D	-F		C	1448	150	1.8	E 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	CMP. DAY	MIN.		CONC	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
260 MCMA	22	1514	1517	1535D	N29	E48	.768	15551	26.2	21D	-N		C	1517	100	1.6	E	Y5
	22	1535	1601	NO FLARE PATROL														
	22	1615	1622	NO FLARE PATROL														
261 MCMA	22	1630E		1631D	N30	E46	.753	15551	26.1	1D	-F		P	1630	25	.4	D	Y5
262 MCMA	22	1649E	1651	1657D	N27	E47	.752	15551	26.2	8D	-N		C	1651	40	.6	D	Y5
263 MCMA	22	1649E	1655	1805D	N38	W55	.852	15532	18.6	76D	-N		C	1655	60	1.2	EW	Y5
	22	1657	1703	NO FLARE PATROL														
	22	1714	1728	NO FLARE PATROL														
264 MCMA	22	1802E		1805D	N30	E46	.753	15551	26.2	3D	-N		P	1803	70	1.1	E	Y5
	22	1836	1946	NO FLARE PATROL														
265 PALE	22	1943	1948	2000	N27	E49	.772	15551	26.5	12	-N	3	C		73		FDE	Y5
	22	2034	2129	NO FLARE PATROL														
	22	0236	0328	NO FLARE PATROL														
	22	0331	0435	NO FLARE PATROL														
	22	0438	0500	NO FLARE PATROL														
GRP69266	22	2129>9	2203	2205D	S24	W15	.564	15542	21.8	36	-N						IS	
CULG	22	2129E	2310U	0245	S23	W13	.539	15542	21.9	316D	1N		P	2310	250	3.0	FIS	
VORO	22	2202	2203	2205	S26	W17	.601	15542	21.6	3	-F		C	2203	45	.5	D	
267 CULG	22	2314	2321	2325	N24	W47	.744	15536	19.4	11	-N		P	2321	30	.5		Y5
268 VORO	22	2320	2321	2328	N33	W48	.782	15543	19.4	8	-F		C	2321	27	.4	D	Y5
269 VORO	23	0109	0110	0119	N27	E42	.701	15551	26.2	10	-F		C	0110	99	1.4	J	Y5
GRP69270	23	0230	0233 0243	0404	N28	E41	.695	15551	26.2	94	-B							
PALE	23	0230	0233	0326D	N27	E44	.722	15551	26.4	56D	-B	3	C		141		FDE	
TEHR	23	0239E	0243U	0404	N29	E39	.679	15551	26.0	85D	-B	2	C		159		F	
271 CULG	23	0513	0515	0520	N36	W52	.824	15543	19.3	7	-N		C	0515	20	.3		Y5
272 CULG	23	0531	0532	0533D	S15	W35	.657	15555	20.6	2D	-N		P	0532	50	.7		Y5
273 CULG	23	0544	0549	0549D	N36	W52	.824	15543	19.3	5D	-N		P	0549	30	.5		Y5
274 ABST	23	0657	0711	0735	N26	E35	.620	15551	25.9	38	-N		C	0711	131	1.6	EJ	Y5
275 ABST	23	0802	0805	0810D	N33	W52	.815	15543	19.4	8D	?N		P	0805	131	2.2	EJ	Y5
	IMP.1 NO. MEUD1																	
276 KANZ	23	0907		0914D	N33	W52	.815	15543	19.5	7D	-F		C					Y5
GRP69277	23	0944+3	1000>9 1207	1215	N35	W50	.805	15543	19.7	151	3B						FLU	
MEUD	23	0944	1015	1200	N35	W47	.781	15543	19.9	136	3B		C	1015	120		U	
TEHR	23	0947	1000	1030D	N35	W50	.805	15543	19.7	43D	2B	2	V		732		U F	
LOCA	23	1000E	1010	1045D	N34	W50	.802	15543	19.7	45D	4B		S	1010	1834	32.0		
KANZ	23	1139	1207	1225	N35	W57	.858	15543	19.2	46	-N		C					
MCMA	23	1209E		1215D	N35	W50	.805	15543	19.8	6D	1N		C	1209	250	4.3	BLU	
278 KANZ	23	1219	1230	1234D	S15	W38	.690	15555	20.7	15D	-F		C					Y5
279 KANZ	23	1234		1234D	N29	E41	.700	15551	26.6		-B		C					Y5
280 MCMA	23	1401E		1417D	S15	W42	.733	15555	20.4	16D	-N		C	1414	30	.4	E	Y5
	23	1425	1455	NO FLARE PATROL														
	23	1500	1505	NO FLARE PATROL														
	23	1511	1520	NO FLARE PATROL														
	23	1544	1626	NO FLARE PATROL														
	23	1651	1659	NO FLARE PATROL														
	23	2111	2130	NO FLARE PATROL														
281 CULG	23	2130E	2131	2143	N35	W60	.879	15543	19.4	13D	-N		C	2131	50	1.0		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	CMR DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
	SEP																	
GRP69282	24	0045+1	0049+2	0109	S13	E70	.953	15554	29.3	24	-B				50		E	
CULG	24	0045	0051	0120	S15	E70	.955	15554	29.3	35	-B		C	0051	50			
VORO	24	0046	0049	0058	S12	E70	.952	15554	29.3	12	-B		C	0049	54		E	
GRP69283	24	0207+3	0214+3 0230	0247D	N35	W60	.879	15543	19.6	40	1N						U	
CULG	24	0207	0217	0337	N36	W60	.881	15543	19.6	90	2N		C	0217	250	5.7		
VORO	24	0210	0214	0247	N33	W62	.889	15543	19.4	37	1F		C	0214	242	5.1	E	
PALE	24	0210E	0230	0232D	N35	W59	.872	15543	19.7	22D	1B	3	C		173		U F	
VORO	24	0238	0240	0246	N34	W62	.891	15543	19.5	8	1F		C	0240	224	4.7		
284 CULG	24	0216	0241	0251	S14	W01	.359	15549	24.0	35	-N		C	0241	120	1.3		Y5
GRP69285	24	0348	0410 0418	0502	N26	E02	.327	15546	24.3	74	-N						FS	
CULG	24	0348	0418	0502	N28	E04	.364	15546	24.5	74	-N		P	0418	100	1.1	S	
MANI	24	0408E	0410U	0423D	N25	E00	.309	15546	24.2	15D	-N	3	V		100	1.0	F	
GRP69286	24	0623E	0629+1	0705	N35	W62	.892	15543	19.6	42	2N						FJ	
CULG	24	0623E	0629	0650D	N36	W62	.894	15543	19.6	27D	2B		P	0629	260	5.8	J	
MANI	24	0625E	0630	0648D	N35	W60	.879	15543	19.8	23D	-N	3	V		90	1.7	F	
TACH	24	0630E		0705	N35	W62	.892	15543	19.6	35D	3F		V	0633	742		CJ	
287 CULG	24	0647E	0648	0650D	S14	E65	.926	15554	29.2	3D	-N		P	0648	50			Y5
288 KHAR	24	1057E		1116D	N23	W01	.276	15546	24.4	19D	-N		V	1100			DL	Y5
289 KHAR	24	1122E		1127D	N22	W04	.267	15546	24.2	5D	-F		V	1122			DL	Y5
290 MCMA	24	1152E		1200	N34	W68	.926	15543	19.4	8D	-F		C	1154	50	1.4	E	Y5
291 MCMA	24	1204	1206	1215	S14	E64	.920	15554	29.3	11	-F		C	1206	50	1.2	E	Y5
292 MCMA	24	1218	1220	1300	S14	W04	.364	15549	24.2	42	-N		C	1220	80	.9	E	Y5
293 MCMA	24	1242	1252	1322	N34	W70	.937	15543	19.3	40	-F		C	1252	30	.9	E	Y5
294 KANZ	24	1509	1513	1517	N28	E16	.437	15551	25.8	8	-F		C					Y5
295 MCMA	24	1559	1603	1609	S15	W55	.855	15555	20.5	10	-F		C	1603	35	.7	EH	Y5
296 MCMA	24	1603	1604	1607	N38	W56	.859	15543	20.5	4	-N		C	1604	30	.6	D	Y5
297 MCMA	24	1701	1702	1706	S15	W55	.855	15555	20.6	5	-F		C	1702	25	.5	D	Y5
298 MCMA	24	1720	1727	1753D	N25	W07	.329	15546	24.2	33D	1B		C	1727	250	2.7	EU	Y5
	24	1753	1755	NO FLARE PATROL														
299 PALE	24	1755E	1758	1837D	N25	W09	.341	15546	24.1	42D	-N	3	C		128		U F	Y5
	24	1812	1836	NO FLARE PATROL														
	24	2103	2112	NO FLARE PATROL														
GRP69300	24	2110+2	2127	2251	S20	W43	.768	15542	21.7	101	-B				110	1.7	J	
CULG	24	2110E	2127	2250	S20	W43	.768	15542	21.7	100D	-B		C	2127	90	1.4		
PALE	24	2112	2121U	2121D	S22	W43	.779	15542	21.7	9D	-B	3	C		127		FDE	
VORO	24	2225E		2251	S20	W43	.768	15542	21.7	26D	-N		C	2226	99	1.5	DJ	
	24	2131	2148	NO FLARE PATROL														
	24	2149	2159	NO FLARE PATROL														
GRP69301	24	2357+3	0000+2	0009	S14	W11	.401	15549	24.2	12	-N				60	.7		
VORO	25	0000	0002	0009	S15	W11	.415	15549	24.2	9	-N		C	0002	81	.8	E	
CULG	24	2357	2400	0005D	S13	W12	.395	15549	24.1	8D	-N		P	2400	40	.4	F	
302 CULG	25	0215	0249	0315	S20	E47	.804	15556	28.6	60	-F		C	0249	10	.2		Y5
GRP69303	25	0304	0306 0320	0332D	S22	W45	.796	15542	21.8	28	-F						E	
MITK	25	0304	0306	0330D	S23	W45	.801	15542	21.8	26D	-F		C	0306			E	
CULG	25	0306E	0320	0332D	S21	W46	.800	15542	21.7	26D	-F		P	0320	80	1.4		
304 HURB	25	1327E	1333	1349D	N35	W45	.765	0	22.2	22D	-N		V					Y5
	25	1748	1752	NO FLARE PATROL														

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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.		
	SEP																	
305 MCMA	25	1807E		1810D	N15	W55	.814	15547	21.6	30	-F		C	1809	30	.5	E	Y5
306 MCMA	25	2022	2024	2030D	S13	E45	.754	15554	29.2	80	-N		C	2024	25	.4	E	Y5
307 VORO	26	0108	0112	0118	N33	W90	.998	15543	19.3	10	-N		C	0112	36			Y5
GRP69308	26	0725+1	0727+0	0737	S15	W75	.976	15555	20.7	12	-F				40		D	
HTPR	26	0725	0727	0736	S15	W70	.955	15555	21.1	11	-F		C	0727	40	.9		
MONT	26	0726	0727	0737	S15	W80	.991	15555	20.3	11	-F		C	0727	40		D	
GRP69309	26	0737+3	0743+1 0752	0810	N14	W59	.851	15547	21.9	33	1N				180	3.5	F	
KANZ	26	0737	0744	0815	N16	W59	.851	15547	21.9	38	1B		C					
MONT	26	0737	0743	0804	N14	W59	.851	15547	21.9	27	-N		C	0743	180			
HTPR	26	0739	0744	0810	N14	W61	.868	15547	21.7	31	1B		C	0740	140	2.8	E	
BUCA	26	0740		0815	N15	W60	.860	15547	21.8	35	1N		C	0743	214	4.2		
ISTA	26	0740		0756	N15	W58	.842	15547	22.0	16	-N						F	
TEHR	26	0746E	0752	0753D	N14	W58	.842	15547	22.0	7D	1B	2	C		222		F	
310 HTPR	26	0758	0800	0805	S12	E40	.695	15554	29.3	7	-F		C	0800	20	.3		Y5
GRP69311	26	0930+3	0936+1	1010	N20	W17	.359	15560	25.1	40	-N				70	.8	E	
HTPR	26	0930	0936	1010	N19	W18	.363	15560	25.0	40	-N		C	0936	70	.7	E	
KANZ	26	0932	0937	1010	N20	W17	.359	15560	25.1	38	-N		C					
MONT	26	0933	0936	0958	N20	W16	.347	15560	25.2	25	-N		C	0936	80			
WEND	26	0946E		1015	N20	W17	.359	15560	25.1	29D	1N		V		300	3.4	E	
GRP69312	26	1108+5	1114+7	1137	S18	W31	.636	15549	24.1	29	-N						E	
HTPR	26	1108	1114	1135	S19	W31	.644	15549	24.1	27	-N		C	1114	50	.6	E	
ZURI	26	1113	1121	1137	S18	W32	.646	15549	24.1	24	-F		C	1121	140	2.0		
KANZ	26	1113	1118	1148	S16	W31	.620	15549	24.1	35	-N		C					
313 KHAR	26	1226	1227	1238D	S19	W34	.674	15549	24.0	12D	-F		V	1226			E	Y5
GRP69314	26	1228	1243	1303	N35	W89	.997	15543	19.8	35	-F						H	
KANZ	26	1228	1243	1303	N37	W90	.997	15543	19.8	35	-F		C					
KHAR	26	1245E		1255D	N34	W88	.995	15543	19.9	10D	1F		V	1245			H	
315 KANZ	26	1344	1349	1407	N31	W04	.412	15551	26.3	23	-F		C					Y5
316 KANZ	26	1407	1407	1441	S17	W34	.659	15549	24.0	34	-F		C					Y5
317 HUAN	26	1914		1923	S20	W35	.691	15549	24.2	9	-F	1	C					Y5
	26	2000	2005	NO FLARE PATROL														
318 PALE	26	2010	2010	2012	S19	W38	.714	15549	24.0	2	-N	3	C		19		DE	Y5
319 MCMA	26	2015E	2028	2101D	N31	W08	.426	15551	26.2	46D	-N		C	2028	50	.6	EKW	Y5
	26	2101	2210	NO FLARE PATROL														
	26	0241	0242	NO FLARE PATROL														
320 VORO	26	2217E		2250	N28	W07	.376	15551	26.4	33D	1N		C	2228	251	2.7	EJ	Y5
GRP69321	27	0725		0836	S18	W80	.992	15542	21.3	71	1F						D	
BUCA	27	0725		0836	S20	W80	.993	15542	21.3	71	1F		C	0741	161			
KHAR	27	0810E		0835D	S17	W80	.992	15542	21.3	25D	1F		P	0815	100		D	
GRP69322	27	0742E	0746	0756	N14	W70	.934	15547	22.1	14	?N						E	
TACH	27	0742E		0756	N15	W72	.945	15547	21.9	14D	F		V	0742	421		E	
	IMP.2 IMP.S																	
TEHR	27	0743E	0746	0754D	N14	W69	.927	15547	22.1	11D	-B	2	C		127			
GRP69323	27	0818+7	0830+9 0849	0912	N30	W16	.463	15551	26.1	54	1N				250	2.8	EHJ	
KHAR	27	0818E	0833	0926D	N28	W16	.438	15551	26.1	68D	1N		P	0835	440	5.1	EH	
HTPR	27	0818	0835	0905	N29	W15	.442	15551	26.2	47	-B		C	0835	180	2.0	E	
ISTA	27	0820		0853	N30	W16	.463	15551	26.1	33	-N			0832			F	
MONT	27	0823	0830	0935	N30	W14	.448	15551	26.3	72	1N		C	0830	250			
BUCA	27	0825		0922	N30	W18	.479	15551	26.0	57	1B		C	0841	322	3.7		
TEHR	27	0835E	0839	0903	N30	W17	.471	15551	26.1	28D	-B	2	C		159		F	
ABST	27	0847E	0849	0905	N30	W15	.455	15551	26.2	18D	-N		P	0849	174	1.9	EJ	
324 HTPR	27	1202	1207	1220	S31	E90	1.002	15564	4.3	18	-N		C	1207	50		A	Y5
325 MCMA	27	1328	1330	1340	S13	E23	.505	15554	29.3	12	-F		C	1330	30	.4	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			COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
	SEP									MIN.								
GRP69326	27	1428+4	1442+3	1546	N27	W19	.454	15551	26.2	78	2B				650	7.3	LUVY	
MCMA	27	1428	1445	1704D	N27	W20	.464	15551	26.1	156D	2B		C	1445	750	9.1	YFLUV	
HTPR	27	1432	1442	1546	N27	W19	.454	15551	26.2	74	2B		C	1442	550	6.3	E	
HUAN	27	1451E		1516D	N22	W18	.391	15551	26.3	25D	1N	1	P	1456	280	3.2	U	
HERS	27	1456E	1456	1524	N29	W21	.495	15551	26.0	28D	1B		P	1508	161	3.3	U	
GRP69327	27	1700+4	1705+2 1727+0	1825	N30	W20	.497	15551	26.2	85	1B						EKU	
PALE	27	1700E	1727	1825	N30	W21	.506	15551	26.1	85D	2B	3	C		602		U F	
PALE	27	1700E	1705	1825	N30	W21	.506	15551	26.1	85D	1N	3	C		215		U F	
MCMA	27	1704	1727	1734D	N30	W20	.497	15551	26.2	30D	1B		P	1707	170	2.0	EK	
MCMA	27	1704	1707	1734D	N30	W20	.497	15551	26.2	30D	1B							
HUAN	27	1719E		1740D	N29	W20	.486	15551	26.2	21D	1N	2	P	1726	210	2.5	E	
328 PALE	27	1813	1814	1824	N39	E54	.849	15557	1.8	11.	-N	3	C		36		UDE	Y5
329 PALE	27	1843	1844	1905	N28	W22	.495	15551	26.1	22	-B	3	C		48		FDE	Y5
	27	2123	2125	NO FLARE PATROL														
	27	2132	2158	NO FLARE PATROL														
	27	2211	2236	NO FLARE PATROL														
	27	2338	0249	NO FLARE PATROL														
330 TEHR	28	0400	0404	0435	N39	E48	.806	15557	1.8	35	-B	2	C		127		F	Y5
331 ABST	28	0744	0751	0803	N21	W44	.705	15560	25.0	19	-F		C	0751	96	1.4	D	Y5
332 ABST	28	1040	1043	1050	N21	W44	.705	15560	25.1	10	1F		C	1043	174	2.6	DJ	Y5
333 MCMA	28	1402E		1402D	N29	W39	.680	15551	25.7		-N		P	1402	50	.7	D	Y5
	28	1405	1406	NO FLARE PATROL														
	28	1450	1451	NO FLARE PATROL														
	28	1520	1522	NO FLARE PATROL														
GRP69334	28	1810+1	1811+2	1823	N28	W34	.622	15551	26.2	13	-F				30	.4		
MCMA	28	1810	1813	1821	N27	W36	.638	15551	26.1	11	-F		C	1813	40	.5	E	
PALE	28	1811	1811U	1824	N30	W32	.615	15551	26.4	13	-N	3	C		21		FDE	
GRP69335	28	1831>9	1849+3	1858	N39	E37	.722	15557	.5	27	-N				60	.9		
PALE	28	1831	1849	1857	N39	E39	.738	15557	1.7	26	-N	3	C		66		FDE	
HOLL	28	1841	1852	1858	N40	E35	.714	15557	1.4	17	-N	3	C		42			
MCMA	28	1847E		1852D	N36	E37	.702	15557	1.6	5D	-F		P	1847	70	1.0	E	
336 MCMA	28	2052E		2100D	N36	E36	.694	15557	1.6	8D	-F		P	2058	70	1.0	E	Y5
337 CULG	28	2139U	2154U	2233U	S15	W70	.955	15549	23.7	54D	-F		C	2154	60		T	Y5
GRP69338	28	2209+4	2220+3	2247	N37	E34	.684	15557	.5	38	-F				60	.8		
HOLL	28	2209	2223	2233	N40	E33	.695	15557	1.4	24	-N	3	C		48			
CULG	28	2213	2220	2300	N35	E35	.678	15557	1.6	47	-F		P	2220	70	1.0		
339 CULG	28	2316	2323	2331D	S32	E58	.924	15564	3.3	15D	-N		P	2323	30			Y5
340 CULG	29	0200	0216	0243	S13	W80	.990	15549	23.1	43	-F		C	0216	50		T	Y5
341 VORO	29	0211	0213	0218	N37	E34	.685	15557	1.6	7	-N		C	0213	143	1.9	J	Y5
342 CULG	29	0317	0352U	0443D	S13	W80	.990	15549	23.1	86D	-F		C	0352	40		T	Y5
343 CULG	29	0426	0429	0443D	N36	E33	.669	15557	1.7	17D	-N		P	0429	100	1.3		Y5
344 TEHR	29	0450	0456	0504	N39	E37	.723	15557	2.0	14	-B	2	C		127			Y5
345 ABST	29	0632	0634	0640	N37	E33	.676	15557	1.7	8	-N		C	0634	131	1.7	EJ	Y5
GRP69346	29	0942+8	0954+3	1010	N31	W40	.701	15551	26.4	28	1N						EHJU	
KHAR	29	0942E	0957	1020D	N32	W41	.716	15551	26.3	38D	1N		P	0950	330	5.0	EH	
HTPR	29	0943	0954	1008	N29	W40	.691	15551	26.4	25	-N		C	0954	160	2.0	E	
KANZ	29	0944	0955	1009	N32	W40	.706	15551	26.4	25	1B		C				UF	
ABST	29	0945	0954	1010	N30	W43	.725	15551	26.2	25	1N		C	0954	174	2.5	EJ	
TEHR	29	0950	0954	1005	N29	W38	.671	15551	26.6	15	-B	2	C		159		F U	
ATHN	29	0954E	0954D	1002	N32	W38	.687	15551	26.6	8D	-N	2		0954	66	.8		
ZURI	29	0958E	0958	1024	N31	W40	.701	15551	26.4	26D	1B		P	0958	350	5.0		

Hα SOLAR FLARES

SEPTEMBER 1978

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
					APPROX												
	DATE	START	MAX. PHASE	END	LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	SEP																
GRP69347	29	1046+3	1054+5 1121	1244	S31	E55	.904	15564	2.6	118	1N						EKO
KANZ	29	1046	1057	1308	S31	E55	.904	15564	3.6	142	1B		C				
HTPR	29	1046	1059	1215	S31	E61	.936	15564	4.0	89	1N		C	1059	140	2.8	EK
ZURI	29	1047	1121	1155D	S30	E54	.895	15564	3.5	68D	2N		P	1121	370	9.0	
TEHR	29	1049	1054	1227	S32	E50	.878	15564	3.2	98	1B	2	C		254		F
KHAR	29	1115E		1236D	S32	E55	.908	15564	3.6	81D	2N		P	1120	440	11.2	EO
MCMA	29	1217E		1405	S33	E56	.916	15564	3.7	108D	1N		P	1228	150	3.8	E
GRP69348	29	1333+3	1335+2 1345	1355	N37	E27	.628	15557	.6	22	-N				80	1.0	W
ZURI	29	1333	1337	1349	N38	E27	.638	15557	1.6	16	-F		C	1337	100	1.3	
HTPR	29	1334	1335	1350	N37	E27	.628	15557	1.6	16	-F		C	1335	30	.4	E
MCMA	29	1334	1335	1412	N37	E27	.628	15557	1.6	38	-N		C	1335	80	1.1	EFW
KANZ	29	1334	1345	1359	N35	E25	.593	15557	1.4	25	-N		C				
RAMY	29	1336	1337	1355	N38	E30	.661	15557	1.8	19	-B	4	C		75		F
GRP69349	29	1341+0	1341+1	1351	N29	W43	.721	15551	26.3	10	-F						
KANZ	29	1341	1341	1355	N30	W43	.725	15551	26.3	14	-F		C				
RAMY	29	1341	1342	1347	N28	W44	.727	15551	26.3	6	-N	4	C		23		
GRP69350	29	1341+2	1345+0	1400	S11	E79	.987	15570	4.5	19	-F						E
KANZ	29	1341	1345	1359	S11	E74	.969	15570	5.1	18	-F	*	C				
MCMA	29	1341	1345	1400	S14	E82	.994	15570	5.7	19	-F	*	C	1345			E
ZURI	29	1343	1345	1355D	S11	E79	.987	15570	5.5	12D	1N	*	P	1345	80		
GRP69351	29	1502+2	1504+2	1512	N39	E29	.662	15557	.8	10	-B				50	.7	
HTPR	29	1502	1504	1512	N39	E31	.677	15557	2.0	10	-N		C	1504	50	.7	E
RAMY	29	1503	1506	1517	N38	E29	.653	15557	1.8	14	-B	3	C		63		F
HOLL	29	1504	1506	1511	N40	E24	.637	15557	1.4	7	-B	3	C		35		
GRP69352	29	1656+4	1704+3 1743+0	1751	N37	E22	.591	15557	.4	55	-B				90	1.1	E
RAMY	29	1656	1704	1807	N38	E28	.645	15557	1.8	71	-B	3	C		40		
RAMY	29	1656	1743	1807	N38	E28	.645	15557	1.8	71	-F	3	C		90		
HOLL	29	1700	1707	1714	N40	E23	.630	15557	1.4	14	-N	3	C		30		
MCMA	29	1715E		1751D	N36	E21	.573	15557	1.3	36D	-N		C	1745	120	1.5	E
HUAN	29	1718		1727	N35	E16	.527	15557	30.9	9	-F	1	C				
HOLL	29	1741	1743	1751	N40	E23	.630	15557	1.5	10	-B	3	C		62		
353 HOLL	29	1754	1756	1802	N40	E23	.630	15557	1.5	8	-B	3	C		43		H Y5
	29	2004	2011	NO FLARE PATROL													
	29	2033	2035	NO FLARE PATROL													
	29	2054	2059	NO FLARE PATROL													
GRP69354	29	2128+0	2130+0	2137	N39	E23	.619	15557	.6	9	-N				45	.6	F
RAMY	29	2128	2130	2137	N38	E26	.630	15557	1.8	9	-N	2	C		47		
HOLL	29	2128	2130	2136	N40	E21	.618	15557	1.5	8	-N	3	C		43		F
GRP69355	29	2201+2	2205+1	2234	N37	E21	.584	15557	.5	33	-N				140	1.7	F
HOLL	29	2201	2205	2235	N40	E21	.618	15557	1.5	34	-B	3	C		156		F
CULG	29	2203	2206	2232	N35	E21	.562	15557	1.5	29	-N		C	2206	130	1.6	
356 VORO	30	0252	0254	0258	N28	W52	.804	15551	26.2	6	-F		C	0254	45	.7	D Y5
357 HTPR	30	0804	0807	0813	N32	W58	.861	15551	26.0	9	-N		C	0807	30	.6	E Y5
358 HTPR	30	0840	0840	0845	N28	W57	.846	15551	26.1	5	-F		C	0840	20	.4	Y5
359 HTPR	30	1010	1012	1018	N28	W56	.838	15551	26.2	8	-F		C	1012	20	.4	E Y5
360 HTPR	30	1058	1106	1125	S16	E66	.935	15570	5.4	27	-F		C	1106	80	1.9	EK Y5
GRP69361	30	1503+1	1507	1516	S16	E70	.956	15570	4.9	13	-F						F
RAMY	30	1503	1507	1510	S17	E67	.942	15570	5.7	7	-N	2	C		39		F
HUAN	30	1504		1521	S16	E74	.973	15570	6.2	17	-F	1	C				
362 HOLL	30	1519	1520	1523	N17	E70	.933	15569	5.9	4	-F	4	C		14		Y5
363 RAMY	30	1522	1524U	1526	S10	W90	1.000	15549	23.9	4	-B	3	C				Y5
364 HUAN	30	1626E		1630D	S08	E67	.930	15570	5.7	4D	-F	1	P	1628	20		D Y5
365 RAMY	30	1714	1716	1730	S38	E64	.963	0	5.5	16	-F	3	C				F S Y5
366 CULG	30 IMP.1	2326 NO	2338 HOLL1	0012	S15	E59	.886	15570	5.4	46	?F		C	2338	100	2.3	Y5

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

SEPTEMBER 1978

DAILY FLARE INDICES
Includes all Flares

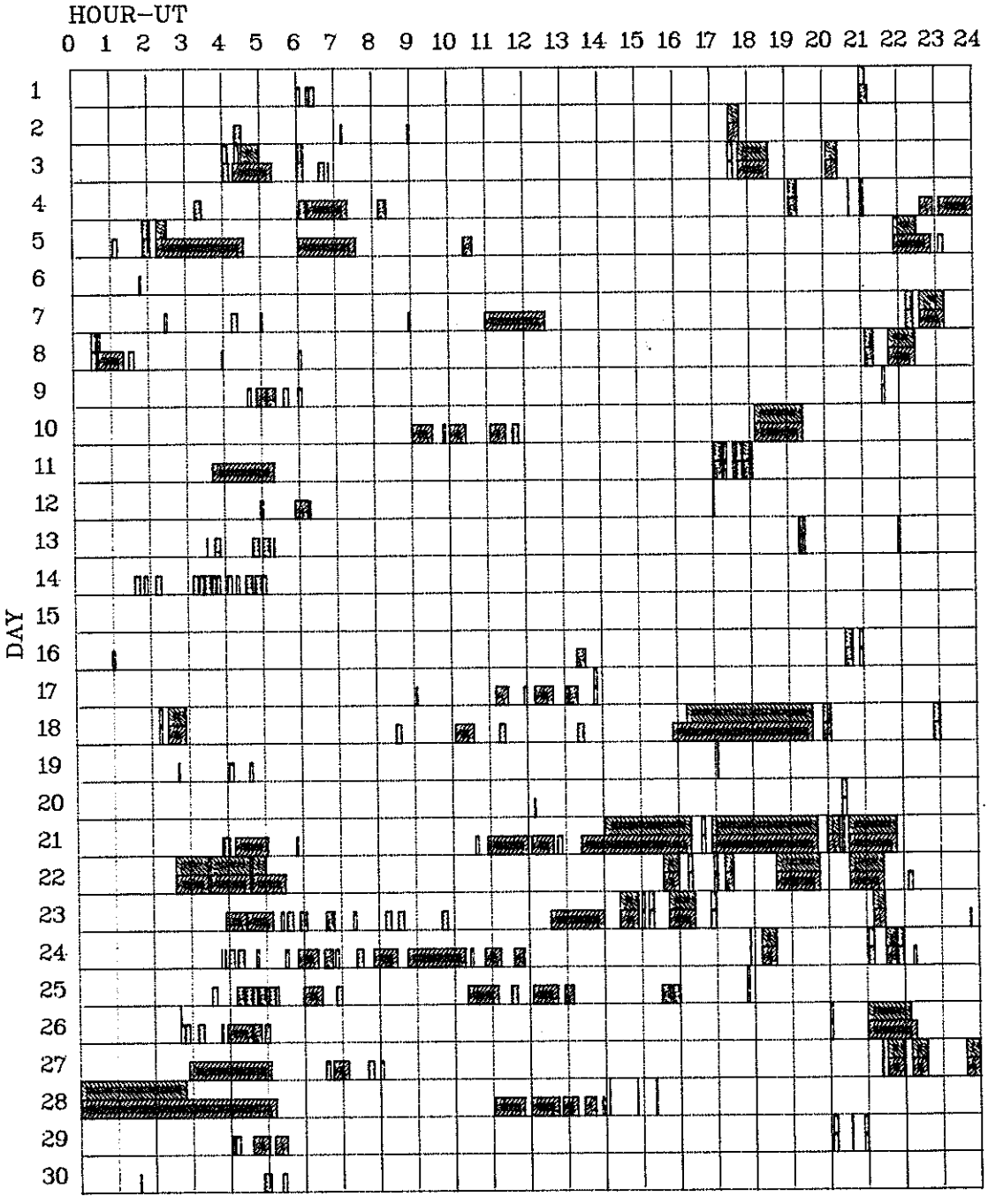
Date	Flare Index	HR. OBS	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
780901	102.47	23.9	780911	10.89	23.2	780921	73.55	17.1
780902	175.82	23.7	780912	22.01	24.0	780922	73.96	18.7
780903	86.89	21.9	780913	15.85	23.8	780923	2348.62	22.1
780904	189.97	23.7	780914	27.08	24.0	780924	171.74	23.0
780905	119.57	22.9	780915	45.42	24.0	780925	9.50	23.9
780906	78.70	24.0	780916	552.42	23.7	780926	73.02	22.8
780907	40.23	23.1	780917	369.76	23.9	780927	330.46	19.9
780908	53.60	22.9	780918	59.46	19.7	780928	23.91	23.9
780909	15.68	23.9	780919	77.35	24.0	780929	49.52	23.8
780910	136.57	22.7	780920	50.19	23.9	780930	11.61	24.0

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

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1978



Observatories included in total patrol:

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

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

SEPTEMBER 1978

SEP 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	200	GORK	43 NS	0300 E		420		5		
	100	GORK	43 NS	0656		184		5		
	260	ONDR	44 NS	0730 E		475 D	13			
	245	SGMR	44 NS	1030 E	1749.5	570 D	67.5			3,5,CONT
	410	SGMR	44 NS	1030 E	1438.5	570 D	99.5			3,5,CONT
	237	TRST	41 F	0622.8	0622.9	.1	165			0
	536	ONDR	3 S	0819.1	0819.1	.2	15			
	1420	ARCE	4 S/F	0830.8	0831.6	1.7				
	1470	BERL	4 S/F	0831	0831.9	1.5	17			
	650	GORK	41 F	0831	0834.6	8	10			
	650	GORK		0831	0838.6		8			
	950	GORK	6 S	0831.5	0831.9	1.1	14	7		
	808	ONDR	42 SER	0831	0933.7	74	75			
	1420	ARCE	1 S	0834.6	0834.8	.5				
	9100	ARCE	40 F	0922.9	0923	4				
	536	ONDR	8 S	0933.6	0933.6	.2	50			
	33	UPIC	2 S/F	1026.3	1026.7	.8				
	29	UPIC	3 S	1026.4	1026.8	.6				
	9400	HUAN	S	1136.4	1140.5	12.1	8.2	3.7		0
	3100	CRIM	1 S	1235	1235.5	2	8	3		
	2800	OTTA	23 GRF	1235	1630	505	8.2	4.4		
	1415	SGMR	1 S	1240.3	1242.5	4.7	2.9	.9		
	1420	ARCE	2 S/F	1240.7	1242.3	5				
	2695	SGMR	1 S	1241.6	1242.6	3.1	6.7	2		
	2800	OTTA	2 S/F	1241.8	1242.4	3	6.4	3		
	4995	SGMR	1 S	1242	1242.4	2.9	7.6	2.3		
	3100	CRIM	1 S	1242	1242.5	5	13	4		
	9400	HUAN	S	1242	1251.4	16.7	6.6	3.3		L
	9100	ARCE	20 GRF	1242.1	1243	17				
	8900	BERN	3	1309.2	1311.3	66	21			
	10400	BERN	3	1309.2	1311.3	66	21			
	8400	BERN	3	1309.2	1311.3	66	21			
	9500	BERL	3 S	1310	1311	2.5	18			
	9400	HUAN	S	1310	1311.2	1.8	21.3	9.6		L
	9100	ARCE	4 S/F	1310.2	1311.6	3				
	2800	OTTA	1 S	1311	1311.3	1	2.6	1.6		
	15900	KISV	40 F	1320	1321	6	16			
	2800	OTTA	1 S	1429.5	1430.1	1	2.2	1		
	2800	OTTA	1 S	1437.8	1438.2	1	1.8	.9		
	9400	HUAN	S	1439.6	1444.3	19.1	8.2	2.6		0
	9400	HUAN	S	1627.8	1645.3	33.8	6.6	2.1		0
	9400	HUAN	F	1710	1711.5	4.4	32.8	16.2		L
	8400	BERN	46	1710.6	1711.5	7	33			
	10400	BERN	46	1710.6	1711.5	7	24			
	8900	BERN	46	1710.6	1711.5	7	30			
	1415	SGMR	3 S	1710.7	1713.2	4.9	52.3	15.7		
	15400	SGMR	3 S	1710.8	1711.5	3	24.5	7.3		
	2800	OTTA	4 S/F	1710.8	1712	5.5	28.8	12.6		
	606	SGMR	1 S	1711.7	1713.2	3.7	6.3	1.9		
	9400	HUAN	S	1821.2	1903.	74.6	9.8	3.8		0
	4995	SGMR	3 S	1835.2	1835.7	1.7	13.3	4		CONT
	2800	OTTA	3 S	1835.2	1835.5	1	20.8	7		
	245	SGMR	6 S	1835.5	1836	1.5	63.6	19.1		CONT
	1415	SGMR	3 S	1835.6	1835.9	1.4	12.7	3.8		CONT
	606	SGMR	3 S	1835.7	1835.8	.6	36.3	10.9		CONT
	2695	SGMR	3 S	1835.7	1835.8	1.3	14.4	4.3		CONT
	410	SGMR	6 S	1835.8	1836	1	124	37.2		CONT
	1420	BOUL	1 S	1835	1835.5	1	8	3		
	2695	PENT	8 S	2013.7	2013.7	.1E	2.6			
	1420	BOUL	40 F	2112.5U	2142.5	57.5U	6	2		
	2800	OTTA	240 R	2145	2202	17	3	1.6		
	9400	HUAN	C	2221.3	2225	6.2	64	27.9		L
	4995	BOUL	2 SF	2221	2224	6.5	44	15		
	2800	OTTA	4 S/F	2222.8	2225	5	12.4	5.6		
	4995	MANI	3 S	2223.5	2225.3	3	72.7	24.2		
	2695	MANI	3 S	2223.5	2225.3	3	8.3	3.2		
	8800	MANI	3 S	2224.3	2225	2.2	41.4	13.8		
2	5730	IRKU	2 S	0337.8	0338.2	8	13	4		L
	200	GORK	44 NS	0357 E		360		5		
	100	GORK	44 NS	0357 E		207		15		
	260	ONDR	44 NS	0704 E		476 D	94			
	100	GORK	43 NS	0802		118		10		
	245	SGMR	44 NS	1030 E	1451.1	570 D	336			SHF
	410	SGMR	44 NS	1030 E	1528.7	570 D	71.6			3S,4,CONT,
	9100	GORK	21 GRF	0527		27		24		
	3100	CRIM	1 S	0528.5	0530	6	12	4		
	8900	BERN	3	0541.4	0542.1	75	34			
	8900	BERN	4	0541.4	0552.8	75	695			
	8400	BERN	3	0541.4	542.1	75	38			
	8400	BERN	4	0541.4	552.8	75	750			
	10400	BERN	3	0541.4	542.1	75	42			
	10400	BERN	4	0541.4	552.8	75	680			
	9100	GORK	3 S	0542	0542.2	.4	50	25		

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SEP 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
	15000	KISV	8	S	0546	0547	2	35			
	950	GORK	40	F	0546.8	0603.5	42	41			
	950	GORK			0546.8	0620		18.5			
	950	GORK			0546.8	0616.7		20			
	950	GORK			0546.8	0605.5		21			
	3100	CRIM	29	PBI	0548.5	0559	181	22	7		
	3100	CRIM	47	GB	0548.5	0552 U	11	66 D	22		
	5730	IRKU			0548	0553.1	12	388			L
	2695	MANI	4	S/F	0549.4	0553.9	9.6	105.4	35.1		
	2950	GORK	3	S	0550	0553 U	7	127			
	2950	GORK	29	PBI	0550	0557	30	19	7		
	9100	GORK	3	S	0550.4	0553	6.6	2800			
	8800	MANI	47	GB	0550.5	0553.1	16.8	790	263.9		
	4995	MANI	3	S	0550.7	0553.2	7.5	345.4	115.1		
	35000	NAGO	5	S	0551	0552.5	4	44			
	15000	KISV	8	S	0555	0558	25	113			
	35000	NAGO	29	PBI	0555	0558	65	22			
	930	BORD	40	F	0558 E	0603.3	59	50	7		SUNRISE
	650	GORK	40	F	0602.1	0603.4	5.5	8.5			
	1415	MANI	3	S	0603.3	0603.6	.8	27.9	9.3		
	606	MANI	2	S/F	0603.3	0603.5	.5	9.9	3.3		
	650	GORK	2	SF	0616.3	0619.6	3.3	6.5	2		
	8900	BERN	45		0811.4	0822.1	28	15			
	8900	BERN	45		0811.4	0835.1	28	13			
	8400	BERN	45		0811.4	812.9	28	15			
	10400	BERN	45		0811.4	812.9	28	12			
	8400	BERN	45		0811.4	812.9	28	13			
	10400	BERN	45		0811.4	835.1	28	13			
	8400	BERN	45		0811.4	835.1	28	12			
	10400	BERN	45		0811.4	822.1	28	14			
	8400	BERN	45		0811.4	822.1	28	17			
	9100	ARCE	21	GRF	0811.8	0813.4	20.				
	9100	GORK	21	GRF	0812	0813.4	24	13	6.5		
	9500	BERL	3	S	0822	0822.7	3	13			
	9100	ARCE	3	S	0822.4	0823	2				
	3000	BERL	3	S	0822.5	0822.8	4.5	7.4			
	9100	GORK	1	S	0822.5	0822.9	.8	21	10.5		
	3100	CRIM	1	S	0822.5	0823	3	6	2		
	15000	KISV	45	C	0825.5	0826	4	12			
	1420	ARCE	40	F	0831.8	0833.1	3.5				
	930	BORD	46	C	0832	0834	4	208	6		
	808	ONDR	4	S/F	0832	0834.1	4	75	7.5		
	9100	ARCE	2	S/F	0834.9	0835.1	1				
	9100	GORK	1	S	0834.9	0835	.4	14	7		
	9100	GORK	20	GRF	0853.2	0855.1	10.7	11	7		
	1420	ARCE	25	R	0905.9		70.5				
	29	UPIC	45	C	0905.9	0906.6	6.2				
	33	UPIC	45	C	0906.2	0906.2	4.8				
	930	BORD	41	F	0906	0908.4	3	54	2		
	408	TRST	7	C	0932.6	0932.6	.1	310			
	9100	ARCE	1	S	1008.8	1009.1	.7				
	1420	ARCE	1	S	1009.4	1009.5	.5				
	33	UPIC	42	SER	1026.6	1037.6	27.1				
	29	UPIC	42	SER	1026.6	1038	26.9				
	10400	BERN	8		1050.9	1053.5U	6 U	11 U			
	8400	BERN	8		1050.9	1053.5	6	27			
	8900	BERN	8		1050.9	1053.5	6	23			
	9100	ARCE	21	GRF	1051	1057.1	97				
	9100	ARCE	3	S	1053	1053.6	3.2				
	33	UPIC	40	F	1114.9	1146.4	113.8				
	29	UPIC	40	F	1117	1146.7	111.4				
	1470	BERL	20	GRF	1120	1130	21	2.4			
	3000	BERL	20	GRF	1125	1140	37	11			
	9500	BERL	20	GRF	1125	1133	46	22			
	8900	BERN	22		1126	1133.7	73	44			
	10400	BERN	22		1126	1133.7	73	21			
	8400	BERN	22		1126	1133.7	73	44			
	9100	ARCE	20	GRF	1128	1135	32				
	2800	OTTA	20	GRF	1130	1136	75	6.4	3.2		
	1470	BERL	4	SF	1251.8	1252.5	3.2	16			
	3000	BERL	3	S	1251.8	1252.5	1.4	65			
	9500	BERL	1	S	1252.5	1252.9	.8	9.6			
	1420	ARCE	4	S/F	1252.6	1253.1	2.5				
	8900	BERN	3		1252.6	1254	2.5	18			
	10400	BERN	3		1252.6	1254	2.5	15			
	8400	BERN	3		1252.6	1254	2.5	18			
	2800	OTTA	4	S/F	1252.7	1253.5	1.5	60	25		
	1415	SGMR	3	S	1252.8	1253.3	4.1	35.3	14.1		CONT
	3000	BERL	21	GRF	1252	1506	143 D	11			
	9500	BERL	21	GRF	1252	1433	143 D	25			
	2695	SGMR	3	S	1253	1253.8	4	41.5	16.6		CONT
	4995	SGMR	3	S	1253	1253.7	4	16.2	6.5		CONT
	606	SGMR	3	S	1253.2	1254	1.6	71.8	28.7		CONT
	9100	ARCE	1	S	1253.6	1253.9	.9				
	2650	OWIN	45	C	1253	1253.5	1	80	20		

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SEP 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
	2800	OTTA	29	PBI	1254.2	1254.2	7	3.2	1.8		
	9500	BERL			1306.4	1309.2	3.6	19			
	9400	HUAN		F	1306.8	1310.2	6.2	16.6	6.4		L
	10400	BERN	3		1307	1308.1	8.5	17			
	8400	BERN	3		1307	1308.1	8.5	16			
	10400	BERN	3		1307	1310.2	8.5	18			
	8400	BERN	3		1307	1310.2	8.5	21			
	8900	BERN	3		1307	1310.2	8.5	15			
	8900	BERN	3		1307	1308.1	8.5	14			
	9100	ARCE	40	F	1307.4	1335.8	37				
	2800	OTTA	1	S	1307	1308	2	2.4	1.2		
	3000	BERL	3	S	1308.6	1309.2	1.4	13			
	2800	OTTA	1	S	1310	1310	1	4.4	2.2		
	10400	BERN	23		1332	1335.1	12	16			
	8400	BERN	23		1332	1335.1	12	16			
	8900	BERN	23		1332	1335.1	12	17			
	3000	BERL	3	S	1332.5	1334	2.5	12			
	9500	BERL	3	S	1333	1334	2	19			
	9400	HUAN		F	1333	1335.2	3.8	11.6	7		L
	2800	OTTA	2	S/F	1334	1335	4	3.8	1.2		
	9400	HUAN		S	1356.8	1450	133.4	24.9	12.7		L
	9100	ARCE	21	GRF	1418	1426.6	97.5				
	8900	BERN	3		1420.4	1423.8	65	50			
	8900	BERN	45		1420.4	1438.5	65	38			
	10400	BERN	45		1420.4	1438.5	65	35			
	8400	BERN	45		1420.4	1438.5	65	43			
	10400	BERN	3		1420.4	1423.8	65	41			
	8400	BERN	3		1420.4	1423.8	65	60			
	4995	BOUL	3	S	1420.5	1423	7	56	19		
	9400	HUAN		S	1420.6	1423.8	4.6	59.8	26.4		L
	9500	BERL	3	S	1421.8	1422.6	2.7	57			
	2800	OTTA	21	GRF	1421		20	3	1.5		
	3000	BERL	3	S	1422	1422.7	2	21			
	9100	ARCE	4	S/F	1422.1	1424	4				
	8800	SGMR	45	C	1422.4	1438.5		65.9			
	8800	SGMR	45	C	1422.4	1423.6	29.6	78.1	31.2		
	4995	SGMR	45	C	1422.4	1423.5	29.6	76.2	30.5		
	4995	SGMR	45	C	1422.4	1438.4		59.5			
	2695	SGMR	20	GRF	1422.5	1423.8	29.5	6.5	2.4		
	2800	OTTA	1	S	1423	1424	3	8.4	4		
	9500	BERL	4	S/F	1436	1437.5	4	51			
	3000	BERL	3	S	1436.5	1437.2	2.5	12			
	9100	ARCE	4	S/F	1436.9	1438.7	7				
	9400	HUAN		S	1437.1	1438.5	6	43.2	15.4		O
	2800	OTTA	21	GRF	1437	1513	80	3.2	1.6		
	2800	OTTA	2	S/F	1438	1438.5	4	3	1.5		
	3000	BERL	3	S	1449	1449.5	1	22			
	1470	BERL	3	S	1449.5	1450	1	6.2			
	2800	OTTA	4	S/F	1450.1	1450.7	1	15.4	7.5		
	1420	ARCE	3	S	1450.3	1450.7	1				
	930	BORC	45	C	1450.6	1450.9	1	15	2		
	237	TRST	41	F	1450.7	1450.9	.6	612			O
	1420	BCUL	1	S	1450	1450.5	1	7	2		
	2800	OTTA	1	S	1500.8	1501	1	2.4	1.2		
	237	TRST	41	F	1500.9	1501.1	.5	510			10R
	1420	ARCE	40	F	1520.3	1521.3	10				
	930	BORC	41	F	1528.3	1528.7	.7	81	4		
	2800	OTTA	8	S	1528.5	1528.7	.5	2	1		
	930	BORD	41	F	1558.7	1558.7	.3	42	2		
	2800	OTTA	20	GRF	1635	1650	80	3.2	2		
	9400	HUAN		S	1807.6	1810.1	5.2	13.3	4.2		L
	2800	OTTA	1	S	1809.2	1810	2	2.4	1.2		
	2800	OTTA	21	GRF	1809	1815	50	3.6	1.8		
	9400	HUAN		S	1837.5	1847	16.7	8.3	3.7		O
	4995	SGMR	3	S	1902.3	1905.8	6.4	45.6	13.7		
	4995	BOUL	4	SF	1902	1905.5	6.5	35	12		
	8800	SGMR	3	S	1904.9	1905.8	3.6	50.2	15.1		
	9400	HUAN		S	1905 E	1905.7U	8	61.4	21.6		L
	2695	SGMR	3	S	1905.2	1906.4	3.8	19.8	5.9		
	15400	SGMR	3	S	1905.5	1905.9	2.2	18.1	5.4		
	1415	SGMR	1	S	1905.6	1905.8	3.4	1.8	.5		
	1420	BOUL	2	SF	1905	1906	2	2	1		
	2800	OTTA	3	S	1905	1906.2	3.5	22.2	7.4		
	2800	OTTA	29	PBI	1908.5	1908.5	11	4.4	2		
	2800	OTTA	21	GRF	1930	2021	110	6.4	3		
	9400	HUAN		S	2006	2007.7	6.1	24.9	7		L
	2800	OTTA	1	S	2007	2008	2	6.4	3		
	1420	BCUL	1	S	2007	2007.5	1	7	2		
	2800	OTTA	3	S	2020	2020.4	1	13	6.5		
	2800	OTTA	20	GRF	2045	2046.7	12	6.4	2.2		
3	100	GORK	44	NS	0400 E		60		5		
	203	GORK	44	NS	0400 E		390		5		
	202	IZMI	43	NS	0500		420	55			
	260	ONOR	44	NS	0700 E		507 D	182	9		

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SEP 1978	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	100	GORK	43	NS	0705		210		5		
	29	UPIC	43	NS	0849.2	1307.2	359.5				
	33	UPIC	43	NS	0849	1306.9	359.7				
	245	SGMR	44	NS	1030 E	1838.7	570 D	621			3G,CONT
	410	SGMR	44	NS	1030 E	1121.7	570 D	59.7			3G,CONT
	8900	BERN	23		0644.1	0650.3	13	11			
	10400	BERN	23		0644.1	650.3	13	10			
	8400	BERN	23		0644.1	650.3	13	16			
	9100	GORK	3	S	0644.4	0650.8	11	21	8		
	5730	IRKU			0644.5	0655.2		5			L
	5730	IRKU			0644.5	0650.5		12			L
	5730	IRKU	1	S	0644.5	0646.9	12	5	4		L
	234	POTS	2	S/F	0710.5	0714.5	8.5	450	5		
	228	HARS	45	C	0713.3	0714.6	2.2	400	100		
	8900	BERN	3		0731.6	0733.6	7	12			
	10400	BERN	3		0731.6	733.6	7	10			
	8400	BERN	3		0731.6	733.6	7	14			
	3000	BERL	1	S	0732	0733	3	5.4			
	1470	BERL	1	S	0732.5	0733	3.5	3.7			
	3100	CRIM	1	S	0732.5	0733	3	9	3		
	5730	IRKU	1	S	0732.8	0733.2	14	11	4		L
	5730	IRKU			0732.8	0737.9		7			L
	9500	BERL	1	S	0733	0733.3	1	6.6			
	2950	GORK	1	S	0733	0733.5	2.6	13	5		
	9100	GORK	3	S	0733	0738.4	12	15	7.5		
	234	POTS	48	C	0824.5	0833	8.9	350			
	8900	BERN	20		0831.2	0844.4	40	6			
	10400	BERN	20		0831.2	844.4	40	9			
	8400	BERN	20		0831.2	844.4	40	6			
	234	POTS	2	S/F	0847.6	0851.4	5	670	50		
	228	HARS	45	C	0851.2	0851.4	1	820	250		
	1470	BERL	20	GRF	0925	0952.5	34	3			
	3000	BERL	1	S	0929.5	0930.7	21	3.9			
	9500	BERL	1	S	0929.5	0930	25	8			
	10400	BERN	1		0929.5	930.3	34	10			
	8400	BERN	1		0929.5	930.3	34	11			
	8900	BERN	1		0929.5	0930.3	34	10			
	9100	GORK	3	S	0929.8	0930.5	16.7	15.5	5		
	9100	ARCE	22	GRF	0930	0930.5	26				
	408	TRST	2	S	0956.4	0956.4	.1	240			
	113	POTS	45	C	1150	1335	201 D	56			
	234	POTS	48	C	1201	1222	22	420			
	245	SGMR	7	S	1212.2	1213	2.8	406	162		CONT
	9400	HUAN		S	1241	1317	85.6	8.3	5.4		0
	3000	BERL	20	GRF	1251	1324	47	7.1			
	1470	BERL	40	F	1252	1305	37	14			
	9400	HUAN		S	1440.2	1454.7	47.3	5	3.2		0
	113	POTS	45	C	1446.8	1447.6	1.1	280	40		
	9400	HUAN		S	1603.1	1613.6	51.5	10	4.8		R
	2800	OTTA	26	FAL	1625	1850	145	-10	-4		
	9400	HUAN		S	1914.3	1944.5	74.5	13.3	9.3		0
	2800	OTTA	20	GRF	1923	1925	14	1.8	1		
	200	HIRA	44	NS	2015 E	0130	770 D	45	10		ML
	100	HIRA	43	NS	2230	0340	635 D	300	50		ML
	2800	OTTA	240	R	2015	2033	18	3.4	1.7		
	2800	OTTA	21	GRF	2040	2215	175	6.8	3.6		
	2800	OTTA	8	S	2111.7	2111.7	.1E	15			
	2800	OTTA	8	S	2120	2120.5	.9	1.8	.9		
	2695	PENT	21	GRF	2343	2359	72	5	2.8		
	2695	PENT	1	S	2355	2356	2	4.2	2.1		
4	500	HIRA	46	C	0157.8	0158.4	2	15	5		ML
	200	GORK	44	NS	0400 E		510		10		
	100	GORK	44	NS	0400 E		510		60		
	202	IZMI	44	NS	0500		420	50			
	260	ONDR	44	NS	0600 E		552 D	145	10		
	29	UPIC	43	NS	0654.7		605.3D				
	33	UPIC	43	NS	0654.9		605.1D				
	410	SGMR	44	NS	1030 E	1641.2	570 D	234			3G,5,CONT
	245	SGMR	44	NS	1030 E	1833.9	570 D	237			3G,5,CONT
	127	TORN	44	NS	1030 E		250 D		60		V1
	3100	CRIM	29	PBI	0535	0640		16	5		
	9100	GORK	3	S	0627.6	0631.6	44.4	16	8		
	536	ONDR	4	S/F	0716.3	0716.3	.5	63			
	8900	BERN	20		0802.5	0804.7	88	8			
	8900	BERN	20		0802.5	0819.6	88	35			
	10400	BERN	20		0802.5	819.6	88	34			
	8400	BERN	20		0802.5	819.6	88	40			
	10400	BERN	20		0802.5	804.7	88	6			
	8400	BERN	20		0802.5	804.7	88	9			
	650	GORK	21	GRF	0803.7	0821	56.7	11.5	3.5		
	237	TRST	41	F	0803.7	0803.8	.2	205			0
	9100	GORK	21	GRF	0803.8	0830	89	37	18		
	9100	ARCE	21	GRF	0804.2	0833.9	95				
	1420	ARCE	8	S	0806.8	0806.9	.5				

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SEP 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
	234	POTS	45 C	0810.5	0827.6	60	320			
	2950	GORK	21 GRF	0810.7	0828.8	29	38			
	808	ONDR	28 PRE	0810	0812.5	6	32	17		
	536	ONDR	41 F	0810	0814.5	53	56	11		
	1470	BERL	4 S/F	0811	0818.3	72	96			
	1420	ARCE	28 PRE	0811.4	0815.1	4.7				
	200	HIRA	46 C	0811.5	0829	50 D	500 U	150 U		WR,SUNSET
	237	TRST	47 GB	0811.6	0826.5	20.5	437			11R
	200	GORK		0811.7	0829 U		2000			
	200	GORK	45 C	0811.7	0821.6	24	2000			
	500	HIRA	46 C	0811.8	0814	15	90	15		0
	930	BORO	45 C	0811	0818.5	38	51	10		
	9500	BERL	20 GRF	0812	0820	108	29			
	3000	BERL	4 S/F	0812.5	0817.5	68	101			
	950	GORK	23 GRF	0812.5	0827	48	23			
	3100	CRIM	47 GB	0813	0818.5	19	95	32		
	3100	CRIM	29 PBI	0813	0832	67	16	5		
	228	HARS	45 C	0813.8	0814	1	180	50		
	650	GORK		0813.8	0815.3		15	7.5		
	650	GORK	40 F	0813.8	0814.1	1.7	21	10		
	2695	MANI	4 S/F	0813.8	0819.3	11.7	80	26.7		
	1415	MANI	4 S/F	0813.8	0819.3	11.9	86.7	28.9		
	2650	DWIN	45 C	0813	0819	17	110	50		
	2950	GORK	4 SF	0814	0819.1	5	140			
	4995	MANI	4 S/F	0815.2	0819.3	12.3	56.8	18.9		IG
	113	POTS	45 C	0815.2	0817.6	29	4200			
	33	UPIC	49 GB	0815.5	0818.5	33.3				
	100	GORK		0815.6	0833.8		9000			
	100	GORK		0815.6	0818.8		9000			
	100	GORK	45 C	0815.6	0816.7	19	2500			
	29	UPIC	49 GB	0815.7	0834.3	29.6				
	1420	ARCE	3 S	0816.1	0818.8	8.8				
	808	ONDR	46 C	0816	0821	15.5	62	14		
	100	HIRA	46 C	0816	0820	50 D	5000 U	1000 U		0,SUNSET
	202	IZMI	45 C	0817	0823	14	1100	390		
	228	HARS	47 GB	0817.3	0828.2	13	510	200		
	228	HARS		0817.3	0826.8		400			
	228	HARS		0817.3	0822.7		270			
	228	HARS		0817.3	0821.3		270			
	9100	ARCE	20 GRF	0817	0819.8	8				
	1420	ARCE	29 PBI	0825.3	0826.5	39				
	606	MANI	4 S/F	0825.7E	0829.7	13.5D	28.9	9.6		IG
	650	GORK	1 S	0826.2	0827.2	1.6	6	3		
	808	ONDR	29 PBI	0832		18	14	10		
	9100	ARCE	20 GRF	0957.7	0958.1	36				
	200	GORK	20 GRF	1009.5	1010 U	2.1	200	20		
	200	GORK		1042	1044.4		200			
	200	GORK	41 F	1042	1042	3.4	200			
	9100	ARCE	2 S/F	1053.1	1053.4	1				
	237	TRST	41 F	1135.4	1135.5	.1	155			2L
	9400	HUAN	S	1245.2	1251.3	53.3	9.9	6.3		R
	10400	BERN	20	1247.5	1250.7	73 U	8 U			
	9100	ARCE	20 GRF	1248.7	1250.8	63.5				
	9500	BERL	20 GRF	1249	1251	26	6.6			
	237	TRST		1250.1	1250.9		175			0
	237	TRST	42 SER	1250.1	1250.5	3.2	130			0
	237	TRST		1250.1	1253.9		195			0
	9400	HUAN	S	1401	1428.5	46.6	6.6	4.4		0
	237	TRST	41 F	1412.9	1412.9	.2	65			0
	237	TRST	47 GB	1433.1	1436.3	18.5	225			70L
	4995	BOUL	3 S	1555.5	1608.5	34.5	63	21		
	2800	OTTA	4 S/F	1555	1610	34	92	32		
	930	BORO	45 C	1556	1610	35	56	23		
	18	MCMA	41 F	1556	1608	52			2	
	4995	SGMR	3 S	1557.2	1609.5	42.8	64.7	25.9		CONT
	18	MCMA	6 S	1557	1559	4			1	
	7000	SAOP	3 S	1558			41			26L
	606	SGMR	3 S	1558	1608	42	57.5	23		CONT
	2695	SGMR	3 S	1558.9	1608.9	41.1	117	46.8		CONT
	1420	BOUL	3 S	1558	1608	22	79	26		
	10400	BERN	20	1600	1612.1	62	21			
	410	SGMR	6 S	1600	1611.7	40	77.2	30.9		CONT
	1415	SGMR	3 S	1600	1611	40	86.7	34.7		CONT
	8800	SGMR	20 GRF	1600.1	1609.5	39.9	31.8	12.7		CONT
	1420	ARCE	4 S/F	1600.8	1609.5	35.5				AT SUNSET
	2695	BOUL	3 S	1601	1611	47	117	39		
	15400	SGMR	20 GRF	1603	1611	37	8.7	3.5		CONT
	9100	ARCE	20 GRF	1603.9	1610.2	29				
	2800	OTTA	29 PBI	1629	1629	110	11.8	5.9		
	2695	PENT	8 S	2013.5	2013.9	.6	5.6	2.8		
	2800	OTTA	20 GRF	2015	2058	75	5.8	2.6		
	100	HIRA	44 NS	2020 E	0220	755 D	580	55		SL
	200	HIRA	44 NS	2020 E	0215	755 D	140	55		ML
5	234	POTS	45 C	0632.1	0632.2	.5	300	75		

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SEP 1978	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	3100	CRIM	1	S	0825	0826	1.5	3	1		
	3100	CRIM	1	S	0843	0844	2	6	2		
	234	POTS	45	C	0953.5	0953.9	.7	420	45		
	9400	HUAN		S	1257.5	1302.7	14	10.1	4.1		R
	2800	OTTA	20	GRF	1520	1600	90	2.6	1.3		
	9100	ARCE	2	S/F	1526.5	1527.3	3				
	18	MCMA	6	S	1540	1543	5			1	
	1420	ARCE	2	S/F	1556.8	1557.3	.9				
	237	TRST	41	F	1556.9	1557	.2	650			16L
	410	SGMR	6	S	1557	1557.6	.8	132	39.6		5
	245	SGMR	7	S	1557.1	1557.2	.2	361	108		5
	18	MCMA	6	S	1641	1645	11			1	
	2800	OTTA	1	S	1950.5	1951	1	1.8	.9		
	2800	OTTA	22	GRF	2007	2025	55	2.6	1.4		
	100	GORK	44	NS	0400 E		540		40		
	200	GORK	44	NS	0400 E		540		45		
	202	IZMI	44	NS	0500		420	200			
	127	TORN	44	NS	0610 E	1034.6	520 D	150	45		V2
	260	ONDR	44	NS	0640 E		512 D	84	15		
	33	UPIC	43	NS	0656.5		567.4				
	29	UPIC	43	NS	0717.6	0925 U	545.9				
	245	SGMR	44	NS	1030 D	1700.3	570 D	843			5,CONT
	410	SGMR	44	NS	1030 D	1750.8	570 D	71.3			5,CONT
	100	HIRA	44	NS	2020 E	0010	755 D	500	160		SL
	200	HIRA	44	NS	2020 E	0020	755 D	90	65		SL
	2695	PENT	1	S	2127	2129	7	1.6	.8		
	2695	PENT	1	S	2207	2207.2	1.5	1.6	.8		
	2695	PENT	21	GRF	2236	2316	155	9			
	2695	PENT	46F	C	2243	2252	11	13.6	6.4		
6	500	HIRA	27	RF	0000 E	0010 U	55 D	30 U	10 U		SL
	700	SYON	8	S	0022.5	0022.8	.5				
	1400	SYON	45	C	0148.5	0150	3				
	8800	MANI	3	S	0220.2	0221.2	1.8	232.9	77.6		
	700	SYON	4	S	0220.3	0221.5	1.5				
	1400	SYON	3	S	0220.4	0221.5	6.8				
	5730	IRKU	2	S	0220.5	0221.2	6	64			L
	4995	MANI	3	S	0220.5	0221.2	2.6	71.6	23.9		
	1415	MANI	3	S	0220.6	0221.3	1.6	27.9	9.3		
	100	GORK	44	NS	0400 E		540		10		
	202	IZMI	44	NS	0500		420	80			
	200	GORK	44	NS	0515 E		465		15		
	127	TORN	44	NS	0610 E	1250.8	520 D	290	32		V2
	260	ONDR	44	NS	0642 E		506 D	155	8		
	245	SGMR	44	NS	1030 E	1224.3	570 D	404			5,CONT
	410	SGMR	44	NS	1030 E	1038.9	570 D	59.7			5,CONT
	3100	CRIM	3	S	0610	0617.5	20	24	8		
	3100	CRIM	29	PBI	0610	0630	80	12	4		
	237	TRST	41	F	0649.7	0649.9	.3	335			3L
	29	UPIC	42	SER	0824.5	0956	167.9				
	33	UPIC	42	SER	0824.6	1014 U	166.5				
	9100	ARCE	20	GRF	0826.4	0828.4	16				
	8900	BERN	22		0826.5	0840.1	54	19			
	10400	BERN	22		0826.5	840.1	54	29			
	8400	BERN	22		0826.5	840.1	54	17			
	9100	GORK	20	GRF	0827.2	0828.5	17.8	16.5	6		
	536	ONDR	2	S/F	1038.3	1038.7	1	21	2.8		
	408	TRST	45	C	1038.4	1038.7	.8	150			
	10400	BERN	1		1101	1108.3	17	14			
	8400	BERN	1		1101	1108.3	17	10			
	8900	BERN	1		1101	1108.3	17	11			
	3100	CRIM	1	S	1107	1109	6	6	2		
	3000	BERL	20	GRF	1107.5	1110	45	5			
	9100	ARCE	21	GRF	1107.5	1108.9	26				
	9500	BERL	21	GRF	1107	1110.3	34	12			
	7000	SAOP	21	GRF	1109						
	7000	SAOP	3	S	1109	1124.2		29.3			0
	7000	SAOP	21	GRF	1109						
	9500	BERL	3	S	1121	1122	5	44			
	15000	KISV	8	S	1121	1122	2	37			
	9400	HUAN		S	1121.3	1122.5	3.4	43.5	14.1		R
	9100	ARCE	3	S	1121.8	1122.4	4				
	8900	BERN	3		1122.1	1124.1	67	50			
	10400	BERN	3		1122.1	1124.1	67	60			
	8400	BERN	3		1122.1	1124.1	67	56			
	9100	GORK	3	S	1122.2	1122.7	4.2	32	2.5		
	9400	HUAN		S	1140	1145.5	14.6	8.1	2.7		0
	9400	HUAN		S	1214	1219.5	9.8	9.7	4.6		0
	7000	SAOP			1249.4						
	9400	HUAN		S	1257.8	1330.3	79.9	11.3	4.4		R
	9500	BERL	20	GRF	1301	1331	89	8			
	1470	BERL	21	GRF	1301	1330	61	1.8			
	3000	BERL	21	GRF	1310	1328.8	65	5.8			
	4995	SGMR	3	S	1313	1315.4	7.5	12.3	3.7		
	2695	SGMR	3	S	1313.2	1315.5	9.7	12.4	3.7		

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SEP 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
	3000	BERL	4 S/F	1313.8	1315.2	4.2	12			
	2800	OTTA	3 S	1314.5	1315.2	4	14.8	3.8		
	1470	BERL	4 S/F	1315	1315.5	1.5	3			
	808	ONDR	3 S	1322.4	1322.4	.2	38			
	930	BORD	8 S	1322	1322.3	.7	38	2		
	2800	OTTA	20 GRF	1324	1333	35	2	1		
	237	TRST	5 S	1334.6	1334.6	.1	125	37		0
	9400	HUAN	S	1441	1450	18.7	6.4	2.6		0
	7000	SAOP	24 R	1445.5						
	7000	SAOP	2 S/F	1445.5	1451.4		17.7			0
	7000	SAOP	21 GRF	1445.5						
	10400	BERN	3	1450.8	1451.4	6	16			
	8400	BERN	3	1450.8	1451.4	6	17			
	8900	BERN	3	1450.8	1451.4	6	15			
	9400	HUAN	S	1451	1451.5	1.8	12.9	6.7		R
	2800	OTTA	22 GRF	1545		90	3	1.5		
	930	BORD	41 F	1606	1607.8	3	27	2		
	10400	BERN	3	1613	1613.6	1	9			OPR
	2800	OTTA	3 S	1726	1726.1	1	14	3.6		
	18	MCMA	6 S	1757	1800	3			1	
	2800	OTTA	2 S/F	1758.8	1759.5	2	4.4			
	2800	OTTA	20 GRF	1909		65	2.6	1.3		
	9400	HUAN	S	1932.7	1934.6	4	11.3	5.4		R
	7000	SAOP	2 S/F	1934.6	1935.6	.5	21.2			0
	200	HIRA	44 NS	2020 E	0310	755 D	30	10		MR
	2800	OTTA	20 GRF	2120	2140	35	2	1		
	2695	PENT	21 GRF	2325	2340	85	7.2	3.6		
	2695	PENT	1 S	2331	2332.5	3	6.4	3.2		
7	200	GORK	44 NS	0351 E		246		5		
	100	GORK	44 NS	0400 E		240		15		
	127	TORN	44 NS	0610 E		520 D		3.9		V1
	260	ONDR	44 NS	0640 E		512 D	91	6		
	33	UPIC	43 NS	0656.6	1206.4	439.1				
	29	UPIC	43 NS	0656.6		439.4				
	410	SGMR	44 NS	1030 E	1537.2	570 D	99.4			3S,5
	245	SGMR	44 NS	1030 E	1810	570 D	208			3S,5
	5730	IRKU		0440	0441	7	21			R
	29	UPIC	4 S/F	0549.2	0549.3	.7				
	33	UPIC	4 S/F	0549	0549.1	.6				
	9100	GORK	21 GRF	0602.9	0608.5	22	12	4.5		
	3100	CRIM	29 PBI	0603	0612		5			
	3100	CRIM	3 S	0603	0605.5	9	16	5		
	9100	GORK	46 C	0603.4	0604.7	4.7	32			
	9100	GORK		0603.4	0606.9		25			
	8900	BERN	46	0603.4	0604.8	12	34			
	8400	BERN	46	0603.4	604.8	12	34			
	10400	BERN	46	0603.4	604.8	12	33			
	5730	IRKU	45 C	0603	0604	12	24			R
	5730	IRKU		0603	0607.1		25			R
	5730	IRKU		0603	0604.9		31			R
	9100	GORK	1 S	0650.7	0651	1	8	4		
	202	IZMI	41 F	1048	1048.5	1	68			
	408	TRST	8 S	1119.6	1119.6	.1	150	49		
	408	TRST	7 C	1205.8	1206.3	.8	130			
	3000	BERL	1 S	1205.8	1206.4	1	5.6			
	410	SGMR	6 S	1206	1206.6	.8	172	51.6		5
	606	SGMR	1 S	1206.2	1206.5	.6	4.6	1.4		5
	4995	SGMR	1 S	1206.2	1206.3	.3	4.5	1.4		5
	245	SGMR	6 S	1206.3	1206.4	.2	25	7.5		5
	2695	SGMR	1 S	1206.3	1206.6	.5	3.1	.9		5
	536	ONDR	3 S	1206.3	1206.3	.4	8	1.1		
	1415	SGMR	1 S	1206.4	1206.5	.3	2.8	.8		5
	2800	OTTA	8 S	1206	1206.4	.7	7.2	3.6		
	245	SGMR	6 S	1220	1221.2	3	208	62.4		3S,5
	113	POTS	45 C	1220.3	1221	1.7	140	20		
	234	POTS	45 C	1220.8	1221	1.7	175	20		
	536	ONDR	2 S/F	1220.8	1221.3	1	18	4.2		
	606	SGMR	1 S	1221	1221.3	.5	7.6	2.3		3S,5
	410	SGMR	6 S	1221.1	1221.6	.9	136	40.9		3S,5
	234	POTS	48 C	1318.2	1320.9	5.2	210	4		
	113	POTS	48 C	1318.2	1320.8	5.2	700	20		
	606	SGMR	3 S	1320.8	1322.8	2.7	60.8	12.3		3S,5
	245	SGMR	7 S	1320.9	1321.1	.7	296	88.9		3S,5
	410	SGMR	7 S	1320.9	1321.1	.5	313	93.8		3S,5
	536	ONDR	41 F	1321.2	1321.2	3	49			
	9400	HUAN	S	1354.8	1500.3	92.4	9.7	4		0
	2800	OTTA	24 R	1444	1450	6	2.6	1.3		
	2800	OTTA	27 RF	1444		101	2.6	2.3		
	2800	OTTA	24P R	1450		80	2.6			
	2800	OTTA	26 FAL	1610	1625	15	-2.6	-1.3		
	237	TRST	41 F	1629.7	1629.7	.2	170			2R
	2800	OTTA	1 S	1748.7	1759.3	4	1.8	.9		
	2800	OTTA	20 GRF	1844	1846	12	2.6	1.3		
	2800	OTTA	20 GRF	1910	1935	40	2.2	1.1		

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SEP 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
	2800	OTTA	20 GRF	2025	2045	115	4	2		
	2695	BOUL	45 C	2112.5	2114	2	87	29		
	200	HIRA	48 C	2322	2352	62	500	100		WL
	200	HIRA		2322	2342.5		300			WL
	500	HIRA	48 C	2330	2351.6	29	255	100		ML
	500	HIRA		2330	2346.3		70			ML
	500	HIRA		2330	2338.5		60			WL
	100	HIRA	48 C	2334.5	2336	61	40000	500		
	2800	OTTA		2338		25				
	18	MCMA	6 S	2345	2348	7			1	
	606	MANI	4 S/F	2349	2351.3	6.8	70.7	23.6		
	2695	MANI	3 S	2349.7	2352.3	7.9	30.4	10.1		
	1415	MANI	3 S	2350.3	2352.4	6	30.5	10.2		
8	200	HIRA	43 NS	0130	0445	445 D	35	15		MR
	100	HIRA	43 NS	0325	0440	330 D	40	20		MR
	100	GORK	44 NS	0400 E		300		5		
	200	GORK	44 NS	0403 E		330		10		
	202	IZMI	44 NS	0500		420	77			
	260	ONDR	44 NS	0645 D		504 D	47	3		
	127	TORN	44 NS	0710 E	1205.9	360 U	70	4.1		V1
	245	SGMR	44 NS	1030 E	1516.9	570 D	284			3,5,CONT
	410	SGMR	44 NS	1030 E	1335.3	570 D	19.8			3,5,CONT
	500	HIRA	27 RF	0300	0518	170	10	4		SR
	3100	CRIM	40 F	0722	0724	14	9	3		
	1420	ARCE	4 S/F	1249.8	1253.4	5.3				
	6100	KISV	8 S	1251	1253	4	23 D			
	4995	SGMR	3 S	1251.1	1252.8	5.9	14.1	4.2		
	3100	CRIM	3 S	1251.5	1252.5	11	35	12		
	2800	OTTA	3 S	1251.8	1253	6	27	7		
	930	BORO	42 SER	1251.8	1254.5	5.2	79	2		
	1415	SGMR	3 S	1251.9	1253.2	8.3	22.3	6.7		
	15000	KISV	2 S/F	1252	1254	3	14			
	9500	BERL	3 S	1252	1252.5	3	15			
	8800	SGMR	3 S	1252.3	1252.9	2.5	19.6	5.9		
	2695	SGMR	3 S	1252.5	1253.2	4.5	27.6	8.3		
	8900	BERN	20	1252.5	1252.9	12	17			
	8400	BERN	20	1252.5	1252.9	12	21			
	10400	BERN	20	1252.5	1252.9	12	14			
	1470	BERL	3 S	1252.5	1253.5	2.5	11			
	3000	BERL	3 S	1252.5	1253.5	2.5	25			
	9100	ARCE	1 S	1252.8	1253.3	2.5				
	2650	DWIN	3 S	1252	1253	3	30	15		
	9400	HUAN	S	1257.5E	1257.5U	32.2	10.4	4.6		0
	9400	HUAN	S	1409.8	1415.5	12.6	6.9	2.4		R
	237	TRST	41 F	1516.7	1516.8	.2	365			11R
	2800	OTTA	20 GRF	1620	1625	20	2	1.2		
	237	TRST	41 F	1625.6	1626	.7	300			0
	2800	OTTA	21 GRF	1810	1900	100	6.8	3.4		
	2800	OTTA	1 S	1824.5	1825	3	7	3.5		
	245	SGMR	7 C	1830	1854.7		39.1			3G,SWF
	245	SGMR	7 C	1830	1839.2	31	53.1	15.9		3G,SWF
	1415	SGMR	20 GRF	1834.5	1839.5	20.9	9.4	2.8		3G,SWF
	4995	BOUL	4 SF	1834	1840.5	18	49	16		
	4995	SGMR	3 S	1835.2	1841	25.6	50.2	15.1		3G,SWF
	2695	SGMR	3 S	1835.5	1844.2	29.2	36.4	10.9		3G,SWF
	2800	OTTA	4 S/F	1835	1844	21	33	18		
	18	MCMA	6 S	1835	1842	13			2	
	606	SGMR	20 GRF	1836.7	1839.8	23.7	15.7	4.7		3G,SWF
	8800	SGMR	3 S	1836.9	1841	23.7	33	9.9		3G,SWF
	410	SGMR	7 C	1837.1	1840.6	24	19.6	5.9		3G,SWF
	410	SGMR	7 C	1837.1	1854.8		26.8			3G,SWF
	200	HIRA	44 NS	2020 E	0105	755 D	35	5		MR
9	200	GORK	44 NS	0506 E		234		5		
	260	ONDR	44 NS	0715 E		495 D	24			
	410	SGMR	44 NS	1030 E	1522.7	570 D	14.4			
	245	SGMR	44 NS	1030 E	1414.6	570 D	58.4			
	7000	SAOP	1 S	1142.5	1144	.8	8.5			42L
	6100	KISV	3 S	1143	1144	2	11			
	6100	KISV	3 S	1222	1223	3	3			
	9400	HUAN	S	1312	1330	33.4	4.8	2.6		R
	2800	OTTA	21 GRF	1455	1645	170	5	2.4		
	9400	HUAN	S	1527.6	1530.4	6	6.5	2.7		0
	2800	OTTA	2 S/F	1551.4	1552.3	2	2.6			
	1420	ARCE	2 S/F	1557.4	1600	4.4				
	9100	ARCE	2 S/F	1559.4	1600.4	2.6				
	2800	OTTA	20 GRF	1910	1930	35	1.4	.7		
10	260	ONDR	44 NS	0630 E		530 D	44			
	410	SGMR	44 NS	1030 E	1733.5	570 D	26.9			
	245	SGMR	44 NS	1030 E	1730.3	570 D	187.7			
	33	UPIC	3 S	0931	0931.1	.6				
	29	UPIC	3 S	0931	0931.1	.4				
	7000	SAOP	4 SF	1140.6	1148.4	.2	32.3			8L

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	2800	OTTA	21	GRF	1140	1155	80	6.2	3.1		
	3000	BERL	4	S/F	1148	1148.8	35	24			
	1470	BERL	1	S	1148.2	1149	9.8	4.5			
	1420	ARCE	1	S	1148.2	1149.2	3.5				
	9100	ARCE	1	S	1148.5	1149	6.5				
	2800	OTTA	3	S	1148	1149	4	15.8	7.9		
	9500	BERL	20	GRF	1148	1207.4	32	7.8			
	9400	HUAN		S	1455.4	1515.5	58.3	6.5	3.4		R
	2800	OTTA	1	S	1607.7	1608.2	1	1.2	.6		
	2800	OTTA	1	S	1629	1629.5	2	1.4			
	2800	OTTA	21	GRF	1720	1732	30	3	1.5		
	2800	OTTA	1	S	1723	1723.5	1	1.4	.7		
	228	HARS	45	C	1728.5	1729.5	2.5	150	40		
	2800	OTTA	1	S	1758	1800.5	3	1.6	.8		
	9400	HUAN		S	1916.8	1930.2	22	9.7	3.7		R
	9400	HUAN		S	2023.6	2030	15.8	4.9	2.5		R
11	260	ONDR	44	NS	0620 E		536 D	24			
	127	TORN	43	NS	0900 U	1057.2	340 D	30	2.9		V1
	410	SGMR	44	NS	1030 E	1627	570 D	24.6			3
	245	SGMR	44	NS	1030 E	1437.6	570 D	49.7			3
	9100	ARCE	1	S	0939.1	0939.3	.5				
	9100	ARCE	1	S	0954.6	0954.8	.6				
	2800	OTTA	20	GRF	1155	1210	65	2.4	1.2		
	9400	HUAN		S	1313	1343.6	58.8	6.9	2.8		R
	2800	OTTA	1	S	1653	1654	2	2.2	1		
	2695	PENT	20	GRF	2250		110	2.6	2		
12	260	ONDR	44	NS	0650 E		500 D	23			
	410	SGMR	44	NS	1030 E	1305.7	570 D	28.9			
	245	SGMR	44	NS	1030 E	1106.4	570 D	42.4			
	127	TORN	45	C	0719.9	0720.7	2.2	78	9		
	33	UPIC	8	S	1142.6	1142.7	.5				
	29	UPIC	8	S	1142.6	1142.8	.4				
	930	BORO	41	F	1504.6	1505	.4	17	2		
	2695	PENT	20	GRF	2255		65	2.6	1.3		
13	9100	ARCE	22	GRF	0719.2	0720	50				
	33	UPIC	2	S/F	0916.5	0916.9	.9				
	29	UPIC	2	S/F	0916.7	0917.1	.6				
	9100	ARCE	1	S	1225	1226.3	3				
	9400	HUAN		S	1251.3	1259.4	15.7	8.1	4.6		0
	9400	HUAN		S	1321.8	1345.6	65.4	4.8	2.9		R
	245	SGMR	43	NS	1517.8	1557.4	282.20	40.3			
	2800	OTTA	240	R	1750	1810	20	2.6	1.3		
	9400	HUAN		S	1758.7	1815	34	6.5	4.6		0
	9400	HUAN		S	1906.8	1907.4	1.2	14.8	7.3		L
	2800	OTTA	1	S	1948	1948.3	2	2.8	1.4		
	2800	OTTA	22	GRF	2025	2110	105	3.4	1.7		
14	260	ONDR	43	NS	0720		468 D	28			
	127	TORN	43	NS	0910 U	0946.2	100 U	44	2.1		V2
	245	SGMR	44	NS	1030 E	1342.6	570 D	49.2			
	2800	OTTA	20	GRF	1158	1205	50	2.6	1.8		
	930	BORO	41	F	1247.5	1247.5	.6	20	2		
	9400	HUAN		S	1251.4	1342.5	100.4	9.2	5.1		0
	2800	OTTA	20	GRF	1300	1350	150	4.2	2.4		
	2800	OTTA	20	GRF	1600	1805	205	4.2	2.4		
	9400	HUAN		S	1742	1800.5	26.7	6.1	4.8		0
	2800	OTTA	240	R	2100	2120	20	1.8	.9		
	2695	PENT	240	R	2200	2235	35	2.6	1.3		
15	260	ONDR	44	NS	0645 E		490 D	27			
	410	SGMR	44	NS	1030 E	1217.7	570 D	137			
	245	SGMR	44	NS	1030 E	1607.4	570 D	40.3			
	9100	ARCE	21	GRF	0945.3	0950.5	45				
	8900	BERN	3		0946.5	0947.6	2	18			
	8400	BERN	3		0946.5	947.6	2	21			
	10400	BERN	3		0946.5	947.6	2	16			
	9100	GORK	20	GRF	0947.2	0947.9	38.5	13	4		
	9100	ARCE	1	S	0947.5	0947.9	1.4				
	9500	BERL	3	S	0947.5	0947.7	2	13			
	7000	SAOP	24	R	1338.2						0
	9400	HUAN		S	1433.2	1443.7	35.6	7.3	3.1		R
	9400	HUAN		S	1441.2	1441.6	.8	9.1	6.4		R
	9400	HUAN		S	1734.4	1750.1	61.3	5.5	3.6		0
	9400	HUAN		C	1821.5	1822	1.2	18.3	10.7		R
	7000	SAOP	3	S	1821.6	1822.1	.8	15.2			0
	9400	HUAN		S	1912.1	1925.8	82.3	16.5	10.3		0
	2800	OTTA	20	GRF	2040	2120	60	4	2.6		
	9400	HUAN		S	2051.4	2114.7	55.7	20.1	13.6		0
	2695	PENT	240	R	2230	2253	23	5.2	2.6		
16	260	ONDR	44	NS	0703 E		412 D	18			
	410	SGMR	44	NS	1030 E	1228.1	570 D	55.5			3G

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	245	SGMR	44	NS	1030 E	1228.3	570 D	451			3G
	6100	KISV	2	S/F	0741	0742.8	6	3			
	3100	CRIM	24	R	0920.5	1320		12			
	536	ONDR	8	S	1000.3	1000.3	.3	143			
	33	UPIC	2	S/F	1012.6	1012.8	.6				
	29	UPIC	2	S/F	1012.6	1012.9	.8				
	29	UPIC	4	S/F	1015.6	1016	1.4				
	33	UPIC	4	S/F	1015.8	1016	.8				
	6100	KISV	2	S/F	1029.5	1030	3	3			
	9400	HUAN		S	1204.6	1216	20.2	8	1.6		0
	29	UPIC	8	S	1215.7	1216.2	.8				
	33	UPIC	8	S	1216.2	1216.4	.7				
	260	ONDR	45	C	1217.7	1217.7	2	168	15		
	237	TRST	42	SER	1228.1	1228.1	1.1	810			0
	234	POTS	45	C	1308.3	1308.4	1.7	120	5		
	237	TRST	42	SER	1308.4	1308.4	.9	350			88L
	113	POTS	48	C	1309.5	1312.8	3.6	350	12		
	7000	SAOP	46	C	1323.4	1327.2		110			29R
	9400	HUAN		F	1325.3	1327	4.9	113	47.8		L
	4995	SGMR	3	S	1325.4	1326.9	5.8	90.3	27.1		SWF
	8400	BERN	4		1325.5	1327.2	65	106			
	10400	BERN	4		1325.5	1327.2	65	95			
	8900	BERN	4		1325.5	1327.2	65	105			
	8800	SGMR	3	S	1325.7	1327.1	5.2	106	31.8		SWF
	2800	OTTA	4	S/F	1325.8	1326.5	2.7	17.2	10.4		
	15400	SGMR	3	S	1325.8	1327.1	5	53.3	16		SWF
	4995	BOUL	4	SF	1325	1326	5	80	27		
	2695	SGMR	3	S	1326	1326.7	3.2	17.7	5.3		SWF
	3000	BERL	4		1326	1327	2.5	25			
	9500	BERL	4	S/F	1326	1327.5	46	89			
	9100	ARCE	4	S/F	1326	1327.3	3.9				
	10715	OWIN	3	S	1326	1327	4	90	50		
	2650	OWIN	3	S	1326	1327	4	25	15		
	2800	OTTA	29	PBI	1328.5	1328.5	30 D	3			
	9100	ARCE	29	PBI	1329.9		57				
	9400	HUAN		PBI	1330.2	1330.2	85.5	19.1	12.4		L
	2800	OTTA	240	FR	1515	1543	28	2.2	.8		
	9400	HUAN		S	1541.7	1545.6	9.7	9.6	3.8		0
	2800	OTTA	240	R	1605	1608	3	1.2	.6		
	9400	HUAN		S	1722.7	1800.8	93.4	14.3	8.6		0
	2800	OTTA	1	S	1740	1743	10	3	1.3		
	1420	BOUL	2	SF	1753.5	1754.5	4	4	1		
	4995	BOUL	2	SF	1753	1754.5	2.5	24	8		
	9400	HUAN		S	1754.2	1755	3.5	20.7	10.3		R
	2800	OTTA	3	S	1754	1754.8	2.5	16.4	9.4		
	2800	OTTA	29	PBI	1756.5	1756.5	19	5.4	2		
	2800	OTTA	20	GRF	1825	1836	33	2.2	1.1		
	2800	OTTA	24	R	1915	1930	15	2.4	1.2		
	2800	OTTA	27A	RF	1915		225	2.4	2.1		
	2800	OTTA	24P	R	1930		170	2.4			
	9400	HUAN		S	1936	1959.3	43.8	25.5	12.6		R
	2800	OTTA	21	GRF	1950	1958	35	7	3.5		
	2800	OTTA	1	S	1955.5	1956.7	2	9	4.5		
	9400	HUAN		S	2142.8	2155.6	20.2	11.1	7.8		R
	2695	PENT	26	FAL	2220	2300	40	-2.4	-1		
17	2695	PENT	1	S	0007	0007.5	1	7.8	3.9		
	9100	GORK	1	S	0611	0611.2	3.8	8	3		
	260	ONDR	44	NS	0700 E		475 D	10			
	410	SGMR	44	NS	1030 E	1509.2	570 D	22.8			
	245	SGMR	44	NS	1030 E	1625.2	570 D	19.4			
	3100	CRIM	28	RPF	0745	0826	41	6	2		
	6100	KISV	8	S	0824	0828	21	216			
	9100	GORK	21	GRF	0824	0830.8	63	34	14		
	8900	BERN	4		0825	0827.6	75	208			
	8400	BERN	4		0825	827.6	75	221			
	10400	BERN	4		0825	827.6	75	175			
	2950	GORK	21	GRF	0825.2U		60				
	9100	GORK	3	S	0826	0828.2U	4.7	213			
	8800	MANI	4	S/F	0826	0827.6	5.1	183.9	61.3		
	4995	MANI	4	S/F	0826	0827.8	7.1	217.4	72.5		
	15000	KISV	4	S/F	0826	0828.3	18	17			
	3000	BERL	4	S/F	0826	0828	84	88			
	9500	BERL	4	S/F	0826	0828	89	168			
	3100	CRIM	29	PBI	0826	0831	70	18	6		
	3100	CRIM	7	G	0826	0828		70	23		
	2695	MANI	4	S/F	0826.3	0828.3	4.3	64.3	21.4		
	1470	BERL	4	S/F	0826.5	0827.5	6.5	9.6			
	2650	OWIN	45	C	0826	0828	10	70	40		
	10715	OWIN	45	C	0826	0828	10	180	100		
	9100	ARCE	4	S/F	0826	0827.8	5.8				
	1415	MANI	4	S/F	0827.2	0827.5	2.6	10.3	3.4		
	2950	GORK	4	SF	0827.4	0828.2	2.9	110			
	9100	ARCE	29	PBI	0831.8		70				
	1470	BERL	3	S	1118	1118.2	.5	7.6			

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	9400	HUAN	S	1212.7	1221.2	12.9	7.9	2.8		0
	2800	OTTA 22	GRF	1216	1220.5	25	4.8	2		
	7000	SAOP 2	S/F	1218.4	1220.8	2.4	10			0
	7000	SAOP 41	F	1218.4						
	9100	ARCE 22	GRF	1218	1220.9	24				
	9500	BERL 4	S/F	1220	1220.7	7.5	12			
	1420	BERL 1	S	1220	1220.5	1	2.1			
	930	BORD 41	F	1220.4	1220.7	3.3	21	3		
	3000	BERL 1	S	1220.5	1220.9	9.5	8			
	9400	HUAN	S	1222.2	1222.6	.8	9.5	9.1		R
	808	ONDR 45	C	1227	1230.5	8	50	6.6		
	536	ONDR 9	S	1229.5	1229.5	.3	43			
	930	BORD 41	F	1229	1231.7	4	21	3		
	8900	BERN 3		1257.5	1259.8	15	38			
	8400	BERN 3		1257.5	1259.8	15	35			
	10400	BERN 3		1257.5	1259.8	15	38			
	7000	SAOP 2	S/F	1257.5	1300	1.6	31.7			11R
	9500	BERL 4	S/F	1258	1259.8	7	33			
	6100	KISV 4	S/F	1258	1300	12	24			
	8800	SGMR 3	S	1258.6	1259.8	4.4	37.1	14.8		
	9400	HUAN	S	1258.8E	1259.7	9.5	36.5	12.1		L
	4995	SGMR 3	S	1258.9	1300	4.1	24.1	9.6		
	2695	SGMR 1	S	1259.4	1300.3	3.6	7.3	2.9		
	3000	BERL 4	S/F	1259.5	1301	5.5	11			
	2800	OTTA 1	S	1259	1300	4	7	4.2		
	9100	ARCE 3	S	1259	1300.1	2.7				
	9100	ARCE 29	PBI	1301.7		9				
	2800	OTTA 29	PBI	1303	1303	45	3.6	1.5		
	9400	HUAN	S	1320	1331.6	34.4	6.3	2.5		L
	9400	HUAN	C	1456.8	1500.2	12	115.8	46.7		L
	7000	SAOP 46	C	1457.2	1500.3	1.6	151.3			28R
	4995	SGMR 3	S	1458	1500.4	11	104	41.6		SWF
	8400	BERN 46		1458.7	1500.1	19	111			
	10400	BERN 46		1458.7	1505.5	19	63			
	8400	BERN 46		1458.7	1505.5	19	49			
	10400	BERN 46		1458.7	1500.1	19	98			
	8900	BERN 46		1458.7	1500.1	19	104			
	8900	BERN 46		1458.7	1505.5	19	51			
	9100	ARCE 46	C/F	1459.1	1500.4	9.3				
	9100	ARCE		1459.1	1500.4	5.3				
	2300	OTTA 45	C	1459.2	1500.5	12.8	19.6	14.6		
	2695	SGMR 3	S	1459.3	1500.6	9.7	20.3	8.1		SWF
	15400	SGMR 3	S	1459.4	1500.1	9.6	53.9	21.6		SWF
	8800	SGMR 3	S	1459.5	1500.1	9.5	94.1	37.6		SWF
	1415	SGMR 3	S	1459.6	1500	9.4	28.8	11.5		SWF
	2650	DWIN 40	F	1459	1500	20	20	15		
	10715	DWIN 40	F	1459	1500	10	90	40		
	9100	ARCE		1504.4	1505.7	4				
	9100	ARCE 29	PBI	1508.4		56				
	9400	HUAN	PBI	1508.8	1508.8	88.2	25.4	10.4		L
	2800	OTTA 29	PBI	1512	1512	110	10.2	5.1		
	9400	HUAN	S	1530.8	1532	1.9	4.8	2.2		0
	9400	HUAN	S	1540.5	1550.3	25.2	6.3	3.6		0
	9400	HUAN	S	1742	1750	15.3	4.8	2.7		0
	2800	OTTA 20	GRF	1800	1840	60	2.4	1.2		
	9400	HUAN	S	1937.7	1951.5	31.4	17.4	8		L
	2800	OTTA 22	GRF	1950	2032	90	5.6	2		
	9400	HUAN	S	2024	2041.2	55	14.3	10.2		L
	2800	OTTA 1	S	2125	2127	9	4.6	2.1		
	9400	HUAN	S	2159.3	2200.6	3	9.5	8.1		0
	2800	OTTA 1	S	2228.5	2228.9	1	3.4	1.7		
	4995	BOUL 4	SF	2241	2242	6	40	13		
18	2695	PENT 1	S	0013.5	0014	1	3.4	1.7		
	3100	CRIM 25	R	0631.5	0640		7			
	9100	GORK 20	GRF	0657.4	0702.6	12	9	4		
	9500	BERL 1	S	0701.5	0703	2.5	6.5			
	3000	BERL 4	S/F	0701.5	0702.8	3	10			
	930	BORD 45	C	0701	0702.7	4	145	10		
	1420	BERL 4	S/F	0702	0703.5	2.5	13			
	3100	CRIM 1	S	0702	0703	2	8	3		
	237	TRST 41	F	0702.4	0702.5	.3	380			0
	113	POTS 45	C	0716	0716.1	.5	150	40		
	9500	BERL 3	S	0732.5	0733.6	7.5	27			
	9100	GORK 2	SF	0732.6	0733.9	7	30	10		
	9100	ARCE 3	S	0732.8	0733.8	3.8				
	2950	GORK 1	S	0733	0734.7	4.6	9	4		
	8900	BERN 3		0733	0733.7	2.5	34			
	8400	BERN 3		0733	733.7	2.5	36			
	10400	BERN 3		0733	733.7	2.5	31			
	1420	BERL 3	S	0733	0734.8	7	5.7			
	3000	BERL 3	S	0733	0734.5	3	7.3			
	3100	CRIM 1	S	0733.5	0734	4	6	2		
	930	BORD 45	C	0733	0733.9	2	48	2		
	930	BORD 3	S	0738	0741.6	12	17	7		

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SEP 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
	2695	MANI	3	S	0925	0926	3.1	63.6	21.2		
	228	HARS	45	C	0925	0926	3	400	140		
	1415	MANI	3	S	0925.1	0926	6.5	30.5	9.7		
	4995	MANI	3	S	0925.1	0926	3.4	51	17		
	8400	BERN	45		0925.5	926.8	4	88			
	10400	BERN	45		0925.5	926.8	4	88			
	8900	BERN	45		0925.5	0926.8	4	82			
	127	TORN	47	GB	0925.6	0926.3	2.5U	1600	150		
	9100	GORK	3	S	0925.7	0927	7	95	45		
	930	BORD	45	C	0925.8	0926.7	7.2	134	10		
	113	POTS	45	C	0925.8	0926.5	4.8	7000	450		
	234	POTS	2	S/F	0926	0926.8	4.5	1960	70		
	1470	BERL	3	S	0926	0927.4	6	47			
	3000	BERL	3	S	0926	0926.8	4	70			
	9500	BERL	3	S	0926	0926.7	3	70			
	408	TRST	47	GB	0926	0926.8	1.5	1500			
	3100	CRIM	3	S	0926	0926.5	6	17 D	6		
	950	GORK	3	S	0926	0927	3.9	49	24		
	100	GORK	45	C	0926.2	0927	42	50			
	2950	GORK	3	S	0926.2	0927.1	3.3	48	24		
	650	GORK	29	PBI	0926.2	0928.5	10.3	5			
	650	GORK	4	SF	0926.2	0926.3	2.2	85	15		
	100	GORK			0926.2	0929.3		2000			
	202	IZMI	47	GB	0926.2	0927	1.5	5170	1240		
	237	TRST	41	F	0926.2	0926.7	.8	2400			0
	9100	ARCE	4	S/F	0926	0927	4				
	202	IZMI	5	S	0928.1	0928.1	.7	1330	530		
	237	TRST	41	F	0928.6	0928.9	.8	950			0
	410	SGMR	44	NS	1030 E	1058	570 D	48			3,5
	245	SGMR	44	NS	1030 E	1115.3	570 D	48.7			3,5
	408	TRST	42	SER	1045.2	1045.6	2	47			
	237	TRST	41	F	1045.4	1045.5	.5	135			0
	1470	BERL	1	S	1047	1047.3	1	3.1			
	3000	BERL	1	S	1057.3	1057.7	2.2	5			
	408	TRST	42	SER	1057.4	1057.8	.5	110			
	1470	BERL	1	S	1057.5	1057.8	1.5	4.1			
	237	TRST	41	F	1057.8	1057.9	.2	165			13L
	9100	ARCE	41	SER	1128.2	1130.3	27.7				
	9100	ARCE	1	S	1128.2	1130.3	4.8				
	8900	BERN	1		1128.7	1130.1	3.5	15			
	10400	BERN	1		1128.7	1130.1	3.5	11			
	8400	BERN	1		1128.7	1130.1	3.5	17			
	9500	BERL	1	S	1129	1130	2	9			
	9100	GORK	1	S	1129.8	1130.5	1.1	10	5		
	9100	ARCE	2	S/F	1135	1135.3	1				
	9100	ARCE	1	S	1154.9	1155.1	1				
	113	POTS		S	1220	1220.1	.5	150	50		
	2800	OTTA	27A	RF	1245		305	2.4	2.1		
	2800	OTTA	24	R	1245	1330	45	2.4	1.2		
	7000	SAOP	1	S	1248.4	1249.1		6			0
	7000	SAOP	41	F	1248.4						
	2800	OTTA	8	S	1249	1249.2	.8	2.6	1.3		
	113	POTS		S	1308	1308.2	.5	250	80		
	7000	SAOP	4	S/F	1310	1310.6	.2	12			53R
	9100	ARCE	1	S	1310.4	1310.7	1				
	9400	HUAN		C	1313.5	1314.6	4	27.3	5.4		L
	8900	BERN	45		1314.3	1314.6	4.5	29			
	8400	BERN	45		1314.3	1314.6	4.5	22			
	10400	BERN	45		1314.3	1314.6	4.5	27			
	7000	SAOP	46	C	1314.4	1314.7	.3	16.9			17R
	9500	BERL	4	S/F	1314.5	1314.9	3	17			
	1470	BERL	2	S/F	1314.5	1314.6	2	5.2			
	3000	BERL	3	S	1314.5	1314.7	2.5	8			
	2800	OTTA	1	S	1314.5	1314.6	2	6	2		
	9100	ARCE	2	S/F	1314.6	1314.8	2.8				
	930	BORD	41	F	1315.5	1315.8	.4	75	2		
	9400	HUAN		S	1324.7	1329.5	13.1	9.6	2.2		0
	113	POTS	2	S/F	1330.8	1332.2	2.3	220	10		
	2800	OTTA	24P	R	1330		235	2.4			
	33	UPIC	4	S/F	1332.4	1332.5	1				
	29	UPIC	4	S/F	1332.4	1332.8	1.1				
	29	UPIC	4	S/F	1525.1	1525.6	1				
	33	UPIC	4	S/F	1525	1525.1	.9				
	2800	OTTA	20	GRF	1540	1640	90	2.4	1.2		
	2800	OTTA	26	FAL	1725	1750	25	-2.4	-1.2		
	410	SGMR	6	S	1846.2	1846.5	.8	7.2	2.9		3G
	245	SGMR	6	S	1846.2	1851.3	10.8	116	46.4		3G
	606	SGMR	3	S	1846.3	1846.5	3.4	35.2	14.1		3G
	1415	SGMR	1	S	1846.4	1846.6	.6	4.6	1.8		3G
	2800	OTTA	1	S	1930	1931	3	1.6	.8		
	9400	HUAN		S	2000	2000.3	1.5	8	3.6		L
	2800	OTTA	20	GRF	2000	2040	120	2.2	1.1		
	9400	HUAN		S	2045	2100.2	36	6.4	4.4		0
	18	MCMA	6	S	2244	2246	7			1	
	2695	PENT	20	GRF	2250		60	2.4			

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19	234	POTS	45	C	0618.2	0618.3	.5	250	50		
	3100	CRIM			0830	0915		3			
	3100	CRIM			0830	0857.5		2			
	3100	CRIM			0830	0847		1			
	3100	CRIM	40	F	0830	0831.5	57	3			
	9100	ARCE	1	S	1027.3	1028.5	3				
	9100	GORK	1	S	1028	1028.2	.8	8	4		
	410	SGMR	44	NS	1031 E	1258.8	569 D	12.8			
	245	SGMR	44	NS	1031 E	1843.2	569 D	71.3			
	7000	SAOP	1	S	1042.5	1044		10			59R
	33	UPIC	4	S/F	1106.2	1106.2	.8				
	29	UPIC	3	S	1106.4	1106.6	.6				
	6100	KISV	4	S/F	1125	1158	4	12			
	6100	KISV	4	S/F	1143	1144	17	11			
	9400	HUAN		S	1313.6	1333.5	66.1	4.8	3		0
	2800	OTTA	20	GRF	1510	1540	50	1.6	.8		
	2800	OTTA	20	GRF	1644	1646	30	4.4	2.2		
	2800	OTTA	20	GRF	1905	1925	70	2			
	2800	OTTA	20	GRF	2045	2105	30	1.8	.9		
	9400	HUAN		S	2054.6	2106.5	21.4	6.4	2.6		0
20	5730	IRKU	1	S	0336	0338.2	5	10	4		R
	6100	KISV	4	S/F	0449	0450	11	14			
	5730	IRKU	1	S	0449	0449.9	6	17	5		R
	9100	ARCE	4	S/F	0641	0641.5	1				
	127	TORN	44	NS	0710 E	1229.6	410 D	13	1.4		V0
	410	SGMR	44	NS	1032 E	1521.8	568 D	6			
	9100	ARCE	1	S	1015.7	1015.9	.6				
	9400	HUAN		S	1343.8	1350.2	13.9	6.6	3		0
	9400	HUAN		S	1401.7	1422.8	28.9	8.3	4.1		0
	2800	OTTA	20	GRF	1710	1722	25	2.2	1.1		
	2800	OTTA	20	GRF	1835	1917	60	1.6	1.2		
	2800	OTTA	20	GRF	2010	2035	55	2.2	1.6		
	4995	BOUL	2	SF	2033	2037	8.5	22	7		
	2695	PENT	240	R	2200	2215	15	2.4	1.2		
	2695	PENT	21	GRF	2300	2330	80	2.4	1.4		
	4995	BOUL	4	SF	2349.5	2351	8	61	20		
	8800	MANI	3	S	2351.2	2351.6	.7	31.5	10.5		
	2695	MANI	3	S	2351.3	2351.6	1.6	56.6	18.7		
	4995	MANI	3	S	2351.5	2351.7	1.8	45.8	15.3		
	2695	PENT	3	S	2351	2351.7	5	53	15.6		
21	5730	IRKU			0314	0317.2		13			L
	5730	IRKU			0314	0315.4		24			L
	5730	IRKU	45	C	0314	0315	7	12			L
	8800	MANI	3	S	0315.2	0316	2.2	30.1	10		
	4995	MANI	3	S	0315.2	0316.5	3.1	17.8	5.9		
	200	GORK	44	NS	0400 E		480		15		
	100	GORK	44	NS	0430 E		450		200		
	100	HIRA	43	NS	0530	0650	185 D	150	80		SL
	200	HIRA	43	NS	0535	0650	180 D	30	10		ML
	202	IZMI	43	NS	0600		360	73			
	127	TORN	44	NS	0710 E	1118.9	450 D	120	48		V2
	245	SGMR	44	NS	1033 E	1441.7	567 D	197			3G,CONT
	410	SGMR	44	NS	1033 E	1238.2	567 D	26			3G,CONT
	2695	MANI	4	S/F	0409.3	0415.2	20.5	317.8	105.9		
	1415	MANI	4	S/F	0409.7	0416.1	25.8	101.5	33.8		
	200	HIRA	27	RF	0409	0423.5	85	80	25		ML
	1400	SYDN	46	GB	0410	0410.6	10.9				
	700	SYDN	46	GB	0410.1	0413	10.7				
	8800	MANI	47	GB	0410.1	0415.3		590			
	8800	MANI	47	GB	0410.1	0413.6	18.8	505	195.9		I
	5730	IRKU	47	GB	0410	0412.5	25	88			
	5730	IRKU			0410	0423.5		106			
	5730	IRKU			0410	0417 U		171 D			
	500	HIRA	46	C	0411	0415.9	38	145	20		SL
	650	GORK	23	GRF	0411.3		51.7				
	4995	MANI	47	GB	0411.3	0415.3		690			
	4995	MANI	47	GB	0411.3	0413.7	17.5	625	230.4		
	606	MANI	4	S/F	0411.8	0416	14.8	36.4	12.2		
	650	GORK	45	C	0412.2	0412.6	4.7	47			
	650	GORK			0412.2	0415.7		29			
	950	GORK	23	GRF	0412.8	0439	38	14			
	2950	GORK	29	PBI	0412.8	0419.3	13.7	150			
	2950	GORK	4	S	0412.8	0415.2	6.3	450			
	35000	NAGO	5	S	0413	0415.5	9	84			
	950	GORK	5	S	0414.7	0416.1	6	27			
	100	GORK	47	GB	0418	0419	3.8	27000			
	100	HIRA	46	C	0418	0418.8	72	4000	90		SR
	650	GORK	4	SF	0421.4	0423.4	3.9	18	6		
	950	GORK	5	S	0421.5	0423.3	4.6	23			
	35000	NAGO	29	PBI	0422	0422	8	25			
	650	GORK	2	SF	0430	0430.8	3	8	4		
	950	GORK	5	S	0430.1	0430.8	3	21			

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	100	GORK	27 RF	0634	0642	12	280	70		
	3100	CRIM	3 S	0721	0731	21	7	2		
	237	TRST		0831.1	0832.9		340			3L
	237	TRST	42 SER	0831.1	0831.1	2.4	205			4L
	234	POTS	45 C	0833	0833.1	.4	175	35		
	245	SGMR	6 S	1233.2	1235.1	5.1	142	56.8		CONT
	228	HARS	45 C	1234	1234.7	1.5	200	60		
	234	POTS	45 C	1234.1	1234.6	1.6	275	5		
	3000	BERL	1 S	1326	1327.8	2.4	5.7			
	1470	BERL	1 S	1327	1328	2	4.5			
	33	UPIC	45 C	1328.1	1328.3	1.5				
	29	UPIC	45 C	1328.1	1328.6	1.8				
	2800	OTTA	1 S	1328	1329	2	3	2.2		
	9400	HUAN	S	1400.5	1408	22.7	4.5	1.8		0
	2800	OTTA	21 GRF	1420 E	1445	140 D	3			
	29	UPIC	4 S/F	1439.5	1439.9	.7				
	33	UPIC	2 S/F	1439.8	1440	.7				
	930	BORD	41 F	1440.8	1441.4	.7	22	2		
	2800	OTTA	40 F	1554.2	1554.6	4	20			
	1415	SGMR	3 S	1554.5	1554.6	3.5	152	60.8		3,CONT
	606	SGMR	3 S	1554.6	1557.5	6.9	365	146		3,CONT
	410	SGMR	7 S	1554.7	1555.3	7.3	317	127		3,CONT
	930	BORD	41 F	1554	1554.7	6	151	2		
	245	SGMR	7 S	1555.5	1557.8	6	255	102		3,CONT
	237	TRST	41 F	1557.4	1557.6	.6	310			0
	2800	OTTA	1 S	1601	1601.4	1	4.6	1.2		
	2800	OTTA	1 S	1612.7	1613	2	1.8	1.2		
	930	BORD	8 S	1656	1656	.1	187	1		
	4995	BOUL	4 SF	1659	1702	5	34	11		
	2800	OTTA	20 GRF	1710	1722	40	2.8	1.4		
	18	MCMA	6 S	1904	1909	8			1	
	9400	HUAN	S	1927.1	1946.8	37.2	7.8	3.7		0
	200	HIRA	44 NS	2030 E	2245	725 D	50	10		SL
	100	HIRA	44 NS	2030 E	2215	725 D	20	10		ML
22	100	GORK	44 NS	0500 E		420		15		
	200	GORK	44 NS	0500 E		480		5		
	202	IZMI	43 NS	0600		360	55			
	127	TORN	44 NS	0710 E	1222.8	490 D	150	14		V1
	245	SGMR	44 NS	1034 E	1137.6	566 D	907			2,3,5,CONT
	410	SGMR	44 NS	1034 E	1136.5	566 D	279			2,3,5,CONT
	100	GORK	44 NS	1200		60		90		
	606	SGMR	43 NS	1425	1937.7	335 D	366			2,3,5,CONT
	234	POTS	2 S/F	0742.3	0742.5	2.7	120	1		
	234	POTS	2 S/F	0917.3	0918.2	3.4	160	1		
	113	POTS	2 S/F	1005.6	1005.7	.6	140	20		
	33	UPIC	42 SER	1005.7	1005.8	56.7				
	29	UPIC	42 SER	1005.9	1058.3	56.7				
	237	TRST	41 F	1029.2	1029.2	.1	205			0
	408	TRST	42 SER	1032.1	1037.5	6.2	130			
	113	POTS	48 C	1034.7	1057.8	24	850	10		
	127	TORN	42 SER	1047	1058.1	12	440			
	33	UPIC	46 C	1122.9	1137.3	16.2				
	29	UPIC	46 C	1123	1133.4	17.2				
	113	POTS	48 C	1125.4	1138.1	13	5000	15		
	202	IZMI	41 F	1132	1133.1	2	400			
	237	TRST	41 F	1132.1	1132.9	1.8	275			2L
	234	POTS	48 C	1132.6	1137.5	17	1400	7		
	237	TRST	41 F	1137.5	1137.5	.4	1950			3L
	202	IZMI	7 C	1137.5	1137.7	.8	900	480		
	33	UPIC	42 SER	1147.3	1205.9	19.1				
	29	UPIC	42 SER	1147.5	1206.2	19.1				
	113	POTS	45 C	1155	1258	137	75	20		
	234	POTS	48 C	1231	1256.6	29	1300	1		
	33	UPIC	48 C	1247.7	1257.5	14.4				
	29	UPIC	48 C	1248.6	1255.5	13.9				
	113	POTS	48 C	1253.8	1257.5	6.3	6500			
	245	SGMR	48 GB	1255	1258.8	8	984	394		5,CONT
	606	SGMR	3 S	1257.1	1258.8	3.1	54.6	21.8		5,CONT
	930	BORD	45 C	1257.4	1258.6	2.6	14	3		
	237	TRST	42 SER	1257.4	1257.8	4.1	1400			0
	237	TRST		1257.4	1300.9		150			0
	237	TRST		1257.4	1258.6		1900			0
	228	HARS	45 C	1257.5	1258.5	2.5	1100	200		
	410	SGMR	6 S	1257.5	1258.8	4.5	217	86.8		5,CONT
	2800	OTTA	23 GRF	1310	1540	370	9.2	5		
	234	POTS	45 C	1312.6	1312.6	.4	8000	2500		
	237	TRST	41 F	1312.7	1312.7	.1	4750			0
	29	UPIC	42 SER	1339.3	1408.4	29.5				
	33	UPIC	42 SER	1339	1408	30.2				
	237	TRST	41 F	1349	1349.1	.2	110			0
	113	POTS	2 S/F	1407.5	1408.5	4.7	350	5		
	930	BORD	40 F	1431	1440.8	24	19	5		
	228	HARS	24 R	1439		180 D		30		SUNSET
	2800	OTTA	1 S	1514	1516.5	6	4	1.2		

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	930	BORD	46	C	1519.6	1519.8	.3	21	2		
	9400	HUAN		S	1527.4	1533.8	18.7	8.4	3		0
	33	UPIC	45	C	1533.9	1534.1	1.9				
	29	UPIC	45	C	1534.1	1534.5	2				
	33	UPIC	8	S	1547.2	1547.4	.4				
	29	UPIC	8	S	1547.6	1547.8	.3				
	237	TRST	41	F	1618.5	1619	1.2	370			0
	18	MCMA	41	F	1759	1809	10			1	
	2800	OTTA	20	GRF	1940	1955	65	2.6	1.3		
	9400	HUAN		S	1950.2	2017.4	53.3	11.8	10.9		0
	200	HIRA	44	NS	2030 E	0340	725 D	20	10		MR
	2695	PENT	240	R	2055	2155	60	4.6	2.3		
	2695	PENT	20	GRF	2315	2325	50	2.6	1.3		
23	100	HIRA	43	NS	0210	0239	120	60	15		ML
	200	GORK	44	NS	0400 E		330		10		
	127	TORN	44	NS	0710 E	1332.6	450 D	670	100		V1
	202	IZMI	44	NS	1002.3		177.7	200			
	410	SGMR	44	NS	1035 E	1810.2	565 D	21			CONT
	245	SGMR	44	NS	1035 E	1111	565 D	14.3			CONT
	500	HIRA	27	RF	0222	0238.9	60	15	8		SL
	650	GORK	3	S	0432.2	0432.6	.6	33	15		
	3100	CRIM	25	R	0510 E	0715		11			
	234	POTS	45	C	0719.5	0720.5	2.3	350	90		
	237	TRST	41	F	0720.4	0720.6	.4	510			4R
	6100	KISV	20	GRF	0803	0807	17	6			
	9500	BERL	20	GRF	0803	0807.5	10	6.5			
	2950	GORK	1	S	0804.9	0805.3	1	7.5	3.7		
	3000	BERL	21	GRF	0804	0805	8	7.6			
	650	GORK			0818	0826.3		4			
	650	GORK	41	F	0818	0822.4	15	8			
	3000	BERL	3	S	0906	0908.4	3	8.4			
	6100	KISV	4	S/F	0906	0907	3	10			
	1470	BERL	1	S	0907.5	0909	1.5	3.6			
	3100	CRIM	1	S	0908	0908.1	1	4	1		
	2950	GORK	1	S	0908	0908.2	1	5	2.5		
	8900	BERN	46		0932.8	1002.2	276	617			
	10400	BERN	46		0932.8	1002.2	276	500			
	8400	BERN	46		0932.8	1002.2	276	682			
	3000	BERL	21	GRF	0933	1212.5	267	85			
	1470	BERL	21	GRF	0935	1146	265	43			
	3100	CRIM	47	GB	0937	1002	43	375	125		
	3100	CRIM	29	PBI	0937	1020	160 D	80	27		
	2950	GORK	47	GB	0938.1	1007.3	82	115			
	650	GORK			0939.3	1015.4		110			
	650	GORK	46	C	0939.3	1007.8	98	90			
	1470	BERL	46	C	0940	1017	83	640			
	9100	ARCE	28	PRE	0940.4	0954.5	16.4				
	2650	DWIN	49	GB	0940		240	300 D			
	9100	GORK	47	GB	0941	1002	88	400			
	3000	BERL	46	C	0941	1006.2	79	1360 D			
	6100	KISV	4	GB	0941	1002		581			
	950	GORK	47	GB	0942.6	1019.5	78	230			
	930	BORD			0942	1001.5		264			
	930	BORD	47	GB	0942	1156.6	168	942	132		
	930	BORD			0942	1204.5		431			
	930	BORD			0942	1159		678			
	930	BORD			0942	1036.3		282			
	930	BORD			0942	1016.5		352			
	9500	BERL	46	C	0944	1002	257	505			
	15000	KISV	47	GB	0945	1007	135	410			
	234	POTS	45	C	0945	1002	264	420	100		
	10715	DWIN	49	GB	0945	1005	115	400	200		
	408	TRST			0947.5	1206.8		500			
	408	TRST			0947.5	1157.3		460			
	408	TRST			0947.5	1055.6		69			
	408	TRST	49	GB	0947.5	0958.9	167.5	440			
	200	GORK			0950.8	1032.8		550			
	200	GORK			0950.8	1013.8		540			
	200	GORK			0950.8	1002		150			
	200	GORK	46	C	0950.8	0951.5	70	25			
	113	POTS	45	C	0955	1111	275	350			
	100	GORK			0956	1100		10000			
	100	GORK			0956	1019.4		2000			
	100	GORK	46	C	0956	1006	64	2000			
	228	HARS	28	PRE	0956.4	0956.5	3	50	20		
	9100	ARCE	46	C/F	0956.8	1002.3	35.4				
	9100	ARCE			0956.8	1002.3	16.9				
	127	TORN	25	R	0957 U	1056	60 U	340			
	127	TORN			0957 U	1005.8		240			
	127	TORN	48	C	0957 U	1002	10	250			
	228	HARS	47	GB	0959.5	1000.5	3	1200	500		
	228	HARS			0959.5	1001	.2	900			
	202	IZMI	47	GB	1000	1001.8	2.3	1600	550		
	237	TRST	41	F	1000.1	1001.4	1.8	3850			4R

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	33	UPIC	49	GB	1000.7	1003.1	27.6				
	29	UPIC	49	GB	1001.1	1003.7U	27.7				
	237	TRST	47	GB	1001.5	1012.4	230	425			68R
	237	TRST			1001.5	1206.9		430			56R
	228	HARS	29	PBI	1006	1207	210	320	130		
	228	HARS			1006	1316		200			
	228	HARS			1006	1015		150			
	228	HARS			1006	1012		210			
	9100	ARCE			1013.7	1016.6	18.5				
	33	UPIC	29	PBI	1028.3	1154.5	163				
	29	UPIC	29	PBI	1028.8	1147.5	146.7				
	9100	ARCE	29	PBI	1032.2		180				
	9400	HUAN		PBI	1128.3	1128.3	161.3	83.2	41.4		L
	1415	SGMR	45	C	1129.5	1231		253			4
	1415	SGMR	45	C	1129.5	1156.8	89.5	275	110		4
	606	SGMR	45	C	1129.8	1229		143			4
	606	SGMR	45	C	1129.8	1157.5	88.2	473	189		4
	2695	SGMR	45	C	1141	1229.7		282			
	2695	SGMR	45	C	1141	1206.7	76	43.2	113		4
	4995	SGMR	20	GRF	1141.4	1205.9	73.4	31.2	12.5		4
	8800	SGMR	20	GRF	1142.7	1209.3	70.5	20.3	8.1		4
	2800	OTTA	21	GRF	1145 E	1206	385 D	91			
	410	SGMR	7	C	1148.7	1227		48			4
	410	SGMR	7	C	1149.7	1158.7	65.3	481	192		4
	245	SGMR	6	S	1149.7	1158.7	65.3	144	57.6		4
	1470	BERL	46	C	1151.5	1231	69	235			
	9400	HUAN		S	1155.2	1205	39.2	19.6	7.8		L
	2800	OTTA	45	C	1222	1229.3	15	116	31.9		
	2800	OTTA			1222	1224.4	3.3	33.4			
	3000	BERL	46	C	1224	1226.5	11	94			
	2800	OTTA			1225.3	1226.7	2.1	89.6			
	2800	OTTA			1227.4	1229.3	3.1	116			
	2800	OTTA			1230.5	1232	3	64.8			
	930	BORD	29	PBI	1230	1230	100	98	44		
	2800	OTTA			1233.5	1234.7	3.5	27			
	2800	OTTA	29	PBI	1237	1237	11	6.6	3.3		
	245	SGMR	6	S	1309	1316.6	21.1	146	58.4		4
	410	SGMR	6	S	1309.7	1316.7	13.3	14	5.6		4
	606	SGMR	20	GRF	1310.3	1317	12.4	8.2	2.5		4
	200	HIRA	44	NS	2030 E	0610	725 D	20	5		MR
	2800	OTTA	1	S	2129	2130	3	2.2	1.1		
24	5730	IRKU			0207	0211.9		84			L
	5730	IRKU	2	S	0207	0209.8	11	58			L
	200	GORK	44	NS	0403 E		418		5		
	202	IZMI	44	NS	0600		360	17			
	245	SGMR	44	NS	1036 E	1832.2	564 D	57.5			3G,S
	6100	KISV	20	GRF	0629	0633	31	11			
	29	UPIC	41	F	1018.1	1024.8	52.3				
	33	UPIC	41	F	1019.1	1024.5	47.3				
	127	TORN	41	F	1023	1028.4	35 U	48			
	2800	OTTA	20	GRF	1215	1223	75	2.8	1.8		
	2800	OTTA	20	GRF	1510	1600	65	1.6	.8		
	33	UPIC	4	S/F	1604	1604.3	.7				
	29	UPIC	2	S/F	1604	1604.3	.3				
	1415	SGMR	3	S	1718.4	1724.5	21.6	105	31.5		2,4,SHF
	2800	OTTA	4	S/F	1719.5	1724.2	10.5	163	67		
	7000	SAOP	3	S	1719.6	1725	4.9	107.5			36L
	410	SGMR	6	S	1719.7	1724.4	15.6	212.8	63.8		2,4,SHF
	606	SGMR	3	S	1719.7	1722.5	15	313	93.9		2,4,SHF
	4995	BOUL	3	S	1719	1723.5	21	100	33		
	1420	BOUL	4	SF	1719 E	1725 U	11 D	76	25		
	930	BORD	45	C	1719	1722	14 D	135	25		SUNSET
	2695	SGMR	3	S	1720	1724.7	14.2	186	55.8		2,4,SHF
	4995	SGMR	3	S	1720	1724.5	11.5	123	36.9		2,4,SHF
	245	SGMR	7	S	1720	1720.1	15.8	401	120		2,4,SHF
	9400	HUAN		S	1720	1725.5	9.5	76.1	38.7		R
	2695	BOUL	3	S	1720.5E	1726	9.5D	180	60		
	8300	SGMR	3	S	1721	1725.2	10.3	78.6	23.6		2,4,SHF
	15400	SGMR	3	S	1721.1	1724.2	10.6	54.7	16.4		2,4,SHF
	18	MCMA	42	SER	1722	1738	19			1	
	2695	BOUL	32	ABS	1730	1733 U	5.5D	5	2		
	2800	OTTA	20	GRF	1731.5	1737	140	9	4.5		
	9400	HUAN		S	1731.8	1737.6	17.8	10.1	6.8		D
	2800	OTTA	21	GRF	2055		175	4.8			
	1420	BOUL	20	GRF	2105.5E	2111.5	63 U	48	16		
	4995	BOUL	45	C	2105.5	2117.5	37.5	30	10		
	9400	HUAN		S	2105.8	2120.7	40	27	18.2		D
	2800	OTTA	46F	C	2106.5	2118.2	37	54.6	20		
	500	HIRA	48	C	2108.6	2110.4	10	2500	1000		MR
	200	HIRA	27	RF	2108	2122.5	105	90	25		WL,MR
	2695	BOUL	20	GRF	2108 E	2119	32.5D	56	19		
	100	HIRA	46	C	2115	2128.5	95	140	20		D
	500	HIRA	46	C	2120.5	2121.4	2.5	90	40		WL
	500	HIRA	46	C	2129	2132.2	5	170	50		ML

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25	5730	IRKU	1	S	0246	0246.2	2	14	7		L
	200	GORK	44	NS	0354 E		409		5		
	245	SGMR	44	NS	1037 E	1348.8	563 D	13.4			S
	410	SGMR	44	NS	1245 E	1546.2	435 D	22.3			S
	3100	CRIM	1	S	1013	1014	1.5	4	1		
	9400	HUAN		S	1341.2	1345.8	12.5	5.1	3.2		R
	2800	OTTA	20	GRF	1417	1426	25	3	1.5		
	2800	OTTA	20	GRF	1850	1935	85	2.2	1.4		
	4995	BOUL	2	SF	1927	1929	7.5	14	5		
26	200	GORK	44	NS	0400 E		99		5		
	100	GORK	44	NS	0400 E		100		5		
	202	IZMI	5	S	0604.3	0604.5	.7	118	50		
	3100	CRIM	21	GRF	0629	0727	390 D	10	3		
	9500	BERL	20	GRF	0735	0744.4	35	89			
	3100	CRIM	1	S	0737	0740	4	16	5		
	4995	MANI	3	S	0737.1	0739.8	7.2	22.5	7.5		
	1470	BERL	3	S	0738	0741	6	8.3			
	2695	MANI	3	S	0738.2	0739.3	2.8	25.9	8.5		
	3000	BERL	4	S/F	0738.5	0740.6	7.5	18			
	1415	MANI	3	S	0739.1	0739.9	2.4	3.8	1.3		
	9100	ARCE	21	GRF	0739.4	0740.3	33				
	9100	GORK	1	S	0739.9	0740.3	1.3	8	4		
	9100	ARCE	4	S/F	0756	0756.5	1.5				
	100	GORK	44	NS	0845		345		10		
	200	GORK	44	NS	0845 E		345		10		
	202	IZMI	43	NS	0950		130	46			
	245	SGMR	44	NS	1039 E	1716.3	561 D	71.8			3,5
	410	SGMR	44	NS	1039 E	1828.2	561 D	47.7			3,5
	29	UPIC	4	S/F	0928.7	0929.2	1				
	33	UPIC	4	S/F	0929	0929.2	.9				
	9100	ARCE	40	F	1012.7	1014.7	13.5				
	113	POTS	45	C	1041.1	1041.5	1.1	250	50		
	29	UPIC	8	S	1122.5	1122.8	.4				
	33	UPIC	8	S	1122.6	1122.7	.4				
	113	POTS	45	C	1122.6	1122.7	.4	175	40		
	930	BORO	8	S	1336.8	1336.8	.3	42	2		
	113	POTS	45	C	1338.1	1346.1	18	200	10		
	237	TRST	42	SER	1339.2	1341.8	2.9	150			3L
	9100	ARCE	4	S/F	1343	1343.8	1.8				
	9100	ARCE	1	S	1348.7	1348.8	.8				
	930	BORO	42	SER	1402	1405.8	4.1	192	2		
	2800	OTTA	20	GRF	1510	1523	55	2.4	1.2		
	2800	OTTA	20	GRF	1827	1835	20	2.4	1.2		
	2800	OTTA	8	S	1913.9	1913.9	.1E	4.8			
	100	HIRA	44	NS	2035 E	0245	710 D	140	50		ML
	200	HIRA	44	NS	2035 E	2154	710 D	400	15		ML
	2800	OTTA	21	GRF	2037	2040	30	6	3		
	2800	OTTA	1	S	2052	2053	2	2.4	1		
	2800	OTTA	40	F	2056.4	2056.4	.6	12.6			
	2800	OTTA	21	GRF	2110	2205	170 D	6.4			
	500	HIRA	27	RF	2116	2205	90	80	20		SL
	100	HIRA	27	RF	2121	2203	218	480	250		SL
	200	HIRA	27	RF	2121	2154	70	400	100		MLWR
	2800	OTTA	1A	S	2122	2124	9	9.4	5		
	2800	OTTA	1	S	2125.5	2126.3	1.5	6.6	3		
	1420	BOUL	28	PRE	2200 E	2205	5 D	7	2		
	2800	OTTA	8	S	2205.5	2205.5	.1E	22.8			
	1420	BOUL	45	C	2205	2208	7.5D	48	16		
27	200	GORK	44	NS	0400 E		225		10		
	100	GORK	44	NS	0406 E		530		30		
	202	IZMI	43	NS	0700		300	70			
	127	TORN	44	NS	0710 E	1005.7	450 D	180	60		V2
	33	UPIC	43	NS	0725.7	1448.2	454.5				
	29	UPIC	43	NS	0725.7	1448.5	454.3				
	200	GORK	44	NS	0900 E		237		15		
	410	SGMR	44	NS	1040 E	1647.5	560 D	24.4			3,CONT
	245	SGMR	44	NS	1040 E	1651.9	560 D	42.7			3,CONT
	6100	KISV	4	S/F	0632	0633	3	7			
	3100	CRIM	1	S	0633	0634	4	4.5	1		
	6100	KISV	8	S	0704	0704.5	2	7			
	100	GORK				0709.6	0726.5		25000		
	100	GORK	46	C	0709.6	0725.5	38	4000			
	234	POTS	45	C	0710	0830	270	70	39		
	3100	CRIM	45	C	0711	0724	27	66	22		
	3100	CRIM			0711	0735		46	15		
	3100	CRIM			0711	0731		48	16		
	3100	CRIM	29	PBI	0711	0738	12	32	11		
	113	POTS	45	C	0712	0726	288	350	60		
	200	GORK			0713.7	0736.8		4000			
	200	GORK	46	C	0713.7	0727	34	120			
	650	GORK			0715	0721.8		50			
	650	GORK	46	C	0715	0720.2	9	130			

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	6100	KISV	3	S	0715	0724	23	64			
	1470	BERL	46	C	0715	0732	31	24			
	2650	OWIN	45	C	0715	0725	30	60	40		
	3000	BERL	46	C	0716	0723.9	29	62			
	9100	GORK	21	GRF	0717.5	0732.3	146	25	9		
	2950	GORK	20	GRF	0718	0724.4	23	45	20		
	8900	BERN	22		0718.5	0724.5	26	30			
	8400	BERN	22		0718.5	724.5	26	34			
	10400	BERN	22		0718.5	724.5	26	24			
	9100	ARCE	20	GRF	0718.8	0724.8	55				
	9500	BERL	22	GRF	0719	0725	37	20			
	9100	GORK	1	S	0723	0724.9	3.7	14	7		
	29	UPIC	48	C	0725.7	0729.5	21.8				
	33	UPIC	48	C	0725.7	0729.7	25.5				
	3100	CRIM	47	GB	0813	0830	19	75	25		
	3100	CRIM	30	PBI	0813	0832	71	12	4		
	9100	ARCE	21	GRF	0824.6	0834.1	86				
	2650	OWIN	45	C	0825	0830	10	65	30		
	3000	BERL	4	S/F	0825	0830.2	35	65			
	1415	MANI	4	S/F	0826.1	0830.5	7.3	21.7	7.2		
	4995	MANI	4	S/F	0826.4	0830.4	8.6	52.8	17.6		
	9500	BERL	4	S/F	0826	0830	44	26			
	1470	BERL	4	S/F	0826	0830.3	9	26			
	2695	MANI	4	S/F	0827.2	0830.3	6.3	55.7	18.6		
	6100	KISV	45	C	0828	0830	57	110			
	8900	BERN	46		0828.5	0830	38	41			
	8400	BERN	46		0828.5	830	38	42			
	10400	BERN	46		0828.5	830	38	29			
	9100	GORK	1	S	0829.4	0830.2	2.8	23	11.5		
	9100	ARCE	3	S	0829.6	0830.3	3.6				
	3100	CRIM	1	S	0848	0848.5	1	7.5	2		
	100	GORK	27	GF	0900 E	0906	90	2500			
	9100	ARCE	8	S	1248.6	1248.8	.6				RECORDDISTURBED
	9100	ARCE	40	F	1250	1250.6	4				
	7000	SADP	46	C	1429.6	1439.6		189			13R
	228	HARS	28	PRE	1430	1437.5	8	215			
	245	SGMR	49	GB	1430.5	1456		1980			4,CONT,SHF
	245	SGMR	49	GB	1430.5	1445.9	55.7	1100	792		4,CONT,SHF
	410	SGMR	49	GB	1430.5	1506.4		681			4,CONT,SHF
	410	SGMR	49	GB	1430.5	1447.2	52.3	505	272		4,CONT,SHF
	8400	BERN	45		1432	1439.4	59	149			
	10400	BERN	45		1432	1439.4	59	135			
	8900	BERN	45		1432	1439.4	59	141			
	1470	BERL	46	C	1432	1440.3	42	280			
	2695	SGMR	45	C	1432.3	1439.6	44.7	420	168		4,CONT,SHF
	2695	SGMR	45	C	1432.3	1459		180			4,CONT,SHF
	1415	SGMR	45	C	1432.5	1506.7		189			4,CONT,SHF
	1415	SGMR	45	C	1432.5	1440.3	45.5	315	126		4,CONT,SHF
	4995	BOUL	45	C	1433.5	1440	54.5	224	72		
	2800	OTTA	46F	C	1433.5	1439.6	46.5	406	85.4		
	2800	OTTA			1433.5	1439.5	10	406			
	3000	BERL	46	C	1433.5	1439.6	57	355			
	4995	SGMR	45	C	1433.7	1459.5		95.7			4,CONT,SHF
	4995	SGMR	45	C	1433.7	1439.5	43.3	277	111		4,CONT,SHF
	9100	ARCE	45	C	1433.8	1439.8	21.5				
	930	BORD			1433	1443		484			
	930	BORD	47	GB	1433	1506.8	52	640	106		
	113	POTS	45	C	1433	1456	102	350			
	234	POTS	45	C	1433	1456	54	1650	200		
	8800	SGMR	3	S	1434.2	1439.7	40.8	136	54.4		4,CONT,SHF
	606	SGMR	47	GB	1434.2	1506.8		1490			4,CONT,SHF
	606	SGMR	47	GB	1434.2	1443	46.8	942	596		4,CONT,SHF
	1420	BOUL	28	PRE	1434.5E	1437 U	2.5D	15	5		
	2650	OWIN	49	GB	1434		50	300 D			
	9400	HUAN		C	1435	1439.4	45	135.5	67.5		L
	2695	BOUL	28	PRE	1435.5E	1436.5U	2 D	10	3		
	9500	BERL	46	C	1436	1439.5	70	85			
	15400	SGMR	3	S	1436.2	1439.5	37.8	75.6	30.2		4,CONT,SHF
	10715	OWIN	40	F	1436	1439	80	100	50		
	2695	BOUL	45	C	1437.5	1440.5	30.5	446	148		
	1420	BOUL	45	C	1437	1440	33	268	89		
	18	NOMA	42	SER	1437	1457	20			2	
	228	HARS	47	GB	1438	1445	24.5	1450	375		
	2800	OTTA			1443.5	1445	10	200			
	33	UPIC	46	C	1446.6	1448.2	5.5				
	29	UPIC	46	C	1446.7	1448.5	5.1				
	2800	OTTA			1453.5	1459	26.5	145			
	9100	ARCE	29	PBI	1455.3	1459.7	64				
	228	HARS	1	S	1502.5	1506	4	680	300		
	228	HARS	1	S	1506.5	1507	3.5	625	275		
	2695	BOUL	30	PBI	1508	1508	10 D	53	18		
	1420	BOUL	30	PBI	1509.5	1509.5	17 D	39	13		
	9400	HUAN		PBI	1520	1520	36.1	24.2	11.8		0
	2800	OTTA	29	PBI	1520	1520	280	15.8	7.4		
	930	BORD		PBI	1525	1525	35	25	10		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1978

SEP 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
	4995	SGMR	20 GRF	1719	1726.7	20	13.5	5.4		CONT,SWF
	9400	HUAN	S	1721	1739.8	56.5	17.7	5		0
28	200	HIRA	46 C	0434	0436	2.8	600	50		WL
	100	HIRA	46 C	0434	0434.5	2	1000	300		WL
	500	HIRA	46 C	0434.2	0435.6	1.5	18	10		WL
	1400	SYDN	45 C	0434.4	0435.5	1.6				
	700	SYDN	45 C	0434.5	0435.5	1.5				
	202	IZMI	41 F	0632	0633	1.3	30			
	33	UPIC	45 C	0632.2	0633.5	2.1				
	113	POTS	45 C	0632.2	0633.4	1.8	700	35		
	29	UPIC	45 C	0632.3	0633.6	1.8				
	9100	ARCE	1 S	0853.5	0853.7	.8				
	9100	ARCE	1 S	0856.5	0856.6	.5				
	33	UPIC	4 S/F	0929.8	0930.1	.8				
	29	UPIC	4 S/F	0929.8	0930.1	.7				
	113	POTS	45 C	0929.8	0930	1.2	315	25		
	2650	DWIN	3 S	0952	0953	8	30	15		
	234	POTS	45 C	0956.6	0958.2	3.9	240	20		
	3100	CRIM	2 S	0957	0959	4	31	10		
	650	GORK	29 PBI	0957.2	1003	15.5	1.5			
	650	GORK	1 S	0957.2	0959.2	5.8	3			
	950	GORK	29 PBI	0957.3	1005.2	18.7	4.5			
	950	GORK	3 S	0957.3	0958.9	7.8	29			
	408	TRST	42 SER	0957.4	0957.6	.7	140			
	237	TRST	41 F	0957.5	0958.2	1.7	415			0
	3000	BERL	2 S/F	0957.5	0958.7	7.5	22			
	228	HARS	45 C	0957.5	0958	1.5	180	50		
	2950	GORK	29 PBI	0957.8	1000	16.7	7.8	4		
	2950	GORK	3 S	0957.8	0958.2	2.1	24	12		
	930	BORD	3 S	0957	0959	11	24	9		
	410	SGMR	44 NS	1041 E	1129	559 D	15			5
	245	SGMR	44 NS	1041 E	1401.1	559 D	136			5
	237	TRST	41 F	1128.7	1128.8	.3	155			0
	9100	ARCE	3 S	1214.3	1214.6	.8				
	33	UPIC	45 C	1358.8	1401.9	3.7				
	113	POTS	2 S/F	1359.4	1401.3	5.1	280	15		
	228	HARS	45 C	1400	1401	1.5	475	70		
	29	UPIC	45 C	1400.1	1402.1	2.6				
	234	POTS	45 C	1400.1	1401.4	2	250	10		
	237	TRST	41 F	1400.3	1401.3	1.6	355			0
	2800	OTTA	20 GRF	1807	1900	130	2.4	1.4		
	2800	OTTA	20 GRF	2050	2225	195	4.6	2.6		
29	33	UPIC	45 C	0821.3	0822.1	1.2				
	29	UPIC	45 C	0821.3	0822.3	1.2				
	202	IZMI	41 F	0821.5	0822	1	43			
	33	UPIC	45 C	0844.3	0844.8	1				
	29	UPIC	45 C	0844.5	0845.1	1				
	202	IZMI	5 S	0844.8	0845	.4	44	20		
	29	UPIC	48 C	0940.8	0944.1	14				
	33	UPIC	48 C	0940.9	0943.8	13.8				
	127	TORN	46 C	0940.9	1044.4	7.2	120			
	3000	BERL	20 GRF	0940	0951.3	50	9.2			
	8900	BERN	22	0941.5	0955.5	50	17			
	10400	BERN	22	0941.5	955.5	50	16			
	8400	BERN	22	0941.5	955.5	50	17			
	202	IZMI	41 F	0942.5	0944	3.5	40			
	9500	BERL	20 GRF	0943	0951	32	11			
	15000	KISV	20 GRF	0945	0953	25	13			
	9100	GORK	20 GRF	0945.5	0955.5	24.3	11	3.5		
	6100	KISV	20 GRF	0947	0959	44	15			
	8900	BERN	22	1042.2	1146.6	160	19			
	10400	BERN	22	1042.2	1146.6	160	20			
	8400	BERN	22	1042.2	1146.6	160	20			
	930	BORD		1046	1048.6		26			
	930	BORD	23 GRF	1046	1052	17	8	4		
	1470	BERL	3 S	1047.5	1048.7	1.5	16			
	9100	GORK	24 R	1048.4		98				
	9500	BERL	20 GRF	1100	1134	85	10			
	1470	BERL	20 GRF	1120	1124	60	10			
	3000	BERL	20 GRF	1120	1124	60	5.3			
	930	BORD	3 S	1120	1124	9	10	5		
	2800	OTTA	21 GRF	1140	1203	140 D	9	4.5		
	237	TRST	41 F	1258.5	1258.8	.4	110			0
	2800	OTTA	1 S	1334	1335	2	6	2.8		
	237	TRST	41 F	1514	1514.1	.3	255			0
	2800	OTTA	22 GRF	1645	1730	100	2	1		
	2800	OTTA	26 FAL	1840	1900	20	-3	-1.5		
	2695	PENT	22 GRF	2040	2210	220	3.6	1.6		
30	2800	OTTA	240 R	1433	1503	30	2.4	1.2		
	2800	OTTA	20 GRF	1730	1740	18	1.8	.9		
	2800	OTTA	20 GRF	1753	1820	95	2.4	1.6		
	2695	PENT	20 GRF	2330	2333	20	5.6	2.8		

Reports received from the following observatories:

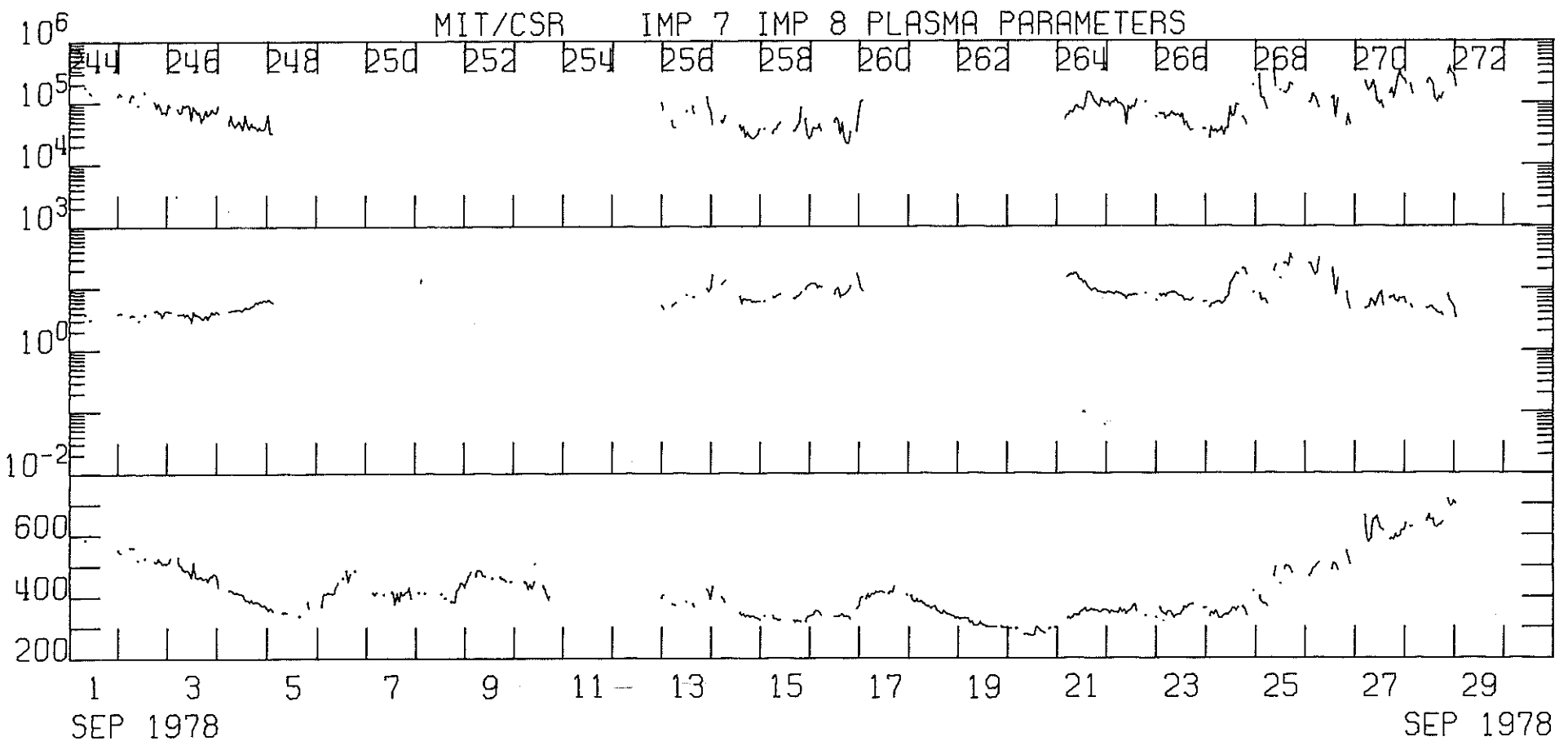
ARCE = Arcetri
BERL = Berlin-Adlershof
BERN = Berne
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
NAGO = Nagoya
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
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

SEPTEMBER 1978



SGD 415 Part II (Comprehensive)

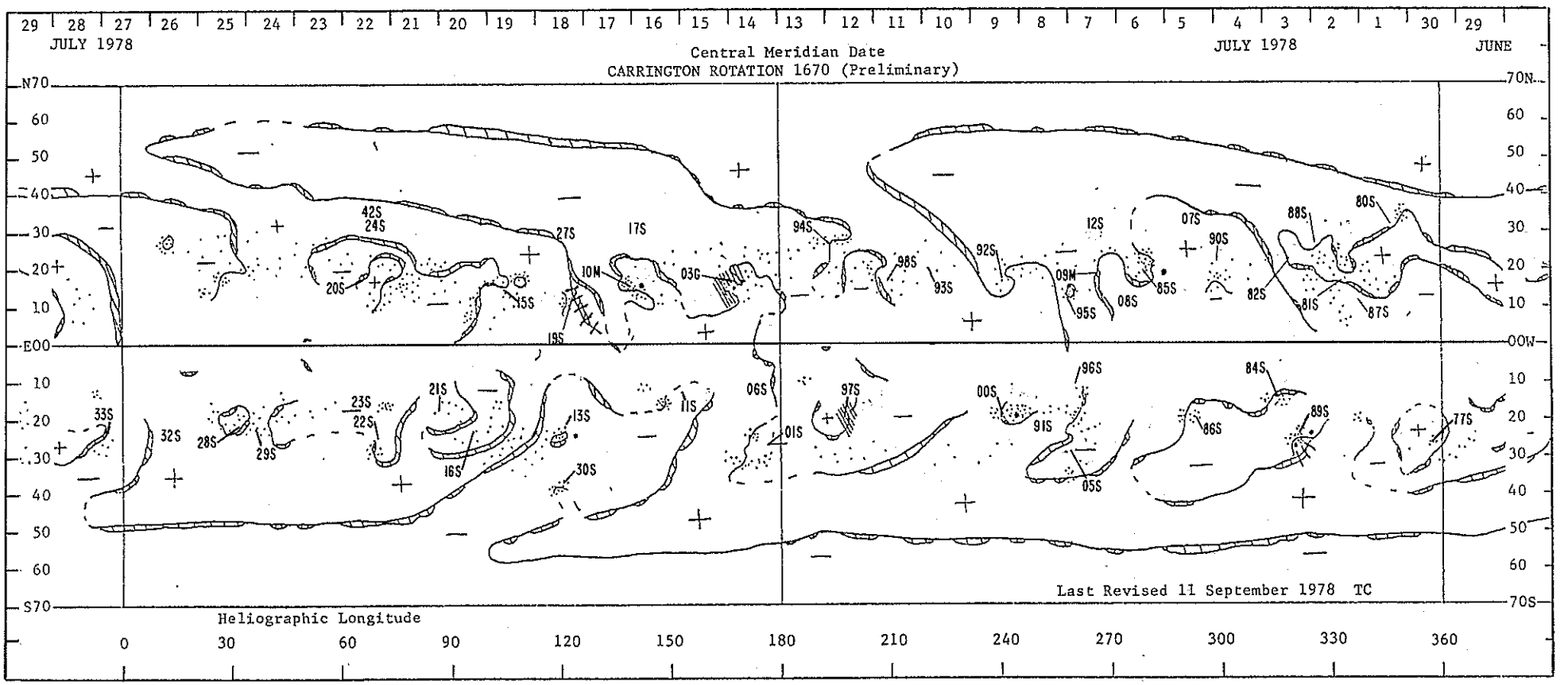
AUGUST 1978 DATA

Contents

ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART

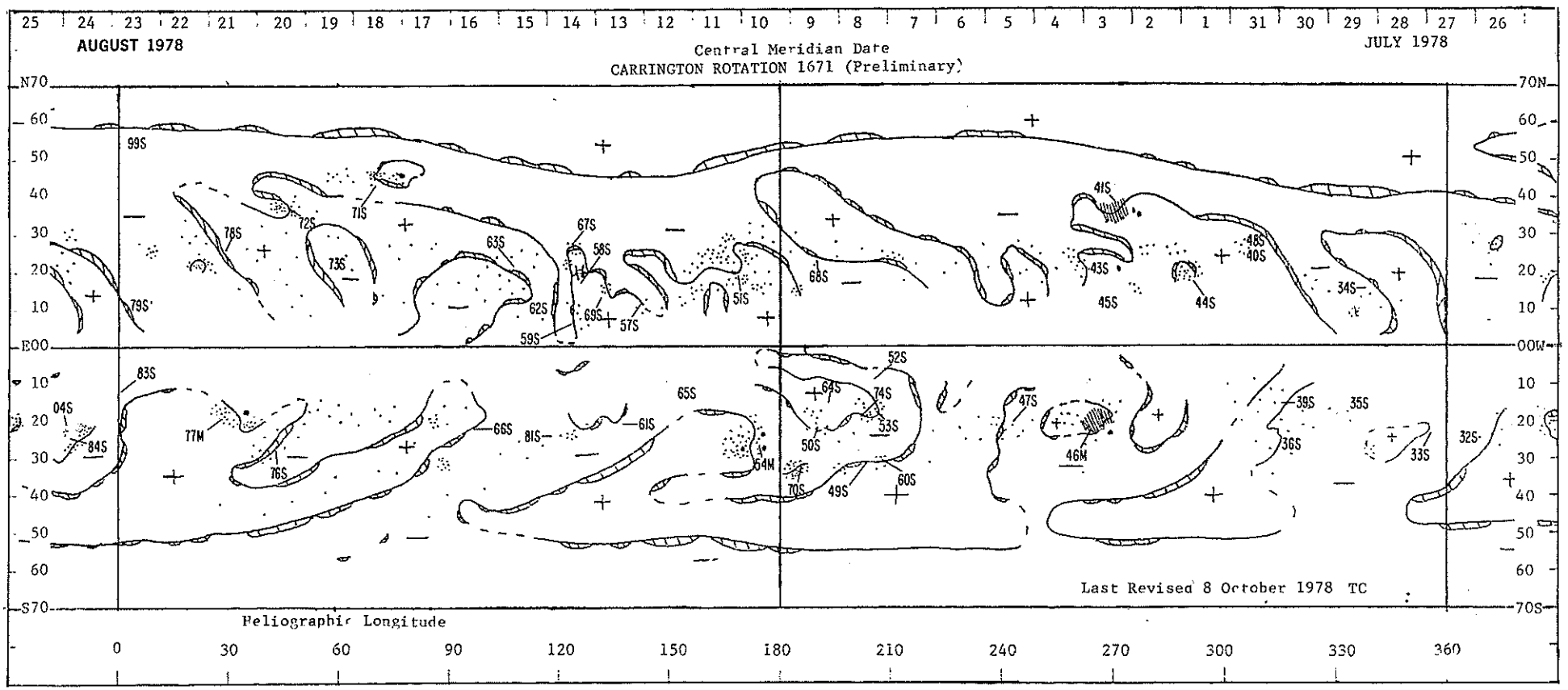
JUNE - JULY 1978



ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART

JULY - AUGUST 1978



ABBREVIATED CALENDAR RECORD

AUGUST 1978

August 1, 1978

FLARES

Bursts: cm; dm; m — noise storm; Dkm

SID

X-Rays

Ap 404 — Kp: 1- 1o 1o 1+ 1- 0+ 1+ 2-; sc

Aurora — USSR; DMS

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- moderately bright; SE-; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 42; 10 cm flux: 103; Flare: 7/23.1; Ca: 15.2; Ip: 0; Ia: 0

Solar Regions — 15444 N18

Sunspots — (20153) N18 (αp) 4 CMP Aug. 2

August 2, 1978

FLARES

Bursts: cm; dm; m — noise storm; Dkm

SID

X-Rays

Ap 406 — Kp: 1- 0+ 0o 0+ 1- 1o 2o 2o; sc

Aurora — USSR; DMSP

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: 48; 10 cm flux: 103; Flare: 0/22.6; Ca: 16.6; Ip: 0; Ia: 0

Solar Regions

Sunspots

August 3, 1978

FLARES

Bursts: cm; dm; m — noise storm; Dkm

SID

X-Rays

Ap 16 — Kp: 2- 3- 2+ 3o 3+ 4- 4- 4o; sc

Aurora — USSR; DMSP

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- bright; SE-; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 38; 10 cm flux: 106; Flare: 14/23.1; Ca: 15.6; Ip: 0; Ia: 0

Solar Regions — 15441 N36 (2); (15445) N10; 15443 N21 (2); 15446 S23

Sunspots — 20151 N35 (αp) 3 CMP Aug. 2; 20152 N19 (αp) 4; (20161) N25 (αf) 2 CMP Aug. 4; 20154 S23 (βp) 4

August 4, 1978

FLARES

Bursts: cm; dm; m; Dkm

SID

X-Rays

Ap 3005 — Kp: 4+ 6- 3o 5+ 4+ 3+ 3o 2-; sc

Aurora — USSR; DMSP

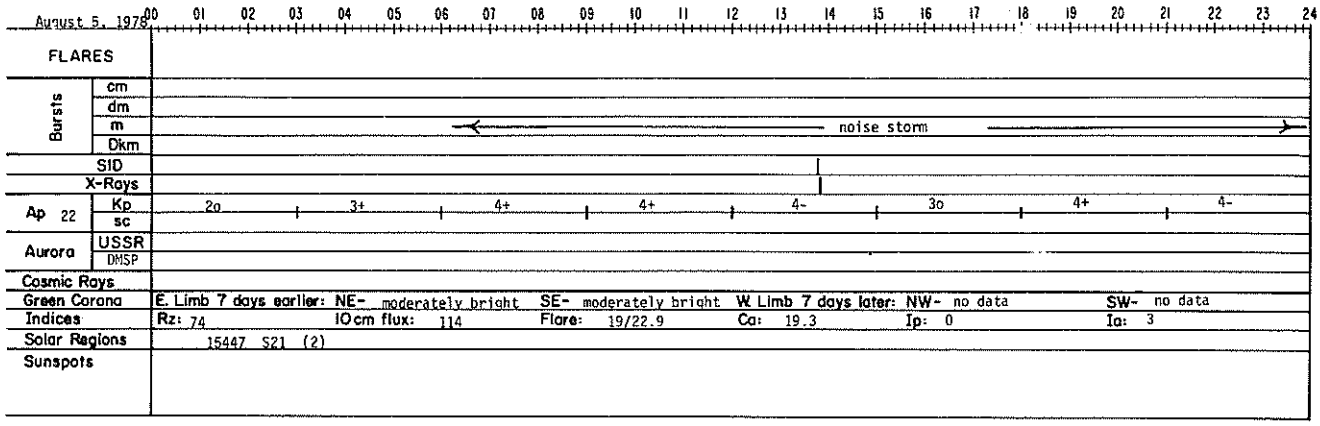
Cosmic Rays

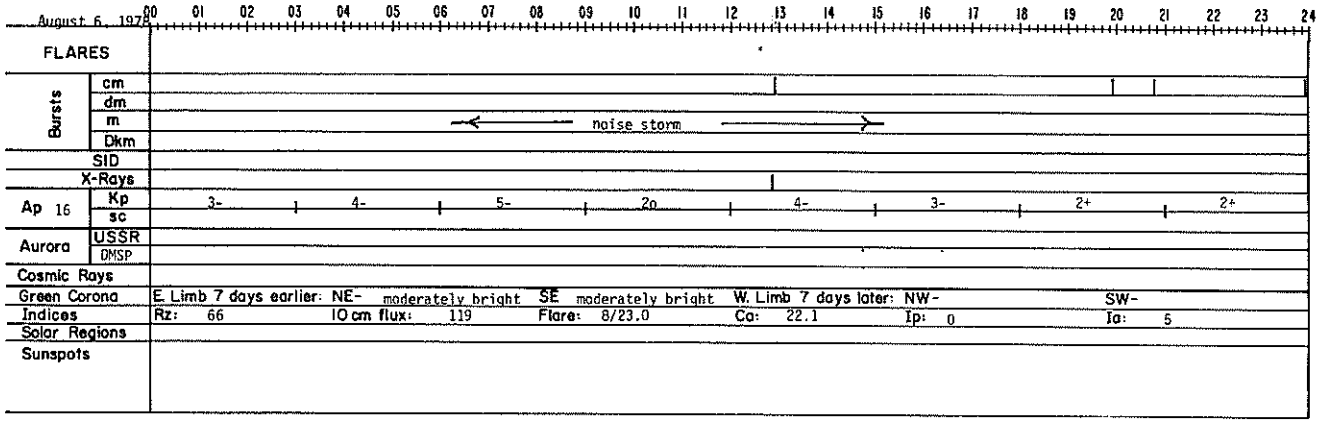
Green Corona — E. Limb 7 days earlier: NE- bright; SE; W. Limb 7 days later: NW- no data; SW- no data

Indices — Rz: 62; 10 cm flux: 109; Flare: 15/23.6; Ca: 19.0; Ip: 0; Ia: 0

Solar Regions

Sunspots


August 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
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 22
Kp
sc
2o 3+ 4+ 4+ 4- 3o 4+ 4-
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 74 10 cm flux: 114 Flare: 19/22.9 Ca: 19.3 Ip: 0 Ia: 3
Solar Regions
15447 S21 (2)
Sunspots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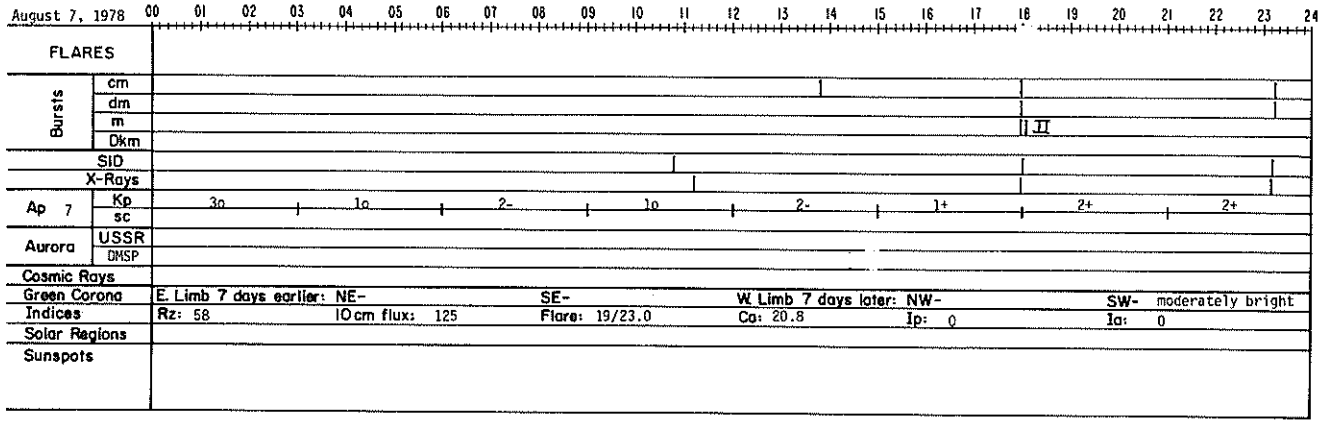
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 16
Kp
sc
3- 4- 5- 2o 4- 3- 2+ 2+
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE moderately bright W. Limb 7 days later: NW- SW-
Indices
Rz: 66 10 cm flux: 119 Flare: 8/23.0 Ca: 22.1 Ip: 0 Ia: 5
Solar Regions
Sunspots


August 7, 1978
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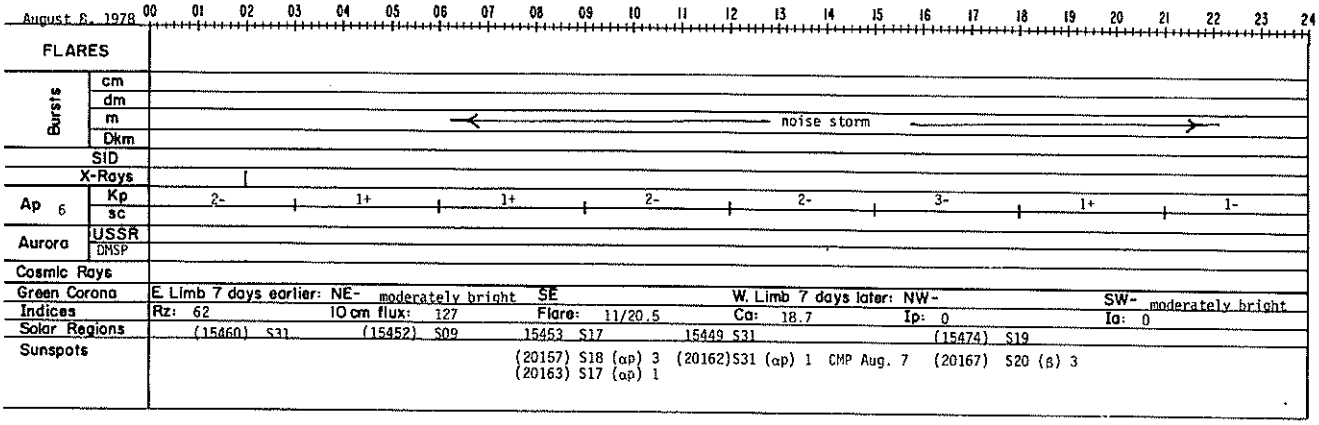
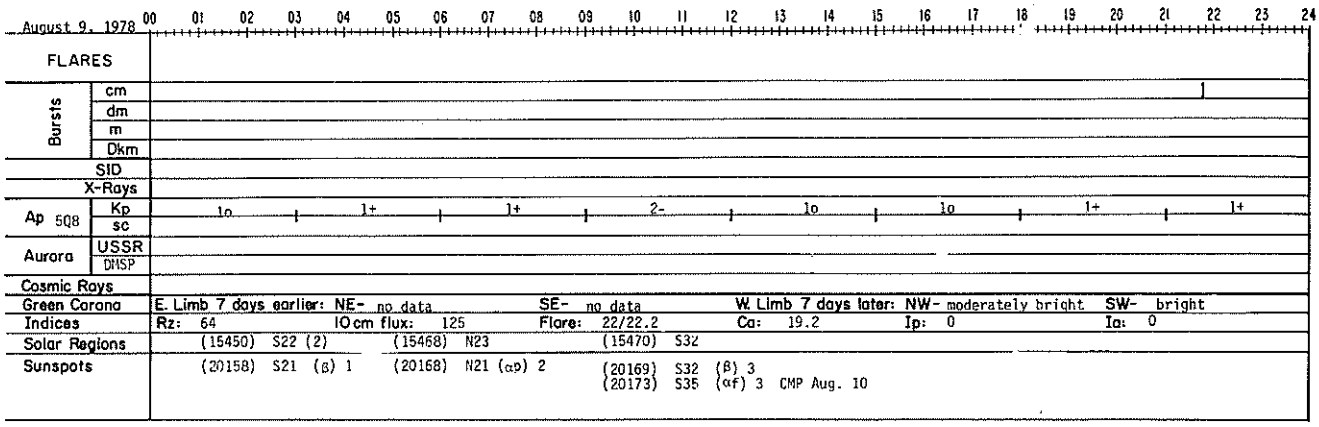
FLARES
Bursts
cm
dm
m
Dkm
II
SID
X-Rays
Ap 7
Kp
sc
3o 1o 2- 1o 2- 1+ 2+ 2+
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- SW- moderately bright
Indices
Rz: 58 10 cm flux: 125 Flare: 19/23.0 Ca: 20.8 Ip: 0 Ia: 0
Solar Regions
Sunspots


August 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
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 6
Kp
sc
2- 1+ 1+ 2- 2- 3- 1+ 1-
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- SW- moderately bright
Indices
Rz: 62 10 cm flux: 127 Flare: 11/20.5 Ca: 18.7 Ip: 0 Ia: 0
Solar Regions
(15460) S31 (15452) S09 15453 S17 15449 S31 (15474) S19
Sunspots
(20157) S18 (αp) 3 (20162) S31 (αp) 1 CMP Aug. 7 (20167) S20 (β) 3
(20163) S17 (αp) 1


August 9, 1978
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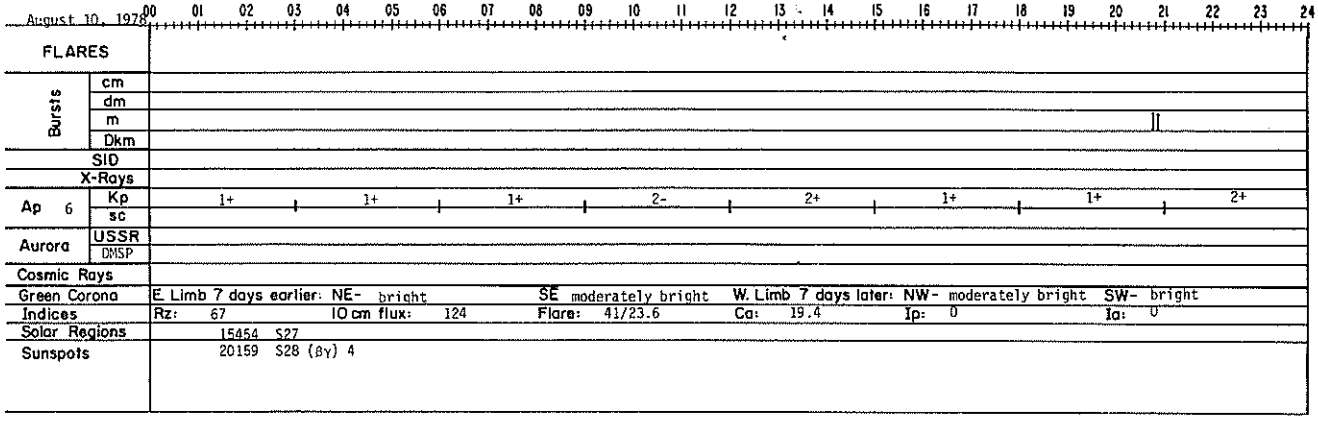
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 508
Kp
sc
1o 1+ 1+ 2- 1o 1o 1+ 1+
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- moderately bright SW- bright
Indices
Rz: 64 10 cm flux: 125 Flare: 22/22.2 Ca: 19.2 Ip: 0 Ia: 0
Solar Regions
(15450) S22 (2) (15468) N23 (15470) S32
Sunspots
(20158) S21 (β) 1 (20168) N21 (αp) 2 (20169) S32 (β) 3
(20173) S35 (αf) 3 CMP Aug. 10


August 10, 1978
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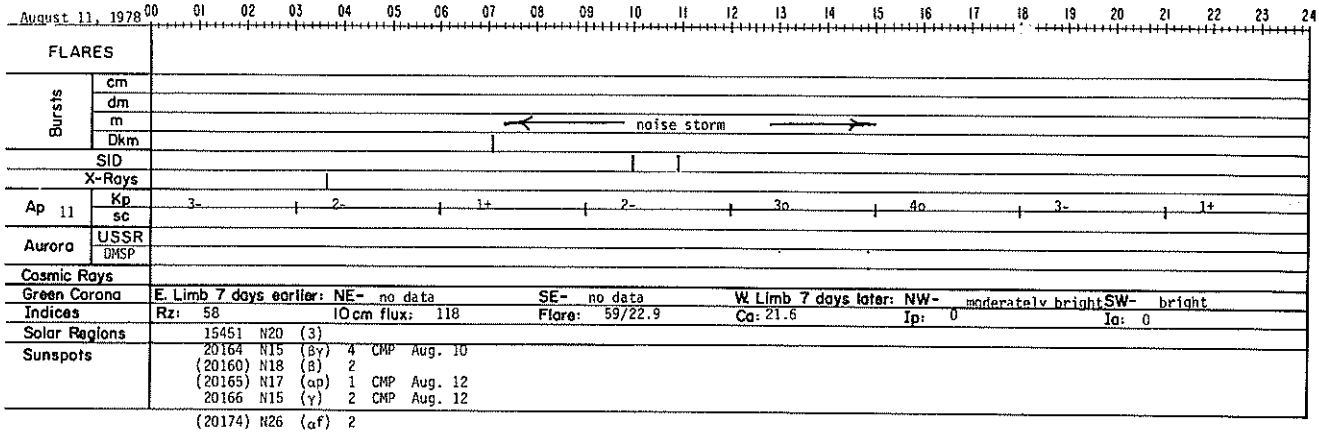
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 6
Kp
sc
1+ 1+ 1+ 2- 2+ 1+ 1+ 2+
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- bright SE moderately bright W. Limb 7 days later: NW- moderately bright SW- bright
Indices
Rz: 67 10 cm flux: 124 Flare: 41/23.6 Ca: 19.4 Ip: 0 Ia: 0
Solar Regions
15454 S27
Sunspots
20159 S28 (βγ) 4


August 11, 1978
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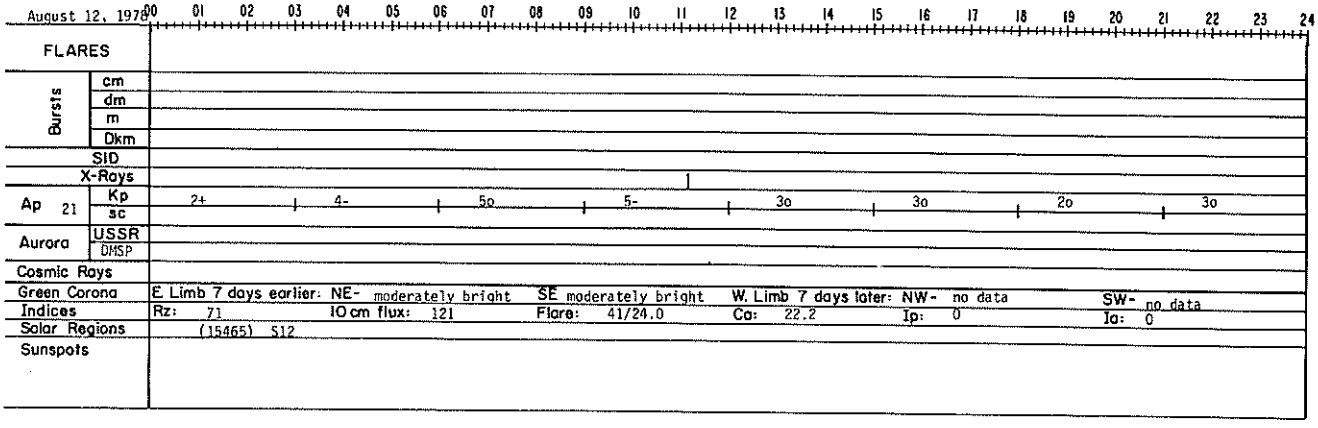
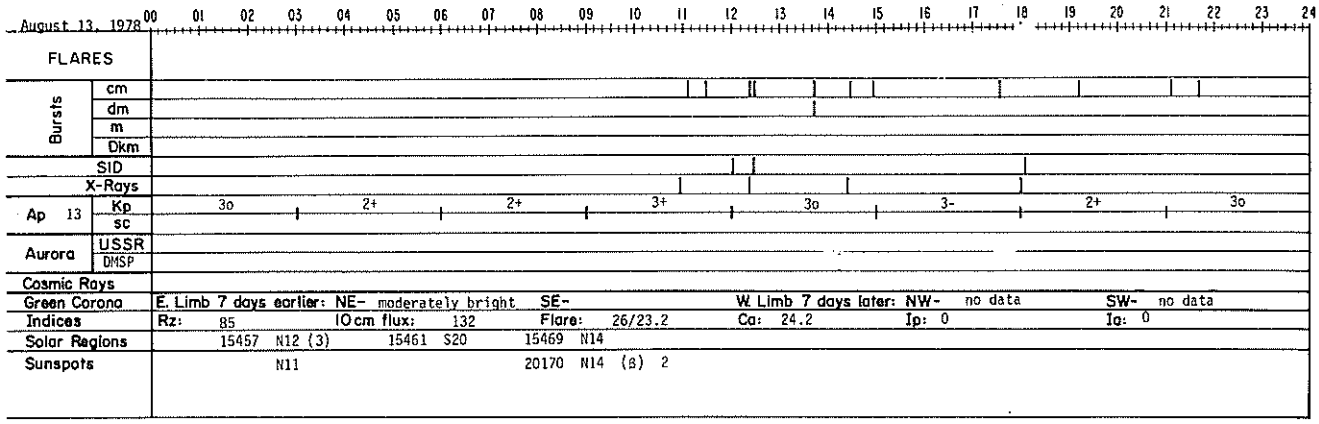
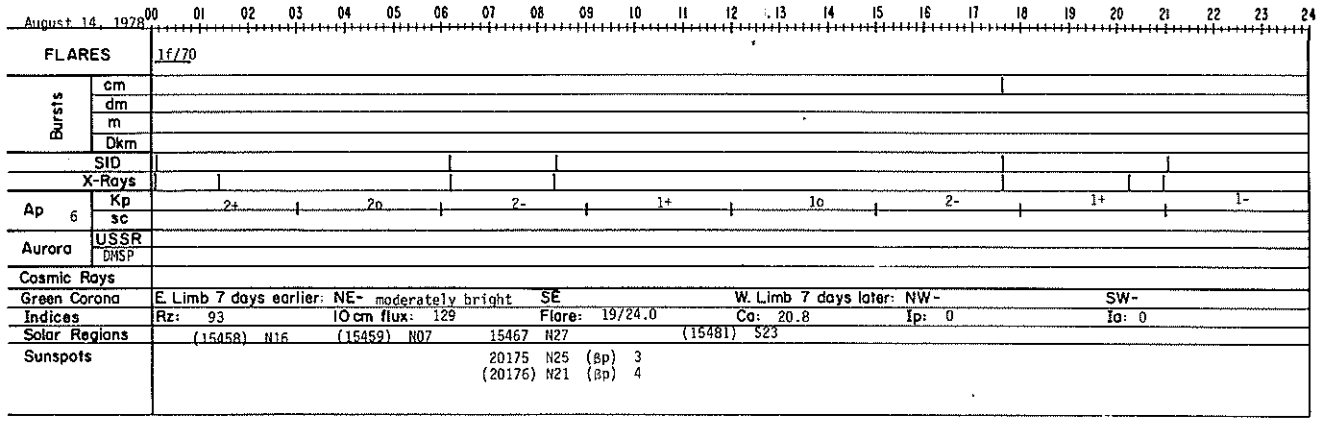
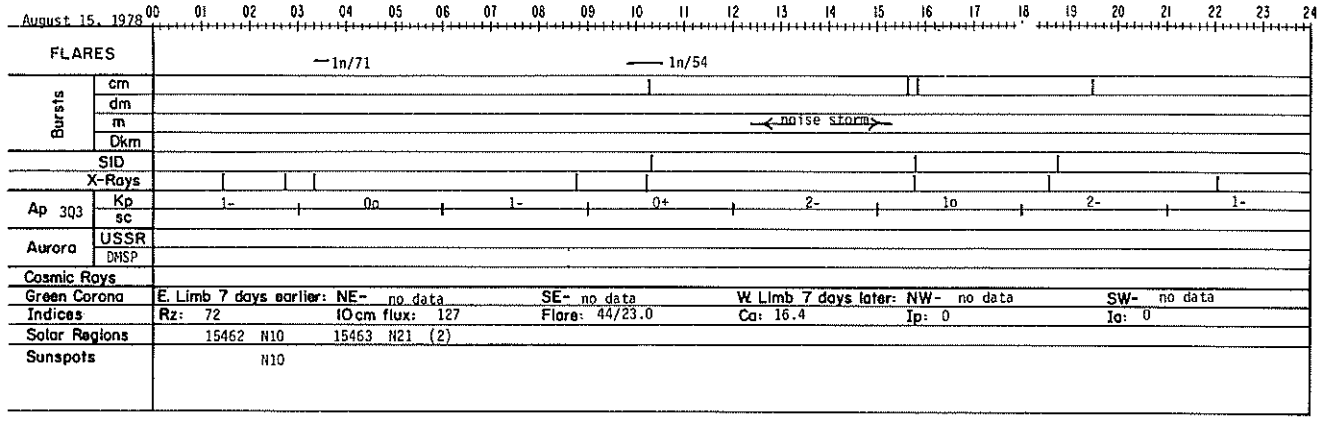
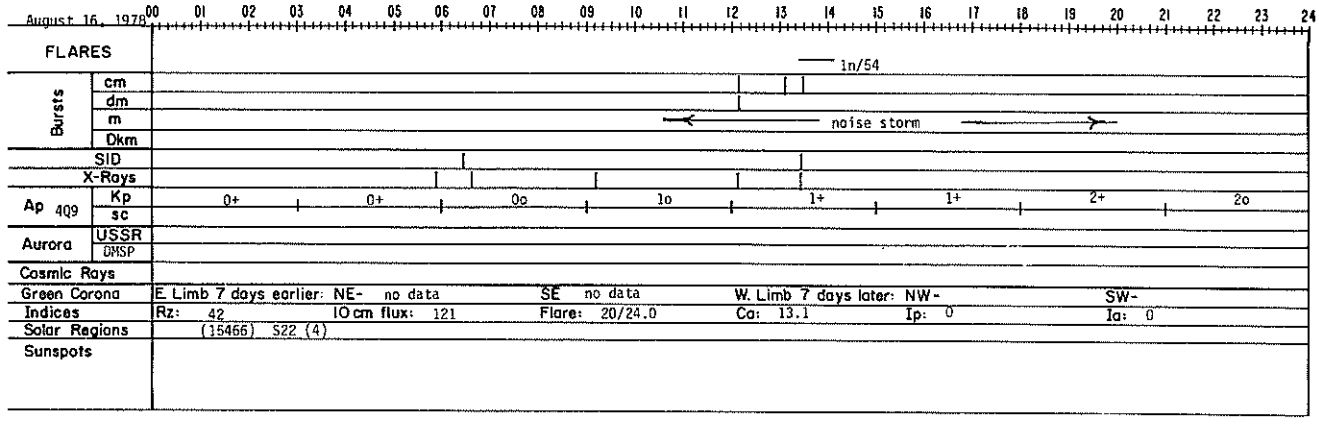
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 11
Kp
sc
3- 2- 1+ 2- 3o 4o 3- 1+
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- moderately bright SW- bright
Indices
Rz: 58 10 cm flux: 118 Flare: 59/22.9 Ca: 21.6 Ip: 0 Ia: 0
Solar Regions
15451 N20 (β)
Sunspots
20164 N15 (βγ) 4 CMP Aug. 10
(20160) N18 (β) 2
(20165) N17 (αp) 1 CMP Aug. 12
20166 N15 (γ) 2 CMP Aug. 12
(20174) N26 (αf) 2

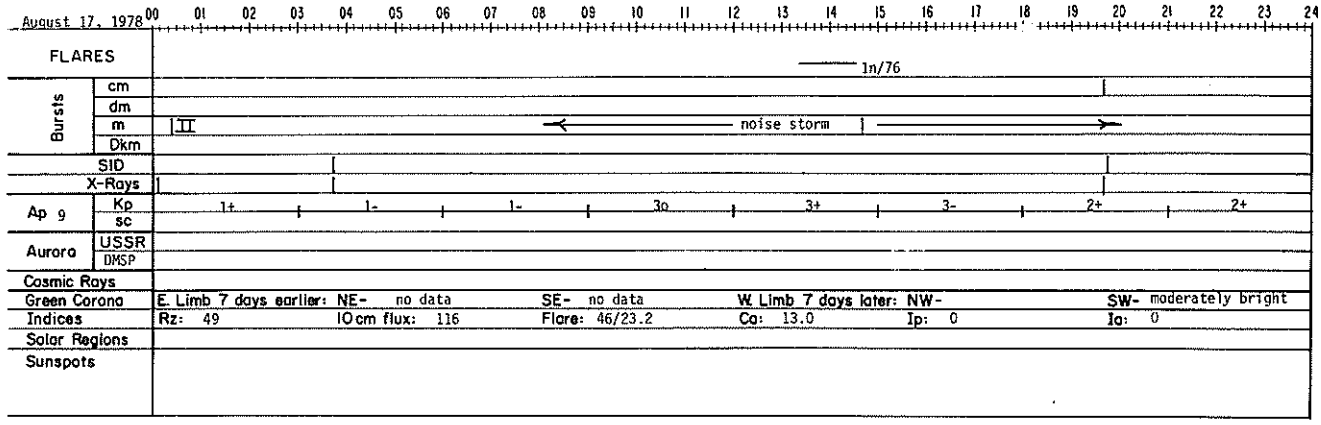

August 12, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 21
Kp
sc
2+ 4- 5o 5- 3o 3o 2o 3o
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE moderately bright W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 71 10 cm flux: 121 Flare: 41/24.0 Ca: 22.2 Ip: 0 Ia: 0
Solar Regions
(15465) S12
Sunspots

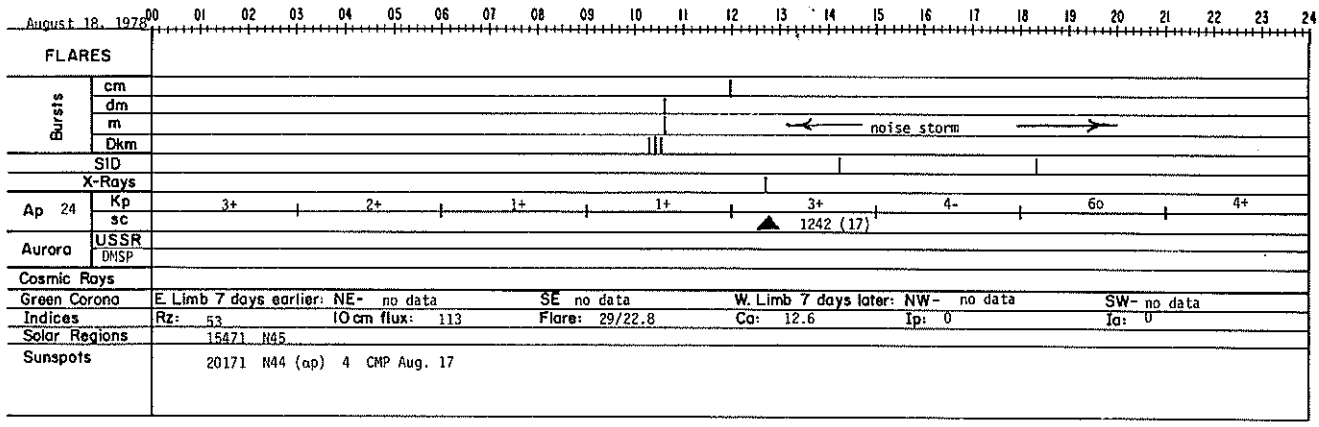

August 13, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 13
Kp
3o 2+ 2+ 3+ 3o 3- 2+ 3o
sc
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE-
W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 85 10cm flux: 132 Flare: 26/23.2 Ca: 24.2 Ip: 0 Ia: 0
Solar Regions
15457 N12 (3) 15461 S20 15469 N14
Sunspots
N11 20170 N14 (β) 2

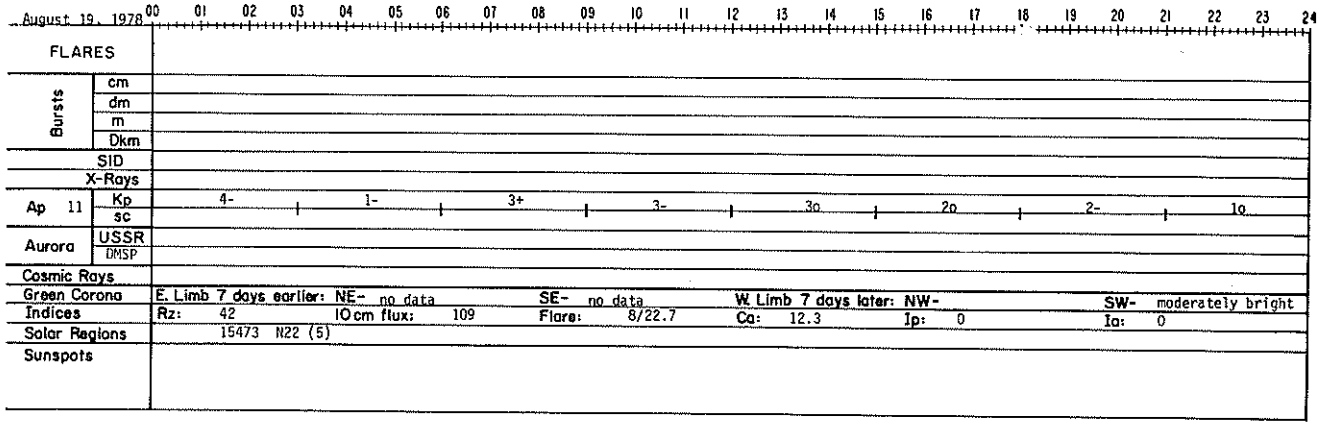

August 14, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/7O
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 6
Kp
2+ 2o 2- 1+ 1o 2- 1+ 1-
sc
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE
W. Limb 7 days later: NW- SW-
Indices
Rz: 93 10cm flux: 129 Flare: 19/24.0 Ca: 20.8 Ip: 0 Ia: 0
Solar Regions
(15458) N16 (15459) N07 15467 N27 (15481) S23
Sunspots
20175 N25 (βp) 3
(20176) N21 (βp) 4

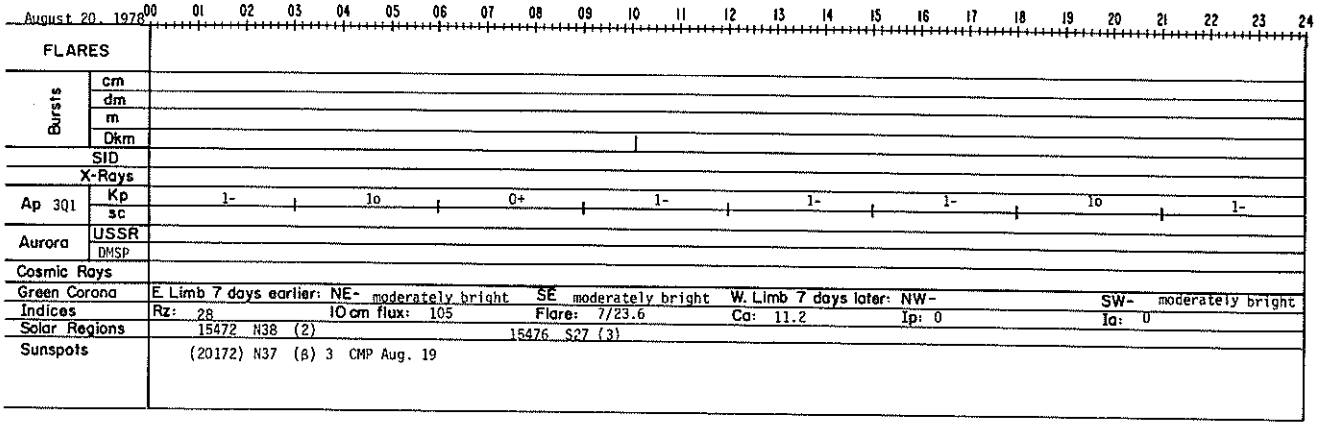

August 15, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1n/71
1n/54
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 3Q3
Kp
1- 0o 1- 0+ 2- 1o 2- 1-
sc
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data
W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 72 10cm flux: 127 Flare: 44/23.0 Ca: 16.4 Ip: 0 Ia: 0
Solar Regions
15462 N10 15463 N21 (2)
Sunspots
N10


August 16, 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/54
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 409
Kp
0+ 0+ 0o 1o 1+ 1+ 2+ 2o
sc
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE no data
W. Limb 7 days later: NW- SW-
Indices
Rz: 42 10cm flux: 121 Flare: 20/24.0 Ca: 13.1 Ip: 0 Ia: 0
Solar Regions
(15466) S22 (4)
Sunspots


August 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
1n/76
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 9
Kp
sc
1+ 1- 1- 3o 3+ 3- 2+ 2+
Aurora
USSR
DMSP
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: 49 10cm flux: 116 Flare: 46/23.2 Ca: 13.0 Ip: 0 Ia: 0
Solar Regions
Sunspots


August 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
noise storm
SID
X-Rays
Ap 24
Kp
sc
3+ 2+ 1+ 1+ 3+ 4- 6o 4+
1242 (17)
Aurora
USSR
DMSP
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: 53 10cm flux: 113 Flare: 29/22.8 Ca: 12.6 Ip: 0 Ia: 0
Solar Regions
15471 N45
Sunspots
20171 N44 (αp) 4 CMP Aug. 17


August 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
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 11
Kp
sc
4- 1- 3+ 3- 3o 2o 2- 1o
Aurora
USSR
DMSP
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: 42 10cm flux: 109 Flare: 8/22.7 Ca: 12.3 Ip: 0 Ia: 0
Solar Regions
15473 N22 (5)
Sunspots


August 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
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 301
Kp
sc
1- 1o 0+ 1- 1- 1- 1o 1-
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE moderately bright W. Limb 7 days later: NW- SW- moderately bright
Indices
Rz: 28 10cm flux: 105 Flare: 7/23.6 Ca: 11.2 Ip: 0 Ia: 0
Solar Regions
15472 N38 (2) 15476 S27 (3)
Sunspots
(20172) N37 (β) 3 CMP Aug. 19

August 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		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 6	Kp	1o 1- 0+ 1- 1- 1+ 2o 4-
	sc	
Aurora	USSR	
	DMSP	
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: 26 10cm flux: 102 Flare: 16/24.0 Ca: 11.9 Ip: 0 Ia: 0
Solar Regions		15478 N25 (3&4) 15477 S19
Sunspots		(20180) N21 (β) 3 CMP Aug. 22 20177 S19 (βp) 4 (20184) N26 (αp) 3 CMP Aug. 22

August 22, 1978

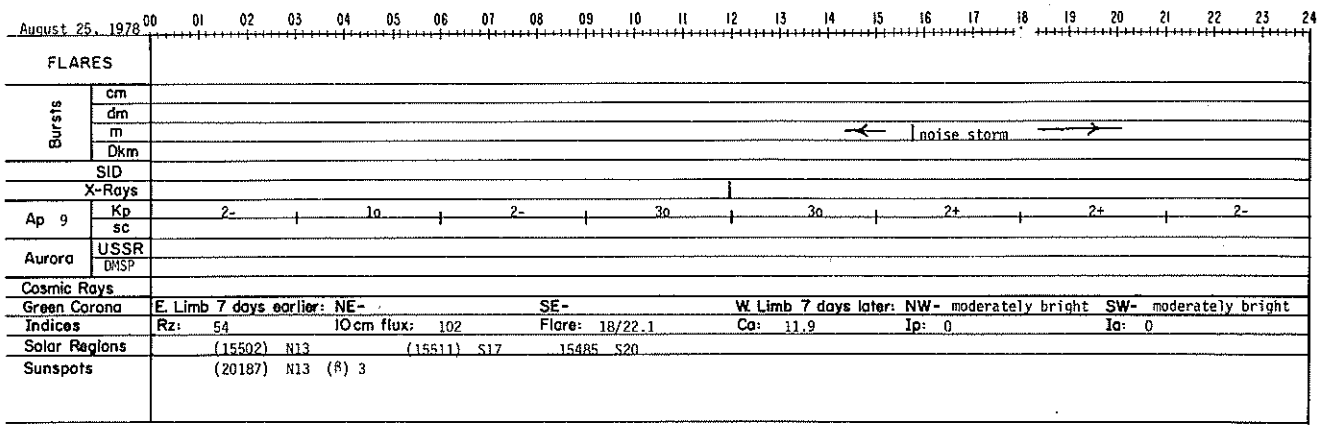
		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	noise storm
	Dkm	
SID		
X-Rays		
Ap 6Q10	Kp	3- 2+ 1- 1- 2o 1- 1- 1o
	sc	
Aurora	USSR	
	DMSP	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- no data SW- no data
Indices		Rz: 36 10cm flux: 104 Flare: 13/23.4 Ca: 12.3 Ip: 0 Ia: 0
Solar Regions		
Sunspots		

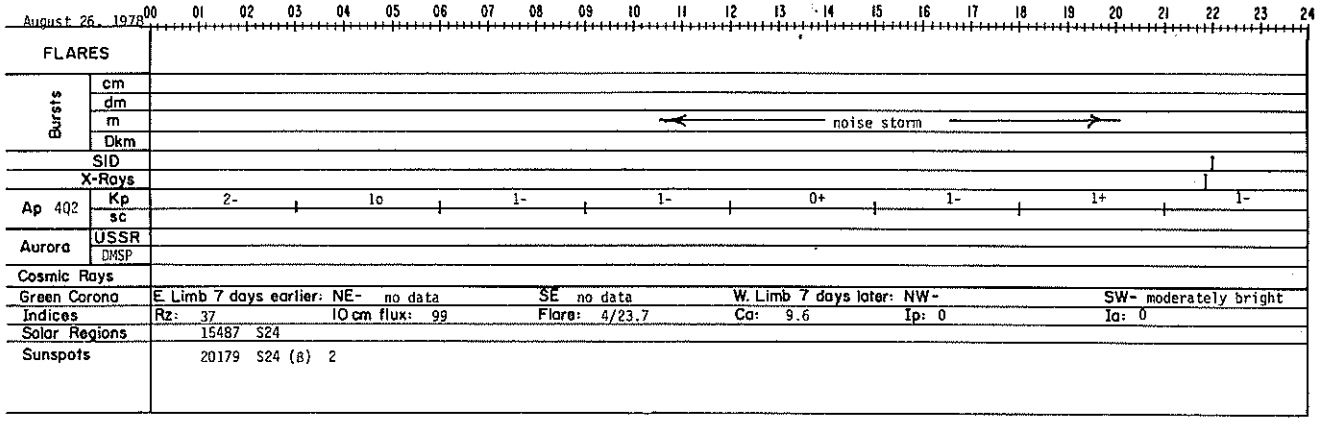
August 23, 1978

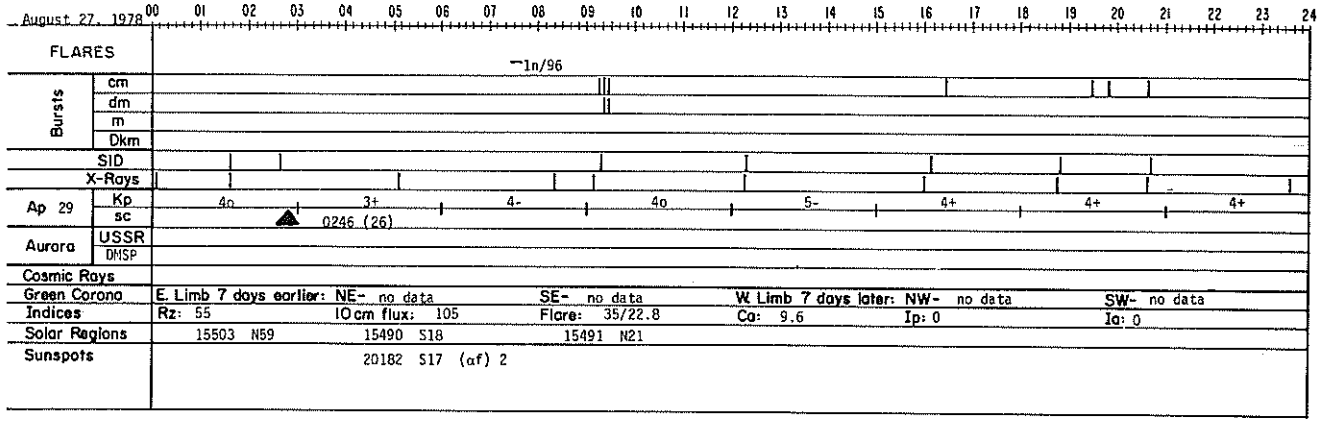
		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	noise storm
	Dkm	
SID		
X-Rays		
Ap 4Q5	Kp	0+ 1o 1- 1- 1- 1+ 2- 2-
	sc	
Aurora	USSR	
	DMSP	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- moderately bright SE- W. Limb 7 days later: NW- SW-
Indices		Rz: 45 10cm flux: 102 Flare: 24/23.6 Ca: 10.1 Ip: 0 Ia: 0
Solar Regions		(15499) N55 (15483) S13
Sunspots		(20178) S13 (β) 2

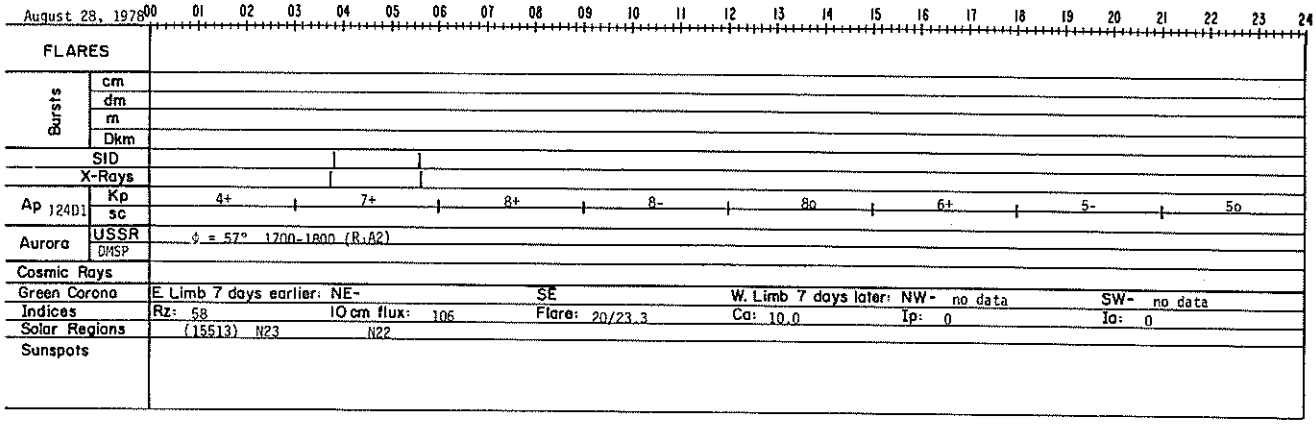
August 24, 1978

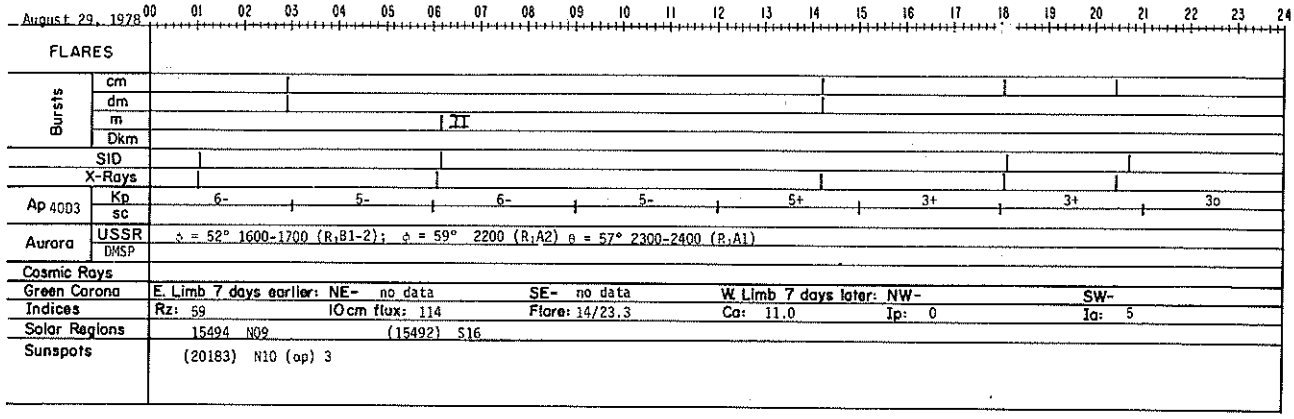
		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 4Q7	Kp	2o 1o 1o 1o 1o 1o 1- 1o
	sc	
Aurora	USSR	
	DMSP	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- moderately bright SE W. Limb 7 days later: NW- SW- moderately bright
Indices		Rz: 45 10cm flux: 103 Flare: 21/21.3 Ca: 9.8 Ip: 0 Ia: 0
Solar Regions		15484 S24 (15504) S21
Sunspots		(20181) S26 (αf) 2 (20186) S20 (β) 3

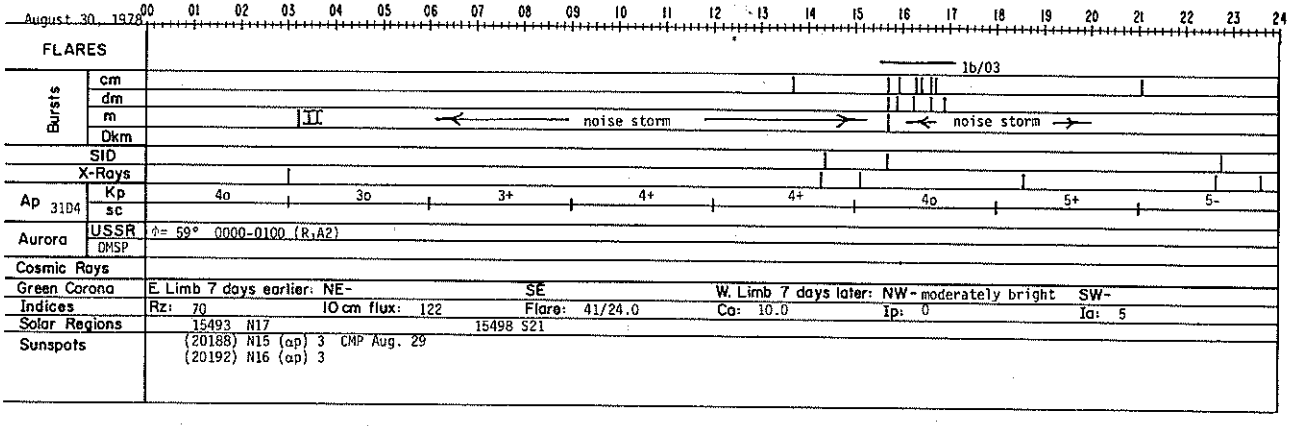

August 25, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 9
Kp
sc
2- 1o 2- 3o 3o 2+ 2+ 2-
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE-
W. Limb 7 days later: NW- moderately bright
SW- moderately bright
Indices
Rz: 54
10cm flux: 102
Flare: 18/22.1
Ca: 11.9
Ip: 0
Ia: 0
Solar Regions
(15502) N13
(15511) S17
15485 S20
Sunspots
(20187) N13 (β) 3

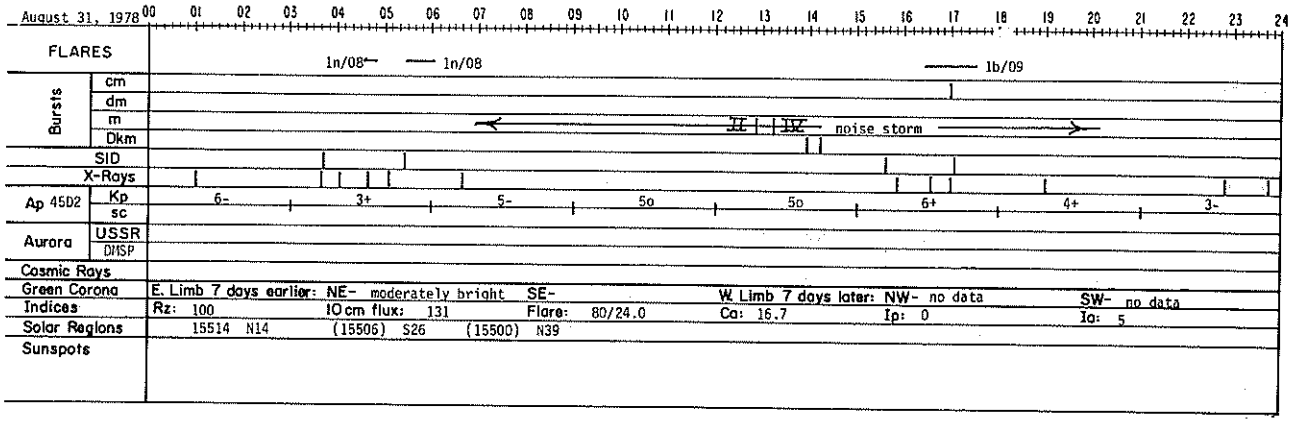

August 26, 1978
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
noise storm
SID
X-Rays
Ap 402
Kp
sc
2- 1o 1- 1- 0+ 1- 1+ 1-
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW-
SW- moderately bright
Indices
Rz: 37
10cm flux: 99
Flare: 4/23.7
Ca: 9.6
Ip: 0
Ia: 0
Solar Regions
15487 S24
Sunspots
20179 S24 (β) 2


August 27, 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
SID
X-Rays
Ap 29
Kp
sc
4o 3+ 4- 4o 5- 4+ 4+ 4+
0246 (26)
Aurora
USSR
DMSP
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: 55
10cm flux: 105
Flare: 35/22.8
Ca: 9.6
Ip: 0
Ia: 0
Solar Regions
15503 N59
15490 S18
15491 N21
Sunspots
20182 S17 (αf) 2


August 28, 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
SID
X-Rays
Ap 1240
Kp
sc
4+ 7+ 8+ 8- 8o 6+ 5- 5o
Aurora
USSR
DMSP
φ = 57° 1700-1800 (R:A2)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 58
10cm flux: 106
Flare: 20/23.3
Ca: 10.0
Ip: 0
Ia: 0
Solar Regions
(15513) N23
N22
Sunspots


August 29, 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
SID
X-Rays
Ap 4003
Kp
sc
6- 5- 6- 5- 5+ 3+ 3+ 3o
Aurora
USSR
DMSP
φ = 52° 1600-1700 (R,B1-2); φ = 59° 2200 (R,A2) θ = 57° 2300-2400 (R,A1)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- SW-
Indices
Rz: 59 10cm flux: 114 Flare: 14/23.3 Ca: 11.0 Ip: 0 Ia: 5
Solar Regions
15494 N09 (15492) S16
Sunspots
(20183) N10 (ap) 3


August 30, 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/03
Bursts
cm
dm
m
Dkm
II
noise storm
noise storm
SID
X-Rays
Ap 3104
Kp
sc
4o 3o 3+ 4+ 4+ 4o 5+ 5-
Aurora
USSR
DMSP
φ= 59° 0000-0100 (R,A2)
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- moderately bright SW-
Indices
Rz: 70 10cm flux: 122 Flare: 41/24.0 Ca: 10.0 Ip: 0 Ia: 5
Solar Regions
15493 N17 15498 S21
Sunspots
(20188) N15 (ap) 3 CMP Aug. 29
(20192) N16 (ap) 3


August 31, 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/08
1n/08
1b/09
Bursts
cm
dm
m
Dkm
II
IIc
noise storm
SID
X-Rays
Ap 4502
Kp
sc
6- 3+ 5- 5o 5o 6+ 4+ 3-
Aurora
USSR
DMSP
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- moderately bright SE- W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 100 10cm flux: 131 Flare: 80/24.0 Ca: 16.7 Ip: 0 Ia: 5
Solar Regions
15514 N14 (15506) S26 (15500) N39
Sunspots

REGIONAL FLARE INDEX

INCLUDES ALL FLARES

AUGUST 1978

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
15444	N19	78/08/01.7	78/07/28	78/08/05	3.85	.43	2
15441	N37	78/08/03.3	78/07/26	78/08/07	25.24	1.94	20
15445	N12	78/08/03.5	78/07/28	78/08/03	5.29	.76	2
15443	N22	78/08/03.7	78/07/27	78/08/10	23.28	1.55	13
15446	S23	78/08/03.7	78/07/29	78/08/09	53.51	4.46	31
15447	S21	78/08/05.4	78/08/01	78/08/04	3.39	.85	2
15474	S19	78/08/08.4	78/08/12	78/08/14	18.70	6.23	19
15450	S22	78/08/09.3	78/08/07	78/08/07	3.38	3.38	1
15470	S32	78/08/09.6	78/08/12	78/08/15	28.83	7.21	20
15454	S27	78/08/10.7	78/08/03	78/08/17	129.90	8.66	64
15451	N20	78/08/11.3	78/08/05	78/08/17	71.85	5.53	20
15461	S21	78/08/13.6	78/08/10	78/08/12	5.29	1.76	2
15458	N16	78/08/14.3	78/08/09	78/08/11	2.81	.94	2
15467	N26	78/08/14.4	78/08/17	78/08/21	17.12	3.42	10
15462	N10	78/08/15.1	78/08/15	78/08/15	5.37	5.37	1
15471	N45	78/08/18.9	78/08/13	78/08/17	50.12	10.02	17
15472	N38	78/08/20.3	78/08/12	78/08/17	6.47	1.08	6
15476	S27	78/08/20.8	78/08/17	78/08/21	13.72	2.74	2
15477	S19	78/08/21.5	78/08/16	78/08/24	82.28	9.14	33
15478	N25	78/08/21.6	78/08/22	78/08/27	3.12	.52	3
15504	S21	78/08/24.9	78/08/27	78/08/30	6.47	1.62	5
15502	N12	78/08/25.3	78/08/29	78/08/31	1.90	.63	2
15485	S20	78/08/25.9	78/08/22	78/08/24	7.30	2.43	3
15487	S24	78/08/26.7	78/08/21	78/08/29	6.16	.68	3
15490	S18	78/08/27.5	78/08/22	78/08/25	27.62	6.91	10
15494	N10	78/08/29.2	78/08/24	78/08/31	18.44	2.30	6
15493	N17	78/08/30.2	78/08/23	78/09/02	18.70	1.70	5

Miscellaneous Data

Contents

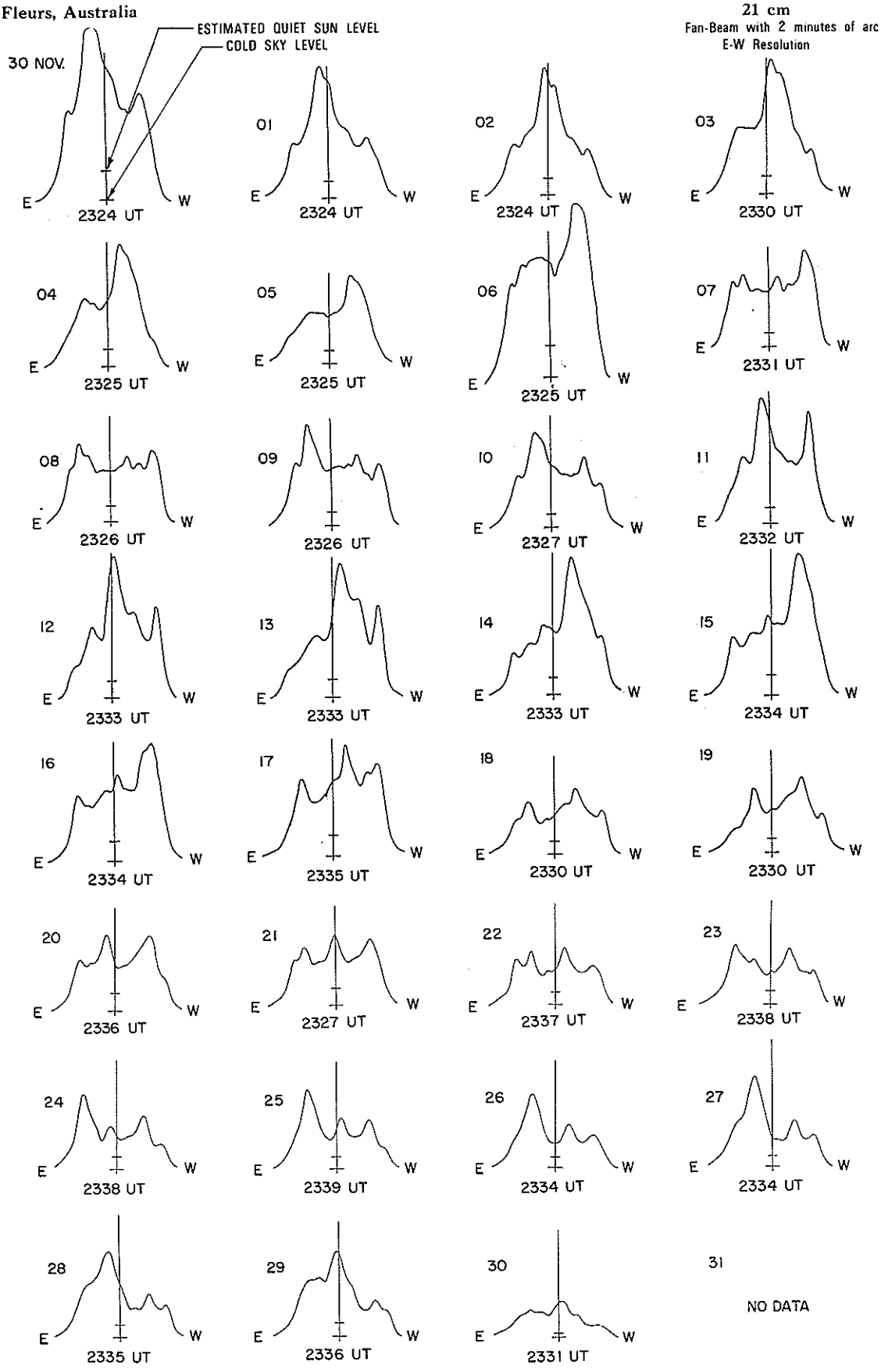
68
Misc
Dec 78

EAST-WEST SOLAR SCANS

DECEMBER 1978

Fleurs, Australia

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

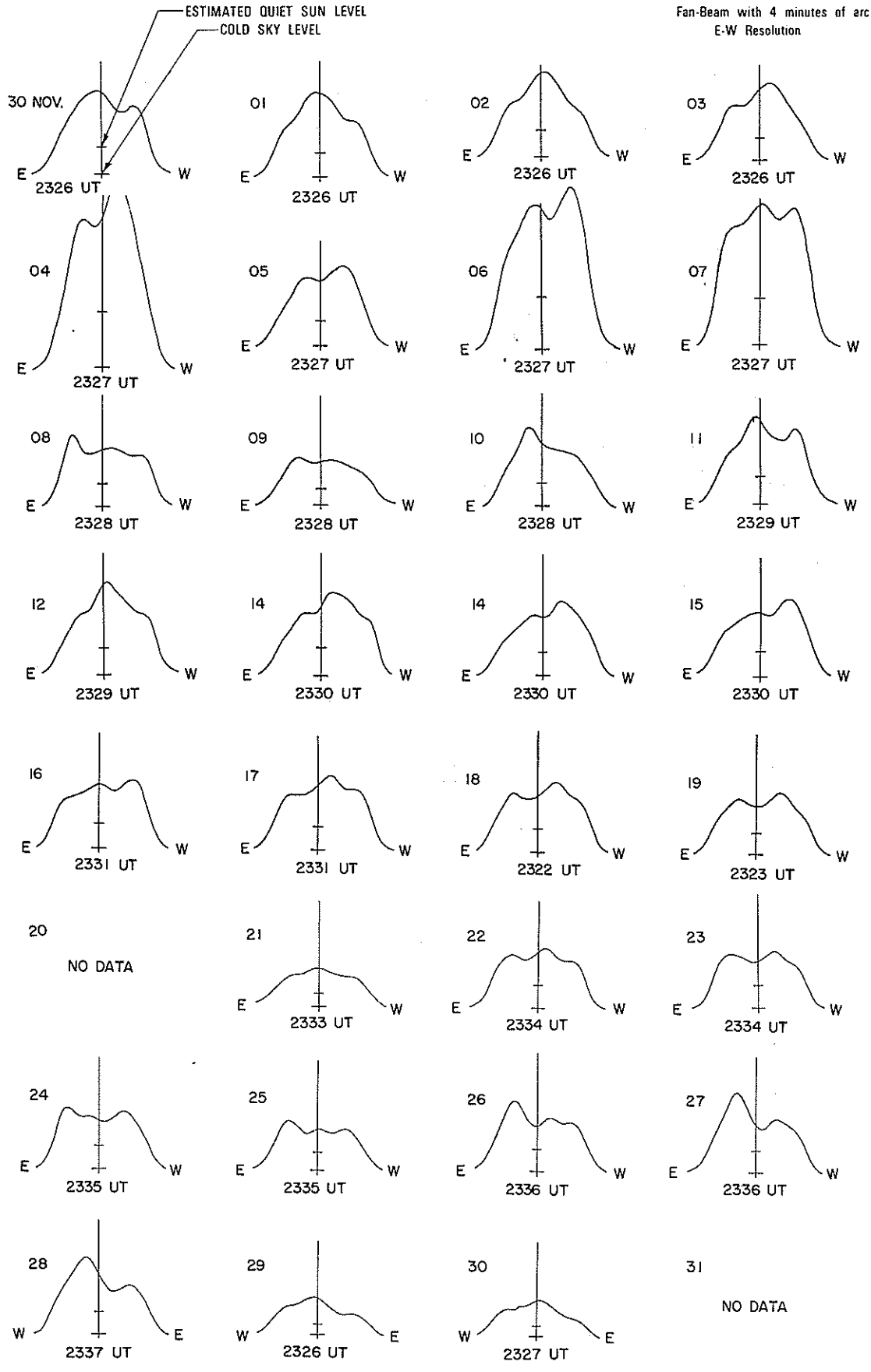


EAST-WEST SOLAR SCANS

DECEMBER 1978

Fleurs, Australia

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



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1978

DEC 1978	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
01	0718	1520	DURN				0718 E	1520	1				I,DC
			DURN	0723.1	0723.3	1	0723.1	0723.9	3				IIIG
			DURN				1214.6	1216.2	3				IIIGG
			DURN	1227.2	1228.2	1	1226.2	1229.7	3				IIIGG
02	0719	1520	DURN				0719 E	1520 D	1				I
			DURN				0934.0	0934.7	3				IIIG
			DURN				1503.7	1506.6	3				IIIGG
			DURN				1510.5	1510.8	3				IIIG
03	0719	1520	DURN				1030.2	1030.4	3				IIIG
			DURN				1055.8	1056.0	1				IIIG
			DURN				1102.2	1102.2	3				III
			DURN				1137.5	1137.8	3				IIIG
			DURN	1235.3	1240.0	2							DCIM
04	0717	1520	DURN				0717 E	1520 D	1				I,DC
			DURN	0940.8	0941.2	2	0937.3	0941.1	3				IIIGG
			DURN				1055.0	1057.9	3				IIIGG
			DURN	1101.9	1102.5	1	1101.9	1102.1	3				IIIG
			DURN	1108.2	1109.0	1							IIIG
			DURN				1139.1	1139.1	3				IIIG
			DURN	1144	1324	3	1144	1324	3				IV, P,F
			DURN				1306.1	1306.2	3				IIIG
			DURN				1310.7	1310.9	3				IIIG
05	0749	1520	DURN	0946.2	0946.2	2							IIIG
			DURN	1424.4	1425.8	3							IIIG
			DURN				1429.1	1429.1	2				III
06	0718	1520	DURN										
07	0718	1520	DURN				0904.1	0904.7	3				IIIG
			DURN				1000.2	1002.1	3				II
			DURN				1000.5	1001.9	3				IIIGG
			DURN				1026.6	1026.7	2				III
			DURN				1148.9	1149.1	3				IIIG
			DURN				1208.4	1209.7	3				IIIGG
			DURN				1229.7	1235.6	3				IIIG,N
			DURN				1351.4	1351.5	2				IIIG
			DURN				1353.9	1354.2	3				IIIG
			DURN				1507.1	1507.3	3				IIIG
08	0718	1520	DURN										
09	0718	0950	DURN										
13	0725	1517	DURN				0725 E	1517 D	3				I,DC
			DURN				0732.3	0732.4	3				IIIG
			DURN	0905.7	0906.4	3	0905.7	0907.9	3				IIIGG
			DURN	1431.9	1432.5	3							IIIGG
14	0725	1517	DURN				0725 E	1200	1				I,DC
15	0725	1517	DURN				0725 E	1517 D	1				I
			DURN				0839.8	0839.8	3				IIIG
16	0725	1517	DURN				0725 E	1517 D	1				I,DC
			DURN				1238.2	1238.3	3				IIIG
			DURN				1434.8	1434.8	3				III
17	0727	1516	DURN										
			DURN				1032.2	1032.5	3				III/V
			DURN				1213.7	1213.8	3				IIIG
18	0719	1008	DURN				0719 E	0730	1				I,DC
	1113	1520	DURN										
19	0719	1300	DURN				0719 E	0730	1				I,DC
20	1030	1506	DURN	1036.5	1038.1	3	1038.1	1038.1	3				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1978

DEC 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	
20			DURN				1130	1250	1				I
			DURN				1134.7	1134.8	3				IIIG
			DURN	1238.5	1238.5	3	1238.1	1238.9	3				IIIGG/V
21	0718	1520	DURN				0718 E	1430	1				I
			DURN	1036.2	1037.9	3	1036.2	1037.9	3				IIIGG
			DURN				1355.3	1355.7	3				IIIG
22	0721	1520	DURN				0721 E	1230	1				I,DC
23	0720	1520	DURN				0810	1320	1				I
			DURN				1337.6	1338.2	3				IIIG
			DURN				1349.8	1350.6	3				IIIGG
24	0723	1520	DURN										
26	0957	1520	DURN				1058.6	1058.8	2				IIIG
27	0723	1520	DURN				1049.5	1049.5	3				III
28	0723	1520	DURN				1220	1310	1				I,DC
29	0723	1520	DURN										
30	0723	1520	DURN	0842.5	0844.1	3	0842.8	0844.2	3				IIIGG
			DURN				0850.9	0851.0	1				III
31	0723	1515	DURN										

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
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitors)

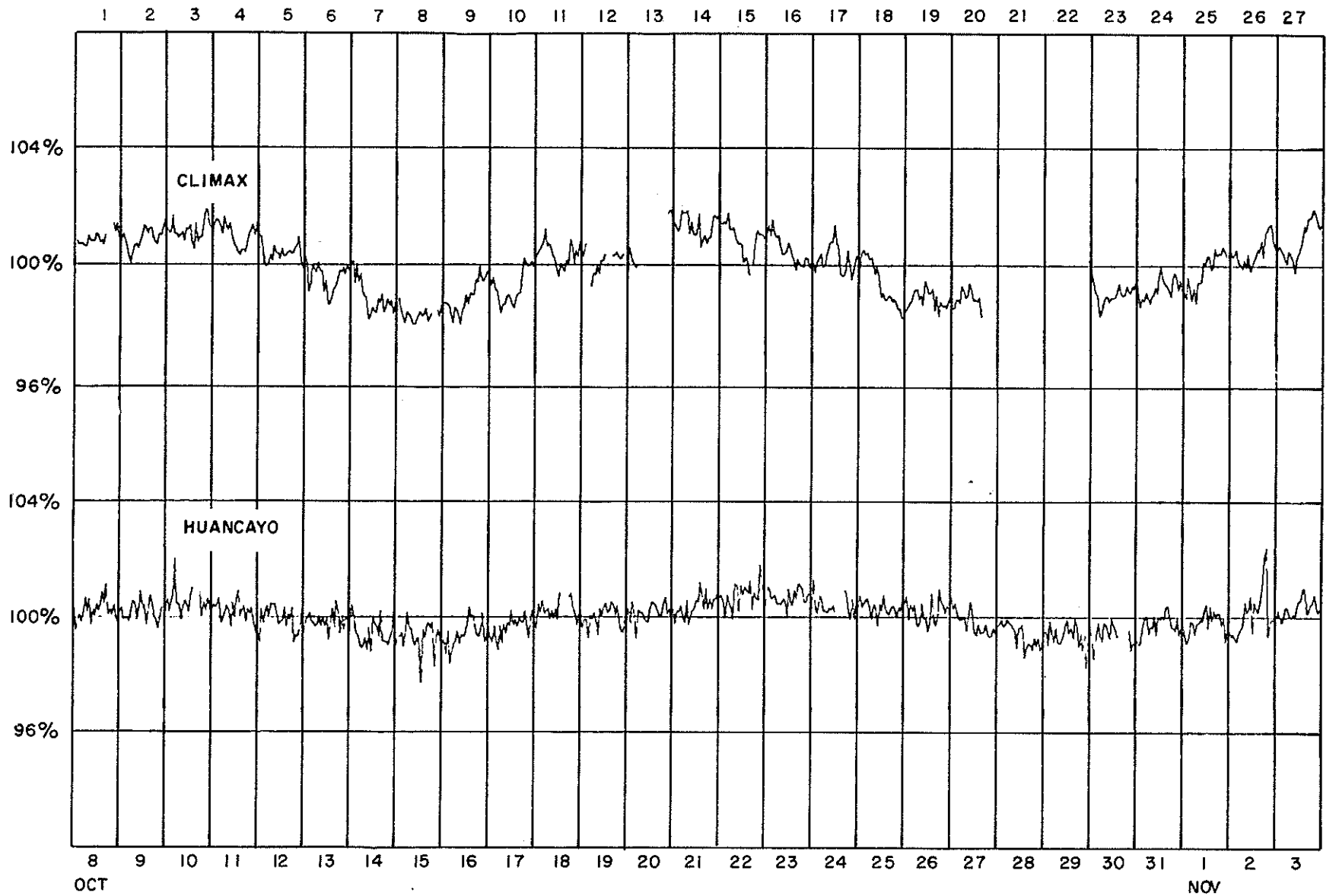
OCT NOV DEC 1978

	CLIMAX	HUANCAYO		CLIMAX	HUANCAYO		CLIMAX	HUANCAYO
Oct. 1978	Average cts/hr	Average cts/hr	Nov. 1978	Average cts/hr	Average cts/hr	Dec. 1978	Average cts/hr	Average cts/hr
1	3991.9	1724.5	1	4085.8	1744.1	1	4183.9	1757.3
2	4034.7	1734.3	2	4117.9	1750.2	2	4186.2	1760.8
3	4075.1	1743.2(38)	3	4137.1	1753.8	3	4184.9	1757.8
4	4100.8	1742.3	4	4167.9(40)	1757.0	4	4138.0	1749.0(04)
5	4065.3	1740.2	5	4208.0(02)	1761.6	5	4130.5	1744.0
6	4074.8	1745.5	6	4182.1	1763.4	6	4120.7(38)	1739.0
7	4106.2	1750.9	7	4194.7	1763.8	7	---	1749.9
8	4137.5	1753.2	8	4173.3	1757.2	8	4182.1	1758.9
9	4137.5	1752.4	9	4204.5	1762.4	9	4171.5	1754.2
10	4151.4	1759.2	10	4200.9	1761.3	10	4185.9	1759.4
11	4145.2	1752.2	11	4212.4	1764.9	11	4183.6	1767.3(38)
12	4113.9	1746.5	12	4076.1(38)	1734.3	12	4174.4	1761.2
13	4072.2	1745.0	13	4059.2	1737.2	13	4188.2	1764.8
14	4039.9	1736.9	14	4085.0	1747.7	14	4118.6	1748.4
15	4009.1	1733.9	15	4127.2	1754.2	15	4139.7	1754.1
16	4038.0	1735.5	16	4150.0	1758.0	16	4134.9	1758.6
17	4056.5	1741.0	17	4160.5	1758.3	17	4133.8	1752.3(38)
18	4111.8	1752.8	18	4178.6	1759.7	18	4185.3	1748.3(34)
19	4102.2(38)	1748.1	19	4168.9	1757.2	19	4186.0	1752.9
20	4126.6(18)	1750.6	20	4135.3	1749.1	20	4137.1	1743.4
21	4159.6	1756.1	21	4109.5	1743.7	21	4076.4	1741.0
22	4138.1	1763.5	22	4122.2	1739.6	22	4010.1	1722.4
23	4119.7	1762.2	23	4071.0	1739.7	23	4058.9	1735.1
24	4105.2	1756.5	24	4080.0	1735.8	24	4057.6	1732.3(38)
25	4062.8	1754.9	25	4080.8	1743.6	25	4069.0	1735.3
26	4037.0	1751.8	26	4113.7	1741.2	26	4084.0	1737.8
27	4040.0(30)	1744.2	27	4114.5	1740.9	27	4124.7	1744.2(38)
28	---	1735.3	28	4134.2	1745.7	28	4143.7	1747.1(34)
29	4102.5(04)	1734.9	29	4153.3	1747.7	29	4112.4	1737.6
30	4047.0	1735.5(38)	30	4161.7	1752.0	30	4050.2	1720.8
31	4055.1	1742.6				31	3985.9(38)	1713.7
MEAN	4084.6	1746.0		4137.1	1750.9		4128.7	1746.6

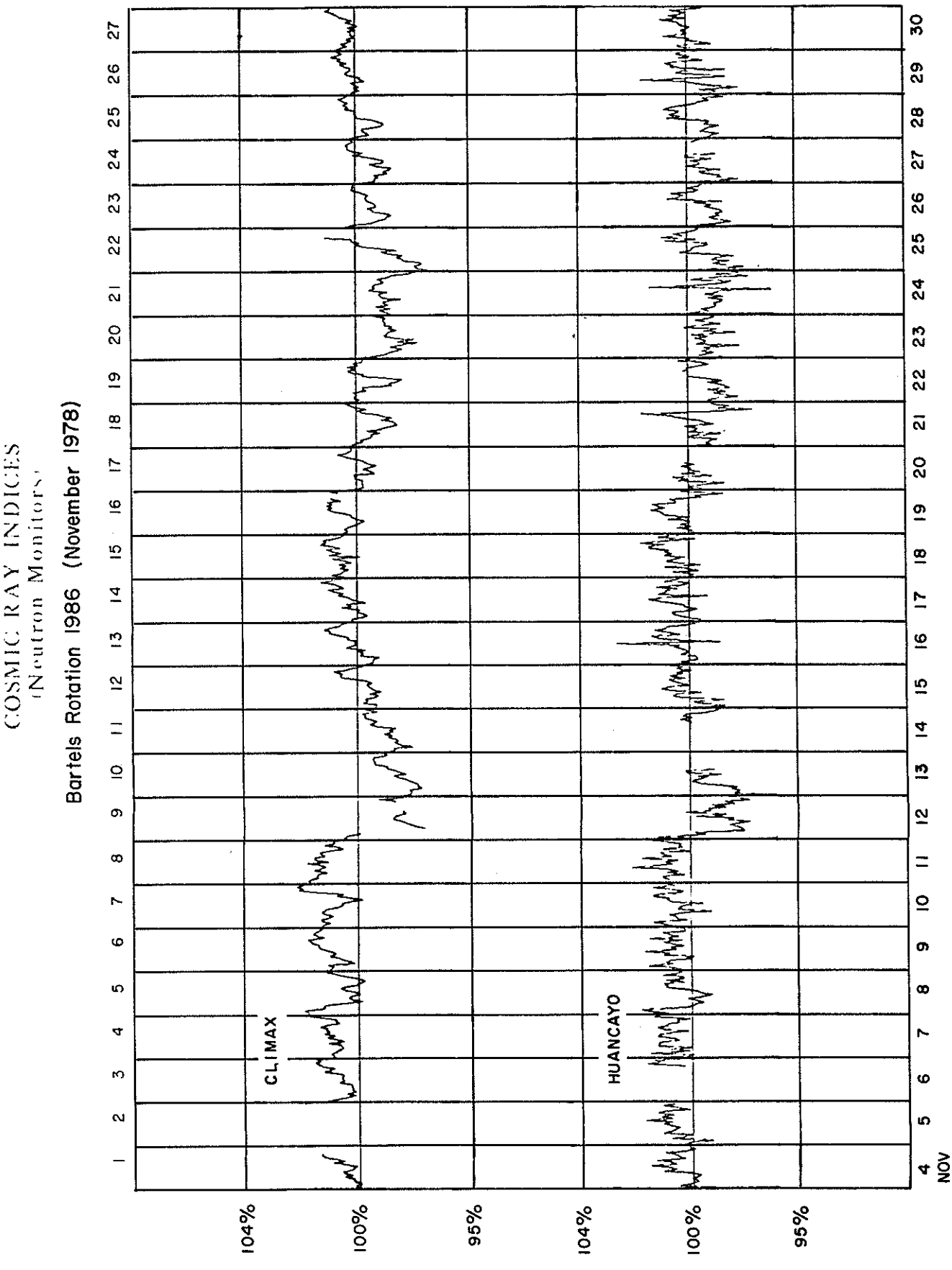
( ) Number of section hours of sum of both sections is less than 40 hours.
Scaling factor at Climax and Huancayo = 100.

COSMIC RAY INDICES
(Neutron Monitors)

Bartels Rotation 1985 (October - November 1978)

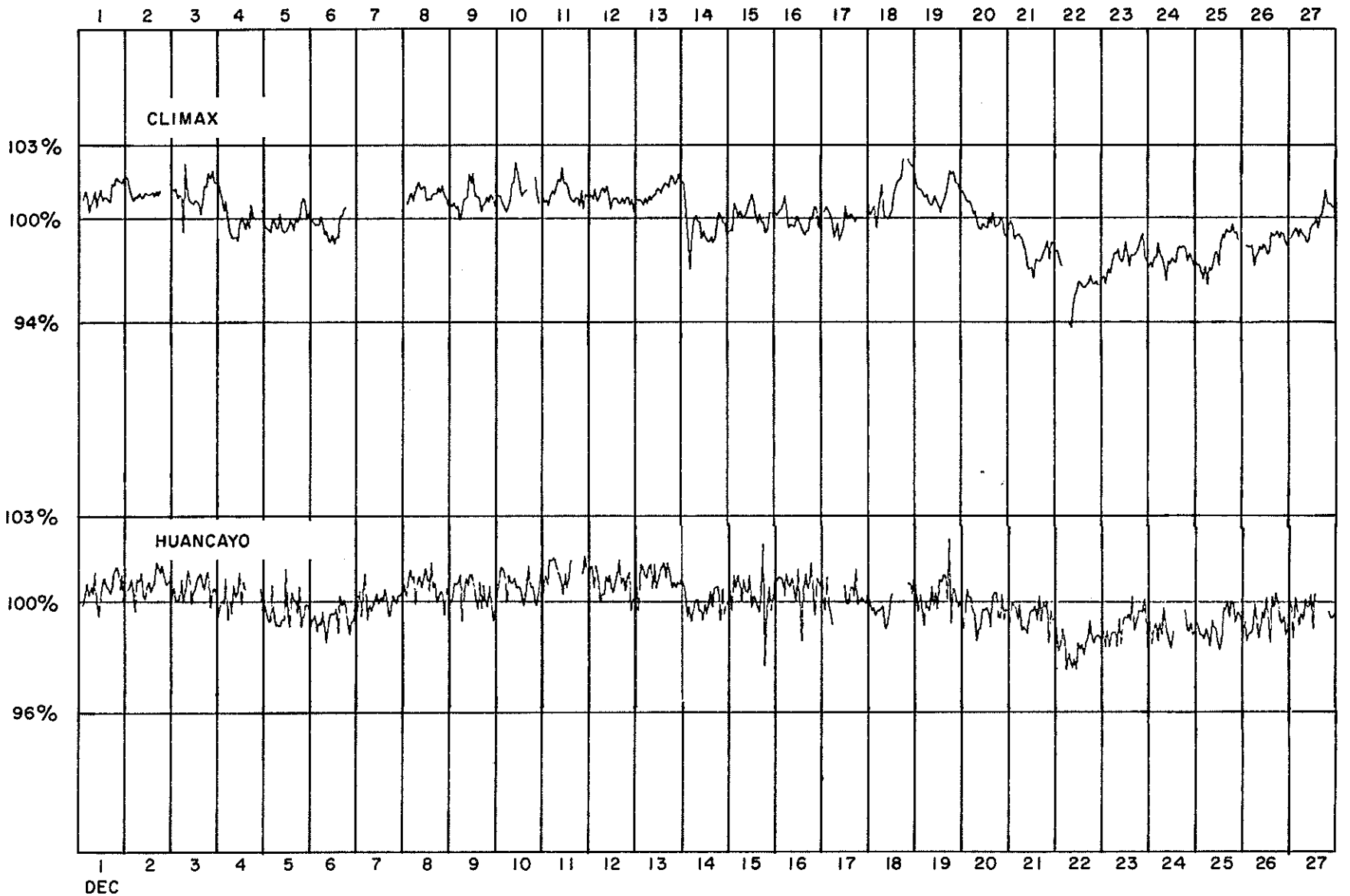


74
Misc
Oct-Dec 78



COSMIC RAY INDICES
(Neutron Monitors)

Bartel Rotation 1987 (December 1978)



Solar-Terrestrial Activity 1977

The charts for 1977 on the following four pages represent a continuation of the 1976 graphs published in SGD 414 Part II, pages 62-65. Each diagram here is similar to the STAC-A Yearly Charts for 1967, 1968 and 1969, prepared by T. Obayashi of the Interdisciplinary Analysis Center for Solar-Terrestrial Activity, National Committee on Solar-Terrestrial Physics, Science Council of Japan. Observations available in World Data Center A for Solar-Terrestrial Physics have been used to construct these 1977 graphs in half yearly form on two charts per year. They clearly indicate the trend of increasing solar activity since the June 1976 sunspot minimum, and one can easily select individual days of outstanding events. The comments below describe the sources of each kind of observation. The Data Center plans to publish completed diagrams for 1978 in Part II of the June 1979 issue of Solar-Geophysical Data.

Graph 1

2800 MHz Flux: Daily values of 2800 MHz solar flux (S) in units of 10^{-22} $Wm^{-2}.Hz^{-1}$ are furnished by A. E. Covington and M. B. Bell of the Astrophysics Branch, National Research Council of Canada, Ottawa. The largest burst of the day is indicated by a vertical line, the length of which equals the square root of the peak flux.

1-8 Å X-Ray Flux: The burst intensity of the solar x-ray flux in Wm^{-2} for the largest event of the day is plotted as a vertical line. Both solid and dashed verticle lines represent data acquired by the GOES satellites and are provided by Richard Donnelly of the Space Environment Laboratory of NOAA. The dashed entries highlight values taken from the somewhat more preliminary report and forecast of solar-geophysical data that Gary Heckman of the Space Environment Laboratory publishes.

Hα Flare Importance: The importance of the largest Hα solar flare of the day is plotted as a vertical line. Solid lines denote observations taken from the group flare reports in the Comprehensive section of Solar-Geophysical Data; dashed bars denote flares based on preliminary records received on a rapid schedule and published in the Prompt section of Solar-Geophysical Data.

IMP 8 Proton Flux: Vertical lines indicate peak proton flux to the nearest power of 10 in cm^{-2} sr^{-1} s^{-1} MeV^{-1} observed by IMP 8 between 19.8 and 40.1 MeV. F. B. McDonald and T. T. van Rosenvinge of NASA, Goddard Space Flight Center furnish these data.

Solar Wind Bulk Speed: Daily values of solar wind bulk speed in km s^{-1} are plotted as estimated from the graphical data provided by Lazarus of MIT. Values shown here emphasize the minima and maxima that occur on time scales of less than a day. They do not represent a strict average for each day.

Graph 2

Stanford Mean Magnetic Field: The solar magnetic field daily means in microteslas represent a weighted average of the net magnetic field over the visible disk of the sun. Positive values denote a mean solar magnetic field pointing away from the sun; negative values a field directed toward the sun. P. H. Sherrer of the Stanford Solar Observatory, Stanford University provides these observations.

Inferred IMF: The inferred interplanetary magnetic field (IMF) direction is indicated as a horizontal bar: T = toward the sun and A = away from the sun. These polarities are derived from variations on the Thule and Vostok magnetograms and are reproduced here thanks to Gary Heckman of the Space Environment Laboratory, NOAA and S. Mansurov of IZMIRAN, Moscow.

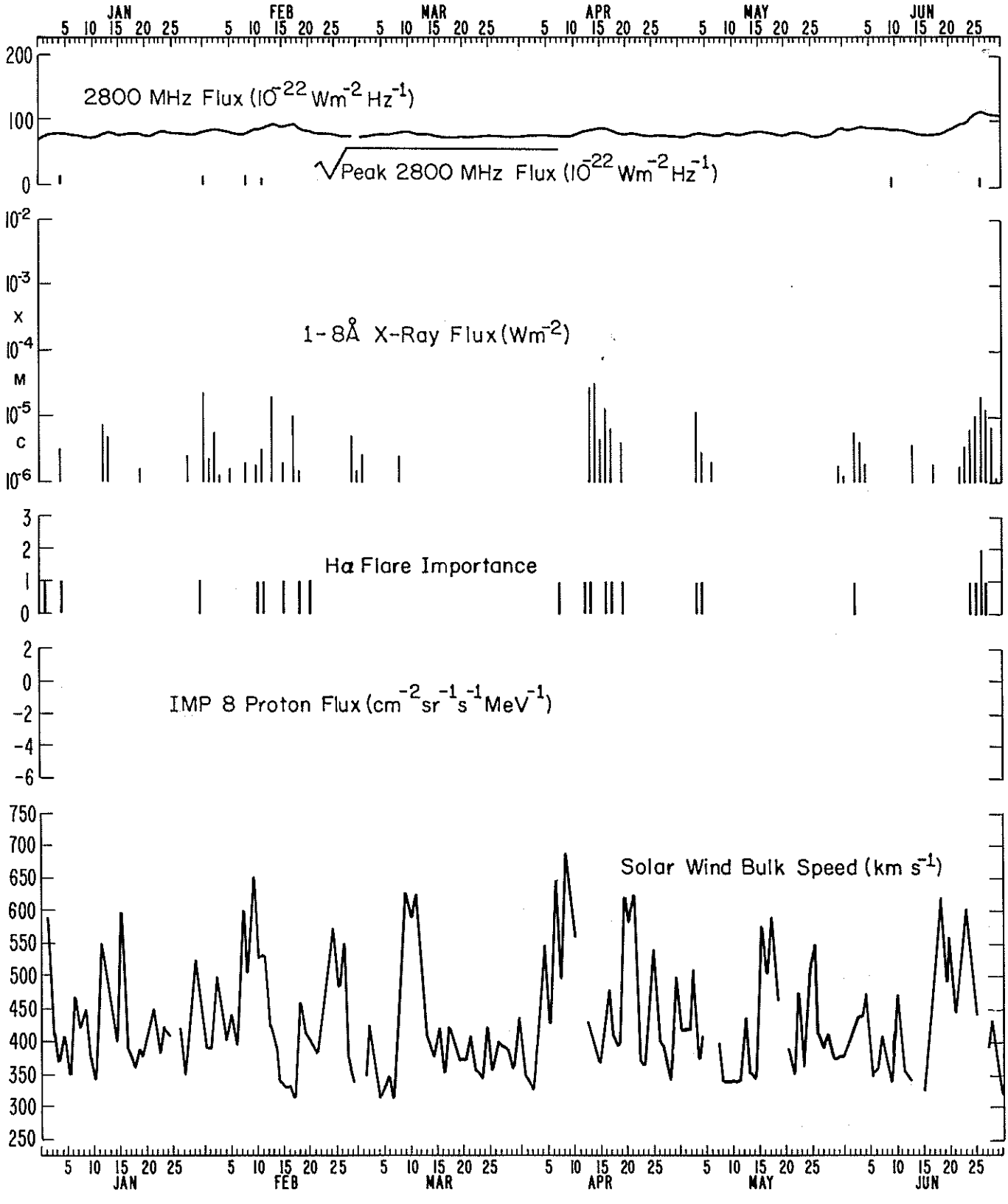
Deep River NM Corrected Rates: The Deep River Neutron Monitor (NM) daily average counting rates corrected for barometric pressure are plotted with a scaling factor of 3000. The data are provided by Margaret D. Wilson of the National Research Council of Canada.

aa Index: The daily geomagnetic *aa* index, provided by the Institut de Physique du Globe, Paris, is computed from the 3-hour K indices (converted to the amplitude of the magnetic field) at two antipodal observatories.

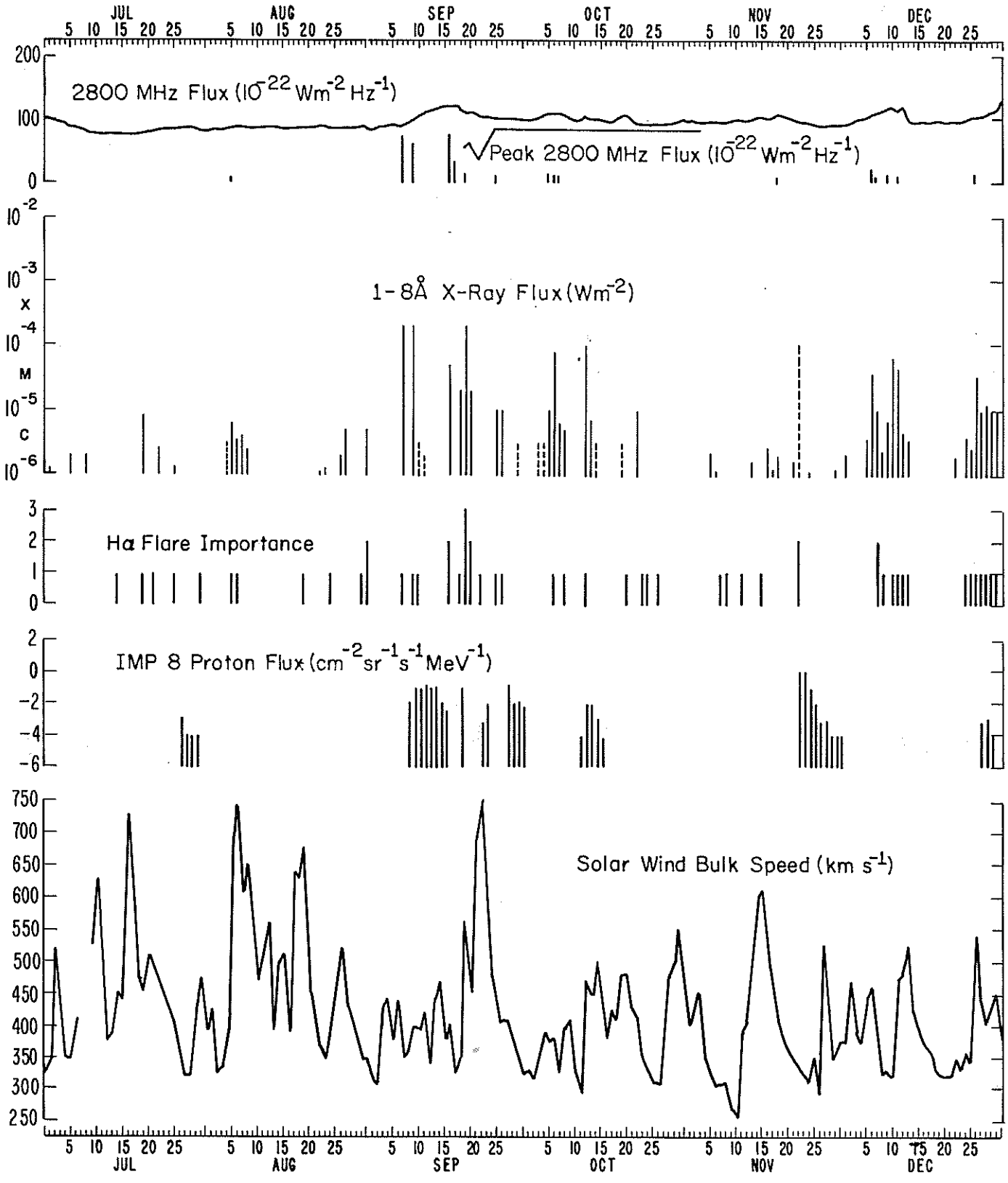
Provisional Equatorial Dst: This magnetic index characterizes quiet-time and storm-time variations in the geomagnetic field owing to the ring current in the magnetosphere. The charts show daily averages of the provisional hourly Dst prepared by M. Sugiura, NASA GSFC and D. J. Poros, Computer Sciences Corporation, Silver Spring, MD.

78
Misc
1977

SOLAR-TERRESTRIAL ACTIVITY CHART 1977

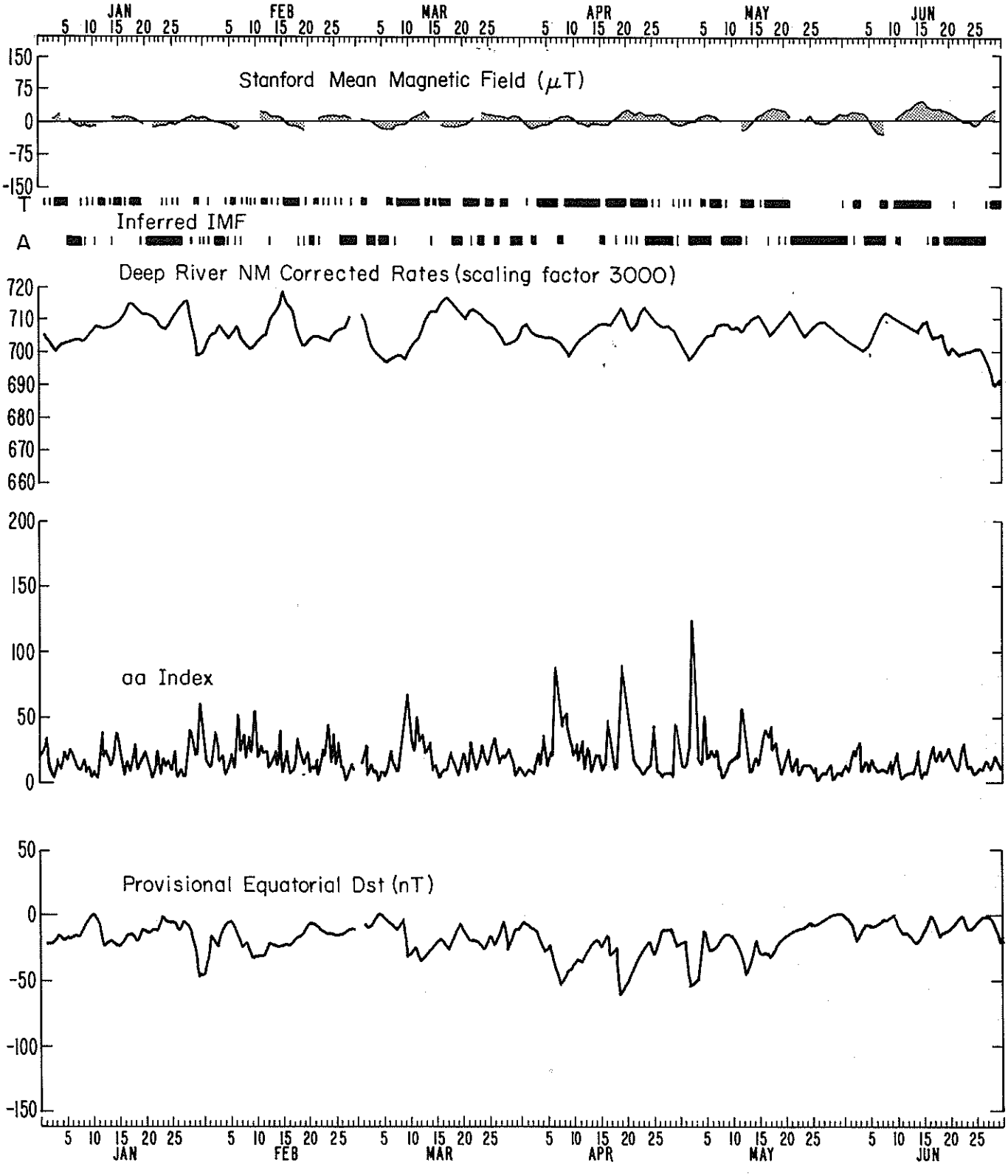


SOLAR-TERRESTRIAL ACTIVITY CHART 1977

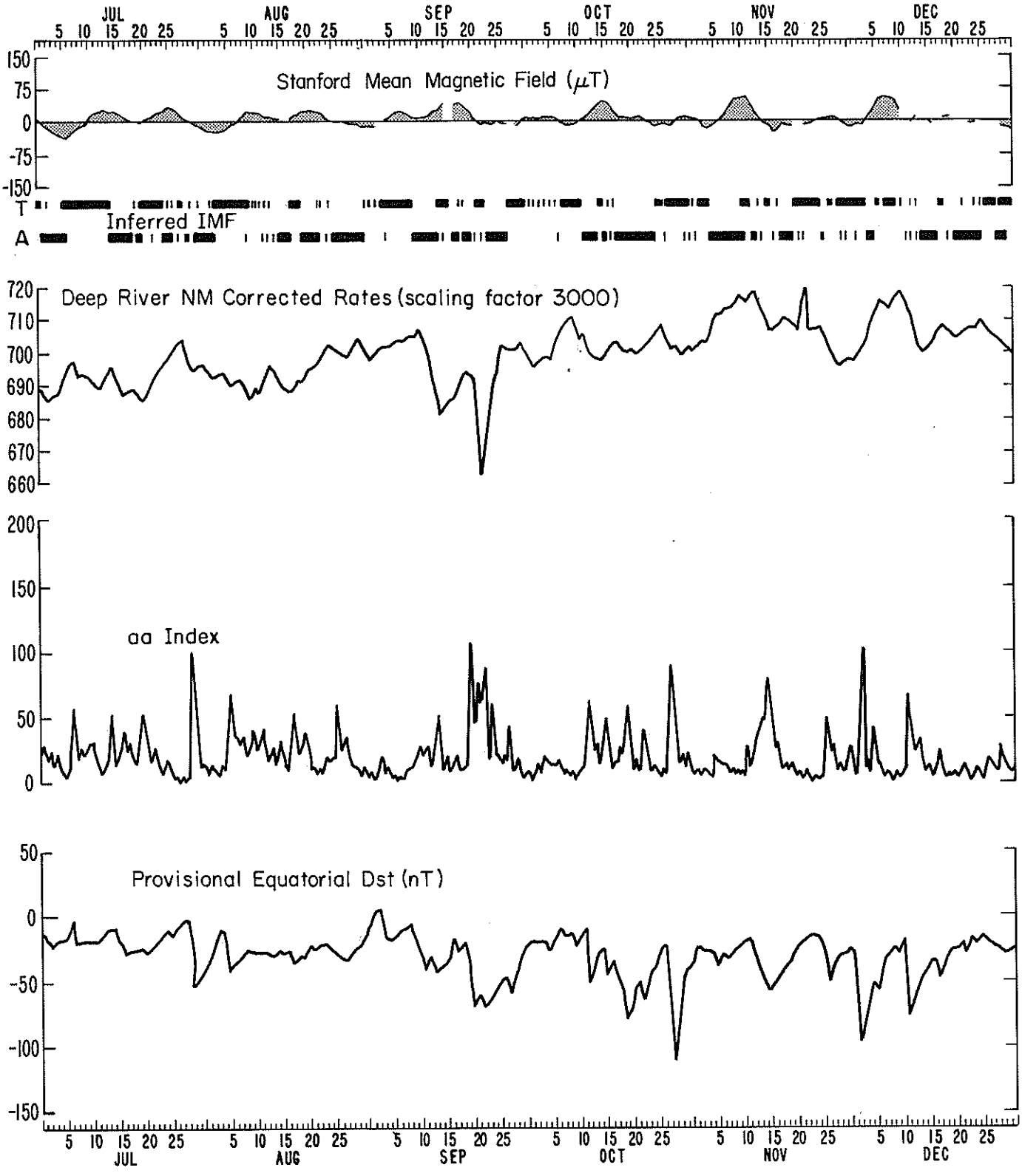


80
Misc
1977

SOLAR-TERRESTRIAL ACTIVITY CHART 1977



SOLAR-TERRESTRIAL ACTIVITY CHART 1977



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UAG-56 "Iso-intensity Contours of Ground Magnetic H Perturbations for the December 16-18, 1971 Geomagnetic Storm", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701 (currently Guest worker at Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302), April 1976, 37 pages, price $1.39.

UAG-57 "Manual on Ionospheric Absorption Measurements", edited by K. Rawer, Institut für Physikalische Weltraumforschung, Freiburg, G.F.R., June 1976, 202 pages, price $4.27.

UAG-58 "ATS6 Radio Beacon Electron Content Measurements at Boulder, July 1974 - May 1975", by R. B. Fritz, Space Environment Laboratory (currently with Wave Propagation Laboratory), NOAA, Boulder, Colorado 80302 USA, September 1976, 61 pages, price $1.04.

UAG-59 "Auroral Electrojet Magnetic Activity Indices AE(11) for 1974", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, December 1976, 144 pages, price $2.16.

UAG-60 "Geomagnetic Data for January 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, July 1977, 57 pages, price $1.07.

UAG-61 "Collected Data Reports for STIP Interval II 20 March - 5 May 1976", edited by Helen E. Coffey and John A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, August 1977, 313 pages, price $2.95.

UAG-62 "Geomagnetic Data For February 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 55 pages, price $1.11.

UAG-63 "Geomagnetic Data for March 1976 (AE(7) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, September 1977, 57 pages, price $1.11.

UAG-64 "Geomagnetic Data for April 1976 (AE(8) Indices and Stacked Magnetograms)" by J. H. Allen, C. C. Abston and L. D. Morris, NGSDC/EDS/NOAA, February 1978, 55 pages, price $1.00.

UAG-65 "The Information Explosion and Its Consequences for Data Acquisition, Documentation, and Processing" by G. K. Hartmann, Max-Planck-Institut für Aeronomie, D-3411 Katlenburg-Lindau 3, GFR, May 1978, 36 pages, price 75 cents.

UAG-66 "Synoptic Radio Maps of the Sun at 3.3mm 1970-1973" by Earle B. Mayfield, Space Science Lab., and Fred I. Shimabukuro Electronics Res. Lab., The Ivan A. Getting Laboratories, The Aerospace Corp., El Segundo, California 90245, May 1978, 30 pages, price 75 cents.

UAG-67 "Ionospheric D-Region Profile Data Base, A Collection of Computer-Accessible Experimental Profiles of the D and Lower E Regions", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pages, price 88 cents.

UAG-68 "A Comparative Study of Methods of Electron Density Profile Analysis", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, September 1978, 56 pages, price $1.41.

UAG-69 "Selected Disturbed D-Region Electron Density Profiles. Their relation to the undisturbed D region", by L. F. McNamara, Ionospheric Prediction Service, Sydney, Australia, October 1978, 50 pages, price $1.29.

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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."