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Data for December 1989

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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 550

(Issued in Two Parts)

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C O N T E N T S

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PART II (COMPREHENSIVE REPORTS)

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C O N T E N T S

Comprehensive Reports DATA FOR **DECEMBER 1989** Number 550 Part II

Hα SOLAR FLARES

DECEMBER 1989

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	MITK	01	0443	0446	0502	N15	E58	5825	12	5.6	19	1N			C	0446	130	2.6	E
0002		01	07032	07083	0725	N16	W21	5806	11	29.8	22	SN					77	1.4	F
	PURP	01	0656E	0702U	0703	N17	W21	5806	11	29.8	7D	SB			P	0702	131	1.5	
	TACH	01	0703	0711	0730	N17	W22	5806	11	29.7	27	SB		1	C	0711	107	1.2	F
	KANZ	01	0704E	0708	0734	N15	W20	5806	11	29.9	30D	SF			C				
	LEAR	01	0705	0710	0723	N16	W21	5806	11	29.8	18	SF		3	E		21		F
	SVTO	01	0705E	0710	0735	N15	W20	5806	11	29.9	30D	SF		3	E		48		F
0003		01	07415	07421	0752	S05	W80	5808	11	25.4	11	SF	C 3.5				28		
	SVTO	01	0741	0743	0753	S05	W77	5808	11	25.7	12	SF	C 3.5	3	E		28		
	KANZ	01	0742	0742	0750	S04	W78	5808	11	25.6	8	SF			C				
	HTPR	01	0746		0800D	S05	W85	5808	11	25.1	14D	SN			C				
0004	HTPR	01	0912	0915	0920	N20	W85	5808A	11	25.0	8	SF			C				
0005	HTPR	01	0949	0953	1000	N07	E18	5816	12	2.7	11	SF			C	0953	30	0.4	
0006	HTPR	01	1033	1037	1055	N13	E50	5817	12	5.2	22	SF			C	1037	70	1.1	
0007		01	10558	1105	1114	N20	W82	5808A	11	25.3	19	SN							
	HTPR	01	1055	1105	1115	N19	W87	5808A	11	24.9	20	SN			C				
	KANZ	01	1103	1105	1113	N20	W78	5808A	11	25.6	10	SF			V				
0008	SVTO	01	1129	1129	1137	N23	W67	5800	11	26.4	8	SF		3	E		16		
0009		01	12082	12092	1215	N23	W66	5800	11	26.5	7	SF	C 2.8				25		
	RAMY	01	1208	1209	1215	N28	W65	5800	11	26.5	7	SF		3	E		18		
	SVTO	01	1208	1209	1216	N22	W68	5800	11	26.4	8	SF	C 2.8	3	E		16		
	HTPR	01	1208	1211	1215	N20	W63	5800	11	26.8	7	SF			C	1211	40		
	KANZ	01	1210	1210	1214	N23	W66	5800	11	26.5	4	SF			V				
0010		01	12132	12175	1236	N15	W24	5806	11	29.8	23	SF					63	1.2	
	HTPR	01	1213	1222	1300	N16	W26	5806	11	29.6	47	SN			C	1222	110	1.2	
	KANZ	01	1214	1217	1224	N14	W24	5806	11	29.8	10	SF			V				
	RAMY	01	1215	1219	1223	N15	W22	5806	11	29.9	8	SF		3	E		16		
0011		01	14382	14416	1452	N16	W15	5812	11	30.5	14	SF					63	1.5	F
	HTPR	01	1438	1441	1450	N17	W15	5812	11	30.5	12	SF			C	1441	130	1.5	
	SVTO	01	1439	1442	1453	N15	W16	5812	11	30.4	14	SF		3	E		38		F
	HOLL	01	1440	1447	1453	N16	W15	5812	11	30.5	13	SF		2	E		22		F
0012	HOLL	01	1647	1648	1701	N11	E10	5816	12	2.4	14	SF		3	E		11		
0013		01	1701	1701	1708	N20	W28	5806	11	29.7	7	SF					14		F
	RAMY	01	1701	1701	1704	N20	W28	5806	11	29.7	3	SF		3	E		10		F
	HOLL	01	1701	1701	1711	N19	W28	5806	11	29.7	10	SF		3	E		18		F
0014		01	1801	18061	1822	N24	W68	5800	11	26.6	21	SF	C 9.7				60		F
	HOLL	01	1801	1806	1827	N24	W67	5800	11	26.7	26	SF		3	E		74		F
	RAMY	01	1801	1807	1816	N24	W69	5800	11	26.5	15	SF	C 9.7	3	E		46		
0015	PALE	01	1801	1807	1815	N17	W74	5808A	11	26.2	14	SF		3	E		26		F
0016	RAMY	01	1809	1810	1817	N09	E11	5816	12	2.6	8	SF		3	E		12		
0017	RAMY	01	1829	1831	1845	N19	E77	5821	12	7.6	16	SF		3	E		24		
0018	HOLL	01	1847	1847	1858	N20	W29	5806	11	29.7	11	SF		3	E		14		
0019		01	1846*	1858	1905	N23	W70	5800	11	26.5	19	SF	C 8.5				43		F
	HOLL	01	1846	1858	1908	N24	W70	5800	11	26.5	22	SF		3	E		57		F
	RAMY	01	1856	1858	1904	N24	W69	5800	11	26.5	8	SF	C 8.5	3	E		46		F
	PALE	01	1857	1858	1904	N22	W72	5800	11	26.3	7	SF		3	E		27		

Hα SOLAR FLARES

DECEMBER 1989

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0020		01	19237	19292	2000	N20	W35	5806	11	29.2	37	1F	C 8.9				106		EF
	HOLL	01	1923	1930	2034	N17	W33	5806	11	29.4	71	2N	C 8.9	4	E		330		FE
	PALE	01	1926	1930	2005	N17	W31	5806	11	29.5	39	SF	C 8.9	3	E		84		F
	PALE	01	1928	1929	1943	N25	W43	5806	11	28.6	15	SF		3	E		41		
	RAMY	01	1930	1931	1945	N23	W38	5806	11	29.0	15	SF		3	E		24		
	RAMY	01	1930	1931	1955	N18	W31	5806	11	29.5	25	SF		3	E		50		F
0021	HOLL	01	2010	2011	2025	S16	E27	5811	12	3.9	15	SF		3	E		32		
0022	HOLL	01	2048	2058	2112	N22	W72	5800	11	26.4	24	SF	C 2.5	3	E		38		
0023	HOLL	01	2128	2131	2136	N24	W70	5800	11	26.6	8	SF		3	E		18		
0024	HOLL	01	2142	2147	2151	N25	W69	5800	11	26.6	9	SF		3	E		12		F
0025	VORO	02	0241	0248	0259	S26	W87		11	25.4	18	1F		2	C	0248	45		D
0026	MITK	02	0612	0616	0627	N23	W25	5812	11	30.3	15	1F			C	0616	190	2.3	E
0027		02	06281	06312	0643	N21	W36	5806	11	29.6	15	SN					122	2.2	DEF
	MITK	02	0628	0631	0645	N20	W35	5806	11	29.7	17	1B			C	0631	170	2.3	E
	LEAR	02	0629	0631	0640	N21	W36	5806	11	29.6	11	SF		3	E		51		F
	URUM	02	0629	0633	0645	N22	W36	5806	11	29.6	16	SB			C		145	2.0	D
0028	KANZ	02	0804	0815	0826	N14	W36	5806	11	29.7	22	SF			V				
0029	SVTO	02	0826	0826	0836	N27	W75	5800	11	26.6	10	SF		3	E		14		
0030	HTPR	02	0930	0934	0955	S16	E20	5811	12	3.9	25	SF			C	0934	80	0.9	D
0031	HTPR	02	1008	1018	1043	S14	E20	5811	12	3.9	35	SF			C	1018	80	0.9	U
0032	KANZ	02	1013	1013	1025	N20	W36	5806	11	29.8	12	SF			V				
0033	HTPR	02	1134	1136	1138	N20	W35	5806	11	29.9	4	SN			C	1136	20	0.3	D
0034	HTPR	02	1139	1143	1153	S12	W08	5822	12	1.9	14	SF			C	1143	10	0.1	EH
0035	HTPR	02	1155	1205	1220	S12	W08	5822	12	1.9	25	SF			C	1205	20	0.2	EH
0036		02	1226*	1229*	1304	N21	W39	5806	11	29.6	38	SN	C 3.8				58	0.6	DEFI
	HTPR	02	1226	1229	1255	N20	W39	5806	11	29.6	29	SB			C	1229	80	1.0	EI
	RAMY	02	1228	1230U	1327	N23	W39	5806	11	29.6	59	SF		3	E		70		
	SVTO	02	1228	1231	1247	N21	W43	5806	11	29.3	19	SN	C 3.8	3	E		60		F
	KANZ	02	1229	1229	1248	N21	W39	5806	11	29.6	19	SN			V				
	HTPR	02	1302	1304	1325	N22	W35	5806	11	29.9	23	SF			C	1304	20	0.3	D
0037	RAMY	02	1314	1315	1333	N17	E74	5821	12	8.2	19	SF		3	E		22		
0038	HTPR	02	1349	1350	1405	N11	E30	5817	12	4.8	16	SF			C	1350	10	0.1	D
0039	SVTO	02	1415	1415	1434	N12	E38	5817	12	5.4	19	SF		3	E		13		F
0040		02	15059	15218	1536	N16	W38	5806	11	29.8	31	SF					50		FK
	RAMY	02	1505	1521	1534	N17	W37	5806	11	29.9	29	SF			E		33		K
	RAMY	02	1505	1529	1534	N17	W37	5806	11	29.9	29	SF		3	E		29		
	HOLL	02	1514	1521	1538	N16	W38	5806	11	29.8	24	SF			E		89		K
	HOLL	02	1514	1529	1538	N16	W38	5806	11	29.8	24	SF		3	E		48		F
0041		02	1550	1551	1622	N08	E36	5825	12	5.3	32	1N	C 5.6				176		FH
	RAMY	02	1550	1551	1615	N09	E36	5825	12	5.4	25	1N	C 5.6	3	E		146		FH
	HOLL	02	1550	1551	1629	N08	E36	5825	12	5.3	39	1N	C 5.6	3	E		205		FH
0042	HOLL	02	1645	1645	1652	N14	E63	5818	12	7.4	7	SF	C 3.3	3	E		13		F
0043	HOLL	02	1842	1844	1850	N21	W41	5806	11	29.7	8	SF		3	E		12		F
0044	HOLL	02	1853	1859	1910	S11	W12	5822	12	1.9	17	SF		3	E		21		

Hα SOLAR FLARES

DECEMBER 1989

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0045	HOLL	02	1859	1908	1911	N10	E32	5817	12	5.2	12	SF		3	E		11		
0046	HOLL	02	1910	1912	1916	N19	W43	5806	11	29.6	6	SF		3	E		11		
0047		02	19161	19183	1934	N15	E58	5818	12	7.2	18	1F	C 2.9				116		
	RAMY	02	1916	1921	1936D	N14	E57	5818	12	7.1	20D	1F		3	E		105		
	HOLL	02	1917	1918	1934	N16	E58	5818	12	7.2	17	1F	C 2.9	3	E		126		
0048		02	19217	19371	1949	N14	W44	5806	11	29.6	28	SF					28		FH
	HOLL	02	1921	1938	1949	N15	W42	5806	11	29.7	28	SF		3	E		18		F
	RAMY	02	1928	1937	2012D	N14	W46	5806	11	29.4	44D	SF		2	E		39		H
0049		02	2052	2053	2107	S12	W47	5814	11	29.4	15	SF	C 2.0				28		
	HOLL	02	2034E	2054U	2113D	S11	W47	5814	11	29.4	39D	SF		3	E		43		
	PALE	02	2052	2053	2107	S13	W47	5814	11	29.4	15	SF	C 2.0	3	E		14		
0050	PALE	02	2107	2108	2116	N20	W41	5806	11	29.8	9	SF		3	E		17		
0051		02	2154*	2207*	2326	N16	W44	5806	11	29.7	92	1B	M 3.0				235		FHK
	HOLL	02	2154	2207	2330	N15	W43	5806	11	29.7	96	SF			E		38		K
	HOLL	02	2154	2247	2330	N15	W43	5806	11	29.7	96	2B	M 3.0	3	E		490		FH
	LEAR	02	2238	2242	2322	N16	W44	5806	11	29.7	44	1B			E		191		K
	LEAR	02	2238	2247	2322	N16	W44	5806	11	29.7	44	1B		3	E		220		F
0052	PALE	03	0013	0028	0039	N20	W46	5806	11	29.6	26	SF		3	E		69		F
0053		03	00236	00332	0053	S20	W09	5809	12	2.3	30	SN					90	2.2	F
	PURP	03	0023	0036U	0055	S21	W09	5809	12	2.3	32	1B			C	0036	196	2.2	
	PALE	03	0027	0035	0053	S20	W08	5809	12	2.4	26	SF		3	E		47		F
	LEAR	03	0029	0033	0050	S18	W09	5809	12	2.3	21	SF		3	E		26		F
0054	LEAR	03	0102	0102	0106	N22	W42	5806	11	29.9	4	SF		3	E		21		F
0055	LEAR	03	0128	0135	0138	N13	E63	5826	12	7.8	10	SF		3	E		10		
0056	PALE	03	0256	0257	0303	N23	E63	5821	12	8.0	7	SF		3	E		19		
0057		03	03191	03202	0326	S19	W12	5809	12	2.2	7	SF					24		
	PALE	03	0319	0320	0325D	S20	W09	5809	12	2.4	6D	SF		1	E		25		
	LEAR	03	0320	0322	0326	S18	W15	5809	12	2.0	6	SF		3	E		22		
0058	LEAR	03	0418	0421	0431	N17	E65	5821	12	8.1	13	SF	C 5.3	3	E		40		F
0059	LEAR	03	0421	0421	0426	N14	W52	5806	11	29.3	5	SF		3	E		17		
0060		03	08191	08202	0827	S19	W16	5809	12	2.1	8	SF					13		H
	SVTO	03	0819	0822	0827	S19	W16	5809	12	2.1	8	SF		3	E		13		H
	KANZ	03	0820	0820	0827	S19	W17	5809	12	2.0	7	SF			V				
0061		03	0918*	09322	0942	N20	W50	5806	11	29.7	24	SN					110	2.7	DEFH
	SVTO	03	0918	0932	0947	N20	W49	5806	11	29.7	29	SN		3	E		95		H
	KANZ	03	0925	0932	0938	N18	W49	5806	11	29.8	13	SF			V				E
	URUM	03	0928	0934	0938D	N22	W50	5806	11	29.6	10D	1N			C		161	2.7	D
	LEAR	03	0930	0932	0940	N19	W50	5806	11	29.7	10	SF		3	E		75		F
0062	SVTO	03	1127	1128	1139	N23	E65	5821	12	8.5	12	SF		3	E		14		
0063		03	11461	11521	1203	N23	E63	5821	12	8.3	17	SF					44		
	SVTO	03	1146	1152	1206	N24	E64	5821	12	8.4	20	SF		3	E		59		
	RAMY	03	1146	1153	1202	N22	E62	5821	12	8.2	16	SF		3	E		28		
	KANZ	03	1147	1153	1201	N22	E62	5821	12	8.2	14	SF			V				
0064		03	12201	12254	1236	S18	W19	5809	12	2.1	16	SF					53		
	SVTO	03	1220	1226	1238	S18	W19	5809	12	2.1	18	SF		3	E		63		
	RAMY	03	1220	1229	1237	S19	W19	5809	12	2.1	17	SF		3	E		43		
	KANZ	03	1221	1225	1233	S18	W19	5809	12	2.1	12	SF			V				

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0065		03	1441	14422	1506	N20	W42	5812	11	30.4	25	SN	C	5.2				111		EF
	HOLL	03	1441	1442	1512	N20	W41	5812	11	30.5	31	SN			3	E		95		FE
	RAMY	03	1441	1443	1514	N20	W41	5812	11	30.5	33	SF			3	E		95		
	SVTO	03	1441	1444	1453	N19	W45	5812	11	30.2	12	1N	C	5.2	3	E		143		
		03	1504		1706	No Flare Patrol														
0066		03	1746	17481	1758	S19	W20	5809	12	2.2	12	SF						20		F
	RAMY	03	1746	1748	1800	S20	W19	5809	12	2.3	14	SF			3	E		21		F
	HOLL	03	1746	1749	1755	S18	W22	5809	12	2.1	9	SF			4	E		18		F
0067		03	17511	17523	1805	N14	E42	5826	12	6.9	14	SF						22		
	HOLL	03	1751	1752	1803	N13	E42	5826	12	6.9	12	SF			4	E		29		
	RAMY	03	1752	1755	1807	N14	E41	5826	12	6.8	15	SF			3	E		14		
0068		04	03221	03243	0407	N14	W58	5806	11	29.8	45	1N	M	1.1				184	4.5	EF
	PEKG	04	0322	0325	0338	N15	W58	5806	11	29.8	16	1B				C	0325	189	3.7	E
	LEAR	04	0322	0327	0356	N15	W58	5806	11	29.8	34	1N	M	1.1	3	E		154		FE
	MITK	04	0322	0327	0446	N14	W57	5806	11	29.9	84	2N				C	0327	360	7.3	
	PALE	04	0323	0324	0344D	N14	W58	5806	11	29.8	21D	SF			3	E		93		FE
	YUNN	04	0324E	0324U	0344D	N14	W58	5806	11	29.8	20D	1N				P	0324	126	2.5	
0069	MITK	04	0326	0329	0425	N22	E57	5821	12	8.5	59	1N				C	0329	120	2.5	
0070		04	0352*	0420*	0510	N12	E08	5817	12	4.8	78	1N						210	2.2	E
	MITK	04	0352	0420	0506	N11	E08	5817	12	4.8	74	1N				C	0420	210	2.2	E
	PEKG	04	0403	0431	0515	N12	E08	5817	12	4.8	72	1F				V				E
0071		04	08487	08587	0917	N15	E40	5826	12	7.4	29	SF						64	1.5	EF
	SVTO	04	0848	0905	0929	N16	E40	5826	12	7.4	41	SF			3	E		63		
	KANZ	04	0852	0858	0911	N15	E41	5826	12	7.5	19	SF				C				
	LEAR	04	0855	0858	0909	N15	E40	5826	12	7.4	14	SF			3	E		22		F
	BUCA	04	0855	0858	0919	N14	E39	5826	12	7.3	24	SF				C	0858	107	1.5	E
0072		04	0919*	0945	1006	S17	W04	5811	12	4.1	47	SF						44	0.6	D
	BUCA	04	0919	0930U	0930D	S17	W04	5811	12	4.1	11D	SN				P	0930	54	0.6	D
	KANZ	04	0926	0945	1026	S17	W03	5811	12	4.2	60	SF				V				
	LEAR	04	0934	0945	0947	S16	W04	5811	12	4.1	13	SF			3	E		33		
0073		04	12162	12183	1244	S10	W34	5822	12	1.9	28	SF						14		
	RAMY	04	1216	1221	1247	S10	W34	5822	12	1.9	31	SF			3	E		14		
	KANZ	04	1218	1218	1240	S10	W35	5822	12	1.9	22	SF				V				
0074		04	1409*	1449	1446	S10	W38	5822	12	1.7	37	SF						18		
	HOLL	04	1406E	1410U	1435	S10	W39	5822	12	1.6	29D	SF			2	E		17		
	RAMY	04	1409	1422U	1525D	S10	W36	5822	12	1.9	76D	SF			3	E		24		
	HOLL	04	1446	1449	1456	S09	W38	5822	12	1.8	10	SF			3	E		13		
0075	HOLL	04	1513	1516	1551	N16	E32	5826	12	7.1	38	SF			3	E		93		F
0076		04	15391	1540	1548	S18	W32	5809	12	2.2	9	SF						24		F
	HOLL	04	1539	1540	1548	S18	W33	5809	12	2.1	9	SF			3	E		32		F
	RAMY	04	1540	1540	1548	S18	W32	5809	12	2.2	8	SF			3	E		16		F
0077		04	17523	17591	1806	N11	E02	5817	12	4.9	14	SF						28		F
	HOLL	04	1752	1759	1805	N11	E02	5817	12	4.9	13	SF			3	E		24		
	RAMY	04	1755	1800	1807	N11	E02	5817	12	4.9	12	SF			4	E		33		F
0078	PALE	04	1940	1948	2012	N14	W69	5806	11	29.7	32	SF	M	1.2	3	E		40		F
0079	LEAR	05	0400	0400	0404	N10	W04	5817	12	4.9	4	SF	C	2.3	3	E		11		
0080		05	0407*	04337	0513	N14	E28	5826	12	7.3	66	1N						148	1.8	E
	MITK	05	0407	0433	0506	N15	E28	5826	12	7.3	59	1F				C	0433	170	2.1	E
	PEKG	05	0430	0440	0520	N14	E29	5826	12	7.4	50	SN				P	0440	126	1.5	E
0081		05	10072	10091	1018	N16	E37	5821	12	8.2	11	SN						62	0.8	E
	KAND	05	1007	1010	1020	N16	E36	5821	12	8.1	13	SN				P	1010	62	0.8	E
	KANZ	05	1009	1009	1016	N16	E38	5821	12	8.3	7	SF				V				

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0082		05	12242	12264	1245	N10	W09	5817	12	4.8	21	SN	C 5.6				90	1.1	EFH
	RAMY	05	1224	1227	1253	N10	W09	5817	12	4.8	29	SF	C 5.6	3	E		75		FH
	KAND	05	1225	1226	1234	N11	W10	5817	12	4.8	9	SB			P	1226	104	1.1	E
	KANZ	05	1226	1230	1248	N10	W09	5817	12	4.8	22	SF			V				
0083		05	1417	1425	1447	N21	E36	5821	12	8.3	30	SF					41		F
	HOLL	05	1406E	1406U	1510D	N20	E35	5821	12	8.3	64D	SF		1	E		51		
	RAMY	05	1417	1425	1447	N22	E37	5821	12	8.4	30	SF		3	E		31		F
0084		05	1452	1453	1458	N09	W42	5816	12	2.5	6	SF					20		
	HOLL	05	1452	1453	1457	N08	W41	5816	12	2.5	5	SF		3	E		23		
	RAMY	05	1452	1453	1458	N10	W42	5816	12	2.5	6	SF		3	E		16		
0085		05	1531	1533	1600	N15	W76	5806	11	30.0	29	2B	M 5.6				258		FHU
	RAMY	05	1531	1533	1600	N16	W76	5806	11	30.0	29	1B	M 5.6	3	E		248		FH
	HOLL	05	1531	1533	1601	N14	W75	5806	11	30.0	30	2N	M 5.6	3	E		269		UH
0086	RAMY	05	1643	1644	1648	N10	W11	5817	12	4.9	5	SF		3	E		16		F
0087	HOLL	05	1832	1833	1843	S13	W50	5822	12	2.0	11	SF		3	E		43		
0088	HOLL	05	1927	1929	1935	S12	W53	5822	12	1.8	8	SF		3	E		15		
0089	RAMY	05	1953	1958	2004	S11	W54	5822	12	1.8	11	SF		3	E		12		F
0090	RAMY	05	2049	2050	2106D	S10	W55	5822	12	1.7	17D	SF		2	E		12		
0091	HOLL	05	2124	2124	2130	S11	W55	5822	12	1.7	6	SF		3	E		23		
0092		05	2142	2154	2238	N16	E20	5826	12	7.4	56	SN	C 4.1				71		
	HOLL	05	2142	2154	2238	N14	E19	5826	12	7.3	56	SN	C 4.1	3	E		79		
	PALE	05	2144E	2146U	2210D	N17	E20	5826	12	7.4	26D	SN		3	E		63		
0093	HOLL	05	2152	2157	2210	N18	E29	5821	12	8.1	18	SF		3	E		16		
0094	HOLL	05	2207	2209	2245	S11	W56	5822	12	1.7	38	SF		3	E		22		
0095		05	22233	2224*	2259	S22	W45	5809	12	2.5	36	SF	C 4.9				63		FU
	HOLL	05	2223	2224	2314	S22	W46	5809	12	2.4	51	SF	C 4.9	3	E		91		UF
	PALE	05	2223	2225	2236	S23	W44	5809	12	2.5	13	SF	C 4.9	3	E		47		F
	LEAR	05	2226	2239	2308	S22	W46	5809	12	2.4	42	SF		3	E		52		F
0096	MITK	06	0030	0031	0048	N17	E13	5826	12	7.0	18	SN			C	0031			E
0097		06	07395	07423	0746	N20	W85	5806	11	29.9	7	SF	C 2.3				25		
	KANZ	06	0739	0742	0746	N19	W85	5806	11	29.9	7	SF			C				
	LEAR	06	0744	0745	0747	N20	W85	5806	11	29.9	3	SF	C 2.3	3	E		25		
0098		06	08542	0857	0905	S14	W08	5819	12	5.8	11	SF							
	KANZ	06	0854	0857	0905	S15	W08	5819	12	5.8	11	SF			V				
	KHAR	06	0856	0857	0905	S14	W09	5819	12	5.7	9	SF		2	V	0857			
0099		06	09521	09552	1016	S12	W60	5822	12	1.9	24	SF					15		
	LEAR	06	0952	0955	1014	S13	W61	5822	12	1.8	22	SF		3	E		15		
	KANZ	06	0953	0957	1019	S12	W59	5822	12	2.0	26	SF			V				
0100		06	10001	1001	1008	N10	W19	5817	12	5.0	8	SF	C 2.1				21		
	LEAR	06	1000	1001	1007	N10	W20	5817	12	4.9	7	SF	C 2.1	3	E		21		
	KANZ	06	1001	1001	1008	N10	W18	5817	12	5.1	7	SF			V				
0101	KANZ	06	1046	1046	1053	S15	W58	5809	12	2.0	7	SF			V				
0102	KANZ	06	1151	1151	1155	N21	W64	5810	12	1.6	4	SF			V				
0103	KANZ	06	1202	1202	1210	S11	W30	5823	12	4.2	8	SF			V				
0104		06	1258	1302	1306	N12	W22	5817	12	4.9	8	SF	C 2.0				14		
	KANZ	06	1258	1302	1306	N12	W23	5817	12	4.8	8	SF			V				
	SVTO	06	1302E	1302U	1307	N13	W21	5817	12	4.9	5D	SF	C 2.0	2	E		14		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0105	KANZ	06	1306	1306	1310	S11	W31	5823	12	4.2	4	SF			V				
0106	KANZ	06	1344		1344D	S15	W59	5809	12	2.1	4D	SF			V				
		06	1447		1520	No Flare Patrol													
0107	HOLL	06	1549	1554	1559	N19	W80	5806	11	30.5	10	SF		3	E		30		
		06	1639		1709	No Flare Patrol													
0108		06	1756*	1758	1910D	S13	W65	5822	12	1.8	74D	SF	C 3.4				66		
	RAMY	06	1756	1813U	1910D	S12	W66	5822	12	1.8	74D	SF	C 3.4	3	E		52		
	PALE	06	1757	1758	1834D	S15	W64	5822	12	1.9	37D	SF		3	E		20		
	HOLL	06	1816	1819U	1900D	S13	W66	5822	12	1.8	44D	1F		2	E		125		
0109		06	1827	1829U	1842	N10	W24	5817	12	5.0	15	SF					41		F
	RAMY	06	1827	1829U	1909D	N10	W22	5817	12	5.1	42D	SF		3	E		51		
	PALE	06	1830E	1830U	1842	N10	W27	5817	12	4.7	12D	SF		3	E		31		F
		06	2047		2051	No Flare Patrol													
0110	HOLL	06	2246E	2301U	2322D	N21	W72	5810	12	1.4	36D	SF		1	E		29		
0111	HOLL	06	2308E	2311U	2327	N25	W32	5829	12	4.5	19D	SF		2	E		54		
0112	PEKG	07	0638	0640	0644	S17	W70	5809	12	1.9	6	SF			V				D
0113	ABST	07	0706	0710	0720	N19	W90	5806	11	30.4	14	1F			C	0710	87		AD
0114	YUNN	07	0733U	0733U	0742	N15	W34	5817	12	4.7	9U	SN			P	0733	110	1.4	E
0115	HTPR	07	0820	0822	0840	N26	W38	5829	12	4.4	20	SF			C	0822	50	0.7	E
0116	HTPR	07	0948	0951	1025	N22	E14	5821	12	8.5	37	SN			C	0951	50	0.6	E
0117		07	0950*	1007*	1030	N25	W40	5829	12	4.3	40	SF					40	0.6	E
	HTPR	07	0950	1007	1030	N25	W40	5829	12	4.3	40	SF			C	1007	40	0.6	E
	KANZ	07	1024	1024	1030	N25	W40	5829	12	4.3	6	SF			V				
0118	HTPR	07	1002	1005	1010	N15	W37	5817	12	4.6	8	SF			C	1005	40	0.5	E
0119	HTPR	07	1108	1115	1200	N25	W40	5829	12	4.4	52	SF			C	1115	30	0.4	E
0120		07	12144	12173	1247	N14	W38	5817	12	4.6	33	SF					36	0.6	EF
	RAMY	07	1214	1217	1234	N13	W38	5817	12	4.6	20	SF		3	E		22		F
	HTPR	07	1218	1220	1300	N15	W39	5817	12	4.5	42	SF			C	1220	50	0.6	E
0121	RAMY	07	1221	1247	1253	N20	W74	5810	12	1.8	32	SF		3	E		11		
0122		07	1221*	12352	1250	S15	W21	5819	12	5.9	29	SF					24	0.3	EF
	HTPR	07	1221	1237	1250	S15	W22	5819	12	5.8	29	SF			C	1237	30	0.3	E
	RAMY	07	1234	1235	1249	S15	W20	5819	12	6.0	15	SF		3	E		19		F
0123	RAMY	07	1239	1242	1245	S10	W75	5822	12	1.9	6	SF		3	E		10		
0124	HTPR	07	1256	1259	1309	S15	W22	5819	12	5.9	13	SF			C	1259	20	0.2	D
0125	RAMY	07	1322	1323	1327	S15	W73	5809	12	2.0	5	SF		3	E		16		
0126		07	14574	15013	1514	N25	W42	5829	12	4.4	17	SF	C 2.4				35	0.9	E
	HTPR	07	1457	1503	1509	N26	W43	5829	12	4.3	12	SN			C	1503	60	0.9	E
	RAMY	07	1500	1504	1521	N25	W41	5829	12	4.4	21	SF		3	E		30		
	HOLL	07	1501	1501	1512	N25	W41	5829	12	4.4	11	SF	C 2.4	2	E		16		
0127	RAMY	07	1520	1520	1531	N20	W76	5810	12	1.8	11	SF		3	E		12		
0128		07	15212	15231	1528	S09	W78	5822	12	1.8	7	SF					58		D
	HTPR	07	1521	1523	1526D	S07	W80	5822	12	1.6	5D	1N			C	1523	100		D
	RAMY	07	1523	1524	1528	S11	W77	5822	12	1.8	5	SF		3	E		31		
	HOLL	07	1523	1524	1529	S09	W76	5822	12	1.9	6	SF		2	E		44		

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0129	RAMY	07	1525	1526	1549	N25	W41	5829	12	4.5	24	SF		3	E		21		
0130	RAMY	07	1714	1720	1725	N25	W42	5829	12	4.5	11	SF		3	E		13		
0131	RAMY	07	1728	1730	1732	N20	W78	5810	12	1.8	4	SF		3	E		10		
0132	HOLL	07	1811	1814	1821	N24	W76	5810	12	1.9	10	SF		3	E		13		
0133		07	18391	18401	1850	N25	W44	5829	12	4.4	11	SF					22		
	HOLL	07	1839	1841	1850	N25	W45	5829	12	4.3	11	SF		3	E		22		
	RAMY	07	1840	1840	1849	N25	W43	5829	12	4.4	9	SF		3	E		21		
0134		07	1918*	1925*	2026	N10	W41	5817	12	4.7	68	SN	C 5.9				46		FK
	RAMY	07	1918	1925	2021	N10	W41	5817	12	4.7	63	SB			E		61		K
	RAMY	07	1918	1942	2021	N10	W41	5817	12	4.7	63	SF	C 5.9	3	E		53		F
	PALE	07	1939	1943	2029	N08	W41	5817	12	4.7	50	SF		3	E		48		F
	RAMY	07	2031	2031	2033	N12	W42	5817	12	4.7	2	SF		3	E		23		F
0135	RAMY	07	1925	1926	1933	N22	E10	5821	12	8.6	8	SF		3	E		17		
0136	HOLL	07	1932E	1932U	2033D	S11	W47	5823	12	4.3	61D	SF		2	E		18		
0137	RAMY	07	1938	1939	1948	N24	W44	5829	12	4.4	10	SF		3	E		25		
0138	PALE	07	2042	2047	2052	S12	W82	5822	12	1.7	10	SF		3	E		14		
0139	PALE	07	2103E	2105U	2147	S15	W80	5809	12	1.8	44D	1N	M 4.5	3	E		183		EY
0140	PALE	07	2229	2234	2245	N22	W47	5829	12	4.3	16	SF		3	E		17		
0141	PALE	07	2250	2301	2323	N22	W47	5829	12	4.3	33	SF		3	E		18		
0142		08	0016	0017	0022	N16	E03	5821	12	8.2	6	SF					47	0.8	DFI
	LEAR	08	0016	0017	0021	N16	E03	5821	12	8.2	5	SF		3	E		19		
	VORO	08	0016	0017	0021	N16	E03	5821	12	8.2	5	SF		2	C	0017	72	0.8	DI
	PALE	08	0016	0017	0023	N17	E03	5821	12	8.2	7	SF		3	E		51		F
0143	PALE	08	0108	0113	0120	N22	W49	5829	12	4.3	12	SF		3	E		15		
0144		08	0152*	02023	0209	N13	W47	5817	12	4.5	17	SF					44	1.0	EFIJ
	YUNN	08	0152	0202	0209	N14	W48	5817	12	4.4	17	SN			C		63	1.0	E
	VORO	08	0202	0203	0208	N14	W49	5817	12	4.4	6	SF		2	C	0203	63	1.0	EIJ
	PALE	08	0203	0204	0210	N11	W47	5817	12	4.5	7	SF		3	E		30		F
	LEAR	08	0203	0205	0208	N13	W45	5817	12	4.7	5	SF		3	E		21		
0145	YUNN	08	0156	0202	0209	N16	E02	5821	12	8.2	13	SN			C		47	0.5	E
0146	PEKG	08	0157	0200	0205	S10	W52	5823	12	4.2	8	SF			V				D
0147	KHAR	08	0925E	0925E	0947	N22	W90	5810	12	1.5	22D	1N		2	P	0925			R
0148	HTPR	08	0940	0947	1015	N25	W32	5818	12	5.9	35	SF			C	0947	50	0.6	E
0149		08	09505	0952	1002	N12	W50	5817	12	4.6	12	SF					60	1.0	DEH
	HTPR	08	0950	0952	1000	N11	W51	5817	12	4.6	10	SF			C	0952	60	1.0	E
	KHAR	08	0955		1005	N12	W50	5817	12	4.6	10	SF		2	V	0955			HD
0150	HTPR	08	1016	1016	1019	N21	W03	5821	12	8.2	3	SN			C	1016	10	0.1	D
0151	KHAR	08	1019	1020	1036	N22	W90	5810	12	1.5	17	SF		2	P	1019			R
		08	1046		1049	No Flare Patrol													
0152	HTPR	08	1102	1109	1139D	N16	W17	5826	12	7.2	37D	SF			C	1109	100	1.1	E
		08	1331		1337	No Flare Patrol													
0153	RAMY	08	1342	1343	1347	N25	W51	5829	12	4.6	5	SF		3	E		41		

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0154	RAMY	08	1647	1648	1655	N22	W89	5810	12	1.8	8	SF		3	E		19		
0155		08	1739*	1746*	1812	N21	W03	5821	12	8.5	33	SF					36		F
	RAMY	08	1739	1746	1809	N20	W02	5821	12	8.6	30	SF		3	E		15		F
	PALE	08	1751	1754	1802	N21	W04	5821	12	8.4	11	SF		3	E		54		F
	HOLL	08	1754E	1758	1824	N21	W03	5821	12	8.5	30D	SF		3	E		38		
0156	RAMY	08	1757	1757	1803	N22	W89	5810	12	1.9	6	SF		3	E		12		
0157	RAMY	08	1802	1802	1807	N27	W58	5829	12	4.2	5	SF		3	E		32		
0158		08	18214	18322	1905	N11	W54	5817	12	4.7	44	1F					100		F
	HOLL	08	1821	1832	1910	N11	W54	5817	12	4.7	49	1F		3	E		141		F
	RAMY	08	1823	1834	1908	N11	W54	5817	12	4.7	45	1F		3	E		125		F
	PALE	08	1825	1832	1857	N12	W54	5817	12	4.7	32	SF		3	E		35		F
0159	RAMY	08	1829	1837	1839	N22	W89	5810	12	1.9	10	SF		3	E		24		
0160	RAMY	08	1849	1852	1858	N21	W89	5810	12	2.0	9	SF	C 6.9	3	E		48		F
0161		08	20272	20312	2034	N23	W90	5810	12	1.9	7	SF	C 6.7				80		
	RAMY	08	2027	2033	2043D	N23	W90	5810	12	1.9	16D	SF	C 6.7	3	E		144		
	PALE	08	2029	2031	2034	N23	W90	5810	12	1.9	5	SF	C 6.7	3	E		15		
0162	HOLL	08	2138	2138	2145	S11	W63	5823	12	4.2	7	SF		3	E		14		
0163	YUNN	09	0232E	0233U	0233D	N22	W10	5821	12	8.3	1D	SN			P	0233	79	0.9	E
0164		09	08211	08406	0920	N21	W13	5821	12	8.3	59	1N	M 1.2				116	2.4	EF
	KANZ	09	0821	0846	0919	N21	W13	5821	12	8.3	58	1F			V				
	LEAR	09	0822	0840	0920	N21	W12	5821	12	8.4	58	SN	M 1.2	3	E		13		F
	KHAR	09	0842E	0842E	0920	N22	W13	5821	12	8.4	38D	1N		2	P	0850	220	2.4	E
		09	1351		1409	No Flare Patrol													
0165	HOLL	09	1643	1646	1657	N15	W33	5826	12	7.2	14	SF		3	E		22		F
0166		09	17071	17091	1743	S12	E52	5830	12	13.6	36	SF	C 2.8				55		F
	RAMY	09	1707	1710	1739D	S10	E51	5830	12	13.5	32D	SF	C 2.8	3	E		44		
	HOLL	09	1708	1709	1743	S13	E52	5830	12	13.6	35	SF		3	E		66		F
0167	VORO	10	0203	0205	0212	N09	E19	5827	12	11.5	9	SF		2	C	0205	54	0.6	DH
		10	1051		1059	No Flare Patrol													
0168		10	1217	1217	1221	S17	W58	5819	12	6.1	4	SF					16		
	SVTO	10	1208E	1209U	1225D	S18	W59	5819	12	6.0	17D	SF		3	E		19		
	RAMY	10	1217	1217	1221	S16	W58	5819	12	6.1	4	SF		3	E		13		
0169		10	1722	1739	1804	N15	W04	5827	12	10.4	42	1F	C 1.9				88		F
	RAMY	10	1722	1739	1803	N15	W06	5827	12	10.3	41	SF	C 1.9	3	E		69		F
	HOLL	10	1736E	1740U	1805	N15	W03	5827	12	10.5	29D	1F		2	E		107		F
0170	PALE	10	2340	2342	2348	N22	W33	5821	12	8.4	8	SF		3	E		15		F
0171	VORO	11	0004E		0020	N10	W89	5817	12	4.3	16D	SF		2	C	0004	27		D
0172		11	0512*	0517*	0542	N20	W38	5821	12	8.3	30	SN	C 3.4				36		DE
	MITK	11	0512	0517	0550	N21	W38	5821	12	8.3	38	SN			C	0517			E
	LEAR	11	0516	0517	0532	N20	W37	5821	12	8.4	16	SF	C 3.4	3	E		36		
	PEKG	11	0534	0540	0545	N20	W39	5821	12	8.2	11	SN			V				D
0173	SVTO	11	0821	0822	0829	N14	W03	5827	12	11.1	8	SF		3	E		14		
0174		11	11073	11112	1125	S24	E24	5833	12	13.3	18	SF					24		
	KANZ	11	1107	1111	1126	S25	E24	5833	12	13.3	19	SF			V				
	SVTO	11	1110	1113	1124	S24	E23	5833	12	13.2	14	SF		3	E		24		

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0175		11	13081	1309	1322	N21	W42	5821	12	8.3	14	SF					25		F
	SVTO	11	1308	1309	1322	N20	W43	5821	12	8.2	14	SF		3	E		23		F
	RAMY	11	1308	1309	1324	N21	W40	5821	12	8.5	16	SF		3	E		27		
	KANZ	11	1309	1309	1320	N21	W42	5821	12	8.3	11	SF			V				
		11	1503		1542	No Flare Patrol													
0176		11	1833	1834	1912	N20	W44	5821	12	8.4	39	SN	C 9.7				84		F
	RAMY	11	1833	1834	1912	N19	W44	5821	12	8.4	39	SF		3	E		93		F
	HOLL	11	1836E	1837U	1920D	N20	W45	5821	12	8.3	44D	SN	C 9.7	2	E		76		F
0177		11	20102	20131	2021	S24	E22	5830A	12	13.5	11	SF					18		F
	RAMY	11	2010	2014	2023	S26	E24	5830A	12	13.7	13	SF		3	E		19		F
	PALE	11	2012	2013	2019	S23	E19	5830A	12	13.3	7	SF		3	E		16		F
0178	HOLL	11	2245	2248	2255	S10	E19	5830	12	13.4	10	SF		3	E		16		
0179	HOLL	11	2247	2253	2317	N20	W48	5821	12	8.3	30	SF		3	E		59		F
0180		11	2350*	2354*	2432	N13	W11	5827	12	11.2	42	SF	C 2.2				46	1.0	EFHJ
	MITK	11	2350	2354	2509	N13	W12	5827	12	11.1	79	SN			C	2354			H
	LEAR	11	2353	2356	2406	N13	W11	5827	12	11.2	13	SF	C 2.2	3	E		30		F
	VORO	11	2353E	2356	2414	N14	W11	5827	12	11.2	21D	SF		2	C	2356	99	1.0	EHJ
	LEAR	12	0030	0034	0039	N12	W10	5827	12	11.3	9	SF		4	E		10		
0181	VORO	12	0019	0023	0031	N20	W50	5821	12	8.2	12	SF		2	C	0023	90	1.4	EI
0182	KANZ	12	0942	0942	0946	N17	W52	5821	12	8.4	4	SF			C				
0183	KANZ	12	1055	1055	1103	N19	W52	5821	12	8.5	8	SN			V				
		12	1313		1351	No Flare Patrol													
0184	RAMY	12	1356E	1356U	1536D	N13	W19	5827	12	11.1	100D	SF	C 1.2	2	E		38		FH
0185	PALE	12	2338	2340	2346	N14	E78	5836	12	18.9	8	SF	C 3.3	3	E		18		
0186	PALE	13	0110	0110	0119	N09	E85	5836	12	19.4	9	SF		3	E		20		
0187	ISTA	13	0827		0836	N11	E85	5836	12	19.7	9	SN			V				D
		13	1046		1059	No Flare Patrol													
0188	RAMY	13	1133	1133	1147	N10	E74	5836	12	19.0	14	SF		2	E		12		
0189		13	1235	12361	1302	N12	E74	5836	12	19.1	27	SB	C 3.5				90		EF
	RAMY	13	1235	1236	1259	N11	E74	5836	12	19.1	24	SN		3	E		85		FE
	SVTO	13	1235	1237	1305	N14	E73	5836	12	19.0	30	SB	C 3.5	3	E		94		
0190	RAMY	13	1655	1659	1724	N20	E90	5837	12	20.6	29	SN	C 2.0	3	E		96		Y
0191	RAMY	13	1747	1756	1807	N19	E90	5837	12	20.6	20	SF	C 3.0	3	E		58		
0192	PALE	13	1847	1849	1852	S10	W03	5830	12	13.5	5	SF		3	E		69		
0193	RAMY	13	1858	1859	1905	N19	E89	5837	12	20.6	7	SF		3	E		27		
0194	RAMY	13	2003	2003	2009	N19	E89	5837	12	20.6	6	SF		3	E		39		
0195		14	02073	02123	0241	N09	E72	5836	12	19.5	34	1F	M 1.9				104		EFH
	PALE	14	0207	0212	0247	N08	E73	5836	12	19.6	40	SF	M 1.9	2	E		91		F
	LEAR	14	0207	0212	0247	N09	E72	5836	12	19.5	40	1F	M 1.9	3	E		114		F
	VORO	14	0208	0212	0224	N09	E71	5836	12	19.4	16	1F		2	C	0212	108		EH
	PEKG	14	0210	0215	0245	N10	E73	5836	12	19.6	35	1N			P	0215	105		E
0196	SVTO	14	1122	1124	1142	N12	E64	5836	12	19.3	20	SF	C 2.1	3	E		28		
0197	SVTO	14	1227	1228	1240	N10	E65	5836	12	19.4	13	SF	C 1.7	3	E		36		

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0198		14	1252	12551	1318	N12	E58	5836	12	18.9	26	1F	C	2.7				60		F
	SVTO	14	1252	1255	1331	N11	E60	5836	12	19.0	39	1F	C	2.7	3	E		100		
	RAMY	14	1252	1256	1304	N13	E57	5836	12	18.8	12	SF			3	E		19		F
0199	RAMY	14	1441	1443	1452	N20	E73	5837	12	20.2	11	SF	C	2.3	3	E		28		F
0200	HOLL	14	1843	1843	1848	N11	E56	5836	12	19.0	5	SF			3	E		13		
0201		14	1857	18581	1906	N14	E54	5836	12	18.9	9	SF						16		
	HOLL	14	1857	1858	1908	N14	E54	5836	12	18.9	11	SF			3	E		15		
	RAMY	14	1857	1859	1905	N15	E53	5836	12	18.8	8	SF			3	E		17		
0202	RAMY	14	1925	1925	1928	N21	E72	5837	12	20.3	3	SF			3	E		21		
		14	2136		2240	No Flare Patrol														
0203	PALE	14	2337	2338	2352	N20	E74	5837	12	20.6	15	SF	C	3.5	3	E		32		F
0204		15	06083	06161	0638	N28	E46	5835	12	18.8	30	1N						157	2.6	E
	MITK	15	0608	0617	0647	N28	E44	5835	12	18.7	39	SN				C	0617			E
	PURP	15	0611	0616	0628	N28	E47	5835	12	18.9	17	1N				C	0616	157	2.6	
		15	1045		1101	No Flare Patrol														
0205	RAMY	15	1356	1359	1437	N21	E64	5837	12	20.5	41	1N	C	7.9	3	E		121		F
0206	RAMY	15	1552	1558	1613	N09	E43	5836	12	18.9	21	SF	C	2.2	3	E		94		F
0207	HOLL	15	1839	1842	1849	N16	W09	5832	12	15.1	10	SF			3	E		17		F
0208	HOLL	15	1936	1939	1954	N11	E49	5836	12	19.5	18	SF			4	E		29		
0209		15	2036	2038	2044	N10	E44	5836	12	19.2	8	SF	C	1.3				28		F
	HOLL	15	2035E	2039U	2044	N10	E48	5836	12	19.5	9D	SF			2	E		35		F
	RAMY	15	2036	2038	2044	N11	E41	5836	12	18.9	8	SF	C	1.3	3	E		22		
		15	2151		2156	No Flare Patrol														
0210	PALE	15	2312	2315	2323	N10	E45	5836	12	19.3	11	SF	C	1.3	3	E		21		F
0211	ABST	16	0514E	0516	0540	N25	E55	5837	12	20.5	26D	1F				P	0516	148	2.8	E
0212	KANZ	16	1025	1025	1032	N12	E32	5836	12	18.8	7	SF				V				
0213	SVTO	16	1257	1258	1304	S10	E72	5843	12	21.9	7	SF			3	E		17		
		16	1334		1342	No Flare Patrol														
0214		16	1404	1405	1418	N12	E36	5836	12	19.3	14	SF	C	1.1				22		F
	SVTO	16	1404	1405	1418	N12	E36	5836	12	19.3	14	SF	C	1.1	3	E		22		
	RAMY	16	1404E	1409U	1549D	N11	E37	5836	12	19.4	105D	SF			3	E		21		F
		16	1503		1714	No Flare Patrol														
0215	RAMY	16	1728	1734	1738	N10	E31	5836	12	19.0	10	SF			2	E		36		
		16	2016		2056	No Flare Patrol														
0216	PALE	16	2057E	2100U	2123D	N21	E45	5837	12	20.3	26D	SF	C	2.8	3	E		35		F
		16	2103		2107	No Flare Patrol														
0217	HTPR	17	0832E	0843	0930	N30	W35	5847	12	14.6	58D	SF				C	0843	70	1.0	E
0218	HTPR	17	1028E		1030D	S23	E04	5834	12	17.7	2D	SF				C	1030	30	0.3	ELS
0219	RAMY	17	1130	1152	1220	N19	E63	5846	12	22.3	50	SF	C	3.5	3	E		36		
0220	RAMY	17	1346	1348	1352	N19	E60	5846	12	22.1	6	SF	C	1.5	3	E		18		F

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0221		17	1740*	1744*	1815	N18	E58	5846	12	22.1	35	SF	C	3.6				41		F
	RAMY	17	1740	1744	1823	N18	E58	5846	12	22.1	43	SF	C	3.6	3	E		54		F
	HOLL	17	1743E	1744U	1758D	N17	E58	5846	12	22.1	15D	SF			2	E		49		
	PALE	17	1801	1803	1807	N18	E58	5846	12	22.2	6	SF			3	E		20		
0222	PALE	17	1823	1825	1829	S09	W38	5844	12	14.9	6	SF	C	2.8	3	E		20		
0223		17	2138	2145	2241	N18	E57	5846	12	22.2	63	SF	C	5.3				44		F
	HOLL	17	2138E	2139U	2221D	N19	E56	5846	12	22.2	43D	SF			2	E		29		F
	PALE	17	2138	2145	2241	N18	E58	5846	12	22.3	63	SF	C	5.3	3	E		58		F
0224	PALE	17	2243	2246	2258	N18	E32	5837	12	20.4	15	SF			3	E		24		
0225		18	0515	0524*	0549	N18	E52	5846	12	22.2	34	SF	C	2.7				52		FK
	LEAR	18	0515	0524	0549	N18	E52	5846	12	22.2	34	SF				E		61		K
	LEAR	18	0515	0535	0549	N18	E52	5846	12	22.2	34	SF	C	2.7	3	E		43		F
0226		18	0743	0745	0749	N17	E48	5846	12	22.0	6	SF						30		
	LEAR	18	0743	0745	0749	N17	E48	5846	12	22.0	6	SF			3	E		30		
	KANZ	18	0745E	0745	0749	N17	E48	5846	12	22.0	4D	SF				C				
0227	KANZ	18	0819	0819	0823D	N33	W52	5847	12	14.2	4D	SF				C				
0228		18	08274	0830*	0929	N20	E50	5846	12	22.2	62	1F	M	2.0				116	1.6	EFU
	YUNN	18	0827	0830	0834D	N21	E56	5846	12	22.6	7D	SN				P		79	1.6	E
	LEAR	18	0831	0849	0929	N19	E50	5846	12	22.2	58	1F	M	2.0	3	E		119		UF
	SVTO	18	0902E	0905U	0940D	N19	E44	5846	12	21.7	38D	1F			3	E		151		
0229		18	0923*	0924*	0934	S09	W44	5844	12	15.1	11	SF						18		
	LEAR	18	0923	0924	0927	S09	W44	5844	12	15.1	4	SF			3	E		25		
	LEAR	18	0935	0935	0942	S09	W44	5844	12	15.1	7	SF			3	E		12		
0230	LEAR	18	0938	0939	0943	N33	W53	5847	12	14.2	5	SF			3	E		16		
0231		18	10333	1036	1040	S10	W43	5844	12	15.2	7	SF	C	1.5				23		
	SVTO	18	1033	1036	1042D	S10	W43	5844	12	15.2	9D	SF	C	1.5	3	E		23		
	KANZ	18	1036	1036	1040	S10	W43	5844	12	15.2	4	SF				C				
		18	1224		1304	No Flare Patrol														
		18	1354		1428	No Flare Patrol														
0232		18	1706*	1728*	1756	S08	W48	5844	12	15.1	50	1F	C	4.5				84		FK
	HOLL	18	1706	1728U	1728D	S08	W47	5844	12	15.2	22D	1F			3	E		112		F
	HOLL	18	1720	1728	1756	S08	W49	5844	12	15.0	36	1F	C	4.5	3	E		115		F
	HOLL	18	1720	1745	1756	S08	W49	5844	12	15.0	36	SF				E		25		K
0233	HOLL	18	1738	1740	1747	N32	W52	5847	12	14.6	9	SF			4	E		30		
0234	HOLL	18	1801	1808	1814	S11	W50	5844	12	15.0	13	SF			4	E		30		
0235	HOLL	18	1840	1846	1855	N32	W53	5847	12	14.6	15	SF			4	E		17		
0236	PALE	18	2105	2108	2125	N34	W56	5847	12	14.4	20	SF			3	E		30		F
0237	PALE	18	2151	2200	2202	N19	E25	5837	12	20.8	11	SF			3	E		14		F
0238		18	23061	2308	2314	N34	W57	5847	12	14.4	8	SF	C	1.5				28		F
	PALE	18	2306	2308	2315	N34	W57	5847	12	14.4	9	SF	C	1.5	3	E		30		F
	LEAR	18	2307	2308	2314	N33	W57	5847	12	14.4	7	SF			3	E		26		
0239	PALE	18	2307	2307	2313	N19	E23	5837	12	20.7	6	SF			3	E		11		
0240		18	23361	2340	2409	N20	E22	5837	12	20.7	33	2B	M	3.2				390	8.7	EFH
	PALE	18	2336	2340	2414	N20	E22	5837	12	20.7	38	2B	M	3.2	3	E		272		FH
	LEAR	18	2337	2340	2405	N19	E23	5837	12	20.7	28	1N	M	3.2	3	E		167		FE
	MITK	18	2337	2340	2408	N21	E22	5837	12	20.7	31	2B				C	2340	730	8.7	F
0241		18	2344	23481	2356	S08	W52	5844	12	15.1	12	SF						32		F
	PALE	18	2344	2348	2354	S07	W52	5844	12	15.1	10	SF			3	E		19		F
	LEAR	18	2344	2349	2358	S08	W52	5844	12	15.1	14	SF			3	E		45		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0242	VORO	19	0045E		0110D	N31	W60	5847	12	14.3	25D	1F		2	C				EH
0243		19	02067	02133	0225	N34	W59	5847	12	14.4	19	SF					47		
	PURP	19	0206	0213	0226	N34	W61	5847	12	14.2	20	SN			C	0213	78		
	PALE	19	0210	0216	0227	N34	W59	5847	12	14.4	17	SF		3	E		39		
	LEAR	19	0213	0215	0222	N33	W56	5847	12	14.6	9	SF		3	E		25		
0244		19	02419	02449	0258	N34	W59	5847	12	14.4	17	SF	C 3.3				66		
	PURP	19	0241	0244	0252	N34	W61	5847	12	14.2	11	1N			C	0244	105		
	PALE	19	0242	0244	0303	N35	W59	5847	12	14.4	21	SF	C 3.3	3	E		70		
	LEAR	19	0250	0253	0258	N33	W56	5847	12	14.7	8	SF		3	E		24		
0245		19	03021	03021	0311	S09	W57	5844	12	14.8	9	SF	C 3.2				28	0.6	F
	PURP	19	0302E	0302U	0308	S10	W58	5844	12	14.8	6D	SN			C	0302	33	0.6	
	LEAR	19	0302	0302	0313	S09	W57	5844	12	14.8	11	SF	C 3.2	3	E		29		
	PALE	19	0303	0303	0311	S07	W56	5844	12	14.9	8	SF		3	E		21		F
0246	LEAR	19	0508	0515	0526	S11	W55	5844	12	15.1	18	SF		3	E		35		
0247		19	05237	0532*	0556	N21	E18	5837	12	20.6	33	SN	C 7.7				144	2.0	EF
	MITK	19	0523	0532	0556	N20	E17	5837	12	20.5	33	1B			C	0532	190	2.2	
	LEAR	19	0527	0542	0557	N20	E18	5837	12	20.6	30	SF	C 7.7	3	E		47		F
	PURP	19	0528	0534	0554	N21	E17	5837	12	20.5	26	SF			C	0534	150	1.8	
	TACH	19	0530	0537	0555	N22	E18	5837	12	20.6	25	SB		3	C	0537	190	2.0	E
0248	TACH	19	0530	0533	0538	N18	E35	5846	12	21.9	8	SN		3	C	0533	46	0.6	D
0249	SVTO	19	0824	0829U	0841D	N21	E15	5837	12	20.5	17D	SF		3	E		43		
0250	HTPR	19	0950	0958	1015	S13	E90	5849	12	26.2	25	SF			C	0958	50		E
0251		19	10284	1034	1050	N20	E33	5846	12	22.0	22	SN	C 2.8				61	1.2	E
	HTPR	19	1028	1034	1050	N20	E34	5846	12	22.0	22	SB			C	1034	90	1.2	E
	SVTO	19	1032	1037U	1053D	N20	E32	5846	12	21.9	21D	SF	C 2.8	3	E		32		
0252	RAMY	19	1124	1135	1218	N32	W60	5847	12	14.7	54	SF		4	E		33		
0253		19	1237*	1240*	1350	N20	E35	5846	12	22.2	73	1N					111	1.5	EFJKUW
	HTPR	19	1237	1240	1242	N20	E32	5846	12	22.0	5	SF			C	1240	40	0.5	E
	HTPR	19	1242	1254	1400	N20	E37	5846	12	22.3	78	SB			C	1254	110	1.4	EJK
	HTPR	19	1242	1305	1400	N20	E37	5846	12	22.3	78	1B			C	1305	190	2.5	UW
	RAMY	19	1248	1313	1437	N18	E35	5846	12	22.2	109	1F		4	E		103		F
0254	HTPR	19	1350	1352	1405	S10	E90	5849	12	26.3	15	SN			C	1352	10		AD
0255	RAMY	19	1354	1401	1420	N33	W65	5847	12	14.4	26	SF		4	E		24		
0256		19	1524	15251	1532	N19	E30	5846	12	21.9	8	SF	C 2.1				46		
	RAMY	19	1524	1525	1532	N19	E31	5846	12	22.0	8	SF	C 2.1	4	E		45		
	HOLL	19	1524	1526	1533	N19	E30	5846	12	21.9	9	SF		3	E		47		
0257	HOLL	19	1540	1546	1550	N33	W63	5847	12	14.6	10	SF		3	E		13		
0258		19	15594	16032	1613	N32	W64	5847	12	14.6	14	SF	C 1.8				60		
	HOLL	19	1559	1605	1613	N32	W64	5847	12	14.6	14	SF	C 1.8	3	E		84		
	RAMY	19	1603	1603	1613	N32	W65	5847	12	14.5	10	SF	C 1.8	3	E		37		
0259		19	1649	1651	1656	N18	E31	5846	12	22.1	7	SF					20		
	HOLL	19	1649	1651	1656	N19	E33	5846	12	22.2	7	SF		3	E		29		
	RAMY	19	1649	1651	1656	N17	E29	5846	12	21.9	7	SF		3	E		10		
0260	RAMY	19	1743	1745	1750	S10	W66	5844	12	14.8	7	SF		3	E		18		
0261	RAMY	19	1750	1751	1753	N17	E29	5846	12	21.9	3	SF		3	E		10		
0262		19	1817*	1840	1923	S10	W65	5844	12	14.9	66	SF					33		F
	RAMY	19	1817	1840	1901	S11	W65	5844	12	14.9	44	SF		3	E		29		F
	HOLL	19	1858E	1924U	1945	S09	W63	5844	12	15.1	47D	SF		3	E		29		
	RAMY	19	1902	1914U	1936D	S10	W67	5844	12	14.7	34D	SF		2	E		41		F

Hα SOLAR FLARES

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0263	RAMY	19	1820	1820	1827	N22	E12	5837	12	20.7	7	SF			3	E		10		F
0264	RAMY	19	1845	1851	1856	N17	E27	5846	12	21.8	11	SF	C	2.5	3	E		16		
0265	HOLL	19	1909	1922	1940	N33	W64	5847	12	14.7	31	SF			3	E		18		
0266	HOLL	19	1958	1959	2001	N33	W65	5847	12	14.7	3	SF			3	E		27		
0267		19	2007	2036*	2203	S10	W64	5844	12	15.0	116	SF						45		K
	HOLL	19	2007	2036	2203	S10	W64	5844	12	15.0	116	SF				E		34		K
	HOLL	19	2007	2122	2203	S10	W64	5844	12	15.0	116	SF			3	E		56		
0268	HOLL	19	2252	2317	2350D	S10	W67	5844	12	14.9	58D	SF			3	E		48		
0269		19	2302	23032	2316	N22	E10	5837	12	20.7	14	1N	C	3.2				90		EF
	LEAR	19	2302	2303	2316	N22	E10	5837	12	20.7	14	SF			3	E		63		F
	HOLL	19	2302	2305	2317	N22	E09	5837	12	20.6	15	1N	C	3.2	4	E		118		E
0270	LEAR	20	0302	0318	0338	S09	W69	5844	12	14.9	36	SF			3	E		43		F
0271		20	03365	03445	0421	N18	E26	5846	12	22.1	45	SN						27		EU
	MITK	20	0336	0349	0432	N19	E26	5846	12	22.1	56	SB				C	0349			E
	LEAR	20	0341	0344	0410	N17	E26	5846	12	22.1	29	SF			3	E		27		U
0272	LEAR	20	0509	0512	0517	N22	E06	5837	12	20.7	8	SF			3	E		32		FH
0273	LEAR	20	0609	0615	0625	N12	W10	5836	12	19.5	16	SF			3	E		38		F
0274		20	06394	06424	0654	N22	E02	5837	12	20.4	15	SF	C	3.2				58	1.1	DF
	MITK	20	0639	0644	0656D	N22	E02	5837	12	20.4	17D	SF				C	0644			
	LEAR	20	0641	0642	0653	N22	E02	5837	12	20.4	12	SF	C	3.2	3	E		19		F
	ABST	20	0643	0646	0656	N23	E02	5837	12	20.4	13	SF				C	0646	96	1.1	D
0275	KAND	20	0919		0928	N28	E65	5848	12	25.5	9	SN				V	0924	42		DZ
0276	SVTO	20	1009	1010	1024	N27	E54	5848	12	24.6	15	SF			3	E		17		
0277	SVTO	20	1359	1400	1417	N31	W75	5847	12	14.7	18	SF	C	1.4	3	E		16		
0278	HOLL	20	1422E	1422U	1535D	S10	W75	5844	12	15.0	73D	SF			3	E		70		H
0279	HOLL	20	1714	1724	1732	S09	W76	5844	12	15.0	18	SF			3	E		20		
0280	HOLL	20	1808	1809	1824	S09	W77	5844	12	15.0	16	SF	C	1.5	3	E		24		
0281		20	1903	1906	2008	N20	E19	5846	12	22.2	65	2B	M	2.3				344		FU
	HOLL	20	1903	1906	2008	N21	E19	5846	12	22.2	65	2B	M	2.3	3	E		293		UF
	RAMY	20	1903	1909U	1917D	N20	E19	5846	12	22.2	14D	2B	M	2.3	3	E		396		UF
0282		20	19079	1918	1944	S09	W78	5844	12	14.9	37	1N						98		EH
	HOLL	20	1907	1918	1944	S08	W78	5844	12	14.9	37	1N			3	E		178		EH
	RAMY	20	1916		1917D	S10	W78	5844	12	14.9	1D	SF			2	E		17		
0283	HOLL	20	2106	2108	2113	S15	W79	5844	12	14.9	7	SF			3	E		10		F
0284	LEAR	21	0330	0332	0341	N20	W08	5837	12	20.5	11	SF			3	E		37		F
0285	ISTA	21	0923		0939	S30	E80	5852	12	27.7	16	1B				V				F
0286	ISTA	21	0931		0946	N20	W07	5837	12	20.9	15	1F				V				E
0287		21	12111	1219	1228	N22	E08	5846	12	22.1	17	SF						15		F
	RAMY	21	1211	1219	1232	N21	E09	5846	12	22.2	21	SF			3	E		16		
	SVTO	21	1212	1219	1225	N22	E08	5846	12	22.1	13	SF			3	E		14		F
0288	HOLL	21	1634	1635	1642	N20	W15	5837	12	20.5	8	SF			3	E		22		F
0289	HOLL	21	1701	1704	1715	S11	E57	5849	12	26.0	14	SF			3	E		19		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0290		21	19065	19111	1926	N20	W16	5837	12	20.6	20	SF						21		
	HOLL	21	1906	1912	1927	N20	W14	5837	12	20.7	21	SF			3	E		23		
	RAMY	21	1911	1911	1926	N21	W17	5837	12	20.5	15	SF			3	E		19		
0291	HOLL	21	1943	1943	1946	S10	E55	5849	12	25.9	3	SF			3	E		15		
0292		21	21084	21122	2118	S10	E54	5849	12	25.9	10	SF						18		F
	RAMY	21	2108	2112	2118	S10	E54	5849	12	25.9	10	SF			3	E		22		
	HOLL	21	2112	2114	2117	S10	E54	5849	12	25.9	5	SF			3	E		13		F
0293	SVTO	22	1245	1246	1249	S24	E65	5852	12	27.5	4	SF			3	E		13		
0294		22	1257	1304*	1400	N24	E39	5848	12	25.5	63	1N						101		FK
	SVTO	22	1257	1304	1400	N24	E38	5848	12	25.5	63	1N			3	E		129		F
	SVTO	22	1257	1331	1400	N24	E38	5848	12	25.5	63	SN				E		60		K
	RAMY	22	1257	1331	1401	N23	E40	5848	12	25.6	64	1F			3	E		114		F
0295	RAMY	22	1516	1520	1524	N22	E83	5854	12	29.0	8	SF			3	E		16		
0296		22	2057	2058	2103	N20	W27	5837	12	20.8	6	SF						21		
	HOLL	22	2057	2058	2102	N20	W26	5837	12	20.9	5	SF			2	E		22		
	RAMY	22	2057	2058	2104	N21	W28	5837	12	20.7	7	SF			3	E		20		
0297		22	2214	2214	2224	S11	E74	5860	12	28.5	10	SF						15		
	HOLL	22	2214	2214	2221	S11	E73	5860	12	28.4	7	SF			2	E		14		
	PALE	22	2214	2214	2228	S11	E76	5860	12	28.6	14	SF			3	E		16		
0298		22	23071	23092	2331	S12	E77	5857	12	28.8	24	SF						32		
	PALE	22	2307	2309	2337	S11	E78	5857	12	28.8	30	SF			3	E		37		
	HOLL	22	2308	2311	2325	S12	E76	5857	12	28.7	17	SF			1	E		28		
0299	PALE	22	2314	2314	2320	N21	E71	5854	12	28.4	6	SF	M	5.2	3	E		35		FY
0300		23	00382	0042	0106	S27	E58	5852	12	27.5	28	1F						120	3.8	EF
	PALE	23	0038	0042	0124	S28	E59	5852	12	27.6	46	SF			3	E		70		F
	VORO	23	0040	0042	0049	S26	E58	5852	12	27.5	9	1F			2	C	0042	170	3.8	E
0301	VORO	23	0140	0144	0159	S30	W26	5850	12	21.0	19	SF			2	C	0144	72	0.9	D
		23	0446		0456	No Flare Patrol														
		23	0653		0706	No Flare Patrol														
		23	0803		0812	No Flare Patrol														
0302		23	0847	08497	0902	S08	E28	5849	12	25.5	15	SF						32	0.4	E
	SVTO	23	0847	0849	0900	S07	E28	5849	12	25.5	13	SF			4	E		25		
	HTPR	23	0854E	0856	0905	S09	E28	5849	12	25.5	11D	SF				C	0856	40	0.4	E
0303	SVTO	23	0848	0848	0900	N28	E72	5860A	12	29.0	12	SF			4	E		14		H
0304		23	09234	0927*	0948	N30	E84	5860A	12	30.0	25	1N	C	8.2				73		EHK
	HTPR	23	0923	0928	0950	N30	E85	5860A	12	30.1	27	1N				C	0928	60		EK
	HTPR	23	0923	0938	0950	N30	E85	5860A	12	30.1	27	1N				C	0938	100		EK
	SVTO	23	0927	0927	1006D	N31	E81	5860A	12	29.8	39D	SF	C	8.2	2	E		49		H
	KAND	23	0938E		0945	N31	E85	5860A	12	30.1	7D	SN				P	0938	83		E
0305		23	10455	1052	1108	S09	E31	5849	12	25.8	23	SF						20	0.2	DE
	HTPR	23	1045	1052	1105	S08	E27	5849	12	25.5	20	SF				C	1052	10	0.1	D
	HTPR	23	1050	1052	1110	S10	E35	5849	12	26.1	20	SF				C	1052	30	0.4	E
0306		23	11197	1120*	1137	S10	E31	5849	12	25.8	18	SF						30	0.4	E
	HTPR	23	1119	1120	1129	S09	E27	5849	12	25.5	10	SF				C	1120	20	0.2	E
	HTPR	23	1126	1134	1145	S10	E35	5849	12	26.1	19	SF				C	1134	40	0.5	
0307		23	12128	1220	1227	S29	W28	5850	12	21.3	15	SF						32	0.7	FH
	HTPR	23	1212	1220	1230	S28	W28	5850	12	21.3	18	SF				C	1220	50	0.7	
	RAMY	23	1216	1220	1225	S29	W28	5850	12	21.3	9	SF			3	E		15		FH
	KANZ	23	1220	1220	1227	S29	W27	5850	12	21.4	7	SF				C				
0308	HTPR	23	1234	1235	1245	S12	E66	5860	12	28.5	11	SN				C	1235	40	0.9	E

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0309		23	13045	13094	1325	S12	E70	5857	12	28.8	21	SF						44		E
	HTPR	23	1304	1309	1330	S12	E68	5857	12	28.7	26	SN				C	1309	70		E
	RAMY	23	1307	1309	1324	S12	E69	5857	12	28.7	17	SF			3	E		19		
	KANZ	23	1309	1313	1321	S12	E72	5857	12	29.0	12	SF				V				
0310		23	13152	13172	1338	N28	E78	5860A	12	29.6	23	1N	C	8.0				152		AE
	HTPR	23	1315	1318	1340	N28	E80	5860A	12	29.8	25	1B				C	1318	130		AE
	RAMY	23	1316	1319	1336	N28	E78	5860A	12	29.6	20	1N	C	8.0	3	E		175		
	KANZ	23	1317	1317	1339	N28	E76	5860A	12	29.5	22	1F				V				
0311		23	16272	16282	1635	S08	E23	5849	12	25.4	8	SF						42		
	HOLL	23	1627	1628	1635	S09	E23	5849	12	25.4	8	SF			4	E		47		
	RAMY	23	1629	1630	1635	S08	E23	5849	12	25.4	6	SF			3	E		37		
0312		23	1754*	1809*	1856	S27	E49	5852	12	27.6	62	SF						47		FK
	HOLL	23	1754	1818	1907	S27	E52	5852	12	27.8	73	SN				E		48		K
	HOLL	23	1754	1826	1907	S27	E52	5852	12	27.8	73	SF			3	E		92		F
	RAMY	23	1807	1809	1857	S27	E47	5852	12	27.4	50	SF			2	E		23		F
	PALE	23	1808	1809	1833	S27	E46	5852	12	27.3	25	SF			3	E		26		F
0313		23	18053	18084	1832	S12	E70	5857	12	29.0	27	1F	C	5.3				56		F
	HOLL	23	1805	1812	1842	S11	E71	5857	12	29.1	37	1F	C	5.3	2	E		101		F
	PALE	23	1808	1808	1822	S14	E68	5857	12	28.9	14	SF			3	E		12		
0314		23	18458	1900	1919	S10	E70	5857	12	29.0	34	SF						72		F
	HOLL	23	1845	1900	1915	S10	E73	5857	12	29.3	30	SF			2	E		72		F
	RAMY	23	1853	1900	1923	S11	E68	5857	12	28.9	30	SF			2	E		71		F
0315	HOLL	23	1854	1856	1905	N29	E84	5860A	12	30.4	11	SF			3	E		27		
0316	PALE	23	2214	2214	2238	N21	W43	5837	12	20.6	24	SF			3	E		14		
0317	HOLL	23	2242	2242	2245	N23	E67	5854	12	29.1	3	SF			3	E		23		
		24	0003		0014	No Flare Patrol														
0318	PALE	24	0044	0045	0050	S13	E63	5857	12	28.8	6	SF			3	E		41		
0319	PALE	24	0209	0210	0216	N26	E68	5860A	12	29.4	7	SF			3	E		18		
0320	PALE	24	0325	0326	0337	S11	E63	5857	12	28.9	12	SF	C	6.1	3	E		22		
		24	0338		0536	No Flare Patrol														
0321	SVTO	24	0842	0842	0845	N22	E56	5854	12	28.7	3	SF			3	E		27		F
0322	SVTO	24	1036E	1151U	1207D	N24	E60	5854	12	29.1	91D	SF			2	E		71		F
0323	SVTO	24	1153E	1155U	1214D	S11	E55	5857	12	28.6	21D	SF			2	E		72		F
0324		24	1321	1336	1430	S30	W41	5850	12	21.3	69	1F	M	1.3				131		EF
	SVTO	24	1236E	1339U	1440D	S30	W41	5850	12	21.3	124D	1N			2	E		212		F
	RAMY	24	1321	1336	1430	S30	W41	5850	12	21.3	69	1F	M	1.3	3	E		114		
	KANZ	24	1356E		1356D	S29	W41	5850	12	21.4	69D	1F				V				E
	HOLL	24	1426E	1526U	1555D	S30	W41	5850	12	21.4	89D	SF			1	E		66		F
0325	SVTO	24	1250E	1300U	1316D	N22	E54	5854	12	28.7	26D	SF			2	E		73		F
		24	1526		1534	No Flare Patrol														
0326	HOLL	24	1608	1616	1644	S09	E61	5853	12	29.2	36	SF			3	E		38		
0327	HOLL	24	1713	1718	1740	N26	E07	5848	12	25.3	27	1F			3	E		109		F
0328	HOLL	24	1718	1719	1723	S09	E56	5853	12	28.9	5	SF			3	E		35		
0329	HOLL	24	1738	1741	1751	S12	E51	5857	12	28.6	13	SF			3	E		38		

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0330		24	1749*	1753*	1818	S30	W44	5850	12	21.3	29	SF						33		
	PALE	24	1749	1753	1811D	S30	W44	5850	12	21.3	22D	SF			3	E		19		
	HOLL	24	1750	1753	1804	S30	W44	5850	12	21.3	14	SF			3	E		29		
	HOLL	24	1805	1815	1831	S30	W44	5850	12	21.3	26	SF			3	E		50		
	PALE	24	1814E	1816U	1829D	S28	W45	5850	12	21.2	15D	SF			3	E		33		
0331	HOLL	24	1908	1913	1923	N25	E06	5848	12	25.3	15	SF			3	E		17		
0332	HOLL	24	2013	2027	2033	S29	W46	5850	12	21.2	20	SF			3	E		12		
0333		24	20341	20366	2049	N25	E04	5848	12	25.2	15	SF						20		
	HOLL	24	2034	2042	2046D	N25	E04	5848	12	25.2	12D	SF			3	E		24		
	RAMY	24	2035	2036	2049	N25	E05	5848	12	25.2	14	SF			3	E		16		
0334		24	2046	2049	2120	N23	E56	5854	12	29.2	34	SF						32		F
	RAMY	24	2046	2049	2117	N23	E55	5854	12	29.1	31	SF			3	E		40		
	HOLL	24	2047E	2049U	2123	N23	E58	5854	12	29.3	36D	SF			2	E		23		F
0335		24	20459	2059	2116	S11	E51	5857	12	28.7	31	SF	C	7.9				67		F
	RAMY	24	2045	2059	2111	S13	E49	5857	12	28.6	26	SF	C	7.9	3	E		65		F
	PALE	24	2054	2059	2120D	S09	E54	5857	12	28.9	26D	SF			3	E		72		F
	HOLL	24	2058E	2059U	2121	S12	E51	5857	12	28.7	23D	SF			2	E		64		F
0336		24	2109*	2110*	2120	S30	W46	5850	12	21.3	11	SF						20		
	HOLL	24	2109	2110	2113	S29	W46	5850	12	21.3	4	SF			3	E		18		
	HOLL	24	2120	2122	2126	S30	W46	5850	12	21.3	6	SF			3	E		22		
0337	PALE	24	2141	2143	2149	S09	E54	5853	12	28.9	8	SF			3	E		14		
0338	PALE	24	2205	2220	2234	S26	E31	5852	12	27.3	29	SF			3	E		27		
0339	PALE	24	2211	2216U	2232	N26	E04	5848	12	25.2	21	SF			3	E		44		
0340	PALE	24	2215E	2216U	2222	S26	W47	5850	12	21.3	7D	SF	C	7.6	3	E		64		
0341		24	23002	23021	2310	S29	W48	5850	12	21.2	10	SF						28		F
	LEAR	24	2300	2302	2311	S30	W49	5850	12	21.1	11	SF			3	E		36		F
	PALE	24	2302	2303	2308	S28	W48	5850	12	21.2	6	SF			3	E		19		F
0342		25	0010	0015*	0059	S11	E52	5857	12	28.9	49	1F	M	2.0				164		K
	PALE	25	0010	0015	0059	S11	E52	5857	12	28.9	49	2F	M	2.0	3	E		275		
	PALE	25	0010	0033	0059	S11	E52	5857	12	28.9	49	SF				E		54		K
0343		25	0009	0011*	0141	S21	E61	5858	12	29.7	92	1F						130	1.4	DGK
	PALE	25	0009	0011	0138	S23	E61	5858	12	29.7	89	1F			3	E		127		
	PALE	25	0009	0033	0138	S23	E61	5858	12	29.7	89	2F				E		201		K
	YUNN	25	0118E	0120U	0148	S18	E61	5858	12	29.7	30D	SN				P	0120	63	1.4	DG
0344	LEAR	25	0010	0011	0130	S18	E57	5857	12	29.3	80	SF			3	E		48		FU
0345	YUNN	25	0118E	0120U	0210	S28	W52	5850	12	21.0	52D	SN				P	0120	31	0.6	D
0346		25	0145*	02014	0233	S26	E32	5852	12	27.5	48	SN						59	1.2	E
	YUNN	25	0145	0201	0235	S25	E32	5852	12	27.5	50	SN				C		94	1.2	E
	PALE	25	0202	0205	0231	S26	E32	5852	12	27.6	29	SF			3	E		24		
0347	YUNN	25	0216	0226	0242	N25	E03	5848	12	25.3	26	SN				C		31	0.4	E
0348	YUNN	25	0255	0259	0305	S31	W53	5850	12	20.9	10	SN				C		24	0.5	D
0349	YUNN	25	0326E	0326U	0348	N26	E01	5848	12	25.2	22D	SN				P	0326	63	0.7	
0350	LEAR	25	0432	0433	0455	N18	E51	5854	12	29.1	23	SF	C	8.7	3	E		33		F
0351	LEAR	25	0437	0438	0443	S29	W51	5850	12	21.2	6	SF			3	E		19		
0352	ABST	25	0655	0657	0711	S10	E56	5853	12	29.5	16	1F				C	0657	175	3.3	D
0353	LEAR	25	0723	0724	0728	S27	E32	5852	12	27.8	5	SF	C	3.3	3	E		29		

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0354	SVTO	25	0840E	0916U	0926D	S22	E27	5852	12	27.4	46D	SF		2	E		26		F
0355	SVTO	25	0900E	0920U	0959D	N22	E45	5854	12	28.8	59D	SF		2	E		43		F
0356	SVTO	25	1040E	1040U	1120	S22	E27	5852	12	27.5	40D	SF	C 5.1	2	E		22		F
0357	SVTO	25	1146	1147	1152	N25	W03	5848	12	25.2	6	SF		3	E		28		F
0358		25	12552	13112	1344	S12	E46	5857	12	29.0	49	SF					36		F
	RAMY	25	1255	1311	1346	S12	E46	5857	12	29.0	51	SF		3	E		38		F
	SVTO	25	1257	1313	1343	S11	E45	5857	12	28.9	46	SF		3	E		35		F
0359		25	1257	1258*	1406	N24	E44	5854	12	28.9	69	SF					34		F
	RAMY	25	1257	1258	1328	N24	E47	5854	12	29.2	31	SF		3	E		11		F
	SVTO	25	1257	1335	1445	N23	E41	5854	12	28.7	108	SF		3	E		56		F
0360	SVTO	25	1318	1323	1334	S22	W30	5856	12	23.2	16	SF		3	E		19		
0361	SVTO	25	1405	1407	1433	N26	W04	5848	12	25.3	28	SF		3	E		21		
0362	RAMY	25	1436	1436	1440	S26	E23	5852	12	27.4	4	SF		3	E		14		F
0363		25	1538*	1546*	1651	S29	W57	5850	12	21.2	73	SF					76		EFK
	HOLL	25	1538	1546	1656	S29	W56	5850	12	21.3	78	SF			E		20		K
	HOLL	25	1538	1600	1656	S29	W56	5850	12	21.3	78	1N		3	E		111		FE
	RAMY	25	1553	1600	1642	S28	W58	5850	12	21.1	49	SF		3	E		97		F
0364	HOLL	25	1546	1546	1559	S10	E50	5853	12	29.4	13	SF		3	E		19		F
0365		25	1605*	16191	1715	S16	E45	5857	12	29.1	70	SF					59		F
	HOLL	25	1605	1619	1716	S14	E46	5857	12	29.1	71	SF		3	E		84		F
	RAMY	25	1615	1620	1714	S19	E44	5857	12	29.0	59	SF		3	E		34		
0366		25	1608*	1612*	1714	S26	E24	5852	12	27.5	66	1F	M 1.2				70		FKU
	HOLL	25	1608	1612	1731	S26	E24	5852	12	27.5	83	SF			E		15		K
	HOLL	25	1608	1640	1731	S26	E24	5852	12	27.5	83	1N	M 1.2	3	E		128		UF
	RAMY	25	1619	1620	1625	S26	E23	5852	12	27.5	6	SF		3	E		28		
	RAMY	25	1626	1639	1729	S26	E23	5852	12	27.5	63	1F		3	E		111		F
0367	HOLL	25	1614	1622	1654	N23	E48	5854	12	29.4	40	SF		3	E		40		F
0368	HOLL	25	1614	1616	1632	N24	W01	5848	12	25.6	18	SF		3	E		28		F
0369	HOLL	25	1747	1750	1755	N18	W41	5846	12	22.6	8	SF		3	E		13		
0370		25	1815*	18197	1917	S15	E44	5857	12	29.1	62	SF					100		F
	PALE	25	1815	1819	1917	S14	E44	5857	12	29.1	62	SF		3	E		86		F
	HOLL	25	1815E	1824	1915D	S16	E45	5857	12	29.2	60D	1N		3	E		152		F
	RAMY	25	1826	1826	1855D	S16	E44	5857	12	29.1	29D	SF		3	E		61		F
0371		25	1854	1857	1905	N24	E44	5854	12	29.2	11	SF					16		
	PALE	25	1854	1857	1905	N25	E42	5854	12	29.0	11	SF		3	E		12		
	HOLL	25	1855E	1859U	1906D	N23	E45	5854	12	29.2	11D	SF		3	E		21		
0372		25	18555	18588	1912	S30	W56	5850	12	21.4	17	SF					30		
	HOLL	25	1855	1858	1916	S29	W57	5850	12	21.3	21	SF		3	E		36		
	PALE	25	1900	1906	1909	S30	W54	5850	12	21.5	9	SF		3	E		24		
0373	HOLL	25	1939	1944	2012	N31	W06	5848	12	25.3	33	SF		3	E		96		F
0374	PALE	25	1940	1943	1956	N24	W07	5848	12	25.3	16	SF		3	E		58		F
0375	HOLL	25	1951	2009	2030	S28	W57	5850	12	21.4	39	SF		3	E		19		
0376	HOLL	25	2009	2010	2014	N25	E46	5854	12	29.4	5	SF		3	E		11		

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0377		25	2011*	2023*	2105	S26	E20	5852	12 27.4	54	SN	M	3.1				73		EFU
	HOLL	25	2011	2023	2056	S26	E22	5852	12 27.5	45	1B	M	3.1	3	E		166		UF
	PALE	25	2011	2024	2055	S25	E22	5852	12 27.5	44	1N	M	3.1	3	E		124		FE
	HOLL	25	2057	2058	2103	S26	E19	5852	12 27.3	6	SF			3	E		16		F
	HOLL	25	2108	2109	2117	S27	E18	5852	12 27.3	9	SF			3	E		26		F
	PALE	25	2108	2110	2116	S25	E19	5852	12 27.3	8	SF			3	E		32		F
0378	HOLL	25	2050	2052	2102	S11	E49	5853	12 29.5	12	SF			3	E		31		
0379	HOLL	25	2105	2106	2111	S28	W57	5850	12 21.4	6	SF			3	E		21		
0380	HOLL	25	2108	2108	2112	S20	E72	5858	12 31.4	4	SF			3	E		18		
0381		25	2111	2114	2136	N24	E44	5854	12 29.3	25	SF						54		F
	PALE	25	2111	2114	2128	N25	E43	5854	12 29.2	17	SF			3	E		33		F
	HOLL	25	2111	2114	2143	N23	E44	5854	12 29.3	32	SF			3	E		74		F
0382	HOLL	25	2114	2115	2121	S11	E50	5853	12 29.6	7	SF			3	E		14		
0383		25	22111	2214	2225	S17	E70	5858	12 31.2	14	SF						60		
	HOLL	25	2211	2214	2218	S20	E74	5858	12 31.6	7	SF			3	E		22		
	PALE	25	2212	2214	2232	S14	E67	5858	12 31.0	20	SF			3	E		97		
0384	HOLL	25	2212	2218	2235	S10	E49	5853	12 29.6	23	SF			3	E		53		
0385	HOLL	25	2212	2219	2227	S13	W49	5855	12 22.2	15	SF			3	E		16		
0386	HOLL	25	2222	2223	2238	S26	E21	5852	12 27.6	16	SF			3	E		24		F
0387	PALE	25	2234	2235	2242	N15	E76	5859	12 31.7	8	SF			3	E		17		
0388	HOLL	25	2245	2246	2249	S14	E67	5858	12 31.0	4	SF			3	E		12		
0389		25	2302	2302	2306	S28	W58	5850	12 21.4	4	SF						16		
	LEAR	25	2302	2302	2305	S30	W59	5850	12 21.3	3	SF			3	E		14		
	HOLL	25	2302	2302	2306	S27	W58	5850	12 21.4	4	SF			3	E		19		
0390	HOLL	25	2305	2305	2311	N22	E42	5854	12 29.2	6	SF			3	E		10		F
0391	HOLL	25	2316	2317	2331D	N20	W67	5837	12 20.8	15D	SF			3	E		13		
0392	PALE	25	2357	2412	2419	N25	E34	5854	12 28.6	22	2F			3	E		411		F
0393	PALE	26	0046	0046	0114	N26	E42	5854	12 29.3	28	SF			3	E		16		F
0394		26	01456	01502	0204	S26	E16	5852	12 27.3	19	SF	C	5.5				92	2.4	F
	YUNN	26	0145	0150	0212	S26	E17	5852	12 27.4	27	1N				P		204	2.4	
	PALE	26	0150	0152	0203	S25	E17	5852	12 27.4	13	SF	C	5.5	3	E		46		F
	LEAR	26	0151	0152	0158	S27	E15	5852	12 27.2	7	SF	C	5.5	3	E		27		
0395		26	01583	02015	0214	N24	E41	5854	12 29.2	16	SF						19		F
	PALE	26	0158	0201	0204	N25	E39	5854	12 29.1	6	SF			3	E		18		F
	LEAR	26	0201	0206	0224	N23	E43	5854	12 29.4	23	SF			3	E		20		F
0396	PALE	26	0158	0201	0208	S11	E35	5853	12 28.7	10	SF			3	E		17		F
0397		26	0524*	05329	0608	S27	E14	5852	12 27.3	44	1N	M	5.9				233	3.2	EFK
	LEAR	26	0524	0532	0619	S27	E14	5852	12 27.3	55	1N				E		192		K
	LEAR	26	0524	0539	0619	S27	E14	5852	12 27.3	55	1N	M	5.9	3	E		187		FE
	PEKG	26	0525	0540	0553	S27	E15	5852	12 27.4	28	1B				C	0540	378	4.4	EF
	ABST	26	0537	0541	0600	S27	E14	5852	12 27.3	23	SF				C	0541	175	2.0	E
0398	LEAR	26	0621	0625	0651	S26	E16	5852	12 27.5	30	SF			3	E		42		F
0399	PEKG	26	0655	0656	0715	N25	E40	5854	12 29.4	20	SN				P	0656	126	2.0	D
0400		26	0709E	0804	1014	S26	E16	5852	12 27.5	185D	1N						250	4.9	FU
	SVTO	26	0709E	0804	1014	S27	E17	5852	12 27.6	185D	SF			3	E		77		UF
	YUNN	26	0723E	0732U	0743D	S26	E14	5852	12 27.4	20D	1N				P	0732	424	4.9	F

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0401		26	07443	07456	0823	N25	E38	5854	12	29.3	39	1F	M 2.0				117	2.8	EF
	LEAR	26	0744	0745	0823	N23	E38	5854	12	29.2	39	SF	M 2.0	3	E		42		F
	ABST	26	0747	0751	0808D	N27	E39	5854	12	29.4	21D	1F			P	0751	192	2.8	E
0402	SVTO	26	0756	0828	0859	S08	E44	5853	12	29.6	63	SF		4	E		41		F
0403	SVTO	26	0927	1040	1246	N24	E30	5854	12	28.7	199	SF		3	E		21		F
0404	SVTO	26	1104	1110	1122	S26	E18	5852	12	27.8	18	SF		3	E		27		
0405	SVTO	26	1215	1223	1241	N13	E65	5859	12	31.4	26	SF		3	E		24		
0406		26	1215	1223*	1303	S26	E12	5852	12	27.4	48	SF					22		K
	SVTO	26	1215	1223	1303	S26	E12	5852	12	27.4	48	SF			E		23		K
	SVTO	26	1215	1250	1303	S26	E12	5852	12	27.4	48	SF		3	E		22		
0407		26	1228*	12401	1302	S19	E63	5858	12	31.3	34	SF					24		
	SVTO	26	1228	1241	1311	S18	E61	5858	12	31.2	43	SF		3	E		29		
	RAMY	26	1240	1240	1254	S20	E65	5858	12	31.5	14	SF		3	E		20		
0408	SVTO	26	1254	1258	1323	N17	W53	5846	12	22.5	29	SF		3	E		41		
0409	SVTO	26	1325	1328	1357	S15	E64	5858	12	31.4	32	SF		3	E		36		
0410		26	13571	13572	1406	S30	W70	5850	12	21.1	9	SF					18		
	RAMY	26	1357	1357	1406	S30	W71	5850	12	21.0	9	SF		3	E		17		
	SVTO	26	1358	1359	1407	S31	W68	5850	12	21.2	9	SF		3	E		18		
0411		26	1512E	16114	1729	S25	E11	5852	12	27.5	137D	1F	C 8.2				96		FK
	HOLL	26	1512E	1611	1725	S26	E10	5852	12	27.4	133D	1F			E		112		K
	HOLL	26	1512E	1615	1725	S26	E10	5852	12	27.4	133D	1F	C 8.2	3	E		127		F
	PALE	26	1722E	1722U	1736	S24	E13	5852	12	27.7	14D	SF		3	E		48		F
0412	HOLL	26	1631	1632	1639	N23	E31	5854	12	29.1	8	SF		3	E		13		
0413	HOLL	26	1722	1722	1725	N24	E27	5854	12	28.8	3	SF		3	E		12		
0414	HOLL	26	1748	1755	1804	S23	W46	5856	12	23.2	16	SF		3	E		29		
0415		26	18082	1811*	1920	S26	E10	5852	12	27.5	72	1N	M 6.9				150		FKU
	PALE	26	1808	1811	1931	S25	E11	5852	12	27.6	83	1B	M 6.9	3	E		131		
	HOLL	26	1810	1811	1914	S26	E09	5852	12	27.4	64	1B	M 6.9	3	E		154		UF
	HOLL	26	1810	1822	1914	S26	E09	5852	12	27.4	64	1N			E		166		K
	RAMY	26	1843E		2052D	S26	E09	5852	12	27.5	129D	1F		1	E				F
0416	PALE	26	1939	1944	1952	S24	W45	5856	12	23.3	13	SF		3	E		15		
		26	2038		2051	No Flare Patrol													
0417	RAMY	26	2053E	2055U	2110D	S09	E35	5853	12	29.5	17D	SF		2	E		22		F
		26	2153		2215	No Flare Patrol													
0418	LEAR	26	2336	2337	2345	N24	E31	5854	12	29.4	9	SF		3	E		11		
0419	LEAR	26	2359	2402	2405	S28	W65	5850	12	21.9	6	SF		3	E		26		F
0420		27	0134	0137	0208	S26	E06	5852	12	27.5	34	SN	M 1.3				43	0.7	EF
	LEAR	27	0134	0137	0208	S26	E07	5852	12	27.6	34	SF	M 1.3	3	E		27		FE
	PURP	27	0209E	0209U	0224D	S27	E04	5852	12	27.4	15D	SN			P	0209	59	0.7	E
0421	LEAR	27	0613	0614	0622	S14	E26	5857	12	29.2	9	SF	C 6.3	3	E		24		
0422	SVTO	27	0817	0932	1057	S25	E02	5852	12	27.5	160	SF		3	E		56		F
0423	SVTO	27	0825	0826	0834	S05	E30	5853	12	29.6	9	SF		3	E		23		
0424	SVTO	27	0859	0949	1046	N20	E09	5863	12	28.1	107	SF		3	E		45		
		27	1101		1108	No Flare Patrol													

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0425	RAMY	27	1155	1210	1231	S27	E00	5852	12	27.5	36	SF		3	E		39		F
0426	RAMY	27	1158	1205	1212	N14	E44	5859	12	30.8	14	SF		3	E		22		
0427	RAMY	27	1208	1214	1222	S17	E48	5858	12	31.1	14	SF		3	E		44		
0428		27	1237	1319	1603	S26	W02	5852	12	27.4	206	SN M	3.1				78		F
	RAMY	27	1237	1319	1603	S26	W01	5852	12	27.4	206	SN M	3.1	3	E		87		
	HOLL	27	1425E	1425U	1438D	S25	W02	5852	12	27.4	13D	SF		1	E		70		F
0429	RAMY	27	1342	1342	1346	S12	E27	5853	12	29.6	4	SF		3	E		23		
		27	1704		1718	No Flare Patrol													
0430		27	18366	18389	1854	S20	E46	5858	12	31.3	18	SF					22		
	PALE	27	1836	1838	1851	S19	E47	5858	12	31.4	15	SF		3	E		20		
	RAMY	27	1842	1847	1857	S21	E46	5858	12	31.3	15	SF		3	E		23		
0431		27	19181	1919	1930	S26	E01	5852	12	27.9	12	SF					22		
	RAMY	27	1918	1919	1932	S27	E00	5852	12	27.8	14	SF		3	E		28		
	PALE	27	1919	1919	1929	S26	E02	5852	12	28.0	10	SF		3	E		15		
0432	HOLL	27	1929	1937	1946	N18	W71	5846	12	22.4	17	SF		2	E		83		
0433	PALE	27	2026	2027	2102	S25	W02	5852	12	27.7	36	SF		3	E		27		F
		27	2136		2148	No Flare Patrol													
0434		27	2146	2155	2308	N24	E16	5854	12	29.1	82	1N M	1.1				210		FU
	PALE	27	2146	2155	2309D	N25	E17	5854	12	29.2	83D	1N M	1.1	3	E		172		UF
	LEAR	27	2216E	2216U	2308	N24	E16	5854	12	29.2	52D	1F		2	E		248		
0435	LEAR	28	0005	0006	0011	S27	W02	5852	12	27.8	6	SF C	4.8	3	E		23		F
		28	0013		0017	No Flare Patrol													
0436	VORO	28	0026	0027	0031	S25	W06	5852	12	27.5	5	SF		2	C	0027	72	0.8	DIJT
0437		28	0124	0136	0223	S26	W04	5852	12	27.7	59	SN					90	1.0	EIJT
	VORO	28	0124	0136	0153D	S26	W04	5852	12	27.7	29D	SF		2	C	0136	116	1.3	EIJT
	YUNN	28	0124E	0136	0223	S26	W04	5852	12	27.7	59D	SN			P		63	0.7	E
0438		28	0132	0136	0148	S08	E20	5853	12	29.6	16	SN					100	1.1	EI
	VORO	28	0132	0136	0148	S08	E19	5853	12	29.5	16	SF		2	C	0136	90	1.0	EI
	YUNN	28	0132	0136	0149	S07	E20	5853	12	29.6	17	SN			C		110	1.2	
0439		28	0231	0305*	0536	S28	W07	5852	12	27.5	185	1N M	9.7				313	2.4	EFUZ
	YUNN	28	0231	0305	0542	S31	W07	5852	12	27.5	191	SN			P		157	1.9	F
	LEAR	28	0338E	0349U	0530	S25	W07	5852	12	27.6	112D	2B M	9.7	3	E		526		ZU
	URUM	28	0352E	0408	0514D	S27	W07	5852	12	27.6	82D	1N			C		257	2.9	E
0440	YUNN	28	0305	0307	0316	S20	E43	5858	12	31.4	11	SN			C		94	1.4	D
0441	YUNN	28	0512	0516	0538	S19	E41	5858	12	31.3	26	SN			C		63	0.9	
0442		28	0652*	0700*	0757	S26	W08	5852	12	27.7	65	SN					52	0.8	
	YUNN	28	0652	0700	0802	S25	W07	5852	12	27.7	70	SN			C		47	0.5	
	LEAR	28	0658	0701	0711	S25	W08	5852	12	27.7	13	SF		3	E		15		
	YUNN	28	0752	0755	0813	S27	W08	5852	12	27.7	21	SN			C		94	1.1	
	KANZ	28	0811	0811	0821	S27	W07	5852	12	27.8	10	SF			C				
0443		28	07234	07275	0747	S19	E37	5858	12	31.1	24	SF C	9.2				63	1.1	D
	YUNN	28	0723	0731	0749	S19	E39	5858	12	31.3	26	SN			C		79	1.1	
	ABST	28	0726	0732	0745	S21	E35	5858	12	31.0	19	SF			C	0732	87	1.1	D
	LEAR	28	0727	0727	0745D	S18	E36	5858	12	31.0	18D	SF C	9.2	3	E		24		
0444	KANZ	28	0846	0846	0849	N25	E11	5854	12	29.2	3	SF			C				

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0445		28	09543	10016	1030	S08	E16	5853	12	29.6	36	SF	M	1.6				39		
	KANZ	28	0954	1001	1037	S08	E17	5853	12	29.7	43	SF				V				
	LEAR	28	0957	1007	1023	S08	E15	5853	12	29.5	26	SF	M	1.6	3	E		39		
0446	KANZ	28	1005	1005	1008	N25	E12	5854	12	29.3	3	SF				V				
0447	KANZ	28	1037	1044	1057	N27	E11	5854	12	29.3	20	SF				V				
0448	RAMY	28	1205	1205	1213	N18	W76	5846	12	22.7	8	SF			2	E		15		
0449		28	13004	13066	1338	S19	E34	5858	12	31.1	38	1F						115		EF
	RAMY	28	1300	1306	1339	S19	E33	5858	12	31.1	39	1F			3	E		115		F
	KANZ	28	1304	1312	1338	S19	E34	5858	12	31.1	34	SF				V				E
0450	RAMY	28	1329	1329	1336	S27	W11	5852	12	27.7	7	SF			3	E		22		
		28	1403		1413	No Flare Patrol														
0451	RAMY	28	1425	1435	1447	S24	W68	5856	12	23.3	22	SF			3	E		34		
0452	RAMY	28	1458	1501	1510	S27	W11	5852	12	27.8	12	SF			3	E		18		
0453	RAMY	28	1506	1510	1608	N23	E08	5854	12	29.2	62	SF			3	E		54		F
0454	RAMY	28	1731	1735	1749	S27	W13	5852	12	27.7	18	SF	C	3.6	3	E		55		
0455		28	1814	18202	1832	N26	E06	5854	12	29.2	18	SF						34		F
	PALE	28	1814	1820	1828	N26	E06	5854	12	29.2	14	SF			3	E		26		F
	RAMY	28	1814	1822	1836	N25	E07	5854	12	29.3	22	SF			3	E		42		F
		28	1850		1853	No Flare Patrol														
		28	1956		2011	No Flare Patrol														
		28	2019		2029	No Flare Patrol														
0456	PALE	28	2034E	2040U	2044	S17	E31	5858	12	31.2	10D	SF			3	E		19		F
		28	2100		2106	No Flare Patrol														
0457	HOLL	28	2108	2115U	2137	S18	E30	5858	12	31.2	29	1B	M	4.1	3	E		110		HU
		28	2211		2220	No Flare Patrol														
0458		29	0021E	0032	0048	S06	E05	5853	12	29.4	27D	SN						96	1.0	EHIJ
	VORO	29	0021E	0032	0050	S07	E05	5853	12	29.4	29D	SF			1	C	0032	81	0.8	EHIJ
	YUNN	29	0033E	0033U	0045	S06	E05	5853	12	29.4	12D	SN				P	0033	110	1.1	
0459		29	0105*	0034*	0120	S25	W22	5852	12	27.3	15	SF						66	0.8	DEITZ
	VORO	29	0021E	0034	0130D	S27	W22	5852	12	27.3	69D	SF			1	C	0034	90	1.1	EITZ
	YUNN	29	0033E	0033U	0058D	S26	W23	5852	12	27.2	25D	SN				P	0033	94	1.1	
	VORO	29	0105	0107	0111	S24	W22	5852	12	27.3	6	SF			1	C	0107	45	0.5	DIT
	VORO	29	0125	0126	0130	S24	W22	5852	12	27.3	5	SF			1	C	0126	36	0.4	DIT
0460	YUNN	29	0518	0526	0543	S26	W30	5852	12	26.9	25	SN				P		47	0.6	E
0461	LEAR	29	0637	0639	0645	S19	E23	5858	12	31.0	8	SF	C	5.4	3	E		30		
0462		29	0720*	0723*	0829	S19	E24	5858	12	31.1	69	SF	C	5.0				102	2.3	
	YUNN	29	0720	0723	0837	S20	E28	5858	12	31.4	77	1N				C		189	2.3	
	LEAR	29	0748	0758	0823	S18	E22	5858	12	31.0	35	SF	C	5.0	3	E		14		
	KANZ	29	0757E	0757U	0827	S18	E23	5858	12	31.1	30D	SF				C				
0463		29	08373	0840	0854	S30	W26	5852	12	27.3	17	SN						47	0.6	E
	YUNN	29	0837	0840	0856	S29	W27	5852	12	27.2	19	SN				P		47	0.6	E
	KANZ	29	0840	0840	0853	S30	W26	5852	12	27.3	13	SF				V				
0464		29	09231	09271	0944	S08	W00	5853	12	29.4	21	SF						27		
	KANZ	29	0923	0927	0944	S08	W00	5853	12	29.4	21	SF				V				
	LEAR	29	0924	0928	0944	S08	W01	5853	12	29.3	20	SF			3	E		27		

Hα SOLAR FLARES

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0465		29	1100	11036	1123	S18	E20	5858	12	31.0	23	1B						175	2.0	
	KANZ	29	1100	1103	1130	S17	E21	5858	12	31.0	30	1N				V				
	ATHN	29	1105E	1109	1116	S19	E20	5858	12	31.0	11D	SB			3	V	1109	175	2.0	
		29	1522		1609	No Flare Patrol														
0466	RAMY	29	1610E	1611U	1649D	S19	E18	5858	12	31.0	39D	SF	M	2.8	2	E		69		F
0467	RAMY	29	1706	1709	1717	S27	W30	5852	12	27.4	11	SF			2	E		15		F
0468		29	1819E	1829U	1900D	S25	W30	5852	12	27.4	41D	1N						88		EF
	PALE	29	1819E	1829U	1835D	S25	W28	5852	12	27.6	16D	SN			3	E		51		F
	RAMY	29	1836E	1836U	1900D	S25	W31	5852	12	27.4	24D	1F			2	E		124		FE
0469	PALE	29	1828E	1829U	1835D	S19	E21	5858	12	31.4	7D	SF	M	9.7	3	E		25		
0470	PALE	29	1933	1935	1951	S27	W32	5852	12	27.3	18	SF			3	E		15		F
0471		29	2004	20219	2106	S26	W32	5852	12	27.4	62	1N	M	2.8				120		EF
	PALE	29	2004	2030	2106	S27	W33	5852	12	27.3	62	SF	M	2.8	3	E		91		F
	RAMY	29	2020E	2021	2050D	S25	W31	5852	12	27.4	30D	1N			2	E		150		FE
0472		29	2249*	2306*	2633	N25	W10	5854	12	29.2	224	1N						351	6.0	EFT
	PALE	29	2249	2306	2640	N24	W14	5854	12	28.9	231	1N			3	E		193		FT
	LEAR	29	2300	2308	2445	N24	W09	5854	12	29.3	105	SF			3	E		60		
	MITK	29	2333E		2708	N26	W08	5854	12	29.3	215D	2N				C	2333	640	7.7	F
	YUNN	30	0023E	0042	0253	N25	W09	5854	12	29.3	150D	2N				P		629	7.4	F
	PEKG	30	0157E	0215U	0320	N24	W10	5854	12	29.3	83D	1N				P	0215	231	2.8	E
0473	PALE	29	2304	2304	2311	S27	W34	5852	12	27.3	7	SF	M	2.2	3	E		17		F
0474	PALE	30	0022	0026	0028	S19	E13	5858	12	31.0	6	SF			3	E		13		
0475	YUNN	30	0041	0042	0046	S25	W40	5852	12	26.9	5	SN				C		16	0.2	E
0476	YUNN	30	0048	0102	0118	S19	E13	5858	12	31.0	30	SN				P		63	0.7	E
0477		30	0142*	02069	0308	S18	E14	5858	12	31.1	86	1B	M	5.3				357	4.6	EF
	PALE	30	0142	0206	0305	S17	E15	5858	12	31.2	83	1N	M	5.3	3	E		155		F
	PEKG	30	0201	0215	0240	S19	E11	5858	12	30.9	39	1B				C	0215	336	3.7	E
	YUNN	30	0202	0208	0313	S18	E13	5858	12	31.1	71	2N				C		707	7.7	F
	MITK	30	0204	0212	0332	S18	E19	5858	12	31.5	88	1B				C	0212	230	2.5	E
0478		30	04054	0418*	0510	S19	E10	5858	12	30.9	65	1B	X	1.0				283	3.5	EFK
	PEKG	30	0405	0423	0438	S19	E10	5858	12	30.9	33	1B				C	0423	420	4.6	E
	YUNN	30	0407	0442	0547	S18	E10	5858	12	30.9	100	1N				P		204	2.2	F
	MITK	30	0408	0424	0500	S19	E10	5858	12	30.9	52	1B				C	0424	350	3.8	EK
	LEAR	30	0409	0418	0514	S19	E09	5858	12	30.8	65	1N	X	1.0	3	E		157		FE
0479	ABST	30	0642	0643	0646	N26	W20	5854	12	28.7	4	SF				C	0643	70	0.9	D
0480	LEAR	30	0710	0721	0733	S26	W33	5852	12	27.7	23	SF			3	E		50		
0481		30	07223	07234	0738	S18	E10	5858	12	31.1	16	SF	C	8.8				64	1.0	EF
	LEAR	30	0722	0723	0740	S18	E10	5858	12	31.1	18	SF	C	8.8	3	E		33		F
	ABST	30	0725	0727	0737	S19	E11	5858	12	31.1	12	SF				C	0727	96	1.0	E
0482	KANZ	30	1337	1340	1348	N14	E53	5864	01	3.6	11	SF				V				
0483	RAMY	30	1420	1421	1433	N24	W15	5854	12	29.4	13	SF			3	E		36		F
0484	HOLL	30	1918E	1918U	1928D	N23	W24	5854	12	28.9	10D	SF			2	E		15		
0485	PALE	30	2038	2040	2046	S19	E04	5858	12	31.2	8	SF			3	E		31		
0486	HOLL	30	2127E	2137	2142	N21	W27	5854	12	28.8	15D	SF			2	E		44		F
0487	PALE	30	2350	2351	2359	S18	E02	5858	12	31.1	9	SF			3	E		18		

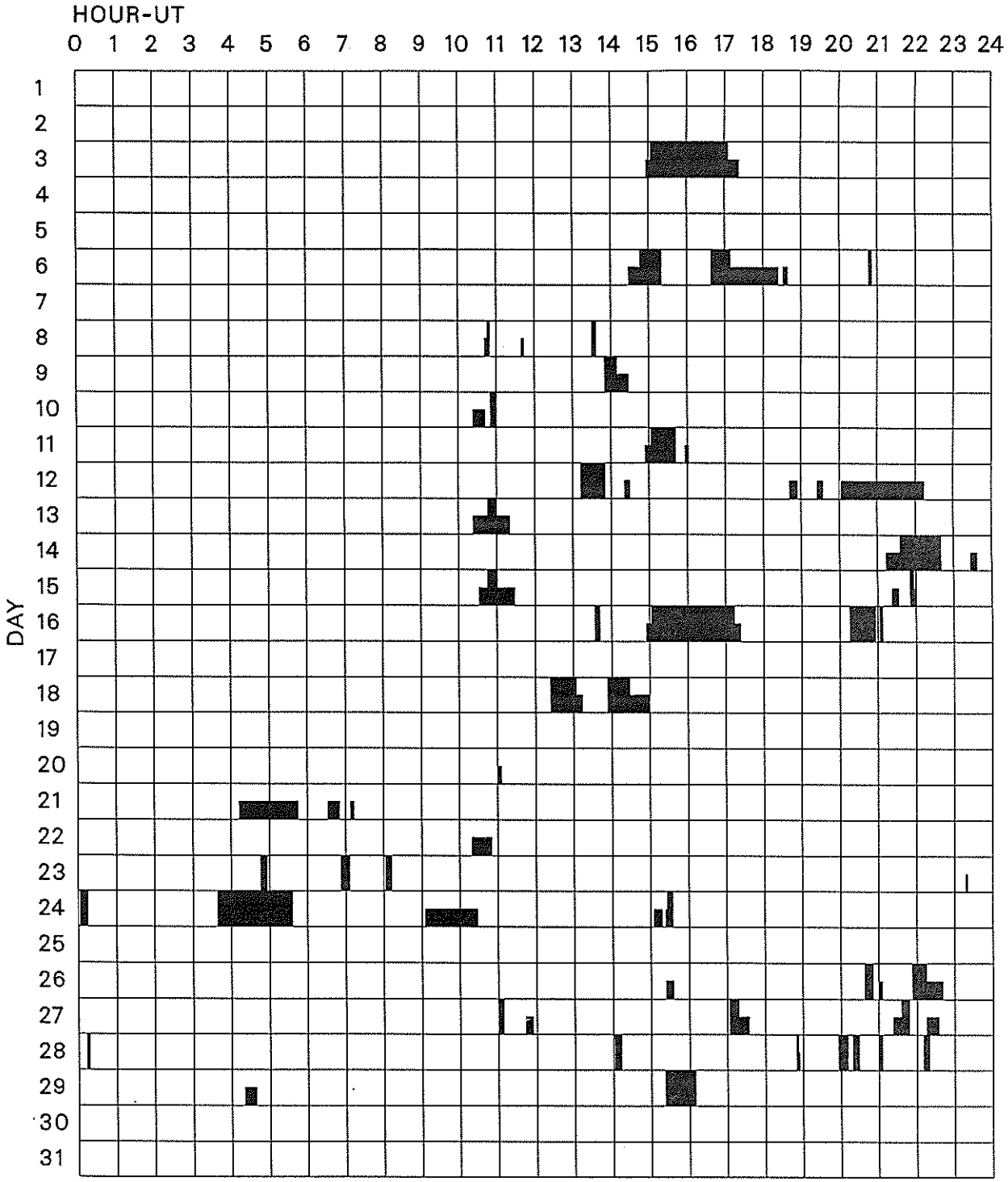
Hα SOLAR FLARES

DECEMBER 1989

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0488	PALE	31	0005	0006	0017	N15	E68	5864	01	5.1	12	SF		3	E		11		F
0489	PALE	31	0023	0025	0035	S30	W41	5852	12	27.8	12	SF		3	E		25		F
0490		31	00525	00562	0108	S18	E02	5858	12	31.2	16	SN	C 4.1				51	0.8	EF
	YUNN	31	0052	0056	0056D	S18	E01	5858	12	31.1	4D	SN			P		79	0.8	E
	MITK	31	0056	0058	0105	S19	E01	5858	12	31.1	9	SN			C	0058			E
	PALE	31	0057	0057	0110	S17	E03	5858	12	31.3	13	SF	C 4.1	3	E		23		F
0491	YUNN	31	0140	0152	0214	N23	E37	5862	01	2.9	34	SN			P		79	1.1	
0492		31	0201*	02039	0217	S31	W48	5852	12	27.3	16	SF					18	0.6	
	YUNN	31	0201	0210	0221	S31	W52	5852	12	27.0	20	SN			C		32	0.6	
	PALE	31	0203	0203	0208	S31	W46	5852	12	27.4	5	SF		3	E		10		
	PALE	31	0211	0211	0221	S31	W46	5852	12	27.5	10	SF		3	E		19		
	LEAR	31	0211	0212	0217	S30	W49	5852	12	27.2	6	SF		3	E		11		
0493	LEAR	31	0442	0443	0450	S19	W02	5858	12	31.0	8	SF		3	E		13		
0494		31	09324	09454	1039	S27	W52	5852	12	27.3	67	2B	X 2.8				356		FU
	LEAR	31	0932	0945	1017	S25	W51	5852	12	27.4	45	2B	X 2.8	3	E		364		F
	SVTO	31	0934E	0949	1123	S28	W53	5852	12	27.2	109D	2B		3	E		348		F
	KANZ	31	0936	0945	1017	S27	W51	5852	12	27.4	41	2N			V				U
0495	RAMY	31	1201E	1205	1253	S26	W51	5852	12	27.5	52D	SN		3	E		89		F
0496		31	13102	13164	1409	N24	W38	5854	12	28.6	59	SN					65		FH
	RAMY	31	1310	1316	1409	N24	W34	5854	12	28.9	59	SN		3	E		65		FH
	KANZ	31	1312	1320	1400D	N25	W43	5854	12	28.2	48D	SN			V				
0497	KANZ	31	1316	1316	1324	N23	W27	5854	12	29.5	8	SF			V				
0498	RAMY	31	1522	1523	1526	N23	W40	5854	12	28.5	4	SF		3	E		41		H
0499		31	1559	16027	1653	S18	W10	5858	12	30.9	54	SF					59		F
	HOLL	31	1559	1602	1658	S18	W11	5858	12	30.8	59	SF		3	E		61		F
	RAMY	31	1559	1609	1648	S18	W10	5858	12	30.9	49	SF		3	E		57		F
0500		31	16102	16203	1702	S09	W26	5853	12	29.7	52	1N					127		F
	RAMY	31	1610	1620	1702	S09	W26	5853	12	29.7	52	SN		3	E		98		F
	HOLL	31	1612	1623	1701	S09	W27	5853	12	29.6	49	1N		3	E		156		F
0501	RAMY	31	1626	1628	1635	S29	W49	5852	12	27.8	9	SF		3	E		32		
0502		31	1638	1641	1710	N24	W32	5854	12	29.2	32	SF					83		F
	RAMY	31	1638	1641	1707	N24	W32	5854	12	29.2	29	SF		3	E		68		F
	HOLL	31	1638	1641	1713	N24	W31	5854	12	29.3	35	SF		3	E		98		
0503		31	1650	1652	1706	S29	W50	5852	12	27.8	16	SF					16		
	RAMY	31	1650	1652	1701	S29	W49	5852	12	27.8	11	SF		3	E		16		
	HOLL	31	1650	1652	1710	S29	W50	5852	12	27.8	20	SF		3	E		17		
0504		31	17231	17261	1746	S10	W42	5860	12	28.6	23	SF					50		
	HOLL	31	1723	1727	1801	S11	W46	5860	12	28.3	38	SF		3	E		67		
	RAMY	31	1724	1726	1731	S10	W39	5860	12	28.8	7	SF		3	E		33		
0505		31	1914	19141	1924	S27	W52	5852	12	27.7	10	SF	C 2.7				24		F
	HOLL	31	1914	1914	1925	S26	W53	5852	12	27.7	11	SF	C 2.7	4	E		33		F
	PALE	31	1914	1915	1923	S28	W50	5852	12	27.9	9	SF		3	E		15		
0506		31	1955	1957	2004	S19	W12	5858	12	30.9	9	SF					20		F
	PALE	31	1955	1957	2004	S19	W11	5858	12	31.0	9	SF		3	E		18		F
	HOLL	31	1955	1957	2005	S19	W12	5858	12	30.9	10	SF		4	E		22		F
0507	PALE	31	2327	2327	2332	N23	W41	5854	12	28.8	5	SF		3	E		16		

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

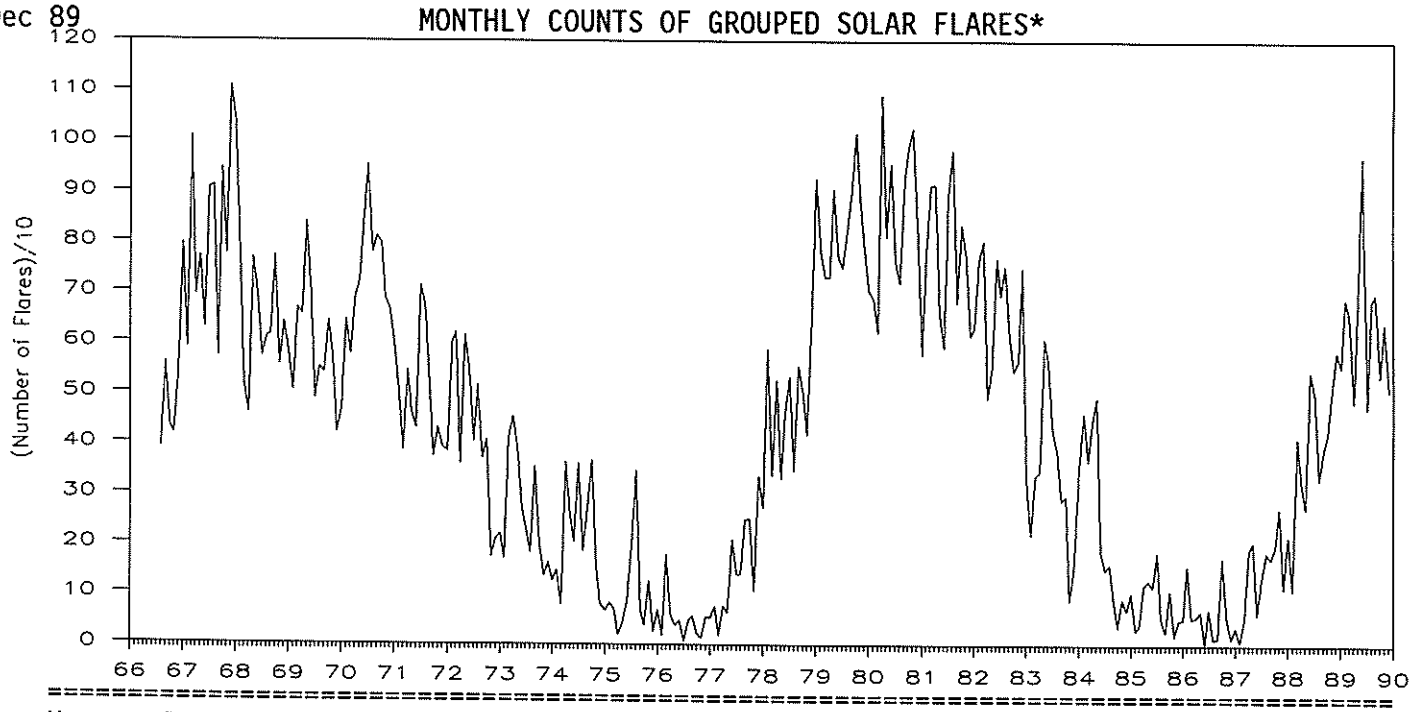
DECEMBER 1989



Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times of strictly visual patrol.

Abastumani	Haute Provence	Kanzelhoehe	Mitaka	San Vito
Bucharest	Holloman	Kharkov	Palehua	Tachkent
Catania	Kandilli	Learmonth	Peking	Voroshilov
			Ramey	Yunnan

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	172	198	273	114	1627
1988	217	109	413	328	274	544	499	331	390	421	508	584	4618
1989	689	539	658	485	686	971	473	684	699	535	640	507	7566

*Flare counts are preliminary from July 1982 to present. In particular, the monthly totals for the last 6 months may change significantly, as more sites submit their reports. The term "grouped" means that observations of the same event by different stations have been lumped together and counted as one.

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	200	GORK	44	NS	0556.0E		329.0D		23.0		
	100	GORK	44	NS	0609.0E		317.0D		125.0		
	245	SVTO	43	NS	0624.0	0738.0	453.0D	200.0			QL=4 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	80.0			
	260	ONDR	44	NS	0900.0E	1148.7	240.0D	133.0			
	200	HIRA	44	NS	2130.0E	0600.0	590.0D	9.0	6.0		O
	2840	PEKG	5	S	0517.0	0523.5	24.0	10.3			
	100	GORK	46	C	0556.0U	0556.1	4.0D	2950.0			
	100	GORK	46	C	0556.0U	0558.7		960.0			
	950	GORK	21	GRF	0636.0	0716.3	68.2	7.0			
	650	GORK	22	GRF	0640.4	0656.7	73.1	6.0			
	9100	GORK	21	GRF	0645.1	0708.1	218.4	12.0			
	245	LEAR	8	S	0652.0E	0652.0	U	380.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0652.0E	0652.0	1.0D	420.0			QL=2 ST=2 TYP=3
	950	GORK	46	C	0652.3	0653.0		11.0			
	950	GORK	46	C	0652.3	0652.5	0.8	12.0			
	5900	KISV	23	GRF	0659.9	0708.5	20.2	8.0			
	2850	CRIM	25	R	0703.5	0708.1		4.9			
	245	SVTO	8	S	0704.0E	0705.0	1.0D	170.0			QL=2 ST=2 TYP=3
	2850	CRIM	42	SER	0708.1	0708.2	1.0	12.0	4.0		
	5900	KISV	22	GRF	0901.9	0904.4	12.8	8.0			
	9300	KISV	2	S/F	0903.8	0904.4	2.6	5.0			
	9300	KISV	2	S/F	0920.4	0920.7	3.6	7.0			
	5900	KISV	2	S/F	0920.5	0920.8	1.0	4.0			
	9100	GORK	1	S	0920.6	0920.7	0.4	8.0			
	410	LEAR	8	S	0951.0E	0952.0	2.0D	99.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0952.0E	0952.0	1.0D	320.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0952.0E	0952.0	U	430.0			QL=2 ST=2 TYP=3
	410	SVTO	8	S	0952.0E	0952.0	U	200.0			QL=4 ST=2 TYP=3
	5900	KISV	2	S/F	1004.5	1005.0	2.4	4.0			
	9300	KISV	2	S/F	1004.5	1004.9	4.0	3.0			
	1470	POTS	40	F	1145.0	1152.5	20.0	65.0			
	3000	POTS	20	GRF	1145.0	1152.8	15.0	11.0			
	430	KRAK	42	SER	1147.5	1228.0	51.5	89.0			
	9500	POTS	21	GRF	1147.5	1152.8	23.0	16.0			
	234	POTS	4	S/F	1148.0	1148.2	1.3	800.0			
	113	POTS	4	S/F	1148.0	1148.3	2.0	1300.0			
	204	IZMI	5	S	1148.0	1148.4	0.8	1700.0	400.0		
	2850	CRIM	20	GRF	1149.4	1152.8	11.0	11.7	4.0		
	5900	KISV	22	GRF	1150.3	1152.8	13.4	13.0			
	15000	KISV	22	GRF	1150.5	1152.6	9.2	14.0			
	9300	KISV	2	S/F	1150.6	1152.7	7.5	14.0			
	430	KRAK	46	C	1151.0	1153.6	7.5	85.0	7.0		
	536	ONDR	42	SER	1151.8	1157.0	21.5	145.0			
	600	HUMN	2	S/F	1152.0	1153.0	3.0	22.0	10.0		
	810	KRAK	46	C	1152.0	1156.0	5.5	151.0	7.0		
	1415	SVTO	8	S	1152.0E	1152.0	2.0D	62.0			QL=4 ST=2 TYP=3
	808	ONDR	45	C	1152.5	1152.9	8.0	35.0			
	600	HUMN	2	S/F	1156.0	1157.0	3.0	20.0	5.0		
	2800	OTTA	4	S/F	1658.3	1700.6	5.0	30.8	6.0		
	2800	OTTA	22	GRF	1739.0	1801.0	87.0	15.8	6.0		
	2800	OTTA	4	S/F	1915.0	1925.0	20.0	66.0	19.0		
	410	PALE	8	S	1923.0E	1923.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1923.0E	1924.0	4.0D	1600.0			QL=4 ST=2 TYP=6
	2695	PALE	4	S/F	1924.0E	1924.0	4.0D	57.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	1924.0E	1925.0	6.0D	74.0			QL=2 ST=2 TYP=3
	2800	OTTA	29	PBI	1935.0	1941.0	100.0	16.7	8.0		
	245	PALE	4	S/F	2148.0E	2149.0	3.0D	150.0			QL=4 ST=2 TYP=3
02	200	GORK	44	NS	0603.0E		327.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	10.0			
	100	GORK	43	NS	0739.0		201.0		5.0		
	200	HIRA	44	NS	2130.0E	0207.0	590.0D	19.0	11.0		O
	500	HIRA	8	S	0410.8	0411.3	0.6	140.0			O
	410	LEAR	8	S	0411.0E	0411.0	U	150.0			QL=4 ST=2 TYP=3
	5900	KISV	46	C	0625.2	0631.0		36.0			
	5900	KISV	46	C	0625.2	0627.1		39.0			
	5900	KISV	46	C	0625.2	0628.6		35.0			
	5900	KISV	46	C	0625.2	0629.6	16.7	47.0			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	650	GORK	21	GRF	0625.3	0627.1	14.7	2.0			
	950	GORK	21	GRF	0625.4	0636.0	13.9	2.0			
	9100	GORK	46	C	0626.4	0627.1	7.2	26.0			
	2950	GORK	41	F	0626.4	0629.6		8.0			
	9100	GORK	46	C	0626.4	0629.6		47.0			
	2950	GORK	41	F	0626.4	0628.7	13.2	19.0			
	15000	KISV	46	C	0626.6	0627.1		20.0			
	15000	KISV	46	C	0626.6	0631.1		33.0			
	15000	KISV	46	C	0626.6	0629.5	10.8	69.0			
	2850	CRIM	46	C	0626.8	0627.0	4.0	98.0	13.0		
	2850	CRIM	46	C	0626.8	0628.8		38.0			
	500	HIRA	41	F	0628.3	0630.0	3.3	23.0			O
	950	GORK	46	C	0628.4	0629.0	3.0	7.0			
	950	GORK	46	C	0628.4	0630.2		10.0			
	650	GORK	46	C	0629.1	0630.2		33.0			
	650	GORK	46	C	0629.1	0629.6	2.3	110.0			
	100	GORK	4	S/F	0630.9	0631.2	1.4	260.0			
	200	GORK	4	S/F	0631.0	0631.1	1.8	192.0			
	100	GORK	41	F	0757.0	0808.0		130.0			
	100	GORK	41	F	0757.0	0800.8	12.4	2870.0			
	200	GORK	4	S/F	0758.0	0800.6	3.4	192.0			
	204	IZMI	41	F	0800.5	0800.6	7.0	116.0			
	9300	KISV	2	S/F	0824.8	0825.6	5.2	4.0			
	5900	KISV	2	S/F	0825.0	0825.6	5.4	5.0			
	260	ONDR	41	F	0900.0	1144.0	240.0	9.0			
	9300	KISV	2	S/F	1009.7	1010.6	3.4	6.0			
	9100	GORK	22	GRF	1012.3	1021.2	12.8	7.0			
	5900	KISV	2	S/F	1012.4	1012.6	1.3	3.0			
	9300	KISV	2	S/F	1018.4	1019.4	3.0	7.0			
	15000	KISV	2	S/F	1024.1	1024.4	1.2	8.0			
	113	POTS	8	S	1050.2	1050.6	0.8	2200.0			
	40	POTS	8	S	1050.2	1050.6	0.8	1200.0			
	5900	KISV	1	S	1051.7	1051.9	0.7	3.0			
	9300	KISV	2	S/F	1058.5	1059.0	1.1	5.0			
	15000	KISV	2	S/F	1107.6	1108.0	1.5	8.0			
	810	KRAK	8	S	1142.5	1142.5	0.1	18.0			
	430	KRAK	42	SER	1142.7	1142.7	11.5	180.0			
	9300	KISV	45	C	1142.8	1143.6		7.0			
	9300	KISV	45	C	1142.8	1143.8	3.7	7.0			
	536	ONDR	42	SER	1142.9	1143.0	2.0	79.0			
	600	HUMN	2	S/F	1143.0	1143.3	2.0	12.0	3.0		
	5900	KISV	2	S/F	1143.4	1143.9	1.2	3.0			
	9500	POTS	4	S/F	1225.0	1228.8	15.0	83.0			
	8800	SVTO	8	S	1227.0E	1228.0	2.0D	65.0			QL=4 ST=2 TYP=3
	15400	SVTO	8	S	1227.0E	1228.0	2.0D	60.0			QL=4 ST=2 TYP=3
	536	ONDR	42	SER	1227.4	1228.7	5.5	159.0			
	3000	POTS	3	S	1227.5	1228.8	2.5	28.0			
	600	HUMN	41	F	1228.0	1229.0	6.0	45.0			
	808	ONDR	41	F	1228.0	1230.9	5.0	12.0			
	1470	POTS	4	S/F	1228.0	1228.9	2.0	15.0			
	2800	OTTA	3	S	1549.1	1550.6	20.0	212.4	42.0		
	245	PALE	8	S	1841.0E	1841.0	U	83.0			QL=4 ST=2 TYP=3
	2800	OTTA	22	GRF	1905.0	1912.0	27.0	27.1	8.0		
	245	PALE	49	GB	1915.0E	1916.0	2.0D	1600.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	1916.0E	1916.0	2.0D	330.0			QL=4 ST=2 TYP=3
	2800	OTTA	32	ABS	1932.0	1944.0	20.0	-6.3	-2.0		
	2695	PENT	4	S/F	2233.0	2247.5	20.0D	343.4	69.0		
	100	HIRA	41	F	2233.7	2241.9	15.2	1700.0			O
	2695	PALE	49	GB	2234.0E	2247.0	18.0D	660.0			QL=4 ST=2 TYP=7
	2695	LEAR	49	GB	2235.0E	2247.0	18.0D	650.0			QL=4 ST=2 TYP=7
	4995	LEAR	49	GB	2236.0E	2247.0	19.0D	680.0			QL=4 ST=2 TYP=7
	4995	PALE	49	GB	2236.0E	2247.0	21.0D	780.0			QL=4 ST=2 TYP=7
	200	HIRA	46	C	2236.0	2247.9	16.5	1480.0	105.0		O
	410	PALE	8	S	2237.0E	2237.0	1.0D	70.0			QL=4 ST=2 TYP=3
	1415	LEAR	4	S/F	2237.0E	2248.0	13.0D	260.0			QL=4 ST=2 TYP=5
	245	LEAR	49	GB	2237.0E	2248.0	16.0D	1300.0			QL=4 ST=2 TYP=7
	8800	LEAR	49	GB	2237.0E	2247.0	18.0D	670.0			QL=4 ST=2 TYP=7
	245	PALE	49	GB	2237.0E	2248.0	12.0D	2000.0			QL=4 ST=3 TYP=6
	500	HIRA	42	SER	2237.0	2251.0	22.0	150.0			O

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	8800	PALE	49	GB	2237.0E	2247.0	24.0D	840.0			QL=4 ST=2 TYP=7
	1415	PALE	4	S/F	2238.0E	2248.0	12.0D	310.0			QL=4 ST=2 TYP=5
	15400	PALE	4	S/F	2238.0E	2238.0	82.0D	72.0			QL=4 ST=1 TYP=3
	610	LEAR	4	S/F	2245.0E	2248.0	8.0D	61.0			QL=2 ST=2 TYP=3
	610	PALE	4	S/F	2245.0E	2248.0	5.0D	74.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2245.0E	2247.0	14.0D	470.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	2251.0E	2252.0	2.0D	71.0			QL=4 ST=2 TYP=3
03	200	GORK	44	NS	0602.0E		328.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	30.0			
	100	GORK	43	NS	0708.0		265.0D		5.0		
	200	HIRA	44	NS	2132.0E	0446.0	590.0D	15.0	11.0		WL
	410	LEAR	49	GB	0048.0E	0048.0	1.0D	2600.0			QL=4 ST=2 TYP=6
	610	LEAR	8	S	0048.0E	0048.0	U	280.0			QL=2 ST=2 TYP=3
	410	PALE	49	GB	0048.0E	0048.0	1.0D	1700.0			QL=4 ST=2 TYP=6
	610	PALE	8	S	0048.0E	0048.0	U	230.0			QL=4 ST=2 TYP=3
	500	HIRA	42	SER	0048.3	0048.5	24.7	1500.0			WL
	410	LEAR	49	GB	0052.0E	0052.0	1.0D	520.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	0052.0E	0052.0	1.0D	240.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0101.0E	0101.0	U	110.0			QL=2 ST=2 TYP=3
	2840	PEKG	5	S	0101.0	0101.2	2.0	27.7			
	410	LEAR	8	S	0106.0E	0106.0	1.0D	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0106.0E	0107.0	1.0D	89.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0106.0E	0106.0	U	280.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0111.0E	0112.0	3.0D	87.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	0111.0E	0112.0	3.0D	120.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0112.0E	0112.0	U	86.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0112.0E	0112.0	U	88.0			QL=4 ST=2 TYP=3
	500	HIRA	42	SER	0137.5	0143.6	28.0	354.0			O
	410	LEAR	8	S	0138.0E	0138.0	2.0D	75.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0142.9	0143.1	1.3	370.0			O
	245	LEAR	49	GB	0143.0E	0143.0	1.0D	720.0			QL=4 ST=2 TYP=6
	410	LEAR	8	S	0143.0E	0143.0	1.0D	76.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	0143.0E	0144.0	1.0D	1300.0			QL=4 ST=2 TYP=6
	610	LEAR	8	S	0148.0E	0148.0	1.0D	93.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	0150.0E	0150.0	1.0D	57.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0156.0E	0157.0	1.0D	100.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0157.0E	0157.0	U	100.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0317.0E	0317.0	1.0D	94.0			QL=4 ST=2 TYP=3
	410	LEAR	49	GB	0317.0E	0317.0	1.0D	900.0			QL=4 ST=2 TYP=6
	410	PALE	49	GB	0317.0E	0317.0	1.0D	740.0			QL=4 ST=2 TYP=6
	245	PALE	8	S	0317.0E	0317.0	1.0D	80.0			QL=4 ST=2 TYP=3
	500	HIRA	42	SER	0317.0	0322.3	13.5	4000.0			O
	200	HIRA	46	C	0321.5	0322.4	2.4	1080.0			O
	245	LEAR	49	GB	0322.0E	0322.0	2.0D	1600.0			QL=4 ST=3 TYP=6
	610	LEAR	49	GB	0322.0E	0322.0	U	630.0			QL=2 ST=2 TYP=6
	410	LEAR	49	GB	0322.0E	0322.0	U	750.0			QL=4 ST=2 TYP=6
	610	PALE	49	GB	0322.0E	0322.0	U	540.0			QL=4 ST=2 TYP=6
	410	PALE	49	GB	0322.0E	0322.0	1.0D	2100.0			QL=4 ST=2 TYP=6
	500	HIRA	42	SER	0428.0	0435.0	18.0	184.0			O
	610	LEAR	8	S	0430.0E	0430.0	1.0D	53.0			QL=2 ST=2 TYP=3
	2840	PEKG	1	S	0432.0	0434.0	5.0	5.8			
	410	LEAR	8	S	0433.0E	0435.0	2.0D	91.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0433.0E	0433.0	2.0D	120.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	0446.0E	0447.0	1.0D	420.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0446.2	0446.6	0.7	2100.0			O
	100	HIRA	46	C	0446.2	0446.9	1.3	1600.0			O
	245	LEAR	8	S	0459.0E	0459.0	U	60.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0645.0E	0647.0	3.0D	63.0			QL=4 ST=2 TYP=3
	9300	KISV	2	S/F	0659.0	0659.8	1.6	3.0			
	5900	KISV	1	S	0659.3	0659.7	1.0	3.0			
	410	LEAR	8	S	0706.0E	0706.0	U	85.0			QL=4 ST=2 TYP=3
	100	GORK	3	S	0706.2	0706.4	0.7	390.0			
	245	LEAR	8	S	0812.0E	0813.0	1.0D	86.0			QL=4 ST=2 TYP=3
	200	GORK	41	F	0812.3	0813.0	26.1	580.0			
	200	GORK	41	F	0812.3	0817.9		12900.0			
	5900	KISV	2	S/F	0812.5	0813.0	1.8	4.0			
	113	POTS	42	SER	0812.5	0818.2	7.4	2800.0			
	234	POTS	42	SER	0812.5	0817.6	7.2	6000.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
03	100	GORK	41	F	0812.6	0813.2	6.4	1570.0			
	100	GORK	41	F	0812.6	0813.3		1044.0			
	430	KRAK	42	SER	0812.7	0818.0	35.7	320.0D			
	430	KRAK	42	SER	0812.7	0836.3		320.0D			
	2950	GORK	1	S	0812.7	0812.9	1.2	6.0			
	204	IZMI	41	F	0812.8	0813.1	1.0	110.0			
	40	POTS	4	S/F	0813.0	0813.6	1.0	3300.0			
	5900	KISV	20	GRF	0814.5	0819.3	13.0	8.0			
	9300	KISV	4	S/F	0815.6	0820.2	6.3	28.0			
	410	LEAR	8	S	0817.0E	0817.0	1.0D	160.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0817.0E	0817.0	2.0D	1900.0			QL=4 ST=2 TYP=6
	650	GORK	2	S/F	0817.5	0819.4	2.6	2.0			
	204	IZMI	45	C	0817.8	0818.1	1.0	10000.0			
	410	SVTO	8	S	0818.0E	0818.0	U	100.0			QL=4 ST=2 TYP=3
	245	SVTO	49	GB	0818.0E	0818.0	1.0D	2000.0			QL=4 ST=2 TYP=6
	950	GORK	46	C	0818.0	0818.4	2.1	7.0			
	2950	GORK	1	S	0818.7	0819.2	1.9	9.0			
	245	LEAR	8	S	0821.0E	0822.0	2.0D	200.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0836.0E	0836.0	U	71.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0836.0E	0836.0	U	170.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0836.0E	0836.0	1.0D	180.0			QL=4 ST=2 TYP=3
	234	POTS	4	S/F	0836.4	0836.7	1.0	220.0			
	204	IZMI	5	S	0836.5	0836.7	0.3	250.0	125.0		
	245	LEAR	8	S	0848.0E	0848.0	U	63.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0848.0E	0848.0	1.0D	63.0			QL=4 ST=2 TYP=3
	260	ONDR	41	F	0900.0		240.0				
	100	GORK	41	F	0913.0	0931.0		21800.0			
	100	GORK	41	F	0913.0	0913.3	20.0	260.0			
	950	GORK	1	S	0913.6	0914.1	1.5	2.0			
	650	GORK	2	S/F	0913.7	0914.1	2.8	2.0			
	2950	GORK	1	S	0913.8	0914.2	0.9	5.0			
	2695	LEAR	8	S	0930.0E	0931.0	1.0D	31.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0930.0E	0931.0	1.0D	120.0			QL=4 ST=2 TYP=3
	4995	LEAR	8	S	0930.0E	0931.0	1.0D	84.0			QL=2 ST=2 TYP=3
	9300	KISV	4	S/F	0930.1	0931.2	4.7	173.0			
	113	POTS	4	S/F	0930.1	0931.3U	4.5	3500.0D			
	5900	KISV	4	S/F	0930.2	0931.2	6.0	130.0			
	15000	KISV	2	S/F	0930.3	0931.2	1.8	41.0			
	9100	GORK	4	S/F	0930.5	0931.1	2.4	136.0			
	200	GORK	4	S/F	0930.5	0931.3	1.8	580.0			
	234	POTS	8	S	0930.6	0931.2	1.5	385.0			
	2850	CRIM	4	S/F	0930.8	0931.2	1.0	47.0	15.0		
	2950	GORK	4	S/F	0930.8	0931.2	0.9	32.0			
	3000	POTS	4	S/F	0930.8	0931.2	2.2	27.0			
	650	GORK	1	S	0930.9	0931.1	1.1	1.0			
	950	GORK	4	S/F	0930.9	0931.7	1.0	16.0			
	245	LEAR	8	S	0931.0E	0931.0	U	310.0			QL=4 ST=2 TYP=3
	1470	POTS	4	S/F	0931.0	0931.1	2.0	8.0			
	9500	POTS	3	S	0931.0	0931.1	2.5	103.0			
	3013	IZMI	5	S	0931.0	0931.3	1.0	39.0	20.0		
	204	IZMI	5	S	0931.0	0931.4	1.0	340.0	170.0		
	30	POTS	4	S/F	0931.0	0931.4	1.5	2800.0			
	33	UPIC	45	C	0931.2	0931.5	1.0				
	2950	GORK	1	S	0958.6	0958.9	6.1	5.0			
	430	KRAK	42	SER	1130.0	1223.0		320.0D			
	430	KRAK	42	SER	1130.0	1150.0	58.5	320.0D			
	9300	KISV	22	GRF	1138.6	1151.5	14.6	12.0			
	810	KRAK	42	SER	1145.0	1145.0	1.5	22.0			
	9500	POTS	20	GRF	1145.0	1151.0	25.0	10.0			
	536	ONDR	42	SER	1145.0	1223.9	45.0	215.0			
	5900	KISV	22	GRF	1145.4	1151.5	8.1	7.0			
	600	HUMN	8	S	1146.0	1146.1	0.3	66.0	20.0		
	410	SVTO	8	S	1150.0E	1151.0	1.0D	330.0			QL=4 ST=2 TYP=3
	600	HUMN	2	S/F	1150.6	1151.0	2.0	10.0	5.0		
	40	POTS	42	SER	1215.2	1219.0	11.5	4500.0			
	113	POTS	42	SER	1215.3	1219.0	12.6	1400.0			
	410	SVTO	8	S	1220.0E	1220.0	U	220.0			QL=4 ST=2 TYP=3
	810	KRAK	42	SER	1222.0	1222.8	2.7	42.0			
	234	POTS	42	SER	1222.5	1223.6	8.7	1500.0			

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Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
03	245	SVTO	49	GB	1223.0E	1223.0	3.0D	1100.0			QL=4 ST=2 TYP=6
	3000	POTS	40	F	1223.0	1225.5	3.0	15.0			
	1470	POTS	40	F	1223.0	1223.9	4.5	26.0			
	808	ONDR	42	SER	1223.4	1224.0	5.0	21.0			
	410	SVTO	8	S	1231.0E	1231.0	U	95.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1231.0E	1231.0	U	140.0			QL=4 ST=2 TYP=3
	810	KRAK	8	S	1309.0	1309.0	0.2	25.0			
	2800	OTTA	3	S	1440.5	1442.0	2.5	29.3	8.0		
	2800	OTTA	29	PBI	1443.0	1445.5	23.5	9.6	4.0		
	2800	OTTA	4	S/F	1515.5	1517.5	4.9	12.5	5.0		
	100	HIRA	46	C	2205.9	2207.3	1.6	1400.0			O
	500	HIRA	46	C	2254.3	2254.8	1.6	66.0			O
	500	HIRA	21	GRF	2328.0	2412.0	90.0	7.0	3.0		WL
	200	HIRA	45	C	2335.1	2335.4	1.2	1300.0			O
04	200	GORK	44	NS	0546.0E		344.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	15.0			
	100	GORK	43	NS	0831.7		148.3		5.0		
	200	HIRA	44	NS	2132.0E	0100.0	590.0D	8.0	5.0		ML
	500	HIRA	41	F	0258.7	0304.3	8.5	46.0			O
	500	HIRA	42	SER	0320.0	0325.5	11.5	172.0			O
	100	HIRA	42	SER	0320.5	0333.2	27.0	1000.0			
	2840	PEKG	5	S	0321.0	0323.4	4.0	71.0			
	100	GORK	3	S	0602.9	0603.1	1.0	910.0			
	950	GORK	23	GRF	0712.0	0718.9	24.0	3.0			
	650	GORK	21	GRF	0714.0	0718.9	22.4	3.0			
	950	GORK	2	S/F	0726.4	0726.5	1.3	7.0			
	650	GORK	4	S/F	0726.4	0726.8	1.3	8.0			
	9300	KISV	2	S/F	0804.9	0807.3	7.3	9.0			
	9100	GORK	1	S	0806.9	0807.2	2.1	9.0			
	5900	KISV	2	S/F	0812.1	0813.5	5.6	3.0			
	600	HUMN	27	RF	0850.0	0906.0	23.0	12.0			
	260	ONDR	41	F	0900.0	1020.0	240.0	132.0			
	100	GORK	4	S/F	0906.9	0907.2	3.7	40.0D			
	600	HUMN	27	RF	0916.0	0932.0	40.0	25.0	10.0		
	950	GORK	41	F	0917.0	0931.0	38.2	17.0			
	950	GORK	41	F	0917.0	0936.7		25.0			
	536	ONDR	41	F	0918.0	0932.0	27.0	50.0			
	650	GORK	41	F	0919.1	0937.3		25.0			
	650	GORK	41	F	0919.1	0932.3	35.1	30.0			
	808	ONDR	41	F	0920.0	0936.9	24.0	12.0			
	430	KRAK	46	C	0921.2	0933.5	29.0	67.0	16.0		
	810	KRAK	41	F	0922.5		19.0D	22.0U	7.0U		
	9300	KISV	2	S/F	1006.5	1007.1	1.7	7.0			
	9100	GORK	1	S	1006.5	1006.8	1.0	8.0			
	15000	KISV	2	S/F	1006.7	1007.0	1.5	15.0			
	245	LEAR	8	S	1018.0E	1019.0	2.0D	75.0			QL=4 ST=2 TYP=3
	204	IZMI	8	S	1019.8	1019.9	0.2	114.0	50.0		
	245	SVTO	8	S	1020.0E	1020.0	U	72.0			QL=4 ST=2 TYP=3
	100	GORK	4	S/F	1124.4	1125.1U	1.6	40.0D			
	2800	OTTA	22	GRF	1432.0	1455.0	54.0	9.8	4.0		
	600	HUMN	2	S/F	1438.0	1442.0	9.0	15.0	6.0		
	2800	OTTA	22	GRF	1620.0	1631.0	27.0	13.2	4.0		
	245	PALE	8	S	1804.0E	1804.0	U	52.0			QL=4 ST=2 TYP=3
	2800	OTTA	4	S/F	1939.0	1940.0	10.0	31.2	9.0		
	410	LEAR	8	S	2208.0E	2208.0	1.0D	72.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2208.0E	2208.0	1.0D	79.0			QL=4 ST=2 TYP=3
05	200	GORK	44	NS	0557.0E		333.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	15.0			
	127	TORN	43	NS	0710.0		430.0				DISTURBED
	100	GORK	43	NS	0816.4		193.6D		5.0		
	100	HIRA	44	NS	2132.0E	0049.0	590.0D	370.0	80.0		
	200	HIRA	44	NS	2132.0E	0109.0	590.0D	40.0	26.0		ML
	245	LEAR	4	S/F	0357.0E	0359.0	5.0D	66.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0357.2	0358.5	2.6	450.0			O
	100	HIRA	46	C	0357.6	0359.0	4.6	1000.0D			
	500	HIRA	4	S/F	0358.0	0359.5	5.5	7.0			O
	950	GORK	21	GRF	0631.8	0652.5	28.8	4.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	650	GORK	21	GRF	0640.0	0657.9	23.6	6.0			
	650	GORK	2	S/F	0643.8	0644.7	1.9	6.0			
	950	GORK	2	S/F	0644.0	0644.4	1.4	12.0			
	100	GORK	41	F	0651.7	0733.8		260.0			
	100	GORK	41	F	0651.7	0653.9	44.3	130.0			
	950	GORK	22	GRF	0707.5	0708.9	13.5	8.0			
	200	GORK	41	F	0707.8	0734.0		580.0			
	200	GORK	41	F	0707.8	0708.5	26.9	25.0			
	650	GORK	41	F	0707.9	0708.3	3.7	19.0			
	650	GORK	41	F	0707.9	0710.7		24.0			
	2950	GORK	1	S	0731.1	0734.0	8.2	11.0			
	2850	CRIM	1	S	0733.0	0734.0	1.8	7.3	2.0		
	245	LEAR	8	S	0733.0E	0733.0	1.0D	78.0			QL=4 ST=2 TYP=3
	950	GORK	2	S/F	0733.0	0735.3	6.0	4.0			
	650	GORK	46	C	0733.3	0734.0	5.2	15.0			
	204	IZMI	4	S/F	0733.3	0734.0	1.5	280.0	140.0		
	650	GORK	46	C	0733.3	0735.4		9.0			
	234	POTS	4	S/F	0733.3	0733.8	1.2	140.0			
	113	POTS	4	S/F	0733.4	0734.2	2.7	50.0			
	9100	GORK	20	GRF	0758.3	0916.1	179.0	20.0			
	430	KRAK	8	S	0840.6	0841.0	0.5	43.0			
	260	ONDR	41	F	0900.0	1232.0	240.0	19.0			
	100	GORK	41	F	0944.7	0945.4U	21.3	30.0D			
	100	GORK	41	F	0944.7	0959.7U		30.0D			
	204	IZMI	7	C	0956.0	0956.2	0.7	110.0	55.0		
	204	IZMI	5	S	1012.0	1012.2	0.5	200.0	100.0		
	430	KRAK	46	C	1254.5	1301.2	20.3	72.0	11.0		
	2695	PENT	3	S	2141.4	2145.1	9.0	29.5	6.0		
	245	PALE	4	S/F	2143.0E	2144.0	3.0D	120.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	2143.0E	2144.0	3.0D	82.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	2143.0E	2144.0	1.0D	58.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	2143.0E	2143.0	3.0D	73.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	2145.0E	2146.0	1.0D	26.0			QL=4 ST=2 TYP=3
06	200	GORK	44	NS	0548.0E		342.0D		10.0		
	100	GORK	44	NS	0549.0E		341.0D		17.0		
	204	IZMI	43	NS	0700.0		300.0	15.0			
	127	TORN	44	NS	0700.0E		440.0D		90.0		V=1
	200	HIRA	44	NS	2134.0E	0138.0	590.0D	45.0	29.0		SL
	100	HIRA	44	NS	2134.0E	2213.0	590.0D	85.0	18.0		
	100	GORK	46	C	0630.0	0630.9	5.2	260.0			
	100	GORK	46	C	0630.0	0633.9		780.0			
	9100	GORK	21	GRF	0655.2	0704.6	13.2	8.0			
	15000	KISV	45	C	0655.9	0656.2	2.3	27.0			
	9100	GORK	1	S	0655.9	0656.4	1.9	23.0			
	15000	KISV	45	C	0655.9	0656.5		26.0			
	5900	KISV	2	S/F	0703.1	0706.3	6.1	5.0			
	204	IZMI	41	F	0815.0	0815.3	2.0	170.0			
	204	IZMI	41	F	0832.5	0832.7	2.0	230.0			
	260	ONDR	41	F	0900.0	1030.2	240.0	73.0			
	2950	GORK	1	S	0929.7	1000.0	31.5	5.0			
	100	GORK	41	F	0942.5	1019.5		520.0			
	100	GORK	41	F	0942.5	0945.9	52.0	780.0			
	9100	GORK	20	GRF	0952.9	1000.0	19.1	5.0			
	5900	KISV	23	GRF	0958.6	1008.8	22.4	6.0			
	5900	KISV	2	S/F	0959.3	1000.2	4.5	23.0			
	2850	CRIM	1	S	0959.8	1000.1	2.1	4.6	1.0		
	430	KRAK	1	S	1029.5	1030.0	1.2	7.0	3.0		
	2850	CRIM	42	SER	1045.8	1046.0	1.8	15.0	5.0		
	2950	GORK	1	S	1045.9	1046.0	1.3	6.0			
	204	IZMI	41	F	1046.0	1046.7	0.8	950.0			
	245	PALE	8	S	1748.0E	1748.0	1.0D	160.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	1935.0E	1935.0	U	58.0			QL=2 ST=2 TYP=3
	2695	PENT	3	S	2038.8	2043.0	9.5	13.6	4.0		
	245	PALE	4	S/F	2040.0E	2046.0	6.0D	140.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2113.0E	2113.0	U	110.0			QL=2 ST=2 TYP=3
07	100	GORK	44	NS	0551.0E		339.0D		5.0		
	200	GORK	44	NS	0551.0E		339.0D		13.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	127	TORN	44	NS	0700.0E		180.0D		50.0		V=2
	204	IZMI	43	NS	0700.0		300.0	25.0			
	1470	POTS	44	NS	0700.0E	1153.0U	420.0D	40.0			
	245	PALE	44	NS	1930.0E	1930.0	131.0D	59.0			QL=4 ST=2 TYP=1
	100	HIRA	44	NS	2134.0E	0400.0	590.0D	150.0	42.0		
	200	HIRA	44	NS	2134.0E	0607.0	590.0D	50.0	30.0		ML
	245	PALE	8	S	0203.0E	0203.0	U	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0413.0E	0414.0	2.0D	55.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0432.0E	0433.0	2.0D	140.0			QL=4 ST=2 TYP=3
	100	GORK	41	F	0551.0U	0606.6		500.0			
	100	GORK	41	F	0551.0U	0554.6	18.0D	370.0			
	245	LEAR	8	S	0624.0E	0624.0	U	130.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0624.0E	0624.0	U	65.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0637.0E	0637.0	U	52.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0637.0E	0637.0	U	58.0			QL=4 ST=2 TYP=3
	2850	CRIM	25	R	0723.9	0742.0		11.3			
	5900	KISV	2	S/F	0732.5	0733.7	2.5	8.0			
	2850	CRIM	1	S	0732.8	0733.8	1.9	9.0	3.0		
	3013	IZMI	5	S	0733.0	0733.5	1.1	8.0	4.0		
	2950	GORK	1	S	0733.0	0733.6	1.2	7.0			
	5900	KISV	2	S/F	0739.1	0740.3	5.7	4.0			
	2950	GORK	4	S/F	0825.8	0828.7	4.9	32.0			
	5900	KISV	4	S/F	0825.8	0828.8	8.8	48.0			
	2695	LEAR	4	S/F	0826.0E	0828.0	3.0D	38.0			QL=4 ST=2 TYP=3
	9500	POTS	4	S/F	0826.0	0829.3	9.0	157.0			
	3000	POTS	4	S/F	0826.0	0828.5	6.5	35.0			
	2850	CRIM	45	C	0826.2	0827.0	5.2	19.4	12.0		
	2850	CRIM	45	C	0826.2	0828.8		36.5			
	9100	GORK	4	S/F	0826.3	0829.2	5.9	176.0			
	3013	IZMI	22	GRF	0826.4	0829.0	6.0	27.0	15.0		
	1470	POTS	4	S/F	0826.5	0828.0	3.5	11.0			
	8400	BERN	4	S/F	0826.5	0829.1	70.0	119.0			
	11800	BERN	4	S/F	0826.5	0829.1	70.0	171.0			
	5200	BERN	4	S/F	0826.5	0829.1	70.0	31.0			
	19600	BERN	4	S/F	0826.5	0829.1	70.0	104.0			
	3200	BERN	4	S/F	0826.5	0829.1	70.0	28.0			
	950	GORK	2	S/F	0826.8	0828.0	3.0	6.0			
	15000	KISV	29	PBI	0827.0	0830.0	4.5	70.0			
	4995	LEAR	4	S/F	0827.0E	0829.0	3.0D	30.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0827.0E	0829.0	5.0D	140.0			QL=4 ST=2 TYP=3
	15000	KISV	45	C	0827.0	0829.2	3.0	201.0			
	15000	KISV	45	C	0827.0	0828.8		189.0			
	8800	SVTO	4	S/F	0828.0E	0829.0	3.0D	110.0			QL=2 ST=2 TYP=3
	15400	SVTO	4	S/F	0828.0E	0829.0	932.0D	160.0			QL=2 ST=1 TYP=3
	2950	GORK	29	PBI	0830.7	0830.7	56.3	8.0			
	9100	GORK	29	PBI	0832.2	0832.2	53.4	22.0			
	100	GORK	46	C	0833.0	0840.1		1100.0			
	100	GORK	46	C	0833.0	0835.2	9.0	500.0			
	260	ONDR	41	F	0900.0	1116.5	240.0	141.0			
	245	LEAR	8	S	0935.0E	0935.0	U	51.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0935.0E	0935.0	U	63.0			QL=4 ST=2 TYP=3
	536	ONDR	8	S	0947.5	0947.8	4.0	66.0			
	5900	KISV	1	S	1006.6	1007.1	1.1	4.0			
	2950	GORK	20	GRF	1008.4	1026.0	54.6	7.0			
	200	GORK	4	S/F	1008.8	1009.6	1.3	255.0			
	5900	KISV	2	S/F	1009.6	1010.0	1.9	5.0			
	207	IZMI	42	SER	1030.0	1040.0	20.0	280.0			
	200	GORK	46	C	1039.8	1048.1		200.0			
	200	GORK	46	C	1039.8	1040.6	10.3	300.0			
	204	IZMI	41	F	1137.0	1137.6	1.0	350.0			
	2695	PENT	24	R	1920.0	2000.0	74.0	14.0	7.0		
	245	PALE	8	S	2008.0E	2008.0	1.0D	220.0			QL=4 ST=2 TYP=3
	2695	PENT	42	SER	2054.2	2059.5	38.0	136.5	27.0		
	15400	PALE	4	S/F	2057.0E	2059.0	8.0D	130.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	2057.0E	2059.0	9.0D	150.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2057.0E	2059.0	8.0D	210.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	2057.0E	2057.0	9.0D	470.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	2057.0E	2100.0	26.0D	160.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	2058.0E	2118.0	21.0D	280.0			QL=4 ST=3 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	245	LEAR	8	S	2333.0E	2333.0	U	330.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	2333.0E	2333.0	U	540.0			QL=4 ST=2 TYP=6
08	245	LEAR	44	NS	0430.0E	0430.0	370.0D	260.0			QL=4 ST=2 TYP=1
	200	GORK	44	NS	0604.0E		321.0D		13.0		
	100	GORK	44	NS	0604.0E		321.0D		5.0		
	245	SVTO	44	NS	0651.0E	1129.0	394.0D	120.0			QL=2 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0820.0E		360.0D		40.0		V=1
	100	HIRA	44	NS	2135.0E	2300.0	590.0D	360.0	49.0		
	200	HIRA	44	NS	2135.0E	2300.0	590.0D	46.0	18.0		SL
	245	LEAR	44	NS	2337.0E	0214.0	166.0D	160.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0015.0E	0016.0	1.0D	290.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0015.0E	0016.0	1.0D	420.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0015.0E	0016.0	1.0D	450.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	0016.0E	0016.0	U	570.0			QL=4 ST=2 TYP=6
	200	GORK	4	S/F	0618.9	0619.2	0.7	370.0			
	100	GORK	46	C	0624.0	0627.3		3000.0			
	100	GORK	46	C	0624.0	0626.9	4.8	2900.0			
	100	GORK	41	F	0710.1	0737.8		880.0			
	100	GORK	41	F	0710.1	0711.8	29.1	125.0			
	260	ONDR	41	F	0900.0	1138.4	240.0	221.0			
	204	IZMI	25	R	1112.0	1132.0	48.0	400.0			
	245	PALE	8	S	1859.0E	1859.0	U	100.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2100.0E	2100.0	U	180.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2122.0E	2122.0	U	120.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2337.0E	2337.0	U	180.0			QL=4 ST=2 TYP=3
09	100	GORK	44	NS	0540.0E		350.0D		5.0		
	200	GORK	44	NS	0641.0E		289.0D		7.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0700.0E		420.0D		40.0		V=1
	260	ONDR	44	NS	0900.0E	1217.8	240.0D	167.0			
	245	LEAR	44	NS	0910.0E	1035.0	90.0D	220.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	0913.0	1036.0	197.0D	190.0			QL=4 ST=2 TYP=1
	100	HIRA	44	NS	2135.0E	0525.0	585.0D	34.0	13.0		
	200	HIRA	44	NS	2135.0E	2230.0	585.0D	19.0	5.0		O
	245	PALE	8	S	0157.0E	0157.0	1.0D	150.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0259.0E	0259.0	1.0D	400.0			QL=4 ST=2 TYP=3
	2850	CRIM	1	S	0718.9	0719.4	1.2	4.4	1.0		
	3000	POTS	29	PBI	0800.0	0824.0	60.0U	73.0			
	9500	POTS	29	PBI	0800.0U	0824.0	75.0U	34.0			
	650	GORK	21	GRF	0814.3	0826.7	24.7	5.0			
	1470	POTS	29	PBI	0815.0	0824.2	40.0	23.0			
	5900	KISV	4	S/F	0816.2	0824.2	8.7	65.0			
	9100	GORK	21	GRF	0818.5	0842.5	126.4	22.0			
	2950	GORK	23	GRF	0818.6	0834.5	48.9	17.0			
	2850	CRIM	29	PBI	0818.8	0827.0	63.0	17.6	6.0		
	2850	CRIM	46	C	0818.8	0822.1	9.0	41.0	26.0		
	2850	CRIM	46	C	0818.8	0824.2		78.6			
	2850	CRIM	46	C	0818.8	0826.4		41.0			
	2850	CRIM	46	C	0818.8	0823.5		55.2			
	8400	BERN	46	C	0819.0	0824.1	100.0	49.0			
	3200	BERN	46	C	0819.0	0824.1	100.0	70.0			
	5200	BERN	46	C	0819.0	0824.1	100.0	77.0			
	3013	IZMI	22	GRF	0819.8	0824.2	9.0	70.0	35.0		
	2695	LEAR	4	S/F	0820.0E	0824.0	6.0D	81.0			QL=4 ST=2 TYP=3
	950	GORK	22	GRF	0820.0	0826.4	19.0	11.0			
	15000	KISV	23	GRF	0820.4	0824.2	57.0	22.0			
	4995	LEAR	4	S/F	0821.0E	0824.0	5.0D	74.0			QL=2 ST=2 TYP=3
	2695	SVTO	4	S/F	0821.0E	0824.0	6.0D	76.0			QL=2 ST=2 TYP=3
	2950	GORK	4	S/F	0821.1	0824.1	6.5	58.0			
	430	KRAK	42	SER	0821.5	0822.5	5.0	105.0			
	8800	LEAR	4	S/F	0822.0E	0824.0	4.0D	33.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0822.0E	0822.0	3.0D	89.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0822.0E	0824.0	3.0D	68.0			QL=2 ST=2 TYP=3
	650	GORK	40	F	0822.0	0826.4	4.7	35.0			
	9100	GORK	2	S/F	0822.6	0824.1	2.2	21.0			
	1415	LEAR	4	S/F	0824.0E	0824.0	3.0D	17.0			QL=4 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
09	5900	KISV	30	PBI	0824.9	0826.3	79.0	27.0			
	810	KRAK	2	S/F	0825.0	0826.0	1.5	22.0	4.0		
	245	LEAR	8	S	0826.0E	0826.0	U	140.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0826.0E	0826.0	U	130.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	0909.0E	0910.0	1.0D	56.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0914.0	0915.5	3.5	180.0			
	200	GORK	41	F	1048.5	1123.3		240.0			
	200	GORK	41	F	1048.5	1050.5	35.5	240.0			
	204	IZMI	5	S	1049.0	1049.5	0.7	700.0	400.0		
	204	IZMI	25	R	1100.0	1126.5	60.0	300.0			
10	100	GORK	44	NS	0544.0E		346.0D		5.0		
	200	GORK	44	NS	0544.0E		346.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	10.0			
	200	HIRA	44	NS	2138.0E	0007.0	585.0D	5.0	2.0		WL
	200	HIRA	42	SER	0308.0	0312.1	14.5	235.0			WR
	245	LEAR	8	S	0714.0E	0715.0	2.0D	72.0			QL=4 ST=2 TYP=3
	536	ONDR	41	F	0900.0	0939.0	50.0	22.0			
	260	ONDR	41	F	0900.0	1106.1	240.0	13.0			
	204	IZMI	7	C	1100.5	1101.0	1.0	160.0	80.0		
	200	GORK	4	S/F	1100.5	1101.1U	1.8	20.0D			
	100	GORK	4	S/F	1100.6	1101.6	1.7	110.0			
	113	POTS	4	S/F	1151.5	1151.6	0.7	750.0			
	500	HIRA	21	GRF	2310.0	0000.0	105.0	7.0	3.0		WL
11	200	GORK	44	NS	0557.0E		334.0D		5.0		
	100	GORK	44	NS	0557.0E		333.0D		5.0		
	245	PALE	8	S	0113.0E	0113.0	U	350.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0113.9	0114.1	0.5	1300.0			O
	245	LEAR	8	S	0114.0E	0114.0	U	340.0			QL=4 ST=2 TYP=3
	2840	PEKG	5	S	0514.0	0516.4	8.0	55.9			
	245	LEAR	49	GB	0515.0E	0515.0	2.0D	630.0			QL=4 ST=2 TYP=6
	4995	LEAR	4	S/F	0515.0E	0516.0	3.0D	130.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0515.0E	0516.0	2.0D	65.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0515.0E	0516.0	2.0D	56.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0515.0E	0516.0	1.0D	30.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0515.2	0515.8	2.0	1450.0			O
	500	HIRA	4	S/F	0515.5	0516.5	10.0	17.0			O
	1415	LEAR	8	S	0516.0E	0516.0	U	15.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0516.0E	0516.0	U	51.0			QL=4 ST=2 TYP=3
	260	ONDR	41	F	0900.0	1024.0	240.0	81.0			
	100	GORK	46	C	0911.8	0914.2		590.0			
	113	POTS	41	F	0911.8	0914.3	3.8	280.0			
	100	GORK	46	C	0911.8	0912.6	3.8	120.0			
	40	POTS	41	F	0911.8	0912.6	3.8	12000.0			
	430	KRAK	42	SER	0926.0	0928.9	5.7	25.0			
	536	ONDR	41	F	0931.5	0931.9	2.5	27.0			
	200	GORK	4	S/F	0947.6	0948.0	1.2	160.0			
	200	GORK	46	C	1019.0	1023.7		320.0			
	200	GORK	46	C	1019.0	1019.8U	6.9	20.0D			
	100	GORK	46	C	1019.7	1020.6	5.6	240.0			
	100	GORK	46	C	1019.7	1023.7		2960.0			
	245	LEAR	8	S	1023.0E	1023.0	1.0D	75.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1023.0E	1024.0	1.0D	71.0			QL=4 ST=3 TYP=3
	204	IZMI	5	S	1023.0	1023.6	1.3	280.0	140.0		
	234	POTS	4	S/F	1023.1	1023.5	1.8	80.0			
	30	POTS	4	S/F	1023.1	1024.8	3.1	7000.0			
	113	POTS	4	S/F	1023.1	1023.9	2.8	2100.0			
	33	UPIC	46	C	1223.5		1.6				
	430	KRAK	42	SER	1307.5	1308.2	1.7	48.0			
	2800	OTTA	3	S	1813.2	1816.0	13.0	11.8	3.0		
	245	PALE	49	GB	1816.0E	1816.0	1.0D	1000.0			QL=4 ST=2 TYP=6
	245	PALE	8	S	1823.0E	1823.0	1.0D	76.0			QL=4 ST=3 TYP=3
	410	PALE	8	S	1828.0E	1829.0	1.0D	61.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	1828.0E	1829.0	1.0D	54.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	1828.0E	1828.0	1.0D	67.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	1828.0E	1829.0	3.0D	360.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1829.6	1830.0	11.6	74.5	20.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
12	200	GORK	43	NS	0600.0		327.0		5.0		
	200	GORK	4	S/F	0839.0	0839.8	1.5	20.0D			
	260	ONDR	41	F	0900.0	1053.6	240.0	182.0			
	100	GORK	41	F	0909.0	0925.6	48.9	240.0			
	100	GORK	41	F	0909.0	0938.7		120.0			
	204	IZMI	5	S	0952.5	0953.0	1.0	47.0	25.0		
	200	GORK	41	F	0955.0	0956.2U	6.0	20.0D			
	200	GORK	41	F	0955.0	1000.7U		20.0D			
┌	204	IZMI	41	F	1028.8	1034.8	8.0	111.0			
├	113	POTS	42	SER	1030.0	1034.3	5.0	900.0			
└	40	POTS	42	SER	1030.0	1034.7	6.2	8200.0			
	245	SVTO	8	S	1049.0E	1049.0	U	160.0			QL=2 ST=2 TYP=3
	2850	CRIM	1	S	1051.7	1052.5	1.2	6.2	2.0		
┌	234	POTS	41	F	1052.8	1057.9	6.2	1300.0			
├	8800	SVTO	8	S	1054.0E	1054.0	2.0D	190.0			QL=4 ST=2 TYP=3
├	204	IZMI	41	F	1057.0	1058.0	1.2	1000.0			
└	245	SVTO	8	S	1057.0E	1057.0	1.0D	150.0			QL=4 ST=2 TYP=3
	5900	KISV	21	GRF	1153.0	1159.5	10.2	4.0			
	245	PALE	8	S	2125.0E	2126.0	1.0D	120.0			QL=4 ST=2 TYP=3
13	100	GORK	43	NS	0838.0		171.0D		5.0		
	650	GORK	1	S	0759.1U	0759.3	0.7D	2.0			
	260	ONDR	41	F	0900.0	1029.2	240.0	97.0			
	5900	KISV	23	GRF	1018.0	1039.8	67.1	8.0			
┌	2850	CRIM	4	S/F	1029.5	1032.3	7.0	16.4	5.0		
├	2950	GORK	1	S	1030.4	1032.1	7.2	12.0			
├	650	GORK	1	S	1030.6	1032.3	6.3	1.0			
├	5900	KISV	45	C	1030.7	1032.2	8.8	16.0			
├	5900	KISV	45	C	1030.7	1033.5		14.0			
└	9100	GORK	22	GRF	1030.8	1032.4	32.7	12.0			
	204	IZMI	41	F	1124.5	1127.0	3.0	18.0			
┌	11800	BERN	3	S	1233.0	1236.6	50.0	26.0			
├	8400	BERN	3	S	1233.0	1236.6	50.0	36.0			
├	5200	BERN	3	S	1233.0	1236.6	50.0	35.0			
├	3200	BERN	3	S	1233.0	1236.6	50.0	30.0			
├	3000	POTS	4	S/F	1234.0	1236.0	6.0	34.0			
├	9500	POTS	3	S	1234.0	1236.5	6.0	21.0			
├	1470	POTS	4	S/F	1234.0U	1236.5	6.0U	20.0			
└	808	ONDR	41	F	1235.0	1236.4	3.0	5.0			
	610	SGMR	20	GRF	1921.0E	1932.0	279.0D	140.0			QL=2 ST=1 TYP=2
	200	HIRA	46	C	2227.0	2227.9	1.3	285.0			O
	245	PALE	8	S	2351.0E	2351.0	U	360.0			QL=4 ST=3 TYP=3
14	100	GORK	43	NS	0829.4		180.6D		5.0		
	610	LEAR	8	S	0207.0E	0207.0	U	39.0			QL=2 ST=2 TYP=3
┌	2695	LEAR	20	GRF	0208.0E	0213.0	7.0D	53.0			QL=4 ST=2 TYP=2
├	1415	LEAR	8	S	0210.0E	0211.0	2.0D	55.0			QL=4 ST=2 TYP=3
├	8800	LEAR	8	S	0210.0E	0210.0	1.0D	14.0			QL=4 ST=2 TYP=3
├	4995	LEAR	4	S/F	0210.0E	0210.0	4.0D	42.0			QL=2 ST=2 TYP=3
├	500	HIRA	46	C	0210.5	0216.5	22.0	45.0			O
├	245	LEAR	49	GB	0212.0E	0213.0	2.0D	940.0			QL=4 ST=2 TYP=6
├	200	HIRA	46	C	0212.3	0213.9	13.2	230.0	25.0		O
├	245	PALE	49	GB	0213.0E	0213.0	2.0D	1400.0			QL=4 ST=2 TYP=6
├	100	HIRA	42	SER	0213.0	0222.4	26.4	485.0			
└	410	LEAR	8	S	0216.0E	0216.0	1.0D	20.0			QL=4 ST=2 TYP=3
	5900	KISV	2	S/F	0723.4	0723.7	2.1	3.0			
	260	ONDR	41	F	0900.0	1046.7	240.0	41.0			
	100	GORK	3	S	0914.0	0914.7	1.0	3200.0			
	5900	KISV	2	S/F	1120.8	1122.1	5.6	3.0			
┌	3200	BERN	4	S/F	1250.3	1256.0	100.0	105.0			
└	5200	BERN	4	S/F	1250.3	1256.0	100.0	46.0			
┌	610	SGMR	8	S	1441.0E	1441.0	1.0D	69.0			QL=2 ST=2 TYP=3
├	245	SGMR	8	S	1441.0E	1441.0	U	60.0			QL=2 ST=2 TYP=3
├	410	SGMR	8	S	1441.0E	1441.0	1.0D	410.0			QL=2 ST=2 TYP=3
└	410	SVTO	8	S	1441.0E	1441.0	1.0D	420.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2014.0E	2014.0	1.0D	77.0			QL=4 ST=2 TYP=3
15	245	LEAR	8	S	0607.0E	0607.0	1.0D	52.0			QL=4 ST=2 TYP=3
	100	GORK	41	F	0610.4	0634.0		900.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
15	100	GORK	41	F	0610.4	0612.6	29.6	35.0			
	200	HIRA	41	F	0611.2	0612.3	3.8	36.0			O
	5900	KISV	2	S/F	0624.3	0625.3	4.4	5.0			
	15000	KISV	2	S/F	0624.4	0625.3	4.2	9.0			
	200	GORK	3	S	0722.5	0723.0	1.7	190.0			
	100	GORK	46	C	0722.6	0723.0		385.0			
	100	GORK	46	C	0722.6	0722.9	1.4	35.0			
	204	IZMI	7	C	0722.8	0723.0	0.8	75.0	40.0		
	200	GORK	4	S/F	0743.0	0744.2	8.9	190.0			
	100	GORK	46	C	0743.9	0748.6		30.0			
	100	GORK	46	C	0743.9	0745.8	5.8	30.0			
	204	IZMI	41	F	0744.0	0744.5	1.0	121.0			
	260	ONDR	41	F	0900.0	1123.0	240.0	147.0			
	245	SVTO	8	S	0916.0E	0916.0	U	57.0			QL=2 ST=2 TYP=3
	234	POTS	42	SER	1112.9	1122.5	10.7	100.0			
	113	POTS	42	SER	1112.9	1122.5	11.2	150.0			
	204	IZMI	42	SER	1114.0	1123.0	10.0	90.0			
	127	TORN	7	C	1119.8	1123.0	4.0	270.0	45.0		
	245	SVTO	8	S	1122.0E	1122.0	1.0D	100.0			QL=2 ST=2 TYP=3
	40	POTS	4	S/F	1122.5	1122.5	1.5	7000.0			
	410	SGMR	49	GB	1354.0E	1356.0	7.0D	790.0			QL=2 ST=2 TYP=6
	2800	OTTA	4	S/F	1354.6	1356.3	3.4	96.3	19.0		
	2695	SGMR	8	S	1355.0E	1356.0	1.0D	110.0			QL=2 ST=2 TYP=3
	410	SVTO	4	S/F	1355.0E	1357.0	4.0D	420.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1355.0E	1356.0	1.0D	98.0			QL=4 ST=2 TYP=3
	1415	SVTO	8	S	1355.0E	1355.0	1.0D	24.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1355.0E	1355.0	U	47.0			QL=4 ST=2 TYP=3
	600	HUMN	7	C	1355.0	1356.3	6.0	45.0	18.0		
	2800	OTTA	4	S/F	1551.1	1555.9	7.3	13.2	3.0		
	245	SGMR	8	S	1554.0E	1554.0	1.0D	74.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1603.0E	1604.0	1.0D	62.0			QL=2 ST=2 TYP=3
	500	HIRA	27	RF	2214.0	2224.5	35.0	15.0	7.0		O
	500	HIRA	45	C	2230.3	2231.5	3.0	50.0			WR
	200	HIRA	46	C	2230.4	2231.0	2.2	405.0			O
	100	HIRA	46	C	2230.4	2230.8	2.5	620.0			
	410	LEAR	8	S	2231.0E	2231.0	1.0D	84.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2231.0E	2231.0	1.0D	110.0			QL=4 ST=2 TYP=3
16	100	GORK	46	C	0648.5	0652.7		30.0			
	100	GORK	46	C	0648.5	0650.9	5.3	520.0			
	200	GORK	3	S	0808.0	0808.6	1.0	380.0			
	260	ONDR	41	F	0900.0	1150.2	240.0	170.0			
	204	IZMI	8	S	0948.2	0948.3	0.2	120.0	100.0		
	536	ONDR	3	S	1023.8	1024.0	1.0	17.0			
	245	LEAR	8	S	1024.0E	1024.0	U	44.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	1024.0E	1024.0	U	140.0			QL=4 ST=2 TYP=3
	610	SVTO	4	S/F	1031.0E	1035.0	12.0D	220.0			QL=2 ST=2 TYP=5
	234	POTS	4	S/F	1148.6	1150.2	3.7	150.0			
	2850	CRIM	42	SER	1148.9	1149.5	2.0	8.5	3.0		
	204	IZMI	41	F	1149.0	1150.0	3.5	270.0			
	245	SVTO	8	S	1149.0E	1150.0	1.0D	110.0			QL=4 ST=2 TYP=3
	127	TORN	4	S/F	1149.0	1150.3	2.0	75.0	40.0		
	40	POTS	4	S/F	1149.8	1150.1	1.5	3400.0			
	610	SVTO	4	S/F	1229.0E	1239.0	15.0D	320.0			QL=2 ST=3 TYP=5
	410	SVTO	8	S	1239.0E	1239.0	2.0D	66.0			QL=4 ST=2 TYP=3
	430	KRAK	42	SER	1239.2E	1240.8U	3.0D	56.0			
	536	ONDR	41	F	1239.8	1240.3	2.5	18.0			
	234	POTS	4	S/F	1240.0	1241.0	2.4	300.0			
	245	SVTO	8	S	1241.0E	1241.0	U	81.0			QL=4 ST=2 TYP=3
	127	TORN	7	C	1241.2	1241.8	1.3	285.0	145.0		
	245	SGMR	8	S	1658.0E	1658.0	1.0D	240.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1727.0E	1728.0	1.0D	200.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1727.0E	1728.0	1.0D	180.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2038.0E	2038.0	1.0D	140.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2038.0E	2038.0	1.0D	110.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	2338.0E	2338.0	U	64.0			QL=4 ST=3 TYP=3
17	200	GORK	44	NS	0627.0E		318.0D		5.0		
	100	GORK	43	NS	0728.2		256.8D		5.0		

SOLAR RADIO EMISSION
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
17	127	TORN	43	NS	0732.0	1110.7	321.0	55.0	6.0		V=0
	200	HIRA	44	NS	2144.0E	0447.0	580.0D	36.0	10.0		MR
	245	LEAR	8	S	0046.0E	0047.0	1.0D	52.0			QL=4 ST=2 TYP=3
	200	GORK	46	C	0731.4	0732.5	5.9	500.0			
	200	GORK	46	C	0731.4	0735.8		80.0			
	950	GORK	2	S/F	0731.5	0732.6	1.5	5.0			
	100	GORK	4	S/F	0732.1	0733.0	1.6	20.0			
	204	IZMI	5	S	0732.1	0733.0	1.0	550.0	300.0		
	204	IZMI	41	F	0735.7	0736.0	1.0	80.0			
	260	ONDR	41	F	0900.0	1126.9	240.0	96.0			
	650	GORK	21	GRF	0912.0	0939.2	37.4	4.0			
	950	GORK	2	S/F	0923.8	0925.6	2.9	6.0			
	650	GORK	1	S	0924.5	0925.7	2.0	3.0			
	100	GORK	41	F	0928.6	0951.0		260.0			
	100	GORK	41	F	0928.6	0934.2	23.0	30.0			
	650	GORK	1	S	0934.3	0934.5	0.7	5.0			
	100	GORK	46	C	1020.0	1021.2		360.0			
	100	GORK	46	C	1020.0	1020.9	2.1	1400.0			
	113	POTS	4	S/F	1020.4	1021.0	1.6	140.0			
	536	ONDR	3	S	1118.5	1118.7	1.2	114.0			
	430	KRAK	8	S	1118.5	1118.8	0.5	52.0			
	100	GORK	4	S/F	1133.1	1135.6U	3.6	30.0D			
	2695	PENT	3	S	2139.8	2142.0	3.7	15.5	3.0		
	2695	PENT	3	S	2144.5	2145.7	4.3	16.5	3.0		
	410	PALE	8	S	2146.0E	2146.0	1.0D	70.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2324.0E	2324.0	1.0D	170.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2324.0E	2324.0	U	130.0			QL=4 ST=2 TYP=3
18	100	HIRA	43	NS	0100.0	0523.0	360.0	240.0	43.0		
	245	LEAR	43	NS	0323.0	0630.0	404.0	330.0			QL=4 ST=2 TYP=1
	200	GORK	44	NS	0552.0E		338.0D		5.0		
	100	GORK	44	NS	0552.0E		339.0D		8.0		
	204	IZMI	43	NS	0700.0		300.0	10.0			
	127	TORN	44	NS	0700.0E		440.0D		115.0		V=1
	245	SVTO	44	NS	0850.0E	1301.0	369.0D	190.0			QL=2 ST=2 TYP=1
	260	ONDR	44	NS	0900.0E		240.0D				
	200	HIRA	44	NS	2144.0E	0253.0	580.0D	40.0	17.0		WL
	245	PALE	8	S	0236.0E	0236.0	1.0D	62.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0305.0E	0306.0	2.0D	62.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0350.0E	0352.0	2.0D	92.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0354.0E	0354.0	U	58.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0400.7	0403.8	4.6	45.0			MR
	245	LEAR	8	S	0407.0E	0408.0	2.0D	240.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0407.0E	0408.0	2.0D	68.0			QL=4 ST=2 TYP=3
	100	HIRA	45	C	0408.2	0408.3	1.3	2500.0			WR
	200	HIRA	8	S	0408.3	0408.6	0.8	1300.0			WR
	410	LEAR	8	S	0624.0E	0625.0	1.0D	43.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0624.0E	0625.0	5.0D	140.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0624.6	0625.0	0.9	280.0			WR
	100	GORK	41	F	0624.7	0631.1	102.7	1000.0			
	100	GORK	41	F	0624.7	0635.6U		2700.0D			
	2850	CRIM	25	R	0719.0	0830.0		14.0			
	113	POTS	4	S/F	0734.9	0735.6	1.4	500.0			
	245	SVTO	8	S	0735.0E	0735.0	1.0D	52.0			QL=4 ST=2 TYP=3
	40	POTS	4	S/F	0735.2	0735.7	1.6	28000.0			
	5900	KISV	45	C	0743.2	0745.0	3.8	3.0			
	5900	KISV	45	C	0743.2	0743.8		3.0			
	200	GORK	4	S/F	0750.0	0751.0	2.0	960.0			
	410	LEAR	8	S	0750.0E	0751.0	1.0D	13.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0750.0E	0751.0	1.0D	500.0			QL=4 ST=2 TYP=6
	650	GORK	20	GRF	0750.4	0805.6	21.6	4.0			
	204	IZMI	41	F	0750.5	0751.0	2.0	630.0			
	40	POTS	4	S/F	0750.8	0750.9	1.7	15000.0			
	113	POTS	4	S/F	0750.8	0750.9	1.9	2500.0			
	245	SVTO	8	S	0751.0E	0751.0	1.0D	490.0			QL=4 ST=2 TYP=3
	950	GORK	20	GRF	0757.0	0806.0	15.0	2.0			
	2950	GORK	21	GRF	0801.8	0906.0	108.5	23.0			
	200	GORK	41	F	0816.8	0832.0		385.0			
	200	GORK	41	F	0816.8	0823.2	35.9	770.0			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	650	GORK	23	GRF	0818.0	0857.2	67.6	15.0			
	245	SVTO	8	S	0819.0E	0820.0	2.0D	320.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0820.0E	0820.0	1.0D	55.0			QL=4 ST=2 TYP=3
	100	GORK	46	C	0821.9	0840.1		1900.0			
	100	GORK	46	C	0821.9	0827.5	45.1	770.0			
	100	GORK	46	C	0821.9	0855.6		2200.0			
	950	GORK	23	GRF	0824.7	0848.0	69.6	9.0			
	1470	POTS	45	C	0825.0U	0842.0	50.0D	72.0			
	1470	POTS	45	C	0825.0U	0853.2		70.0			
	15000	KISV	45	C	0825.5	0853.2	28.1	139.0			
	15000	KISV	45	C	0825.5	0841.5		57.0			
	5900	KISV	28	PRE	0827.0	0832.8	9.5	19.0			
	2950	GORK	3	S	0829.7	0833.0	4.1	15.0			
	2850	CRIM	45	C	0830.0	0853.0		238.0			
	2850	CRIM	45	C	0830.0	0840.8		289.0			
	2850	CRIM	45	C	0830.0	0832.8	39.0	327.0	96.0		
	3013	IZMI	5	S	0830.5	0832.8	5.0	22.0	11.0		
	9100	GORK	21	GRF	0830.6	0903.5	87.1	45.0			
	2695	LEAR	8	S	0831.0E	0832.0	2.0D	30.0			QL=4 ST=2 TYP=3
	1415	LEAR	4	S/F	0831.0E	0832.0	3.0D	24.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0831.0E	0831.0	U	200.0			QL=4 ST=2 TYP=3
	4995	LEAR	8	S	0832.0E	0832.0	1.0D	15.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0833.0E	0833.0	1.0D	87.0			QL=4 ST=2 TYP=3
	430	KRAK	41	F	0834.5	0838.5	27.0	44.0	7.0		
	3000	POTS	45	C	0835.0	0840.0	35.0	585.0			
	3000	POTS	45	C	0835.0	0853.2		475.0			
	9500	POTS	45	C	0835.0	0841.3	40.0	91.0			
	9500	POTS	45	C	0835.0	0852.7		96.0			
	5900	KISV	45	C	0836.5	0840.1	25.5	506.0			
	5900	KISV	45	C	0836.5	0853.2		299.0			
	245	LEAR	4	S/F	0837.0E	0841.0	5.0D	120.0			QL=4 ST=2 TYP=5
	410	LEAR	8	S	0837.0E	0838.0	2.0D	40.0			QL=4 ST=2 TYP=3
	3013	IZMI	22	GRF	0837.0	0840.0	14.5	212.0	100.0		
	1415	LEAR	20	GRF	0837.0E	0841.0	28.0D	79.0			QL=4 ST=2 TYP=2
	2695	LEAR	4	S/F	0837.0E	0840.0	28.0D	260.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0837.0E	0840.0	27.0D	250.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0837.0E	0842.0	27.0D	130.0			QL=4 ST=2 TYP=5
	650	GORK	46	C	0837.3	0841.1		11.0			
	650	GORK	46	C	0837.3	0838.5	5.5	17.0			
	2950	GORK	46	C	0838.0	0845.0		47.0			
	610	LEAR	8	S	0838.0E	0838.0	U	13.0			QL=4 ST=2 TYP=3
	2950	GORK	46	C	0838.0	0840.0	12.2	221.0			
	8800	LEAR	4	S/F	0838.0E	0840.0	10.0D	94.0			QL=4 ST=2 TYP=3
	4995	LEAR	20	GRF	0838.0E	0839.0	29.0D	260.0			QL=4 ST=2 TYP=2
	1415	SVTO	4	S/F	0838.0E	0841.0	26.0D	77.0			QL=4 ST=2 TYP=3
	4995	SVTO	20	GRF	0838.0E	0840.0	26.0D	260.0			QL=4 ST=2 TYP=2
	8800	SVTO	4	S/F	0838.0E	0841.0	26.0D	110.0			QL=4 ST=2 TYP=3
	8400	BERN	46	C	0838.0	0840.0	330.0	129.0			
	5200	BERN	46	C	0838.0	0840.0	330.0	247.0			
	3200	BERN	46	C	0838.0	0840.0	330.0	250.0			
	11800	BERN	46	C	0838.0	0840.0	330.0	91.0			
	410	SVTO	4	S/F	0838.0E	0838.0	922.0D	44.0			QL=4 ST=1 TYP=3
	2950	GORK	46	C	0838.0	0848.1		31.0			
	950	GORK	46	C	0838.1	0841.2		16.0			
	950	GORK	46	C	0838.1	0838.7	8.2	14.0			
	9100	GORK	4	S/F	0838.2	0841.2	9.0	100.0			
	15400	LEAR	4	S/F	0839.0E	0855.0	24.0D	82.0			QL=4 ST=2 TYP=5
	3013	IZMI	22	GRF	0851.0	0853.0	9.0	147.0	80.0		
	2950	GORK	4	S/F	0851.0	0853.0	13.1	163.0			
	950	GORK	46	C	0851.2	0902.5		30.0			
	950	GORK	46	C	0851.2	0852.9	14.9	16.0			
	9100	GORK	4	S/F	0851.6	0853.0	8.2	77.0			
	15000	KISV	29	PBI	0853.6E	0853.6	24.4D	72.0			
	113	POTS	4	S/F	0854.5	0855.5	2.2	2100.0			
	234	POTS	4	S/F	0856.6	0857.2	1.1	550.0			
	600	HUMN	4	S/F	0900.0	0903.0	6.0	36.0	10.0		
	536	ONDR	41	F	0900.0	0922.6	70.0	59.0			
	808	ONDR	41	F	0900.0	0913.8	23.0	22.0			
	650	GORK	46	C	0900.4	0902.5	5.0	104.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	650	GORK	46	C	0900.4	0903.7		79.0			
	234	POTS	4	S/F	0901.8	0902.7	1.3	200.0			
	5900	KISV	29	PBI	0902.0E	0902.0	17.5D	70.0			
	2850	CRIM	29	PBI	0909.0	0909.0	16.0D	10.3	3.0		
	810	KRAK	8	S	0913.0	0913.0	0.1	28.0			
	810	KRAK	8	S	0914.0	0914.0	0.1	220.0			
	245	SVTO	4	S/F	0920.0E	0923.0	4.0D	190.0			QL=2 ST=2 TYP=3
	100	GORK	46	C	0920.6	0921.1	4.6	1600.0			
	100	GORK	46	C	0920.6	0921.6		1300.0			
	113	POTS	42	SER	0920.7	0921.1	13.0	100.0			
	204	IZMI	42	SER	0920.7	0923.2	3.0	450.0			
	40	POTS	42	SER	0920.9	0921.7	14.5	38000.0			
	245	LEAR	8	S	0921.0E	0921.0	2.0D	170.0			QL=4 ST=2 TYP=3
	950	GORK	41	F	0921.6	0923.0		6.0			
	950	GORK	41	F	0921.6	0921.9	1.7	14.0			
	650	GORK	46	C	0921.8	0923.1		22.0			
	650	GORK	46	C	0921.8	0921.9	1.6	10.0			
	610	LEAR	8	S	0922.0E	0923.0	1.0D	31.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0922.0E	0923.0	1.0D	99.0			QL=4 ST=2 TYP=3
	430	KRAK	8	S	0922.5	0922.8	1.0	310.0D			
	234	POTS	42	SER	0922.7E	0922.9	10.4D	220.0			
	410	SVTO	8	S	0923.0E	0923.0	U	80.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0931.2	0931.9	1.3	350.0			
	5900	KISV	2	S/F	0931.4	0932.1	1.9	5.0			
	430	KRAK	42	SER	0933.5	0936.2	4.5	60.0			
	204	IZMI	8	S	1008.5	1008.6	0.2	80.0	40.0		
	245	LEAR	8	S	1031.0E	1031.0	1.0D	180.0			QL=4 ST=2 TYP=3
	650	GORK	1	S	1031.4	1032.0	1.8	3.0			
	100	GORK	41	F	1031.4	1032.2	14.0	1300.0			
	100	GORK	41	F	1031.4	1044.7		1300.0			
	200	GORK	4	S/F	1031.5	1031.9	1.5	230.0			
	234	POTS	4	S/F	1031.6	1031.9	2.0	50.0			
	113	POTS	4	S/F	1031.7	1032.0	1.0	260.0			
	204	IZMI	41	F	1031.8	1032.0	1.0	250.0			
	40	POTS	4	S/F	1031.8	1032.1	1.0	5800.0			
	33	UPIC	8	S	1032.0	1032.3	0.6				
	650	GORK	1	S	1044.5	1044.8	0.5	3.0			
	950	GORK	1	S	1044.6	1044.8	0.8	3.0			
	2850	CRIM	1	S	1044.7	1044.8	0.3	5.1	0.5		
	204	IZMI	8	S	1044.8	1044.9	0.2	135.0	70.0		
	234	POTS	41	F	1220.1	1220.3	9.4	150.0			
	113	POTS	4	S/F	1300.0	1301.0	2.2	600.0			
	245	SGMR	8	S	1300.0E	1301.0	1.0D	150.0			QL=2 ST=2 TYP=3
	234	POTS	4	S/F	1300.0	1300.9	2.5	500.0			
	40	POTS	41	F	1300.5	1300.7	1.9	15000.0			
	245	SGMR	8	S	1511.0E	1511.0	U	55.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	1722.0E	1722.0	1.0D	210.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1722.0E	1722.0	1.0D	170.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1927.0E	1928.0	1.0D	63.0			QL=4 ST=2 TYP=3
	245	SGMR	4	S/F	1928.0E	1928.0	7.0D	65.0			QL=2 ST=3 TYP=3
	1415	LEAR	4	S/F	2334.0E	2336.0	4.0D	94.0			QL=4 ST=3 TYP=3
	245	LEAR	49	GB	2336.0E	2339.0	5.0D	4800.0			QL=4 ST=3 TYP=6
	410	LEAR	49	GB	2336.0E	2336.0	13.0D	670.0			QL=4 ST=3 TYP=6
	500	HIRA	42	SER	2336.5	2424.3	84.0	830.0			O
	200	HIRA	48	C	2336.7	2340.7	17.2	5400.0	300.0		O
	610	PALE	4	S/F	2337.0E	2339.0	5.0D	100.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	2337.0E	2337.0	8.0D	1600.0			QL=4 ST=2 TYP=6
	2695	PALE	4	S/F	2337.0E	2339.0	5.0D	160.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	2337.0E	2339.0	15.0D	440.0			QL=4 ST=2 TYP=3
	8800	PALE	49	GB	2337.0E	2339.0	12.0D	530.0			QL=4 ST=2 TYP=6
	1415	PALE	4	S/F	2337.0E	2339.0	23.0D	110.0			QL=4 ST=1 TYP=3
	4995	PALE	4	S/F	2337.0E	2339.0	23.0D	280.0			QL=4 ST=1 TYP=3
	4995	LEAR	4	S/F	2337.0E	2339.0	37.0D	320.0			QL=4 ST=2 TYP=3
	15400	LEAR	49	GB	2337.0E	2339.0	53.0D	540.0			QL=4 ST=2 TYP=6
	2695	LEAR	4	S/F	2337.0E	2339.0	53.0D	180.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2338.0E	2339.0	4.0D	370.0			QL=4 ST=2 TYP=3
	100	HIRA	46	C	2338.3	2339.6	25.7	2300.0			WR
19	245	LEAR	44	NS	0159.0E	1027.0	528.0D	600.0			QL=4 ST=2 TYP=1

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	100	GORK	44	NS	0600.0E		330.0D		5.0		
	200	GORK	44	NS	0600.0E		330.0D		5.0		
	127	TORN	43	NS	0730.0		410.0		40.0		V=1
	204	IZMI	43	NS	0858.0		182.0	200.0			
	260	ONDR	44	NS	0900.0E		240.0D				
	200	HIRA	44	NS	2144.0E	0333.0	580.0D	16.0	6.0		WR
	410	LEAR	49	GB	0017.0E	0023.0	15.0D	540.0			QL=4 ST=3 TYP=6
	610	PALE	49	GB	0017.0E	0019.0	17.0D	850.0			QL=4 ST=2 TYP=7
	410	PALE	4	S/F	0018.0E	0023.0	16.0D	450.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0021.0E	0022.0	8.0D	130.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0021.1	0024.9	13.9	50.0			WL
	245	LEAR	4	S/F	0022.0E	0022.0	12.0D	220.0			QL=4 ST=3 TYP=3
	610	PALE	8	S	0045.0E	0045.0	U	220.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	0045.0E	0050.0	12.0D	330.0			QL=4 ST=2 TYP=5
	100	HIRA	42	SER	0107.7	0146.2	40.6	3500.0			WR
	245	PALE	8	S	0108.0E	0109.0	1.0D	480.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0108.0E	0109.0	1.0D	59.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0108.4	0109.0	0.9	3200.0			O
	500	HIRA	42	SER	0108.5	0148.0	40.5	2300.0			SR
	245	LEAR	49	GB	0109.0E	0110.0	2.0D	630.0			QL=4 ST=3 TYP=6
	410	PALE	8	S	0109.0E	0109.0	U	53.0			QL=4 ST=2 TYP=3
	410	LEAR	49	GB	0112.0E	0122.0	13.0D	880.0			QL=4 ST=2 TYP=6
	200	HIRA	42	SER	0113.9	0146.2	35.0	1760.0			O
	245	PALE	49	GB	0115.0E	0121.0	12.0D	700.0			QL=4 ST=2 TYP=7
	8800	LEAR	8	S	0120.0E	0122.0	2.0D	51.0			QL=4 ST=2 TYP=3
	4995	LEAR	20	GRF	0120.0E	0136.0	16.0D	26.0			QL=4 ST=2 TYP=2
	245	LEAR	49	GB	0121.0E	0121.0	2.0D	500.0			QL=4 ST=2 TYP=6
	610	LEAR	49	GB	0122.0E	0123.0	3.0D	1500.0			QL=4 ST=2 TYP=6
	410	PALE	49	GB	0122.0E	0122.0	2.0D	760.0			QL=4 ST=2 TYP=6
	610	PALE	49	GB	0122.0E	0123.0	2.0D	1500.0			QL=4 ST=2 TYP=6
	245	PALE	49	GB	0146.0E	0147.0	3.0D	980.0			QL=4 ST=2 TYP=6
	410	PALE	49	GB	0146.0E	0148.0	3.0D	1100.0			QL=4 ST=2 TYP=6
	610	PALE	49	GB	0146.0E	0148.0	3.0D	2400.0			QL=4 ST=2 TYP=6
	245	PALE	8	S	0153.0E	0153.0	1.0D	76.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0158.0E	0158.0	1.0D	58.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0202.0E	0209.0	7.0D	71.0			QL=4 ST=2 TYP=5
	200	HIRA	41	F	0258.0	0310.6	32.0	130.0			ML
	100	HIRA	42	SER	0352.8	0407.3	21.0	3300.0			WR
	200	HIRA	42	SER	0353.8	0407.5	17.2	1080.0			ML
	500	HIRA	42	SER	0355.0	0408.5	16.5	240.0			SR
	4995	LEAR	8	S	0415.0E	0416.0	1.0D	110.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0416.0E	0417.0	1.0D	15.0			QL=4 ST=2 TYP=3
	100	HIRA	41	F	0454.8	0454.8	4.0	940.0			
	100	HIRA	46	C	0524.4	0529.4	10.6	3100.0			WR
	200	HIRA	46	C	0524.4	0530.6	21.8	1300.0	80.0		O
	245	LEAR	49	GB	0525.0E	0530.0	20.0D	1900.0			QL=4 ST=2 TYP=7
	500	HIRA	46	C	0525.7	0531.8	20.5	230.0			MR
	610	LEAR	4	S/F	0527.0E	0532.0	7.0D	260.0			QL=4 ST=2 TYP=5
	410	LEAR	4	S/F	0528.0E	0529.0	6.0D	96.0			QL=4 ST=2 TYP=3
	4995	LEAR	8	S	0531.0E	0531.0	1.0D	48.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0531.0E	0531.0	1.0D	51.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0548.0E	0548.0	U	350.0			QL=4 ST=2 TYP=3
	100	GORK	46	C	0613.0	0620.0	12.2	40.0D			
	100	GORK	46	C	0613.0	0623.1		120.0			
	245	LEAR	8	S	0616.0E	0616.0	U	92.0			QL=4 ST=2 TYP=3
	9100	GORK	22	GRF	0642.0U	0929.7	269.4D	21.0			
	2950	GORK	22	GRF	0749.3	1035.0	220.7D	14.0			
	245	SVTO	8	S	0751.0E	0751.0	U	96.0			QL=2 ST=2 TYP=3
	650	GORK	21	GRF	0818.1	0916.3	124.0	4.0			
	2850	CRIM	1	S	0820.2	0820.6	1.0	4.0	1.0		
	245	LEAR	49	GB	0901.0E	0905.0	4.0D	1400.0			QL=4 ST=2 TYP=7
	200	GORK	41	F	0902.3	0919.3		330.0			
	200	GORK	41	F	0902.3	0905.6	18.2	2100.0			
	15400	LEAR	8	S	0905.0E	0905.0	U	19.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0905.0E	0905.0	2.0D	170.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0905.0E	0905.0	U	170.0			QL=4 ST=2 TYP=3
	430	KRAK	42	SER	0905.0U	0906.2	4.0D	190.0			
	810	KRAK	41	F	0905.0	0905.2	4.0	33.0	8.0		
	950	GORK	46	C	0905.2	0906.0		14.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	100	GORK	4	S/F	0905.2	0905.5	2.2	5800.0			
	950	GORK	46	C	0905.2	0905.6	2.3	24.0			
	650	GORK	46	C	0905.2	0905.6	4.3	88.0			
	650	GORK	46	C	0905.2	0908.9		8.0			
	2850	CRIM	2	S/F	0905.3	0905.4	0.5	14.0	4.0		
	3013	IZMI	1	S	0905.4	0905.5	0.5	8.0	4.0		
	600	HUMN	4	S/F	0905.6	0905.9	2.0	57.0	5.0		
	2850	CRIM	2	S/F	0909.8	0910.3	1.8	4.4	1.0		
	5900	KISV	46	C	0910.0	0911.2		5.0			
	5900	KISV	46	C	0910.0	0910.4	2.3	7.0			
	200	GORK	41	F	0959.1	1031.5		580.0			
	200	GORK	41	F	0959.1	1010.9	65.9	770.0			
	950	GORK	46	C	1009.3	1011.3		2.0			
	950	GORK	46	C	1009.3	1009.7	3.2	3.0			
	234	POTS	4	S/F	1020.0	1020.3	2.2	550.0			
	1415	LEAR	4	S/F	1030.0E	1034.0	6.0D	29.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	1030.0E	1034.0	6.0D	170.0			QL=4 ST=2 TYP=3
	950	GORK	4	S/F	1030.8	1034.5	5.7	43.0			
	100	GORK	46	C	1031.0	1035.0		1400.0			
	610	LEAR	4	S/F	1031.0E	1034.0	5.0D	100.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	1031.0E	1031.0	1.0D	4900.0			QL=4 ST=3 TYP=6
	536	ONDR	46	C	1031.0	1034.4	8.0	161.0			
	100	GORK	46	C	1031.0	1031.9	5.2	3300.0			
	650	GORK	4	S/F	1031.1	1034.3	5.3	165.0			
	234	POTS	4	S/F	1031.4	1031.5	4.6U	5000.0			
	113	POTS	41	F	1031.4	1031.6	5.8	2450.0			
	30	POTS	41	F	1031.4	1031.6	5.5	2000.0			
	808	ONDR	3	S	1033.6	1034.6	3.0	30.0			
	430	KRAK	46	C	1033.7	1034.2	2.0	270.0	130.0		
	2850	CRIM	1	S	1033.7	1034.3	1.8	6.5	2.0		
	810	KRAK	2	S/F	1034.0	1034.7	1.7	70.0	35.0		
	600	HUMN	4	S/F	1034.8	1035.0	1.5	65.0	22.0		
	245	LEAR	49	GB	1045.0E	1047.0	4.0D	1300.0			QL=2 ST=3 TYP=6
	1470	POTS	40	F	1225.0	1250.8	50.0	97.0			
	127	TORN	42	SER	1237.2	1239.3	28.0	350.0	55.0		
	40	POTS	4	S/F	1242.5	1254.4	25.0	15000.0			
	113	POTS	4	S/F	1243.2	1246.6	24.6	4000.0			
	245	SGMR	8	S	1250.0E	1250.0	1.0D	56.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1329.0E	1329.0	1.0D	55.0			QL=2 ST=2 TYP=3
	430	KRAK	8	S	1329.5	1329.5	0.7	55.0			
	410	SGMR	8	S	1330.0E	1330.0	U	52.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1343.0E	1343.0	2.0D	130.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1401.0E	1401.0	U	76.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1427.0E	1427.0	U	65.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1434.0E	1435.0	1.0D	56.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1503.0E	1503.0	1.0D	79.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1503.0E	1503.0	U	990.0			QL=4 ST=2 TYP=6
	245	SGMR	8	S	1512.0E	1512.0	U	50.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1536.0E	1538.0	2.0D	67.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1537.0E	1537.0	1.0D	100.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1609.0E	1610.0	1.0D	850.0			QL=4 ST=2 TYP=6
	410	SGMR	8	S	1610.0E	1610.0	U	92.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1614.0E	1614.0	U	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1741.0E	1741.0	U	63.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1749.0E	1749.0	2.0D	78.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1749.0E	1749.0	U	72.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	1811.0E	1811.0	1.0D	92.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1830.0E	1831.0	1.0D	160.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1847.0E	1847.0	U	1200.0			QL=4 ST=2 TYP=6
	15400	PALE	8	S	1847.0E	1847.0	U	25.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	1850.0E	1850.0	1.0D	160.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1850.0E	1850.0	1.0D	190.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1852.0E	1852.0	1.0D	160.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1852.0E	1852.0	U	130.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1940.0E	1940.0	U	120.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1940.0E	1940.0	U	93.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1942.0E	1942.0	U	63.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2146.0E	2146.0	U	88.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	2313.0E	2313.0	U	780.0			QL=4 ST=2 TYP=6

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	245	PALE	49	GB	2313.0E	2313.0	U	850.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	2357.0E	2358.0	1.0D	110.0			QL=4 ST=2 TYP=3
20	245	PALE	44	NS	0202.0E	0242.0	80.0D	180.0			QL=4 ST=2 TYP=1
	100	GORK	44	NS	0554.0E		156.0D		5.0		
	200	GORK	44	NS	0554.0E		156.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	410	SVTO	44	NS	0736.0E	0739.0	64.0D	110.0			QL=4 ST=2 TYP=1
	245	SVTO	44	NS	0736.0E	0807.0	436.0D	160.0			QL=4 ST=2 TYP=1
	410	LEAR	43	NS	0737.0	0812.0	35.0D	120.0			QL=4 ST=2 TYP=1
	260	ONDR	44	NS	0900.0E	1114.2	240.0D	363.0			
	200	HIRA	41	F	0021.1	0023.8	5.9	705.0			WR
	100	HIRA	41	F	0021.8	0023.8	6.7	900.0			WR
	500	HIRA	41	F	0022.3	0023.6	4.5	86.0			MR
	610	LEAR	8	S	0023.0E	0025.0	2.0D	88.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0023.0E	0025.0	2.0D	87.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0134.0E	0134.0	1.0D	91.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0134.0E	0134.0	1.0D	120.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0235.0E	0236.0	1.0D	190.0			QL=2 ST=2 TYP=3
	100	GORK	46	C	0556.5	0605.3	38.0	30.0			
	100	GORK	46	C	0556.5	0630.8		130.0			
	200	GORK	46	C	0559.0	0617.1		25.0			
	200	GORK	46	C	0559.0	0607.5	30.2	30.0			
	245	LEAR	8	S	0700.0E	0700.0	1.0D	130.0			QL=4 ST=2 TYP=3
	200	GORK	41	F	0718.0	0809.0		200.0			
	200	GORK	41	F	0718.0	0734.8U	60.6	20.0D			
	100	GORK	3	S	0727.8	0728.5	1.5	130.0			
	610	LEAR	8	S	1042.0E	1042.0	U	210.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1042.0E	1043.0	1.0D	140.0			QL=2 ST=2 TYP=3
	536	ONDR	42	SER	1042.0	1105.9	57.0	99.0			
	2850	CRIM	7	C	1042.1	1042.3	0.5	5.6	2.0		
	2850	CRIM	7	C	1042.1	1043.4		5.6			
	600	HUMN	42	SER	1042.5	1053.0	53.0	54.0			
	2850	CRIM	1	S	1105.4	1105.8	1.0	5.6	2.0		
	808	ONDR	1	S	1105.9	1106.2	2.0	3.0			
	600	HUMN	8	S	1314.0	1314.1	0.3	45.0	20.0		
	245	SGMR	8	S	1523.0E	1523.0	U	57.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1546.0E	1546.0	1.0D	190.0			QL=2 ST=3 TYP=3
	2800	OTTA	4	S/F	1902.7	1905.7	11.4	169.2	34.0		
	2695	PALE	4	S/F	1904.0E	1905.0	9.0D	160.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	1904.0E	1905.0	7.0D	54.0			QL=4 ST=2 TYP=3
	1415	SGMR	4	S/F	1904.0E	1905.0	6.0D	51.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	1904.0E	1905.0	11.0D	200.0			QL=2 ST=2 TYP=3
	4995	SGMR	4	S/F	1904.0E	1905.0	12.0D	240.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1904.0E	1905.0	10.0D	180.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	1905.0E	1905.0	1.0D	660.0			QL=4 ST=2 TYP=6
	610	PALE	8	S	1905.0E	1905.0	1.0D	35.0			QL=4 ST=2 TYP=3
	410	SGMR	49	GB	1905.0E	1905.0	2.0D	720.0			QL=4 ST=2 TYP=6
	8800	SGMR	20	GRF	1905.0E	1905.0	8.0D	100.0			QL=4 ST=2 TYP=2
	610	SGMR	8	S	1905.0E	1905.0	2.0D	50.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	1905.0E	1905.0	9.0D	59.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	1905.0E	1905.0	13.0D	56.0			QL=2 ST=2 TYP=3
	8800	PALE	4	S/F	1905.0E	1905.0	13.0D	110.0			QL=2 ST=2 TYP=3
	2800	OTTA	29	PBI	1914.1	1914.1	105.0	21.6	10.0		
	245	LEAR	8	S	2235.0E	2235.0	1.0D	88.0			QL=4 ST=2 TYP=3
21	245	LEAR	44	NS	0304.0E	0443.0	217.0D	450.0			QL=4 ST=2 TYP=1
	200	HIRA	43	NS	0314.0	0403.0	158.0	33.0	7.0		MR
	260	ONDR	44	NS	0900.0E	1011.1	240.0D	161.0			
	204	IZMI	43	NS	1100.0		60.0	25.0			
	245	SVTO	43	NS	1112.0	1225.0	120.0D	140.0			QL=4 ST=2 TYP=1
	200	HIRA	42	SER	0200.0	0207.3	10.6	135.0			O
	245	LEAR	8	S	0305.0E	0305.0	1.0D	66.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0307.0E	0307.0	1.0D	58.0			QL=4 ST=2 TYP=3
	500	HIRA	27	RF	0308.0	0404.0	130.0	11.0	5.0		WR
	245	PALE	4	S/F	0312.0E	0312.0	4.0D	150.0			QL=4 ST=2 TYP=3
	5900	KISV	22	GRF	0718.2	0724.0	25.4	5.0			
	9100	GORK	20	GRF	0719.5	0834.6	208.5	16.0			
	204	IZMI	7	C	0734.2	0734.8	0.8	30.0	15.0		

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
21	200	GORK	41	F	0738.1	0738.5	15.1	200.0			
	200	GORK	41	F	0738.1	0752.6		800.0			
	100	GORK	41	F	0751.3	0807.0		10.0			
	100	GORK	41	F	0751.3	0751.6	15.9	360.0			
	5900	KISV	47	GB	0931.6	0934.5		2873.0			
	200	GORK	4	S/F	0951.0	0951.2	1.2	30.0D			
	5900	KISV	2	S/F	1101.5	1101.9	4.4	7.0			
	204	IZMI	8	S	1106.8	1106.9	0.5	120.0	60.0		
	245	SVTO	8	S	1200.0E	1200.0	U	230.0			QL=2 ST=2 TYP=3
┌	3000	POTS	3	S	1313.0U	1313.5U	1.0U	8.0			
├	430	KRAK	2	S/F	1313.0	1313.6	1.5	31.0	6.0		
└	1470	POTS	4	S/F	1313.0	1313.9	2.0	18.0			
22	200	HIRA	43	NS	0123.0	0455.0	400.0D	6.0	3.0		WR
├	200	GORK	44	NS	0630.0E		300.0D		5.0		
└	204	IZMI	43	NS	0700.0		300.0	20.0			
┌	245	LEAR	8	S	0001.0E	0002.0	1.0D	65.0			QL=4 ST=2 TYP=3
└	245	PALE	8	S	0002.0E	0002.0	U	57.0			QL=4 ST=2 TYP=3
	9100	GORK	22	GRF	0724.9	0952.5	246.1D	20.0			
┌	260	ONDR	41	F	0900.0	1042.2	240.0	186.0			
├	245	LEAR	8	S	1040.0E	1042.0	2.0D	370.0			QL=2 ST=3 TYP=3
├	200	GORK	4	S/F	1040.7	1042.0	2.1	2200.0			
├	2950	GORK	1	S	1040.8	1042.0	2.4	11.0			
├	536	ONDR	2	S/F	1041.2	1042.0	3.0	8.0			
├	650	GORK	1	S	1041.2	1042.1	2.1	2.0			
├	234	POTS	4	S/F	1041.3	1042.1	1.8	75.0			
├	2850	CRIM	1	S	1041.4	1042.0	1.4	12.5	4.0		
├	950	GORK	2	S/F	1041.4	1042.2	1.9	2.0			
├	5900	KISV	2	S/F	1041.5	1042.1	5.7	10.0			
├	430	KRAK	2	S/F	1041.5	1041.7	1.2	35.0	4.0		
├	113	POTS	4	S/F	1041.6	1042.3	1.7	180.0			
├	245	SVTO	8	S	1042.0E	1042.0	1.0D	320.0			QL=4 ST=2 TYP=3
└	204	IZMI	41	F	1042.3	1042.4	0.8	1000.0			
	8800	SVTO	4	S/F	1110.0E	1111.0	5.0D	87.0			QL=2 ST=2 TYP=3
	536	ONDR	41	F	1205.0	1216.3	25.0	38.0			
┌	245	SGMR	8	S	1419.0E	1419.0	1.0D	120.0			QL=4 ST=2 TYP=3
└	245	SVTO	8	S	1420.0E	1420.0	U	84.0			QL=4 ST=2 TYP=3
┌	8800	LEAR	4	S/F	2300.0E	2301.0	8.0D	310.0			QL=4 ST=2 TYP=3
├	8800	PALE	4	S/F	2300.0E	2301.0	4.0D	350.0			QL=4 ST=2 TYP=3
├	4995	PALE	4	S/F	2300.0E	2301.0	4.0D	210.0			QL=4 ST=2 TYP=3
├	4995	LEAR	4	S/F	2300.0E	2301.0	10.0D	240.0			QL=4 ST=2 TYP=3
├	2695	LEAR	4	S/F	2301.0E	2301.0	7.0D	56.0			QL=4 ST=2 TYP=3
├	15400	LEAR	8	S	2301.0E	2301.0	2.0D	190.0			QL=4 ST=2 TYP=3
├	15400	PALE	8	S	2301.0E	2301.0	1.0D	180.0			QL=4 ST=2 TYP=3
└	2695	PALE	8	S	2301.0E	2301.0	2.0D	52.0			QL=4 ST=2 TYP=3
23	245	PALE	8	S	0045.0E	0046.0	1.0D	460.0			QL=4 ST=2 TYP=3
├	410	PALE	8	S	0045.0E	0046.0	2.0D	140.0			QL=4 ST=2 TYP=3
├	410	LEAR	8	S	0046.0E	0046.0	U	150.0			QL=4 ST=2 TYP=3
├	610	LEAR	8	S	0046.0E	0046.0	U	100.0			QL=4 ST=2 TYP=3
├	245	LEAR	8	S	0046.0E	0046.0	1.0D	420.0			QL=4 ST=2 TYP=3
└	610	PALE	8	S	0046.0E	0046.0	1.0D	120.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0117.0	0119.1	5.0	9.2			
┌	4995	LEAR	4	S/F	0215.0E	0216.0	4.0D	91.0			QL=4 ST=2 TYP=3
├	8800	LEAR	8	S	0215.0E	0216.0	2.0D	73.0			QL=4 ST=2 TYP=3
├	2840	PEKG	1	S	0215.0	0216.5	3.0	6.8			
├	4995	PALE	8	S	0216.0E	0216.0	1.0D	71.0			QL=4 ST=2 TYP=3
└	8800	PALE	8	S	0216.0E	0216.0	1.0D	69.0			QL=4 ST=2 TYP=3
	2840	PEKG	5	S	0253.0	0254.2	5.0	12.6			
	2840	PEKG	1	S	0310.0	0311.5	6.0	6.2			
	200	GORK	4	S/F	0740.5	0741.6	1.5	30.0D			
┌	260	ONDR	41	F	0900.0	0956.5	240.0	108.0			
├	5900	KISV	2	S/F	0926.4	0927.2	2.8	6.0			
├	9100	GORK	22	GRF	0935.6	0955.8	29.3	11.0			
└	2950	GORK	20	GRF	0936.0	0942.0	16.3	4.0			
┌	5900	KISV	46	C	1040.4	1046.3		5.0			
├	5900	KISV	46	C	1040.4	1041.4		6.0			
├	5900	KISV	46	C	1040.4	1044.7		5.0			
└	5900	KISV	46	C	1040.4	1042.9	7.6	6.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
23	5900	KISV	2	S/F	1100.6	1101.6	1.7	3.0			
	9500	POTS	4	S/F	1316.5	1318.3	7.5	41.0			
	1470	POTS	4	S/F	1316.7	1318.7	7.3	30.0			
	3000	POTS	4	S/F	1316.7	1318.7	10.3	43.0			
	4995	SGMR	4	S/F	1317.0E	1318.0	5.0D	63.0			QL=4 ST=2 TYP=3
	8400	BERN	3	S	1317.1	1318.6	30.0	51.0			
	3200	BERN	3	S	1317.1	1318.6	30.0	32.0			
	5200	BERN	3	S	1317.1	1318.6	30.0	38.0			
	11800	BERN	3	S	1317.1	1318.6	30.0	56.0			
	4995	SVTO	8	S	1318.0E	1319.0	2.0D	60.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1442.0E	1443.0	2.0D	56.0			QL=2 ST=2 TYP=3
	2695	SVTO	8	S	1442.0E	1442.0	1.0D	150.0			QL=2 ST=2 TYP=3
	2800	OTTA	22	GRF	1800.0	1822.0	135.0	12.3	6.0		
24	245	LEAR	8	S	0248.0E	0248.0	1.0D	96.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0248.0E	0248.0	1.0D	90.0			QL=4 ST=2 TYP=3
	5900	KISV	2	S/F	0623.7	0623.9	1.6	3.0			
	5900	KISV	2	S/F	0711.5	0712.3	3.7	5.0			
	9100	GORK	22	GRF	0727.0	0833.9	240.6	28.0			
	200	GORK	41	F	0738.1	0738.5	15.1	200.0			
	200	GORK	41	F	0738.1	0752.6		800.0			
	204	IZMI	8	S	0738.5	0738.6	0.2	125.0	60.0		
	245	LEAR	8	S	0752.0E	0752.0	1.0D	470.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	0752.3	0752.6	1.0	480.0	200.0		
	5900	KISV	1	S	0752.5	0752.8	1.0	4.0			
	245	SVTO	8	S	0753.0E	0753.0	U	450.0			QL=4 ST=2 TYP=3
	15000	KISV	2	S/F	0832.0	0833.3	4.6	13.0			
	5900	KISV	2	S/F	0910.7	0911.0	4.8	6.0			
	2950	GORK	22	GRF	0928.4	1018.0	100.0	9.0			
	100	GORK	46	C	0947.4	0951.1	5.6	760.0			
	100	GORK	46	C	0947.4	0952.2		290.0			
	950	GORK	46	C	0949.7	0951.2	4.8	14.0			
	950	GORK	46	C	0949.7	0952.6		11.0			
	650	GORK	46	C	0950.7	0951.1	3.7	11.0			
	650	GORK	46	C	0950.7	0952.6		7.0			
	810	KRAK	8	S	0951.0	0951.0	0.1	21.0			
	200	GORK	4	S/F	0951.0	0951.2	1.2	29.0			
	1470	POTS	40	F	0951.0	0951.3	3.0	10.0			
	810	KRAK	8	S	0952.3	0952.3	0.1	17.0			
	3000	POTS	3	S	0952.7	0953.0	1.3	11.0			
	100	GORK	46	C	1037.8	1038.5	2.7	500.0			
	100	GORK	46	C	1037.8	1039.9		340.0			
	9500	POTS	3	S	1147.5	1148.0	1.5	19.0			
	3000	POTS	42	SER	1147.5	1153.5	7.5	13.0			
	1470	POTS	42	SER	1147.5	1153.8	7.5	4.0			
	40	POTS	4	S/F	1147.6	1148.2	1.0	1500.0			
	8400	BERN	3	S	1147.6	1147.9	10.0	22.0			
	5200	BERN	3	S	1147.6	1147.9	10.0	13.0			
	11800	BERN	3	S	1147.6	1147.9	10.0	12.0			
	3200	BERN	3	S	1147.6	1147.9	10.0	4.0			
	5900	KISV	2	S/F	1147.7	1148.0	7.8	30.0			
	204	IZMI	41	F	1147.7	1148.2	1.3	550.0			
	15000	KISV	1	S	1147.9	1148.0	0.6	8.0			
	245	SVTO	8	S	1148.0E	1148.0	1.0D	160.0			QL=4 ST=2 TYP=3
	234	POTS	4	S/F	1148.0	1148.1	1.1	325.0			
	113	POTS	4	S/F	1148.1	1148.4	1.5	500.0			
	9500	POTS	20	GRF	1325.0	1331.0	25.0	15.0			
	245	SGMR	8	S	1714.0E	1714.0	U	400.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1716.0E	1717.0	1.0D	330.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1717.0E	1717.0	U	190.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1729.0E	1729.0	U	120.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	1813.0E	1814.0	347.0D	75.0			QL=4 ST=1 TYP=3
	245	PALE	49	GB	1906.0E	1908.0	3.0D	2600.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	1906.0E	1907.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1906.0E	1909.0	3.0D	2600.0			QL=4 ST=2 TYP=6
	410	SGMR	8	S	1907.0E	1907.0	U	160.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1931.0E	1933.0	2.0D	97.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2020.0E	2021.0	1.0D	78.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	2031.0E	2032.0	4.0D	150.0			QL=4 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
24	410	PALE	8	S	2032.0E	2032.0	U	78.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2032.0E	2032.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2038.0E	2038.0	U	72.0			QL=4 ST=2 TYP=3
	100	HIRA	46	C	2209.2	2211.9	7.9	940.0			O
	245	LEAR	8	S	2210.0E	2211.0	2.0D	140.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2210.0E	2211.0	2.0D	220.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	2210.3	2211.5	3.3	355.0			O
	245	PALE	8	S	2322.0E	2322.0	1.0D	53.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	2325.0E	2328.0	4.0D	62.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	2325.0E	2328.0	4.0D	34.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2328.0E	2328.0	1.0D	69.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2343.0E	2343.0	1.0D	82.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2343.0E	2343.0	1.0D	100.0			QL=4 ST=2 TYP=3
25	200	GORK	44	NS	0630.0E		300.0D		5.0		
	100	GORK	44	NS	0630.0E		301.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	43	NS	0812.0		304.0		4.0		V=0
	200	HIRA	44	NS	2147.0E	0307.0	580.0D	40.0	8.0		WL
	245	LEAR	44	NS	2347.0E	2347.0	U	62.0			QL=2 ST=2 TYP=1
	4995	LEAR	4	S/F	0009.0E	0013.0	9.0D	36.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0009.0E	0013.0	9.0D	93.0			QL=4 ST=2 TYP=5
	1415	PALE	4	S/F	0009.0E	0012.0	6.0D	200.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	0009.0E	0012.0	6.0D	52.0			QL=4 ST=2 TYP=5
	8800	LEAR	20	GRF	0009.0E	0020.0	11.0D	18.0			QL=4 ST=2 TYP=2
	1415	LEAR	4	S/F	0009.0E	0012.0	12.0D	210.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0009.0E	0012.0	1431.0D	54.0			QL=4 ST=1 TYP=3
	500	HIRA	46	C	0009.3	0021.5	42.5	73.0			O
	500	HIRA	46	C	0009.3	0012.7		48.0			O
	610	LEAR	4	S/F	0011.0E	0012.0	7.0D	22.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0011.0E	0015.0	7.0D	350.0			QL=4 ST=2 TYP=5
	245	PALE	4	S/F	0011.0E	0015.0	4.0D	320.0			QL=4 ST=2 TYP=5
	200	HIRA	42	SER	0011.5	0012.5	28.4	435.0			O
	4995	PALE	8	S	0012.0E	0013.0	1.0D	26.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0012.0E	0013.0	1.0D	65.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	0019.0E	0021.0	3.0D	59.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	0020.0E	0020.0	2.0D	91.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0021.0E	0021.0	2.0D	180.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0021.0E	0021.0	5.0D	68.0			QL=4 ST=2 TYP=3
	610	LEAR	4	S/F	0021.0E	0021.0	5.0D	45.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0021.0E	0021.0	1.0D	65.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0021.0E	0021.0	1.0D	170.0			QL=4 ST=2 TYP=3
	1415	LEAR	4	S/F	0021.0E	0021.0	15.0D	89.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0021.0E	0021.0	21.0D	52.0			QL=4 ST=2 TYP=3
	4995	LEAR	20	GRF	0021.0E	0033.0	34.0D	55.0			QL=4 ST=2 TYP=2
	8800	LEAR	20	GRF	0022.0E	0031.0	25.0D	40.0			QL=4 ST=2 TYP=2
	15400	LEAR	20	GRF	0022.0E	0047.0	27.0D	42.0			QL=4 ST=2 TYP=2
	1415	LEAR	4	S/F	0200.0E	0202.0	6.0D	59.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0200.0	0202.8	11.0	30.5			
	1415	PALE	8	S	0202.0E	0202.0	1.0D	67.0			QL=4 ST=2 TYP=3
	200	HIRA	41	F	0222.8	0225.0	6.6	525.0			O
	245	PALE	4	S/F	0223.0E	0226.0	4.0D	460.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0224.0E	0226.0	4.0D	430.0			QL=4 ST=3 TYP=3
	410	LEAR	8	S	0235.0E	0236.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0235.0E	0236.0	1.0D	300.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0235.0E	0236.0	1.0D	340.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0236.0E	0236.0	U	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0327.0E	0328.0	1.0D	280.0			QL=4 ST=2 TYP=3
	500	HIRA	41	F	0327.3	0328.4	2.3	80.0			WR
	610	LEAR	8	S	0328.0E	0328.0	U	51.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0328.0E	0328.0	U	59.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0328.0E	0328.0	U	250.0			QL=4 ST=2 TYP=3
	2840	PEKG	5	S	0419.9	0420.4	5.0	12.5			
	2695	LEAR	4	S/F	0430.0E	0431.0	3.0D	81.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0430.0E	0431.0	5.0D	270.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0430.0E	0431.0	6.0D	160.0			QL=4 ST=2 TYP=3
	15400	LEAR	4	S/F	0430.0E	0431.0	4.0D	77.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0430.0	0431.3	13.0	93.5			
	500	HIRA	46	C	0430.4	0431.3	15.0	42.0			WR

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	610	LEAR	8	S	0431.0E	0431.0	2.0D	40.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0431.0E	0431.0	U	91.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0431.0E	0431.0	1.0D	51.0			QL=4 ST=2 TYP=3
	1415	LEAR	8	S	0431.0E	0431.0	1.0D	29.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0518.0E	0518.0	U	55.0			QL=4 ST=2 TYP=3
	2950	GORK	23	GRF	0644.6	0946.7	286.1D	25.0			
	9100	GORK	21	GRF	0735.7	0800.7	214.8	21.0			
	245	LEAR	8	S	0751.0E	0751.0	U	73.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0751.0E	0752.0	1.0D	65.0			QL=2 ST=2 TYP=3
	5900	KISV	22	GRF	0757.2	0802.3	29.8	14.0			
	2850	CRIM	20	GRF	0758.5	0824.0	47.5	12.0	4.0		
	15000	KISV	2	S/F	0759.7	0800.8	3.5	7.0			
	245	LEAR	8	S	0802.0E	0802.0	1.0D	260.0			QL=4 ST=2 TYP=3
	100	GORK	41	F	0821.0	0906.1		30.0D			
	100	GORK	41	F	0821.0	0834.5	48.0	30.0D			
	9500	POTS	42	SER	0838.0	0904.4	30.0	14.0			
	5900	KISV	2	S/F	0838.2	0838.7	1.3	5.0			
	9100	GORK	2	S/F	0849.3	0850.4	2.5	14.0			
	5900	KISV	2	S/F	0849.6	0850.5	6.1	9.0			
	9100	GORK	2	S/F	0903.6	0904.3	1.7	10.0			
	9500	POTS	1	S	1007.0	1008.0	3.0	9.0			
	9100	GORK	2	S/F	1007.6	1008.2	1.4	11.0			
	5900	KISV	2	S/F	1007.8	1008.3	1.3	5.0			
	15000	KISV	2	S/F	1008.0	1008.3	0.6	6.0			
	100	GORK	4	S/F	1033.4	1033.9	1.5	1000.0			
	5900	KISV	45	C	1037.7	1039.6	13.0	63.0			
	5900	KISV	45	C	1037.7	1042.7		24.0			
	9100	GORK	46	C	1038.0	1042.6		22.0			
	9100	GORK	46	C	1038.0	1039.6	6.8	51.0			
	5200	BERN	4	S/F	1038.0	1039.6	70.0	30.0			
	11800	BERN	4	S/F	1038.0	1039.6	70.0	42.0			
	3200	BERN	4	S/F	1038.0	1039.6	70.0	4.0			
	8400	BERN	4	S/F	1038.0	1039.6	70.0	49.0			
	2950	GORK	1	S	1038.4	1039.7	2.3	5.0			
	2850	CRIM	1	S	1039.0	1039.5	1.0	5.0	1.0		
	9500	POTS	20	GRF	1116.5	1119.0	44.0	16.0			
	15000	KISV	22	GRF	1117.3	1119.0	7.6	8.0			
	5900	KISV	22	GRF	1117.3	1119.5	16.2	8.0			
	600	HUMN	41	F	1143.0	1143.3	3.0	33.0			
	1470	POTS	20	GRF	1250.0	1256.0	25.0	7.0			
	3000	POTS	20	GRF	1250.0	1311.2	50.0	10.0			
	9500	POTS	21	GRF	1252.0	1333.0	48.0	19.0			
	245	SGMR	8	S	1311.0E	1312.0	2.0D	83.0			QL=4 ST=2 TYP=3
	2800	OTTA	40	F	1505.0	1820.0	300.0	20.7	10.0		
	2800	OTTA	3	S	1610.5	1617.5	16.5	18.6	4.0		
	4995	SGMR	4	S/F	1635.0E	1640.0	10.0D	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1635.0E	1640.0	11.0D	130.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1635.5	1640.5	18.5	42.6	9.0		
	15400	SGMR	4	S/F	1639.0E	1640.0	4.0D	57.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1639.0E	1640.0	4.0D	50.0			QL=4 ST=2 TYP=3
	1415	SGMR	4	S/F	1640.0E	1641.0	3.0D	110.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1715.0E	1715.0	1.0D	310.0			QL=4 ST=2 TYP=6
	245	SGMR	49	GB	1724.0E	1725.0	1.0D	1300.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1740.0E	1740.0	U	52.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1928.0E	1928.0	1.0D	66.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1928.0E	1928.0	1.0D	52.0			QL=4 ST=2 TYP=3
	2800	OTTA	4	S/F	2015.5	2025.1	34.0	284.6	57.0		
	4995	PALE	49	GB	2016.0E	2024.0	16.0D	570.0			QL=4 ST=2 TYP=6
	8800	PALE	49	GB	2017.0E	2024.0	13.0D	730.0			QL=4 ST=2 TYP=6
	15400	PALE	49	GB	2017.0E	2024.0	15.0D	640.0			QL=4 ST=2 TYP=6
	2695	PALE	4	S/F	2017.0E	2024.0	15.0D	250.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	2018.0E	2024.0	9.0D	450.0			QL=2 ST=3 TYP=5
	4995	SGMR	4	S/F	2022.0E	2025.0	5.0D	480.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	2022.0E	2025.0	5.0D	140.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	2022.0E	2027.0	10.0D	160.0			QL=4 ST=2 TYP=5
	610	PALE	20	GRF	2024.0E	2028.0	8.0D	140.0			QL=4 ST=2 TYP=2
	1415	SGMR	4	S/F	2024.0E	2027.0	3.0D	78.0			QL=4 ST=2 TYP=5
	610	SGMR	4	S/F	2025.0E	2033.0	8.0D	230.0			QL=4 ST=2 TYP=5
	2695	PALE	4	S/F	2032.0E	2032.0	3.0D	56.0			QL=4 ST=2 TYP=3

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	610	PALE	8	S	2032.0E	2033.0	1.0D	160.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2332.0E	2332.0	U	46.0			QL=4 ST=2 TYP=3
26	245	LEAR	44	NS	0057.0E	0057.0	U	59.0			QL=2 ST=2 TYP=1
	100	HIRA	43	NS	0130.0	0400.0	350.0D	47.0	15.0		
	245	LEAR	44	NS	0230.0E	0235.0	6.0D	58.0			QL=2 ST=2 TYP=1
	245	PALE	44	NS	0259.0E	0311.0	40.0D	140.0			QL=4 ST=2 TYP=1
	245	LEAR	44	NS	0305.0E	0311.0	465.0D	160.0			QL=2 ST=3 TYP=1
	100	GORK	44	NS	0620.0E		310.0D		5.0		
	200	GORK	44	NS	0620.0E		310.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	30.0			
	127	TORN	44	NS	0700.0E		440.0D		25.0		V=1
	245	SGMR	44	NS	1335.0E	1740.0	435.0D	86.0			QL=2 ST=2 TYP=1
	245	SVTO	43	NS	1336.0	1336.0	87.0D	65.0			QL=4 ST=2 TYP=1
	245	PALE	44	NS	1738.0E	1908.0	146.0D	100.0			QL=4 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	0500.0	580.0D	57.0	14.0		ML
	245	PALE	8	S	0057.0E	0057.0	U	73.0			QL=4 ST=2 TYP=3
	2840	PEKG	47	GB	0522.0	0525.0	52.0	662.0			
	4995	LEAR	49	GB	0522.0E	0524.0	95.0D	1100.0			QL=4 ST=2 TYP=6
	8800	LEAR	49	GB	0522.0E	0524.0	95.0D	1300.0			QL=4 ST=2 TYP=6
	15400	LEAR	49	GB	0522.0E	0524.0	95.0D	1100.0			QL=4 ST=2 TYP=6
	35000	NOBE	7	C	0522.6	0524.6	30.0	452.0			80GHz:NO OBS
	17000	NOBE	7	C	0522.6	0524.6	40.0	800.0			18L
	1415	LEAR	4	S/F	0523.0E	0606.0	94.0D	210.0			QL=4 ST=2 TYP=3
	2695	LEAR	49	GB	0523.0E	0524.0	94.0D	550.0			QL=4 ST=2 TYP=6
	610	LEAR	49	GB	0531.0E	0537.0	93.0D	1500.0			QL=2 ST=2 TYP=6
	500	HIRA	41	F	0532.0	0543.0	31.5	276.0			SR
	410	LEAR	4	S/F	0542.0E	0543.0	84.0D	37.0			QL=2 ST=2 TYP=3
	245	LEAR	4	S/F	0544.0E	0546.0	82.0D	17.0			QL=2 ST=2 TYP=3
	500	HIRA	46	C	0603.5	0638.0	68.0D	230.0	70.0		ML SUNSET
	200	HIRA	46	C	0603.9	0626.0	75.0D	83.0	34.0		WL SUNSET
	5900	KISV	45	C	0604.2	0612.0		29.0			
	5900	KISV	45	C	0604.2	0606.7	15.3	62.0			
	5900	KISV	23	GRF	0604.2	0653.7	145.0	39.0			
	5900	KISV	23	GRF	0604.2	0629.8		28.0			
	2850	CRIM	3	S	0605.1	0606.4	11.0	77.0	25.0		
	9100	GORK	21	GRF	0606.0U	0752.3	309.4D	61.0			
	15000	KISV	2	S/F	0609.8	0610.6	4.1	12.0			
	2840	PEKG	29	PBI	0614.0		37.0D	36.6			
	2850	CRIM	26	FAL	0616.0	0840.0	144.0	12.0			
	2950	GORK	21	GRF	0618.0E	0758.3	297.7D	13.0			
	950	GORK	21	GRF	0630.0E	0806.0	143.5D	11.0			
	650	GORK	47	GB	0630.0E	0651.1		740.0			
	650	GORK	47	GB	0630.0E	0642.2		880.0			
	650	GORK	47	GB	0630.0E	0636.4	116.2D	1140.0			
	950	GORK	46	C	0630.6	0638.0		47.0			
	950	GORK	46	C	0630.6	0645.1		22.0			
	950	GORK	46	C	0630.6	0636.4		47.0			
	950	GORK	46	C	0630.6	0632.8	26.2	48.0			
	5900	KISV	2	S/F	0722.1	0722.8	1.7	16.0			
	950	GORK	46	C	0725.3	0731.3		73.0			
	950	GORK	46	C	0725.3	0736.5		18.0			
	950	GORK	46	C	0725.3	0726.9	16.0	40.0			
	5900	KISV	29	PBI	0738.3	0746.0	20.9	83.0			
	5900	KISV	4	S/F	0738.3	0745.1	7.6	148.0			
	8800	SVTO	4	S/F	0743.0E	0745.0	8.0D	130.0			QL=4 ST=2 TYP=3
	9100	GORK	4	S/F	0743.7	0745.2	5.6	98.0			
	3013	IZMI	6	S	0743.7	0745.4	5.8	20.0	15.0		
	15000	KISV	4	S/F	0743.9	0745.1	2.0	50.0			
	15000	KISV	29	PBI	0743.9	0745.9	35.8	20.0			
	2850	CRIM	1	S	0744.0	0745.1	2.3	17.4	5.0		
	2695	LEAR	8	S	0745.0E	0745.0	U	11.0			QL=4 ST=2 TYP=3
	15400	LEAR	8	S	0745.0E	0745.0	U	40.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0745.0E	0745.0	U	55.0			QL=4 ST=2 TYP=3
	4995	LEAR	8	S	0745.0E	0745.0	U	39.0			QL=4 ST=2 TYP=3
	4995	SVTO	8	S	0745.0E	0745.0	2.0D	74.0			QL=4 ST=2 TYP=3
	2950	GORK	2	S/F	0745.3	0745.3	1.8	15.0			
	650	GORK	29	PBI	0826.2	0826.2	183.8D	16.0			
	5900	KISV	2	S/F	0849.1	0850.2	2.6	5.0			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
26	15000	KISV	1	S	0931.3	0931.7	0.7	10.0			
	200	GORK	46	C	1041.0	1049.3U		30.0D			
	200	GORK	46	C	1041.0	1043.5U	9.8	30.0D			
	810	KRAK	46	C	1128.5	1203.2	68.0	88.0	12.0		
	3000	POTS	20	GRF	1130.0U	1203.0U	45.0U	20.0			
	1470	POTS	40	F	1143.0	1202.2	20.0	64.0			
	600	HUMN	40	F	1144.0	1201.0	61.0	21.0			
	1415	SVTO	4	S/F	1201.0E	1203.0	4.0D	110.0			QL=4 ST=2 TYP=3
	2800	OTTA	20	GRF	1340.0	1530.0	260.0	21.0	10.0		
	15400	SGMR	49	GB	1809.0E	1811.0	14.0D	720.0			QL=2 ST=2 TYP=6
	15400	PALE	49	GB	1809.0E	1810.0	35.0D	690.0			QL=4 ST=2 TYP=6
	2695	PALE	8	S	1810.0E	1811.0	2.0D	55.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	1810.0E	1812.0	4.0D	190.0			QL=2 ST=2 TYP=3
	8800	SGMR	49	GB	1810.0E	1811.0	13.0D	760.0			QL=4 ST=2 TYP=6
	4995	SGMR	4	S/F	1810.0E	1811.0	15.0D	370.0			QL=4 ST=2 TYP=5
	8800	PALE	49	GB	1810.0E	1810.0	29.0D	580.0			QL=4 ST=2 TYP=6
	4995	PALE	4	S/F	1810.0E	1811.0	32.0D	290.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1810.8	1811.1	2.1	69.1	13.0		
	610	SGMR	8	S	1811.0E	1811.0	1.0D	230.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1811.0E	1821.0	13.0D	62.0			QL=4 ST=2 TYP=5
	410	PALE	8	S	1812.0E	1812.0	U	230.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1812.0E	1812.0	1.0D	180.0			QL=2 ST=2 TYP=3
	410	SGMR	8	S	1812.0E	1812.0	1.0D	300.0			QL=4 ST=2 TYP=3
	2800	OTTA	29	PBI	1812.9	1812.9	130.0	21.5	10.0		
	2800	OTTA	3	S	1817.8	1821.5	10.0	48.8	10.0		
	1415	PALE	8	S	1819.0E	1820.0	2.0D	55.0			QL=4 ST=2 TYP=3
	1415	SGMR	8	S	1820.0E	1820.0	1.0D	55.0			QL=4 ST=2 TYP=3
	100	HIRA	41	F	2209.2	2215.8	8.6	2000.0			O
	410	LEAR	8	S	2217.0E	2218.0	1.0D	140.0			QL=2 ST=2 TYP=3
27	245	LEAR	44	NS	0320.0E	0732.0	450.0D	150.0			QL=4 ST=3 TYP=1
	200	GORK	44	NS	0637.0E		293.0D		5.0		
	100	GORK	44	NS	0637.0E		293.0D		5.0		
	245	SVTO	44	NS	0647.0E	0733.0	496.0D	140.0			QL=2 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0700.0E		440.0D		200.0		V=1
	260	ONDR	44	NS	0900.0E	1237.0	240.0D	126.0			
	234	POTS	43	NS	1232.0	1336.0	108.0D	110.0			
	245	SGMR	44	NS	1243.0E	1429.0	488.0D	200.0			QL=2 ST=2 TYP=1
	113	POTS	44	NS	1250.0E	1409.0	90.0D	260.0			
	410	SGMR	44	NS	1337.0E	1341.0	20.0D	78.0			QL=2 ST=3 TYP=1
	410	SGMR	44	NS	1344.0E	1344.0	13.0D	98.0			QL=2 ST=2 TYP=1
	245	PALE	44	NS	1757.0E	1758.0	94.0D	60.0			QL=4 ST=3 TYP=1
	200	HIRA	44	NS	2147.0E	0328.0	580.0D	67.0	22.0		MR
	100	HIRA	44	NS	2147.0E	0200.0	580.0D	74.0	20.0		
	4995	PALE	4	S/F	0134.0E	0137.0	7.0D	46.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0136.0E	0137.0	1.0D	55.0			QL=4 ST=2 TYP=3
	2840	PEKG	20	GRF	0310.0	0314.0	24.0	6.7			
	2840	PEKG	20	GRF	0411.0	0433.0	46.0	7.9			
	245	LEAR	49	GB	0501.0E	0503.0	5.0D	530.0			QL=2 ST=2 TYP=6
	2840	PEKG	20	GRF	0502.0	0516.0	50.0	21.3			
	2840	PEKG	20	GRF	0557.0	0616.7	48.0	13.3			
	200	HIRA	42	SER	0609.9	0614.5	16.7	375.0			O
	245	LEAR	8	S	0610.0E	0611.0	2.0D	130.0			QL=2 ST=2 TYP=3
	245	LEAR	4	S/F	0614.0E	0616.0	3.0D	340.0			QL=2 ST=2 TYP=3
	9100	GORK	22	GRF	0639.8	0915.8	290.2D	48.0			
	2950	GORK	22	GRF	0645.7	0915.9	284.3D	35.0			
	650	GORK	23	GRF	0645.9	0740.4	100.2U	10.0			
	5900	KISV	2	S/F	0719.6	0722.9	7.7	7.0			
	200	GORK	46	C	0724.0	0728.1	10.5	300.0			
	200	GORK	46	C	0724.0	0731.2		230.0			
	100	GORK	41	F	0732.4	0746.2	60.6	130.0			
	100	GORK	41	F	0732.4	0830.3		260.0			
	950	GORK	23	GRF	0814.3	0818.6	11.8	3.0			
	5900	KISV	4	S/F	0819.8	0824.9	8.6	30.0			
	610	LEAR	8	S	0821.0E	0821.0	U	140.0			QL=2 ST=2 TYP=3
	600	HUMN	8	S	0821.0	0821.1	0.2	180.0	80.0		
	1415	LEAR	8	S	0824.0E	0824.0	1.0D	50.0			QL=4 ST=2 TYP=3
	610	LEAR	49	GB	0824.0E	0824.0	1.0D	620.0			QL=2 ST=2 TYP=6

SOLAR RADIO EMISSION
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	600	HUMN	8	S	0824.2	0824.3	0.2	120.0	50.0		
	650	GORK	1	S	0824.4	0825.0U	1.7	8.0			
	430	KRAK	8	S	0824.5	0824.5	0.6	76.0			
	1470	POTS	3	S	0824.5	0824.7	1.5	33.0			
	9500	POTS	3	S	0824.5	0824.8	1.5	14.0			
	950	GORK	2	S/F	0824.6	0824.8	1.5	12.0			
	810	KRAK	8	S	0824.7	0825.0	0.6	44.0			
	15000	KISV	1	S	0824.7	0824.9	0.5	16.0			
	2850	CRIM	1	S	0824.8	0825.0	0.8	19.0	6.0		
	610	SVTO	49	GB	0825.0E	0825.0	U	510.0			QL=4 ST=2 TYP=6
	1415	SVTO	8	S	0825.0E	0825.0	U	69.0			QL=4 ST=2 TYP=3
	5900	KISV	2	S/F	0913.1	0914.9	7.6	7.0			
	245	LEAR	8	S	0934.0E	0935.0	1.0D	94.0			QL=2 ST=3 TYP=3
	245	SVTO	8	S	0935.0E	0935.0	1.0D	100.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0938.0E	0938.0	1.0D	260.0			QL=4 ST=3 TYP=3
	204	IZMI	41	F	0953.8	0954.3	3.0	160.0			
	5900	KISV	2	S/F	1009.1	1009.7	4.7	5.0			
	204	IZMI	41	F	1031.0	1031.4	1.0	170.0			
	536	ONDR	46	C	1055.6	1056.7	5.0	55.0			
	600	HUMN	1	S	1056.0	1056.5	1.0	30.0	12.0		
	5900	KISV	2	S/F	1109.1	1109.7	2.1	8.0			
	234	POTS	4	S/F	1129.1	1129.1	0.7	220.0			
	430	KRAK	2	S/F	1157.5	1158.7	1.5	36.0	9.0		
	536	ONDR	42	SER	1157.5	1158.8	21.0	62.0			
	1470	POTS	46	C	1210.0	1315.0	110.0D	161.0			
	3000	POTS	46	C	1210.0	1316.0	110.0D	151.0			
	430	KRAK	42	SER	1211.5	1212.0	5.5	180.0			
	810	KRAK	49	GB	1211.5	1212.0	90.0D	250.0D	130.0D		
	810	KRAK	49	GB	1211.5	1314.5		530.0			
	600	HUMN	47	GB	1216.0	1343.4	118.8	847.0	220.0		
	808	ONDR	47	GB	1217.5	1302.5	45.0	60.0			
	536	ONDR	47	GB	1230.0		30.0				
	430	KRAK	49	GB	1230.0		93.0	290.0D	170.0D		
	430	KRAK	49	GB	1230.0	1344.7		1900.0			
	610	SGMR	49	GB	1241.0E	1334.0	63.0D	2400.0			QL=2 ST=2 TYP=7
	2695	SGMR	4	S/F	1241.0E	1242.0	679.0D	36.0			QL=4 ST=1 TYP=3
	410	SGMR	49	GB	1249.0E	1302.0	48.0D	1000.0			QL=4 ST=2 TYP=7
	9500	POTS	20	GRF	1249.0	1315.0	71.0D	56.0			
	2695	SVTO	20	GRF	1251.0E	1316.0	58.0D	150.0			QL=4 ST=3 TYP=2
	410	SVTO	49	GB	1251.0E	1300.0	57.0D	600.0			QL=4 ST=3 TYP=6
	1415	SVTO	4	S/F	1251.0E	1317.0	58.0D	140.0			QL=4 ST=3 TYP=5
	4995	SVTO	4	S/F	1251.0E	1316.0	58.0D	120.0			QL=2 ST=3 TYP=5
	245	SGMR	20	GRF	1259.0E	1321.0	45.0D	200.0			QL=2 ST=2 TYP=2
	245	SVTO	4	S/F	1300.0E	1345.0	49.0D	190.0			QL=2 ST=3 TYP=5
	1415	SGMR	20	GRF	1304.0E	1316.0	19.0D	150.0			QL=4 ST=2 TYP=2
	2695	SGMR	20	GRF	1304.0E	1315.0	40.0D	170.0			QL=4 ST=2 TYP=2
	8800	SVTO	20	GRF	1305.0E	1318.0	44.0D	75.0			QL=2 ST=3 TYP=2
	4995	SGMR	20	GRF	1310.0E	1316.0	34.0D	150.0			QL=4 ST=2 TYP=2
	8800	SGMR	4	S/F	1315.0E	1317.0	8.0D	65.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1343.0E	1344.0	2.0D	250.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1344.0E	1344.0	U	170.0			QL=4 ST=2 TYP=3
	2695	PENT	4	S/F	2153.5	2155.2	4.0	49.6	15.0		
	610	LEAR	8	S	2237.0E	2237.0	U	54.0			QL=4 ST=2 TYP=3
28	245	LEAR	43	NS	0139.0	0307.0	214.0	240.0			QL=2 ST=2 TYP=1
	100	GORK	44	NS	0637.0E		293.0D		20.0		
	200	GORK	44	NS	0639.0E		291.0D		7.0		
	245	SVTO	44	NS	0642.0E	1027.0	502.0D	240.0			QL=2 ST=2 TYP=1
	127	TORN	44	NS	0700.0E		440.0D		265.0		V=1
	260	ONDR	44	NS	0900.0E		240.0D				
	204	IZMI	43	NS	0920.0		160.0	80.0			
	245	LEAR	44	NS	1002.0E	1040.0	48.0D	380.0			QL=2 ST=2 TYP=1
	245	SGMR	44	NS	1307.0E	1924.0	465.0D	130.0			QL=2 ST=2 TYP=1
	245	PALE	44	NS	1755.0E	1755.0	4.0D	77.0			QL=4 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	0135.0	580.0D	92.0	55.0		WR
	100	HIRA	44	NS	2147.0E	0142.0	580.0D	140.0	36.0		
	500	HIRA	46	C	0125.5	0135.5	30.0	46.0			WR
	245	LEAR	8	S	0130.0E	0131.0	2.0D	98.0			QL=2 ST=2 TYP=3
	1415	LEAR	8	S	0135.0E	0136.0	2.0D	50.0			QL=4 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
28	4995	LEAR	4	S/F	0135.0E	0136.0	5.0D	36.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0135.0E	0136.0	5.0D	56.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0135.0E	0137.0	2.0D	31.0			QL=4 ST=2 TYP=3
	2840	PEKG	45	C	0135.0	0136.8	3.0	11.7			
	2695	LEAR	8	S	0136.0E	0136.0	U	16.0			QL=4 ST=2 TYP=3
	500	HIRA	27	RF	0250.0	0331.0	43.0	7.0			WR
	245	LEAR	8	S	0257.0E	0258.0	2.0D	75.0			QL=2 ST=2 TYP=3
	17000	NOBE	7	C	0302.3	0326.0	40.0	283.0			12L
	35000	NOBE	7	C	0302.3	0326.0	40.0	243.0			3L
	245	PALE	4	S/F	0313.0E	0325.0	20.0D	74.0			QL=2 ST=2 TYP=5
	15400	PALE	4	S/F	0313.0	0325.0	21.0	300.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0317.0E	0326.0	20.0D	320.0			QL=4 ST=2 TYP=5
	8800	LEAR	4	S/F	0317.0E	0326.0	20.0D	390.0			QL=4 ST=2 TYP=5
	15400	LEAR	4	S/F	0318.0E	0325.0	19.0D	360.0			QL=4 ST=2 TYP=5
	8800	PALE	4	S/F	0318.0E	0326.0	13.0D	380.0			QL=4 ST=2 TYP=5
	4995	PALE	4	S/F	0318.0E	0325.0	15.0D	260.0			QL=4 ST=2 TYP=5
	2695	PALE	4	S/F	0323.0E	0325.0	9.0D	96.0			QL=4 ST=2 TYP=3
	2840	PEKG	46	C	0324.0E	0325.8	22.0D	185.0			
	80000	NOBE	1	S	0324.5	0326.0	7.0	24.0			
	1415	LEAR	8	S	0325.0E	0326.0	1.0D	13.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	0327.0E	0329.0	3.0D	31.0			QL=4 ST=2 TYP=3
	17000	NOBE	1	S	0404.1	0404.8	1.0	18.0			15L,80.35GHz:0
	245	LEAR	8	S	0612.0E	0612.0	1.0D	76.0			QL=2 ST=2 TYP=3
	9100	GORK	23	GRF	0627.3	1010.9	302.7D	53.0			
	2840	PEKG	5	S	0636.0	0637.6	5.0	14.9			
	950	GORK	23	GRF	0642.7	0805.2	119.5	7.0			
	2950	GORK	23	GRF	0651.0	1005.0	279.0D	36.0			
	245	LEAR	8	S	0653.0E	0653.0	U	55.0			QL=2 ST=2 TYP=3
	5900	KISV	22	GRF	0653.9	0659.9	16.0	15.0			
	204	IZMI	7	C	0710.5	0712.3	2.0	280.0	100.0		
	245	LEAR	8	S	0712.0E	0712.0	U	300.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0713.0E	0713.0	U	300.0			QL=2 ST=2 TYP=3
	5900	KISV	45	C	0723.5	0727.1	5.5	14.0			
	5900	KISV	45	C	0723.5	0725.3		13.0			
	950	GORK	3	S	0726.9	0727.1	0.4	20.0			
	245	LEAR	4	S/F	0728.0E	0728.0	3.0D	130.0			QL=2 ST=2 TYP=3
	650	GORK	21	GRF	0731.4	0804.4	46.6	5.0			
	5900	KISV	45	C	0732.3	0734.3		10.0			
	5900	KISV	45	C	0732.3	0733.3	5.6	11.0			
	15000	KISV	2	S/F	0739.8	0740.1	0.9	6.0			
	650	GORK	2	S/F	0745.6	0746.4	1.3	8.0			
	100	GORK	41	F	0747.3	0827.2	46.9	385.0			
	100	GORK	41	F	0747.3	0832.5		510.0			
	650	GORK	46	C	0748.4	0752.2		24.0			
	650	GORK	46	C	0748.4	0750.7	5.0	22.0			
	15000	KISV	22	GRF	0748.8	0751.9	17.0	14.0			
	5900	KISV	22	GRF	0749.0	0752.2	9.2	19.0			
	2850	CRIM	1	S	0749.0	0749.8	2.0	11.4	3.0		
	950	GORK	4	S/F	0749.2	0750.6	4.1	36.0			
	245	LEAR	8	S	0750.0E	0751.0	2.0D	160.0			QL=2 ST=2 TYP=3
	410	LEAR	4	S/F	0751.0E	0753.0	3.0D	70.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0753.0E	0753.0	2.0D	51.0			QL=4 ST=2 TYP=3
	950	GORK	3	S	0756.5	0757.6	2.0	25.0			
	650	GORK	3	S	0757.2	0757.6	1.3	21.0			
	5900	KISV	2	S/F	0808.7	0809.9	2.2	7.0			
	5900	KISV	2	S/F	0840.9	0843.8	7.2	15.0			
	245	LEAR	8	S	0854.0E	0854.0	1.0D	96.0			QL=2 ST=2 TYP=3
	610	SVTO	4	S/F	0859.0E	0904.0	6.0D	220.0			QL=2 ST=2 TYP=5
	650	GORK	4	S/F	0901.8	0903.4	1.9	70.0			
	950	GORK	2	S/F	0902.4	0903.1	1.1	5.0			
	245	SVTO	8	S	0904.0E	0904.0	U	200.0			QL=2 ST=2 TYP=3
	234	POTS	27	RF	0920.0	1014.0	160.0	100.0			
	113	POTS	27	RF	0930.7	1030.0	148.0	140.0			
	245	LEAR	49	GB	0938.0E	0958.0	24.0D	5000.0			QL=2 ST=2 TYP=7
	650	GORK	23	GRF	0942.1	1004.9	57.1	4.0			
	430	KRAK	46	C	0943.5	1200.0U		260.0D			
	430	KRAK	46	C	0943.5	0958.6	68.3	260.0D	30.0		
	1470	POTS	21	GRF	0945.0	1039.0	75.0	11.0			
	2850	CRIM	28	PRE	0946.0	0954.0	8.0	10.0	3.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
28	5900	KISV	23	GRF	0948.9	1005.0	113.9	39.0			
	100	GORK	41	F	0949.5	1002.1		2180.0			
	100	GORK	41	F	0949.5	1015.7		5260.0			
	100	GORK	41	F	0949.5	0958.9	26.5	3460.0			
	3000	POTS	21	GRF	0950.0U	1039.0	60.0U	21.0			
	9500	POTS	21	GRF	0950.0	1010.0	80.0	27.0			
	410	SVTO	4	S/F	0951.0E	1001.0	11.0D	130.0			QL=4 ST=2 TYP=5
	950	GORK	23	GRF	0951.5	1005.1	51.2	6.0			
	410	LEAR	4	S/F	0952.0E	1000.0	9.0D	170.0			QL=2 ST=2 TYP=5
	245	SVTO	49	GB	0952.0E	0959.0	9.0D	3400.0			QL=2 ST=2 TYP=7
	5900	KISV	4	S/F	0952.0	0959.1	11.3	130.0			
	3200	BERN	46	C	0953.0	0959.0	550.0	73.0			
	5200	BERN	46	C	0953.0	0959.0	550.0	69.0			
	8400	BERN	46	C	0953.0	0959.0	550.0	58.0			
	11800	BERN	46	C	0953.0	0959.0	550.0	37.0			
	536	ONDR	42	SER	0953.0	0958.4	50.0	58.0			
	600	HUMN	42	SER	0953.0	0958.6	50.0	30.0			
	200	GORK	46	C	0953.7	0959.0		7700.0			
	2950	GORK	46	C	0953.7	0958.0	10.3	131.0			
	2950	GORK	46	C	0953.7	0959.4		98.0			
	200	GORK	46	C	0953.7	0958.5	9.3	4400.0			
	234	POTS	4	S/F	0953.8	0958.9	7.9	9400.0			
	3013	IZMI	22	GRF	0953.8	0957.9	10.0	49.0	25.0		
	2850	CRIM	46	C	0954.0	0958.0		201.0			
	2850	CRIM	46	C	0954.0	0956.0	9.0	65.0	65.0		
	2695	LEAR	4	S/F	0954.0E	0958.0	8.0D	200.0			QL=2 ST=2 TYP=3
	610	LEAR	4	S/F	0954.0E	1001.0	7.0D	96.0			QL=2 ST=2 TYP=3
	2850	CRIM	30	PBI	0954.0	1003.0	73.0	27.5	8.0		
	2850	CRIM	46	C	0954.0	0959.2		138.0			
	2850	CRIM	46	C	0954.0	1000.8		105.0			
	650	GORK	46	C	0954.6	1001.2		125.0			
	650	GORK	46	C	0954.6	0958.7	7.6	60.0			
	15000	KISV	23	GRF	0954.8	1012.2	41.0	29.0			
	9100	GORK	4	S/F	0955.0	0959.0	8.3	46.0			
	4995	LEAR	4	S/F	0955.0E	0959.0	7.0D	97.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0955.0E	0959.0	5.0D	58.0			QL=2 ST=2 TYP=3
	9500	POTS	4	S/F	0955.0	0959.0	8.0	50.0			
	2695	SVTO	4	S/F	0955.0E	0958.0	9.0D	190.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0955.0E	0959.0	10.0D	99.0			QL=2 ST=2 TYP=3
	3000	POTS	4	S/F	0955.0	0958.3	9.0	124.0			
	950	GORK	46	C	0955.0	0956.5	7.3	19.0			
	950	GORK	46	C	0955.0	0958.5		22.0			
	1470	POTS	4	S/F	0955.0	1000.7	9.0	45.0			
	950	GORK	46	C	0955.0	1000.8		35.0			
	808	ONDR	42	SER	0955.2	1031.3	41.0	66.0			
	810	KRAK	7	C	0955.7	1000.5	6.0	42.0	15.0		
	8800	SVTO	4	S/F	0956.0E	0959.0	7.0D	55.0			QL=2 ST=2 TYP=3
	127	TORN	47	GB	0957.8	1002.0	4.5	22000.0D	3200.0		
	15000	KISV	2	S/F	0957.8	0959.1	4.5	14.0			
	113	POTS	4	S/F	0958.1	0958.9	4.8	2100.0			
	40	POTS	4	S/F	0958.4	0958.9	4.2	16000.0			
	1415	SVTO	8	S	0959.0E	0959.0	2.0D	33.0			QL=4 ST=2 TYP=3
	33	UPIC	32	ABS	0959.5	1003.0	28.5				
	204	IZMI	8	S	1000.0	1000.1	0.2	2500.0	2000.0		
	650	GORK	1	S	1008.3	1009.5	2.6	7.0			
	245	LEAR	4	S/F	1013.0E	1015.0	5.0D	280.0			QL=2 ST=2 TYP=3
	410	LEAR	4	S/F	1013.0E	1015.0	8.0D	74.0			QL=4 ST=2 TYP=3
	234	POTS	4	S/F	1014.6	1015.4	1.4	400.0			
	113	POTS	4	S/F	1014.9	1015.4	1.3	1700.0			
	410	SVTO	8	S	1015.0E	1016.0	1.0D	98.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1015.0E	1016.0	1.0D	340.0			QL=2 ST=2 TYP=3
	650	GORK	2	S/F	1015.0	1015.3	1.1	20.0			
	1470	POTS	4	S/F	1015.0	1015.5	2.0	36.0			
	9500	POTS	3	S	1015.0	1015.5	2.5	38.0			
	40	POTS	4	S/F	1015.0	1015.6	1.8	12000.0			
	15000	KISV	2	S/F	1015.0	1015.7	2.1	6.0			
	9100	GORK	2	S/F	1015.2	1015.6	1.6	15.0			
	950	GORK	2	S/F	1015.3	1015.5	0.8	9.0			
	5900	KISV	4	S/F	1015.3	1015.7	1.7	37.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
28	810	KRAK	45	C	1025.0U	1030.0U	6.5U	120.0U	20.0U		
	950	GORK	46	C	1030.0	1031.6	5.0	129.0			
	950	GORK	46	C	1030.0	1032.6		44.0			
	950	GORK	46	C	1030.0	1034.9		32.0			
	1470	POTS	40	F	1031.0	1032.8	5.0	31.0			
	650	GORK	46	C	1031.4	1031.4	5.1	40.0			
	650	GORK	46	C	1031.4	1032.6		80.0			
	410	SVTO	8	S	1032.0E	1032.0	U	72.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1033.0E	1033.0	U	130.0			QL=4 ST=2 TYP=3
	5900	KISV	2	S/F	1036.0	1038.6	6.9	12.0			
	2850	CRIM	1	S	1037.0	1039.0	3.0	8.0	3.0		
	234	POTS	4	S/F	1040.3	1040.7	1.2	700.0			
	245	SVTO	49	GB	1041.0E	1041.0	U	570.0			QL=2 ST=2 TYP=6
	810	KRAK	42	SER	1248.0	1250.4	5.0	40.0			
	808	ONDR	4	S/F	1249.5	1250.3	2.0	6.0			
	536	ONDR	41	F	1300.0	1309.6	10.0	25.0			
	600	HUMN	41	F	1303.0	1307.5	12.0	10.0			
	430	KRAK	45	C	1308.5E	1312.5U	7.0D	76.0	18.0		
	410	SGMR	4	S/F	1309.0E	1310.0	4.0D	110.0			QL=4 ST=2 TYP=3
	410	SVTO	4	S/F	1310.0E	1310.0	4.0D	90.0			QL=4 ST=2 TYP=3
	2800	OTTA	20	GRF	1506.0	1509.0	54.0	14.7	7.0		
	245	SGMR	49	GB	1743.0E	1743.0	2.0D	570.0			QL=2 ST=2 TYP=6
	245	SGMR	8	S	2017.0E	2018.0	1.0D	210.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2018.0E	2018.0	U	190.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2026.0E	2026.0	U	66.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2107.0E	2110.0	9.0D	370.0			QL=4 ST=2 TYP=3
	2695	PENT	4	S/F	2107.5	2110.1	15.5	131.8	40.0		
	2695	PALE	4	S/F	2108.0E	2110.0	6.0D	130.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	2108.0E	2110.0	5.0D	190.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2108.0E	2110.0	14.0D	400.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	2109.0E	2110.0	4.0D	320.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	2109.0E	2110.0	4.0D	610.0			QL=4 ST=2 TYP=6
	4995	PALE	4	S/F	2109.0E	2110.0	4.0D	150.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	2109.0E	2110.0	8.0D	600.0			QL=4 ST=2 TYP=6
	245	LEAR	4	S/F	2209.0E	2217.0	9.0D	68.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2217.0E	2218.0	1.0D	150.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2329.0E	2330.0	1.0D	54.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2330.0E	2330.0	U	120.0			QL=4 ST=2 TYP=3
29	245	PALE	44	NS	0029.0E	0103.0	192.0D	170.0			QL=4 ST=2 TYP=1
	245	LEAR	44	NS	0030.0E	0517.0	621.0D	290.0			QL=4 ST=2 TYP=1
	200	GORK	44	NS	0615.0E		315.0D		5.0		
	100	GORK	44	NS	0615.0E		315.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	50.0			
	127	TORN	44	NS	0700.0E		440.0D		13.0		V=1
	245	SVTO	44	NS	0730.0E	0847.0	455.0D	280.0			QL=2 ST=2 TYP=1
	260	ONDR	44	NS	0900.0E		270.0D				
	245	SGMR	44	NS	1304.0E	1304.0	468.0D	160.0			QL=4 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	0000.0	580.0D	62.0	13.0		O
	245	LEAR	43	NS	2334.0	0249.0	195.0D	190.0			QL=2 ST=2 TYP=1
	245	LEAR	4	S/F	0010.0E	0013.0	4.0D	55.0			QL=2 ST=2 TYP=3
	410	LEAR	8	S	0031.0E	0032.0	1.0D	86.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0032.0E	0032.0	U	65.0			QL=2 ST=2 TYP=3
	610	LEAR	4	S/F	0035.0E	0036.0	3.0D	51.0			QL=4 ST=2 TYP=3
	500	HIRA	20	GRF	0038.0	0344.0	216.0	18.0	7.0		WL
	610	LEAR	8	S	0227.0E	0227.0	1.0D	63.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0233.0E	0234.0	2.0D	160.0			QL=2 ST=2 TYP=3
	245	PALE	4	S/F	0233.0E	0234.0	3.0D	150.0			QL=2 ST=2 TYP=3
	200	HIRA	8	S	0516.9	0517.2	0.7	4000.0			O
	410	LEAR	8	S	0519.0E	0520.0	2.0D	81.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0520.0E	0520.0	1.0D	500.0			QL=2 ST=2 TYP=6
	5900	KISV	45	C	0635.8	0641.4		13.0			
	5900	KISV	45	C	0635.8	0637.9	12.0	21.0			
	9100	GORK	23	GRF	0636.5	0853.9	302.5D	35.0			
	2950	GORK	23	GRF	0644.4	0906.2	295.8D	29.0			
	200	GORK	41	F	0719.4	0723.0	7.6	340.0			
	200	GORK	41	F	0719.4	0726.4		145.0			
	650	GORK	1	S	0720.3	0723.3	7.0	4.0			
	2850	CRIM	1	S	0722.1	0722.8	1.4	8.0	2.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	100	GORK	46	C	0722.4	0723.2		340.0			
	100	GORK	46	C	0722.4	0722.9	1.4	380.0			
	950	GORK	1	S	0722.7	0723.0	1.4	2.0			
	245	SVTO	8	S	0723.0E	0723.0	1.0D	230.0			QL=2 ST=2 TYP=3
	5900	KISV	22	GRF	0745.6	0751.1	17.6	13.0			
	650	GORK	21	GRF	0747.3	0753.0	22.3	3.0			
	950	GORK	2	S/F	0747.3	0748.4	1.4	6.0			
	650	GORK	46	C	0748.0	0748.1	2.8	7.0			
	650	GORK	46	C	0748.0	1050.5		7.0			
	245	LEAR	4	S/F	0837.0E	0839.0	3.0D	320.0			QL=2 ST=2 TYP=3
	234	POTS	42	SER	0838.4	0839.7	10.0	500.0			
	113	POTS	42	SER	0838.9	0846.8	9.7	100.0			
	204	IZMI	41	F	0839.0	0840.0	2.0	900.0			
	200	GORK	41	F	0839.0	0901.5		240.0			
	200	GORK	41	F	0839.0	0839.5	22.9	1960.0			
	5900	KISV	23	GRF	0839.0	0846.7	10.3	10.0			
	5900	KISV	23	GRF	0839.0	0839.8		8.0			
	100	GORK	41	F	0839.2	0839.5	8.2	30.0			
	100	GORK	41	F	0839.2	0845.8		250.0			
	245	SVTO	8	S	0840.0E	0840.0	U	320.0			QL=2 ST=2 TYP=3
	650	GORK	1	S	0844.7	0846.6	2.8	10.0			
	430	KRAK	2	S/F	0845.5	0846.8	1.5	33.0	11.0		
	245	LEAR	8	S	0846.0E	0846.0	U	280.0			QL=2 ST=2 TYP=3
	5900	KISV	2	S/F	0904.6	0905.6	6.0	9.0			
	5900	KISV	21	GRF	0920.3	0925.5	13.0	10.0			
	204	IZMI	41	F	0931.0	0933.0	2.5	530.0			
	5900	KISV	2	S/F	1033.6	1037.4	7.0	11.0			
	5900	KISV	47	GB	1058.9	1101.6	6.5	485.0			
	15000	KISV	29	PBI	1059.2	1107.1	27.3	50.0			
	15000	KISV	47	GB	1059.2	1101.2	7.5	695.0			
	33	UPIC	32	ABS	1059.5	1106.0	16.5				
	9100	GORK	47	GB	1059.9	1101.2	5.6	400.0			
	2950	GORK	47	GB	1100.0	1101.3	5.6	355.0			
	3000	POTS	45	C	1100.0	1101.5	15.0	620.0			
	3013	IZMI	7	C	1100.0	1101.8	6.0	177.0	70.0		
	9500	POTS	45	C	1100.0	1100.8	50.0	376.0			
	50000	BERN	47	GB	1100.1	1101.1	50.0	372.0			
	35000	BERN	47	GB	1100.1	1101.1	50.0	625.0			
	19600	BERN	47	GB	1100.1	1101.1	50.0	819.0			
	3200	BERN	47	GB	1100.1	1101.1	50.0	208.0			
	5200	BERN	47	GB	1100.1	1101.1	50.0	238.0			
	8400	BERN	47	GB	1100.1	1101.1	50.0	312.0			
	11800	BERN	47	GB	1100.1	1101.1	50.0	581.0			
	2850	CRIM	29	PBI	1100.2	1106.0	23.0	13.5	4.0		
	2850	CRIM	3	S	1100.2	1101.8	5.8	392.0	131.0		
	1470	POTS	45	C	1100.5	1102.0	9.5	372.0			
	536	ONDR	47	GB	1100.5	1104.0	55.0	230.0			
	950	GORK	46	C	1100.7	1103.2		288.0			
	950	GORK	46	C	1100.7	1101.6	11.0	2399.0			
	650	GORK	47	GB	1100.9	1103.4		195.0			
	650	GORK	47	GB	1100.9	1101.4	12.6	2300.0			
	100	GORK	46	C	1101.0	1102.0		1240.0			
	200	GORK	46	C	1101.0	1102.0	5.0	11200.0			
	15400	SVTO	49	GB	1101.0E	1102.0	3.0D	530.0			QL=2 ST=2 TYP=6
	1415	SVTO	4	S/F	1101.0E	1102.0	4.0D	250.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1101.0E	1102.0	4.0D	360.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	1101.0E	1102.0	4.0D	270.0			QL=2 ST=2 TYP=3
	8800	SVTO	4	S/F	1101.0E	1102.0	4.0D	320.0			QL=2 ST=2 TYP=3
	410	SVTO	49	GB	1101.0E	1102.0	2.0D	8000.0			QL=4 ST=2 TYP=6
	204	IZMI	45	C	1101.0	1102.0	16.0	15000.0	200.0		
	234	POTS	42	SER	1101.0	1102.1	14.2	7400.0			
	808	ONDR	47	GB	1101.0	1101.1	50.0	243.0			
	200	GORK	46	C	1101.0	1102.2		3800.0			
	600	HUMN	49	GB	1101.0	1134.4	96.4	277.0	31.0		
	100	GORK	46	C	1101.0	1101.5	1.8	3400.0			
	40	POTS	4	S/F	1101.1	1101.5	2.1	13000.0			
	113	POTS	4	S/F	1101.1	1101.6	2.1	1700.0			
	33	UPIC	45	C	1101.5	1101.8	1.1				
	610	SVTO	49	GB	1102.0E	1102.0	1.0D	12000.0			QL=2 ST=2 TYP=6

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	245	SVTO	49	GB	1102.0E	1102.0	1.0D	2900.0			QL=2 ST=2 TYP=6
	430	KRAK	45	C	1105.8	1108.5	4.6D	270.0	110.0		
	810	KRAK	45	C	1105.8E	1106.8	4.0D	144.0	42.0		
	410	SVTO	4	S/F	1107.0E	1109.0	4.0D	290.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1108.0E	1109.0	3.0D	230.0			QL=4 ST=2 TYP=3
	5900	KISV	29	PBI	1108.7E	1108.7	5.1D	23.0			
	430	KRAK	29	PBI	1110.4	1113.0	4.6	23.0	12.0		
	430	KRAK	49	GB	1125.0	1134.0U	23.7	310.0D	90.0D		
	810	KRAK	45	C	1126.8	1131.5	23.5	100.0	29.0		
	15000	KISV	2	S/F	1141.3	1141.6	3.0	30.0			
	1470	POTS	2	S/F	1151.0	1151.7	1.0	8.0			
	536	ONDR	46	C	1224.0		23.0	58.0			
	2800	OTTA	22	GRF	1530.0	1700.0	145.0	11.3	5.0		
	8800	PALE	4	S/F	1815.0E	1821.0	30.0D	440.0			QL=4 ST=2 TYP=5
	15400	SGMR	49	GB	1817.0E	1821.0	8.0D	780.0			QL=4 ST=3 TYP=6
	8800	SGMR	49	GB	1817.0E	1821.0	15.0D	510.0			QL=4 ST=3 TYP=7
	4995	SGMR	49	GB	1817.0E	1821.0	11.0D	520.0			QL=4 ST=3 TYP=6
	15400	PALE	49	GB	1819.0E	1821.0	26.0D	810.0			QL=4 ST=2 TYP=7
	2800	OTTA	3	S	1820.0	1821.9	5.0	365.8	73.0		
	2695	SGMR	4	S/F	1821.0E	1822.0	4.0D	330.0			QL=4 ST=3 TYP=3
	4995	PALE	49	GB	1821.0E	1821.0	24.0D	540.0			QL=4 ST=2 TYP=6
	2695	PALE	4	S/F	1821.0E	1822.0	24.0D	380.0			QL=4 ST=2 TYP=3
	2800	OTTA	29	PBI	1825.0	1825.0	177.0	36.0	17.0		
	245	PALE	49	GB	1827.0E	1828.0	4.0D	690.0			QL=4 ST=2 TYP=6
	245	SGMR	49	GB	1827.0E	1828.0	5.0D	740.0			QL=2 ST=3 TYP=6
	245	PALE	8	S	1858.0E	1858.0	U	71.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2046.0E	2046.0	U	120.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2140.0E	2140.0	1.0D	170.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2146.0E	2146.0	1.0D	230.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2211.0E	2212.0	1.0D	60.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	2249.0E	2249.0	1.0D	84.0			QL=2 ST=2 TYP=3
	500	HIRA	46	C	2250.5	2305.3	20.3	83.0			MR
	610	LEAR	4	S/F	2255.0E	2305.0	19.0D	68.0			QL=4 ST=2 TYP=5
	2695	LEAR	4	S/F	2255.0E	2303.0	18.0D	78.0			QL=4 ST=2 TYP=5
	410	LEAR	49	GB	2256.0E	2306.0	18.0D	3000.0			QL=4 ST=2 TYP=7
	200	HIRA	42	SER	2258.7	2303.1	8.1	3100.0			O
	245	LEAR	4	S/F	2259.0E	2306.0	11.0D	250.0			QL=2 ST=2 TYP=5
	1415	LEAR	4	S/F	2259.0E	2302.0	15.0D	72.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	2300.0E	2303.0	13.0D	66.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	2300.0E	2303.0	13.0D	48.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	2301.0E	2306.0	6.0D	160.0			QL=2 ST=2 TYP=3
	410	PALE	49	GB	2301.0E	2306.0	6.0D	990.0			QL=2 ST=2 TYP=7
	15400	LEAR	4	S/F	2301.0E	2306.0	12.0D	58.0			QL=4 ST=2 TYP=5
	2695	PALE	4	S/F	2302.0E	2302.0	6.0D	87.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	2302.0E	2303.0	2.0D	50.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	2302.0E	2302.0	2.0D	60.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2329.0E	2329.0	U	86.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2340.0E	2341.0	1.0D	160.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	2356.0E	2357.0	3.0D	91.0			QL=4 ST=2 TYP=3
30	245	LEAR	43	NS	0600.0	0905.0	272.0D	190.0			QL=2 ST=2 TYP=1
	200	GORK	44	NS	0614.0E		316.0D		5.0		
	100	GORK	44	NS	0614.0E		316.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	30.0			
	127	TORN	44	NS	0700.0E		330.0D		6.0		V=1
	245	SVTO	43	NS	0739.0	0743.0	266.0D	140.0			QL=4 ST=2 TYP=1
	260	ONDR	44	NS	0900.0E	0905.3	270.0D	171.0			
	245	SVTO	43	NS	1310.0	1320.0	52.0D	110.0			QL=4 ST=2 TYP=1
	245	SGMR	44	NS	1313.0E	1319.0	119.0D	120.0			QL=2 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	2343.0	580.0D	22.0	6.0		MR
	500	HIRA	22	GRF	0028.0	0130.0	175.0	12.0	4.0		WR
	245	PALE	8	S	0117.0E	0118.0	1.0D	76.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0127.0E	0128.0	2.0D	200.0			QL=4 ST=2 TYP=3
	2840	PEKG	45	C	0203.0	0205.3	5.0	60.6			
	8800	LEAR	4	S/F	0204.0E	0205.0	8.0D	190.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0204.0E	0205.0	8.0D	120.0			QL=4 ST=2 TYP=3
	15400	LEAR	4	S/F	0204.0E	0206.0	8.0D	140.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0205.0E	0205.0	7.0D	52.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	0205.0E	0206.0	1.0D	140.0			QL=4 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
30	4995	PALE	4	S/F	0205.0E	0205.0	5.0D	96.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0205.0E	0205.0	1.0D	56.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0205.0E	0205.0	5.0D	160.0			QL=4 ST=2 TYP=5
	410	LEAR	8	S	0207.0E	0207.0	1.0D	54.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0248.0E	0249.0	3.0D	170.0			QL=4 ST=2 TYP=3
	2840	PEKG	45	C	0406.0	0415.5	23.0	178.7			
	15400	LEAR	4	S/F	0414.0E	0415.0	5.0D	55.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0414.0E	0415.0	5.0D	130.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0414.0E	0415.0	19.0D	240.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0415.0E	0417.0	8.0D	180.0			QL=4 ST=2 TYP=3
	1415	LEAR	49	GB	0415.0E	0418.0	11.0D	900.0			QL=4 ST=2 TYP=6
	245	LEAR	49	GB	0416.0E	0417.0	6.0D	5200.0			QL=2 ST=2 TYP=6
	610	LEAR	49	GB	0416.0E	0417.0	17.0D	3100.0			QL=4 ST=2 TYP=6
	410	LEAR	49	GB	0416.0E	0417.0	18.0D	4600.0			QL=4 ST=2 TYP=6
	500	HIRA	46	C	0416.7	0417.0	22.0	4500.0	175.0		O
	500	HIRA	46	C	0416.7	0423.5		436.0			MR
	200	HIRA	8	S	0416.8	0417.2	0.5	4500.0			O
	410	LEAR	4	S/F	0448.0E	0452.0	7.0D	68.0			QL=4 ST=2 TYP=5
	245	LEAR	8	S	0450.0E	0450.0	1.0D	33.0			QL=2 ST=2 TYP=3
	650	GORK	21	GRF	0636.0E	0658.1	270.0D	11.0			
	200	GORK	41	F	0636.0	0711.7		190.0			
	200	GORK	41	F	0636.0	0655.7	55.3	420.0			
	200	GORK	41	F	0636.0	0656.9		1200.0			
	950	GORK	23	GRF	0639.0E	0655.0	116.8D	14.0			
	100	GORK	41	F	0649.0	0723.2		600.0			
	100	GORK	41	F	0649.0	0655.8	35.0	240.0			
	2950	GORK	21	GRF	0650.8	0913.7	277.9	23.0			
	200	HIRA	46	C	0652.1	0656.1	6.6	485.0			O
	9100	GORK	22	GRF	0652.5	0723.7	273.0	16.0			
	5900	KISV	46	C	0653.4	0655.0		13.0			
	5900	KISV	46	C	0653.4	0657.1		21.0			
	5900	KISV	46	C	0653.4	0657.6	9.9	25.0			
	245	LEAR	49	GB	0654.0E	0655.0	4.0D	510.0			QL=2 ST=2 TYP=6
	15000	KISV	46	C	0654.7	0655.0		6.0			
	15000	KISV	46	C	0654.7	0657.1	4.3	9.0			
	15000	KISV	46	C	0654.7	0657.6		8.0			
	15000	KISV	46	C	0654.7	0655.8		6.0			
	245	SVTO	49	GB	0655.0E	0656.0	4.0D	650.0			QL=2 ST=3 TYP=6
	410	LEAR	8	S	0657.0E	0658.0	1.0D	23.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0658.0E	0658.0	U	4.0			QL=4 ST=2 TYP=3
	610	SVTO	4	S/F	0711.0E	0715.0	1009.0D	84.0			QL=2 ST=1 TYP=3
	9100	GORK	4	S/F	0719.1	0720.6	2.9	37.0			
	5900	KISV	23	GRF	0719.1	0720.6	11.3	24.0			
	8800	SVTO	4	S/F	0720.0E	0724.0	4.0D	43.0			QL=2 ST=2 TYP=5
	2840	PEKG	5	S	0722.0	0723.3	4.0	56.2			
	2950	GORK	3	S	0722.6	0723.4	1.6	41.0			
	2850	CRIM	1	S	0722.9	0723.3	1.2	64.0	10.0		
	650	GORK	2	S/F	0722.9	0723.4	0.9	22.0			
	410	LEAR	49	GB	0723.0E	0723.0	3.0D	820.0			QL=4 ST=2 TYP=6
	4995	LEAR	4	S/F	0723.0E	0723.0	7.0D	60.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0723.0E	0723.0	U	32.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0723.0E	0723.0	U	55.0			QL=4 ST=2 TYP=3
	410	SVTO	49	GB	0723.0E	0724.0	2.0D	860.0			QL=4 ST=2 TYP=6
	5900	KISV	4	S/F	0723.0	0723.4	1.7	37.0			
	950	GORK	3	S	0723.1	0723.4	0.7	23.0			
	15000	KISV	2	S/F	0723.1	0723.4	6.0	15.0			
	1415	SVTO	8	S	0724.0E	0724.0	U	28.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0724.0E	0724.0	U	54.0			QL=4 ST=2 TYP=3
	4995	SVTO	8	S	0724.0E	0724.0	U	59.0			QL=2 ST=2 TYP=3
	200	GORK	41	F	0846.8	0905.2		390.0			
	200	GORK	41	F	0846.8	0847.2U	33.0	25.0D			
	536	ONDR	41	F	0900.0		80.0	16.0			
	15400	SVTO	8	S	0900.0E	0900.0	U	54.0			QL=4 ST=2 TYP=3
	204	IZMI	45	C	0901.3	0905.0	4.5	500.0	200.0		
	5900	KISV	2	S/F	0903.0	0905.3	5.9	6.0			
	100	GORK	4	S/F	0904.5	0905.2U	1.4	30.0D			
	245	SVTO	8	S	0905.0E	0905.0	1.0D	200.0			QL=2 ST=2 TYP=3
	2850	CRIM	20	GRF	0911.0	0913.9	9.0	6.0	2.0		
	950	GORK	22	GRF	0930.0	1033.0	120.0	9.0			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
30	5900	KISV	22	GRF	1028.8	1035.5	15.3	7.0			
	1415	SVTO	8	S	1347.0E	1347.0	U	170.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1347.0E	1347.0	U	85.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1347.0E	1347.0	U	380.0			QL=2 ST=2 TYP=3
	430	KRAK	42	SER	1349.8	1358.1	14.1	220.0			
	113	POTS	4	S/F	1356.7	1357.6	3.2	700.0			
	3000	POTS	40	F	1357.0U	1358.0U	2.0U	33.0			
	9500	POTS	4	S/F	1357.0	1357.8	2.5	24.0			
	40	POTS	4	S/F	1357.1	1357.4	2.4	15000.0			
	2800	OTTA	4	S/F	1357.5	1358.0	2.0	48.6	15.0		
	1470	POTS	40	F	1357.5	1357.7	1.5	11.0			
	245	SVTO	49	GB	1358.0E	1358.0	1.0D	1700.0			QL=2 ST=2 TYP=6
	8400	BERN	3	S	1419.3	1420.5	50.0	31.0			
	5200	BERN	3	S	1419.3	1420.5	50.0	27.0			
	3200	BERN	3	S	1419.3	1420.5	50.0	25.0			
	11800	BERN	3	S	1419.3	1420.5	50.0	17.0			
	2800	OTTA	3	S	1420.0	1420.8	8.0	33.5	7.0		
	4995	SGMR	8	S	1420.0E	1420.0	U	54.0			QL=4 ST=2 TYP=3
	600	HUMN	41	F	1500.8	1501.6	2.2	33.0			
	610	SGMR	8	S	1501.0E	1501.0	2.0D	79.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1502.0E	1502.0	1.0D	71.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1502.0E	1503.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1503.0E	1503.0	1.0D	120.0			QL=4 ST=2 TYP=3
	2800	OTTA	22	GRF	1607.0	1658.0	70.0	7.1	3.0		
	8800	SGMR	8	S	1852.0E	1852.0	U	57.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2304.0E	2305.0	1.0D	140.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2305.0E	2305.0	U	130.0			QL=4 ST=2 TYP=3
31	200	GORK	44	NS	0624.0E		306.0D		5.0		
	100	GORK	44	NS	0624.0E		306.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	30.0			
	127	TORN	43	NS	0719.0		280.0D		10.0		V=1
	245	SVTO	43	NS	1018.0	1018.0	217.0	88.0			QL=4 ST=2 TYP=1
	610	LEAR	8	S	0201.0E	0202.0	1.0D	99.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0201.0E	0202.0	1.0D	74.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0202.0E	0202.0	U	53.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0202.0E	0202.0	U	86.0			QL=4 ST=2 TYP=3
	15400	LEAR	8	S	0209.0E	0210.0	1.0D	19.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0209.0E	0210.0	1.0D	16.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0209.2	0210.6	2.9	130.0			O
	610	LEAR	8	S	0210.0E	0210.0	U	42.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0210.0E	0210.0	U	190.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0210.0E	0210.0	1.0D	45.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0210.0E	0210.0	U	180.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0605.0E	0605.0	3.0D	110.0			QL=4 ST=2 TYP=3
	5900	KISV	25	R	0624.2	0634.1	18.8	26.0			
	245	LEAR	8	S	0725.0E	0725.0	1.0D	100.0			QL=4 ST=2 TYP=3
	2850	CRIM	20	GRF	0741.3	0744.0	13.0	11.0	4.0		
	9100	GORK	20	GRF	0743.5	0822.3	82.8	8.0			
	100	GORK	41	F	0751.0	0751.8	12.5	250.0			
	100	GORK	41	F	0751.0	0802.9		380.0			
	5900	KISV	45	C	0802.0	0802.4	1.3	4.0			
	5900	KISV	45	C	0802.0	0802.6		4.0			
	245	LEAR	8	S	0807.0E	0808.0	1.0D	86.0			QL=4 ST=2 TYP=3
	5900	KISV	2	S/F	0810.1	0812.3	4.4	5.0			
	5900	KISV	45	C	0821.1	0822.3		5.0			
	5900	KISV	45	C	0821.1	0822.9	5.1	5.0			
	200	GORK	41	F	0824.7	0835.2U		30.0D			
	200	GORK	41	F	0824.7	0825.9	11.3	65.0			
	245	SVTO	8	S	0828.0E	0828.0	U	58.0			QL=4 ST=2 TYP=3
	100	GORK	46	C	0833.0	0835.2		3660.0			
	100	GORK	46	C	0833.0	0833.8	2.5	250.0			
	113	POTS	41	F	0833.2	0835.2	2.5	2100.0			
	40	POTS	41	F	0833.6	0835.2	2.1	30000.0			
	410	LEAR	8	S	0834.0E	0835.0	1.0D	44.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0834.0E	0835.0	1.0D	96.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0835.0E	0835.0	1.0D	56.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0835.0E	0835.0	1.0D	85.0			QL=4 ST=2 TYP=3
	15000	KISV	29	PBI	0922.2	0949.2	99.3	336.0			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
31	5900	KISV	28	PRE	0924.6	0926.3	7.0	7.0			
	15000	KISV	28	PRE	0925.2	0926.4	3.0	7.0			
	9100	GORK	21	GRF	0925.3	0955.3	130.0D	117.0			
	245	LEAR	8	S	0926.0E	0926.0	2.0D	120.0			QL=4 ST=2 TYP=3
	15000	KISV	47	GB	0928.2	0942.0	21.0	3528.0			
	15000	KISV	47	GB	0928.2	0938.1		1444.0			
	15000	KISV	47	GB	0928.2	0933.4		138.0			
	9500	POTS	45	C	0931.0	0941.4	89.0	1765.0			
	9100	GORK	47	GB	0931.3	0934.1	22.6	2700.0			
	9100	GORK	47	GB	0931.3	0941.4		2880.0			
	950	GORK	21	GRF	0931.4	0950.3	118.6D	43.0			
	5900	KISV	30	PBI	0931.6	0954.0	97.2	134.0			
	5900	KISV	47	GB	0931.6	0941.5	22.4	3233.0			
	8800	LEAR	49	GB	0932.0E	0941.0	27.0D	2300.0			QL=4 ST=2 TYP=7
	15400	LEAR	49	GB	0932.0E	0941.0	36.0D	3700.0			QL=4 ST=2 TYP=7
	650	GORK	21	GRF	0932.0	0950.2	118.0D	85.0			
	3000	POTS	45	C	0932.0	0935.8	88.0U	1970.0D			
	2950	GORK	47	GB	0932.6	0936.0	17.8	1150.0			
	2950	GORK	47	GB	0932.6	0942.1		1200.0			
	1415	LEAR	49	GB	0933.0E	0943.0	32.0D	550.0			QL=4 ST=2 TYP=7
	2695	LEAR	49	GB	0933.0E	0935.0	38.0D	1600.0			QL=4 ST=2 TYP=6
	4995	LEAR	49	GB	0933.0E	0941.0	34.0D	1600.0			QL=4 ST=2 TYP=7
	4995	SVTO	49	GB	0933.0E	0942.0	52.0D	1600.0			QL=2 ST=2 TYP=7
	19600	BERN	47	GB	0933.0	0942.0	200.0	2460.0			
	3200	BERN	47	GB	0933.0	0942.0	200.0	369.0			
	50000	BERN	47	GB	0933.0	0942.0	200.0	1845.0			
	8400	BERN	47	GB	0933.0	0942.0	200.0	1722.0			
	35000	BERN	47	GB	0933.0	0942.0	200.0	2583.0			
	11800	BERN	47	GB	0933.0	0942.0	200.0	2152.0			
	5200	BERN	47	GB	0933.0	0942.0	200.0	1291.0			
	8800	SVTO	49	GB	0933.0E	0942.0	867.0D	2500.0			QL=2 ST=1 TYP=7
	15400	SVTO	49	GB	0933.0E	0942.0	867.0D	3500.0			QL=2 ST=1 TYP=7
	3013	IZMI	7	C	0933.0	0934.5	5.0	600.0	400.0		
	1470	POTS	45	C	0933.0	0943.5	87.0	715.0			
	810	KRAK	45	C	0933.2	0947.0U		280.0D			
	810	KRAK	45	C	0933.2	0942.2	25.5	280.0D	110.0		
	430	KRAK	45	C	0933.3	0942.2	23.5	98.0	25.0		
	33	UPIC	32	ABS	0933.5	0942.0	64.5				
	600	HUMN	47	GB	0933.9	0947.8	44.2	161.0	20.0		
	650	GORK	46	C	0933.9	0947.9		530.0			
	650	GORK	46	C	0933.9	0941.9	16.3	255.0			
	2695	SVTO	49	GB	0934.0E	0936.0	47.0D	1500.0			QL=4 ST=2 TYP=6
	950	GORK	46	C	0934.1	0943.3	16.2	250.0			
	950	GORK	46	C	0934.1	0947.9		284.0			
	1415	SVTO	49	GB	0935.0E	0944.0	22.0D	500.0			QL=4 ST=2 TYP=7
	3013	IZMI	22	GRF	0937.7	0941.8	12.0	501.0	250.0		
	610	LEAR	4	S/F	0938.0E	0947.0	13.0D	270.0			QL=4 ST=2 TYP=5
	610	SVTO	49	GB	0939.0E	0940.0	11.0D	590.0			QL=2 ST=2 TYP=6
	100	GORK	46	C	0939.7	0942.0		250.0			
	100	GORK	46	C	0939.7	0942.2		260.0			
	100	GORK	46	C	0939.7	0940.9	5.8	250.0			
	245	LEAR	4	S/F	0940.0E	0940.0	13.0D	77.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0940.0E	0941.0	11.0D	84.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0941.0E	0941.0	U	70.0			QL=4 ST=2 TYP=3
	410	SVTO	4	S/F	0941.0E	0946.0	9.0D	65.0			QL=4 ST=2 TYP=5
	204	IZMI	5	S	0945.3	0945.9	1.0		250.0		
	2950	GORK	30	PBI	0950.4	0950.4	105.6D	210.0			
	5900	KISV	4	S/F	1027.4	1031.5	7.9	58.0			
	3000	POTS	3	S	1030.0	1032.5	5.0	27.0			
	1470	POTS	3	S	1030.0	1031.6	5.0	31.0			
	2950	GORK	4	S/F	1030.5	1031.5	4.0	28.0			
	3013	IZMI	5	S	1030.5	1032.5	5.5	20.0	10.0		
	9100	GORK	1	S	1030.6	1031.5	3.7	11.0			
	650	GORK	1	S	1030.7	1031.8	2.5	3.0			
	950	GORK	2	S/F	1030.7	1031.8	3.7	4.0			
	9500	POTS	3	S	1031.0	1032.0	4.0	43.0			
	200	GORK	4	S/F	1057.2	1057.4	0.5	190.0			
	113	POTS	4	S/F	1057.3	1057.4	1.1	550.0			
	430	KRAK	42	SER	1307.5	1308.0	3.6	310.0D			

S O L A R R A D I O E M I S S I O N
Outstanding Occurrences

DECEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
31	810	KRAK	8	S	1307.5	1308.0	0.8	108.0			
	610	SGMR	8	S	1308.0E	1309.0	1.0D	120.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1308.0E	1309.0	1.0D	180.0			QL=4 ST=2 TYP=3
	113	POTS	4	S/F	1308.5E	1312.0	6.0D	420.0			
	600	HUMN	2	S/F	1308.5	1308.8	0.5	70.0	20.0		
	410	SVTO	8	S	1309.0E	1309.0	2.0D	120.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1309.0E	1309.0	2.0D	210.0			QL=2 ST=2 TYP=5
	40	POTS	4	S/F	1309.2	1312.0	6.4	4900.0			
	9500	POTS	42	SER	1310.0	1315.3	8.0	15.0			
	410	SGMR	8	S	1311.0E	1311.0	U	56.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1312.0E	1312.0	U	56.0			QL=4 ST=2 TYP=3
	9500	POTS	3	S	1347.0	1348.0	2.0	11.0			
	245	SGMR	8	S	1516.0E	1517.0	2.0D	67.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1613.2	1616.8	10.6	16.6	3.0		
	2800	OTTA	4	S/F	1639.5	1640.7	6.0	16.6	3.0		
	245	SGMR	8	S	1917.0E	1917.0	U	58.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1949.0E	1950.0	1.0D	97.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1949.0E	1949.0	1.0D	90.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2258.0E	2258.0	U	110.0			QL=4 ST=2 TYP=3

Reports are received routinely from the following observatories:

BERN = Berne	IZMI = IZMIRAN	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	KISK = Kislovodsk	OTTA = Ottawa	SYDN = Sydney
GORK = Gorky	KRAK = Krakow	PALE = Palehua	TORN = Torun
HIRA = Hiraiso	LEAR = Learmonth	PENT = Penticton	TRST = Trieste
HUAN = Huancayo	NOBE = Nobeyama	POTS = Potsdam	TYKW = Toyokawa
		SGMR = Sagamore Hill	UPIC = Upice

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precusor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major

1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A

RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Ottawa, Canada 2800 MHz; Hiraiso, Japan 500 and 200 MHz; and Toyokawa, Japan 9400, 3750, 2000 and 1000 MHz.

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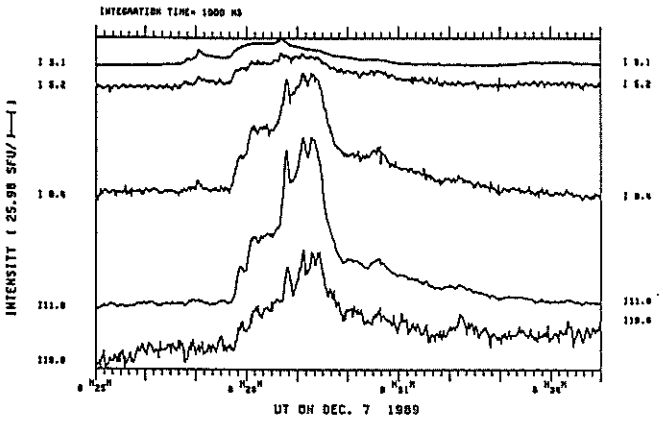
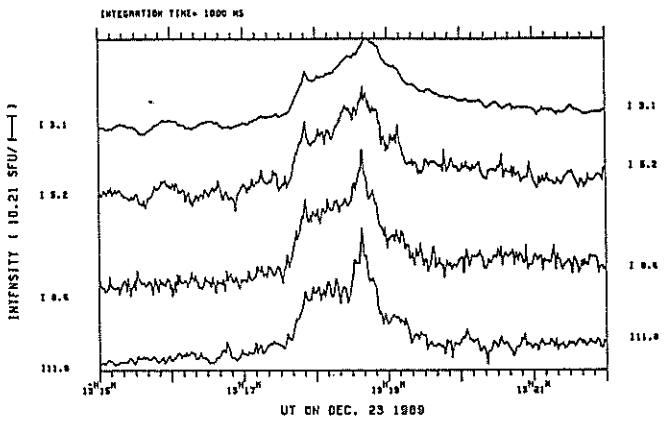
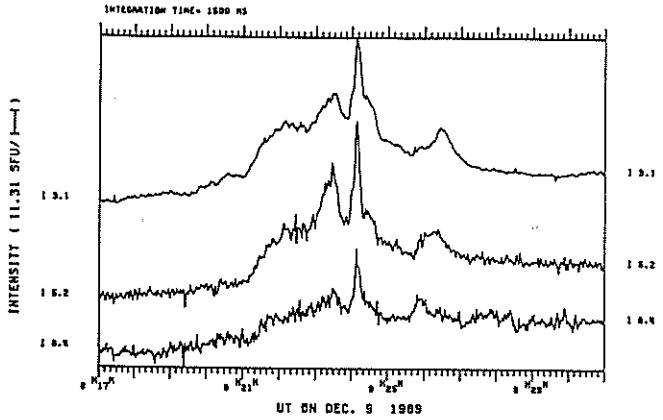
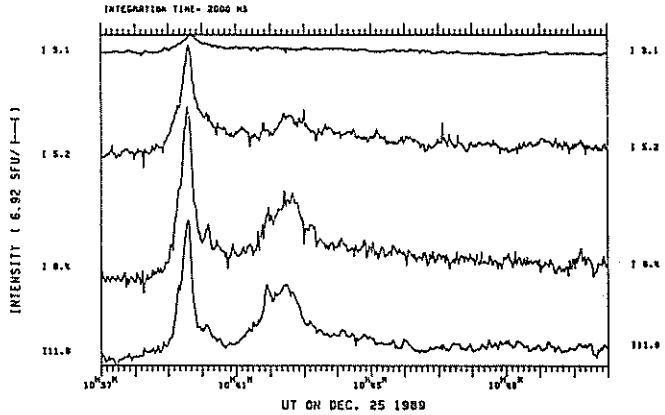
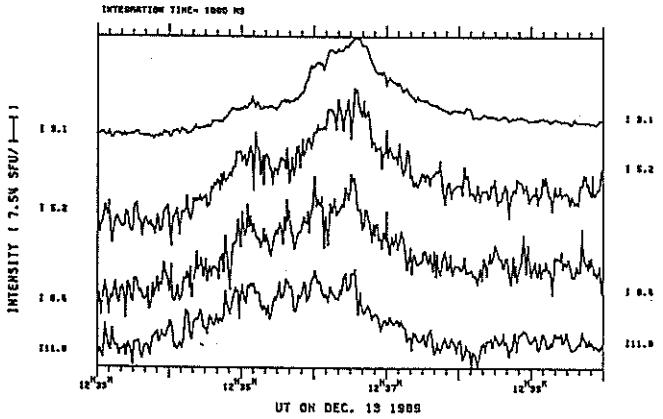
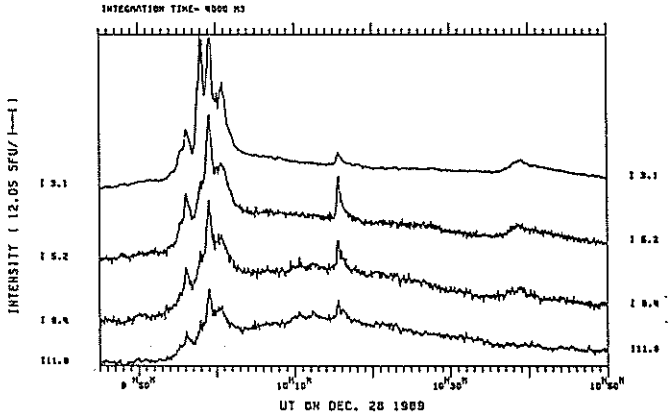


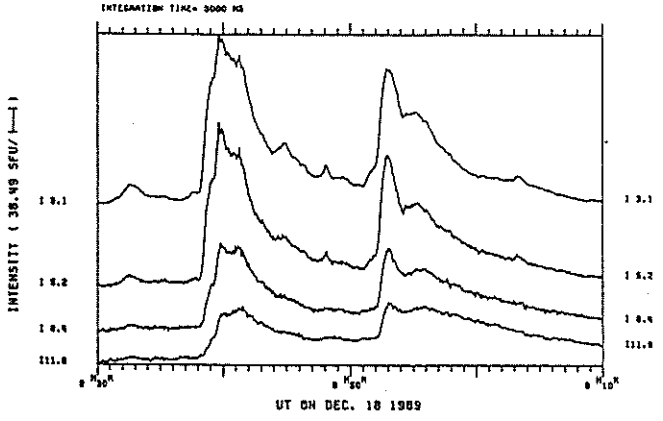


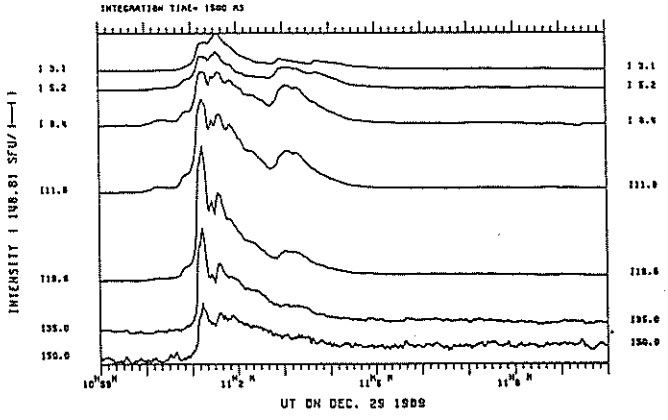




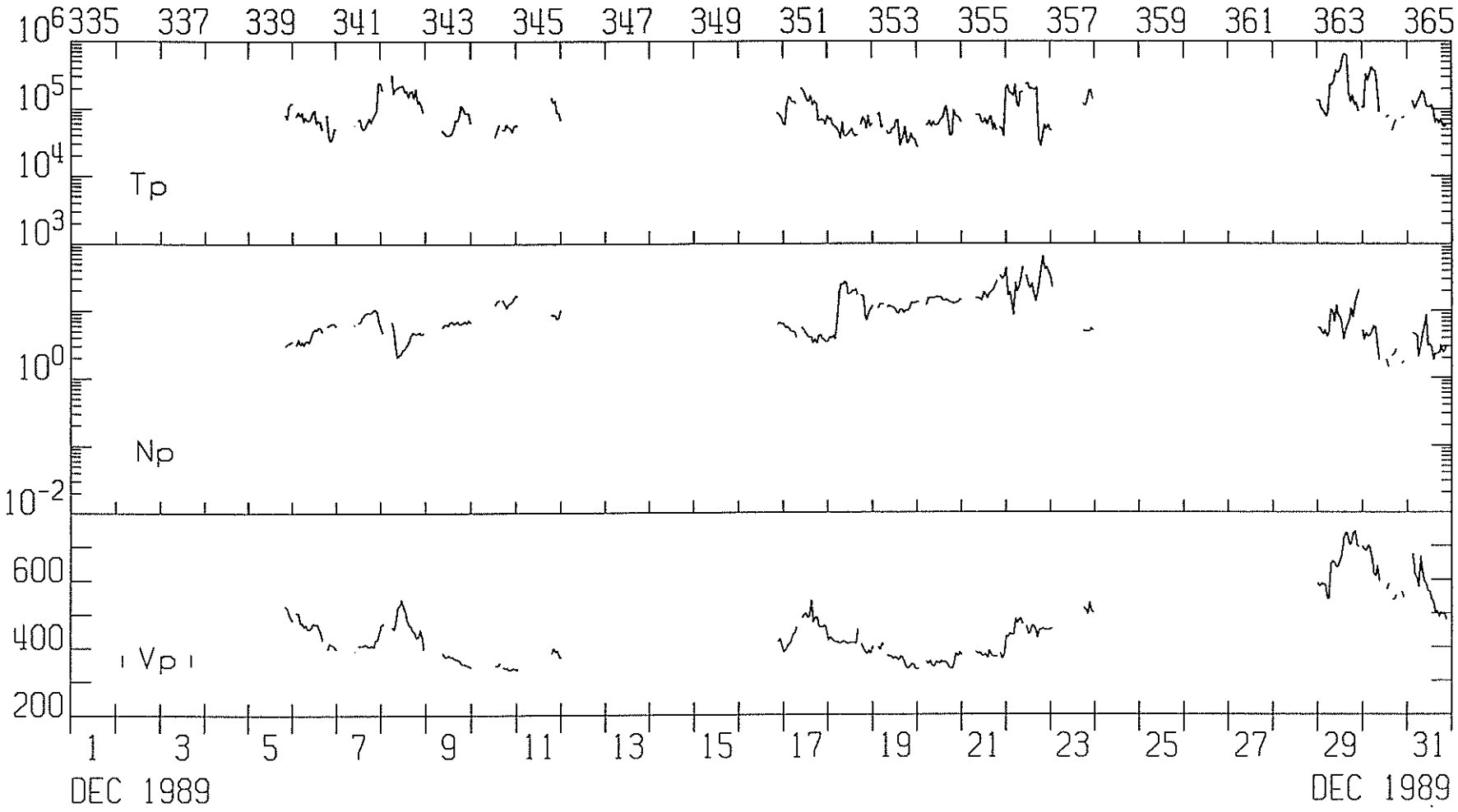








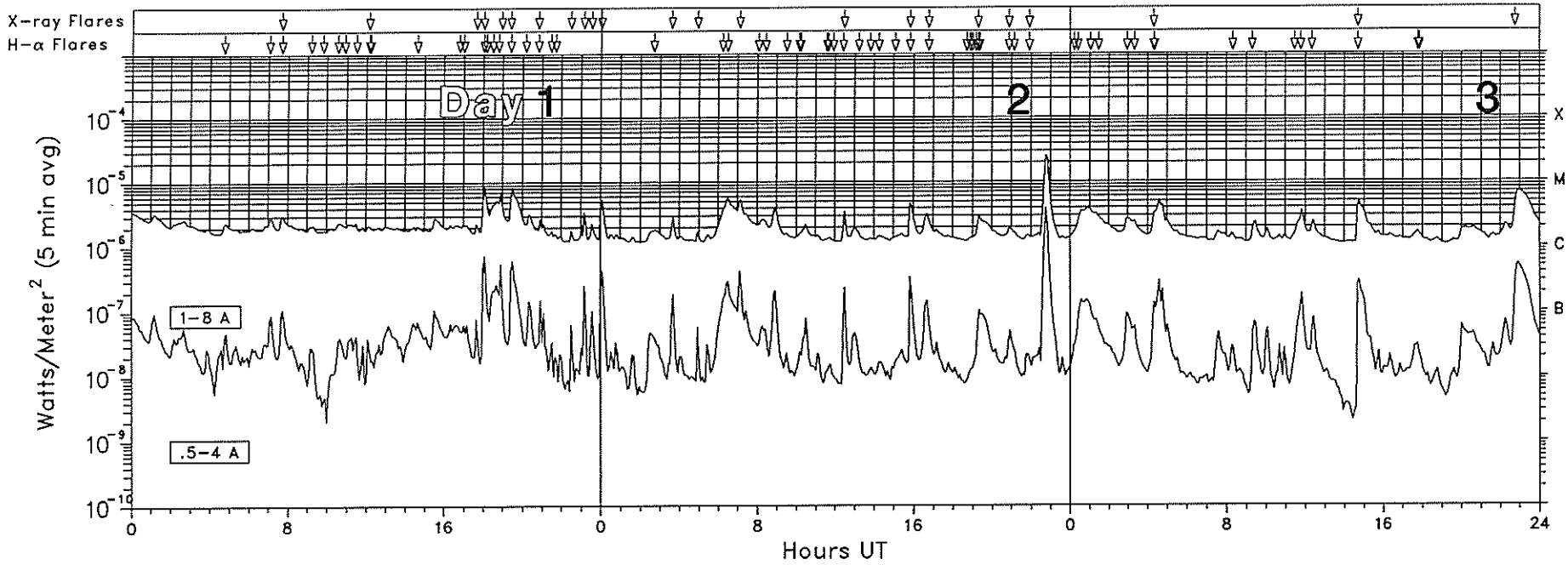
IMP 8 SOLAR WIND PLASMA
DECEMBER 1989

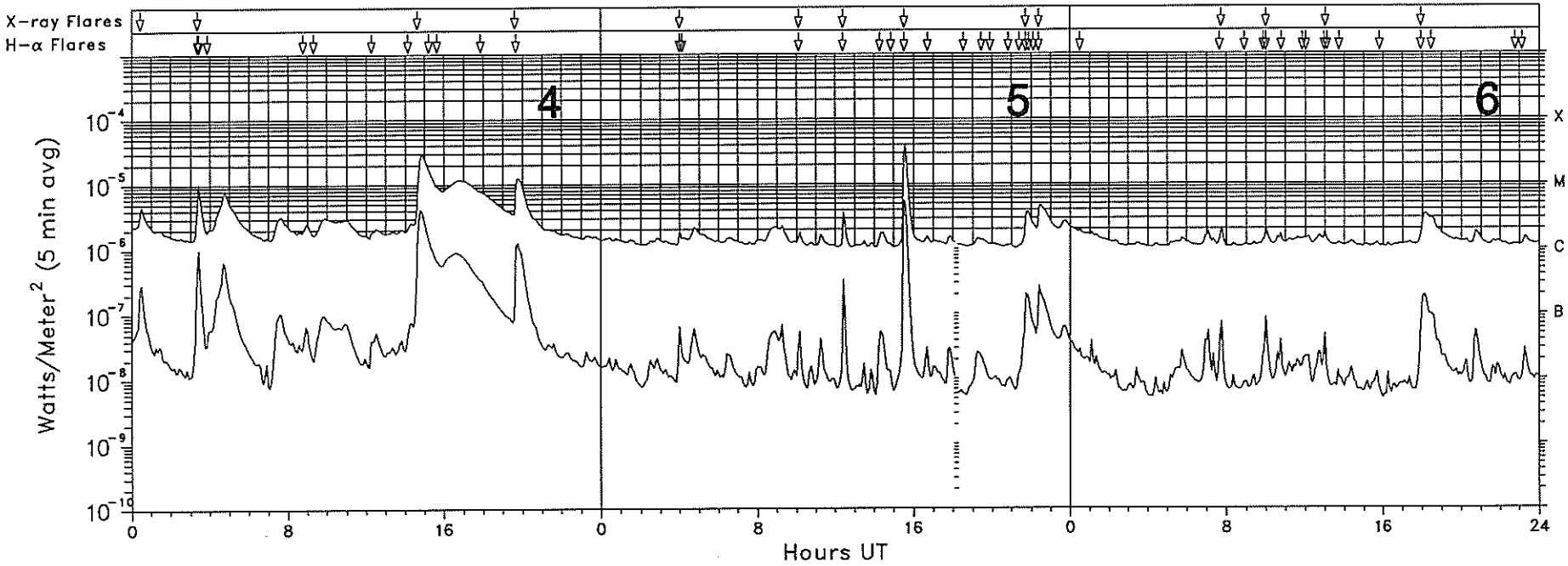


IMP 8 MIT PRELIMINARY ONE-HOUR AVERAGES

GOES-7 X-RAY DETECTOR

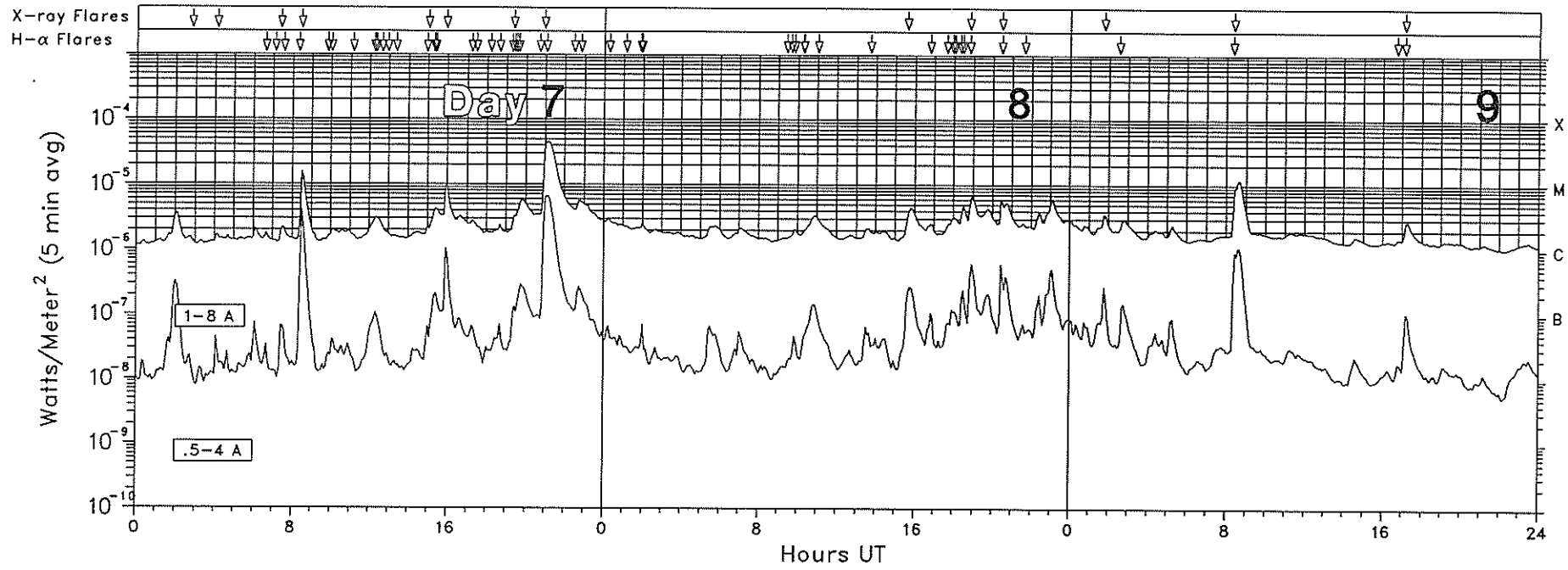
December 1989

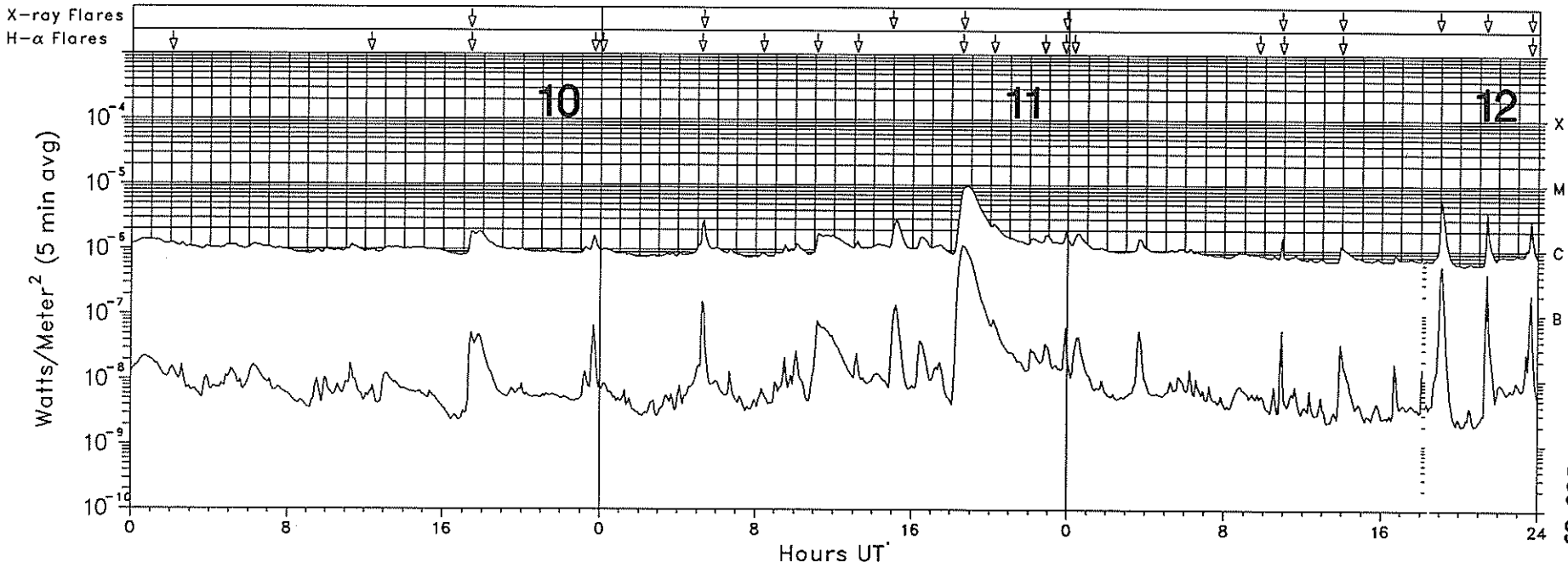




GOES-7 X-RAY DETECTOR

December 1989





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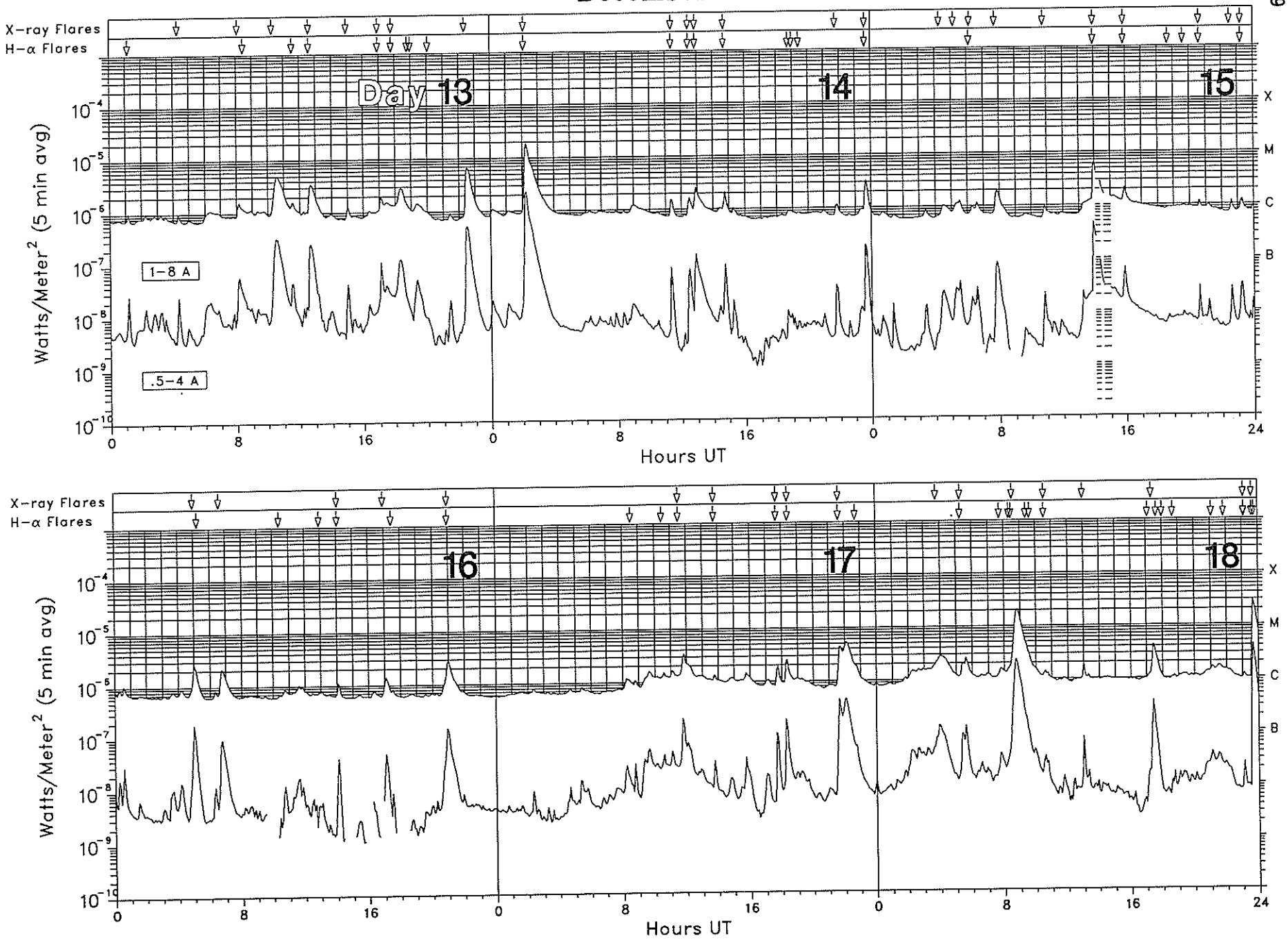
Dec 89

GOES-7 X-RAY DETECTOR

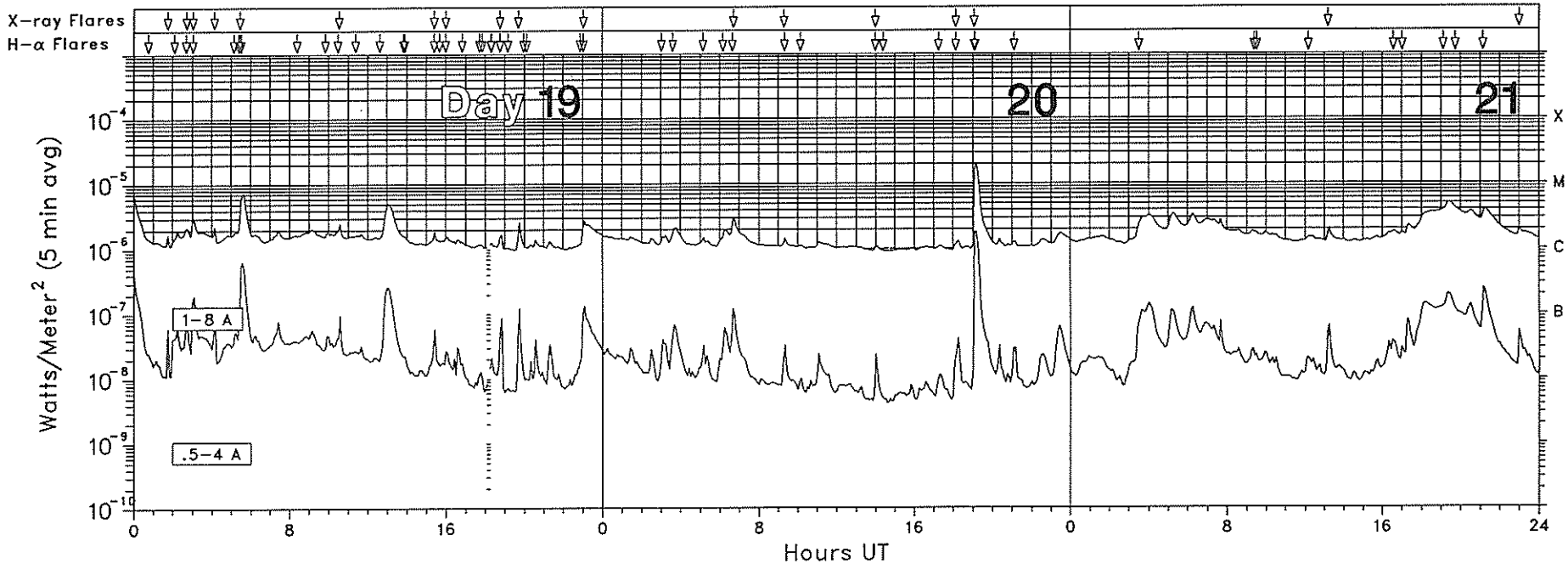
December 1989

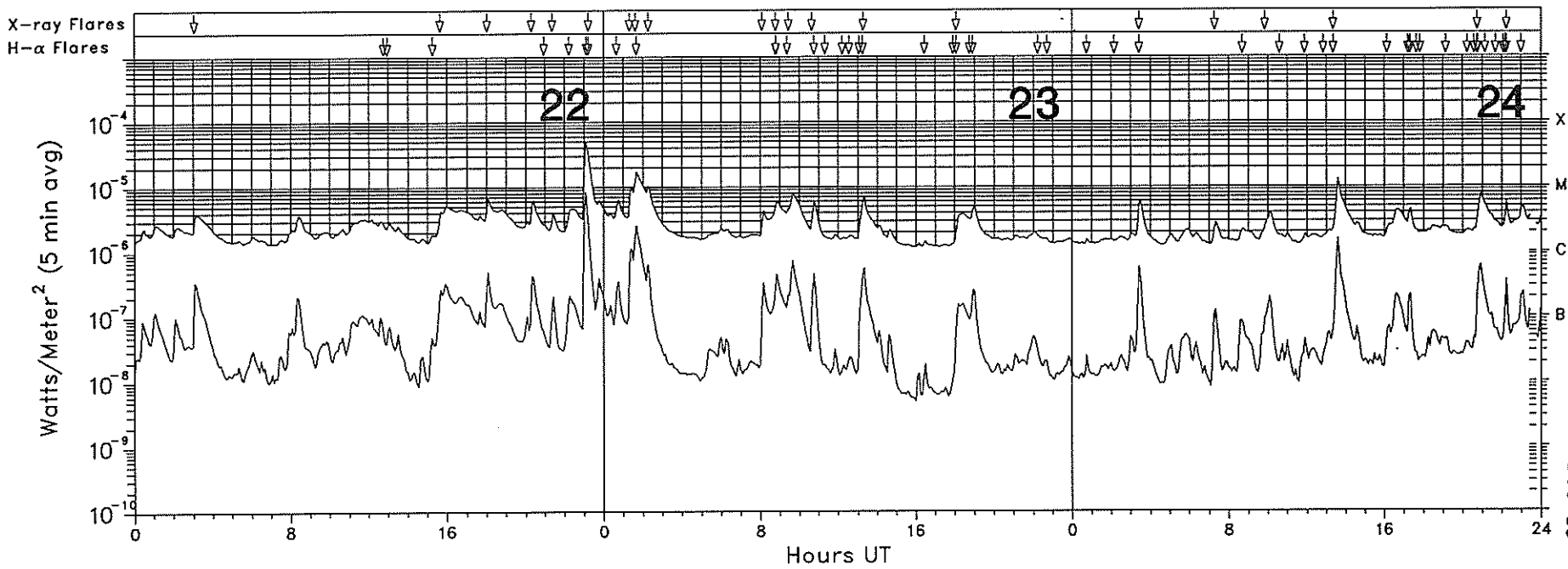
Dec 89



GOES-7 X-RAY DETECTOR

December 1989





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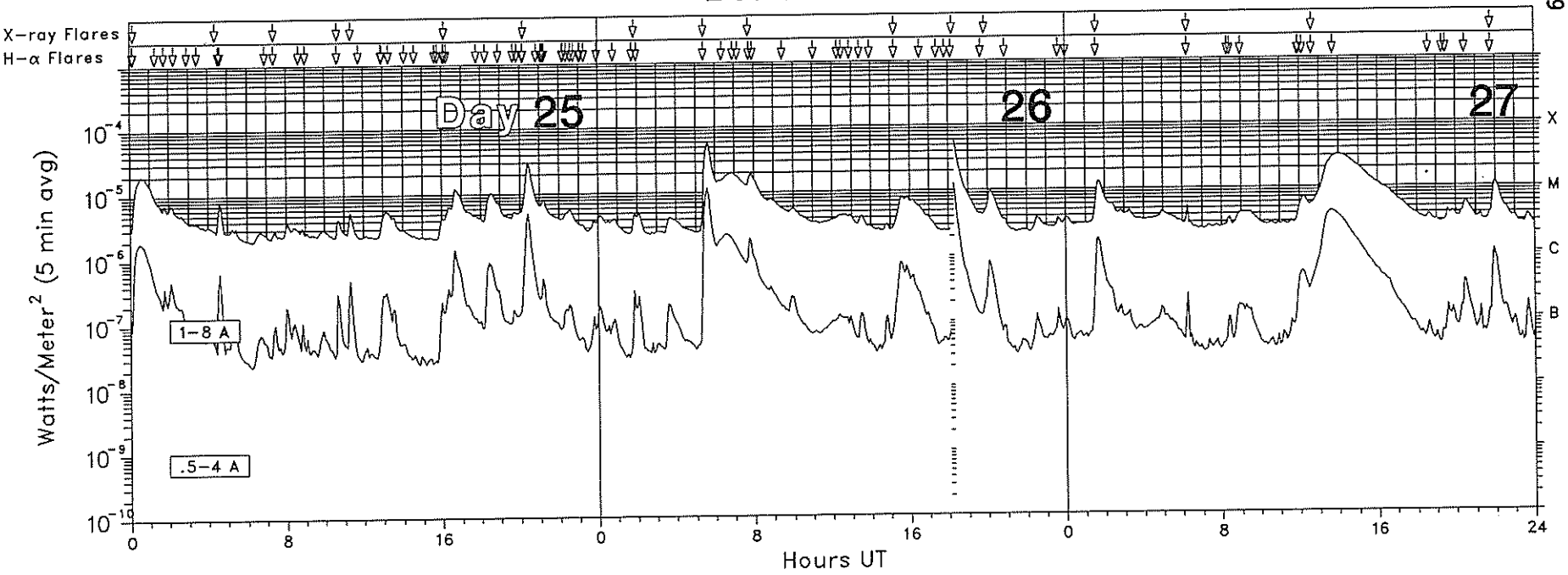
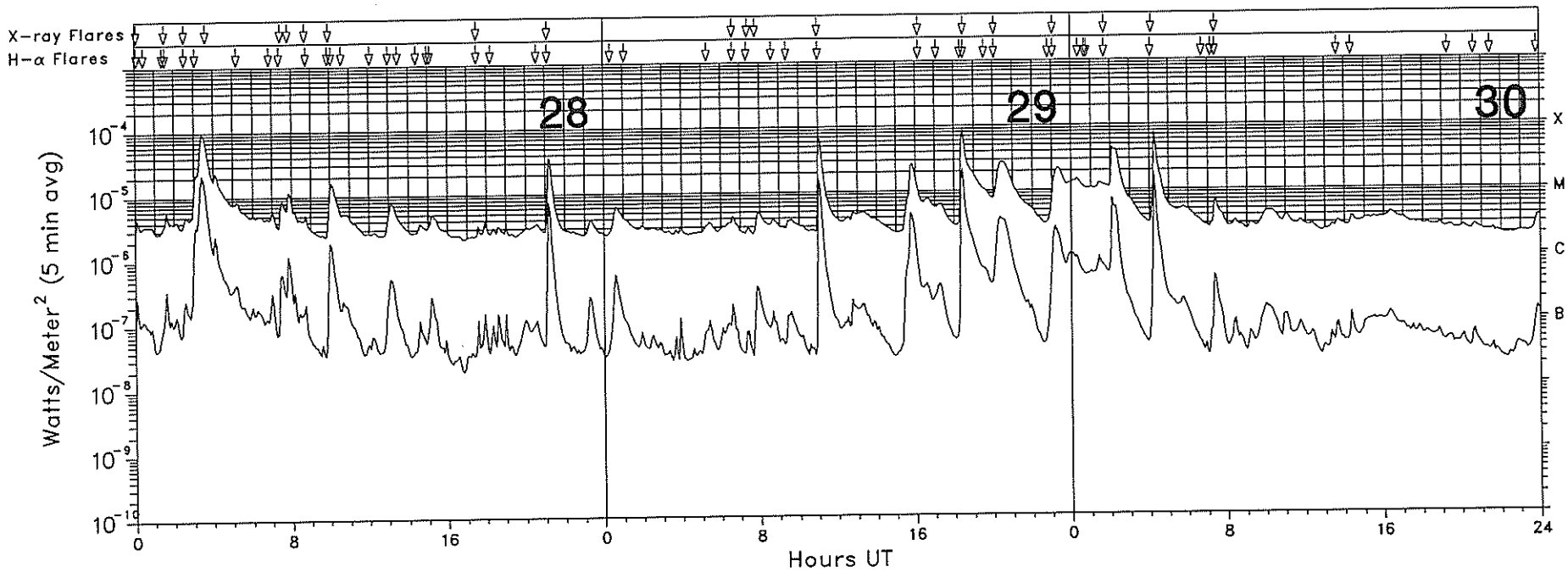
Dec 89

GOES-7 X-RAY DETECTOR

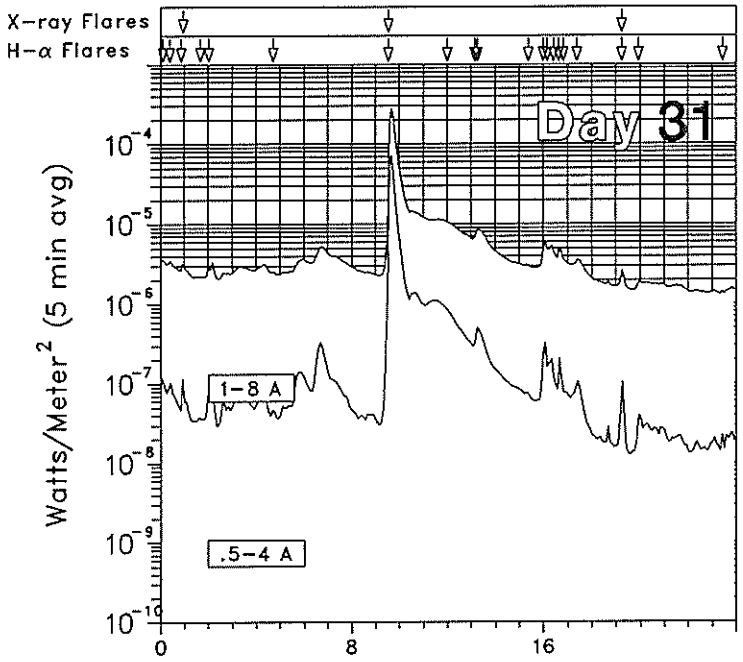
December 1989





GOES-7 X-RAY DETECTOR

December 1989



GOES S O L A R X-RAY F L A R E S
Preliminary Listing

December 1989

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
01	0741E	0743	0753D	S05	W77	SF	C3.5	5808
01	1208E	1209	1216D	N22	W68	SF	C2.8	5800
01	1739	1743	1746				C2.6	
01	1801E	1807	1816D	N24	W69	SF	C9.7	5800
01	1856E	1858	1904D	N24	W69	SF	C8.5	5800
01	1923E	1930	2034D	N17	W33	2N	C8.9	5806
01	2048E	2058	2112D	N22	W72	SF	C2.5	5800
01	2229	2234	2237				C1.9	
01	2308	2315	2318				C3.8	
01	2333	2337	2341				C2.4	
02	0001	0006	0012				C6.7	
02	0336	0342	0346				C3.1	
02	0455	0458	0501				C1.9	
02	0706	0710	0714				C6.6	
02	1228E	1231	1247D	N21	W43	SN	C3.8	5806
02	1550E	1551	1629D	N08	E36	1N	C5.6	5817
02	1645E	1645	1652D	N14	E63	SF	C3.3	5818
02	1917E	1918	1934D	N16	E58	1F	C2.9	5818
02	2052E	2053	2107D	S13	W47	SF	C2.0	5814
02	2154E	2247	2330D	N15	W43	2B	M3.0	5806
03	0418E	0421	0431D	N17	E65	SF	C5.3	5821
03	1441E	1444	1453D	N19	W45	1N	C5.2	5806
03	2245	2301	2329				C6.9	
04	0026	0032	0039				C4.7	
04	0322E	0327	0356D	N15	W58	1N	M1.1	5806
04	1437	1453	1848				M2.9	
04	1936	1953	2030D	N15	W62	1N	M1.2	5806
05	0400E	0400	0404D	N10	W04	SF	C2.3	5817
05	1007	1011	1016				C1.9	
05	1224E	1227	1253D	N10	W09	SF	C5.6	5817
05	1531E	1533	1600D	N16	W76	1B	M5.6	5806
05	2142E	2154	2238D	N14	E19	SN	C4.1	5826
05	2223E	2224	2314D	S22	W46	SF	C4.9	5809
06	0744E	0745	0747D	N20	W85	SF	C2.3	5806
06	1000E	1001	1007D	N10	W20	SF	C2.1	5817
06	1302	1302U	1307D	N13	W21	SF	C2.0	5817
06	1756E	1813U	1910	S12	W66	SF	C3.4	5822
07	0250	0305	0315				C4.0	
07	0406	0409	0414				C1.8	
07	0724	0734	0743				C2.2	
07	0828	0834	0850				M1.7	
07	1501E	1501	1512D	N25	W41	SF	C2.4	5829
07	1556E	1558	1611D	N20	W76	SF	M1.4	5810
07	1922	1942U	2044	N11	W38	SF	C5.9	5817
07	2056E	2103	2200D	S21	W81	1B	M4.5	5822
08	1537	1553	1605				C4.6	
08	1849E	1852	1858D	N21	W89	SF	C6.9	5810
08	2027E	2033	2043	N23	W90	SF	C6.7	5810
09	0145	0149	0156				C3.8	
09	0822E	0840	0920D	N21	W12	SN	M1.2	5821
09	1707E	1710	1739	S10	E51	SF	C2.8	5830
10	1722E	1739	1803D	N15	W06	SF	C1.9	5827
11	0516E	0517	0532D	N20	W37	SF	C3.4	5821
11	1457	1511	1525				C3.0	
11	1836	1837U	1920	N20	W45	SN	C9.7	5821
11	2353E	2356	0006D	N13	W11	SF	C2.2	5827
12	1052	1058	1100				C1.8	
12	1356	1356U	1536	N13	W19	SF	C1.2	5827
12	1857	1907	1914				C6.2	
12	2121	2127	2130				C5.0	
12	2338E	2340	2346D	N14	E78	SF	C3.3	5836
13	0418	0422	0426				C1.0	
13	0806	0811	0819				C1.6	
13	1018	1038	1059				C5.0	
13	1235E	1237	1305D	N14	E73	SB	C3.5	5836
13	1457	1503	1511				C1.3	
13	1655E	1659	1724D	N20	E90	SN	C2.0	5837
13	1747E	1756	1807D	N19	E90	SF	C3.0	5837
13	2222	2232	2247				C6.7	
14	0207E	0212	0247D	N09	E72	1F	M1.9	5836
14	1122E	1124	1142D	N12	E64	SF	C2.1	5836
14	1227E	1228	1240D	N10	E65	SF	C1.7	5836
14	1252E	1255	1331D	N11	E60	1F	C2.7	5836
14	1441E	1443	1452D	N20	E73	SF	C2.3	5837
14	2145	2150	2156				C1.2	
14	2337E	2338	2352D	N20	E74	SF	C3.5	5837
15	0416	0432	0451				C1.1	
15	0510	0532	0538				C1.3	
15	0609E	0617	0640D	N27	E45	SN	C1.2	5835
15	0743	0753	0805				C1.9	
15	1047	1052	1059				C1.0	
15	1356E	1359	1437D	N21	E64	1N	C7.9	5837
15	1552E	1558	1613D	N09	E43	SF	C2.2	5836
15	2036E	2038	2044D	N11	E41	SF	C1.3	5836
15	2230E	2236	2245D	N15	E37	1F	C1.3	5836
15	2312E	2315	2323D	N10	E45	SF	C1.3	5836
16	0457	0502	0512				C2.6	
16	0637	0648	0704				C2.2	
16	1404E	1405	1418D	N12	E36	SF	C1.1	5836
16	1657	1709	1718				C1.5	
16	2057	2100U	2123	N21	E45	SF	C2.8	5837
17	1130E	1152	1220D	N19	E63	SF	C3.5	5846
17	1346E	1348	1352D	N19	E60	SF	C1.5	5846
17	1740E	1744	1823D	N18	E58	SF	C3.6	5846
17	1823E	1825	1829D	S09	W38	SF	C2.8	5844
17	2138E	2145	2241D	N18	E58	SF	C5.3	5846
18	0345	0400	0423				C2.8	
18	0515E	0535	0549D	N18	E52	SF	C2.7	5846
18	0831E	0849	0929D	N19	E50	1F	M2.0	5846
18	1033E	1036	1042	S10	W43	SF	C1.5	5844
18	1259	1303	1306				C2.3	
18	1720E	1728	1756D	S08	W49	1F	C4.5	5844
18	2306E	2308	2315D	N34	W57	SF	C1.5	5847
18	2336E	2340	0014D	N20	E22	2B	M3.2	5837
19	0145	0149	0151				C2.2	
19	0242E	0244	0303D	N35	W59	SF	C3.3	5847
19	0302E	0302	0313D	S09	W57	SF	C3.2	5844
19	0408	0411	0414				C2.8	
19	0527E	0542	0557D	N20	E18	SF	C7.7	5837
19	1032E	1037U	1053	N20	E32	SF	C2.8	5846
19	1524E	1525	1532D	N19	E31	SF	C2.1	5846
19	1559E	1605	1613D	N32	W64	SF	C1.8	5847
19	1845E	1851	1856D	N17	E27	SF	C2.5	5846
19	1941	1947	1952				C2.9	
19	2302E	2305	2317D	N22	E09	1N	C3.2	5837

GOES S O L A R X-RAY F L A R E S
Preliminary Listing

December 1989

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
20	0641E	0642	0653D	N22	E02	SF	C3.2	5837
20	0917	0921	0923				C1.7	
20	1359E	1400	1417D	N31	W75	SF	C1.4	5847
20	1808E	1809	1824D	S09	W77	SF	C1.5	5844
20	1903E	1906	2008D	N21	E19	2B	M2.3	5846
21	1312	1316	1320				C2.1	
21	2300	2303	2307				C2.2	
22	0304	0311	0343				C3.8	
22	1539	1602	1711				C5.2	
22	1801	1808	1819				C6.8	
22	2018	2025	2033				C6.8	
22	2122	2127	2135				C4.1	
22	2314E	2314	2320D	N21	E71	SF	M5.2	5854
23	0118	0125	0135				M1.1	
23	0137	0144	0216				M1.7	
23	0216	0219	0241				M1.2	
23	0805	0813	0826				C4.4	
23	0847	0853	0903				C6.1	
23	0927E	0927	1006	N31	E81	SF	C8.2	5854
23	1040	1049	1058				C5.9	
23	1316E	1319	1336D	N28	E78	1N	C8.0	5854
23	1805E	1812	1915D	S10	E73	1F	C5.3	5853
24	0325E	0326	0337D	S11	E63	SF	C6.1	5853
24	0716	0723	0731				C2.8	
24	0951	1010	1018				C4.1	
24	1321E	1336	1440	S30	W41	1F	M1.3	5850
24	2045E	2059	2120	S11	E49	SF	C7.9	5853
24	2215	2219U	2222D	S26	W47	SF	C7.6	5850
25	0010E	0015	0059E	S11	E52	2F	M2.0	5853
25	0423E	0433	0455D	N18	E51	SF	C8.7	5854
25	0723E	0724	0728D	S27	E32	SF	C3.3	5852
25	1040	1040U	1120D	S22	E27	SF	C5.1	5852
25	1122E	1126	1130D	S08	E49	SF	C6.0	5853
25	1608E	1640	1731D	S26	E24	1N	M1.2	5852
25	2011E	2024	2055D	S25	E22	1N	M3.1	5852
26	0150E	0152	0203D	S25	E17	SF	C5.5	5852
26	0524E	0539	0619D	S27	E14	1N	M5.9	5852
26	0742E	0814	1246D	N25	E37	1F	M2.0	5854
26	1512	1615	1725D	S26	E10	1F	C8.2	5852
26	1810E	1811	1914D	S26	E09	1B	M6.9	5852
26	1951	2010	2025				C9.8	
27	0134E	0137	0208D	S26	E07	SF	M1.3	5852
27	0613E	0614	0622D	S14	E26	SF	C6.3	5853
27	1237E	1319	1603D	S26	W01	SN	M3.1	5852
27	2146E	2155	2309	N25	E17	1N	M1.1	5854
28	0005E	0006	0011D	S27	W02	SF	C4.8	5852
28	0131E	0134	0145D	S09	E17	1N	C6.2	5853
28	0232	0241	0245				C5.3	
28	0338	0349U	0530D	S25	W07	2B	M9.7	5852
28	0727E	0727	0745	S18	E36	SF	C9.2	5858
28	0749	0755	0818				M1.3	
28	0843	0846	0849				C5.8	
28	0957E	1007	1023D	S08	E15	SF	M1.6	5853
28	1731E	1735	1749D	S27	W13	SF	C3.6	5852
28	2108E	2115U	2137D	S18	E30	1B	M4.1	5858
29	0637E	0639	0645D	S19	E23	SF	C5.4	5858
29	0723E	0723	0729D	S20	E27	SF	C3.6	5858
29	0748E	0758	0823D	S18	E22	SF	C5.0	5858
29	1059	1105	1144				M8.1	
29	1610	1611U	1649	S19	E18	SF	M2.8	5858
29	1828	1829U	1835	S19	E21	SF	M9.7	5858
29	2004E	2030	2106D	S27	W33	SF	M2.8	5852
29	2304E	2304	2311D	S27	W34	SF	M2.2	5852
30	0142E	0206	0305D	S17	E15	1N	M5.3	5858
30	0409E	0418	0514D	S19	E09	1N	X1.0	5858
30	0722E	0723	0740D	S18	E10	SF	C8.8	5858
31	0057E	0057	0110D	S17	E03	SF	C4.1	5858
31	0932E	0945	1017D	S25	W51	2B	X2.8	5852
31	1914E	1914	1925D	S26	W53	SF	C2.7	5852

Preliminary GOES Satellite Data
Daily Average X-ray Background
January 1989 - December 1989

Day	1989 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	C1.7	C1.2	C1.3	B9.2	C1.0	B8.2	B9.2	C1.0	C3.9	C1.3	C1.2	C1.6
2	C2.1	C1.2	C1.3	C1.0	C1.0	C1.5	B9.4	B9.2	C2.5	C1.5	C1.4	C1.2
3	C2.2	C1.6	B9.8	C1.1	B9.1	C1.4	C1.1	C1.0	C1.9	C1.6	C1.2	C1.1
4	C2.0	C2.0	B7.0	C1.0	C1.6	C1.6	C1.1	C1.1	C1.9	C1.6	C1.3	C1.5
5	C1.9	C1.6	C1.3	C1.0	C1.2	C1.5	B8.7	C1.8	C1.7	C1.3	C1.3	C1.1
6	C2.4	C1.9	C2.7	B8.6	C1.1	C1.9	B8.2	C1.5	C2.3	C1.2	C1.7	C1.0
7	C4.7	C1.9	C2.5	C1.0	C1.4	C1.9	B7.2	C1.5	C2.1	C1.2	C1.9	C1.5
8	C4.6	C2.1	C1.9	C1.3	C1.3	C3.0	B7.2	C1.1	C2.5	C1.0	C2.5	C1.4
9	C3.4	C2.2	C2.1	B9.8	C1.3	C3.0	B7.0	C1.1	C2.3	C1.3	C2.9	C1.2
10	C2.5	C1.9	C2.5	B8.1	C1.3	C2.5	B6.5	C1.4	C2.7	C1.0	C2.3	B8.9
11	C3.1	C1.3	C2.8	C2.1	C1.0	C2.1	B6.8	C1.7	C2.3	C1.0	C1.7	B8.1
12	C2.3	C1.1	C2.3	C1.1	C1.0	C2.0	B6.2	C2.7	C3.8	---	C1.7	B7.2
13	C5.0	C1.3	C3.0	C1.2	B9.9	C2.3	B7.7	C2.0	C2.3	C2.7	C1.5	B7.3
14	C3.8	C2.0	C2.4	C1.2	B9.5	C2.7	B7.0	C2.7	C1.9	C1.4	C1.8	B7.4
15	C2.9	C1.5	C2.1	C1.1	B9.0	C3.3	B7.4	C4.3	C1.7	C1.4	C2.2	B6.3
16	C3.1	C1.7	C2.5	C1.1	B7.8	C4.1	B7.1	C7.9	C1.9	C1.1	C1.7	B6.2
17	C2.1	C1.4	C2.3	C1.4	B7.5	C2.7	B6.8	C3.5	C1.1	C1.2	C1.6	B6.8
18	C2.8	C1.3	C2.1	C1.1	B7.2	C2.5	B7.8	C1.3	C1.1	C2.0	C1.6	B8.8
19	C2.0	C1.5	C2.6	C1.0	B7.4	C2.5	B7.6	C1.0	C1.4	C3.2	C1.8	C1.1
20	C2.3	C1.4	C2.3	B9.5	C1.3	C2.3	B7.0	C1.1	B8.9	C1.7	C1.4	B9.6
21	C2.7	C1.7	*	B9.0	C1.3	C3.4	B8.6	C1.0	B8.3	C1.6	C1.5	C1.2
22	C2.1	C2.2	C1.8	C1.2	C1.7	C2.0	B7.6	C1.0	B8.9	---	C1.6	C1.5
23	C1.9	C1.5	C1.6	C1.4	C1.9	C1.7	B7.4	C1.5	B8.6	C2.4	C1.3	C1.2
24	C1.8	C1.4	C1.1	C1.4	C1.9	C1.1	B9.2	C1.5	B8.7	C1.8	C1.1	C1.4
25	C1.4	C1.5	C1.0	C1.0	C1.6	B8.3	B9.2	C1.0	C1.1	---	C1.2	C2.2
26	C1.3	C1.1	B8.9	B9.4	C1.2	B9.8	C1.0	B9.3	C1.5	C1.1	C1.3	C2.7
27	C1.3	B9.5	B9.9	B7.4	B7.5	C1.0	B9.5	B9.8	C1.6	C1.4	C1.3	C2.7
28	C1.1	C1.0	C1.1	B7.6	B7.9	C1.1	B8.8	B1.7	C1.8	C1.3	C1.1	C2.6
29	C1.1		C1.0	C1.0	B9.0	C1.2	C1.1	C2.7	C2.4	C1.4	C1.2	C2.7
30	C8.9		B8.8	B8.4	B9.2	C1.1	C1.0	C1.5	C1.3	C1.4	C1.8	C2.5
31	C1.0		B9.6		B9.7		C1.0	C1.6		C1.6		C1.8

MASS EJECTIONS FROM THE SUN

DECEMBER 1989

Site	Mo	Day	Observed UT Start	Max	End	Location RA*	R/Ro	Freq or Wavelength	Kind of Event
ABST	Dec	07	0626 E	0802 U	0802 D	291	1.00	H-alpha	SP
LEAR	Dec	07	0834.0		0844.0			Meter	II
SVTO	Dec	07	0835.0		0841.0			Meter	II
KHAR	Dec	08	0955 E	1005 U		285	0.79	H-alpha	S
KHAR	Dec	09	0900 E	0930 U		248	1.00	H-alpha	S
VORO	Dec	10	0205 E	0212 U	0232 D	202	0.4	H-alpha	SP
KHAR	Dec	11	0905 E	0925 U		282	1.00	H-alpha	S
VORO	Dec	14	0208	0210 U	0246	090	0.9	H-alpha	SP
LEAR	Dec	14	0215.0		0225.0			Meter	II
LEAR	Dec	16	0650.0		0658.0			Meter	II
SVTO	Dec	16	0651.0		0652.0			Meter	II
LEAR	Dec	18	2341.0		2356.0			Meter	II
PALE	Dec	18	2342.0		2344.0			Meter	II
VORO	Dec	19	0054	0058 U	0110	125	0.8	H-alpha	SP
WEIS	Dec	26	1135.0		1142.3			66- 30 MHz	II
VORO	Dec	28	0020	0022 U	0031	260	0.4	H-alpha	SP
VORO	Dec	28	0029	0034 U	0059	245	0.6	H-alpha	SP
VORO	Dec	28	0039	0042 U	0052	250	0.4	H-alpha	SP
SVTO	Dec	28	0949.0		1003.0			Meter	IV
LEAR	Dec	29	2259.0		0625.0			Meter	IV
SVTO	Dec	30	0636.0		0739.0			Meter	IV

QUALIFIERS ON START, MAX AND END TIMES
- D = event ended after tabulated time
- E = event began before the tabulated time
- U = uncertain time

TYPE OF EVENT
- A = eruptive active region prominence
- CB = coronal cloud bubble
- D = coronal depletions
- E = coronal enhancement
- EL = coronal expanding loop
- II = Type II radio burst
- IVm = moving Type IV radio burst
- Q = eruptive quiescent prominence
- R = coronal ray or streamer
- S = flare-surge if there is a known flare association
- SP = flare-spray if there is a known flare association
- * = movement may be caused by ionospheric refraction

REPORTING STATIONS
- ABST = Abastumani
- KHAR = Kharkov
- LEAR = Learmonth
- PALE = Palehua
- SVTO = San Vito
- VORO = Voroshilov
- WEIS = Weissenau

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	ADF	0147	0300	N24	W42	11	27.9	1				C	VORO		
01	APR	0211	0300D	N34	W90	11	24.0	1				C	VORO		
01	AFS	0250E	1037D	N11	E17	12	2.4		02	8	7	E	LEAR	5816	
01	ASR	0415E	1037D	N23	E90	12	8.1			8	9	E	LEAR		
01	AFS	1010E	1456D	N09	E14	12	2.5		04	9	9	E	SVTO	5816	
01	ASR	1010E	1456D	N19	E90	12	8.3			9	9	E	SVTO		
01	ASR	1109E	1456D	N18	W83	11	25.2			9	9	E	SVTO		
01	ASR	1218E	1958D	N19	E90	12	8.4			9	9	E	RAMY		
01	AFS	1405E	1456D	N13	W15	11	30.4		02	8	8	E	SVTO	5812	
01	ADF	1419E	1456D	N15	E48	12	5.2	1	06	9	9	E	SVTO	5817	
01	SDF	1528E	1455D	N23	E36	12	4.4		05	0	0	E	HOLL		
01	BSL	1636E	1645	N19	W90	11	24.9			9	9	E	RAMY		
01	ASR	1645	1958D	N19	W90	11	24.9			9	9	E	RAMY		
01	ASR	1713E	0326D	N15	W88	11	25.1			9	9	E	PALE		
01	ASR	1713E	0326D	N19	E90	12	8.6			9	9	E	PALE		
01	ADF	1830E	0326D	N14	W33	11	29.4	1	10	9	9	E	PALE	5806	
01	ADF	1946E	2344D	N15	W30	11	29.6	1	03	9	9	E	HOLL	5806	Flare Associated
01	AFS	2220E	1040D	S11	W32	11	29.6		02	8	5	E	LEAR	5814	
01	AFS	2314E	0326D	S13	E54	12	6.0		02	9	9	E	PALE	5820	
01	AFS	2334E	0326D	S13	W33	11	29.6		02	9	9	E	PALE	5814	
02	DSD	0005E	0252D	N24	W32	11	29.6		05	9	5	E	LEAR	5806	
02	ASR	0030E	0135D	S05	W90	11	25.4			7	4	E	LEAR	5808	
02	DSD	0053E	0326D	N20	W33	11	29.6		02	8	8	E	PALE	5806	
02	SDF	0056E	2359D	N40	W38	11	29.0		10	0	0	E	LEAR		
02	ASR	0226	0240D	S08	W90	11	25.4	1				C	VORO		
02	APR	0226	0301D	N37	W90	11	24.9	1				C	VORO		
02	AFS	0230E	1040D	S14	E51	12	5.9		03	5	5	E	LEAR	5820	
02	AFS	0717E	1457D	S28	E33	12	4.9		01	9	9	E	SVTO	5819	
02	BSL	0820E	0830D	S16	W90	11	25.6					P	BUCA		
02	AFS	1115E	2019D	S12	W39	11	29.6		02	9	9	E	RAMY	5814	
02	AFS	1116E	1828D	S15	E46	12	5.9		02	9	9	E	RAMY	5820	
02	ADF	1142E	2019D	N29	W73	11	26.9	1	05	9	9	E	RAMY	5800	
02	ADF	1145E	2019D	N17	E76	12	8.3	1	12	9	9	E	RAMY	5821	
02	AFS	1149E	1457D	N09	E00	12	2.5		02	9	9	E	SVTO	5816	
02	AFS	1149E	1457D	S14	E47	12	6.0		02	9	9	E	SVTO	5820	
02	SSB	1200		113	W14	12	3.5			0	0	E	RAMY		119 W20
02	DSD	1214E	1457D	S11	W09	12	1.8		05	9	9	E	SVTO	5809	
02	ASR	1239E	1457D	N21	W90	11	25.7			9	9	E	SVTO	5800	
02	DSD	1315E	2019D	N21	W36	11	29.9		04	9	9	E	RAMY	5806	
02	ASR	1418E	1457D	S09	W90	11	25.9			9	9	E	SVTO	5803	
02	ASR	1455E	2019D	N26	W86	11	26.0			9	9	E	RAMY	5800	
02	LPS	1508E	1603D	N18	E90	12	9.5			9	9	E	RAMY		
02	LPS	1509E	1625D	N17	E90	12	9.5			9	9	E	HOLL		
02	AFS	1536E	1745D	S09	W09	12	2.0		04	9	9	E	HOLL	5809	
02	AFS	1545E	1824D	S09	W10	12	1.9		02	9	9	E	RAMY	5809	
02	DSD	1602E	2349D	N07	E34	12	5.2		05	9	9	E	HOLL	5817	Flare Associated
02	AFS	1609E	2054D	S15	E46	12	6.1		03	9	9	E	HOLL	5820	
02	AFS	1613E	1822D	N09	E35	12	5.3		04	9	9	E	RAMY	5817	
02	DSD	1613E	2019D	N08	E34	12	5.2		03	9	9	E	RAMY	5817	
02	ADF	1740E	0325D	N17	E73	12	8.3		08	9	9	E	PALE	5821	
02	ASR	1740E	0325D	N22	W81	11	26.6			9	9	E	PALE	5800	
02	AFS	1745E	2349D	S11	W11	12	1.9		02	9	9	E	HOLL		
02	SSB	2123		118	W24	12	4.3			0	0	E	HOLL		
02	ASR	2131E	2349D	N29	W81	11	26.6			7	7	E	HOLL	5800	
02	DSD	2132E	2349D	N21	W42	11	29.8		08	9	9	E	HOLL	5806	
02	APR	2136E	2349D	S22	W90	11	26.1	1		9	9	E	HOLL	5801	
02	ADF	2140E	2349D	N20	E71	12	8.3	2	08	9	9	E	HOLL	5821	
02	DSD	2300E	2349D	N15	W45	11	29.6		06	9	9	E	HOLL	5806	Flare Associated
02	AFS	2312E	1035D	N13	E26	12	4.9		02	9	9	E	LEAR	5817	
02	AFS	2313E	1035D	S09	W14	12	1.9		03	9	9	E	LEAR	5822	
03	ASR	0030E	1035D	N23	W90	11	26.2			9	9	E	LEAR	5800	
03	ASR	0030E	0110D	N20	W90	11	26.2			9	9	E	PALE		
03	SSB	0254		138	W47	12	6.3			0	0	E	PALE		
03	APR	0402E	1035D	N16	E90	12	10.0	1		9	9	E	LEAR		
03	AFS	0705E	1503D	S11	W19	12	1.9		04	9	9	E	SVTO	5822	
03	ASR	0731E	1503D	N27	W90	11	26.4			9	9	E	SVTO	5800	
03	DSD	0741E	0909D	N20	W48	11	29.7		14	9	9	E	SVTO	5806	
03	AFS	0756E	1311D	N22	E63	12	8.2		02	9	9	E	SVTO	5821	

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
03	DSD	0825E	0854D	S20	W17	12	2.0		05	9	9	E	SVTO	5809	Flare Associated
03	DSD	0930E	1257D	N22	W53	11	29.4		07	9	9	E	SVTO	5806	Flare Associated
03	AFS	1030E	1503D	N09	W12	12	2.5		03	9	9	E	SVTO	5816	
03	DSD	1220E	1240D	S18	W20	12	2.0		04	9	9	E	SVTO	5809	Flare Associated
03	DSD	1407E	1600D	S17	W20	12	2.1		02	9	9	E	RAMY	5809	
03	DSD	1442	1548D	N21	W41	11	30.5		12	9	9	E	HOLL	5812	Flare Associated
03	DSD	1444E	1503D	N19	W48	11	30.0		11	9	9	E	SVTO	5806	Flare Associated
03	DSD	1808E	0344D	N08	W17	12	2.5		02	9	9	E	PALE	5816	
03	ADF	1808E	0344D	N15	E20	12	5.3		08	9	9	E	PALE	5817	
03	APR	1808E	0344D	N16	E90	12	10.6	1		9	9	E	PALE		
03	DSD	1808E	0344D	N16	W54	11	29.7		03	9	9	E	PALE	5806	
03	ADF	1808E	0344D	N18	E60	12	8.3		06	9	9	E	PALE	5821	
03	AFS	1808E	0344D	N21	E62	12	8.5		03	9	9	E	PALE	5821	
03	APR	1808E	0344D	N23	W90	11	26.9			9	9	E	PALE	5800	
03	AFS	1808E	0344D	S11	E26	12	5.7		05	9	9	E	PALE	5822	
03	ADF	2236E	1035D	N21	W56	11	29.7	1	10	9	9	E	LEAR	5806	
04	APR	0130	0300D	N23	W90	11	27.2	1				C	VORO		
04	APR	0130	0300D	S28	E90	12	11.1	1				C	VORO		
04	APR	0201	0300D	S28	W90	11	27.1	1				C	VORO		
04	ASR	0715E	0730D	N13	E90	12	11.1			9	7	E	LEAR		
04	BSL	0715E	0740D	N13	E90	12	11.1			6	7	E	LEAR		
04	AFS	1004E	1446D	N08	W25	12	2.5		02	8	8	E	SVTO	5816	
04	ASR	1004E	1446D	N15	E90	12	11.2			9	9	E	SVTO		
04	AFS	1004E	1446D	S11	W32	12	2.0		02	9	9	E	SVTO	5822	
04	ASR	1042E	1446D	S14	W90	11	27.7			9	9	E	SVTO	5805	
04	AFS	1158E	1446D	S14	W67	11	29.5		02	9	9	E	SVTO	5814	
04	ASR	1200E	1610D	N43	W90	11	27.2			9	9	E	RAMY	5804	
04	ASR	1200E	1934D	N13	E88	12	11.1			9	9	E	RAMY		
04	AFS	1200E	1934D	S10	W34	12	1.9		03	9	9	E	RAMY	5822	
04	AFS	1200E	1934D	S12	W65	11	29.7		02	9	9	E	RAMY	5814	
04	APR	1527E	2347D	N25	W90	11	27.8	2		9	9	E	HOLL		
04	AFS	1541E	2347D	S10	W36	12	1.9		04	9	9	E	HOLL	5822	
04	ASR	1545E	2347D	N14	E90	12	11.4			9	9	E	HOLL		
04	APR	1630E	1934D	N25	W90	11	27.8	2		9	9	E	RAMY		
04	DSD	1757E	0229D	N08	W30	12	2.5		04	9	9	E	PALE	5816	
04	ADF	1757E	0229D	N17	E48	12	8.4		05	9	8	E	PALE	5821	
04	DSD	1757E	0229D	N20	E48	12	8.4		03	9	8	E	PALE	5821	
04	DSD	1757E	0229D	S11	E19	12	6.2		03	9	7	E	PALE	5819	
04	AFS	1757E	0229D	S11	W39	12	1.8		05	9	9	E	PALE	5822	
04	ASR	2224E	1036D	N10	E90	12	11.7			9	9	E	LEAR	5827	
04	AFS	2225E	1036D	S10	W43	12	1.7		02	9	9	E	LEAR	5822	
04	SSB	2300		450	W24	12	1.1			0	0	E	HOLL		115 W49
04	ASR	2322E	2347D	S17	E90	12	11.8			9	9	E	HOLL		
05	APR	0222E	0259D	N23	W90	11	28.3	1				C	VORO		
05	APR	0222E	0259D	S30	W90	11	28.1	1				C	VORO		
05	ASR	0413E	0845D	S16	E90	12	12.0			9	9	E	LEAR		
05	AFS	0503E	1036D	N12	W07	12	4.7		02	9	9	E	LEAR	5817	
05	ASR	1138E	1312D	S12	W90	11	28.8			9	9	E	RAMY		
05	DSD	1138E	1620D	N20	W76	11	29.8		03	9	9	E	RAMY	5806	
05	AFS	1138E	2108D	N08	W38	12	2.6		03	9	9	E	RAMY	5816	
05	AFS	1138E	2108D	S11	W49	12	1.8		02	9	9	E	RAMY	5822	
05	ASR	1307	1442D	S13	W79	11	29.7			9	9	E	RAMY	5814	
05	DSD	1338E	2108D	N13	E77	12	11.4		05	9	9	E	RAMY	5827	
05	DSD	1428E	2108D	N19	E40	12	8.6		06	9	9	E	RAMY	5821	
05	DSD	1440E	1845D	N21	E40	12	8.7		04	9	9	E	HOLL	5821	
05	BSD	1535E	1845D	N13	W75	11	30.0		10	9	9	E	HOLL	5806	Flare Associated
05	BSL	1543	1620	N15	W74	11	30.0			9	9	E	RAMY	5806	Flare Associated
05	BSL	1550E	1628D	N12	W90	11	29.0			9	9	E	HOLL	5806	Flare Associated
05	AFS	1741E	0326D	N11	W43	12	2.5		02	9	9	E	PALE	5816	
05	AFS	1741E	0326D	S13	W53	12	1.7		03	9	9	E	PALE	5822	
05	DSD	1910E	2256D	S16	W50	12	2.0		02	9	9	E	HOLL	5809	
05	AFS	1911E	2348D	N10	W13	12	4.8		02	9	9	E	HOLL	5817	
05	DSD	1913E	2255D	N21	E39	12	8.8		02	9	9	E	HOLL	5821	
05	ADF	1914E	2348D	N15	E19	12	7.2	1	04	9	9	E	HOLL	5826	
05	APR	1935E	2108D	N11	E90	12	12.6	2		8	6	E	RAMY	5827	
05	ADF	1940E	2348D	S23	W44	12	2.4	1	08	9	9	E	HOLL	5809	
05	ASR	2035E	2348D	S11	W90	11	29.2			9	9	E	HOLL	5814	
05	AFS	2111E	2348D	S14	E01	12	5.9		04	9	6	E	HOLL	5819	

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMP	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
05	APR	2212E	2348D	N25	W90	11	29.0			9	9	E	HOLL	5812	
05	APR	2230E	1038D	N30	W90	11	28.9			9	7	E	LEAR	5812	
05	ADF	2300E	1038D	S24	W43	12	2.6	1	08	9	5	E	LEAR	5809	
06	ADF	0018E	0300D	S38	E05	12	6.4	1				C	VORO		
06	ADF	0035	0300D	S22	E38	12	8.9	1				C	VORO		
06	BSL	0121	0149	S15	W90	11	29.3	1				C	VORO		
06	APR	0140	0300D	S34	W90	11	29.0	1				C	VORO		
06	APR	0204E	0300D	N23	W90	11	29.2	1				C	VORO		
06	AFS	0853E	1446D	S13	W60	12	1.8		02	9	9	E	SVTO	5822	
06	APR	1340E	1723D	N19	W87	11	30.0	1		9	9	E	RAMY	5806	
06	ASR	1340E	1911D	N17	W84	11	30.2			9	9	E	RAMY	5806	
06	AFS	1530E	2347D	S11	W32	12	4.2		02	9	9	E	HOLL		
06	SDF	1600E	1516D	N10	E48	12	10.3		08	0	0	E	HOLL		
06	ADF	1622E	2347D	S21	W58	12	2.2	1	04	8	8	E	HOLL	5809	
06	AFS	1629E	1911D	S12	W66	12	1.7		02	9	9	E	RAMY	5822	
06	DSD	1745E	0216D	S12	W34	12	4.2		03	9	9	E	PALE		
06	DSD	1759	0216D	S13	W64	12	1.9		02	9	9	E	PALE	5822	
06	ASR	1802E	0216D	N13	W90	11	30.0			9	9	E	PALE	5806	
07	AFS	0010E	1035D	S11	W38	12	4.1		03	6	3	E	LEAR	5823	
07	ASR	0210E	1035D	S10	E90	12	13.8			6	5	E	LEAR		
07	AFS	0230E	1035D	N13	W31	12	4.8		04	8	5	E	LEAR	5817	
07	SDF	0459E	2240D	N18	W45	12	3.8	3	15	0	0	E	LEAR		
07	APR	0626E	0802D	N21	W90	11	30.4	1				C	ABST		
07	AFS	1121E	2038D	S11	W43	12	4.2		02	9	9	E	RAMY	5823	
07	AFS	1135E	2038D	N11	W36	12	4.8		02	9	9	E	RAMY	5817	
07	ASR	1153E	2038D	N21	W79	12	1.4			9	9	E	RAMY	5810	
07	AFS	1204E	2038D	S11	W44	12	4.2		02	9	9	E	RAMY	5831	
07	AFS	1207E	2038D	S16	W18	12	6.1		01	9	9	E	RAMY	5819	
07	DSD	1215E	1445D	N12	E44	12	10.8		02	9	9	E	RAMY	5827	
07	SSB	1219		421	W24	12	5.9			0	0	E	RAMY		103 W70
07	APR	1222E	2038D	N24	W90	11	30.6	2		9	9	E	RAMY	5810	
07	AFS	1335E	2038D	N25	W39	12	4.5		03	9	9	E	RAMY	5829	
07	AFS	1425E	2038D	N20	E10	12	8.4		02	9	9	E	RAMY	5821	
07	ASR	1557	2334D	N20	W77	12	1.8			9	9	E	HOLL	5810	Flare Associated
07	AFS	1650E	2334D	N12	W39	12	4.8		03	9	9	E	HOLL	5817	
07	SSB	1807		393	W03	11	30.8			0	0	E	HOLL		428 W38 104 W74
07	ASR	2017E	0102D	N22	W90	11	30.9			9	9	E	PALE	5810	
07	AFS	2017E	0322D	S18	W24	12	6.0		02	9	9	E	PALE	5819	
07	AFS	2018E	0322D	S13	W49	12	4.1		01	9	9	E	PALE		
07	APR	2045E	2334D	N24	W90	11	30.9	1		9	9	E	HOLL	5810	
07	LPS	2121	2305D	S15	W86	12	1.4			9	9	E	PALE	5822	Flare Associated
07	LPS	2127E	2334D	S12	W83	12	1.6			9	9	E	HOLL	5822	Flare Associated
07	LPS	2223E	2358	S13	W85	12	1.5			9	9	E	LEAR	5822	
07	AFS	2330E	1043D	S15	W29	12	5.8		03	9	9	E	LEAR	5819	
08	BSL	0024	0057	N23	W90	12	1.1	1				C	VORO		
08	ASR	0035E	1043D	N20	W90	12	1.1			9	9	E	LEAR	5810	
08	APR	0057	0300D	N53	W90	11	30.3	1				C	VORO		
08	ADF	0114	0300D	N60	W30	12	5.4	1				C	VORO		
08	ADF	0116	0300D	N32	W46	12	4.4	1				C	VORO		
08	BSL	0212	0227	N21	W90	12	1.2	1				C	VORO		
08	APR	0225	0300D	S18	W90	12	1.2	1				C	VORO		
08	ASR	0505E	1043D	S09	W90	12	1.4			9	9	E	LEAR	5822	
08	AFS	0545E	1043D	N25	W50	12	4.4		03	9	9	E	LEAR	5829	
08	ASR	0812E	1043D	S18	W90	12	1.5			9	9	E	LEAR	5809	
08	DSD	0955	1005	N12	W52	12	4.5	1				V	KHAR		
08	ASR	1152E	1939	N25	W90	12	1.5			9	9	E	RAMY	5810	Flare Associated
08	ASR	1152E	2111D	S08	W90	12	1.7			9	9	E	RAMY	5822	
08	AFS	1153E	2111D	N12	W49	12	4.8		02	9	9	E	RAMY	5817	
08	SSB	1342		460	W81	12	3.0			0	0	E	RAMY		
08	ASR	1517E	2345D	S10	W90	12	1.9			9	9	E	HOLL	5822	
08	ASR	1517E	2345D	S15	W90	12	1.8			9	9	E	HOLL	5809	
08	ASR	1536E	2031D	N21	W90	12	1.7			9	9	E	HOLL		
08	ADF	1550E	2345D	N10	W55	12	4.5	1	02	9	9	E	HOLL	5817	
08	AFS	1705E	2113D	S10	W60	12	4.2		02	8	8	E	RAMY	5823	
08	BSL	1907	2005D	N21	W90	12	1.9			9	9	E	HOLL	5810	
08	BSL	1908	1921	N21	W90	12	1.9			9	9	E	RAMY	5810	Flare Associated
08	APR	1912E	0113D	N22	W90	12	1.9	1		9	9	E	PALE	5810	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
08	ASR	1912E	0342D	S13	W90	12	2.0			9	9	E	PALE	5822	
08	ASR	2028	2345D	N22	W90	12	1.9			9	9	E	HOLL	5810	
08	ADF	2101E	2345D	N27	W61	12	4.1	1	06	9	9	E	HOLL	5829	
08	SSB	2214		374	W00	12	3.4			0	0	E	HOLL		394 W20
08	ASR	2223E	1041D	N20	W90	12	2.0			9	9	E	LEAR	5810	
08	ASR	2224E	1041D	S10	W90	12	2.2			9	9	E	LEAR	5822	
09	BSL	0246	0300D	S08	W90	12	2.4	1				C	VORO		
09	AFS	0253E	1041D	S14	E11	12	9.9		02	9	9	E	LEAR	5831	
09	AFS	0530E	1041D	N10	W61	12	4.6		04	9	6	E	LEAR	5817	
09	BSL	0900E	0930	S22	W90	12	2.4	1				V	KHAR		
09	ASR	1228E	1801D	S17	W80	12	3.4			9	9	E	RAMY	5811	
09	APR	1230E	1801D	N10	W90	12	2.7	2		9	9	E	RAMY	5816	
09	DSD	1253E	1538D	N15	W29	12	7.3		04	9	9	E	RAMY	5818	
09	AFS	1253E	1801D	S16	E06	12	10.0		03	8	6	E	RAMY	5831	
09	AFS	1312E	1801D	N24	W65	12	4.5		03	9	9	E	RAMY	5829	
09	ADF	1332E	1801D	N13	W64	12	4.7	1	13	9	9	E	RAMY	5817	
09	SSB	1335		413	W47	12	8.5			0	0	E	RAMY		
09	AFS	1536E	2349D	N11	E23	12	11.4		02	8	8	E	HOLL	5827	
09	ASR	1916E	2059D	S24	W90	12	2.8			9	9	E	HOLL		
09	BSD	2250E	0225D	N12	W73	12	4.4		04	9	9	E	LEAR	5817	
09	DSD	2252	0415D	N17	W19	12	8.5		04	9	9	E	LEAR	5821	
09	DSD	2252E	0848D	N11	E20	12	11.4		03	9	9	E	LEAR	5827	
09	AFS	2253E	1045D	S25	E42	12	13.2		02	9	9	E	LEAR	5833	
09	ADF	2256E	1045D	S24	E45	12	13.4	1	11	9	9	E	LEAR	5833	
10	ADF	0057	0300D	N30	W13	12	9.0	1				C	VORO		
10	ADF	0112	0300D	S35	W50	12	6.0	1				C	VORO		
10	DSD	0205	0232	N09	E20	12	11.6	1				C	VORO		
10	ASR	0517E	0530	N14	W89	12	3.5			9	9	E	LEAR	5817	
10	AFS	1101E	1457D	S09	E39	12	13.4		02	9	9	E	SVTO	5830	
10	ADF	1104E	1955D	S26	E37	12	13.3	1	12	9	9	E	RAMY	5833	
10	ASR	1109E	1457D	N14	W90	12	3.7			9	9	E	SVTO	5829	
10	ADF	1114E	1457D	S24	E40	12	13.5	1	13	9	9	E	SVTO	5833	
10	SSB	1125		359	W05	12	6.1			0	0	E	RAMY		
10	ADF	1510E	2250D	S27	E37	12	13.5	1	08	9	9	E	HOLL	5833	
10	ASR	1540E	2250D	N12	W90	12	3.9			9	8	E	HOLL	5817	
10	ASR	1549E	1926D	N26	W90	12	3.7			9	9	E	HOLL	5829	
10	ASR	1552E	2250D	S20	E90	12	17.5			9	9	E	HOLL		
10	APR	1748E	1847D	S45	E90	12	18.2	2		9	9	E	RAMY		
10	APR	1750E	1907D	S45	E90	12	18.2	2		9	9	E	HOLL		
10	AFS	2017E	0043D	S15	W65	12	5.9		01	9	9	E	PALE	5819	
11	ADF	0017	0300D	N20	W30	12	8.7	1				C	VORO		
11	ADF	0059	0300D	N31	W21	12	9.4	1				C	VORO		
11	APR	0120	0300D	S23	W90	12	4.1	1				C	VORO		
11	APR	0121	0300D	S29	W90	12	4.0	1				C	VORO		
11	BSL	0229	0300D	S15	W90	12	4.3	1				C	VORO		
11	ASR	0325E	1046D	S15	E90	12	17.9			8	5	E	LEAR	5811	
11	BSL	0905E	0925	N12	W90	12	4.6	1				V	KHAR		
11	ASR	0910E	1046D	N09	W90	12	4.6			9	9	E	LEAR	5817	
11	ADF	1000E	1042	S29	E33	12	14.0	1				V	KHAR		
11	ADF	1019E	1502D	S30	E37	12	14.3	1	10	9	9	E	SVTO	5833	
11	ASR	1140E	1613D	N24	W90	12	4.5			9	9	E	RAMY	5829	
11	ASR	1140E	1919D	N11	W90	12	4.7			9	9	E	RAMY	5817	
11	ADF	1140E	2140D	S24	E23	12	13.3	1	14	9	9	E	RAMY	5833	
11	AFS	1243E	1502D	S20	E75	12	17.3		01	9	9	E	SVTO		
11	AFS	1353E	1502D	S10	E23	12	13.3		03	9	9	E	SVTO	5830	
11	ADF	1424E	1425D	N21	W41	12	8.4	1	05	9	9	E	SVTO	5821	
11	SSB	1821		363	W27	12	6.8			0	0	E	RAMY		
11	ADF	2158E	2349D	S30	E27	12	14.0	1	12	9	9	E	HOLL	5833	
11	SSB	2200		364	W29	12	6.9			0	0	E	HOLL		
12	ADF	0036	0300D	N08	W65	12	7.1	1				C	VORO		
12	BSL	0056	0135	N30	E90	12	19.1	1				C	VORO		
12	APR	0056	0300D	N57	W90	12	4.2	1				C	VORO		
12	ADF	0112	0301D	N30	W37	12	9.1	1				C	VORO		
12	APR	0115	0301D	S22	W90	12	5.1	1				C	VORO		
12	APR	0135	0301D	S05	E90	12	18.8	1				C	VORO		
12	ADF	0811E	1438D	S23	E11	12	13.2	1	21	9	9	E	SVTO	5833	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
12	DSD	0823E	1438D	N17	E33	12	14.8		04	9	9	E	SVTO	5832	
12	AFS	1153E	2137D	S21	E61	12	17.2		03	9	9	E	RAMY	5834	
12	ASR	1233E	2018D	N16	W83	12	6.2			9	9	E	RAMY	5818	
12	DSD	1356E	2018D	N13	W18	12	11.2		04	9	9	E	RAMY	5827	Flare Associated
12	SSB	1530		366	W41	12	7.2			0	0	E	HOLL		
12	ADF	1534E	2342D	S26	E07	12	13.2	1	11	9	9	E	HOLL	5833	
12	DSD	1539E	2102D	N16	E30	12	14.9		03	9	9	E	RAMY	5832	
12	ADF	1539E	2137D	S31	E20	12	14.2	1	12	9	9	E	RAMY	5833	
12	SSB	1548		363	W38	12	7.6			0	0	E	RAMY		
12	ASR	1709E	2018D	N10	E82	12	18.9			9	9	E	RAMY	5836	
12	ASR	1748E	2335D	N10	E90	12	19.5			8	7	E	HOLL	5836	
12	LPS	1903E	2314	N09	E90	12	19.5			9	9	E	PALE	5836	
12	LPS	1912E	2335D	N10	E90	12	19.6			9	9	E	HOLL	5836	
12	DSD	2246E	0343D	S22	E56	12	17.2		02	9	9	E	PALE	5834	
12	ADF	2246E	0343D	S25	E04	12	13.2		14	9	9	E	PALE	5833	
12	ASR	2334E	1045D	N09	E90	12	19.7			9	9	E	LEAR	5836	
12	LPS	2343E	0343D	N09	E90	12	19.7			9	9	E	PALE	5836	Flare Associated
12	BSL	2346	0014	N10	E90	12	19.7	1				C	VORO		
12	ADF	2346	0300D	S15	E90	12	19.8	1				C	VORO		
12	APR	2350	0301D	N60	W90	12	5.1	1				C	VORO		
13	APR	0014	0301D	S06	E90	12	19.7	1				C	VORO		
13	APR	0020	0301D	S37	W90	12	5.8	1				C	VORO		
13	BSL	0100	0120	N10	E90	12	19.8	1				C	VORO		
13	ASR	1018E	1455D	N14	E90	12	20.2			9	9	E	SVTO	5836	
13	ADF	1018E	1455D	S25	W02	12	13.3	1	16	9	9	E	SVTO	5833	
13	ASR	1128E	1421D	N17	W90	12	6.6			9	9	E	RAMY	5818	
13	DSD	1128E	1942D	N10	E73	12	19.0		03	9	9	E	RAMY	5836	
13	ADF	1128E	2043D	N13	E70	12	18.7	1	06	9	9	E	RAMY	5836	
13	ASR	1128E	2043D	N19	E90	12	20.3			9	9	E	RAMY	5837	
13	ADF	1248E	2043D	S25	W05	12	13.1	1	13	9	9	E	RAMY	5833	
13	SSB	1423		367	W55	12	7.8			0	0	E	RAMY		
13	ASR	1705E	2340D	N20	E90	12	20.6			9	9	E	HOLL		
13	DSD	1707E	1921D	N18	W69	12	8.4		21	9	9	E	HOLL	5821	
13	SSB	1709		323	W12	12	12.0			0	0	E	HOLL		366 W55
13	ADF	1711E	2340D	S29	E01	12	13.8	1	08	9	9	E	HOLL	5833	
13	LPS	1720E	1746D	N20	E90	12	20.6			9	9	E	RAMY		Flare Associated
13	ASR	1800E	0323D	N18	E90	12	20.6			9	9	E	PALE		
13	ASR	1800E	0323D	S24	W08	12	13.1	1		9	9	E	PALE	5833	
13	LPS	1854E	2217D	N19	E90	12	20.6			9	8	E	PALE	5837	
13	ADF	1906E	0323D	S10	W04	12	13.5		03	9	9	E	PALE	5830	
13	DSD	1906E	0323D	S10	W08	12	13.2		02	9	9	E	PALE	5830	
13	ASR	2245E	1041D	N20	E90	12	20.8			9	9	E	LEAR	5837	
14	ADF	0122	0300D	N15	E90	12	20.9	1				C	VORO		
14	APR	0200	0300D	S22	E90	12	21.0	1				C	VORO		
14	DSD	0208	0246	N10	E73	12	19.6	1				C	VORO		
14	BSL	0215E	0245D	N10	E72	12	19.5			9	9	E	LEAR	5836	Flare Associated
14	APR	0222	0300D	N15	E90	12	20.9	1				C	VORO		
14	BSL	0229E	0323D	N10	E73	12	19.6			9	9	E	PALE	5836	Flare Associated
14	BSL	0723E	0820D	S22	E90	12	21.2	1				C	ABST		
14	AFS	0751E	1458D	N15	E10	12	15.1		02	7	7	E	SVTO	5832	
14	AFS	0813E	1458D	S20	E40	12	17.4		02	9	9	E	SVTO	5834	
14	SSB	1251		365	W65	12	8.7			0	0	E	RAMY		
14	ASR	1333	2135D	N19	W88	12	7.8			9	9	E	RAMY	5821	
14	DSD	1624E	2135D	N13	E56	12	18.9		04	9	9	E	RAMY	5836	
14	ASR	1628E	1858D	N13	W90	12	7.9			9	9	E	RAMY		
14	DSD	1630E	1704D	N20	E75	12	20.4		02	9	9	E	RAMY	5837	
14	SSB	1758		313	W15	12	13.8			0	0	E	HOLL		324 W27
14	DSD	1849E	2241D	N15	E01	12	14.8		02	9	9	E	HOLL	5832	
14	ADF	1853E	2350D	S25	W20	12	13.2	1	05	7	7	E	HOLL	5833	
14	SDF	1859E	1815D	N67	W10	12	13.9	3	10	0	0	E	HOLL		
14	DSD	1902E	2229D	N15	E55	12	18.9		02	9	9	E	HOLL	5836	Flare Associated
14	ADF	1912E	2229D	N16	E50	12	18.6	1	07	8	8	E	HOLL	5836	
14	ASR	1937E	0332D	N21	W84	12	8.4			9	9	E	PALE	5821	
14	DSD	2253E	0400D	S09	W23	12	13.2		04	9	9	E	LEAR	5830	
15	BSL	0016	0043	N16	W90	12	8.2	1				C	VORO		
15	BSL	0121	0140D	N19	W90	12	8.2	1				C	VORO		
15	BSL	0121	0150	N18	E90	12	21.9	1				C	VORO		

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
15	BSL	0130	0150	S08	E90	12	21.8	1				C	VORO		
15	BSL	0150	0209	N16	W90	12	8.2	1				C	VORO		
15	APR	0150	0300D	S19	E90	12	21.9	1				C	VORO		
15	ASR	0201E	1044D	N18	W90	12	8.2			9	9	E	LEAR	5821	
15	BSL	0228	0300D	N16	W90	12	8.3	1				C	VORO		
15	ASR	0235E	0332D	N12	W86	12	8.6			9	9	E	PALE	5838	
15	SSB	1150		327	W40	12	13.3			0	0	E	RAMY		367 W79
15	ASR	1153E	1422	N18	W89	12	8.7			9	9	E	RAMY	5821	
15	AFS	1408E	2136D	S39	E56	12	20.1		02	6	5	E	RAMY		
15	ASR	1424	1504	N09	W89	12	8.9			9	9	E	RAMY	5838	
15	ASR	1430	1458	N19	W90	12	8.7			9	9	E	RAMY	5821	
15	ADF	1430E	2136D	N37	E90	12	22.8	2	33	9	9	E	RAMY		
15	ASR	1740E	2122D	N09	W90	12	9.0			9	9	E	HOLL		
15	ASR	1740E	2122D	N18	W90	12	8.9			9	9	E	HOLL		
15	SSB	1844		289	W05	12	22.4			0	0	E	HOLL		
15	ASR	1935E	2122D	N20	E90	12	22.7			9	9	E	HOLL		
15	ADF	1938E	1641D	N06	W43	12	12.6	2	03	9	9	E	RAMY		
15	DSD	2248E	2312	N12	E38	12	18.8		07	9	9	E	LEAR	5836	
15	ASR	2310E	0238D	N20	W90	12	9.1			9	9	E	PALE	5821	
15	ASR	2315E	0238D	N18	W90	12	9.1			9	9	E	LEAR		
16	BSL	0537E	0640D	S18	E90	12	23.1	1				C	ABST		
16	APR	0630E	0830D	S12	E90	12	23.0					V	ATHN		
16	APR	0645E	0850D	N22	W90	12	9.4					V	ATHN		
16	AFS	1009E	1502D	S10	W17	12	15.1		02	7	6	E	SVTO		
16	AFS	1202E	2015D	N20	E50	12	20.3		03	9	9	E	RAMY	5837	
16	AFS	1205E	1727D	N16	W18	12	15.1		02	8	7	E	RAMY	5832	
16	ADF	1209E	2015D	S28	W37	12	13.6	1	08	9	9	E	RAMY	5842	
16	SSB	1215		288	W14	12	23.2			0	0	E	RAMY		328 W54 238 W64
16	SSB	1221		264	W90	12	22.5			0	0	E	RAMY		
16	AFS	1324E	1502D	N16	W20	12	15.0		03	9	9	E	SVTO	5832	
16	AFS	1405E	1502D	N31	W24	12	14.7		02	9	9	E	SVTO		
16	AFS	1735E	2245D	N20	E47	12	20.3		01	9	9	E	PALE	5837	
16	AFS	1740E	2245D	S09	W21	12	15.2		02	9	9	E	PALE	5844	
16	AFS	2225E	1046D	S11	E24	12	18.7		03	8	6	E	LEAR	5844	
16	AFS	2325E	1046D	N31	W27	12	14.8		02	5	4	E	LEAR	5847	
17	ADF	0014E	0300D	N05	W21	12	15.4	1				C	VORO		
17	ADF	0014E	0300D	N07	W08	12	16.4	1				C	VORO		
17	APR	0014E	0300D	N20	W90	12	10.1	1				C	VORO		
17	ADF	0014E	0300D	N35	W22	12	15.2	1				C	VORO		
17	APR	0014E	0300D	S18	W90	12	10.1	1				C	VORO		
17	AFS	0930E	1318D	N31	W33	12	14.8		02	9	8	E	SVTO	5847	
17	AFS	1021E	1318D	S11	W31	12	15.1		02	9	9	E	SVTO	5844	
17	ADF	1029E	1318D	S08	E59	12	21.9	1	08	9	9	E	SVTO	5843	
17	AFS	1111E	2111D	S11	W30	12	15.2		02	9	9	E	RAMY	5844	
17	AFS	1114E	2111D	N31	W32	12	14.9		03	9	9	E	RAMY	5847	
17	AFS	1116E	2111D	N18	E58	12	21.9		02	9	9	E	RAMY	5846	
17	AFS	1117E	1847D	N19	E38	12	20.4		02	9	9	E	RAMY	5837	
17	ADF	1119E	1849D	N11	E25	12	19.3	1	03	9	9	E	RAMY	5836	
17	DSD	1123E	2111D	S07	E59	12	21.9		04	9	9	E	RAMY	5843	
17	ASR	1140	1852D	S14	E79	12	23.4			9	9	E	RAMY		
17	SSB	1153		287	W26	12	24.2			0	0	E	RAMY		308 W46
17	AFS	1440E	1902D	N20	E37	12	20.4		02	9	8	E	HOLL	5837	
17	AFS	1611E	2252D	S09	W33	12	15.2		02	9	9	E	HOLL	5844	
17	AFS	1611E	2252D	S13	W32	12	15.2		03	8	9	E	HOLL	5844	
17	AFS	1615E	2252D	N17	E60	12	22.2		03	9	9	E	HOLL	5846	
17	AFS	1618E	2252D	N31	W35	12	14.9		03	9	9	E	HOLL	5847	
17	SSB	1653		269	W10	12	22.9			0	0	E	HOLL		289 W30 306 W47
17	ADF	1753E	0345D	N16	E08	12	18.3		08	9	9	E	PALE	5836	
17	DSD	1753E	0345D	N18	E56	12	22.0		03	9	9	E	PALE	5846	
17	AFS	1753E	0345D	N33	W37	12	14.8		03	9	9	E	PALE	5847	
17	AFS	1753E	0345D	S10	W35	12	15.1		02	9	9	E	PALE	5844	
17	DSD	1753E	0345D	S13	E57	12	22.0		01	9	9	E	PALE	5843	
17	ASR	1851E	2252D	N28	E90	12	24.8			8	8	E	HOLL		
17	SDF	1915E	2014D	N07	E55	12	21.9	3	06	0	0	E	HOLL		
17	SDF	1915E	2016D	N01	E52	12	21.7	3	08	0	0	E	HOLL		
17	DSD	2002E	2111D	N32	E78	12	24.0		04	9	9	E	RAMY		
17	DSD	2009E	2111D	N19	E56	12	22.1		03	9	9	E	RAMY	5846	
17	AFS	2300E	1048D	S11	W38	12	15.1		02	9	9	E	LEAR	5844	

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
18	APR	0550E	0745D	S10	W90	12	11.5	2		9	9	E	LEAR		
18	DSD	0953E	1206D	N28	W57	12	13.9		06	9	9	E	SVTO	5847	
18	AFS	0958E	1353D	S12	W45	12	15.0		02	9	9	E	SVTO	5844	
18	DSD	1208E	1353D	N33	W57	12	14.0		10	9	9	E	SVTO	5847	
18	SSB	1332		234	W00	12	21.1			0	0	E	SVTO		
18	SSB	1450		262	W15	12	23.3			0	0	E	HOLL		273 W26 293 W46
18	SSB	1450		306	W59	12	18.1			0	0	E	HOLL		
18	AFS	1526E	1650D	S10	W47	12	15.1		03	9	9	E	RAMY	5844	
18	AFS	1540E	2307D	S10	W47	12	15.1		04	9	9	E	HOLL	5844	
18	DSD	1546E	1828D	S07	E42	12	21.8		02	9	9	E	HOLL	5843	
18	ASR	1546E	2307D	S10	E90	12	25.4			9	9	E	HOLL		
18	DSD	1600E	2307D	N32	W54	12	14.4		07	9	9	E	HOLL	5847	
18	DSD	1600E	2307D	N34	W51	12	14.6		03	9	9	E	HOLL	5847	
18	ADF	1810E	0345D	N15	E06	12	19.2		10	9	9	E	PALE	5836	
18	DSD	1810E	0345D	N21	E23	12	20.5		02	9	9	E	PALE	5837	
18	DSD	1810E	0345D	N33	W52	12	14.6		02	9	9	E	PALE	5847	
18	AFS	1810E	0345D	S09	W50	12	15.0		05	9	9	E	PALE	5844	
18	ADF	1810E	0345D	S19	W13	12	17.8		10	9	9	E	PALE	5834	
18	ASR	2045E	0345D	S12	E90	12	25.6			9	9	E	PALE		
18	ASR	2235E	1054D	S10	E90	12	25.7			9	9	E	LEAR		
18	AFS	2310E	1054D	S10	W52	12	15.0		02	9	9	E	LEAR	5844	
19	ADF	0045	0157D	N05	W38	12	16.2	1				C	VORO		
19	ADF	0045E	0157D	S06	W01	12	18.9	1				C	VORO		
19	APR	0045E	0157D	S30	E90	12	26.1	1				C	VORO		
19	DSD	0054	0110	S11	W55	12	14.9	1				C	VORO		
19	DSD	0641E	1054D	N21	E18	12	20.6		03	9	9	E	LEAR	5837	
19	AFS	0824E	1248D	S12	W57	12	15.0		03	9	9	E	SVTO	5844	
19	ASR	0908E	1248D	S10	E90	12	26.1			9	9	E	SVTO		
19	SSB	1120		235	W00	12	22.1			0	0	E	SVTO		
19	SSB	1130		235	W00	12	22.1			0	0	E	RAMY		288 W53
19	AFS	1159E	1936D	S10	E60	12	24.0		03	9	9	E	RAMY	5844	
19	ASR	1403E	1610D	S11	E90	12	26.3			9	9	E	RAMY		
19	SSB	1454		237	W03	12	22.4			0	0	E	HOLL		
19	APR	1458E	2350D	S03	E90	12	26.3	1		9	9	E	HOLL		
19	APR	1502E	1610D	S04	E90	12	26.3	2		9	9	E	RAMY		
19	ADF	1623E	1936D	S05	W06	12	19.2	1	05	9	9	E	RAMY		
19	AFS	1721E	2350D	N20	E13	12	20.7		04	9	9	E	HOLL	5837	
19	ADF	1723E	2350D	N11	W03	12	19.5	2	06	9	9	E	HOLL	5836	
19	ASR	1815E	1915D	S87	E10	12	20.7			9	8	E	RAMY	5849	
19	SDF	1914E	1813D	S40	W24	12	17.8	3	13	0	0	E	HOLL		
19	DSD	2004E	2350D	N32	W66	12	14.6		02	9	9	E	HOLL	5847	
19	DSD	2005E	2350D	N34	W68	12	14.4		02	9	9	E	HOLL	5847	
19	DSD	2305E	2350D	S11	W67	12	14.9		02	9	9	E	HOLL	5844	Flare Associated
20	ADF	0008E	0150D	N12	E10	12	20.7	1				C	VORO		
20	ADF	0008E	0150D	N48	W57	12	15.2	1				C	VORO		
20	APR	0008E	0150D	S06	E90	12	26.7	1				C	VORO		
20	APR	0008E	0150D	S30	E90	12	27.1	1				C	VORO		
20	ADF	0110E	1050D	N12	W05	12	19.7	2	05	9	9	E	LEAR	5836	
20	DSD	0517	0720D	N21	E06	12	20.7		03	9	9	E	LEAR	5837	Flare Associated
20	AFS	0805E	1435D	S12	W71	12	15.0		03	9	9	E	SVTO	5844	
20	EPL	0815E	0855D	N42	E90	12	27.7	1				P	BUCA		
20	AFS	0909E	1435D	N23	E04	12	20.7		02	7	7	E	SVTO	5837	
20	SSB	1030		235	W13	12	23.1			0	0	E	SVTO		
20	SSB	1215		235	W14	12	23.1			0	0	E	RAMY		311 W90
20	DSD	1240E	1328D	S04	E16	12	21.7		02	7	6	E	RAMY	5843	
20	ADF	1512E	2115D	N38	E50	12	24.7	1	11	9	9	E	HOLL		
20	DSD	1514E	2330D	S09	W71	12	15.3		02	9	9	E	HOLL	5844	Flare Associated
20	ADF	1528E	2330D	N23	W03	12	20.4	1	02	9	9	E	HOLL	5837	
20	ADF	1531E	2122D	S26	E72	12	26.2	1	02	9	9	E	HOLL		
20	ADF	1532E	2119D	S35	W65	12	15.4	1	06	9	9	E	HOLL		
20	ASR	1622E	1917D	N22	W89	12	13.8			9	9	E	RAMY	5847	
20	DSD	1624E	1917D	S09	W77	12	14.9		05	9	9	E	RAMY	5844	
20	ADF	1628E	1917D	S10	E62	12	25.3	1	04	9	9	E	RAMY	5849	
20	SSB	1630		227	W07	12	22.7			0	0	E	HOLL		238 W18
20	AFS	1656E	2352D	N33	W80	12	14.3		02	8	8	E	HOLL	5847	
20	ASR	1710E	2124D	N33	W80	12	14.4			8	8	E	HOLL	5847	
20	DSD	1920E	2126D	N16	E18	12	22.2		07	9	9	E	HOLL	5846	Flare Associated

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
20	ADF	1920E	2126D	N21	E23	12	22.6	2	06	9	9	E	HOLL	5846	Flare Associated
20	APR	2147E	2212D	N24	E90	12	27.9	1		9	9	E	HOLL		
20	MDP	2212E	2241D	N22	E90	12	27.8	1		9	9	E	HOLL		
20	ASR	2228E	1045D	S07	W90	12	14.2			9	9	E	LEAR	5844	
20	CAP	2241E	2352D	N22	E90	12	27.9		02	9	9	E	HOLL		
21	ADF	0826E	1417D	N13	W24	12	19.5	1	15	9	9	E	SVTO	5836	
21	AFS	0826E	1417D	N21	W09	12	20.7		03	9	9	E	SVTO	5837	
21	AFS	0938E	1417D	S30	E01	12	21.5		02	8	8	E	SVTO		
21	SSB	1141		234	W26	12	24.1			0	0	E	RAMY		
21	AFS	1150E	1540D	N21	W10	12	20.7		02	6	7	E	RAMY	5837	
21	ASR	1212E	1733D	S08	W90	12	14.8			9	9	E	RAMY	5844	
21	ADF	1224E	2140D	N17	E12	12	22.4	2	08	9	9	E	RAMY	5846	
21	ADF	1446E	2049D	S07	E54	12	25.7	1	03	9	9	E	HOLL	5849	
21	AFS	1459E	2048D	N18	E05	12	22.0		02	7	7	E	RAMY	5846	
21	AFS	1500E	2239D	N17	E05	12	22.0		02	9	9	E	HOLL	5846	
21	ASR	1512E	2119D	S10	W90	12	14.9			7	7	E	HOLL	5844	
21	ADF	1522E	2239D	N21	E26	12	23.6	1	06	9	9	E	HOLL		
21	ADF	1530E	2239D	N31	E33	12	24.2	1	10	8	8	E	HOLL		
21	AFS	1536E	2239D	S30	W02	12	21.5		02	9	9	E	HOLL		
21	AFS	1540E	2051D	S30	W02	12	21.5		02	4	4	E	RAMY		
21	ADF	1554E	2040D	S34	E71	12	27.3	1	12	9	9	E	HOLL		
21	SSB	1611		198	W00	12	29.0			0	0	E	HOLL		
21	SSB	1611		238	W32	12	24.7			0	0	E	HOLL		
21	AFS	1650E	2239D	N20	W13	12	20.7		02	6	6	E	HOLL	5837	
21	ASR	2257E	1043D	N21	E90	12	28.8			9	9	E	LEAR		
21	ADF	2355E	0927D	N17	W39	12	19.0	1	05	9	9	E	LEAR	5836	
22	BSL	0648E	0706	N21	E90	12	29.2	1				C	ABST		
22	AFS	0716E	1043D	S29	W11	12	21.4		02	9	9	E	LEAR	5850	
22	BSL	0741	0815D	N24	E90	12	29.3	1				C	ABST		
22	ASR	0855E	1500D	N25	E90	12	29.3			9	9	E	SVTO		
22	AFS	0855E	1500D	S30	W12	12	21.4		02	7	9	E	SVTO	5850	
22	SDF	1050E	1030D	S14	W58	12	18.1		12	0	0	E	SVTO		
22	SSB	1208		196	W01	12	29.7			0	0	E	RAMY		220 W25 231 W36
22	ASR	1214E	2139D	N22	E90	12	29.4			9	9	E	RAMY		
22	ADF	1438E	1500D	N28	E34	12	25.3	1	09	9	9	E	SVTO	5848	
22	ASR	1524E	2230D	N22	E90	12	29.5			9	9	E	HOLL		
22	ASR	1538E	2044D	S21	E90	12	29.5			9	9	E	HOLL		
22	ASR	1538E	2340D	S17	E90	12	29.5			9	9	E	HOLL		
22	AFS	1631E	1633D	S31	W16	12	21.4		02	9	9	E	HOLL	5850	
22	ASR	1802E	1804D	S16	E83	12	29.0			9	9	E	PALE		
22	AFS	1820E	0347D	S28	E18	12	24.2		02	9	9	E	PALE	5850	
22	AFS	1822E	0347D	S45	E03	12	23.0		02	6	7	E	PALE	5851	
22	SSB	2045		196	W05	12	30.0			0	0	E	HOLL		220 W29 233 W42
22	ASR	2142E	0347D	N22	E90	12	29.8			9	9	E	PALE	5854	
22	ASR	2252E	0348D	N90	E22	12	25.0			9	9	E	LEAR	5854	
22	ASR	2252E	0348D	N90	E28	12	25.6			9	9	E	LEAR		
22	AFS	2255E	0348D	S14	W10	12	22.2		03	9	9	E	LEAR	5855	
22	ASR	2308E	0348D	S12	E90	12	29.7			9	9	E	LEAR	5857	
22	ASR	2312E	0348D	S31	W90	12	15.9			9	9	E	LEAR		
22	LPS	2315E	0016D	N21	E89	12	29.8			9	9	E	PALE	5854	Flare Associated
23	BSL	0030	0101	N30	E90	12	30.1	1				C	VORO		
23	APR	0030E	0300D	S50	E90	12	30.6	1				C	VORO		
23	BSL	0032	0101D	N11	E90	12	29.8	1				C	VORO		
23	ADF	0032E	0150D	N40	E20	12	24.6	1				C	VORO		
23	ADF	0037	0300D	S34	E51	12	27.1	1				C	VORO		
23	BSL	0116	0146	S09	E90	12	29.8	1				C	VORO		
23	BSL	0120	0148	N30	E90	12	30.1	1				C	VORO		
23	BSL	0158	0233	S09	E90	12	29.8	1				C	VORO		
23	BSL	0243	0300D	S09	E90	12	29.9	1				C	VORO		
23	DSD	0900E	1005D	N23	E73	12	29.0		05	9	9	E	SVTO	5854	
23	ASR	0900E	1030D	N30	E83	12	29.9			7	9	E	SVTO		Flare Associated
23	AFS	0900E	1313D	S14	W15	12	22.2		02	8	8	E	SVTO	5855	
23	SSB	1050		225	W42	12	25.5			0	0	E	SVTO		
23	SSB	1159		212	W30	12	24.4			0	0	E	RAMY		231 W49
23	DSD	1159E	1214	N21	E72	12	29.0		02	9	9	E	RAMY	5854	
23	AFS	1159E	1228D	N21	E75	12	29.2		03	9	9	E	RAMY	5854	
23	LPS	1208	1249	N22	E76	12	29.3			9	9	E	RAMY	5854	

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
23	AFS	1210E	2132D	S26	E54	12	27.7		02	9	9	E	RAMY	5852	
23	DSD	1216	1235	S29	W31	12	21.1		04	9	9	E	RAMY	5850	Flare Associated
23	AFS	1224E	2132D	S13	W16	12	22.3		03	7	7	E	RAMY	5855	
23	ADF	1556E	2350D	S33	E47	12	27.4	1	19	9	9	E	HOLL		
23	DSD	1600E	2116D	S27	E53	12	27.8		02	9	9	E	RAMY	5852	
23	AFS	1600E	2132D	S29	W29	12	21.4		04	8	8	E	RAMY	5850	
23	ADF	1602E	2132D	S33	E47	12	27.4	1	19	9	9	E	RAMY		
23	SSB	1616		184	W04	12	29.9			0	0	E	HOLL		195 W15 209 W29
23	SSB	1616		241	W61	12	27.3			0	0	E	HOLL		
23	ASR	1745E	1815D	N89	E17	12	25.3			7	8	E	RAMY		
23	DSD	1815E	2058D	S10	E71	12	29.1		07	9	9	E	RAMY		
23	DSD	1815E	2058D	S10	E76	12	29.5		08	9	9	E	RAMY		
23	ASR	1823E	0101D	N08	W90	12	17.0			9	9	E	PALE	5836	
23	DSD	1823E	0337D	N19	E79	12	29.8		08	9	9	E	PALE	5854	
23	DSD	1823E	0337D	N21	E19	12	25.2		05	9	9	E	PALE	5848	
23	ADF	1823E	0337D	N21	W17	12	22.5		05	7	6	E	PALE	5846	
23	DSD	1823E	0337D	S11	E75	12	29.4		04	9	9	E	PALE		
23	DSD	1823E	0337D	S12	E71	12	29.1		07	9	9	E	PALE		Flare Associated
23	AFS	1823E	0337D	S12	W19	12	22.3		04	9	9	E	PALE	5855	
23	AFS	1823E	0337D	S27	E51	12	27.7		02	9	9	E	PALE	5852	
23	ADF	1956E	0337D	S33	E48	12	27.6	2	24	9	9	E	PALE		
23	AFS	2151E	0337D	S27	W33	12	21.3		05	9	9	E	PALE	5850	
24	DSD	0030E	0330D	N21	E69	12	29.3		03	9	9	E	LEAR	5854	
24	DSD	0032E	0330D	S12	E60	12	28.5		02	9	9	E	LEAR	5853	
24	AFS	0035E	0330D	S26	E44	12	27.4		02	7	6	E	LEAR	5852	
24	DSD	0040E	0330D	S28	W38	12	21.0		03	9	9	E	LEAR	5850	
24	APR	0151	0300D	N45	W90	12	16.6	1				C	VORO		
24	BSL	0230	0255	N15	E90	12	30.9	1				C	VORO		
24	SSB	0739		230	W59	12	26.9			0	0	E	SVTO		
24	AFS	0750E	1455D	S08	E16	12	25.5		01	9	9	E	SVTO	5849	
24	AFS	0750E	1455D	S22	W15	12	23.2		02	7	8	E	SVTO	5856	
24	AFS	0750E	1455D	S31	W36	12	21.5		02	9	9	E	SVTO	5850	
24	ADF	0830E	1455D	S33	E30	12	26.7	1	09	9	9	E	SVTO		
24	SSB	1209		214	W45	12	25.7			0	0	E	RAMY		
24	ADF	1213E	2125D	S09	E63	12	29.2	1	02	9	9	E	RAMY	5853	
24	AFS	1600E	2247D	S30	W43	12	21.3		02	9	9	E	HOLL	5850	Flare Associated
24	AFS	1605E	2247D	S22	W20	12	23.1		02	9	9	E	HOLL	5856	
24	DSD	1617E	2247D	N19	E56	12	28.9		03	9	9	E	HOLL	5854	
24	ADF	1618E	2247D	S11	E57	12	29.0	1	04	9	9	E	HOLL	5853	
24	ADF	1619E	2247D	S14	E55	12	28.8	1	06	9	9	E	HOLL	5853	
24	DSD	1847E	1849D	N26	E06	12	25.2		04	9	9	E	PALE	5848	
24	AFS	1847E	1849D	S28	E44	12	28.2		06	9	9	E	PALE	5850	
24	DSD	1855E	1857D	S14	E53	12	28.8		04	9	9	E	PALE	5853	
24	AFS	1855E	1857D	S27	E38	12	27.7		07	9	9	E	PALE	5852	
24	ADF	1855E	1857D	S33	E31	12	27.2	1	25	9	9	E	PALE		
24	AFS	2240E	1054D	S29	W46	12	21.3		03	8	5	E	LEAR	5850	
25	ASR	0022E	0305D	S28	E90	01	1.0			9	9	E	PALE	5857	Flare Associated
25	AFS	0220E	1054D	S26	E29	12	27.3		03	9	8	E	LEAR	5852	
25	ASR	0900E	1252D	S18	E77	12	31.2			9	9	E	SVTO		
25	SSB	0918		133	W00	12	27.8			0	0	E	SVTO		226 W69
25	SDF	1036E	2252D	S31	E30	12	27.8		17	0	0	E	LEAR		
25	DSD	1145E	1855D	N20	E37	12	28.3		04	9	9	E	RAMY	5854	
25	ADF	1147E	1855D	S26	E60	12	30.1	1	13	9	9	E	RAMY	5857	
25	AFS	1148E	1855D	S21	W31	12	23.1		02	9	9	E	RAMY	5856	
25	AFS	1149E	1855D	S26	E24	12	27.3		03	9	9	E	RAMY	5852	
25	AFS	1215E	1855D	S29	W54	12	21.3		03	9	9	E	RAMY	5850	
25	DSD	1215E	1454D	N22	E35	12	28.2		07	9	9	E	SVTO	5854	
25	AFS	1215E	1454D	S21	W31	12	23.1		02	9	8	E	SVTO	5856	
25	DSD	1215E	1454D	S24	E23	12	27.3		03	9	9	E	SVTO	5852	
25	ADF	1215E	1454D	S27	E20	12	27.1	1	05	9	9	E	SVTO	5852	
25	AFS	1215E	1454D	S29	W52	12	21.4		02	9	9	E	SVTO	5850	
25	DSD	1217E	1855D	N26	W02	12	25.3		03	9	9	E	RAMY	5848	
25	ASR	1219E	1855D	N16	E90	01	1.3			9	9	E	RAMY		
25	SSB	1445		196	W42	01	2.5			0	0	E	RAMY		
25	SSB	1449		213	W58	12	26.7			0	0	E	HOLL		224 W69
25	DSD	1537E	1934D	N24	E04	12	25.9		02	9	9	E	HOLL	5848	
25	AFS	1630E	2319D	N17	W47	12	22.1		03	9	9	E	HOLL	5846	
25	AFS	1739E	2319D	S30	W54	12	21.5		03	9	9	E	HOLL	5850	

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
25	ADF	1815E	0332D	N29	E44	12	29.2	1	07	9	9	E	PALE	5854	
25	AFS	1815E	0332D	S27	E23	12	27.5		03	9	9	E	PALE	5852	
25	ASR	1842E	1912D	N20	E90	01	1.7			9	9	E	HOLL		
25	SSB	2008		228	W77	12	28.4			0	0	E	PALE		211 W60
25	AFS	2010E	0332D	S30	W59	12	21.2		02	9	9	E	PALE	5850	
26	DSD	0900E	0934D	S26	E14	12	27.5		06	9	9	E	SVTO	5852	Flare Associated
26	ASR	0903E	1508D	N17	E90	01	2.2			9	9	E	SVTO		
26	DSD	0904E	1228D	S27	E17	12	27.7		08	9	9	E	SVTO	5852	Flare Associated
26	ASR	0923E	1052D	N14	E90	01	2.2			9	9	E	LEAR	5859	
26	AFS	1022E	1508D	S26	W39	12	23.4		03	9	9	E	SVTO	5856	
26	AFS	1030E	1215D	N16	W61	12	21.8		02	9	9	E	SVTO	5846	
26	SSB	1235		196	W54	01	3.8			0	0	E	RAMY		
26	AFS	1341E	2137D	S24	W42	12	23.3		02	9	9	E	RAMY	5856	
26	AFS	1440E	1917D	S25	W40	12	23.5		02	9	9	E	HOLL	5856	
26	DSD	1449E	1917D	S24	E17	12	27.9		04	9	9	E	HOLL	5852	
26	ADF	1534E	1916D	S27	W63	12	21.7	1	06	9	9	E	HOLL	5850	
26	SSB	1620		194	W54	01	3.8			0	0	E	HOLL		215 W75
26	SSB	1725		212	W72	12	27.8			0	0	E	PALE		
26	AFS	1725E	0022D	N22	E32	12	29.2		03	9	9	E	PALE	5854	
26	ADF	1725E	0022D	N29	E35	12	29.5	1	07	9	9	E	PALE	5854	
26	AFS	1725E	0022D	S22	W42	12	23.5		02	9	9	E	PALE	5856	
26	ASR	1843E	2109D	N18	E90	01	2.6			9	9	E	PALE		
26	DSD	2120E	2137D	N20	W58	12	22.4		04	9	9	E	RAMY	5846	
26	ADF	2340E	0828D	S24	E01	12	27.1	1	06	9	9	E	LEAR	5852	
26	AFS	2342E	1042D	S22	W48	12	23.3		02	9	9	E	LEAR	5856	
27	EPL	0148E	0205	N24	W90	12	20.1			9	9	E	LEAR		
27	ASR	0150E	1042D	N19	E90	01	2.9			9	9	E	LEAR		
27	SSB	1201		130	W01	12	29.7			0	0	E	RAMY		196 W67
27	ASR	1202E	1923D	N13	E90	01	3.3			9	9	E	RAMY		
27	DSD	1534	1605	S14	W20	12	26.1		04	9	9	E	RAMY	5849	
27	SSB	1742		133	W07	12	30.2			0	0	E	PALE		188 W61
27	DSD	1742E	2309D	N26	E18	12	29.1		04	9	9	E	PALE	5854	
27	DSD	1742E	2309D	S25	W02	12	27.6		03	9	9	E	PALE	5852	
27	ASR	2213E	2309D	S30	W88	12	21.0			8	8	E	PALE	5850	
27	ADF	2324E	1055D	S09	W31	12	25.6	1	09	9	9	E	LEAR	5849	
27	AFS	2325E	0610D	S27	W02	12	27.8		02	9	9	E	LEAR	5852	
27	DSD	2326E	0616D	N21	E11	12	28.8		03	9	9	E	LEAR	5854	
28	DSD	0020	0031	S27	W03	12	27.8	1				C	VORO		
28	APR	0020	0153D	N13	W90	12	21.2	1				C	VORO		
28	DSD	0039	0055	S27	W02	12	27.9	1				C	VORO		
28	BSL	0050	0105	S45	W90	12	20.5	1				C	VORO		
28	ADF	1210E	1847D	S21	E12	12	29.4	1	06	9	9	E	RAMY	5857	
28	AFS	1213E	1847D	S23	W66	12	23.4		02	9	9	E	RAMY	5856	
28	ADF	1215E	1847D	N23	E09	12	29.2	1	03	9	9	E	RAMY	5854	
28	ASR	1230E	1847D	S30	W85	12	21.8			9	9	E	RAMY	5850	
28	ASR	1234E	1847D	N18	W88	12	21.8			9	9	E	RAMY	5846	
28	ASR	1237E	1847D	S08	W90	12	21.8			9	9	E	RAMY	5843	
28	SSB	1300		132	W16	12	31.0			0	0	E	RAMY		
28	ASR	1555E	2145D	S27	W90	12	21.6			9	9	E	HOLL	5850	
28	AFS	1754E	0258D	S18	E30	12	31.0		02	9	9	E	PALE	5858	
28	SSB	1903		113	W01	12	29.8			0	0	E	HOLL		123 W21
28	DSD	2118E	2148D	S18	E29	12	31.1		05	9	9	E	HOLL	5858	Flare Associated
28	ADF	2128E	2338D	S27	W12	12	27.9	2	10	9	9	E	HOLL	5252	
28	ASR	2235E	0258D	N16	W90	12	22.1			9	9	E	PALE	5846	
28	ASR	2310E	1052D	N21	W90	12	22.1			9	9	E	LEAR	5846	
29	DSD	0029	0059	S26	W20	12	27.5	1				C	VORO		
29	BSL	0037	0110	N18	W90	12	22.2	1				C	VORO		
29	SSB	0652		135	W29	01	1.0			0	0	E	LEAR		
29	ASR	0820E	1052D	N08	E90	01	5.1			9	9	E	LEAR		
29	SSB	1159		132	W29	01	1.0			0	0	E	RAMY		
29	APR	1209E	2050D	S22	W90	12	22.6	1		9	9	E	RAMY	5856	
29	ADF	1213E	2050D	N31	W09	12	28.8	1	09	9	9	E	RAMY	5854	
29	SSB	1813		460	W35	12	24.9			0	0	E	PALE		
29	AFS	1944E	0351D	S18	E18	12	31.2		01	9	9	E	PALE	5858	
29	APR	1946E	0351D	S22	W90	12	22.9			9	9	E	PALE	5856	

ACTIVE PROMINENCES AND FILAMENTS

DECEMBER 1989

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
30	APR	0005E	0735D	S19	W90	12	23.1	2		9	8	E	LEAR	5856	
30	ASR	0125E	0735D	N21	W90	12	23.1			9	9	E	LEAR	5846	
30	SSB	1203		136	W47	01	2.5			0	0	E	RAMY		
30	ASR	1204E	1509	S21	W90	12	23.6			9	9	E	RAMY		
30	ADF	1210E	2036D	N14	W40	12	27.5	1	20	6	7	E	RAMY		
30	ADF	1215E	2036D	S11	W27	12	28.5	1	14	9	9	E	RAMY	5853	
30	SSB	1240		137	W47	01	2.6			0	0	E	SVTO		
30	ADF	1242E	1428D	N20	E38	01	2.4	1	14	9	9	E	SVTO	5862	
30	AFS	1423E	1428D	N13	E68	01	4.7		02	9	9	E	SVTO	5864	
30	AFS	1438E	2036D	N14	E63	01	4.4		02	8	8	E	RAMY	5864	
30	ASR	1605E	2036D	S40	E90	01	7.0			9	9	E	RAMY	5865	
30	ASR	1820E	0140D	S23	W90	12	23.8			9	9	E	PALE		
30	AFS	1924E	2348D	N21	W26	12	28.8		02	9	9	E	HOLL	5854	
30	ASR	1955E	2348D	S21	W90	12	23.9			9	9	E	HOLL	5856	
30	SDF	2036E	1308D	N02	W60	12	26.4		14	0	0	E	RAMY		
30	SSB	2145		111	W26	12	31.8			0	0	E	HOLL		134 W49
30	ADF	2146E	2348D	N15	W47	12	27.3	1	22	9	9	E	HOLL		
30	SSB	2200		131	W47	01	2.5			0	0	E	PALE		
30	AFS	2245E	0352D	N18	E60	01	4.5		04	9	9	E	PALE	5864	
31	AFS	0359E	1045D	S17	W05	12	30.8		02	9	9	E	LEAR	5858	
31	ASR	0745E	1230D	S37	E76	01	6.4			9	9	E	SVTO	5865	
31	SSB	1215		111	W35	01	1.4			0	0	E	RAMY		134 W58
31	AFS	1215E	1809D	N14	E49	01	4.2		03	8	6	E	RAMY	5864	
31	ADF	1215E	1809D	S11	W24	12	29.7	1	07	9	9	E	RAMY	5853	
31	AFS	1215E	1809D	S18	W07	12	31.0		03	9	9	E	RAMY	5858	
31	ADF	1215E	1809D	S24	W54	12	27.3	1	11	9	9	E	RAMY	5852	
31	AFS	1220E	1230D	N16	E49	01	4.2		03	9	9	E	SVTO	5864	
31	DSD	1241E	1739D	S39	E76	01	6.7		05	9	9	E	RAMY	5865	
31	DSD	1315E	1525D	N24	W35	12	28.8		06	9	9	E	RAMY	5854	Flare Associated
31	DSD	1525E	1809D	N23	W39	12	28.6		05	9	9	E	RAMY	5854	Flare Associated
31	AFS	1645E	2359D	N15	E48	01	4.3		02	9	9	E	HOLL	5864	
31	ADF	1648E	2359D	S23	W60	12	27.1	1	07	9	9	E	HOLL	5852	
31	AFS	1800E	0353D	N18	E47	01	4.3		05	9	9	E	PALE	5864	
31	ADF	1800E	0353D	S15	W13	12	30.8		08	8	9	E	PALE	5858	
31	ADF	1800E	0353D	S25	W58	12	27.2		07	9	9	E	PALE	5852	
31	DSD	1815E	2359D	S39	E76	01	6.9		04	9	9	E	HOLL	5865	
31	SSB	1818		113	W39	01	1.8			0	0	E	HOLL		131 W58
31	ASR	1820E	0140D	S23	W90	12	24.8			9	9	E	PALE		
31	AFS	1846E	2359D	N13	E28	01	2.9		02	9	9	E	HOLL	5862	
31	ADF	1955E	2315D	S18	W10	12	31.1	1	06	9	9	E	HOLL	5858	
31	SDF	2250E	2315D	S18	W10	12	31.2		06	0	0	E	HOLL	5858	
31	SDF	2359E	1418D	S10	E04	01	1.3		07	0	0	E	HOLL		

ADF = Active Dark Filament
AFS = Arch Filament System
APR = Active Prominence
ASR = Active Surge Region
BSD = Bright Surge on Disk
BSL = Bright Surge on Limb
CAP = CAP Prominence (Tandberg-Hanssen)
CRN = Coronal Rain
DSD = Dark Surge on Disk
EPL = Eruptive Prominence on Limb
LPS = Loops
MDP = Mound Prominence
SDF = Sudden Disappearing Filament
SPY = Spray
SSB = Solar Sector Boundary

For SOLAR SECTOR BOUNDARY REPORTS, the latitude field contains the Carrington longitude of the point where a neutral line crosses the solar equator. The comments field may contain the Carrington longitude and central meridian distance of two more intersection points.

The EXTENT field for limb events is the radial extent above the limb in hundredths of solar radius. For disk events this field contains the heliographic extent in whole degrees.

The remark "Bright Emission 1/3" indicates that bright emission was observed 1/3 of time.
The remark "Normal Emission 1/3" indicates that normal emission was observed 1/3 of time.

Observation Type: C= Cinematographic, E= Electronic, P= Photographic, V= Visual.

C O N T E N T S

Comprehensive Reports **MISCELLANEOUS DATA** Number 550 Part II

C A R T E S Y N O P T I Q U E
A C T I V E R E G I O N S
CARRINGTON ROTATION 1820

(11 September to 8 October 1989)

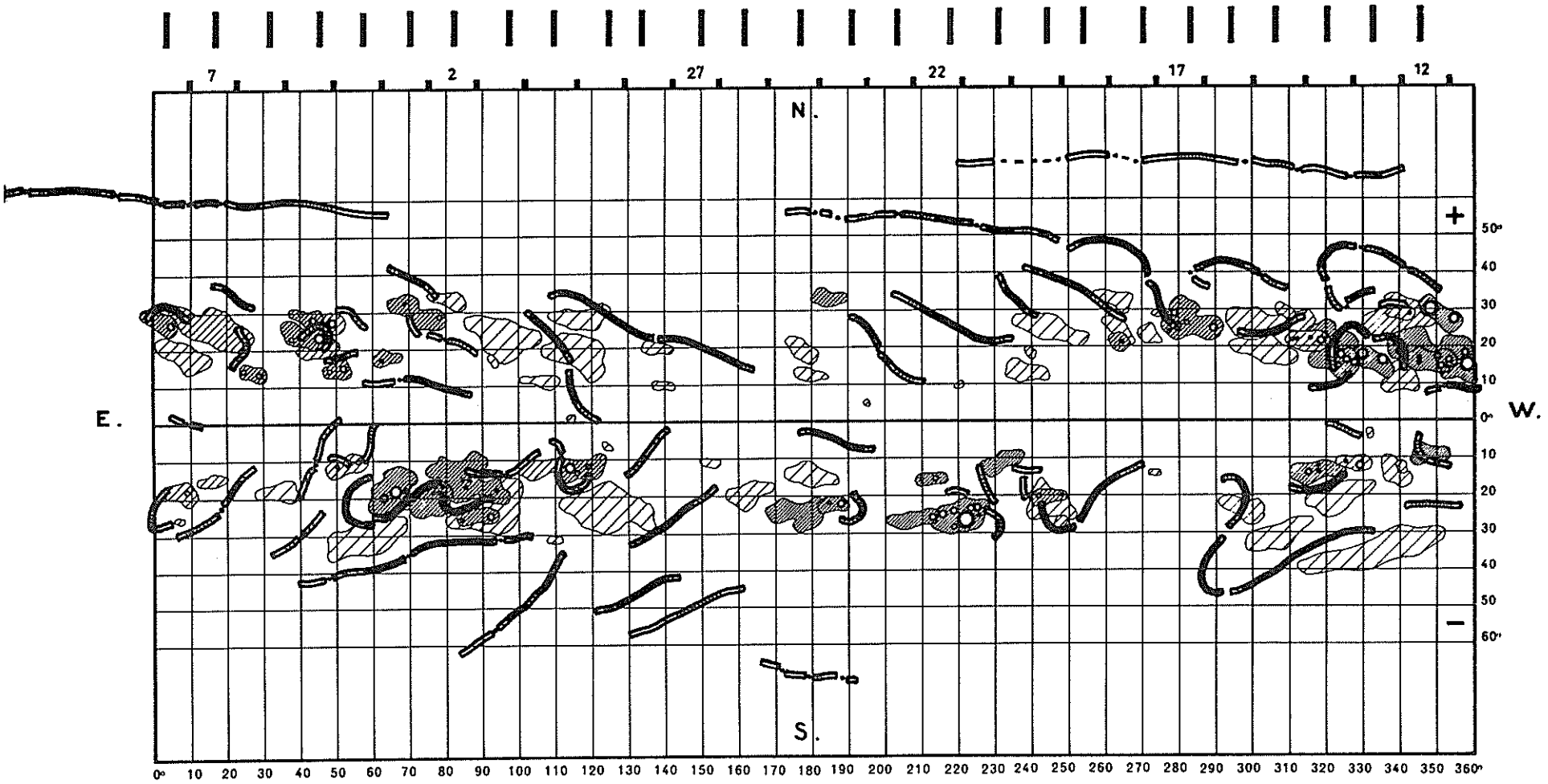
Region No.	Coordinates Lat.	Long.	Age at CMP (Days)	Imp	Spotless Region	Region No. in Rotation 1819	Activity at West Limb
1	13 N	357	>6	3			decreasing
2	28 N	352	-2	4			increasing
3	16 N	350	>6	4		5	decreasing
4	9 S	349	+1	1	x		dispersed
5	19 N	349	>6	2			decreasing
6	11 N	341	>6	1	x		dispersed
7	29 N	341	>6	2			decreasing
8	13 S	341	-5	1	x		(?)
9	22 N	340	>6	1	x	3	dispersed
10	14 S	339	>6	1	x		disappeared
11	15 N	333	>6	4			increasing
12	11 S	329	>6	2			decreasing
13	16 N	324	>6	3			decreasing
14	22 N	322	>6	1	x	9	decreasing
15	14 S	318	>6	2			decreasing
16	21 N	315	>6	3			decreasing
17	29 N	310	+2	1	x		dispersed
18	26 N	306	>6	1	x		dispersed
19	24 S	298	>6	1	x	17	dispersed
20	27 N	285	>6	3			decreasing
21	21 N	264	-4	2			stable
22	24 N	264	>6	1	x		disappeared
23	33 N	263	>6	1	x	22	dispersed
24	27 S	248	-4	1	x		(?)
25	23 S	246	+2	2			decreasing
26	20 S	245	>6	1	x	25	disappeared
27	13 N	240	>6	1	x	28	decreasing
28	18 N	240	-5	1	x		(?)
29	11 S	232	+6	1	x		dispersed
30	25 S	221	>6	5			stable
31	16 S	214	-1	2			decreasing
32	26 S	209	>6	2			decreasing
33	22 S	187	>6	2			decreasing
34	33 N	185	+3	1	x		dispersed
35	12 N	180	>6	1	x	38	disappeared
36	19 N	178	>6	1	x		disappeared
37	24 S	176	>6	1	x	35	dispersed
38	19 S	164	>6	1	x	39	dispersed
39	11 S	153	0	1	x		disappeared
40	10 N	140	+6	1	x		disappeared
41	20 N	138	+1	1	x		disappeared
42	12 S	118	+6	3			decreasing
43	12 S	106	>6	1	x		decreasing
44	23 S	103	>6	1	x		decreasing
45	25 S	89	+3	2			decreasing
46	15 S	86	>6	2		58	decreasing
47	33 N	81	+6	1	x		dispersed
48	29 N	73	>6	2			decreasing
49	18 S	70	>6	4		60+62	decreasing
50	18 N	63	>6	2			dispersed
51	11 S	53	+1	2			decreasing
52	15 N	50	+5	2			decreasing
53	27 N	49	>6	3			decreasing
54	20 N	46	>6	1	x		decreasing
55	23 N	42	>6	3			decreasing
56	29 N	42	>6	2			disappeared
57	14 N	28	+2	2			decreasing
58	15 S	17	+5	1	x		dispersed
59	27 N	17	>6	1	x	68+69	decreasing
60	18 S	8	>6	2			decreasing
61	19 N	8	>6	1	x	72	disappeared
62	28 N	2	>6	2			decreasing

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1820
(11 September to 8 October 1989)

Meudon Observatory

September 1989



Heliographic Longitude

87
Late
Sep 89

CARTE SYNOPTIQUE
ACTIVE REGIONS
CARRINGTON ROTATION 1821

(8 October to 5 November 1989)

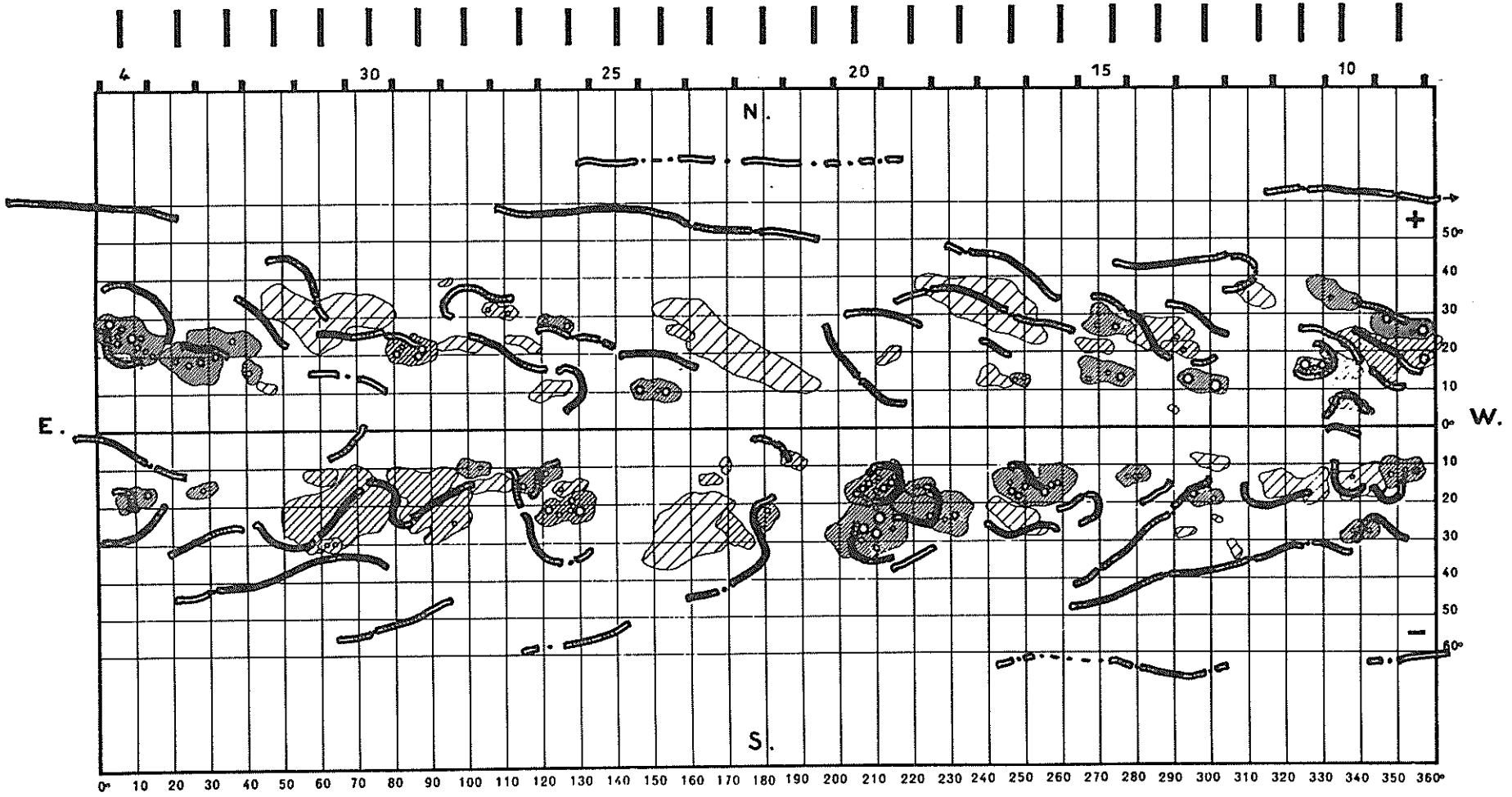
Region No.	Coordinates Lat.	Long.	Age at CMP (Days)	Imp	Spotless Region	Region No. in Rotation 1820	Activity at West Limb
1	17 N	356	>6	3		1	decreasing
2	12 S	352	>6	3			decreasing
3	27 N	352	>6	3			decreasing
4	19 N	348	>6	1	x	3+5	decreasing
5	14 S	341	>6	2		8	dispersed
6	27 S	340	+6	2			dispersed
7	6 N	338	>6	1	x		dispersed
8	16 N	335	>6	1	x	11	dispersed
9	35 N	333	>6	2			decreasing
10	15 N	328	>6	3			stable
11	16 S	323	>6	1	x	15	dispersed
12	12 N	298	+4	4			stable
13	18 S	298	-2	3			stable
14	21 N	292	>6	2			decreasing
15	25 N	287	>6	2		20	decreasing
16	13 S	279	0	2			decreasing
17	14 N	272	>6	3			decreasing
18	27 N	272	>6	2			decreasing
19	21 N	270	+6	1	x		disappeared
20	16 S	253	>6	4			decreasing
21	13 N	249	-5	2			(?)
22	24 S	248	>6	1	x		decreasing
23	13 N	243	+2	1	x		disappeared
24	22 S	226	>6	3			decreasing
25	15 S	221	-1	2			decreasing
26	19 N	214	-3	1	x		disappeared
27	15 S	210	>6	4			stable
28	26 S	209	>6	5			stable
29	8 S	188	>6	1	x		disappeared
30	23 S	181	>6	2			decreasing
31	27 S	172	>6	1	x		decreasing
32	13 S	165	+2	1	x		disappeared
33	25 N	158	+1	1	x		decreasing
34	10 N	151	+1	4			stable
35	15 S	128	>6	2			decreasing
36	21 S	128	>6	4			decreasing
37	28 N	124	-3	2			stable
38	11 N	123	>6	1	x		dispersed
39	13 S	119	>6	2			decreasing
40	23 N	116	>6	1	x		disappeared
41	31 N	109	+3	2			decreasing
42	14 S	106	+6	1	x	43	decreasing
43	10 S	101	0	2			decreasing
44	23 N	99	>6	1	x		dispersed
45	17 S	91	>6	2		45+46	decreasing
46	21 N	85	+3	4			decreasing
47	21 S	66	>6	1	x	49	decreasing
48	30 S	63	+4	2			decreasing
49	12 S	61	>6	1	x		decreasing
50	12 N	46	+4	1	x		disappeared
51	16 N	42	-4	2			increasing
52	24 N	35	>6	2		55	decreasing
53	15 S	29	0	2			decreasing
54	18 N	26	+6	3			decreasing
55	17 S	11	>6	2			decreasing
56	26 N	9	>6	4			decreasing

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1821
(8 October to 5 November 1989)

Meudon Observatory

October 1989

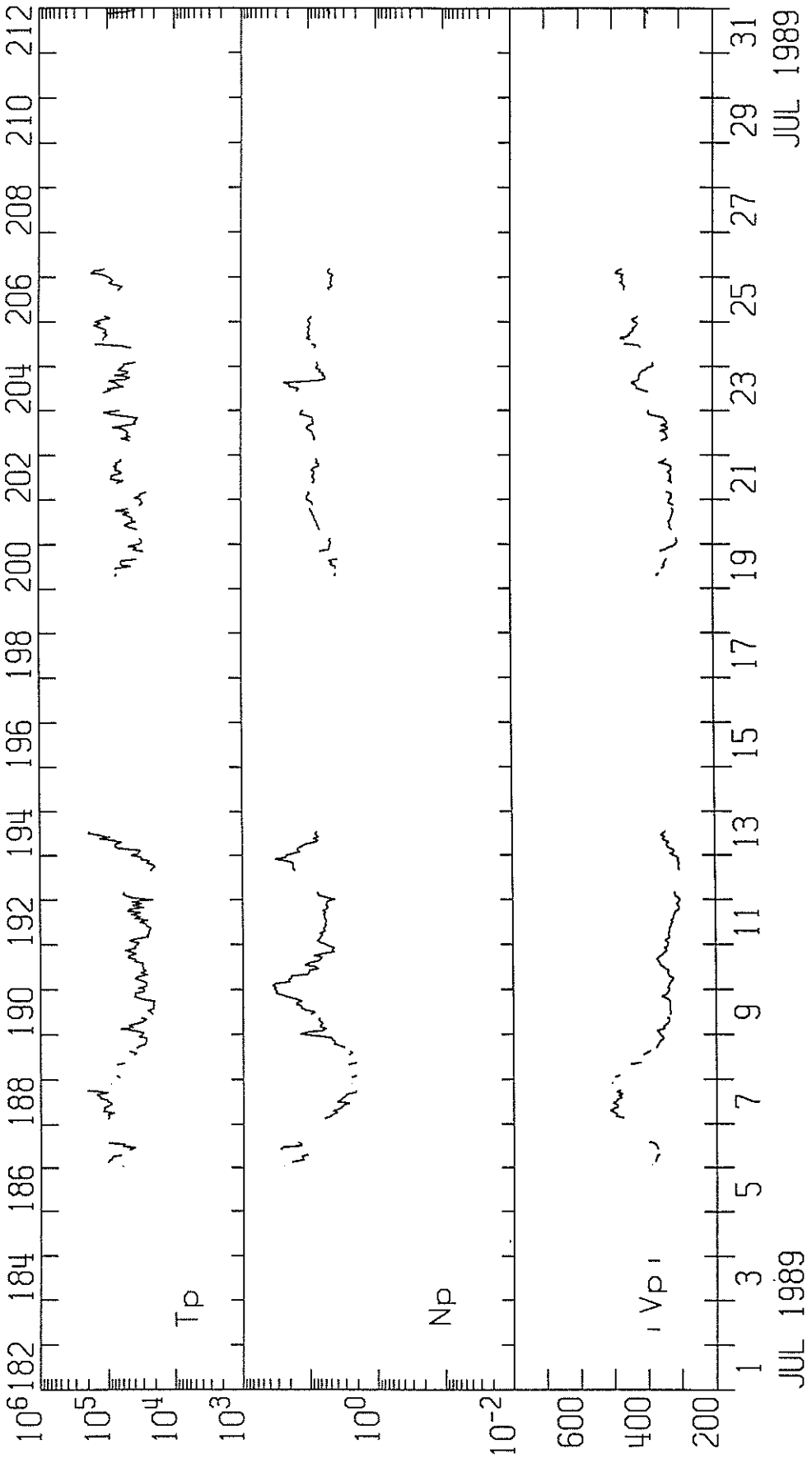


Heliographic Longitude

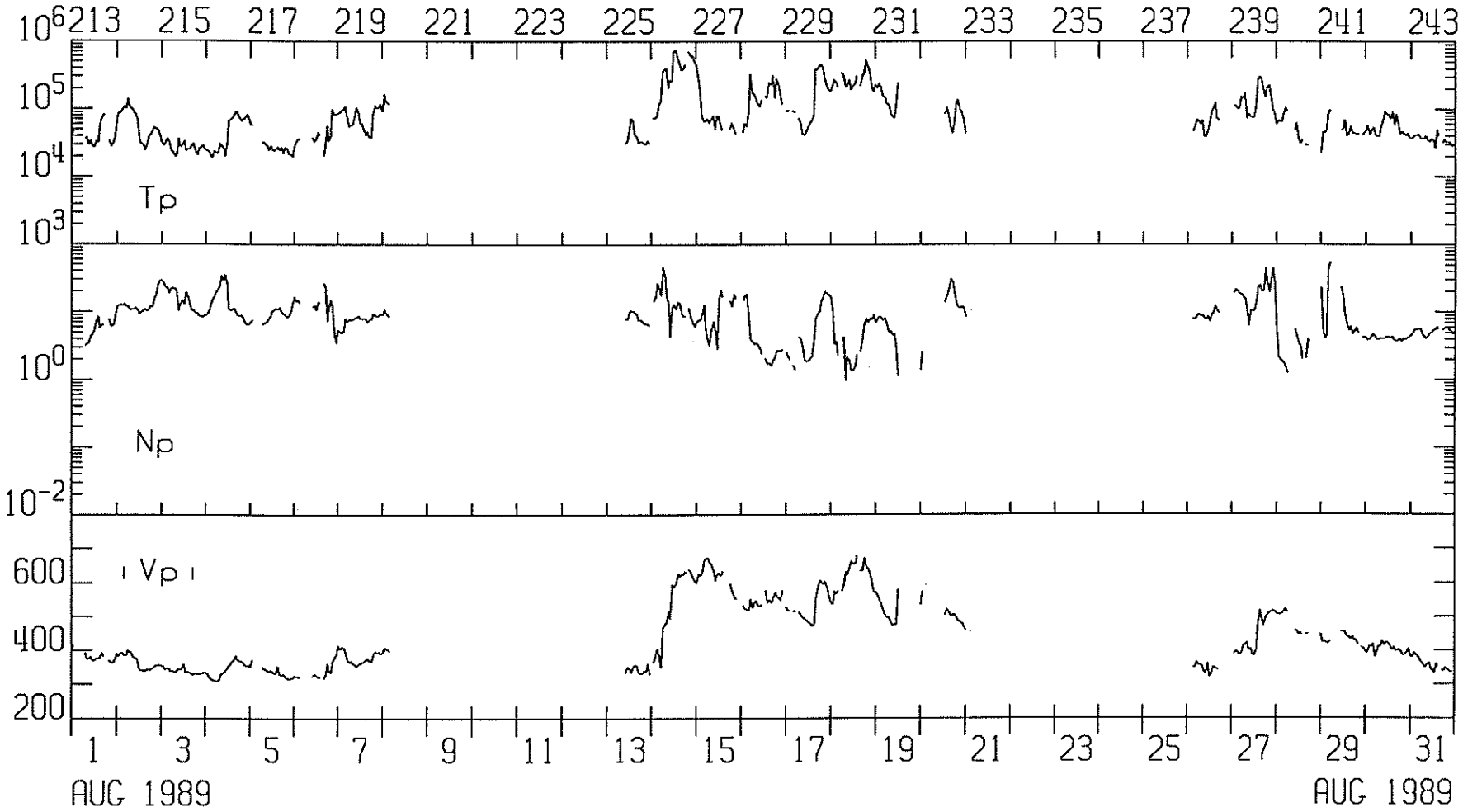
89
Late
Oct 89

90
Late
Jul 89

IMP 8 SOLAR WIND PLASMA
JULY 1989

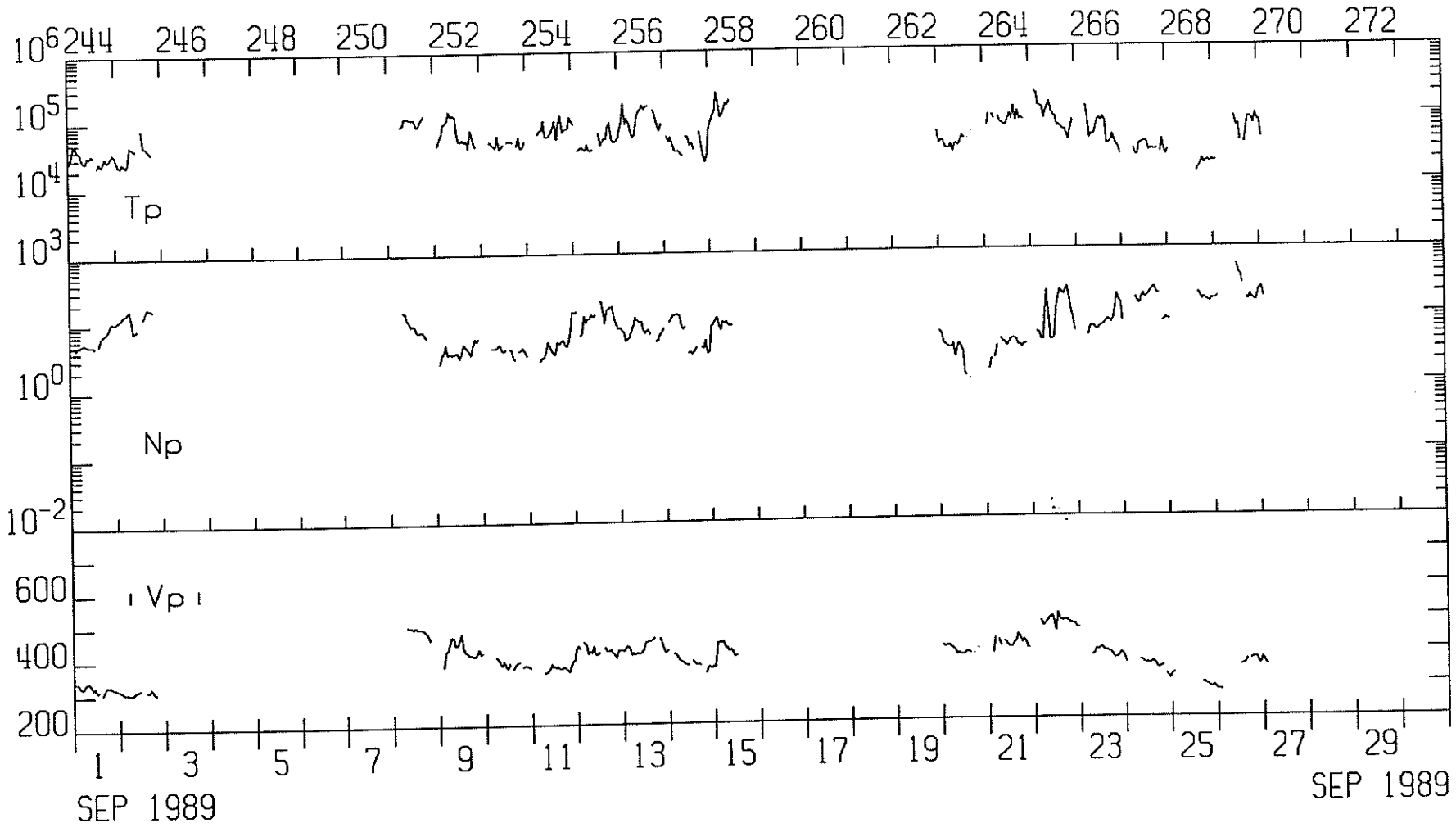


IMP 8 SOLAR WIND PLASMA
AUGUST 1989



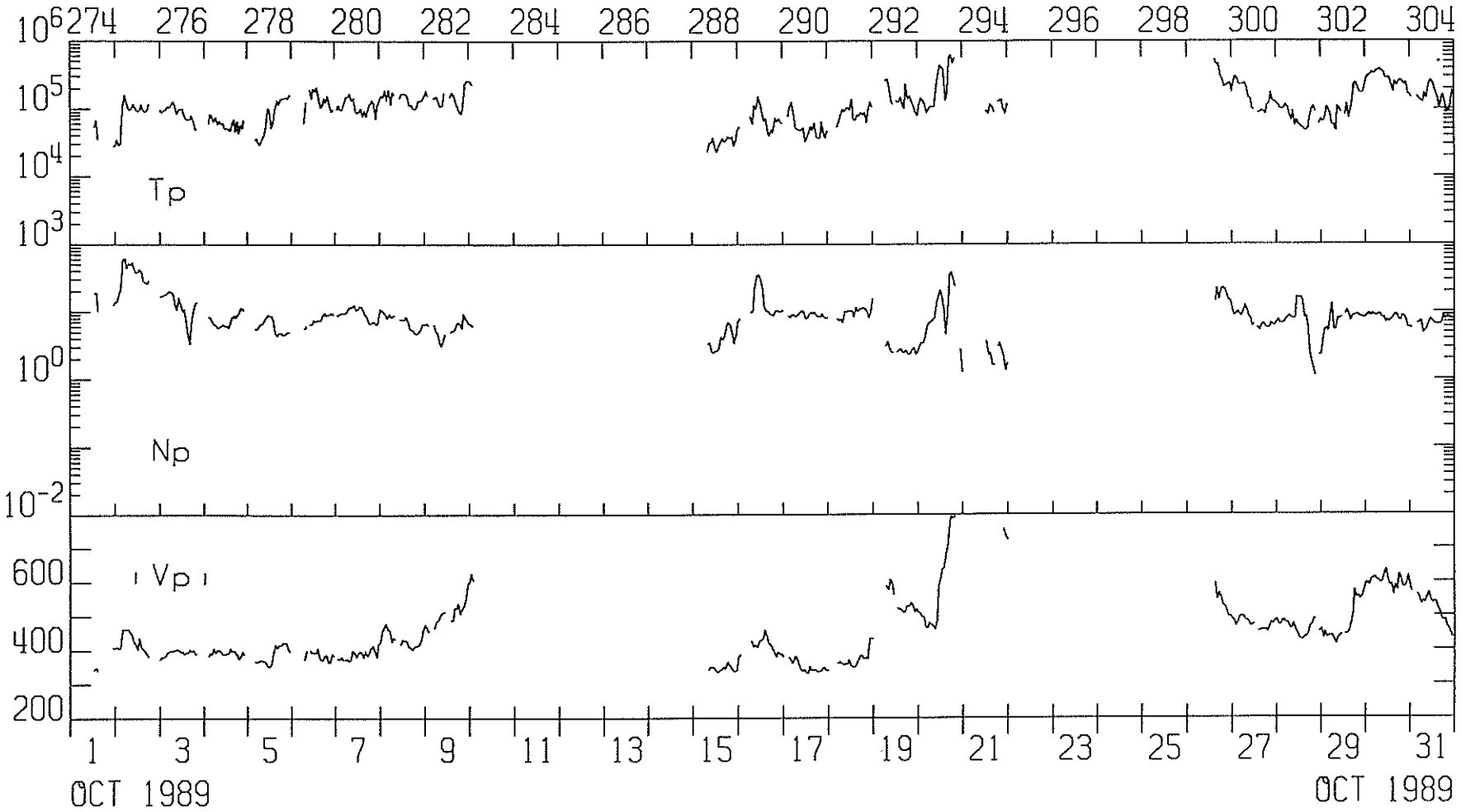
IMP 8 MIT PRELIMINARY ONE-HOUR AVERAGES

IMP 8 SOLAR WIND PLASMA
SEPTEMBER 1989



IMP 8 MIT PRELIMINARY ONE-HOUR AVERAGES

IMP 8 SOLAR WIND PLASMA
OCTOBER 1989

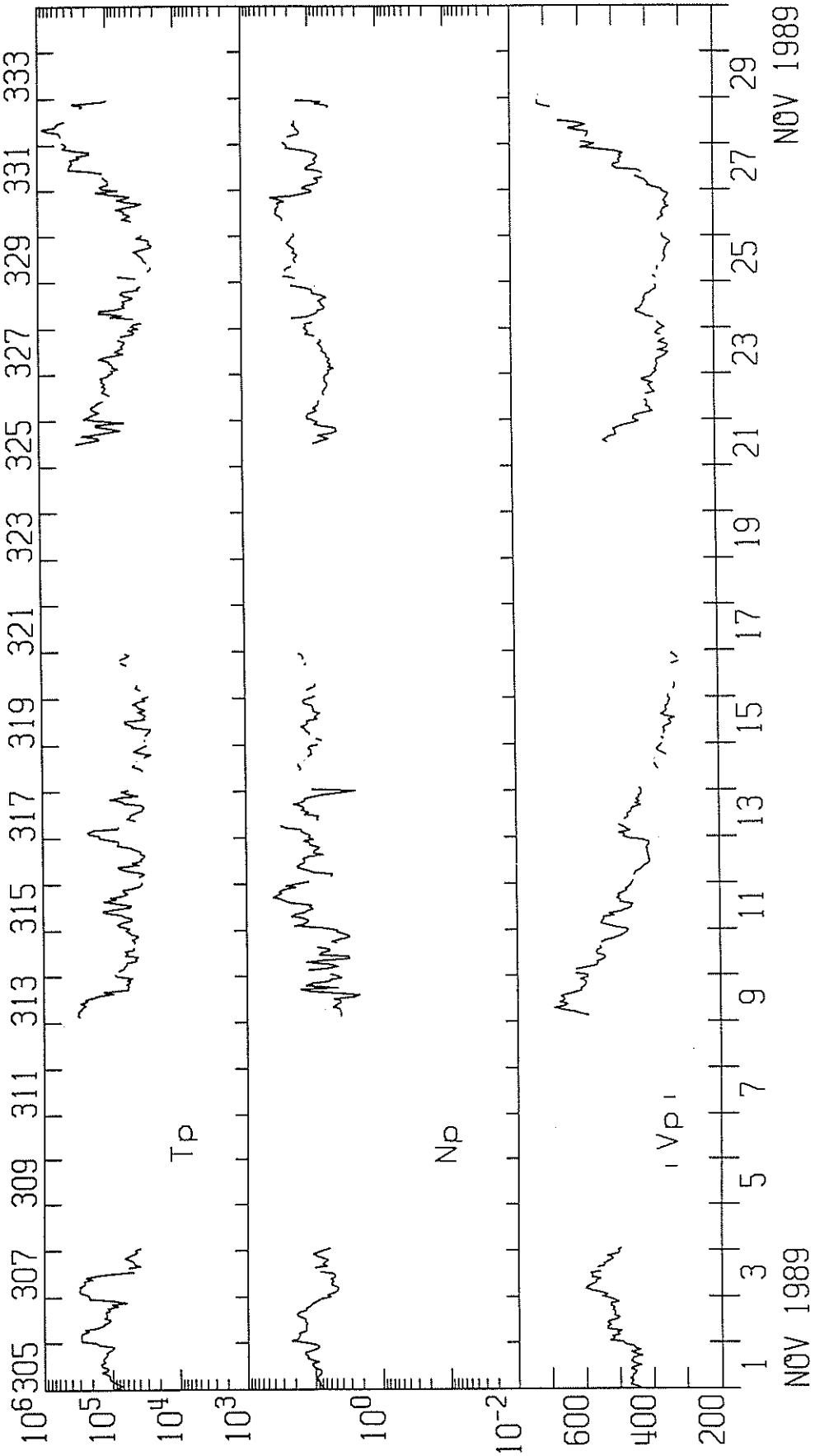


IMP 8 MIT PRELIMINARY ONE-HOUR AVERAGES

93
Late
Oct 89

94
Late
Nov 89

IMP 8 SOLAR WIND PLASMA
NOVEMBER 1989



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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."