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Michael A. Chinnery, Director
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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 556

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Joe H. Allen
Solar-Terrestrial Physics Division

Staff: Daniel C. Wilkinson
Carol Weathers
John A. McKinnon

C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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C O N T E N T S

Comprehensive Reports DATA FOR **JUNE 1990** Number 556 Part II

Hα SOLAR FLARES

JUNE 1990

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
0001		01	00262	00302	0047	N15	E20	6080	06	2.5	21	SF	B 6.2				37	0.7	D
	PEKG	01	0026	0032	0049	N16	E19	6080	06	2.4	23	SN			P	0032	63	0.7	D
	HOLL	01	0027	0030	0049	N13	E20	6080	06	2.5	22	SF	B 6.2	3	E		27		
	LEAR	01	0028	0030	0043	N16	E21	6080	06	2.6	15	SF		3	E		21		
0002	PEKG	01	0122	0128	0133	N16	E19	6080	06	2.5	11	SN			P	0128	42	0.5	D
0003		01	06461	06545	0723	N22	W15	6077	05	31.1	37	SF	B 9.3				66		F
	LEAR	01	0646	0654	0719	N22	W14	6077	05	31.2	33	SF	B 9.3	3	E		51		F
	KANZ	01	0647	0659	0719	N23	W14	6077	05	31.2	32	SF			V				
	SVTO	01	0649E	0656U	0731	N21	W16	6077	05	31.0	42D	SF		2	E		82		F
0004	HOLL	01	1622	1638	1657	S11	W41	6078	05	29.7	35	SF	B 6.6	3	E		26		
		01	1758		2215	No Flare Patrol													
0005	HOLL	01	1932	1934	1939	N14	E08	6080	06	2.4	7	SF	B 4.4	3	E		21		F
0006	HOLL	01	2151	2152	2220	N22	W22	6077	05	31.2	29	SF	B 8.7	3	E		55		FH
0007		02	02272	02291	0236	N24	W22	6077	05	31.4	9	SN	C 1.1				83	1.5	EFH
	PEKG	02	0227	0229	0236	N24	W23	6077	05	31.3	9	SN			C	0229	126	1.5	E
	LEAR	02	0229	0230	0237	N24	W22	6077	05	31.4	8	SF	C 1.1	3	E		40		FH
0008		02	06327	0638*	0718	N14	E02	6080	06	2.4	46	SN	C 5.7				133	1.9	DEF
	LEAR	02	0632	0640	0743	N16	E03	6080	06	2.5	71	SN	C 5.7	3	E		75		FE
	KANZ	02	0632	0644	0718	N13	E01	6080	06	2.3	46	SN			V				
	SVTO	02	0635	0638	0719	N15	E02	6080	06	2.4	44	SF		3	E		37		F
	PEKG	02	0635	0650	0710	N14	E03	6080	06	2.5	35	1B			P	0650	294	3.1	D
	ABST	02	0639	0642	0702	N14	E03	6080	06	2.5	23	SN			C	0642	131	1.4	E
	ATHN	02	0640E	0641	0650D	N13	E02	6080	06	2.4	10D	SN		2	V	0641	127	1.3	
0009		02	08546	09034	0920	N32	W22	6087	05	31.6	26	SF	C 1.2				113	2.4	DH
	LEAR	02	0854	0903	0919	N32	W21	6087	05	31.7	25	SF	C 1.2	3	E		87		H
	SVTO	02	0854	0907	0924	N33	W23	6087	05	31.5	30	SF		3	E		62		H
	KANZ	02	0855	0903	0907D	N30	W23	6087	05	31.6	12D	SF			V				
	PEKG	02	0900	0903	0917	N31	W23	6087	05	31.6	17	1N			P	0903	189	2.4	D
0010	LEAR	03	0445	0452	0501	S16	E71	6088	06	8.6	16	SF		3	E		13		
0011	LEAR	03	0609	0612	0644	N15	W10	6080	06	2.5	35	SF	C 1.9	3	E		15		
		03	0826		0849	No Flare Patrol													
0012		03	16351	16362	1650	N32	W38	6087	05	31.7	15	SF	B 9.2				46		F
	HOLL	03	1635	1636	1651	N31	W38	6087	05	31.7	16	SF	B 9.2	3	E		66		F
	RAMY	03	1636	1638	1648	N32	W39	6087	05	31.6	12	SF		3	E		25		
0013	HOLL	03	2030	2032	2037	S04	E32	6085	06	6.2	7	SF		3	E		25		F
0014		04	04428	0450	0502	S18	E58	6088	06	8.6	20	SF					26		
	SVTO	04	0442	0450	0510	S18	E58	6088	06	8.6	28	SF		3	E		35		
	LEAR	04	0450	0450	0453	S18	E59	6088	06	8.7	3	SF		3	E		17		
0015	SVTO	04	0851	0852	0855	S17	E54	6088	06	8.5	4	SF		3	E		14		F
0016	HOLL	04	1510	1513	1524	N11	E68	6089	06	9.7	14	SF		3	E		22		
0017	RAMY	04	1700	1704	1712	S18	E51	6088	06	8.6	12	SF		3	E		14		
0018		04	2324*	23382	2410	N15	W32	6080	06	2.5	46	SF	C 1.4				40		F
	HOLL	04	2324	2338	2430	N15	W33	6080	06	2.5	66	SF	C 1.4	3	E		62		F
	PALE	04	2334	2340	2350	N15	W32	6080	06	2.5	16	SF		3	E		17		F
0019		05	08245	08323	0844	N08	E57	6089	06	9.6	20	SN	C 1.4				58	1.5	E
	KAND	05	0824	0832	0845	N09	E57	6089	06	9.6	21	SN			P	0824	83	1.5	E
	SVTO	05	0829	0835	0843	N07	E57	6089	06	9.6	14	SF	C 1.4	3	E		34		
0020	RAMY	05	1049	1052	1103	N18	E02	6086	06	5.6	14	SF		3	E		25		F

Hα SOLAR FLARES

JUNE 1990

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
0021		05	15061	15073	1521	S09	E44		06	8.9	15	SF	B 9.4				27		H
	HOLL	05	1506	1510	1531	S09	E44		06	8.9	25	SF		3	E		49		H
	RAMY	05	1507	1507	1515	S10	E45		06	9.0	8	SF		3	E		22		
	SVTO	05	1507	1509	1518	S08	E44		06	8.9	11	SF	B 9.4	3	E		11		
0022		05	1702E	1720	1759	N06	E51	6089	06	9.5	57D	SN	B 9.8				64		F
	HOLL	05	1702E	1720	1759	N06	E51	6089	06	9.5	57D	SN	B 9.8	3	E		71		F
	RAMY	05	1710E	1718U	1746D	N06	E51	6089	06	9.5	36D	SF		2	E		57		
		05	2032		2052	No Flare Patrol													
		05	2107		2135	No Flare Patrol													
		05	2158		2333	No Flare Patrol													
0023	VORO	06	0145	0146	0152	N07	E49	6089	06	9.7	7	SF		1	C	0146	81	1.3	DI
0024	KAND	06	0708	0712	0720	N06	E43	6089	06	9.5	12	SF			P	0712	62	0.9	D
0025	KAND	06	0736	0738	0745	S18	W71	6093	05	31.9	9	SF			P	0738	42		E
		06	0906		1013	No Flare Patrol													
		06	1056		1059	No Flare Patrol													
0026	RAMY	06	1232	1233	1237	S17	W71	6093	06	1.1	5	SF		3	E		17		
0027		06	1328	13291	1344	N09	E42	6089	06	9.7	16	SF					20		F
	HOLL	06	1328	1329	1348	N09	E41	6089	06	9.6	20	SF		3	E		21		F
	RAMY	06	1328	1330	1341	N09	E43	6089	06	9.8	13	SF		3	E		20		
0028	HOLL	06	1359	1401	1425	N07	E40	6089	06	9.6	26	SF		3	E		23		F
0029		06	1409	1412*	1512	S19	W72	6093	06	1.1	63	SF	C 2.4				36		FK
	HOLL	06	1409	1412	1512	S19	W72	6093	06	1.1	63	SF	C 2.4	3	E		31		F
	HOLL	06	1409	1426	1512	S19	W72	6093	06	1.1	63	SF			E		40		K
0030		06	15333	15391	1551	S18	W72	6093	06	1.2	18	SF					28		F
	RAMY	06	1533	1539	1552	S17	W72	6093	06	1.2	19	SF		3	E		20		
	HOLL	06	1536	1540	1550	S18	W72	6093	06	1.2	14	SF		3	E		35		F
0031	HOLL	06	1609	1611	1619	S18	W72	6093	06	1.2	10	SF		3	E		11		
0032		06	1626*	16398	1652	S18	W73	6093	06	1.1	26	SF	M 1.0				34		F
	HOLL	06	1626	1639	1653	S18	W73	6093	06	1.1	27	SF		3	E		40		F
	RAMY	06	1638	1642	1650	S18	W72	6093	06	1.2	12	SF	M 1.0	3	E		33		
	PALE	06	1643E	1647	1654	S18	W73	6093	06	1.1	11D	SF		3	E		28		
0033		06	1813	18131	1817	N07	E40	6089	06	9.7	4	SF					27		FH
	RAMY	06	1813	1813	1817	N06	E40	6089	06	9.7	4	SF		3	E		15		
	PALE	06	1813	1813	1817	N08	E40	6089	06	9.7	4	SF		3	E		20		
	HOLL	06	1813	1814	1817	N07	E39	6089	06	9.7	4	SF		3	E		45		FH
0034		06	18202	18361	1848	S18	W76	6093	06	1.0	28	SF	C 8.1				45		E
	RAMY	06	1820	1836	1843	S17	W74	6093	06	1.1	23	SF		3	E		33		
	HOLL	06	1820	1837	1852	S18	W76	6093	06	1.0	32	SN	C 8.1	3	E		49		E
	PALE	06	1822	1836	1850	S19	W78	6093	05	31.8	28	SF		3	E		52		
0035		06	2024	20327	2055	S18	W77	6093	06	1.0	31	SN	M 1.9				36		EFK
	HOLL	06	2024	2032	2054	S18	W76	6093	06	1.1	30	SN			E		29		K
	HOLL	06	2024	2039	2054	S18	W76	6093	06	1.1	30	SN	M 1.9	3	E		37		E
	PALE	06	2038E	2038U	2056	S19	W78	6093	05	31.9	18D	SN		3	E		41		F
		06	2136		2147	No Flare Patrol													
0036	HOLL	06	2152	2152	2156	N06	E36	6089	06	9.6	4	SF		3	E		10		
		06	2203		2212	No Flare Patrol													
		06	2224		2233	No Flare Patrol													
		06	2307		2347	No Flare Patrol													
		06	2351		2400	No Flare Patrol													
		07	0000		0000	No Flare Patrol													
		07	0016		0036	No Flare Patrol													

Hα SOLAR FLARES

JUNE 1990

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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
		07	0119		0142	No Flare Patrol															
		07	0152		0153	No Flare Patrol															
0037	TACH	07	0310	0331U	0340D	S18	W78	6093		06	1.2	30D	SB			3	C	0331	51		E
0038	TACH	07	0315	0318	0359	N16	W62			06	2.4	44	1N			3	C	0318	102	2.2	EG
0039	TACH	07	0507	0512	0535	N09	E32	6089		06	9.6	28	1N			3	C	0512	204	2.6	E
		07	0844		0959	No Flare Patrol															
0040	SVTO	07	1020	1021	1024	S19	W86	6093		05	31.9	4	SF			3	E		21		
0041		07	11291	11314	1142	S18	W83	6093		06	1.1	13	SF	C	2.9				46		
	RAMY	07	1129	1131	1142	S18	W81	6093		06	1.3	13	SF	C	2.9	3	E		46		
	SVTO	07	1130	1135	1139D	S19	W85	6093		06	1.0	9D	SF			2	E		45		
0042	RAMY	07	1212	1225	1233	N06	E28	6089		06	9.6	21	SF			3	E		23		F
0043	RAMY	07	1349	1400	1428	N11	E29	6089		06	9.7	39	SF			3	E		42		F
0044		07	1440*	14456	1456	S19	W82	6093		06	1.3	16	SF	C	8.4				38		EFK
	RAMY	07	1440	1445	1457	S18	W78	6093		06	1.7	17	SF	C	8.4	3	E		52		
	RAMY	07	1440	1451	1457	S18	W78	6093		06	1.7	17	SF				E		22		K
	HOLL	07	1446	1450	1456	S19	W82	6093		06	1.3	10	SF			3	E		52		FE
	SVTO	07	1450	1451	1454	S20	W90	6093		05	31.7	4	SF			3	E		24		
0045		07	1604	16061	1624	S16	E12	6088		06	8.6	20	SF	C	2.4				58		F
	RAMY	07	1604	1606	1624	S15	E12	6088		06	8.6	20	SF	C	2.4	3	E		48		F
	SVTO	07	1604	1607	1624D	S16	E13	6088		06	8.6	20D	SF			2	E		69		F
0046		07	17442	1750	1758	N27	E79	6096		06	13.9	14	SF	C	2.0				73		
	RAMY	07	1744	1750	1759	N26	E78	6096		06	13.8	15	SF			3	E		76		
	PALE	07	1746	1750	1757	N28	E80	6096		06	14.0	11	SF	C	2.0	3	E		70		
0047		07	1818	1825	1841	N07	E26	6089		06	9.7	23	SF						25		F
	PALE	07	1818	1825	1839	N08	E26	6089		06	9.7	21	SF			3	E		22		
	RAMY	07	1818	1825	1843	N06	E26	6089		06	9.7	25	SF			3	E		28		F
0048	HOLL	07	2126	2130	2153	S16	E04	6088		06	8.2	27	SF			3	E		40		F
0049	HOLL	07	2129	2131	2141	N07	E23	6089		06	9.6	12	SF			3	E		62		F
0050	HOLL	07	2208	2210	2215	N08	E18	6089		06	9.3	7	SF			3	E		21		
		07	2249		2326	No Flare Patrol															
		07	2346		2355	No Flare Patrol															
		08	0014		0026	No Flare Patrol															
0051		08	0650	07003	0717	N06	E18	6089		06	9.6	27	SB						129	1.4	
	PURP	08	0650	0700	0711D	N06	E19	6089		06	9.7	21D	SB				C	0700	99	1.1	
	YUNN	08	0700E	0703	0717	N07	E18	6089		06	9.6	17D	SN				P		159	1.7	
0052	SVTO	08	1018	1019	1025	N07	E16	6089		06	9.6	7	SF			3	E		16		
0053		08	11513	11542	1206	S18	W00	6088		06	8.5	15	SF	C	3.3				29		FHU
	SVTO	08	1151	1154	1211	S17	E00	6088		06	8.5	20	SF			3	E		45		UF
	RAMY	08	1154	1156	1200	S18	W01	6088		06	8.4	6	SF	C	3.3	4	E		13		FH
		08	1400		1404	No Flare Patrol															
		08	1441		1452	No Flare Patrol															
0054		08	15448	1555	1615	N09	E13	6089		06	9.6	31	SF	C	5.7				43		FH
	HOLL	08	1539E	1541U	1613	N09	E13	6089		06	9.6	34D	SF			2	E		36		FH
	SVTO	08	1544	1555	1620	N11	E12	6089		06	9.5	36	SF	C	5.7	3	E		69		F
	RAMY	08	1552	1555	1613	N08	E13	6089		06	9.6	21	SF			4	E		25		FH
0055	RAMY	08	1647	1650	1657	N07	E13	6089		06	9.7	10	SF			3	E		14		
		08	1752		1758	No Flare Patrol															

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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
		08	1810		1817	No Flare Patrol													
0056	PALE	08	2018	2019	2046	N09	E11	6089	06	9.7	28	SF		3	E		18		
0057		08	21182	21231	2138	N08	E10	6089	06	9.6	20	SF					22		
	RAMY	08	2118	2124	2138	N07	E10	6089	06	9.6	20	SF		3	E		26		
	PALE	08	2120	2123	2139	N08	E10	6089	06	9.6	19	SF		3	E		19		
0058	HOLL	08	2258E	2300U	2300D	N08	E06	6089	06	9.4	2D	SF		1	E		35		F
		09	0231		0254	No Flare Patrol													
0059	KHAR	09	0915U	0918	0925	N35	E83		06	16.0	10U	SF		2	V	0918			DL
0060		09	1340	13416	1411	N07	E02	6089	06	9.7	31	SF					48		
	RAMY	09	1340	1341	1407	N07	E03	6089	06	9.8	27	SF		3	E		37		
	SVTO	09	1340	1347	1415	N07	E01	6089	06	9.6	35	SF		3	E		59		
0061		09	1413	14158	1540	S17	E74	6100	06	15.2	87	1N	M 1.4				121		EFKZ
	RAMY	09	1413	1415	1533	S19	E74	6100	06	15.2	80	1N			E		126		K
	RAMY	09	1413	1423	1533	S19	E74	6100	06	15.2	80	1N		3	E		125		F
	SVTO	09	1413	1423	1553	S14	E75	6100	06	15.3	100	1N	M 1.4	3	E		112		ZE
0062		09	1639	1648*	1719	N08	W01	6089	06	9.6	40	1N	M 2.5				191		FHK
	HOLL	09	1639	1648	1715	N08	W01	6089	06	9.6	36	2B	M 2.5	3	E		301		FH
	HOLL	09	1639	1709	1715	N08	W01	6089	06	9.6	36	SF			E		57		K
	RAMY	09	1648E	1648U	1728	N07	W01	6089	06	9.6	40D	1B		3	E		215		FH
0063	RAMY	09	1830	1831	1842	N23	E04	6095	06	10.1	12	SF		3	E		19		
0064	HOLL	09	1939	1942U	1948	N10	E01	6089	06	9.9	9	SF		2	E		12		
0065	HOLL	09	2010E	2013U	2030D	N34	E86		06	16.7	20D	1F	C 4.6	2	E		126		
		09	2014		2025	No Flare Patrol													
0066		09	21457	2145*	2212	N09	W03	6089	06	9.7	27	SF	C 1.7				29		F
	HOLL	09	2143E	2144U	2149D	N08	W04	6089	06	9.6	6D	SF		2	E		53		F
	PALE	09	2145	2145	2151	N09	W04	6089	06	9.6	6	SF	C 1.7	3	E		16		F
	PALE	09	2152	2155	2234	N11	W02	6089	06	9.8	42	SF	C 2.2	3	E		18		F
0067	PALE	09	2241	2305	2315	N06	W06	6089	06	9.5	34	SF		3	E		17		F
		09	2322		2347	No Flare Patrol													
		09	2400		2400	No Flare Patrol													
0068	PALE	10	0045	0046	0053	N24	W01	6095	06	9.9	8	SF		3	E		18		F
0069		10	0433*	0442*	0506	N23	W03	6095	06	9.9	33	SN	C 2.5				133	2.0	DE
	TACH	10	0433	0442	0507	N23	W02	6095	06	10.0	34	SB		3	C	0442	173	1.8	E
	SVTO	10	0435	0453	0509	N23	W02	6095	06	10.0	34	SF	C 2.5	3	E		63		
	PURP	10	0435	0454	0505	N24	W01	6095	06	10.1	30	1N			C	0454	255	2.9	
	PALE	10	0444	0445	0500D	N24	W04	6095	06	9.9	16D	SF		2	E		43		
	ABST	10	0455E	0455U	0502	N23	W04	6095	06	9.9	7D	SN			P	0455	131	1.4	D
0070		10	0518	05221	0534	N08	W07	6089	06	9.7	16	SN					96	1.7	E
	TACH	10	0518	0522	0530	N08	W07	6089	06	9.7	12	SB		3	C	0522	163	1.7	E
	SVTO	10	0518	0523	0537	N08	W07	6089	06	9.7	19	SF		3	E		30		
0071	SVTO	10	0535	0537	0546	N24	W03	6095	06	10.0	11	SF		3	E		22		
0072		10	0656*	0715*	0847	N10	W08	6089	06	9.7	111	2B	M 2.3				396	6.0	FKU
	SVTO	10	0656	0727	1025	N10	W10	6089	06	9.5	209	2B	M 2.3	3	E		370		F
	SVTO	10	0656	0811	1025	N10	W10	6089	06	9.5	209	SN			E		67		K
	ATHN	10	0710E	0715	0740	N10	W08	6089	06	9.7	30D	2B		3	V	0715	700	7.4	
	ISTA	10	0711E	0719	0755	N09	W05	6089	06	9.9	44D	2B			P				FU
	PURP	10	0712	0717	0732	N10	W08	6089	06	9.7	20	1B			C	0717	446	4.7	
0073	SVTO	10	0859	0913	0921	N24	W05	6095	06	10.0	22	SF		3	E		79		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	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0074	SVTO	10	1057	1058	1108	N10	W09	6089	06	9.8	11	SF		3	E		14		F
0075	RAMY	10	1131	1131	1144	N24	W04	6095	06	10.2	13	SF		3	E		11		
0076	RAMY	10	1232	1238	1305	N24	W04	6095	06	10.2	33	SF		3	E		15		
0077	RAMY	10	1304	1308	1315	N09	W13	6089	06	9.6	11	SF		3	E		19		
0078		10	1334	1335*	1400	N08	W13	6089	06	9.6	26	SN	C 3.1				55		FK
	RAMY	10	1334	1335	1409	N08	W12	6089	06	9.7	35	SF		3	E		66		
	SVTO	10	1337E	1337U	1356	N08	W13	6089	06	9.6	19D	SN	C 3.1	3	E		60		F
	SVTO	10	1337E	1348	1356	N08	W13	6089	06	9.6	19D	SN			E		38		K
0079		10	1430*	1433*	1545	N08	W13	6089	06	9.6	75	SN	M 3.3				102		EFK
	RAMY	10	1430	1433	1552	N08	W13	6089	06	9.6	82	SF			E		21		K
	RAMY	10	1430	1506	1552	N08	W13	6089	06	9.6	82	1B	M 3.3	3	E		197		F
	SVTO	10	1443	1447	1538	N08	W14	6089	06	9.6	55	SB			E		85		K
	SVTO	10	1443	1508	1538	N08	W14	6089	06	9.6	55	1B		3	E		148		FE
	HOLL	10	1533E	1534U	1551D	N08	W13	6089	06	9.7	18D	SF		1	E		58		
0080		10	16191	1643	1700	N24	W07	6095	06	10.1	41	SF	C 4.5				30		F
	HOLL	10	1608E	1608U	1741D	N24	W07	6095	06	10.1	93D	SF		1	E		34		F
	KANZ	10	1619	1643	1652D	N24	W08	6095	06	10.1	33D	SF			V				
	RAMY	10	1620	1643	1700	N24	W07	6095	06	10.1	40	SF	C 4.5	3	E		27		
0081	HOLL	10	1755	1755	1804	N12	W15	6089	06	9.6	9	SF		3	E		12		
0082		10	17582	18001	1806	N23	W08	6095	06	10.1	8	SF					23		F
	HOLL	10	1758	1801	1806	N23	W09	6095	06	10.0	8	SF		3	E		33		F
	RAMY	10	1759	1801	1805	N22	W07	6095	06	10.2	6	SF		3	E		20		
	PALE	10	1800	1800	1806	N23	W07	6095	06	10.2	6	SF		3	E		16		
0083		10	18214	18252	1840	N24	W08	6095	06	10.1	19	SF					20		F
	HOLL	10	1821	1827	1840	N23	W08	6095	06	10.1	19	SF		3	E		22		F
	RAMY	10	1825	1825	1840	N24	W08	6095	06	10.1	15	SF		3	E		18		
0084		10	18292	18325	1856	S13	E58	6100	06	15.1	27	SF					16		F
	HOLL	10	1829	1832	1858	S13	E59	6100	06	15.2	29	SF		3	E		18		F
	RAMY	10	1831	1837	1854	S13	E57	6100	06	15.1	23	SF		3	E		13		
0085	PALE	10	2139E	2147U	2320	N09	W17	6089	06	9.6	101D	SF	M 1.7	3	E		56		
		10	2231		2303	No Flare Patrol													
		10	2328		2337	No Flare Patrol													
0086	PALE	11	0135	0138	0146	N25	W13	6095	06	10.0	11	SF		3	E		15		
0087	PALE	11	0336	0336	0348	N09	W16	6089	06	9.9	12	SF		3	E		20		F
0088	SVTO	11	0545	0549	0606	S12	W77	6094	06	5.4	21	SF		3	E		18		
0089		11	05563	05582	0621	N08	W18	6089	06	9.9	25	SF	C 1.7				46		E
	SVTO	11	0556	0558	0621	N08	W18	6089	06	9.9	25	SF	C 1.7	3	E		46		
	MITK	11	0559	0600	0636D	N09	W18	6089	06	9.9	37D	SF			C	0600			E
0090	SVTO	11	0722	0728	0746	N24	W18	6095	06	9.9	24	SN		3	E		28		
0091		11	0934*	0948*	1117	N10	W22	6089	06	9.7	103	1N	M 4.5				270	3.2	FHKU
	SVTO	11	0934	0948	1059	N10	W22	6089	06	9.7	85	2B	M 4.5	3	E		586		FH
	SVTO	11	0934	1003	1059	N10	W22	6089	06	9.7	85	2B			E		260		K
	RAMY	11	1017E	1017U	1135	N10	W20	6089	06	9.9	78D	1F		3	E		203		UF
	ATHN	11	1057E	1105	1118D	N10	W23	6089	06	9.7	21D	1N		2	V	1105	286	3.2	
	SVTO	11	1105	1127	1134	N11	W22	6089	06	9.8	29	SF		3	E		15		F
0092	SVTO	11	1121	1123	1130	N09	E82	6105	06	17.6	9	SF		3	E		58		
0093		11	12151	1218	1223	S12	W82	6094	06	5.3	8	SF					27		D
	KAND	11	1215	1218	1223	S12	W80	6094	06	5.5	8	SF			P	1218	42		D
	SVTO	11	1216	1218	1223	S11	W84	6094	06	5.2	7	SF		3	E		12		

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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
0094		11	1559	1604*	1638	S13	E46	6100	06	15.1	39	SF						20		FK
	SVTO	11	1559	1604	1638	S13	E46	6100	06	15.1	39	SF			3	E		20		F
	SVTO	11	1559	1632	1638	S13	E46	6100	06	15.1	39	SF				E		19		K
0095	RAMY	11	1630	1632	1638	S21	E64		06	16.6	8	SF			3	E		11		F
		11	1727		1732	No Flare Patrol														
0096		11	1850	1853	1918	S20	E64		06	16.7	28	2N	M	1.1				423		FH
	RAMY	11	1850	1853	1918	S21	E67		06	16.9	28	2N	M	1.1	3	E		255		FH
	HOLL	11	1905E	1905U	1932D	S18	E61		06	16.4	27D	2N			1	E		591		FH
		11	2044		2049	No Flare Patrol														
		11	2101		2118	No Flare Patrol														
		11	2137		2150	No Flare Patrol														
		11	2241		2314	No Flare Patrol														
0097		12	0049	0049	0104	N24	E24	6096	06	13.9	15	SN	M	1.0				93		E
	MITK	12	0049	0049	0102	N24	E24	6096	06	13.9	13	SB				C	0049			
	LEAR	12	0053E	0053U	0105	N24	E24	6096	06	13.9	12D	SF	M	1.0	2	E		93		E
0098		12	03112	03138	0338	N13	W38	6089	06	9.3	27	1N						140	3.8	EF
	TACH	12	0311	0313	0350	N14	W42	6089	06	8.9	39	1N			2	C	0313	260	3.8	E
	PALE	12	0313	0321	0325	N12	W33	6089	06	9.6	12	SF			3	E		19		F
0099		12	03475	0353	0403	N10	W34	6089	06	9.6	16	SF						24		F
	LEAR	12	0347	0353	0408	N12	W33	6089	06	9.7	21	SF			3	E		27		
	PALE	12	0352	0353	0358	N09	W34	6089	06	9.6	6	SF			3	E		20		F
0100	LEAR	12	0416	0423	0438	N25	W29	6095	06	9.9	22	SF			3	E		31		
0101		12	0429*	0434*	0613	N10	W32	6089	06	9.8	104	2B	C	6.2				364	8.8	EFKU
	MITK	12	0429	0434	0525D	N10	W32	6089	06	9.8	56D	SB				C	0434			E
	LEAR	12	0429	0434	0635	N10	W33	6089	06	9.7	126	1B				E		165		K
	LEAR	12	0429	0529	0635	N10	W33	6089	06	9.7	126	2B			3	E		272		UF
	PALE	12	0431	0434	0455	N11	W32	6089	06	9.8	24	SF	C	6.2	3	E		86		
	YUNN	12	0511E	0603	0654	N11	W35	6089	06	9.6	103D	2B				P		747	9.5	
	ATHN	12	0523E	0530	0610	N12	W34	6089	06	9.7	47D	2B			2	V	0530	637	8.0	
	HURB	12	0526	0528	0611	N08	W25	6089	06	10.3	45	2N								E
	SVTO	12	0558E	0601U	0649D	N10	W35	6089	06	9.6	51D	2N	M	6.4	1	E		276		F
0102	LEAR	12	0449	0449	0528	S14	E37	6100	06	15.0	39	SF			3	E		21		F
0103		12	06243	0630	0715	S11	E13	6098	06	13.2	51	SF						49		F
	LEAR	12	0624	0630	0715	S12	E13	6098	06	13.2	51	SF			3	E		55		F
	SVTO	12	0627	0634U	0649D	S10	E13	6098	06	13.2	22D	SF			1	E		43		
0104	LEAR	12	0636	0650	0652	S14	E33	6100	06	14.8	16	SF			3	E		13		F
0105		12	0740*	0750*	0811	N24	W30	6095	06	10.0	31	SF						29	0.6	DF
	BUCA	12	0740	0750	0802	N25	W30	6095	06	10.0	22	SN				C	0750	54	0.6	D
	LEAR	12	0747	0751	0810	N24	W29	6095	06	10.1	23	SF			3	E		16		F
	SVTO	12	0759	0802	0820	N24	W31	6095	06	9.9	21	SF			3	E		16		
0106	SVTO	12	0859	0903	0934	N07	E68	6105	06	17.5	35	SF			3	E		30		
0107		12	11551	1202	1227	N08	E71	6105	06	17.8	32	1F	C	5.7				72		FU
	RAMY	12	1155	1202	1227	N10	E70	6105	06	17.7	32	1F	C	5.7	3	E		100		U
	SVTO	12	1156	1158U	1221D	N07	E72	6105	06	17.9	25D	SF			3	E		43		F
0108	SVTO	12	1522	1536	1554	N54	E79		06	19.4	32	SF			3	E		29		F
0109		12	1637*	16553	1726	N14	W41	6089	06	9.6	49	1F	C	6.3				92		EF
	HOLL	12	1637	1656	1746	N14	W41	6089	06	9.6	69	1F	C	6.3	3	E		161		FE
	RAMY	12	1645	1655	1728	N14	W43	6089	06	9.4	43	1F			3	E		121		F
	PALE	12	1650	1658	1703	N13	W38	6089	06	9.8	13	SF			3	E		36		F
	SVTO	12	1657E	1657U	1705D	N13	W41	6089	06	9.6	8D	SF			3	E		49		F
0110	RAMY	12	1724	1726	1732	N07	E62	6105	06	17.4	8	SF			3	E		28		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	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0111		12	17475	1752	1804	N12	W40	6089	06	9.7	17	SF						40		F
	HOLL	12	1747	1752	1806	N12	W39	6089	06	9.8	19	SF			3	E		58		F
	RAMY	12	1752	1752	1801	N13	W41	6089	06	9.6	9	SF			3	E		21		F
0112	RAMY	12	1901E	1901U	1906	S13	E06	6098	06	13.2	5D	SF			2	E		12		F
0113		12	20133	20171	2043	N12	W42	6089	06	9.7	30	SF	C	1.5				20		F
	RAMY	12	2013	2017	2043	N11	W42	6089	06	9.7	30	SF	C	1.5	3	E		19		F
	HOLL	12	2016	2018	2028D	N13	W42	6089	06	9.7	12D	SF			3	E		20		
0114	HOLL	12	2042E	2042U	2056D	S11	E23	6100	06	14.6	14D	SF			2	E		12		H
0115	HOLL	12	2135	2135	2214	N12	W42	6089	06	9.7	39	SF			2	E		11		
0116		12	2210	2211	2257	S17	E30	6100	06	15.2	47	SF						16		
	HOLL	12	2210	2211	2257	S17	E30	6100	06	15.2	47	SF			3	E		15		
	PALE	12	2219E	2221U	2252D	S17	E30	6100	06	15.2	33D	SF			3	E		16		
0117		12	2258	2302*	2337	N10	W45	6089	06	9.6	39	SF	C	2.2				33		FK
	HOLL	12	2258	2302	2337	N09	W44	6089	06	9.6	39	SF				E		22		K
	HOLL	12	2258	2323	2337	N09	W44	6089	06	9.6	39	SF	C	2.2	3	E		49		F
	PALE	12	2311E	2311U	2336D	N11	W46	6089	06	9.5	25D	SF			3	E		29		F
0118		12	2307	23149	2332	S13	E30	6100	06	15.2	25	SF	C	2.7				22		H
	HOLL	12	2307	2323	2338	S13	E29	6100	06	15.1	31	SF	C	2.7	3	E		17		
	PALE	12	2311E	2314	2327	S13	E30	6100	06	15.2	16D	SF			3	E		26		H
0119		13	0034	0035U	0129	N10	W44	6089	06	9.7	55	1B	M	1.1				146		EF
	HOLL	13	0033E	0038U	0124	N10	W44	6089	06	9.7	51D	1B	M	1.1	2	E		178		FE
	PALE	13	0034	0035U	0134	N11	W45	6089	06	9.6	60	1N			3	E		115		FE
0120	HOLL	13	0104E	0105U	0109	S11	E23	6100	06	14.8	5D	SF			2	E		20		
0121		13	0228	0232	0244	S13	E23	6100	06	14.8	16	SN	C	2.7				61	0.8	F
	PALE	13	0228	0232	0246	S12	E23	6100	06	14.8	18	SN	C	2.7	3	E		53		F
	PURP	13	0229E	0231U	0241	S15	E23	6100	06	14.8	12D	SN				C	0231	50	0.6	
	YUNN	13	0236E	0236U	0244	S11	E22	6100	06	14.8	8D	SB				P	0236	79	0.9	
0122	SVTO	13	0452E	0453U	0501	S18	E06	6098	06	13.6	9D	SF	C	1.9	2	E		29		
0123	SVTO	13	0518	0523	0536	N10	W47	6089	06	9.7	18	SF			3	E		19		
0124	ISTA	13	0618E	0628		N11	W48	6089	06	9.6	D	1F				P				BE
0125	ISTA	13	0708	0715	0718	S12	E26	6100	06	15.2	10	SF				P				D
0126	SVTO	13	0932	0941	1008	N12	E57	6105	06	17.7	36	SF			3	E		30		
0127		13	10496	1059*	1129	N10	W51	6089	06	9.6	40	SN						69	1.3	EFKT
	SVTO	13	1049	1059	1131	N10	W52	6089	06	9.5	42	SF				E		47		K
	SVTO	13	1049	1112	1131	N10	W52	6089	06	9.5	42	SF			3	E		73		F
	RAMY	13	1055E	1112	1129	N10	W50	6089	06	9.7	34D	SN			3	E		72		F
	KAND	13	1055	1113	1125	N10	W51	6089	06	9.6	30	SN				P	1113	83	1.3	EFT
0128	SVTO	13	1056	1110	1134	S31	E50	6106	06	17.4	38	SF			3	E		27		
		13	1152		1157	No Flare Patrol														
		13	1202		1214	No Flare Patrol														
0129		13	12423	12445	1308	S16	E22	6100	06	15.2	26	SF						36		FHU
	SVTO	13	1242	1244	1308D	S15	E22	6100	06	15.2	26D	SF			3	E		21		U
	HOLL	13	1245	1249	1308	S16	E22	6100	06	15.2	23	SF			3	E		52		FH

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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	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0130		13	1245*	1254*	1407	N10	W52	6089	06	9.6	82	SF	C 2.1				78		EFK
	HOLL	13	1245	1254	1326	N11	W51	6089	06	9.7	41	SF		3	E		32		F
	SVTO	13	1250	1417	1441D	N09	W53	6089	06	9.5	111D	1N			E		106		K
	SVTO	13	1250	1420	1441D	N09	W53	6089	06	9.5	111D	1N		3	E		144		F
	RAMY	13	1312	1315	1327	N13	W52	6089	06	9.6	15	SF		3	E		64		
	HOLL	13	1333	1333	1340	N10	W52	6089	06	9.6	7	SF		3	E		15		F
	HOLL	13	1346	1350	1501	N09	W52	6089	06	9.7	75	SF			E		49		K
	HOLL	13	1346	1420	1501	N09	W52	6089	06	9.7	75	1N	C 2.1	3	E		147		FE
	RAMY	13	1348	1353	1406	N11	W52	6089	06	9.7	18	SF		3	E		64		F
0131	HOLL	13	1257	1258	1304	S30	E52	6106	06	17.6	7	SF		3	E		22		
0132	HOLL	13	1310	1313	1327	N08	E52	6105	06	17.4	17	SF		3	E		17		
0133	HOLL	13	1501	1502	1523	N09	W52	6089	06	9.7	22	SF		3	E		62		F
0134	HOLL	13	1514	1514	1521	S17	E20	6100	06	15.1	7	SF		3	E		11		F
0135	RAMY	13	1520	1520	1541	N11	W54	6089	06	9.6	21	SF		3	E		77		F
0136		13	16233	16242	1641	N12	W54	6089	06	9.6	18	SF	C 2.2				59		F
	RAMY	13	1623	1624	1644	N12	W54	6089	06	9.6	21	SF	C 2.2	3	E		53		F
	HOLL	13	1626	1626	1638	N11	W53	6089	06	9.7	12	SF		3	E		65		F
0137	HOLL	13	1719	1719	1726	N08	W53	6089	06	9.7	7	SF	C 1.4	3	E		13		
0138		13	18309	1830*	1854	S10	E74	6107	06	19.3	24	SF					18		
	PALE	13	1830	1830	1858	S11	E74	6107	06	19.3	28	SF		3	E		10		
	HOLL	13	1839	1846	1849	S10	E73	6107	06	19.3	10	SF		3	E		27		
0139		13	1840	1834*	2057	S17	E19	6100	06	15.2	137	SF					82		KT
	PALE	13	1834E	1834	2213D	S17	E19	6100	06	15.2	219D	SN			E		56		KT
	PALE	13	1834E	1851	2213D	S17	E19	6100	06	15.2	219D	1F		3	E		127		T
	HOLL	13	1840	1851	2057	S17	E19	6100	06	15.2	137	SF		3	E		62		
0140	HOLL	13	1853	1906	1925	N09	E49	6105	06	17.5	32	SF		3	E		14		
0141	PALE	13	1901	1901	2026	S32	E50	6106	06	17.7	85	SF		3	E		12		
0142		13	1939*	2025*	2050	N09	E49	6105	06	17.5	71	SF					26		
	HOLL	13	1939	2041	2109	N07	E48	6105	06	17.4	90	SF		3	E		37		
	PALE	13	2025	2025	2031	N11	E50	6105	06	17.6	6	SF		3	E		15		
0143	HOLL	13	2007	2008	2025	N13	W58	6089	06	9.5	18	SF		3	E		23		F
0144	HOLL	13	2041	2041	2052	S30	E48	6106	06	17.6	11	SF		3	E		21		
0145	HOLL	13	2238	2239	2249	N25	W49	6095	06	10.1	11	SF		3	E		32		
0146	HOLL	13	2239	2239	2245	N12	W57	6089	06	9.6	6	SF		3	E		13		
0147	HOLL	14	0035	0040	0057	N12	W59	6089	06	9.6	22	SF		3	E		17		
0148	PALE	14	0305	0305	0319	N06	E48	6105	06	17.7	14	SF		3	E		11		
0149	LEAR	14	0543	0551	0608	S06	E55	6107	06	18.3	25	SF		3	E		23		
0150	LEAR	14	0556	0557	0607	N25	W54	6095	06	10.1	11	SF		3	E		20		
0151	KHAR	14	0950	0952	0956D	N10	W61	6089	06	9.8	6D	SF		2	V	0952			EH
0152		14	1205	1224	1248	S30	E35	6106	06	17.2	43	SF	C 4.2				69		FU
	SVTO	14	1205	1224	1249	S31	E34	6106	06	17.2	44	SN	C 4.2	2	E		96		F
	HOLL	14	1211E	1212U	1248	S28	E32	6106	06	17.0	37D	SF		2	E		42		UF
	KANZ	14	1213E		1213D	S32	E39	6106	06	17.6	37D	SF			C				
0153	HOLL	14	1331	1359	1426	S16	W33		06	12.1	55	SF		3	E		26		F
0154	HOLL	14	1357	1401	1431	S19	W25	6098	06	12.7	34	SF		3	E		35		

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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	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0155	HOLL	14	1546	1611	1704	S15	E05	6100	06	15.0	78	SF		3	E		59		F
0156	HOLL	14	1755	1758	1837	S14	E03	6100	06	15.0	42	SF		3	E		40		F
0157		14	1820	1835*	1939	N06	E37	6105	06	17.5	79	1F	C 3.8				82		F
	HOLL	14	1816E	1835	1950	N07	E37	6105	06	17.5	94D	1F	C 3.8	3	E		129		F
	PALE	14	1820	1900	1928	N06	E37	6105	06	17.5	68	SF		3	E		34		F
0158	HOLL	14	2247	2249	2258	N11	W73	6089	06	9.4	11	SF		3	E		18		H
0159	HOLL	14	2355	2357	2402	N11	W74	6089	06	9.4	7	SF	C 1.1	3	E		17		H
0160		15	0109*	0110*	0154	S08	E57	6107	06	19.3	45	SF	C 2.5				32		F
	LEAR	15	0109	0110	0128	S08	E57	6107	06	19.3	19	SF	C 2.5	3	E		13		
	PALE	15	0110	0146	0215	S07	E58	6107	06	19.4	65	SF		3	E		63		F
	LEAR	15	0140	0144	0158	S08	E57	6107	06	19.3	18	SF	C 3.6	3	E		21		
0161	PALE	15	0159	0239	0322	N07	E33	6105	06	17.5	83	SF	C 2.4	3	E		59		FH
0162	PALE	15	0407	0410	0420	N07	E32	6105	06	17.6	13	SF		3	E		19		
0163		15	0420*	0424*	0512	S08	E54	6107	06	19.2	52	SF	C 2.8				47		
	LEAR	15	0420	0424	0532	S09	E55	6107	06	19.3	72	SF	C 2.8	3	E		59		
	PALE	15	0420	0425	0442	S09	E54	6107	06	19.2	22	SF		3	E		58		
	SVTO	15	0515	0518	0521	S06	E52	6107	06	19.1	6	SF	C 1.3	3	E		23		
0164	LEAR	15	0543	0550	0617	S09	E54	6107	06	19.3	34	SF		3	E		45		
0165		15	06501	0651	0654	N12	W78	6089	06	9.4	4	SF					20		H
	SVTO	15	0650	0651	0654	N11	W79	6089	06	9.3	4	SF		3	E		22		H
	LEAR	15	0651	0651	0654	N12	W78	6089	06	9.4	3	SF		3	E		18		
0166	LEAR	15	0704	0708	0748	S09	E54	6107	06	19.3	44	SF		3	E		34		
0167		15	08239	0827*	0918	S31	E29	6106	06	17.6	55	2B	M 3.1				532	11.3	CFKLRSU
	LEAR	15	0823	0827	0918	S31	E28	6106	06	17.5	55	2N			E		525		K
	LEAR	15	0823	0844	0918	S31	E28	6106	06	17.5	55	2B	M 3.1	3	E		495		U
	ISTA	15	0827E	0857		S31	E33	6106	06	17.9	D	2B			P				FU
	SVTO	15	0832	0834	1033D	S30	E28	6106	06	17.5	121D	2B		2	E		306		
	KHAR	15	0834E	0835U	0915D	S32	E28	6106	06	17.6	41D	2N		1	P	0840	800	11.3	CLRSU
		15	0951		0954	No Flare Patrol													
0168	KHAR	15	0955E		1006	N24	W70	6095	06	10.0	11D	SF		2	V	0955			DL
		15	1025		1032	No Flare Patrol													
		15	1035		1109	No Flare Patrol													
		15	1116		1134	No Flare Patrol													
		15	1202		1211	No Flare Patrol													
		15	1237		1511	No Flare Patrol													
0169	HOLL	15	1512E	1524U	1544	N07	E26	6105	06	17.6	32D	SF	C 2.6	3	E		27		FU
		15	1515		1528	No Flare Patrol													
0170	HOLL	15	1553	1557	1616	N07	E24	6105	06	17.4	23	SF		3	E		30		F
0171	HOLL	15	1621	1622	1635	S09	E47	6107	06	19.2	14	SF		3	E		30		F
		15	1735		2026	No Flare Patrol													
0172	PALE	15	1927E	1942U	2036D	N07	E23	6105	06	17.5	69D	SF		3	E		34		F
		15	2109		2155	No Flare Patrol													
		15	2211		2306	No Flare Patrol													
0173	LEAR	15	2344	2344	2348	S08	E42	6107	06	19.1	4	SF		3	E		36		
0174	LEAR	16	0910	0913	0924	S08	E34	6107	06	18.9	14	SF		3	E		27		

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0175		16	0917	0926	0949D	N10	E15	6105	06	17.5	32D	SF					32		F
	LEAR	16	0917	0926	0937D	N09	E16	6105	06	17.6	20D	SF		2	E		22		
	SVTO	16	0930E	0933U	0949D	N10	E14	6105	06	17.4	19D	SF		3	E		42		F
0176	SVTO	16	0928E	0931U	1001D	S09	E34	6107	06	18.9	33D	SF		3	E		50		
0177	HOLL	16	1529	1536	1618	S14	W21	6100	06	15.0	49	SF		4	E		73		F
0178	SVTO	16	1535E	1538U	1605D	S23	W16	6108	06	15.4	30D	SF	C 1.7	3	E		54		F
0179	SVTO	16	1628E	1630U	1656D	S23	W16	6108	06	15.4	28D	SF		3	E		46		U
0180	HOLL	16	1630	1633	1707	S15	W23	6100	06	14.9	37	SF	C 1.9	4	E		72		F
0181		17	0140	0140	0152	S13	W27	6100	06	15.0	12	1F	C 2.6				171	6.0	FU
	VORO	17	0140		0149	S13	W27	6100	06	15.0	9	1F		1	C				
	PALE	17	0140	0140	0152	S14	W25	6100	06	15.2	12	SF		3	E		70		F
	LEAR	17	0140	0140	0156	S12	W26	6100	06	15.1	16	SF	C 2.6	3	E		50		UF
	PURP	17	0144E	0144U	0146D	S14	W28	6100	06	14.9	2D	2N			C	0144	495	6.0	
	HOLL	17	0144E	0144U	0151D	S13	W27	6100	06	15.0	7D	SF		2	E		69		F
0182		17	0159	01591	0208	S10	E30	6107	06	19.3	9	SF					12		
	LEAR	17	0159	0159	0206	S10	E29	6107	06	19.3	7	SF		3	E		10		
	PALE	17	0159	0200	0210	S10	E30	6107	06	19.3	11	SF		3	E		14		
0183		17	09062	0911*	0949	S08	E25	6107	06	19.2	43	1N	C 3.2				120		EFK
	KHAR	17	0906	0911	0940D	S09	E25	6107	06	19.2	34D	1N		1	V	0911			E
	SVTO	17	0906	0911	0948	S08	E25	6107	06	19.2	42	1N	C 3.2	3	E		139		F
	SVTO	17	0906	0924	0948	S08	E25	6107	06	19.2	42	SB			E		86		K
	LEAR	17	0907	0911	0937D	S08	E24	6107	06	19.2	30D	1N		3	E		134		
	KANZ	17	0908	0912	0952	S08	E25	6107	06	19.2	44	1N			V				
0184	SVTO	17	0959	0959	1018	N28	W39	6096	06	14.4	19	SF		3	E		17		
0185		17	13195	13301	1338	N05	W01	6105	06	17.5	19	SF					13		
	KANZ	17	1319	1331	1343	N05	W01	6105	06	17.5	24	SF			V				
	HOLL	17	1324	1330	1333	N05	W01	6105	06	17.5	9	SF		2	E		13		
0186		17	15192	15299	1554	N27	W45	6096	06	14.1	35	SF					24		F
	KANZ	17	1519	1538	1556	N28	W44	6096	06	14.2	37	SF			V				
	SVTO	17	1521	1529	1552	N26	W46	6096	06	14.1	31	SF		3	E		24		F
0187	HOLL	17	1607	1608	1630	N07	W03	6105	06	17.4	23	SF		4	E		32		F
0188	HOLL	17	1608	1615	1623	S27	W29	6108	06	15.4	15	SF		4	E		22		F
0189	HOLL	17	2125	2127	2130	S30	W05	6106	06	17.5	5	SF		3	E		21		F
		18	0936		1023	No Flare Patrol													
		18	1031		1129	No Flare Patrol													
		18	1134		1217	No Flare Patrol													
0190	SVTO	18	1137	1143	1147	S07	E10	6107	06	19.2	10	SF		3	E		13		
		18	1447		1454	No Flare Patrol													
0191	HOLL	18	2328	2344	2358	N16	W57	6111	06	14.6	30	SF		3	E		21		
0192	SVTO	19	0908	0908	0924	N06	W24	6105	06	17.6	16	SF		3	E		55		
0193	KANZ	19	1529E		1529D	N28	W69	6096	06	14.2	16D	SF			V				
0194		19	15561	15574	1614	S30	W34	6106	06	17.0	18	SF	C 1.6				34		F
	HOLL	19	1556	1557	1619	S30	W34	6106	06	17.0	23	SF	C 1.6	3	E		42		F
	SVTO	19	1557	1559	1611	S30	W35	6106	06	16.9	14	SF		3	E		27		F
	KANZ	19	1557	1601	1612	S30	W33	6106	06	17.1	15	SF			V				
0195	HOLL	19	2103	2104	2109	S08	W08	6107	06	19.3	6	SF		3	E		43		

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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
0196	VORO	19	2323	2327	2338	S05	E63	6112	06	24.7	15	SF			1	C	2327	54	1.2	D
0197	LEAR	20	0137	0145	0201	N08	W36	6105	06	17.4	24	SF			3	E		11		F
0198	LEAR	20	0225	0230	0247	S35	W46	6106	06	16.4	22	SF	C	1.1	3	E		52		F
0199	'	20	0646	0649	0704	N37	W60		06	15.4	18	SF	C	1.7				27		
	SVTO	20	0646	0649	0703	N37	W61		06	15.4	17	SF	C	1.7	3	E		27		
	KANZ	20	0651E	0651U	0706	N37	W60		06	15.4	15D	SF				V				
0200	ISTA	20	0704E	0824		N11	W45	6105	06	16.9	D	2N				P				BFI
0201		20	0711*	07357	0830	N38	W46		06	16.6	79	SF						56		U
	KANZ	20	0711	0735	0830	N40	W42		06	16.9	79	SF				V				
	SVTO	20	0724	0742	0829	N36	W50		06	16.3	65	SF			4	E		56		U
0202		20	0729*	0733*	0750	S29	W42	6106	06	17.0	21	SF	C	5.6				62		EF
	LEAR	20	0729	0733	0749	S30	W40	6106	06	17.2	20	SF	C	5.6	3	E		62		F
	KANZ	20	0731	0735	0752	S29	W43	6106	06	16.9	21	SF				V				
	ISTA	20	0742	0752		S27	W44	6106	06	16.9		SF				P				E
0203	LEAR	20	0801	0802	0810	N10	W38	6105	06	17.5	9	SF			3	E		22		F
0204		20	08385	08466	0924	S04	E55	6112	06	24.5	46	SF						17		
	KANZ	20	0838	0846	0925D	S04	E54	6112	06	24.4	47D	SF				V				
	SVTO	20	0843	0852	0924	S04	E56	6112	06	24.5	41	SF			4	E		17		
0205	HOLL	20	1304E	1304U	1309	S18	W76	6100	06	14.7	5D	SF			3	E		14		
0206		20	14164	14234	1430	S18	W76	6100	06	14.8	14	SF						15		
	KANZ	20	1416	1427	1431	S18	W73	6100	06	15.0	15	SF				V				
	SVTO	20	1420	1423	1428	S18	W80	6100	06	14.5	8	SF			3	E		15		
0207	HOLL	20	1835E	1838U	1857D	S17	W78	6100	06	14.8	22D	SF			1	E		13		
0208	HOLL	20	1923E	1928U	1939D	S18	W82	6100	06	14.6	16D	SF			1	E		27		
		20	2234		2241	No Flare Patrol														
		20	2250		2254	No Flare Patrol														
		21	0047		0052	No Flare Patrol														
0209	KAND	21	1025	1027	1033	N22	E54	6119	06	25.6	8	SF				P	1027	104	1.9	DG
0210	HOLL	21	1919	1920	1937	S30	W53	6106	06	17.6	18	SF			3	E		39		
0211	HOLL	21	1928	1934	1937	S06	W36	6107	06	19.1	9	SF			3	E		10		
		21	2159		2204	No Flare Patrol														
0212	HOLL	21	2206E	2208U	2212	N21	E48	6119	06	25.6	6D	SF			2	E		11		
		21	2233		2244	No Flare Patrol														
		21	2302		2316	No Flare Patrol														
0213		22	05041	05051	0512	S08	E40	6114	06	25.2	8	SF						18		F
	SVTO	22	0504	0506	0512	S07	E40	6114	06	25.2	8	SF			3	E		16		F
	LEAR	22	0505	0505	0511	S09	E39	6114	06	25.1	6	SF			3	E		19		F
0214	SVTO	22	0537	0540	0556	N22	E44	6119	06	25.6	19	SF			3	E		12		
0215		22	06473	0700*	0750	S32	W61	6106	06	17.4	63	1N	C	5.1				102		DEFK
	KANZ	22	0647	0713	0758	S31	W61	6106	06	17.5	71	SN				V				
	SVTO	22	0648	0703	0803	S33	W63	6106	06	17.3	75	1F				E		143		K
	SVTO	22	0648	0715	0803	S33	W63	6106	06	17.3	75	1N	C	5.1	3	E		124		F
	KAND	22	0650	0700	0730	S33	W62	6106	06	17.3	40	SN				P	0700	62		D
	LEAR	22	0650	0701	0737	S32	W62	6106	06	17.4	47	SF			3	E		80		F
	ISTA	22	0650E	0734		S32	W56	6106	06	17.8	D	1B				P				E
0216	TACH	23	0531	0532	0557	S08	E16	6112	06	24.4	26	SB			2	C	0532	56	0.6	E

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0217	SVTO	23	0841	0842	0850	S23	E77	6122	06	29.3	9	SF		3	E		53		
0218	SVTO	23	0952	0955	1014	S07	E21	6114	06	25.0	22	SF		3	E		20		
0219		23	1057	1104*	1143	S19	E68	6120	06	28.6	46	SF					84		K
	SVTO	23	1057	1104	1143	S19	E68	6120	06	28.6	46	SF		3	E		93		
	SVTO	23	1057	1118	1143	S19	E68	6120	06	28.6	46	SF			E		75		K
0220	RAMY	23	1102E	1107	1146	S20	E74	6122	06	29.1	44D	SF	C 3.0	3	E		99		FH
0221	SVTO	23	1146	1146	1200	S18	E68	6120	06	28.7	14	SF		3	E		20		
0222		23	1201*	1217*	1308	S19	E68	6120	06	28.7	67	SF	C 2.1				40		F
	SVTO	23	1201	1217	1308	S18	E67	6120	06	28.6	67	SF		3	E		63		F
	RAMY	23	1212	1223	1241	S19	E69	6120	06	28.8	29	SF	C 2.1	3	E		35		
	HOLL	23	1308E	1315	1335	S20	E68	6120	06	28.7	27D	SF		2	E		21		F
0223	HOLL	23	1635	1636	1650	N17	E51	6121	06	27.6	15	SF		3	E		15		
0224	PALE	23	1744E	1751	1753	N16	E55	6121	06	27.9	9D	SF		3	E		45		
0225	HOLL	23	2026	2028	2032	S22	E73	6122	06	29.5	6	SF		3	E		11		F
0226		23	20507	2050*	2100	S24	E74	6122	06	29.6	10	SF	C 1.2				15		F
	HOLL	23	2050	2050	2055	S22	E73	6122	06	29.5	5	SF	C 1.2	3	E		14		F
	HOLL	23	2057	2101	2104	S25	E76	6122	06	29.8	7	SF		3	E		16		
		23	2258		2314	No Flare Patrol													
0227	PALE	24	0026	0027	0031	S20	E66	6122	06	29.1	5	SF		3	E		15		
0228	PALE	24	0053	0055	0057	S20	E66	6122	06	29.1	4	SF		3	E		16		
0229		24	0107	01144	0146	N24	E32	6130	06	26.5	39	1N	C 2.1				175	3.3	EGJU
	MITK	24	0105E	0118	0157	N25	E30	6130	06	26.4	52D	1B			C	0118	260	3.3	EGJ
	LEAR	24	0107	0114	0135	N24	E33	6130	06	26.6	28	1F		3	E		114		U
	PALE	24	0107	0116	0148D	N23	E33	6130	06	26.6	41D	1F	C 2.1	3	E		150		
0230	LEAR	24	0334	0335	0339	S20	E64	6122	06	29.0	5	SF	B 7.7	3	E		21		
0231	LEAR	24	0345	0349	0351	S21	E73	6122	06	29.7	6	SF		3	E		14		
0232		24	0517*	0522*	0546	S22	E72	6122	06	29.7	29	SF	C 7.3				20		
	SVTO	24	0517	0522	0541	S20	E71	6122	06	29.6	24	SF		3	E		14		
	LEAR	24	0532	0536	0550	S23	E74	6122	06	29.9	18	SF	C 7.3	3	E		25		
0233	SVTO	24	0725	0726	0733	S18	E54	6120	06	28.4	8	SF		3	E		23		
0234		24	08181	08221	0834	S21	E64	6122	06	29.2	16	SF	C 2.9				32		
	SVTO	24	0818	0822	0842	S20	E65	6122	06	29.3	24	SF	C 2.9	4	E		47		
	LEAR	24	0819	0823	0827	S22	E62	6122	06	29.1	8	SF		3	E		16		
0235	SVTO	24	0916	0916	0922	S21	E67	6122	06	29.5	6	SF		4	E		31		
0236	SVTO	24	1015	1017	1024	S19	E56	6120	06	28.7	9	SF		4	E		30		
0237		24	10537	1056*	1109	S21	E60	6122	06	29.0	16	SF					19		
	SVTO	24	1053	1056	1059	S21	E60	6122	06	29.0	6	SF		4	E		20		
	RAMY	24	1057	1104	1112	S22	E61	6122	06	29.1	15	SF		3	E		12		
	SVTO	24	1100	1109	1116	S21	E59	6122	06	29.0	16	SF		4	E		25		
0238		24	1125	1126	1136	S06	E08	6114	06	25.1	11	SF					12		
	RAMY	24	1125	1126	1132	S07	E08	6114	06	25.1	7	SF		3	E		12		
	KANZ	24	1128E	1128U	1139	S06	E08	6114	06	25.1	11D	SF			V				
0239		24	12462	12481	1300	S18	E64	6122	06	29.4	14	SF					22		
	SVTO	24	1246	1249	1259	S18	E63	6122	06	29.3	13	SF		4	E		22		
	KANZ	24	1248	1248	1302	S19	E66	6122	06	29.6	14	SF			V				

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0240		24	13364	13386	1358	N17	E40	6121	06	27.6	22	SF						21		F
	HOLL	24	1336	1339	1416	N16	E39	6121	06	27.5	40	SF			3	E		37		F
	KANZ	24	1338	1338	1352	N17	E40	6121	06	27.6	14	SF				V				
	SVTO	24	1339	1339	1350	N18	E40	6121	06	27.6	11	SF			4	E		14		
	RAMY	24	1340	1344	1354	N16	E40	6121	06	27.6	14	SF			3	E		11		
0241	SVTO	24	1434	1443	1454	S19	E58	6122	06	29.0	20	SF			3	E		16		
0242		24	1455*	1459*	1528	S21	E58	6122	06	29.1	33	SF						19		F
	SVTO	24	1455	1459	1547	S21	E56	6122	06	28.9	52	SF			3	E		22		F
	HOLL	24	1456	1459	1511	S22	E58	6122	06	29.1	15	SF			3	E		18		F
	KANZ	24	1512E	1512U	1515D	S19	E58	6122	06	29.0	3D	SF				V				
	RAMY	24	1518	1522	1525	S22	E58	6122	06	29.1	7	SF			3	E		26		
	HOLL	24	1524	1526	1527	S21	E59	6122	06	29.2	3	SF			3	E		11		F
0243	HOLL	24	1554	1557	1600	S23	E63	6122	06	29.5	6	SF			3	E		33		F
0244	HOLL	24	1747	1750	1753	S20	E58	6122	06	29.2	6	SF	C	1.7	3	E		40		
		24	2150		2203	No Flare Patrol														
0245		24	2256	22582	2307	S24	E61	6122	06	29.7	11	1F	C	1.4				66		EF
	PALE	24	2256	2258	2307	S22	E57	6122	06	29.3	11	SF	C	1.4	3	E		41		F
	VORO	24	2256	2300	2303D	S25	E65	6122	06	30.0	7D	1F			2	C	2300	90		E
0246		25	0116	01219	0158	S23	E53	6122	06	29.1	42	1N	M	1.1				135		EFKU
	PALE	25	0116	0121	0127D	S22	E53	6122	06	29.1	11D	1N	M	1.1	3	E		136		F
	LEAR	25	0116	0123	0158	S24	E54	6122	06	29.2	42	1N				E		135		K
	LEAR	25	0116	0130	0158	S24	E54	6122	06	29.2	42	1N			3	E		93		FE
	HOLL	25	0119E	0122	0139D	S23	E51	6122	06	29.0	20D	1N			2	E		175		UE
		25	0201		0259	No Flare Patrol														
0247	SVTO	25	0528	0529	0535	S21	E55	6122	06	29.4	7	SF			3	E		11		
0248		25	07022	07031	0717	S22	E50	6122	06	29.1	15	SF	C	3.3				43	1.2	DF
	LEAR	25	0702	0704	0717	S22	E50	6122	06	29.1	15	SF	C	3.3	3	E		20		
	KANZ	25	0703	0703	0715	S22	E49	6122	06	29.0	12	SF				V				
	SVTO	25	0704	0704	0719	S22	E48	6122	06	29.0	15	SF			3	E		39		F
	ABST	25	0703E	0705U	0716D	S23	E51	6122	06	29.2	13D	SF				C	0705	70	1.2	D
0249	LEAR	25	0753	0755	0807	S23	E55	6122	06	29.6	14	SF			3	E		27		
0250	KANZ	25	0835		0835D	S19	E48	6122	06	29.0	14D	SF				V				
0251		25	10441	1045	1101	S11	W02	6114	06	25.3	17	SF	C	1.3				34		H
	SVTO	25	1044	1045	1101	S11	W03	6114	06	25.2	17	SF	C	1.3	3	E		34		H
	KANZ	25	1045	1048U	1048D	S11	W02	6114	06	25.3	3D	SF				V				
0252	SVTO	25	1211	1212	1226	S20	E46	6122	06	29.0	15	SF	C	1.2	3	E		16		
0253		25	1503	1503	1519	S21	E45	6122	06	29.1	16	SF						15		
	SVTO	25	1503	1503	1519	S21	E45	6122	06	29.1	16	SF			3	E		15		
	KANZ	25	1506E		1506D	S21	E45	6122	06	29.1	16D	SF				V				
0254	HOLL	25	1725	1725	1732	N16	W03	6119	06	25.5	7	SF			3	E		11		
0255	HOLL	25	1813E	1813U	1818	N28	E36	6118	06	28.6	5D	SF			3	E		17		F
0256	HOLL	25	1902	1910	1925	S22	E43	6122	06	29.1	23	SF			3	E		24		
		25	1951		2003	No Flare Patrol														
		25	2007		2026	No Flare Patrol														
		25	2050		2114	No Flare Patrol														
		25	2139		2148	No Flare Patrol														
		26	0002		0016	No Flare Patrol														
0257	HOLL	26	0015	0028	0050	S22	E44	6122	06	29.4	35	1N	C	4.0	3	E		215		FH

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0258	HOLL	26	0019	0021	0030	S10	E81	6126	07	2.1	11	SF	C	2.8	3	E		62		
		26	0114		0150	No Flare Patrol														
		26	0207		0213	No Flare Patrol														
		26	0242		0259	No Flare Patrol														
0259	TACH	26	0311	0314	0336	S21	E36	6122	06	28.9	25	SB			3	C	0314	46	0.6	D
0260	SVTO	26	0447	0447	0458	S21	E44	6122	06	29.6	11	SF			3	E		26		F
0261		26	05313	05347	0608	S20	E37	6122	06	29.0	37	SN	C	3.0				50	0.7	DF
	SVTO	26	0531	0541	0614	S20	E37	6122	06	29.0	43	SF	C	3.0	3	E		48		F
	TACH	26	0534	0534	0601	S21	E37	6122	06	29.1	27	SB			3	C	0534	51	0.7	D
0262	KANZ	26	0657	0657	0705	S26	E49	6122	06	30.1	8	SF				V				
0263		26	07183	07283	0739	S10	W18	6114	06	24.9	21	SF						28		F
	SVTO	26	0718	0731	0742	S10	W17	6114	06	25.0	24	SF			3	E		28		F
	KANZ	26	0721	0728	0736	S09	W19	6114	06	24.9	15	SF				V				
0264	SVTO	26	0754	0757	0813	S09	W18	6114	06	25.0	19	SF			3	E		14		F
0265	SVTO	26	0800	0802	0809	S20	E36	6122	06	29.1	9	SF			3	E		15		F
0266	KANZ	26	0850	0854	0920	N09	E79	6127	07	2.3	30	SF				V				
0267	KANZ	26	0932	0940	1036D	N10	E79	6127	07	2.3	64D	SF				V				
0268	KANZ	26	1117	1125	1143D	N10	E79	6127	07	2.4	26D	SF				V				
0269		26	1148*	1212*	1420	N10	E80	6127	07	2.5	152	SF						49		T
	SVTO	26	1148	1213	1527	N10	E83	6127	07	2.7	219	SF			3	E		63		T
	KANZ	26	1209	1212	1249	N10	E79	6127	07	2.4	40	SF				V				
	RAMY	26	1209	1242	1247	N09	E83	6127	07	2.7	38	SF			3	E		36		
	RAMY	26	1444	1457	1518	N09	E81	6127	07	2.7	34	SF			3	E		47		
	KANZ	26	1444	1500	1521	N10	E76	6127	07	2.3	37	SF				V				
0270	SVTO	26	1304	1304	1308	S10	W21	6114	06	25.0	4	SF			3	E		17		F
0271		26	1455	14551	1526	S10	W22	6114	06	25.0	31	SF						26		F
	RAMY	26	1455	1455	1511	S10	W22	6114	06	25.0	16	SF			3	E		25		F
	HOLL	26	1455	1456	1542	S10	W22	6114	06	25.0	47	SF			3	E		27		F
0272	SVTO	26	1503	1503	1519	S21	E45	6122	06	30.1	16	SF			3	E		15		
0273	HOLL	26	1546	1547	1604D	N24	E06	6130	06	27.1	18D	SF			3	E		17		
0274		26	16078	16141	1624	N10	E78	6127	07	2.5	17	SF						31		
	RAMY	26	1607	1614	1624	N09	E80	6127	07	2.7	17	SF			3	E		31		
	KANZ	26	1615	1615	1625D	N10	E76	6127	07	2.4	10D	SF				V				
0275	RAMY	26	1628	1628	1958D	N09	E80	6127	07	2.7	210D	SF			3	E		17		
0276		26	1749*	17586	1822	S22	E38	6122	06	29.7	33	SF						58		F
	HOLL	26	1749	1758	1834	S23	E37	6122	06	29.6	45	SF			3	E		98		F
	PALE	26	1803	1804	1811	S22	E38	6122	06	29.7	8	SF			3	E		19		F
		26	1837		1852	No Flare Patrol														
0277	HOLL	26	1931	1945	1953	N09	E79	6127	07	2.7	22	SF			3	E		32		
0278		26	19342	19371	2010	S21	E30	6122	06	29.1	36	1B	M	1.8				113		F
	HOLL	26	1934	1937	2004	S21	E29	6122	06	29.0	30	1B	M	1.8	3	E		129		
	PALE	26	1936	1938	2015	S21	E31	6122	06	29.2	39	SN			3	E		97		F
0279		26	2113	2116	2159	S20	E37	6122	06	29.7	46	SF	C	2.1				54		F
	HOLL	26	2113	2116	2159	S20	E36	6122	06	29.6	46	SF			3	E		61		F
	PALE	26	2119E	2119U	2211D	S20	E38	6122	06	29.8	52D	SF	C	2.1	3	E		47		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	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0280	PALE	27	0022E	0023U	0122D	N11	E79	6127	07	2.9	60D	SF			3	E		15		
		27	0201		0215	No Flare Patrol														
		27	0229		0232	No Flare Patrol														
		27	0239		0251	No Flare Patrol														
		27	0258		0259	No Flare Patrol														
0281	TACH	27	0304E		0330	N23	E01	6130	06	27.2	26D	1B			3	C	0304	194	2.2	U
0282	TACH	27	0425	0428	0447	S25	E27	6122	06	29.3	22	SB			3	C	0428	41	0.5	D
0283		27	0650	06531	0703	S12	E66	6126	07	2.2	13	SF						26		
	SVTO	27	0650	0653	0703	S12	E68	6126	07	2.4	13	SF			3	E		26		
	KANZ	27	0650	0654	0700D	S13	E64	6126	07	2.1	10D	SF				V				
0284	SVTO	27	1139	1141	1144	S24	E30	6122	06	29.8	5	SF	C	2.2	3	E		15		FU
0285	KANZ	27	1333	1333	1337	S21	E26	6122	06	29.5	4	SF				V				
0286		27	14241	14251	1434	S14	E68	6131A	07	2.7	10	SF						32		H
	SVTO	27	1424	1426	1435	S14	E66	6131A	07	2.6	11	SF			3	E		32		H
	KANZ	27	1425	1425	1433	S14	E70	6131A	07	2.9	8	SF				C				
0287		27	1528*	15432	1558	S30	E84	6132	07	4.2	30	SN	C	3.5				82		
	SVTO	27	1528	1545	1600	S30	E79	6132	07	3.8	32	SN	C	3.5	3	E		80		
	RAMY	27	1541	1543	1555	S31	E89	6132	07	4.7	14	SF			3	E		85		
0288	SVTO	27	1602	1613	1619	S29	E71		07	3.2	17	SF			3	E		47		
0289		27	16272	1630*	1700	S20	E22	6122	06	29.4	33	SF	C	4.8				68		FU
	SVTO	27	1627	1630	1652	S20	E24	6122	06	29.5	25	1F	C	4.8	3	E		115		U
	PALE	27	1628E	1639	1704	S20	E21	6122	06	29.3	36D	SF			3	E		45		F
	RAMY	27	1629	1640	1705	S20	E21	6122	06	29.3	36	SF			3	E		45		F
0290		27	16482	16518	1719	N23	W08	6130	06	27.1	31	SF	C	9.2				72		F
	RAMY	27	1648	1651	1719	N23	W07	6130	06	27.2	31	SF	C	9.2	3	E		85		
	SVTO	27	1650	1659	1735D	N23	W08	6130	06	27.1	45D	SF			3	E		60		F
0291		27	1832	1834	1840	S20	E18	6122	06	29.1	8	SF						22		F
	HOLL	27	1832E	1832U	1843D	S20	E17	6122	06	29.1	11D	SF			1	E		33		F
	RAMY	27	1832	1834	1840	S21	E18	6122	06	29.1	8	SF			3	E		11		F
0292		27	19291	1931	1942	S21	E66	6131	07	2.9	13	SF	C	2.2				33		F
	HOLL	27	1929	1931	1945	S21	E66	6131	07	2.9	16	SF			3	E		51		F
	PALE	27	1930	1931	1939	S21	E66	6131	07	2.9	9	SF	C	2.2	3	E		24		F
	RAMY	27	1930	1931	1941	S21	E66	6131	07	2.9	11	SF			3	E		25		
0293		27	1937*	1954*	2009	N22	W10	6130	06	27.0	32	SF						45		F
	HOLL	27	1937	1954	2018	N22	W10	6130	06	27.0	41	SF			3	E		77		F
	RAMY	27	1940	1955	2001	N22	W10	6130	06	27.0	21	SF			3	E		43		F
	RAMY	27	2003	2004	2008	N22	W10	6130	06	27.1	5	SF			3	E		14		F
0294	HOLL	27	2037	2038	2044	N08	E66	6127	07	2.8	7	SF			3	E		30		
0295		27	21322	21355	2155	S22	E20	6122	06	29.4	23	SF						26		
	HOLL	27	2132	2140	2152	S23	E23	6122	06	29.7	20	SF			3	E		34		
	PALE	27	2134	2135	2158	S20	E18	6122	06	29.3	24	SF			3	E		17		
0296	HOLL	27	2201	2204	2232	N22	W11	6130	06	27.1	31	1F			3	E		130		FH
0297	HOLL	27	2312	2312	2317	S21	E68	6131	07	3.2	5	SF			3	E		19		
0298	HOLL	28	0002E	0002	0005	N07	E61	6127	07	2.6	3D	SF			3	E		17		
0299		28	0003*	0009*	0205D	S22	E20	6122	06	29.5	122D	SN	C	5.2				76	0.6	EFK
	HOLL	28	0003	0009	0118D	S22	E19	6122	06	29.5	75D	SF				E		35		K
	HOLL	28	0003	0054	0118D	S22	E19	6122	06	29.5	75D	1N	C	5.2	3	E		186		FE
	PALE	28	0013	0104U	0205D	S23	E24	6122	06	29.8	112D	SF			3	E		34		
	YUNN	28	0046E	0048U	0103D	S21	E16	6122	06	29.2	17D	SN				P	0048	48	0.6	

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0300	HOLL	28	0017	0022	0047	S21	E66	6131	07	3.1	30	SF			3	E		36		F
0301	HOLL	28	0043	0046	0059	N23	W12	6130	06	27.1	16	SF			3	E		20		FH
0302	HOLL	28	0059	0101	0108	S22	E71	6131	07	3.5	9	SF			3	E		22		H
		28	0201		0207	No Flare Patrol														
		28	0210		0220	No Flare Patrol														
		28	0223		0226	No Flare Patrol														
		28	0231		0232	No Flare Patrol														
		28	0235		0236	No Flare Patrol														
		28	0253		0259	No Flare Patrol														
0303	TACH	28	0304E		0345	N24	W14	6130	06	27.0	41D	SB			1	C	0315	107	1.2	U
0304	TACH	28	0349		0420	N10	E60	6127	07	2.7	31	1B			1	C	0411	168	3.4	EKT
0305	TACH	28	0428	0433	0440	S25	E27	6122	06	30.3	12	SN			1	C	0433	82	1.0	E
0306		28	04451	0446	0453	N10	E60	6127	07	2.7	8	1N						66	2.3	ETY
	SVTO	28	0445	0446	0450	N10	E59	6127	07	2.6	5	SF			3	E		19		Y
	TACH	28	0446		0456	N10	E60	6127	07	2.7	10	1N			1	C	0447	112	2.3	ET
0307		28	0624	0626	0645	S20	E63	6131	07	3.1	21	1N						28		BE
	ISTA	28	0545E	0626		S20	E65	6131	07	3.2	D	1N				P				BE
	SVTO	28	0624	0626	0645	S21	E61	6131	07	2.9	21	SF			3	E		28		
0308	ISTA	28	0545E	0641		S23	E18	6122	06	29.6	D	3N				P				BE
0309	ISTA	28	0545E	0651		S08	W28	6124	06	26.1	D	1N				P				BE
0310		28	0630*	0632*	0650	N05	E24	6125	06	30.1	20	SN						11		D
	SVTO	28	0630	0632	0652	N07	E25	6125	06	30.1	22	SF			3	E		11		
	KANZ	28	0633	0637	0649	N04	E24	6125	06	30.1	16	SF				V				
	ISTA	28	0641	0721		N04	E24	6125	06	30.1		SB				P				D
0311		28	0645	06467	0733	N09	E58	6127	07	2.6	48	1F	C	2.6				18		BEY
	ISTA	28	0645E	0646		N08	E58	6127	07	2.6	D	2N				P				BE
	KANZ	28	0645	0652	0723	N10	E57	6127	07	2.6	38	SF				V				
	SVTO	28	0645	0653	0743	N09	E58	6127	07	2.6	58	SF	C	2.6	3	E		18		Y
0312		28	08035	08081	0818	S10	W46	6114	06	24.9	15	SF	C	3.5				12		F
	KANZ	28	0803	0809	0819	S09	W48	6114	06	24.7	16	SF				V				
	SVTO	28	0808	0808	0816	S10	W44	6114	06	25.0	8	SF	C	3.5	3	E		12		F
0313	RAMY	28	1036	1038	1048	S08	W43	6114	06	25.2	12	SF			2	E		33		F
0314	SVTO	28	1056	1057	1103	S12	E48	6126	07	2.1	7	SF	C	2.8	3	E		27		
0315	HOLL	28	1320E	1321U	1325	S23	E08	6122	06	29.2	5D	SF			2	E		11		H
0316		28	1411	1417	1425	N18	E84	6133	07	5.0	14	SF	M	2.9				47		
	SVTO	28	1411	1417	1424	N19	E85	6133	07	5.1	13	SF	M	2.9	3	E		21		
	HOLL	28	1419E	1420U	1426	N17	E83	6133	07	4.9	7D	SF			2	E		73		
0317	SVTO	28	1429	1429	1435	N04	E16	6125	06	29.8	6	SF			3	E		12		
0318	SVTO	28	1444	1445	1454	N15	W17	6121	06	27.3	10	SF			3	E		15		
0319	HOLL	28	1551	1552	1557	N18	E86	6133	07	5.2	6	SF			3	E		21		
0320	HOLL	28	1622	1629	1643	N22	W19	6130	06	27.2	21	SF			3	E		23		F
0321	HOLL	28	1743	1744	1802	S22	E05	6122	06	29.1	19	SF			3	E		28		EF
0322	HOLL	28	1807	1811	1819	S10	W38	6124	06	25.9	12	SF			3	E		15		
0323	HOLL	28	1813	1815	1820	S21	E54	6131	07	2.9	7	SF			3	E		21		

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0324	HOLL	28	1813	1817	1828	N10	E35	6134	07	1.4	15	SF			3	E		12		
0325	HOLL	28	1822	1849	1905	N08	E51	6127	07	2.6	43	SF			3	E		24		
0326	HOLL	28	1848	1848	1859	S26	E19	6122	06	30.2	11	SF			3	E		15		
0327	HOLL	28	1851	1857	1903	N04	E15	6125	06	29.9	12	SF			3	E		15		F
0328	HOLL	28	1907	1907	1910	N08	E51	6127	07	2.6	3	SF			3	E		10		
0329	HOLL	28	1925	1939	1946	S22	E04	6122	06	29.1	21	SF	C	3.9	3	E		11		
0330	HOLL	28	1958	2003	2013	N08	E50	6127	07	2.6	15	SF			3	E		27		
0331	HOLL	28	2003	2005	2018	S22	E04	6122	06	29.1	15	SF			3	E		25		
0332	HOLL	28	2010	2012	2017	N06	E15	6125	06	30.0	7	SF			3	E		18		
0333	HOLL	28	2023	2034	2049	N18	E86	6133	07	5.4	26	1N	M	2.1	3	E		197		EF
0334	HOLL	28	2054	2056	2106	S14	E40	6126	07	1.9	12	SF			3	E		33		F
0335	HOLL	28	2238	2239	2249	N17	E83	6133	07	5.2	11	SN	C	3.7	3	E		56		
		28	2255		2304	No Flare Patrol														
0336	HOLL	28	2317	2320	2324	N08	E49	6127	07	2.6	7	SN	C	6.2	3	E		77		EF
		29	0003		0011	No Flare Patrol														
		29	0046		0050	No Flare Patrol														
		29	0053		0124	No Flare Patrol														
0337		29	0148	01471	0200	S09	W40	6124	06	26.1	12	SN	C	2.5				66	1.6	
	PURP	29	0145E	0147	0205	S09	W40	6124	06	26.1	20D	SN				C	0147	113	1.6	
	PALE	29	0148	0148	0156	S09	W39	6124	06	26.1	8	SF	C	2.5	3	E		19		
0338	PALE	29	0149	0150	0155	S23	E03	6122	06	29.3	6	SF			3	E		15		
0339	PALE	29	0206	0208	0219	N05	E12	6125	06	30.0	13	SF			3	E		27		F
0340	TACH	29	0456	0520	0555	N06	E08	6125	06	29.8	59	SN			2	C	0520	66	0.7	E
0341		29	0533*	05452	0602	N20	E80	6133	07	5.3	29	SN						99		E
	SVTO	29	0533	0547	0606	N20	E84	6133	07	5.6	33	SF			3	E		86		
	TACH	29	0545	0545	0559	N20	E76	6133	07	5.0	14	SB			2	C	0545	112		E
0342	SVTO	29	0559	0601	0615	S08	W41	6124	06	26.2	16	SF			3	E		19		
0343		29	0600	0619*	0639	S12	E35	6126	07	1.9	39	SF						52	0.4	
	SVTO	29	0600	0619	0638	S12	E36	6126	07	2.0	38	SF			3	E		71		
	KANZ	29	0622E	0622U	0632D	S12	E35	6126	07	1.9	10D	SF				V				
	YUNN	29	0630E	0631	0640	S13	E35	6126	07	1.9	10D	SN				P		32	0.4	
0344	YUNN	29	0630	0636	0647	S10	W44	6124	06	26.0	17	SN				C		32	0.5	
0345	SVTO	29	0652	0653	0711	S12	E36	6126	07	2.0	19	SF			3	E		17		
0346	YUNN	29	0730E	0730	0739	S21	E50	6131	07	3.1	9D	SN				P		95	1.7	
0347	YUNN	29	0730	0745	0748D	S13	E37	6126	07	2.1	18D	SN				P		32	0.4	
0348		29	07462	07471	0755	N19	E80	6133	07	5.4	9	SF	C	2.1				20		
	SVTO	29	0746	0747	0754	N20	E83	6133	07	5.7	8	SF	C	2.1	3	E		20		
	KANZ	29	0748	0748	0756	N18	E78	6133	07	5.3	8	SF				V				
0349	KHAR	29	0934U		0944U	S11	W59	6114	06	24.9	10U	SF			1	V	0934			H
0350	KHAR	29	1011		1017	N04	E06	6125	06	29.9	6	SF			1	P	1011			DH

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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	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0351		29	10252	10283	1050	S12	E32	6126	07	1.8	25	SF					35		F
	KANZ	29	1025	1028	1047	S12	E32	6126	07	1.8	22	SF			V				
	SVTO	29	1027	1031	1054	S12	E33	6126	07	1.9	27	SF		4	E		35		F
0352		29	10361	10381	1046	S08	W43	6124	06	26.2	10	SF					31		F
	RAMY	29	1036	1038	1048	S08	W43	6124	06	26.2	12	SF		2	E		33		F
	KANZ	29	1036	1039	1043	S08	W42	6124	06	26.3	7	SF			V				
	SVTO	29	1037	1038	1046	S08	W44	6124	06	26.1	9	SF		4	E		29		F
0353	SVTO	29	1040	1102	1108	S19	E46	6131A	07	2.9	28	SF		4	E		18		
0354		29	10588	1110	1116	S29	E64	6132	07	4.5	18	SF					29		
	SVTO	29	1058	1110	1119	S29	E66	6132	07	4.6	21	SF		4	E		29		
	KANZ	29	1106	1110	1114	S29	E61	6132	07	4.2	8	SF			V				
0355		29	1226*	12401	1300	S14	E41	6126	07	2.6	34	SF					30		F
	SVTO	29	1226	1240	1257	S13	E41	6126	07	2.6	31	SF		4	E		38		F
	RAMY	29	1237	1241	1304	S15	E41	6126	07	2.6	27	SF		3	E		21		F
0356	RAMY	29	1251	1254	1301	N17	E77	6133	07	5.4	10	SF		3	E		27		
0357	RAMY	29	1310	1315	1336	N17	E78	6133	07	5.5	26	SF	C 6.3	3	E		27		F
0358	SVTO	29	1323	1327	1336	N21	W33	6130	06	27.0	13	SF		3	E		33		F
0359		29	1406	1407	1420	N20	E74	6133	07	5.2	14	SF					53		F
	RAMY	29	1406	1407	1412	N20	E75	6133	07	5.3	6	SF		3	E		30		F
	SVTO	29	1407E	1407	1429	N19	E73	6133	07	5.1	22D	SF		3	E		76		
0360		29	14303	1433	1437	S10	W64	6114	06	24.8	7	SF					18		F
	HOLL	29	1430	1433	1437	S11	W64	6114	06	24.8	7	SF		3	E		18		F
	KANZ	29	1433	1433	1437	S10	W63	6114	06	24.9	4	SF			V				
0361		29	14381	1441	1452	S13	E30	6126	07	1.9	14	SF					16		F
	RAMY	29	1438	1441	1452	S13	E30	6126	07	1.9	14	SF		3	E		12		F
	HOLL	29	1439	1441	1452	S13	E30	6126	07	1.9	13	SF		3	E		21		F
0362	HOLL	29	1446	1447	1450	S28	E66	6132	07	4.8	4	SF		3	E		22		
0363	SVTO	29	1458	1500	1535	N19	E73	6133	07	5.2	37	SF	C 5.9	3	E		23		
0364	HOLL	29	1536	1538	1546	N08	E39	6127	07	2.6	10	SF		3	E		14		F
0365		29	15573	16017	1614	N18	E73	6133	07	5.2	17	SF	C 3.4				42		
	SVTO	29	1557	1608	1623	N19	E72	6133	07	5.1	26	SF		3	E		74		
	HOLL	29	1559	1601	1615	N18	E74	6133	07	5.3	16	SF	C 3.4	3	E		31		
	RAMY	29	1600	1601	1605	N17	E74	6133	07	5.3	5	SF		3	E		22		
0366		29	1602	1604*	1625	S22	W07	6122	06	29.1	23	SF					31		FHK
	HOLL	29	1602	1604	1625	S22	W07	6122	06	29.1	23	SF		3	E		32		FH
	HOLL	29	1602	1617	1625	S22	W07	6122	06	29.1	23	SF			E		30		K
0367	HOLL	29	1622	1624	1632	S31	E62	6132	07	4.6	10	SF		3	E		19		
0368	HOLL	29	1638	1643	1657	S13	E30	6126	07	1.9	19	SF		3	E		13		F
0369		29	1644	16451	1700	S30	E60	6132	07	4.4	16	SN	C 5.7				62		E
	HOLL	29	1644	1645	1702	S31	E61	6132	07	4.5	18	SN	C 5.7	3	E		73		E
	SVTO	29	1644	1646	1657	S29	E59	6132	07	4.3	13	SF		3	E		52		
0370		29	17092	17136	1718	S13	E30	6126	07	2.0	9	SF					16		F
	RAMY	29	1709	1719	1721	S13	E30	6126	07	2.0	12	SF		3	E		15		
	HOLL	29	1711	1713	1716	S13	E29	6126	07	1.9	5	SF		3	E		16		F
0371	RAMY	29	1711	1713	1715	N09	E40	6127	07	2.7	4	SF		3	E		15		
0372	HOLL	29	1742	1744	1752	S16	E48	6137	07	3.4	10	SF		3	E		12		F
0373	HOLL	29	1756	1820	1905	S14	E49	6137	07	3.4	69	SF		3	E		60		F

Hα S O L A R F L A R E S

JUNE 1990

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
0374	HOLL	29	1809	1809	1821	S13	E29	6126	07	1.9	12	SF			3	E		11		
0375	HOLL	29	1831	1835	1842	S13	E29	6126	07	1.9	11	SF			3	E		17		
0376	HOLL	29	1842	1844	1912	S29	E62	6132	07	4.6	30	SF			3	E		32		
0377	HOLL	29	1855	1857	1939	S13	E28	6126	07	1.9	44	SF			3	E		29		F
0378	HOLL	29	1953	1955	2004	N04	E00	6125	06	29.8	11	SF			3	E		24		
0379	HOLL	29	1956	2001	2027	S13	E28	6126	07	1.9	31	SF			3	E		31		EF
0380	HOLL	29	1958	2000	2008	N15	E72	6139A	07	5.3	10	SF			3	E		18		
0381	HOLL	29	2008	2013	2024	S09	W68	6114	06	24.7	16	SF			3	E		14		
0382	HOLL	29	2011	2015	2021	N17	E73	6133	07	5.4	10	SF			3	E		27		
0383	HOLL	29	2119	2124	2225	N08	E37	6127	07	2.7	66	SF			3	E		26		
0384	HOLL	29	2137	2229	2247	S17	E33	6131A	07	2.4	70	SF			3	E		70		F
0385	HOLL	29	2212	2213	2226	S32	E60	6132	07	4.7	14	SF			3	E		28		
0386	HOLL	29	2229	2235	2323	N16	E68	6133	07	5.1	54	1B	M	3.8	3	E		158		FH
0387	HOLL	29	2253	2255	2301	S13	E27	6126	07	2.0	8	SF			3	E		21		
0388		29	2253	2308	2340	N08	E36	6127	07	2.6	47	SF						38		F
	HOLL	29	2253	2308	2340	N08	E35	6127	07	2.6	47	SF			3	E		59		F
	PALE	29	2321E	2447U	2449D	N09	E36	6127	07	2.7	88D	SF			3	E		18		F
0389		29	2337*	23562	2404	S12	E30	6126	07	2.2	27	SF						23		FH
	PALE	29	2337	2342U	2418D	S12	E29	6126	07	2.2	41D	SF			3	E		31		FH
	HOLL	29	2339	2358	2405	S13	E29	6126	07	2.2	26	SF			3	E		23		F
	LEAR	29	2349	2356	2402	S12	E33	6126	07	2.5	13	SF			3	E		14		
0390	HOLL	30	0011	0016	0044	N20	W38	6130	06	27.1	33	SF			3	E		42		F
0391	PALE	30	0045	0051	0057	S13	E28	6126	07	2.1	12	SF			3	E		25		F
0392		30	0058	00592	0109	S21	E38	6131	07	2.9	11	SF	C	3.9				40		
	LEAR	30	0058	0059	0106	S22	E37	6131	07	2.9	8	SF			3	E		49		
	PALE	30	0058	0101	0109	S20	E40	6131	07	3.1	11	SF	C	3.9	3	E		38		
	HOLL	30	0100E	0101U	0111	S22	E36	6131	07	2.8	11D	SF			2	E		34		
0393		30	01011	01128	0133	N08	E34	6127	07	2.6	32	SF						22		
	PALE	30	0101	0120	0144	N09	E34	6127	07	2.6	43	SF			3	E		23		
	HOLL	30	0102E	0102U	0124	N07	E34	6127	07	2.6	22D	SF			2	E		16		
	LEAR	30	0102	0112	0132	N07	E35	6127	07	2.7	30	SF			3	E		28		
0394		30	0122	01242	0158	S13	E31	6126	07	2.4	36	SF						89		F
	HOLL	30	0122	0124	01290	S13	E30	6126	07	2.3	7D	SF			2	E		60		F
	LEAR	30	0122	0126	0151	S13	E31	6126	07	2.4	29	SF			3	E		93		
	PALE	30	0122	0126	0205	S12	E32	6126	07	2.5	43	1F			3	E		114		F
0395	PALE	30	0239	0247	0257	S14	E27	6126	07	2.1	18	SF			3	E		15		
0396	PALE	30	0311	0326	0336	N09	E33	6127	07	2.6	25	SF			3	E		24		F
0397	TACH	30	0435	0435	0449	S41	W21	6136	06	28.5	14	SB			2	C	0435	8	0.1	D
0398		30	05311	05342	0553	S12	E22	6126	07	1.9	22	SN						58	1.0	EF
	TACH	30	0531	0534	0559	S11	E23	6126	07	2.0	28	SB			2	C	0534	82	1.0	E
	LEAR	30	0532	0536	0547	S13	E21	6126	07	1.8	15	SF			3	E		33		F
0399		30	0640	06452	0659	N08	E30	6127	07	2.5	19	SN						79	0.9	
	YUNN	30	0640E	0645	07280	N08	E30	6127	07	2.5	48D	SN				P		79	0.9	
	KANZ	30	0640	0647	0659	N09	E30	6127	07	2.5	19	SF				V				

Hα SOLAR FLARES

JUNE 1990

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
0400	KANZ	30	0659	0659	0715	S40	W21	6136	06	28.6	16	SF			V				
0401	LEAR	30	0745	0749	0811	S13	E24	6126	07	2.1	26	SF		3	E		21		
0402	KANZ	30	0818	0818	0826	S24	W15	6122	06	29.2	8	SF			V				
0403	KHAR	30	0856E	0907U	0930U	N15	W90		06	23.5	34U	SF		2	P	0907			DT
0404	KHAR	30	0936U		0942U	N24	W41	6130	06	27.2	6U	SF		2	V				H
0405	KHAR	30	0947		0957	N15	W90		06	23.6	10	SF		2	V	0947			DT
0406	KHAR	30	1004		1015D	N15	W90		06	23.6	11D	SF		2	V	1005			DT
0407		30	1109	1113*	1158	S13	E22	6126	07	2.1	49	SF					12		
	KANZ	30	1109	1113	1147	S13	E22	6126	07	2.1	38	SF			V				
	RAMY	30	1122E	1123	1210	S13	E22	6126	07	2.1	48D	SF		2	E		12		
0408		30	12539	1256*	1322	N08	E27	6127	07	2.6	29	SF					17		F
	RAMY	30	1253	1256	1332	N07	E28	6127	07	2.6	39	SF		3	E		19		
	KANZ	30	1254	1258	1321	N08	E27	6127	07	2.6	27	SF			V				
	SVTO	30	1302	1306	1314	N09	E27	6127	07	2.6	12	SF		3	E		15		F
0409	RAMY	30	1316	1326	1342	N17	E64	6133	07	5.4	26	SF		3	E		25		
0410		30	1425	14251	1431	S29	E53	6132	07	4.7	6	SF					24		
	KANZ	30	1425	1425	1432	S30	E52	6132	07	4.7	7	SF			V				
	RAMY	30	1425	1426	1431	S30	E53	6132	07	4.8	6	SF		3	E		17		
	SVTO	30	1425	1426	1431	S28	E53	6132	07	4.7	6	SF		3	E		30		
0411	RAMY	30	1440	1441	1444	N18	E64	6133	07	5.5	4	SF		3	E		17		
0412		30	1457	1457	1502	N14	W60	6129	06	26.1	5	SF					18		
	KANZ	30	1457	1457	1501	N14	W61	6129	06	26.0	4	SF			V				
	HOLL	30	1457	1457	1502	N14	W60	6129	06	26.1	5	SF		4	E		18		
0413	HOLL	30	1541	1543	1551	S25	W21	6122	06	29.0	10	SF		4	E		12		
0414		30	16001	16011	1617	S29	E51	6132	07	4.7	17	SF					28		F
	HOLL	30	1600	1601	1622	S30	E51	6132	07	4.7	22	SF		4	E		39		F
	RAMY	30	1601	1602	1611	S30	E52	6132	07	4.7	10	SF		3	E		17		
	SVTO	30	1601	1602	1619	S28	E51	6132	07	4.6	18	SF		3	E		29		
0415		30	16241	16291	1646	S22	E29	6131	07	2.9	22	SF	C 2.5				98		F
	SVTO	30	1624	1629	1648	S21	E30	6131	07	3.0	24	SF		3	E		98		F
	HOLL	30	1624	1630	1648	S22	E28	6131	07	2.8	24	1F	C 2.5	4	E		135		F
	RAMY	30	1625	1630	1641	S22	E30	6131	07	3.0	16	SF		3	E		60		F
0416	SVTO	30	1640	1644	1650	N20	E61	6133	07	5.4	10	SF		3	E		16		F
0417		30	1655	16552	1707	S22	E30	6131	07	3.0	12	SF					23		F
	SVTO	30	1655	1655	1706	S21	E30	6131	07	3.0	11	SF		3	E		18		F
	HOLL	30	1655	1657	1708	S22	E30	6131	07	3.0	13	SF		4	E		28		F
0418	HOLL	30	1810	1810	1816	S30	E51	6132	07	4.8	6	SF		3	E		16		
0419		30	18102	1812	1822	S24	E32	6131	07	3.2	12	SF	C 3.1				62		F
	HOLL	30	1810	1812	1825	S23	E32	6131	07	3.2	15	SF	C 3.1	3	E		83		F
	RAMY	30	1812	1812	1820	S24	E33	6131	07	3.3	8	SF		3	E		40		F
0420	HOLL	30	1821	1831	1843	S30	E50	6132	07	4.7	22	SF	C 2.8	3	E		61		
0421	HOLL	30	1857	1858	1911	S07	W62	6124	06	26.1	14	SF		3	E		21		
0422		30	19388	19409	1958	N18	E60	6133	07	5.4	20	SF	C 9.7				34		F
	HOLL	30	1938	1940	1944	N17	E60	6133	07	5.4	6	SF		3	E		14		
	HOLL	30	1945	1949	2011	N18	E60	6133	07	5.4	26	SF	C 9.7	3	E		61		F
	RAMY	30	1946	1946	1958	N17	E59	6133	07	5.3	12	SF		3	E		17		
	PALE	30	1947E	1948	2018D	N19	E62	6133	07	5.5	31D	SF		3	E		44		

Hα SOLAR FLARES

JUNE 1990

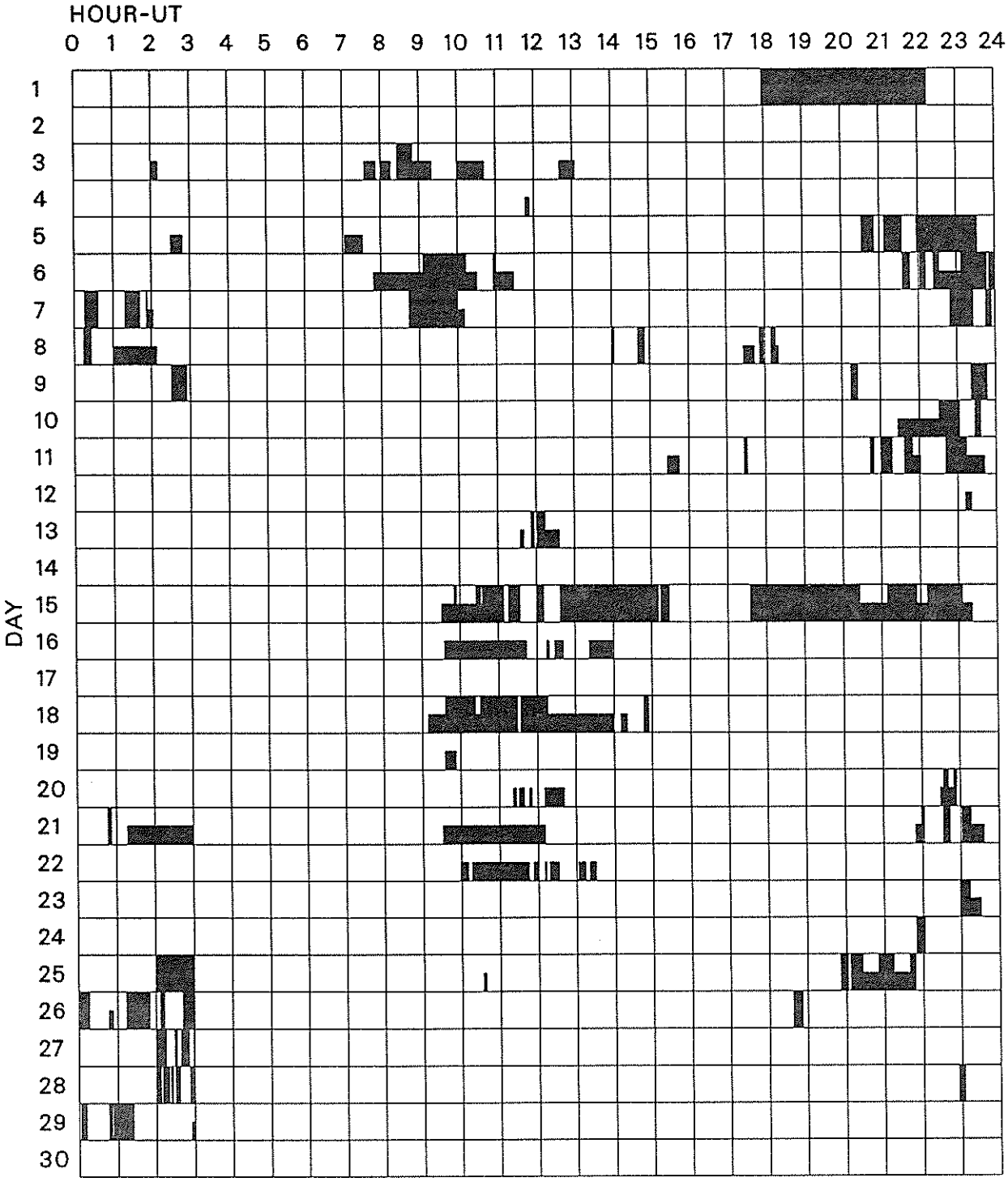
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0423		30	19424	1947	1956	S14	E13	6126	07	1.8	14	SF					22		F
	HOLL	30	1942	1947	1959	S14	E14	6126	07	1.9	17	SF		3	E		31		F
	RAMY	30	1946	1947	1953	S13	E12	6126	07	1.7	7	SF		3	E		13		F
0424		30	19548	20052	2112	S14	E34	6137	07	3.4	78	SF					102		F
	HOLL	30	1954	2005	2112	S13	E33	6137	07	3.3	78	1F		3	E		158		F
	PALE	30	2001	2007U	2112D	S14	E36	6137	07	3.5	71D	SF		3	E		76		
	RAMY	30	2002	2007	2146D	S15	E33	6137	07	3.3	104D	SF		3	E		72		F
0425	HOLL	30	2002	2005	2010	S41	W31	6136	06	28.3	8	SF		3	E		23		F
0426	HOLL	30	2038	2038	2041	N18	E61	6133	07	5.5	3	SF		3	E		24		
0427	PALE	30	2113	2115	2131	N09	E25	6127	07	2.8	18	SF		3	E		16		
0428	HOLL	30	2143	2144	2152	S13	E12	6126	07	1.8	9	SF		3	E		20		
0429		30	2234	2222*	2305	S13	E15	6126	07	2.1	31	SF					26		FK
	HOLL	30	2217E	2222	2258	S13	E15	6126	07	2.1	41D	SF		3	E		31		
	HOLL	30	2217E	2252	2258	S13	E15	6126	07	2.1	41D	SF			E		19		K
	PALE	30	2234	2258	2319	S13	E15	6126	07	2.1	45	SF		3	E		28		F
0430		30	2312	23141	2320	S22	E30	6131	07	3.3	8	SF					22		F
	HOLL	30	2312	2314	2322	S23	E29	6131	07	3.2	10	SF		3	E		28		
	PALE	30	2312	2315	2319	S22	E32	6131	07	3.4	7	SF		3	E		16		F
0431	HOLL	30	2328	2328	2334	N18	E58	6133	07	5.4	6	SF		3	E		12		
0432	HOLL	30	2332	2333	2342	S20	E32	6131	07	3.4	10	SF		3	E		47		
0433		30	2348	23481	2358	S30	E48	6132	07	4.8	10	SF	C 1.9				27		
	PALE	30	2348	2348	2358	S30	E50	6132	07	4.9	10	SF	C 1.9	3	E		18		
	HOLL	30	2348	2349	2349D	S30	E47	6132	07	4.7	1D	SF		3	E		36		

"Remarks"

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows Helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase; important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

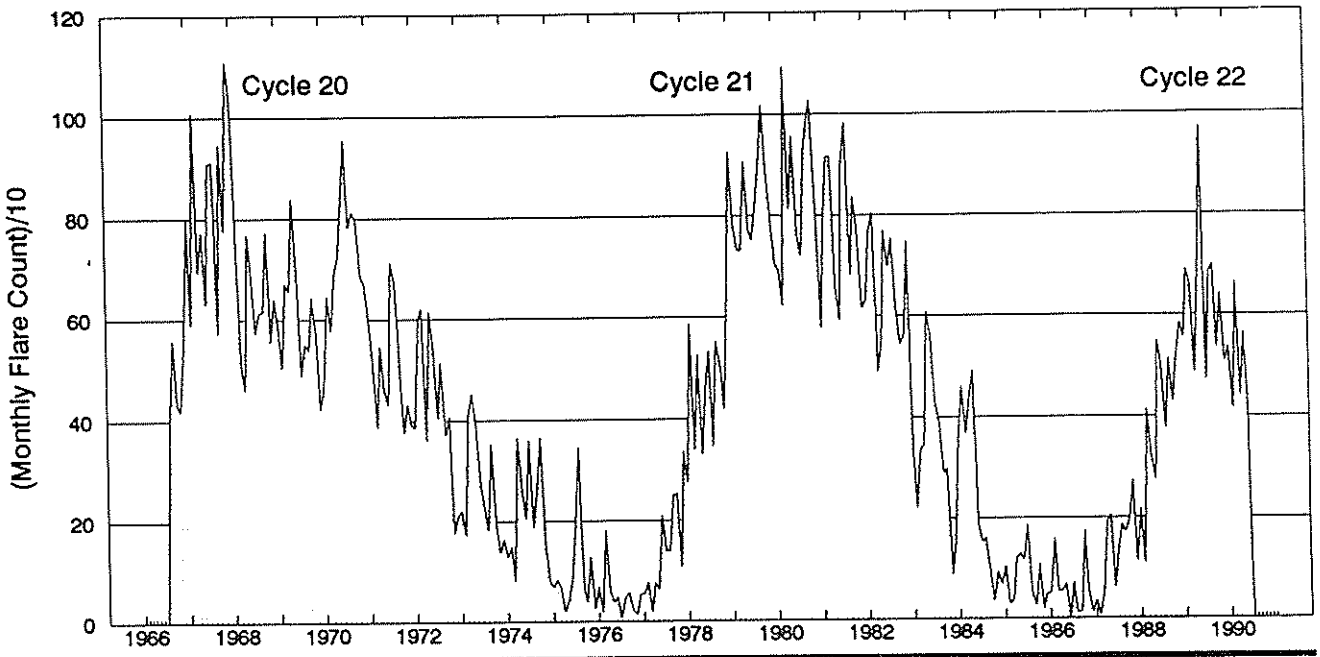
JUNE 1990



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	Holloman	Kandilli	Mitaka	San Vito
Athens	Hurbanovo	Kanzelhoehe	Palehua	Tashkent
Bucharest	Istanbul	Kharkov	Purple Mt.	Voroshilov
		Learmonth	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	551	502	375	513	429	508	584	4803
1989	689	539	658	485	686	971	473	684	699	535	640	507	7566
1990	536	415	664	439	565	433	--	--	--	--	--	--	3052

*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

JUNE 1990

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	245	LEAR	44	NS	0230.0E	0546.0	311.0D	74.0			QL=4 ST=3 TYP=1
	260	ONDR	44	NS	0500.0E	0908.7	700.0D	154.0			
	204	IZMI	43	NS	0600.0		360.0	10.0			
	245	PALE	8	S	0158.0E	0158.0	U	60.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0528.0E	0529.0	3.0D	69.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0614.5	0614.7	0.5	150.0			
	536	ONDR	41	F	0659.5	0713.3	20.0	24.0			
	430	KRAK	2	S/F	0731.0	0731.4	0.6	15.0	4.0		
	245	LEAR	8	S	0742.0E	0742.0	U	63.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0810.0E	0812.0	2.0D	55.0			QL=4 ST=2 TYP=3
	33	UPIC	45	C	0907.6	0908.4	2.5				
	33	UPIC	42	SER	1003.0	1052.3	123.8				
	127	TORN	42	SER	1158.0	1201.0	7.0	20.0			
	33	UPIC	45	C	1410.5	1410.6	1.5				
	245	SGMR	8	S	1715.0E	1715.0	U	68.0			QL=4 ST=2 TYP=3
02	2840	PEKG	5	S	0207.0	0208.8	5.0	42.9			
	260	ONDR	41	F	0500.0E		700.0D				
	204	IZMI	8	S	0620.5	0620.6	0.2	82.0	70.0		
	2950	GORK	21	GRF	0620.6	0652.4	112.7	9.0			
	9100	GORK	46	C	0630.0	0648.0		15.0			
	9100	GORK	46	C	0630.0	0638.1		32.0			
	9100	GORK	46	C	0630.0	0636.4	25.4	15.0			
	234	POTS	29	PBI	0630.2	0636.2	98.0	440.0			
	536	ONDR	49	GB	0630.5		50.0				
	600	HUMN	46	C	0631.4	0636.6	42.9	544.0	39.0		
	500	HIRA	48	C	0631.7	0633.0		127.0			O
	500	HIRA	48	C	0631.7	0637.0	20.0	3200.0	285.0		MR
	500	HIRA	29	PBI	0631.7	0653.0	35.0	9.0	3.0		WL
	500	HIRA	48	C	0631.7	0635.1		1700.0			WR
	3013	IZMI	7	C	0631.8	0638.5	13.0	42.0	20.0		
	650	GORK	46	C	0631.9	0636.6	27.2	2040.0			
	650	GORK	46	C	0631.9	0644.8		220.0			
	410	SVTO	49	GB	0632.0E	0635.0	10.0D	860.0			QL=4 ST=2 TYP=7
	410	LEAR	49	GB	0632.0E	0635.0	1048.0D	1300.0			QL=4 ST=1 TYP=6
	610	LEAR	49	GB	0632.0E	0636.0	1048.0D	2700.0			QL=4 ST=1 TYP=6
	5200	BERN	46	C	0632.5	0638.3	11.0	9.1			
	3200	BERN	46	C	0632.5	0638.3	11.0	8.6			
	8400	BERN	46	C	0632.5	0638.3	11.0	4.8			
	2950	GORK	45	C	0632.7	0648.4		16.0			
	2950	GORK	45	C	0632.7	0638.4		55.0			
	2950	GORK	45	C	0632.7	0636.4	19.7	40.0			
	2850	CRIM	45	C	0632.9	0633.3	10.0U	14.0			
	2850	CRIM	45	C	0632.9	0636.4		43.0			
	2850	CRIM	45	C	0632.9	0638.6		58.0			
	1415	SVTO	4	S/F	0633.0E	0636.0	6.0D	120.0			QL=4 ST=2 TYP=3
	610	SVTO	49	GB	0633.0E	0636.0	12.0D	2300.0			QL=2 ST=2 TYP=6
	1415	LEAR	4	S/F	0633.0E	0636.0	1047.0D	120.0			QL=2 ST=1 TYP=3
	245	LEAR	49	GB	0633.0E	0636.0	1047.0D	650.0			QL=4 ST=1 TYP=6
	808	ONDR	49	GB	0633.5	0644.5	27.0	162.0			
	245	SVTO	49	GB	0634.0E	0636.0	6.0D	660.0			QL=4 ST=2 TYP=6
	204	IZMI	45	C	0634.0	0638.2	11.0	450.0	300.0		
	200	HIRA	46	C	0634.0	0637.3	13.2	395.0	58.0		O
	200	GORK	46	C	0634.3	0636.0	6.4	90.0			
	200	GORK	46	C	0634.3	0637.9		210.0			
	2695	SVTO	4	S/F	0635.0E	0638.0	5.0D	63.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0635.0E	0638.0	6.0D	65.0			QL=4 ST=2 TYP=3
	1470	POTS	4	S/F	0645.0E	0648.2	11.0D	46.0			
	2850	CRIM	3	S	0646.0	0648.3	5.0U	20.0	7.0		
	3000	POTS	3	S	0646.0U	0648.5	12.0U	21.0			
	1415	SVTO	8	S	0647.0E	0648.0	2.0D	79.0			QL=4 ST=2 TYP=3
	3013	IZMI	5	S	0647.0	0648.3	8.0	29.0	15.0		
	610	SVTO	8	S	0648.0E	0648.0	U	54.0			QL=4 ST=2 TYP=3
	9100	GORK	29	PBI	0655.4	0655.4	103.6	10.0			
	650	GORK	29	PBI	0659.1	0659.1	26.9	7.0			
	1470	POTS	3	S	0711.0	0713.0	4.0	13.0			
	204	IZMI	42	SER	0754.5	0755.8	3.5	49.0	25.0		
	536	ONDR	41	F	1152.6	1205.0	26.0	24.0			
	245	SGMR	8	S	1406.0E	1406.0	U	50.0			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

JUNE 1990

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	1470	POTS	4	S/F	1406.0	1407.4	3.0	15.0			
	3000	POTS	4	S/F	1406.0	1406.6	3.0	17.0			
	808	ONDR	41	F	1406.5	1406.7	2.7	6.0			
	536	ONDR	41	F	1406.9	1408.1	2.5	13.0			
03	9100	GORK	23	GRF	0245.0E	0339.0U	327.0D	6.0			
	245	LEAR	8	S	0300.0E	0300.0	1.0D	100.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0300.0E	0300.0	1.0D	94.0			QL=4 ST=2 TYP=3
	260	ONDR	41	F	0500.0E	0744.8	700.0D	288.0			
	2950	GORK	1	S	0536.1	0537.0	4.4	3.0			
	2850	CRIM	1	S	0536.3	0536.5	1.0	3.5	1.0		
	9300	KISV	45	C	0555.8	0559.0		12.0			
	9300	KISV	45	C	0555.8	0600.4	6.6	12.0			
	9100	GORK	45	C	0555.9	0600.2		12.0			
	9100	GORK	45	C	0555.9	0558.8	7.1	10.0			
	5900	KISV	45	C	0556.2	0559.0		9.0			
	5900	KISV	45	C	0556.2	0600.4	10.0	10.0			
	650	GORK	21	GRF	0557.3	0608.5	22.8	3.0			
	2850	CRIM	20	GRF	0558.0	0600.8	55.0	8.0	2.0		
	2950	GORK	20	GRF	0558.3	0600.5	42.4	6.0			
	950	GORK	21	GRF	0558.4	0608.5	21.7	3.0			
	500	HIRA	42	SER	0609.5	0617.3	19.5	156.0			O
	600	HUMN	2	S/F	0610.7	0613.3	4.8	16.0	6.0		
	950	GORK	46	C	0611.1	0617.6		3.0			
	950	GORK	46	C	0611.1	0613.8		14.0			
	950	GORK	46	C	0611.1	0612.9	7.6	12.0			
	650	GORK	46	C	0611.4	0615.0		18.0			
	650	GORK	46	C	0611.4	0613.7	7.3	20.0			
	650	GORK	46	C	0611.4	0617.7U		130.0			
	808	ONDR	41	F	0612.5	0617.9	7.0	11.0			
	410	LEAR	8	S	0616.0E	0617.0	2.0D	100.0			QL=4 ST=2 TYP=3
	600	HUMN	3	S	0616.7	0617.7	1.0	136.0	82.0		
	610	LEAR	8	S	0617.0E	0617.0	1.0D	240.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0617.0E	0617.0	1.0D	67.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	0617.0E	0617.0	1.0D	220.0			QL=2 ST=2 TYP=3
	950	GORK	1	S	0626.1	0626.7	3.0	2.0			
	650	GORK	45	C	0626.2	0628.2		2.0			
	650	GORK	45	C	0626.2	0626.9	4.0	2.0			
	650	GORK	1	S	0646.0	0649.5	6.7	2.0			
	950	GORK	1	S	0646.2	0649.2	4.0	2.0			
	536	ONDR	42	SER	0713.0	0750.0	38.0	153.0			
	200	HIRA	8	S	0743.7	0743.7	0.8	140.0			O
	204	IZMI	4	S/F	0744.0	0744.2	1.0	250.0	125.0		
	536	ONDR	41	F	0759.0	0941.4	270.0	152.0			
	5900	KISV	2	S/F	1158.1	1159.3	1.6	3.0			
	9300	KISV	2	S/F	1158.2	1159.3	1.7	8.0			
	536	ONDR	42	SER	1245.5	1410.0	90.0	118.0			
	808	ONDR	41	F	1255.8	1257.3	3.0	5.0			
	5900	KISV	2	S/F	1256.1	1256.8	2.0	4.0			
	3000	POTS	1	S	1407.5	1409.0	4.5	5.0			
	1470	POTS	40	F	1408.0	1410.0	4.0	7.0			
	808	ONDR	41	F	1408.8	1410.1	2.5	3.0			
	410	SGMR	8	S	1409.0E	1409.0	1.0D	160.0			QL=2 ST=3 TYP=3
	600	HUMN	1	S	1409.0	1410.4	1.4	50.0	6.0		
	610	SGMR	49	GB	1410.0E	1410.0	U	680.0			QL=4 ST=3 TYP=6
04	200	HIRA	43	NS	2131.0	0045.0	517.0	120.0	17.0		SR
	100	HIRA	43	NS	2200.0	2300.0	200.0	240.0	30.0		
	500	HIRA	41	F	0045.7	0046.0	1.5	65.0			WR
	410	PALE	8	S	0046.0E	0046.0	U	82.0			QL=4 ST=3 TYP=3
	260	ONDR	41	F	0500.0E	0522.0	700.0D	382.0			
	9100	GORK	2	S/F	0520.2	0521.4	2.8	10.0			
	600	HUMN	2	S/F	0520.5	0521.0	1.5	12.0	5.0		
	2850	CRIM	1	S	0520.5	0521.8	2.0	20.0	7.0		
	5900	KISV	45	C	0520.7	0522.1	2.1	8.0			
	5900	KISV	45	C	0520.7	0521.4		8.0			
	650	GORK	4	S/F	0520.8	0521.4	1.8	30.0			
	9300	KISV	45	C	0520.8	0521.4		8.0			
	950	GORK	4	S/F	0520.8	0521.5	1.8	75.0			

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

JUNE 1990

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
04	2950	GORK	2	S/F	0520.8	0521.7	1.8	17.0			
	9300	KISV	45	C	0520.8	0521.8	1.7	9.0			
	610	LEAR	8	S	0521.0E	0521.0	U	22.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0521.0E	0521.0	1.0D	240.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0521.0E	0521.0	1.0D	210.0			QL=4 ST=2 TYP=3
	500	HIRA	4	S/F	0521.0	0521.8	1.4	18.0			O
	536	ONDR	41	F	0702.6	0702.8	70.0	15.0			
	9300	KISV	1	S	0822.9	0823.2	0.5	9.0			
	5900	KISV	1	S	0849.8	0850.2	0.9	5.0			
05	260	ONDR	43	NS	0550.0		630.0				
	204	IZMI	43	NS	0700.0		300.0	20.0			
	234	POTS	43	NS	0717.0	0944.0	413.0	25.0			
	200	GORK	43	NS	0729.2		270.8D		5.0		
	200	HIRA	43	NS	0730.0	0910.0	139.0D	27.0	8.0		MR SUNSET
	113	POTS	43	NS	0732.0	1052.0	295.0	25.0			
	127	TORN	43	NS	0732.0	1024.6	312.0	1400.0	12.0		V=2
	40	POTS	43	NS	0924.0	1023.0	256.0U	1200.0U			
	245	SVTO	44	NS	0944.0E	0944.0	16.0D	63.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0146.0E	0147.0	1.0D	75.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0147.0E	0147.0	U	75.0			QL=4 ST=2 TYP=3
	536	ONDR	41	F	0723.6	1023.6	180.0	50.0			
	204	IZMI	41	F	0734.5	0736.6	4.5	120.0			
	2840	PEKG	5	S	0828.0	0829.4	11.0	14.2			
	9300	KISV	2	S/F	0828.6	0829.9	8.6	11.0			
	5900	KISV	2	S/F	0828.6	0829.9	6.4	9.0			
	2950	GORK	22	GRF	0828.8	0829.9	212.2	11.0			
	245	LEAR	4	S/F	0829.0E	0830.0	4.0D	91.0			QL=4 ST=2 TYP=3
	808	ONDR	41	F	0829.0	0832.0	5.0	5.0			
	245	SVTO	8	S	0829.0E	0830.0	1.0D	89.0			QL=4 ST=2 TYP=3
	950	GORK	2	S/F	0829.0	0831.4	4.5	10.0			
	650	GORK	46	C	0829.2	0831.3		8.0			
	650	GORK	46	C	0829.2	0829.6	4.0	25.0			
	9100	GORK	2	S/F	0829.5	0829.9	4.5	8.0			
	204	IZMI	5	S	0829.7	0830.0	1.0	125.0	90.0		
	2850	CRIM	25	R	0831.0	1050.0		5.5			
	2850	CRIM	42	SER	0838.9	0839.9	5.5	16.5	5.0		
	245	LEAR	8	S	0840.0E	0840.0	U	52.0			QL=4 ST=2 TYP=3
	650	GORK	22	GRF	0935.2	0941.7	10.0	10.0			
	950	GORK	2	S/F	0937.9	0941.9	5.1	9.0			
	113	POTS	45	C	1002.0	1023.8	111.0	110.0			
	204	IZMI	42	SER	1003.0	1024.0	24.0	2500.0			
	234	POTS	45	C	1004.5	1043.0	100.0	3200.0			
	30	POTS	45	C	1004.5	1010.2	41.0U	4000.0D			
	200	GORK	46	C	1005.4	1012.0		860.0			
	200	GORK	46	C	1005.4	1010.9	9.6	690.0			
	33	UPIC	41	F	1006.3	1022.2	33.5				
	245	SGMR	49	GB	1007.0E	1012.0	19.0D	1300.0			QL=2 ST=2 TYP=7
	650	GORK	21	GRF	1010.4	1013.1	16.9	1.0			
	808	ONDR	41	F	1017.1	1024.0	9.0	33.0			
	650	GORK	4	S/F	1017.5	1024.1	7.6	35.0			
	950	GORK	46	C	1017.7	1021.4	7.3	25.0			
	950	GORK	46	C	1017.7	1023.5		35.0			
	1470	POTS	40	F	1017.8	1021.8	9.7	35.0			
	245	SVTO	49	GB	1018.0E	1023.0	7.0D	1000.0			QL=4 ST=2 TYP=7
	430	KRAK	46	C	1018.5	1023.5	7.0	101.0	25.0		
	200	GORK	46	C	1018.6	1021.2	6.5	240.0			
	200	GORK	46	C	1018.6	1023.8		1180.0			
	410	SGMR	8	S	1019.0E	1019.0	U	100.0			QL=2 ST=2 TYP=3
	410	SVTO	4	S/F	1019.0E	1019.0	5.0D	90.0			QL=4 ST=2 TYP=3
	810	KRAK	42	SER	1020.3	1024.2		25.0			
	810	KRAK	42	SER	1020.3	1021.8	4.5	25.0			
	204	IZMI	42	SER	1031.0	1043.5	50.0	8000.0			
	430	KRAK	8	S	1032.0	1032.3	0.7	65.0			
	200	GORK	41	F	1034.0	1043.0		3620.0			
	245	SVTO	49	GB	1034.0E	1043.0	22.0D	1900.0			QL=4 ST=2 TYP=7
	200	GORK	41	F	1034.0	1113.7		570.0			
	200	GORK	41	F	1034.0	1039.9	47.0	980.0			
	245	SGMR	49	GB	1035.0E	1043.0	20.0D	1700.0			QL=2 ST=2 TYP=7

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Outstanding Occurrences

JUNE 1990

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	245	SVTO	8	S	1101.0E	1101.0	1.0D	58.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1107.0E	1108.0	1.0D	150.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1107.0E	1108.0	1.0D	150.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1113.0E	1113.0	U	90.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1113.0E	1113.0	2.0D	92.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	1129.0	1142.5	20.0	1500.0			
	200	GORK	46	C	1134.8	1140.1	10.2	220.0			
	200	GORK	46	C	1134.8	1141.9		740.0			
	127	TORN	47	GB	1138.8	1142.0	4.0	1200.0	150.0		
	245	SGMR	8	S	1140.0E	1141.0	2.0D	250.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	2154.0E	2154.0	U	320.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2154.0E	2154.0	U	350.0			QL=4 ST=2 TYP=3
	200	HIRA	45	C	2354.5	2355.2	1.1	80.0			O
	100	HIRA	46	C	2354.6	2355.4	1.5	870.0			
	245	PALE	8	S	2355.0E	2356.0	1.0D	52.0			QL=4 ST=2 TYP=3
06	100	HIRA	46	C	0144.9	0145.7	1.5	380.0			
	200	HIRA	46	C	0144.9	0144.9	1.3	230.0			O
	245	LEAR	8	S	0145.0E	0146.0	1.0D	77.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0156.0E	0156.0	U	470.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0156.0E	0156.0	U	65.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0455.0E	0455.0	U	52.0			QL=4 ST=2 TYP=3
	9100	GORK	20	GRF	0500.0	0527.0	75.0	12.0			
	260	ONDR	41	F	0500.0E	1316.5	520.0D	34.0			
	536	ONDR	41	F	0635.0	1206.2	350.0	19.0			
	245	LEAR	8	S	0721.0E	0721.0	2.0D	56.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0722.0E	0722.0	U	57.0			QL=4 ST=2 TYP=3
	204	IZMI	5	S	0840.0	0840.5	0.7	13.0	7.0		
	650	GORK	22	GRF	1134.0	1140.4	17.8	8.0			
	2800	OTTA	3	S	1223.6	1223.9	2.1	20.4	4.0		
	2800	OTTA	22	GRF	1308.0	1359.0	130.0	3.8	2.0		
	5900	KISV	2	S/F	1327.0	1327.9	8.4	7.0			
	9300	KISV	2	S/F	1327.1	1327.9	4.6	7.0			
	2800	OTTA	3	S	1349.1	1349.5	2.3	20.7	4.0		
	536	ONDR	8	S	1415.2	1415.4	0.5	27.0			
	536	ONDR	8	S	1514.1	1514.4	1.7	32.0			
	2800	OTTA	20	GRF	1558.0	1607.0	59.0	32.3	13.0		
	245	SGMR	8	S	1656.0E	1656.0	1.0D	150.0			QL=4 ST=2 TYP=3
	2800	OTTA	4	S/F	1859.0	1906.0	23.5	373.0	75.0		
	2800	OTTA	29	PBI	1920.0	1950.0	345.0	48.6	24.0		
	2800	OTTA	4	S/F	2031.8	2036.4	6.2	7.7	1.0		
	500	HIRA	4	S/F	2032.3	2035.9	4.8	20.0			O
07	127	TORN	43	NS	1430.0		30.0D		10.0D		V=1
	245	LEAR	8	S	0004.0E	0004.0	U	56.0			QL=4 ST=2 TYP=3
	500	HIRA	27	RF	0249.5	0259.0	30.0	3.0	1.0		O
	950	GORK	22	GRF	0308.3E	0315.0	9.7D	5.0			
	650	GORK	22	GRF	0308.3E	0316.5	10.7D	6.0			
	2950	GORK	21	GRF	0429.8	0551.7	112.6	8.0			
	260	ONDR	41	F	0500.0E	0636.9	450.0D	128.0			
	2840	PEKG	1	S	0503.0	0507.7	8.0	18.2			
	9100	GORK	1	S	0504.7	0508.1	6.1	6.0			
	5900	KISV	22	GRF	0505.3	0508.4	26.2	11.0			
	2850	CRIM	29	PBI	0505.5	0510.0	20.0	4.0	1.0		
	2850	CRIM	42	SER	0505.5	0508.6	4.5	21.0	7.0		
	2950	GORK	2	S/F	0508.1	0508.4	1.0	5.0			
	5900	KISV	22	GRF	0548.4	0551.7	29.6	8.0			
	950	GORK	22	GRF	0549.3	0551.8	8.7	7.0			
	650	GORK	22	GRF	0551.0	0555.0	6.5	7.0			
	808	ONDR	3	S	0603.8	0604.1	3.0	4.0			
	536	ONDR	41	F	0630.0	0825.2	120.0	21.0			
	204	IZMI	5	S	0636.0	0636.2	0.3	21.0	10.0		
	9300	KISV	22	GRF	0804.7	0808.3	79.3	14.0			
	650	GORK	2	S/F	0805.1	0806.4	2.3	4.0			
	950	GORK	2	S/F	0805.4	0806.1	1.6	4.0			
	650	GORK	23	GRF	0823.3	0829.2	6.7	4.0			
	650	GORK	2	S/F	0824.1	0824.6	1.0	7.0			
	950	GORK	2	S/F	0827.8	0829.1	2.2	3.0			
	127	TORN	40	F	0830.0		17.0		10.0		

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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	204	IZMI	8	S	0959.7	0959.8	0.2	75.0	70.0		
	204	IZMI	5	S	1000.3	1000.4	0.3	20.0	10.0		
	536	ONDR	8	S	1130.4	1130.7	0.6	39.0			
	808	ONDR	42	SER	1131.0	1131.4	2.0	7.0			
┌	2850	CRIM	8	S	1223.5	1224.9	1.4	33.0	5.0		
├	5900	KISV	2	S/F	1223.6	1224.0	2.5	4.0			
├	410	SGMR	8	S	1224.0E	1224.0	U	68.0			QL=4 ST=2 TYP=3
└	410	SVTO	8	S	1224.0E	1224.0	U	89.0			QL=4 ST=2 TYP=3
	536	ONDR	8	S	1347.0	1347.3	1.0	56.0			
	5900	KISV	2	S/F	1348.9	1349.3	1.2	5.0			
	9400	HUAN	23	GRF	1847.4	1950.0	122.5	65.4	32.2		
┌	9400	HUAN	45	C	1859.7	1910.5	21.0	522.7	136.4		
├	2695	SGMR	4	S/F	1900.0E	1906.0	22.0D	450.0			QL=4 ST=2 TYP=3
├	4995	SGMR	49	GB	1900.0E	1910.0	22.0D	870.0			QL=4 ST=2 TYP=7
├	8800	SGMR	49	GB	1901.0E	1910.0	21.0D	580.0			QL=4 ST=2 TYP=7
├	1415	SGMR	4	S/F	1902.0E	1911.0	298.0D	93.0			QL=4 ST=1 TYP=5
├	15400	SGMR	20	GRF	1903.0E	1910.0	15.0D	260.0			QL=4 ST=2 TYP=2
├	610	PALE	4	S/F	1906.0E	1906.0	3.0D	38.0			QL=2 ST=2 TYP=3
├	1415	PALE	4	S/F	1906.0E	1911.0	8.0D	79.0			QL=2 ST=2 TYP=5
├	8800	PALE	4	S/F	1906.0E	1910.0	12.0D	440.0			QL=2 ST=2 TYP=5
├	4995	PALE	49	GB	1906.0E	1910.0	16.0D	760.0			QL=2 ST=2 TYP=7
├	2695	PALE	4	S/F	1906.0E	1910.0	23.0D	370.0			QL=2 ST=2 TYP=5
├	15400	PALE	4	S/F	1906.0E	1910.0	27.0D	420.0			QL=2 ST=2 TYP=5
├	245	SGMR	20	GRF	1907.0E	1913.0	12.0D	55.0			QL=4 ST=2 TYP=2
├	410	PALE	8	S	1909.0E	1910.0	1.0D	35.0			QL=2 ST=2 TYP=3
└	245	PALE	20	GRF	1910.0E	1916.0	8.0D	60.0			QL=2 ST=2 TYP=2
	200	HIRA	24	R	1930.0E	2021.0	630.0D	21.0	7.0		MR
┌	1415	SGMR	49	GB	1938.0E	1950.0	20.0D	2400.0			QL=4 ST=2 TYP=7
└	610	SGMR	4	S/F	1945.0E	1949.0	6.0D	54.0			QL=4 ST=2 TYP=3
08	200	GORK	44	NS	0246.0E		546.0D		5.0		
┌	260	ONDR	43	NS	0500.0	1554.2	660.0	569.0			
├	204	IZMI	43	NS	0600.0		360.0	10.0			
└	430	KRAK	43	NS	0829.0	0903.8	113.0	27.0	1.0		
┌	245	LEAR	4	S/F	0136.0E	0137.0	4.0D	460.0			QL=4 ST=2 TYP=3
└	245	PALE	49	GB	0137.0E	0137.0	U	500.0			QL=4 ST=2 TYP=6
	245	LEAR	8	S	0232.0E	0232.0	1.0D	110.0			QL=4 ST=2 TYP=3
┌	245	LEAR	49	GB	0407.0E	0407.0	1.0D	590.0			QL=4 ST=2 TYP=6
├	245	SVTO	49	GB	0407.0E	0407.0	1.0D	670.0			QL=4 ST=2 TYP=6
└	5900	KISV	2	S/F	0407.4	0407.8	1.9	10.0			
	2950	GORK	20	GRF	0654.9	0700.0	26.1	3.0			
	2850	CRIM	8	S	0706.2	0706.4	0.8	25.0	8.0		
┌	245	LEAR	4	S/F	0708.0E	0708.0	3.0D	110.0			QL=4 ST=2 TYP=3
├	245	SVTO	8	S	0708.0E	0709.0	1.0D	96.0			QL=4 ST=2 TYP=3
└	234	POTS	8	S	0708.1	0708.4	1.0	100.0			
	2850	CRIM	47	GB	0716.2	0717.3	4.3	818.0	270.0		
	2850	CRIM	29	PBI	0716.2	0720.6	169.4	30.0	10.0		
┌	245	LEAR	8	S	0733.0E	0734.0	1.0D	89.0			QL=4 ST=2 TYP=3
└	245	SVTO	8	S	0733.0E	0734.0	1.0D	88.0			QL=4 ST=2 TYP=3
	204	IZMI	5	S	0819.0	0819.4	4.0	55.0	28.0		
	204	IZMI	41	F	1016.4	1016.5	11.0	520.0			
	245	SVTO	8	S	1117.0E	1117.0	U	79.0			QL=4 ST=2 TYP=3
┌	536	ONDR	41	F	1143.1	1158.5	100.0	13.0			
├	1470	POTS	4	S/F	1156.0	1157.0	6.0	15.0			
├	2850	CRIM	1	S	1156.0	1158.5	7.0	13.3	4.0		
├	808	ONDR	45	C	1156.4	1158.0	4.0	44.0			
├	3000	POTS	4	S/F	1156.5	1158.4	5.5	14.0			
└	5900	KISV	2	S/F	1158.1	1158.6	1.6	5.0			
	430	KRAK	8	S	1240.7	1240.7	0.1	26.0			
	9500	POTS	20	GRF	1310.0	1326.0	65.0	11.0			
	9400	HUAN	20	GRF	1315.7	1337.0	53.1	8.3	3.6		
	536	ONDR	42	SER	1420.0	1554.7	100.0	148.0			
	2800	OTTA	20	GRF	1456.0	1536.0	120.0	13.9	6.0		
┌	245	SGMR	8	S	1527.0E	1527.0	U	91.0			QL=4 ST=2 TYP=3
└	245	SVTO	8	S	1527.0E	1528.0	1.0D	120.0			QL=4 ST=2 TYP=3
┌	245	SVTO	8	S	1553.0E	1554.0	2.0D	260.0			QL=4 ST=2 TYP=3
├	245	SGMR	8	S	1554.0E	1554.0	U	240.0			QL=4 ST=2 TYP=3
├	410	SGMR	8	S	1554.0E	1554.0	U	80.0			QL=4 ST=2 TYP=3
├	610	SGMR	8	S	1554.0E	1554.0	U	33.0			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
08	410	SVTO	8	S	1554.0E	1554.0	U	71.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1621.0E	1621.0	U	350.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1806.0E	1807.0	1.0D	50.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1811.0E	1811.0	U	56.0			QL=4 ST=2 TYP=3
09	260	ONDR	43	NS	0500.0	1339.9	560.0	628.0			
	204	IZMI	43	NS	0600.0		360.0	15.0			
	430	KRAK	44	NS	0705.0E	0906.1	355.0D	48.0	1.0		
	127	TORN	43	NS	0906.0	1144.6	354.0	200.0	1.0		V=1
	200	HIRA	44	NS	1930.0E		840.0D		24.0		
	245	SGMR	44	NS	1955.0E	1955.0	19.0D	65.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0021.0E	0021.0	U	52.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0053.0E	0053.0	U	75.0			QL=4 ST=2 TYP=3
	536	ONDR	41	F	0640.0	1044.4	355.0	33.0			
	200	HIRA	42	SER	0652.8	0708.6	34.3	45.0			MR
	950	GORK	2	S/F	0707.9	0708.5	1.4	12.0			
	808	ONDR	3	S	0708.0	0708.6	2.0	7.0			
	9100	GORK	1	S	0729.2	0729.5	2.1	5.0			
	5900	KISV	2	S/F	0729.3	0729.6	1.5	2.0			
	9300	KISV	2	S/F	0729.3	0729.9	2.7	5.0			
	204	IZMI	42	SER	1010.0	1011.0	3.0	87.0			
	8800	SVTO	4	S/F	1054.0E	1057.0	786.0D	57.0			QL=4 ST=1 TYP=5
	204	IZMI	42	SER	1118.0	1138.0	21.0	100.0			
	33	UPIC	4	S/F	1118.0	1118.3	1.0				
	1470	POTS	1	S	1211.0	1212.0	2.0	3.0			
	245	SGMR	8	S	1211.0E	1211.0	U	120.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1211.0E	1211.0	1.0D	120.0			QL=4 ST=2 TYP=3
	536	ONDR	42	SER	1301.2	1337.0	44.0	132.0			
	610	SGMR	8	S	1336.0E	1336.0	1.0D	91.0			QL=4 ST=2 TYP=3
	600	HUMN	1	S	1336.0	1336.4	0.8	22.0	10.0		
	2800	OTTA	4	S/F	1336.2	1336.8	1.2	6.8	1.0		
	5900	KISV	45	C	1336.4	1339.8		12.0			
	5900	KISV	45	C	1336.4	1336.9	6.1	16.0			
	9500	POTS	1	S	1336.5	1337.0	2.0	4.0			
	30	POTS	42	SER	1338.2	1339.6	8.4	6000.0D			
	33	UPIC	46	C	1338.6		3.4				
	2800	OTTA	4	S/F	1339.0	1339.8	2.5	51.7	10.0		
	600	HUMN	2	S/F	1339.0	1340.0	1.5	20.0	7.0		
	2695	SGMR	8	S	1339.0E	1339.0	1.0D	48.0			QL=4 ST=3 TYP=3
	245	SGMR	49	GB	1339.0E	1339.0	1.0D	530.0			QL=4 ST=3 TYP=6
	410	SGMR	8	S	1339.0E	1339.0	1.0D	53.0			QL=4 ST=3 TYP=3
	610	SGMR	8	S	1339.0E	1339.0	1.0D	50.0			QL=4 ST=3 TYP=3
	127	TORN	47	GB	1339.0	1340.0	2.4	2100.0	1000.0		
	410	SVTO	4	S/F	1339.0E	1339.0	621.0D	62.0			QL=4 ST=1 TYP=3
	3000	POTS	3	S	1339.0	1339.6	1.5	34.0			
	234	POTS	42	SER	1339.0	1339.6	10.1	550.0			
	1470	POTS	3	S	1339.0	1339.7	3.0	13.0			
	808	ONDR	3	S	1339.7	1340.1	2.0	25.0			
	245	SGMR	8	S	1344.0E	1345.0	1.0D	170.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1344.0E	1345.0	1.0D	200.0			QL=4 ST=2 TYP=3
	9500	POTS	45	C	1411.5	1420.0	34.0D	129.0			
	2800	OTTA	4	S/F	1411.7	1420.1	17.0	75.5	22.0		
	4995	SGMR	4	S/F	1412.0E	1413.0	14.0D	220.0			QL=4 ST=2 TYP=5
	4995	SVTO	4	S/F	1412.0E	1413.0	11.0D	220.0			QL=4 ST=2 TYP=5
	3000	POTS	45	C	1412.0	1415.0	33.0D	81.0			
	3200	BERN	46	C	1412.6	1413.8	13.0	8.1			
	19600	BERN	46	C	1412.6	1413.8	13.0	9.6			
	11800	BERN	46	C	1412.6	1413.8	13.0	13.7			
	8400	BERN	46	C	1412.6	1413.8	13.0	18.8			
	5200	BERN	46	C	1412.6	1413.8	13.0	19.3			
	9400	HUAN	4	S/F	1412.7	1420.2		105.0			
	9400	HUAN	4	S/F	1412.7	1413.9	10.0	106.1	64.8		
	15400	SVTO	4	S/F	1413.0E	1420.0	9.0D	130.0			QL=4 ST=2 TYP=5
	8800	SVTO	4	S/F	1413.0E	1413.0	9.0D	160.0			QL=4 ST=2 TYP=5
	2695	SGMR	20	GRF	1413.0E	1420.0	12.0D	70.0			QL=4 ST=2 TYP=2
	8800	SGMR	4	S/F	1413.0E	1413.0	14.0D	170.0			QL=4 ST=2 TYP=5
	15400	SGMR	4	S/F	1413.0E	1420.0	14.0D	140.0			QL=2 ST=2 TYP=5
	2695	SVTO	20	GRF	1413.0E	1420.0	10.0D	79.0			QL=2 ST=2 TYP=2
	1470	POTS	20	GRF	1413.0	1422.0	32.0D	10.0			

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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
09	9400	HUAN	29	PBI	1422.7	1422.7	45.9	24.3	10.6		
	33	UPIC	42	SER	1445.5	1446.0	17.7				
	33	UPIC	42	SER	1559.5	1601.0	3.5				
	245	SVTO	8	S	1600.0E	1601.0	2.0D	70.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1601.0E	1601.0	1.0D	63.0			QL=4 ST=2 TYP=3
	4995	PALE	49	GB	1644.0E	1648.0	15.0D	1700.0			QL=4 ST=2 TYP=6
	8800	PALE	49	GB	1645.0E	1648.0	7.0D	1400.0			QL=4 ST=2 TYP=6
	245	PALE	49	GB	1645.0E	1648.0	7.0D	8100.0			QL=4 ST=2 TYP=6
	245	SGMR	49	GB	1645.0E	1648.0	7.0D	5700.0			QL=4 ST=2 TYP=6
	245	SVTO	49	GB	1645.0E	1648.0	7.0D	6400.0			QL=4 ST=2 TYP=6
	600	HUMN	46	C	1645.3	1647.9	19.9	533.0	35.0		
	2800	OTTA	4	S/F	1645.5	1648.1	18.2	456.0	91.0		
	610	PALE	49	GB	1646.0E	1648.0	5.0D	2000.0			QL=4 ST=2 TYP=6
	2695	PALE	49	GB	1646.0E	1648.0	6.0D	530.0			QL=4 ST=2 TYP=6
	410	PALE	49	GB	1646.0E	1648.0	5.0D	1800.0			QL=4 ST=2 TYP=6
	2695	SGMR	4	S/F	1646.0E	1648.0	5.0D	500.0			QL=4 ST=2 TYP=3
	410	SGMR	49	GB	1646.0E	1648.0	7.0D	2300.0			QL=4 ST=2 TYP=6
	610	SGMR	49	GB	1646.0E	1648.0	7.0D	2200.0			QL=4 ST=2 TYP=6
	410	SVTO	49	GB	1646.0E	1648.0	7.0D	1600.0			QL=4 ST=2 TYP=6
	33	UPIC	46	C	1646.2		6.0				
	9400	HUAN	45	C	1646.4	1647.8	4.9	398.0	54.2		
	11800	BERN	47	GB	1647.0	1648.0	2.5	111.3			
	3200	BERN	47	GB	1647.0	1648.0	2.5	53.1			
	19600	BERN	47	GB	1647.0	1648.0	2.5	45.5			
	8400	BERN	47	GB	1647.0	1648.0	2.5	154.3			
	5200	BERN	47	GB	1647.0	1648.0	2.5	149.2			
	1415	PALE	4	S/F	1647.0E	1648.0	5.0D	220.0			QL=4 ST=2 TYP=3
	4995	SGMR	49	GB	1647.0E	1648.0	3.0D	1600.0			QL=4 ST=2 TYP=6
	1415	SGMR	4	S/F	1647.0E	1648.0	3.0D	190.0			QL=4 ST=2 TYP=3
	15400	SGMR	49	GB	1647.0E	1648.0	3.0D	690.0			QL=2 ST=2 TYP=6
	8800	SGMR	49	GB	1647.0E	1648.0	3.0D	1500.0			QL=4 ST=2 TYP=6
	1415	SVTO	4	S/F	1647.0E	1648.0	3.0D	180.0			QL=4 ST=2 TYP=3
	4995	SVTO	49	GB	1647.0E	1648.0	4.0D	1600.0			QL=4 ST=2 TYP=6
	610	SVTO	49	GB	1647.0E	1648.0	3.0D	2200.0			QL=2 ST=2 TYP=6
	2695	SVTO	49	GB	1647.0E	1648.0	4.0D	620.0			QL=2 ST=2 TYP=6
	9400	HUAN	29	PBI	1651.3	1651.3	32.6	11.0	3.8		
	410	SGMR	4	S/F	1656.0E	1656.0	5.0D	52.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	1656.0E	1656.0	5.0D	51.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1656.0E	1656.0	5.0D	35.0			QL=4 ST=2 TYP=3
	610	SGMR	4	S/F	1656.0E	1659.0	3.0D	49.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1821.0E	1821.0	U	74.0			QL=4 ST=2 TYP=3
	200	HIRA	42	SER	1954.0	2023.1	47.5	250.0			SR
	2800	OTTA	4	S/F	2006.7	2008.8	8.0	36.9	8.0		
	245	PALE	8	S	2126.0E	2126.0	U	68.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2153.0E	2155.0	4.0D	130.0			QL=4 ST=2 TYP=3
	15400	SGMR	8	S	2154.0E	2154.0	1.0D	140.0			QL=4 ST=2 TYP=3
	35000	NOBE	7	C	2154.2	2154.7	1.5	112.0			9L,80GHz:0
	17000	NOBE	7	C	2154.2	2154.7	2.0	116.0			17L
	245	SGMR	8	S	2209.0E	2210.0	1.0D	63.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2221.0E	2221.0	U	63.0			QL=4 ST=3 TYP=3
	245	LEAR	8	S	2342.0E	2342.0	2.0D	70.0			QL=2 ST=2 TYP=3
10	245	LEAR	44	NS	0003.0E	0853.0	565.0D	550.0			QL=2 ST=2 TYP=1
	200	GORK	44	NS	0239.0E		420.0D		5.0		
	260	ONDR	44	NS	0500.0E		700.0D				
	234	POTS	44	NS	0530.0E	0854.2	550.0D	400.0			
	204	IZMI	43	NS	0600.0		360.0	70.0			
	127	TORN	43	NS	0630.0		510.0		730.0		V=1
	430	KRAK	43	NS	0716.2	0835.0		250.0D			
	430	KRAK	43	NS	0716.2	0847.3		250.0D			
	430	KRAK	43	NS	0716.2	0827.4	192.0	250.0D	34.0		
	30	POTS	44	NS	0720.0E	0922.0	350.0D	1600.0U			
	33	UPIC	43	NS	0721.6		484.2				
	410	LEAR	44	NS	0725.0E	0842.0	123.0D	130.0			QL=2 ST=2 TYP=1
	245	SVTO	44	NS	0726.0E	0854.0	629.0D	520.0			QL=2 ST=2 TYP=1
	536	ONDR	43	NS	0727.0	0825.8	120.0	252.0			
	245	SGMR	44	NS	0929.0E	1546.0	866.0D	280.0			QL=2 ST=2 TYP=1
	100	HIRA	44	NS	1930.0E		840.0D		20.0		
	200	HIRA	44	NS	1930.0E		840.0D		35.0		

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

JUNE 1990

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
10	245	PALE	44	NS	2127.0E	2157.0	93.0D	270.0			QL=4 ST=2 TYP=1
	245	LEAR	44	NS	2317.0E	0242.0	435.0D	91.0			QL=2 ST=2 TYP=1
	245	PALE	8	S	0002.0E	0003.0	1.0D	92.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0209.0E	0209.0	U	120.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0412.0E	0413.0	4.0D	11.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0413.0E	0413.0	U	120.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0413.0E	0413.0	U	130.0			QL=4 ST=2 TYP=3
	15400	SVTO	20	GRF	0417.0E	0430.0	14.0D	65.0			QL=4 ST=2 TYP=2
	245	PALE	4	S/F	0421.0E	0423.0	4.0D	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0423.0E	0423.0	U	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0440.0E	0441.0	2.0D	180.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0441.0E	0441.0	1.0D	190.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0445.0E	0445.0	1.0D	95.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0445.0E	0445.0	1.0D	74.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0507.0E	0508.0	1.0D	76.0			QL=4 ST=3 TYP=3
	245	SVTO	4	S/F	0528.0E	0531.0	5.0D	290.0			QL=4 ST=2 TYP=3
	2840	PEKG	5	S	0531.0	0531.8	5.0	24.7			
	245	SVTO	8	S	0536.0E	0537.0	1.0D	110.0			QL=4 ST=3 TYP=3
	245	SVTO	8	S	0544.0E	0545.0	1.0D	84.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0600.0E	0600.0	U	89.0			QL=4 ST=2 TYP=3
	5900	KISV	22	GRF	0601.5	0605.7	11.1	8.0			
	245	SVTO	8	S	0604.0E	0604.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0618.0E	0619.0	1.0D	89.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0637.0E	0638.0	2.0D	110.0			QL=4 ST=2 TYP=3
	9300	KISV	2	S/F	0656.0	0657.0	1.9	5.0			
	5900	KISV	2	S/F	0656.2	0657.0	4.6	7.0			
	9100	GORK	23	GRF	0705.5	0726.6	60.5	25.0			
	15400	SVTO	8	S	0706.0E	0706.0	1.0D	66.0			QL=4 ST=3 TYP=3
	5900	KISV	1	S	0706.0	0706.3	1.4	20.0			
	17000	NOBE	28	PRE	0706.0	0706.3	10.1	53.0			27L
	3000	POTS	3	S	0706.0	0706.4	2.0	19.0			
	2950	GORK	1	S	0706.2	0706.3	0.9	15.0			
	650	GORK	3	S	0706.2	0706.3	3.7	6.0			
	9100	GORK	2	S/F	0706.2	0706.3	0.4	15.0			
	9300	KISV	1	S	0706.2	0706.3	0.4	17.0			
	15000	KISV	3	S	0706.2	0706.3	0.7	66.0			
	3013	IZMI	5	S	0706.2	0706.4	1.5	16.0	8.0		
	1470	POTS	3	S	0706.2	0706.4	2.8	20.0			
	950	GORK	3	S	0706.2	0706.5	3.7	11.0			
	9500	POTS	8	S	0706.3	0706.4	0.9	19.0			
	245	LEAR	8	S	0707.0E	0707.0	U	140.0			QL=2 ST=2 TYP=3
	9300	KISV	2	S/F	0709.3	0710.9	3.0	13.0			
	9100	GORK	2	S/F	0710.2	0711.0	1.8	10.0			
	15000	KISV	2	S/F	0710.3	0711.0	2.1	33.0			
	5900	KISV	2	S/F	0710.4	0711.0	1.3	4.0			
	3013	IZMI	5	S	0710.9	0711.0	0.5	13.0	6.0		
	9300	KISV	47	GB	0713.9	0717.6	8.7	889.0			
	9300	KISV	29	PBI	0713.9	0722.6	27.6	26.0			
	5900	KISV	47	GB	0714.5	0717.2	8.3	685.0			
	5900	KISV	29	PBI	0714.5	0722.8	43.0	35.0			
	1470	POTS	45	C	0715.0	0718.0	9.3	285.0			
	8800	LEAR	49	GB	0715.0E	0717.0	14.0D	790.0			QL=4 ST=2 TYP=6
	15400	SVTO	49	GB	0715.0E	0717.0	24.0D	1600.0			QL=4 ST=2 TYP=6
	4995	LEAR	49	GB	0715.0E	0717.0	1005.0D	560.0			QL=4 ST=1 TYP=6
	9100	GORK	4	S/F	0715.0	0717.5	8.2	900.0			
	9500	POTS	45	C	0715.0	0717.6	9.0	830.0			
	3000	POTS	45	C	0715.5	0717.5	9.5	970.0			
	15000	KISV	47	GB	0715.7	0717.2	6.6	1891.0			
	950	GORK	23	GRF	0715.7	0722.2	30.2	7.0			
	650	GORK	23	GRF	0715.7	0909.6	143.3D	16.0			
	600	HUMN	46	C	0715.8	0825.8	130.5	403.0	18.0		
	2950	GORK	21	GRF	0715.9	0731.6	143.1D	18.0			
	610	LEAR	4	S/F	0716.0E	0718.0	4.0D	78.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0716.0E	0719.0	7.0D	93.0			QL=4 ST=2 TYP=5
	1415	LEAR	4	S/F	0716.0E	0718.0	5.0D	370.0			QL=4 ST=2 TYP=3
	15400	LEAR	49	GB	0716.0E	0717.0	5.0D	1400.0			QL=4 ST=2 TYP=6
	4995	SVTO	4	S/F	0716.0E	0717.0	4.0D	490.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	0716.0E	0718.0	5.0D	350.0			QL=4 ST=2 TYP=3
	2695	LEAR	49	GB	0716.0E	0717.0	10.0D	540.0			QL=4 ST=2 TYP=6

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

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JUNE 1990

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
10	2840	PEKG	47	GB	0716.0	0717.6	34.0	608.0			
	3013	IZMI	45	C	0716.0	0717.8	9.0	450.0	250.0		
	17000	NOBE	29	PBI	0716.1	0721.0	30.0	38.0			O
	80000	NOBE	7	C	0716.1	0717.2	5.0	210.0			
	17000	NOBE	45	C	0716.1	0717.2	4.9	1300.0			15L
	35000	NOBE	7	C	0716.1	0717.2	6.0	980.0			7L
	500	HIRA	46	C	0716.1	0719.5		71.0			MR
	500	HIRA	46	C	0716.1	0828.5	127.0D	351.0	36.0		SR SUNSET
	35000	BERN	47	GB	0716.3	0717.1	4.0	97.8			
	19600	BERN	47	GB	0716.3	0717.1	4.0	122.9			
	11800	BERN	47	GB	0716.3	0717.1	4.0	125.5			
	8400	BERN	47	GB	0716.3	0717.1	4.0	77.8			
	5200	BERN	47	GB	0716.3	0717.1	4.0	47.6			
	3200	BERN	47	GB	0716.3	0717.1	4.0	42.6			
	810	KRAK	3	S	0716.3	0718.8	6.5	66.0	24.0		
	2950	GORK	4	S/F	0716.4	0717.0U	5.2	160.0D			
	950	GORK	46	C	0716.4	0718.3		120.0			
	950	GORK	46	C	0716.4	0716.7	5.8	110.0			
	650	GORK	4	S/F	0716.4	0718.8	5.8	70.0			
	245	LEAR	4	S/F	0717.0E	0730.0	14.0D	140.0			QL=2 ST=2 TYP=5
	410	SVTO	8	S	0719.0E	0719.0	U	120.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0719.0E	0720.0	3.0D	110.0			QL=4 ST=2 TYP=3
	200	HIRA	48	C	0720.8	0731.0		240.0			MR
	200	HIRA	48	C	0720.8	0853.5	145.0D	530.0	290.0		SR SUNSET
	1470	POTS	40	F	0725.0	0728.0	5.0	13.0			
	808	ONDR	41	F	0726.0	0823.7	100.0	44.0			
	100	HIRA	48	C	0726.4	0840.0		730.0			
	100	HIRA	48	C	0726.4	0923.0	139.0D	920.0	460.0		SUNSET
	650	GORK	46	C	0726.6	0727.2	5.9	20.0			
	950	GORK	46	C	0726.6	0727.2	3.2	20.0			
	950	GORK	46	C	0726.6	0729.5		20.0			
	650	GORK	46	C	0726.6	0729.5		24.0			
	950	GORK	46	C	0726.6	0727.9		28.0			
	650	GORK	46	C	0726.6	0727.9		24.0			
	245	LEAR	8	S	0729.0E	0731.0	2.0D	340.0			QL=2 ST=2 TYP=3
	245	SVTO	49	GB	0738.0E	0738.0	9.0D	520.0			QL=4 ST=2 TYP=7
	245	SVTO	8	S	0749.0E	0749.0	1.0D	230.0			QL=4 ST=3 TYP=3
	950	GORK	2	S/F	0753.2	0754.3	3.5	6.0			
	204	IZMI	25	R	0805.0		230.0	270.0			
	950	GORK	23	GRF	0815.2	0829.2	64.9	4.0			
	650	GORK	46	C	0815.3	0823.5		140.0			
	650	GORK	46	C	0815.3	0822.5	14.2	120.0			
	810	KRAK	42	SER	0815.8	0823.5	46.5	55.0			
	950	GORK	46	C	0817.8	0823.8		55.0			
	950	GORK	46	C	0817.8	0826.9		30.0			
	950	GORK	46	C	0817.8	0819.9	11.4	24.0			
	1470	POTS	40	F	0821.0	0828.0	10.0	20.0			
	610	LEAR	49	GB	0822.0E	0826.0	6.0D	1100.0			QL=4 ST=2 TYP=6
	610	SVTO	49	GB	0823.0E	0825.0	4.0D	750.0			QL=4 ST=3 TYP=6
	9100	GORK	20	GRF	0824.0	0939.0U	75.0D	12.0			
	950	GORK	4	S/F	0833.1	0834.5	3.4	10.0			
	650	GORK	4	S/F	0833.3	0834.4	2.4	85.0			
	650	GORK	41	F	0840.3	0845.0	22.0	50.0			
	950	GORK	41	F	0840.3	0845.3	15.1	6.0			
	650	GORK	41	F	0840.3	0854.4		80.0			
	650	GORK	41	F	0840.3	0849.5		95.0			
	650	GORK	41	F	0840.3	0847.6		70.0			
	650	GORK	41	F	0840.3	0851.6		85.0			
	650	GORK	41	F	0840.3	0901.6		55.0			
	950	GORK	41	F	0840.3	0847.7		13.0			
	950	GORK	41	F	0840.3	0853.9		20.0			
	1470	POTS	4	S/F	0846.0	0847.1	4.0	15.0			
	610	LEAR	8	S	0849.0E	0849.0	U	80.0			QL=4 ST=2 TYP=3
	536	ONDR	41	F	0947.5	1211.7	170.0	14.0			
	5900	KISV	22	GRF	1055.2	1056.9	12.1	13.0			
	9300	KISV	2	S/F	1056.6	1056.9	1.2	9.0			
	3000	POTS	4	S/F	1125.0	1127.8	4.5	18.0			
	5900	KISV	2	S/F	1127.3	1127.8	1.4	5.0			
	430	KRAK	8	S	1228.3	1228.5	1.0	154.0			

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JUNE 1990

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
10	9500	POTS	3	S	1332.0	1334.9	6.0	14.0			
	234	POTS	42	SER	1332.5	1335.2	17.5	750.0			
	3000	POTS	3	S	1333.0U	1335.2	6.0U	13.0			
	1470	POTS	3	S	1333.0	1335.4	7.0	11.0			
	600	HUMN	2	S/F	1333.0	1334.5	6.9	20.0	3.0		
	30	POTS	42	SER	1333.4	1336.6U	15.2	6000.0D			
	5900	KISV	23	GRF	1333.4	1334.8	19.6	27.0			
	410	SGMR	49	GB	1334.0E	1335.0	3.0D	1100.0			QL=4 ST=2 TYP=6
	410	SVTO	49	GB	1334.0E	1335.0	3.0D	700.0			QL=4 ST=2 TYP=6
	245	SVTO	49	GB	1334.0E	1335.0	4.0D	560.0			QL=2 ST=2 TYP=6
	9300	KISV	22	GRF	1334.0	1334.7	18.1	21.0			
	536	ONDR	48	C	1334.1	1335.8	17.0	101.0			
	2800	OTTA	22	GRF	1334.3	1336.0	20.0	10.6	5.0		
	245	SGMR	49	GB	1335.0E	1335.0	U	590.0			QL=2 ST=2 TYP=6
	600	HUMN	1	S	1344.8	1345.2	3.0	7.0	2.0		
	410	SVTO	4	S/F	1345.0E	1346.0	3.0D	90.0			QL=4 ST=3 TYP=3
	245	SVTO	8	S	1345.0E	1346.0	2.0D	61.0			QL=4 ST=3 TYP=3
	9400	HUAN	3	S	1426.2	1427.2	3.0	35.8	12.4		
	234	POTS	4	S/F	1426.6	1427.4	2.7	165.0			
	30	POTS	4	S/F	1426.7	1427.5	3.2	6000.0			
	245	SVTO	8	S	1427.0E	1427.0	U	190.0			QL=2 ST=2 TYP=3
	536	ONDR	49	GB	1427.0	1505.0	42.0	140.0			
	9500	POTS	3	S	1427.0	1427.4	2.0	26.0			
	2800	OTTA	22	GRF	1439.7	1445.0	70.0	10.1	5.0		
	600	HUMN	2	S/F	1441.2	1445.9	11.2	32.0	2.0		
	8400	BERN	4	S/F	1442.0	1445.0	6.0	0.9			
	5200	BERN	4	S/F	1442.0	1445.0	6.0	1.8			
	3200	BERN	4	S/F	1442.0	1445.0	6.0	0.9			
	127	TORN	47	GB	1442.0	1446.7	6.5	2700.0D	260.0D		
	410	SVTO	4	S/F	1443.0E	1446.0	3.0D	180.0			QL=4 ST=3 TYP=5
	245	SVTO	4	S/F	1443.0E	1446.0	4.0D	370.0			QL=2 ST=2 TYP=5
	245	SGMR	8	S	1446.0E	1446.0	U	340.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1446.0E	1446.0	U	260.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1446.0E	1446.0	U	61.0			QL=4 ST=2 TYP=3
	11800	BERN	46	C	1500.0	1505.5	5.5	29.7			
	8400	BERN	46	C	1500.0	1505.5	5.5	35.1			
	19600	BERN	46	C	1500.0	1505.5	5.5	10.8			
	3200	BERN	46	C	1500.0	1505.5	5.5	4.0			
	5200	BERN	46	C	1500.0	1505.5	5.5	24.3			
	600	HUMN	4	S/F	1500.0	1502.9	7.0	128.0	39.0		
	9400	HUAN	45	C	1500.9	1501.2	5.3	344.3	120.6		
	2800	OTTA	4	S/F	1501.0	1504.3	33.0	57.7	11.0		
	15400	SGMR	4	S/F	1501.0E	1501.0	4.0D	300.0			QL=2 ST=2 TYP=3
	2695	SGMR	4	S/F	1501.0E	1504.0	4.0D	48.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	1501.0E	1501.0	4.0D	210.0			QL=4 ST=2 TYP=3
	610	SGMR	49	GB	1501.0E	1504.0	4.0D	580.0			QL=4 ST=2 TYP=6
	245	SGMR	49	GB	1501.0E	1503.0	4.0D	1400.0			QL=2 ST=2 TYP=6
	8800	SGMR	4	S/F	1501.0E	1501.0	5.0D	450.0			QL=4 ST=2 TYP=3
	245	SVTO	49	GB	1501.0E	1503.0	4.0D	1500.0			QL=2 ST=2 TYP=6
	410	SVTO	4	S/F	1501.0E	1503.0	4.0D	260.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	1501.0E	1501.0	9.0D	330.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1501.0E	1501.0	9.0D	490.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1501.0E	1503.0	539.0D	69.0			QL=4 ST=1 TYP=3
	808	ONDR	45	C	1501.0	1504.4	28.0	97.0			
	610	SVTO	4	S/F	1502.0E	1504.0	3.0D	360.0			QL=2 ST=2 TYP=3
	1415	SGMR	8	S	1503.0E	1503.0	2.0D	39.0			QL=4 ST=2 TYP=3
	1415	SVTO	8	S	1503.0E	1503.0	1.0D	38.0			QL=4 ST=2 TYP=3
	9400	HUAN	30	PBI	1506.2	1506.2	48.5	23.9	9.8		
	245	SGMR	8	S	1524.0E	1524.0	2.0D	490.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1524.0E	1524.0	1.0D	480.0			QL=2 ST=2 TYP=3
	9400	HUAN	1	S	1530.6	1533.2	4.9	15.9	6.2		
	2800	OTTA	20	GRF	1603.0	1650.0	130.0	9.6	4.0		
	2800	OTTA	4	S/F	1621.3	1622.3	5.9	10.1	2.0		
	2800	OTTA	20	GRF	2035.0	2155.0	185.0	33.2	16.0		
	500	HIRA	42	SER	2109.5	2115.0	7.5	85.0			MR
	410	PALE	8	S	2113.0E	2113.0	U	84.0			QL=4 ST=2 TYP=3
	2800	OTTA	4	S/F	2113.3	2114.9	4.0	24.5	5.0		
	610	PALE	8	S	2114.0E	2115.0	1.0D	97.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2114.0E	2115.0	1.0D	93.0			QL=4 ST=3 TYP=3

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JUNE 1990

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
10	100	HIRA	46	C	2125.7	2146.9	59.0	470.0	110.0		
	500	HIRA	46	C	2127.0	2150.0	40.0	75.0	22.0		MR
	500	HIRA	29	PBI	2127.0	2214.5	65.0	28.0	6.0		MR
	410	SGMR	20	GRF	2128.0E	2150.0	26.0D	87.0			QL=4 ST=3 TYP=2
	200	HIRA	46	C	2136.6	2150.0	123.0	135.0	15.0		MR
	610	PALE	4	S/F	2143.0E	2145.0	3.0D	57.0			QL=4 ST=2 TYP=3
	410	PALE	20	GRF	2144.0E	2150.0	10.0D	88.0			QL=4 ST=2 TYP=2
	410	SGMR	20	GRF	2148.0E	2150.0	6.0D	87.0			QL=4 ST=2 TYP=2
	610	SGMR	8	S	2149.0E	2150.0	1.0D	39.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2150.0E	2151.0	1.0D	480.0			QL=2 ST=3 TYP=3
	1415	PALE	8	S	2235.0E	2235.0	2.0D	120.0			QL=2 ST=2 TYP=3
	1415	SGMR	8	S	2235.0E	2235.0	2.0D	170.0			QL=4 ST=2 TYP=3
11	200	GORK	44	NS	0253.0E		547.0D		5.0		
	100	GORK	44	NS	0253.0E		547.0D		5.0		
	260	ONDR	44	NS	0500.0E		700.0D				
	204	IZMI	43	NS	0600.0		360.0	30.0			
	127	TORN	43	NS	0627.0		513.0		110.0		V=1
	234	POTS	43	NS	0918.0	1114.0	344.0D	450.0			
	430	KRAK	44	NS	0930.0E	1219.7	215.5D	120.0	25.0		
	30	POTS	43	NS	0944.0	1157.0	236.0U	400.0U			
	33	UPIC	43	NS	1001.2	1205.7	319.8				
	245	SVTO	44	NS	1016.0E	1045.0	459.0D	300.0			QL=4 ST=2 TYP=1
	245	SGMR	44	NS	1016.0E	1205.0	820.0D	600.0			QL=2 ST=2 TYP=1
	410	SVTO	44	NS	1059.0E	1145.0	136.0D	180.0			QL=4 ST=3 TYP=1
	410	SVTO	44	NS	1159.0E	1145.0	76.0D	180.0			QL=4 ST=2 TYP=1
	200	HIRA	44	NS	1925.0E		840.0D		30.0		
	245	PALE	44	NS	2323.0E	2323.0	187.0D	110.0			QL=4 ST=2 TYP=1
	9100	GORK	23	GRF	0242.0E	1018.3	558.0D	18.0			
	5900	KISV	22	GRF	0435.7	0437.0	13.4	7.0			
	8800	LEAR	8	S	0504.0E	0505.0	1.0D	57.0			QL=4 ST=2 TYP=3
	5900	KISV	22	GRF	0553.5	0556.9	18.6	13.0			
	9300	KISV	22	GRF	0555.2	0557.0	15.9	20.0			
	5900	KISV	23	GRF	0927.7	1020.3	224.3	23.0			
	9300	KISV	23	GRF	0932.6	1026.4	95.3	25.0			
	245	SVTO	8	S	0936.0E	0936.0	U	65.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0940.0E	0940.0	U	87.0			QL=4 ST=2 TYP=3
	9300	KISV	47	GB	0941.2	0943.8	6.8	1682.0			
	5900	KISV	47	GB	0941.5	0943.5		1733.0			
	5900	KISV	47	GB	0941.5	0943.9	6.5	1745.0			
	4995	SVTO	49	GB	0942.0E	0944.0	7.0D	1300.0			QL=4 ST=2 TYP=6
	8800	SVTO	49	GB	0942.0E	0944.0	7.0D	1900.0			QL=4 ST=2 TYP=6
	2695	SVTO	49	GB	0942.0E	0943.0	7.0D	1200.0			QL=4 ST=2 TYP=6
	15400	SVTO	49	GB	0942.0E	0943.0	7.0D	1800.0			QL=4 ST=2 TYP=6
	9500	POTS	45	C	0942.0	0944.2	73.0	1500.0			
	9100	GORK	47	GB	0942.0	0943.5	9.6	1600.0			
	15000	KISV	4	S/F	0942.2	0943.3	5.8	228.0			
	3013	IZMI	5	S	0942.2	0943.8	12.0	820.0	400.0		
	3000	POTS	45	C	0942.5	0943.7	73.0	1700.0D			
	2950	GORK	4	S/F	0942.6	0943.9	8.4	1040.0			
	2850	CRIM	47	GB	0942.7	0944.0	6.3	1160.0	387.0		
	2850	CRIM	29	PBI	0942.7	0949.0	200.0D	36.0	12.0		
	5200	BERN	47	GB	0942.8	0943.5	2.5	105.6			
	8400	BERN	47	GB	0942.8	0943.5	2.5	150.4			
	19600	BERN	47	GB	0942.8	0943.5	2.5	115.2			
	11800	BERN	47	GB	0942.8	0943.5	2.5	160.0			
	3200	BERN	47	GB	0942.8	0943.5	2.5	57.6			
	35000	BERN	47	GB	0942.8	0943.5	2.5	51.2			
	410	SGMR	49	GB	0943.0E	0943.0	1.0D	1600.0			QL=2 ST=2 TYP=6
	1415	SVTO	4	S/F	0943.0E	0944.0	6.0D	320.0			QL=4 ST=2 TYP=3
	610	SVTO	4	S/F	0943.0E	0944.0	4.0D	120.0			QL=4 ST=2 TYP=3
	410	SVTO	49	GB	0943.0E	0943.0	2.0D	880.0			QL=4 ST=2 TYP=6
	1470	POTS	45	C	0943.0	0944.3	32.0	300.0			
	536	ONDR	42	SER	0943.1	0944.0	161.0	130.0			
	950	GORK	4	S/F	0943.2	0944.9	4.8	2600.0			
	650	GORK	4	S/F	0943.4	0944.3	5.0	105.0			
	808	ONDR	45	C	0943.5	0944.3	15.0	85.0			
	100	GORK	41	F	0943.6	1004.1		220.0			
	100	GORK	41	F	0943.6	0945.3	41.4	220.0			

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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
11	810	KRAK	45	C	0947.0E		13.8D				
	950	GORK	30	PBI	0948.0	0948.0	63.0D	34.0			
	650	GORK	30	PBI	0948.0	0948.0	77.5D	27.0			
	2950	GORK	30	PBI	0951.0	0951.0	129.0D	20.0			
	204	IZMI	25	R	0956.0		124.0	150.0			
	5900	KISV	1	S	0956.5	0956.7	0.8	13.0			
	650	GORK	4	S/F	0956.6	1001.1	9.4	340.0			
	950	GORK	46	C	0956.7	1001.0		9.0			
	950	GORK	46	C	0956.7	0958.6	9.3	9.0			
	610	SVTO	4	S/F	0958.0E	1000.0	3.0D	390.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	0959.0E	1000.0	1.0D	480.0			QL=2 ST=2 TYP=3
	200	GORK	41	F	1000.6	1027.3		330.0			
	200	GORK	41	F	1000.6	1005.3	27.7	330.0			
	410	SVTO	4	S/F	1002.0E	1004.0	3.0D	85.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1002.0E	1004.0	8.0D	110.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1003.0E	1004.0	2.0D	99.0			QL=2 ST=2 TYP=3
	410	SGMR	8	S	1003.0E	1003.0	1.0D	71.0			QL=2 ST=2 TYP=3
	610	SGMR	8	S	1004.0E	1004.0	U	51.0			QL=2 ST=2 TYP=3
	950	GORK	45	C	1007.2	1009.0	5.2	3.0			
	650	GORK	46	C	1007.2	1009.0	7.2	9.0			
	650	GORK	46	C	1007.2	1010.4		9.0			
	950	GORK	45	C	1007.2	1010.7		3.0			
	234	POTS	4	S/F	1025.2	1027.1	4.9	450.0			
	5900	KISV	2	S/F	1025.9	1026.4	1.5	9.0			
	245	SGMR	49	GB	1026.0E	1027.0	5.0D	630.0			QL=2 ST=2 TYP=6
	245	SVTO	49	GB	1026.0E	1027.0	4.0D	580.0			QL=2 ST=2 TYP=6
	2950	GORK	1	S	1026.3	1026.4	0.3	6.0			
	650	GORK	4	S/F	1058.4	1059.3	5.1	17.0			
	410	SGMR	8	S	1059.0E	1059.0	2.0D	160.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1113.0E	1113.0	U	230.0			QL=4 ST=2 TYP=3
	410	SVTO	49	GB	1113.0E	1113.0	U	880.0			QL=4 ST=2 TYP=6
	5900	KISV	2	S/F	1159.6	1200.3	4.1	9.0			
	234	POTS	4	S/F	1205.4	1205.4	0.6U	2000.0			
	30	POTS	8	S	1205.4	1205.8U	1.2	4000.0D			
	610	SVTO	49	GB	1209.0E	1209.0	1.0D	580.0			QL=2 ST=2 TYP=6
	410	SGMR	8	S	1231.0E	1231.0	U	130.0			QL=4 ST=2 TYP=3
	536	ONDR	42	SER	1322.0	1348.0	33.0	52.0			
	9400	HUAN	1	S	1341.0	1343.8	5.5	7.6	4.2		
	234	POTS	4	S/F	1351.4	1352.1	1.3	150.0D			
	30	POTS	4	S/F	1352.2	1352.3	0.4	1000.0U			
	410	PALE	4	S/F	1648.0E	1648.0	10.0D	170.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	1834.0E	1838.0	326.0D	42.0			QL=2 ST=1 TYP=3
	2800	OTTA	4	S/F	1847.8	1850.5	24.5	209.0	42.0		
	9400	HUAN	2	S/F	1848.9	1850.2	4.2	19.1	8.6		
	2695	SGMR	8	S	1849.0E	1850.0	2.0D	130.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1850.0E	1850.0	U	22.0			QL=2 ST=2 TYP=3
	4995	SGMR	8	S	1850.0E	1850.0	U	120.0			QL=4 ST=2 TYP=3
	1415	SGMR	8	S	1850.0E	1850.0	U	36.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	1934.0E	1940.0	6.0D	870.0			QL=4 ST=2 TYP=7
	410	SGMR	49	GB	1934.0E	1940.0	7.0D	1000.0			QL=4 ST=2 TYP=7
	245	PALE	49	GB	1935.0E	1936.0	5.0D	2000.0			QL=4 ST=2 TYP=7
	245	SGMR	49	GB	1935.0E	1940.0	5.0D	1800.0			QL=4 ST=2 TYP=6
	610	PALE	8	S	1940.0E	1940.0	U	200.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1940.0E	1940.0	1.0D	200.0			QL=4 ST=2 TYP=3
	410	PALE	49	GB	1942.0E	1945.0	3.0D	780.0			QL=4 ST=2 TYP=6
	245	PALE	49	GB	1943.0E	1945.0	3.0D	770.0			QL=4 ST=2 TYP=6
	410	SGMR	49	GB	1943.0E	1943.0	2.0D	650.0			QL=4 ST=2 TYP=6
	9400	HUAN	2	S/F	1943.2	1946.2	5.6	26.8	10.4		
	2800	OTTA	4	S/F	1943.6	1946.3	8.7	12.7	2.0		
	245	SGMR	49	GB	1945.0E	1945.0	3.0D	760.0			QL=2 ST=2 TYP=6
	245	LEAR	4	S/F	2355.0E	2355.0	8.0D	55.0			QL=2 ST=2 TYP=3
12	100	GORK	44	NS	0238.0E		562.0D		10.0		
	200	GORK	44	NS	0238.0E		564.0D		5.0		
	234	POTS	44	NS	0519.0E	0539.5	181.0D	140.0			
	204	IZMI	43	NS	0600.0		300.0	10.0			
	127	TORN	44	NS	0620.0E		520.0D		85.0		V=1
	2840	PEKG	3	S	0045.0	0047.8	16.0	45.3			
	245	LEAR	49	GB	0047.0E	0048.0	2.0D	3200.0			QL=2 ST=2 TYP=6

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JUNE 1990

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	100	HIRA	42	SER	0047.3	0048.8	18.5	9500.0			
	200	HIRA	48	C	0047.5	0048.2	2.0	6100.0			O
	500	HIRA	46	C	0047.5	0048.5	23.0	103.0	6.0		MR
	500	HIRA	46	C	0047.5	0058.6		48.0			MR
	2695	PENT	4	S/F	0047.7	0048.5	7.4	40.2	8.0		
	410	LEAR	8	S	0048.0E	0048.0	2.0D	250.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0048.0E	0048.0	U	380.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0048.0E	0048.0	U	40.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	0048.0E	0048.0	1.0D	3200.0			QL=2 ST=3 TYP=6
	4995	PALE	8	S	0048.0E	0048.0	U	38.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0058.0E	0058.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0058.0E	0058.0	1.0D	81.0			QL=2 ST=2 TYP=3
	610	PALE	8	S	0103.0E	0104.0	2.0D	48.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	0103.0E	0105.0	8.0D	250.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0103.0E	0105.0	3.0D	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0104.0E	0105.0	2.0D	140.0			QL=2 ST=2 TYP=3
	410	LEAR	8	S	0104.0E	0104.0	2.0D	250.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0104.0E	0104.0	1.0D	54.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0104.0E	0105.0	2.0D	130.0			QL=2 ST=3 TYP=3
	610	PALE	8	S	0104.0E	0104.0	1.0D	48.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0104.0E	0105.0	2.0D	250.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0117.0	0123.1	8.0	4.4			
	9100	GORK	23	GRF	0242.0E	0609.0	375.0D	50.0			
	2840	PEKG	20	GRF	0310.0	0314.1	33.0	8.6			
	2840	PEKG	45	C	0357.0	0406.5	24.0	11.4			
	2840	PEKG	45	C	0421.0	0432.7	25.0	70.3			
	2840	PEKG	28	PRE	0429.0		47.0	9.6			
	9300	KISV	23	GRF	0431.3	0437.2	32.7	21.0			
	5900	KISV	23	GRF	0431.3	0437.3	28.7	15.0			
	5900	KISV	47	GB	0431.3	0433.8	5.9	310.0			
	245	LEAR	4	S/F	0432.0E	0432.0	4.0D	310.0			QL=2 ST=2 TYP=3
	410	LEAR	4	S/F	0432.0E	0433.0	4.0D	99.0			QL=4 ST=2 TYP=3
	610	LEAR	4	S/F	0432.0E	0433.0	4.0D	440.0			QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0432.0E	0433.0	4.0D	230.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0432.0E	0433.0	4.0D	400.0			QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0432.0E	0432.0	4.0D	380.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0432.0E	0433.0	1.0D	140.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0432.0E	0432.0	4.0D	320.0			QL=4 ST=2 TYP=3
	410	SVTO	49	GB	0432.0E	0433.0	13.0D	150.0			QL=4 ST=2 TYP=6
	200	HIRA	48	C	0432.3	0433.0	5.1	7300.0			WR
	100	GORK	47	GB	0432.3	0433.5	5.7	18900.0			
	100	HIRA	48	C	0432.4	0433.1	5.0	9100.0	920.0		WR
	500	HIRA	41	F	0432.4	0434.2	7.5	83.0			MR
	600	HUMN	4	S/F	0432.5	0434.0	5.5	42.0	9.0		
	200	GORK	4	S/F	0432.5	0433.4	2.3	7500.0			
	33	UPIC	46	C	0432.5	0433.5	5.0				
	3200	BERN	4	S/F	0432.6	0433.5	2.0	3.7			
	11800	BERN	4	S/F	0432.6	0433.5	2.0	18.8			
	5200	BERN	4	S/F	0432.6	0433.5	2.0	20.3			
	8400	BERN	4	S/F	0432.6	0433.5	2.0	27.0			
	950	GORK	4	S/F	0432.6	0433.5	8.0	22.0			
	9300	KISV	47	GB	0432.6	0433.5	4.6	448.0			
	9100	GORK	47	GB	0432.7	0433.4	6.3	1700.0			
	15000	KISV	4	S/F	0432.7	0433.7	7.2	165.0			
	2950	GORK	4	S/F	0432.7	0433.8	4.7	50.0			
	17000	NOBE	7	C	0432.8	0433.6	2.0	110.0			19R,80,35GHz:0
	1415	LEAR	8	S	0433.0E	0433.0	U	14.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0433.0E	0433.0	U	440.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	0433.0E	0433.0	U	100.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0433.0E	0433.0	1.0D	47.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	0433.0E	0433.0	15.0D	160.0			QL=2 ST=2 TYP=3
	2695	LEAR	4	S/F	0433.0E	0433.0	1167.0D	40.0			QL=4 ST=1 TYP=3
	2850	CRIM	3	S	0433.0	0433.8	5.0	82.0	27.0		
	650	GORK	46	C	0433.4	0435.7		40.0			
	650	GORK	46	C	0433.4	0433.7	7.3	3990.0			
	2950	GORK	29	PBI	0437.4	0437.4	8.8	4.0			
	650	GORK	2	S/F	0440.7	0442.9	5.0	6.0			
	950	GORK	1	S	0441.6	0442.1	1.5	1.0			
	2850	CRIM	28	PRE	0500.0	0517.0	17.0	8.0	3.0		

SOLAR RADIO EMISSION
Outstanding Occurrences

JUNE 1990

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	260	ONDR	41	F	0500.0E	1042.0	700.0D	126.0			
	500	HIRA	48	C	0502.9	0523.5		353.0			MR
	500	HIRA	48	C	0502.9	0539.5		593.0			MR
	500	HIRA	48	C	0502.9	0531.5	85.5	1343.0	140.0		WR
	650	GORK	23	GRF	0513.6	0552.0	64.4	35.0			
	2950	GORK	21	GRF	0513.9	0545.0	118.1	70.0			
	950	GORK	21	GRF	0514.8	0552.0	116.3	10.0			
	245	LEAR	4	S/F	0515.0E	0526.0	37.0D	480.0			QL=4 ST=2 TYP=5
	5900	KISV	29	PBI	0515.8	0544.0	76.0	106.0			
	5900	KISV	47	GB	0515.8	0526.3		491.0			
	100	HIRA	48	C	0515.8	0716.5		430.0			
	5900	KISV	47	GB	0515.8	0529.7	28.2	597.0			
	100	HIRA	48	C	0515.8	0531.7	267.0D	1000.0D	210.0D		SUNSET
	100	HIRA	48	C	0515.8	0621.8		1000.0D			
	100	GORK	46	C	0516.0	0531.2		1150.0			
	100	GORK	46	C	0516.0	0525.3	20.0	2360.0			
	2840	PEKG	47	GB	0516.0	0530.3D	47.0D	867.6			
	100	GORK	46	C	0516.0	0528.6		1000.0			
	200	GORK	46	C	0516.1	0518.5	10.9	75.0			
	200	GORK	46	C	0516.1	0520.9		130.0			
	600	HUMN	47	GB	0516.5	0539.0	60.0	457.0	76.0		
	200	HIRA	46	C	0516.5	0526.4		210.0			WR
	200	HIRA	46	C	0516.5	0539.6	72.0	290.0	70.0		O
	200	HIRA	46	C	0516.5	0517.8		140.0			WR
	9300	KISV	29	PBI	0516.7	0533.0	75.0	112.0			
	9300	KISV	47	GB	0516.7	0529.7	16.3	353.0			
	2695	LEAR	49	GB	0517.0E	0529.0	35.0D	750.0			QL=4 ST=2 TYP=7
	245	SVTO	4	S/F	0517.0E	0526.0	47.0D	480.0			QL=4 ST=2 TYP=5
	2850	CRIM	29	PBI	0517.0	0555.0	85.0	50.0	17.0		
	2850	CRIM	47	GB	0517.0	0526.2	38.0	827.0	318.0		
	950	GORK	47	GB	0517.0	0531.4	35.0	260.0			
	650	GORK	47	GB	0517.0	0531.4	35.0	2230.0			
	2850	CRIM	47	GB	0517.0	0529.5		957.0			
	410	LEAR	49	GB	0518.0E	0536.0	32.0D	1200.0			QL=4 ST=2 TYP=7
	1415	LEAR	4	S/F	0519.0E	0529.0	29.0D	320.0			QL=4 ST=2 TYP=3
	4995	LEAR	49	GB	0519.0E	0529.0	33.0D	690.0			QL=4 ST=2 TYP=7
	610	LEAR	49	GB	0519.0E	0531.0	32.0D	2300.0			QL=4 ST=2 TYP=7
	2695	SVTO	49	GB	0519.0E	0529.0	41.0D	750.0			QL=4 ST=2 TYP=7
	410	SVTO	49	GB	0519.0E	0602.0	51.0D	1200.0			QL=4 ST=2 TYP=7
	4995	SVTO	49	GB	0519.0E	0529.0	54.0D	660.0			QL=2 ST=2 TYP=7
	2950	GORK	46	C	0519.5	0526.2	25.5	590.0			
	2950	GORK	46	C	0519.5	0529.6		660.0			
	1415	SVTO	20	GRF	0520.0E	0532.0	32.0D	320.0			QL=4 ST=2 TYP=2
	8400	BERN	47	GB	0520.0	0529.5	22.0	100.9			
	11800	BERN	47	GB	0520.0	0529.5	22.0	78.0			
	5200	BERN	47	GB	0520.0	0529.5	22.0	56.6			
	3200	BERN	47	GB	0520.0	0529.5	22.0	55.0			
	8800	LEAR	4	S/F	0521.0E	0529.0	23.0D	340.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0521.0E	0529.0	55.0D	360.0			QL=2 ST=2 TYP=5
	8800	SVTO	4	S/F	0521.0E	0529.0	55.0D	360.0			QL=2 ST=2 TYP=5
	9100	GORK	4	S/F	0521.0	0529.5	45.0	340.0			
	15000	KISV	23	GRF	0521.5	0529.8	17.4	175.0			
	15000	KISV	29	PBI	0521.5	0538.9	59.2	58.0			
	15400	LEAR	4	S/F	0522.0E	0529.0	16.0D	170.0			QL=4 ST=2 TYP=3
	610	SVTO	49	GB	0522.0E	0531.0	20.0D	2000.0			QL=2 ST=2 TYP=7
	17000	NOBE	20	GRF	0522.7	0529.6	60.0	130.0			7R
	15400	SVTO	20	GRF	0523.0E	0529.0	53.0D	160.0			QL=2 ST=2 TYP=2
	35000	NOBE	20	GRF	0525.0	0529.6	32.0	55.0			0,80GHz:0
	610	LEAR	49	GB	0556.0E	0556.0	1.0D	570.0			QL=4 ST=2 TYP=7
	410	LEAR	49	GB	0601.0E	0607.0	6.0D	1300.0			QL=4 ST=2 TYP=6
	2840	PEKG	29	PBI	0603.0		167.0	29.3			
	204	IZMI	7	C	0606.0	0617.0	22.0	73.0			
	536	ONDR	41	F	0754.0	0802.4	18.0	11.0			
	410	SVTO	8	S	0923.0E	0923.0	U	270.0			QL=4 ST=2 TYP=3
	245	SVTO	49	GB	0923.0E	0923.0	U	890.0			QL=4 ST=2 TYP=6
	430	KRAK	8	S	0948.0	0948.0	1.0	130.0			
	536	ONDR	27	RF	1030.0	1041.5	120.0	9.0			
	1470	POTS	22	GRF	1145.0	1312.2	165.0	9.0			
	9500	POTS	20	GRF	1150.0	1319.2	140.0	8.0			

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

JUNE 1990

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	9100	GORK	20	GRF	1154.0	1200.0U	6.0D	8.0			
	3000	POTS	21	GRF	1155.0	1314.0	155.0	23.0			
	410	SVTO	8	S	1159.0E	1200.0	U	340.0			QL=4 ST=2 TYP=3
	2800	OTTA	22	GRF	1258.0	1314.0	110.0	15.2	7.0		
	33	UPIC	46	C	1310.9	1311.7	3.6				
	536	ONDR	8	S	1329.6	1330.0	1.5	16.0			
	536	ONDR	8	S	1518.2	1518.3	1.5	42.0			
	9400	HUAN	1	S	1540.4	1543.7	5.8	3.9	1.8		
	2800	OTTA	22	GRF	1625.0	1653.0	140.0	21.3	10.0		
	9400	HUAN	22	GRF	1649.9	1725.0	85.8	7.7	4.2		
	600	HUMN	1	S	1740.0	1740.3	1.5	14.0	6.0		
	2800	OTTA	3	S	2039.0	2041.4	5.0	31.9	6.0		
	9400	HUAN	1	S	2039.2	2041.3	7.4	15.4	6.8		
	500	HIRA	46	C	2039.8	2039.9	8.4	138.0			O
	410	SGMR	8	S	2040.0E	2041.0	2.0D	280.0			QL=2 ST=2 TYP=3
	410	PALE	8	S	2041.0E	2041.0	U	340.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2047.0E	2048.0	1.0D	130.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2106.0E	2106.0	U	77.0			QL=4 ST=2 TYP=3
13	245	LEAR	44	NS	0003.0E	0853.0	565.0D	550.0			QL=2 ST=2 TYP=1
	410	LEAR	44	NS	0150.0E	0827.0	1330.0D	79.0			QL=4 ST=1 TYP=1
	410	LEAR	44	NS	0725.0E	0842.0	123.0D	130.0			QL=2 ST=2 TYP=1
	127	TORN	43	NS	0800.0		210.0		3.0		V=1
	245	SGMR	44	NS	1128.0E	1128.0	1.0D	110.0			QL=4 ST=2 TYP=1
	2840	PEKG	5	S	0030.0	0034.0	16.0D	84.3			
	2695	PENT	3	S	0033.0	0034.5	14.5	73.5	15.0		
	4995	LEAR	4	S/F	0033.0E	0034.0	6.0D	380.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0033.0E	0034.0	3.0D	200.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0033.0E	0034.0	3.0D	75.0			QL=4 ST=2 TYP=3
	15400	LEAR	8	S	0034.0E	0034.0	1.0D	54.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0034.0E	0034.0	1.0D	220.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0034.0E	0034.0	1.0D	64.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	0034.0E	0034.0	1.0D	50.0			QL=4 ST=2 TYP=3
	17000	NOBE	1	S	0034.0	0034.7	2.0	39.0			25R,80,35GHz:0
	500	HIRA	41	F	0227.5	0227.8	4.0	43.0			O
	950	GORK	2	S/F	0342.8	0346.0	3.4	7.0			
	650	GORK	2	S/F	0342.9	0345.3	4.2	3.0			
	260	ONDR	41	F	0500.0E		700.0D				
	536	ONDR	41	F	0600.0	0606.4	390.0	26.0			
	5900	KISV	22	GRF	0614.7	0615.7	18.0	9.0			
	5900	KISV	2	S/F	0857.0	0858.0	3.0	3.0			
	430	KRAK	42	SER	1020.0	1232.4	147.0	110.0			
	2950	GORK	21	GRF	1043.6	1115.6	42.4	7.0			
	204	IZMI	5	S	1057.0	1057.4	1.0	15.0	7.0		
	2950	GORK	1	S	1058.3	1058.7	1.0	3.0			
	3000	POTS	3	S	1110.0	1111.7	4.0	9.0			
	2950	GORK	1	S	1111.1	1111.7	2.0	5.0			
	245	SVTO	8	S	1128.0E	1128.0	1.0D	110.0			QL=2 ST=2 TYP=3
	204	IZMI	41	F	1128.5	1128.8	1.0	57.0			
	2950	GORK	20	GRF	1136.8	1142.5	8.2	4.0			
	5900	KISV	2	S/F	1141.6	1142.5	5.0	6.0			
	410	SGMR	8	S	1232.0E	1232.0	1.0D	84.0			QL=4 ST=3 TYP=3
	4995	SGMR	8	S	1233.0E	1233.0	1.0D	320.0			QL=4 ST=3 TYP=3
	2800	OTTA	22	GRF	1348.0	1349.0	146.0	8.0	4.0		
	3000	POTS	20	GRF	1348.0	1349.5	12.0	7.0			
	536	ONDR	8	S	1350.2	1350.9	1.0	59.0			
	3200	BERN	3	S	1408.5	1409.5	3.0	1.6			
	5200	BERN	3	S	1408.5	1409.5	3.0	0.4			
	3000	POTS	3	S	1409.0	1409.5	1.0	19.0			
	9500	POTS	20	GRF	1409.0	1427.5	31.0	8.0			
	1470	POTS	3	S	1409.2	1409.5	2.3	9.0			
	33	UPIC	8	S	1409.4	1409.5	0.4				
	808	ONDR	8	S	1409.5	1409.6	1.2	23.0			
	2800	OTTA	3	S	1601.9	1602.3	3.0	17.9	3.0		
	9400	HUAN	1	S	1620.3	1622.5	5.5	10.0	4.4		
	8400	BERN	3	S	1622.0	1622.5	1.5	1.4			
	5200	BERN	3	S	1622.0	1622.5	1.5	2.5			
	3200	BERN	3	S	1622.0	1622.5	1.5	2.3			
	2800	OTTA	20	GRF	1813.0	1833.0	325.0	18.3	9.0		

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

JUNE 1990

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
13	245	LEAR	8	S	2348.0E	2348.0	2.0D	53.0			QL=2 ST=2 TYP=3
14	260	ONDR	41	F	0500.0E	0935.8	530.0D	510.0			
	536	ONDR	8	S	0732.5	0732.9	1.0	104.0			
	245	SGMR	8	S	0935.0E	0935.0	U	87.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	0935.0E	0935.0	U	51.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0935.0E	0935.0	U	75.0			QL=4 ST=2 TYP=3
	204	IZMI	8	S	0935.0	0935.1	0.2	67.0	57.0		
	2850	CRIM	24	R	0950.0	1210.0		16.0			
	8800	SVTO	8	S	1027.0E	1029.0	2.0D	200.0			QL=4 ST=2 TYP=3
	650	GORK	4	S/F	1203.7	1207.1	7.0	90.0			
	950	GORK	46	C	1204.5	1206.8		45.0			
	950	GORK	46	C	1204.5	1205.9	5.7	25.0			
	5900	KISV	20	GRF	1204.6	1222.7	55.4	14.0			
	3000	POTS	20	GRF	1205.0	1225.0	60.0	10.0			
	9500	POTS	20	GRF	1205.0	1225.0	95.0	12.0			
	600	HUMN	4	S/F	1205.0	1206.2	4.0	36.0	10.0		
	1470	POTS	3	S	1205.0	1207.5	6.0	11.0			
	430	KRAK	4	S/F	1205.2E	1207.5	5.5D	60.0	15.0		
	536	ONDR	45	C	1205.6	1207.4	9.0	117.0			
	808	ONDR	45	C	1205.8	1207.2	4.4	40.0			
	610	SGMR	8	S	1206.0E	1206.0	1.0D	66.0			QL=4 ST=3 TYP=3
	810	KRAK	2	S/F	1206.5	1206.8	2.7	43.0	8.0		
	2800	OTTA	20	GRF	1754.0	1930.0	200.0	9.0	4.0		
15	127	TORN	43	NS	0825.0	0854.1	205.0	150.0	3.0		V=0,DISTURBED
	260	ONDR	41	F	0550.0	0835.2	430.0	28.0			
	9100	GORK	21	GRF	0706.0	0854.0	294.0D	26.0			
	5900	KISV	23	GRF	0753.0	0852.5	83.0	18.0			
	650	GORK	21	GRF	0817.4	0838.3	37.2	6.0			
	1470	POTS	45	C	0818.0	0829.1	42.0	88.0			
	1470	POTS	45	C	0818.0	0837.5		34.0			
	9300	KISV	45	C	0819.0	0830.0	25.0	112.0D			
	9300	KISV	23	GRF	0819.0	0853.0	57.6	14.0			
	9300	KISV	45	C	0819.0	0837.7		74.0			
	2840	PEKG	45	C	0820.0	0827.6	21.0	171.0			
	950	GORK	21	GRF	0820.7	0838.3	34.5	6.0			
	2950	GORK	21	GRF	0820.7	0839.9	126.7	13.0			
	3013	IZMI	7	C	0821.5	0830.0	23.0	93.0	65.0		
	600	HUMN	4	S/F	0823.0	0829.0	16.0	340.0	95.0		
	536	ONDR	46	C	0823.5	0828.6	17.0	281.0			
	9100	GORK	46	C	0824.0	0830.0	19.5	180.0			
	2695	LEAR	4	S/F	0824.0E	0828.0	936.0D	200.0			QL=4 ST=1 TYP=3
	808	ONDR	45	C	0824.0	0828.4	20.0	273.0			
	9100	GORK	46	C	0824.0	0837.5		75.0			
	500	HIRA	48	C	0824.0	0828.9	16.0	547.0	145.0		O
	200	HIRA	46	C	0824.4	0828.9	26.4	130.0	18.0		O
	2850	CRIM	45	C	0824.7	0837.2		134.0			
	2850	CRIM	45	C	0824.7	0828.4	17.3	169.0	56.0		
	2850	CRIM	45	C	0824.7	0829.7		147.0			
	2950	GORK	46	C	0824.9	0828.2	15.0	115.0			
	2950	GORK	46	C	0824.9	0837.3		110.0			
	100	HIRA	42	SER	0824.9	0832.3	25.0	270.0			
	2950	GORK	46	C	0824.9	0829.8		115.0			
	950	GORK	4	S/F	0824.9	0830.9	13.4	410.0			
	650	GORK	4	S/F	0824.9	0829.9	13.4	1210.0			
	1415	SVTO	4	S/F	0825.0E	0827.0	9.0D	120.0			QL=2 ST=2 TYP=3
	410	LEAR	4	S/F	0825.0E	0830.0	12.0D	420.0			QL=4 ST=2 TYP=5
	245	LEAR	4	S/F	0825.0E	0834.0	16.0D	100.0			QL=2 ST=2 TYP=5
	2695	LEAR	4	S/F	0825.0E	0828.0	16.0D	200.0			QL=4 ST=2 TYP=5
	1415	LEAR	4	S/F	0825.0E	0829.0	13.0D	72.0			QL=4 ST=2 TYP=3
	204	IZMI	45	C	0825.0	0829.0	25.0	170.0			
	5900	KISV	45	C	0825.5	0830.0	18.0	109.0D			
	5900	KISV	45	C	0825.5	0837.5		79.0D			
	610	LEAR	49	GB	0826.0E	0829.0	9.0D	860.0			QL=4 ST=2 TYP=7
	410	SVTO	4	S/F	0826.0E	0830.0	9.0D	300.0			QL=4 ST=2 TYP=3
	11800	BERN	46	C	0826.0	0830.0	19.0	14.8			
	19600	BERN	46	C	0826.0	0830.0	19.0	8.4			
	8400	BERN	46	C	0826.0	0830.0	19.0	19.6			

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

JUNE 1990

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	5200	BERN	46	C	0826.0	0830.0	19.0	24.4			
	3200	BERN	46	C	0826.0	0830.0	19.0	11.6			
	4995	LEAR	4	S/F	0826.0E	0829.0	934.0D	260.0			QL=4 ST=1 TYP=3
	9500	POTS	45	C	0826.0	0830.1	39.0	131.0			
	15000	KISV	45	C	0826.0	0830.2	21.5	95.0			
	3000	POTS	45	C	0826.0	0828.2	124.0	107.0			
	3000	POTS	45	C	0826.0	0837.4		108.0			
	15000	KISV	45	C	0826.0	0837.5		65.0			
	9500	POTS	45	C	0826.0	0837.5		61.0			
	610	SVTO	49	GB	0827.0E	0829.0	7.0D	930.0			QL=2 ST=2 TYP=6
	4995	LEAR	4	S/F	0827.0E	0830.0	14.0D	260.0			QL=4 ST=2 TYP=5
	245	SVTO	4	S/F	0827.0E	0834.0	10.0D	100.0			QL=4 ST=2 TYP=5
	8800	SVTO	4	S/F	0827.0E	0830.0	17.0D	190.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0827.0E	0830.0	13.0D	270.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0828.0E	0830.0	932.0D	130.0			QL=4 ST=1 TYP=3
	15400	LEAR	4	S/F	0829.0E	0830.0	10.0D	80.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0829.0E	0830.0	12.0D	130.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	0829.0E	0830.0	11.0D	91.0			QL=4 ST=2 TYP=3
	430	KRAK	45	C	0830.3E	0831.0U	9.0D	230.0D	120.0D		
	810	KRAK	45	C	0830.5E	0831.0U	9.0D	340.0D	50.0		
	33	UPIC	41	F	0830.5	0837.5	8.5				
	127	TORN	4	S/F	0837.0	0837.9	2.0	1200.0	600.0		
	2840	PEKG	29	PBI	0841.0	0847.3	41.0	13.1			
	536	ONDR	8	S	1330.4	1330.5	0.8	31.0			
	9400	HUAN	1	S	1718.8	1723.5	9.9	10.8	5.2		
	245	PALE	8	S	2012.0E	2012.0	U	110.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2012.0E	2012.0	U	130.0			QL=4 ST=2 TYP=3
16	9100	GORK	20	GRF	0306.0	0330.0	138.0	6.0			
	260	ONDR	41	F	0500.0	0759.0	700.0	26.0			
	204	IZMI	41	F	0659.0	0659.5	6.5	15.0			
	204	IZMI	5	S	0855.3	0857.4	2.1	54.0	27.0		
	9500	POTS	20	GRF	0923.0	0945.0	57.0	8.0			
	3000	POTS	20	GRF	0923.0	0934.0	67.0	6.0			
	430	KRAK	42	SER	0928.5	0945.5	17.0	64.0			
	1470	POTS	40	F	1006.5	1008.5	3.5	5.0			
17	4995	LEAR	8	S	0139.0E	0140.0	1.0D	72.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0139.0E	0140.0	1.0D	26.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	0139.0E	0140.0	1.0D	72.0			QL=4 ST=2 TYP=3
	2840	PEKG	5	S	0139.0	0139.5	4.0	16.0			
	2840	PEKG	1	S	0323.0	0324.5	2.0	8.9			
	650	GORK	20	GRF	0420.7	0438.1	84.8	5.0			
	2950	GORK	20	GRF	0422.2	0438.0	25.4	3.0			
	260	ONDR	41	F	0500.0E	0607.2	700.0D	74.0			
	536	ONDR	42	SER	0715.1	0718.0	18.0	8.0			
	204	IZMI	4	S/F	0835.0	0835.5	1.5	58.0			
	3000	POTS	21	GRF	0905.0	0912.5	45.0	8.0			
	5900	KISV	23	GRF	0906.6	0918.7	37.7	8.0			
	9500	POTS	20	GRF	0908.0	0912.0	52.0	7.0			
	1470	POTS	1	S	0908.0	0909.2	2.5	5.0			
	2840	PEKG	5	S	0908.0	0908.7	2.0	16.5			
	3000	POTS	3	S	0908.5	0908.7	1.0	14.0			
	2850	CRIM	1	S	0908.5	0908.9	0.9	19.5	6.0		
	5900	KISV	2	S/F	0908.6	0908.9	2.4	13.0			
	9300	KISV	22	GRF	0908.7	0914.3	36.8	9.0			
	33	UPIC	45	C	1303.6	1303.8	1.4				
	33	UPIC	46	C	1710.5	1714.5	6.7				
18	260	ONDR	41	F	0500.0	1252.9	700.0	7.0			
	536	ONDR	41	F	1026.0	1049.3	115.0	14.0			
	536	ONDR	42	SER	1306.0	1405.7	66.0	28.0			
	245	PALE	8	S	1943.0E	1943.0	U	86.0			QL=4 ST=2 TYP=3
19	2840	PEKG	20	GRF	0038.0	0135.0	97.0	15.0			
	260	ONDR	41	F	0500.0	1233.6	700.0	16.0			
	204	IZMI	4	S/F	0911.4	0912.0	1.0	20.0			
	536	ONDR	3	S	0938.2	0938.5	0.7	29.0			
	204	IZMI	5	S	1117.5	1118.0	1.0	18.0	9.0		

SOLAR RADIO EMISSION
Outstanding Occurrences

JUNE 1990

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	536	ONDR	41	F	1139.0	1211.0	63.0	30.0			
	2800	OTTA	20	GRF	1510.0	1524.0	125.0	2.8	1.0		
	9400	HUAN	20	GRF	1529.6	1600.6	63.8	7.8	3.6		
	2800	OTTA	4	S/F	1554.6	1554.9	6.0	13.1	3.0		
20	5900	KISV	2	S/F	0457.8	0459.3	3.9	10.0			
	260	ONDR	41	F	0500.0		700.0				
┌	200	HIRA	42	SER	0630.6	0636.3	19.1	43.0			O
└	204	IZMI	42	SER	0635.0	0636.7	14.0	36.0			
┌	500	HIRA	42	SER	0635.5	0645.9	14.0	22.0			O
├	536	ONDR	41	F	0636.0	0646.4	108.0	22.0			
├	1470	POTS	40	F	0644.5	0644.6	5.5	15.0			
└	3000	POTS	1	S	0645.0	0646.3	3.0	5.0			
	2850	CRIM	20	GRF	0710.0	0800.0	130.0	10.0	3.0		
	1470	POTS	20	GRF	0719.0	0855.0	176.0	8.0			
	9500	POTS	20	GRF	0727.0	0831.0	143.0	8.0			
	5900	KISV	2	S/F	0819.8	0821.0	8.0	3.0			
	536	ONDR	3	S	1149.2	1149.6	1.0	25.0			
	430	KRAK	8	S	1211.0	1211.0	0.1	10.0			
	536	ONDR	42	SER	1343.0	1435.4	56.0	129.0			
	245	PALE	8	S	2356.0E	2357.0	2.0D	230.0			QL=4 ST=2 TYP=3
21	260	ONDR	41	F	0500.0E	0601.5	700.0D	128.0			
	536	ONDR	41	F	0617.6	0617.8	60.0	32.0			
	2950	GORK	20	GRF	0645.2	0646.7	37.1	3.0			
	245	SGMR	8	S	1024.0E	1024.0	U	75.0			QL=4 ST=2 TYP=3
┌	245	SVTO	8	S	1132.0E	1133.0	2.0D	62.0			QL=2 ST=2 TYP=3
└	410	SVTO	8	S	1133.0E	1133.0	U	43.0			QL=2 ST=2 TYP=3
22 ┌	127	TORN	43	NS	0720.0		383.0		3.0		V=0
└	100	GORK	44	NS	0732.0E		101.0D		5.0		
	2950	GORK	1	S	0504.1	0504.7	2.8	3.0			
┌	2950	GORK	21	GRF	0646.7	0708.5	62.7	7.0			
├	2840	PEKG	20	GRF	0654.0	0658.7	27.0D	21.5			
├	950	GORK	23	GRF	0655.9	0703.0	25.5	3.0			
├	2850	CRIM	29	PBI	0656.0	0702.0	28.0	6.0	3.0		
├	2850	CRIM	3	S	0656.0	0658.9	6.0	25.0	8.0		
├	3013	IZMI	5	S	0657.0	0658.5	7.0	12.0	6.0		
├	950	GORK	1	S	0657.6	0700.0	5.4	6.0			
└	2950	GORK	3	S	0657.6	0658.8	5.4	12.0			
	9100	GORK	20	GRF	0658.0	0718.0	41.0	7.0			
┌	2950	GORK	1	S	0711.7	0712.6	2.1	5.0			
├	950	GORK	1	S	0711.7	0712.8	2.2	6.0			
└	3013	IZMI	5	S	0712.0	0712.5	4.0	9.0	6.0		
23 ┌	127	TORN	44	NS	0620.0E		520.0D		2.0		V=1
└	260	ONDR	43	NS	1350.0	1624.0	170.0	382.0			
	200	HIRA	44	NS	1930.0E	2105.0	860.0D	24.0	4.0		O
	100	HIRA	42	SER	0126.4	0139.6	26.4	1000.0D			
	410	LEAR	8	S	0213.0E	0213.0	U	86.0			QL=4 ST=2 TYP=3
	260	ONDR	41	F	0500.0	1209.4	530.0	26.0			
	430	KRAK	8	S	0948.7	0949.1	0.7	59.0			
	1470	POTS	4	S/F	1104.5	1105.8	2.5	9.0			
	113	POTS	42	SER	1203.0	1212.7	11.6	125.0			
	30	POTS	42	SER	1203.6	1216.3	27.0U	500.0U			
	430	KRAK	41	F	1204.6	1205.5	2.3	8.0	4.0		
	245	PALE	8	S	1931.0E	1931.0	U	81.0			QL=4 ST=2 TYP=3
24 ┌	200	GORK	44	NS	0239.0E		411.0D		5.0		
├	260	ONDR	44	NS	0500.0E	0820.1	700.0D	180.0			
├	204	IZMI	43	NS	0600.0		360.0	10.0			
└	127	TORN	44	NS	0832.0E		320.0D		1.0		DISTURBED
	200	HIRA	44	NS	1930.0E	0345.0	860.0D	53.0	11.0		O
┌	245	PALE	4	S/F	0101.0E	0102.0	8.0D	98.0			QL=4 ST=3 TYP=3
├	100	HIRA	41	F	0101.3	0102.6	16.5	360.0			
├	200	HIRA	46	C	0101.5	0103.3	5.9	130.0	47.0		WR
└	245	LEAR	4	S/F	0102.0E	0102.0	4.0D	120.0			QL=4 ST=2 TYP=3
	2695	PENT	4	S/F	0116.0	0118.0	24.3	63.5	13.0		
	100	HIRA	45	C	0524.4	0525.1	2.6	430.0	170.0		

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

JUNE 1990

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	536	ONDR	45	C	0759.0	0819.9	20.9	49.0			
	2850	CRIM	3	S	0808.8	0809.6	4.5	34.0	11.0		
	2840	PEKG	3	S	0817.0	0818.8	13.0	27.8			
	600	HUMN	1	S	0818.0	0818.5	1.5	30.0	12.0		
	3000	POTS	3	S	0818.5	0819.7	5.0	26.0			
	2950	GORK	3	S	0818.8	0819.8	2.9	25.0			
	5900	KISV	4	S/F	0818.9	0819.5	4.8	28.0			
	650	GORK	4	S/F	0818.9	0819.7	1.7	70.0			
	9100	GORK	3	S	0818.9	0819.7	3.5	18.0			
	9300	KISV	2	S/F	0818.9	0819.7	4.1	15.0			
	950	GORK	4	S/F	0818.9	0819.8	1.7	155.0			
	430	KRAK	4	S/F	0819.0	0819.0	1.5	73.0	9.0		
	245	LEAR	8	S	0819.0E	0819.0	1.0D	79.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0819.0E	0819.0	U	86.0			QL=4 ST=3 TYP=3
	610	LEAR	8	S	0819.0E	0819.0	1.0D	53.0			QL=4 ST=2 TYP=3
	1415	LEAR	8	S	0819.0E	0819.0	1.0D	36.0			QL=2 ST=2 TYP=3
	4995	LEAR	8	S	0819.0E	0819.0	1.0D	36.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0819.0E	0819.0	U	15.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0819.0E	0819.0	2.0D	31.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0819.0E	0819.0	1.0D	74.0			QL=2 ST=2 TYP=3
	234	POTS		S	0819.0	0819.5	1.8	100.0			
	204	IZMI	5	S	0819.0	0819.7	4.0	9.0	5.0		
	9500	POTS	3	S	0819.0	0819.7	4.5	13.0			
	1470	POTS	3	S	0819.0U	0819.7U	5.0U	33.0			
	808	ONDR	46	C	0819.0	0819.8	4.5	121.0			
	204	IZMI	4	S/F	0819.2	0820.0	1.5	52.0			
	810	KRAK	4	S/F	0819.2	0819.7	1.5	137.0	49.0		
	650	GORK	29	PBI	0820.6	0820.6	8.6	3.0			
	950	GORK	29	PBI	0820.6	0820.6	4.1	3.0			
	2950	GORK	29	PBI	0821.7	0821.7	4.1	5.0			
	430	KRAK	27	RF	0827.5	0943.1	94.0	29.0	5.0		
	245	LEAR	8	S	0917.0E	0917.0	1.0D	56.0			QL=4 ST=2 TYP=3
	536	ONDR	41	F	1120.0	1213.3	72.0	30.0			
	245	PALE	8	S	2251.0E	2251.0	U	91.0			QL=4 ST=2 TYP=3
25	245	LEAR	44	NS	0143.0E	0440.0	178.0D	170.0			QL=4 ST=2 TYP=1
	200	GORK	44	NS	0256.0E		424.0D		5.0		
	204	IZMI	43	NS	0600.0		360.0	15.0			
	127	TORN	44	NS	0620.0E		490.0D		4.0		V=1
	260	ONDR	44	NS	0700.0E	1432.8	580.0D	74.0			
	200	HIRA	44	NS	1930.0E	0500.0	860.0D	27.0	11.0		WL
	610	PALE	4	S/F	0115.0E	0117.0	6.0D	170.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	0115.0E	0116.0	6.0D	260.0			QL=4 ST=2 TYP=3
	1415	PALE	4	S/F	0115.0E	0117.0	6.0D	110.0			QL=4 ST=2 TYP=3
	500	HIRA	46	C	0115.8	0127.0		39.0			O
	500	HIRA	29	PBI	0115.8	0145.0	75.0	11.0	4.0		O
	17000	NOBE	7	C	0115.8	0116.3	18.5	135.0			O,80,35GHz:O
	500	HIRA	46	C	0115.8	0117.5	24.5	64.0	18.0		O
	245	LEAR	8	S	0116.0E	0116.0	U	120.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0116.0E	0116.0	2.0D	200.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0116.0E	0116.0	U	110.0			QL=4 ST=2 TYP=3
	1415	LEAR	20	GRF	0116.0E	0117.0	14.0D	100.0			QL=2 ST=2 TYP=2
	610	LEAR	4	S/F	0116.0E	0117.0	13.0D	180.0			QL=4 ST=2 TYP=3
	4995	LEAR	20	GRF	0116.0E	0117.0	17.0D	97.0			QL=4 ST=2 TYP=2
	2695	LEAR	4	S/F	0116.0E	0117.0	16.0D	74.0			QL=2 ST=2 TYP=3
	8800	LEAR	20	GRF	0116.0E	0116.0	17.0D	130.0			QL=4 ST=2 TYP=2
	2840	PEKG	45	C	0117.0	0120.0	18.0	75.7			
	610	PALE	4	S/F	0126.0E	0127.0	3.0D	100.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	0126.0E	0128.0	2.0D	100.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	0126.0E	0128.0	4.0D	82.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0126.0E	0128.0	4.0D	120.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	0127.0E	0128.0	2.0D	57.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0128.0E	0128.0	U	37.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0226.0	0226.7	4.0	9.5			
	245	PALE	8	S	0238.0E	0239.0	1.0D	99.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0256.0E	0256.0	U	150.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0418.0E	0419.0	3.0D	64.0			QL=4 ST=2 TYP=3
	610	LEAR	4	S/F	0418.0E	0419.0	3.0D	20.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0418.0E	0419.0	2.0D	82.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

JUNE 1990

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	2840	PEKG	1	S	0418.0	0418.9	6.0	9.9			
	410	PALE	8	S	0419.0E	0419.0	2.0D	59.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0419.0E	0419.0	2.0D	74.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0419.0E	0419.0	1.0D	68.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0419.0E	0419.0	U	54.0			QL=2 ST=2 TYP=3
	500	HIRA	42	SER	0419.0	0419.5	3.5	65.0			O
	2950	GORK	1	S	0419.3	0419.6	1.3	8.0			
	2850	CRIM	1	S	0419.4	0419.7	1.0	11.0	4.0		
	650	GORK	4	S/F	0419.4	0419.7	3.5	20.0			
	950	GORK	1	S	0419.4	0419.7	3.5	13.0			
	5900	KISV	2	S/F	0419.4	0419.7	2.3	9.0			
	9100	GORK	1	S	0434.6	0436.6	8.9	6.0			
	245	PALE	8	S	0440.0E	0440.0	U	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0440.0E	0440.0	U	140.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0622.0E	0623.0	2.0D	61.0			QL=4 ST=2 TYP=3
	9300	KISV	4	S/F	0659.2	0702.8	8.8	28.0			
	536	ONDR	42	SER	0700.0	0701.4	98.0	79.0			
	9100	GORK	45	C	0700.0E	0702.6	6.0D	25.0			
	5900	KISV	4	S/F	0700.0	0702.7	9.0	25.0			
	9100	GORK	45	C	0700.0E	0703.9		21.0			
	1470	POTS	4	S/F	0701.0	0704.4	6.0	21.0			
	9500	POTS	4	S/F	0701.0	0702.5	6.0	20.0			
	3000	POTS	4	S/F	0701.0	0703.8	5.5	14.0			
	2850	CRIM	1	S	0701.1	0703.0	4.6	14.0	5.0		
	2950	GORK	2	S/F	0701.2	0703.0	3.5	10.0			
	200	HIRA	46	C	0701.3	0704.1	5.4	23.0			O
	650	GORK	46	C	0701.4	0704.0		20.0			
	950	GORK	46	C	0701.4	0704.0		8.0			
	950	GORK	46	C	0701.4	0703.3	4.9	16.0			
	650	GORK	46	C	0701.4	0703.3	4.9	30.0			
	500	HIRA	41	F	0701.5	0704.0	3.0	16.0			O
	808	ONDR	45	C	0701.5	0703.5	4.5	10.0			
	430	KRAK	42	SER	0702.0	0702.3	2.5	11.0			
	810	KRAK	41	F	0702.3	0703.3	2.0	10.0	5.0		
	2950	GORK	29	PBI	0704.7	0704.7	14.1	5.0			
	9100	GORK	29	PBI	0706.0	0706.0	21.0	5.0			
	430	KRAK	45	C	0711.3	0712.5U	2.2	240.0D	150.0D		
	950	GORK	1	S	0833.7	0833.9	0.3	5.0			
	650	GORK	1	S	0833.7	0833.9	0.3	8.0			
	9500	POTS	1	S	0901.5	0902.1	2.5	8.0			
	9100	GORK	1	S	0901.7	0902.1	0.8	7.0			
	9300	KISV	2	S/F	0901.8	0902.0	1.2	6.0			
	15000	KISV	2	S/F	0901.9	0902.0	0.6	15.0			
	33	UPIC	46	C	0933.6	0937.7	5.1				
	1470	POTS	40	F	0934.0	0938.0	6.0	11.0			
	950	GORK	2	S/F	0934.0	0935.3	6.9	3.0			
	650	GORK	2	S/F	0935.0	0936.1	5.9	4.0			
	536	ONDR	41	F	1036.0	1216.4	115.0	21.0			
	245	SGMR	8	S	1239.0E	1240.0	1.0D	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1345.0E	1345.0	1.0D	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1345.0E	1345.0	1.0D	170.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1349.0E	1349.0	U	100.0			QL=2 ST=2 TYP=3
	245	SGMR	8	S	1719.0E	1720.0	1.0D	170.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1720.0E	1720.0	U	170.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1813.0E	1813.0	U	54.0			QL=4 ST=2 TYP=3
26	245	PALE	44	NS	0324.0E	0331.0	95.0D	96.0			QL=4 ST=2 TYP=1
	245	LEAR	44	NS	0324.0E	0447.0	228.0D	200.0			QL=4 ST=2 TYP=1
	245	SVTO	44	NS	0454.0E	0753.0	361.0D	190.0			QL=4 ST=2 TYP=1
	260	ONDR	44	NS	0500.0E	1434.6	700.0D	569.0			
	234	POTS	44	NS	0540.0E	0647.0U	564.0D	35.0			
	127	TORN	44	NS	0620.0E		520.0D		8.0		V=1
	245	LEAR	44	NS	0802.0E	0810.0	35.0D	170.0			QL=4 ST=2 TYP=1
	200	HIRA	44	NS	1930.0E	0818.0	860.0D	63.0	27.0		MR
	500	HIRA	46	C	0313.5	0313.8	3.1	38.0			O
	410	PALE	8	S	0314.0E	0314.0	U	62.0			QL=4 ST=2 TYP=3
	200	HIRA	41	F	0331.0	0333.0	40.0	146.0			O
	9100	GORK	21	GRF	0431.7	0546.2	106.3	11.0			
	245	PALE	8	S	0447.0E	0447.0	U	180.0			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
26	245	SVTO	8	S	0447.0E	0447.0	U	190.0			QL=2 ST=2 TYP=3
	9300	KISV	23	GRF	0530.3	0546.3	29.6	13.0			
	5900	KISV	23	GRF	0530.9	0548.6	34.7	9.0			
	2840	PEKG	5	S	0531.0	0531.8	5.0	24.7			
	5900	KISV	2	S/F	0531.1	0531.5	1.7	14.0			
	2850	CRIM	3	S	0531.4	0532.7	2.0	32.0	11.0		
	2950	GORK	21	GRF	0531.5	0539.3	20.5	4.0			
	950	GORK	2	S/F	0531.5	0532.6	2.6	33.0			
	650	GORK	4	S/F	0531.7	0532.6	2.0	55.0			
	610	LEAR	8	S	0532.0E	0532.0	U	60.0			QL=4 ST=2 TYP=3
	1415	LEAR	8	S	0532.0E	0532.0	U	30.0			QL=2 ST=2 TYP=3
	2950	GORK	2	S/F	0532.2	0532.6	1.3	16.0			
	9300	KISV	2	S/F	0532.2	0532.6	1.7	12.0			
	4995	LEAR	4	S/F	0539.0E	0542.0	4.0D	30.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0539.0E	0540.0	2.0D	220.0			QL=4 ST=2 TYP=3
	600	HUMN	2	S/F	0539.0	0540.3	6.0	127.0	8.0		
	950	GORK	46	C	0539.0	0542.4		55.0			
	950	GORK	46	C	0539.0	0540.7	7.7	155.0			
	650	GORK	46	C	0539.0	0540.7U	7.7	140.0D			
	650	GORK	46	C	0539.0	0542.8		15.0			
	9100	GORK	46	C	0539.0	0540.8	6.0	12.0			
	9100	GORK	46	C	0539.0	0542.8		26.0			
	5900	KISV	4	S/F	0539.0	0542.8	7.6	33.0			
	500	HIRA	46	C	0539.4	0540.7	5.0	112.0	18.0		O
	2695	LEAR	8	S	0540.0E	0542.0	2.0D	14.0			QL=2 ST=2 TYP=3
	1415	LEAR	4	S/F	0540.0E	0540.0	3.0D	70.0			QL=2 ST=2 TYP=3
	410	LEAR	8	S	0540.0E	0540.0	1.0D	47.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	0540.0E	0540.0	3.0D	87.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0540.0E	0540.0	1.0D	51.0			QL=2 ST=2 TYP=3
	610	SVTO	8	S	0540.0E	0540.0	1.0D	230.0			QL=2 ST=2 TYP=3
	9300	KISV	4	S/F	0540.0	0542.8	5.1	28.0			
	2950	GORK	45	C	0540.3	0540.8	4.1	7.0			
	2950	GORK	45	C	0540.3	0542.8		11.0			
	2850	CRIM	42	SER	0540.6	0540.8	3.8	10.0	5.0		
	2850	CRIM	42	SER	0540.6	0542.9		15.0			
	8800	LEAR	8	S	0543.0E	0543.0	U	12.0			QL=4 ST=2 TYP=3
	204	IZMI	5	S	0633.0	0633.4	0.6	150.0			
	536	ONDR	42	SER	0654.0	0655.0	4.0	38.0			
	245	LEAR	4	S/F	0753.0E	0753.0	5.0D	200.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0753.0E	0753.0	U	220.0			QL=2 ST=2 TYP=3
	536	ONDR	8	S	0845.6	0845.8	1.0	56.0			
	536	ONDR	41	F	1029.0	1213.4	121.0	23.0			
	245	SGMR	8	S	1036.0E	1036.0	U	68.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1124.0E	1124.0	1.0D	51.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1211.0E	1212.0	1.0D	53.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1211.0E	1212.0	1.0D	58.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1249.0E	1249.0	1.0D	67.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1249.0E	1250.0	1.0D	54.0			QL=4 ST=2 TYP=3
	2800	OTTA	24	R	1630.0	1744.0		4.7	3.0		
	2800	OTTA	22	GRF	1749.0	1800.0	100.0	5.9	2.0		
	9400	HUAN	45	C	1932.4	1935.6	12.0	474.7	126.4		
	2800	OTTA	3	S	1934.0	1936.8	45.0	228.0	46.0		
	4995	PALE	49	GB	1934.0E	1936.0	5.0D	610.0			QL=4 ST=2 TYP=6
	4995	SGMR	49	GB	1934.0E	1936.0	7.0D	660.0			QL=4 ST=3 TYP=7
	410	SGMR	49	GB	1934.0E	1935.0	5.0D	2000.0			QL=4 ST=3 TYP=7
	8800	SGMR	49	GB	1934.0E	1936.0	8.0D	1100.0			QL=4 ST=3 TYP=7
	1415	PALE	4	S/F	1935.0E	1936.0	4.0D	140.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1935.0E	1936.0	5.0D	1900.0			QL=4 ST=2 TYP=6
	610	PALE	4	S/F	1935.0E	1937.0	4.0D	430.0			QL=4 ST=2 TYP=3
	8800	PALE	49	GB	1935.0E	1936.0	4.0D	960.0			QL=2 ST=2 TYP=6
	2695	PALE	4	S/F	1935.0E	1936.0	4.0D	230.0			QL=4 ST=2 TYP=3
	2695	SGMR	49	GB	1935.0E	1936.0	5.0D	240.0			QL=4 ST=3 TYP=7
	610	SGMR	49	GB	1935.0E	1937.0	5.0D	540.0			QL=4 ST=3 TYP=7
	245	SGMR	49	GB	1935.0E	1936.0	5.0D	1900.0			QL=4 ST=3 TYP=7
	1415	SGMR	49	GB	1935.0E	1936.0	5.0D	140.0			QL=4 ST=3 TYP=7
	15400	SGMR	49	GB	1935.0E	1935.0	5.0D	1300.0			QL=4 ST=3 TYP=7
	9400	HUAN	29	PBI	1944.4	1944.4	75.0	28.4	12.6		
	245	PALE	8	S	2357.0E	2357.0	U	74.0			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
27	245	LEAR	44	NS	0056.0E	2357.0	1384.0D	77.0			QL=4 ST=1 TYP=1
	200	GORK	44	NS	0306.0E		163.0D		5.0		
	100	GORK	44	NS	0306.0E		163.0D		5.0		
	260	ONDR	44	NS	0500.0E	0828.8	700.0D	353.0			
	113	POTS	44	NS	0520.0E	0608.0U	580.0D	140.0			
	234	POTS	44	NS	0520.0E	0842.0U	581.0D	55.0			
	204	IZMI	43	NS	0600.0		360.0	40.0			
	127	TORN	44	NS	0620.0E		520.0D		85.0		V=1
	245	SVTO	44	NS	0727.0E	0728.0	993.0D	87.0			QL=2 ST=3 TYP=1
	245	SGMR	44	NS	1157.0E	1709.0	714.0D	130.0			QL=2 ST=2 TYP=1
	245	PALE	44	NS	1833.0E	2341.0	627.0D	150.0			QL=4 ST=2 TYP=1
	200	HIRA	44	NS	1930.0E	0438.0	860.0D	53.0	36.0		WR
	245	LEAR	44	NS	2339.0E	2341.0	592.0D	140.0			QL=2 ST=2 TYP=1
	245	PALE	8	S	0107.0E	0108.0	1.0D	93.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0129.0E	0129.0	U	100.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0301.0E	0301.0	1.0D	58.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0301.0E	0301.0	1.0D	74.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0459.0E	0500.0	1.0D	58.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0526.0E	0527.0	1.0D	69.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0549.0E	0549.0	U	76.0			QL=2 ST=2 TYP=3
	245	LEAR	8	S	0613.0E	0613.0	U	79.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0613.0E	0613.0	U	93.0			QL=4 ST=2 TYP=3
	536	ONDR	41	F	0632.0	1353.6	528.0	270.0			
	204	IZMI	5	S	0708.4	0708.5	0.3	130.0	100.0		
	245	SVTO	8	S	0722.0E	0722.0	U	53.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0728.0E	0728.0	U	70.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	0728.0E	0728.0	U	87.0			QL=4 ST=2 TYP=3
	430	KRAK	42	SER	0744.8	0835.6	84.5	18.0			
	2950	GORK	20	GRF	1113.9	1136.3	46.1D	6.0			
	2800	OTTA	22	GRF	1626.0	1628.0	79.0	9.5	4.0		
	2800	OTTA	3	S	1647.5	1648.8	4.0	20.3	4.0		
	245	PALE	8	S	1648.0E	1649.0	2.0D	130.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1648.0E	1649.0	2.0D	53.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1648.0E	1649.0	2.0D	150.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1649.0E	1649.0	1.0D	160.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1652.0E	1652.0	U	73.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1652.0E	1652.0	U	61.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1652.0E	1652.0	U	69.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1652.0E	1652.0	U	71.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1705.0E	1705.0	U	78.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1709.0E	1709.0	2.0D	130.0			QL=4 ST=2 TYP=3
	2800	OTTA	20	GRF	1754.0	1930.0	280.0	6.7	3.0		
	2800	OTTA	3	S	2108.5	2110.0	7.0	21.4	6.0		
28	200	GORK	44	NS	0241.0E		247.0D		5.0		
	100	GORK	44	NS	0241.0E		247.0D		5.0		
	260	ONDR	44	NS	0500.0E	1056.2	700.0D	272.0			
	113	POTS	44	NS	0520.0E	1410.0	581.0D	50.0			
	234	POTS	44	NS	0530.0E	0605.5	572.0D	49.0			
	204	IZMI	43	NS	0600.0		360.0	30.0			
	127	TORN	44	NS	0620.0E		520.0D		120.0		V=1
	200	GORK	44	NS	0709.0E		293.0D		5.0		
	100	GORK	44	NS	0709.0E		293.0D		5.0		
	100	HIRA	44	NS	1930.0E		860.0D		40.0		
	200	HIRA	44	NS	1930.0E	0110.0	860.0D	42.0	32.0		WR
	100	GORK	46	C	0424.7	0427.4	4.2	380.0			
	100	GORK	46	C	0424.7	0427.9		2020.0			
	200	GORK	4	S/F	0428.0	0428.4	0.9	75.0			
	100	GORK	4	S/F	0537.5	0538.4	1.1	250.0			
	245	LEAR	8	S	0557.0E	0558.0	1.0D	150.0			QL=2 ST=2 TYP=3
	234	POTS	8	S	0557.7	0558.3	1.0	300.0			
	113	POTS	4	S/F	0557.9	0558.5	1.1	100.0			
	245	SVTO	8	S	0558.0E	0558.0	U	170.0			QL=4 ST=2 TYP=3
	40	POTS	4	S/F	0558.2	0558.5	0.7	1500.0			
	2950	GORK	21	GRF	0624.8	0713.1	120.9	6.0			
	245	SVTO	8	S	0646.0E	0646.0	U	120.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0655.0	0655.5	1.5	400.0			
	2950	GORK	1	S	0740.1	0740.6	1.2	4.0			
	2950	GORK	20	GRF	0844.0	0854.8	12.8	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
28	650	GORK	2	S/F	0851.3	0853.6	4.0	2.0			
	950	GORK	2	S/F	0851.3	0854.7	4.0	8.0			
	9300	KISV	2	S/F	0852.9	0854.7	3.2	11.0			
	9500	POTS	1	S	0853.0	0854.6	4.0	10.0			
	9100	GORK	2	S/F	0853.1	0854.6	2.5	10.0			
	5900	KISV	2	S/F	0853.9	0854.7	1.8	5.0			
	808	ONDR	41	F	0853.9	0854.8	1.8	11.0			
	536	ONDR	3	S	0916.4	0916.6	1.5	18.0			
	2950	GORK	20	GRF	0925.5	1142.0	154.5D	7.0			
	430	KRAK	2	S/F	1020.0	1021.4	1.8	20.0	4.0		
	204	IZMI	42	SER	1054.5	1056.0	2.5	380.0			
	200	GORK	4	S/F	1054.5	1055.9	3.0	230.0			
	234	POTS	4	S/F	1054.7	1055.8	4.0	150.0			
	100	GORK	46	C	1054.9	1056.1		630.0			
	100	GORK	46	C	1054.9	1055.8	2.6	820.0			
	245	SGMR	8	S	1055.0E	1055.0	1.0D	100.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1055.0E	1055.0	1.0D	130.0			QL=4 ST=2 TYP=3
	30	POTS	4	S/F	1055.3	1055.8	3.3	4000.0D			
	113	POTS	4	S/F	1055.4	1055.8	1.8	300.0			
	33	UPIC	46	C	1055.8	1055.9	2.7				
	245	SGMR	8	S	1101.0E	1101.0	1.0D	99.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1101.0E	1101.0	1.0D	130.0			QL=4 ST=2 TYP=3
	9300	KISV	4	S/F	1130.2	1131.2	6.3	25.0			
	9100	GORK	2	S/F	1130.4	1131.2	2.6	21.0			
	5900	KISV	2	S/F	1130.6	1131.3	8.3	11.0			
	15000	KISV	1	S	1130.8	1131.2	0.7	7.0			
	9500	POTS	3	S	1131.0	1131.3	2.5	18.0			
	410	SVTO	49	GB	1136.0E	1136.0	U	540.0			QL=4 ST=3 TYP=6
	245	SGMR	8	S	1142.0E	1142.0	U	100.0			QL=2 ST=2 TYP=3
	5900	KISV	45	C	1207.2	1207.6		2.0			
	5900	KISV	45	C	1207.2	1207.7	1.6	3.0			
	5900	KISV	2	S/F	1341.0	1342.4	4.2	9.0			
	9300	KISV	2	S/F	1341.5	1342.4	2.0	7.0			
	9400	HUAN	21	GRF	1341.6	1411.0	62.0	13.6	6.7		
	9400	HUAN	2	S/F	1356.8	1405.1	11.5	30.7	12.4		
	3000	POTS	20	GRF	1357.0	1405.6	48.0	16.0			
	9500	POTS	20	GRF	1357.0	1405.8	53.0D	31.0			
	5900	KISV	23	GRF	1357.1	1401.6	20.3	17.0			
	9300	KISV	23	GRF	1357.2	1401.6	22.1	26.0			
	1470	POTS	20	GRF	1402.0	1405.0	48.0D	5.0			
	9300	KISV	2	S/F	1402.8	1405.8	5.0	21.0			
	5900	KISV	4	S/F	1402.8	1405.8	4.6	19.0			
	536	ONDR	42	SER	1504.5	1505.0	1.8	48.0			
	9400	HUAN	1	S	1520.4	1522.8	6.7	5.1	3.2		
	245	SGMR	8	S	1739.0E	1739.0	1.0D	60.0			QL=2 ST=2 TYP=3
	9400	HUAN	1	S	1741.9	1744.6	7.3	4.3	1.8		
	2800	OTTA	3	S	1742.0	1744.4	5.0	7.8	2.0		
	245	SGMR	8	S	1847.0E	1848.0	1.0D	200.0			QL=2 ST=2 TYP=3
	2800	OTTA	3	S	1858.0	1858.5	6.0	6.1	1.0		
	9400	HUAN	4	S/F	2029.7	2031.3	6.5	44.3	18.6		
	9400	HUAN	4	S/F	2029.7	2032.6		51.1			
	2800	OTTA	20	GRF	2031.0	2036.0	50.0	4.1	2.0		
	8800	PALE	8	S	2031.0E	2031.0	2.0D	65.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	2031.0E	2032.0	5.0D	76.0			QL=4 ST=2 TYP=3
	9400	HUAN	29	PBI	2036.2	2036.2	45.1	6.8	4.2		
	100	HIRA	46	C	2235.3	2237.6	3.3	840.0	250.0		
	245	PALE	8	S	2237.0E	2238.0	2.0D	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	2237.0E	2238.0	2.0D	98.0			QL=2 ST=2 TYP=3
	500	HIRA	46	C	2237.1	2237.3	2.3	260.0			O
29	100	GORK	44	NS	0255.0E		191.0D		10.0		
	200	GORK	44	NS	0255.0E		191.0D		5.0		
	260	ONDR	44	NS	0500.0E	1023.1	700.0D	232.0			
	113	POTS	44	NS	0530.0E	1416.0	555.0D	120.0			
	234	POTS	44	NS	0544.0E	1458.0U	556.0D	75.0U			
	204	IZMI	43	NS	0600.0		360.0	20.0			
	200	GORK	44	NS	0615.0E		346.0D		10.0		
	100	GORK	44	NS	0615.0E		347.0D		15.0		
	127	TORN	44	NS	0620.0E		520.0D		180.0		V=1

SOLAR RADIO EMISSION
Outstanding Occurrences

JUNE 1990

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	44	NS	0745.0E	1721.0	615.0D	120.0			QL=2 ST=2 TYP=1
	245	SVTO	44	NS	1353.0E	1548.0	247.0D	130.0			QL=2 ST=2 TYP=1
	245	SGMR	44	NS	1354.0E	2152.0	598.0D	190.0			QL=2 ST=2 TYP=1
	200	HIRA	44	NS	1930.0E	2033.0	860.0D	74.0	35.0		MR
	245	PALE	44	NS	2031.0E	2041.0	57.0D	130.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0057.0E	0057.0	1.0D	340.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0057.0E	0057.0	U	360.0			QL=4 ST=2 TYP=3
	200	HIRA	46	C	0139.8	0140.9	1.8	145.0			WR
	245	LEAR	8	S	0140.0E	0141.0	2.0D	85.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0141.0E	0141.0	1.0D	80.0			QL=4 ST=2 TYP=3
	9100	GORK	22	GRF	0245.0E	0547.0	330.0D	22.0			
	5900	KISV	2	S/F	0451.9	0454.0	4.6	3.0			
	9300	KISV	45	C	0531.9	0537.0		8.0			
	9300	KISV	45	C	0531.9	0532.7	7.5	12.0			
	5900	KISV	2	S/F	0532.0	0532.7	7.4	6.0			
	5900	KISV	2	S/F	0544.3	0547.0	8.2	10.0			
	9300	KISV	2	S/F	0544.8	0547.0	5.9	12.0			
	650	GORK	1	S	0618.3	0618.6	0.9	2.0			
	950	GORK	45	C	0650.2	0652.2		3.0			
	650	GORK	46	C	0650.2	0652.2		4.0			
	650	GORK	46	C	0650.2	0650.5	2.5	7.0			
	950	GORK	45	C	0650.2	0650.7	2.4	2.0			
	33	UPIC	3	S	0650.5	0650.9	0.7				
	2950	GORK	1	S	0726.5	0727.7	5.4	4.0			
	5900	KISV	2	S/F	0726.6	0727.7	2.1	5.0			
	9100	GORK	22	GRF	0851.0	1051.0	192.0D	12.0			
	2950	GORK	20	GRF	0954.5	1027.7	128.5D	8.0			
	536	ONDR	41	F	1011.0	1027.7	25.0	14.0			
	650	GORK	4	S/F	1022.2	1028.0	9.6	16.0			
	950	GORK	4	S/F	1022.2	1027.8	9.7	12.0			
	600	HUMN	1	S	1026.0	1027.5	5.0	11.0	5.0		
	810	KRAK	40	F	1027.3	1028.0	4.5	8.0	3.0		
	430	KRAK	2	S/F	1027.4	1028.2	2.0	29.0	7.0		
	808	ONDR	41	F	1027.4	1028.2	6.0	9.0			
	536	ONDR	42	SER	1250.0	1409.9	105.0	52.0			
	245	SGMR	8	S	1348.0E	1348.0	1.0D	61.0			QL=2 ST=2 TYP=3
	410	SVTO	8	S	1438.0E	1440.0	2.0D	69.0			QL=4 ST=2 TYP=3
	2800	OTTA	4	S/F	1601.7	1602.1	1.5	15.5	3.0		
	2800	OTTA	3	S	1643.5	1644.3	2.2	8.0	2.0		
	245	PALE	8	S	2151.0E	2152.0	2.0D	170.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2155.0E	2156.0	2.0D	150.0			QL=4 ST=2 TYP=3
	17000	NOBE	7	C	2229.4	2232.9	10.0	150.0			23L
	2800	OTTA	22	GRF	2230.0	2233.6	130.0	34.3	14.0		
	4995	PALE	4	S/F	2231.0E	2233.0	4.0D	93.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2231.0E	2232.0	4.0D	120.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2231.0E	2232.0	4.0D	150.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	2231.0E	2233.0	4.0D	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	2231.0E	2232.0	2.0D	48.0			QL=4 ST=2 TYP=3
	4995	SGMR	4	S/F	2231.0E	2233.0	4.0D	66.0			QL=4 ST=2 TYP=3
	35000	NOBE	7	C	2231.7	2232.9	4.0	50.0			20L,80GHz:O
	2695	SGMR	8	S	2233.0E	2233.0	U	24.0			QL=4 ST=2 TYP=3
30	200	GORK	44	NS	0251.0E		186.0D		5.0		
	100	GORK	44	NS	0251.0E		186.0D		5.0		
	260	ONDR	44	NS	0500.0E	1405.0	700.0D	197.0			
	234	POTS	44	NS	0543.0E	1246.0U	527.0D	47.0			
	204	IZMI	43	NS	0600.0		360.0	20.0			
	200	GORK	44	NS	0615.0E		195.0D		5.0		
	100	GORK	44	NS	0615.0E		195.0D		5.0		
	127	TORN	44	NS	0620.0E		520.0D		5.0		V=1,DISTURBED
	245	SVTO	44	NS	0745.0E	1648.0	975.0D	110.0			QL=2 ST=1 TYP=1
	245	SGMR	44	NS	1647.0E	1648.0	433.0D	120.0			QL=4 ST=3 TYP=1
	200	HIRA	44	NS	1930.0E		860.0D		9.0		
	500	HIRA	4	S/F	0121.8	0124.4	7.0	6.0			O
	245	PALE	8	S	0133.0E	0133.0	1.0D	57.0			QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0253.0E	0253.0	3.0D	100.0			QL=2 ST=2 TYP=3
	245	PALE	8	S	0253.0E	0253.0	1.0D	110.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0254.0E	0254.0	1.0D	53.0			QL=4 ST=2 TYP=3
	2950	GORK	40	F	0431.0	0431.2	10.3	4.0			

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

JUNE 1990

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	950	GORK	40	F	0431.4	0439.4	21.3	2.0			
	650	GORK	40	F	0431.4	0439.6	18.0	2.0			
	9300	KISV	4	S/F	0433.3	0434.5	4.7	41.0			
	9100	GORK	2	S/F	0433.9	0434.5	3.0	35.0			
	5900	KISV	2	S/F	0434.0	0434.5	2.7	11.0			
	35000	NOBE	1	S	0434.2	0434.4	1.0	27.0			20L,80GHz:0
	17000	NOBE	1	S	0434.2	0434.4	1.0	39.0			25L
	15000	KISV	2	S/F	0434.2	0434.5	2.3	28.0			
	9100	GORK	22	GRF	0558.5	0647.1	211.5	10.0			
	2950	GORK	1	S	0641.2	0643.9	7.2	4.0			
	536	ONDR	27	RF	0658.0	0714.4	240.0	7.0			
	204	IZMI	41	F	0724.5	0725.2	1.0	280.0			
	204	IZMI	41	F	0824.5	0825.4	1.0	480.0			
	9300	KISV	2	S/F	0838.8	0839.0	2.0	7.0			
	5900	KISV	2	S/F	0838.9	0839.0	1.6	3.0			
	430	KRAK	8	S	0941.5	0941.7	0.7	39.0			
	245	SGMR	8	S	1142.0E	1142.0	U	62.0			QL=4 ST=2 TYP=3
	33	UPIC	8	S	1232.2	1232.5	0.8				
	33	UPIC	4	S/F	1240.4	1240.6	0.9				
	245	SGMR	8	S	1404.0E	1404.0	2.0D	80.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1404.0E	1404.0	1.0D	120.0			QL=2 ST=2 TYP=3
	536	ONDR	8	S	1404.0	1404.4	1.2	120.0			
	33	UPIC	46	C	1536.5	1536.8	1.8				
	245	PALE	8	S	1648.0E	1648.0	U	80.0			QL=4 ST=2 TYP=3
	9400	HUAN	3	S	1810.8	1811.7	6.0	73.4	20.6		
	4995	PALE	8	S	1811.0E	1811.0	1.0D	59.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1811.0E	1811.0	1.0D	54.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1811.0E	1811.0	1.0D	57.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1811.0E	1811.0	1.0D	50.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1811.7	1812.1	3.0	20.7	4.0		

Reports are received routinely from the following observatories:

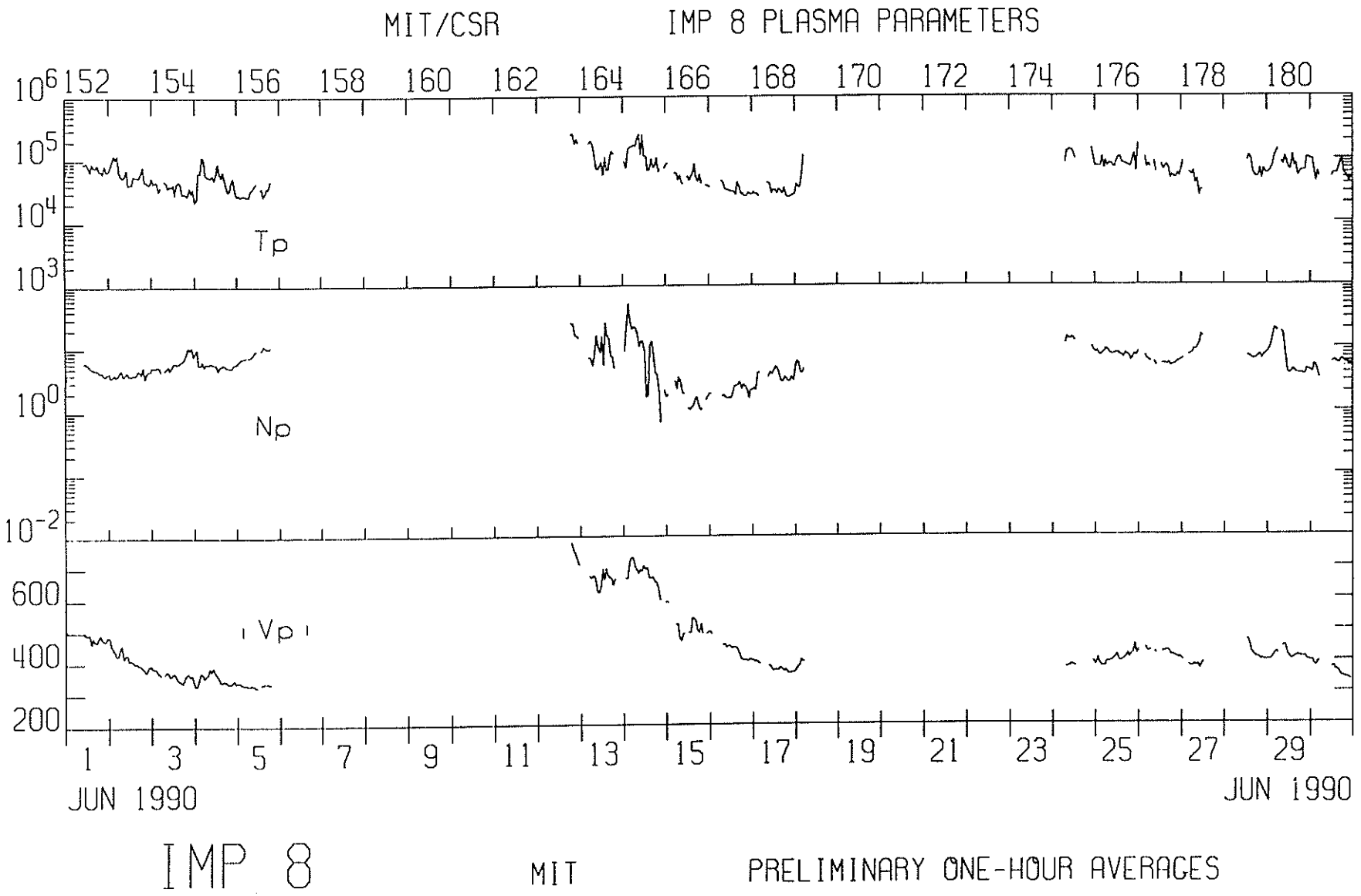
BERN = Berne	IZMI = IZMIRAN	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	KISK = Kislovodsk	OTTA = Ottawa	SYDN = Sydney
GORK = Gorky	KRAK = Krakow	PALE = Palehua	TORN = Torun
HIRA = Hiraiso	LEAR = Learmonth	PENT = Penticton	TRST = Trieste
HUAN = Huancayo	NOBE = Nobeyama	POTS = Potsdam	TYKW = Toyokawa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

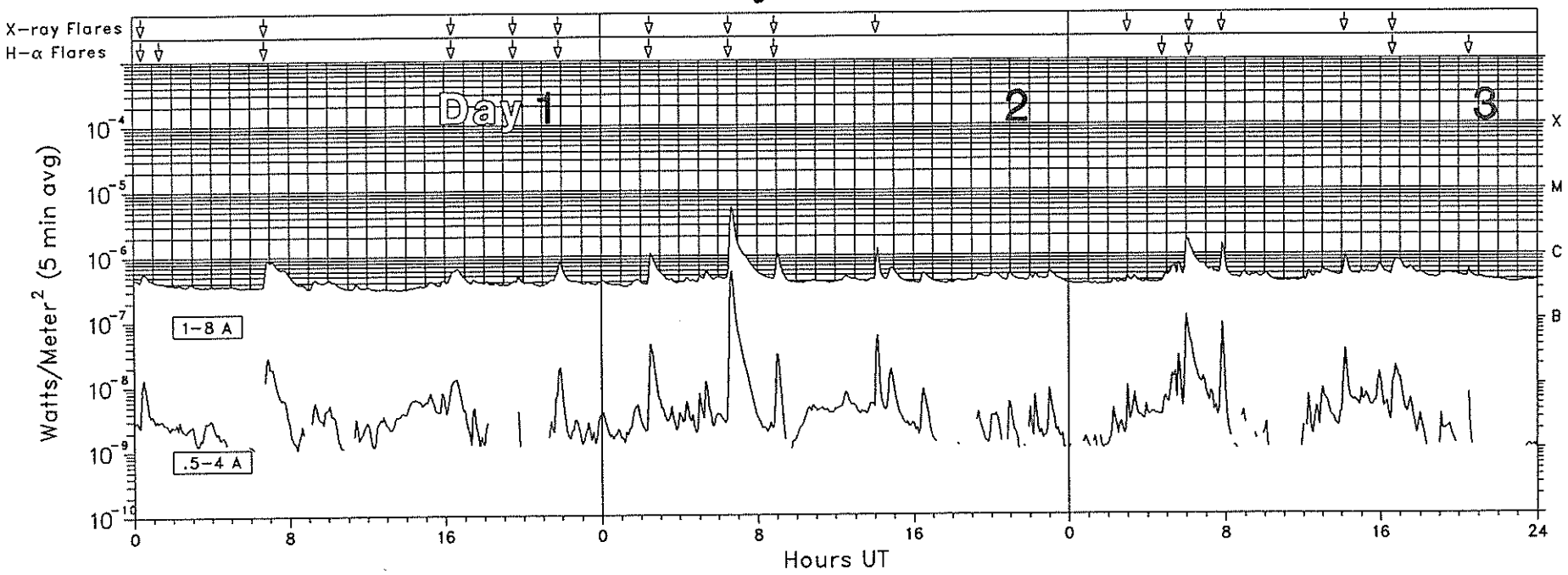
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A

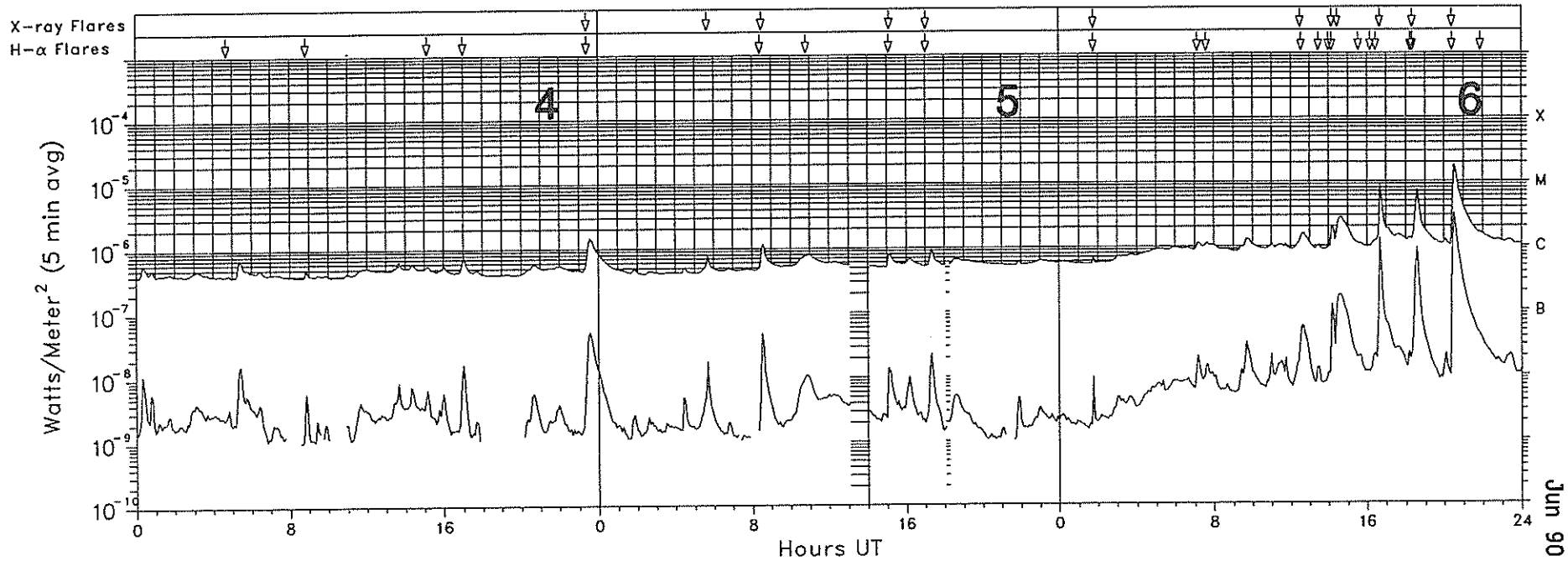
IMP 8 SOLAR WIND PLASMA
JUNE 1990



GOES-7 X-RAY DETECTOR

June 1990

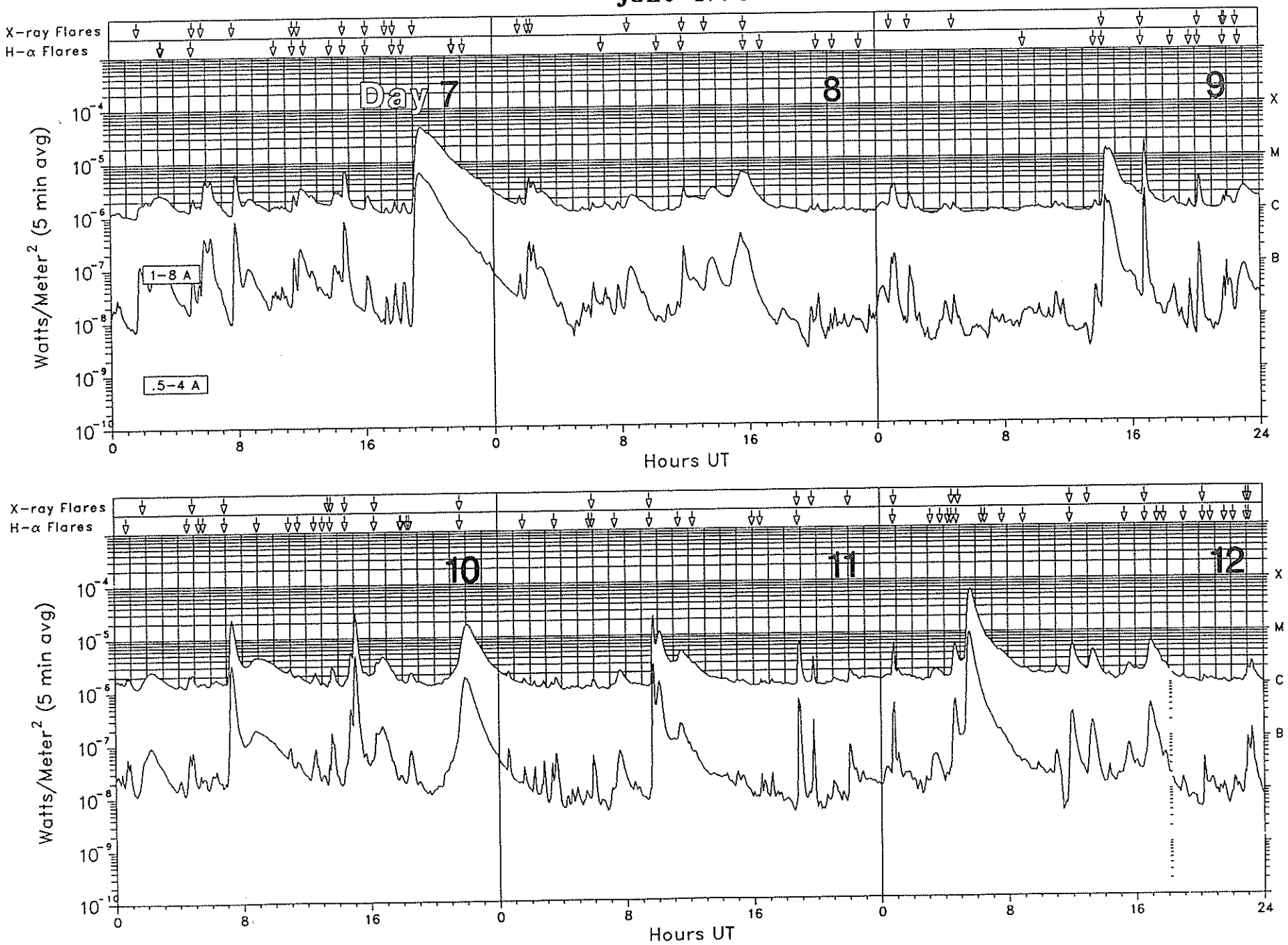




53
Jun 90

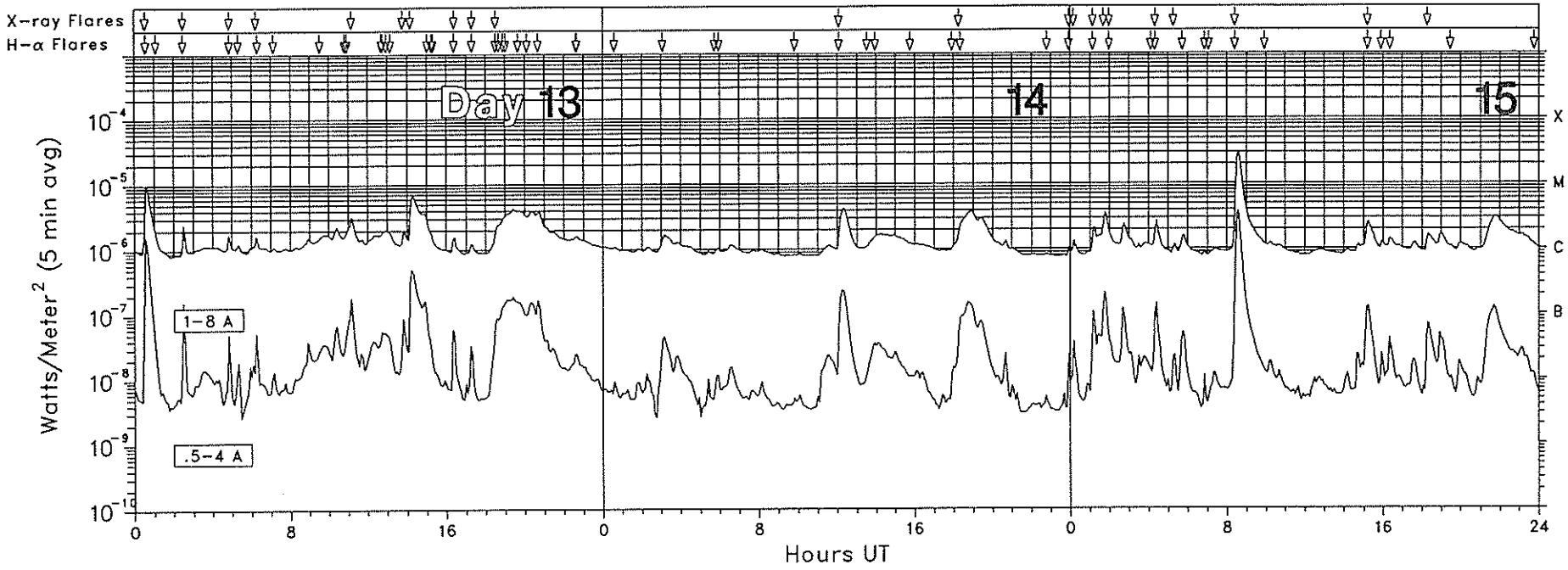
GOES-7 X-RAY DETECTOR

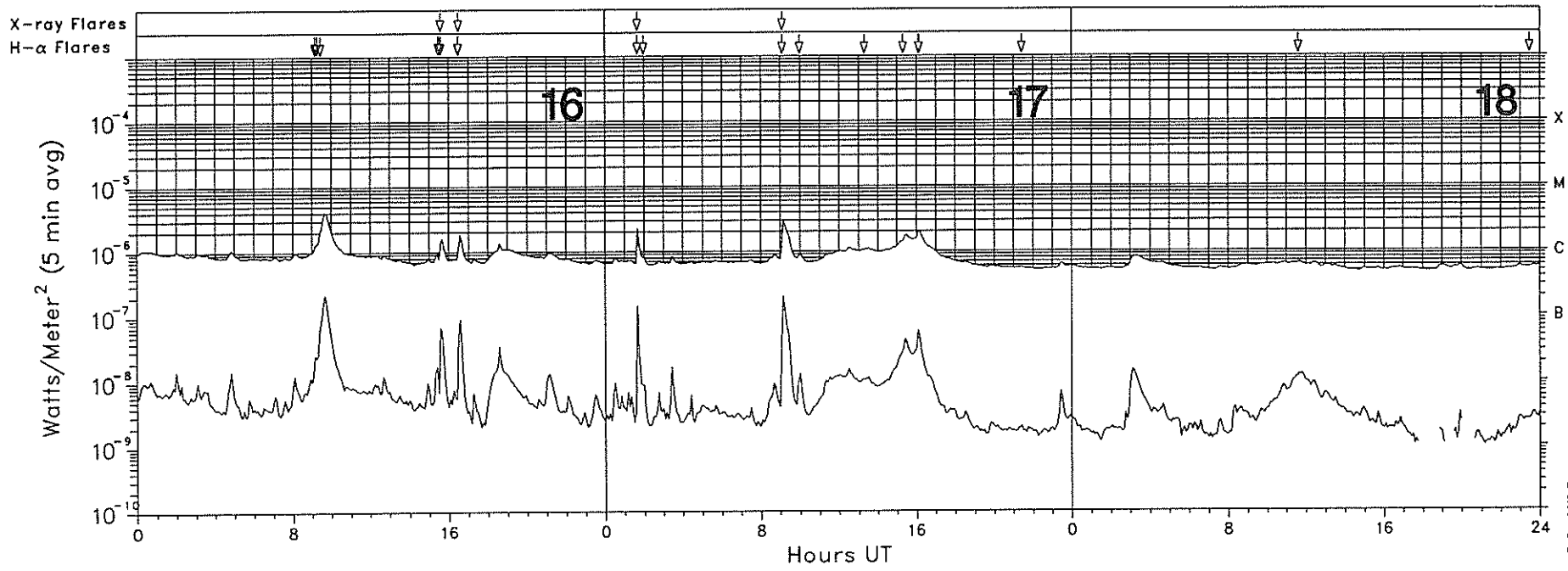
June 1990



GOES-7 X-RAY DETECTOR

June 1990

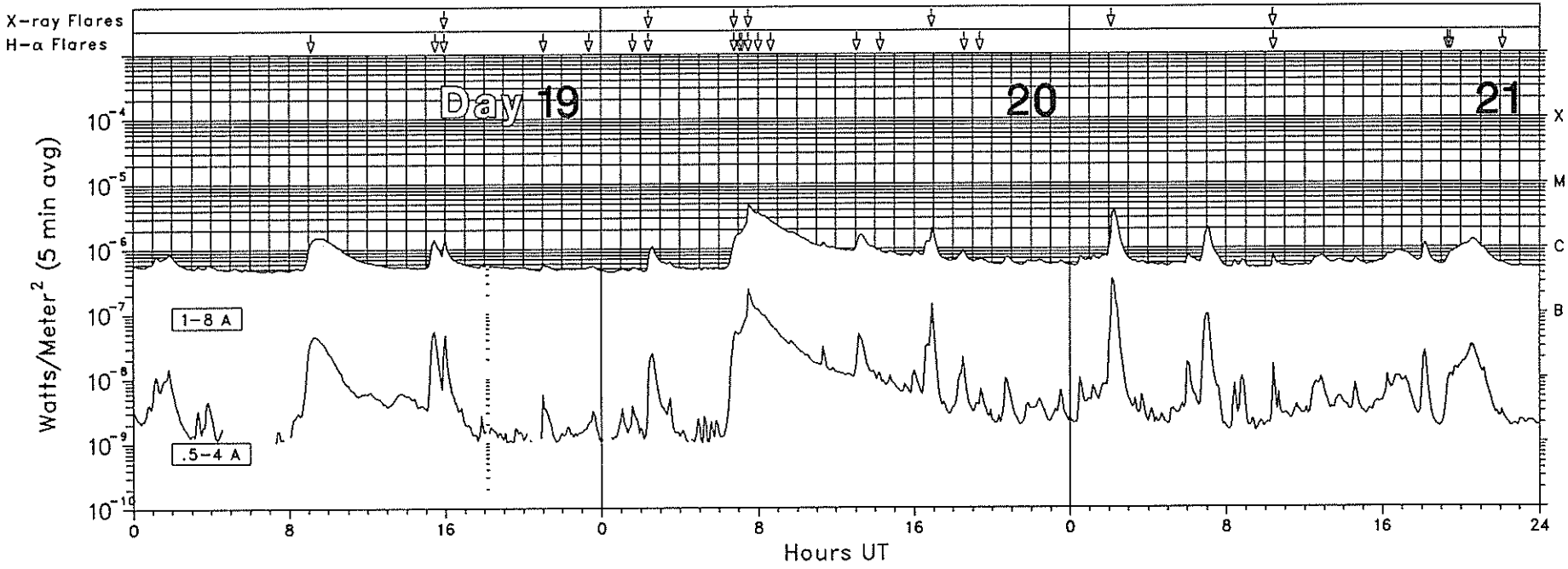


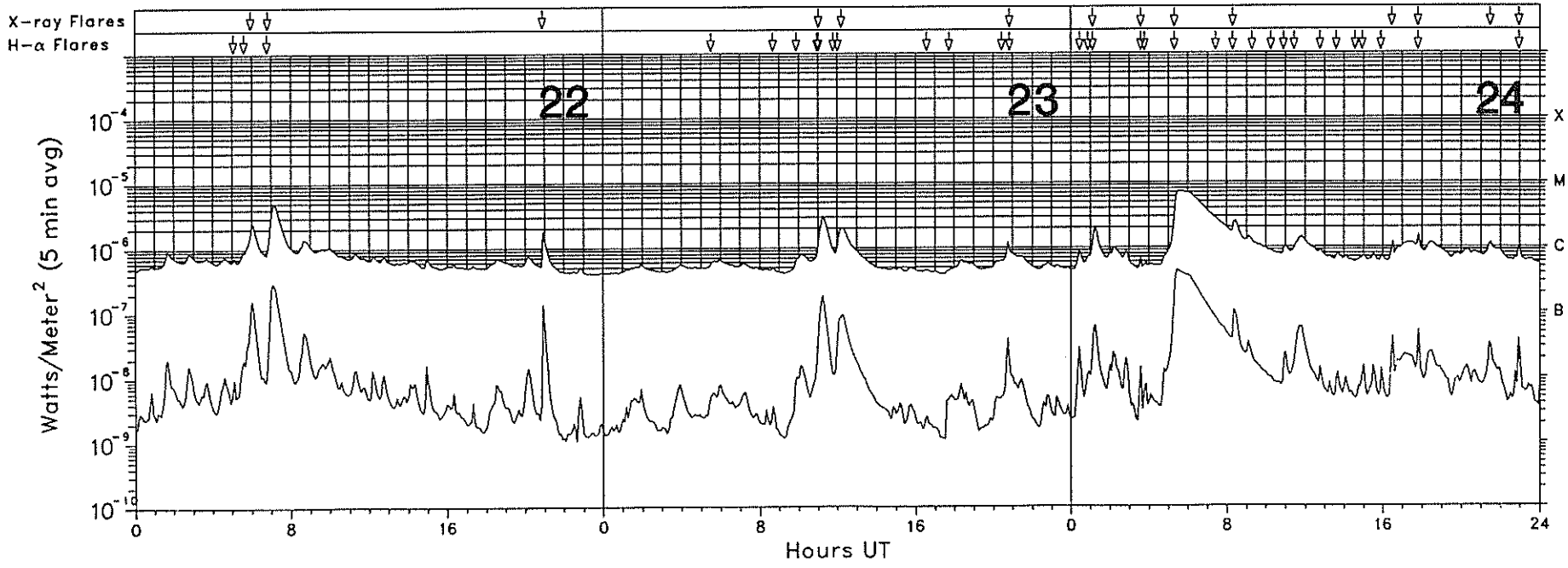


55
Jun 90

GOES-7 X-RAY DETECTOR

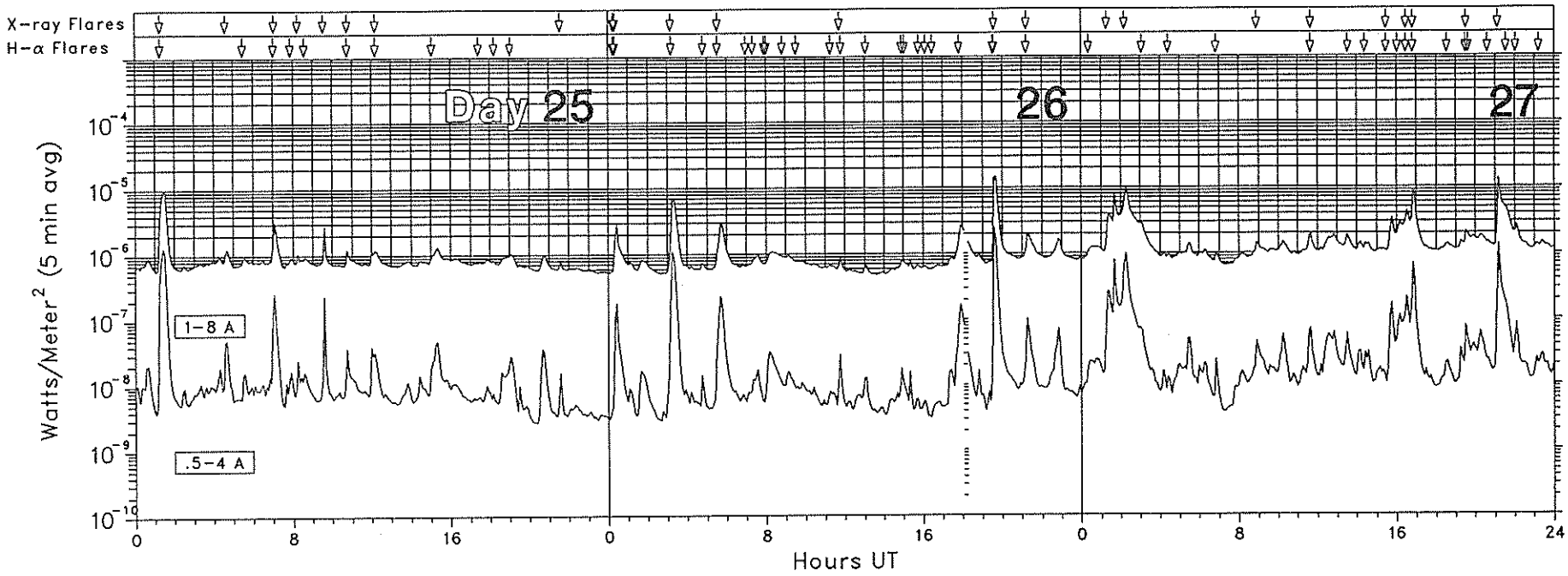
June 1990

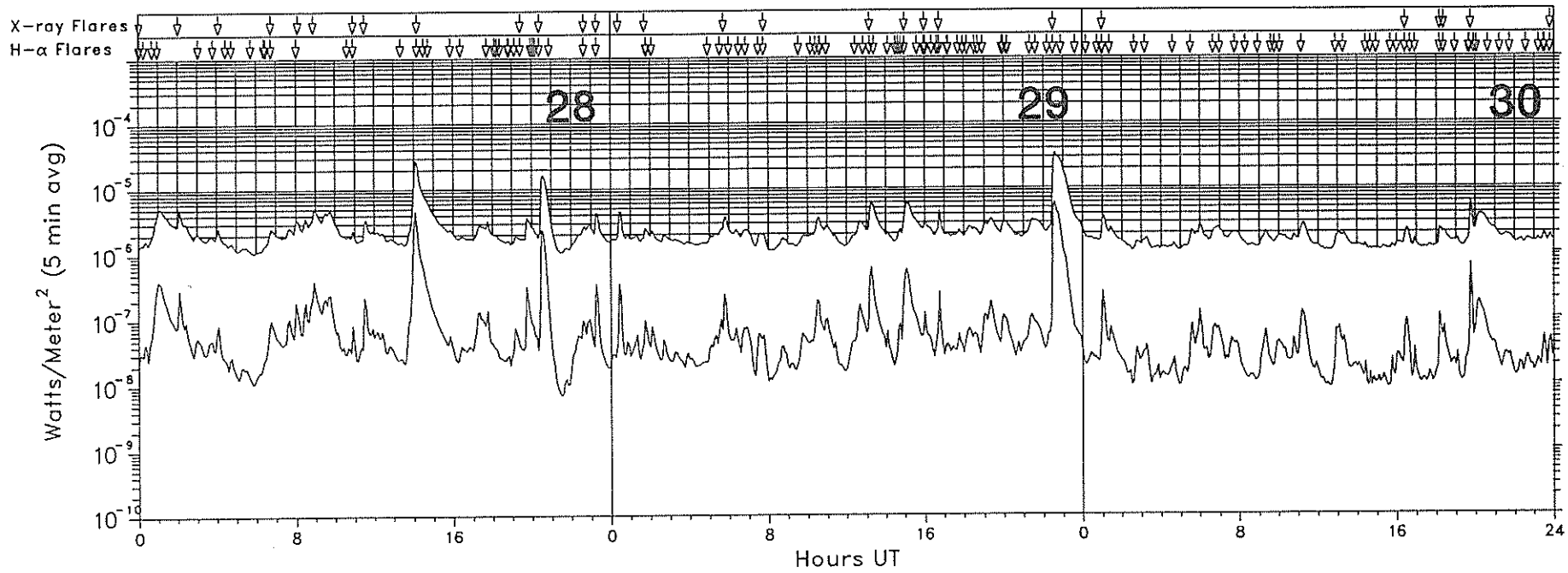




GOES-7 X-RAY DETECTOR

June 1990





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

June 1990

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp	Opt	Xray	NOAA/ USAF Region
01	0027E	0030	0049D	N13	E20		SF	B6.2	6080
01	0646E	0654	0719D	N22	W14		SF	B9.3	6077
01	1622E	1638	1657D	S11	W41		SF	B6.6	6078
01	1932E	1934	1939D	N14	E08		SF	B4.4	6080
01	2151E	2152	2220D	N22	W22		SF	B8.7	6077
02	0229E	0230	0237D	N24	W22		SF	C1.1	6077
02	0632E	0640	0743D	N16	E03		SN	C5.7	6080
02	0854E	0903	0919D	N32	W21		SF	C1.2	6087
02	1405	1411	1417					C1.4	
03	0300	0303	0305					B5.4	
03	0609E	0612	0644D	N15	W10		SF	C1.9	6080
03	0748	0754	0758					C1.6	
03	1407	1413	1420					B9.9	
03	1635E	1636	1651D	N31	W38		SF	B9.2	6087
04	2324E	2338	0030D	N15	W33		SF	C1.4	6080
05	0539	0543	0546					B8.2	
05	0829E	0835	0843D	N07	E57		SF	C1.4	6089
05	1507E	1509	1518D	S08	E44		SF	B9.4	6091
05	1702	1720	1759D	N06	E51		SN	B9.8	6089
06	0145	0148	0150					B7.7	
06	1229	1239	1247					C1.6	
06	1409E	1412	1512D	S19	W72		SF	C2.4	6093
06	1426	1442	1459					C2.7	
06	1638E	1642	1650D	S18	W72		SF	M1.0	6093
06	1820E	1837	1852D	S18	W76		SN	C8.1	6093
06	2024E	2039	2054D	S18	W76		SN	M1.9	6093
07	0144E	0152	0203D	S25	E90		1F	C2.6	
07	0510E	0518	0535D	N09	E32		1N	C2.4	
07	0546	0621	0628					C5.0	
07	0744	0755	0803					C7.1	
07	1129E	1131	1142D	S18	W81		SF	C2.9	6093
07	1149	1202	1229					C3.4	
07	1440E	1445	1457D	S18	W78		SF	C8.4	6093
07	1604E	1606	1624D	S15	E12		SF	C2.4	6088
07	1716	1720	1725					C1.6	
07	1746E	1750	1757D	N28	E80		SF	C2.0	6096
07	1859	1930	2258					M4.5	
08	0137E	0140	0148D	N08	E19		1N	C2.5	6089
08	0211	0217	0220					C5.8	
08	0225	0232	0236					C4.4	
08	0828	0841	0858					C2.2	
08	1154E	1156	1200D	S18	W01		SF	C3.3	6088
08	1319	1347	1408					C2.9	
08	1544E	1555	1620D	N11	E12		SF	C5.7	6089
09	0052	0110	0115					C3.8	
09	0201	0207	0216					C2.2	
09	0448	0451	0457					C1.4	
09	1413E	1423	1553D	S14	E75		1N	M1.4	6100
09	1639E	1648	1715D	N08	W01		2B	M2.5	6089
09	2010	2013U	2030	N34	E86		1F	C4.6	
09	2145E	2145	2151D	N09	W04		SF	C1.7	6089
09	2152E	2155	2234D	N11	W02		SF	C2.2	6089
09	2234	2302	2329					C2.6	
10	0148	0218	0237					C2.5	
10	0454E	0455	0505D	N23	W04		SN	C2.5	6095
10	0656E	0727	1025D	N10	W10		2B	M2.3	6089
10	1325	1328	1330					C1.8	
10	1337	1337U	1356D	N08	W13		SN	C3.1	6089
10	1430E	1506	1552D	N08	W13		1B	M3.3	6089
10	1620E	1643	1700D	N24	W07		SF	C4.5	6095
10	2139	2210	2320D	N09	W17		SF	M1.7	6089
11	0556E	0558	0621D	N08	W18		SF	C1.7	6089
11	0934E	0948	1059D	N10	W22		2B	M4.5	6089
11	1850E	1853	1918D	S25	E67		2N	M1.1	6100
11	1944	1948	1950					C4.9	
11	2200	2207	2216					C2.0	
12	0053	0059	0105D	N24	E24		SF	M1.0	6096
12	0431E	0434	0455D	N11	W32		SF	C6.2	6089
12	0455	0529	0735D	N10	W33		2B	M6.4	6089
12	1155E	1202	1227D	N10	E70		1F	C5.7	
12	1300	1321	1334					C4.4	
12	1637E	1656	1746D	N14	W41		1F	C6.3	6089
12	2013E	2017	2043D	N11	W42		SF	C1.5	6089
12	2258E	2323	2337D	N09	W44		SF	C2.2	6089
12	2307E	2323	2338D	S13	E29		SF	C2.7	6100
13	0033	0038U	0124D	N10	W44		1B	M1.1	6089
13	0228E	0232	0246D	S12	E23		SN	C2.7	6100
13	0452	0453U	0501D	S18	E06		SF	C1.9	
13	0614	0618	0622					C1.7	
13	1110	1114	1117					C3.6	
13	1346E	1420	1501D	N09	W52		1N	C2.1	6089
13	1410E	1419	1442D	N12	W52		1N	C7.0	6089
13	1623E	1624	1644D	N12	W54		SF	C2.2	6089
13	1719E	1719	1726D	N08	W53		SF	C1.4	6089
13	1831	1927	2055					C4.4	
14	1205E	1224	1249D	S31	E34		SN	C4.2	6106
14	1816	1835	1950D	N07	E37		1F	C3.8	6105
14	2355E	2357	0002D	N11	W74		SF	C1.1	6089
15	0009	0012	0015					C1.4	
15	0109E	0110	0128D	S08	E57		SF	C2.5	6107
15	0140E	0144	0158D	S08	E57		SF	C3.6	6107
15	0159E	0239	0322D	N07	E33		SF	C2.4	6105
15	0420E	0424	0532D	S09	E55		SF	C2.8	6107
15	0515E	0518	0521D	S06	E52		SF	C1.3	6107
15	0823E	0844	0918D	S31	E28		2B	M3.1	6106
15	1512	1524U	1544D	N07	E26		SF	C2.6	6105
15	1816	1820	1835					C1.7	
16	1535	1538U	1605	S23	W16		SF	C1.7	6100
16	1630E	1633	1707D	S15	W23		SF	C1.9	6100
17	0140E	0140	0156D	S12	W26		SF	C2.6	6100
17	0906E	0911	0948D	S08	E25		1N	C3.2	6107
19	1556E	1557	1619D	S30	W34		SF	C1.6	6106
20	0225E	0230	0247D	S35	W46		SF	C1.1	6109
20	0646E	0649	0703D	N37	W61		SF	C1.7	6117
20	0729E	0733	0749D	S30	W40		SF	C5.6	6106
20	1653	1659	1703					C2.1	
21	0206E	0212	0232D	S14	W83		2N	C4.2	6100
21	1023	1027	1032					B8.7	
22	0558	0605	0610					C2.6	
22	0648E	0715	0803D	S33	W63		1N	C5.1	6106
22	2054	2058	2105					C1.9	

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

June 1990

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
23	1102	1107	1146D	S20	E74	SF	C3.0	6122
23	1212E	1223	1241D	S19	E69	SF	C2.1	6122
23	2050E	2050	2055D	S22	E73	SF	C1.2	6122
24	0107E	0116	0148	N23	E33	1F	C2.1	6118
24	0334E	0335	0339D	S20	E64	SF	B7.7	6122
24	0517E	0536	0550D	S20	E71	SF	C7.3	6122
24	0818E	0822	0842D	S20	E65	SF	C2.9	6122
24	1627	1631	1633				C1.7	
24	1747E	1750	1753D	S20	E58	SF	C1.7	6122
24	2127	2130	2132				C1.6	
24	2256E	2258	2307D	S22	E57	SF	C1.4	6122
25	0116E	0118	0146	S23	E50	2B	M1.1	6122
25	0436	0441	0446				C1.3	
25	0703E	0705	0716D	S23	E51	SF	C3.3	6122
25	0813	0817	0821				C1.2	
25	0933	0938	0940				C4.0	
25	1044E	1045	1101D	S11	W03	SF	C1.3	6114
25	1211E	1212	1226D	S20	E46	SF	C1.2	6122
25	2133	2136	2138				C1.1	
26	0015E	0028	0050D	S22	E44	1N	C4.0	6122
26	0019E	0021	0030D	S10	E81	SF	C2.8	6126
26	0309	0320	0328				C8.1	
26	0531E	0541	0614D	S20	E37	SF	C3.0	6122
26	1143	1148	1151				C1.0	
26	1934E	1937	2004D	S21	E29	1B	M1.8	6122
26	2113	2119U	2159	S20	E38	SF	C2.1	6122
27	0116	0142	0147				C9.7	
27	0211	0218	0230				M1.0	
27	0855	0859	0904				C1.7	
27	1139E	1141	1144D	S24	E30	SF	C2.2	6122
27	1528E	1545	1600D	S30	E79	SN	C3.5	6132
27	1627E	1630	1652D	S20	E24	1F	C4.8	6122
27	1648E	1651	1719D	N23	W07	SF	C9.2	6130
27	1930E	1931	1941D	S21	E66	SF	C2.2	6131
27	2106	2113	2133				M1.5	
28	0003E	0054	0118	S22	E19	1N	C5.2	6122
28	0203	0208	0212				C6.0	
28	0407		0420D	N08	E56	1F	C2.7	6127
28	0645E	0653	0743D	N09	E58	SF	C2.6	6127
28	0808E	0808	0816D	S10	W44	SF	C3.5	6114
28	0854	0859	0906				C5.2	
28	1056E	1057	1103D	S12	E48	SF	C2.8	6126
28	1129	1134	1142				C3.9	
28	1411E	1417	1424D	N19	E85	SF	M2.9	6133
28	1925E	1939	1946D	S22	E04	SF	C3.9	6122
28	2023E	2034	2049D	N18	E86	1N	M2.1	6133
28	2238E	2239	2249D	N17	E83	SN	C3.7	6133
28	2317E	2320	2324D	N08	E49	SN	C6.2	6127
29	0023	0031	0034				C5.5	
29	0142	0145	0200D	S07	W40	1N	C2.5	6124
29	0544		0548D	N05	E12		C4.3	6125
29	0746E	0747	0754D	N20	E83	SF	C2.1	6133
29	1310E	1315	1336D	N17	E78	SF	C6.3	6133
29	1458E	1500	1535D	N19	E73	SF	C5.9	6133
29	1559E	1601	1615D	N18	E74	SF	C3.4	6133
29	1644E	1645	1702D	S31	E61	SN	C5.7	6132
29	2229E	2235	2323D	N16	E68	1B	M3.8	6133
30	0058E	0101	0109D	S20	E40	SF	C3.9	6131
30	1624E	1630	1648D	S22	E28	1F	C2.5	6131
30	1810E	1812	1825D	S23	E32	SF	C3.1	6131
30	1821E	1831	1843D	S30	E50	SF	C2.8	6132
30	1945E	1949	2011D	N18	E60	SF	C9.7	6133
30	2348E	2348	2358D	S30	E50	SF	C1.9	6132

Preliminary GOES Satellite Data
Daily Average X-ray Background
Jul 1989 - Jun 1990

Day	1989 Jul	Aug	Sep	Oct	Nov	Dec	1990 Jan	Feb	Mar	Apr	May	Jun
1	B9.2	C1.0	C3.9	C1.3	C1.2	C1.6	C1.4	B9.5	C1.1	B7.4	B3.1	B3.1
2	B9.4	B9.2	C2.5	C1.5	C1.4	C1.2	C1.1	B7.8	C1.1	B5.2	B4.2	B3.7
3	C1.1	C1.0	C1.9	C1.6	C1.2	C1.1	C1.1	B8.9	C1.0	B7.8	B2.8	B3.6
4	C1.1	C1.1	C1.9	C1.6	C1.3	C1.5	C1.1	B7.8	B9.1	B6.9	B2.7	B3.8
5	B8.7	C1.8	C1.7	C1.3	C1.3	C1.1	C1.0	B7.7	B7.0	B6.1	B4.4	B4.8
6	B8.2	C1.5	C2.3	C1.2	C1.7	C1.0	C1.0	C1.1	B7.5	B5.4	B5.7	B8.5
7	B7.2	C1.5	C2.1	C1.2	C1.9	C1.5	---	B7.5	B7.4	B4.6	B7.7	C1.2
8	B7.2	C1.1	C2.5	C1.0	C2.5	C1.4	B7.3	B6.1	B6.7	B4.6	B9.8	C1.0
9	B7.0	C1.1	C2.3	C1.3	C2.9	C1.2	B6.2	B5.7	B5.4	B4.8	C1.0	B9.1
10	B6.5	C1.4	C2.7	C1.0	C2.3	B8.9	B6.9	B5.2	B5.9	B6.1	C1.4	C1.3
11	B6.8	C1.7	C2.3	C1.0	C1.7	B8.1	B7.3	B4.6	B8.5	C1.0	C1.5	C1.0
12	B6.2	C2.7	C3.8	---	C1.7	B7.2	B7.5	B4.3	B5.8	C1.2	---	C1.1
13	B7.7	C2.0	C2.3	C2.7	C1.5	B7.3	B7.5	B4.0	B7.1	---	C1.5	C1.0
14	B7.0	C2.7	C1.9	C1.4	C1.8	B7.4	B6.7	B4.1	B8.8	C1.6	C1.3	B8.0
15	B7.4	C4.3	C1.7	C1.4	C2.2	B6.3	B9.5	B4.2	C1.0	C1.6	C1.9	B8.5
16	B7.1	C7.9	C1.9	C1.1	C1.7	B6.2	C1.0	B4.0	C1.2	C1.3	C1.4	B6.9
17	B6.8	C3.5	C1.1	C1.2	C1.6	B6.8	C1.1	B5.9	B9.3	C1.2	C1.4	B5.9
18	B7.8	C1.3	C1.1	C2.0	C1.6	B8.8	C1.2	B8.2	C1.3	C1.7	C1.6	B4.9
19	B7.6	C1.0	C1.4	C3.2	C1.8	C1.1	C1.6	C1.2	C1.6	C1.3	C2.4	B4.8
20	B7.0	C1.1	B8.9	C1.7	C1.4	B9.6	C1.9	C1.1	C1.1	C1.6	C1.8	B5.2
21	B8.6	C1.0	B8.3	C1.6	C1.5	C1.2	C1.9	C1.2	C1.3	C1.4	C1.6	B5.0
22	B7.6	C1.0	B8.9	---	C1.6	C1.5	C1.8	C1.0	C1.9	C1.1	C1.4	B4.6
23	B7.4	C1.5	B8.6	C2.4	C1.3	C1.2	C1.4	C1.1	C1.4	C1.1	C1.6	B4.2
24	B9.2	C1.5	B8.7	C1.8	C1.1	C1.4	C1.5	C1.0	C1.4	C1.0	C1.3	B5.8
25	B9.2	C1.0	C1.1	---	C1.2	C2.2	C1.2	B9.8	C1.1	C1.1	C1.5	B6.0
26	C1.0	B9.3	C1.5	C1.1	C1.3	C2.7	C1.4	B9.5	C1.7	C1.3	C1.4	B5.2
27	B9.5	B9.8	C1.6	C1.4	C1.3	C2.7	C1.0	C1.2	C1.6	C1.0	B6.8	B9.4
28	B8.8	B1.7	C1.8	C1.3	C1.1	C2.6	C1.0	C1.6	C1.8	B5.7	B6.4	C1.3
29	C1.1	C2.7	C2.4	C1.4	C1.2	C2.7	C1.2		C1.3	B3.8	B4.7	C1.3
30	C1.0	C1.5	C1.3	C1.4	C1.8	C2.5	C1.1		C1.2	B3.4	B5.5	C1.1
31	C1.0	C1.6		C1.6		C1.8	C1.0		C1.0		B4.5	

MASS EJECTIONS FROM THE SUN

JUNE 1989

Site	Mo	Day	Observed UT Start	Max	End	Location RA°	R/Ro	Freq or Wavelength	Kind of Event
SGMR	Jun	01	1803.0		1805.0			Meter	II
PALE	Jun	01	1833.0		1834.0			Meter	II
BLEN	Jun	02	0633.6		0641.0			Dekameter; meter	IV
ONDR	Jun	02	0634.0		0639.4			Dekameter; meter	IV
WROC	Jun	02	1010		1055	285	0.1	H-alpha	Q
BLEN	Jun	05	1006.0		1142.5			Meter	IV Pulsations
SVTO	Jun	05	1007.0		1027.0			Meter	IV
ONDR	Jun	05	1008.8		1014.9			Meter	IV
POTS	Jun	05	1010 U		1143			100-170 MHz	IV Zebra patterns
ONDR	Jun	05	1018.1		1024.8			Dekameter; meter	IV
ONDR	Jun	05	1035.5		1054.9			Meter	IV Fiber bursts
ONDR	Jun	05	1107.2		1114.0			Meter	IV
ONDR	Jun	05	1141.0		1142.2			Meter	IV
PALE	Jun	07	1911.0		2014.0			Meter	IV
ONDR	Jun	09	1645.5		1652.0			Dekameter; meter	II
SVTO	Jun	09	1646.0		1657.0			Meter	IV
SGMR	Jun	09	1646.0		1714.0			Meter	IV
BLEN	Jun	09	1649.1		1659.5			Meter	II
WEIS	Jun	09	1649.1		1659.7			380-130 MHz	II
LEAR	Jun	10	0725.0		0928.0			Meter	IV
SVTO	Jun	10	0727.0		0743.0			Meter	IV
SVTO	Jun	10	1512.0		1522.0			Meter	II
SGMR	Jun	10	1513.0		1523.0			Meter	II
WEIS	Jun	10	1513.3		1522.2			130- 30 MHz	II Herringbone
SGMR	Jun	10	2126.0		2214.0			Meter	IV
PALE	Jun	10	2126.0		2352.0			Meter	IV
ONDR	Jun	11	1026.5		1046.0			Meter	IV
SGMR	Jun	11	1954.0		1958.0			Meter	II
CULG	Jun	12	0049		0054			Meter	IV Continuum
CULG	Jun	12	0055		0103			Meter	II Single burst
LEAR	Jun	12	0056.0		0105.0			Meter	II
PALE	Jun	12	0056.0		0109.0			Meter	II
LEAR	Jun	12	0518.0		0928.0			Meter	IV
BLEN	Jun	12	0520.7		0609.8			Dekameter; meter	IV Pulsations
SVTO	Jun	12	0522.0		0535.0			Meter	IV
CULG	Jun	12	0536		0600			Meter	IV Continuum
ONDR	Jun	12	0601.0		0609.8			Dekameter	IV Pulsations
CULG	Jun	12	0613		0613 D			Meter	IV Continuum
KHAR	Jun	14	0935 E		0945 D	278	0.88-0.90	H-alpha	S
BLEN	Jun	15	0826.5		0835.0			Dekameter; meter	IV Weak activity
WEIS	Jun	15	0828.0		0844.2			82- 30 MHz	II Herringbone
LEAR	Jun	15	0828.0		0845.0			Meter	II
SVTO	Jun	15	0828.0		0855.0			Meter	II
KHAR	Jun	15	0835 E	0840 U	1024 D	107-140	0.35-0.67	H-alpha	Q
SGMR	Jun	16	1804.0		1816.0			Meter	II
PALE	Jun	16	1805.0		1813.0			Meter	II
WEIS	Jun	16	1808.1		1813.2			58- 34 MHz	II
SVTO	Jun	20	0653.0		0700.0			Meter	II
WEIS	Jun	20	0654.4		0658.3			42 -34 MHz	II
POTS	Jun	23	1211.0		1223.5			40-140 MHz	II Weak activity
WEIS	Jun	23	1211.6		1219.4			86 -30 MHz	II Herringbone
SGMR	Jun	23	1213.0		1222.0			Meter	II
SVTO	Jun	23	1213.0		1226.0			Meter	II
LEAR	Jun	24	0525.0		0530.0			Meter	II
SVTO	Jun	24	0525.0		0534.0			Meter	II

MASS EJECTIONS FROM THE SUN

JUNE 1990

Site	Mo	Day	Observed UT Start	Observed UT Max	Observed UT End	Location RA°	Location R/Ro	Freq or Wavelength	Kind of Event
CULG	Jun	25	0122		0128			Meter	II
PALE	Jun	25	0123.0		0126.0			Meter	II
LEAR	Jun	25	0123.0		0136.0			Meter	II
CULG	Jun	25	0133		0136			Meter	II
PALE	Jun	25	0133.0		0241.0			Meter	IV
LEAR	Jun	25	0134.0		0400.0			Meter	IV
SGMR	Jun	26	1935.0		1947.0			Meter	II
PALE	Jun	26	1939.0		1946.0			Meter	II
KHAR	Jun	28	0818 E	0826 U	0900 D	083	0.34	H-alpha	S
KHAR	Jun	29	1015 E	1017 U	1020 D	082	0.10	H-alpha	S
KHAR	Jun	30	0934 E		0942 D	207	0.76	H-alpha	S
KHAR	Jun	30	0945 E	0949 U	0956 D	300	0.72	H-alpha	S

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
- BLEN = Bleien
- CULG = Culgoora
- KHAR = Kharkov
- LEAR = Learmonth
- ONDR = Ondrejov
- PALE = Palehua
- POTS = Potsdam
- SGMR = Sagamore Hill
- SVTO = San Vito
- WEIS = Weissenau
- WROC = Wroclaw

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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	0230E	0933D	N18	W11	05	31.3	1	06	3	5	E	LEAR	6077	
01	ASR	0414E	0938D	S17	E90	06	8.0			9	9	E	LEAR		
01	SDF	0429E	0549D	N02	E04	06	1.5		06	0	0	E	SVTO		
01	SDF	0429E	0549D	S32	E12	06	2.1		04	0	0	E	SVTO		
01	AFS	0451E	1740D	S12	W34	05	29.7		02	9	9	E	SVTO	6078	
01	APR	0955E	1234D	S13	W90	05	25.7	2		9	9	E	SVTO	6071	
01	DSD	1130E	1339D	S05	E63	06	6.2		03	9	9	E	RAMY	6085	
01	AFS	1139E	1757D	S10	W36	05	29.9		04	9	9	E	RAMY	6078	
01	DSD	1215E	1412D	S04	E63	06	6.2		02	9	9	E	SVTO	6085	
01	EPL	1243E	1648D	S03	W90	05	25.9	1		9	9	E	SVTO		
01	ADF	1508E	1757D	S18	W57	05	28.4	1	04	9	9	E	RAMY	6081	
01	APR	1626E	1740D	S13	E90	06	8.5	2		9	9	E	SVTO		
01	APR	1644E	1757D	S13	E90	06	8.5	2		9	9	E	RAMY		
01	CRN	1747E	0045D	S18	W90	05	26.0		08	8	6	E	HOLL	6070	
01	AFS	2339E	0938D	S10	W44	05	29.8		03	9	9	E	LEAR	6078	
01	AFS	2340E	0938D	N33	W16	05	31.7		02	9	9	E	LEAR	6087	
02	BSL	0005	0016D	S17	E90	06	8.8	1				C	VORO		
02	DSD	0235	0337	N25	W22	05	31.4		05	9	9	E	LEAR	6077	Flare Associated
02	APR	0414E	0938D	S11	E90	06	8.9	2		9	9	E	LEAR		
02	ASR	0414E	0938D	S17	E90	06	9.0			9	9	E	LEAR		
02	AFS	0440E	0452D	S12	W46	05	29.8		03	9	9	E	PALE	6078	
02	ASR	0440E	0452D	S15	E90	06	9.0			9	9	E	PALE		
02	BSL	0444E	0705D	S17	E90	06	9.0	1				C	ABST		
02	APR	0446E	0448D	S10	E90	06	9.0	1		9	9	E	PALE		
02	ADF	0515E	0747D	N19	W28	05	31.1	1	06	9	9	E	SVTO	6077	
02	ASR	0515E	1030D	S15	E90	06	9.0			9	9	E	SVTO		
02	ADF	0515E	1710D	N16	W57	05	29.0	2	06	9	9	E	SVTO	6076	
02	AFS	0515E	1710D	N31	W21	05	31.6		02	9	8	E	SVTO	6087	
02	APR	0515E	1710D	S12	E90	06	9.0	2		9	9	E	SVTO	6088	
02	AFS	0515E	1710D	S12	W47	05	29.8		04	9	9	E	SVTO	6078	
02	DSD	0854E	1030D	N33	W23	05	31.5		07	9	9	E	SVTO	6087	Flare Associated
02	DSD	0907E	0938D	N33	W21	05	31.7		07	9	9	E	LEAR	6087	
02	APR	1137E	1537D	S12	E90	06	9.3	2		9	9	E	RAMY		
02	AFS	1141E	2108D	S11	W50	05	29.8		03	9	9	E	RAMY	6078	
02	ADF	1144E	2108D	N20	W33	05	31.0	1	05	9	9	E	RAMY	6077	
02	ASR	1319E	1642D	S19	E90	06	9.4			8	8	E	HOLL		
02	SSB	1435		239	W22	06	5.6			0	0	E	HOLL		290 W73
02	APR	1642E	2242D	S14	E90	06	9.5	1		9	9	E	HOLL	6088	
02	DSD	1728E	2242D	N13	W06	06	2.3		04	9	9	E	HOLL	6080	
02	AFS	1837E	0358D	S12	W56	05	29.6		03	9	9	E	PALE	6078	
02	APR	1901E	0358D	S13	E90	06	9.6			9	9	E	PALE		
02	ADF	1922E	0358D	N19	W37	05	31.0	1	04	9	9	E	PALE	6077	
02	AFS	1937E	0140D	N32	W28	05	31.6		03	9	9	E	PALE	6087	
02	APR	2030E	0358D	N78	W90	05	25.6			9	9	E	PALE		
02	DSD	2220E	0005D	N20	W26	05	31.9		04	9	9	E	HOLL	6077	Flare Associated
02	ADF	2233	0025D	N36	W10	06	2.1	1				C	VORO		
02	APR	2321	0025D	S14	E90	06	9.8	1				C	VORO		
02	APR	2335	0025D	N19	W90	05	27.2	1				C	VORO		
03	APR	0045	0200D	S14	E90	06	9.8	1				C	VORO		
03	AFS	0225E	0936D	S20	E31	06	5.5		02	9	9	E	LEAR		
03	APR	0227E	0936D	N34	E83	06	9.7	2		9	9	E	LEAR		
03	ADF	0230E	0936D	N13	W25	06	1.2	2	12	9	9	E	LEAR	6080	
03	APR	0540E	0935D	S15	E73	06	8.8	2		8	7	E	LEAR	6088	
03	AFS	0940E	0959D	S11	W65	05	29.6		04	9	9	E	SVTO	6078	
03	DSD	0940E	0959D	S14	E71	06	8.8		08	9	9	E	SVTO	6088	
03	AFS	0940E	0959D	S16	E68	06	8.6		02	9	9	E	SVTO	6088	
03	DSD	0940E	0959D	S17	E69	06	8.6		04	9	9	E	SVTO	6088	
03	SDF	0959E	0447D	N30	W17	06	2.1		06	0	0	E	SVTO		
03	ADF	1045E	2104D	N20	W45	05	31.0	1	06	9	9	E	RAMY	6077	
03	DSD	1051E	1404D	S03	E37	06	6.2		03	9	9	E	RAMY	6085	
03	SSB	1113		226	W20	06	5.4			0	0	E	RAMY		257 W51
03	AFS	1224E	0159D	S11	W65	05	29.7		02	9	9	E	HOLL	6078	
03	DSD	1235E	1520D	S03	E34	06	6.1		02	8	7	E	HOLL	6085	
03	ADF	1240E	0159D	N22	E33	06	6.1	1	03	9	9	E	HOLL	6086	
03	ADF	1245E	2054D	S16	E65	06	8.5	1	25	9	9	E	HOLL	6088	
03	SSB	1255		245	W40	06	7.2			0	0	E	HOLL		266 W61 277 W72
03	ASR	1413E	1537D	N20	E88	06	10.3			9	9	E	RAMY		
03	ADF	1537E	1824D	S08	W64	05	29.9	2	05	9	9	E	HOLL	6078	

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
03	DSD	1635E	1903D	N13	W18	06	2.3		03	9	9	E	HOLL	6080	
03	SDF	2005E	1315D	S02	E45	06	7.2		10	0	0	E	HOLL		
03	ADF	2250E	0500D	N12	W23	06	2.2	2	05	9	9	E	PALE	6080	
03	APR	2315	0200D	N36	E90	06	11.2	1				C	VORO		
03	APR	2315	0200D	N40	W90	05	27.7	1				C	VORO		
04	AFS	0010E	0500D	S20	E32	06	6.4		01	9	9	E	PALE		
04	DSD	0510E	1413D	N10	E71	06	9.5		16	9	9	E	SVTO	6089	
04	AFS	0510E	1414D	S21	E28	06	6.4		02	9	9	E	SVTO		
04	AFS	0510E	1733D	S13	W77	05	29.5		03	9	9	E	SVTO	6078	
04	ADF	0525E	1733D	S09	E69	06	9.4	1	08	8	8	E	SVTO	6088	
04	ADF	0525E	1733D	S18	E59	06	8.7	1	18	9	9	E	SVTO	6088	
04	ADF	0632E	1733D	N20	W58	05	30.9	1	06	9	9	E	SVTO	6077	
04	DSD	1110E	1215D	S15	W04	06	4.2		02	9	9	E	RAMY	6084	
04	AFS	1211E	1529D	S11	W80	05	29.6		02	9	9	E	RAMY	6078	
04	AFS	1436E	1733D	S15	W07	06	4.1		02	9	9	E	SVTO	6084	
04	AFS	1519E	1852D	S11	W79	05	29.8		02	9	9	E	HOLL	6078	
04	BSD	1519E	1852D	S11	W80	05	29.7		03	9	9	E	HOLL	6078	
04	APR	1534E	2213D	N32	E90	06	11.8			9	9	E	HOLL		
04	ADF	1540E	1751D	N13	W26	06	2.7	1	07	9	9	E	RAMY	6080	
04	AFS	1602E	0200D	S15	W07	06	4.1		02	9	9	E	HOLL	6084	
04	DSD	1608E	1901D	S04	E19	06	6.1		02	9	9	E	HOLL	6085	
04	ADF	1618E	0200D	S19	E51	06	8.6	1	08	9	9	E	HOLL	6088	
04	APR	1700E	0447D	S40	E90	06	12.0			8	9	E	PALE		
04	APR	1713E	0447D	N41	E90	06	12.1			9	9	E	PALE		
04	SDF	1733E	1027D	N27	E19	06	6.2		14	0	0	E	SVTO		
04	DSD	1745E	1751D	N20	W57	05	31.4		05	9	9	E	RAMY	6077	
04	DSD	1759E	0447D	N10	E72	06	10.1		04	9	9	E	PALE	6089	
04	DSD	1759E	0447D	N14	E70	06	10.0		04	9	9	E	PALE	6089	
04	ADF	1759E	0447D	N17	W34	06	2.2	1	04	9	9	E	PALE	6080	
04	ADF	1759E	0447D	N19	W60	05	31.2	1	06	9	9	E	PALE	6077	
04	AFS	1759E	0447D	S06	E24	06	6.5		05	9	8	E	PALE	6085	
04	DSD	1759E	0447D	S19	E50	06	8.6		07	9	9	E	PALE	6088	
04	SDF	2141E	2138D	N31	E36	06	7.7		12	0	0	E	PALE	6086	
05	APR	0505E	0805	S45	E90	06	12.7					V	ATHN		
05	ASR	0810E	1639D	S13	W90	05	29.6			9	9	E	SVTO	6078	
05	ASR	1020E	1045D	N18	W87	05	29.9			9	9	E	SVTO	6075	
05	DSD	1024E	1710D	N07	E54	06	9.5		03	9	9	E	RAMY	6089	
05	ADF	1026E	1908D	S14	E51	06	9.3	1	12	9	9	E	RAMY	6088	
05	ADF	1032E	1736D	N24	E19	06	6.9	1	14	9	9	E	RAMY	6086	
05	AFS	1035E	1845D	S05	E10	06	6.2		02	9	9	E	RAMY	6085	
05	AFS	1043E	1845D	S15	W17	06	4.1		03	9	9	E	RAMY	6084	
05	ADF	1203E	1639D	S17	E40	06	8.5	1	05	9	9	E	SVTO	6088	
05	ASR	1430E	1856D	N15	W87	05	30.1			9	9	E	RAMY	6077	
05	ASR	1504E	1730D	S09	W90	05	30.0			9	9	E	HOLL		
05	DSD	1511E	1540D	S09	E44	06	8.9		07	9	9	E	HOLL		Flare Associated
05	DSD	1513E	1639D	S08	E44	06	8.9		05	9	9	E	SVTO	6091	
05	DSD	1517E	1541D	S08	E44	06	8.9		05	9	9	E	RAMY		
05	ADF	1908E	0200D	N14	W42	06	2.6	1	02	9	9	E	HOLL	6080	
05	DSD	1941E	0347D	N10	E55	06	9.9		03	9	9	E	PALE	6089	
05	AFS	1941E	0347D	N26	E61	06	10.5		02	9	9	E	PALE		
05	AFS	1941E	0347D	S12	W05	06	5.4		02	9	9	E	PALE		
05	APR	1945E	0347D	S22	E90	06	12.7			9	9	E	PALE		
05	DSD	1950E	0347D	N14	W44	06	2.5		02	9	9	E	PALE	6080	
05	SDF	2138E	2137D	N10	W27	06	3.9		06	0	0	E	PALE	6080	
05	SDF	2138E	2137D	S12	E21	06	7.5		10	0	0	E	PALE	6085	
06	ADF	0128E	0154D	N42	W27	06	3.8	1				C	VORO		
06	ADF	0128E	0154D	S41	E10	06	6.9	1				C	VORO		
06	APR	0131E	0148D	N36	E90	06	13.3	1				C	VORO		
06	APR	0131E	0148D	S23	E90	06	13.0	1				C	VORO		
06	AFS	1016E	1635D	N17	E50	06	10.2		02	9	9	E	RAMY	6092	
06	ADF	1016E	1912D	N21	E60	06	11.0	1	07	9	9	E	RAMY	6092	
06	ADF	1020E	1635D	S03	E45	06	9.8	1	09	9	9	E	RAMY	6091	
06	ASR	1300E	1842D	S14	E90	06	13.3			9	9	E	HOLL		
06	ADF	1307E	1849D	N16	W51	06	2.7	1	04	9	9	E	HOLL	6080	
06	ADF	1322E	2031D	S04	W02	06	6.4	1	02	9	9	E	HOLL	6085	
06	ADF	1404E	2019D	N02	E44	06	9.9	1	09	9	9	E	HOLL	6089	
06	SSB	1430		164	W00	06	11.4			0	0	E	HOLL		167 W03 184 W20

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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
06	SSB	1430		223	W59	06	8.6			0	0	E	HOLL		
06	SSB	1641		164	W00	06	11.5			0	0	E	RAMY		
06	BSD	1641E	1733D	S18	W72	06	1.2		08	9	9	E	RAMY	6093	Flare Associated
06	BSD	1648E	1710D	S19	W76	05	31.9		12	9	9	E	PALE	6093	Flare Associated
06	AFS	1705E	0500D	N08	E40	06	9.7		03	9	9	E	PALE	6089	
06	ADF	1705E	0500D	N11	E40	06	9.7		09	9	9	E	PALE	6089	
06	AFS	1705E	0500D	N27	E49	06	10.5		02	8	8	E	PALE		
06	ASR	1705E	0500D	N28	E88	06	13.6			9	9	E	PALE		
06	AFS	1705E	0500D	S05	W06	06	6.3		03	9	9	E	PALE	6085	
06	AFS	1705E	0500D	S12	W17	06	5.4		02	9	9	E	PALE	6094	
06	BSD	1756E	1838D	S19	W73	06	1.2		17	9	9	E	HOLL	6093	
06	BSD	1800E	1956D	S20	W76	05	31.9		15	9	9	E	PALE	6093	
06	DSD	1820E	0500D	N09	E39	06	9.7		05	9	9	E	PALE	6089	
06	ASR	1905E	1956D	S24	E90	06	13.7			9	9	E	PALE		
06	ASR	1907E	1943D	S28	E90	06	13.8			9	9	E	HOLL		
06	BSD	1922E	1941D	S18	W77	05	31.9		04	4	6	E	HOLL	6093	
06	DSD	2000E	0210D	N15	W58	06	2.4		02	9	9	E	PALE	6080	
06	ASR	2010E	2100D	S29	E90	06	13.9			9	9	E	HOLL		
06	ASR	2012E	0205D	S25	E90	06	13.8			9	9	E	PALE		
06	BSD	2017	2100D	S18	W80	05	31.7		02	9	9	E	HOLL	6093	Flare Associated
06	BSD	2038E	2100D	S19	W79	05	31.8		13	9	9	E	PALE	6093	Flare Associated
06	ASR	2120E	2134D	N22	W90	05	31.0			9	9	E	HOLL	6077	
06	ASR	2305E	2306D	S29	E90	06	14.0			0	0	E	HOLL		
07	APR	0203E	0500D	S24	E90	06	14.0	2		9	9	E	PALE		
07	BSD	0232E	0500D	S19	W83	05	31.8		05	9	9	E	PALE	6093	
07	AFS	0750E	1704D	N30	E11	06	8.2		02	9	9	E	SVTO	6089	
07	ASR	0805E	1704D	S18	W90	05	31.5			9	9	E	SVTO	6093	
07	LPS	1048	1144	S18	W80	06	1.3			9	9	E	RAMY	6093	
07	AFS	1141E	2107D	N07	E29	06	9.6		02	9	9	E	RAMY	6089	
07	APR	1202	1218	S22	E90	06	14.4	2		9	9	E	RAMY		
07	EPL	1218	1240D	S22	E90	06	14.4	2		9	9	E	RAMY		
07	ASR	1236E	2209D	S18	W81	06	1.3			9	9	E	RAMY	6093	
07	ADF	1322E	0115D	S03	W07	06	7.0	1	02	9	9	E	HOLL	6085	
07	SPY	1446	1506	S19	W90	05	31.7			9	9	E	RAMY	6093	Flare Associated
07	ASR	1449E	2345D	S19	W90	05	31.7			9	9	E	HOLL	6093	Flare Associated
07	ADF	1454E	2345D	N09	E23	06	9.3	2	04	9	9	E	HOLL	6089	
07	ADF	1527E	1704D	S10	E28	06	9.7	1	06	9	9	E	SVTO	6089	
07	SSB	1528		183	W32	06	14.2			0	0	E	RAMY		201 W50
07	DSD	1634E	2209D	N08	E23	06	9.4		04	9	9	E	RAMY	6089	
07	AFS	1700E	2107D	N11	W18	06	6.3		02	9	9	E	RAMY		
07	ASR	1724E	0226D	S19	W90	05	31.8			9	9	E	PALE	6093	
07	AFS	1740E	0040D	N11	W18	06	6.4		02	9	9	E	PALE		
07	BSD	1755E	1843D	N26	E76	06	13.6		04	9	9	E	RAMY		Flare Associated
07	DSD	1818E	0455D	N08	E21	06	9.3		03	9	9	E	PALE	6089	
07	AFS	1818E	0455D	N12	E24	06	9.6		03	9	9	E	PALE	6089	
07	ADF	1843E	2209D	N27	E72	06	13.4	2	07	9	9	E	RAMY		
07	LPS	1950E	2345D	S18	E90	06	14.7			9	9	E	HOLL		
07	LPS	2028E	0218D	S19	E90	06	14.7			9	9	E	PALE		
07	ASR	2305E	2306D	S29	E90	06	15.0			0	0	E	HOLL		
07	DSD	2335E	2345D	N09	E18	06	9.3		03	9	9	E	HOLL	6089	
08	EPL	0226E	0303D	S19	W90	06	1.2			9	9	E	PALE	6093	
08	ASR	0305E	0455D	S19	W90	06	1.3			9	9	E	PALE	6093	
08	ADF	0500E	1456D	N26	E31	06	10.6	1	05	9	9	E	SVTO	6095	
08	CRN	0508E	0521	S15	E90	06	15.0		11	7	9	E	SVTO		
08	ADF	0945E	1246D	N05	E18	06	9.7	2	08	9	9	E	SVTO	6089	
08	SSB	1100		158	W18	06	12.9			0	0	E	RAMY		
08	DSD	1155	1223	S19	W02	06	8.3		03	9	9	E	RAMY	6088	Flare Associated
08	AFS	1204E	1616D	N06	E14	06	9.5		03	6	6	E	RAMY	6089	
08	AFS	1355E	1622D	S10	E23	06	10.3		02	9	9	E	RAMY		
08	SDF	1428E	0455D	S53	E16	06	10.0		14	0	0	E	SVTO		
08	DSD	1552	1615D	N05	E14	06	9.7		04	9	9	E	RAMY	6089	Flare Associated
08	ADF	1558E	0004D	N10	E90	06	15.4	1	06	9	9	E	HOLL	6089	
08	DSD	1558E	2333D	N05	E14	06	9.7		03	9	9	E	HOLL	6089	Flare Associated
08	ADF	1600E	2333D	S02	E12	06	9.6	1	04	9	9	E	HOLL	6091	
08	DSD	2110E	0000D	N09	E10	06	9.6		04	9	9	E	PALE	6089	
08	AFS	2231E	0000D	N24	W34	06	6.3		02	9	8	E	PALE	6086	
08	ADF	2234E	0000D	S16	W01	06	8.9	1	03	9	9	E	PALE	6088	
08	DSD	2234E	0259D	S19	W05	06	8.5		02	9	8	E	PALE	6088	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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	DSD	2250E	0000D	N10	E08	06	9.5		02	9	9	E	PALE	6089	
08	AFS	2322E	0317D	S09	E18	06	10.3		01	9	9	E	PALE	6097	
08	ADF	2325E	0000D	S16	E54	06	13.1	1	07	9	9	E	PALE	6098	
08	APR	2335E	0322D	N07	E90	06	15.7	2		9	8	E	PALE		
09	ADF	0718E	0915D	N11	E09	06	10.0	1	04	9	9	E	SVTO	6089	
09	ASR	0723E	0828D	S12	E90	06	16.1			9	9	E	SVTO	6100	
09	APR	0815E	0918	N40	E90	06	16.7	1				V	KHAR		
09	ADF	0918	0935D	N33	E82	06	15.9	1				V	KHAR		
09	ADF	1000E	1037D	N33	E80	06	15.8	1				V	KHAR		
09	ADF	1027E	1740D	N11	E08	06	10.0	2	04	9	9	E	SVTO	6089	
09	ADF	1033E	2145D	N31	E67	06	14.7	1	23	9	9	E	RAMY	6096	
09	SSB	1058		129	W03	06	11.6			0	0	E	RAMY		167 W41
09	DSD	1106E	1539D	N07	W01	06	9.4		04	9	9	E	RAMY	6089	
09	AFS	1209E	1740D	N23	E05	06	9.9	1	03	9	9	E	SVTO	6095	
09	DSD	1339E	1430D	N23	E45	06	13.0		03	9	9	E	RAMY	6096	
09	DSD	1602E	2109D	N05	E00	06	9.7		06	9	9	E	RAMY	6089	Flare Associated
09	DSD	1653E	2130D	N07	E00	06	9.7		04	9	9	E	HOLL	6089	Flare Associated
09	ADF	1723E	2145D	N29	E40	06	12.9	1	05	9	9	E	RAMY		
09	ADF	1740E	0500D	N10	E01	06	9.8	1	06	9	7	E	PALE	6089	
09	DSD	1740E	2200D	N07	E00	06	9.7		02	9	9	E	PALE	6089	
09	ADF	1800E	1805D	N33	E68	06	15.1	2	12	9	9	E	PALE		
09	AFS	1801E	2149D	N24	E04	06	10.0		03	9	9	E	HOLL	6095	
09	APR	1819E	2025D	N34	E90	06	16.9			9	9	E	PALE		
09	ADF	1835E	2149D	N27	W51	06	5.8	1	05	9	9	E	HOLL	6086	
09	AFS	1846E	0500D	S12	E77	06	15.6		02	9	9	E	PALE	6100	
09	BSD	2007E	2013	N35	E85	06	16.6		15	9	9	E	HOLL		Flare Associated
09	BSL	2013E	2100D	N35	E90	06	17.0			9	9	E	HOLL		Flare Associated
09	BSL	2025E	2200D	N33	E90	06	17.0			9	9	E	PALE		Flare Associated
09	APR	2104E	2145D	N36	E90	06	17.1	2		9	9	E	RAMY		
09	APR	2110E	2149D	N35	E90	06	17.1	2		9	9	E	HOLL		
09	AFS	2130E	2149D	N09	W04	06	9.6		02	6	9	E	HOLL	6089	
10	ADF	0020E	0500D	S05	W49	06	6.3	1	03	9	9	E	PALE	6085	
10	DSD	0027E	0500D	N08	W04	06	9.7		01	9	9	E	PALE	6089	
10	APR	0030E	0427D	S13	W90	06	3.2			8	7	E	PALE	6084	
10	AFS	0037E	0500D	N25	E01	06	10.1		02	9	9	E	PALE	6095	
10	BSD	0053E	0133D	N36	E90	06	17.3		03	9	9	E	PALE		
10	AFS	0200E	0500D	N26	E40	06	13.2		03	9	9	E	PALE		
10	AFS	0457E	1738D	S13	E64	06	15.0		02	7	7	E	SVTO	6100	
10	DSD	0458E	0605D	N23	W03	06	10.0		03	9	9	E	SVTO	6095	Flare Associated
10	ADF	0505E	1738D	S16	W21	06	8.6	1	06	9	9	E	SVTO	6088	
10	ADF	1032E	2230D	N31	E55	06	14.8	2	36	9	9	E	RAMY		
10	DSD	1038E	2115D	N21	W06	06	10.0		02	9	9	E	RAMY	6095	
10	DSD	1038E	2115D	N23	W01	06	10.4		02	9	9	E	RAMY	6095	
10	DSD	1051E	1908D	S20	E65	06	15.4		03	9	9	E	RAMY	6100	
10	SSB	1105		122	W09	06	12.1			0	0	E	RAMY		126 W13 131 W18
10	SSB	1108		161	W47	06	15.6			0	0	E	RAMY		168 W55
10	APR	1111E	2132D	N28	E90	06	17.5	1		9	9	E	RAMY		
10	ADF	1416E	1906D	N24	E50	06	14.4	1	09	9	9	E	RAMY	6096	
10	AFS	1422E	2125D	N12	W59	06	6.1		02	9	9	E	RAMY		
10	ADF	1538E	2025D	N27	W02	06	10.5	1	06	9	9	E	HOLL	6095	
10	AFS	1538E	2041D	N08	W14	06	9.6		03	9	9	E	HOLL	6089	
10	AFS	1538E	2041D	N24	W07	06	10.1		03	9	9	E	HOLL	6095	
10	ADF	1542E	1908D	S17	E57	06	15.0	1	04	9	9	E	RAMY	6100	
10	ADF	1546E	2129D	N21	E02	06	10.8	1	07	9	9	E	RAMY	6095	
10	DSD	1549E	2131D	S11	W68	06	5.5		05	9	9	E	RAMY	6094	
10	APR	1554E	2041D	N35	E90	06	17.9	2		9	9	E	HOLL		
10	ADF	1554E	2041D	N39	E90	06	18.0	1	50	9	9	E	HOLL		
10	AFS	1609E	2041D	S12	W70	06	5.4		02	9	9	E	HOLL	6094	
10	SDF	1610E	2015D	N23	E00	06	10.7		09	0	0	E	HOLL		
10	ADF	1615E	2041D	S17	W30	06	8.4	1	11	9	9	E	HOLL	6088	
10	SSB	1715		121	W11	06	12.3			0	0	E	HOLL		127 W17 139 W29
10	SSB	1715		168	W58	06	16.6			0	0	E	HOLL		
10	DSD	1733E	0125D	N04	W10	06	10.0		02	9	9	E	PALE	6089	
10	DSD	1733E	0125D	N20	W58	06	6.3		02	9	9	E	PALE	6086	
10	APR	1733E	0125D	N37	E90	06	18.0			9	9	E	PALE		
10	ADF	1733E	0457D	N26	W63	06	5.8	1	09	9	9	E	PALE	6086	
10	ADF	1733E	0457D	N43	E88	06	18.0	1	47	9	9	E	PALE		
10	APR	1733E	0457D	S14	E90	06	17.5			9	9	E	PALE		

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
10	ADF	1733E	0457D	S14	W23	06	9.0		09	9	9	E	PALE	6088	
10	AFS	1733E	0457D	S24	W63	06	5.9		04	9	9	E	PALE	6090	
10	ADF	1802E	0125D	N01	W18	06	9.4		05	9	9	E	PALE	6091	
10	DSD	1802E	0125D	N27	W08	06	10.1		03	9	9	E	PALE	6095	
10	DSD	1802E	0125D	S23	E34	06	13.4		08	9	9	E	PALE	6099	
10	AFS	1802E	0457D	N24	W07	06	10.2		03	9	9	E	PALE	6095	
10	DSD	1802E	0457D	S12	W69	06	5.5		04	9	9	E	PALE	6094	
10	DSD	1802E	0457D	S17	E57	06	15.1		04	9	9	E	PALE	6100	
10	APR	1855E	2114D	N33	E90	06	17.9	2		9	9	E	RAMY		
11	AFS	0448E	1723D	N23	W13	06	10.2		03	9	9	E	SVTO	6095	
11	AFS	0510E	1155D	S11	W76	06	5.5		02	9	9	E	SVTO	6094	
11	AFS	0527E	0933D	S24	W70	06	5.8		02	8	8	E	SVTO	6090	
11	AFS	0536E	1155D	N25	E21	06	12.9		02	9	9	E	SVTO	6101	
11	ADF	0552E	1723D	N45	E75	06	17.5	1	30	9	9	E	SVTO		
11	DSD	0557E	0742D	N07	W27	06	9.2		06	9	9	E	SVTO	6089	
11	ASR	0640E	1723D	N09	E90	06	18.0			9	9	E	SVTO		
11	AFS	0644E	1723D	N16	E55	06	15.4		02	9	9	E	SVTO		
11	ASR	0938E	1723D	S04	E90	06	18.1			9	9	E	SVTO		
11	DSD	0948E	1000D	N10	W23	06	9.7		05	9	9	E	SVTO	6089	Flare Associated
11	DSD	1000E	1012D	N09	W19	06	10.0		08	9	9	E	SVTO	6089	Flare Associated
11	AFS	1020E	1933D	N22	E23	06	13.2		02	9	9	E	RAMY	6101	
11	ADF	1024E	1959D	S30	E31	06	13.9	1	14	9	9	E	RAMY	6099	
11	DSD	1027E	1118D	N11	W23	06	9.7		05	9	9	E	SVTO	6089	Flare Associated
11	DSD	1052E	1640D	S10	W78	06	5.6		03	9	9	E	RAMY	6094	
11	ADF	1103E	2225D	N03	W20	06	10.0	1	08	9	9	E	RAMY	6089	
11	ADF	1110E	1955D	S14	W36	06	8.7	1	06	9	9	E	RAMY	6088	
11	ADF	1118E	1723D	N02	W22	06	9.8	1	10	9	9	E	SVTO	6089	
11	SSB	1309		488	W29	06	4.6			0	0	E	SVTO		
11	DSD	1642E	1837D	S17	E62	06	16.4		03	9	9	E	RAMY	6100	
11	ADF	1654E	1918D	S15	E59	06	16.2	2	03	9	9	E	RAMY	6100	
11	AFS	1800E	0500D	N07	W33	06	9.3		02	9	9	E	PALE	6089	
11	ADF	1800E	0500D	N08	W24	06	9.9		07	9	9	E	PALE	6089	
11	AFS	1800E	0500D	N15	E52	06	15.7		02	9	9	E	PALE		
11	ASR	1800E	0500D	N20	W90	06	4.9			8	8	E	PALE	6086	
11	AFS	1800E	0500D	N24	W20	06	10.2		03	9	9	E	PALE	6095	
11	APR	1800E	0500D	S18	E90	06	18.6	2		9	9	E	PALE		
11	DSD	1852	2021	S18	E62	06	16.5		09	9	9	E	RAMY	6100	Flare Associated
11	ADF	2013E	2240D	N06	W34	06	9.3	1	05	9	9	E	HOLL	6089	
11	DSD	2013E	2240D	N08	W29	06	9.7		07	9	9	E	HOLL	6089	
11	DSD	2013E	2240D	N08	W35	06	9.2		02	9	9	E	HOLL	6089	
12	AFS	0040E	0933D	N24	W26	06	10.0		03	9	9	E	LEAR	6095	
12	ASR	0043E	0933D	S11	W90	06	5.2			9	9	E	LEAR	6094	
12	APR	0311E	0500D	N32	E90	06	19.2	1		9	9	E	PALE		
12	ASR	0411E	0500D	S01	E90	06	18.9			9	8	E	PALE		
12	DSD	0420E	0933D	S13	E34	06	14.7		06	9	9	E	LEAR	6100	
12	DSD	0750	0758	N26	W26	06	10.3	1				V	BUCH		
12	ASR	0756E	0933D	S11	E90	06	19.1			9	9	E	LEAR		
12	ASR	0805E	1128D	N26	E90	06	19.3			9	9	E	SVTO		
12	AFS	0808E	1738D	N23	W30	06	10.0		03	9	9	E	SVTO	6095	
12	APR	0830E	1637D	S25	E87	06	19.1	2		9	9	E	SVTO		
12	SSB	0831		126	W37	06	14.4			0	0	E	SVTO		137 W49
12	APR	0832E	1637D	N33	E90	06	19.5	1		9	9	E	SVTO		
12	ADF	0833E	1600D	N48	E67	06	18.0	2	42	9	9	E	SVTO		
12	AFS	1025E	2143D	S63	E31	06	15.2		02	9	9	E	RAMY		
12	ASR	1058E	1525D	S10	W90	06	5.7			9	9	E	RAMY	6085	
12	ASR	1106E	2143D	S09	E88	06	19.1			9	9	E	RAMY		
12	ADF	1124E	2143D	N32	E27	06	14.6	1	28	9	9	E	RAMY		
12	ASR	1128E	1527D	N11	W87	06	5.9			9	9	E	RAMY	6102	
12	ADF	1130E	1750D	S11	E27	06	14.5	1	05	9	9	E	RAMY	6100	
12	ADF	1133E	2030D	S29	W25	06	10.5	1	09	9	9	E	RAMY		
12	ADF	1138E	1832D	N29	E26	06	14.5	1	05	9	9	E	RAMY	6096	
12	ADF	1140E	1750D	N19	W28	06	10.3	1	06	9	9	E	RAMY	6095	
12	ADF	1230E	2031D	N17	W35	06	9.9	1	05	9	9	E	RAMY	6092	
12	ADF	1238E	2142D	N08	W33	06	10.0	1	07	9	9	E	RAMY	6089	
12	AFS	1238E	2142D	N09	W40	06	9.5		03	9	9	E	RAMY	6089	
12	SDF	1336E	1355D	S59	E22	06	14.5		11	0	0	E	RAMY		
12	APR	1600E	1738D	N39	E43	06	16.1	2		9	9	E	SVTO		
12	ADF	1630E	1738D	N13	W43	06	9.4	1	06	9	9	E	SVTO	6089	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

Day	Event Type	Start (UT)	End (UT)	Lat	CMP CMD	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
12	AFS	1643E	2128D	S30	E59	06	17.3		03	9	9	E	HOLL		
12	AFS	1647E	0220D	N12	W39	06	9.8		03	9	9	E	PALE	6089	
12	AFS	1729E	0220D	N24	W36	06	9.9		02	9	9	E	PALE	6095	
12	ADF	1731E	0453D	N20	W34	06	10.1		06	9	9	E	PALE	6095	
12	ADF	1737E	0220D	N31	E24	06	14.6		03	9	9	E	PALE	6096	
12	ADF	1737E	0453D	N46	E61	06	17.8	1	39	9	9	E	PALE		
12	SDF	1738E	0352D	S62	E35	06	15.8		20	0	0	E	SVTO		
12	AFS	1747E	0220D	S13	E08	06	13.3		02	9	9	E	PALE	6098	
12	APR	1755E	0220D	N00	E90	06	19.5			7	6	E	PALE		
12	APR	1813E	0220D	S10	E90	06	19.5			9	9	E	PALE		
12	SDF	1850E	0320D	S43	E45	06	16.5		12	0	0	E	PALE		
12	DSD	2042E	2124D	S12	E24	06	14.7		05	9	9	E	HOLL	6100	Flare Associated
12	DSD	2050E	2112	S12	E24	06	14.7		05	9	9	E	RAMY	6100	
12	ASR	2150E	0230D	N12	W90	06	6.1			9	9	E	PALE	6102	
12	ASR	2150E	0230D	S10	E90	06	19.7			9	9	E	PALE		
12	SDF	2258E	1328D	S56	E17	06	14.4		18	0	0	E	HOLL		
12	DSD	2320E	0313D	S13	E26	06	14.9		05	9	9	E	PALE	6100	Flare Associated
13	ASR	0010E	0836D	S11	E90	06	19.8			9	9	E	LEAR		
13	AFS	0012E	0930D	N25	W37	06	10.1		02	9	9	E	LEAR	6095	
13	ASR	0310	0420D	S10	E85	06	19.5			9	9	E	PALE		
13	DSD	0315E	0453D	N25	W42	06	9.9		04	9	9	E	PALE	6095	
13	SSB	0700		134	W57	06	16.2			0	0	E	SVTO		
13	AFS	0701E	1735D	N21	W42	06	10.1		02	8	8	E	SVTO	6095	
13	ADF	0702E	1735D	N16	W41	06	10.2	1	08	9	9	E	SVTO	6095	
13	ADF	1045E	1533D	N16	E26	06	15.4	1	04	9	9	E	RAMY	6103	
13	AFS	1105E	1640D	N25	W43	06	10.1		02	9	9	E	RAMY	6095	
13	ADF	1113E	1646D	S16	W66	06	8.5	1	06	9	9	E	RAMY	6088	
13	DSD	1120E	1452D	S09	E67	06	18.5		05	9	9	E	RAMY		
13	SSB	1127		482	W49	06	6.5			0	0	E	RAMY		
13	ADF	1239E	1756D	N19	W41	06	10.4	1	16	9	9	E	HOLL	6089	
13	ADF	1312E	0148D	N48	E47	06	17.5	2	45	9	9	E	HOLL		
13	AFS	1325E	1328D	N07	E52	06	17.4		03	9	9	E	HOLL	6105	
13	SSB	1335		435	W03	06	10.9			0	0	E	HOLL		128 W56
13	AFS	1437E	2226D	N24	W44	06	10.2		03	9	9	E	HOLL	6095	
13	ADF	1620E	0204D	N12	W38	06	10.8	1	10	9	9	E	HOLL	6089	
13	AFS	1639E	0005D	N22	W44	06	10.3		02	9	9	E	PALE	6095	
13	ADF	1647E	0504D	N47	E50	06	17.9	2	46	9	9	E	PALE		
13	SSB	1738		436	W06	06	11.0			0	0	E	PALE		126 W53 132 W62
13	SDF	1832E	2344D	S57	E07	06	14.4		11	0	0	E	PALE		
13	SDF	2022E	0240D	N07	W58	06	9.5		08	0	0	E	PALE	6089	
13	SDF	2252E	1211D	N40	W37	06	10.9		10	0	0	E	HOLL		
14	AFS	0153E	0930D	N07	E46	06	17.5		02	9	9	E	LEAR	6105	
14	ADF	0515E	1737D	S02	W57	06	10.0	1	10	9	9	E	SVTO	6091	
14	ADF	0745E	0930D	S02	W56	06	10.1	2	05	9	9	E	LEAR	6091	
14	DSD	0935E	0945	N07	W65	06	9.5	1				V	KHAR		
14	ADF	0950E	1018D	N12	W65	06	9.5	1				V	KHAR		
14	ADF	1308E	0205D	N47	E34	06	17.4	1	12	9	9	E	HOLL		
14	DSD	1315E	0105D	S23	W66	06	9.5		05	9	9	E	HOLL	6095	
14	SSB	1629		122	W65	06	16.6			0	0	E	RAMY		
14	ADF	1653E	1928D	N48	E34	06	17.6	1	18	9	9	E	RAMY		
14	APR	1704E	0504D	S57	E90	06	22.5	1		9	9	E	PALE		
14	SSB	1732		121	W64	06	16.6			0	0	E	HOLL		
14	SDF	1737E	0550D	N10	E10	06	15.5		04	0	0	E	SVTO		
14	SDF	1737E	0550D	N25	E44	06	18.1		08	0	0	E	SVTO		
14	SDF	1737E	0550D	S28	W10	06	13.9		16	0	0	E	SVTO		
14	ADF	1741E	0240D	N15	W71	06	9.4		09	9	9	E	PALE	6089	
14	ADF	1741E	0240D	S16	E05	06	15.1		07	9	7	E	PALE	6100	
14	DSD	1741E	0242D	N23	W60	06	10.1		04	9	9	E	PALE	6095	
14	DSD	1741E	2244D	S13	E04	06	15.0		02	9	9	E	PALE	6100	
14	ADF	1741E	2249D	N15	E10	06	15.5		03	8	9	E	PALE	6103	
14	BSD	1742E	2158D	N08	W74	06	9.2		06	9	9	E	HOLL	6089	
14	ADF	1746E	0504D	N14	E40	06	17.8		07	9	9	E	PALE	6105	
14	ADF	1746E	0504D	N37	E12	06	15.7		14	9	9	E	PALE		
14	AFS	1746E	0504D	S08	E60	06	19.2		04	9	7	E	PALE	6107	
14	DSD	1746E	2254D	N06	E38	06	17.6		03	9	9	E	PALE	6105	
14	SDF	1912E	0334D	N17	E07	06	15.3		11	0	0	E	PALE	6103	
14	DSD	1930E	0103D	N06	E39	06	17.7		03	9	9	E	HOLL	6105	Flare Associated
14	BSD	2249	0103D	N11	W72	06	9.5		07	9	9	E	HOLL	6089	Flare Associated

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
14	DSD	2300E	0504D	N10	W70	06	9.7		02	9	9	E	PALE	6089	
14	ADF	2301E	0504D	S28	E33	06	17.5	2	05	9	9	E	PALE	6106	
15	ASR	0004E	0939D	N12	W90	06	8.2			9	9	E	LEAR	6089	
15	BSD	0008E	0240D	N10	W74	06	9.4		02	9	9	E	PALE	6089	
15	AFS	0150E	0504D	N07	E33	06	17.5		02	9	9	E	PALE	6105	
15	AFS	0214E	0939D	S16	W02	06	14.9		02	9	9	E	LEAR	6100	
15	DSD	0220E	0504D	N06	E36	06	17.8		03	9	9	E	PALE	6105	Flare Associated
15	DSD	0230E	0504D	S10	E57	06	19.4		02	9	9	E	PALE	6107	Flare Associated
15	AFS	0530E	1720D	S31	E26	06	17.3		02	9	9	E	SVTO	6106	
15	ASR	0654E	0939D	N12	W78	06	9.4			9	9	E	LEAR	6089	
15	ADF	0830E	0850D	S22	E27	06	17.4					V	ATHN		
15	SDF	0834E	1024D	S12	E24	06	17.2	2				V	KHAR		
15	ADF	0955E	1015	N24	W75	06	9.6	1				V	KHAR		
15	APR	0955E	1024D	N20	W90	06	8.5	1				V	KHAR		
15	ASR	1110E	1720D	N19	W90	06	8.6			9	9	E	SVTO	6089	
15	ASR	1512E	0151D	N07	W90	06	8.9			9	9	E	HOLL	6089	
15	ADF	1535E	0015D	S07	E44	06	18.9	1	08	9	9	E	HOLL	6107	
15	ADF	1537E	0151D	N48	E21	06	17.4	1	38	9	9	E	HOLL		
15	SDF	1912E	0334D	N17	W07	06	15.3		11	0	0	E	PALE	6103	
15	SSB	2159		122	W81	06	18.0			0	0	E	RAMY		
15	ASR	2159E	2210D	N08	W90	06	9.2			4	5	E	RAMY	6089	
15	SDF	2337E	1305D	N00	E62	06	20.6		11	0	0	E	HOLL		
15	AFS	2358E	0151D	N00	E44	06	19.3		02	9	9	E	HOLL	6107	
16	ADF	0002E	0151D	S42	E37	06	19.0	1	25	9	9	E	HOLL	6106	
16	AFS	0008E	0151D	N07	E19	06	17.4		03	9	9	E	HOLL	6105	
16	SSB	0040		400	W00	06	16.0			0	0	E	HOLL		421 W21 464 W64
16	AFS	0040E	0937D	N06	E20	06	17.5		03	9	9	E	LEAR	6105	
16	ASR	0135E	0937D	N11	W89	06	9.4			9	9	E	LEAR	6089	
16	AFS	0135E	0937D	S29	W07	06	15.5		02	9	9	E	LEAR		
16	SSB	0443		397	W00	06	8.9			0	0	E	SVTO		
16	ASR	0452E	1740D	N09	W90	06	9.4			9	9	E	SVTO	6089	
16	AFS	0520E	0937D	S35	E04	06	16.5		02	9	9	E	LEAR	6106	
16	ADF	0525E	0937D	S33	E11	06	17.1	2	13	9	9	E	LEAR	6106	
16	SSB	0830								0	0	E	LEAR		
16	DSD	0900E	0937D	S13	W21	06	14.8		06	9	9	E	LEAR	6100	
16	AFS	0955E	1740D	S35	E02	06	16.6		02	9	9	E	SVTO	6109	
16	AFS	1155E	1618D	N08	E13	06	17.5		03	9	9	E	RAMY	6105	
16	AFS	1157E	1618D	S28	W13	06	15.5		02	7	7	E	RAMY		
16	AFS	1158E	1618D	S36	E00	06	16.5		02	9	9	E	RAMY		
16	ASR	1200E	1618D	N13	W90	06	9.7			9	9	E	RAMY	6089	
16	ASR	1200E	1618D	N22	W90	06	9.6			9	9	E	RAMY	6095	
16	SSB	1203		396	W03	06	9.3			0	0	E	RAMY		417 W23 431 W38
16	SSB	1205		457	W63	06	11.4			0	0	E	RAMY		104 W70
16	ASR	1215E	1834D	N10	W90	06	9.7			9	9	E	HOLL	6089	
16	AFS	1230E	1835D	N08	E12	06	17.4		03	9	9	E	HOLL	6105	
16	AFS	1235E	1740D	N09	E13	06	17.5		05	9	9	E	SVTO	6105	
16	ADF	1240E	1756	N47	E18	06	18.0	1	26	9	9	E	HOLL		
16	AFS	1245E	0126D	S35	W01	06	16.4		02	9	9	E	HOLL		
16	SSB	1304		417	W25	06	15.2			0	0	E	SVTO		457 W65
16	SSB	1340		398	W05	06	9.2			0	0	E	HOLL		102 W69
16	APR	1455E	2100D	N23	W90	06	9.7	2		9	9	E	HOLL	6095	
16	AFS	1550E	0206D	N29	W27	06	14.5		02	8	7	E	HOLL	6096	
16	SDF	1725E	1756	N40	E12	06	17.7		34	9	9	E	HOLL		
16	SDF	1740E	0431D	N48	W12	06	15.7		13	0	0	E	SVTO		
16	SDF	1757E	1350D	S44	W10	06	15.9		14	0	0	E	HOLL		
16	AFS	2140E	0217D	N28	W31	06	14.5		02	9	9	E	PALE	6096	
16	AFS	2140E	0217D	S36	W03	06	16.7		02	9	9	E	PALE	6109	
16	ASR	2310E	0206D	N24	W90	06	10.0			9	9	E	HOLL	6095	
17	ASR	0020E	0800D	N24	W90	06	10.1			9	9	E	LEAR	6095	
17	APR	0020E	0217D	N24	W90	06	10.1	1		9	9	E	PALE	6095	
17	BSL	0025	0120D	N24	W90	06	10.1	1				C	VORO		
17	AFS	0227E	0937D	N08	E04	06	17.4		03	9	9	E	LEAR	6105	
17	SSB	0819		395	W13	06	10.2			0	0	E	SVTO		459 W77
17	ADF	0853E	0940D	S10	E25	06	19.2	1				V	KHAR		
17	ASR	1125E	1605D	N24	W90	06	10.5			9	9	E	SVTO	6095	
17	AFS	1230E	1730D	N28	W38	06	14.5		03	9	9	E	HOLL	6096	
17	ADF	1230E	1845D	N26	W43	06	14.2	3	12	9	9	E	HOLL	6096	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
17	ADF	1240E	1555D	S15	W42	06	14.3	1	07	9	9	E	HOLL	6100	
17	AFS	1240E	1732D	S12	W34	06	15.0		03	9	9	E	HOLL	6100	
17	AFS	1245E	0126D	S35	W01	06	17.4		02	9	9	E	HOLL		
17	AFS	1250E	0206D	N08	W01	06	17.4		02	9	9	E	HOLL	6105	
17	ADF	1250E	2350D	N07	W07	06	17.0	1	16	9	9	E	HOLL	6105	
17	ADF	1309E	1602D	S42	E14	06	18.7	1	15	9	9	E	HOLL	6106	
17	AFS	1309E	1605D	S09	E22	06	19.2		02	9	9	E	HOLL	6107	
17	DSD	1317E	1521D	N04	E00	06	17.5		04	9	9	E	RAMY	6105	
17	AFS	1317E	2144D	N08	E00	06	17.5		03	9	9	E	RAMY	6105	
17	AFS	1320E	2144D	S10	E22	06	19.2		02	9	9	E	RAMY	6107	
17	SSB	1323		398	W18	06	10.1			0	0	E	RAMY		101 W81
17	SSB	1325		397	W18	06	10.2			0	0	E	HOLL		447 W68
17	SDF	1330E	1555D	S15	W42	06	14.4		07	0	0	E	HOLL	6100	
17	ADF	1417E	2144D	N36	W22	06	15.8	1	17	9	9	E	RAMY		
17	ADF	1535E	0206D	N38	W17	06	16.3	2	27	9	9	E	HOLL		
17	AFS	1550E	0206D	N29	W27	06	15.5		02	8	7	E	HOLL	6096	
17	DSD	1605E	2134D	S08	E24	06	19.5		03	9	9	E	HOLL	6107	
17	ASR	1615E	1735D	N26	W90	06	10.7			9	9	E	HOLL		
17	ADF	1640E	0505D	N07	W03	06	17.5	1	07	9	9	E	PALE	6105	
17	APR	1645E	0505D	S15	W90	06	10.9	1		9	9	E	PALE	6104	
17	ADF	1819E	1747D	N07	E00	06	17.8	1	06	9	9	E	SVTO	6105	
17	AFS	1850E	0206D	S10	W36	06	15.1		02	9	9	E	HOLL	6100	
17	ADF	2224	0200D	S13	W40	06	14.9	1				C	VORO		
17	APR	2229E	0201D	N15	E90	06	24.7	1				C	VORO		
17	APR	2229E	0201D	N81	W90	06	9.6	1				C	VORO		
17	APR	2229E	0201D	S17	W90	06	11.1	1				C	VORO		
17	APR	2229E	0201D	S30	E90	06	25.0	1				C	VORO		
17	ASR	2310E	0206D	N24	W90	06	11.0			9	9	E	HOLL	6095	
17	ADF	2318E	0200D	S06	E07	06	18.5	1				C	VORO		
17	ADF	2327	0200D	N54	E25	06	20.1	1				C	VORO		
17	APR	2340	0201D	S01	W90	06	11.3	1				C	VORO		
18	AFS	0140E	0935D	N09	W07	06	17.5		03	9	9	E	LEAR	6105	
18	SSB	0145		402	W29	06	17.9			0	0	E	PALE		416 W43
18	SSB	0200		400	W27	06	18.1			0	0	E	LEAR		
18	ASR	0345E	0505D	S08	E90	06	24.9			9	9	E	PALE		
18	ADF	0549E	1716D	N07	W04	06	17.9	1	15	9	9	E	SVTO	6105	
18	ADF	0549E	1716D	N36	W29	06	15.9	1	19	9	9	E	SVTO		
18	ADF	0549E	1716D	S08	E24	06	20.0	1	18	9	9	E	SVTO	6107	
18	SSB	0846		405	W30	06	18.0			0	0	E	SVTO		
18	SDF	0935E	2316D	S44	E18	06	19.9		33	0	0	E	LEAR		
18	SDF	0935E	2316D	S50	W18	06	16.9		15	0	0	E	LEAR		
18	SSB	1020		380	W12	06	12.4			0	0	E	SVTO		
18	AFS	1030E	1716D	N10	W12	06	17.5		03	9	9	E	SVTO	6105	
18	AFS	1040E	1716D	S36	W24	06	16.5		02	8	9	E	SVTO	6109	
18	AFS	1130E	1716D	N16	W50	06	14.7		02	8	9	E	SVTO		
18	AFS	1242E	0038D	N15	W49	06	14.8		01	9	9	E	HOLL		
18	ADF	1247E	1644D	N26	W49	06	14.7	1	09	9	9	E	HOLL	6096	
18	ADF	1300E	1644D	N36	W33	06	15.9	1	24	9	9	E	HOLL		
18	SSB	1315		400	W34	06	18.5			0	0	E	HOLL		420 W54 439 W73
18	ADF	1522E	1525D	S09	E06	06	19.1	2	06	9	9	E	RAMY	6107	
18	ASR	1634E	1740D	S11	E90	06	25.5			9	9	E	HOLL		
18	ADF	1658E	0038D	S09	E07	06	19.2	1	05	9	9	E	HOLL	6107	
18	AFS	1708E	2340D	S35	W28	06	16.5		02	7	6	E	HOLL	6109	
18	SDF	1716E	0520D	S50	E18	06	20.2		53	0	0	E	SVTO		
18	SDF	1716E	0520D	S56	W12	06	17.7		37	0	0	E	SVTO		
18	SDF	1729E	1452D	S50	W15	06	17.4		29	9	9	E	HOLL		
18	SDF	1729E	2300D	S45	E22	06	20.5		36	9	9	E	HOLL		
18	DSD	1731E	0453D	N17	W53	06	14.7		02	9	9	E	PALE		
18	APR	1731E	0453D	N31	E90	06	25.8			9	9	E	PALE		
18	ADF	1731E	0453D	N37	W35	06	15.9		11	9	9	E	PALE		
18	ADF	1731E	0453D	S17	W49	06	15.0		09	9	9	E	PALE	6100	
18	ADF	1731E	0453D	S36	W35	06	15.9		07	9	9	E	PALE	6109	
18	APR	1731E	0453D	S62	E90	06	26.7			9	9	E	PALE		
18	AFS	1754E	2342D	S30	W24	06	16.8		01	9	9	E	HOLL	6106	
18	SSB	1816		418	W20	06	17.4			0	0	E	PALE		384 W48
18	SDF	2011E	1816D	S43	E01	06	18.9		10	0	0	E	PALE		
19	SDF	0557E	0421D	S10	E03	06	19.5		03	0	0	E	SVTO		
19	SDF	0557E	0421D	S10	W10	06	18.5		07	0	0	E	SVTO		

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
19	SSB	0630		379	W22	06	13.2			0	0	E	SVTO		399 W42
19	ADF	0631E	1737D	N33	W59	06	14.6	1	21	9	9	E	SVTO		
19	ADF	1316E	1712D	S08	W06	06	19.1	1	06	9	9	E	HOLL	6107	
19	AFS	1343E	1706D	N16	W62	06	14.9		02	8	8	E	RAMY	6111	
19	DSD	1345E	1705D	S10	W06	06	19.1		04	9	9	E	RAMY	6107	
19	AFS	1349E	1815D	N16	W64	06	14.7		01	8	9	E	HOLL	6111	
19	AFS	1354E	1635D	S28	W33	06	17.0		02	9	9	E	RAMY	6106	
19	ADF	1359E	1706D	N37	W39	06	16.4	1	19	9	9	E	RAMY		
19	ADF	1400E	0123D	N36	W44	06	16.0	1	18	9	9	E	HOLL		
19	SSB	1422		376	W24	06	13.7			0	0	E	HOLL		398 W46
19	AFS	1631E	1737D	S06	W31	06	17.4		01	8	8	E	SVTO		
19	ASR	1728E	0154D	S21	W90	06	12.8			9	9	E	PALE	6098	
19	DSD	1749E	0154D	N05	W27	06	17.7		03	9	9	E	PALE	6105	
19	ADF	1749E	0154D	N27	W65	06	14.7		05	8	9	E	PALE	6096	
19	ADF	1749E	0154D	N37	W48	06	15.9	1	09	9	9	E	PALE		
19	AFS	1749E	0154D	S06	W31	06	17.4		02	9	9	E	PALE		
19	SDF	1816E	1844D	S45	E28	06	22.1		40	0	0	E	PALE		
19	SSB	1844		422	W22	06	18.1			0	0	E	PALE		378 W34
19	ADF	2345E	0937D	N04	W32	06	17.6	1	07	9	9	E	LEAR	6105	
19	AFS	2346E	0937D	S05	W37	06	17.2		02	9	9	E	LEAR	6113	
20	ADF	0001	0203D	N47	W39	06	16.7	1				C	VORO		
20	ADF	0006	0203D	N68	E08	06	20.7	1				C	VORO		
20	APR	0032	0204D	S16	W90	06	13.2	1				C	VORO		
20	SDF	0040E	1532D	N47	W36	06	17.0		17	0	0	E	HOLL		
20	SDF	0056E	0123D	N07	W36	06	17.3		05	7	5	E	HOLL	6105	
20	APR	0102	0204D	S85	E90	06	28.4	1				C	VORO		
20	SDF	0114E	0405D	N10	W33	06	17.6		04	9	9	E	LEAR	6105	
20	AFS	0519E	0937D	N09	W36	06	17.5		02	9	9	E	LEAR	6105	
20	AFS	0520E	1750D	N07	W37	06	17.4		03	6	8	E	SVTO	6105	
20	ADF	0520E	1750D	N36	W55	06	15.8	1	15	7	9	E	SVTO		Flare Associated
20	ADF	0523E	0937D	S08	W14	06	19.2	1	02	9	9	E	LEAR	6107	
20	APR	0555E	1205D	S22	W90	06	13.3	2		8	9	E	SVTO		
20	ASR	0609E	0937D	S08	W86	06	13.8			9	9	E	LEAR		
20	ASR	0710E	0857D	N37	W90	06	13.0			7	9	E	SVTO		
20	SDF	0937E	2323D	N17	E28	06	22.5		30	0	0	E	LEAR		
20	AFS	1056E	1930D	S10	E62	06	25.1		02	9	9	E	RAMY	6114	
20	ASR	1057E	1633D	S13	W90	06	13.7			9	9	E	RAMY	6098	
20	BSD	1601E	2225D	S17	W77	06	14.8		02	9	9	E	HOLL	6100	
20	ADF	1626E	1930D	S39	W41	06	17.3	1	09	9	9	E	RAMY		
20	AFS	1628E	2025D	S18	W75	06	15.0		02	9	9	E	RAMY	6100	
20	DSD	1632E	2013D	N29	W74	06	14.9		03	9	9	E	RAMY	6096	
20	ADF	1635E	2013D	N05	W44	06	17.4	1	08	9	9	E	RAMY	6105	
20	AFS	1635E	2025D	N08	W44	06	17.4		02	9	9	E	RAMY	6105	
20	AFS	1647E	2025D	S32	W39	06	17.6		03	9	9	E	RAMY	6106	
20	SSB	1718		398	W60	06	12.1			0	0	E	HOLL		
20	ADF	1720E	2225D	S19	W76	06	14.9	2	06	8	5	E	HOLL	6100	
20	SDF	1750E	0554D	N16	W24	06	18.9		02	0	0	E	SVTO		
20	DSD	1910E	2249D	S16	W76	06	15.0		03	9	9	E	PALE	6100	
20	AFS	1910E	2249D	S32	W41	06	17.5		02	9	9	E	PALE	6106	
20	DSD	1926E	2025D	S26	W69	06	15.4		03	9	9	E	RAMY	6108	
20	AFS	1943E	0201D	N09	W46	06	17.4		03	9	9	E	HOLL	6105	
20	ASR	1950E	2249D	S13	W90	06	14.0			9	9	E	PALE	6098	
20	ASR	2050E	2249D	N15	E90	06	27.7			9	9	E	PALE		
20	ASR	2052E	2228D	N25	W90	06	13.9			9	9	E	PALE	6096	
20	APR	2055E	2249D	N10	W88	06	14.2	1		9	9	E	PALE	6111	
20	SSB	2102		370	W35	06	15.3			0	0	E	PALE		400 W64
20	SDF	2115E	2115D	S17	E04	06	21.2		07	0	0	E	PALE		
20	ASR	2125E	0201D	N15	E90	06	27.7			9	9	E	HOLL		
20	AFS	2220E	2249D	N08	W48	06	17.3		02	9	9	E	PALE	6105	
20	AFS	2227E	0201D	S31	W44	06	17.5		02	9	9	E	HOLL	6106	
20	BSL	2240	2320D	S07	E90	06	27.7	1				C	VORO		
20	ADF	2249	0203D	N14	E27	06	23.0	1				C	VORO		
20	APR	2300	0204D	N25	E90	06	27.9	1				C	VORO		
20	APR	2300	0204D	N87	W90	06	12.5	1				C	VORO		
20	BSL	2341	0032	S07	E90	06	27.7	1				C	VORO		
21	AFS	0451E	1451D	N07	W49	06	17.5		02	9	9	E	SVTO	6105	
21	AFS	0453E	1451D	S32	W47	06	17.5		02	9	9	E	SVTO	6106	
21	ASR	0525E	1451D	S17	W90	06	14.4			9	9	E	SVTO	6100	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
21	ASR	0640E	0936D	S16	W90	06	14.4			9	9	E	LEAR	6100	
21	ASR	0825E	0936D	N43	W90	06	13.9			9	9	E	LEAR	6117	
21	SSB	1235		400	W75	06	21.5			0	0	E	RAMY		
21	AFS	1240E	2040D	S39	W63	06	16.4		02	6	7	E	RAMY	6109	
21	AFS	1244E	0157D	S07	W32	06	19.1		01	9	9	E	HOLL	6107	
21	ADF	1245E	1548D	S10	W31	06	19.2	2	05	9	9	E	RAMY	6107	
21	AFS	1249E	0045D	S08	W13	06	20.5		01	9	9	E	HOLL	6115	
21	AFS	1258E	0157D	N10	W54	06	17.5		03	9	9	E	HOLL	6105	
21	APR	1300E	0157D	S02	W90	06	14.8	2		7	8	E	HOLL		
21	ADF	1323E	1539D	S13	E53	06	25.5	2	04	9	9	E	HOLL	6114	
21	ADF	1423	0045D	S14	W28	06	19.5	2	08	8	8	E	HOLL	6107	
21	ASR	1507	2040D	S15	W80	06	15.6			9	9	E	RAMY	6100	
21	AFS	1644	0157D	N21	E51	06	25.6		01	9	9	E	HOLL		
21	AFS	1700E	2158D	N21	E51	06	25.6		02	9	9	E	RAMY		
21	AFS	1710E	2158D	S06	W34	06	19.2		02	9	9	E	RAMY	6107	
21	SSB	1712		402	W78	06	21.5			0	0	E	HOLL		
21	DSD	2037E	2158D	S33	W53	06	17.6		04	9	9	E	RAMY	6106	
21	AFS	2040E	2158D	N08	W60	06	17.4		02	9	9	E	RAMY	6105	
21	AFS	2107E	2158D	N16	E75	06	27.6		02	9	9	E	RAMY		
21	AFS	2107E	2158D	S09	E44	06	25.2		02	9	9	E	RAMY	6114	
21	ASR	2116E	2158D	N26	W90	06	14.9			9	9	E	RAMY		
21	ADF	2142E	0157D	S03	W77	06	16.1	2	28	9	9	E	HOLL		
22	AFS	0048E	0157D	N16	E72	06	27.5		02	9	9	E	HOLL		
22	ADF	0048E	0157D	N24	E56	06	26.3	1	05	9	9	E	HOLL		
22	SDF	0157E	1240D	S21	W65	06	17.1		15	0	0	E	HOLL		
22	ASR	0433E	0820D	S15	W90	06	15.4			9	9	E	LEAR	6100	
22	ASR	0455E	0940D	S19	W90	06	15.3			9	9	E	SVTO	6100	
22	ASR	0635E	1728D	S21	E90	06	29.2			9	9	E	SVTO		
22	AFS	0646E	1728D	S05	W41	06	19.2		02	9	9	E	SVTO	6107	
22	APR	0725E	1728D	S06	W90	06	15.6	1		9	9	E	SVTO	6100	
22	APR	0728E	0935D	N04	W90	06	15.6	2		9	9	E	LEAR	6100	
22	ASR	0800E	0935D	N36	W90	06	15.1			9	9	E	LEAR	6117	
22	EPL	0830E	0948D	S21	W90	06	15.4			9	9	E	SVTO	6100	
22	AFS	1030E	1728D	S08	E36	06	25.1		02	9	9	E	SVTO	6114	
22	ASR	1230E	0159D	S21	E90	06	29.4			9	9	E	HOLL		
22	APR	1238E	0159D	S06	W90	06	15.8	2		9	9	E	HOLL		
22	AFS	1304E	0159D	N11	W68	06	17.4		02	9	9	E	HOLL	6105	
22	AFS	1312E	1715D	S05	W70	06	17.3		01	8	8	E	HOLL	6113	
22	SSB	1315		400	W87	06	22.5			0	0	E	RAMY		
22	ADF	1318E	0159D	N27	E73	06	28.2	1	11	9	9	E	HOLL	6118	
22	ADF	1318E	2235D	N24	E48	06	26.3	1	05	9	9	E	HOLL		
22	ASR	1346	1452	S22	E90	06	29.5			9	9	E	RAMY		
22	ADF	1352E	2223D	N25	E76	06	28.5	2	14	9	9	E	RAMY	6118	
22	SSB	1545		353	W41	06	18.3			0	0	E	HOLL		379 W67
22	SSB	1558		379	W67	06	15.5			0	0	E	RAMY		
22	CAP	1921E	2232D	S23	E90	06	29.7		02	9	9	E	HOLL		
22	ADF	2037E	0506D	S08	W09	06	22.2	1	04	9	7	E	PALE	6116	
22	ADF	2037E	0506D	S10	W49	06	19.2	1	04	7	9	E	PALE	6107	
22	APR	2037E	0506D	S10	W90	06	16.1			7	9	E	PALE	6113	
22	DSD	2037E	0506D	S35	W69	06	17.3		04	9	9	E	PALE	6106	
23	ASR	0103E	0926D	S25	E90	06	30.0			9	9	E	LEAR		
23	AFS	0104E	0926D	S10	E29	06	25.2		02	9	9	E	LEAR	6114	
23	APR	0434E	0700D	N39	W90	06	15.9	1				C	ABST		
23	APR	0522E	0700D	S41	E90	06	30.6	1				C	ABST		
23	APR	0525E	1757D	S14	W90	06	16.4	2		9	9	E	SVTO		
23	APR	0526E	1757D	N37	W90	06	16.0			9	9	E	SVTO		
23	ASR	0527E	1757D	S21	E90	06	30.1			9	9	E	SVTO	6122	
23	ASR	0528E	1757D	S38	W88	06	16.1			9	9	E	SVTO	6106	
23	APR	0529E	1255D	S41	W88	06	16.0			9	9	E	SVTO	6106	
23	DSD	0629E	1105D	S08	E21	06	24.8		03	9	9	E	SVTO	6114	
23	BSL	0650E	0707D	S28	E90	06	30.3	1				C	ABST		
23	AFS	0718E	1428D	S08	E25	06	25.2		04	8	8	E	SVTO	6114	
23	ASR	0819E	0926D	S39	W90	06	16.0			9	9	E	LEAR	6106	
23	ASR	1015	1105D	S28	W90	06	16.4			9	9	E	SVTO	6106	
23	ASR	1041E	1339D	S25	E89	06	30.3			9	9	E	RAMY	6122	
23	DSD	1044E	1348D	S07	W56	06	19.2		02	9	9	E	RAMY	6107	
23	DSD	1115E	1339D	S19	E69	06	28.7		08	9	9	E	RAMY	6122	Flare Associated
23	SSB	1125		349	W48	06	19.3			0	0	E	RAMY		369 W68

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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	EPL	1255E	1258D	S41	W88	06	16.3			0	0	E	SVTO	6106	
23	AFS	1300E	1615D	S08	E20	06	25.0		03	9	9	E	HOLL	6114	
23	AFS	1300E	1615D	S11	E23	06	25.3		02	9	9	E	HOLL	6114	
23	ADF	1300E	1741D	S05	W61	06	19.0	1	07	9	9	E	HOLL	6107	
23	ASR	1300E	1915D	N09	W90	06	16.8			8	7	E	HOLL	6105	
23	ADF	1316E	1912D	S09	W19	06	22.1	1	06	9	9	E	HOLL	6116	
23	ADF	1316E	2257D	N09	E68	06	28.6	1	22	9	9	E	HOLL	6121	
23	ADF	1316E	2257D	N25	E36	06	26.3	1	07	9	9	E	HOLL		
23	DSD	1316E	2257D	N27	E51	06	27.5		02	9	9	E	HOLL	6118	
23	SSB	1339		310	W10	06	22.8			0	0	E	HOLL		
23	ADF	1342E	2250D	N17	E68	06	28.7	1	19	9	9	E	RAMY	6121	
23	DSD	1352E	1545D	S19	E62	06	28.3		04	9	9	E	RAMY	6122	
23	AFS	1353E	1935D	N14	W15	06	22.4		02	9	9	E	RAMY		
23	DSD	1417E	1510D	S17	E62	06	28.3		04	9	9	E	SVTO		
23	ASR	1420E	1757D	N09	W90	06	16.8			9	9	E	SVTO	6105	
23	ASR	1430E	1510D	S37	W90	06	16.3			8	8	E	HOLL	6106	
23	DSD	1430E	1615D	S21	E71	06	29.0		04	9	9	E	HOLL	6122	
23	ASR	1502E	1545D	S34	W89	06	16.5			9	9	E	RAMY	6106	
23	BSD	1510E	1615D	S33	W79	06	17.3		03	9	9	E	HOLL	6106	
23	DSD	1522E	1545D	S28	W49	06	19.8		03	9	9	E	RAMY	6106	
23	DSD	1524E	1545D	S06	E15	06	24.8		02	9	9	E	RAMY	6114	
23	ASR	1601E	1903D	N06	W90	06	16.9			9	9	E	RAMY	6105	
23	SDF	1757E	0342D	S12	W18	06	22.4		20	0	0	E	SVTO		
23	ADF	1918E	2230D	S09	E19	06	25.2	1	04	9	9	E	HOLL	6114	
24	DSD	0056E	0501D	N19	E17	06	25.3		06	9	8	E	PALE	6119	
24	ADF	0056E	0501D	N19	E64	06	28.9		15	9	9	E	PALE	6121	
24	ADF	0056E	0501D	N24	E49	06	27.8		09	9	9	E	PALE	6121	
24	ADF	0056E	0501D	S12	W64	06	19.2	1	08	9	9	E	PALE	6107	
24	APR	0056E	0501D	S12	W90	06	17.2	1		9	9	E	PALE	6113	
24	DSD	0056E	0501D	S22	E70	06	29.4		05	9	9	E	PALE	6122	
24	APR	0435E	0845D	N40	W81	06	17.6	2		9	9	E	SVTO		
24	APR	0436E	1750D	N40	W81	06	17.6	2		9	9	E	SVTO		
24	AFS	0437E	1750D	S13	W90	06	17.4		02	9	9	E	SVTO		
24	ADF	0438E	1750D	S23	E68	06	29.4	2	10	9	9	E	SVTO	6122	
24	BSL	0520E	0741D	N45	W90	06	16.7	1				C	ABST		
24	APR	0624E	0801D	N39	W90	06	17.0	1				C	ABST		
24	APR	0644E	0800U	S05	W90	06	17.5	1				V	BUCH		
24	LPS	0649E	1414D	N37	W90	06	17.0			9	9	E	SVTO		
24	LPS	0658E	0930D	N38	W90	06	17.0			9	9	E	LEAR		
24	AFS	0833E	0930D	S22	E61	06	29.0		04	7	9	E	LEAR	6122	
24	LPS	1017E	1312D	N38	W90	06	17.1			9	8	E	RAMY		
24	ADF	1032E	1643D	N17	E53	06	28.5	2	17	9	9	E	RAMY	6122	
24	SSB	1058		323	W35	06	22.6			0	0	E	RAMY		
24	ADF	1300E	0139D	S20	E63	06	29.4	1	07	9	9	E	HOLL	6122	
24	DSD	1300E	1611D	S24	E69	06	29.9		04	9	9	E	HOLL	6122	
24	DSD	1327E	1755D	N28	E38	06	27.5		02	9	9	E	HOLL	6118	
24	SDF	1340E	2314D	S47	W02	06	24.4		24	0	0	E	HOLL		
24	AFS	1344E	1755D	S15	E43	06	27.8		01	9	9	E	HOLL	6120	
24	SSB	1353		292	W05	07	1.4			0	0	E	HOLL		311 W24 324 W37
24	SSB	1353		360	W73	06	19.1			0	0	E	HOLL		
24	ASR	1410E	1513D	S32	W90	06	17.5			9	9	E	RAMY	6106	
24	BSD	1932E	1944	S19	E78	06	30.8		02	7	8	E	HOLL		
24	DSD	2051E	2057D	S18	E43	06	28.1		02	9	9	E	HOLL	6120	
24	SSB	2105		353	W71	06	20.0			0	0	E	PALE		
24	ADF	2105E	0127D	N16	E07	06	25.4		07	9	9	E	PALE	6119	
24	ADF	2105E	0127D	N17	E36	06	27.6	1	09	9	9	E	PALE	6121	
24	AFS	2105E	0127D	S09	E05	06	25.2		03	9	9	E	PALE	6114	
24	DSD	2105E	0127D	S19	E46	06	28.4		03	9	9	E	PALE	6122	
24	SDF	2114E	2114D	S40	W16	06	23.6		10	0	0	E	PALE		
24	ASR	2248E	2314D	S13	E90	07	1.7			9	9	E	PALE		
24	DSD	2335E	0127D	N05	E69	06	30.1		02	9	9	E	PALE		
25	AFS	0035E	0929D	S09	E00	06	25.0		03	9	9	E	LEAR	6114	
25	DSD	0038E	0929D	S23	E61	06	29.7		02	9	9	E	LEAR	6122	
25	BSL	0521E	0719D	N12	E90	07	2.0	1				C	ABST		
25	BSD	0525	0619D	S12	E01	06	25.3		01	9	9	E	SVTO	6114	
25	AFS	0554E	1802D	S21	E58	06	29.7		03	9	9	E	SVTO	6122	
25	ASR	0600E	1802D	S12	E90	07	2.0			9	9	E	SVTO		
25	DSD	0608E	0554D	S19	E50	06	29.1		03	9	9	E	SVTO	6122	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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	DSD	0620E	0858D	S10	W02	06	25.1		01	9	9	E	SVTO	6114	
25	AFS	0620E	1802D	S08	W03	06	25.0		02	9	9	E	SVTO	6114	
25	DSD	0855E	1146D	S19	E48	06	29.0		04	9	9	E	SVTO	6122	
25	DSD	0912E	0920D	S20	E50	06	29.2		05	9	9	E	SVTO	6122	
25	ASR	0924E	1144D	N11	E90	07	2.2			9	9	E	SVTO		
25	AFS	1000E	1802D	S09	E10	06	26.2		01	9	9	E	SVTO		
25	DSD	1205E	2028D	S20	E46	06	29.0		03	9	9	E	RAMY	6122	
25	DSD	1205E	2028D	S23	E55	06	29.7		04	9	9	E	RAMY	6122	
25	AFS	1205E	2028D	S24	E47	06	29.1		02	9	9	E	RAMY	6122	
25	AFS	1205E	2037D	N14	W40	06	22.5		02	8	8	E	RAMY	6123	
25	ADF	1205E	2049D	S27	E55	06	29.8	1	08	9	9	E	RAMY	6122	
25	ADF	1254E	0113D	S21	E50	06	29.4	1	04	9	9	E	HOLL	6122	
25	ADF	1304E	1307D	N16	E35	06	28.2	1	12	9	9	E	HOLL	6121	
25	SSB	1345		321	W47	06	23.8			0	0	E	RAMY		342 W68
25	SSB	1423		292	W19	07	2.6			0	0	E	HOLL		341 W68
25	SDF	1802E	0401D	S14	W17	06	24.5		02	0	0	E	SVTO		
25	AFS	2155E	0324D	S08	W11	06	25.1		02	7	7	E	PALE	6114	
25	DSD	2155E	0324D	S20	E45	06	29.3		02	9	9	E	PALE	6122	
25	ADF	2155E	0324D	S24	E47	06	29.5	1	13	9	9	E	PALE	6122	
25	ADF	2345E	0324D	N18	W08	06	25.4	1	02	9	9	E	PALE	6119	
25	DSD	2348E	0054D	S21	E42	06	29.2		04	9	9	E	HOLL	6122	
26	ASR	0020E	0054D	S10	E90	07	2.8			9	9	E	HOLL		Flare Associated
26	DSD	0032E	0054D	S19	E38	06	28.9		08	9	9	E	HOLL	6122	Flare Associated
26	BSL	0043E	0054D	S10	E90	07	2.8			9	9	E	HOLL		Flare Associated
26	ADF	0500E	0728D	N17	W10	06	25.4	1	06	9	9	E	SVTO	6119	
26	AFS	0500E	1810D	S08	E00	06	26.2		01	8	9	E	SVTO	6124	
26	AFS	0500E	1810D	S08	W16	06	25.0		02	5	7	E	SVTO	6114	Flare Associated
26	ASR	0500E	1810D	S12	E90	07	3.0			9	9	E	SVTO	6126	
26	AFS	0500E	1810D	S21	E46	06	29.7		03	9	9	E	SVTO	6122	
26	APR	0555E	1810D	S21	E90	07	3.1	2		9	9	E	SVTO		
26	ASR	0845E	1810D	N10	E90	07	3.1			9	9	E	SVTO	6127	Flare Associated
26	ASR	1109E	2201D	N09	E89	07	3.1			9	9	E	RAMY	6127	
26	AFS	1113E	2201D	S07	W03	06	26.2		03	9	9	E	RAMY	6124	
26	ADF	1117E	2201D	S30	E48	06	30.2	1	12	9	9	E	RAMY	6122	
26	ADF	1124E	2007D	N19	E27	06	28.5	1	10	9	9	E	RAMY	6121	
26	DSD	1235E	2046D	S07	W19	06	25.1		02	9	9	E	HOLL	6114	
26	ADF	1245E	2046D	S23	E40	06	29.6	1	05	9	9	E	HOLL	6122	
26	AFS	1252E	0136D	S07	W05	06	26.2		03	9	9	E	HOLL	6124	
26	ASR	1300E	0136D	S17	E90	07	3.4			9	9	E	HOLL		
26	SSB	1320		278	W18	07	2.5			0	0	E	HOLL		309 W49 330 W70
26	ASR	1325E	2201D	S23	E90	07	3.5			9	9	E	RAMY		
26	SSB	1420		314	W56	06	25.4			0	0	E	RAMY		
26	DSD	1448E	1620D	S24	E31	06	29.0		05	8	7	E	HOLL	6122	
26	ASR	1600E	1810D	S21	E90	07	3.6			9	9	E	SVTO		
26	DSD	1608	2003D	N10	E80	07	2.7		02	9	9	E	RAMY	6127	Flare Associated
26	DSD	1610E	2003D	S09	W20	06	25.2		02	9	9	E	RAMY	6114	
26	ADF	1612E	1720D	N16	W60	06	22.1	1	05	9	9	E	HOLL	6123	
26	ADF	1615E	1735D	S08	W22	06	25.0	1	05	9	9	E	HOLL	6114	
26	BSD	1720E	0136D	N09	E78	07	2.6		03	9	9	E	HOLL	6127	
26	SDF	1810E	0450D	N31	W06	06	26.3		04	0	0	E	SVTO		
26	ADF	2049E	0136D	S07	W23	06	25.1	1	06	9	9	E	HOLL	6114	
26	SDF	2114E	2114D	N15	W16	06	25.7		06	0	0	E	PALE		
26	ASR	2227E	0427D	S17	E90	07	3.8			9	9	E	PALE		
26	DSD	2328E	0427D	S08	W07	06	26.4		02	9	9	E	PALE	6124	
26	DSD	2328E	0427D	S08	W23	06	25.2		03	9	9	E	PALE	6114	
26	DSD	2328E	0427D	S20	E36	06	29.7		02	9	9	E	PALE	6122	
26	DSD	2339E	0427D	N11	E78	07	2.8		04	9	9	E	PALE	6127	
26	ADF	2339E	0427D	S10	E76	07	2.7	1	03	9	9	E	PALE	6126	
27	BSL	0011	0101	S17	E90	07	3.8	1				C	VORO		
27	BSL	0101	0133	S10	E90	07	3.8	1				C	VORO		
27	ASR	0410E	1230D	S19	E77	07	3.0			9	9	E	SVTO		
27	AFS	0430E	1801D	N15	W14	06	26.1		02	9	9	E	SVTO	6129	
27	APR	0443E	1325D	S26	E90	07	4.2	2		9	9	E	SVTO		
27	AFS	0500E	1801D	S19	E30	06	29.5		03	9	9	E	SVTO	6122	
27	AFS	0508E	1801D	N24	W02	06	27.0		02	9	9	E	SVTO	6130	
27	AFS	0510E	1801D	N10	E73	07	2.7		03	9	9	E	SVTO	6127	
27	AFS	0515E	1801D	S08	W14	06	26.2		03	9	9	E	SVTO	6124	
27	DSD	0708E	1000D	S24	E38	06	30.2		06	9	9	E	SVTO	6122	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
27	AFS	0745E	1801D	S08	W31	06	25.0		05	9	9	E	SVTO	6114	
27	AFS	1217E	2200D	N10	E63	07	2.2		02	9	9	E	RAMY	6127	
27	AFS	1222E	2200D	S22	E58	07	2.0		02	9	9	E	RAMY	6131	
27	AFS	1228E	2107D	S14	E60	07	2.0		02	9	9	E	RAMY	6126	
27	ASR	1300E	1801D	S19	E90	07	4.4			9	9	E	SVTO	6131	
27	ASR	1316E	2200D	S20	E85	07	4.0			9	9	E	RAMY	6131	
27	ASR	1318E	2200D	S28	E90	07	4.6			9	9	E	RAMY	6132	
27	DSD	1424	1530D	S14	E66	07	2.6		03	9	9	E	SVTO	6126	Flare Associated
27	AFS	1449E	2200D	S07	W19	06	26.2		04	9	9	E	RAMY	6124	
27	AFS	1450E	2200D	N15	W19	06	26.2		02	9	9	E	RAMY	6129	
27	AFS	1452E	2200D	N23	E07	06	28.1		03	9	9	E	RAMY	6130	
27	ASR	1500E	0142D	S29	E90	07	4.7			9	9	E	HOLL		
27	ASR	1500E	1835D	S21	E71	07	3.1			9	9	E	HOLL		
27	ADF	1520E	2107D	S27	E31	06	30.0	1	10	9	9	E	RAMY	6122	
27	ASR	1520E	1801D	S31	E90	07	4.7			9	9	E	SVTO		Flare Associated
27	ADF	1528E	1914D	N18	E13	06	28.6	1	13	9	9	E	RAMY	6121	
27	AFS	1531E	2200D	S08	W37	06	24.9		02	9	9	E	RAMY	6114	
27	APR	1605E	1801D	S33	E90	07	4.8	2		9	9	E	SVTO		Flare Associated
27	AFS	1707E	2200D	N05	E31	06	30.0		02	9	9	E	RAMY	6125	
27	SSB	1730		292	W47	07	5.4			0	0	E	RAMY		
27	ASR	1739E	0344D	S21	E90	07	4.6			9	6	E	PALE	6131	
27	DSD	1746E	0344D	N11	E69	07	2.9		02	9	9	E	PALE	6127	
27	AFS	1746E	0344D	N15	W19	06	26.3		02	9	9	E	PALE	6121	
27	AFS	1746E	0344D	N24	W05	06	27.3		03	9	9	E	PALE	6130	
27	ADF	1746E	0344D	N32	W01	06	27.7		04	9	9	E	PALE	6118	
27	AFS	1746E	0344D	S08	W21	06	26.2		03	9	9	E	PALE	6124	
27	AFS	1746E	0344D	S09	W37	06	25.0		03	9	7	E	PALE	6114	
27	DSD	1746E	0344D	S12	E76	07	3.5		05	9	9	E	PALE	6126	
27	DSD	1746E	0344D	S14	E70	07	3.0		05	9	9	E	PALE	6126	
27	DSD	1746E	0344D	S19	E78	07	3.7		05	9	9	E	PALE	6131	
27	ASR	1842E	0344D	S28	E90	07	4.8			9	9	E	PALE		
27	AFS	1845E	0142D	S09	W39	06	24.8		02	9	9	E	HOLL	6114	
27	ADF	1907E	2200D	S09	E65	07	2.7	1	07	9	9	E	RAMY	6126	
27	ADF	1925E	2155D	S24	E35	06	30.5	1	07	9	9	E	HOLL	6122	
27	SDF	1938E	1931D	N17	W17	06	26.5		08	0	0	E	PALE		
27	BSD	2015E	2105D	S20	E70	07	3.2		10	9	9	E	HOLL	6131	
27	AFS	2119E	0142D	S08	W24	06	26.1		02	9	9	E	HOLL	6124	
27	AFS	2128E	0142D	N04	E29	06	30.1		02	9	9	E	HOLL	6125	
27	AFS	2130E	2337D	N07	E63	07	2.6		02	9	9	E	HOLL	6127	
27	AFS	2135E	0142D	N11	E47	07	1.4		02	9	9	E	HOLL		
27	AFS	2140E	0142D	N15	W23	06	26.2		02	9	9	E	HOLL	6129	
27	DSD	2206	2332D	N23	W10	06	27.1		08	9	9	E	HOLL	6130	Flare Associated
27	APR	2215E	0133D	S14	E90	07	4.7	1				C	VORO		
27	BSL	2215E	2349	S17	E90	07	4.8	1				C	VORO		
27	BSD	2332E	0142D	S21	E71	07	3.4		09	9	9	E	HOLL	6131	
28	DSD	0053E	0111D	N23	W12	06	27.1		07	9	9	E	HOLL	6130	Flare Associated
28	DSD	0054E	0107D	S22	E13	06	29.0		05	9	9	E	HOLL	6122	Flare Associated
28	LPS	0422E	0827	N10	E60	07	2.7			9	9	E	SVTO	6127	
28	DSD	0425E	1756D	S19	E68	07	3.4		09	9	9	E	SVTO	6131	
28	AFS	0430E	1756D	N13	E42	07	1.3		02	9	9	E	SVTO		
28	DSD	0535E	1756D	N05	E22	06	29.9		03	9	9	E	SVTO	6125	
28	AFS	0535E	1756D	N05	E25	06	30.1		02	9	9	E	SVTO	6125	
28	DSD	0535E	1756D	N08	E61	07	2.8		03	9	9	E	SVTO	6127	
28	AFS	0630E	1630D	S07	W45	06	24.9		03	9	9	E	SVTO	6114	
28	ASR	0637E	1632D	S29	E80	07	4.5			9	9	E	SVTO	6132	
28	ADF	0700E	0740D	N11	E59	07	2.7	1				V	KHAR		
28	DSD	0705E	0728	N05	E20	06	29.8	1				V	KHAR		
28	DSD	0755E	0844	S27	E19	06	29.8	1				V	KHAR		
28	ASR	0810E	1756D	N19	E90	07	5.2			9	9	E	SVTO		
28	DSD	0818E	0900D	N05	E20	06	29.8	1				V	KHAR		
28	ADF	0819E	0847D	N11	E59	07	2.8	1				V	KHAR		
28	DSD	1209E	1824D	N04	E17	06	29.8		03	9	9	E	RAMY	6125	
28	DSD	1209E	1824D	N07	E16	06	29.7		05	9	9	E	RAMY	6125	
28	AFS	1225E	0045D	N04	E20	06	30.0		03	9	9	E	HOLL	6125	
28	DSD	1225E	2102D	N06	E16	06	29.7		02	9	9	E	HOLL	6125	
28	DSD	1225E	2102D	N06	E16	06	29.7		05	9	9	E	HOLL	6125	
28	AFS	1235E	1756D	N10	E54	07	2.6		03	9	9	E	SVTO	6127	
28	AFS	1300E	0045D	S23	E60	07	3.2		03	9	9	E	HOLL	6131	
28	ADF	1303E	2112D	S16	E59	07	3.0	1	06	9	9	E	HOLL		

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
28	AFS	1318E	0045D	S10	W48	06	24.9		02	8	8	E	HOLL	6114	
28	DSD	1324E	1445D	S22	E08	06	29.2		03	9	9	E	HOLL	6122	Flare Associated
28	DSD	1324E	2117D	S19	E05	06	28.9		03	9	9	E	HOLL	6122	
28	AFS	1333E	1950D	N04	E20	06	30.0		03	9	9	E	RAMY	6125	
28	ASR	1335	1409D	N16	E90	07	5.4			9	9	E	RAMY		
28	AFS	1337	1950D	N11	E37	07	1.3		02	9	9	E	RAMY	6134	
28	DSD	1340E	1433D	S23	E65	07	3.6		03	9	9	E	RAMY	6131	
28	AFS	1413E	0045D	S08	W31	06	26.3		01	9	9	E	HOLL	6124	
28	ASR	1420E	0045D	N17	E90	07	5.4			9	9	E	HOLL		
28	AFS	1430E	0045D	N08	E53	07	2.6		03	9	9	E	HOLL	6127	
28	DSD	1430E	2122D	N06	E56	07	2.8		02	9	9	E	HOLL	6127	
28	ASR	1430E	1950D	N16	E90	07	5.4			9	9	E	RAMY	6133	
28	ADF	1445E	2117D	S25	E24	06	30.5	1	13	9	9	E	HOLL	6122	
28	AFS	1454E	0045D	N10	E36	07	1.3		03	9	9	E	HOLL		
28	DSD	1454E	2124D	N13	E36	07	1.3		02	9	9	E	HOLL		
28	DSD	1620E	2126D	S30	E72	07	4.3		03	9	9	E	HOLL	6132	
28	AFS	1754E	1950D	S08	W35	06	26.1		02	9	9	E	RAMY	6124	
28	DSD	1813E	1950D	S21	E59	07	3.3		04	9	9	E	RAMY	6131	
28	AFS	1813E	1950D	S22	E57	07	3.1		02	9	9	E	RAMY	6131	
28	ADF	1817E	1917D	N12	E38	07	1.6	1	06	9	9	E	RAMY		
28	AFS	1907E	1950D	S09	W54	06	24.7		02	9	9	E	RAMY	6114	
28	AFS	1909E	1950D	S18	W09	06	28.1		02	9	9	E	RAMY	6120	
28	AFS	1927E	2343D	S22	E03	06	29.0		02	9	9	E	HOLL	6122	
28	ADF	1939E	0045D	S15	E56	07	3.0	1	05	9	9	E	HOLL	6126	
28	ADF	2103E	2347D	N05	E15	06	30.0	1	03	9	9	E	HOLL	6125	
28	ADF	2216E	2353D	S12	E40	07	1.9	1	04	9	9	E	HOLL	6126	
28	AFS	2328E	0505D	N06	E13	06	29.9		02	9	9	E	PALE	6125	
28	AFS	2328E	0505D	N10	E50	07	2.7		03	9	9	E	PALE	6127	
28	AFS	2328E	0505D	N13	E33	07	1.5		03	9	9	E	PALE	6134	
28	AFS	2328E	0505D	S09	W37	06	26.2		02	9	9	E	PALE	6124	
28	DSD	2328E	0505D	S21	E53	07	3.0		04	9	9	E	PALE	6131	
29	ASR	0255E	0505D	N17	E87	07	5.7			9	9	E	PALE	6133	
29	DSD	0255E	0505D	N28	E11	06	30.0		03	9	9	E	PALE	6134	
29	DSD	0300E	0505D	S22	E07	06	29.7		02	9	9	E	PALE	6122	
29	ASR	0515E	1758D	N22	W90	06	22.3			9	9	E	SVTO	6128	
29	AFS	0533E	1758D	S12	W56	06	25.0		03	9	9	E	SVTO	6114	
29	AFS	0537E	1758D	S09	W42	06	26.1		03	9	9	E	SVTO	6124	
29	AFS	0544E	1758D	S21	E47	07	2.8		02	7	7	E	SVTO	6131	
29	AFS	0555E	1758D	S13	E37	07	2.0		02	9	9	E	SVTO	6126	
29	AFS	0610E	1758D	N10	E45	07	2.6		03	9	9	E	SVTO	6127	
29	AFS	0615E	1758D	N11	E27	07	1.3		03	9	9	E	SVTO	6134	
29	AFS	0634E	1758D	N04	E10	06	30.0		02	7	7	E	SVTO	6125	
29	ASR	0700E	1758D	N19	E90	07	6.1			9	9	E	SVTO	6133	
29	ADF	0934E	1020D	S11	W60	06	24.9	1				V	KHAR		
29	ADF	0958E	1758D	S19	E49	07	3.1	1	07	9	9	E	SVTO	6131	
29	ADF	1008E	1015D	S22	E49	07	3.2	1				V	KHAR		
29	DSD	1015	1020D	N04	E06	06	29.9	1				V	KHAR		
29	AFS	1110E	1935D	N11	E24	07	1.3		03	9	9	E	RAMY	6134	
29	AFS	1111E	1935D	N04	E07	06	30.0		03	7	7	E	RAMY	6125	
29	DSD	1119E	1555D	S22	E42	07	2.7		04	9	9	E	RAMY	6131	
29	ADF	1234E	1954D	S15	E47	07	3.1	2	06	9	9	E	RAMY	6126	
29	AFS	1255E	0129D	N10	E35	07	2.2		03	9	9	E	HOLL	6127	
29	SDF	1417E	0110D	N35	W41	06	26.3		09	0	0	E	HOLL		
29	ADF	1431E	2026D	N14	W24	06	27.8	1	06	7	9	E	HOLL	6121	
29	AFS	1435E	2315D	S10	W64	06	24.8		02	9	9	E	HOLL	6114	
29	AFS	1439E	0129D	N11	E22	07	1.3		03	9	9	E	HOLL	6134	
29	DSD	1449E	1705D	S08	W46	06	26.2		02	9	9	E	HOLL	6124	
29	AFS	1458E	2057D	N04	E05	06	30.0		03	9	9	E	HOLL	6125	
29	AFS	1503E	0129D	S20	E44	07	3.0		03	9	9	E	HOLL	6131	
29	AFS	1519E	2054D	S12	E38	07	2.5		01	9	9	E	HOLL	6126	
29	DSD	1521E	2054D	S14	E32	07	2.0		02	9	9	E	HOLL	6126	
29	DSD	1600E	1702D	S14	E50	07	3.4		03	9	9	E	RAMY	6126	
29	DSD	1604E	1706D	S22	W07	06	29.1		05	9	9	E	HOLL	6122	Flare Associated
29	ASR	1706E	1945D	N18	E90	07	6.6			9	9	E	RAMY		
29	DSD	1707E	1930D	N16	E72	07	5.2		03	9	9	E	RAMY	6133	
29	AFS	1719E	1935D	N15	W48	06	26.1		02	9	9	E	RAMY	6129	
29	AFS	2040E	0129D	S13	E27	07	1.9		04	9	6	E	HOLL	6126	
29	ADF	2119E	2320D	S14	E36	07	2.6	2	08	9	9	E	HOLL	6126	
29	AFS	2152E	0034D	S20	W03	06	29.7		03	7	8	E	HOLL	6122	

ACTIVE PROMINENCES AND FILAMENTS

JUNE 1990

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
29	AFS	2310E	0129D	S13	E34	07	2.5		02	6	7	E	HOLL	6126	
29	DSD	2316E	2343D	N16	E67	07	5.0		05	9	9	E	HOLL	6133	Flare Associated
29	BSD	2329E	2343D	N14	E70	07	5.3		03	4	4	E	HOLL	6133	
29	DSD	2339E	0436D	S11	E28	07	2.1		02	9	9	E	PALE	6126	Flare Associated
29	AFS	2339E	0436D	S12	E26	07	1.9		02	9	9	E	PALE	6126	
29	AFS	2347E	0436D	N09	E36	07	2.7		03	9	9	E	PALE	6127	
29	AFS	2347E	0436D	N10	E36	07	2.7		02	9	9	E	PALE	6127	
30	AFS	0003E	0933D	N08	E35	07	2.6		02	9	9	E	LEAR	6127	
30	ADF	0015E	0436D	N16	W32	06	27.6	1	11	9	9	E	PALE	6121	
30	AFS	0030E	0436D	S30	E62	07	4.9		02	9	9	E	PALE	6132	
30	AFS	0039E	0436D	N12	E17	07	1.3		02	9	9	E	PALE	6134	
30	AFS	0040E	0129D	N16	E70	07	5.3		02	9	9	E	HOLL	6133	
30	AFS	0046E	0436D	S12	E45	07	3.4		01	9	9	E	PALE		
30	AFS	0110E	0933D	S14	E27	07	2.1		03	9	9	E	LEAR	6126	
30	AFS	0201E	0933D	N10	E16	07	1.3		02	9	9	E	LEAR	6134	
30	AFS	0314E	0436D	S22	E39	07	3.1		03	9	9	E	PALE	6131	
30	AFS	0317E	0436D	S29	E63	07	5.1		02	9	9	E	PALE	6132	
30	AFS	0440E	1742D	N10	E32	07	2.6		04	9	9	E	SVTO	6127	
30	AFS	0441E	1742D	N11	E14	07	1.2		02	9	9	E	SVTO	6134	
30	AFS	0442E	1742D	S11	E23	07	1.9		03	9	9	E	SVTO	6126	
30	DSD	0443E	1229D	S41	W21	06	28.5		04	9	9	E	SVTO		
30	ADF	0444E	1742D	N15	E71	07	5.6	1	06	9	9	E	SVTO	6133	
30	AFS	0800E	0933D	S12	W90	06	23.5		03	5	7	E	LEAR	6122	
30	AFS	0830E	0933D	S17	E64	07	5.2		03	9	7	E	LEAR		
30	DSD	0934E	0942D	S42	W24	06	28.4	1				V	KHAR		
30	DSD	0945	0956	N23	W43	06	27.1	1				V	KHAR		
30	AFS	1106E	2158D	S21	E33	07	3.0		03	8	8	E	RAMY	6131	
30	ADF	1106E	2158D	S24	E39	07	3.5	1	06	9	9	E	RAMY	6131	
30	DSD	1109E	1820D	S29	E61	07	5.2		05	9	9	E	RAMY	6132	
30	DSD	1109E	1820D	S30	E53	07	4.6		02	9	9	E	RAMY	6132	
30	AFS	1117E	2158D	N08	E29	07	2.6		03	9	9	E	RAMY	6127	
30	AFS	1124E	2158D	S42	W26	06	28.3		02	9	9	E	RAMY		
30	AFS	1125E	2158D	S30	E55	07	4.8		02	9	9	E	RAMY	6132	
30	DSD	1240E	1715D	S23	W19	06	29.1		03	9	9	E	HOLL	6122	
30	DSD	1247E	1445D	N13	W56	06	26.3		02	9	9	E	HOLL	6129	
30	AFS	1400E	0202D	S13	E18	07	1.9		02	9	8	E	HOLL	6126	
30	AFS	1400E	2128D	S12	E24	07	2.4		02	7	6	E	HOLL	6126	
30	AFS	1402E	2158D	S08	W59	06	26.2		02	9	9	E	RAMY	6124	
30	DSD	1403E	1543D	S21	W16	06	29.3		02	9	9	E	RAMY	6122	
30	AFS	1405E	2158D	S13	E37	07	3.4		02	9	9	E	RAMY		
30	AFS	1408E	0202D	N08	E27	07	2.6		03	9	9	E	HOLL	6127	
30	DSD	1409E	1611D	N13	E78	07	6.5		02	9	9	E	RAMY		
30	AFS	1412E	0202D	S21	E31	07	3.0		03	9	9	E	HOLL	6131	
30	DSD	1418E	1838D	S28	E55	07	4.9		02	9	9	E	HOLL	6132	
30	AFS	1421	0202D	N16	E63	07	5.4		02	8	9	E	HOLL	6133	
30	AFS	1424E	1720D	S13	E38	07	3.5		02	9	9	E	HOLL		
30	AFS	1440E	1720D	S17	E60	07	5.2		02	9	9	E	HOLL		
30	ADF	1440E	2126D	S18	E66	07	5.6		07	9	9	E	HOLL		
30	BSD	1445E	1727D	N14	W60	06	26.1		03	9	9	E	HOLL	6129	
30	SDF	1632E	1242D	N43	E30	07	3.2		19	0	0	E	RAMY		
30	SDF	1700E	2358D	N43	E25	07	2.8		11	0	0	E	HOLL		
30	AFS	1715E	1837D	S22	W13	06	29.7		03	8	8	E	HOLL	6122	
30	DSD	1727E	0202D	N13	W65	06	25.8		04	9	9	E	HOLL	6129	
30	SSB	1730		230	W25	07	3.0			0	0	E	HOLL		
30	ADF	1732E	1837D	S29	E33	07	3.3	1	05	9	9	E	HOLL	6131	
30	ADF	1732E	2342D	S24	E33	07	3.3	1	07	9	9	E	HOLL	6131	
30	ASR	1953E	0438D	N35	W90	06	23.6			9	9	E	PALE		
30	APR	1953E	0438D	S19	E90	07	7.7			9	9	E	PALE		
30	ASR	1953E	0438D	S31	E90	07	7.9			9	8	E	PALE		
30	AFS	2036E	0438D	N09	E24	07	2.6		03	9	9	E	PALE	6127	
30	DSD	2042E	0438D	S12	E14	07	1.9		03	9	9	E	PALE	6126	
30	DSD	2042E	0438D	S24	W10	06	30.1		02	8	9	E	PALE	6122	
30	DSD	2042E	0438D	S29	E52	07	4.9		04	9	9	E	PALE	6132	
30	ADF	2114E	0438D	N12	E07	07	1.4		05	9	9	E	PALE	6134	
30	ADF	2114E	0438D	S23	E68	07	6.1		07	9	9	E	PALE	6133	
30	ADF	2129E	0438D	N14	E83	07	7.2		06	9	9	E	PALE		
30	SDF	2333E	2018D	N20	W16	06	29.7		19	0	0	E	PALE		
30	DSD	2342E	0202D	S21	E32	07	3.4		04	9	9	E	HOLL	6131	

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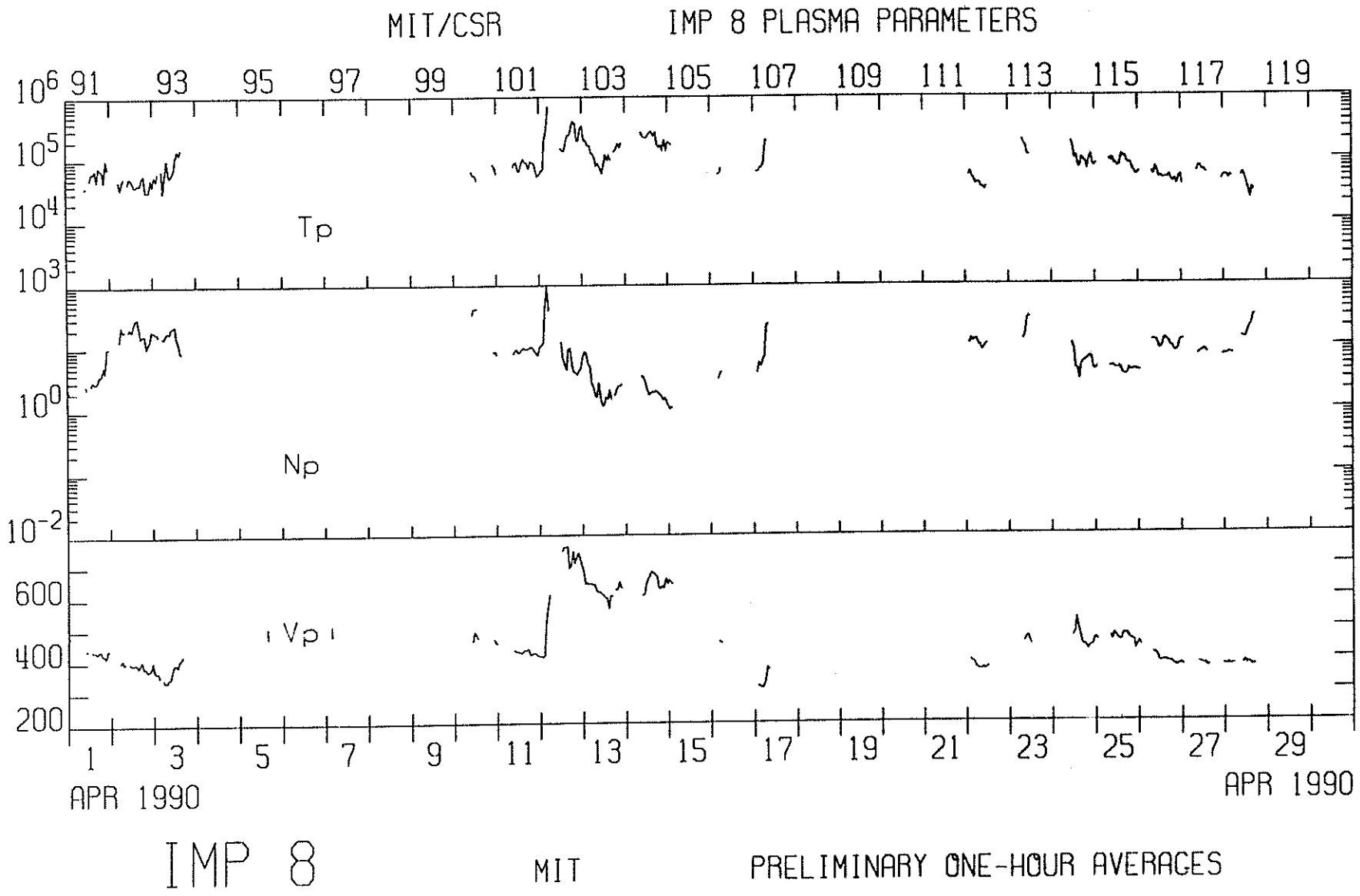
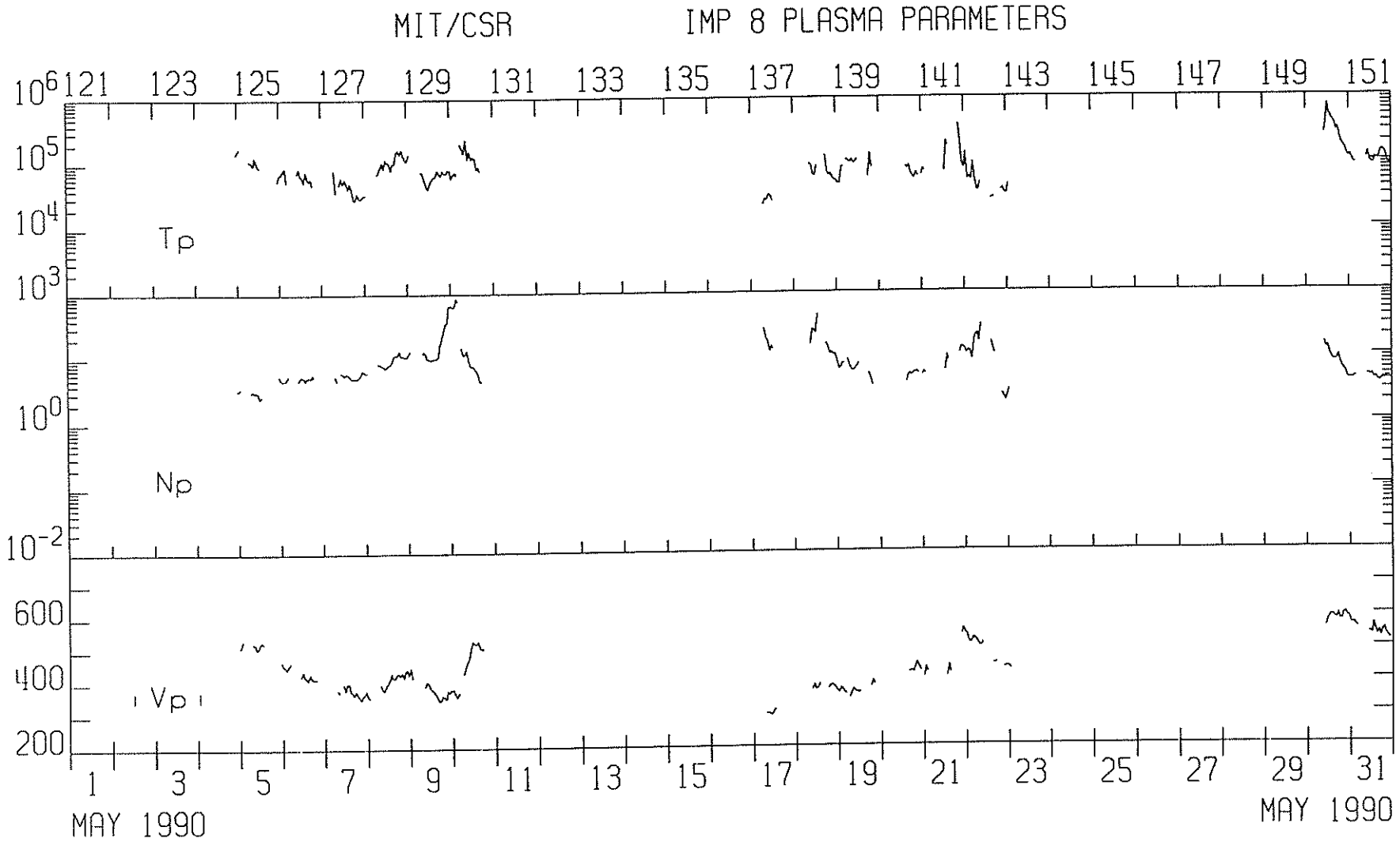


IMP 8 SOLAR WIND PLASMA
MAY 1990



IMP 8 MIT PRELIMINARY ONE-HOUR AVERAGES

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International Geophysical Calendar 1991

Extended Text for use in Journals:

EXPLANATIONS

This Calendar continues the series begun for the IGY years 1957-58, and is issued annually to recommend dates for solar and geophysical observations which cannot be carried out continuously. Thus, the amount of observational data in existence tends to be larger on Calendar days. The recommendations on data reduction and especially the flow of data to **World Data Centers (WDCs)** in many instances emphasize Calendar days. The Calendar is prepared by the **International Ursigram and World Days Service (IUWDS)** with the advice of spokesmen for the various scientific disciplines. For some programs, greater detail concerning recommendations appears from time to time published in **IAGA News, IUGG Chronicle, URSI Information Bulletin** or other scientific journals or newsletters.

The definitions of the designated days remain as described on previous Calendars. **Universal Time (UT)** is the standard time for all world days. **Regular Geophysical Days (RGD)** are each Wednesday. **Regular World Days (RWD)** are three consecutive days each month (always Tuesday, Wednesday and Thursday near the middle of the month). **Priority Regular World Days (PRWD)** are the **RWD** which fall on Wednesdays. **Quarterly World Days (QWD)** are one day each quarter and are the **PRWD** which fall in the **World Geophysical Intervals (WGI)**. The **WGI** are fourteen consecutive days in each season, beginning on Monday of the selected month, and normally shift from year to year. In 1991 the **WGI** will be February, May, August and November.

The Solar Eclipses are:

a.) 15-16 January 1991 (annular) begins at S30 E109, crosses southwestern Australia, Tasmania and New Zealand and ends in the Pacific Ocean on the equator (S00 W114); duration 9 minutes.

b.) 11 July 1991 (total) begins at N13 W175, crosses Hawaii, Pacific Ocean, Mexico, Central and South America; maximum path width 161 miles; maximum duration 6 minutes 54 seconds; ends at S13 W46.

Meteor Showers (selected by P.M. Millman, Ottawa) include important visual showers and also unusual showers observable mainly by radio and radar techniques. The dates for Northern Hemisphere meteor showers are: Jan 3, 4; Apr 22-23; May 4-5; Jun 8-12; Jul 28-29; Aug 10-14; Oct 21-22; Nov 2-3, 17-18; Dec 12-16, 22-23, 1991; and Jan 3-4, 1992. The dates for Southern Hemisphere meteor showers are: May 4-5; Jun 8-12; Jul 27-30; Oct 21-22; Nov 2-3, 17-18; and Dec 5-7, 12-16, 1991.

The occurrence of unusual solar or geophysical conditions is announced or forecast by the IUWDS through various types of geophysical "Alerts" (which are widely distributed by telegram and radio broadcast on a current schedule). Stratospheric warmings **(STRATWARM)** are also designated. The meteorological telecommunications network coordinated by WMO carries these worldwide Alerts once daily soon after 0400 UT. For definitions of Alerts see IUWDS "Synoptic Codes for Solar and Geophysical Data, Third Revised Edition 1973" and its amendments. **Retrospective World Intervals** are selected and announced by MONSEE and elsewhere to provide additional analyzed data for particular events studied in the ICSU Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) programs.

RECOMMENDED SCIENTIFIC PROGRAMS

OPERATIONAL EDITION

(The following material was reviewed in 1990 by spokesmen of IAGA, WMO and URSI as suitable for coordinated geophysical programs in 1991.) **Airglow and Aurora Phenomena.** Airglow and auroral observatories operate with their full capacity around the New Moon periods. However, for progress in understanding the mechanism of many phenomena, such as low latitude aurora, the coordinated use of all available techniques, optical and radio, from the ground and in space is required. Thus, for the airglow and aurora 7-day periods on the Calendar, ionosonde, incoherent scatter, special satellite or balloon observations, etc., are especially encouraged. Periods of approximately one weeks' duration centered on the New Moon are proposed for high resolution of ionospheric, auroral and magnetospheric observations at high latitudes during northern winter.

Atmospheric Electricity. Non-continuous measurements and data reduction for continuous measurements of atmospheric electric current density, field, conductivities, space charges, ion number densities, ionosphere potentials, condensation nuclei, etc.; both at ground as well as with radiosondes, aircraft, rockets; should be done with first priority on the **RGD** each Wednesday, beginning on 2 January 1991 at 0000 UT, 9 January at 0600 UT, 16 January at 1200 UT, 23 January at 1800 UT, etc. (beginning hour shifts six hours each week, but is always on Wednesday). Minimum program is at the same time on **PRWD** beginning with 16 January at 1200 UT. Data reduction for continuous measurements should be extended, if possible, to cover at least the full RGD including, in addition, at least 6 hours prior to indicated beginning time. Measurements prohibited by bad weather should be done 24 hours later. Results on sferics and ELF are wanted with first priority for the same hours, short-period measurements centered around the minutes 35-50 of the hours indicated. **Priority Weeks** are the weeks which contain a PRWD; minimum priority weeks are the ones with a QWD. The World Data Centre for Atmospheric Electricity, 7 Karbysheva, Leningrad 194018, USSR, is the collection point for data and information on measurements.

Geomagnetic Phenomena. It has always been a leading principle for geomagnetic observatories that operations should be as continuous as possible and the great majority of stations undertake the same program without regard to the Calendar.

Stations equipped for making magnetic observations, but which cannot carry out such observations and reductions on a continuous schedule are encouraged to carry out such work at least on RWD (and during times of **MAGSTORM** Alert).

Ionospheric Phenomena. Special attention is continuing on particular events which cannot be forecast in advance with reasonable certainty. These will be identified by Retrospective World Intervals. The importance of obtaining full observational coverage is therefore stressed even if it is possible to analyze the detailed data only for the chosen events. In the case of vertical incidence sounding, the need to obtain quarter-hourly ionograms at as many stations as possible is particularly stressed and takes priority over recommendation (a) below when both are not practical.

For the vertical incidence (VI) sounding program, the summary recommendations are: (a) All stations should make soundings on the hour and every quarter hour; (b) On **RWDs**, ionogram soundings should be made at least every quarter hour and preferably every five minutes or more frequently, particularly at high latitudes; (c) All stations are encouraged to make f-plots on **RWDs**; f-plots should be made for high latitude stations, and for so-called "representative" stations at lower latitudes for all days (i.e., including **RWDs** and **WGIs**) (Continuous records of ionospheric parameters are acceptable in place of f-plots at temperate and low latitude stations); (d) Copies of hourly ionograms with appropriate scales for **QWDs** are to be sent to WDCs; (e) Stations in the eclipse zone and its conjugate area should take continuous observations on solar eclipse days and special observations on adjacent days. See also recommendations under **Airglow and Aurora Phenomena.**

For the incoherent scatter observation program, every effort should be made to obtain measurements at least on the **Incoherent Scatter Coordinated Observation Days**, and intensive series should be attempted whenever possible in WGIs or the **Airglow and Aurora Periods.** The need for collateral VI observations with not more than quarter-hourly spacing at least during all observation periods is stressed. Special programs: Dr. V. Wickwar, Utah State University, Center for Atmospheric and Space Sciences, Logan, UT 84322-4405 U.S.A., URSI Working Group G.5. Phone: (801)750-3641.

For the ionospheric drift or wind measurement by the various radio techniques, observations are recommended to be concentrated on the weeks including **RWDs**.

For traveling ionosphere disturbances, propose special periods for coordinated measurements of gravity waves induced by magnetospheric activity, probably on selected **PRWD** and **RWD.**

For the ionospheric absorption program half-hourly observations are made at least on all **RWDs** and half-hourly tabulations sent to WDCs. Observations should be continuous on **solar eclipse** days for stations in eclipse zone and in its conjugate area. Special efforts should be made to obtain daily absorption measurements at temperate latitude stations during the period of Absorption Winter Anomaly, particularly on days of abnormally high or abnormally low absorption (approximately October-March, Northern Hemisphere; April-September, Southern Hemisphere).

For back-scatter and forward scatter programs, observations should be made and analyzed on all **RWDs** at least.

For synoptic observations of mesospheric (D region) electron densities, several groups have agreed on using the **RGD** for the hours around noon.

For ELF noise measurements involving the earth-ionosphere cavity resonances any special effort should be concentrated during the **WGIs.**

It is recommended that more intensive observations in all programs be considered on days of **unusual meteor activity.**

Meteorology. Particular efforts should be made to carry out an intensified program on the **RGD** -- each Wednesday, UT. A desirable goal would be the scheduling of meteorological rocketsondes, ozone sondes and radiometer sondes on these days, together with maximum-altitude rawinsonde ascents at both 0000 and 1200 UT.

During **WGI** and **STRATWARM** Alert Intervals, intensified programs are also desirable, preferably by the implementation of RGD-type programs (see above) on Mondays and Fridays, as well as on Wednesdays.

Solar Phenomena. Observatories making specialized studies of solar phenomena, particularly using new or complex techniques, such that continuous observation or reporting is impractical, are requested to make special efforts to provide to WDCs data for **solar eclipse** days, **RWDs** and during **PROTON/FLARE ALERTS**. The attention of those recording solar noise spectra, solar magnetic fields and doing specialized optical studies is particularly drawn to this recommendation.

FLARES22(FLAre RESearch at the maximum of solar cycle 22). 1990-1995 worldwide Solar-Terrestrial Energy Program (STEP) project. Aimed at understanding basic physical processes of transient solar activity and its coupling with the solar-terrestrial environment, including times of the various solar **ALERTS**. Coordinates satellite and ground-based observations. Observational campaigns are driven by specific scientific objectives rather than observations per se. Satellites include SOLAR-A, GRO, CORONAS, WIND, GEOTAIL, ULYSSES, etc. Program will focus on international collaboration of data analyses and theoretical work via electronic mail and workshops. For more information, contact Dr. M. Machado, Department of Physics, The University of Alabama in Huntsville, Huntsville, AL 35899 USA. Phone: (205)895-6676; FAX number is (205)895-6790; SPAN e-mail address is SSL::MACHADO or SOLAR::MMACHADO.

SOLTIP (SOlar connection with Transient Interplanetary Processes). Proposed program within the SCOSTEP STEP (Solar-Terrestrial Energy Program) project: 1990-1995. It will focus on remote and <u>in situ</u> observations and analyses of solar-generated phenomena and their propagation throughout the heliosphere, including times following the various solar **ALERTS**. Desired goals include: (1) interplanetary scintillation observation of remote radio galaxies as well as telemetry signals to/from interplanetary spacecraft; (2) coordination of Earth-orbiting spacecraft such as IMP-8 in the solar wind and solar-orbiting spacecraft such as ICE, GIOTTO, SAKIGAKE, VOYAGER 1/2, PIONEER 10/11, ULYSSES, RELICT, WIND, and SOHO. Contact is Dr. M. Dryer, NOAA R/E/SE, 325 Broadway, Boulder, CO 80303 USA. Phone: (303)497-3978; FAX number is (303)497-3645; SPAN e-mail address is SELVAX::MDRYER.

Space Research, Interplanetary Phenomena, Cosmic Rays, Aeronomy. Experimenters should take into account that observational effort in other disciplines tends to be intensified on the days marked on the Calendar, and schedule balloon and rocket experiments accordingly if there are no other geophysical reasons for choice. In particular it is desirable to make rocket measurements of ionospheric characteristics on the same day at as many locations as possible; where feasible, experimenters should endeavor to launch rockets to monitor at least normal conditions on the **Quarterly World Days (QWD)** or on **RWDs**, since these are also days when there will be maximum support from ground observations. Also, special efforts should be made to assure recording of telemetry on **QWD** and **Airglow and Aurora Periods** of experiments on satellites and of experiments on spacecraft in orbit around the Sun.

The **International Ursigram and World Days Service (IUWDS)** is a permanent scientific service of the **International Union of Radio Science (URSI)**, with the participation of the **International Astronomical Union** and the **International Union Geodesy and Geophysics.** **IUWDS** adheres to the **Federation of Astronomical and Geophysical Data Analysis Services (FAGS)** of the **International Council of Scientific Unions (ICSU).** The **IUWDS** coordinates the international aspects of the world days program and rapid data interchange.

This Calendar for 1991 has been drawn up by H.E. Coffey, of the IUWDS Steering Committee, in association with spokesmen for the various scientific disciplines in SCOSTEP, IAGA and URSI and other ICSU organizations. Similar Calendars are issued annually beginning with the IGY, 1957-58, and are published in various widely available scientific publications.

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Additional copies are available upon request to IUWDS Chairman, Dr. R. Thompson, IPS Radio and Space Services, Department of Administrative Services, P.O. Box 1548, Chatswood, NSW 2057, Australia (FAX number (61)(2)414 8331; e-mail address is richard@ipso.ips.oz.au), or IUWDS Secretary for World Days, Miss H.E. Coffey, WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder, Colorado 80303, USA (FAX number (303)497-6513; e-mail address is hcoffey%9555.span@ames.arc.nasa.gov).

Footnotes to front of calendar --

NOTES on other dates and programs of interest:

1. Days with unusual meteor shower activity are: Northern Hemisphere Jan 3,4; Apr 22-23; May 4-5; Jun 8-12; Jul 28-29; Aug 10-14; Oct 21-22; Nov 2-3, 17-18; Dec 12-16, 22-23, 1991; Jan 3-4, 1992. Southern Hemisphere May 4-5; Jun 8-12; Jul 26-30; Oct 21-22; Nov 2-3, 17-18; Dec 5-7, 12-16, 1991.

2. SOLTIP (Solar connection with Transient Interplanetary Processes). Observing Program 1990 - 1995: solar-generated phenomena and their propagation throughout the heliosphere. (See Explanations.)

3. FLARES22 (FLAre RESearch at solar cycle 22 maximum). Observing Program 1990-1995: basic physical processes of transient solar activity and its coupling with solar-terrestrial environment. (See Explanations.)

4. Day intervals that IMP 8 satellite is in the solar wind (begin and end days are generally partial days): 29 Dec 1990-5 Jan 1991; 10-18 Jan; 23-31 Jan; 5-13 Feb; 17-25 Feb; 2-10 Mar; 14-22 Mar; 27 Mar-3 Apr; 9-16 Apr; 21-28 Apr; 4-11 May; 17-24 May; 30 May-5 Jun; 11-17 Jun; 24-30 Jun; 6-12 Jul; 19-25 Jul; 31 Jul-7 Aug; 13-20 Aug; 25 Aug-1 Sep; 7-14 Sep; 20-27 Sep; 3-9 Oct; 15-22 Oct; 27 Oct-3 Nov; 9-16 Nov; 21-29 Nov; 4-11 Dec; 16-24 Dec; 29 Dec 1991-6 Jan 1992. Note that there will not necessarily be total IMP 8 data monitoring coverage during these intervals. (Information kindly provided by the WDC-A for Rockets and Satellites, NASA GSFC, Greenbelt, MD 20771 U.S.A.).

5. + Incoherent Scatter Coordinated Observations Days (see Explanations) starting at 1600 UT on the first day of the intervals indicated, and ending at 1600 UT on the last day of the intervals: 11-12 Jan; 14-20 Mar CADITS/MLTCS/SUNDIAL/WAGS; 9-10 Apr; 11-12 Jun; 10-11 Jul; 10-11 Sep; 7-9 Oct GISMOS; 4-10 Dec CADITS/MLTCS/SUNDIAL/WAGS; 27-29 Jan 1992;

where CADITS = Coupling and Dynamics of the Ionosphere-Thermosphere System;
GISMOS = Global Ionospheric Simultaneous Measurements of Substorms;
MLTCS = Mesosphere, Lower-Thermosphere Coupling Study;
SUNDIAL = Coordinated study of the ionosphere/magnetosphere;
WAGS = Worldwide Acoustics Gravity Wave Study.

OPERATIONAL EDITION, September 1990

WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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