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NO. 518 OCTOBER 1987

Part II (Comprehensive Reports)

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

DATA FOR
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NUMBER 518

(Issued in Two Parts)

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A C T I V E R E G I O N S
CARRINGTON ROTATION 1787

(26 March 1987 to 23 April 1987)

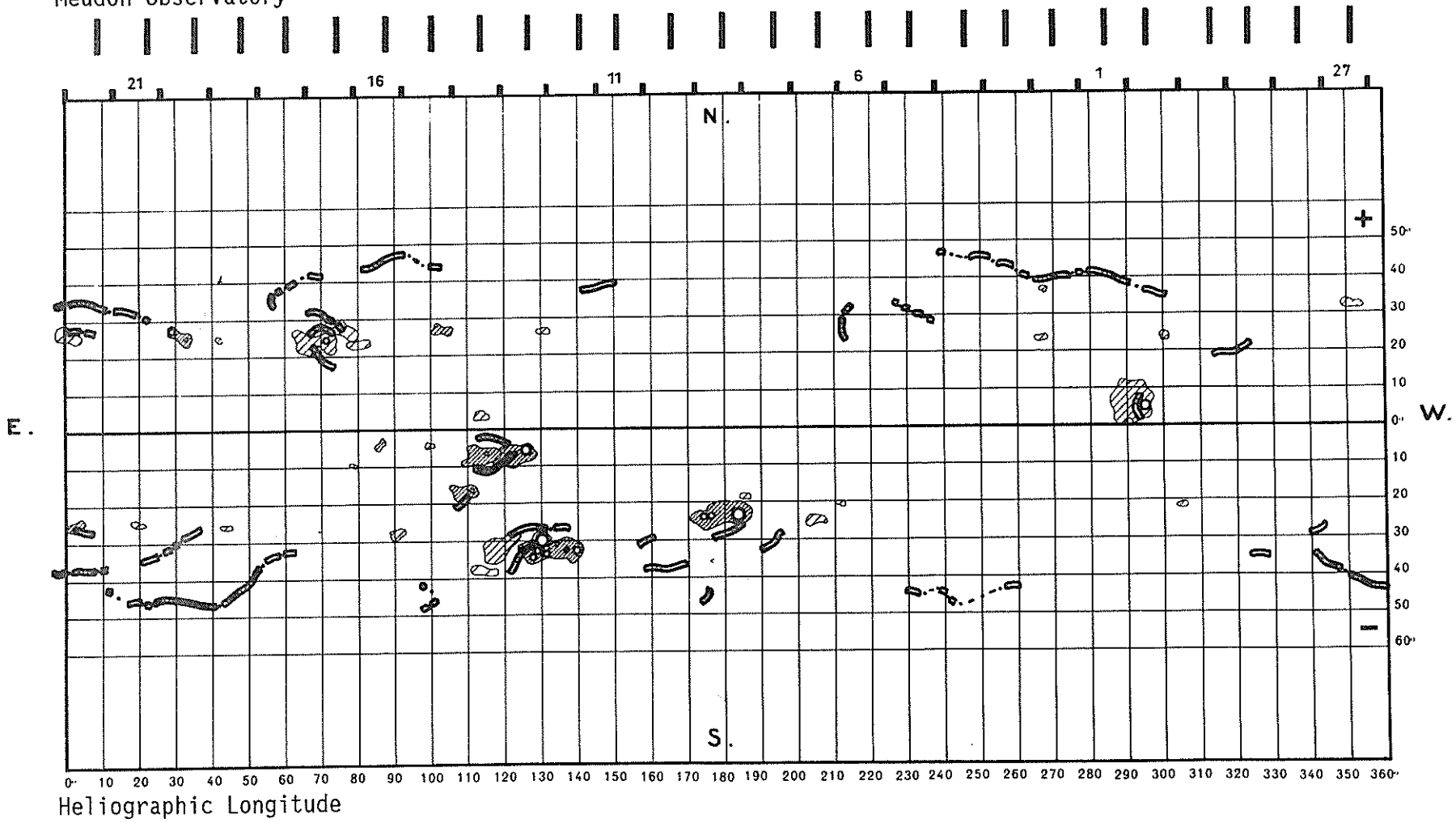
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1786	Activity at West Limb
1	32°N	352	1	-4	x		decreasing
2	22°N	305	1	0	x		disappeared
3	24°N	301	1	+2	x		disappeared
4	6°N	292	3	>6			decreasing
5	25°S	205	1	+2	x		dispersed
6	18°S	179	1	0	x		dispersed
7	23°S	179	4	+6			decreasing
8	32°S	133	5	>6			decreasing
9	30°S	128	3	>6			decreasing
10	7°S	122	3	>6			decreasing
11	31°S	119	1	>6	x		decreasing
12	6°S	114	2	>6			decreasing
13	4°N	113	1	-5	x		stable
14	17°S	109	2	+1			decreasing
15	27°N	103	1	-2	x		stable
16	28°S	90	1	0	x		disappeared
17	28°N	76	1	>6	x		disappeared
18	25°N	68	2	>6			decreasing
19	27°N	30	2	-1			stable
20	25°S	2	1	+2	x		dispersed
21	27°N	0	1	>6	x		dispersed

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1787
(26 March to 23 April 1987)

Meudon Observatory

March 1987



H - ALPHA S O L A R F L A R E S

APRIL 1987

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Xray	Obs	Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	YUNN	01	0257	0302	0315	N02	W05	4783	03	31.7	18	SN			P		96	1.0	D
0002	YUNN	01	0327	0329	0340D	N02	W05	4783	03	31.8	13D	SN			P		32	.3	D
		01	0401		0404	No Flare Patrol													
		01	1704		1708	No Flare Patrol													
		01	2016		2022	No Flare Patrol													
0003		02	0115	0115U	0124	N02	W17	4783	03	31.8	9	SF					68	1.2	E
	LEAR	02	0115	0115U	0124	N02	W17	4783	03	31.8	9	SF		3	C		21		
	VORO	02	0115E	0118U	0121D	N02	W17	4783	03	31.8	6D	SF			C	0118	116	1.2	E
		03	0931		1046	No Flare Patrol													
0004		03	1437	14431	1456	S22	E77	4786	04	9.5	19	SF					37		
	HOLL	03	1437	1443	1455	S23	E78	4786	04	9.6	18	SF		3	C		36		
	RAMY	03	1437	1444	1457	S22	E76	4786	04	9.4	20	SF		3	C		38		
0005		03	15161	16091	1622	S22	E77	4786	04	9.5	66	SF					31		
	RAMY	03	1516	1610	1619D	S22	E76	4786	04	9.5	63D	SF		3	C		29		
	HOLL	03	1517	1609	1622	S23	E78	4786	04	9.6	65	SF		3	C		33		
0006	YUNN	04	0141	0143	0149	N10	W43	4783	03	31.8	8	SN			P		16	.2	
		04	1026		1030	No Flare Patrol													
		04	1113		1115	No Flare Patrol													
		04	1121		1125	No Flare Patrol													
		04	1654		1726	No Flare Patrol													
		04	1753		1808	No Flare Patrol													
		04	1849		1911	No Flare Patrol													
0007	RAMY	04	1922	1924	1929	S22	E60	4786	04	9.4	7	SF		2	C		20		
		04	1931		1938	No Flare Patrol													
		04	2011		2142	No Flare Patrol													
		04	2155		2225	No Flare Patrol													
0008		05	0006	0008*	0025	S22	E59	4786	04	9.5	19	SF	C 1.0				38		
	LEAR	05	0006	0008	0026	S22	E59	4786	04	9.5	20	SF	C 1.0	3	C		54		
	HOLL	05	0006	0013	0025	S22	E59	4786	04	9.5	19	SF	C 1.0	3	C		43		
	PALE	05	0016E	0019	0024	S22	E60	4786	04	9.6	8D	SF	C 1.0	3	C		16		
0009		05	0522*	0525*	0547	S22	E56	4786	04	9.5	25	SF					17		F
	LEAR	05	0522	0525	0528	S22	E56	4786	04	9.5	6	SF		3	C		15		F
	LEAR	05	0536	0536	0543	S22	E56	4786	04	9.5	7	SF		4	C		15		F
	LEAR	05	0547	0558	0609	S22	E56	4786	04	9.5	22	SF		4	C		22		F
0010	LEAR	05	0636	0638	0653	S22	E55	4786	04	9.5	17	SF		4	C		25		F
		05	1101		1112	No Flare Patrol													
0011		05	1227	1227	1238	S24	E54	4786	04	9.7	11	SN					18		
	SVTO	05	1227	1227	1234	S22	E54	4786	04	9.7	7	SN		3	C		18		
	KANZ	05	1227	1227	1242	S25	E54	4786	04	09.7	15	SN		1					
0012	KANZ	05	1342	1346	1353	S23	E54	4786	04	9.7	11	SN		2					
		05	1401		1411	No Flare Patrol													
		05	1430		1704	No Flare Patrol													
		05	1923		1927	No Flare Patrol													
0013	HOLL	05	1934	1938	1948	S29	E90	4787	04	12.9	14	SN	M 1.1	3	C		39		F
0014	HOLL	05	2015	2016	2021	S23	E48	4786	04	9.5	6	SF		3	C		28		
0015	HOLL	05	2051	2051	2125	S23	E50	4786	04	9.7	34	SF		3	C		21		
0016		06	0407*	0431	0450	S28	E86	4787	04	12.9	43	1N	C 9.2				103		EF
	ABST	06	0407	0431	0503	S27	E85	4787	04	12.8	56	1N			C	0431	175		E
	LEAR	06	0429	0431	0436	S29	E86	4787	04	12.9	7	SN	C 9.2	3	C		31		F

H - ALPHA S O L A R F L A R E S

APRIL 1987

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
0017	LEAR	06	0712	0714	0724	S23	E42	4786	04	9.5	12	SF			3	C		24		FH
0018		06	0729	0737	0752	S24	E42	4786	04	9.5	23	SF						33		FH
	LEAR	06	0729	0737	0755	S23	E42	4786	04	9.5	26	SF			3	C		33		FH
	KANZ	06	0740E		0750	S24	E42	4786	04	09.6	10D	SF			1					
0019	LEAR	06	0923	0923	0931	S23	E41	4786	04	9.5	8	SF			2	C		27		H
0020		06	0947	09482	0958	S23	E42	4786	04	9.6	11	SF						81		F
	KANZ	06	0942E	0950	1000D	S23	E41	4786	04	09.6	18D	SF			2					
	SVTO	06	0947	0948	0958	S23	E42	4786	04	9.6	11	SF			3	C		81		F
0021	RAMY	06	1121E	1122	1139	S30	E76	4787	04	12.4	18D	SF	C	1.2	3	C		19		F
0022	RAMY	06	1121E	1132U	1151D	S23	E39	4786	04	9.5	30D	SF			3	C		78		F
0023	RAMY	06	1204	1204	1217	S28	E83	4787	04	13.0	13	SF			3	C		10		
		06	1239		1246	No Flare Patrol														
0024	SVTO	06	1317	1318	1323	S33	E77	4787	04	12.7	6	SF			3	C		27		
0025		06	13491	13531	1358	S32	E80	4787	04	12.9	9	SF						30		F
	HOLL	06	1349	1354	1359	S31	E82	4787	04	13.0	10	SF			3	C		33		F
	SVTO	06	1350	1353	1357	S33	E79	4787	04	12.8	7	SF			3	C		28		
0026		06	14411	14434	1456	S30	E80	4787	04	12.9	15	SF						36		
	HOLL	06	1441	1443	1502D	S31	E82	4787	04	13.1	21D	SF			3	C		38		
	SVTO	06	1442	1447	1456	S29	E79	4787	04	12.8	14	SF			3	C		33		
		06	1444		1446	No Flare Patrol														
0027		06	16312	16333	1648	S23	E37	4786	04	9.5	17	SF						18		
	RAMY	06	1631	1633	1649D	S23	E37	4786	04	9.5	18D	SF			3	C		19		
	HOLL	06	1633	1636	1648	S23	E37	4786	04	9.5	15	SF			3	C		16		
		06	1722		1727	No Flare Patrol														
0028	HOLL	06	1732	1733	1741	S23	E36	4786	04	9.5	9	SF			3	C		16		
		06	1746		1800	No Flare Patrol														
		06	1817		1819	No Flare Patrol														
0029	RAMY	06	1954	2010	2024	S22	E38	4786	04	9.7	30	SF			3	C		88		
		06	2018		2022	No Flare Patrol														
		06	2131		2132	No Flare Patrol														
		06	2143		2147	No Flare Patrol														
		06	2211		2214	No Flare Patrol														
0030		06	2247	2301	2353	S31	E77	4787	04	13.0	66	1N	C	1.1				63		F
	HOLL	06	2247	2301	2353	S31	E82	4787	04	13.4	66	1N	C	1.1	4	C		96		F
	PALE	06	2301E	2301	2305D	S31	E72	4787	04	12.6	4D	SF	C	1.1	2	C		30		
0031	YUNN	07	0247	0255	0304	S31	E72	4787	04	12.8	17	1N				C		80		
0032	SVTO	07	0802	0811	0830	S35	E70	4787	04	12.9	28	SF			3	C		19		E
0033	LEAR	07	0843	0845	0850	S33	E69	4787	04	12.8	7	SF			2	C		22		
0034	KANZ	07	0941	0948	0958	S29	E69	4787	04	12.8	17	SN			2					
0035	KANZ	07	1033E	1033U	1041	S35	E67	4787	04	12.8	8D	SN			2					
0036	KANZ	07	1229	1229	1236	S33	E65	4787	04	12.7	7	SF			2					
0037		07	1341	1341	1346	S34	E72	4787	04	13.3	5	SF						14		F
	KANZ	07	1341	1341	1344	S36	E71	4787	04	13.3	3	SF			2					
	RAMY	07	1341	1341	1348	S31	E72	4787	04	13.2	7	SF			3	C		14		F

II - ALPHA SOLAR FLARES

APRIL 1987

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
0038	HOLL	07	1645	1656	1657	S31	E68	4787	04	13.1	12	SF		3	C		39		
0039		07	1717	1718	1733	S23	E23	4786	04	9.5	16	SN					28		
	HOLL	07	1717	1718	1733	S23	E23	4786	04	9.5	16	SN		3	C		30		
	RAMY	07	1724E	1724U	1728D	S23	E23	4786	04	9.5	4D	SF		3	C		27		
0040		07	17401	1742	1747	S33	E67	4787	04	13.0	7	SF					42		
	HOLL	07	1740	1742	1749	S33	E66	4787	04	13.0	9	SF		3	C		74		
	PALE	07	1741	1742	1745	S33	E68	4787	04	13.1	4	SF		3	C		10		
0041	HOLL	07	1740	1749	1823	S24	E22	4786	04	9.4	43	SF		3	C		40		
0042		07	18238	1844	1932	S34	E66	4787	04	13.0	69	1N	C 1.3				112		
	HOLL	07	1823	1844	1932	S35	E66	4787	04	13.0	69	1N	C 1.3	3	C		184		
	PALE	07	1831	1843U	1844D	S34	E65	4787	04	12.9	13D	SF	C 1.3	3	C		41		
0043	HOLL	07	2039	2043	2055	S29	E65	4787	04	12.9	16	1B	C 2.0	3	C		113		F
0044	HOLL	07	2254	2300	2311	S07	E79	4789	04	13.9	17	SF		3	C		54		
0045	SVTO	08	0730	0741	0750	S31	E60	4787	04	13.0	20	SF		3	C		59		
0046	KHAR	08	0820E		0830D	S25	W10	4788	04	7.6	10D	SF			V	0820			D
0047	KHAR	08	0927	0928U	0933	S32	E63	4790	04	13.4	6	SF			V	0928			
0048		08	11441	11471	1154	S25	E12	4786	04	9.4	10	SN					114		EF
	RAMY	08	1144	1147	1156	S27	E11	4786	04	9.3	12	SN		3	C		128		FE
	SVTO	08	1145	1148	1152	S23	E13	4786	04	9.5	7	SN		3	C		99		E
0049	RAMY	08	1214	1225	1244	S23	E16	4786	04	9.7	30	SN		3	C		82		
0050	HOLL	08	1716	1734	1748	S08	E73	4789	04	14.2	32	SF		4	C		19		FH
0051	HOLL	08	1832	1854	1904	S33	E58	4787	04	13.4	32	SF		3	C		21		
0052	HOLL	08	2113	2123	2146	S23	E10	4786	04	9.6	33	SB	C 1.2	3	C		59		
0053	HOLL	08	2215	2216	2226	S33	E53	4787	04	13.1	11	SF		3	C		27		
0054		08	2341*	2354	2402	S32	E52	4787	04	13.1	21	SN					43		
	HOLL	08	2341	2354	2405	S31	E52	4787	04	13.1	24	SN		3	C		55		
	LEAR	08	2354	2354	2359	S32	E51	4787	04	13.0	5	SF		3	C		31		
0055		09	01432	01461	0153	S05	E68	4789	04	14.1	10	SN					59		F
	LEAR	09	0143	0146	0154	S06	E63	4789	04	13.8	11	SF		3	C		70		F
	YUNN	09	0145	0147	0152	S04	E72	4789	04	14.4	7	SN			C		48		
0056	LEAR	09	0232	0239	0253	S08	E66	4789	04	14.0	21	SF	C 1.0	3	C		37		F
0057	LEAR	09	0423	0423	0437	S32	E47	4787	04	12.9	14	SF		3	C		20		F
0058		09	0452	0457	0502	S28	E48	4787	04	12.9	10	SN					45	1.0	EJL
	LEAR	09	0452	0457	0502	S28	E47	4787	04	12.9	10	SF		3	C		28		
	TACH	09	0453E	0453U	0502	S27	E48	4787	04	12.9	9D	SB			C	0453	62	1.0	ELJ
0059		09	0611*	0615*	0658	S07	E64	4789	04	14.0	47	SN	C 2.6				89		DF
	ABST	09	0611	0619	0711	S06	E65	4789	04	14.1	60	SN			C	0619	87		D
	LEAR	09	0614	0615	0635	S08	E64	4789	04	14.0	21	SF		3	C		26		
	LEAR	09	0637	0638	0707	S06	E62	4789	04	13.9	30	1N	C 2.6	3	C		154		F
0060	LEAR	09	0837	0838	0857	S06	E59	4789	04	13.8	20	SF	C 2.6	3	C		67		F
		09	0941		1010	No Flare Patrol													
0061	SVTO	09	1229	1229	1251	S34	E44	4787	04	13.0	22	SF		3	C		17		
0062		09	1500*	1521*	1606	S30	E43	4787	04	13.0	66	SF					41		
	RAMY	09	1500	1555	1603	S31	E43	4787	04	13.0	63	SF		3	C		51		
	HOLL	09	1517	1521	1610	S30	E43	4787	04	13.0	53	SF		3	C		45		
	RAMY	09	1609E	1613	1616D	S29	E43	4787	04	13.0	7D	SF		3	C		26		

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APRIL 1987

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
0063		09	1622	1658	1709	S32	E42	4787	04	13.0	47	SN						58		F
	HOLL	09	1622	1658	1709	S33	E40	4787	04	12.8	47	SN			3	C		40		
	RAMY	09	1623E	1658	1705D	S32	E44	4787	04	13.2	42D	SN			3	C		75		F
0064		09	17322	17373	1738	S32	E42	4787	04	13.0	6	SB						82		
	HOLL	09	1732	1737	1738	S33	E43	4787	04	13.1	6	SB			3	C		73		
	RAMY	09	1734	1740	1819D	S31	E42	4787	04	13.0	45D	SN			3	C		90		
0065	RAMY	09	1820	1827	1837	S26	E02	4786	04	9.9	17	SF			3	C		47		
0066		09	1855	18551	1905	S34	E42	4787	04	13.1	10	SF						26		F
	RAMY	09	1855	1855	1905	S31	E42	4787	04	13.1	10	SF			3	C		22		F
	HOLL	09	1855	1856	1905	S38	E42	4787	04	13.2	10	SF			3	C		31		
0067		09	20031	2006	2026	S06	E56	4789	04	14.0	23	SF						20		
	RAMY	09	2003	2006	2037	S07	E56	4789	04	14.0	34	SF			3	C		15		
	HOLL	09	2004	2006	2015	S06	E57	4789	04	14.1	11	SF			3	C		25		
0068	LEAR	10	0450	0451	0454	S05	E49	4789	04	13.9	4	SF			3	C		23		
0069	HTPR	10	0843	0847	0857	S25	W15	4786	04	9.2	14	SF					0847	30	.3	E
0070		10	09162	09182	0932	S33	E31	4787	04	12.8	16	SN						51	.7	EF
	LEAR	10	0916	0918	0932	S32	E32	4787	04	12.9	16	SN			3	C		49		F
	HTPR	10	0916	0920	0934	S33	E30	4787	04	12.8	18	SN					0916	60	.7	E
	SVTO	10	0918	0920	0930	S33	E31	4787	04	12.8	12	SN			3	C		44		
0071		10	1031	1032*	1134	S32	E34	4787	04	13.1	63	SN	C	1.3				77		
	SVTO	10	1031	1032	1133	S32	E31	4787	04	12.9	62	SN	C	1.3	3	C		130		
	RAMY	10	1124E	1129	1136	S33	E37	4787	04	13.4	12D	SF			3	C		24		
0072		10	11242	11243	1236	S24	W09	4786	04	9.8	72	SB	C	1.2				93	.6	EF
	RAMY	10	1124	1124	1226	S23	W08	4786	04	9.8	62	SB	C	1.2	3	C		115		F
	SVTO	10	1126	1127	1227	S24	W10	4786	04	9.7	61	SB	C	1.2	3	C		105		F
	HTPR	10	1147E		1256	S24	W08	4786	04	9.9	69D	SN					1147	60	.6	E
0073		10	1306*	13226	1341	S33	E30	4787	04	12.9	35	SN						43		
	RAMY	10	1306	1322	1346	S33	E32	4787	04	13.1	40	SN			3	C		48		
	SVTO	10	1328	1328	1336	S33	E28	4787	04	12.8	8	SF			3	C		38		
0074		10	14524	14552	1518	S32	E30	4787	04	13.0	26	SF						42		
	RAMY	10	1452	1455	1518	S32	E32	4787	04	13.1	26	SF			3	C		37		
	SVTO	10	1456	1457	1519	S33	E28	4787	04	12.8	23	SF			3	C		48		
0075	RAMY	10	1625	1641	1708	S32	E31	4787	04	13.1	43	SB			3	C		78		F
0076	RAMY	10	1647	1647	1654	S06	E48	4789	04	14.3	7	SF			3	C		18		
0077	RAMY	10	1647	1649	1723	S24	W13	4786	04	9.7	36	SF			3	C		18		
0078	RAMY	10	1715	1720	1732	S32	E31	4787	04	13.2	17	SN			3	C		45		
0079	RAMY	10	1733	1736	1747	S32	E31	4787	04	13.2	14	SF			3	C		27		
		10	1802		1807	No Flare Patrol														
0080		10	18192	18221	1840	S22	W20	4786	04	9.2	21	SN	C	5.5				186		EFH
	HOLL	10	1819	1822	1850	S23	W17	4786	04	9.4	31	SB	C	5.5	3	C		192		
	RAMY	10	1820E	1824U	1855D	S23	W13	4786	04	9.8	35D	1B	C	5.5	3	C		295		FE
	PALE	10	1821	1823	1830	S20	W29	4786	04	8.5	9	SF	C	5.5	3	C		71		FH
0081	HOLL	10	2152	2215	2225	S24	W16	4786	04	9.7	33	SN	C	1.1	3	C		29		H
0082	HOLL	10	2211	2212	2215	S31	E29	4787	04	13.2	4	SF			3	C		31		
0083	LEAR	11	0245	0246	0257	S06	E36	4789	04	13.8	12	SF			3	C		23		F
0084		11	04151	04164	0424	S24	W20	4786	04	9.6	9	SN						24		
	PALE	11	0415	0416	0425	S23	W20	4786	04	9.6	10	SN			2	C		20		
	LEAR	11	0416	0420	0424	S25	W20	4786	04	9.6	8	SN			3	C		28		

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APRIL 1987

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
0085	YUNN	11	0445	0459	0512	S34	E28	4790	04	13.4	27	SN			P		48	.6	D
0086		11	05093	05122	0520	S24	W21	4786	04	9.6	11	SB	C 2.1				120	2.0	DU
	YUNN	11	0509	0514	0520	S24	W20	4786	04	9.7	11	SB			C		177	2.0	D
	LEAR	11	0512	0512	0520	S25	W20	4786	04	9.7	8	SB	C 2.1	3	C		72		U
	SVTO	11	0512	0513	0521	S23	W23	4786	04	9.4	9	SN	C 2.1	3	C		110		
0087	RAMY	11	1239	1244	1255	S32	E25	4790	04	13.5	16	SN		3	C		26		F
		11	1334		1338	No Flare Patrol													
0088		11	1422*	1437*	1455	S07	E32	4789	04	14.0	33	SF					34		
	HOLL	11	1422	1437	1441	S07	E32	4789	04	14.0	19	SF		3	C		11		
	RAMY	11	1428	1445	1512	S07	E33	4789	04	14.1	44	SF		3	C		57		
	SVTO	11	1438	1448	1453	S06	E30	4789	04	13.8	15	SF		3	C		33		
0089	HOLL	11	1545	1545	1553	S37	E19	4787	04	13.2	8	SF		3	C		11		
0090	HOLL	11	1607	1609	1617	S37	E19	4787	04	13.2	10	SF		3	C		21		
0091	HOLL	11	1628	1638	1642	N22	E62	4791	04	16.4	14	SF		3	C		12		
0092	RAMY	11	1644	1645	1700	S37	E18	4787	04	13.1	16	SF		3	C		19		
0093	LEAR	11	2320	2328	2341	S06	E25	4789	04	13.8	21	SF		2	C		67		F
0094	YUNN	12	0134E	0136	0149	S05	E25	4789	04	13.9	15D	SN			P		80	.9	
0095	TACH	12	0437E	0437U	0522D	S05	E20	4789	04	13.7	45D	SB			C	0437	115	1.3	E
0096	TACH	12	0550E	0557U	0606D	S24	W35	4786	04	9.5	16D	1B			C	0557	239	3.1	I
0097	TACH	12	0558	0602U	0628D	S04	E24	4789	04	14.0	30D	SN			C	0602	124	1.6	E
0098	KANZ	12	0736	0740	0741D	S06	E18	4789	04	13.7	5D	SF		1					
0099	KHAR	12	0818E		0824D	S07	E21	4789	04	13.9	6D	SF			V	0820			
0100	KANZ	12	0957	0957	1004	S33	E11	4787	04	13.3	7	SN		2					
0101		12	10171	10171	1032	S33	E12	4787	04	13.4	15	SN					28		EL
	KHAR	12	1017E		1045D	S33	E12	4787	04	13.4	28D	1N			P	1023			EL
	SVTO	12	1017	1017	1036	S33	E11	4787	04	13.3	19	SN		3	C		28		
	KANZ	12	1018	1018	1029	S33	E12	4787	04	13.4	11	SF		2					
0102		12	12492	12512	1304	S07	E14	4789	04	13.6	15	SF					25		F
	KANZ	12	1249	1253	1305	S07	E14	4789	04	13.6	16	SF		2					
	SVTO	12	1251	1251	1303	S07	E14	4789	04	13.6	12	SF		3	C		25		F
		12	1331		1645	No Flare Patrol													
		12	1721		1737	No Flare Patrol													
		12	1746		1818	No Flare Patrol													
		12	1824		1853	No Flare Patrol													
0103	LEAR	12	2354	2354	2357	S34	W04	4787	04	12.7	3	SF		3	C		38		
0104	LEAR	13	0208	0208	0217	S34	W05	4787	04	12.7	9	SF		3	C		30		
0105	LEAR	13	0226	0226	0248	S24	W48	4786	04	9.4	22	SF		3	C		21		F
0106	HTPR	13	0828	0828	0832	S34	W03	4787	04	13.1	4	SF				0828	20	.2	E
0107	HTPR	13	1023	1028	1045	S06	E02	4789	04	13.6	22	SB				1028	100	1.0	E
0108	HTPR	13	1359	1401	1405	S23	W50	4786	04	9.7	6	SF				1401	30	.5	E
0109	HTPR	13	1604	1604	1610	S34	W09	4787	04	12.9	6	SF				1604	10	.1	

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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
0110		14	0642*	0645*	0710	S33	W12	4787	04	13.3	28	SF						47	1.3	EF
	HTPR	14	0632E		0740	S33	W13	4787	04	13.2	68D	SF					0643	100	1.3	E
	LEAR	14	0642	0645	0647	S34	W12	4787	04	13.3	5	SF			3	C		22		F
	LEAR	14	0654	0655	0703	S33	W12	4787	04	13.3	9	SF			3	C		20		F
0111	KHAR	14	0955E	0958U	1005D	S34	W15	4787	04	13.2	10D	SF				V	0958			D
		14	1710		2109	No Flare Patrol														
		14	2117		2136	No Flare Patrol														
0112		15	00146	00191	0035	S33	W21	4790	04	13.3	21	SN						26		
	HOLL	15	0014	0019	0044	S33	W21	4790	04	13.3	30	SN			3	C		30		
	LEAR	15	0020	0020	0026	S33	W21	4790	04	13.3	6	SF			3	C		21		
0113		15	02311	0232	0241	S32	W25	4787	04	13.1	10	SN	C	1.8				146	2.8	CEFIJTZ
	YUNN	15	0231	0232	0238D	S32	W26	4787	04	13.0	7D	1B				P		241	3.1	E
	MITK	15	0231	0232	0241	S33	W24	4787	04	13.2	10	SN				C	0232			E
	VORO	15	0231E	0234U	0245D	S33	W25	4787	04	13.1	14D	1F				C	0234	224	2.6	CITEJ
	PALE	15	0232	0232	0237	S32	W26	4787	04	13.0	5	SN	C	1.8	3	C		54		F
	LEAR	15	0236E	0236U	0244	S33	W25	4787	04	13.1	8D	SN	C	1.8	3	C		64		ZF
0114		15	0542	0542	0614	S32	W26	4787	04	13.2	32	SF						39	.6	FT
	LEAR	15	0542	0542	0551	S33	W26	4787	04	13.2	9	SF			3	C		28		F
	HTPR	15	0555E		0637	S32	W27	4787	04	13.1	42D	SF					0623	50	.6	T
0115		15	0732*	0735*	0759	S32	W30	4787	04	12.9	27	1B	C	6.6				147	1.2	EUZ
	HTPR	15	0732	0736	0807	S32	W27	4787	04	13.2	35	1B					0736	180	2.1	E
	ABST	15	0734	0735	0745	S35	W30	4787	04	12.9	11	1N				C	0735	174		E
	LEAR	15	0736E	0736	0750	S31	W29	4787	04	13.0	14D	1B	C	6.6	3	C		203		ZU
	HTPR	15	0748	0753	0814	S31	W36	4787	04	12.5	26	SN					0753	30	.4	
0116	HTPR	15	0902	0907	0921	S08	W28	4789	04	13.3	19	SF					0907	10	.1	
0117	HTPR	15	0940	0942	0953	S17	W08	4792	04	14.8	13	SF					0942	10	.1	
0118	HTPR	15	1039	1044	1103	S17	W08	4792	04	14.8	24	SF					1044	20	.2	
0119		15	11342	1154*	1316	S32	W35	4787	04	12.7	102	SN	C	3.5				154	1.4	EFI
	HTPR	15	1134	1211	1330	S33	W33	4787	04	12.9	116	SB					1211	130	1.4	EI
	RAMY	15	1136	1154	1246	S31	W33	4787	04	12.9	70	SB	C	3.5	3	C		122		F
	SVTO	15	1136	1154	1318	S32	W35	4787	04	12.7	102	1N	C	3.5	3	C		227		F
	KANZ	15	1140E		1248D	S32	W35	4787	04	12.7	68D	1N			1					
	HOLL	15	1255E	1300U	1332	S34	W39	4787	04	12.4	37D	SN			3	C		139		
0120		15	15221	15241	1530	S31	W37	4787	04	12.7	8	SF						30	.3	E
	RAMY	15	1522	1525	1531	S31	W39	4787	04	12.6	9	SF			3	C		34		
	HTPR	15	1523	1524	1529	S32	W34	4787	04	12.9	6	SF					1524	30	.3	E
	SVTO	15	1523	1525	1530	S31	W38	4787	04	12.6	7	SF			3	C		26		
0121		15	1751*	1756*	1817	S33	W32	4787	04	13.2	26	SF						28		
	RAMY	15	1751	1810	1826	S33	W34	4787	04	13.0	35	SN			3	C		51		
	HOLL	15	1756	1756	1805	S34	W30	4787	04	13.3	9	SF			3	C		17		
	HOLL	15	1807	1810	1820	S33	W33	4787	04	13.1	13	SF			3	C		17		
0122	RAMY	15	1834	1835	1849	S31	W39	4787	04	12.7	15	SF			3	C		29		
0123	HOLL	15	1957	2004	2025	S32	W40	4787	04	12.7	28	SN	C	1.1	3	C		98		
		15	2015		2019	No Flare Patrol														
0124	HOLL	15	2032	2041	2129	S32	W41	4787	04	12.6	57	1B	C	1.7	3	C		232		EF
		15	2041		2112	No Flare Patrol														
		15	2116		2334	No Flare Patrol														
0125	HOLL	15	2314	2315	2322	S32	W35	4790	04	13.2	8	SF			3	C		23		
0126	HOLL	15	2314	2316	2320	N25	E21	4791	04	17.6	6	SF			3	C		10		
0127	VORO	16	0218E	0220U	0228D	S34	W40	4787	04	12.9	10D	1F				C	0220	179	2.5	EIJT

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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
0128	VORO	16	0237E	0245U	0300D	S34	W46	4787	04	12.4	23D	SF				C	0245	81	1.2	DIJT
0129	HTPR	16	0654E		0729	S33	W47	4787	04	12.5	35D	SN					0707	60	.8	E
0130	SVTO	16	1000	1008	1020	S31	W50	4787	04	12.5	20	SN			3	C		37		F
0131		16	10051	1007	1016	S32	W41	4790	04	13.2	11	SN						24	.3	EF
	HTPR	16	1005	1007	1018	S33	W39	4790	04	13.3	13	SN					1007	20	.3	E
	SVTO	16	1006	1007	1014	S32	W43	4790	04	13.0	8	SF			3	C		29		F
0132		16	10355	1040	1054	S32	W41	4790	04	13.2	19	SB						50	.5	EF
	SVTO	16	1035	1040	1058	S32	W43	4790	04	13.0	23	SN			3	C		59		F
	HTPR	16	1040	1040	1050	S32	W39	4790	04	13.3	10	SB					1040	40	.5	E
0133	RAMY	16	1156	1212	1225	S33	W43	4787	04	13.1	29	SF			3	C		86		
0134		16	13132	13152	1328	S32	W42	4790	04	13.2	15	SN	C	1.0				56	.5	EF
	HTPR	16	1313	1317	1330	S32	W40	4790	04	13.4	17	SB					1317	40	.5	E
	RAMY	16	1315E	1315	1326	S32	W43	4790	04	13.1	11D	SN	C	1.0	3	C		72		
	SVTO	16	1315	1317	1328	S31	W43	4790	04	13.1	13	SN	C	1.0	3	C		57		F
0135		16	1419*	1436*	1529	N26	E11	4791	04	17.4	70	SF						52	.3	EF
	HTPR	16	1419	1436	1535	N25	E09	4791	04	17.3	76	SF					1436	30	.3	E
	RAMY	16	1430	1454	1528	N27	E11	4791	04	17.5	58	SF			3	C		75		
	SVTO	16	1431	1451	1540	N26	E12	4791	04	17.5	69	SN			3	C		66		F
	HOLL	16	1448	1454	1513	N27	E12	4791	04	17.5	25	SF			3	C		39		
0136		16	1445*	1448*	1527	S32	W45	4787	04	13.0	42	SN	C	3.0				64	.8	EF
	SVTO	16	1445	1448	1521	S31	W48	4787	04	12.8	36	SN			3	C		71		F
	RAMY	16	1445	1448	1522	S32	W47	4787	04	12.9	37	SF			3	C		23		
	HTPR	16	1510	1516	1533	S32	W42	4787	04	13.3	23	SB					1516	60	.8	E
	RAMY	16	1511	1515	1529	S32	W44	4787	04	13.1	18	SN	C	3.0	3	C		93		F
	SVTO	16	1511	1515	1534	S32	W44	4787	04	13.1	23	SN	C	3.0	3	C		74		F
	HOLL	16	1512	1515	1525	S32	W44	4787	04	13.1	13	SF	C	3.0	3	C		63		
0137		16	1545*	16133	1645	S31	W51	4787	04	12.6	60	1B	M	1.0				165		FU
	HOLL	16	1545	1613	1645	S32	W52	4787	04	12.5	60	1N	M	1.0	3	C		165		F
	RAMY	16	1558	1613	1649D	S31	W49	4787	04	12.8	51D	1B	M	1.0	3	C		154		UF
	SVTO	16	1558	1616	1652D	S30	W51	4787	04	12.6	54D	1B	M	1.0	3	C		175		UF
0138		16	1544*	16124	1804	S32	W44	4790	04	13.2	140	1B	M	1.0				230	2.1	EFKTU
	HOLL	16	1544	1616	1804	S32	W43	4790	04	13.2	140	1B	M	1.0	3	C		343		UF
	HTPR	16	1556		1717D	S32	W42	4790	04	13.3	81D	1N					1607	160	2.1	EKT
	SVTO	16	1600	1612	1652D	S32	W46	4790	04	13.0	52D	1B	M	1.0	3	C		226		UF
	RAMY	16	1600	1613U	1651D	S33	W44	4790	04	13.2	51D	1B	M	1.0	3	C		192		UF
0139	PALE	16	1729E	1729U	1749D	S34	W45	4787	04	13.1	20D	SN			2	C		43		
0140	HOLL	16	1946	1950	1957	S32	W53	4787	04	12.6	11	SF			3	C		12		
0141	HOLL	16	2041	2043	2045	S32	W54	4787	04	12.6	4	SF			3	C		10		
0142	HOLL	16	2231	2231	2234	S32	W63	4787	04	11.9	3	SF			3	C		15		F
0143		17	0041	00482	0056	S32	W56	4787	04	12.6	15	SN						32		
	LEAR	17	0035E	0048	0102	S31	W56	4787	04	12.6	27D	SF			3	C		42		
	HOLL	17	0041	0050	0051	S32	W56	4787	04	12.6	10	SN			3	C		22		
0144		17	0048	0048	0058	S32	W49	4790	04	13.1	10	SN						20		
	HOLL	17	0048	0048	0056	S32	W49	4790	04	13.1	8	SN			3	C		24		
	LEAR	17	0048	0048	0059	S33	W49	4790	04	13.1	11	SF			3	C		17		
0145	LEAR	17	0133	0134	0142	S33	W50	4790	04	13.1	9	SF			3	C		34		
0146		17	0150*	0152*	0221	S30	W55	4787	04	12.7	31	SN						48	.9	D
	YUNN	17	0150	0152	0200	S32	W55	4787	04	12.7	10	SN				P		48	.9	D
	YUNN	17	0158	0202	0218	S29	W53	4787	04	12.9	20	SN				P		16	.3	D
	YUNN	17	0212	0218	0244	S30	W56	4787	04	12.7	32	SN				P		80	1.6	

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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
0147		17	06051	06071	0616	S05	W46	4789	04	13.8	11	SN					40	.6	
	YUNN	17	0605	0607	0618	S04	W49	4789	04	13.6	13	SN			P		48	.8	
	YUNN	17	0606	0608	0613	S06	W44	4789	04	14.0	7	SN			P		32	.5	
0148		17	1214*	1215*	1226	S33	W59	4787	04	12.8	12	SF					31	.7	F
	RAMY	17	1209E	1215	1233D	S33	W55	4787	04	13.1	24D	SF		3	C		37		F
	HTPR	17	1214	1216	1220	S33	W62	4787	04	12.6	6	SF				1216	30	.6	
	SVTO	17	1215	1215	1226	S33	W56	4787	04	13.1	11	SF		3	C		17		F
	HTPR	17	1224	1229	1232	S33	W62	4787	04	12.6	8	SF				1229	40	.8	
0149	RAMY	17	1458	1507	1537D	S33	W56	4787	04	13.2	39D	SN		3	C		42		
0150		17	1656*	1712*	1727	S30	W61	4787	04	12.9	31	SN	C 1.6				42		F
	RAMY	17	1656	1724	1724	S30	W61	4787	04	12.9	28	SN	C 1.6	2	C		53		F
	HOLL	17	1702	1712	1720	S30	W61	4787	04	12.9	18	SN		3	C		21		F
	HOLL	17	1721	1724	1737	S30	W61	4787	04	12.9	16	SN	C 1.6	3	C		52		F
0151	HOLL	17	1837	1838	1841	S30	W62	4787	04	12.9	4	SN		3	C		52		
0152	HOLL	17	1901	1905	1919	S30	W62	4787	04	12.9	18	SF		3	C		32		
0153	HOLL	17	1923	1928	1950	S31	W66	4787	04	12.6	27	SF	C 1.1	3	C		38		FU
0154		17	23367	23454	2420	S33	W59	4790	04	13.3	44	1N	C 5.2				130	3.2	EFU
	HOLL	17	2336	2349	2439	S32	W55	4790	04	13.6	63	1N	C 5.2	4	C		174		UF
	MITK	17	2337	2345	2401	S34	W60	4790	04	13.2	24	1N			C	2345	140	3.2	E
	PALE	17	2343	2350U	2355D	S33	W61	4790	04	13.1	12D	SF	C 5.2	3	C		77		F
0155	YUNN	18	0121E	0121U	0145D	S32	W61	4790	04	13.2	24D	SN			P	0121	80	1.8	D
0156	SVTO	18	0552	0553	0559	S30	W69	4787	04	12.8	7	SF		3	C		17		
0157	SVTO	18	0620	0623	0628	S33	W64	4790	04	13.2	8	SF		3	C		33		F
0158	HTPR	18	0642	0653	0701	S32	W70	4787	04	12.7	19	SF				0653	40		E
0159	HTPR	18	1128	1129	1205	S30	W72	4787	04	12.8	37	SF				1129	10		
0160		18	11421	11494	1213	S08	W61	4789	04	13.9	31	SF	C 1.9				26	.4	F
	HTPR	18	1142	1153	1210	S07	W60	4789	04	14.0	28	SF				1153	20	.4	
	RAMY	18	1143	1149	1216	S10	W62	4789	04	13.8	33	SF	C 1.9	3	C		33		F
0161	HTPR	18	1310	1313	1323	N24	W10		04	17.8	13	SF				1313	10	.1	
0162	HTPR	18	1332	1340	1351	S30	W72	4787	04	12.9	19	SF				1340	20		E
0163		18	13525	13577	1427	S32	W67	4790	04	13.3	35	SB	C 3.5				118		EF
	SVTO	18	1352	1404	1433	S32	W67	4790	04	13.3	41	1N		3	C		108		F
	RAMY	18	1353	1359	1434	S32	W67	4790	04	13.3	41	SB	C 3.5	3	C		109		FE
	HTPR	18	1354	1400	1430	S32	W66	4790	04	13.3	36	1B				1400	150		E
	KANZ	18	1357	1357	1419	S31	W67	4790	04	13.3	22	SB		2					
	HOLL	18	1357	1359	1422	S32	W70	4790	04	13.0	25	SB	C 3.5	4	C		104		F
0164		18	1432*	1442*	1458	S30	W74	4787	04	12.8	26	SN					18		EF
	HTPR	18	1432	1442	1457	S30	W74	4787	04	12.8	25	SF				1442	20		E
	RAMY	18	1451	1453	1459	S30	W75	4787	04	12.7	8	SN		3	C		15		F
0165		18	15238	1523*	1550	S31	W68	4790	04	13.3	27	SN					48		EF
	RAMY	18	1523	1523	1550	S32	W68	4790	04	13.2	27	SF		3	C		13		F
	SVTO	18	1523	1532	1606	S33	W72	4790	04	12.9	43	SN		3	C		72		
	HTPR	18	1523	1534	1546	S32	W67	4790	04	13.3	23	SN				1534	60		E
	HOLL	18	1530	1532	1545	S31	W64	4790	04	13.6	15	SF		4	C		46		
	KANZ	18	1531	1535	1542	S30	W71	4790	04	13.1	11	SN		2					
0166		18	17154	1719	1722	S32	W76	4787	04	12.7	7	SF	C 1.0				18		
	HOLL	18	1715	1719	1722	S32	W77	4787	04	12.6	7	SF	C 1.0	3	C		18		
	RAMY	18	1719	1719	1723	S33	W76	4787	04	12.7	4	SF	C 1.0	3	C		17		
0167	HOLL	18	1759	1800	1805	S32	W77	4787	04	12.6	6	SF		3	C		17		

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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
0168	HOLL	18	1838	1843	1845	S32	W77	4787	04	12.7	7	SF			3	C		28		
0169		18	18552	18573	1908	S32	W77	4787	04	12.7	13	SN						34		
	HOLL	18	1855	1857	1905	S32	W77	4787	04	12.7	10	SN			3	C		29		
	RAMY	18	1857	1900	1910	S32	W77	4787	04	12.7	13	SF			3	C		38		
0170		18	2251E	2300U	2428D	S33	W85	4787	04	12.2	97D	1F						88		DIJT
	VORO	18	2251E	2300U	2311D	S33	W85	4787	04	12.2	20D	1F				C	2300	90		DTIJ
	VORO	18	2324E	2328U	2336D	S33	W85	4787	04	12.2	12D	1F				C	2328	99		DTIJ
	VORO	18	2354E	2359U	2416D	S33	W85	4787	04	12.2	22D	1N				C	2359	90		DTIJ
	VORO	19	0019E	0023U	0028D	S33	W85	4787	04	12.3	9D	1F				C	0023	72		DTIJ
0171	YUNN	19	0201E	0204	0222	S32	W76	4787	04	13.1	21D	SN				P		96		D
0172		19	12054	12081	1220	S32	W80	4787	04	13.2	15	SN	C	1.3				22		
	RAMY	19	1205	1208	1227	S32	W81	4787	04	13.1	22	SN	C	1.3	3	C		30		
	SVTO	19	1209	1209	1213	S33	W80	4787	04	13.1	4	SF	C	1.3	3	C		14		
		19	1657		1705	No Flare Patrol														
		19	1835		1842	No Flare Patrol														
		19	2233		2238	No Flare Patrol														
		19	2336		2346	No Flare Patrol														
0173		20	19322	1935	1947	S30	W90	4790	04	13.7	15	1B						130		
	HOLL	20	1932	1935	1946	S31	W90	4790	04	13.7	14	1B			3	C		140		
	RAMY	20	1934	1936U	1948	S30	W90	4790	04	13.7	14	SB			3	C		120		
		20	2302		2309	No Flare Patrol														
		21	0613		0626	No Flare Patrol														
		21	1940		2007	No Flare Patrol														
		21	2022		2044	No Flare Patrol														
		21	2048		2057	No Flare Patrol														
		21	2204		2219	No Flare Patrol														
		21	2241		2334	No Flare Patrol														
0174	HTPR	22	0637E		0655	N30	E26	4794	04	24.3	18D	SF					0640	40		E
0175		22	14191	14211	1434	N02	E68	4797	04	27.7	15	SF						40		
	SVTO	22	1419	1422	1434	N03	E69	4797	04	27.7	15	SF			3	C		42		
	RAMY	22	1420	1421	1434	N02	E67	4797	04	27.6	14	SF			3	C		38		
0176	RAMY	22	1444	1448	1505	N02	E68	4797	04	27.7	21	SF			3	C		23		
0177	HOLL	22	1707	1708	1714	N03	E67	4797	04	27.7	7	SF			3	C		32		
		22	1818		2400	No Flare Patrol														
0178	HOLL	22	2235	2242	2244	N02	E63	4797	04	27.6	9	SF			3	C		22		
		23	0000		0007	No Flare Patrol														
0179		23	1741*	1746*	1758	N01	E52	4797	04	27.6	17	SF						22		
	RAMY	23	1741	1746	1750D	N00	E52	4797	04	27.6	9D	SF			3	C		38		
	HOLL	23	1746	1750	1753	N02	E52	4797	04	27.6	7	SF			3	C		12		
	HOLL	23	1754	1800	1803	N02	E52	4797	04	27.6	9	SF			3	C		17		
0180	HTPR	24	0538	0550	0640	N26	W48	4798	04	20.5	62	SN					0550	60	.9	E
0181		24	07289	07361	0742	N27	W50	4798	04	20.4	14	SB	C	3.7				66	.9	EH
	HTPR	24	0728	0737	0741	N26	W49	4798	04	20.5	13	SB					0737	60	.9	E
	SVTO	24	0734	0736	0744	N26	W51	4798	04	20.3	10	SN	C	3.7	3	C		72		H
	KANZ	24	0737	0737	0741	N28	W49	4798	04	20.5	4	SB			2					
0182	HTPR	24	0805	0958	1240	N26	W51	4798	04	20.4	275	SN					0958	50	.8	E
0183		24	17112	17116	1726	N28	W56	4798	04	20.3	15	SN						23		
	HOLL	24	1711	1711	1719	N28	W56	4798	04	20.3	8	SN			3	C		15		
	PALE	24	1713	1717	1733	N28	W56	4798	04	20.3	20	SF			2	C		31		
0184	RAMY	24	1949	1951	2011	N25	W55	4798	04	20.6	22	SF			3	C		19		

H - ALPHA SOLAR FLARES

APRIL 1987

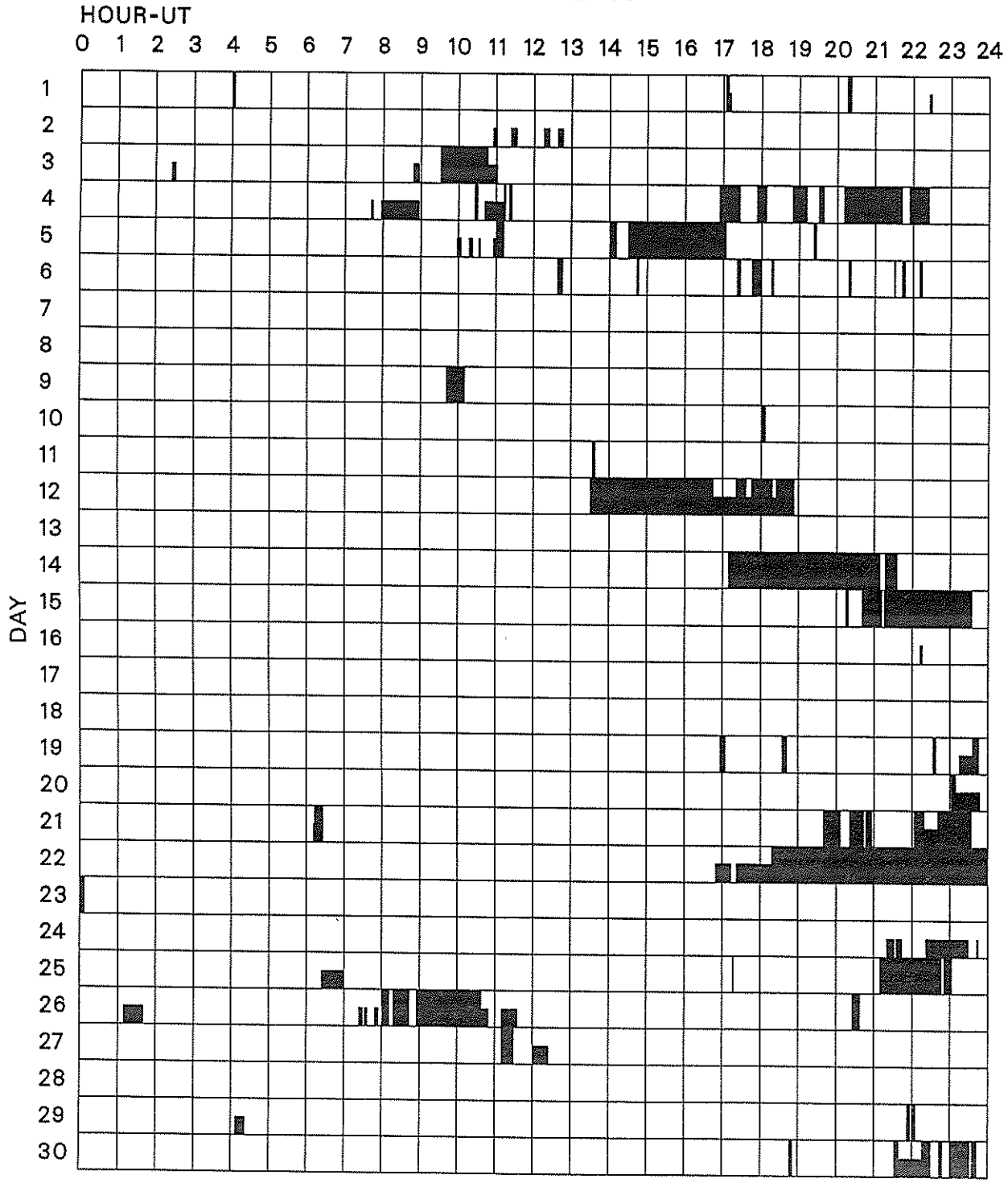
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0185	YUNN	25	0030E	0042U	0108	N27	W64	4798	04	20.0	38D	SN				P	0042	32		E
0186	YUNN	25	0048E	0048U	0108	N01	E40	4797	04	28.0	20D	SN				P	0048	32	.4	D
0187	YUNN	25	0133	0134	0224	N29	W64	4798	04	20.0	51	SN				C		32		E
		25	1717		1718	No Flare Patrol														
		25	2110		2247	No Flare Patrol														
		25	2251		2303	No Flare Patrol														
		26	0801		0812	No Flare Patrol														
		26	0818		0844	No Flare Patrol														
		26	0855		1038	No Flare Patrol														
		26	2026		2038	No Flare Patrol														
		27	1111		1130	No Flare Patrol														
		29	2152		2157	No Flare Patrol														
		29	2203		2205	No Flare Patrol														
0188		30	07223	07245	0742	N01	W35	4797	04	27.7	20	SF						18		
	SVTO	30	0722	0724	0741	N01	W35	4797	04	27.7	19	SF			3	C		18		
	KANZ	30	0725	0729	0742	N01	W35	4797	04	27.7	17	SF			2					
		30	1847		1851	No Flare Patrol														
		30	2133		2139	No Flare Patrol														
		30	2216		2230	No Flare Patrol														
		30	2244		2248	No Flare Patrol														
		30	2301		2331	No Flare Patrol														
		30	2335		2342	No Flare Patrol														
		30	2400		2400	No Flare Patrol														

"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

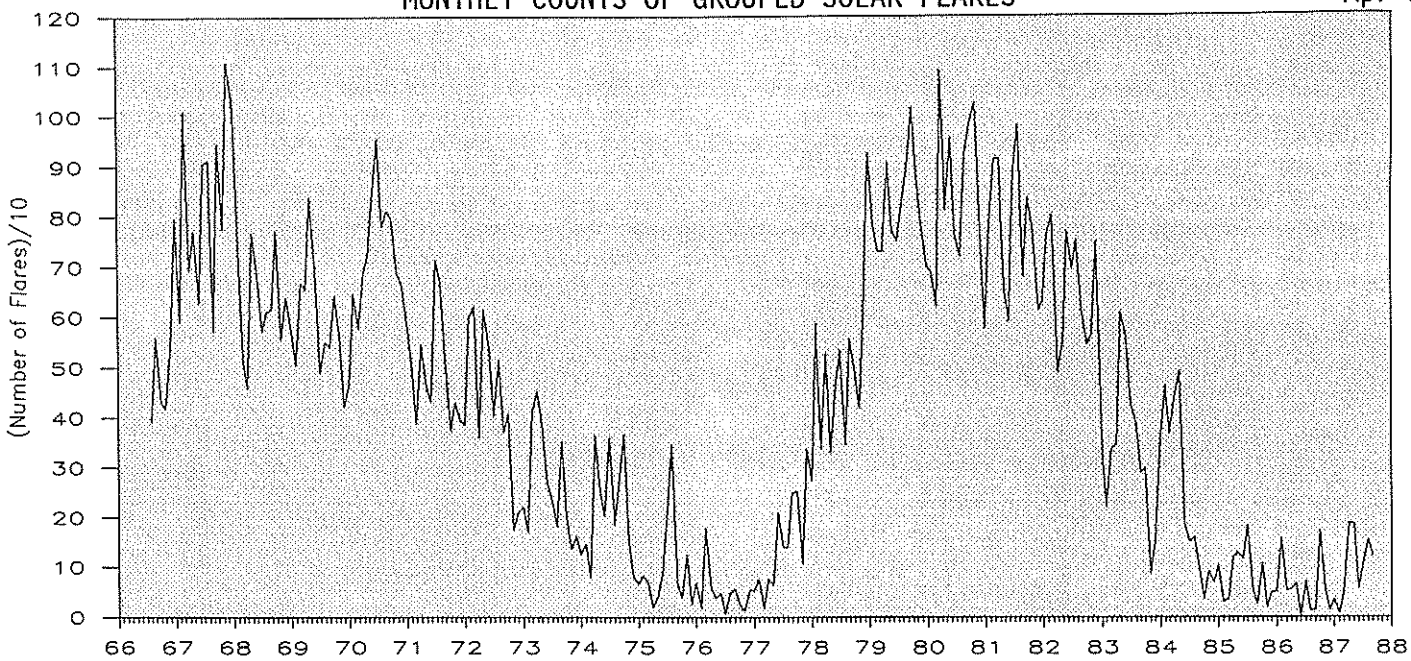
APRIL 1987



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	Istanbul	Lvov	Purple Mt.	Urumqi
Bucharest	Kanzelhoehe	Manila	Ramey	Voroshilov
Holloman	Kharkov	Mitaka	San Vito	Wendelstein
Haute-Provence	Learmonth	Palehua	Tashkent	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	51	188	186	56	106	155	123				908

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

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

APRIL 1987

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
01	200	HIRA	43	NS	0456.0	0522.0	200.0	50.0	5.0		ML
	204	IZMI	43	NS	0600.0		215.0	20.0			
	245	SVTO	44	NS	0607.0E	0644.0	119.0D	54.0			QL=5 ST=1 TYP=1
	410	SVTO	44	NS	0608.0E	0608.0	110.0D	22.0			QL=5 ST=1 TYP=1
	260	ONDR	44	NS	0629.0E		457.0D	25.0			
	245	SVTO	44	NS	1022.0E	1036.0	818.0D	66.0			QL=5 ST=1 TYP=1
	410	SVTO	44	NS	1022.0E	1136.0	186.0D	70.0			QL=5 ST=1 TYP=1
	245	SVTO	44	NS	1022.0E	1136.0	186.0D	140.0			QL=5 ST=1 TYP=1
	245	PALE	43	NS	1819.0	1840.0	612.0D	92.0			QL=5 ST=3 TYP=1
	410	LEAR	44	NS	2248.0E	0621.0U	72.0D	82.0			QL=5 ST=1 TYP=1
	500	HIRA	27	RF	0450.0	0706.0	190.0	24.0	4.0		ML
	245	PALE	46	C	1823.0	1824.0	1.0	130.0			QL=1 ST=2 TYP=5
	245	SGMR	46	C	1823.0	1836.0	13.0	140.0			QL=1 ST=3 TYP=5
	245	PALE	46	C	1835.0	1836.0	1.0	110.0			QL=5 ST=2 TYP=5
	245	SGMR	46	C	1836.0	1836.0	13.0	120.0			QL=5 ST=2 TYP=5
02	33	UPIC	2	S/F	0613.3	0613.3	.7				
	29	UPIC	1	S	0613.5	0613.8	.4				
	29	UPIC	42	SER	0818.2	0951.5	334.2				
	33	UPIC	42	SER	0818.8	0852.1	333.7				
	930	BORD	8	S	1055.2	1055.2	.2	14.0	2.0		
	260	ONDR	46	C	1106.0	1111.0	8.0	10.0			
	260	ONDR	42	SER	1132.0		11.0	2.0			
	260	ONDR	42	SER	1242.5		11.0	3.0			
	930	BORD	8	S	1354.9	1355.0	.3	10.0	2.0		
03	245	PALE	44	NS	1930.0E	2333.0	541.0D	98.0			QL=5 ST=3 TYP=1
	200	HIRA	44	NS	2020.0E	2122.0	160.0D	10.0	5.0		
	260	ONDR	42	SER	1113.0	1119.0	28.0	4.0			
	33	UPIC	42	SER	1417.8	1443.4	78.7				
	29	UPIC	42	SER	1417.9	1418.0	78.3				
04	33	UPIC	43	NS	0851.0		489.0D				
	29	UPIC	43	NS	0851.3		488.7D				
	245	LEAR	46	C	0312.0	0312.0	1.0	65.0			QL=3 ST=2 TYP=5
	204	IZMI	41	F	0855.6	0857.0	1.4	20.0			
	536	ONDR	42	SER	1105.5	1105.6	3.0	4.0			
05	260	ONDR	43	NS	0805.0	1353.0	348.0D	32.0			
	245	LEAR	44	NS	0805.0E	0936.0	955.0D	200.0			QL=5 ST=3 TYP=1
	204	IZMI	43	NS	0834.0		46.0	5.0			
	29	UPIC	43	NS	1012.5		300.2U				
	33	UPIC	43	NS	1012.6		300.0U				
	200	HIRA	44	NS	2020.0E	0529.0	660.0D	10.0	5.0		
	245	LEAR	43	NS	2250.0	0750.0	672.0D	16.0			QL=5 ST=3 TYP=1
	2000	TYKW	5	S	0007.0	0008.2	3.0	1.0	.3		
	3750	TYKW	5	S	0007.0	0008.5	10.0	1.0	.3		
	810	KRAK	8	S	0908.8	0908.8	.1	6.0			
	9400	HUAN	1	S	1900.9	1902.1	3.1	3.0	2.2		
	245	PALE	46	C	1933.0	1933.0		55.0			QL=5 ST=1 TYP=5
	410	PALE	8	S	1933.0	1934.0	1.0	45.0			QL=5 ST=2 TYP=3
	245	SGMR	46	C	1933.0	1934.0	4.0	60.0			QL=5 ST=2 TYP=5
	610	PALE	46	C	1933.0	1934.0	1.0	75.0			QL=5 ST=2 TYP=5
	9400	HUAN	2	S/F	1933.8	1935.5	6.0	9.7	4.0		
	2800	OTTA	45	C	1933.8	1936.9	4.2	8.1	1.6		
	610	SGMR	46	C	1934.0	1934.0	1.0	60.0			QL=5 ST=2 TYP=5
	410	SGMR	45	C	1934.0	1934.0	1.0	40.0			QL=5 ST=2 TYP=5
06	204	IZMI	43	NS	0600.0		360.0	10.0			
	260	ONDR	44	NS	0613.0E	1107.5	468.0D	18.0			
	29	UPIC	43	NS	1107.2		352.8D				
	33	UPIC	43	NS	1107.4		352.6D				
	245	PALE	43	NS	1755.0	1927.0	637.0D	27.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2015.0E	2317.0	770.0D	20.0	10.0		MR
	2000	TYKW	20	GRF	0040.0	0130.0	120.0	1.0	.5		
	3750	TYKW	20	GRF	0045.0	0130.0	110.0	1.5	.7		
	2000	TYKW	28	PRE	0403.0	0428.0	25.0	1.5	.7		
	3750	TYKW	28	PRE	0413.0	0428.0	15.0	2.0	1.0		
	3750	TYKW	5	S	0414.0	0415.2	3.0	1.5	.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

APRIL 1987

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
06	9400	TYKW	28	PRE	0414.0	0428.0	14.0	3.0	1.5		
	2950	GORK	21	GRF	0414.6	0428.0	27.3	1.0	.8		
	9100	GORK	21	GRF	0426.4	0432.4	25.8	6.4			
	200	HIRA	46	C	0427.0	0428.0	4.5	145.0	24.0		
	500	HIRA	45	C	0427.0	0429.9	4.5	57.0	10.0		WL
	650	GORK	46	C	0427.4	0429.8	5.3	29.0			
	650	GORK			0427.4	0430.2		54.0			
	3750	TYKW	45	C	0428.0	0430.2	5.0	30.0	12.0		
	1000	TYKW	45	C	0428.0	0430.3	4.0	72.0	10.0		
	9400	TYKW	45	C	0428.0	0430.3	5.0	37.0	14.0		
	2000	TYKW	45	C	0428.0	0430.3	5.0	27.0	8.0		
	245	PALE	8	S	0428.0	0428.0	1.0	38.0			QL=5 ST=2 TYP=3
	950	GORK	46	C	0428.0	0429.8	5.0	61.0			
	950	GORK			0428.0	0430.2		62.0			
	3100	CRIM	45	C	0428.1	0429.0	6.0	19.0	7.0		
	3100	CRIM			0428.1	0431.3		21.0			
	2950	GORK	45	C	0428.3	0429.0	4.0	19.0			
	2950	GORK			0428.3	0430.0		21.0			
	9100	GORK	45	C	0428.7	0429.2	3.5	13.0			
	17000	NOBE	1	S	0428.8	0430.4	3.5	19.0			
	410	PALE	4	S/F	0430.0	0430.0		27.0			QL=5 ST=2 TYP=3
	610	PALE	4	S/F	0430.0	0430.0		31.0			QL=5 ST=2 TYP=3
	1000	TYKW	29	PBI	0432.0		5.0	1.0	.5		
	9400	TYKW	29	PBI	0433.0		25.0	3.0	1.5		
	3750	TYKW	29	PBI	0433.0		20.0	1.5	.7		
	2000	TYKW	29	PBI	0433.0		20.0	1.0	.5		
	3100	CRIM	24	R	0500.0	1222.0	480.0D	11.0			
	3750	TYKW	20	GRF	0520.0	0543.0	70.0	2.0	1.0		
	2000	TYKW	20	GRF	0520.0	0543.0	70.0	1.5	.7		
	650	GORK	20	GRF	0550.0	1004.5	317.0D	6.0	3.0		
	5900	KISV	25	R	0615.5	1208.6	404.5	15.0			
	950	GORK	20	GRF	0616.5	1039.0	345.0D	8.0			
	9300	KISV	24	R	0617.5	1152.6	402.5	12.0			
	2950	GORK	24	R	0640.2		318.0	4.0			
	9100	GORK	24	R	0704.3		295.0D	5.2			
	810	KRAK	42	SER	0813.5	0834.2	48.0	11.0			
	5900	KISV	2	S/F	1058.4	1058.7	1.0	2.0			
	204	IZMI	4	S/F	1059.0	1059.4	1.0	70.0	30.0		
	3750	TYKW	5	S	2150.0	2205.0	20.0	1.0	.5		
	2000	TYKW	32	ABS	2210.0	2225.0	40.0	-1.5	-0.7		
	3750	TYKW	31	ABS	2210.0	2230.0	45.0	-2.0	-1.0		RAIN
	500	HIRA	46	C	2256.0	2258.1	3.8	73.0	11.0		ML
	2000	TYKW	45	C	2256.0	2259.0	10.0	31.0	4.0		
	3750	TYKW	45	C	2256.5	2258.9	8.5	6.0	1.5		
	2700	PENT	45	C	2256.5	2258.9	9.5	41.8	9.6		
	1000	TYKW	45	C	2256.5	2259.0	8.5	17.0	2.5		
	2695	PALE	45	C	2257.0	2258.0	6.0	43.0			QL=5 ST=2 TYP=5
	610	LEAR	46	C	2257.0	2259.0	3.0	250.0			QL=5 ST=2 TYP=5
	200	HIRA	46	C	2257.4	2257.8	1.0	140.0	64.0		O
	100	HIRA	46	C	2257.4	2258.0	2.0	84.0	25.0		
	410	PALE	4	S/F	2258.0	2258.0	5.0	33.0			QL=5 ST=2 TYP=3
	610	PALE	46	C	2258.0	2259.0	5.0	310.0			QL=5 ST=2 TYP=5
	3750	TYKW	32	ABS	2311.0	0040.0	110.0	-2.0	-1.0		
07	410	SVTO	44	NS	0444.0E	1629.0	734.0D	38.0			QL=5 ST=2 TYP=1
	245	SVTO	44	NS	0444.0E	1646.0	734.0D	120.0			QL=5 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0D	20.0			QL= ST= TYP=1
	260	ONDR	44	NS	0607.0E		479.0D	16.0			
	245	SGMR	44	NS	1037.0E	1539.0	737.0D	240.0			QL=5 ST=1 TYP=1
	245	PALE	43	NS	1646.0	1756.0	707.0D	82.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2015.0E	2321.0	770.0D	40.0	15.0		ML
	245	LEAR	43	NS	2250.0	2251.0	70.0D	38.0			QL=5 ST=3 TYP=1
	2000	TYKW	32	ABS	0020.0	0040.0	40.0	-1.0	- .5		
	2000	TYKW	32	ABS	0120.0	0150.0	60.0	-1.0	- .5		
	3750	TYKW	32	ABS	0120.0	0150.0	65.0	-1.0	- .5		RAIN
	9400	TYKW	32	ABS	0232.0	0300.0	45.0	-2.0	-1.0		
	2000	TYKW	32	ABS	0235.0	0300.0	45.0	-1.0	- .5		
	3750	TYKW	32	ABS	0235.0	0300.0	40.0	-2.0	-1.0		
	950	GORK	20	GRF	0351.0	1100.0	489.0D	10.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

APRIL 1987

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	1000	TYKW	5	S	0352.0	0352.2	1.0	1.5	.5		
	2000	TYKW	32	ABS	0530.0	0550.0	50.0	-1.5	- .7		
	3750	TYKW	32	ABS	0532.0	0550.0	50.0	-2.0	-1.0		
	9400	TYKW	32	ABS	0532.0	0550.0	60.0U	-2.0	-1.0		RAIN
	650	GORK	20	GRF	0555.4	1012.8	365.0	6.0			
	245	LEAR	4	S/F	0625.0	0625.0	70.0	28.0			QL=5 ST=2 TYP=3
	5900	KISV	20	GRF	0754.0	0913.8	116.0	2.0			
	808	ONDR	8	S	0803.7	0803.7	.1				
	808	ONDR	8	S	0857.5	0857.5	.1				
	29	UPIC	45	C	0940.2	0940.9	3.3				
	33	UPIC	45	C	0940.2	0941.0	3.1				
	204	IZMI	2	S/F	1041.2	1041.5	.6	200.0	100.0		
	33	UPIC	45	C	1041.5	1042.3	2.1				
	29	UPIC	45	C	1041.5	1042.5	2.3U				
	1415	SGMR	4	S/F	1043.0	1044.0	3.0	22.0			QL=5 ST=2 TYP=3
	204	IZMI	2	S/F	1149.4	1149.6	.4	16.0	8.0		
	9400	HUAN	20	GRF	1533.5	1546.3	51.8	2.7	1.6		
	245	SVTO	46	C	1553.0	1553.0		150.0			QL=1 ST=2 TYP=5
	500	HIRA	45	C	2030.0	2040.1	35.0D	57.0	12.0		WR, SUNRISE
	2695	SGMR	46	C	2037.0	2040.0	4.0	77.0			QL=1 ST=2 TYP=5
	245	SGMR	46	C	2038.0	2038.0	2.0	150.0			QL=1 ST=2 TYP=5
	2695	PALE	46	C	2038.0	2039.0	3.0	84.0			QL=5 ST=3 TYP=5
	100	HIRA	42	SER	2038.0	2039.6	13.9	1000.0D			
	2800	OTTA	4	S/F	2038.7	2040.2	4.3	87.7	35.1		
	200	HIRA	46	C	2038.9	2039.0	4.0	460.0	110.0		WL
	1415	PALE	8	S	2039.0	2039.0	2.0	43.0			QL=5 ST=3 TYP=3
	1415	SGMR	8	S	2039.0	2040.0	2.0	45.0			QL=1 ST=2 TYP=3
	410	SGMR	46	C	2039.0	2040.0	2.0	53.0			QL=1 ST=2 TYP=5
	610	SGMR	8	S	2039.0	2040.0	2.0	39.0			QL=1 ST=2 TYP=3
	410	PALE	8	S	2039.0	2040.0	2.0	43.0			QL=5 ST=3 TYP=3
	610	PALE	8	S	2039.0	2040.0	2.0	30.0			QL=5 ST=3 TYP=3
	3750	TYKW	20	GRF	2310.0	2320.0	40.0	1.0	.5		
	245	PALE	46	C	2333.0	2333.0	1.0	140.0			QL=5 ST=2 TYP=5
08	245	SVTO	44	NS	0450.0E	1203.0	1150.0D	110.0			QL=5 ST=3 TYP=1
	410	SVTO	44	NS	0505.0E	0743.0	1135.0D	100.0			QL=5 ST=3 TYP=1
	260	ONDR	44	NS	0550.0E	1202.5	496.0D	71.0			
	204	IZMI	43	NS	0600.0		360.0D	70.0			QL= ST= TYP=1
	245	SGMR	44	NS	1036.0E	1948.0	695.0D	140.0			QL=5 ST=1 TYP=1
	200	HIRA	44	NS	2014.0E	0336.0	770.0D	30.0	15.0		ML
	410	LEAR	43	NS	2251.0	2310.0	669.0D	20.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2251.0	2324.0	669.0D	53.0			QL=5 ST=2 TYP=1
	3750	TYKW	20	GRF	0050.0	0104.0	35.0	1.0	.5		
	3750	TYKW	20	GRF	0100.0	0102.0	40.0	1.0	.5		
	245	LEAR	46	C	0216.0	0216.0	1.0	100.0			QL=5 ST=2 TYP=5
	9400	TYKW	32	ABS	0310.0	0400.0	140.0	-2.0	-1.0		
	3750	TYKW	32	ABS	0310.0	0420.0	150.0	-2.0	-1.0		
	2000	TYKW	32	ABS	0310.0	0420.0	140.0	-1.5	- .7		
	3750	TYKW	5	S	0331.0	0335.0	20.0	1.0	.5		
	9400	TYKW	5	S	0332.0	0333.0	5.0	3.0	1.0		
	950	GORK	20	GRF	0351.0	0900.0	489.0D	9.0			
	650	GORK	20	GRF	0442.7	0916.7	437.0D	8.0			
	245	LEAR	46	C	0449.0	0449.0	1.0	120.0			QL=5 ST=2 TYP=5
	1000	TYKW	20	GRF	0520.0	0555.0	130.0	1.0	.5		
	2000	TYKW	20	GRF	0530.0	0600.0	120.0	2.0	1.0		
	9400	TYKW	20	GRF	0530.0	0610.0U	100.0	4.0	2.0		INTERFERENCE
	245	LEAR	46	C	0534.0	0534.0	1.0	280.0			QL=5 ST=2 TYP=5
	5900	KISV	20	GRF	0538.0	0556.5	27.0	4.0			
	3750	TYKW	20	GRF	0540.0	0559.0	130.0	2.0	1.0		
	245	LEAR	46	C	0916.0	0920.0	4.0	130.0			QL=5 ST=2 TYP=5
	536	ONDR	40	F	1041.0	1041.0	25.0	5.0			
	808	ONDR	4	S/F	1104.5	1104.5	1.0				
	9500	POTS	20	GRF	1123.0	1150.0	52.0	10.0			
	3000	POTS	20	GRF	1135.0	1145.0	43.0	6.0			
	1470	POTS	21	GRF	1136.0	1142.0	29.0	10.0			
	536	ONDR	40	F	1139.0	1146.0	13.0	6.0			
	5900	KISV	20	GRF	1143.0	1148.3	22.0	5.0			
	5900	KISV	2	S/F	1225.0	1225.4	1.0	1.0			
	1470	POTS	4	S/F	1346.0	1350.9	12.0	40.0			

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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
08	930	BORD	46	C	1529.0	1530.9	2.2	30.0	7.0		
	930	BORD	46	C	1534.0	1535.0	2.0	47.0	8.0		
	33	UPIC	2	S/F	1536.5	1536.7	.5				
	29	UPIC	2	S/F	1536.5	1536.7	.5				
	29	UPIC	2	S/F	1541.6	1542.0	.8				
	33	UPIC	2	S/F	1541.6	1542.1	.8				
	2800	OTTA	20	GRF	2056.5	2120.7	65.0	3.9	2.3		
09	245	SVTO	44	NS	0441.0E	0653.0	1159.0D	120.0			QL=1 ST=3 TYP=1
	260	ONDR	44	NS	0556.0E	0857.0	480.0D	9.0			
	204	IZMI	44	NS	0600.0E		360.0D	30.0			
	410	SVTO	44	NS	0607.0E	0649.0	653.0D	50.0			QL=1 ST=2 TYP=1
	245	SGMR	44	NS	1036.0E	1431.0	730.0D	140.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1635.0	1845.0	718.0D	44.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2010.0E	2316.0	770.0D	10.0	5.0		WL
	245	LEAR	43	NS	2251.0	2327.0	669.0D	35.0			QL=5 ST=2 TYP=1
	410	LEAR	43	NS	2251.0	2343.0	669.0D	17.0			QL=5 ST=2 TYP=1
	3750	TYKW	5	S	0135.0	0145.0	20.0	1.5	.5		
	9400	TYKW	20	GRF	0135.0	0145.0	35.0	2.0	1.0		
	3750	TYKW	20	GRF	0210.0	0255.0	120.0	2.0	1.0		
	9400	TYKW	20	GRF	0220.0	0250.0	110.0	2.0	1.0		
	1000	TYKW			0450.0	0451.6		1.5			
	1000	TYKW	45	C	0450.0	0456.4	15.0	4.0	.7		
	3750	TYKW	20	GRF	0450.0	0458.0	30.0	1.0	.5		
	2000	TYKW	45	C	0451.0	0456.6	10.0	1.0	.3		
	2950	GORK	21	GRF	0609.0	0642.0	108.0	3.0			
	3750	TYKW	28	PRE	0614.0	0635.0	21.0	1.5	.7		
	2000	TYKW	28	PRE	0614.0	0636.0	22.0	1.0	.5		
	9300	KISV	20	GRF	0624.0	0640.0	93.0	7.0			
	3750	TYKW	45	C	0635.0	0638.3	8.0	13.0	5.0		
	9400	TYKW	20	GRF	0635.0	0650.0	65.0	5.0	2.5		
	2000	TYKW	45	C	0636.0	0637.2	4.0	14.0	4.0		
	1000	TYKW	45	C	0636.0	0638.1	4.0	1.5	.5		
	5900	KISV			0636.0	0638.2		9.0			
	3100	CRIM	4	S/F	0636.0	0637.0	3.0D	14.0			QL= ST= TYP=3
	3100	CRIM	3	S	0636.0	0637.0	3.0	14.0	5.0		
	2695	LEAR	8	S	0636.0	0637.0	1.0	22.0			QL=5 ST=2 TYP=3
	5900	KISV	23	GRF	0636.0	0637.8	81.0	8.0			
	5900	KISV	4	S/F	0636.0	0638.0	81.0	9.0			QL= ST= TYP=3
	9100	GORK	20	GRF	0636.2	0644.7	27.2	4.0			
	2950	GORK	45	C	0636.3	0637.1	3.0	12.4			
	2950	GORK			0636.3	0638.2		7.4			
	204	IZMI	7	C	0636.4	0637.4	4.0	12.0	4.0		
	950	GORK	1	S	0636.4	0638.0	2.5	1.5			
	650	GORK	46	C	0636.5	0636.5	2.4	19.0			
	650	GORK			0636.5	0638.1		25.0			
	3100	CRIM	30	PBI	0639.0	0639.0	360.0	6.0			
	2000	TYKW	29	PBI	0640.0		80.0	1.5	.7		
	3750	TYKW	29	PBI	0643.0		75.0	4.0	2.0		
	9300	KISV	8	S	0824.0	0825.0	1.0	3.0			QL= ST= TYP=3
	5900	KISV	2	S/F	0824.4	0824.5	.5	2.0			
	9300	KISV	2	S/F	0824.4	0824.6	.5	3.0			
	2950	GORK	20	GRF	0833.0	0837.6	207.0	2.6			
	5900	KISV	25	R	0835.0	0923.1	205.0	5.0			
	9100	GORK	24	R	0836.0		204.0D	4.5			
	3100	CRIM	1	S	0836.0	0837.0	6.0	2.0	1.0		
	33	UPIC	45	C	0843.1	0843.9	1.3				
	29	UPIC	45	C	0843.2	0844.0	1.2				
	9300	KISV	2	S/F	0843.9	0844.1	.5	3.0			
	9300	KISV	42	SER	1202.0	1202.6	3.5	3.0			
	5900	KISV	42	SER	1202.0	1202.7	3.5	3.0			
	2800	OTTA	240	FR	1336.2	1440.0	63.8U	4.3	1.7		
	2800	OTTA	20	GRF	1733.2	1745.0	55.0	1.8	1.1		
	3750	TYKW	20	GRF	2325.0	2347.0	100.0	2.0	1.0		
	9400	TYKW	20	GRF	2335.0U	2347.0	105.0U	4.0	2.0		RAIN
10	245	SVTO	43	NS	0439.0	0706.0	742.0D	85.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0508.0E	0509.0	713.0D	19.0			QL=1 ST=2 TYP=1
	245	SVTO	44	NS	0511.0E	0550.0	1129.0D	13.0			QL=1 ST=3 TYP=1

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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
10	245	SGMR	44	NS	1038.0E	1826.0	802.0D	68.0			QL=5 ST=3 TYP=1
	245	LEAR	43	NS	2251.0	0046.0	668.0D	49.0			QL=5 ST=2 TYP=1
	3750	TYKW	20	GRF	0122.0	0150.0	75.0	1.5	.7		
	3750	TYKW	21	GRF	0335.0	0357.0	115.0	2.0	1.0		
	15400	PALE	45	C	0354.0	0354.0	1.0	52.0			QL=5 ST=2 TYP=5
	8800	PALE	8	S	0354.0	0354.0	1.0	17.0			QL=5 ST=2 TYP=3
	3750	TYKW	20	GRF	0448.0	0458.0	30.0	1.0	.5		
	2950	GORK	41	F	0527.3	0528.5	10.9	1.1			
	2950	GORK			0527.3	0536.0		1.0			
	3750	TYKW	21	GRF	0535.0	0556.0	120.0	2.0	1.0		
	2950	GORK	20	GRF	0540.8	0548.5	24.3	1.5	.7		
	3750	TYKW	20	GRF	0640.0	0700.0	50.0	1.5	.7		
	2950	GORK	21	GRF	0734.5	1055.8	265.0D	5.5			
	2950	GORK	20	GRF	0737.0	0739.0	8.5	2.5	1.2		
	5900	KISV	2	S/F	0916.5	0917.1	11.5	3.0			
	5900	KISV	4	S/F	0917.0	0917.0	20.0	3.0			QL= ST= TYP=3
	260	ONDR	8	S	0957.0	0957.0	.3	10.0			
	9100	GORK	24	R	1007.3		112.0D				
	9300	KISV	20	GRF	1029.0	1055.7	40.0	5.0			
	2950	GORK	40	F	1029.6	1031.5	9.2	1.9			
	5900	KISV	20	GRF	1031.0	1056.0	39.0	5.0			
	5900	KISV	21	GRF	1113.9	1117.8	13.0	8.0			
	9300	KISV	2	S/F	1122.8	1123.7	9.0	7.0			
	2950	GORK	2	S/F	1123.5	1124.0	1.3	2.3	1.1		
	5900	KISV	20	GRF	1204.7	1208.4	11.0	2.0			
	5900	KISV	20	GRF	1215.3	1222.5	15.5	2.0			
	9300	KISV	20	GRF	1218.0	1222.0	19.0	4.0			
	2800	OTTA	45	C	1814.5	1823.4	17.0	11.3	5.0		
	9400	HUAN	21	GRF	1815.4	1826.3	36.8	4.3	2.3		
	9400	HUAN	3	S	1822.1	1823.5	2.9	11.6	4.8		
	3750	TYKW	5	S	2139.0	2139.8	2.0	6.0	1.5		
	2800	OTTA	8	S	2139.2	2139.9	.9	2.7	1.3		
	9400	TYKW	5	S	2139.5	2139.8	1.0	5.0	1.5		
	3750	TYKW	20	GRF	2207.0	2212.0	35.0	2.0	1.0		
	2800	OTTA	20	GRF	2208.6	2211.1	16.4	3.0	1.8		
	3750	TYKW	5	S	2248.0	2249.8	4.0	1.0	.3		
11	245	PALE	44	NS	0024.0E	0027.0	1416.0D	16.0			QL=5 ST=3 TYP=1
	260	ONDR	44	NS	0649.0E	1249.0U	432.0D	45.0			
	245	SGMR	43	NS	1026.0	1316.0	753.0D	45.0			QL=5 ST=3 TYP=1
	245	PALE	43	NS	1639.0	2116.0	715.0D	37.0			QL=3 ST=2 TYP=1
	200	HIRA	44	NS	2010.0E	0428.0	770.0D	10.0	5.0		WL
	245	LEAR	43	NS	2252.0	0645.0	666.0D	100.0			QL=5 ST=2 TYP=1
	3750	TYKW	5	S	0114.0	0119.0	15.0	1.0	.3		
	3750	TYKW	21	GRF	0134.0	0155.0	110.0	1.5	.7		
	9400	TYKW	20	GRF	0235.0	0255.0	50.0	2.0	1.0		
	3750	TYKW	5	S	0238.0	0239.6	3.5	2.0	.7		
	2000	TYKW	5	S	0238.5	0239.1	2.5	1.0	.3		
	2000	TYKW	5	S	0243.0	0245.0	4.0	3.0	1.5		
	3750	TYKW	5	S	0243.0	0245.1	10.0	2.0	.7		
	1000	TYKW	5	S	0244.0	0244.9	8.0	1.5	.5		
	2000	TYKW	29	PBI	0247.0		30.0	1.5	.7		
	500	HIRA	8	S	0327.4	0327.6	.6	30.0			WL
	1000	TYKW	45	C	0327.5	0328.1	3.5	1.5	.7		
	3750	TYKW	45	C	0327.5	0328.3	2.5	7.0	3.0		
	2000	TYKW	45	C	0327.5	0328.3	3.5	5.0	1.5		
	9400	TYKW	45	C	0327.7	0328.1	2.3	8.0	4.0		
	410	LEAR	4	S/F	0328.0	0328.0		43.0			QL=5 ST=1 TYP=3
	9400	TYKW	29	PBI	0330.0		10.0	2.0	1.0		
	3750	TYKW	30	PBI	0330.0		10.0	1.5	.7		
	2000	TYKW	5	S	0331.0	0331.4	3.0	1.0	.3		
	3750	TYKW	5	S	0331.0	0331.6	3.0	2.0	.7		
	9400	TYKW	21	GRF	0344.0	0355.0	50.0	3.0	1.5		
	3750	TYKW	21	GRF	0346.0	0355.0	45.0	1.5	.7		
	3100	CRIM	4	S/F	0404.0	0416.0	20.0D	25.0			QL= ST= TYP=3
	1415	SYDN	4	S/F	0413.0	0418.0	8.0D	94.0			QL= ST= TYP=3
	2695	SYDN	4	S/F	0414.0	0417.0	5.0D	48.0			QL= ST= TYP=3
	3100	CRIM	3	S	0414.5	0416.0	10.0	25.0	8.0		
	3750	TYKW	45	C	0415.0	0416.4	9.0	31.0	6.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
11	2000	TYKW	5	S	0415.0	0416.4	11.0	35.0	5.0		
	9400	TYKW	45	C	0415.0	0416.4	7.0	44.0	8.0		
	1000	TYKW	5	S	0415.0	0416.6	17.0	22.0	4.0		
	1415	LEAR	4	S/F	0415.0	0416.0	3.0	43.0			QL=3 ST=3 TYP=3
	8800	LEAR	45	C	0415.0	0416.0		57.0			QL=5 ST=1 TYP=5
	4995	PALE	4	S/F	0415.0	0416.0		38.0			QL=5 ST=1 TYP=3
	200	HIRA	42	SER	0415.1	0416.2	7.3	140.0			0
	17000	NOBE	1	S	0415.3	0416.5	5.0	20.0			
	500	HIRA	7	C	0415.4	0416.3	8.5	50.0	10.0		WL
	650	GORK	4	S/F	0415.4	0416.4	1.8	40.0	14.0		
	950	GORK	3	S	0415.4	0416.5	2.6	23.0			
	9100	GORK	21	GRF	0415.4	0419.7	71.6	9.0			
	2950	GORK	46	C	0415.5	0416.5	12.4	24.3			
	2950	GORK			0415.5	0418.5		7.3			
	9100	GORK	3	S	0415.7	0416.5	2.2	42.0	20.0		
	8800	LEAR	45	C	0416.0	0416.0	1.0	57.0			QL=5 ST=3 TYP=5
	410	PALE	4	S/F	0416.0	0416.0		12.0			QL=5 ST=2 TYP=3
	4995	LEAR	8	S	0416.0	0416.0	1.0	40.0			QL=5 ST=2 TYP=3
	1415	PALE	8	S	0416.0	0416.0	1.0	32.0			QL=5 ST=2 TYP=3
	15400	LEAR	8	S	0416.0	0416.0	1.0	26.0			QL=5 ST=3 TYP=3
	8800	PALE	4	S/F	0416.0	0416.0		31.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	0416.0	0416.0	1.0	30.0			QL=5 ST=3 TYP=3
	610	LEAR	4	S/F	0416.0	0416.0	61.0	38.0			QL=5 ST=3 TYP=3
	245	LEAR	4	S/F	0416.0	0416.0	69.0	13.0			QL=5 ST=3 TYP=3
	610	PALE	8	S	0416.0	0416.0	2.0	27.0			QL=5 ST=2 TYP=3
	410	LEAR	4	S/F	0416.0	0416.0		18.0			QL=5 ST=3 TYP=3
	2695	PALE	4	S/F	0416.0	0416.0		20.0			QL=5 ST=1 TYP=3
	650	GORK	29	PBI	0417.2	0417.2	16.4	7.0	3.0		
	950	GORK	29	PBI	0417.9	0418.0	15.0	10.0			
	9400	TYKW	29	PBI	0422.0		8.0	2.0	1.0		
	3750	TYKW	21	GRF	0435.0	0500.0U	100.0	2.0	1.0D		
	650	GORK	4	S/F	0458.9	0459.1	.7	12.0	6.0		
	3750	TYKW	5	S	0459.0	0459.3	1.0	1.0	.3		
	2000	TYKW	5	S	0459.0	0459.3	1.0	3.0	1.0		
	650	GORK	21	GRF	0507.7	0516.3	12.5	5.0			
	2950	GORK	46	C	0510.7	0512.2	5.8	17.3			
	2950	GORK			0510.7	0514.1		15.8			
	9100	GORK	45	C	0510.9	0511.4	1.1	3.0			
	500	HIRA	45	C	0510.9	0512.0	11.0	55.0	5.0		WL
	9100	GORK			0510.9	0512.2		16.0			
	1000	TYKW	45	C	0511.0	0512.2	10.0	18.0	5.0		
	3750	TYKW	45	C	0511.0	0514.0	7.0	22.0	6.0		
	410	LEAR	8	S	0511.0	0511.0	1.0	24.0			QL=5 ST=3 TYP=3
	245	LEAR	8	S	0511.0	0512.0	1.0	33.0			QL=5 ST=3 TYP=3
	1415	LEAR	8	S	0511.0	0512.0	1.0	31.0			QL=3 ST=3 TYP=3
	3100	CRIM	45	C	0511.0	0512.0	7.0	13.0	4.0		
	2695	LEAR	8	S	0511.0	0512.0	1.0	19.0			QL=5 ST=3 TYP=3
	9300	KISV			0511.0	0512.1		19.0			
	9300	KISV	46	C	0511.0	0513.9	6.0	31.0			
	5900	KISV	46	C	0511.0	0513.9	6.0	42.0			
	3100	CRIM			0511.0	0514.4		13.0			
	650	GORK	46	C	0511.1	0512.2	5.2	31.0			
	650	GORK			0511.1	0514.0		6.0			
	9400	TYKW	45	C	0512.0	0514.0	5.0D	23.0	6.0D		
	4995	LEAR	8	S	0512.0	0512.0	2.0	47.0			QL=5 ST=3 TYP=3
	610	LEAR	4	S/F	0512.0	0512.0	61.0	30.0			QL=5 ST=3 TYP=3
	200	HIRA	41	F	0512.8	0513.5	2.0	220.0			0
	2000	TYKW	45	C	0513.0	0514.3	7.0D	9.0	3.0D		
	15400	LEAR	8	S	0513.0	0513.0	1.0	15.0			QL=5 ST=3 TYP=3
	8800	LEAR	8	S	0513.0	0514.0	1.0	30.0			QL=5 ST=3 TYP=3
	9100	GORK	3	S	0513.2	0514.0	2.6	26.0	13.0		
	950	GORK	20	GRF	0515.9	0521.7	21.1	5.0			
	2950	GORK	29	PBI	0516.5	0516.5	12.7	1.5	.7		
	950	GORK	45	C	0517.2	0518.2	4.5	18.0			
	950	GORK			0517.2	0520.3		8.0			
	9300	KISV	20	GRF	0718.0	0742.5	55.0	4.0			
	5900	KISV	20	GRF	0841.0	0916.2	187.0	5.0			
	9300	KISV	20	GRF	0908.0	1053.8	124.0	7.0			
	9300	KISV	4	S/F	1039.0	1054.0	17.0	5.0			QL= ST= 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
11	5900	KISV	20	GRF	1237.0	1241.7	11.0	3.0			
	9300	KISV	20	GRF	1237.0	1241.7	17.0	4.0			
	245	PALE	46	C	2000.0	2000.0	1.0	65.0			QL=5 ST=2 TYP=5
12	410	LEAR	44	NS	0213.0E	0216.0	465.0D	16.0			QL=5 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0	30.0			
	260	ONDR	44	NS	0710.0E		417.0D	13.0			
	245	SGMR	44	NS	1029.0E	1504.0	811.0D	56.0			QL=5 ST=3 TYP=1
	245	PALE	43	NS	1633.0	2023.0	721.0D	84.0			QL=5 ST=2 TYP=1
	410	PALE	43	NS	1815.0	0335.0	619.0D	49.0			QL=5 ST=2 TYP=1
	410	SGMR	44	NS	1817.0E	1826.0	343.0D	14.0			QL=5 ST=3 TYP=1
	245	LEAR	44	NS	2252.0E	0511.0	665.0D	250.0			QL=5 ST=2 TYP=1
	9400	TYKW	5	S	0053.4	0053.7	0.8	4.0	1.5		
	245	PALE	46	C	0317.0	0317.0	1.0	120.0			QL=3 ST=2 TYP=5
	3750	TYKW	20	GRF	0350.0	0440.0	110.0	2.0	1.0		
	9400	TYKW	20	GRF	0350.0	0445.0	110.0	4.0	2.0		
	2000	TYKW	20	GRF	0355.0	0425.0	95.0	2.0	1.0		
	3750	TYKW	21	GRF	0553.0	0555.0	120.0	2.0	1.0		
	2000	TYKW	45	C	0553.0	0557.2	6.0	4.0	1.5		
	3750	TYKW	5	S	0556.8	0557.3	1.5	1.0	.3		
	2000	TYKW	30	PBI	0559.0		50.0	1.0	.5		
	2000	TYKW	5	S	0628.5	0629.5	4.5	1.0	.3		
	3750	TYKW	5	S	0628.5	0629.5	12.0	1.5	.5		
	5900	KISV	20	GRF	0756.0	0817.3	48.0	2.0			
	245	SVTO	8	S	0911.0	0912.0	1.0	47.0			QL=1 ST=2 TYP=3
	5900	KISV	20	GRF	0953.0	1036.9	93.0	6.0			
	9300	KISV	20	GRF	0953.0	1036.9	78.0	8.0			
	9100	GORK	1	S	1016.7	1018.3	6.1	5.2			
	930	BORD	8	S	1125.0	1125.2	.3	10.0	2.0		
	2800	OTTA	1	S	1247.4	1251.1	6.6	2.6	1.3		
	245	PALE	46	C	2017.0	2017.0	447.0	79.0			QL=1 ST=2 TYP=5
	3750	TYKW	21	GRF	2320.0	0000.0U	100.0	2.0	1.0D		
13	410	LEAR	44	NS	0303.0E	0308.0	414.0D	72.0			QL=5 ST=2 TYP=1
	200	HIRA	43	NS	0332.0	0515.0	330.0D	70.0	30.0		SL
	100	HIRA	43	NS	0410.0	0538.0	160.0	8.0	2.0		
	245	SVTO	43	NS	0435.0	0515.0	749.0D	250.0			QL=1 ST=3 TYP=1
	410	SVTO	43	NS	0435.0	0518.0	749.0D	220.0			QL=1 ST=3 TYP=1
	410	SVTO	44	NS	0435.0E	0518.0	749.0D	250.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	40.0			
	260	ONDR	44	NS	0634.0E		452.0D	21.0			
	245	PALE	43	NS	1644.0	2159.0	710.0D	36.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2007.0E	0100.0	780.0D	35.0	15.0		SL
	245	LEAR	43	NS	2252.0	0204.0	664.0D	110.0			QL=5 ST=2 TYP=1
	3750	TYKW	45	C	0024.0	0025.3	8.0	2.0	1.0		
	3750	TYKW	29	PBI	0032.0		15.0	1.0	.5		
	2000	TYKW	5	S	0119.0	0121.0	6.0	1.0	.3		
	3750	TYKW	45	C	0205.0	0208.7	10.0	3.0	1.5		
	2000	TYKW	45	C	0206.0	0208.8	10.0	1.0	.3		
	3750	TYKW	29	PBI	0215.0		40.0	1.0	.5		
	500	HIRA	27	RF	0318.0	0419.5	190.0	30.0	10.0		ML
	2000	TYKW	20	GRF	0330.0	0410.0	100.0	1.0	.5		
	3750	TYKW	20	GRF	0350.0	0435.0	80.0	1.0	.5		
	245	PALE	46	C	0409.0	0409.0	223.0	100.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	0410.0	0411.0	2.0	17.0			QL=5 ST=2 TYP=3
	3750	TYKW	45	C	0825.7	0826.3	1.0	9.0	1.5		
	2000	TYKW	45	C	0825.7	0826.3	3.0	6.0	1.0		
	1000	TYKW	45	C	0825.7	0826.4	2.0	2.0	.7		
	9300	KISV	1	S	0826.1	0826.2	.5	3.0			
	5900	KISV	2	S/F	0826.1	0826.3	.5	6.0			
	9400	HUAN	20	GRF	1833.7	1842.0	17.6	2.6	1.1		
	245	PALE	46	C	1854.0	1854.0	1.0	82.0			QL=5 ST=2 TYP=5
	3750	TYKW	20	GRF	2255.0	2320.0	95.0	1.0	.5		
	245	PALE	46	C	2303.0	2303.0	1.0	60.0			QL=1 ST=2 TYP=5
	245	PALE	46	C	2337.0	2337.0	1.0	65.0			QL=1 ST=2 TYP=5
14	245	SVTO	44	NS	0433.0E	0510.0	1167.0D	32.0			QL=3 ST=1 TYP=1
	204	IZMI	43	NS	0600.0		240.0D	22.0			QL= ST= TYP=1
	260	ONDR	44	NS	0657.0E		428.0D	22.0			

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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
14	245	SGMR	44	NS	1026.0E	1421.0	639.0D	69.0			QL=1 ST=3 TYP=1
	245	PALE	43	NS	1727.0	2325.0	668.0D	40.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2005.0E	0251.0	780.0D	15.0	7.0		ML
	245	LEAR	43	NS	2253.0	0640.0	662.0D	100.0			QL=5 ST=2 TYP=1
	500	HIRA	27	RF	0009.0	0205.5	374.0	30.0	10.0		ML
	3750	TYKW	20	GRF	0034.0	0120.0	110.0	1.0	.5		
	245	PALE	46	C	0204.0	0204.0	1.0	75.0			QL=3 ST=3 TYP=5
	3750	TYKW	20	GRF	0310.0	0350.0	150.0	1.5	.7		
	2000	TYKW	20	GRF	0310.0	0350.0	150.0	1.0	.5		
	9400	TYKW	5	S	0519.5	0520.3	2.0	9.0	3.0		
	9100	GORK	1	S	0822.5	0823.4	1.1	5.2	2.0		
	810	KRAK	8	S	1047.5	1047.8	.5	16.0			
	930	BORD	41	F	1212.4	1220.0	12.2	12.0	3.0		
	3750	TYKW	21	GRF	2200.0	2325.0	230.0	2.0	1.0		
15	245	SVTO	44	NS	0432.0E	1458.0	754.0D	200.0			QL=1 ST=1 TYP=1
	204	IZMI	43	NS	0600.0		360.0D	50.0			QL= ST= TYP=1
	260	ONDR	44	NS	0624.0E		460.0D	60.0			
	410	LEAR	44	NS	0630.0E	0644.0	205.0D	10.0			QL=5 ST=2 TYP=1
	245	SGMR	43	NS	1024.0	1522.0	759.0D	340.0			QL=5 ST=2 TYP=1
	410	SVTO	44	NS	1445.0E	1552.0	141.0D	110.0			QL=1 ST=1 TYP=1
	410	SGMR	43	NS	1445.0	1602.0	498.0D	48.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1643.0	0220.0	712.0D	64.0			QL=3 ST=2 TYP=1
	200	HIRA	44	NS	2004.0E	0226.0	780.0D	80.0	30.0		SL
	100	HIRA	43	NS	2100.0	2123.0	360.0	30.0	10.0		
	245	LEAR	43	NS	2253.0	0634.0	661.0	210.0			QL=5 ST=2 TYP=1
	410	LEAR	43	NS	2253.0	0748.0	661.0	23.0			QL=5 ST=2 TYP=1
	3750	TYKW	5	S	0019.0	0019.3	1.0	2.0	.7		
	3750	TYKW	5	S	0101.0	0105.0	20.0	1.0	.5		
	9400	TYKW	5	S	0231.0	0231.7	3.0	48.0	15.0		
	3750	TYKW	45	C	0231.0	0231.8	2.0	3.0	.5		
	4995	PALE	4	S/F	0231.0	0231.0		14.0			QL=5 ST=2 TYP=3
	15400	PALE	8	S	0231.0	0231.0	1.0	47.0			QL=5 ST=2 TYP=3
	15400	LEAR	8	S	0231.0	0231.0	1.0	44.0			QL=5 ST=2 TYP=3
	8800	LEAR	46	C	0231.0	0231.0	1.0	70.0			QL=5 ST=2 TYP=5
	9400	TYKW	29	PBI	0234.0		10.0	6.0	2.0		
	1000	TYKW	45	C	0412.0	0413.5	6.0	36.0	1.5		
	9100	GORK	1	S	0540.3	0542.1	4.9	8.0			
	9400	TYKW	5	S	0541.0	0542.2	7.0	5.0	1.5		
	9300	KISV	2	S/F	0541.1	0542.2	5.0	6.0			
	5900	KISV	2	S/F	0541.2	0542.2	7.0	5.0			
	500	HIRA	27	RF	0630.0	0644.4	39.0	10.0	5.0		WL
	200	HIRA	41	F	0630.0	0700.0	33.0	120.0			ML
	5900	KISV	2	S/F	0659.6	0700.5	8.0	2.0			
	9100	GORK	21	GRF	0729.6	0736.2	42.8	14.0			
	5900	KISV	4	S/F	0730.8	0733.7	16.0	32.0			
	9400	TYKW	45	C	0731.0	0733.7	9.0	93.0	15.0		
	9300	KISV	4	S/F	0731.0	0733.7U	4.0	34.0			
	8800	LEAR	46	C	0732.0	0733.0	7.0	110.0			QL=5 ST=2 TYP=5
	4995	LEAR	4	S/F	0732.0	0733.0	9.0	21.0			QL=5 ST=2 TYP=3
	9100	GORK	4	S/F	0732.9	0733.7	2.5	90.0	45.0		
	9500	POTS	4	S/F	0733.0	0733.5	9.0	70.0			
	3750	TYKW	45	C	0733.0	0733.7	12.0	3.0	1.0		
	15400	SVTO	46	C	0733.0	0733.0	57.0	100.0			QL=5 ST=2 TYP=5
	8800	SVTO	45	C	0733.0	0733.0	1.0	50.0			QL=5 ST=2 TYP=5
	2950	GORK	21	GRF	0733.2		11.9				
	17000	NOBE	1	S	0733.3	0733.7	1.0	76.0			
	2000	TYKW	5	S	0733.5	0733.7	1.5	3.0	.7		
	2950	GORK	1	S	0733.5	0733.7	.5	1.9			
	1470	POTS	1	S	0734.5	0734.8	1.5	2.0			
	9300	KISV	29	PBI	0734.8	0734.8	10.5	25.0			
	9400	TYKW	29	PBI	0740.0		10.0	4.0	2.0		
	9300	KISV	1	S	0757.8	0758.6	5.0	6.0			
	5900	KISV	2	S/F	0757.9	0758.6	2.5	6.0			
	9400	TYKW	5	S	0758.4	0758.7	1.5	6.0	2.0		
	5900	KISV	21	GRF	0910.0	0945.8	48.0	5.0			
	204	IZMI	25	R	1015.0		95.0	100.0			
	9100	GORK	21	GRF	1113.9		47.0D				
	9500	POTS	21	GRF	1120.0	1149.7	155.0	15.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
15	3000	POTS	21	GRF	1135.0	1138.0	145.0	9.0			
	2950	GORK	21	GRF	1135.3	1151.2	26.0D	68.0			
	5900	KISV	21	GRF	1138.0	1224.4	85.0D	17.0			
	9300	KISV	21	GRF	1139.3	1225.4	85.0D	6.0			
	1470	POTS	23	GRF	1146.0	1218.6	99.0	22.0			
	2950	GORK	1	S	1148.8	1149.6	1.7	5.0			
	5900	KISV			1149.2	1149.8	3.0	31.0			
	9100	GORK	1	S	1149.4	1149.7	11.0	12.6	6.0		
	9300	KISV			1149.4	1149.8	1.5	6.0			
	930	BORD	40	F	1602.0	1615.4	86.0	13.0	6.0		
	245	PALE	46	C	1649.0	1649.0	2.0	150.0			QL=1 ST=3 TYP=5
	245	PALE	4	S/F	1731.0	1732.0	6.0	130.0			QL=1 ST=2 TYP=3
	2800	OTTA	20	GRF	1738.5	1751.0	21.5	3.5	2.2		
	500	HIRA	27	RF	2109.0	2213.5	170.0	10.0	3.0		WL
	3750	TYKW	21	GRF	2120.0	2305.0	240.0	2.0	1.0		
	9400	TYKW	5	S	2126.0	2127.3	5.0	7.0	2.0		
	9400	TYKW	5	S	2144.0	2144.8	2.0	6.0	2.0		
	9400	TYKW	5	S	2303.0	2304.0	3.0	3.0	1.0		
	9400	TYKW	5	S	2313.5	2314.4	3.5	4.0	1.5		
16	245	SVTO	44	NS	0430.0E	0623.0	1170.0D	190.0			QL=1 ST=1 TYP=1
	410	SVTO	44	NS	0430.0E	0748.0	1170.0D	27.0			QL=1 ST=1 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	52.0			
	260	ONDR	44	NS	0600.0E	1041.0	488.0D	48.0			
	245	SGMR	44	NS	1023.0E	1645.0	761.0D	470.0			QL=5 ST=3 TYP=1
	245	PALE	43	NS	1638.0	1722.0	717.0D	110.0			QL=5 ST=2 TYP=1
	410	PALE	43	NS	1638.0	1812.0	717.0D	24.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2002.0E	2315.0	240.0D	60.0	40.0		SL
	100	HIRA	44	NS	2002.0E	2353.0	240.0D	55.0	10.0		
	410	LEAR	43	NS	2254.0	0249.0	659.0D	39.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2254.0	0257.0	659.0D	130.0			QL=5 ST=2 TYP=1
	245	PALE	46	C	0010.0	0010.0	1.0	59.0			QL=3 ST=2 TYP=5
	9400	TYKW	45	C	0022.5	0026.1	8.5	420.0	55.0		
	9400	TYKW	30	PBI	0031.0		30.0	2.0	1.0		
	9400	TYKW	45	C	0041.5	0042.4	4.5	6.0	8.0		
	3750	TYKW	45	C	0041.5	0042.4	12.0	3.0	.7		
	9400	TYKW	29	PBI	0046.0		10.0	2.0	1.0		
	3750	TYKW	20	GRF	0135.0	0144.0	45.0	1.0	.5		
	2000	TYKW	20	GRF	0135.0	0144.0	35.0	1.0	.5		
	9400	TYKW	20	GRF	0137.0	0147.0	35.0	2.0	1.0		
	9400	TYKW	5	S	0218.0	0218.8	5.0	32.0	8.0		
	9500	HIRA	4	S/F	0218.0	0218.0	6.0	12.0			QL= ST= TYP=3
	15400	LEAR	8	S	0218.0	0219.0	1.0	43.0			QL=5 ST=2 TYP=3
	8800	LEAR	8	S	0218.0	0219.0	1.0	35.0			QL=5 ST=2 TYP=3
	17000	NOBE	1	S	0218.6	0218.8	.7	27.0			
	9400	TYKW	29	PBI	0223.0		5.0	2.0	1.0		
	3750	TYKW	5	S	0236.5	0237.3	3.0	4.0	1.0		
	9400	TYKW	5	S	0237.0	0237.3	2.0	5.0	1.5		
	9400	TYKW	45	C	0340.0	0341.6	6.0	4.0	1.0		
	9400	TYKW	5	S	0401.3	0401.6	1.0	4.0	1.5		
	3750	TYKW	5	S	0418.0	0418.7	4.0	1.5	.5		
	9400	TYKW	5	S	0421.0	0421.1	0.5	4.0	1.0		
	3750	TYKW	5	S	0451.0	0451.8	4.0	1.0	.3		
	5900	KISV	2	S/F	0532.0	0533.9	5.5	3.0			
	5900	KISV	4	S/F	0846.0	0936.0	73.0	4.0			QL= ST= TYP=3
	5900	KISV	21	GRF	0846.1	0936.6	73.0	4.0			
	9300	KISV	4	S/F	1004.0	1005.0	5.0	7.0			QL= ST= TYP=3
	9300	KISV	2	S/F	1004.0	1005.2	5.0	7.0			
	5900	KISV	2	S/F	1004.5	1007.2	6.0	3.0			
	5900	KISV	28	PRE	1027.8	1034.4	11.0	3.0			
	9300	KISV	28	PRE	1028.1	1029.0	7.5	7.0			
	9100	GORK	45	C	1038.8	1039.4	1.6	25.0			
	9300	KISV	4	S/F	1038.8	1039.6	7.0	38.0			
	9100	GORK			1038.8	1039.7		44.0			
	5900	KISV	2	S/F	1039.0	1039.7	6.0	13.0			
	9100	GORK	29	PBI	1040.5	1040.5	9.1	10.0			
	5900	KISV	22	GRF	1136.5	1212.1	44.5	5.0			
	9300	KISV	22	GRF	1145.1	1206.1	29.0	7.0			
	2800	OTTA	1	S	1444.8	1446.6	9.2	7.6	3.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
16	8800	SVTO	4	S/F	1514.0	1514.0	987.0	40.0			QL=5 ST=2 TYP=3
	2800	OTTA	42	SER	1554.5	1608.6	215.0	61.2	12.2		
	2695	SVTO	46	C	1606.0	1608.0	10.0	65.0			QL=5 ST=2 TYP=5
	4995	SVTO	46	C	1606.0	1608.0	11.0	140.0			QL=5 ST=2 TYP=5
	8800	SVTO	46	C	1606.0	1608.0	9.0	130.0			QL=5 ST=2 TYP=5
	2695	SGMR	4	S/F	1606.0	1608.0	10.0	40.0			QL=5 ST=2 TYP=3
	4995	SGMR	46	C	1606.0	1608.0	474.0	110.0			QL=5 ST=3 TYP=5
	15400	SGMR	4	S/F	1606.0	1608.0	10.0	36.0			QL=5 ST=2 TYP=3
	15400	SVTO	46	C	1607.0	1608.0	3.0	68.0			QL=5 ST=2 TYP=5
	1415	SGMR	4	S/F	1607.0	1608.0		28.0			QL=5 ST=3 TYP=3
	1415	SGMR	4	S/F	1607.0	1608.0	9.0	28.0			QL=5 ST=2 TYP=3
	8800	SGMR	46	C	1608.0	1608.0	8.0	72.0			QL=5 ST=2 TYP=5
	1415	SVTO	46	C	1608.0	1608.0	8.0	31.0			QL=5 ST=2 TYP=5
	245	SVTO	46	C	1636.0	1645.0	30.0	790.0			QL=1 ST=3 TYP=5
	1415	SVTO	4	S/F	1639.0	1639.0	27.0	24.0			QL=1 ST=2 TYP=3
	245	PALE	46	C	1639.0	1645.0	18.0	790.0			QL=3 ST=2 TYP=6
	410	SVTO	45	C	1643.0	1647.0	23.0	58.0			QL=1 ST=2 TYP=5
	410	PALE	45	C	1643.0	1648.0	9.0	40.0			QL=3 ST=2 TYP=5
	410	SGMR	45	C	1643.0	1648.0	9.0	32.0			QL=5 ST=2 TYP=5
	610	SVTO	45	C	1645.0	1648.0	21.0	33.0			QL=1 ST=2 TYP=5
	4995	SGMR	8	S	1647.0	1648.0	1.0	15.0			QL=5 ST=2 TYP=3
	2695	SGMR	4	S/F	1648.0	1648.0		14.0			QL=5 ST=2 TYP=3
	1415	SGMR	8	S	1648.0	1648.0	1.0	21.0			QL=5 ST=2 TYP=3
	2800	OTTA	1	S	2015.7	2017.9	3.5	5.8	3.5		
	3750	TYKW	20	GRF	2215.0	2235.0	120.0	2.0	1.0		
	9400	TYKW	5	S	2304.0	2305.0	4.0	6.0	1.5		
17	410	SVTO	43	NS	0429.0	0506.0	759.0D	100.0			QL=1 ST=2 TYP=1
	245	SVTO	43	NS	0429.0	1112.0	759.0D	140.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0557.0E	0854.0	492.0D	67.0			
	204	IZMI	44	NS	0600.0E		360.0D	40.0			
	245	SGMR	43	NS	1021.0	1258.0	764.0D	260.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1638.0	2246.0	718.0D	130.0			QL=5 ST=2 TYP=1
	100	HIRA	44	NS	2000.0E	0302.0	780.0D	160.0	35.0		
	200	HIRA	44	NS	2000.0E	2100.0	780.0D	85.0	40.0		SL
	245	LEAR	43	NS	2254.0	0048.0	658.0D	110.0			QL=5 ST=2 TYP=1
	410	LEAR	43	NS	2254.0	0058.0	658.0D	12.0			QL=5 ST=2 TYP=1
	9400	TYKW	45	C	0046.0	0048.1	4.0	9.0	3.0		
	9400	TYKW	29	PBI	0050.0		15.0	2.0	1.0		
	9400	TYKW	5	S	0130.0	0134.5	15.0	5.0	2.0		
	3750	TYKW	21	GRF	0155.0	0215.0	85.0	3.0	1.5		
	9400	TYKW	21	GRF	0200.0	0215.0	80.0	4.0	2.0		
	2000	TYKW	21	GRF	0200.0	0225.0	150.0	1.5	.7		
	3750	TYKW	5	S	0201.5	0202.3	2.5	1.0	.3		
	3750	TYKW	20	GRF	0228.0	0230.0	30.0	2.0	1.0		
	9400	TYKW	20	GRF	0228.0	0231.0	30.0	2.0	1.0		
	2000	TYKW	5	S	0229.5	0230.1	3.0	1.5	.5		
	3750	TYKW	5	S	0421.0	0423.0	10.0	1.5	.5		
	9400	TYKW	20	GRF	0445.0	0455.0	40.0	3.0	1.5		
	3750	TYKW	5	S	0447.0	0449.7	15.0	1.5	.5		
	3750	TYKW	20	GRF	0610.0	0620.0	90.0	2.0	1.0		
	204	IZMI	21	GRF	0846.0	0847.0	20.0	70.0	35.0		
	5900	KISV	20	GRF	1109.0	1115.2	11.5	2.0			
	9300	KISV	20	GRF	1109.5	1115.5	15.0	3.0			
	5900	KISV	7	C	1206.5	1209.0	44.0	7.0			
	9300	KISV	4	S/F	1208.0	1213.0	42.0	5.0			QL= ST= TYP=3
	9300	KISV	21	GRF	1208.2	1212.8					
	33	UPIC	46	C	1236.4	1242.2	12.4				
	29	UPIC	46	C	1236.5	1242.5	9.4				
	9300	KISV			1237.7	1238.6					
	5900	KISV			1237.9	1238.7		5.0			
	2800	OTTA	1	S	1238.1	1238.6	5.0	3.2	.8		
	245	PALE	46	C	1748.0	1748.0	1.0	130.0			QL=5 ST=2 TYP=5
	2800	OTTA	20	GRF	1855.5	1924.2	100.0	3.2	1.6		
	9400	TYKW	5	S	2222.0	2222.4	2.0	4.0	1.0		
	3750	TYKW	5	S	2222.0	2222.6	4.0	1.5	.5		
	2000	TYKW	45	C	2330.0	2337.5	30.0	3.0	2.0		
	3750	TYKW	45	C	2330.0	2343.4	30.0	10.0	6.0		
	9400	TYKW	45	C	2330.0	2347.9	30.0	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
18	245	SVTO	43	NS	0427.0	0547.0	762.0D	120.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	50.0			
	260	ONDR	44	NS	0655.0E	0955.0	433.0D	15.0			
	245	SGMR	43	NS	1019.0	1513.0	767.0D	34.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1639.0	2314.0	717.0D	21.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2000.0E	2132.0	780.0D	40.0	10.0		ML
	100	HIRA	43	NS	2117.0	2203.0	170.0	180.0	40.0		
	245	LEAR	43	NS	2254.0	2315.0	658.0D	19.0			QL=3 ST=2 TYP=1
	9400	TYKW	5	S	0007.5	0008.3	5.0	4.0	1.0		
	9400	TYKW	5	S	0016.0	0016.7	1.5	7.0	2.0		
	3750	TYKW	21	GRF	0105.0	0115.0	75.0	1.0	.5		
	3750	TYKW	20	GRF	0135.0	0146.0	40.0	2.0	1.0		
	2000	TYKW	20	GRF	0135.0	0146.0	50.0	1.0	.5		
	9400	TYKW	20	GRF	0320.0	0345.0	65.0	3.0	1.5		
	3750	TYKW	20	GRF	0325.0	0340.0	50.0	1.5	.7		
	9100	GORK	21	GRF	0419.4	0651.8	460.0D	20.0			
	3750	TYKW	28	PRE	0432.5	0433.5	5.5	3.0	1.0		
	2000	TYKW	20	GRF	0435.0	0456.0	70.0	1.0	.5		
	9400	TYKW	45	C	0435.0	0504.8	45.0	16.0	4.0		
	3750	TYKW	45	C	0438.0	0441.5	22.0	5.0	3.0		
	2950	GORK	20	GRF	0438.2	0441.6	30.8	2.1	1.0		
	3750	TYKW	29	PBI	0500.0		25.0	3.0	1.5		
	5900	KISV	4	S/F	0502.0	0505.0	5.0	8.0			QL= ST= TYP=3
	5900	KISV	1	S	0502.3	0504.8	5.0	8.0			
	8800	LEAR	4	S/F	0504.0	0504.0		17.0			QL=5 ST=2 TYP=3
	9100	GORK	1	S	0504.0	0504.7	1.2	12.0	5.0		
	9300	KISV	8	S	0504.0	0505.0	2.0	13.0			QL= ST= TYP=3
	9300	KISV	1	S	0504.3	0504.8					
	9400	TYKW	5	S	0528.5	0530.3	4.0	8.0	3.0		
	9300	KISV	1	S	0544.2	0544.9					
	9400	TYKW	5	S	0544.5	0545.0	3.0	7.0	2.0		
	9300	KISV	28	PRE	0619.8	0624.4					
	5900	KISV	28	PRE	0619.9	0625.0	17.5	2.0			
	5900	KISV	3	S	0643.6	0647.0	14.0	16.0			
	2950	GORK	20	GRF	0644.7	0716.2	157.0	2.9	1.3		
	9400	TYKW	5	S	0646.0	0647.0	4.0	72.0	15.0		
	15400	LEAR	46	C	0646.0	0646.0	1.0	82.0			QL=5 ST=2 TYP=5
	15400	SVTO	46	C	0646.0	0646.0	1.0	76.0			QL=5 ST=3 TYP=5
	8800	SVTO	46	C	0646.0	0646.0	1.0	61.0			QL=5 ST=3 TYP=5
	8800	LEAR	46	C	0646.0	0646.0	2.0	74.0			QL=5 ST=2 TYP=5
	9300	KISV	3	S	0646.1	0646.9					
	9100	GORK	3	S	0646.2	0647.0	3.2	84.0	35.0		
	9500	POTS	3	S	0646.5	0647.0	3.5	60.0			
	35000	NOBE	1	S	0646.6	0646.9	.7	23.0			
	17000	NOBE	1	S	0646.6	0646.9	.7	60.0			
	17000	NOBE	29	PBI	0647.3	0647.3	2.0	19.0			
	9300	KISV	29	PBI	0649.2	0649.2					
	9400	TYKW	29	PBI	0650.0		10.0	4.0	2.0		
	5900	KISV	31	ABS	0700.0	0704.5	5.5	-2.0			
	9400	TYKW	5	S	0712.0	0713.2	3.0	24.0	6.0		
	9300	KISV	2	S/F	0712.2	0713.3					
	9100	GORK	1	S	0712.5	0713.2	2.0	25.0	10.0		
	5900	KISV	7	C	0712.6	0713.2	25.5	5.0			
	5900	KISV			0712.6	0715.9		4.0			
	17000	NOBE	1	S	0712.8	0713.0	1.0	17.0			
	35000	NOBE	1	S	0712.8	0713.0	.4	20.0			
	9500	POTS	3	S	0712.9	0713.3	2.2	18.0			
	9400	TYKW	29	PBI	0715.0		30.0	5.0	2.0		
	245	LEAR	46	C	0950.0	0951.0	850.0	67.0			QL=3 ST=1 TYP=5
	2950	GORK	20	GRF	0954.5	1018.2	60.5D	2.3			
	9500	POTS	3	S	1106.7	1107.4	2.3	14.0			
	5900	KISV	8	S	1107.0	1107.0	1.0	8.0			QL= ST= TYP=3
	9300	KISV	8	S	1107.0	1107.0	2.0	15.0			QL= ST= TYP=3
	9300	KISV	1	S	1107.1	1107.4					
	5900	KISV	28	PRE	1112.7	1120.8	14.5	3.0			
	9300	KISV	20	GRF	1113.2	1127.9					
	3000	POTS	1	S	1127.0	1128.5	3.0	5.0			
	5900	KISV	2	S/F	1127.2	1128.6	4.0	9.0			
	3100	CRIM	1	S	1127.5	1129.0	3.0	4.0	1.0		

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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
18	2800	OTTA	1	S	1127.6	1128.6	1.7	4.8	2.4		
	9300	KISV	2	S/F	1226.1	1227.1					
	9400	HUAN	1	S	1327.7	1328.5	1.8	3.9	1.6		
	9400	HUAN	1	S	1334.2	1335.3	3.1	5.2	1.3		
	3000	POTS	3	S	1353.5	1355.7	6.5	13.0			
	2800	OTTA	3	S	1353.5	1356.0	5.0	13.3	6.6		
	4995	SVTO	4	S/F	1354.0	1355.0	3.0	14.0			QL=1 ST=3 TYP=3
	1470	POTS	3	S	1355.0	1356.0	2.0	13.0			
	9400	HUAN	1	S	1357.7	1359.0	3.3	6.5	2.6		
	15400	SVTO	8	S	1358.0	1359.0	1.0	35.0			QL=5 ST=2 TYP=3
	9400	HUAN	2	S/F	1410.8	1413.2	4.2	5.2	3.9		
	15400	SVTO	8	S	1424.0	1424.0	1.0	31.0			QL=3 ST=2 TYP=3
	9400	HUAN	3	S	1450.6	1453.9	9.2	7.8	3.2		
	2800	OTTA	1	S	1453.0	1454.4	7.0	3.0	1.5		
	1415	SVTO	8	S	1521.0	1522.0	1.0	33.0			QL=5 ST=3 TYP=3
	4995	SVTO	8	S	1521.0	1522.0	2.0	9.0			QL=5 ST=3 TYP=3
	9400	HUAN	30	PBI	1605.8	1625.6	47.5	-5.2	-2.0		
	2800	OTTA	1	S	1621.5	1622.8	8.5	6.8	2.7		
	9400	HUAN	20	GRF	1719.3	1730.4	23.4	5.2	1.0		
	3750	TYKW	20	GRF	2125.0	2210.0	180.0	4.0	2.0		
	9400	TYKW	20	GRF	2125.0	2210.0	170.0	4.0	2.0		
19	260	ONDR	44	NS	0610.0E	0806.0	483.0D	14.0			
	9400	TYKW	5	S	0153.5	0154.0	2.0	5.0	1.5		
	17000	NOBE	1	S	0153.6	0153.9	1.7	14.0			
	9400	TYKW	20	GRF	0440.0	0540.0U	160.0	4.0	2.0		INTERFERENCE
	3750	TYKW	20	GRF	0445.0	0500.0	90.0	1.0	.5		
	9100	GORK	24	R	0555.6		304.0	5.9			
	2800	OTTA	1	S	1123.5	1125.0	4.5	2.3	1.1		
	2800	OTTA	20	GRF	1204.8	1207.5	10.2	4.4	1.3		
	9300	KISV	2	S/F	1204.8	1207.7					
	2800	OTTA	1	S	1439.2	1440.5	9.0	2.0	1.0		
	3750	TYKW	5	S	2203.0	2203.9	3.0	1.5	.5		
	2000	TYKW	5	S	2212.0	2212.2	1.0	1.5	.5		
	3750	TYKW	5	S	2212.0	2212.3	1.0	2.0	.7		
20	260	ONDR	43	NS	1013.0	1130.0	135.0	7.0			
	17000	NOBE	1	S	0010.5	0010.7	.8	20.0			
	17000	NOBE	1	S	0036.2	0036.4	1.0	20.0			
	3750	TYKW	5	S	0213.0	0215.0	4.0	5.0	2.5		
	9400	TYKW	5	S	0214.0	0214.9	25.0	6.0	2.0		
	3750	TYKW	29	PBI	0217.0		15.0	1.5	.7		
	9400	TYKW	5	S	0350.0	0350.6	2.0	4.0	1.0		
	9300	KISV	1	S	1201.2	1201.5					
	2800	OTTA	1	S	1939.0	1940.1	1.4	3.8	1.9		
21	245	SVTO	43	NS	0620.0	1610.0	653.0D	110.0			QL=1 ST=2 TYP=1
	410	SVTO	43	NS	0620.0	1611.0	653.0D	54.0			QL=1 ST=2 TYP=1
	430	KRAK	8	S	1136.0	1136.0	.5	15.0			
	260	ONDR	42	SER	1225.0	1227.3	2.3	2.0			
	536	ONDR	4	S/F	1226.5	1227.0	.8	11.0			
	2800	OTTA	20	GRF	1823.0	2025.0	170.0	6.4	3.2		
22	410	SVTO	44	NS	0422.0E	0908.0	1178.0D	32.0			QL=1 ST=3 TYP=1
	245	SVTO	44	NS	0422.0E	0923.0	1178.0D	160.0			QL=1 ST=1 TYP=1
	200	HIRA	43	NS	2241.0	0240.0	500.0	10.0	5.0		WL
	9400	HUAN	20	GRF	1301.8	1320.8	41.3	5.1	3.5		
23	15400	LEAR	46	C	0928.0	0929.0	1.0	63.0			QL=5 ST=2 TYP=5
	245	PALE	47	GB	1938.0	1939.0	1.0	64.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	1938.0	1939.0	1.0	42.0			QL=5 ST=2 TYP=3
24	260	ONDR	44	NS	0606.0E	1145.0	479.0D	13.0			
	200	HIRA	44	NS	1953.0E	2045.0	160.0D	10.0	3.0		WL
	1000	TYKW	45	C	0731.0	0731.7	1.0	3.0	.5		
	1000	TYKW	45	C	0734.0	0734.8	1.5	55.0	3.0		
	3100	CRIM	3	S	0734.0	0736.0	2.0	34.0	12.0		
	930	BORD	41	F	0734.4	0736.2	2.8	191.0	3.0		
	2000	TYKW	28	PRE	0734.5	0735.1	1.5	2.0	.5		

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24	5900	KISV	4	S/F	0734.5	0736.2	7.0	17.0			
	9500	HIRA	8	S	0735.0	0736.0	2.0	10.0			QL= ST= TYP=3
	808	ONDR	4	S/F	0735.5	0735.5	.5				
	9300	KISV	4	S/F	0735.9	0736.2					
	3000	POTS	4	S/F	0736.0	0736.0	1.2	38.0			
	1470	POTS	8	S	0736.0	0736.0	1.0	53.0			
	2000	TYKW	45	C	0736.0	0736.1	1.0	160.0	20.0		
	3750	TYKW	45	C	0736.0	0736.1	1.0	26.0	5.0		
	1000	TYKW	45	C	0736.0	0736.1	1.0	95.0	7.0		
	9400	TYKW	45	C	0736.0	0736.3	1.0	23.0	7.0		
	9500	POTS	3	S	0736.0	0736.4	1.5	19.0U			
	2695	SVTO	4	S/F	0736.0	0736.0	10.0	50.0			QL=5 ST=2 TYP=3
	1415	LEAR	46	C	0736.0	0736.0	1129.0	75.0			QL=3 ST=2 TYP=5
	2695	LEAR	46	C	0736.0	0736.0	1129.0	77.0			QL=5 ST=3 TYP=5
	8800	SVTO	4	S/F	0736.0	0736.0	1034.0	30.0			QL=5 ST=2 TYP=3
	4995	SVTO	8	S	0736.0	0736.0	2.0	15.0			QL=5 ST=2 TYP=3
	810	KRAK	8	S	0736.0	0736.0	.2	20.0			
	1415	SVTO	46	C	0736.0	0736.0	1.0	86.0			QL=5 ST=2 TYP=5
	610	SVTO	46	C	0736.0	0736.0	21.0	86.0			QL=5 ST=2 TYP=5
	9100	GORK	4	S/F	0736.0	0736.3	1.6	28.0	10.0		
	204	IZMI	7	C	0736.1	0736.2	1.4	15.0	6.0		
	2000	TYKW	29	PBI	0737.0		6.0	1.0	.5		
	3750	TYKW	29	PBI	0737.0		6.0	1.0	.5		
	9400	TYKW	29	PBI	0737.0		7.0	2.0	1.0		
	9300	KISV	2	S/F	0935.2	0935.5					
	536	ONDR	42	SER	1059.5	1059.6	5.0	10.0			
	33	UPIC	2	S/F	1432.5	1432.6	.6				
	29	UPIC	2	S/F	1432.8	1432.9	.5				
25	260	ONDR	43	NS	1047.8	1205.8	92.0	8.0			
26	808	ONDR	4	S/F	0632.0	0632.5	1.5				
27	3750	TYKW	20	GRF	0100.0	0130.0	70.0	1.0	.5		
	260	ONDR	42	SER	0824.0	0827.5	15.0	11.0			
	260	ONDR	42	SER	1000.3	1000.5	1.5	21.0			
	260	ONDR	42	SER	1140.5	1141.0	3.5	8.0			
	204	IZMI	1	S	1140.9	1141.0	.1	10.0	5.0		
	2695	SGMR	46	C	1302.0	1308.0	33.0	110.0			QL=1 ST=3 TYP=5
28	810	KRAK	8	S	0810.5	0810.5	.1	6.0			
	260	ONDR	8	S	0914.5	0914.5	.1	3.0			
	260	ONDR	40	F	1108.5	1108.5	14.5	5.0			
30	3750	TYKW	20	GRF	0130.0	0155.0	110.0	1.0	.5		
	2000	TYKW	20	GRF	0130.0	0200.0	110.0	1.0	.5		
	260	ONDR	8	S	1010.8	1010.8	.3	2.0			
	260	ONDR	8	S	1251.5	1251.6	.3	4.0			

Reports are received routinely from the following observatories:

ATHN = Athens	IZMI = IZMIRAN	OTTA = Ottawa	SVTO = San Vito
BERN = Berne	KISK = Kislovodsk	PALE = Palehua	SYDN = Sydney
BORD = Bordeaux	KRAK = Krakow	PEKG = Peking	TORN = Torun
CRIM = Crimea	LEAR = Learmonth	PENT = Penticton	TYKW = Toyokawa
GORK = Gorky	MANI = Manila	POTS = Potsdam	TRST = Trieste
HIRA = Hiraiso	NOBE = Nobeyama	SAOP = Sao Paulo	UPIC = Upice
HUAN = Huancayo	ONDR = Ondrejov	SGMR = Sagamore Hill	VORO = Voroshilov

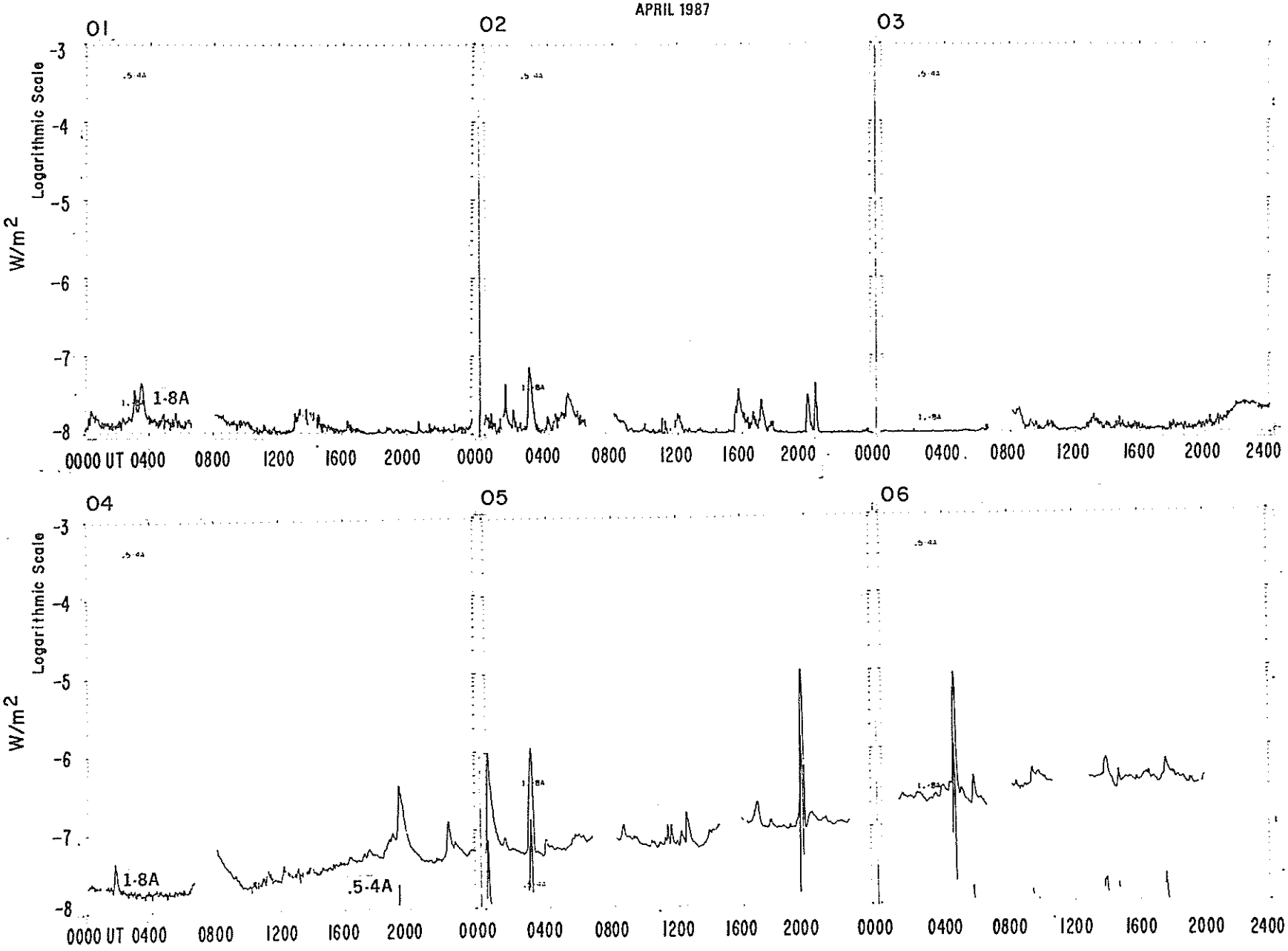
Explanation of Type Code:

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	

GOES 6 X-RAYS

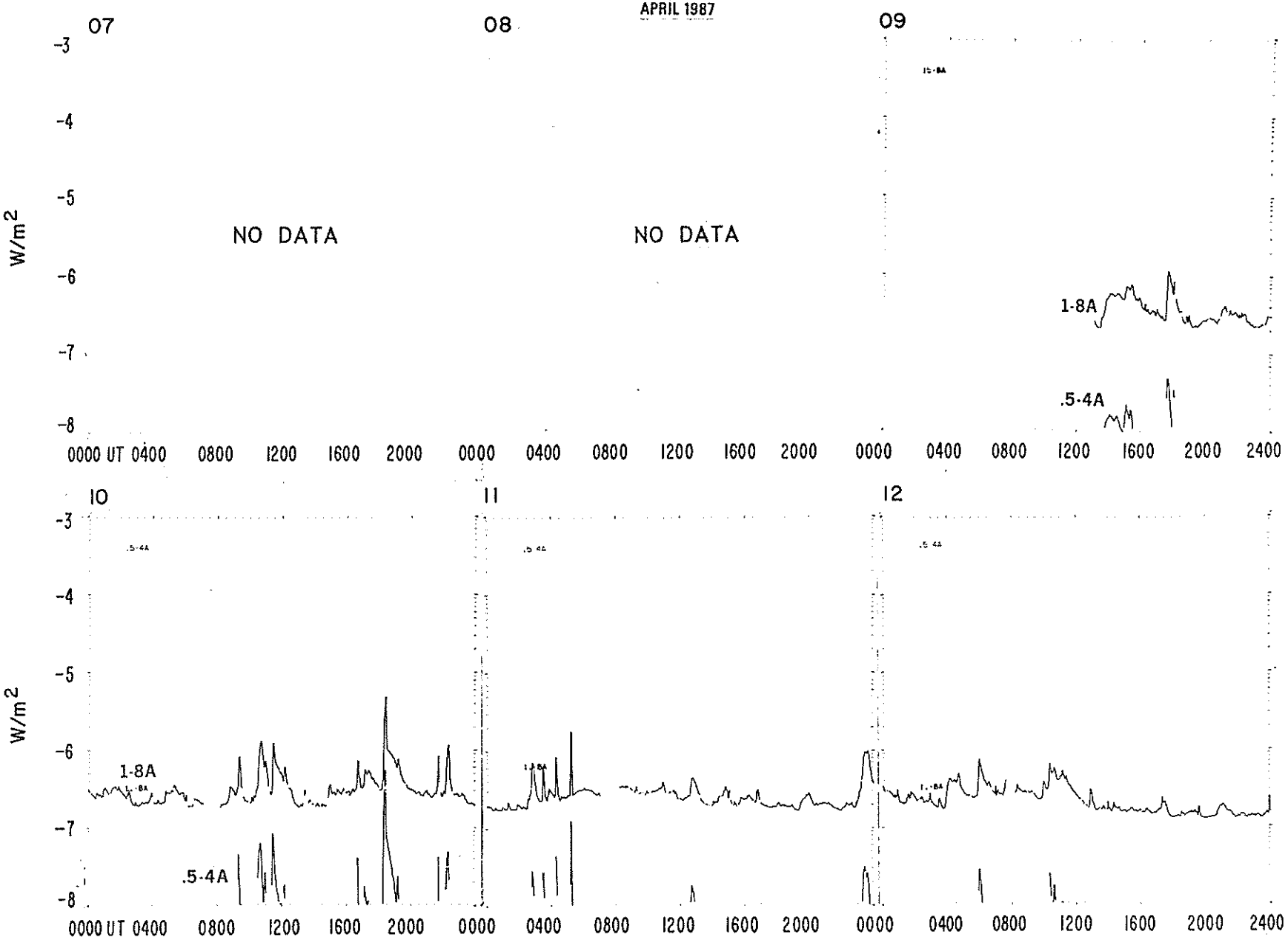
APRIL 1987

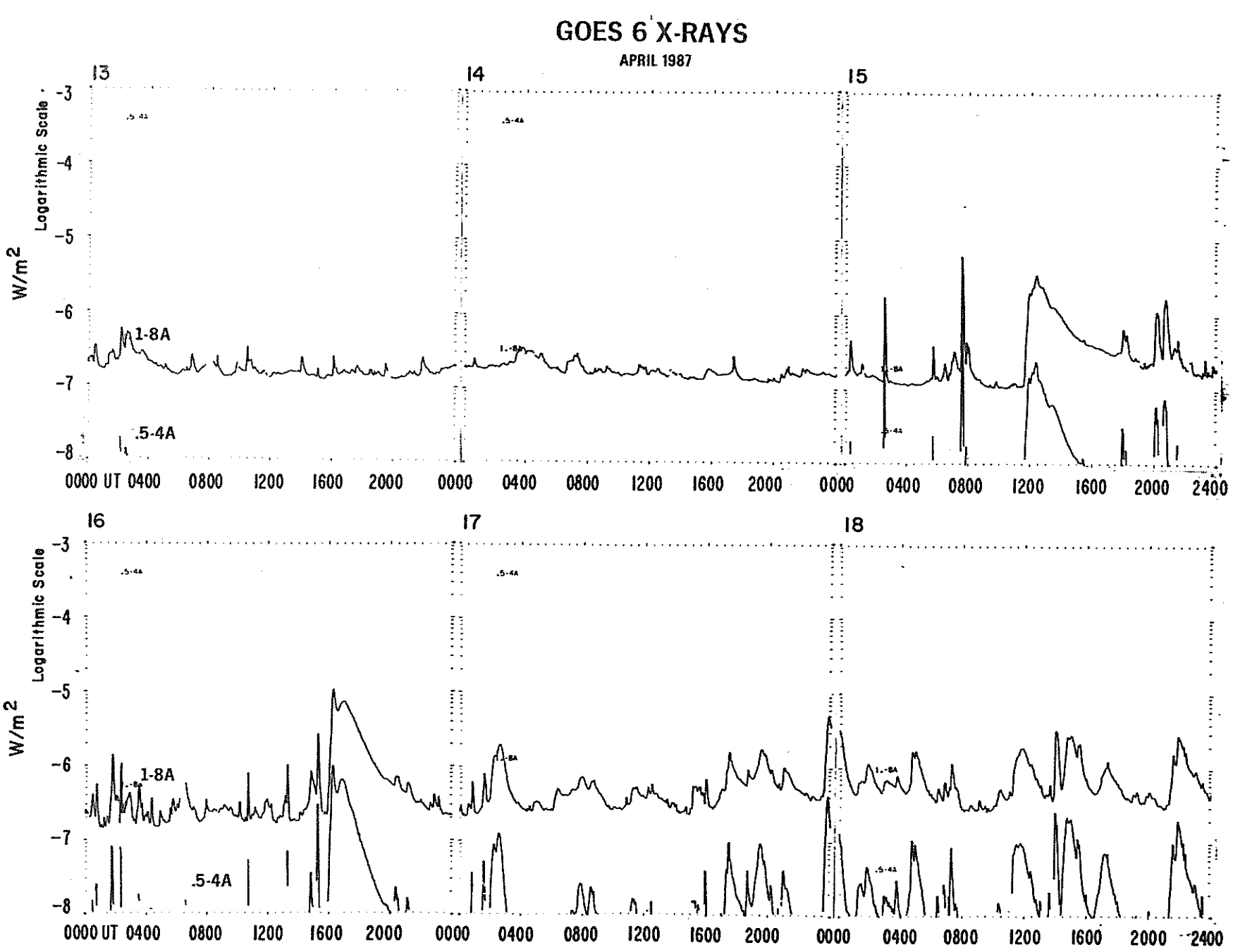


31 Apr 87

GOES 6 X-RAYS

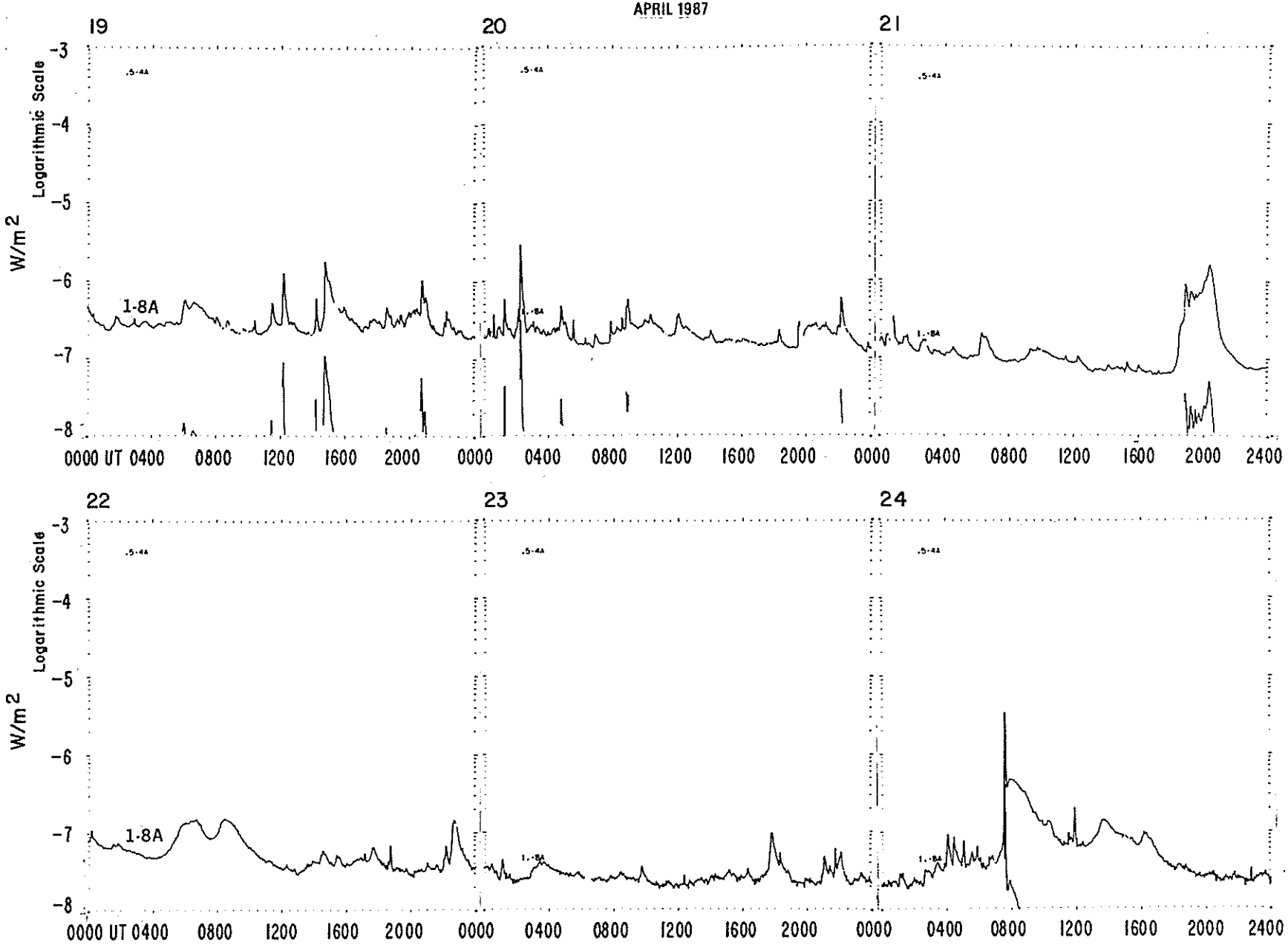
APRIL 1987




GOES 6 X-RAYS
APRIL 1987
13
14
15
16
17
18
Logarithmic Scale
W/m2
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400

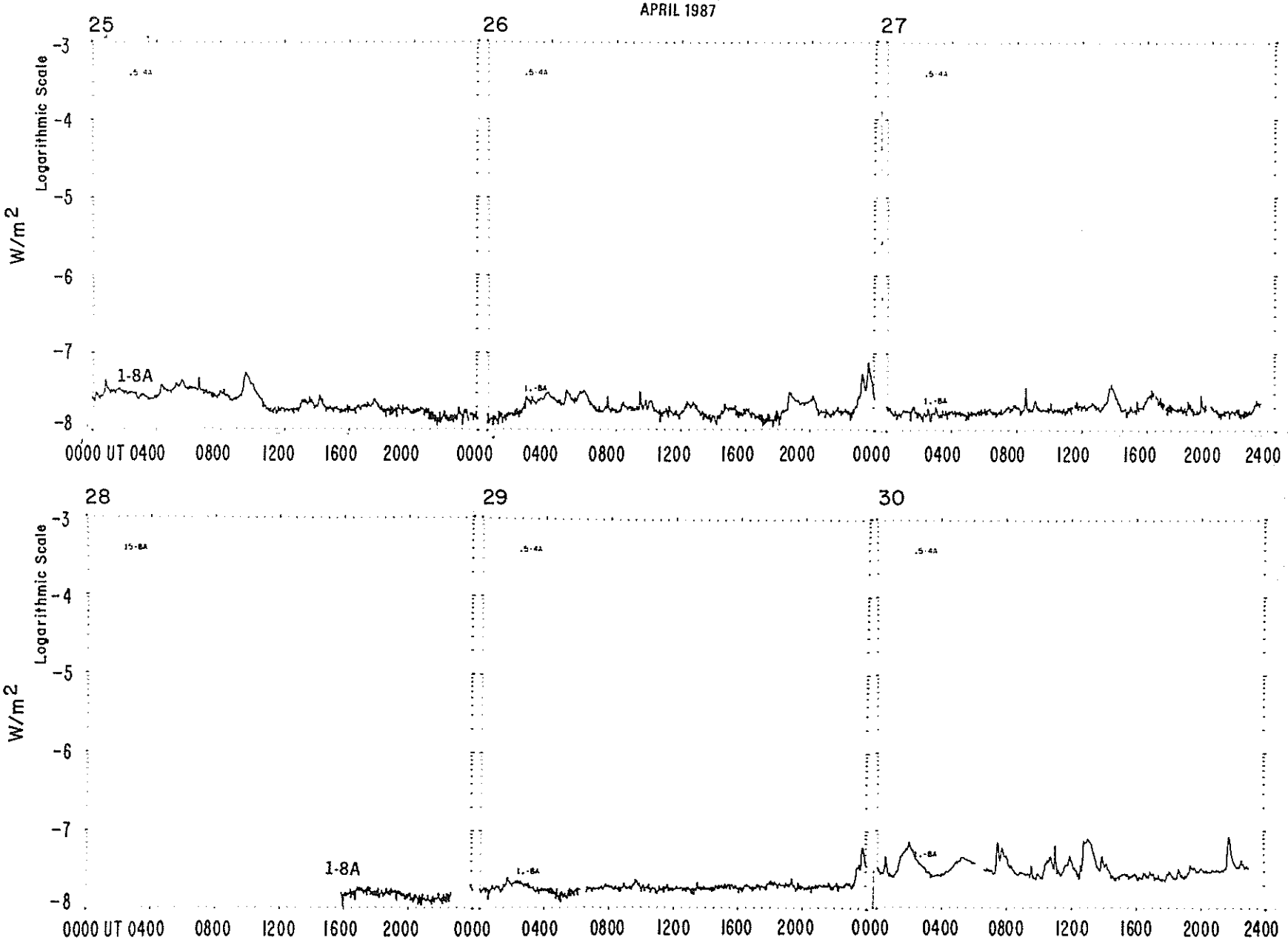
GOES 6 X-RAYS

APRIL 1987



GOES 6 X-RAYS

APRIL 1987



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

Preliminary Listing

April 1987

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	Imp Opt	Xray
04	1922	1924	1929	S22	E60	4786	SF	B4.0
04	2215	2222	2228					B1.3
05	0004	0012	0018	S22	E59	4786	SF	C1.0
05	0238	0251	0257					C1.1
05	1116	1120	1123					B1.1
05	1129	1133	1136					B1.2
05	1225	1229	1238	S22	E54	4786	SN	B1.6
05	1931	1939	1944	S29	E90	4787	SN	M1.1
05	2257	2301	2306					B1.8
06	0429	0431	0436	S28	E86	4787	SN	C9.2
06	0540	0546	0553					B4.3
06	0923	0923	0931	S23	E41	4786	SF	B5.2
06	1057	1115	1122			4787		C1.2
06	1349	1354	1359	S31	E82	4787	SF	B6.8
06	1442	1447	1456	S29	E79	4787	SF	B5.0
06	1732	1733	1741	S23	E36	4786	SF	B6.2
06	2247	2301	2353	S31	E82	4787	1N	C1.1
07	0057	0100	0102					B4.8
07	0941	0947	0953					B4.6
07	1341	1341	1348	S31	E72	4787	SF	B3.5
07	1823	1844	1932	S35	E66	4787	1N	C1.3
07	2039	2043	2055	S29	E65	4787	1B	C2.0
08	0550	0603	0622					B6.0
08	0832	0847	0951					B3.6
08	1144	1147	1156	S27	E11	4786	SN	B8.9
08	1528	1536	1539					B7.9
08	1716	1734	1748	S08	E73	4789	SF	B7.2
08	1832	1854	1904	S33	E58	4787	SF	B4.4
08	2113	2123	2146	S23	E10	4786	SB	C1.2
08	2215	2216	2226	S33	E53	4790	SF	B5.3
09	0143	0146	0154	S06	E63	4789	SF	B8.0
09	0232	0239	0253	S08	E66	4789	SF	C1.0
09	0423	0423	0437	S32	E47	4787	SF	B3.5
09	0637	0638	0707	S06	E62	4789	1N	C2.6
09	0837	0838	0857	S06	E59	4789	SF	B6.8
09	0922	0930	0942					C1.0
09	1820	1827	1837			4786		B9.8
10	0916	0918	0932	S32	E32	4787	SN	B8.7
10	1029	1041	1049			4787		C1.3
10	1124	1126	1227	S24	W09	4786	SB	C1.2
10	1206	1210	1213			4786		B6.1
10	1452	1455	1518	S32	E32	4787	SF	B3.2
10	1625	1641	1708	S32	E31	4789	SB	B7.8
10	1715E	1720	1732	S32	E31	4787	SN	B5.7
10	1819	1824	1850	S23	W17	4786	1B	C5.5
10	2138	2142	2144					B9.1
10	2152	2215	2225	S24	W16	4786	SN	C1.1
11	0245	0246	0257	S06	E36	4789	SF	B7.1
11	0326	0331	0335					B6.3
11	0416	0420	0424	S25	W20	4786	SN	B9.7
11	0512	0512	0520	S25	W20	4786	SB	C2.1
11	2320	2328	2341	S06	E25	4789	SF	B9.9
12	0552	0559	0610					B7.6
12	0955	0959	1005					B3.4
12	1017	1017	1036	S33	E11	4787	SN	B6.5
12	1251	1251	1303	S07	E14	4789	SF	B3.0
12	1717	1720	1725					B2.1
12	2354	2354	2357	S34	W04	4787	SF	B2.4
13	0024	0031	0035					B3.4
13	0208	0208	0217	S34	W05	4787	SF	B5.8
13	1024	1027	1029					B3.5
13	1357	1400	1406					B2.4
13	1602	1605	1609					B2.5
14	1718	1722	1726					B2.7
15	0014	0019	0044	S33	W21	4790	SN	B4.8
15	0232	0232	0244	S32	W26	4790	SN	C1.8
15	0542	0542	0551	S33	W26	4790	SF	B4.5
15	0625	0629	0634					B2.0
15	0736E	0736	0750	S31	W29	4787	1B	C6.6
15	1136	1154	1332	S34	W35	4787	1B	C3.5
15	1751	1810	1826	S33	W34	4790	SN	B7.0
15	1957	2004	2025	S32	W40	4787	SN	C1.1
15	2032	2041	2129	S32	W41	4787	1B	C1.7
15	2314	2316	2320	N25	E21	4791	SF	B2.7
15	2341	2344	2350					B2.3
16	0025	0030	0033					B4.2
16	0042	0045	0049					B5.7
16	0136	0150	0152					C1.9
16	0218	0221	0223					C1.3
16	0226	0229	0231					B3.1
16	0322	0333	0337					B5.4
16	0416	0422	0425					B3.6
16	0451	0454	0501					B2.4
16	0532	0536	0539					B2.7
16	0540	0546	0551					B3.6
16	0608	0613	0619					B4.3
16	0754	0757	0800					B3.5
16	1000	1008	1020	S31	W50	4790	SN	B3.5
16	1035	1040	1058	S32	W43	4790	SN	B8.1
16	1156	1212	1225	S33	W43	4790	SF	B3.5
16	1315	1317	1328	S31	W43	4790	SN	C1.0
16	1445	1448	1522	S32	W47	4787	SN	B8.4
16	1511	1515	1534	S32	W44	4790	SN	C3.0
16	1544	1616	1804	S32	W43	4790	1B	M1.0
16	2246	2250	2254			4789		B4.1
16	2304	2307	2310					B3.9
17	0048	0048	0059	S33	W49	4790	SF	B6.6
17	0133	0134	0142	S33	W50	4790	SF	B8.2
17	0200	0237	0253					C1.9
17	1504	1536	1546			4787		B5.7
17	1721	1724	1737	S30	W16	4787	SN	C1.6
17	1837	1838	1841	S30	W62	4787	SN	B9.7
17	1923	1928	1950	S31	W66	4787	SF	C1.1
17	2336	2349	0039	S32	W55	4787	1N	C5.2
18	0140	0150	0210					C1.0
18	0438	0457	0511					C1.7
18	0645	0653	0657					B6.8
18	0713	0717	0724					C1.2
18	1143	1149	1216	S10	W62	4789	SF	C1.9
18	1335	1339	1342					B6.3
18	1357	1359	1422	S32	W70	4790	SB	C3.5
18	1437	1459	1512			4790		C2.8
18	1700	1720	1730					C1.0
18	2130	2135	2140					C1.6
18	2147	2154	2209					C2.8
19	1123	1128	1133					B5.3
19	1205	1208	1227	S32	W81	4790	SN	C1.3
19	1407	1411	1414					B6.1

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

Preliminary Listing

April 1987

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	Imp	Xray
19	1437	1443	1453					C1.8
19	1829	1834	1841					B4.6
19	2037	2044	2048					C1.0
19	2203	2214	2216					B4.4
20	0035	0038	0040					B3.7
20	0113	0118	0122					B6.5
20	0205	0211	0213					B4.7
20	0214	0218	0222					C3.2
20	0444	0448	0453					B4.8
20	0528	0533	0535					B3.4
20	0649	0653	0704					B1.9
20	0747	0751	0754					B3.1
20	0831	0834	0836					B3.4
20	0847	0856	0859					B6.0
20	1815	1819	1824					B2.0
20	1932	1935	1946	S31	W90		1B	B2.8
20	2205	2210	2215					B6.0
21	0047	0051	0055					B3.4
21	1824	2020	2050			4797		C1.4
22	0011	0014	0017					B1.2
22	2235	2242	2244	N02	E63	4797	SF	B1.4
24	0734	0736	0744	N26	W51	4798	SN	C3.7
24	1129	1132	1134					B1.1
24	1149	1154	1157					B2.1

Preliminary GOES Satellite Data
Daily Average X-ray Background

May 1986 - April 1987

Day	1986 May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1987 Jan	Feb	Mar	Apr
1	B0.5	B0.2	§B0.1	§B0.1	§B0.1	§A1.0	B2.7	§A1.0	§A1.3	§A1.0	§A1.0	A1.1
2	B1.0	§B0.1	§B0.1	§B0.1	§B0.1	§A1.0	A9.0	§A1.0	§A1.0	§A1.0	§A1.0	§A1.0
3	B1.4	§B0.1	§B0.1	B0.3	§B0.1	§A1.0	A5.1	§A1.0	§A1.0	§A1.0	§A1.0	§A1.0
4	B0.5	§B0.1	§B0.1	B0.2	§B0.1	§A1.0	A8.6	§A1.0	§A1.0	§A1.0	§A1.0	A2.2
5	B0.2	§B0.1	B0.2	§B0.1	§B0.1	§A1.0	A6.1	§A1.0	§A1.0	§A1.0	§A1.0	A2.3
6	§B0.1	§B0.1	B0.4	§B0.1	§B0.1	A1.5	A7.0	§A1.0	§A1.0	§A1.0	A2.6	B2.7
7	§B0.1	§B0.1	B0.6	§B0.1	§B0.1	A2.2	A3.6	§A1.0	§A1.0	§A1.0	A4.1	---
8	§B0.1	§B0.1	§B0.1	B0.4	§B0.1	A2.0	A2.5	§A1.0	§A1.0	§A1.0	A5.2	---
9	§B0.1	§B0.1	B0.2	B0.4	§B0.1	A2.4	A2.1	A1.6	§A1.0	§A1.0	A3.1	---
10	§B0.1	§B0.1	B0.9	§B0.1	§B0.1	A2.2	§A1.0	A1.6	§A1.0	§A1.0	A1.9	B2.2
11	§B0.1	§B0.1	B0.5	§B0.1	§B0.1	A1.8	§A1.0	§A1.0	§A1.0	§A1.0	A2.2	B1.9
12	§B0.1	§B0.1	B0.4	§B0.1	§B0.1	A4.3	A2.3	§A1.0	§A1.0	§A1.0	A3.0	B1.6
13	§B0.1	§B0.1	B0.7	§B0.1	§B0.1	B1.6	A6.2	§A1.0	§A1.0	§A1.0	A2.6	B1.4
14	§B0.1	§B0.1	B1.0	§B0.1	§B0.1	B2.5	A4.0	§A1.0	§A1.0	§A1.0	A5.3	B1.4
15	§B0.1	§B0.1	B0.5	§B0.1	B0.3	B1.5	A4.1	§A1.0	§A1.0	§A1.0	A1.9	B1.2
16	B0.2	§B0.1	B0.3	§B0.1	B0.5	B4.0	A3.9	§A1.0	§A1.0	§A1.0	§A1.0	B2.2
17	B0.3	§B0.1	B0.3	§B0.1	§B0.1	B3.7	A3.2	§A1.0	§A1.0	§A1.0	§A1.0	B2.6
18	B0.8	§B0.1	B0.3	§B0.1	§B0.1	B2.5	A3.4	§A1.0	§A1.0	§A1.0	§A1.0	B2.9
19	B0.6	§B0.1	B0.2	§B0.1	§B0.1	B3.8	A3.0	§A1.0	§A1.0	§A1.0	A1.0	B2.2
20	B0.6	§B0.1	B0.2	§B0.1	§B0.1	B2.2	A3.3	§A1.0	§A1.0	§A1.0	A1.3	B1.5
21	B0.6	§B0.1	B0.1	§B0.1	§B0.1	B1.5	A2.1	§A1.0	§A1.0	§A1.0	A1.5	A7.2
22	B0.5	§B0.1	B0.1	§B0.1	§A1.0	B1.6	A2.3	§A1.0	A2.5	§A1.0	A1.4	A3.5
23	B0.4	§B0.1	B0.1	§B0.1	§A1.0	B2.1	A2.1	§A1.0	A1.3	§A1.0	A1.7	A2.1
24	B0.5	§B0.1	B0.1	§B0.1	§A1.0	B2.1	A4.4	§A1.0	§A1.0	A1.7	A5.3	A2.2
25	B0.8	§B0.1	B0.2	§B0.1	§A1.0	B1.7	A2.9	§A1.0	§A1.0	A2.3	A4.2	A1.8
26	B0.5	§B0.1	B0.2	§B0.1	§A1.0	B1.9	A1.3	§A1.0	A1.7	A2.3	A3.8	A1.4
27	B0.3	§B0.1	B0.1	§B0.1	§A1.0	B1.9	A1.2	§A1.0	§A1.0	A1.5	A3.2	A1.7
28	B0.3	§B0.1	B0.2	§B0.1	§A1.0	B1.8	§A1.0	§A1.0	§A1.0	§A1.0	A2.2	A1.7
29	B0.2	§B0.1	B0.3	§B0.1	§A1.0	B1.6	§A1.0	§A1.0	§A1.0		A1.2	A1.7
30	B0.2	B0.7	§B0.1	§B0.1	§A1.0	B1.8	§A1.0	§A1.0	§A1.0		A1.2	A2.6
31	B0.2		§B0.1	§B0.1		B2.1		§A1.0	§A1.0		§A1.0	

§ = less than

MASS EJECTIONS FROM THE SUN

APRIL 1987

Sta	Day	Observed UT LStart	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
LEAR	Apr 06	0427.0		0437.0			Meter	II
PALE	Apr 07	2045.0		2106.0			Meter	II
CULG	Apr 07	2046.0		2058.0			Meter	II
LEAR	Apr 15	0150.0		0230.0			Meter	IV
CULG	Apr 19	0500.0		0508.0			Meter	II
LEAR	Apr 19	0502.0		0508.0			Meter	IV

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

REPORTING STATIONS
- CULG = Culgoora
- LEAR = Learmonth
- PALE = Palehua

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

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

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	1130E	1833D	N05	W07	03	31.9	1	07	9	9	E	RAMY	4783	
01	DSD	1238E	1408D	N07	W08	03	31.9	2	05	7	7	E	RAMY	4783	
02	ADF	1323E	1810D	N01	W23	03	31.8	1	03	6	7	E	RAMY	4783	
02	ADF	1323E	2031D	N06	W23	03	31.8	1	06	7	8	E	RAMY	4783	
02	AFS	1548E	2031D	N07	W25	03	31.8		02	9	9	E	RAMY	4783	
02	ADF	1550E	1608D	N06	W22	04	1.0	2	05	9	9	E	HOLL	4783	
02	AFS	1608E	2101D	N07	W24	03	31.9		02	9	9	E	HOLL	4783	
02	AFS	1822E	2059D	N07	W26	03	31.8		01	9	9	E	PALE	4783	
02	SDF	1957E	2359D	N44	E23	04	4.7		13	0	0	E	HOLL		
03	ADF	0325E	0333D	N08	W29	04	1.0	1	03	9	9	E	PALE	4783	
03	SDF	0912E	0051	N40	E13	04	4.4		34	0	0	E	LEAR		
03	DSD	1229E	1430D	N06	W36	03	31.8	2	02	9	9	E	RAMY	4783	
03	SDF	1335E	1342D	N37	W06	04	3.1		08	0	0	E	HOLL		
03	SDF	1406E	1148D	N38	E10	04	4.4		13	0	0	E	RAMY		
03	SDF	1833E	0041D	N40	E10	04	4.6		18	0	0	E	PALE		
04	APR	0006E	0934D	S42	W90	03	27.7	2		8	9	E	LEAR		
04	ADF	0009E	0934D	N36	W48	03	31.1	2	19	7	6	E	LEAR		
04	AFS	0015E	0526D	N06	W42	03	31.9		02	9	9	E	LEAR	4783	
04	ADF	0015E	0934D	N06	W39	04	1.1	2	05	9	9	E	LEAR	4783	
04	ADF	0222E	0431D	N07	W43	03	31.9		02	9	9	E	PALE	4783	
04	AFS	0242E	0244D	N08	W45	03	31.7	1	01	9	9	E	PALE	4783	
04	SDF	0347E	2018D	N44	W28	04	1.8		17	0	0	E	PALE		
04	BSL	0820E	0828D	S28	E90	04	11.4	1				V	KHAR		
04	SDF	0934E	2303D	N41	W41	04	1.0		21	0	0	E	LEAR		
04	DSD	1139E	1430D	S22	E64	04	9.4	2	02	9	9	E	RAMY	4786	
04	ADF	1212E	2010D	N05	W46	04	1.1	2	04	8	7	E	RAMY	4783	
04	AFS	1212E	2010D	S22	E65	04	9.5		02	9	9	E	RAMY	4786	
04	SDF	1327E	1337D	N41	W21	04	2.8		09	0	0	E	RAMY		
04	AFS	1353E	2010D	N07	W49	03	31.9		02	8	9	E	RAMY	4783	
04	AFS	1425E	2250D	N07	W50	03	31.8		02	9	9	E	HOLL	4783	
04	ADF	1742E	0403D	N07	W51	03	31.9	1	04	9	9	E	PALE	4783	
04	AFS	2210E	0403D	S22	E61	04	9.6	1	02	9	9	E	PALE	4786	
04	ADF	2306E	0948D	N05	W52	04	1.1	1	05	9	9	E	LEAR	4783	
04	AFS	2306E	0948D	S22	E60	04	9.6		02	9	9	E	LEAR	4786	
05	ASR	0238	0948D	S31	E90	04	12.2			9	9	E	LEAR		
05	ASR	0254E	0403D	S33	E90	04	12.3			9	9	E	PALE		
05	SDF	0354E	1719D	N05	W53	04	1.2		04	0	0	E	PALE	4783	
05	DSD	0710E	0735D	S22	E54	04	9.4		03	9	9	E	LEAR	4786	
05	BSL	0744E	0808	S30	E90	04	12.4	1				V	KHAR		
05	BSL	0744E	0812D	S26	E90	04	12.3	1				V	KHAR		
05	ASF	0744E	1100D	S23	E60	04	9.9	1				V	KHAR		
05	BSL	0815E	0830	S25	E90	04	12.3	1				V	KHAR		
05	ADF	0822E	0835	N04	W62	03	31.7	1				V	KHAR		
05	BSL	0830	0855	S26	E90	04	12.3	1				V	KHAR		
05	BSL	0910	0924D	S30	E90	04	12.5	1				V	KHAR		
05	BSL	0932E	0953D	S30	E90	04	12.5	1				V	KHAR		
05	SDF	0934E	2303D	N33	W51	04	1.3		21	0	0	E	LEAR		
05	SDF	0934E	2303D	N41	W41	04	2.0		21	0	0	E	LEAR		
05	BSL	1009	1025	S30	E90	04	12.5	1				V	KHAR		
05	ASR	1118E	1429D	S28	E90	04	12.5			9	9	E	SVTO		
05	AFS	1128E	1429D	S23	E53	04	9.6		02	9	9	E	SVTO	4786	
05	ADF	1145E	2222D	N03	W60	04	1.0	1	06	7	9	E	RAMY	4783	
05	AFS	1145E	2222D	S21	E53	04	9.5		02	9	9	E	RAMY	4786	
05	AFS	1145E	2222D	S21	E53	04	9.5		02	9	9	E	RAMY	4786	
05	ADF	1634E	0041D	N06	W49	04	2.0	1	04	9	9	E	HOLL	4783	
05	AFS	1710E	0422D	S23	E50	04	9.6	1	02	9	9	E	PALE	4786	
05	DSD	1710E	1848D	S22	E52	04	9.7		03	9	9	E	PALE	4786	
05	ASR	1730E	0422D	S33	E90	04	12.9			9	9	E	PALE		
05	AFS	1909E	0045D	S23	E48	04	9.5		02	9	9	E	HOLL	4786	
05	ASR	1910E	0045D	S34	E89	04	12.9			9	9	E	HOLL	4787	
05	AFS	2319E	0932D	S22	E47	04	9.6		02	9	9	E	LEAR	4786	
05	ASR	2319E	0932D	S33	E90	04	13.1			9	9	E	LEAR	4787	
06	ASR	0211E	0932D	S25	E90	04	13.1			9	9	E	LEAR	4787	
06	BSL	0429	0826D	S26	E90	04	13.2	1				C	ABST		
06	BSL	0429E	0844D	S15	E90	04	13.0	1				C	ABST		
06	DSD	0511E	0932D	S22	E44	04	9.6		03	9	9	E	LEAR	4786	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

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	ADF	0915E	1247D	S26	E39	04	9.4	2	07	9	9	E	SVTO	4786	
06	ADF	0915E	1247D	S26	E39	04	9.4	2	07	9	9	E	SVTO	4786	
06	ASR	1119E	1628D	S32	E83	04	13.0			9	9	E	SVTO	4787	
06	AFS	1121E	2142D	S21	E41	04	9.6		02	9	7	E	RAMY	4786	
06	AFS	1121E	2142D	S22	E37	04	9.3		02	8	7	E	RAMY	4786	
06	ASR	1121E	2142D	S31	E85	04	13.2	2		8	9	E	RAMY	4787	
06	SDF	1130E	1247D	S25	E37	04	9.3	3	07	8	6	E	SVTO	4786	
06	ASR	1337E	1552D	S31	E83	04	13.1			9	9	E	HOLL	4787	
06	AFS	1425E	0049D	S21	E37	04	9.4		02	9	9	E	HOLL	4786	
06	ADF	1450E	1628D	S27	E35	04	9.3	2	06	9	9	E	SVTO	4786	
06	AFS	1704E	0338D	S23	E36	04	9.5		02	9	9	E	PALE	4786	
06	DSD	1704E	2122	S23	E40	04	9.8		04	9	9	E	PALE	4786	
06	DSD	1743E	1915D	S24	E42	04	10.0	1	09	9	9	E	RAMY	4786	
06	DSD	1800E	2122	S25	E40	04	9.8		02	9	9	E	PALE	4786	
06	ADF	1915E	2142D	S27	E35	04	9.5	1	08	6	8	E	RAMY	4786	
06	ASR	1930E	0338D	S07	E90	04	13.5			9	9	E	PALE		
06	ASR	2010E	2142D	S06	E82	04	13.0	2		8	7	E	RAMY		
06	ASR	2222E	0049D	S07	E90	04	13.7			9	9	E	HOLL		
06	DSD	2223E	2321D	S31	E78	04	13.1		02	9	9	E	HOLL	4787	
06	DSD	2236E	2318D	S25	E38	04	9.9		03	9	9	E	HOLL	4786	
06	ASR	2238E	0049D	S30	E90	04	14.0			9	9	E	HOLL	4787	
06	AFS	2348E	0049D	S33	E75	04	12.9		02	9	9	E	HOLL	4787	
07	AFS	0000E	0936D	S22	E32	04	9.4		03	9	6	E	LEAR	4786	
07	APR	0100E	0936D	S07	E90	04	13.8	2		9	7	E	LEAR		
07	DSD	0159E	0325D	S24	E39	04	10.1		05	9	9	E	PALE	4786	
07	AFS	0340E	0936D	S25	E04	04	7.5		02	5	3	E	LEAR		
07	DSD	0531E	0936D	S22	E25	04	9.1		06	9	9	E	LEAR	4786	
07	DSD	0532E	0936D	S20	E26	04	9.2		04	9	9	E	LEAR	4786	
07	AFS	0534E	0936D	S33	E71	04	12.9		04	9	9	E	LEAR	4787	
07	ADF	0721	0721D	S34	E70	04	12.9	1	02	9	9	E	SVTO	4787	
07	ASR	0733E	1636D	S05	E90	04	14.0			8	8	E	SVTO		
07	ASR	0758E	1636D	S25	E01	04	7.4			9	9	E	SVI		
07	DSD	1016E	1636D	S23	E32	04	9.9		03	9	9	E	SVTO	4786	
07	AFS	1053E	1741D	S24	E00	04	7.4		02	9	9	E	RAMY		
07	AFS	1053E	1747D	S21	E27	04	9.5		02	8	9	E	RAMY	4786	
07	ADF	1053E	1747D	S26	E26	04	9.5	2	05	7	9	E	RAMY	4786	
07	ASR	1335E	1747D	S04	E83	04	13.8	2		9	9	E	RAMY		
07	ADF	1335E	1747D	S33	E66	04	12.8	2	04	9	9	E	RAMY	4787	
07	ASR	1412E	1906D	S04	E90	04	14.3			9	9	E	HOLL	4789	
07	ADF	1425E	1638D	S29	E68	04	12.9		04	9	9	E	HOLL	4787	
07	ASR	1507	1904D	N04	W90	03	31.9			7	8	E	HOLL	4783	
07	AFS	1509E	0110D	S22	E26	04	9.6		03	7	9	E	HOLL	4786	
07	DSD	1522	1550D	S27	E72	04	13.2		04	9	9	E	HOLL	4787	
07	DSD	1550	1805D	S30	E69	04	13.1		02	9	9	E	HOLL	4787	
07	DSD	1618E	1747D	S29	E64	04	12.7	2	02	9	9	E	RAMY	4787	
07	AFS	1725E	0237D	S33	E65	04	12.9		02	9	9	E	PALE	4787	
07	AFS	1739E	0237D	S21	W09	04	7.0		01	9	9	E	PALE		
07	ASR	1753E	0237D	S07	E90	04	14.5			9	9	E	PALE		
07	AFS	1900E	0110D	S34	E63	04	12.8		03	9	9	E	HOLL	4787	
08	DSD	0745E	0800D	S27	E15	04	9.5	1				V	KHAR		
08	ADF	0745E	1615D	S25	E13	04	9.3	2	07	9	9	E	SVTO	4786	
08	ADF	0800E	1615D	S39	E14	04	9.5	2	05	9	9	E	SVTO	4786	
08	DSD	0820E	0827	S26	W10	04	7.6	1				V	KHAR		
08	DSD	0845	0900	S04	E80	04	14.3	1				V	KHAR		
08	ADF	0850E	1615D	S08	E72	04	13.8	2	04	9	9	E	SVTO	4789	
08	DSD	1012E	1032D	S26	E61	04	13.2	1				V	KHAR		
08	AFS	1229E	1615D	S23	E13	04	9.5		02	9	9	E	SVTO	4786	
08	AFS	1300E	1548D	S23	E15	04	9.7		02	8	8	E	RAMY	4786	
08	ADF	1300E	2115D	S25	E13	04	9.5	1	03	9	9	E	RAMY	4786	
08	ADF	1342E	1703D	S10	E75	04	14.2		04	9	9	E	HOLL	4789	
08	DSD	1427E	1434	S26	W14	04	7.5		02	9	9	E	HOLL	4738	
08	DSD	1518E	1703D	S26	E17	04	9.9		03	9	9	E	HOLL	4786	
08	DSD	1518E	1745D	S24	E16	04	9.9		02	9	9	E	HOLL	4786	
08	ADF	1548E	2115D	N10	E75	04	14.3	1	04	9	9	E	RAMY	4789	
08	DSD	1548E	2115D	S26	E17	04	10.0	2	04	9	9	E	RAMY	4786	
08	DSD	1740E	1821D	S09	E73	04	14.2		04	9	9	E	HOLL	4789	
08	DSD	1811E	1910D	S26	W16	04	7.5		03	9	9	E	HOLL	4788	
08	DSD	1813E	2110D	S29	E54	04	13.0		02	9	9	E	HOLL	4787	
08	AFS	2110E	2215D	S23	E08	04	9.5		03	8	7	E	HOLL	4786	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

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	ADF	2220E	2325D	S07	E71	04	14.2	2	07	9	9	E	HOLL	4789	
08	DSD	2304	0100D	S06	E62	04	13.6		05	7	9	E	HOLL	4789	
09	ADF	0050E	0056D	S34	E61	04	13.9	1	04	6	7	E	PALE	4787	
09	ADF	0200E	0914D	S33	E60	04	13.8	2	06	8	9	E	LEAR	4787	
09	APR	0201E	0813D	S35	E90	04	16.3	2		7	5	E	LEAR		
09	BSL	0721E	0905D	S06	E90	04	16.0	1				C	ABST		
09	DSD	1227E	2128D	S22	W06	04	9.0	2	04	8	8	E	RAMY	4786	
09	AFS	1259E	1850D	S31	E45	04	13.1		02	9	9	E	RAMY	4787	
09	ADF	1412E	2128D	S10	E62	04	14.2	2	03	8	9	E	RAMY	4789	
09	ADF	1412E	2128D	S36	E47	04	13.4	1	03	8	8	E	RAMY	4787	
09	ADF	1424E	2128D	S29	E51	04	13.6	2	04	8	8	E	RAMY	4790	
09	ADF	1440E	1455D	S11	E60	04	14.1	1	03	8	9	E	SVTO	4789	
09	ADF	1440E	1455D	S38	E46	04	13.3	1	03	8	8	E	SVTO	4787	
09	ADF	1443E	2128D	S36	E47	04	13.4	2	03	9	9	E	RAMY	4787	
09	DSD	1622E	1818D	S27	E42	04	12.9	2	05	8	9	E	RAMY	4790	Flare Associated
09	AFS	1712E	0435D	S32	E44	04	13.2		01	8	9	E	PALE	4787	
09	DSD	1815E	1848D	S27	E03	04	10.0	2	04	8	9	E	RAMY	4786	Flare Associated
09	AFS	1845E	1830D	S22	E03	04	10.0		03	9	9	E	RAMY	4786	
09	AFS	1925E	0105D	S32	E41	04	13.0		01	8	8	E	HOLL	4787	
10	ADF	0052E	0320D	S22	W10	04	9.3	1	04	9	9	E	PALE	4786	
10	DSD	0120E	0516D	S33	E37	04	13.0		01	9	9	E	LEAR	4787	
10	DSD	0120E	0801D	S29	E37	04	12.9		01	9	9	E	LEAR	4790	
10	ADF	0120E	0934D	S30	E44	04	13.5	2	03	8	9	E	LEAR	4790	
10	ADF	0145E	0934D	S25	W10	04	9.3	2	05	8	9	E	LEAR	4786	
10	ADF	0146E	0934D	S24	W10	04	9.3	2	04	9	9	E	LEAR	4786	
10	ADF	0335E	0934D	S12	E54	04	14.2	2	12	8	9	E	LEAR	4789	
10	DSD	0713E	0934D	S05	E48	04	13.9		06	9	8	E	LEAR	4789	
10	ADF	0805E	1658D	S07	E48	04	13.9	1	05	9	9	E	SVTO	4789	
10	ADF	0805E	1658D	S32	E44	04	13.8	1	03	8	9	E	SVTO	4787	
10	AFS	0819E	0934D	S07	E48	04	13.9		03	9	9	E	LEAR	4789	
10	DSD	0855E	1224D	S09	E43	04	13.6		03	9	9	E	SVTO	4789	
10	ADF	0855E	1658D	S04	E50	04	14.1	1	04	9	9	E	SVTO	4789	
10	ADF	0915E	1030D	S28	W06	04	9.9	1	06	9	9	E	SVTO	4786	
10	SDF	1030E	1045D	S28	W06	04	10.0		06	0	0	E	SVTO	4786	
10	DSD	1050E	1100D	S34	E37	04	13.4	1				V	KHAR		
10	ADF	1148E	2013D	S23	W13	04	9.5	1	04	9	9	E	RAMY	4786	
10	ADF	1255E	2013D	S01	E52	04	14.4	2	03	9	9	E	RAMY	4789	
10	ADF	1255E	2013D	S05	E45	04	13.9	1	04	9	9	E	RAMY	4789	
10	AFS	1255E	2013D	S23	W09	04	9.8		02	9	9	E	RAMY	4786	
10	AFS	1318E	2013D	S32	E32	04	13.1		02	9	9	E	RAMY	4787	
10	AFS	1400E	2205D	S32	E30	04	12.9		03	9	9	E	HOLL	4787	
10	ADF	1402E	1855D	S04	E47	04	14.1	1	05	9	9	E	HOLL	4789	
10	AFS	1455E	1658D	S33	E28	04	12.8		03	9	9	E	SVTO	4787	
10	ADF	1704E	0428D	S06	E43	04	13.9	1	07	9	9	E	PALE	4789	
10	AFS	1725E	0428D	S32	E28	04	12.9	1	02	9	9	E	PALE	4787	
10	AFS	1810E	0122D	S31	E30	04	13.1		03	9	9	E	HOLL	4787	
10	ADF	1815E	2334D	S10	E47	04	14.3		07	9	9	E	HOLL	4789	
10	DSD	2220	2230	S24	W17	04	9.6		02	9	9	E	HOLL	4786	
11	ADF	0110E	0915D	S03	E43	04	14.3	1	08	9	9	E	LEAR	4789	
11	AFS	0113E	0915D	N33	E23	04	12.9		03	8	8	E	LEAR	4787	
11	AFS	0229E	0334D	S25	W24	04	9.2		02	9	9	E	LEAR	4786	
11	ADF	0619E	0946D	S02	E40	04	14.2	2	25	9	9	E	SVTO	4789	
11	AFS	0645E	0915D	S06	E30	04	13.5		02	9	9	E	LEAR	4789	
11	ADF	1050E	1350D	S32	E24	04	13.3	2	05	9	9	E	SVTO	4790	
11	ADF	1050E	1350D	S37	E23	04	13.3	2	05	9	9	E	SVTO	4787	
11	ADF	1206E	1750D	S03	E35	04	14.1	1	09	9	9	E	RAMY	4789	
11	ADF	1206E	1750D	S04	E37	04	14.3	1	06	9	9	E	RAMY	4789	
11	ADF	1206E	1750D	S09	E36	04	14.2	1	09	7	7	E	RAMY	4789	
11	ADF	1206E	1750D	S23	W27	04	9.4	1	05	8	9	E	RAMY	4786	
11	AFS	1225E	1400D	S32	E32	04	14.0		02	9	9	E	RAMY	4790	
11	ASR	1305E	1705D	N24	E83	04	17.9			9	9	E	HOLL	4791	
11	ASR	1350E	1750D	N28	E86	04	18.3			5	7	E	RAMY		
11	DSD	1400E	1750D	S29	E32	04	14.1	2	03	9	9	E	RAMY	4790	
11	AFS	1405E	1600D	S31	E20	04	13.2		02	7	6	E	RAMY	4787	
11	ADF	1415E	0126D	S03	E32	04	14.0		05	9	9	E	HOLL	4789	
11	ASR	1420E	1546D	N27	E80	04	17.8	2		0	0	E	SVTO		
11	ADF	1444E	1546D	S34	E28	04	13.8	1	12	9	9	E	SVTO	4790	
11	AFS	1810E	0122D	S31	E30	04	14.1		03	9	9	E	HOLL	4787	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
12	ADF	0020E	0929D	S27	W34	04	9.4	1	05	9	8	E	LEAR	4786	
12	ADF	0021E	0929D	S34	E17	04	13.4	1	11	8	9	E	LEAR	4787	
12	ADF	0022E	0929D	S02	E30	04	14.2	1	16	8	8	E	LEAR	4789	
12	BSL	0801E	0824D	N40	E90	04	19.7	1				C	ABST		
12	BSL	0801E	0824D	S43	E90	04	19.7	1				C	ABST		
12	BSL	1015E	1045	S32	W90	04	5.3	1				V	KHAR		
12	ADF	1040	1050	S33	E12	04	13.4	1				V	KHAR		
12	ADF	2230E	2340D	S23	W44	04	9.5	1	05	9	9	E	HOLL	4786	
12	ADF	2330E	0912D	S12	E16	04	14.2	1	14	6	5	E	LEAR	4789	
13	ADF	0618E	1105D	S23	W46	04	9.7	2	07	9	9	E	SVTO	4786	
13	AFS	0731E	1105D	S24	W55	04	9.1		02	9	9	E	SVTO	4786	
13	AFS	0732E	0912D	S24	W54	04	9.1		02	9	9	E	LEAR	4786	
13	DSD	0745E	0912D	S34	W01	04	13.2		03	9	9	E	LEAR	4787	
13	DSD	1827E	1845	S36	W07	04	13.2		02	9	9	E	PALE	4787	
13	AFS	1928E	2244D	S24	W59	04	9.2		03	8	8	E	HOLL	4786	
13	DSD	2056E	2102D	S34	W12	04	12.9		02	9	9	E	PALE	4787	
14	ADF	0005E	0913D	S10	W02	04	13.8	1	14	5	4	E	LEAR	4789	
14	BSL	0908E	0924D	N33	E90	04	21.5	1				C	ABST		
14	ADF	1331E	1449D	S33	W24	04	12.6	1	05	9	9	E	SVTO	4787	
14	AFS	1405E	1449D	S06	W13	04	13.6	2	02	9	9	E	SVTO	4789	
14	AFS	1527E	1634D	S23	W73	04	9.0	2	02	9	9	E	SVTO	4786	
15	ADF	0355E	0920D	S08	W19	04	13.7	2	08	9	6	E	LEAR	4789	
15	AFS	0357E	0920D	S18	W05	04	14.8		02	9	9	E	LEAR		
15	BSL	0700E	0817D	S40	E90	04	22.6	1				C	ABST		
15	AFS	0748E	1608D	S18	W07	04	14.8	2	02	9	9	E	SVTO		
15	ADF	1322E	2115D	N15	E32	04	18.0	1	06	9	9	E	RAMY	4791	
15	ADF	1322E	2115D	N30	E26	04	17.6	1	04	9	9	E	RAMY	4791	
15	ADF	1322E	2115D	S02	W20	04	14.1	2	05	8	7	E	RAMY	4789	
15	AFS	1322E	2115D	S18	W10	04	14.8		02	8	8	E	RAMY		
15	ADF	1322E	2115D	S32	W28	04	13.3	2	05	9	9	E	RAMY	4787	
15	AFS	1400E	2153D	S17	W10	04	14.8		04	9	9	E	HOLL	4792	
15	DSD	1815E	2100D	S32	W37	04	12.8		04	9	9	E	HOLL	4787	
15	ADF	1843E	0024D	S33	W34	04	13.1	1	04	9	9	E	HOLL	4790	
15	ASR	2100	2112D	S25	W85	04	9.3			8	9	E	HOLL	4786	
16	BSL	0638E	0908D	N28	E90	04	23.3	1				C	ABST		
16	BSL	0716E	0908D	S34	E90	04	23.5	1				C	ABST		
16	ADF	1200E	1652D	S31	W42	04	13.2	1	04	9	9	E	SVTO	4790	
16	ADF	1305E	1651D	N28	E16	04	17.8	2	05	9	9	E	RAMY	4791	
16	AFS	1305E	1651D	S32	W49	04	12.7		02	9	9	E	RAMY	4787	
16	ADF	1347E	1651D	S32	W42	04	13.2	2	04	9	8	E	RAMY	4790	
16	ADF	1525E	1755D	N25	E08	04	17.3		07	9	9	E	HOLL	4791	
16	ADF	1845E	2150D	S02	W35	04	14.2	2	06	9	9	E	HOLL	4789	
16	AFS	2045E	2144D	S31	W54	04	12.6		01	9	9	E	HOLL	4787	
16	SDF	2150E	2315D	S02	W35	04	14.3		06	5	3	E	HOLL	4789	
17	AFS	0035E	0724D	N26	E06	04	17.5		02	9	9	E	LEAR	4791	
17	ADF	0035E	0724D	N34	E11	04	17.9	1	11	9	9	E	LEAR	4791	
17	ADF	0035E	0724D	S02	W41	04	14.0	1	12	8	9	E	LEAR	4789	
17	AFS	0615E	1646D	N27	W28	04	15.1		01	9	9	E	SVTO		
17	ASR	0615E	1646D	N30	E90	04	24.3			9	9	E	SVTO		
17	AFS	0615E	1646D	S33	W59	04	12.6		03	9	9	E	SVTO	4787	
17	AFS	0630E	0724D	N27	W28	04	15.1		02	3	3	E	LEAR		
17	ASR	0720E	0724D	N29	E90	04	24.4			5	6	E	LEAR		
17	ADF	1028E	1646D	S33	W56	04	13.0	1	04	9	9	E	SVTO	4787	
17	ADF	1041E	1342D	S09	W47	04	13.9	1	05	9	9	E	SVTO	4789	
17	AFS	1305E	1455D	S32	W62	04	12.6		04	9	9	E	RAMY	4787	
17	ADF	1305E	2009D	S33	W54	04	13.2	2	11	9	9	E	RAMY	4787	
17	ASR	1305E	2017D	N28	E78	04	23.6	1		9	9	E	RAMY		
17	ASR	1417E	1950D	N29	E81	04	23.9			9	9	E	HOLL		
17	ADF	1418E	1605D	S31	W65	04	12.5		04	9	9	E	HOLL	4787	
17	ADF	1458E	2145D	S29	W57	04	13.1	1	07	7	9	E	RAMY	4790	
17	AFS	1950E	0127D	N27	W35	04	15.1		02	9	9	E	HOLL	4793	
17	DSD	2101E	2145D	S32	W66	04	12.6	2	02	9	9	E	RAMY	4787	
17	AFS	2300E	0127D	S30	W67	04	12.7		01	9	9	E	HOLL	4787	
17	DSD	2300E	0127D	S30	W68	04	12.6		02	9	9	E	HOLL	4787	
18	AFS	0530E	1701D	S32	W71	04	12.6		04	9	9	E	SVTO	4790	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
18	ADF	1157E	1701D	S31	W62	04	13.6	1	03	8	9	E	SVTO	4789	
18	ADF	1205E	2054D	S08	W64	04	13.7	2	04	9	8	E	RAMY	4789	
18	ADF	1205E	2054D	S33	W76	04	12.5	2	05	9	9	E	RAMY	4790	
18	ADF	1351E	1701D	S33	W70	04	13.0	1	05	9	9	E	SVTO	4790	
18	AFS	1709E	2050D	N06	W07	04	18.2		01	7	6	E	HOLL		
18	AFS	1810E	2127	N07	W07	04	18.2		02	7	7	E	PALE		
18	DSD	2050E	2120D	N30	E67	04	24.1		02	9	9	E	HOLL	4794	
18	ASR	2110	0338D	S29	W80	04	12.6			9	9	E	PALE	4790	
19	ADF	0542E	1313D	N26	W53	04	15.1	1	02	8	8	E	SVTO	4793	
19	ADF	0623E	0854D	S08	W75	04	13.6	1	03	9	9	E	SVTO	4789	
19	ADF	0633E	1313D	N30	E63	04	24.2	1	04	9	9	E	SVTO	4794	
19	ASR	1236E	1647D	S31	W90	04	12.4			9	9	E	SVTO	4790	
19	ASR	1327E	2212D	S33	W90	04	12.4	2		9	9	E	RAMY	4790	
19	ASR	1733E	2314D	S30	E90	04	26.8			7	8	E	PALE	4790	
20	ASR	0525E	0720D	S33	W90	04	13.1			9	9	E	LEAR	4790	
20	ASR	0554E	0905D	S07	W90	04	13.5			9	9	E	SVTO	4789	
20	ASR	0554E	1637D	S32	W90	04	13.1			9	9	E	SVTO	4790	
20	LPS	1058	1218	S32	W90	04	13.3			9	9	E	SVTO	4790	
20	LPS	1107E	1228D	S33	W83	04	13.9	1		6	6	E	RAMY	4790	
20	ASR	1212E	1730D	S04	W78	04	14.7	2		8	9	E	RAMY	4789	
20	ASR	1307	1637D	N02	E90	04	27.3			9	9	E	SVTO		
20	ASR	1320E	1730D	S31	W87	04	13.7	2		8	7	E	RAMY	4790	
20	DSD	1612E	1637D	N29	E36	04	23.5		02	9	9	E	SVTO	4794	
20	APR	1858	2040D	S06	W90	04	14.0	2		9	9	E	HOLL	4789	
20	ASR	2132E	0030D	S04	W90	04	14.2	2		9	4	E	HOLL	4789	
21	BSL	0659E	0906D	N44	W90	04	13.8	1				C	ABST		
21	ASR	1213E	1304D	S16	W90	04	14.7	2		9	9	E	RAMY	4792	
21	ASR	1213E	2047D	N02	E73	04	27.0	2		9	9	E	RAMY	4797	
21	AFS	1213E	2047D	S26	E15	04	22.7		02	8	8	E	RAMY	4795	
21	APR	1417E	2009D	S16	W90	04	14.8	2		8	9	E	RAMY	4792	
21	ASR	2132E	0030D	S04	W90	04	15.2	2		9	4	E	HOLL	4789	
22	BSL	0508E	0759D	N38	E90	04	29.5	1				C	ABST		
22	BSL	0539E	0759D	S12	E90	04	29.0	1				C	ABST		
22	BSL	0539E	0905D	N42	W90	04	14.8	1				C	ABST		
22	AFS	0855E	1329D	N26	W22	04	20.7		02	9	9	E	SVTO		
22	AFS	0856E	1320D	N07	E10	04	23.1		02	9	9	E	SVTO		
22	AFS	0857E	1710D	S25	E06	04	22.8		03	9	9	E	SVTO	4795	
22	DSD	0927	0954D	N24	W24	04	20.5		03	9	9	E	SVTO		
22	AFS	1250E	1722D	N27	W24	04	20.7		02	6	4	E	RAMY	4798	
22	ADF	1250E	1722D	N32	E17	04	23.9	1	04	6	8	E	RAMY	4794	
22	ADF	1250E	1722D	S04	E65	04	27.4	1	03	9	8	E	RAMY	4797	
22	AFS	1250E	1722D	S26	E06	04	23.0		02	6	7	E	RAMY	4795	
22	ADF	1530E	1710D	N04	E65	04	27.5	1	06	9	9	E	SVTO	4797	
22	ADF	1755E	2039D	N04	E64	04	27.5		04	9	9	E	HOLL	4797	
23	AFS	0525E	1658D	N26	W34	04	20.6		01	9	9	E	SVTO	4798	
23	ADF	0752E	0910D	S40	E27	04	25.5	2	02	9	9	E	SVTO	4796	
23	ADF	0758E	1658D	N03	E60	04	27.8	1	02	9	9	E	SVTO	4797	
23	ADF	1525E	1750D	N06	E60	04	28.1	2	08	9	9	E	RAMY	4797	
23	AFS	1535E	1842D	N26	W39	04	20.6		01	8	8	E	HOLL	4798	
23	AFS	1613E	1750D	S26	W13	04	22.7		02	9	9	E	RAMY	4795	
23	AFS	1619E	1750D	N26	W40	04	20.6		03	9	9	E	RAMY	4798	
23	ADF	1620E	0134D	N03	E53	04	27.6	2	09	9	9	E	HOLL	4797	
23	ADF	1649E	2025D	N05	E59	04	28.1	1	07	8	6	E	PALE	4797	
23	AFS	1711E	2025D	N01	E54	04	27.7	1	02	9	9	E	PALE	4797	
23	DSD	1759E	2120D	N02	E52	04	27.6		01	9	9	E	HOLL	4797	
23	DSD	1844E	2125D	N26	W42	04	20.5		03	8	8	E	HOLL	4798	
23	AFS	2200E	0134D	N02	E50	04	27.6		01	9	9	E	HOLL	4797	
24	AFS	0102E	0134D	N27	W44	04	20.6		02	9	9	E	HOLL	4798	
24	AFS	0522E	1700D	N26	W47	04	20.6		02	9	9	E	SVTO	4798	
24	AFS	0524E	1700D	N12	E43	04	27.5		01	9	9	E	SVTO		
24	DSD	0743E	0750D	N26	W51	04	20.3		06	9	9	E	SVTO	4798	Flare Associated
24	DSD	0930E	1035D	N26	W01	04	24.3	1				V	KHAR		
24	ADF	1021E	1700D	S26	W20	04	22.9	1	03	9	9	E	SVTO	4795	
24	DSD	1040E	1950D	N27	W51	04	20.5	2	03	9	9	E	RAMY	4798	
24	AFS	1335E	1725D	N26	W50	04	20.7		01	9	9	E	HOLL	4798	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

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
24	DSD	1734E	1917D	N27	W51	04	20.7		02	9	9	E	HOLL	4798	
25	AFS	0525E	1603D	N28	W56	04	20.8	2	02	9	9	E	SVTO	4798	
25	ADF	1037E	1603D	S28	W35	04	22.7	1	04	9	9	E	SVTO	4795	
25	ADF	1140E	2109D	S02	E32	04	27.9	2	04	9	9	E	RAMY	4797	
25	ADF	1633E	2109D	N12	E23	04	27.4	2	05	9	9	E	RAMY	4800	
25	DSD	1633E	2109D	N26	W64	04	20.7	2	02	9	9	E	RAMY	4798	
25	DSD	1727E	1857D	N04	E29	04	27.9	2	02	9	9	E	RAMY	4797	
25	DSD	1744E	0136D	N26	W67	04	20.5		03	9	9	E	HOLL	4798	
25	DSD	2044E	2355D	N04	E27	04	27.9		04	9	9	E	HOLL	4797	
25	ADF	2355E	0136D	N13	E22	04	27.6		03	9	9	E	HOLL	4800	
26	ADF	1140E	2200D	N00	E17	04	27.7	2	04	9	7	E	RAMY	4797	
26	ADF	1140E	2200D	N06	E22	04	28.1	2	04	9	9	E	RAMY	4797	
26	DSD	1155E	1356D	N04	E17	04	27.8	2	01	9	9	E	RAMY	4797	
26	DSD	1240E	1241	N05	E17	04	27.8		01	9	9	E	SVTO	4787	
26	DSD	1317E	1350D	N26	W73	04	20.9		02	9	9	E	HOLL	4798	
26	ADF	1450E	1615D	N04	E11	04	27.4	2	03	9	9	E	RAMY	4797	
26	ASR	1550	1634D	N28	W80	04	20.4			8	9	E	SVTO	4789	
26	DSD	1744E	0136D	N26	W67	04	21.5		03	9	9	E	HOLL	4798	
26	DSD	1940E	0136D	N04	E11	04	27.6		03	9	9	E	HOLL	4797	
26	SDF	2007E	1757D	N01	E12	04	27.7		07	0	0	E	PALE	4797	
26	DSD	2105E	0222D	N03	E10	04	27.6		01	9	9	E	PALE	4797	
26	DSD	2135E	2200D	N03	E10	04	27.6		02	8	8	E	RAMY	4797	
26	DSD	2210E	0136D	N03	E13	04	27.9		03	9	9	E	HOLL	4797	
26	ADF	2355E	0136D	N13	E22	04	28.6		03	9	9	E	HOLL	4800	
27	SDF	0136E	1315D	N00	E04	04	27.4		06	0	0	E	HOLL	4797	
27	APR	0520E	0910D	S40	W90	04	19.9	1				C	ABST		
27	ASR	0539E	0549D	N28	W90	04	20.2			8	9	E	LEAR	4798	
27	ADF	0550E	0602D	N03	E09	04	27.9	2	03	9	9	E	SVTO	4797	
27	DSD	1240E	1340D	N05	E17	04	28.8		01	9	9	E	SVI	4797	
27	DSD	1245E	1655D	S02	E04	04	27.8		02	9	9	E	RAMY	4797	
27	DSD	1350E	1615D	N03	E03	04	27.8		02	9	9	E	HOLL	4797	
27	ASR	1550	1634D	N28	W80	04	21.4			8	9	E	SVTO	4798	
27	SDF	2200E	1218D	N00	E17	04	29.2		04	0	0	E	RAMY	4797	
28	BSL	0453E	0748D	N42	W90	04	20.8	1				C	ABST		
28	BSL	0516E	0603D	S32	W90	04	21.1	1				C	ABST		
28	DSD	0643E	0710D	N02	W09	04	27.6		04	9	9	E	SVTO	4797	
28	AFS	1650E	1715D	S37	W21	04	27.0		01	9	9	E	SVTO		
28	AFS	1655E	1708D	S36	W21	04	27.0	1	02	8	8	E	PALE		
28	AFS	1720E	0120D	S37	W21	04	27.0		02	9	9	E	HOLL		
28	AFS	1824E	0120D	S29	E04	04	29.1		02	9	9	E	HOLL		
28	AFS	1933E	0359D	S29	E03	04	29.0	1	02	9	9	E	PALE	4803	
29	AFS	0600E	0838D	S29	W03	04	29.0		02	5	5	E	LEAR	4803	
29	BSL	0630E	0906D	S32	E90	05	6.4	1				C	ABST		
29	AFS	1024E	1710D	N02	W22	04	27.8		02	9	9	E	SVTO	4797	
29	DSD	1030	1058	S01	W24	04	27.6	1				V	KHAR		
29	ADF	1055E	1710D	N06	E72	05	4.8	1	03	9	9	E	SVTO		
29	ADF	1155E	1856D	N07	W19	04	28.1	2	14	7	6	E	RAMY	4797	
29	ADF	1155E	1856D	N12	W27	04	27.5	2	06	7	5	E	RAMY	4797	
29	AFS	1155E	1856D	S29	W06	04	29.0		03	7	5	E	RAMY	4803	
29	AFS	1235E	1710D	S29	W06	04	29.0		02	9	9	E	SVTO	4803	
29	AFS	1325E	0047D	S29	W06	04	29.1		02	8	8	E	HOLL	4803	
29	AFS	1328E	0047D	N02	W24	04	27.8		01	9	9	E	HOLL	4797	
29	ADF	1430E	1856D	N07	E70	05	4.8	2	07	8	4	E	RAMY		
29	AFS	1730E	0440D	S29	W07	04	29.2		02	9	9	E	PALE	4803	
29	AFS	1740E	2145D	N04	W27	04	27.7		02	9	9	E	PALE	4797	
29	AFS	1750E	1856D	N02	W27	04	27.7		02	6	9	E	RAMY	4797	
29	DSD	2330E	0511D	N03	W31	04	27.7		05	9	8	E	LEAR	4797	
29	AFS	2330E	0620D	S29	W12	04	29.0		03	9	9	E	LEAR	4803	
29	DSD	2332	2349	N02	W30	04	27.7	1				C	VORO		
30	AFS	0950E	1702D	N01	W37	04	27.6		01	9	9	E	SVTO	4797	
30	AFS	1059E	1702D	S29	W19	04	29.0		03	9	9	E	SVTO	4803	
30	ADF	1150E	1822D	N01	W36	04	27.8	2	04	8	7	E	RAMY	4797	
30	ADF	1150E	1822D	N15	W43	04	27.2	2	14	8	6	E	RAMY	4797	
30	AFS	1150E	1822D	S29	W19	04	29.0		02	9	9	E	RAMY	4803	
30	ADF	1245E	2003D	N03	W36	04	27.8	1	05	9	9	E	HOLL	4797	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
30	AFS	1245E	2003D	S29	W20	04	29.0		02	9	9	E	HOLL	4803	
30	AFS	1325E	2003D	N02	W33	04	28.1		02	9	8	E	HOLL	4797	
30	AFS	1403E	1740D	N01	W39	04	27.7		02	7	9	E	RAMY	4797	
30	AFS	1415E	1822D	N00	W39	04	27.7		03	9	9	E	RAMY	4797	
30	ADF	1740E	1822D	N02	W44	04	27.4	2	03	9	9	E	RAMY	4797	
30	AFS	1945E	0020D	S29	W22	04	29.1		02	5	6	E	PALE	4803	

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

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

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

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

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

C O N T E N T S

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Page

ERRATA:

SOLAR RADIO BURSTS AT FIXED FREQUENCIES November 1986 48

ERRATA: Solar Radio Emission Outstanding Occurrences
SGD No. 513, Part II, May 1987 issue, November 1986 table,
Krakow (KRAK).

Several peak flux and mean flux values were key entered into the wrong columns in some cases. Dr. M. Jaszczewska, Poland, pointed out the following errors. The underlined values are corrected data. We apologize for these errors.

	1986 Date	Freq	Sta	Type	Start	Max	Dur	Flux Peak	Flux Mean
Page 12	01 Nov	430	KRAK	2 S/F	0913.0U	0913.3U	10.0U	29.0	12.0
Page 12	01 Nov	810	KRAK	2 S/F	0913.0U	0913.3U	10.0U	24.0	13.0
Page 13	05 Nov	430	KRAK	4 S/F	0906.3	0907.4	2.0	24.0	3.0
Page 14	06 Nov	810	KRAK	8 S	1005.6	1005.7	.2	6.0	
Page 14	06 Nov	810	KRAK	8 S	1008.6	1008.6	.3	6.0	
Page 15	18 Nov	430	KRAK	42 SER	1331.5	1334.2	19.5	170.0D	

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."