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Comprehensive Reports

DATA FOR MARCH 1988

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Mar 88

CARTE SYNOPTIQUE
ACTIVE REGIONS
CARRINGTON ROTATION 1799

(16 February to 15 March 1988)

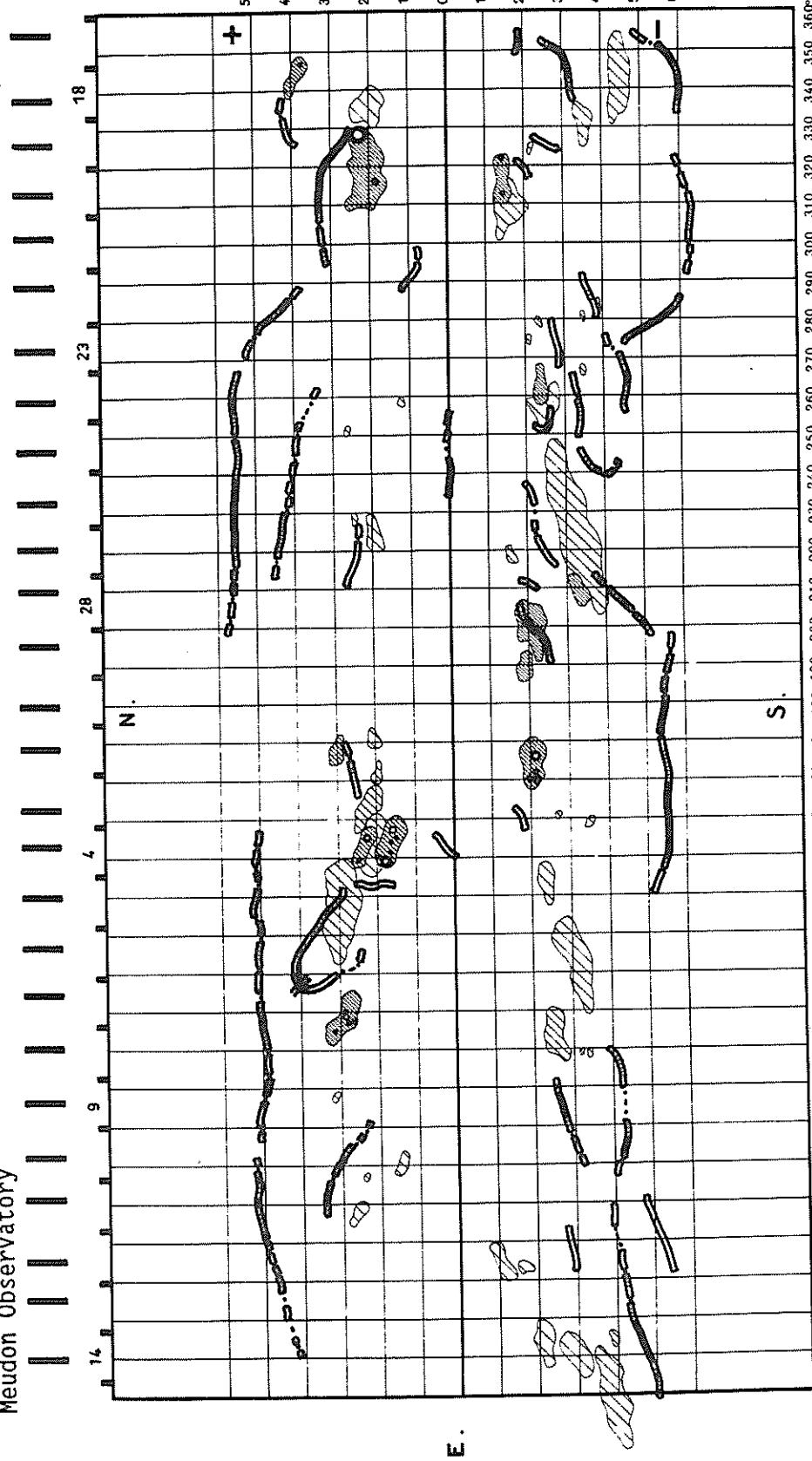
Region No.	Coordinates Lat. Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1798	Activity at West Limb
1	39 N 344	2	+3			decreasing
2	45 S 344	1	>6	x		dispersed
3	36 S 331	1	>6	x		dispersed
4	22 S 324	1	-5	x		(?)
5	21 N 320	5	>6		4	decreasing
6	14 S 317	2	>6			decreasing
7	16 S 310	1	>6	x	5	dispersed
8	23 S 279	1	-5	x		(?)
9	24 S 263	1	+6	x		disappeared
10	32 S 227	1	>6	x	9+10+11	disappeared
11	20 N 225	1	>6	x	12	disappeared
12	16 S 219	1	+4	x		disappeared
13	33 S 210	1	-4	x		increasing
14	21 S 200	1	>6	x		dispersed
15	19 S 190	1	+6	x		dispersed
16	20 N 171	1	>6	x	13	dispersed
17	30 N 168	1	+5	x		dispersed
18	21 S 164	4	+4			decreasing
19	19 N 162	1	>6	x		dispersed
20	23 N 153	1	>6	x	18	dispersed
21	17 N 145	4	>6			decreasing
22	21 N 144	1	>6	x	19	dispersed
23	23 N 143	3	0			decreasing
24	23 S 134	1	>6	x		disappeared
25	30 N 128	1	>6	x	21	
26	31 S 113	1	>6	x		dispersed
27	29 N 99	2	+5			stable
28	24 S 94	1	>6	x		decreasing
29	32 N 78	1	+5	x		disappeared
30	15 N 60	1	+6	x		dispersed
31	26 N 48	1	-1	x		dispersed
32	10 S 35	1	>6	x	30	dispersed
33	16 S 33	1	>6	x	30	dispersed
34	38 S 0	1	>6	x		dispersed

CARTE SYNOPTIQUE

CARRINGTON ROTATION NUMBER 1799
(16 February to 15 March 1988)

February 1988

Meudon Observatory



Heliographic Longitude

H - ALPHA SOLAR FLARES

MARCH 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0001	VORO	01	0056E	0101U	0117	S21	E26	4958	03	3.0	210	SF		C		0101	170	2.0	E	
0002		01	0440S	0454*	0543	S21	W14	4959	02	29.1	63	1N C 3.1					284	3.5	EFLU	
	PEKG	01	0440	0458	0525	S20	W14	4959	02	29.1	45	1N C 3.1	P		0458	463	4.7	E		
	LEAR	01	0445	0454	0551	S20	W15	4959	02	29.0	66	1N C 3.1	3	E		142		UF		
	TACH	01	0447E	0455U	0550D	S22	W15	4959	02	29.0	63D	1N	C		0455	357	3.9	UL		
	ABST	01	0455E	0506	0553	S23	W14	4959	02	29.1	58D	SN	P		0506	175	1.9	E		
0003		01	08196	08254	0838	S21	E21	4958	03	2.9	19	SF					47	0.6	EF	
	ABST	01	0819	0825	0842	S20	E21	4958	03	2.9	23	SF		C		0825	87	1.0	E	
	KANZ	01	0822	0826	0838	S22	E21	4958	03	3.0	16	SF		1						
	LEAR	01	0825	0826	0835	S21	E22	4958	03	3.0	10	SF		3	E		18		F	
	KAND	01	0825	0829	0835	S20	E22	4958	03	3.0	10	SF		P		0829	62	0.7	E	
	HTPR	01	0832E		0840	S20	E18	4958	03	2.7	8D	SF		C		0835	20	0.2	E	
0004		01	14068	1419	1442	N17	E38	4957	03	4.5	36	SF					33	0.8	E	
	HTPR	01	1406	1419	1433	N18	E38	4957	03	4.5	27	SN		C		1419	60	0.8	E	
	RAMY	01	1414	1419	1434	N17	E37	4957	03	4.4	20	SF		3	E		15			
	HOLL	01	1423E	1423U	1458	N17	E40	4957	03	4.6	35D	SF		3	E		25			
0005	HOLL	01	1524	1524	1530	N17	E38	4957	03	4.5	6	SF		3	E		12			
0006		01	15277	15371	1546	S22	E17	4958	03	2.9	19	SN					48	0.8	EF	
	HTPR	01	1527	1538	1545	S21	E16	4958	03	2.9	18	SB		C		1538	80	0.8	E	
	RAMY	01	1534	1537	1546	S22	E18	4958	03	3.0	12	SF		3	E		28		F	
	HOLL	01	1534	1538	1547	S22	E16	4958	03	2.9	13	SF		3	E		36		F	
0007	HOLL	01	1600	1602	1607	N15	E38	4957	03	4.5	7	SF		3	E		12		F	
0008	HOLL	01	1627	1628	1636	N17	E39	4957	03	4.6	9	SF		3	E		15		F	
		01	2009		2022	No Flare Patrol														
0009		01	2027	20273	2046	S22	E16	4958	03	3.1	19	SF					34		F	
	HOLL	01	2023E	2027	2047	S22	E17	4958	03	3.1	24D	SF		2	E		36		F	
	RAMY	01	2027	2030	2044	S22	E15	4958	03	3.0	17	SF		3	E		32			
		01	2134		2138	No Flare Patrol														
		01	2143		2147	No Flare Patrol														
0010		01	2344*	2346*	2435	S20	E13	4958	03	3.0	51	SF					27		F	
	HOLL	01	2344	2346	2430D	S21	E13	4958	03	3.0	46D	SF		2	E		35		F	
	LEAR	01	2422	2429	2435	S20	E13	4958	03	3.0	13	SF		3	E		19		F	
0011	YUNN	02	0210E	0210U	0240	S22	E14	4958	03	3.2	30D	1N		P		0210	209	2.3	F	
0012		02	05591	0601	0610	N24	E31	4961	03	4.6	11	SF					54	1.1	D	
	ABST	02	0559	0601	0614	N24	E31	4961	03	4.6	15	SF		C		0601	87	1.1	D	
	LEAR	02	0600	0601	0605	N23	E31	4961	03	4.6	5	SF		3	E		21			
0013		02	0654	0655	0700	S20	E09	4958	03	3.0	6	SF					52	0.9	EFK	
	LEAR	02	0654	0655	0659	S21	E09	4958	03	3.0	5	SF		3	E		16		F	
	ABST	02	0654	0655	0700	S20	E09	4958	03	3.0	6	SF		C		0655	87	0.9	EK	
0014	HTPR	02	0812	0815	0828	N18	E28	4957	03	4.5	16	SN		C		0815	100	1.1	E	
0015		02	09276	09346	0958	N18	E28	4957	03	4.5	31	SF					61	1.0	DE	
	HTPR	02	0927	0934	1020	N18	E27	4957	03	4.4	53	SN		C		0934	100	1.1	E	
	ABST	02	0932	0940	0948	N19	E29	4957	03	4.6	16	SF		C		0940	70	1.0	D	
	LEAR	02	0933	0937	0946	N17	E27	4957	03	4.4	13	SF		3	E		12			
0016	HTPR	02	1024	1026	1032	S22	E06	4958	03	2.9	8	SN		C		1026	60	0.7	E	
0017		02	12085	12164	1239	N17	E27	4957	03	4.5	31	SF					21	0.3	E	
	HTPR	02	1208	1220	1240	N18	E26	4957	03	4.5	32	SF		C		1220	30	0.3	E	
	RAMY	02	1213	1216	1238	N16	E28	4957	03	4.6	25	SF		3	E		12			
0018	HTPR	02	1404	1405	1433	N18	E25	4957	03	4.5	29	SB		C		1405	60	0.7	E	
0019	HOLL	02	1439	1439	1511	N18	E26	4957	03	4.6	32	SF		3	E		53			

H - ALPHA SOLAR FLARES

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Mar 88

MARCH 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement		Remarks	
																	Apparent (10-6 Disk)	Corr (Sq Deg)		
0020	HOLL	02	1445	1458	1519	S21	W33	4959	02	29.1	34	SF			3	E		19		
0021	HOLL	02	1747	1747	1755	N16	E24	4957	03	4.6	8	SF			3	E		19		
0022	HOLL	02	1756	1800	1826	N15	E23	4957	03	4.5	30	SF			3	E		20	F	
0023	HOLL	02	1752	1752	1756	S21	E01	4958	03	2.8	4	SF			3	E		19		
0024		02	19345	19393	2004	N16	E23	4957	03	4.5	30	SF						30	F	
	HOLL	02	1934	1942	2019	N15	E22	4957	03	4.5	45	SF			2	E		48	F	
	RAMY	02	1939	1939	1949	N16	E24	4957	03	4.6	10	SF			3	E		11		
		02	2037		2042	No Flare Patrol														
		02	2100		2103	No Flare Patrol														
		02	2112		2251	No Flare Patrol														
0025	HPR	03	0804	0807	0817	N17	E40		03	6.4	13	SF				C	0807	30	0.4	E
0026	HPR	03	0808	0815	0825	N20	E31		03	5.7	17	SF				C	0815	10	0.1	
0027	HPR	03	0834	0838	0920	S19	E17		03	4.6	46	SN				C	0838	50	0.5	E
0028	KAND	03	0835	0840	0857D	S20	W04	4958	03	3.0	22D	SN				P	0840	42	0.4	E
0029		03	15206	15262	1545	S34	W58	4962	02	28.1	25	SN						50	1.2	E
	HPR	03	1520	1526	1546	S34	W58	4962	02	28.1	26	SB				C	1526	60	1.2	E
	RAMY	03	1525	1528	1549	S33	W58	4962	02	28.1	24	SF			3	E		59		E
	SVTO	03	1526	1528	1540	S35	W59	4962	02	28.0	14	SF			3	E		30		
		03	1611		1614	No Flare Patrol														
		03	1633		2200	No Flare Patrol														
0030	RAMY	03	1659	1704	1711	S32	W59	4962	02	28.1	12	SF						10		
0031	RAMY	03	2022	2028	2032	S21	W12	4958	03	2.9	10	SF						12		
		03	2219		2254	No Flare Patrol														
0032	HOLL	03	2321	2324	2329D	N21	W28		03	1.8	8D	SF						12		F
0033	LEAR	04	0240	0240	0246	S24	E52	4960	03	8.1	6	SF						23		
0034	YUNN	04	0517E	0517U	0525	S32	W63	4962	02	28.3	8D	SN				P	0517	64	1.5	G
0035	YUNN	04	0714	0716	0722D	S33	W66	4962	02	28.1	8D	SN				P		64		G
0036	LEAR	04	0733	0751	0812	S33	W66	4962	02	28.2	39	SF						40		
0037		04	07521	0754	0802	N22	E00	4961	03	4.3	10	SN						17	0.2	CF
	TACH	04	0752	0755U	0807D	N23	E00	4961	03	4.3	15D	SB				C	0755	20	0.2	CF
	LEAR	04	0753	0754	0802	N21	E01	4961	03	4.4	9	SF			3	E		14		F
0038	KAND	04	1203	1203	1210D	S30	W70	4962	02	28.1	7D	SN				P	1203	62		DG
0039	RAMY	04	1234	1238	1243	S32	W69	4962	02	28.2	9	SF						18		
0040		04	1511*	15461	1614	S32	W70	4962	02	28.2	63	SF						30		
	HOLL	04	1511	1546	1636	S32	W70	4962	02	28.2	85	SF			3	E		47		
	RAMY	04	1547	1547	1553	S32	W71	4962	02	28.1	6	SF			3	E		12		
0041	RAMY	04	1639	1645	1704	N22	W02	4961	03	4.5	25	SF						23		
0042		04	17011	1707	1722	S22	W24	4958	03	2.9	21	SF						26		F
	HOLL	04	1701	1707	1727	S21	W23	4958	03	2.9	26	SF			3	E		37		F
	RAMY	04	1702	1707	1717	S22	W24	4958	03	2.9	15	SF			3	E		15		F
0043		04	2158*	2200*	2213	N23	W02	4961	03	4.8	15	SF						12		H
	RAMY	04	2158	2200	2204	N23	W02	4961	03	4.8	6	SF			2	E		14		
	HOLL	04	2210	2218	2222	N23	W02	4961	03	4.8	12	SF			3	E		11		H

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Grp #	Sta	Start Day	Max (UT)	End (UT)	Lat	NOAA/ USAF CMD Region	CMP Mo	Dur Day	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
													Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0044	HOLL	04	2208	2211	2234	S33 W76 4962	02	28.0	26	SF	3	E		31			
0045	HOLL	04	2303	2307	2320	S33 W74 4962	02	28.2	17	SF	3	E		36			
0046	HOLL	04	2303	2309	2314	S20 W28 4958	03	2.8	11	SF	3	E		25			
0047		05	00211	0023	0108	N25 W04 4961	03	4.7	47	SF				63	1.0	DFIJ	
	VORO	05	0021	0024U	0032D	N26 W04 4961	03	4.7	11D	SN		C	0024	90	1.1	DIJ	
	HOLL	05	0022	0023	0037D	N23 W04 4961	03	4.7	15D	SF	3	E		18		F	
	VORO	05	0056E	0059U	0108	N26 W04 4961	03	4.7	12D	SF		C	0059	81	1.0	DIJ	
0048	VORO	05	0251	0253U	0257D	N24 W05 4961	03	4.7	6D	SN		C	0253	81	0.9	DIJ	
		05	0946		1122	No Flare Patrol											
0049	HPR	05	1139E		1212	S20 W37 4958	03	2.6	33D	SF		C	1152	20	0.3	E	
0050		05	1139E	1226U	1234	N16 W14 4957	03	4.4	55D	SN				38	0.3	E	
	HPR	05	1139E		1230	N18 W15 4957	03	4.3	51D	SF		C	1150	30	0.3	E	
	RAMY	05	1208E	1226U	1239	N15 W14 4957	03	4.4	31D	SN	1	E		45			
0051		05	14335	14376	1447	N18 W17 4957	03	4.3	14	SF				27	0.3	EF	
	HPR	05	1433	1437	1453	N20 W19 4957	03	4.1	20	SF		C	1437	40	0.4	E	
	RAMY	05	1436	1438	1444	N19 W13 4957	03	4.6	8	SF	4	E		20		F	
	HPR	05	1438	1443	1445	N14 W20 4957	03	4.1	7	SF		C	1443	20	0.2		
0052		05	1534*	15451	1600	N19 W16 4957	03	4.4	26	SF				41	0.9	EF	
	HPR	05	1516E		1611	N20 W20 4957	03	4.1	55D	SN		C	1529	80	0.9	E	
	RAMY	05	1534	1545	1558	N19 W14 4957	03	4.6	24	SF	3	E		31		F	
	HOLL	05	1544	1546	1550	N19 W15 4957	03	4.5	6	SF	4	E		13		F	
0053		05	1701	17021	1706	S20 W37 4958	03	2.9	5	SF				11			
	HOLL	05	1701	1702	1706	S21 W36 4958	03	2.9	5	SF	3	E		11			
	RAMY	05	1701	1703	1707	S19 W38 4958	03	2.8	6	SF	3	E		11			
0054	HOLL	05	1937	1945	1953	N15 W19 4957	03	4.4	16	SF	3	E		13			
0055	HOLL	05	2105	2121	2140	N16 W17 4957	03	4.6	35	SF	3	E		17			
0056		06	0542	0550	0602	N18 W23 4957	03	4.5	20	SN				30	0.6	EF	
	LEAR	06	0542	0550	0602	N17 W23 4957	03	4.5	20	SF	3	E		13		F	
	YUNN	06	0544E	0544U	0554D	N18 W23 4957	03	4.5	10D	SN		P	0544	48	0.6	E	
0057		06	07131	07132	0722	N15 W27 4957	03	4.2	9	SF				56	1.1	D	
	LEAR	06	0713	0713	0721	N14 W28 4957	03	4.2	8	SF	3	E		26			
	ABST	06	0714	0715	0724	N16 W26 4957	03	4.3	10	SF		C	0715	87	1.1	D	
		06	1012		1104	No Flare Patrol											
0058	RAMY	06	1135	1136	1141	N24 W25 4961	03	4.5	6	SF	3	E		14			
0059	RAMY	06	1246	1249	1313	N17 W26 4957	03	4.5	27	SF	3	E		14			
0060	RAMY	06	1539	1539	1546	N23 W28 4961	03	4.5	7	SF	3	E		14			
0061	RAMY	06	1556	1601	1606	N22 W29 4961	03	4.4	10	SF	3	E		14			
0062	HOLL	06	1730	1730	1733	N22 W29 4961	03	4.5	3	SF	3	E		13			
0063	HOLL	06	1916	1923	1953	N23 W30 4961	03	4.5	37	SF C 1.3	3	E		47		EF	
0064	HOLL	06	2027	2043	2100	N22 W32 4961	03	4.4	33	SF	3	E		11		F	
0065	HOLL	06	2302	2304	2317	N27 E12 4963	03	7.9	15	SF	3	E		11		F	
0066	HOLL	06	2323	2332	2405	N30 E13 4963	03	8.0	42	SF	3	E		42			
0067	HOLL	06	2349	2349	2354	N25 W30 4961	03	4.7	5	SF	3	E		11			
0068	LEAR	07	0034	0035	0057	N22 W34 4961	03	4.4	23	SF	3	E		11			

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	See	Obs Type	Area Measurement			Remarks	
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0069	LEAR	07	0552	0555	0626	N24	W35	4961	03	4.5	34	SF		3	E			23		
0070	LEAR	07	0635	0636	0654	N23	W37	4961	03	4.4	19	SF		3	E			26		
		07	1029		1113	No Flare Patrol														
0071	RAMY	07	1223	1225	1230	N16	W44	4957	03	4.2	7	SF		3	E			18		
0072	RAMY	07	1328	1328	1338	S19	W58	4958	03	3.1	10	SF		3	E			41		
0073	RAMY	07	1449	1450	1502	N16	W45	4957	03	4.2	13	SF C	1.3	3	E			32		
0074	HOLL	07	1550	1559	1556	N26	W44	4961	03	4.2	6	SF		3	E			15		
0075		07	17422	1745	1804	N23	W40	4961	03	4.6	22	SF						20		F
	HOLL	07	1742	1745	1756	N23	W40	4961	03	4.6	14	SF		3	E			21		
	RAMY	07	1744	1745	1812	N23	W41	4961	03	4.6	28	SF		3	E			20		F
0076	HOLL	07	1808	1809	1816	N27	E01	4963	03	7.8	8	SF		3	E			12		
0077	HOLL	07	1852	1852	1856	N24	W41	4961	03	4.6	4	SF		3	E			13		
		07	2312		2318	No Flare Patrol														
0078	LEAR	08	0423	0424	0433	S24	W69	4958	03	2.8	10	SF		3	E			13		
0079	HPR	08	0939	0941	0951	N29	W06	4963	03	7.9	12	SF			C	0941		40	0.4	E
0080	HPR	08	1130	1133	1139	N30	W07	4963	03	7.9	9	SF			C	1133		20	0.2	E
0081	HPR	08	1414	1420	1432	N23	W53	4961	03	4.5	18	SN			C	1420		30	0.5	E
0082		08	15293	15331	1542	N24	W54	4961	03	4.5	13	SF						26	0.6	E
	HPR	08	1529	1534	1545	N23	W53	4961	03	4.6	16	SN			C	1534		40	0.6	E
	RAMY	08	1531	1534	1545D	N22	W55	4961	03	4.4	14D	SF		3	E			19		
	HOLL	08	1532	1533	1538	N26	W55	4961	03	4.4	6	SF		3	E			19		
0083		08	16381	16461	1706	N22	W54	4961	03	4.5	28	SF						57		F
	HOLL	08	1638	1646	1701	N23	W54	4961	03	4.5	23	SF		3	E			54		
	RAMY	08	1639	1647	1712	N22	W55	4961	03	4.5	33	SF		3	E			60		F
0084		08	17571	18031	1816	N28	W10	4963	03	8.0	19	SF C	1.1					38		F
	HOLL	08	1757	1804	1817	N29	W09	4963	03	8.0	20	SF C	1.1	3	E			46		F
	RAMY	08	1758	1803	1815	N27	W11	4963	03	7.9	17	SF C	1.1	3	E			30		F
0085	YUNN	09	0300	0304	0325	N30	W13	4963	03	8.1	25	SN			C			80	1.1	
0086	HPR	09	1155	1159	1210	N18	W67	4957	03	4.4	15	SB			C	1159		30	0.7	E
0087	HPR	09	1300	1315	1345	N26	W25	4963	03	7.6	45	SF			C	1315		20	0.2	E
0088	HOLL	09	1950	1955	2045	N28	W26	4963	03	7.8	55	SF C	1.4	3	E			75		EF
		09	2252		2302	No Flare Patrol														
0089	LEAR	10	0524	0525	0530	N29	W28	4963	03	8.0	6	SF		3	E			17		
0090	LEAR	10	0553	0556	0619	N27	W31	4963	03	7.8	26	1F C	4.2	3	E			101		
0091		10	0648	0651	0718	N29	W30	4963	03	7.9	30	SF						77	1.4	E
	LEAR	10	0648	0651	0656	N28	W28	4963	03	8.1	8	SF		3	E			14		
	YUNN	10	0705E	0705U	0722	N30	W31	4963	03	7.8	17D	SN			P	0705		96	1.5	E
	HPR	10	0714E		0735	N29	W32	4963	03	7.8	21D	SF			C	0720		120	1.3	E
0092		10	10222	1024	1029	N29	W32	4963	03	7.9	7	SB						80	0.9	E
	HPR	10	1022	1024	1030	N29	W31	4963	03	8.0	8	SB			C	1024		80	0.9	E
	KANZ	10	1024	1024	1028	N29	W32	4963	03	7.9	4	SN		2						

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																	Apparent (10-6 Disk)	Corr (Sq Deg)	
0093		10	11171	11282	1138	N29	W32	4963	03	8.0	21	SN					30	0.3	E
	HTPR	10	1117	1130	1142	N30	W31	4963	03	8.0	25	SF			C	1130	30	0.3	E
	KANZ	10	1118	1128	1135	N28	W32	4963	03	8.0	17	SN	2						
0094	HTPR	10	1242	1243	1249	N30	W32	4963	03	8.0	7	SF			C	1243	30	0.3	E
0095	PALE	10	2004	2005	2015	N25	W90	4961	03	3.9	11	SF		3	E				
0096	HOLL	10	2232	2239	2303	N28	W39	4963	03	7.9	31	SF		3	E		23		
0097	HTPR	11	1022	1055	1156	S17	E80	4967	03	17.5	94	SN			C	1055	30		K
0098	HTPR	11	1028	1034	1036	S22	E90	4967	03	18.3	8	SN			C	1034	40		K
0099	HTPR	11	1045	1047	1106	S22	E90	4967	03	18.4	21	SN			C	1047	40		
0100	HTPR	11	1451	1456	1511	S23	E90	4964	03	18.5	20	SF			C	1456	20		
0101	HTPR	11	1535	1546	1550	S23	E90	4964	03	18.6	15	SF			C	1546	20		
0102	HTPR	11	1559	1607	1628	S23	E90	4964	03	18.6	29	SN			C	1607	20		
0103	RAMY	11	1657	1658	1706	S23	E89	4964	03	18.6	9	SF		3	E		15		
0104		11	1735	17361	1742	N30	W45	4963	03	8.2	7	SF					18		
	HOLL	11	1735E	1736	1742	N30	W45	4963	03	8.2	7D	SF		3	E		13		
	RAMY	11	1735	1737	1741	N30	W45	4963	03	8.2	6	SF		3	E		24		
0105	RAMY	11	1933	1933	1952	N30	W46	4963	03	8.2	19	SF		3	E		22		
0106		11	2027	20271	2030	S22	E89	4964	03	18.7	3	SF					38		
	PALE	11	2027	2027	2029	S22	E93	4964	03	19.0	2	SF		3	E		19		
	RAMY	11	2027	2027	2030	S23	E86	4964	03	18.5	3	SF		3	E		35		
	HOLL	11	2027	2028	2031	S22	E88	4964	03	18.6	4	SF		3	E		59		
0107		11	2155	2156	2204	S23	E83	4964	03	18.3	9	SF					35		
	RAMY	11	2155	2156	2200	S24	E80	4964	03	18.1	5	SF		3	E		26		
	HOLL	11	2155	2156	2201	S22	E84	4964	03	18.4	6	SF		3	E		52		
	PALE	11	2155	2156	2210	S24	E84	4964	03	18.4	15	SF		3	E		26		
0108	HOLL	11	2209	2211	2216	S22	E90	4964	03	18.8	7	SF		3	E		46		
0109	HOLL	11	2222	2226	2229	S23	E90	4964	03	18.9	7	SF		3	E		45		
0110		11	22392	2241*	2308	S23	E90	4964	03	18.9	29	SF	C 3.4				44		
	HOLL	11	2239	2311	2329	S22	E90	4964	03	18.9	50	SF	C 3.4	3	E		76		
	PALE	11	2241	2241	2246	S24	E90	4964	03	18.9	5	SF		3	E		13		
0111	HOLL	11	2334	2334	2355	S21	E90	4964	03	18.9	21	SF		3	E		22		F
0112	HOLL	12	0009	0010	0014	S22	E89	4964	03	18.8	5	SF		3	E		25		
0113		12	0023*	0028*	0043	S21	E87	4964	03	18.7	20	SF					44		
	HOLL	12	0023	0028	0038	S23	E82	4964	03	18.3	15	SF		3	E		36		
	LEAR	12	0025	0029	0035	S21	E86	4964	03	18.6	10	SF		3	E		24		
	MITK	12	0029E	0037	0053	S21	E90	4964	03	18.9	24D	1N			C	0037	100		
	LEAR	12	0036	0040	0045	S20	E90	4964	03	18.9	9	SF		3	E		16		
0114	LEAR	12	0138	0140	0145	S24	E84	4964	03	18.5	7	SF	C 7.3	3	E		27		
0115	YUNN	12	0155E	0202U	0430D	S22	E87	4964	03	18.8	155D	SN			P	0202	16		A
0116	LEAR	12	0423	0424	0431	S21	E84	4964	03	18.6	8	SF	C 6.5	3	E		51		
0117	SVTO	12	0828	0830	0849	S24	E84	4964	03	18.8	21	SF		3	E		57		F
0118	HTPR	12	1033	1038	1108	S23	E80	4964	03	18.6	35	SN			C	1038	30		EK
0119	RAMY	12	1148	1150	1156	S25	E79	4964	03	18.6	8	SF		3	E		11		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0120	HTPR	12	1410	1415	1419	S23	E78	4964	03	18.6	9	SN			C	1415	30		E
0121	HOLL	12	1506	1515	1543	S23	E79	4964	03	18.7	37	1N C	5.0	3	E		242		H
0122		12	15112	1515	1525	S22	E68	4967	03	17.8	14	SN					64	1.3	EF
	HTPR	12	1511	1515	1526	S23	E67	4967	03	17.8	15	SB			C	1515	60	1.3	E
	SVTO	12	1513	1515	1524	S20	E68	4967	03	17.8	11	SF		3	E		68		F
0123	RAMY	12	1602	1603	1607	S25	E78	4964	03	18.7	5	SF		3	E		17		
0124		12	18446	18571	1916	S24	E78	4964	03	18.8	32	SF					64		
	RAMY	12	1844	1857	1917	S25	E76	4964	03	18.7	33	SF		3	E		58		
	PALE	12	1850	1858	1916	S24	E80	4964	03	19.0	26	SF		4	E		69		
0125	RAMY	12	2046	2054	2104	S25	E74	4964	03	18.6	18	SF		3	E		66		
0126	HOLL	12	2052	2053	2057	S23	E66	4967	03	17.9	5	SF		3	E		38		FH
0127	RAMY	12	2117	2122	2131	S22	E65	4967	03	17.9	14	SF		3	E		34		
0128	HOLL	12	2122	2122	2126	S28	E31	4966	03	15.3	4	SF		3	E		14		
0129	HOLL	12	2135	2139	2143	S24	E76	4964	03	18.8	8	SF		3	E		12		F
0130	HOLL	12	2159	2159	2204	S23	E75	4964	03	18.7	5	SF		3	E		12		F
0131	LEAR	13	0424	0427	0431	S22	E62	4967	03	17.9	7	SF		2	E		22		
0132	LEAR	13	0448E	0448	0453	S21	E68	4964	03	18.4	5D	SF		3	E		31		
0133	YUNN	13	0829	0835	0842	S23	E70	4964	03	18.7	13	SN			C		64		E
0134		13	14102	14136	1430	S26	E69	4964	03	18.9	20	SF					37		
	HOLL	13	1410	1419	1432	S25	E69	4964	03	18.9	22	SF		3	E		45		
	RAMY	13	1412	1413	1429	S27	E69	4964	03	19.0	17	SF		3	E		29		
0135	SVTO	13	1549	1551	1556	S25	E66	4964	03	18.8	7	SF		3	E		14		
0136	HOLL	13	1626	1642	1645D	S24	E70	4964	03	19.1	19D	SF		3	E		78		
0137	HOLL	13	1713	1804	1911	S26	E67	4964	03	18.9	118	SF		3	E		70		
0138	HOLL	13	1713	1804	1923	S20	E55	4967	03	17.9	130	SF		3	E		70		F
0139	HOLL	13	1925	1935	1951	S23	E66	4964	03	18.9	26	SF		3	E		26		
0140	HOLL	13	1954	1959	2011	S23	E66	4964	03	18.9	17	SF		3	E		32		
0141	HOLL	13	2014	2047	2136	S25	E68	4964	03	19.1	82	SF C	1.1	3	E		26		F
0142	HOLL	13	2137	2205	2212	S24	E64	4964	03	18.8	35	SF C	2.8	3	E		35		
0143	HOLL	13	2307	2309	2317	S24	E63	4964	03	18.8	10	SF		3	E		36		F
0144	HOLL	13	2320	2323	2352	S27	E65	4964	03	19.0	32	SN C	1.1	3	E		39		F
0145	HOLL	14	0013	0013	0032	S27	E64	4964	03	19.0	19	SF		3	E		13		
0146	HOLL	14	0020	0025	0028	S28	E16	4966	03	15.3	8	SF		3	E		17		
		14	0601		0614	No Flare Patrol													
0147	SVTO	14	0717	0719	0728	S26	E62	4964	03	19.1	11	SF		3	E		15		F
0148	SVTO	14	0737	0809	0922	S27	E62	4964	03	19.1	105	SF		3	E		47		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement		Remarks	
																	Apparent (10-6 Disk)	Corr (Sq Deg)		
0149	14	0805*	08156	0836	S22	E48	4967	03	18.0	31	1N	C	8.7				175	2.9	ETV	
	KAND	14	0805	0815	0827	S23	E51	4967	03	18.3	22	1B	C	8.7	P	0815	291	4.8	ETV	
	KANZ	14	0814	0818	0845	S22	E46	4967	03	17.9	31	1N								
	ATHN	14	0815	0820	0823	S24	E45	4967	03	17.8	8	SN			V	0820	64	1.0		
	SVTO	14	0815	0821	0847	S21	E48	4967	03	18.0	32	1N	C	8.7	3	E	169			
0150	14	13302	13361	1344	S27	E58	4964	03	19.1	14	SF	C	1.2				20			
	SVTO	14	1330	1337	1343	S25	E58	4964	03	19.0	13	SF	C	1.2	3	E	15			
	RAMY	14	1332	1336	1345	S29	E58	4964	03	19.1	13	SF	C	1.2	3	E	25			
0151	HOLL	14	1408	1413	1428D	S26	E56	4964	03	18.9	20D	SF	C	1.1	3	E	60		F	
		14	1621		1644	No Flare Patrol														
0152	RAMY	14	1646E	1651	1701	S30	E56	4964	03	19.1	15D	SF	C	2.9	3	E	28		F	
		14	1723		1724	No Flare Patrol														
0153	RAMY	14	1850	1852	1857	S28	E55	4964	03	19.1	7	SF			3	E	34			
0154	HOLL	14	2218	2218	2226	S27	E53	4964	03	19.0	8	SF	C	1.0	3	E	22			
0155	PALE	14	2234	2238	2245	S24	E47	4964	03	18.6	11	SF	C	2.2	3	E	35			
0156	PALE	14	2301	2307	2345	S27	E55	4964	03	19.2	44	1N	C	6.6	3	E	108		F	
0157	HOLL	14	2312	2433	2441D	S23	E49	4964	03	18.7	89D	SF			3	E	58		F	
0158	15	0214	0216	0223	S26	E50	4964	03	19.0	9	SN	C	1.3				30	0.7		
	YUNN	15	0214E	0214U	0226	S25	E44	4964	03	18.5	12D	SB	C	1.3	P	0214	48	0.7		
	PALE	15	0214	0216	0220	S28	E55	4964	03	19.4	6	SF	C	1.3	3	E	12			
0159	PEKG	15	0312	0314E	0314D	S21	E47	4964	03	18.7	2D	SF			P	0314	50	0.7	D	
0160	15	08205	08259	0859	S23	E43	4964	03	18.7	39	SB	M	2.5				94	1.6	EF	
	HTPR	15	0820	0828	0925	S24	E39	4964	03	18.4	65	SB			C	0828	70	0.9	E	
	ATHN	15	0823E	0825	0832D	S22	E40	4964	03	18.4	9D	SB			3	V	0825	80	1.1	
	YUNN	15	0825E	0825U	0832D	S23	E46	4964	03	18.9	7D	1B	M	2.5	P	0825	257	3.9	F	
	LEAR	15	0825	0827	0843	S23	E41	4964	03	18.5	18	SN	M	2.5	3	E	32			
	HTPR	15	0825	0834	0850	S22	E50	4964	03	19.2	25	SN			C	0834	30	0.5		
0161	15	0857*	09248	0939	S23	E41	4964	03	18.5	42	SB	M	3.3				66	0.9	DEIT	
	HTPR	15	0857	0924	0940	S24	E37	4964	03	18.2	43	SB			C	0924	100	1.2	E	
	SVTO	15	0921	0932	0941	S23	E46	4964	03	18.9	20	SN	M	3.3	3	E	57			
	KANZ	15	0922	0928	0932D	S25	E40	4964	03	18.5	10D	SN				2				
	ATHN	15	0923E	0926	0929D	S22	E40	4964	03	18.5	6D	SB			3	V	0926	64	0.9	
KAND	15	0927E	0930	0935	S23	E42	4964	03	18.6	8D	SB	M	3.3	P	0930	42	0.6	DIT		
0162	KAND	15	1043	1050	1055	S22	E40	4964	03	18.5	12	SN			P	1050	52	0.7	EF	
0163	15	11097	11178	1154	S23	E38	4964	03	18.4	45	SN	C	4.8				53	0.8	EF	
	HTPR	15	1109	1124	1240	S24	E35	4964	03	18.2	91	SB			C	1124	70	0.9	E	
	KANZ	15	1111	1119	1137	S24	E39	4964	03	18.5	26	SF				2				
	KAND	15	1115	1125	1136	S23	E39	4964	03	18.5	21	SN	C	4.8	P	1125	62	0.8	EF	
	SVTO	15	1116	1117	1142	S22	E40	4964	03	18.5	26	SF	C	4.8	3	E	27			
0164	15	11437	1151*	1227	S23	E42	4964	03	18.7	44	1N	M	5.9				125	1.6	EF	
	SVTO	15	1143	1151	1257	S23	E43	4964	03	18.8	74	1F	M	5.9	3	E	146		F	
	HTPR	15	1143	1152	1240	S24	E36	4964	03	18.3	57	SB			C	1152	140	1.7	E	
	KAND	15	1144	1155	1209	S23	E43	4964	03	18.8	25	1B	M	5.9	P	1155	187	2.6	EF	
	RAMY	15	1145	1154	1206	S23	E47	4964	03	19.1	21	1B	M	5.9	3	E	120		F	
	KANZ	15	1149	1153	1201	S25	E39	4964	03	18.5	12	1N				2				
	HTPR	15	1150	1218	1250	S26	E44	4964	03	18.9	60	SF			C	1157	60	0.8	E	
	ATHN	15	1154E	1156	1159D	S21	E40	4964	03	18.6	5D	SN			3	V	1156	95	1.3	
0165	HTPR	15	1215	1300	1315	N23	E34		03	18.1	60	SF			C	1300	20	0.2		

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Grp #	Sta	Start Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement		Remarks	
																	Apparent (10-6 Disk)	Corr (Sq Deg)		
0166		15	13243	13271	1341	S24	E40	4964	03	18.6	17	SF	C	6.3			61	0.5	EF	
	RAMY	15	1324	1327	1341	S24	E41	4964	03	18.7	17	SF	C	6.3	3	E	97		F	
	SVTO	15	1326	1328	1333	S22	E40	4964	03	18.6	7	SF	C	6.3	3	E	47			
	HTPR	15	1326	1328	1338	S26	E42	4964	03	18.8	12	SF				C	1328	40	0.5	E
	KANZ	15	1327	1327	1348	S26	E38	4964	03	18.5	21	SN			2					F
	HOLL	15	1333E	1340U	1345	S23	E41	4964	03	18.7	12D	SF	C	6.3	2	E		59		
0167	HTPR	15	1324	1328	1339	S23	E33	4967	03	18.1	15	SB				C	1328	110	1.3	E
0168		15	1434*	14462	1503	S24	E35	4964	03	18.3	29	SN						60	0.7	E
	HTPR	15	1434	1446	1507	S23	E33	4964	03	18.1	33	SB				C	1446	60	0.7	E
	KANZ	15	1445	1448	1459	S26	E37	4964	03	18.5	14	SF			1					
0169		15	1607*	1617*	1720	S25	E39	4964	03	18.7	73	SN	M	6.5				90	0.9	EFH
	HOLL	15	1607	1617	1740	S24	E41	4964	03	18.8	93	1B	M	6.5	3	E		148		FH
	RAMY	15	1613	1617	1658	S27	E37	4964	03	18.5	45	1B	M	6.5	3	E		131		FH
	HTPR	15	1616		1642D	S25	E40	4964	03	18.8	26D	SN				C	1618	70	0.9	E
	RAMY	15	1700	1708	1728	S26	E40	4964	03	18.8	28	SN	C	7.3	3	E		72		
	PALE	15	1707	1709	1714	S25	E36	4964	03	18.5	7	SF	C	7.3	3	E		29		
0170	HTPR	15	1614		1642D	S23	E32	4967	03	18.1	28D	SB				C	1617	140	1.7	E
0171	HOLL	15	1816	1820	1837	S27	E39	4964	03	18.8	21	SF			3	E		18		
0172		15	20107	2020	2031	S25	E34	4964	03	18.5	21	SF	C	1.8				20		F
	HOLL	15	2010	2020	2033	S26	E33	4964	03	18.4	23	SF	C	1.8	3	E		26		
	PALE	15	2016	2020	2030	S24	E35	4964	03	18.5	14	SF	C	1.8	3	E		21		F
	RAMY	15	2017	2020	2029	S24	E34	4964	03	18.5	12	SF	C	1.8	3	E		14		F
0173		15	20381	20451	2108	S24	E34	4964	03	18.5	30	1N	M	4.4				133		F
	PALE	15	2038	2045	2113	S25	E35	4964	03	18.6	35	1N	M	4.4	3	E		141		F
	RAMY	15	2038	2046	2107	S24	E33	4964	03	18.4	29	1N	M	4.4	3	E		118		F
	HOLL	15	2039	2045	2105	S22	E34	4964	03	18.5	26	1B	M	4.4	4	E		139		F
0174		15	2216*	2219*	2244	S26	E34	4964	03	18.6	28	1B	M	3.7				129		FH
	RAMY	15	2216	2219U	2219D	S26	E31	4964	03	18.3	3D	1B	M	3.7	3	E		131		
	HOLL	15	2216	2219	2243	S24	E34	4964	03	18.5	27	1B	M	3.7	4	E		224		FH
	PALE	15	2227	2234	2244	S29	E37	4964	03	18.8	17	SN	M	3.7	3	E		32		H
0175	HOLL	15	2251	2251	2256	S23	E32	4964	03	18.4	5	SF			4	E		13		F
0176		16	00332	0035	0044	S24	E35	4964	03	18.7	11	SF	C	1.3				22		F
	HOLL	16	0033	0035	0046	S24	E35	4964	03	18.7	13	SF	C	1.3	4	E		30		F
	PALE	16	0035	0035	0042	S23	E35	4964	03	18.7	7	SF	C	1.3	3	E		15		F
0177	LEAR	16	0058	0058	0103	S23	E37	4964	03	18.9	5	SF			3	E		12		
0178		16	0119	0121	0216	S23	E35	4964	03	18.7	57	SN	C	6.5				93	1.3	E
	LEAR	16	0119	0121	0216	S21	E34	4964	03	18.7	57	SN	C	6.5	3	E		90		
	YUNN	16	0126E	0131U	0157D	S25	E36	4964	03	18.8	31D	SN	C	6.5		P	0131	96	1.3	E
0179		16	0237*	0251*	0317	S24	E32	4964	03	18.6	40	1B	M	1.4				156	2.5	DF
	LEAR	16	0237	0301	0328	S21	E31	4964	03	18.5	51	1N	M	1.4	3	E		120		
	PALE	16	0244	0251	0316	S26	E34	4964	03	18.7	32	1N	M	1.4	3	E		100		F
	YUNN	16	0252E	0300U	0318	S24	E32	4964	03	18.6	26D	1B	M	1.4		P	0300	193	2.4	
	PEKG	16	0255	0259	0306	S24	E32	4964	03	18.6	11	1B	M	1.4		P	0259	210	2.6	D
0180	YUNN	16	0430E	0431U	0458	S25	E31	4964	03	18.6	28D	SN				P	0431	161	2.0	H
0181		16	05446	05533	0623	S23	E29	4964	03	18.5	39	SN	M	2.4				100	1.9	EY
	MITK	16	0544	0556	0621	S23	E27	4964	03	18.3	37	SN	M	2.4		C	0556			E
	LEAR	16	0548	0555	0623	S22	E29	4964	03	18.5	35	SN	M	2.4	3	E		51		
	YUNN	16	0549	0553	0622D	S23	E30	4964	03	18.5	33D	1B	M	2.4		P		273	3.3	
	TACH	16	0550	0555U	0624	S23	E27	4964	03	18.3	34	SB				C	0555	43	0.5	EY
	SVTO	16	0610E	0610U	0622D	S22	E34	4964	03	18.9	12D	SF	M	2.4	1	E		34		
0182		16	0727	0731	0800	S24	E28	4964	03	18.5	33	1B						176	2.2	
	YUNN	16	0727	0731	0734D	S24	E28	4964	03	18.5	7D	1B				P		289	3.5	
	BUCA	16	0730E	0730U	0800	S23	E29	4964	03	18.5	30D	SN				C	0730	64	0.8	

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	M	1.0	Obs See	Type	Time (UT)	Area Measurement		Remarks	
																			Apparent (10-6 Disk)	Corr (Sq Deg)		
0183		16	09451	09471	1005	S23	E30	4964	03	18.7	20	1N	M	1.0						166	2.8	EFHZ
	SVTO	16	0945	0947	1013	S22	E29	4964	03	18.6	28	1N	M	1.0	3	E			146			
	KAND	16	0945	0948	0955	S25	E30	4964	03	18.7	10	1B	M	1.0		P	0948		229	2.8	EFHZ	
	LEAR	16	0946	0947	1006	S22	E32	4964	03	18.9	20	1F	M	1.0	3	E			123			
0184		16	11402	1145	1152	S24	E27	4964	03	18.6	12	SF	C	3.2						30	0.5	EH
	KAND	16	1140	1145	1152	S22	E25	4964	03	18.4	12	SF	C	3.2		P	1145		42	0.5	E	
	RAMY	16	1142	1145	1151	S25	E29	4964	03	18.7	9	SF	C	3.2	3	E			17		H	
0195	ABST	16	1310	1316	1319	S22	E26	4964	03	18.5	9	SF					C	1316	87	1.0	D	
0186		16	14048	14059	1414	S24	E25	4964	03	18.5	10	SF	C	2.6						34		FH
	HOLL	16	1345E	1345U	1400	S23	E25	4964	03	18.5	15D	SF				2	E		27			
	RAMY	16	1345E	1405	1423	S24	E24	4964	03	18.4	38D	SN	C	2.6	3	E			32		FH	
	SVTO	16	1404	1406	1410	S23	E25	4964	03	18.5	6	SF	C	2.6	3	E			50		F	
	HOLL	16	1412	1414	1424	S24	E25	4964	03	18.5	12	SF	M	2.1	3	E			27			
0187	HOLL	16	1520	1522	1534	S22	E26	4964	03	18.6	14	SF				3	E		20			
0188		16	1541	1546	1615	S24	E26	4964	03	18.7	34	SB	M	1.3					68		F	
	HOLL	16	1541	1546	1615	S24	E27	4964	03	18.7	34	SB	M	1.3	3	E			86		F	
	SVTO	16	1543E	1547U	1602D	S23	E26	4964	03	18.6	19D	SB	M	1.3	2	E			50		F	
0189	PALE	16	1756	1756	1802	S24	E27	4964	03	18.8	6	SF				3	E		10		F	
0190		16	1826*	18531	1957	S23	E22	4964	03	18.5	91	1B	M	8.2					180		EF	
	PALE	16	1826	1853	2014	S23	E22	4964	03	18.5	108	1B	M	8.2	3	E			187		FE	
	HOLL	16	1834	1853	2020	S22	E22	4964	03	18.5	106	1B	M	8.2	3	E			229			
	RAMY	16	1838	1854	1916	S24	E21	4964	03	18.4	38	1B	M	8.2	3	E			124		F	
0191		16	1902	19051	1933	S16	E12	4968	03	17.7	31	SF							68		F	
	RAMY	16	1902	1905	1932	S16	E11	4968	03	17.6	30	SF				3	E		57			
	HOLL	16	1902	1905	1935	S16	E13	4968	03	17.8	33	SF				3	E		87		F	
	PALE	16	1902	1906	1931	S17	E11	4968	03	17.6	29	SF				3	E		61		F	
0192	RAMY	16	1935	1936U	1948	S26	E23	4964	03	18.6	13	SN				1	E		46			
0193		16	19351	19405	1953	S26	E13	4969	03	17.8	18	SF	C	3.3					101		F	
	HOLL	16	1935	1940	1956	S25	E14	4969	03	17.9	21	SF	C	3.3	3	E			53		F	
	PALE	16	1935	1945	1950D	S27	E13	4969	03	17.8	15D	1F	C	3.3	3	E			205			
	RAMY	16	1936	1937U	1950	S27	E12	4969	03	17.7	14	SF	C	3.3	1	E			44			
0194		16	20261	2028*	2039	S24	E24	4964	03	18.7	13	SF	C	3.8					33		FH	
	HOLL	16	2026	2028	2031	S24	E25	4964	03	18.8	5	SF				3	E		11			
	PALE	16	2027	2040	2047	S23	E22	4964	03	18.5	20	SF	C	3.8	3	E			55		FH	
0195		16	21254	2133	2203	S24	E20	4964	03	18.4	38	1N	M	2.4					96		EFH	
	RAMY	16	2125	2133	2157D	S23	E17	4964	03	18.2	32D	1N	M	2.4	3	E			113		EH	
	HOLL	16	2129	2133	2203	S24	E21	4964	03	18.5	34	1N	M	2.4	4	E			132		FE	
	PALE	16	2141E	2142U	2144D	S24	E21	4964	03	18.5	3D	SF	M	2.4	3	E			44			
0196	HOLL	16	2235	2236	2251	S23	E22	4964	03	18.6	16	SN	C	5.0	3	E			60			
0197		16	2338	2340	2353	S23	E18	4964	03	18.4	15	SB	C	5.7					93	1.6	EITY	
	VORO	16	2338	2340U	2352	S23	E18	4964	03	18.4	14	SB					C	2340	143	1.6	EITY	
	LEAR	16	2338	2340	2354	S23	E18	4964	03	18.4	16	SN	C	5.7	3	E			43			
0198	LEAR	17	0130	0131	0135	S23	E17	4964	03	18.4	5	SF				3	E		10		H	
0199	LEAR	17	0205	0209	0242	S23	E18	4964	03	18.5	37	SF	C	2.8	3	E			52		H	
0200		17	0322	0325	0343	S24	E19	4964	03	18.6	21	SF	C	2.7					20		H	
	LEAR	17	0322	0325	0337	S23	E16	4964	03	18.4	15	SF	C	2.7	3	E			24		H	
	PALE	17	0330E	0330U	0349	S24	E22	4964	03	18.8	19D	SF	C	2.7	2	E			15			
0201		17	0407	04098	0434	S24	E18	4964	03	18.6	27	SN	C	7.7					103	2.2	EFH	
	PALE	17	0407	0409	0419D	S24	E20	4964	03	18.7	12D	SF	C	7.7	2	E			20		F	
	LEAR	17	0407	0417	0432	S23	E17	4964	03	18.5	25	SN	C	7.7	3	E			97		H	
	YUNN	17	0426E	0426U	0437	S24	E16	4964	03	18.4	11D	1N	C	7.7		P	0426		193	2.2	E	

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0202	LEAR	17	0507	0512	0522	S23	E16	4964	03	18.4	15	SF		3	E		40			
0203		17	05261	05282	0540	S22	E20	4964	03	18.8	14	SF C 7.6					74	1.2	DF	
	LEAR	17	0526	0528	0544	S22	E21	4964	03	18.8	18	SF C 7.6	3	E		35		F		
	ABST	17	0527	0530	0535	S21	E18	4964	03	18.6	8	SF		C	0530	114	1.2	D		
0204		17	07162	07211	0726	S24	E15	4964	03	18.5	10	SF					49	1.0	D	
	ABST	17	0716	0722	0729	S23	E16	4964	03	18.5	13	SF		C	0722	87	1.0	D		
	LEAR	17	0718	0721	0724	S24	E14	4964	03	18.4	6	SF		3	E		11			
0205		17	0727*	0742	0818	S23	E15	4964	03	18.5	51	SN					35	0.4	E	
	LEAR	17	0727	0742	0910	S23	E15	4964	03	18.5	103	SF		3	E		37			
	TACH	17	0739	0743U	0756	S23	E15	4964	03	18.5	17	SB		C	0743	20	0.2	E		
	YUNN	17	0740E	0740U	0749	S22	E16	4964	03	18.5	9D	SN		P	0740	48	0.5	E		
0206	LEAR	17	0935	0936	0940	S23	E13	4964	03	18.4	5	SF		3	E		15			
			17	1050		1255	No Flare Patrol													
0207	RAMY	17	1452	1454	1459	S23	E11	4964	03	18.5	7	SF		3	E		15			
0208		17	16302	16342	1645	S24	E09	4964	03	18.4	15	SF C 1.3					22		F	
	RAMY	17	1630	1634	1644	S24	E09	4964	03	18.4	14	SF C 1.3	3	E		24				
	HOLL	17	1632	1636	1646	S23	E09	4964	03	18.4	14	SF C 1.3	3	E		21		F		
0209	RAMY	17	1655	1656	1659	S24	E08	4964	03	18.3	4	SF		3	E		19			
0210		17	1707*	1713*	1751	S24	E10	4964	03	18.5	44	SF C 2.6					29		F	
	RAMY	17	1707	1753	1814	S25	E13	4964	03	18.7	67	SF C 2.6	3	E		42		F		
	HOLL	17	1713	1713	1719	S24	E09	4964	03	18.4	6	SF		3	E		23			
	HOLL	17	1747	1754	1800	S24	E09	4964	03	18.4	13	SF C 2.6	3	E		22				
0211		17	1844*	1850*	1908	S23	E09	4964	03	18.5	24	SF C 2.3					33		F	
	PALE	17	1844	1850	1913	S23	E10	4964	03	18.5	29	SF C 2.3	3	E		44		F		
	HOLL	17	1847	1851	1900	S23	E10	4964	03	18.5	13	SF C 2.3	3	E		26		F		
	HOLL	17	1904	1904	1911	S23	E08	4964	03	18.4	7	SF		3	E		29			
0212		17	2046	2053	2159	S23	E10	4964	03	18.6	73	1N M 2.2					103		FH	
	HOLL	17	2046	2053	2159	S23	E07	4964	03	18.4	73	SB M 2.2	3	E		97		FH		
	PALE	17	2113E	2114U	2120D	S23	E13	4964	03	18.9	7D	1F M 2.2	3	E		109		F		
0213		17	2221	2229	2252	S23	E06	4964	03	18.4	31	SF C 4.8					51		F	
	HOLL	17	2221	2229	2252	S23	E07	4964	03	18.5	31	SF C 4.8	3	E		58				
	PALE	17	2226E	2233U	2240D	S23	E06	4964	03	18.4	14D	SF C 4.8	2	E		44		F		
0214	HOLL	17	2338	2340	2414	S23	E05	4964	03	18.4	36	SF C 3.4	3	E		41		FH		
0215	YUNN	18	0052	0053	0107D	S23	E06	4964	03	18.5	15D	2N		P		482	5.2	F		
0216	YUNN	18	0121	0123	0126	S22	E05	4964	03	18.4	5	SN		C		64	0.7	E		
0217		18	01341	01351	0140	S23	E05	4964	03	18.4	6	SN					110	1.4	E	
	YUNN	18	0134	0135	0140	S23	E05	4964	03	18.4	6	SN		C		129	1.4	E		
	PALE	18	0134	0155U	0211D	S23	E04	4964	03	18.4	37D	1N		2	E		189			
	LEAR	18	0135	0136	0140	S23	E05	4964	03	18.4	5	SF		3	E		11			
0218		18	01484	01542	0222	S24	E06	4964	03	18.5	34	1N C 7.1					242	4.0	F	
	LEAR	18	0148	0154	0229	S23	E06	4964	03	18.5	41	1F C 7.1	3	E		115		F		
	YUNN	18	0152	0156	0215	S24	E06	4964	03	18.5	23	1N C 7.1		C		370	4.0	F		
0219	LEAR	18	0233	0234	0237	N20	E01	4965	03	18.2	4	SF		3	E		13			
0220	LEAR	18	0234	0247	0253	S23	E05	4964	03	18.5	19	SF		3	E		18		F	
0221		18	03162	0317*	0414	S24	E06	4964	03	18.6	58	1N C 2.0					181	2.9	F	
	PALE	18	0316	0320	0336	S23	E03	4964	03	18.4	20	SF C 2.0	1	E		60				
	LEAR	18	0317	0317	0400	S23	E04	4964	03	18.4	43	SF C 2.0	3	E		44		F		
	YUNN	18	0318	0318U	0337D	S23	E03	4964	03	18.4	19D	1N C 2.0		P	0318	321	3.4			
	YUNN	18	0318E	0327U	0448	S26	E12	4964	03	19.1	90D	1N		P	0327	241	2.7			
	YUNN	18	0318E	0340	0433	S25	E07	4964	03	18.7	75D	1N		P		241	2.6	F		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																	Apparent (10-6 Disk)	Corr (Sq Deg)	
0222		18	0741	0741	0759	S24	E03	4964	03	18.5	18	SN					18	0.3	BE
	LEAR	18	0741	0741	0759	S23	E03	4964	03	18.5	18	SF		3	E		13		
	TACH	18	0745E		0752D	S24	E03	4964	03	18.5	7D	SB			C	0747	24	0.3	BE
0223		18	0816*	0818*	0840	S25	E06	4964	03	18.8	24	SF	C 1.2				74	0.9	D
	LEAR	18	0816	0818	0846	S27	E09	4964	03	19.0	30	SF	C 1.2	3	E		60		
	ABST	18	0827	0829	0833	S23	E02	4964	03	18.5	6	SF			C	0829	87	0.9	D
0224	ABST	18	0819	0821	0830	N26	E09		03	19.0	11	SF			C	0821	157	1.8	E
0225	ABST	18	0834	0838	0903	N24	W04	4965	03	18.0	29	SF			C	0838	87	1.0	D
0226		18	1004	1005	1028D	S24	E04	4964	03	18.7	24D	1N	M 1.0				131		
	LEAR	18	1004	1005	1019D	S24	E04	4964	03	18.7	15D	1N	M 1.0	3	E		142		
	SVTO	18	1005E	1005U	1028D	S23	E03	4964	03	18.6	23D	1F	M 1.0	1	E		120		
0227		18	1137	1139	1154	S26	E02	4964	03	18.6	17	SN	C 3.1				51		F
	RAMY	18	1123E	1139U	1158	S26	E02	4964	03	18.6	35D	SN	C 3.1	2	E		69		F
	SVTO	18	1137	1139	1151	S26	E02	4964	03	18.6	14	SF	C 3.1	3	E		33		F
0228	RAMY	18	1256	1300	1324	S16	W12	4968	03	17.6	28	SF		3	E		69		
0229	RAMY	18	1404E	1404	1410	S28	E05	4964	03	19.0	6D	SF		3	E		23		
0230	HOLL	18	1601	1603	1617	S23	W04	4964	03	18.3	16	SF		3	E		30		F
0231		18	1830*	1835*	1902	S24	W02	4964	03	18.6	32	SF					26		F
	HOLL	18	1830	1835	1842	S27	E00	4964	03	18.8	12	SF		3	E		15		
	PALE	18	1830	1851	1859	S22	W05	4964	03	18.4	29	SF		4	E		31		F
	HOLL	18	1845	1851	1925	S25	W01	4964	03	18.7	40	SF		3	E		44		
	RAMY	18	1850	1851	1904	S24	W04	4964	03	18.5	14	SF		3	E		15		F
0232		18	19313	19371	2001	S24	W03	4964	03	18.6	30	SF	C 1.5				84		F
	PALE	18	1931	1938	1956	S23	W05	4964	03	18.4	25	SF	C 1.5	3	E		79		F
	HOLL	18	1932	1938	2006	S25	W01	4964	03	18.7	34	1F	C 1.5	3	E		104		
	RAMY	18	1934	1937	2001	S24	W04	4964	03	18.5	27	SF	C 1.5	3	E		69		F
0233	RAMY	18	2045	2046	2052	S23	W04	4964	03	18.5	7	SF		3	E		13		F
0234		18	2122*	2127*	2149	S24	W03	4964	03	18.6	27	SF	C 1.1				29		F
	RAMY	18	2122	2127	2151D	S23	W04	4964	03	18.6	29D	SF		3	E		31		F
	PALE	18	2124	2135	2140D	S25	W01	4964	03	18.8	16D	SF	C 1.1	3	E		19		
	HOLL	18	2133	2140	2149	S23	W04	4964	03	18.6	16	SF	C 1.1	3	E		36		
0235	HOLL	18	2207	2210	2229	S24	W02	4964	03	18.8	22	SF		3	E		15		
		18	2218		2227	No Flare Patrol													
		18	2246		2249	No Flare Patrol													
0236		18	23171	2319	2335	S24	W04	4964	03	18.7	18	SF					24		F
	HOLL	18	2317	2319	2334	S23	W07	4964	03	18.4	17	SF		3	E		29		F
	LEAR	18	2318	2319	2336	S26	W01	4964	03	18.9	18	SF		3	E		18		
0237	HOLL	19	0003	0003	0012	S29	W42	4970	03	15.7	9	SF		3	E		13		
0238		19	0015	0016	0035	S24	W04	4964	03	18.7	20	SF					24		
	LEAR	19	0015	0016	0034	S26	W02	4964	03	18.8	19	SF		3	E		22		
	HOLL	19	0015	0016	0036	S23	W07	4964	03	18.5	21	SF		3	E		26		
0239	LEAR	19	0138	0138	0159	S23	W09	4964	03	18.4	21	1F	C 2.0	3	E		104		H
0240	LEAR	19	0226	0226	0237	S27	E01	4964	03	19.2	11	SF		3	E		14		
0241	LEAR	19	0243	0243	0249	S26	E00	4964	03	19.1	6	SF		3	E		11		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/USAF		CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
						Lat	CMD Region							Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0242		19	0335*	0341*	0401	S25	W06	4964	03	18.7	26	SF			90	2.2	E	
	YUNN	19	0335	0341	0356	S23	W11	4964	03	18.3	21	SF		C	161	1.8	E	
	LEAR	19	0340	0345	0346	S26	W03	4964	03	18.9	6	SF	3	E	11			
	YUNN	19	0350	0356	0411	S25	W04	4964	03	18.8	21	1N		C	241	2.6	E	
	LEAR	19	0351	0357	0403	S24	W06	4964	03	18.7	12	SF	3	E	21			
	LEAR	19	0404	0404	0408	S25	W06	4964	03	18.7	4	SF	3	E	16			
0243	LEAR	19	0501	0501	0506	S30	W43	4970	03	15.8	5	SF	3	E	12			
0244	YUNN	19	0504	0513	0516	S28	E03	4964	03	19.4	12	1N		C	289	3.2	D	
0245	LEAR	19	0615	0615	0622	S26	W05	4964	03	18.9	7	SF	3	E	20			
0246		19	0621*	06307	0646	S23	W11	4964	03	18.4	25	SN			119	1.8	EY	
	YUNN	19	0621	0630	0644	S23	W12	4964	03	18.3	23	1N		C	321	3.5	E	
	TACH	19	0633	0640U	0650	S23	W10	4964	03	18.5	17	SB		C	0640	23	0.2	EY
	LEAR	19	0637	0637	0644	S23	W10	4964	03	18.5	7	SF	3	E	14			
0247		19	07045	07082	0713	S25	W07	4964	03	18.7	9	SF			51	1.0	DF	
	KANZ	19	0704	0708	0710	S25	W04	4964	03	19.0	6	SF	1					
	SVTO	19	0704	0708	0715	S26	W06	4964	03	18.8	11	SF	3	E	22		F	
	BUCA	19	0705E	0710	0714	S23	W09	4964	03	18.6	9D	SN		C	0710	107	1.2	
	LEAR	19	0706	0708	0712	S25	W06	4964	03	18.8	6	SF	3	E	12			
	PEKG	19	0709	0710	0715	S24	W09	4964	03	18.6	6	SN		C	0710	63	0.7	D
0248		19	08186	08224	0831	N21	W15	4965	03	18.2	13	SF			17	0.2	E	
	HTPR	19	0818	0826	0835	N20	W18	4965	03	18.0	17	SF		C	0826	20	0.2	E
	LEAR	19	0822	0822	0830	N20	W14	4965	03	18.3	8	SF	3	E	14			
	KANZ	19	0824	0824	0829	N22	W14	4965	03	18.3	5	SF	1					
0249	HTPR	19	0825	0826	0830	S20	W27		03	17.3	5	SF		C	0826	20	0.2	
0250		19	1432*	14552	1507	S27	W07	4964	03	19.1	35	SF			19		F	
	SVTO	19	1432	1434U	1511D	S26	W08	4964	03	19.0	39D	SF	2	E	17		F	
	RAMY	19	1452	1457	1504	S27	W07	4964	03	19.1	12	SF	3	E	16		F	
	HOLL	19	1454	1455	1510	S27	W06	4964	03	19.1	16	SF	3	E	23		F	
0251	PALE	19	1717	1724	1743	S28	W53	4970	03	15.6	26	SF	3	E	19			
0252	PALE	19	1906	1906	1909	S26	W10	4964	03	19.0	3	SF	3	E	20			
0253		19	22251	22287	2256	S26	W13	4964	03	18.9	31	SF			16			
	HOLL	19	2225	2228	2245	S26	W13	4964	03	18.9	20	SF	3	E	13			
	PALE	19	2226	2235	2306	S26	W13	4964	03	18.9	40	SF	3	E	18			
0254	HOLL	19	2253	2257	2305	N20	E66	4972	03	25.0	12	SF	3	E	15			
0255	HOLL	19	2303	2341	2431	S26	W13	4964	03	18.9	88	SF	C 3.6	3	E	59		F
		20	0217		0221	No Flare Patrol												
		20	0251		0323	No Flare Patrol												
		20	0341		0347	No Flare Patrol												
		20	0409		0519	No Flare Patrol												
		20	0812		0814	No Flare Patrol												
0256	HOLL	20	1518	1518	1540	N23	W34	4965	03	18.0	22	SF	4	E	12		FH	
0257		20	15341	15421	1627	S27	W20	4964	03	19.1	53	SN	C 5.4		62		EF	
	RAMY	20	1534	1542	1620D	S27	W19	4964	03	19.2	46D	SF	C 5.4	3	E	56		F
	HOLL	20	1535	1543	1627	S27	W21	4964	03	19.0	52	SN	C 5.4	4	E	68		FE
0258		20	16401	16421	1649	N22	W34	4965	03	18.1	9	SF			18			
	RAMY	20	1640	1643	1650	N22	W34	4965	03	18.1	10	SF	3	E	18			
	HOLL	20	1641	1642	1648	N23	W34	4965	03	18.1	7	SF	4	E	18			
0259	PALE	20	1803	1803	1815	S26	W21	4964	03	19.1	12	SF	3	E	13		F	
0260	HOLL	20	1821	1836	1854	S27	W25	4964	03	18.8	33	SF	4	E	28			

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																	Apparent (10-6 Disk)	Corr (Sq Deg)	
0281	HOLL	21	2315E	2315U	2322	N26	W49	4965A	03	18.2	7D	SF		3	E		37		H
0282	HOLL	22	0009	0009	0025	N21	E40	4972	03	25.1	16	SF		3	E		28		
0283	HOLL	22	0029	0029	0037	S28	W79	4970	03	15.8	8	SF		3	E		18		
0284	YUNN	22	0201E	0203	0208	S26	W41	4964	03	18.9	7D	SF			P		129	1.8	D
0285		22	0712	0715	0734	S28	W42	4964	03	19.0	22	1N					230	3.4	E
	ABST	22	0712	0715	0734	S29	W43	4964	03	18.9	22	1F		C	0715		140	2.1	E
	YUNN	22	0722E	0723U	0727D	S27	W42	4964	03	19.0	5D	1N		P	0723		321	4.7	E
0286	HPR	22	0920	0923	0929	N19	W17		03	21.1	9	SF		C	0923		20	0.2	
0287	ABST	22	0922	0923	0928	N24	W56	4965	03	18.1	6	SF		C	0923		87	1.7	DV
0288		22	0940*	10011	1012	S25	W51	4964	03	18.4	32	SN					16	0.2	D
	HPR	22	0940	1002	1015	S25	W52	4964	03	18.4	35	SF		C	1002		10	0.2	
	KAND	22	1000	1001	1008	S25	W50	4964	03	18.5	8	SN		P	1001		21	0.3	D
0289	HPR	22	1209	1211	1213	S26	W41	4964	03	19.3	4	SF		C	1211		20	0.3	
0290	HPR	22	1422	1430	1436	S25	W43	4964	03	19.3	14	SF		C	1430		20	0.3	
0291	HPR	22	1438	1442	1456	N22	E28	4972	03	24.8	18	SF		C	1442		20	0.2	E
0292	HPR	22	1519	1523	1525	N22	E27	4972	03	24.7	6	SF		C	1523		20	0.2	
0293	HOLL	22	1851	1855	1909	S33	E66	4974	03	28.0	18	SF		4	E		26		
0294		22	2024	2024	2035	N21	E28	4972	03	25.0	11	SF					35		
	HOLL	22	2024	2024	2033	N21	E28	4972	03	25.0	9	SF		3	E		39		
	RAMY	22	2024	2024	2037	N21	E29	4972	03	25.1	13	SF		3	E		31		
0295		22	20514	20592	2117	S28	W48	4964	03	19.1	26	SN	C 3.6				47		EF
	HOLL	22	2051	2059	2119	S28	W47	4964	03	19.2	28	SN	C 3.6	3	E		40		
	RAMY	22	2051	2059	2122	S28	W48	4964	03	19.1	31	SN	C 3.6	3	E		62		FE
	PALE	22	2055	2101	2109	S28	W50	4964	03	19.0	14	SF	C 3.6	3	E		39		
0296	HOLL	22	2313	2315	2318	S26	W52	4964	03	18.9	5	SF		3	E		30		
0297	PALE	23	0057	0104	0141	S24	W55	4964	03	18.8	44	SF		3	E		44		F
0298		23	01452	01531	0204	S26	W46	4964	03	19.5	19	SB					102	2.0	EF
	YUNN	23	0145	0153	0204	S26	W46	4964	03	19.5	19	SB		C			129	2.0	E
	PALE	23	0147	0154	0203	S25	W47	4964	03	19.4	16	SN		3	E		76		F
0299		23	01507	0150*	0220	N24	E28	4972	03	25.2	30	1N					192	3.9	EF
	PALE	23	0150	0150	0218	N23	E30	4972	03	25.4	28	SF		3	E		95		FS
	YUNN	23	0157	0202	0221	N24	E27	4972	03	25.2	24	1N		C			289	3.9	E
0300	YUNN	23	0229	0244	0304	N27	W61	4965	03	18.3	35	SN			C				D
0301	PALE	23	0410	0414	0428D	S25	W47	4964	03	19.5	18D	SF		1	E		32		
0302	ABST	23	0652	0655	0703	N18	E88	4975	03	30.0	11	1F		C	0655		87		ADG
0303		23	07232	07291	0746	S24	W58	4964	03	18.8	23	SN					59	1.2	DE
	YUNN	23	0723	0729	0737	S24	W57	4964	03	18.9	14	SF		C			48	0.9	D
	HPR	23	0725	0730	0755	S24	W59	4964	03	18.7	30	SN		C	0730		70	1.4	E
0304	HPR	23	0758	0809	0819	S26	W52	4964	03	19.3	21	SF		C	0809		50	0.8	E
0305		23	08112	08342	0847	N18	E89	4975	03	30.1	36	SB					60		A
	HPR	23	0811	0836	0840	N20	E90	4975	03	30.2	29	SB		C	0836		60		A
	YUNN	23	0813	0834	0854	N15	E88	4975	03	30.0	41			C					A

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0306		23	0822*	0825*	0851	S25	W57	4964	03	18.9	29	SF					43	0.8	DE
	HTPR	23	0822	0825	0838	S24	W60	4964	03	18.7	16	SF			C	0825	60	1.2	E
	HTPR	23	0827	0835	0904	S26	W52	4964	03	19.3	37	SF			C	0835	20	0.3	E
	YUNN	23	0857	0903	0904D	S25	W59	4964	03	18.8	7D	SF			P		48	1.0	D
0307		23	09212	09221	0936	N27	W67	4965	03	18.2	15	SN					50	1.2	
	HTPR	23	0921	0922	0936	N23	W69	4965	03	18.1	15	SN			C	0922	50	1.2	
	KANZ	23	0923	0923	0926D	N31	W65	4965	03	18.3	3D	SF	1						
0308	HTPR	23	0921	0927	0934	S26	W52	4964	03	19.3	13	SF			C	0927	40	0.6	E
0309		23	09464	0950*	1006	N24	E22	4972	03	25.1	20	1N					250	2.5	EU
	HTPR	23	0946	1002	1012	N23	E20	4972	03	24.9	26	1N			C	1002	250	2.5	EU
	KANZ	23	0950	0950	1001	N24	E23	4972	03	25.2	11	SF	2						
0310	HTPR	23	1040	1042	1046	S26	W53	4964	03	19.3	6	SF			C	1042	30	0.5	E
		23	1107		1119	No Flare Patrol													
0311	HTPR	23	1402	1402	1407	S33	E55	4974	03	27.9	5	SF			C	1402	50	0.9	E
0312	HTPR	23	1413	1427	1433	N24	W67	4965	03	18.4	20	1N			C	1427	110	2.3	
		23	1443		1453	No Flare Patrol													
0313		23	14583	15023	1518	S34	E56	4974	03	28.1	20	SF					28	0.3	F
	HOLL	23	1458	1505	1528	S36	E56	4974	03	28.1	30	SF	3	E			36		F
	HTPR	23	1501	1502	1508	S33	E55	4974	03	28.0	7	SF			C	1502	20	0.3	
		23	1509		1516	No Flare Patrol													
0314		23	15361	1537*	1652	S24	W58	4964	03	19.2	76	SN					48	1.2	EF
	HOLL	23	1536	1537	1700	S22	W62	4964	03	18.9	84	SF	3	E			25		F
	HTPR	23	1537	1604	1643	S25	W55	4964	03	19.4	66	SN			C	1604	70	1.2	E
		23	1654		1712	No Flare Patrol													
0315	HOLL	23	1727	1728	1734	N22	W70	4965	03	18.3	7	SF	3	E			20		
0316	HOLL	23	1951	1952	1958	S26	W56	4964	03	19.5	7	SF	3	E			17		F
0317	HOLL	23	2017	2020	2034	S25	W56	4964	03	19.5	17	SF C 2.8	3	E			44		
0318	HOLL	23	2226	2259	2342	N20	W71	4965	03	18.5	76	SN	3	E			27		
0319	YUNN	24	0207E	0207U	0215	N25	W87		03	17.3	8D	SN			P	0207	32		
0320	PALE	24	0320	0320	0337	S35	E48	4974	03	28.0	17	SF	3	E			28		
0321		24	03328	0334*	0358	S26	W64	4964	03	19.2	26	SF C 1.2	2	E			45		
	PALE	24	0332	0334	0354	S27	W65	4964	03	19.1	22	SF C 1.2	2	E			45		
	LEAR	24	0340	0351	0401	S25	W64	4964	03	19.2	21	SF C 1.6	3	E			45		
0322	LEAR	24	0435	0440	0446	N24	W77	4965	03	18.2	11	SF	3	E			21		
0323	ABST	24	0550	0553	0558	N22	E85	4975	03	30.8	8	1F			C	0553	79		ADI
0324	HTPR	24	0739	0757	0820	N20	E88	4975	03	31.0	41	SF			C	0757	30		E
0325		24	0810	0814	0821	N20	E02	4972	03	24.5	11	SN					42	0.4	D
	HTPR	24	0810	0814	0822	N20	W01	4972	03	24.3	12	SF			C	0814	20	0.2	
	YUNN	24	0812E	0816U	0820	N21	E06	4972	03	24.8	8D	SN			P	0816	64	0.7	D
0326	HTPR	24	0936	0938	0950	S27	W64	4964	03	19.4	14	1N			C	0938	150	3.2	E
0327		24	10191	10263	1043	N19	E88	4975	03	31.1	24	1N M 4.3					112		A
	SVTO	24	1019	1026	1041	N21	E87	4975	03	31.1	22	1F M 4.3	3	E			143		
	HTPR	24	1020	1029	1045	N17	E90	4975	03	31.3	25	1B			C	1029	80		A
0328	HTPR	24	1200	1223	1306	N24	E05	4972	03	24.9	66	SN			C	1223	100	1.1	E

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/USAF		CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
						Lat	Cmd Region								Apparent (10-6 Disk)	Corr (Sq Deg)	
0329		24	13025	13072	1314	S27	W65 4964	03 19.5	12	SF					35	1.4	
	HTPR	24	1302	1307	1316	S26	W63 4964	03 19.6	14	SF			C	1307	60	1.4	
	SVTO	24	1307	1307	1312	S27	W65 4964	03 19.5	5	SF		2	E		19		
	RAMY	24	1307	1309	1314	S27	W66 4964	03 19.4	7	SF		3	E		27		
0330		24	13513	13556	1425	N17	E76 4975	03 30.3	34	SF C 2.8					30		F
	HTPR	24	1351		1358D	N16	E76 4975	03 30.3	7D	SF			C	1356	20		
	RAMY	24	1352	1355	1417	N15	E74 4975	03 30.2	25	SF C 2.8		3	E		45		
	SVTO	24	1354	1401	1433	N19	E78 4975	03 30.5	39	SF C 2.8		3	E		24		F
0331		24	1434*	1436*	1453	S26	W67 4964	03 19.4	19	SF C 1.3					45		EF
	HOLL	24	1434	1436	1439	S25	W66 4964	03 19.5	5	SF		3	E		17		F
	RAMY	24	1437	1448	1501	S27	W67 4964	03 19.4	24	SN C 1.3		3	E		55		E
	SVTO	24	1445	1449	1456	S27	W67 4964	03 19.4	11	SF C 1.3		3	E		39		
	HOLL	24	1445	1449	1456	S27	W67 4964	03 19.4	11	SF C 1.3		3	E		69		F
0332	HOLL	24	1547	1548	1552	S28	W68 4964	03 19.3	5	SF		3	E		15		
0333		24	1634	16351	1649	S26	W68 4964	03 19.4	15	SN M 1.2					76		E
	HOLL	24	1634	1635	1649	S26	W69 4964	03 19.3	15	SN M 1.2		3	E		78		E
	RAMY	24	1634	1636	1646D	S27	W68 4964	03 19.4	12D	SN M 1.2		3	E		74		
0334	HOLL	24	1707	1729	1821	N21	E72 4975	03 30.2	74	SF C 1.7		3	E		52		F
0335	HOLL	24	1741	1741	1751	S24	W77 4964	03 18.8	10	SF		3	E		18		
0336		24	1825	2013	2032	N20	E00 4972	03 24.8	127	1B C 3.2					140		EF
	HOLL	24	1825	2013	2039	N20	E00 4972	03 24.8	134	1N C 3.2		3	E		122		FE
	PALE	24	1829E	1840U	2025	N20	E01 4972	03 24.8	116D	1B		2	E		157		FE
0337		24	1918*	1920*	1944	S26	W69 4964	03 19.4	26	SF C 6.5					32		F
	PALE	24	1918	1920	1957	S25	W69 4964	03 19.4	39	SF C 6.5		2	E		40		
	HOLL	24	1920	1927	1931	S27	W69 4964	03 19.4	11	SF C 6.5		3	E		20		F
	HOLL	24	1936	1941	1945	S26	W70 4964	03 19.4	9	SF		3	E		35		
0338		24	2022	2034	2049	S26	W70 4964	03 19.4	27	1B C 3.2					124		FH
	HOLL	24	2022	2034	2049	S26	W71 4964	03 19.3	27	1B C 3.2		3	E		167		F
	PALE	24	2029E	2034U	2035D	S25	W69 4964	03 19.5	6D	SN C 3.2		2	E		81		FH
0339	HOLL	24	2030	2031	2054	S36	E38 4974	03 27.9	24	SF		3	E		23		
0340	HOLL	24	2052	2055	2101	S29	W72 4964	03 19.2	9	SF		3	E		45		
0341	HOLL	24	2138	2142	2151	N21	E70 4975	03 30.3	13	SN C 3.0		3	E		93		F
0342	HOLL	24	2316	2319	2326	N21	E78 4975	03 30.9	10	SF		3	E		14		
0343	YUNN	25	0121	0137	0149	S26	W72 4964	03 19.5	28	SN			C		16		D
0344	YUNN	25	0311	0317	0335	S27	W75 4964	03 19.3	24	SN			C		32		D
0345	ABST	25	0521E	0523	0529	N24	W90 4965	03 18.3	8D	1N			P	0523	87		ADG
0346	ABST	25	0529	0534	0620	S23	W90 4964	03 18.3	51	1N			C	0534	87		ADG
0347		25	07241	07262	0757	N21	E65 4975	03 30.3	33	1N C 2.7					155		D
	YUNN	25	0724	0727	0830	N22	E65 4975	03 30.3	66	1B C 2.7			C		225		D
	ABST	25	0724	0728	0741	N21	E66 4975	03 30.4	17	1N			C	0728	114		D
	LEAR	25	0725	0726	0740	N21	E64 4975	03 30.2	15	1F C 2.7		3	E		125		
0348		25	08444	08491	0900	S26	W78 4964	03 19.3	16	1N C 3.5					173		D
	YUNN	25	0844	0850	0900	S26	W77 4964	03 19.4	16	1B C 3.5			C		177		D
	LEAR	25	0845	0849	0901	S25	W78 4964	03 19.3	16	1N C 3.5		3	E		168		
	ABST	25	0848	0850	0900	S26	W78 4964	03 19.3	12	1F			C	0850	175		D
0349	SVTO	25	1117	1122	1129	S30	W80 4964	03 19.2	12	1N M 2.0		3	E		120		
0350	HOLL	25	1609	1611	1620	S28	W79 4964	03 19.5	11	SF C 1.3		3	E		34		
0351	RAMY	25	1644	1644	1654	S23	E67 4977	03 30.8	10	SF		3	E		11		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Area Measurement			Remarks				
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)					
0352		25	18266	18312	1846	S28	W80	4964	03	19.5	20	SF						18					
	HOLL	25	1826	1831	1847	S28	W81	4964	03	19.4	21	SF		3	E			21					
	RAMY	25	1832	1833	1845	S27	W80	4964	03	19.5	13	SF		3	E			15					
0353		25	1908	19102	1922	S24	W88	4964	03	19.0	14	SF						29					
	HOLL	25	1908	1910	1922	S25	W88	4964	03	19.0	14	SF		3	E			38					
	RAMY	25	1908	1912	1929D	S24	W89	4964	03	18.9	21D	SF		3	E			20					
0354	HOLL	25	1937	1939	1942	S28	W83	4964	03	19.3	5	SF C	1.0	3	E			22					
0355	HOLL	25	2050	2050	2102	N18	E61	4975	03	30.5	12	SF		3	E			14					
0356	HOLL	25	2102	2109	2115	S22	E61	4977	03	30.6	13	SF		3	E			12					
0357	HOLL	25	2127	2128	2132	S28	W82	4964	03	19.5	5	SF		3	E			15					
0358	HOLL	25	2204	2206	2210	S21	E87	4978	04	1.6	6	SF		3	E			26					
0359	HOLL	25	2210	2218	2224	S26	W83	4964	03	19.5	14	SF		3	E			12					
0360	LEAR	26	0238	0238	0243	N16	E57	4975	03	30.4	5	SF		3	E			14					
0361	LEAR	26	0442	0443	0448	S22	E81	4978	04	1.4	6	SF		3	E			13					
0362	LEAR	26	0451	0451	0454	N18	E57	4975	03	30.5	3	SF		3	E			16					
0363	LEAR	26	0458	0500	0518	N15	E56	4975	03	30.4	20	SF		3	E			24					
0364	LEAR	26	0610	0610	0624	N16	E57	4975	03	30.6	14	SF		3	E			12					
0365	HOLL	26	1641	1657	1708	N17	E54	4975	03	30.8	27	SF		3	E			24	F				
0366	HOLL	26	2245	2251	2322	N18	E50	4975	03	30.7	37	SF C	1.1	3	E			46					
																				27	1151	1154	No Flare Patrol
																				27	1322	1413	No Flare Patrol
																				27	1441	1459	No Flare Patrol
																				27	1545	1550	No Flare Patrol
0367		27	19541	19562	2004	S24	E42	4977	03	31.1	10	SF						16					
	PALE	27	1954	1958	2007	S25	E42	4977	03	31.1	13	SF		3	E			19					
	HOLL	27	1955	1956	2001	S23	E42	4977	03	31.1	6	SF		3	E			14					
0368	PALE	28	0212	0216	0226	N22	W43	4972	03	24.8	14	SF		2	E			38					
																				27	2037	2113	No Flare Patrol
0369	PALE	28	0359	0400	0406	N16	E32	4975	03	30.6	7	SF		2	E			15	F				
																				27	2154	2242	No Flare Patrol
0370	HOLL	28	1614	1617	1619	N22	W48	4972	03	25.0	5	SF		3	E			10					
0371		28	1756	17564	1808	N18	E26	4975	03	30.7	12	SF						19	F				
	PALE	28	1756	1756	1806	N16	E25	4975	03	30.6	10	SF		3	E			17	F				
	HOLL	28	1756	1800	1809	N20	E27	4975	03	30.8	13	SF		4	E			21					
0372		28	1910*	1912*	1941	N16	E24	4975	03	30.6	31	SF						34	F				
	PALE	28	1910	1912	1922	N16	E25	4975	03	30.7	12	SF		3	E			19					
	HOLL	28	1910	1926	1955	N17	E22	4975	03	30.5	45	SF		3	E			36					
	PALE	28	1924	1928	1947	N16	E24	4975	03	30.6	23	SF		3	E			48	F				
0373	HOLL	28	2314	2315	2332	S24	E28	4977	03	31.1	18	SF		3	E			18					
0374	HOLL	28	2329	2332	2337	N22	E21	4975	03	30.6	8	SF		3	E			43	F				
0375	HOLL	28	2353	2358	2407	N22	E21	4975	03	30.6	14	SF		3	E			27					
0376	YUNN	29	0049	0112	0220	N21	E29	4975	03	31.2	91	2B C	3.9		C			563	7.6	F			
0377	LEAR	29	0137	0139	0148	N19	E23	4975	03	30.8	11	SF		3	E			16	F				

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						Lat	CMD	Region							Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0378	SVTO	29	0629	0629	0638	N21	E16	4975	03	30.5	9	SF C 3.1	3	E		40		
0379	HTPR	29	1230	1232	1237	S20	E38	4978	04	1.4	7	SF		C	1232	20	0.3	
0380		29	18261	18292	1857	S23	E35	4978	04	1.5	31	1F C 1.9				127		EFR
	PALE	29	1826	1829	1858	S24	E35	4978	04	1.5	32	1N C 1.9	3	E		119		FE
	HOLL	29	1827	1830	1859	S20	E34	4978	04	1.4	32	1F C 1.9	3	E		124		FR
	RAMY	29	1827	1831	1853	S24	E36	4978	04	1.5	26	1F C 1.9	3	E		139		F
0381		29	1949*	1953*	2022	S18	E32	4978	04	1.3	33	SF				12		F
	HOLL	29	1949	1953	2017	S18	E32	4978	04	1.3	28	SF	3	E		11		F
	PALE	29	2011	2011	2027	S19	E31	4978	04	1.2	16	SF	3	E		12		F
0382	HOLL	29	2239	2249	2309	N21	E09	4975	03	30.6	30	SF C 1.4	3	E		16		F
0383	HOLL	29	2243	2245	2253	S22	E33	4978	04	1.5	10	SF C 1.4	3	E		12		F
0384	LEAR	29	2319	2325	2329	N15	E11	4975	03	30.8	10	SF	3	E		14		
0385		30	08001	08001	0807	N21	E18	4975	03	31.7	7	SF				11		
	SVTO	30	0800	0800	0807	N22	E17	4975	03	31.6	7	SF	3	E		11		
	KANZ	30	0801	0801	0804D	N20	E18	4975	03	31.7	3D	SF	2					
0386	ABST	30	0859E	0902U	0911D	N21	E07	4975	03	30.9	12D	SF		P	0902	87	1.0	D
0387	LEAR	30	0942	0942	0945	N19	E05	4975	03	30.8	3	SF	3	E		21		
0388	RAMY	30	1307	1311	1318	N21	E06	4975	03	31.0	11	SF	3	E		15		
0389	HOLL	30	1513	1517	1519	N20	E00	4975	03	30.6	6	SF	3	E		26		
0390	HOLL	30	1527	1530	1532	N21	W05	4975	03	30.3	5	SF	3	E		17		F
0391	HOLL	30	1556	1600	1609	N23	W70	4972A	03	25.3	13	SF	3	E		14		
0392		30	16057	1612	1623	N19	E00	4975	03	30.7	18	SF C 1.3				50		FH
	HOLL	30	1605	1612	1626	N19	E01	4975	03	30.7	21	SF C 1.3	3	E		62		FH
	RAMY	30	1612	1612	1620	N19	W01	4975	03	30.6	8	SF C 1.3	3	E		37		
0393	HOLL	30	1611	1612	1626	S21	E25	4978	04	1.6	15	SF	3	E		26		F
0394	HOLL	30	1640	1641	1650	N18	W66	4972A	03	25.7	10	SF	3	E		14		
0395	HOLL	30	1651	1651	1657	N20	W02	4975	03	30.5	6	SF	3	E		29		
0396	HOLL	30	1653	1653	1701	N21	W77	4972	03	24.8	8	SF	3	E		11		
0397		30	1812	18132	1825	N20	W00	4975	03	30.7	13	SF				31		F
	HOLL	30	1812	1813	1823	N20	W02	4975	03	30.6	11	SF	3	E		37		
	RAMY	30	1812	1815	1827	N20	E01	4975	03	30.8	15	SF	3	E		25		F
0398		30	1911	1915	1919	N20	E02	4975	03	30.9	8	SN C 1.0				58		FH
	HOLL	30	1911	1915	1919	N20	E02	4975	03	30.9	8	SN C 1.0	3	E		58		F
	RAMY	30	1911	1915	1925D	N20	E03	4975	03	31.0	14D	SF C 1.0	3	E		57		H
0399	HOLL	30	2107	2110	2119	N18	W04	4975	03	30.6	12	SF	3	E		13		
0400		30	23072	2310	2334	N20	W04	4975	03	30.6	27	SN C 1.0				90	1.6	EFITY
	VORO	30	2307	2311U	2328D	N20	W06	4975	03	30.5	21D	SN		C	2311	143	1.6	EITY
	HOLL	30	2309	2310	2334	N21	W03	4975	03	30.7	25	SF C 1.0	3	E		38		F
0401	ABST	31	0505	0507	0512	N21	E05		03	31.6	7	SF		C	0507	131	1.5	D
0402	ABST	31	0511	0514	0537	N20	W90	4972	03	24.3	26	1F		C	0514	96		AD
0403	LEAR	31	0534	0537	0546	S22	E16	4978	04	1.5	12	SF	3	E		50		
0404		31	0725	0726	0731	S32	W45	4974	03	27.7	6	SN				37	0.8	D
	LEAR	31	0725	0726	0731	S32	W44	4974	03	27.8	6	SF	3	E		26		
	YUNN	31	0726E	0726U	0729D	S33	W46	4974	03	27.6	3D	SN		P	0726	48	0.8	D

H - ALPHA SOLAR FLARES

MARCH 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/USAF Region			CMP Mo	Dur Day	Imp Opt	Xray	Obs See	Type	Area Measurement		Remarks
						Lat	Cmd	Region							Time (UT)	Apparent (10-6 Disk)	
0405		31	08023	08061	0810	S32	W44	4974	03	27.8	8	SN			30	0.8	D
	YUNN	31	0802	0806	0810	S32	W45	4974	03	27.8	8	SN		C	48	0.8	D
	LEAR	31	0805	0807	0809	S32	W44	4974	03	27.8	4	SF	3	E	13		
0406	LEAR	31	0925	0926	0935	S22	W02	4977	03	31.2	10	SF	3	E	13		
0407	RAMY	31	1121	1123	1127	N14	W13	4975	03	30.5	6	SF	3	E	16		
0408	RAMY	31	1126	1130	1138	S22	E14	4978	04	1.5	12	SF	3	E	17		
0409	RAMY	31	1331	1331	1334	S23	W04	4977	03	31.2	3	SF	3	E	17		
0410		31	20368	2046	2125	N19	W15	4975	03	30.7	49	SF C 3.2			86		F
	RAMY	31	2036	2043U	2130D	N20	W15	4975	03	30.7	54D	SF C 3.2	3	E	82		F
	PALE	31	2044	2046	2125	N18	W15	4975	03	30.7	41	SF C 3.2	3	E	89		F
0411	PALE	31	2203	2206	2212	N18	W16	4975	03	30.7	9	SF	3	E	41		F
0412	LEAR	31	2338	2339	2342	N13	E67		04	6.0	4	SF	3	E	20		

"Remarks"

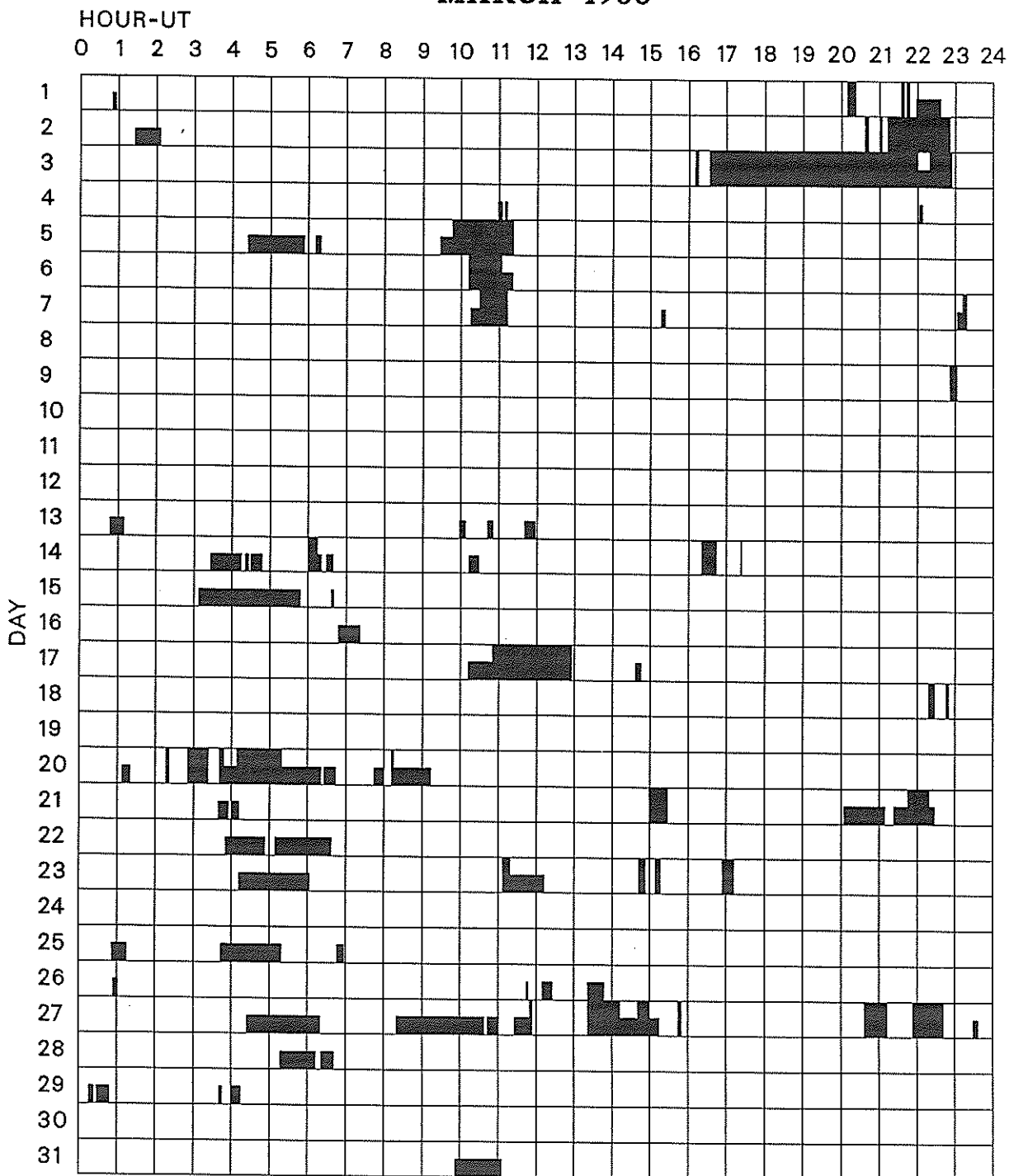
A = Eruptive prominence whose base is less than 90 degrees from central meridian.
 B = Probably the end of a more important flare.
 C = Invisible 10 minutes before.
 D = Brilliant point.
 E = Two or more brilliant points.
 F = Several eruptive centers.
 G = No visible spots in the neighborhood.
 H = 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

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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
Athens
Bucharest
Catania

Haute Provence
Holloman
Istanbul
Kandilli

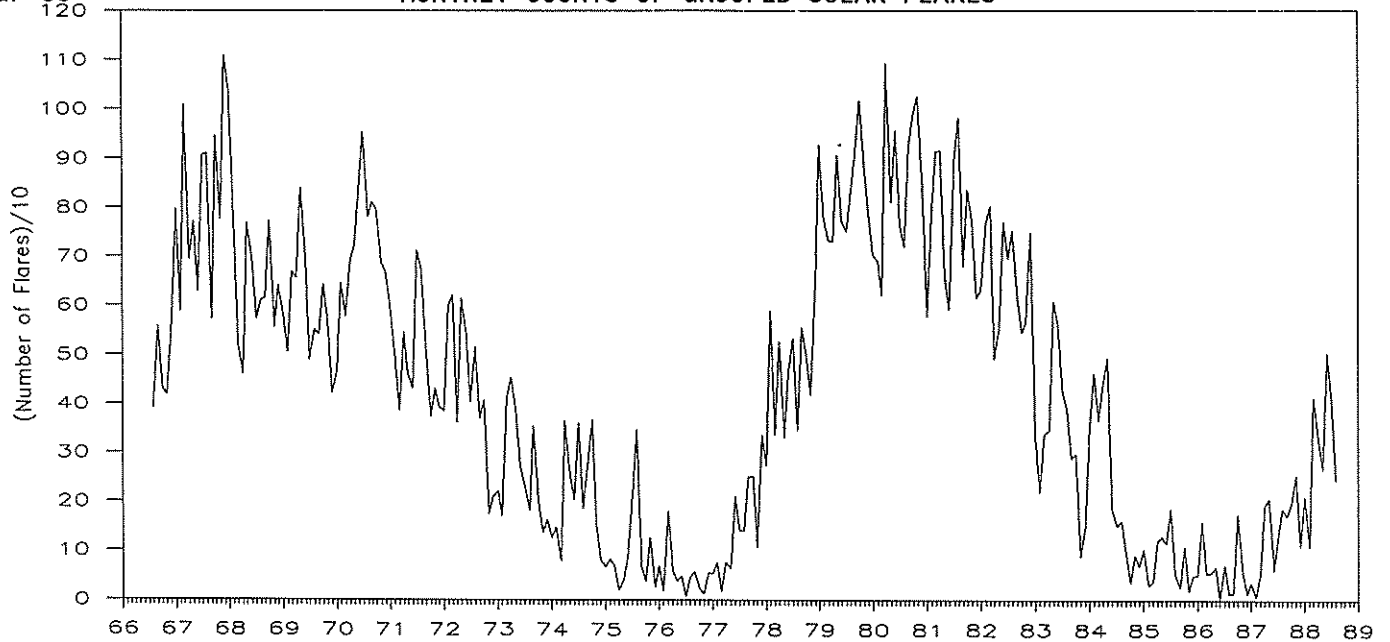
Kanzelhoehe
Kodaikanal
Learmonth
Lvov

Manila
Mitaka
Palehua
Peking

Ramey
San Vito
Tashkent
Yunnan

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MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	171	198	254	111	1604
1988	209	108	412	327	266	502	408	245					2477

*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

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MARCH 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Peak (10 ⁻²² W/m ² Hz)	Density Mean (W/m ² Hz)	Int	Remarks
01	200	GORK	44 NS	0501.0E		419.0D		20.0		
	245	SVTO	43 NS	0543.0	1453.0	636.0D	220.0			QL=1 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	80.0			
	234	POTS	44 NS	0610.0E	1101.0	520.0D	220.0			
	260	ONDR	44 NS	0710.0E	1154.3	466.0D	45.0			
	127	TORN	44 NS	0800.0E		420.0D		2.0		V=1
	245	PALE	43 NS	1711.0	0247.0	669.0D	110.0			QL=5 ST=2 TYP=1
	245	LEAR	43 NS	2237.0	0813.0	718.0	160.0			QL=5 ST=2 TYP=1
	1415	LEAR	8 S	0449.0	0450.0	1.0	36.0			QL=5 ST=2 TYP
	2840	YUNN	1 S	0449.7	0450.1	1.7	6.0			
	234	POTS	4 S/F	0816.2	0816.9	1.3	375.0	40.0		
	2950	GORK	1 S	0817.9	0818.4	1.4	1.7	0.8		
	2800	OTTA	22 GRF	1510.0	1630.0	140.0	2.5			
2800	OTTA	1 S	2026.0	2027.0	5.0	8.7	4.3			
02	200	HIRA	44 NS	0043.0E	0411.0	480.0D	20.0	4.0		MR
	200	GORK	44 NS	0500.0E		360.0D		5.0		
	221	ABST	43 NS	0500.0	0718.0	240.0	12.0			QL= ST= TYP=1
	245	SVTO	43 NS	0541.0	1456.0	639.0D	240.0			QL=1 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	30.0			
	260	ONDR	44 NS	0740.0E	0908.4	480.0D	56.0			
	127	TORN	43 NS	1006.0		166.0		1.0		V=1
	245	PALE	8 S	0057.0	0057.0	1.0	150.0			QL=3 ST=2 TYP=5
	500	HIRA	27 RF	0337.0	0426.5	70.0	6.0	3.0		WR
	2950	GORK	1 S	0652.3	0653.5	1.7	1.6	0.8		
	5900	KISV	2 S/F	0652.4	0653.7	6.0	2.0			
	3100	CRIM	1 S	0653.2	0653.5	1.0	1.0	0.4		
	2950	GORK	1 S	0849.9	0850.2	0.8	1.0	0.5		
	2950	GORK	20 GRF	0930.0	0932.7	23.7	2.4			
	1470	POTS	4 S/F	1402.9	1403.2	1.1	11.0			
3000	POTS	3 S	1403.0	1404.0	2.0	10.0				
2800	OTTA	22 GRF	1744.0	1752.0	44.0	2.8	1.0			
03	245	LEAR	44 NS	0214.0E	1001.0	500.0D	80.0			QL=5 ST=3 TYP=1
	200	HIRA	43 NS	0216.0	0546.0	390.0D	18.0	4.0		WR
	200	GORK	44 NS	0457.0E		471.0D		5.0		
	245	SVTO	43 NS	0540.0	1001.0	641.0D	110.0			QL=1 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	50.0			
	260	ONDR	44 NS	0725.0E	1128.0U	467.0D	40.0			
	127	TORN	43 NS	0838.0		282.0		2.0		V=1
	245	PALE	43 NS	1734.0	0258.0	647.0D	51.0			QL=5 ST=2 TYP=1
	200	HIRA	44 NS	2105.0E	0338.0	660.0D	10.0	3.0		0
	245	LEAR	43 NS	2238.0	0215.0	715.0D	58.0			QL=5 ST=2 TYP=1
	536	ONDR	42 SER	1333.7	1333.7	15.8	18.0			
2800	OTTA	32 ABS	1605.0	1712.0	98.0	-2.0	1.0			
2800	OTTA	32 ABS	1803.0	1817.0	35.0	-2.5	1.0			
04	200	GORK	44 NS	0502.0E		475.0D		5.0		
	204	IZMI	43 NS	0600.0		360.0D	20.0			
	260	ONDR	44 NS	0732.0E	1102.7	449.0D	101.0U			
	410	LEAR	8 S	0729.0	0730.0	1.0	7.0			QL=5 ST=2 TYP=3
	245	LEAR	4 S/F	0730.0	0730.0	82.0	120.0			QL=5 ST=2 TYP=5
	2950	GORK	20 GRF	0748.0	0754.4	10.5	1.7	0.7		
	237	TRST	45 C	1118.8	1118.8	0.1	45.0			13L
	237	TRST	42 SER	1153.4	1153.5	0.2	27.0			2R
	327	TRST	42 SER	1153.4	1153.5	0.2	52.0			3R
	2800	OTTA	24 R	1400.0	1700.0	480.0D	2.9	2.0		
536	ONDR	42 SER	1408.5	1408.6	9.5	43.0				
2800	OTTA	23 GRF	1534.0	1554.0	150.0	2.8	1.0			
05	200	GORK	44 NS	0450.0E		70.0D		5.0		
	260	ONDR	44 NS	0810.0E	1237.2	420.0D	7.0U			
	2950	GORK	1 S	0738.6	0740.0	3.4	1.6	0.8		
	536	ONDR	8 S	1246.2	1246.2	0.8	42.0			
	2800	OTTA	32 ABS	1327.0	1400.0	70.0	2.3	1.0		
	2800	OTTA	22 GRF	1520.0	1541.0	160.0	2.3	1.0		

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

MARCH 1988

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak ₂₂ (10 ⁻²² W/m ² Hz)	Flux Density Mean (W/m ² Hz)	Int	Remarks
05	2700 PENT	20 GRF	2039.0	2122.0	120.00	3.5	2.0		
06	[260 ONDR	44 NS	0810.0E	1040.7U	360.00	12.00			
	[200 GORK	43 NS	0915.0		135.00		5.0		
	[245 LEAR	8 S	0312.0	0313.0	1.0	40.0			QL=5 ST=2 TYP=3
	[245 PALE	8 S	0357.0	0357.0	1.0	64.0			QL=5 ST=2 TYP=5
	[500 HIRA	6 S	0357.4	0357.7	1.5	26.0			WR
	[245 LEAR	8 S	0711.0	0711.0	2.0	220.0			QL=5 ST=2 TYP=5
	[245 SVTO	4 S/F	0711.0	0711.0	1.0	360.0			QL=1 ST=3 TYP=5
	[410 SVTO	8 S	0711.0	0711.0	1.0	17.0			QL=1 ST=2 TYP=3
	[204 IZMI	41 F	0711.6	0712.0	6.0	200.0			
	[200 HIRA	46 C	0711.7	0711.9	1.5	240.0			0
	[2950 GORK	1 S	0712.1	0712.2	0.8	3.3	1.5		
	[950 GORK	1 S	0712.1	0712.7	1.3	3.0			
	[3013 IZMI	1 S	0712.4	0712.5	1.0	2.0	1.0		
	[950 GORK	1 S	0732.8	0733.1	2.8	1.0			
	[204 IZMI	4 S/F	0951.0	0951.5	0.6	65.0	55.0		
	[204 IZMI	4 S/F	1040.5	1040.6	0.8	102.0	90.0		
	[3000 POTS	20 GRF	1204.0	1242.0	136.0	10.0			
	[1470 POTS	21 GRF	1208.0	1256.5	127.0	4.0			
	[1470 POTS	4 S/F	1237.0	1242.9	7.5	21.0			
	[234 POTS	4 S/F	1430.7	1431.4	1.3	220.0	20.0		
07	[200 GORK	44 NS	0500.0E		390.00		5.0		
	[204 IZMI	43 NS	0600.0		360.00	10.0			
	[260 ONDR	44 NS	0732.0E	1223.2U	458.00	12.0			
	[245 LEAR	8 S	0808.0	0809.0	1.0	190.0			QL=5 ST=2 TYP=5
	[204 IZMI	5 S	1150.0	1150.5	1.5	12.0	6.0		
	[536 ONDR	41 F	1210.3	1216.3	6.0U	29.0			
	[245 SVTO	8 S	1222.0	1223.0	2.0	28.0			QL=1 ST=3 TYP=3
	[234 POTS	4 S/F	1222.3	1223.3	2.4	415.0	140.0		
	[245 SVTO	8 S	1326.0E	1327.0	2.00	85.0			QL=1 ST=3 TYP=5
	[234 POTS	4 S/F	1326.4	1327.5	2.2	110.0	10.0		
	[1470 POTS	1 S	1327.0U	1328.0U	20.0U	3.0			
	[245 PALE	4 S/F	2028.0	2028.0		90.0			QL=5 ST=2 TYP=5
	[410 PALE	4 S/F	2028.0	2028.0		23.0			QL=5 ST=2 TYP=3
08	260 ONDR	44 NS	0750.0E	1141.3	410.00	6.0			
	204 IZMI	5 S	1041.0	1041.1	0.3	33.0	25.0		
	536 ONDR	4 S/F	1308.2	1308.7	2.1	25.0			
	2800 OTTA	20 GRF	1637.0	1640.0	40.0	2.3	1.0		
	2800 OTTA	22 GRF	1755.0	1758.0	45.0	3.5	2.0		
09	2950 GORK	20 GRF	0804.3	0808.0	16.6	1.6	0.8		
	260 ONDR	40 F	0854.6	0953.2	73.6	2.0			
	430 KRAK	1 S	0914.8	0915.0	0.5	2.0	1.0		
10	[3100 CRIM	20 GRF	0552.5	0630.0	118.0	3.0	1.0		
	[245 SVTO	8 S	0554.0	0555.0	2.0	43.0			QL=1 ST=3 TYP=3
11	260 ONDR	44 NS	0800.0E	0928.3	410.00	7.0			
	245 LEAR	8 S	0311.0	0311.0	1.0	110.0			QL=5 ST=2 TYP=5
	3100 CRIM	20 GRF	0800.0	0839.1	75.0	1.6	0.5		
	245 PALE	4 S/F	2026.0E	2026.0		44.0			QL=5 ST=2 TYP=3
	15400 LEAR	4 S/F	2252.0	2254.0		41.0			QL=3 ST=2 TYP=3
12	260 ONDR	44 NS	0750.0E	0920.8	430.00	3.0			
	[2800 OTTA	45 C	1511.0	1512.0	5.0	47.2	19.0		
	[2695 SVTO	8 S	1511.0	1511.0	2.0	53.0			QL=5 ST=2 TYP=5
	[4995 SVTO	4 S/F	1511.0	1511.0	3.0	41.0			QL=5 ST=2 TYP=3
	[8800 SVTO	4 S/F	1511.0	1511.0	3.0	26.0			QL=5 ST=2 TYP=3
	2800 OTTA	29 PBI	1516.0	1516.0	4.0	5.2			
	2800 OTTA	31 ABS	1521.2	1524.5	12.0	1.0			
13	[245 LEAR	44 NS	0224.0E	0257.0	481.00	92.0			QL=5 ST=2 TYP=1
	[245 PALE	44 NS	0226.0E	0257.0	119.00	95.0			QL=5 ST=2 TYP=1

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

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MARCH 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ²² (10 ⁻²² W/m ² Hz)	Mean		
13	260	ONDR	44 NS	0740.0E	1246.5	450.0D	107.0U			
	245	SVTO	43 NS	1118.0	1258.0	315.0D	94.0			QL=5 ST=2 TYP=1
	245	PALE	43 NS	1659.0	1719.0	686.0D	49.0			QL=5 ST=2 TYP=1
	245	LEAR	4 S/F	0310.0	0310.0		66.0			QL=5 ST=2 TYP=5
	9300	KISV	20 GRF	0503.4	0601.4	69.1	5.0			
	5900	KISV	2 S/F	0537.5	0537.6	0.4	1.0			
	15000	KISV	1 S	0537.5	0537.6	0.8	4.0			
	9300	KISV	1 S	0537.5	0537.6	3.4	4.0			
	9300	KISV	25 R	0614.7	0831.2	405.3	9.0			
	5900	KISV	2 S/F	0620.7	0621.1	2.1	1.0			
	9300	KISV	2 S/F	0620.8	0621.0	1.0	2.0			
	810	KRAK	8 S	0850.5	0850.8	0.5	12.0			
	127	TORN	7 C	0913.5	0914.5	1.7	90.0	40.0		
	5900	KISV	2 S/F	1038.8	1039.3	1.5	3.0			
	9300	KISV	2 S/F	1038.8	1039.3	1.5	3.0			
	5900	KISV	1 S	1046.0	1046.4	6.2	1.0			
	5900	KISV	1 S	1056.5	1058.6	4.6	1.0			
2800	OTTA	24 R	2100.0	2115.0	240.0D	4.0				
14	200	GORK	44 NS	0447.0E		496.0D		10.0		
	245	LEAR	44 NS	0450.0E	0643.0	334.0D	180.0			QL=5 ST=2 TYP=1
	200	HIRA	43 NS	0453.0	0640.0	230.0D	7.0	4.0		0
	245	SVTO	43 NS	0522.0	1519.0	672.0D	150.0			QL=1 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	60.0			
	260	ONDR	44 NS	0800.0E	1350.6U	420.0D	135.0U			
	127	TORN	43 NS	0808.0	0944.5	180.0	300.0	6.0		V=2
	245	PALE	43 NS	1658.0	0027.0	687.0D	130.0			QL=5 ST=2 TYP=1
	200	HIRA	44 NS	2050.0E	0006.0	710.0D	90.0	21.0		0
	245	LEAR	44 NS	2242.0E	0027.0	702.0D	150.0			QL=5 ST=2 TYP=1
	100	HIRA	43 NS	2337.0	0024.0	248.0	340.0	84.0		
	245	LEAR	8 S	0320.0E	0321.0	1.0D	71.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	0320.0	0321.0	1.0	71.0			QL=5 ST=2 TYP=5
	5900	KISV	2 S/F	0545.6	0546.0	1.4	3.0			
	2950	GORK	21 GRF	0618.7	0853.5	313.0	9.6	5.0		
	9100	GORK	20 GRF	0625.0E	0821.0	395.0D	18.0			
	204	IZMI	6 S	0642.0	0643.0	3.0	8.0	4.0		
	5900	KISV	22 GRF	0642.8	0818.5	371.0	18.0			
	15000	KISV	22 GRF	0643.5	0825.5	295.0	24.0			
	9300	KISV	22 GRF	0647.0	0821.5	241.0	21.0			
	3100	CRIM	21 GRF	0751.2	0848.0	155.0	7.0	2.0		
	9500	POTS	20 GRF	0755.0	0822.0	125.0	14.0			
	3000	POTS	20 GRF	0755.0U	0845.0U	95.0U	11.0			
	1470	POTS	20 GRF	0800.0	0902.5	240.0	6.0			
	200	GORK	27 RF	0803.0	0824.0	38.3	50.0			
	200	HIRA	46 C	0805.7	0828.0U	44.0D	140.0U	43.0U		0 SUNSET
	100	GORK	27 RF	0809.6	0825.5	38.6	30.0			
	100	HIRA	46 C	0809.9	0815.8U	26.0D	180.0U	40.0U		SUNSET
	3100	CRIM	1 S	0816.1	0816.3	1.0	3.0	1.0		
	2950	GORK	1 S	0816.2	0816.4	0.6	4.3	2.3		
	3013	IZMI	5 S	0816.5	0816.8	0.5	2.0	1.0		
	650	GORK	45 C	0919.7	0923.4		1.5			
	650	GORK	45 C	0919.7	0919.9	4.0	2.0			
650	GORK	21 GRF	0934.7	0938.1	17.6	2.6				
650	GORK	4 S/F	0948.2	0948.6	0.6	42.0				
200	GORK	27 RF	1113.6	1131.2	34.4	20.0				
430	KRAK	2 S/F	1114.0	1114.5	0.8	15.0	6.0			
2800	OTTA	3 S	1519.0	1523.5	8.0	17.2				
2800	OTTA	29 PBI	1527.0	1527.0	210.0	12.4				
500	HIRA	27 RF	2308.0	0043.0	232.0	6.0	2.0		0	
245	PALE	4 S/F	2309.0	2309.0		100.0			QL=3 ST=2 TYP=5	
15	100	GORK	44 NS	0450.0E		495.0D		5.0		
	200	GORK	44 NS	0451.0E		494.0D		10.0		
	245	SVTO	43 NS	0520.0	1313.0	675.0D	200.0			QL=1 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	60.0			
	260	ONDR	44 NS	0650.0E	1047.1U	495.0D	109.0U			

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Peak (10 ²²)	Density Mean (W/m ² Hz)	Int	Remarks
15	127	TORN	43 NS	0952.0		256.0		1.0		V=1
	245	PALE	43 NS	1816.0	2318.0	610.00	97.0			QL=5 ST=2 TYP=1
	200	HIRA	44 NS	2045.0E	2300.0	610.00	3.0	1.0		0
	245	LEAR	43 NS	2242.0	0636.0	700.00	94.0			QL=5 ST=2 TYP=1
	9100	GORK	23 GRF	0515.0U		465.00	14.0			
	2950	GORK	21 GRF	0517.5	1212.6	463.00	11.5	6.0		
	5900	KISV	28 PRE	0802.9	0803.0	0.7	2.0			
	1470	POTS	8 S	0821.0	0821.3	0.5	9.0			
	8800	SVTO	4 S/F	0823.0	0824.0	4.0	140.0			QL=5 ST=2 TYP=5
	9100	GORK	46 C	0824.0	0827.0		40.0			
	3013	IZMI	5 S	0824.0	0825.0	4.0	78.0	60.0		
	15400	LEAR	8 S	0824.0	0825.0	2.0	360.0			
	2695	LEAR	8 S	0824.0	0824.0	1.0	66.0			QL=5 ST=2 TYP=5
	1415	LEAR	8 S	0824.0	0824.0	1.0	51.0			QL=3 ST=2 TYP=5
	8800	LEAR	4 S/F	0824.0	0824.0	3.0	110.0			QL=5 ST=2 TYP=5
	2695	SVTO	4 S/F	0824.0E	0824.0		69.0			QL=5 ST=1 TYP=5
	1415	SVTO	8 S	0824.0	0824.0	1.0	56.0			QL=5 ST=2 TYP=5
	4995	SVTO	8 S	0824.0	0824.0	1.0	86.0			QL=5 ST=2 TYP=5
	9500	POTS	4 S/F	0824.0	0825.1	22.0	129.0			
	950	GORK	4 S/F	0824.0	0824.6	5.8	122.0			
	9100	GORK	46 C	0824.0	0824.7	6.0	133.0			
	1470	POTS	4 S/F	0824.0	0824.8	16.0	56.0			
	3000	POTS	4 S/F	0824.0	0824.8	21.0	63.0			
	2840	YUNN	45 C	0824.1	0825.0	8.2	49.0			
	15000	KISV	4 S/F	0824.1	0825.1	6.0	79.0			
	5900	KISV	45 C	0824.1	0824.7	4.5	109.0			
	3100	CRIM	3 S	0824.1	0824.8	4.0	49.0	16.0		
	9300	KISV	3 S	0824.1	0824.8	5.0	137.0			
	2950	GORK	4 S/F	0824.2	0824.7	5.0	75.0	30.0		
	650	GORK	4 S/F	0824.3	0824.6	0.4	30.0			
	234	POTS	4 S/F	0849.5	0849.5	0.5	165.0	40.0		
	410	LEAR	8 S	0850.0	0850.0	1.0	160.0			QL=5 ST=2 TYP=5
	1470	POTS	42 SER	0920.8	0922.9	9.2	35.0			
	9500	POTS	42 SER	0922.5	0926.2	23.0	77.0			
	15000	KISV	46 C	0922.6	0926.1		99.0			
	15000	KISV	46 C	0922.6	0931.8		15.0			
	15000	KISV	46 C	0922.6	0924.8	10.0	37.0			
	9100	GORK	4 S/F	0922.8	0926.1	5.3	7.3			
	5900	KISV	46 C	0922.8	0925.1	10.0	12.0			
	5900	KISV	46 C	0922.8	0926.2	40.0	40.0			
	5900	KISV	46 C	0922.8	0931.8	13.0	13.0			
	9300	KISV	46 C	0922.9	0926.1		81.0			
	2950	GORK	46 C	0922.9	0925.8		21.0			
	9300	KISV	46 C	0922.9	0924.8	10.0	22.0			
	2950	GORK	46 C	0922.9	0924.9	4.3	4.0			
	9300	KISV	46 C	0922.9	0931.9		13.0			
	3100	CRIM	3 S	0923.0	0926.0	5.0	13.0	4.0		
	3000	POTS	42 SER	0923.0	0926.0	12.0U	17.0			
	950	GORK	2 S/F	0923.9	0925.1	4.2	7.5			
	8800	LEAR	4 S/F	0924.0	0926.0	3.0	68.0			QL=5 ST=2 TYP=5
15400	LEAR	8 S	0925.0	0926.0	1.0	95.0			QL=3 ST=2 TYP=5	
2695	LEAR	8 S	0925.0	0925.0	1.0	34.0			QL=5 ST=2 TYP=3	
15400	SVTO	8 S	0925.0E	0926.0	2.00	110.0			QL=5 ST=2 TYP=5	
2695	SVTO	8 S	0925.0	0925.0	1.0	33.0			QL=5 ST=2 TYP=3	
8800	SVTO	8 S	0925.0	0926.0	1.0	71.0			QL=5 ST=2 TYP=5	
4995	SVTO	8 S	0925.0	0925.0	1.0	24.0			QL=5 ST=2 TYP=3	
3013	IZMI	5 S	0925.5	0926.0	1.5	20.0	15.0			
3100	CRIM	1 S	0931.5	0931.6	3.0	3.0	1.0			
9100	GORK	1 S	0931.5	0931.7	1.0	7.3				
2950	GORK	45 C	0931.7	0932.6		2.5				
2950	GORK	45 C	0931.7	0931.7	1.9	5.7				
15000	KISV	29 PBI	0932.5	0932.5	9.5	12.0				
5900	KISV	29 PBI	0933.1	0933.1	12.0	6.0				
234	POTS	4 S/F	0956.4	0956.8	0.9	770.0	280.0			
536	ONDR	8 S	1004.0	1004.1	0.4	34.0				
234	POTS	27 RF	1022.5	1042.0	61.0	190.0	60.0			

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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 (W/m ² Hz)	Int	Remarks
15	810	KRAK	8 S	1025.4	1025.5	0.2	10.0			
	9500	POTS	1 S	1040.0	1041.0	2.0	4.0			
	3000	POTS	1 S	1040.0	1040.7	2.0	4.0			
	2950	GORK	1 S	1040.4	1040.8	1.2	2.8	1.4		
	1470	POTS	1 S	1040.5	1041.0	1.5	2.0			
	950	GORK	8 S	1049.5	1049.6	0.8	118.0			
	9500	POTS	3 S	1049.5	1049.8	1.5	12.0			
	1470	POTS	8 S	1049.5	1049.8	1.0	7.0			
	3000	POTS	1 S	1049.5	1049.9	1.0	6.0			
	5900	KISV	1 S	1049.6	1050.0	1.5	8.0			
	2950	GORK	1 S	1049.6	1049.7	0.8	6.7	4.4		
	650	GORK	4 S/F	1049.6	1049.8	0.3	19.0			
	9100	GORK	1 S	1049.6	1049.9	1.4	12.0			
	1470	POTS	21 GRF	1115.0	1225.0	150.0	3.0			
	9500	POTS	21 GRF	1115.0	1122.0	180.0	13.0			
	3000	POTS	21 GRF	1115.0	1215.00	150.00	8.0			
	15000	KISV	23 GRF	1115.2	1122.0		12.0			
	15000	KISV	23 GRF	1115.2	1116.8	34.7	11.0			
	9300	KISV	23 GRF	1116.0	1122.0		13.0			
	5900	KISV	25 R	1116.0	1122.0		9.0			
	9300	KISV	23 GRF	1116.0	1133.8		12.0			
	5900	KISV	25 R	1116.0	1117.8	104.00	4.0			
	9300	KISV	23 GRF	1116.0	1116.9	25.0	8.0			
	9100	GORK	1 S	1116.4	1116.7	2.0	6.5			
	9100	GORK	1 S	1120.8	1122.1	2.5	9.0			
	9100	GORK	1 S	1133.5	1133.8	1.1	9.7			
	5900	KISV	2 S/F	1133.5	1133.9	2.0	15.0			
	1470	POTS	3 S	1142.5	1143.2	2.5	10.0			
	430	KRAK	2 S/F	1142.5	1142.8	0.7	19.0	1.0		
	810	KRAK	1 S	1142.8	1143.0	0.8	10.0	1.0		
	950	GORK	2 S/F	1142.8	1143.2	2.0	25.0			
	9300	KISV	46 C	1142.8	1143.2	21.0	7.0			
	9300	KISV	46 C	1142.8	1150.3		16.0			
	100	GORK	2 S/F	1142.8	1143.4	0.8	5.0			
	9300	KISV	46 C	1142.8	1151.4		40.0			
	9300	KISV	46 C	1142.8	1155.4		59.0			
	536	ONDR	3 S	1142.9	1143.1	0.6	95.0			
	650	GORK	4 S/F	1142.9	1143.2	3.2	920.0			
	2950	GORK	1 S	1142.9	1143.2	1.7	10.4	4.0		
	5900	KISV	46 C	1142.9	1143.3		7.0			
	5900	KISV	46 C	1142.9	1150.3	15.4	14.0			
	5900	KISV	46 C	1142.9	1151.4		26.0			
	5900	KISV	46 C	1142.9	1155.5		37.0			
	3100	CRIM	21 GRF	1143.00	1227.0	109.00	5.0	2.0		
	3100	CRIM	1 S	1143.0	1143.1	1.0	7.0	2.0		
	3000	POTS	3 S	1143.0	1143.2	2.0	13.0			
	3013	IZMI	41 F	1143.0	1155.5	17.5	10.0			
	9100	GORK	46 C	1149.9	1151.3	7.4	32.0			
9100	GORK	46 C	1149.9	1155.4		43.0				
2950	GORK	46 C	1149.9	1151.4	10.0	9.3				
2950	GORK	46 C	1149.9	1155.6		12.0				
15400	SVTO	8 S	1150.0E	1151.0	1.00	110.0			QL=5 ST=3 TYP=5	
3100	CRIM	42 SER	1150.0	1151.5	6.0	5.0	3.0			
15000	KISV	45 C	1150.0	1155.5		60.0				
15000	KISV	45 C	1150.0	1151.5	14.5	105.0				
3100	CRIM	42 SER	1150.0	1155.6		8.0				
8800	SVTO	4 S/F	1151.0E	1151.0		36.0			QL=5 ST=3 TYP=3	
19600	BERN	3 S	1151.0	1151.3	2.0	143.0				
11800	BERN	3 S	1151.0	1151.3	2.0	88.0				
8400	BERN	3 S	1151.0	1151.3	2.0	40.0				
1470	POTS	3 S	1151.0	1151.5	1.0	6.0				
3000	POTS	3 S	1151.0	1151.5	1.0	14.0				
9500	POTS	3 S	1151.0	1151.5	1.0	42.0				
15400	SVTO	4 S/F	1153.0E	1155.0	3.00	53.0			QL=5 ST=2 TYP=5	
4995	SVTO	4 S/F	1155.0	1155.0		24.0			QL=5 ST=3 TYP=3	
8800	SVTO	8 S	1155.0E	1155.0	1.00	54.0			QL=5 ST=3 TYP=5	

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Peak (10 ⁻²² W/m ² Hz)	Density Mean (W/m ² Hz)	Int	Remarks
15	2695	SVTO	8 S	1155.0	1155.0	1.0	16.0			QL=5 ST=3 TYP=3
	11800	BERN	3 S	1155.0	1155.3	2.0	57.0			
	8400	BERN	3 S	1155.0	1155.3	2.0	66.0			
	5200	BERN	3 S	1155.0	1155.3	2.0	26.0			
	9500	POTS	3 S	1155.0	1155.5	2.5	53.0			
	3000	POTS	3 S	1155.0	1155.5	3.0	18.0			
	1470	POTS	3 S	1155.0	1155.8	2.6	6.0			
	5900	KISV	29 PBI	1158.3	1158.3	11.7	8.0			
	9300	KISV	29 PBI	1203.6	1203.6	119.5	5.0			
	9300	KISV	1 S	1312.6	1313.4	8.4	0.8			
	1470	POTS	3 S	1313.0	1313.2	1.7	6.0			
	3000	POTS	3 S	1313.0	1313.2	2.0	11.0			
	3100	CRIM	1 S	1313.0	1313.5	2.0	8.0	3.0		
	2800	OTTA	1 S	1313.5	1314.0	2.0	9.5	3.9		
	9300	KISV	45 C	1324.9	1328.3	4.5	31.0			
	9300	KISV	45 C	1324.9	1325.3		35.0			
	9500	POTS	42 SER	1325.0	1328.2		26.0			
	9500	POTS	42 SER	1325.0	1325.3	4.5	29.0			
	3100	CRIM	1 S	1325.0	1325.6	2.0	5.0	2.0		
	2800	OTTA	1 S	1325.5	1326.2	3.0	6.8	3.4		
	3000	POTS	4 S/F	1326.0U	1329.5	6.0U	35.0U			
	810	KRAK	4 S/F	1327.0	1327.0	2.5	51.0	7.0		
	610	SVTO	49 GB	1327.0E	1328.0	1.0D	3600.0			QL=1 ST=2 TYP=6
	410	SVTO	49 GB	1327.0E	1328.0	1.0D	13000.0			QL=1 ST=2 TYP=6
	234	POTS	4 S/F	1327.6	1328.4	1.4	1200.0	120.0		
	2695	SVTO	8 S	1328.0	1328.0	1.0	33.0			QL=5 ST=2 TYP=3
	1415	SVTO	4 S/F	1328.0E	1328.0		31.0			QL=5 ST=2 TYP=3
	15400	SVTO	4 S/F	1328.0E	1328.0	3.0D	61.0			QL=5 ST=2 TYP=5
	1470	POTS	3 S	1328.0	1328.2	3.2	28.0			
	30	POTS	8 S	1328.0	1328.4	1.0	240.0	80.0		
	3100	CRIM	3 S	1328.0	1328.5	3.0	22.0	7.0		
	536	ONDR	3 S	1328.1	1328.2	1.4	233.0U			
	33	UPIC	3 S	1328.2	1328.4	0.6				
	29	UPIC	1 S	1328.4	1328.5	0.5				
	2800	OTTA	1 S	1328.5	1328.8	6.0	25.9	5.2		
	9300	KISV	29 PBI	1329.4	1329.4	11.1	6.0			
	9500	POTS	4 S/F	1445.0	1445.7	3.5	19.0			
	1470	POTS	4 S/F	1445.3	1447.0	3.2	33.0			
	536	ONDR	41 F	1445.4	1445.9	4.3	164.0U			
	3000	POTS	4 S/F	1445.5	1446.4	3.0	1.0			
	2800	OTTA	3 S	1445.8	1446.6	4.0	17.0	6.5		
	1470	POTS	2 S/F	1458.6	1459.2	1.4	5.0			
	2800	OTTA	22 GRF	1545.0	1650.0	245.0	5.0			
	2800	OTTA	4 S/F	1615.0	1617.5	8.0	59.0	12.0		
	245	PALE	4 S/F	1745.0	1745.0		55.0			QL=1 ST=2 TYP=5
	2800	OTTA	22 GRF	2035.0	2110.0	90.0D				
	2800	OTTA	1 S	2039.5	2040.4	4.0	10.6	5.0		
	2695	PALE	8 S	2043.0	2043.0	1.0	34.0			QL=5 ST=2 TYP=3
	4995	PALE	8 S	2043.0	2043.0	2.0	55.0			QL=5 ST=2 TYP=5
	8800	PALE	4 S/F	2043.0	2043.0	3.0	74.0			QL=5 ST=2 TYP=5
15400	PALE	4 S/F	2043.0	2043.0	7.0	47.0			QL=5 ST=2 TYP=3	
610	PALE	8 S	2043.0	2043.0	1.0	32.0			QL=5 ST=2 TYP=3	
1415	PALE	8 S	2043.0	2043.0	1.0	19.0			QL=5 ST=2 TYP=3	
2800	OTTA	3 S	2043.2	2044.0	7.0	33.9	10.0			
2800	OTTA	45 C	2215.0	2219.0	13.0	185.7	37.0			
4995	PALE	48 C	2216.0	2220.0	5.0	120.0			QL=5 ST=2 TYP=8	
2695	PALE	4 S/F	2216.0	2218.0	5.0	180.0			QL=5 ST=2 TYP=5	
8800	PALE	48 C	2217.0	2220.0	4.0	170.0			QL=5 ST=2 TYP=8	
1415	PALE	4 S/F	2217.0	2220.0	4.0	110.0			QL=5 ST=2 TYP=5	
17000	NOBE	7 C	2217.0	2220.7	6.5	53.0			27L	
15400	PALE	48 C	2218.0	2220.0	3.0	58.0			QL=5 ST=2 TYP=8	
610	PALE	4 S/F	2218.0	2218.0	3.0	56.0			QL=5 ST=2 TYP=5	
500	HIRA	41 F	2218.2	2220.5	3.5	83.0			0	
410	PALE	4 S/F	2219.0E	2219.0	65.0D	20.0			QL=5 ST=2 TYP=3	
2800	OTTA	3 S	2220.0	2221.0	2.0	74.0				
16	200	GORK	44 NS	0433.0E		502.0D		5.0		

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10^{-22} W/m ² Hz)	Mean		
16	100	GORK	44 NS	0439.0E		497.0D		5.0		
	245	SVTO	43 NS	0519.0	0636.0	677.0D	140.0			QL=1 ST=2 TYP=1
	260	ONDR	44 NS	0650.0E	1048.0U	425.0D	11.0U			
	127	TORN	43 NS	0736.0		444.0				V=0
	204	IZMI	43 NS	1032.0		88.0	10.0			
	245	PALE	43 NS	1859.0	1951.0	567.0D	78.0			QL=5 ST=2 TYP=1
	2840	YUNN	1 S	0055.1	0055.7	1.4	13.0			
	8800	LEAR	8 S	0119.0	0120.0	1.0	21.0			QL=5 ST=2 TYP=3
	2840	YUNN	2 S/F	0119.9	0120.4	1.6	9.0			
	17000	NOBE	1 S	0120.0	0120.1	2.5	10.0			0
	2840	YUNN	1 S	0247.4	0248.6	3.0	3.0			
	2840	YUNN	1 S	0251.9	0252.9	2.8	6.0			
	17000	NOBE	20 GRF	0253.9	0302.1	22.0	10.0			0
	2840	YUNN	45 C	0417.6	0419.8	5.5	13.0			
	17000	NOBE	1 S	0419.4	0420.5	3.0	12.0			0
	9100	GORK	21 GRF	0514.5	0612.7	466.0D	16.0			
	2950	GORK	21 GRF	0515.5	0743.2	320.0	14.2	10.0		
	8800	LEAR	4 S/F	0608.0	0609.0	5.0	52.0			QL=5 ST=2 TYP=5
	17000	NOBE	1 S	0608.9	0609.6	2.0	20.0			10R
	2950	GORK	3 S	0609.0	0609.0	4.6	25.3	15.3		
	3013	IZMI	5 S	0609.0	0610.0	4.0	30.0	20.0		
	2695	LEAR	8 S	0609.0E	0609.0	2.0D	29.0			QL=5 ST=2 TYP=3
	15400	LEAR	8 S	0609.0	0609.0	1.0	33.0			QL=3 ST=2 TYP=3
	4995	SVTO	8 S	0609.0	0609.0	1.0	31.0			QL=1 ST=3 TYP=3
	15400	SVTO	8 S	0609.0	0609.0	1.0	38.0			QL=1 ST=3 TYP=3
	2695	SVTO	8 S	0609.0	0609.0	1.0	30.0			QL=5 ST=3 TYP=3
	8800	SVTO	8 S	0609.0	0609.0	1.0	41.0			QL=1 ST=3 TYP=3
	9100	GORK	3 S	0609.0	0609.7	2.2	38.0	15.0		
	3100	CRIM	3 S	0609.0	0609.9	4.0	16.0	5.0		
	9300	KISV	3 S	0609.1	0609.8	4.0	41.0			
	5900	KISV	3 S	0609.1	0609.9	6.0	37.0			
	2840	YUNN	45 C	0609.2	0610.1	6.3	25.0			
	15000	KISV	3 S	0609.2	0609.9	2.5	33.0			
	2950	GORK	1 S	0625.5	0627.5	2.9	3.5	1.8		
	3013	IZMI	1 S	0626.0	0627.0	2.5	8.0	4.0		
	4995	SVTO	4 S/F	0727.0	0727.0	4.0	20.0			QL=5 ST=3 TYP=3
	8800	SVTO	4 S/F	0727.0	0727.0	4.0	25.0			QL=5 ST=3 TYP=3
	15400	SVTO	4 S/F	0727.0	0727.0	4.0	31.0			QL=5 ST=3 TYP=3
	1415	SVTO	8 S	0727.0	0727.0	2.0	10.0			QL=5 ST=3 TYP=3
	1415	SVTO	8 S	0727.0	0727.0	2.0	10.0			QL=5 ST=2 TYP=3
	2695	SVTO	4 S/F	0727.0	0727.0	4.0	14.0			QL=5 ST=3 TYP=3
	3100	CRIM	42 SER	0727.1	0730.5		4.0			
	3100	CRIM	42 SER	0727.1	0727.9	4.0	4.0	1.0		
	9500	POTS	42 SER	0727.2	0730.4		17.0			
	9500	POTS	42 SER	0727.2	0727.8	3.8	26.0			
	5900	KISV	45 C	0727.3	0730.3		8.0			
	3000	POTS	42 SER	0727.3	0730.4		9.0			
	5900	KISV	45 C	0727.3	0727.8	6.5	18.0			
	3000	POTS	42 SER	0727.3	0727.8	5.7	9.0			
	9300	KISV	45 C	0727.4	0730.3		11.0			
15000	KISV	42 SER	0727.4	0730.3		11.0				
2950	GORK	1 S	0727.4	0727.7	1.9	6.3	2.8			
17000	NOBE	7 C	0727.4	0727.7	4.5	13.0			0	
15000	KISV	42 SER	0727.4	0727.8	5.0	17.0				
9100	GORK	1 S	0727.4	0727.9	1.4	19.0	10.0			
9300	KISV	45 C	0727.4	0727.9	5.0	22.0				
3013	IZMI	41 F	0727.5	0728.0	4.0	8.0				
2840	YUNN	1 S	0727.5	0728.0	2.0	6.0				
1470	POTS	42 SER	0727.5	0730.4		2.0				
1470	POTS	42 SER	0727.5	0727.6	5.5	5.0				
9100	GORK	1 S	0730.1	0730.3	1.1	8.2	4.0			
2950	GORK	1 S	0730.2	0730.4	1.9	6.0	3.4			
2950	GORK	46 C	0945.5	0949.2		4.4				
9500	POTS	40 F	0945.5	0949.3	7.5	10.0				
3100	CRIM	1 S	0945.5	0947.5	4.0	8.0	3.0			
2950	GORK	46 C	0945.5	0947.6	5.4	12.2				

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

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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	5900	KISV	46 C	0945.6	0949.2		10.0			
	5900	KISV	46 C	0945.6	0947.6		11.0			
	5900	KISV	46 C	0945.6	0946.9	8.5	11.0			
	1470	POTS	1 S	0946.0	0947.5	4.0	4.0			
	3000	POTS	3 S	0946.0	0947.5	7.0	14.0			
	15000	KISV	2 S/F	0946.1	0946.3	5.0	9.0			
	9300	KISV	46 C	0946.2	0947.0		9.0			
	9300	KISV	46 C	0946.2	0949.3	5.5	11.0			
	9300	KISV	46 C	0946.2	0947.6		8.0			
	3013	IZMI	5 S	0946.5	0947.0	5.0	13.0	8.0		
	9100	GORK	2 S/F	0946.5	0949.2	3.2	7.2			
	9500	POTS	3 S	1100.0	1100.5	1.0	14.0			
	5900	KISV	1 S	1100.0	1100.6	2.0	15.0			
	15000	KISV	1 S	1100.2	1100.5	1.0	12.0			
	9100	GORK	1 S	1100.2	1100.6	1.1	14.0	7.0		
	2950	GORK	1 S	1100.2	1100.6	0.8	2.2	1.1		
	9300	KISV	1 S	1100.2	1100.6	1.5	18.0			
	3000	POTS	1 S	1100.5	1100.6	0.5	3.0			
	2950	GORK	21 GRF	1135.0	1212.6	71.2	3.8			
	5900	KISV	1 S	1137.9	1138.3	2.0	5.0			
	2950	GORK	1 S	1238.0	1238.0	0.7	2.7	1.3		
	5900	KISV	1 S	1238.1	1238.3	1.0	5.0			
	2800	OTTA	22 GRF	1325.0	1525.0	300.0	7.5			
	9500	POTS	3 S	1328.9	1329.0	0.8	13.0			
	3000	POTS	1 S	1329.0	1329.1	0.5	6.0			
	4995	SVTO	8 S	1404.0	1405.0	1.0	57.0			QL=5 ST=2 TYP=5
	2695	SVTO	8 S	1404.0	1405.0	2.0	45.0			QL=5 ST=2 TYP=3
	3000	POTS	42 SER	1404.0	1405.1	5.5	45.0			
	3000	POTS	42 SER	1404.0	1408.1		24.0			
	9500	POTS	42 SER	1404.0	1408.2		10.0			
	9500	POTS	42 SER	1404.0	1405.2	5.2	32.0			
	536	ONDR	41 F	1404.4	1407.9	3.9	216.0U			
	1470	POTS	42 SER	1404.5	1405.2	4.5U	14.0			
	1470	POTS	42 SER	1404.5	1408.3		16.0			
	8800	SVTO	4 S/F	1405.0	1405.0	4.0	37.0			QL=5 ST=2 TYP=3
	15400	SVTO	4 S/F	1405.0	1405.0	4.0	21.0			QL=5 ST=2 TYP=3
	1415	SVTO	8 S	1405.0	1405.0	2.0	20.0			QL=5 ST=2 TYP=3
	2800	OTTA	28 PRE	1542.0	1544.2	3.0	11.7	5.0		
	2695	SVTO	4 S/F	1543.0	1545.0	3.0	19.0			QL=5 ST=2 TYP=3
	1415	SVTO	4 S/F	1543.0	1545.0	4.0	10.0			QL=5 ST=2 TYP=3
	8800	SVTO	4 S/F	1543.0	1550.0	7.0	70.0			QL=5 ST=2 TYP=5
	15400	SVTO	4 S/F	1543.0	1544.0	3.0	70.0			QL=5 ST=2 TYP=5
	4995	SVTO	4 S/F	1543.0	1545.0	3.0	36.0			QL=5 ST=2 TYP=3
	8400	BERN	3 S	1543.4	1544.0	4.0	137.0			
	11800	BERN	3 S	1543.4	1544.0	4.0	150.0			
	19600	BERN	3 S	1543.4	1544.0	4.0	75.0			
	5200	BERN	3 S	1543.4	1544.0	4.0	50.0			
	2800	OTTA	3 S	1545.0	1545.8	2.0	17.6	11.0		
	2800	OTTA	30 PBI	1547.0	1547.0	5.5	4.4	2.0		
	2800	OTTA	3 S	1555.7	1558.0	2.2	15.4	5.0		
	2800	OTTA	30 PBI	1558.0	1558.0	10.0	2.9	1.5		
	2800	OTTA	40 F	1830.4	1839.0	9.6	5.3			
	2800	OTTA	28 PRE	1849.5	1851.0	6.3	45.7	18.0		
	1415	PALE	8 S	1850.0	1851.0	1.0	12.0			QL=5 ST=2 TYP=3
	4995	PALE	8 S	1850.0	1850.0	1.0	36.0			QL=5 ST=2 TYP=3
	2695	PALE	8 S	1850.0	1851.0	1.0	41.0			QL=5 ST=2 TYP=3
	15400	PALE	4 S/F	1850.0	1850.0		26.0			QL=5 ST=2 TYP=3
	8800	PALE	8 S	1850.0	1850.0	1.0	24.0			QL=5 ST=2 TYP=3
	4995	PALE	8 S	1854.0	1854.0	1.0	20.0			QL=5 ST=2 TYP=3
	2695	PALE	8 S	1854.0	1854.0	1.0	26.0			QL=5 ST=2 TYP=3
	2800	OTTA	22 GRF	1855.8	1912.0	120.0	7.0	3.0		
	2800	OTTA	3 S	2026.5	2027.5	4.0	18.7	4.0		
	245	PALE	4 S/F	2031.0E	2031.0		98.0			QL=5 ST=2 TYP=5
	2800	OTTA	1 S	2038.4	2038.9	8.3	6.6	2.0		
	2695	SYDN	4 S/F	2131.0	2135.0	5.0	12.0			QL= ST= TYP=3
	2800	OTTA	28 PRE	2131.2	2133.2	2.8	6.6	4.0		

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean (10 ⁻²² W/m ² Hz)	Int	Remarks
16	8800	PALE	4 S/F	2132.0	2134.0	3.0	31.0			QL=5 ST=2 TYP=3
	15400	PALE	4 S/F	2132.0	2135.0	3.0	21.0			QL=5 ST=3 TYP=3
	4995	SYDN	4 S/F	2132.0	2135.0	7.0	42.0			QL= ST= TYP=3
	2695	PALE	8 S	2134.0	2134.0	1.0	25.0			QL=5 ST=2 TYP=3
	4995	PALE	8 S	2134.0	2134.0	1.0	29.0			QL=5 ST=2 TYP=3
	2800	OTTA	3 S	2134.0	2134.5	1.6	27.7	14.0		
	2800	OTTA	22 GRF	2135.6	2315.0		8.6	4.0		
	245	PALE	4 S/F	2201.0E	2201.0		89.0			QL=5 ST=2 TYP=5
	2800	OTTA	1 S	2241.5	2242.1	1.8	4.4	2.0		
	17000	NOBE	7 C	2241.8	2243.6	4.0	35.0			BR
	2800	OTTA	1 S	2243.3	2243.6	1.3	13.6	7.0		
	500	HIRA	27 RF	2330.0	0030.0	270.0	3.0	1.0		0
	2800	OTTA	1 S	2337.4	2338.0	1.7	6.6	3.0		
17	260	ONDR	44 NS	0650.0E	1043.7U	490.0D	10.0U			
	127	TORN	43 NS	0730.0		450.0				V=1
	9100	GORK	21 GRF	0445.0E	0529.8	202.0D	13.0			
	3100	CRIM	21 GRF	0520.0E	0556.0	140.0D	9.0			
	2950	GORK	21 GRF	0520.7	0555.8	140.0	7.3			
	5900	KISV	45 C	0525.4	0528.2		18.0			
	5900	KISV	45 C	0525.4	0525.9	5.5	6.0			
	2950	GORK	1 S	0525.6	0526.0	0.9	2.6	1.3		
	2840	YUNN	1 S	0525.6	0526.1	1.5	3.0			
	15000	KISV	2 S/F	0526.9	0528.2	3.0	19.0			
	9100	GORK	2 S/F	0527.0	0528.0	2.2	19.8	10.0		
	9300	KISV	2 S/F	0527.2	0528.3	3.0	24.0			
	2950	GORK	1 S	0527.5	0528.3	1.5	2.0	1.0		
	2950	GORK	1 S	0637.5	0637.7	0.4	1.4			
	9500	POTS	21 GRF	0658.0	0726.5	67.0	21.0			
	5900	KISV	1 S	0726.1	0726.5	2.0	19.0			
	3100	CRIM	1 S	0726.1	0726.7	1.2	2.0	0.7		
	2840	YUNN	1 S	0726.1	0726.7	1.1	3.0			
	9100	GORK	1 S	0726.2	0726.5	1.6	13.0	5.0		
	9300	KISV	1 S	0726.2	0726.5	1.5	15.0			
	2950	GORK	1 S	0726.3	0726.5	0.6	2.9			
	15000	KISV	1 S	0726.3	0726.5	1.0	8.0			
	5900	KISV	45 C	0737.7	0738.4	3.5	4.0			
	5900	KISV	45 C	0737.7	0739.9		4.0			
	2950	GORK	1 S	0738.0	0738.5	1.0	1.4			
	2950	GORK	1 S	0739.8	0740.3	0.6	0.9			
	2840	YUNN	1 S	0825.6	0826.7	1.8	3.0			
	2950	GORK	1 S	0825.7	0826.5	1.6	3.2	1.6		
	5900	KISV	1 S	0825.9	0826.5	1.5	3.0			
	3100	CRIM	1 S	0826.5	0827.5	2.0	1.4	0.5		
	9500	POTS	20 GRF	0856.0	0904.5	44.0	9.0			
	536	ONDR	8 S	0951.9	0952.0	0.6	70.0			
	2950	GORK	21 GRF	1019.8	1119.8	102.0D	10.0			
	950	GORK	2 S/F	1019.9	1022.1	4.0	8.0	4.0		
	810	KRAK	2 S/F	1021.5	1022.0	2.0	9.0	4.0		
	650	GORK	4 S/F	1021.5	1022.2	1.8	9.0	3.5		
	9100	GORK	21 GRF	1021.6	1210.5	158.4D	26.0			
	950	GORK	26 FAL	1048.0	1051.0	6.3	1.0			
	8800	SVTO	4 S/F	1053.0	1055.0	4.0	140.0			QL=1 ST=2 TYP=5
	1415	SVTO	4 S/F	1053.0	1055.0	6.0	59.0			QL=1 ST=2 TYP=5
2695	SVTO	4 S/F	1053.0	1054.0	5.0	120.0			QL=1 ST=2 TYP=5	
4995	SVTO	4 S/F	1053.0	1055.0	4.0	130.0			QL=1 ST=2 TYP=5	
9500	POTS	4 S/F	1053.0	1055.1	5.0	143.0				
3100	BERN	3 S	1053.5	1055.1	4.0	86.0				
5200	BERN	3 S	1053.5	1055.1	4.0	270.0				
8400	BERN	3 S	1053.5	1055.1	4.0	322.0				
11800	BERN	3 S	1053.5	1055.1	4.0	172.0				
3000	POTS	4 S/F	1053.5	1055.1	5.5	95.0				
5900	KISV	4 S/F	1053.5	1056.4	3.5	130.0D				
2950	GORK	3 S	1053.7	1055.3	5.7	97.0				
9100	GORK	4 S/F	1054.0		4.2	155.0				
15400	SVTO	4 S/F	1054.0	1055.0	3.0	90.0			QL=1 ST=2 TYP=5	

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Peak (10 ⁻²² W/m ² Hz)	Density Mean (W/m ² Hz)	Int	Remarks
17	1470	POTS	4 S/F	1054.0	1055.2	6.0	63.0			
	3100	CRIM	3 S	1054.0	1055.5	5.0	69.0	23.0		
	3013	IZMI	5 S	1054.0	1055.5	6.5	86.0	70.0		
	15000	KISV	4 S/F	1054.0	1055.5	3.0	96.0			
	950	GORK	4 S/F	1054.3	1055.0	2.4	110.0			
	810	KRAK	2 S/F	1054.5	1055.0	1.0	20.0	2.0		
	950	GORK	29 PBI	1056.7	1056.7	4.8	2.0			
	15000	KISV	29 PBI	1057.0	1057.0	23.5	22.0			
	9300	KISV	29 PBI	1058.0	1058.0	66.0	5.0			
	8400	BERN	3 S	1155.0	1210.0	60.0	70.0			
	11800	BERN	3 S	1155.0	1216.0	60.0	80.0			
	3100	BERN	3 S	1202.0	1209.0	40.0	18.0			
	5200	BERN	3 S	1202.0	1207.0	40.0	48.0			
	3100	CRIM	20 GRF	1203.0	1209.5	87.0	18.0	6.0		
	5900	KISV	23 GRF	1203.9	1206.6	35.5	34.0			
	9300	KISV	21 GRF	1204.1	1207.1	46.5	8.0			
	2950	GORK	22 GRF	1205.4	1208.1	51.1	12.0			
	9100	GORK	2 S/F	1205.6	1207.1	3.2	8.2			
	15000	KISV	21 GRF	1205.6	1212.1	27.0	18.0			
	2800	OTTA	24 R	1704.5	1809.5	300.0	4.6	2.0		
	2800	OTTA	22 GRF	1720.0	1833.0	80.0	4.1	2.0		
	2800	OTTA	22 GRF	1845.0	1848.0	100.0	3.9	2.0		
	245	PALE	4 S/F	2045.0	2045.0		77.0			QL=5 ST=2 TYP=5
	4995	SYDN	4 S/F	2049.0	2053.0	9.0	32.0			QL= ST= TYP=4
	2695	SYDN	4 S/F	2050.0	2051.0	9.0	18.0			QL= ST= TYP=4
	2695	PALE	8 S	2051.0	2051.0	1.0	16.0			QL=5 ST=2 TYP=3
	4995	PALE	8 S	2051.0	2051.0	1.0	34.0			QL=5 ST=2 TYP=3
8800	PALE	8 S	2051.0	2051.0	1.0	25.0			QL=5 ST=2 TYP=3	
2800	OTTA	46 C	2051.5	2052.0	11.5	18.0	9.0			
2800	OTTA	30 PBI	2103.0	2103.0	70.0	4.5	2.7			
2800	OTTA	3 S	2225.0	2227.0	7.0	12.5	6.0			
18	260	ONDR	44 NS	0805.0E	1425.8U	415.0D	28.0U			
	127	TORN	43 NS	0834.0		386.0				V=0
	245	PALE	43 NS	1848.0	0050.0	579.0D	380.0			QL=5 ST=2 TYP=1
	200	HIRA	44 NS	2044.0E	0510.0U	720.0D	15.0U	9.0U		WR
	610	LEAR	43 NS	2244.0	0056.0	76.0	30.0			QL=5 ST=1 TYP=1
	410	LEAR	43 NS	2244.0	0056.0	451.0D	59.0			QL=5 ST=2 TYP=1
	245	LEAR	43 NS	2244.0	0110.0	696.0D	460.0			QL=5 ST=2 TYP=1
	3100	CRIM	20 GRF	0606.0	0741.2	96.0	3.0	1.0		
	245	LEAR	8 S	0622.0	0622.0	1.0	77.0			QL=5 ST=2 TYP=5
	204	IZMI	5 S	0622.5	0623.5	1.0	150.0D	80.0		
	200	GORK	4 S/F	0622.6	0623.0	1.1	25.0D			
	3100	CRIM	21 GRF	0750.0	0820.0	60.0	3.0	1.0		
	5900	KISV	22 GRF	0814.6	0818.1	44.4	3.0			
	2840	YUNN	2 S/F	0817.1	0818.2	2.3	5.0			
	3100	CRIM	1 S	0817.4	0818.0	1.0	3.0	1.0		
	3013	IZMI	1 S	0817.5	0817.8	0.5	2.0	1.0		
	3100	CRIM	1 S	0825.5	0826.1	2.0	1.5	0.5		
	2840	YUNN	1 S	0825.8	0826.8	1.5	3.0			
	536	ONDR	41 F	0920.0	1405.7U	342.0D	49.0U			
	2840	YUNN	45 C	1002.4	1004.5	5.4	65.0			
	3013	IZMI	4 S/F	1003.0	1004.0	4.0	60.0			QL= ST= TYP=3
	2695	LEAR	8 S	1003.0	1004.0	2.0	82.0			QL=5 ST=2 TYP=5
	1415	LEAR	8 S	1003.0	1004.0	2.0	30.0			QL=3 ST=2 TYP=3
	2695	SVTO	8 S	1003.0	1004.0	2.0	68.0			QL=5 ST=2 TYP=5
	1415	SVTO	8 S	1003.0	1004.0	2.0	22.0			QL=5 ST=2 TYP=3
	9500	POTS	20 GRF	1003.0	1007.0	32.0	11.0			
	3100	CRIM	3 S	1003.0	1004.2	3.4	49.0	17.0		
	1470	POTS	4 S/F	1003.0	1004.2	18.0U	25.0			
	3000	POTS	3 S	1003.0	1004.4	12.0U	61.0			
	3013	IZMI	5 S	1003.5	1004.0	4.0	60.0	55.0		
5900	KISV	21 GRF	1003.5	1004.3	29.0	17.0				
9300	KISV	20 GRF	1003.6	1008.3	53.3	11.0				
950	GORK	46 C	1003.6	1004.5	3.5	19.0	9.0			
15000	KISV	20 GRF	1003.7	1007.0	57.0	6.0				

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ₂₂ (10 ⁻²² W/m ² Hz)	Mean		
18	9100	GORK	20 GRF	1003.9	1007.3	37.0	9.0			
	4995	SVTO	8 S	1004.0	1004.0	1.0	23.0			QL=5 ST=2 TYP=3
	3100	CRIM	29 PBI	1006.4	1006.4	30.0	4.0	1.0		
	3100	CRIM	20 GRF	1111.0	1148.2	132.0	5.0	2.0		
	9100	GORK	20 GRF	1133.0	1145.5	87.00	6.0			
	2950	GORK	20 GRF	1134.8	1220.6	83.0	4.4			
	2800	OTTA	32 ABS	1437.0	1517.0	90.0	3.7	2.0		
	2800	OTTA	1 S	1933.0	1935.0	24.0	3.0	1.0		
	500	HIRA	27 RF	2203.0	0055.0	420.0	45.0	18.0		MR
	200	HIRA	27 RF	2205.0	0134.0	390.0	390.0	120.0		SR
100	HIRA	27 RF	2209.0	2306.0	360.0	280.0	85.0			
19	410	PALE	43 NS	0026.0	0101.0	210.00	55.0			QL=5 ST=3 TYP=1
	100	GORK	44 NS	0441.0E		381.00		5.0		
	200	GORK	44 NS	0442.0E		408.00		5.0		
	100	HIRA	43 NS	0448.0	0610.0	220.00	75.0	26.0		
	245	SVTO	43 NS	0514.0	1408.0	685.00	28.0			QL=1 ST=2 TYP=1
	204	IZMI	43 NS	0600.0		360.0	15.0			
	127	TORN	44 NS	0700.0E		480.00		9.0		V=2
	260	ONDR	44 NS	0715.0E	0952.9U	422.00	6.0U			
	245	PALE	44 NS	1848.0E	0050.0	312.00	380.0			QL=5 ST=1 TYP=1
	200	HIRA	44 NS	2044.0E	0743.0	720.00	48.0	9.0		MR
	410	LEAR	44 NS	2244.0E	2257.0	152.00	55.0			QL=5 ST=2 TYP=1
	245	LEAR	43 NS	2244.0	0710.0	694.00	100.0			QL=5 ST=2 TYP=1
	245	PALE	43 NS	2308.0	0155.0	319.00	57.0			QL=5 ST=2 TYP=1
	950	GORK	46 C	0557.5	0559.0	5.8	34.0			
	950	GORK	46 C	0557.5	0559.8		44.0			
	2840	YUNN	1 S	0559.5	0600.0	2.4	3.0			
	2840	YUNN	1 S	0614.0	0615.1	3.2	3.0			
	5900	KISV	2 S/F	0704.0	0706.0	8.0	4.0			
	9300	KISV	1 S	0705.0	0706.0	3.5	3.0			
	9100	GORK	1 S	0705.4	0706.0	0.8	3.0	1.5		
5900	KISV	1 S	0821.0	0822.0	8.0	5.0				
9300	KISV	1 S	0821.6	0822.0	3.7	3.0				
204	IZMI	8 S	0825.5	0825.6	0.2	160.0	150.0			
5900	KISV	1 S	0844.0	0848.0	9.0	3.0				
5900	KISV	2 S/F	1200.0	1202.5	9.0	7.0				
9300	KISV	1 S	1200.5	1202.5	4.0	5.0				
2800	OTTA	1 S	1444.0	1448.0	22.0	4.4	2.0			
2800	OTTA	20 GRF	1533.0	1641.0	140.0	4.4	2.0			
20	100	GORK	44 NS	0444.0E		410.00		5.0		
	200	GORK	44 NS	0445.0E		409.00		10.0		
	410	SVTO	43 NS	0512.0	1125.0	688.00	48.0			QL=5 ST=3 TYP=1
	245	SVTO	43 NS	0512.0	0840.0	688.00	140.0			QL=1 ST=3 TYP=1
	204	IZMI	44 NS	0600.0E		360.00	60.0			
	234	POTS	44 NS	0600.0E	0742.0U	512.00	50.0			
	127	TORN	44 NS	0700.0E		480.00		8.0		V=2
	260	ONDR	44 NS	0700.0E	0911.2U	424.00	65.0U			
	245	PALE	44 NS	2006.0E	2049.0	325.00	73.0			QL=5 ST=2 TYP=1
	200	HIRA	44 NS	2044.0E	2125.0	720.00	18.0U	4.0U		MR
	245	LEAR	43 NS	2244.0	0047.0	694.00	35.0			QL=5 ST=2 TYP=1
	245	LEAR	8 S	0144.0E	0144.0	1.00	130.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	0144.0	0144.0	1.0	140.0			QL=5 ST=2 TYP=5
	245	LEAR	4 S/F	0148.0E	0149.0	3.00	49.0			QL=5 ST=2 TYP=3
	245	LEAR	4 S/F	0155.0E	0155.0	3.00	46.0			QL=5 ST=2 TYP=3
	2950	GORK	20 GRF	0606.0	0739.5	155.0	4.3			
	245	LEAR	4 S/F	0631.0E	0631.0	3.00	95.0			QL=5 ST=2 TYP=5
	100	GORK	2 S/F	0654.4	0654.5	0.7	10.00			
	245	LEAR	8 S	0711.0E	0711.0	1.00	110.0			QL=5 ST=2 TYP=5
	9100	GORK	1 S	1051.6	1052.1	2.0	3.2			
650	GORK	40 F	1055.5	1058.2		9.0				
650	GORK	40 F	1055.5	1055.6	3.9	7.0				
3100	CRIM	1 S	1056.0	1058.5	5.0	4.0	1.0			
2950	GORK	2 S/F	1057.1	1058.5	3.5	3.5	2.6			
200	GORK	4 S/F	1057.6	1058.2	1.3	90.0				

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak ²² (10 ⁻²² W/m ² Hz)	Flux Density Mean (10 ⁻²² W/m ² Hz)	Int	Remarks
20	950	GORK	1 S	1057.9	1058.0	0.6	1.5			
	536	ONDR	40 F	1058.3	1058.5	27.0	47.00			
	245	SVTO	8 S	1125.0	1125.0	1.0	48.0			QL=1 ST=2 TYP=3
	410	SVTO	8 S	1125.0	1125.0	1.0	47.0			QL=3 ST=2 TYP=3
	2950	GORK	1 S	1125.2	1125.7	1.4	0.9			
	650	GORK	4 S/F	1125.3	1125.5	0.7	29.0			
	950	GORK	1 S	1125.4	1125.5	0.6	0.6			
	650	GORK	2 S/F	1125.5	1125.8	0.8	10.00			
	430	KRAK	8 S	1125.5	1125.8	0.5	35.0			
	5900	KISV	2 S/F	1256.5	1258.2	5.0	5.0			
	9300	KISV	1 S	1257.8	1258.2	1.0	3.0			
	430	KRAK	8 S	1313.2	1313.2	0.5	85.0			
	9500	POTS	3 S	1319.5	1320.5	3.0	11.0			
	2800	OTTA	24 R	1320.0	1920.0	540.00	13.7			
	2800	OTTA	46 C	1532.5	1536.0	7.0	10.5	6.0		
	2800	OTTA	46 C	1532.5	1543.0	13.0	21.9	10.0		
	4995	SVTO	4 S/F	1538.0	1541.0	6.0	41.0			QL=5 ST=3 TYP=3
	2695	SVTO	4 S/F	1539.0	1542.0	4.0	24.0			QL=5 ST=3 TYP=3
	2800	OTTA	46 C	1539.5	1543.0	6.0	21.9	15.0		
	8800	SVTO	8 S	1540.0	1541.0	2.0	25.0			QL=1 ST=3 TYP=3
15400	SVTO	4 S/F	1542.0	1544.0	3.0	23.0			QL=1 ST=3 TYP=3	
2800	OTTA	30 PBI	1545.5	1545.5	39.0	8.6	4.0			
245	PALE	8 S	1916.0	1916.0	1.0	170.0			QL=5 ST=2 TYP=5	
410	PALE	4 S/F	1916.0E	1916.0		51.0			QL=5 ST=3 TYP=5	
245	PALE	8 S	1947.0	1948.0	1.0	40.0			QL=5 ST=2 TYP=3	
21	200	GORK	44 NS	0442.0E		488.00		5.0		
	100	GORK	44 NS	0442.0E		488.00		5.0		
	245	SVTO	43 NS	0511.0	1342.0	690.00	81.0			QL=5 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.00	2.0			
	260	ONDR	44 NS	0720.0E	0912.3U	485.00				
	127	TORN	44 NS	0757.0E		423.00		3.0		V=2
	200	HIRA	44 NS	2043.0E	0636.0	720.00	14.0	6.0		MR
	245	LEAR	43 NS	2245.0	0121.0	692.00	100.0			QL=5 ST=2 TYP=1
	245	LEAR	4 S/F	0251.0	0251.0		77.0			QL=5 ST=2 TYP=5
	245	PALE	4 S/F	0251.0	0251.0	234.0	79.0			QL=5 ST=2 TYP=5
	650	GORK	2 S/F	0659.7	0700.6	2.9	4.5			
	2950	GORK	20 GRF	0700.2	0709.8	138.0	3.6			
	950	GORK	1 S	0701.3	0701.7	1.4				
	29	UPIC	4 S/F	0911.0	0911.4	0.5				
	204	IZMI	42 SER	0926.5	0929.0	3.0	65.0			
	9100	GORK	20 GRF	1051.0	1252.6	121.6U	5.5			
	204	IZMI	41 F	1106.0	1106.5	0.7	60.0			
	2800	OTTA	22 GRF	1534.0	1541.0	250.0	2.8	2.0		
	5200	BERN	3 S	1535.0	1540.3	15.0	40.0			
	3100	BERN	3 S	1535.0	1540.3	15.0	8.0			
2800	OTTA	21 GRF	1635.0	1650.0	38.0	2.0				
2800	OTTA	3 S	1717.6	1718.8	2.0	23.1	6.0			
200	HIRA	42 SER	2138.0	2319.7	200.0	460.0			SR	
245	PALE	8 S	2158.0	2158.0	1.0	100.0			QL=5 ST=2 TYP=5	
245	LEAR	8 S	2311.0	2312.0	1.0	62.0			QL=5 ST=2 TYP=5	
245	LEAR	8 S	2320.0	2320.0	1.0	48.0			QL=5 ST=2 TYP=3	
245	PALE	8 S	2336.0	2336.0	1.0	100.0			QL=5 ST=2 TYP=5	
22	200	GORK	44 NS	0431.0E		512.00		10.0		
	100	GORK	44 NS	0431.0E		512.00		5.0		
	245	SVTO	43 NS	0509.0	1357.0	693.00	300.0			QL=5 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.00	40.0			
	260	ONDR	44 NS	0650.0E	0958.5U	495.00				
	127	TORN	44 NS	0700.0E		480.00		2.0		V=2
	245	PALE	44 NS	1651.0E	0411.0	697.00	130.0			QL=5 ST=2 TYP=1
	200	HIRA	44 NS	2043.0E	0238.0	720.00	16.0	6.0		MR
	200	HIRA	42 SER	0235.0	0400.0	86.0	250.0			SR
	200	HIRA	42 SER	0558.0	0647.0	60.0	110.0			SR

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak ²² (10 ⁻²² W/m ² Hz)	Mean	Int	Remarks
22	2950	GORK	21 GRF	0703.3	0718.3	129.0	5.2			
	5200	BERN	3 S	0705.0	0714.0	15.0	18.0			
	3100	BERN	3 S	0705.0	0714.0	15.0	11.0			
	3100	CRIM	1 S	0710.0	0714.0	7.0	6.0	2.0		
	2950	GORK	2 S/F	0711.8	0714.1	5.7	7.0			
	3013	IZMI	1 S	0712.0	0715.0	8.0	7.0	5.0		
	9100	GORK	20 GRF	0712.0	1254.5	348.00	10.0			
	3100	CRIM	29 PBI	0717.0	0717.0	15.0	3.0	1.0		
	536	ONDR	8 S	0958.3	0958.3	0.3	20.0			
	29	UPIC	3 S	1002.4	1002.5	0.4				
	33	UPIC	3 S	1002.4	1002.5	0.4				
	950	GORK	22 GRF	1010.0	1020.0	20.0	4.0	2.0		
	536	ONDR	3 S	1108.1	1108.2	0.5	17.0			
	33	UPIC	42 SER	1134.8	1136.6	46.9				
	29	UPIC	42 SER	1135.0	1136.8	46.8				
	245	PALE	8 S	1814.0	1814.0	2.0	100.0			QL=1 ST=2 TYP=5
	245	PALE	4 S/F	2006.0	2006.0	3.0	240.0			QL=5 ST=2 TYP=5
	2800	OTTA	1 S	2022.5	2024.0	4.5	3.8	2.0		
	245	PALE	4 S/F	2040.0	2040.0	3.0	100.0			QL=5 ST=2 TYP=5
	2800	OTTA	22 GRF	2047.0	2051.0	30.0	8.2	4.0		
	245	PALE	49 GB	2058.0E	2100.0	3.00	2300.0			QL=1 ST=2 TYP=6
	410	PALE	8 S	2058.0	2059.0	1.0	180.0			QL=1 ST=2 TYP=5
	500	HIRA	6 S	2058.3	2059.0	1.7	43.0			0
	100	HIRA	42 SER	2310.8	2313.2U	12.5	1000.00			
	200	HIRA	42 SER	2311.9	2313.2	10.6	15.0	4.0		MR
	245	PALE	49 GB	2313.0E	2313.0	2.00	920.0			QL=5 ST=2 TYP=6
245	PALE	8 S	2318.0	2318.0	1.0	180.0			QL=5 ST=2 TYP=5	
245	PALE	8 S	2321.0	2321.0	1.0	110.0			QL=5 ST=2 TYP=5	
23	245	LEAR	43 NS	0238.0	0924.0	458.00	180.0			QL=5 ST=2 TYP=1
	200	GORK	44 NS	0440.0E		499.00		5.0		
	100	GORK	44 NS	0440.0E		499.00		5.0		
	245	SVTO	43 NS	0507.0	0656.0	696.00	380.0			QL=5 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.00	50.0			
	127	TORN	44 NS	0700.0E		480.00		3.0		V=2
	260	ONDR	44 NS	0700.0E	1006.4U	420.00				
	200	HIRA	42 SER	0048.2	0152.8	68.0	710.0			0
	100	HIRA	41 F	0048.6	0051.7	40.0	690.0			
	610	PALE	4 S/F	0054.0	0054.0		40.0			
	245	PALE	8 S	0054.0	0054.0	1.0	44.0			QL=5 ST=2 TYP=3
	500	HIRA	42 SER	0054.0	0054.5	3.0	38.0			0
	100	HIRA	42 SER	0147.3	0152.1U	6.9	1000.0			
	245	PALE	48 C	0149.0	0151.0	4.0	560.0			QL=5 ST=2 TYP=8
	410	PALE	8 S	0151.0	0153.0	2.0	130.0			QL=5 ST=2 TYP=5
	500	HIRA	42 SER	0151.4	0154.4	5.5	210.0			WR
	410	PALE	8 S	0156.0	0156.0	1.0	69.0			QL=5 ST=2 TYP=5
	610	PALE	8 S	0156.0	0156.0	1.0	23.0			QL=5 ST=2 TYP=3
	245	PALE	4 S/F	0156.0	0156.0		93.0			QL=5 ST=2 TYP=5
	610	PALE	8 S	0229.0	0229.0	1.0	110.0			QL=5 ST=2 TYP=5
	245	PALE	4 S/F	0246.0	0246.0		170.0			QL=5 ST=3 TYP=5
	100	HIRA	42 SER	0416.9	0423.4U	8.7	1000.0			
	245	LEAR	4 S/F	0421.0	0422.0	5.0	210.0			QL=1 ST=3 TYP=5
	410	LEAR	4 S/F	0421.0	0422.0	4.0	6.0			QL=1 ST=3 TYP=5
	200	HIRA	46 C	0421.8	0422.1	4.6	830.0	115.0		WR
	410	PALE	8 S	0422.0	0422.0	1.0	67.0			QL=5 ST=2 TYP=5
	245	PALE	4 S/F	0422.0	0422.0		200.0			QL=5 ST=2 TYP=5
	650	GORK	41 F	0444.4	0449.0		3.5			
	650	GORK	41 F	0444.4	0450.2		4.3			
	650	GORK	41 F	0444.4	0444.6	5.8	76.0			
	245	LEAR	49 GB	0448.0E	0449.0	3.00	1000.0			QL=3 ST=2 TYP=6
	5900	KISV	45 C	0539.2	0540.4	7.5	7.0			
5900	KISV	45 C	0539.2	0544.9		9.0				
2840	YUNN	2 S/F	0543.6	0545.2	7.4	5.0				
9100	GORK	1 S	0543.9	0545.0	4.1	9.2				
9300	KISV	2 S/F	0543.9	0545.0	1.5	9.0				
9300	KISV	29 PBI	0545.4	0545.5	8.5	4.0				
200	GORK	4 S/F	0546.3	0546.8	1.8	1300.0				
5900	KISV	29 PBI	0546.6	0546.6	17.0	3.0				

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

MARCH 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ²² (10 ⁻²² W/m ² Hz)	Mean		
23	100	HIRA	42 SER	0605.9	0612.2	16.5	740.0			
	245	LEAR	4 S/F	0615.0	0615.0	3.0	250.0			QL=5 ST=2 TYP=5
	245	LEAR	8 S	0655.0	0656.0	1.0	310.0			QL=5 ST=2 TYP=5
	100	GORK	4 S/F	0709.4	0710.2	2.3	750.0			
	200	GORK	4 S/F	0709.7	0710.1	1.9	440.0			
	204	IZMI	5 S	0710.0	0710.5	1.0	450.0	350.0		
	5900	KISV	2 S/F	0726.1	0727.2	4.0	2.0			
	3100	CRIM	21 GRF	0741.0	0850.0	149.0	4.0	1.0		
	100	GORK	41 F	0804.7	0806.0	11.5	210.0			
	100	GORK	41 F	0804.7	0807.4		420.0			
	100	GORK	41 F	0804.7	0814.4		110.0			
	650	GORK	41 F	0806.0	0806.1	48.7	19.0			
	650	GORK	41 F	0806.0	0832.2		7.0			
	650	GORK	41 F	0806.0	0854.3		9.0			
	650	GORK	41 F	0806.0	0851.4		11.0			
	650	GORK	41 F	0806.0	0807.7		11.0			
	200	GORK	41 F	0806.8	0832.3		80.0			
	200	GORK	41 F	0806.8	0851.3		280.0			
	200	GORK	41 F	0806.8	0811.4	47.5	25.00			
	204	IZMI	41 F	0807.0	0812.0	6.0	170.0			
	2950	GORK	21 GRF	0822.9	1140.0	250.00	9.7			
	100	GORK	41 F	0826.6	0829.1	9.0	210.0			
	100	GORK	41 F	0826.6	0832.1		150.0			
	100	GORK	41 F	0826.6	0833.9		100.0			
	9100	GORK	21 GRF	0840.0	1245.5	260.00	9.5			
	100	GORK	4 S/F	0848.5	0851.1	7.0	890.0			
	234	POTS	4 S/F	0850.5	0851.3	2.1	100.0	5.0		
	30	POTS	4 S/F	0850.7	0851.3	1.9	11000.0	2000.0		
	33	UPIC	45 C	0850.7	0850.9	4.3				
	29	UPIC	45 C	0850.8	0850.8	4.2				
	410	LEAR	4 S/F	0851.0	0851.0	4.0	270.0			QL=5 ST=2 TYP=5
	410	SVTO	8 S	0851.0	0851.0	1.0	230.0			QL=3 ST=2 TYP=5
	204	IZMI	45 C	0854.0	0854.5	4.5	250.0	150.0		
	536	ONDR	40 F	0910.0	1024.7U	104.5	78.0			
	33	UPIC	42 SER	0915.6	1006.1	113.6				
	29	UPIC	42 SER	0915.7	1005.9	113.8				
	100	GORK	41 F	0917.8	0925.0		300.0			
	100	GORK	41 F	0917.8	0929.1		140.0			
	100	GORK	41 F	0917.8	0919.2	12.5	250.0			
	430	KRAK	42 SER	0918.7	0922.5	6.7	41.0			
	234	POTS	42 SER	0918.7	0924.8	11.0	340.0			
	5900	KISV	29 PBI	0919.1	0921.7	11.0	3.0			
	5900	KISV	2 S/F	0919.1	0920.8	2.5	16.0			
	2950	GORK	1 S	0919.5	0920.9	5.6	10.0			
	4995	SVTO	8 S	0920.0	0920.0	1.0	18.0			QL=5 ST=2 TYP=3
	410	SVTO	8 S	0920.0	0920.0	1.0	20.0			QL=5 ST=2 TYP=3
	3000	POTS	3 S	0920.0	0920.8	1.5	9.0			
	3100	CRIM	1 S	0920.1	0920.9	3.0	5.4	2.0		
	810	KRAK	2 S/F	0920.2	0920.5	1.0	57.0	3.0		
	9300	KISV	22 GRF	0920.4	0920.8	16.0	6.0			
1470	POTS	2 S/F	0920.4	0920.9	1.6	5.0				
9100	GORK	1 S	0920.5	0921.0	1.1	4.0	2.0			
3013	IZMI	5 S	0920.5	0921.0	1.0	7.0	5.0			
9500	POTS	1 S	0920.5	0920.8	0.7	6.0				
245	SVTO	8 S	0924.0	0924.0	2.0	300.0			QL=5 ST=2 TYP=5	
410	SVTO	8 S	0924.0	0924.0	1.0	46.0			QL=5 ST=2 TYP=3	
200	GORK	41 F	0924.8	0925.0	4.9	140.0				
200	GORK	41 F	0924.8	0927.0		10.0				
204	IZMI	41 F	0925.0	0925.5	1.4	160.0				
3000	POTS	20 GRF	0945.0	0950.0	15.0	3.0				
1470	POTS	20 GRF	0945.0	0950.0	25.0	6.0				
3100	CRIM	1 S	0945.5	0950.0	10.0	1.6	0.5			
950	GORK	22 GRF	0945.6	0949.9	8.3	2.0				
234	POTS	42 SER	1002.5	1006.3	4.7	1400.0				
30	POTS	42 SER	1002.6	1006.3	4.5	4000.0				
237	TRST	42 SER	1002.7	1002.8	1.0	104.0				

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ²² (10 ⁻²² W/m ² Hz)	Mean ² (10 ⁻²² W/m ² Hz)		
23	245	LEAR	8 S	1005.0	1006.0	2.0	390.0			QL=5 ST=2 TYP=5
	204	IZMI	5 S	1005.5	1006.0	1.2	1000.0	800.0		
	237	TRST	47 GB	1005.5	1006.3	1.3	1632.0			34R
	100	GORK	4 S/F	1005.6	1006.4	1.6	2100.0			
	200	GORK	4 S/F	1005.6	1006.4	1.4	300.0			
	410	SVTO	8 S	1006.0	1006.0	1.0	22.0			QL=1 ST=2 TYP=3
	327	TRST	47 GB	1006.1	1006.3	0.5	720.0			34R
	5900	KISV	1 S	1006.1	1006.4	1.0	2.0			
	408	TRST	46 C	1006.2	1006.3	0.2	73.0			30R
	950	GORK	20 GRF	1015.5	1019.7	132.0	2.0			
	610	TRST	46 C	1024.6	1024.7	0.1	210.0			5L
	610	TRST	47 GB	1025.3	1025.4	0.1	1435.0			2R
	5900	KISV	2 S/F	1025.4	1026.1	3.0	2.0			
	610	TRST	42 SER	1025.5	1025.6	0.6	153.0			OR
	100	GORK	4 S/F	1040.0	1041.4	3.5	160.0			
	200	GORK	4 S/F	1040.6	1042.0	2.1	55.0			
	650	GORK	2 S/F	1040.6	1043.2	2.7	7.0			
	5900	KISV	45 C	1105.5	1108.0	10.0	5.0			
	5900	KISV	45 C	1105.5	1109.9		2.0			
	2950	GORK	1 S	1107.0	1108.0	2.2	2.2			
	9300	KISV	2 S/F	1107.2	1108.2	5.5	3.0			
	810	KRAK	2 S/F	1108.0	1108.1	0.7	39.0	2.0		
	29	UPIC	45 C	1400.5	1400.5	3.4				
33	UPIC	45 C	1400.5	1400.5	3.4					
2800	OTTA	22 GRF	1445.0	1605.0	260.0	11.7	6.0			
127	TORN	8 S	1459.8	1500.3	2.2	530.0	270.0			
2800	OTTA	22 GRF	2015.0	2019.0	70.0	8.2	4.0			
24	260	ONDR	44 NS	0648.0E	0819.9U	495.00	91.0			
	127	TORN	43 NS	0758.0	1348.2	422.0	160.0	2.0		V=2
	33	UPIC	43 NS	0819.0		461.00				
	29	UPIC	43 NS	0819.1		407.4				
	9100	GORK	20 GRF	0436.0	0508.7	240.0	8.0			
	650	GORK	2 S/F	0726.4	0726.5	2.3	3.4			
	650	GORK	2 S/F	0731.1	0731.6	0.9	8.0			
	245	SVTO	4 S/F	0817.0	0819.0	3.0	280.0			QL=1 ST=2 TYP=5
	100	HIRA	46 C	0818.5	0819.8	2.0	980.0			
	200	GORK	4 S/F	0818.8	0820.0	2.1	940.0			
	100	GORK	4 S/F	0818.9	0820.0	2.3	2900.0			
	234	POTS	4 S/F	0818.9	0819.9	2.1	250.0	25.0		
	245	LEAR	8 S	0819.0	0820.0	1.0	150.0			QL=5 ST=2 TYP=5
	204	IZMI	5 S	0819.0	0819.6	2.0	3000.0	2500.0		
	200	HIRA	46 C	0819.1	0819.8	1.5	810.0			MR
	327	TRST	41 F	0819.1	0819.9	1.1	86.0			58R
	237	TRST	46 C	0819.1	0819.9	1.5	379.0			51R
	408	TRST	41 F	0819.2	0820.5	1.4	108.0			63R
	30	POTS	4 S/F	0819.3	0820.0	3.2	2600.0	250.0		
	127	TORN	47 GB	0819.6	0820.3	2.0	4100.0	2000.0		
	3100	CRIM	4 S/F	0934.0	0936.0	6.0	21.0			QL= ST= TYP=3
	3100	CRIM	3 S	0934.0	0936.2	6.0	21.0	7.0		
	3000	POTS	3 S	0935.0	0937.3	4.5	40.0			
	5200	BERN	3 S	0935.3	0938.0	5.0	25.0			
	3100	BERN	3 S	0935.3	0937.2	5.0	38.0			
	8400	BERN	3 S	0935.3	0937.2	5.0	22.0			
	11800	BERN	3 S	0935.3	0938.2	5.0	16.0			
	536	ONDR	41 F	0935.3	0936.4	3.0U	64.0			
	650	GORK	21 GRF	0935.8		8.3	2.7			
	2950	GORK	3 S	0935.9	0937.3	3.1	39.0			
	410	LEAR	8 S	0936.0	0937.0	1.0	57.0			QL=5 ST=2 TYP=5
	1415	LEAR	8 S	0936.0	0937.0	2.0	12.0			QL=3 ST=2 TYP=3
	2695	LEAR	8 S	0936.0	0937.0	2.0	31.0			QL=5 ST=2 TYP=3
408	TRST	42 SER	0936.3	0937.2	1.4	375.0			5R	
950	GORK	23 GRF	0936.4	0939.0	8.5	2.0				
1470	POTS	3 S	0936.5	0937.3	3.0	11.0				
5900	KISV	45 C	0936.6	0937.2	3.5	13.0				
5900	KISV	45 C	0936.6	0937.9		19.0				

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Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak ²² (10 ⁻²² W/m ² Hz)	Mean (Hz)		
24	9100 GORK	21 GRF	0936.7	1033.1	203.00	21.0			
	9300 KISV	2 S/F	0936.8	0938.3	2.5	13.0			
	950 GORK	3 S	0937.0	0937.2	2.0	7.5			
	610 TRST	45 C	0937.0	0937.2	0.7	88.0		4R	
	650 GORK	4 S/F	0937.0	0937.3	1.6	16.0			
	9500 POTS	1 S	0937.0	0938.4	3.0	6.0			
	9100 GORK	1 S	0937.7	0938.1	1.7	5.6	2.5		
	2950 GORK	29 PBI	0939.0	0939.0	6.7	5.2			
	9300 KISV	29 PBI	0939.3	0939.5	12.0	6.0			
	3100 CRIM	29 PBI	0940.0	0940.0	17.0	3.0	1.0		
	5900 KISV	29 PBI	0940.1	0940.1	13.5	4.0			
	810 KRAK	2 S/F	1000.3	1000.4	0.5	4.0	2.0		
	1470 POTS	20 GRF	1010.0	1039.0	100.0	3.0			
	3000 POTS	20 GRF	1012.0	1026.0	98.00	8.0			
	4995 SVTO	20 GRF	1015.0	1027.0	78.0	22.0			QL=5 ST=2 TYP=2
	8800 SVTO	20 GRF	1016.0	1031.0	78.0	12.0			QL=5 ST=2 TYP=2
	5900 KISV	46 C	1016.4	1026.1		31.0			
	5900 KISV	46 C	1016.4	1026.5		32.0			
	5900 KISV	46 C	1016.4	1020.6	11.5	18.0			
	2695 SVTO	20 GRF	1017.0	1028.0	71.0	6.0			QL=3 ST=2 TYP=2
	9300 KISV	21 GRF	1017.9	1026.6	60.0	21.0			
	9500 POTS	20 GRF	1018.0	1035.5	92.0	21.0			
	2950 GORK	20 GRF	1019.0	1026.5	55.0	6.2			
	15000 KISV	21 GRF	1022.7	1037.1	40.0	15.0			
	15400 SVTO	20 GRF	1023.0	1038.0	65.0	13.0			QL=3 ST=2 TYP=2
	5900 KISV	29 PBI	1027.9	1028.1	36.5	21.0			
	100 GORK	4 S/F	1146.5	1149.3	2.80	460.0			
	200 GORK	4 S/F	1147.0	1149.2	3.1	25.0			
	237 TRST	42 SER	1148.6	1149.2	1.2	40.0			27R
	327 TRST	41 F	1148.7	1149.2	1.2	88.0			57R
	204 IZMI	41 F	1149.0	1149.5	1.5	80.0			
	650 GORK	2 S/F	1149.1	1149.4	0.5	6.0			
	950 GORK	2 S/F	1149.1	1149.4	0.5	9.0			
	408 TRST	41 F	1149.4	1149.5	0.3	40.0			27R
	2800 OTTA	22 GRF	1210.0	1305.0	210.0	4.7	2.0		
	200 GORK	4 S/F	1214.8	1215.8	1.4	120.0			
	100 GORK	4 S/F	1215.0	1215.7	1.6	490.0			
	2800 OTTA	21 GRF	1351.0	1357.0	25.00	4.2	2.0		
	245 SVTO	48 C	1445.0	1446.0	1.0	240.0			QL=3 ST=2 TYP=8
	30 POTS	41 F	1445.8	1445.9	10.00	20000.0			
	327 TRST	46 C	1445.9	1446.2	1.2	229.0			27R
	237 TRST	47 GB	1445.9	1446.2	1.2	1060.0			22R
	408 TRST	42 SER	1445.9	1446.2	1.2	207.0			26R
	234 POTS	41 F	1446.0	1446.1	7.0	700.0			
	610 TRST	42 SER	1446.0	1446.1	0.3	542.0			18R
	410 SVTO	8 S	1448.0	1448.0	1.0	80.0			QL=3 ST=2 TYP=5
	237 TRST	46 C	1448.0	1448.4	0.6	309.0			13R
	610 TRST	46 C	1448.1	1448.3	0.5	85.0			4R
408 TRST	46 C	1448.1	1448.3	0.5	134.0			10R	
327 TRST	46 C	1448.1	1448.4	0.5	245.0			8R	
237 TRST	46 C	1450.6	1451.0	0.6	208.0			10R	
327 TRST	45 C	1450.6	1450.7	1.0	43.0			4R	
237 TRST	46 C	1452.4	1452.8	0.5	121.0			11R	
237 TRST	2 S/F	1503.2	1503.3	0.1	45.0			9R	
237 TRST	46 C	1504.9	1505.5	0.8	244.0			1R	
245 SVTO	8 S	1633.0	1633.0	2.0	2000.0			QL=3 ST=2 TYP=5	
15400 SVTO	4 S/F	1633.0	1635.0	3.0	65.0			QL=3 ST=2 TYP=5	
327 TRST	42 SER	1633.3	1635.1	2.2	188.0			47R	
237 TRST	47 GB	1633.3	1634.2	2.2	4212.0			8R	
410 SVTO	4 S/F	1634.0	1635.0	5.0	88.0			QL=3 ST=2 TYP=5	
2695 SVTO	8 S	1634.0	1635.0	1.0	29.0			QL=3 ST=2 TYP=3	
1415 SVTO	8 S	1634.0	1635.0	2.0	56.0			QL=3 ST=2 TYP=5	
5200 BERN	3 S	1634.0	1635.3	4.0	27.0				
3100 BERN	3 S	1634.0	1635.3	4.0	25.0				
2800 OTTA	3 S	1634.0	1635.5	15.0	38.6	9.0			
408 TRST	42 SER	1634.2	1635.1	1.2	455.0			53R	

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ₂₂ (10 ⁻²² W/m ² Hz)	Mean (10 ⁻²² W/m ² Hz)		
24	610	TRST	42 SER	1634.2	1635.1	1.1	187.0			24R
	4995	PALE	8 S	1653.0	1653.0	2.0	32.0			QL=3 ST=2 TYP=3
	2695	PALE	8 S	1654.0	1655.0	2.0	23.0			QL=3 ST=2 TYP=3
	1415	PALE	4 S/F	1655.0	1656.0	3.0	17.0			QL=3 ST=2 TYP=3
	245	PALE	4 S/F	2025.0	2027.0	3.0	67.0			QL=5 ST=2 TYP=5
	410	PALE	8 S	2027.0	2027.0	1.0	73.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	2030.0	2030.0	1.0	63.0			QL=5 ST=2 TYP=5
	1415	PALE	8 S	2030.0	2031.0	1.0	21.0			QL=5 ST=2 TYP=3
	410	PALE	8 S	2032.0	2032.0	1.0	24.0			QL=5 ST=2 TYP=3
25	260	ONDR	44 NS	0700.0E	1119.0U	482.0D				
	127	TORN	43 NS	0706.0		474.0		3.0		V=2
	245	SVTO	43 NS	1000.0	1115.0	405.0D	76.0			QL=5 ST=2 TYP=1
	245	PALE	8 S	0033.0	0034.0	1.0	60.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	0033.0	0034.0	1.0	60.0			QL=5 ST=2 TYP=3
	100	HIRA	42 SER	0033.5	0052.1U	63.0	1000.0D			
	200	HIRA	42 SER	0033.7	0152.4	78.7U	1500.0			0
	245	LEAR	8 S	0052.0	0053.0	1.0	210.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	0052.0	0053.0	1.0	210.0			QL=5 ST=2 TYP=5
	230	SYDN	8 S	0057.0	0057.0	2.0	250.0			QL= ST= TYP=3
	245	LEAR	8 S	0124.0	0124.0	1.0	110.0			QL=5 ST=2 TYP=5
	245	PALE	4 S/F	0124.0	0124.0		300.0			QL=5 ST=2 TYP=5
	245	LEAR	48 C	0132.0	0134.0	3.0	290.0			QL=5 ST=2 TYP=8
	410	LEAR	8 S	0134.0	0134.0	1.0	28.0			QL=5 ST=2 TYP=3
	610	PALE	8 S	0134.0	0134.0	2.0	26.0			QL=5 ST=2 TYP=3
	410	PALE	8 S	0134.0	0134.0	2.0	50.0			QL=5 ST=2 TYP=5
	245	PALE	48 C	0134.0	0134.0	4.0	290.0			QL=5 ST=2 TYP=8
	500	HIRA	41 F	0134.2	0134.5	4.0	28.0			0
	200	HIRA	42 SER	0311.2	0317.6	6.6	105.0			0
	100	HIRA	41 F	0311.4	0311.6	3.0	890.0			0
	9100	GORK	20 GRF	0451.0E	0519.9	87.0D	10.5			
	2950	GORK	21 GRF	0513.8	0517.5	55.0	3.0			
	5900	KISV	46 C	0514.9	0724.2		6.0			
	5900	KISV	21 GRF	0514.9	0519.6	67.0	11.0			
	200	GORK	41 F	0515.0	0526.5		110.0			
	200	GORK	41 F	0515.0	0519.7	34.9	90.0			
	200	HIRA	46 C	0515.2	0525.7	32.0	170.0	13.0		0
	650	GORK	46 C	0516.0	0522.2		11.0			
	3100	CRIM	1 S	0516.0	0520.5	8.0	6.8	2.0		
	650	GORK	46 C	0516.0	0517.6	9.8	9.4			
	100	GORK	4 S/F	0517.0	0525.0	21.9	20.0			
	500	HIRA	46 C	0517.0	0521.2	6.0	4.0	2.0		0
	100	GORK	4 S/F	0517.0	0529.3		350.0			
	100	GORK	4 S/F	0517.0	0532.6		860.0			
	9300	KISV	21 GRF	0517.8	0519.9	64.0	9.0			
	2950	GORK	3 S	0517.9	0520.2	5.2	6.1	3.0		
950	GORK	1 S	0518.5	0520.7	5.5	3.0				
245	LEAR	4 S/F	0524.0	0525.0	5.0	400.0			QL=5 ST=2 TYP=5	
245	SVTO	4 S/F	0524.0	0525.0	5.0	440.0			QL=3 ST=2 TYP=5	
100	HIRA	46 C	0527.7	0532.1	8.6	1100.0	240.0			
100	GORK	41 F	0602.8	0615.2		40.0				
100	GORK	41 F	0602.8	0603.2	13.0	150.0				
100	GORK	41 F	0602.8	0612.6		80.0				
200	GORK	41 F	0603.0	0612.3		20.0D				
200	GORK	41 F	0603.0	0604.9	15.0	8.0				
245	LEAR	8 S	0611.0	0612.0	1.0	71.0			QL=5 ST=2 TYP=5	
245	SVTO	8 S	0611.0	0611.0	1.0	80.0			QL=1 ST=2 TYP=5	
204	IZMI	41 F	0611.5	0612.0	1.2	90.0				
650	GORK	22 GRF	0709.4	0719.6	18.7	4.8				
200	GORK	41 F	0715.0	0740.7		20.0				
200	GORK	41 F	0715.0	0726.8		7.0				
200	GORK	41 F	0715.0	0724.8	28.8	10.0				
3100	CRIM	45 C	0719.0	0726.0		2.3				
3100	CRIM	45 C	0719.0	0724.4	10.0	2.3	1.0			
2950	GORK	45 C	0723.6	0724.2	4.3	3.9				

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Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak ²² (10 ⁻²² W/m ² Hz)	Mean		
25	2950 GORK	45 C	0723.6	0725.7		4.2			
	5900 KISV	46 C	0723.8	0725.8		7.0			
	5900 KISV	46 C	0723.8	0726.9		3.0			
	9300 KISV	40 F	0724.1	0724.2	5.5	2.0			
	9300 KISV	40 F	0724.1	0725.8		2.0			
	9300 KISV	40 F	0724.1	0726.9		4.0			
	100 GORK	41 F	0724.4	0724.6	23.6	20.0			
	100 GORK	41 F	0724.4	0740.8		70.0			
	100 GORK	41 F	0724.4	0726.8		35.0			
	950 GORK	1 S	0726.7	0726.9	0.3	2.0			
	3100 CRIM	45 C	0733.5	0734.0	4.0	15.0	8.0		
	3100 CRIM	45 C	0733.5	0735.4		26.5			
	204 IZMI	8 S	0740.5	0740.8	0.8	9.0	5.0		
	29 UPIC	8 S	0740.5	0740.8	0.7				
	29 UPIC	46 C	0803.4	0809.0	16.9				
	33 UPIC	46 C	0803.5	0808.9	18.5				
	650 GORK	4 S/F	0813.1	0813.2	1.1	33.0			
	650 GORK	23 GRF	0836.0		17.3	1.0			
	200 GORK	41 F	0839.2	0840.0	13.6	7.0			
	200 GORK	41 F	0839.2	0849.4		470.0			
	200 GORK	41 F	0839.2	0852.4		190.0			
	100 GORK	41 F	0839.9	0840.1	13.0	15.0			
	100 GORK	41 F	0839.9	0846.5		13700.0			
	100 GORK	41 F	0839.9	0852.5		130.0			
	650 GORK	4 S/F	0844.1	0846.4	5.2	94.0			
	950 GORK	46 C	0844.7	0846.3	5.0	71.0			
	950 GORK	46 C	0844.7	0848.5		60.0			
	810 KRAK	4 S/F	0845.0	0846.8	5.0	99.0	4.0		
	3000 POTS	3 S	0845.6	0847.3	2.9	10.0			
	610 TRST	46 C	0845.9	0846.3	1.0	573.0		14R	
	204 IZMI	41 F	0846.0	0849.0	8.0	700.0			
	15000 KISV	1 S	0846.0	0847.0	5.5	3.0			
	410 LEAR	8 S	0846.0	0846.0	1.0	67.0			QL=5 ST=2 TYP=5
	1415 LEAR	8 S	0846.0	0847.0	1.0	52.0			QL=3 ST=2 TYP=5
	610 LEAR	4 S/F	0846.0	0846.0	1.0D	75.0			QL=5 ST=2 TYP=5
	410 SVTO	4 S/F	0846.0	0846.0	5.0	83.0			QL=5 ST=2 TYP=5
	610 SVTO	8 S	0846.0	0846.0	1.0	75.0			QL=1 ST=2 TYP=5
	245 SVTO	8 S	0846.0	0846.0	1.0	68.0			QL=5 ST=2 TYP=5
	1415 SVTO	8 S	0846.0	0846.0	1.0	28.0			QL=5 ST=2 TYP=3
	234 POTS	42 SER	0846.0	0849.2	7.6	380.0			
	408 TRST	46 C	0846.0	0846.3	0.8	181.0		15R	
	3013 IZMI	5 S	0846.0	0847.5	3.0	8.0	5.0		
	30 POTS	42 SER	0846.0	0847.5	7.0	16000.0			
	1470 POTS	4 S/F	0846.0	0846.9	4.0	29.0			
	5900 KISV	45 C	0846.1	0847.0		7.0			
	5900 KISV	45 C	0846.1	0846.3	5.0	2.0			
	237 TRST	46 C	0846.1	0846.3	1.4	163.0		15R	
	327 TRST	46 C	0846.1	0846.3	0.7	160.0		19R	
	3100 CRIM	1 S	0846.1	0847.4	3.0	5.2	2.0		
	2950 GORK	3 S	0846.3	0847.2	2.7	8.3	4.0		
	33 UPIC	46 C	0846.5		6.0				
	29 UPIC	46 C	0846.5		6.4				
	9300 KISV	40 F	0846.7	0847.0	4.0	4.0			
	9100 GORK	1 S	0846.7	0847.2	5.3	3.2			
	9300 KISV	40 F	0846.7	0849.4		2.0			
	327 TRST	41 F	0848.2	0848.2	0.1	156.0		43R	
	327 TRST	46 C	0849.0	0849.1	0.5	151.0		9R	
	408 TRST	46 C	0849.0	0849.1	0.3	133.0		14R	
	237 TRST	47 GB	0849.0	0849.2	0.5	706.0		22R	
	610 TRST	46 C	0849.1	0849.1	0.2	127.0		7R	
	245 LEAR	4 S/F	0852.0	0852.0		47.0			QL=5 ST=2 TYP=3
	245 SVTO	8 S	0852.0	0852.0	1.0	75.0			QL=1 ST=2 TYP=5
	408 TRST	45 C	0852.1	0852.2	0.5	45.0		12R	
	327 TRST	46 C	0852.1	0852.4	0.8	56.0		8R	
	237 TRST	42 SER	0852.1	0852.4	1.2	99.0		9R	
	3013 IZMI	5 S	0858.7	0859.0	0.5	10.0	7.0		
	5200 BERN	3 S	0918.3	0920.2	30.0	25.0			

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ₂₂ (10 ⁻²² W/m ² Hz)	Mean (10 ⁻²² W/m ² Hz)		
25	5900	KISV	21 GRF	0923.7	0925.3	84.6	2.0			
	5900	KISV	45 C	0943.5	0945.4	9.8	4.0			
	5900	KISV	45 C	0943.5	0945.7		4.0			
	2950	GORK	20 GRF	0944.8	0945.5	18.0	2.3			
	3013	IZMI	1 S	0945.0	0946.0	2.5	2.0	1.0		
	3100	CRIM	1 S	0945.0	0945.6	2.0	1.5	0.3		
	15000	KISV	21 GRF	0954.9	1032.4	185.0D	10.0			
	3013	IZMI	1 S	0958.0	1001.0	4.0	2.0	1.0		
	245	LEAR	4 S/F	0958.0	0959.0	3.0	160.0			QL=5 ST=2 TYP=5
	950	GORK	1 S	0958.6	1000.0	3.8	1.0			
	200	GORK	4 S/F	0958.7	0959.2	1.7	270.0			
	327	TRST	42 SER	0958.7	1001.2	2.5	56.0			16R
	40	POTS	42 SER	0958.7	1001.5	3.5	300.0			
	234	POTS	42 SER	0958.7	0959.5	4.4	320.0			
	9100	GORK	1 S	0958.7	1000.9	2.9	8.8			
	5900	KISV	45 C	0958.7	1000.9		13.0			
	5900	KISV	45 C	0958.7	0959.9	4.1	7.0			
	237	TRST	42 SER	0958.8	0959.6	2.2	455.0			5R
	245	SVTO	8 S	0959.0	0959.0	1.0	75.0			QL=1 ST=2 TYP=5
	650	GORK	45 C	0959.0	0959.2	3.3	2.2			
	204	IZMI	41 F	0959.0	0959.5	2.5	28.0			
	650	GORK	45 C	0959.0	1000.7		3.6			
	9300	KISV	45 C	0959.2	1001.0		10.0			
	9300	KISV	45 C	0959.2	0959.9	3.2	9.0			
	9500	POTS	1 S	0959.3	1001.0	4.2	9.0			
	100	GORK	4 S/F	0959.5	1000.0	2.9	820.0			
	15000	KISV	40 F	0959.8	1001.0		4.0			
	15000	KISV	40 F	0959.8	0959.9	2.4	2.0			
	5900	KISV	1 S	1011.1	1011.4	0.5	1.0			
	100	GORK	2 S/F	1017.2	1019.3	2.7	9.0			
	200	GORK	2 S/F	1017.5	1018.3	1.9	2.0			
	650	GORK	4 S/F	1018.0	1019.2	2.4	28.0			
	950	GORK	4 S/F	1018.2	1019.1	2.7	20.0			
	536	ONDR	4 S/F	1018.4	1046.4	65.0U	182.0U			
	810	KRAK	2 S/F	1018.5	1019.2	1.5	21.0	1.0		
	9300	KISV	22 GRF	1018.8	1021.6	28.8	4.0			
	9300	KISV	22 GRF	1018.8	1043.9		3.0			
	327	TRST	46 C	1019.1	1019.2	0.2	85.0			2R
	408	TRST	45 C	1019.1	1019.2	0.2	47.0			2R
	610	TRST	46 C	1019.1	1019.2	0.2	110.0			6R
	430	KRAK	8 S	1019.2	1019.2	0.2	15.0			
	5900	KISV	2 S/F	1034.9	1035.9	2.3	2.0			
	9300	KISV	2 S/F	1038.4	1038.9	0.7	6.0			
	5900	KISV	2 S/F	1042.1	1043.6	3.5	2.0			
	650	GORK	21 GRF	1104.6		30.9	1.5			
	100	GORK	41 F	1112.8	1121.4		1500.0			
	100	GORK	41 F	1112.8	1130.9		1000.0			
	100	GORK	41 F	1112.8	1118.9	19.1	2800.0			
	234	POTS	41 F	1115.0	1118.0	9.2	20000.0			
	9500	POTS	40 F	1115.0	1117.3	15.0	8.0			
1470	POTS	4 S/F	1115.5	1117.4	15.0	22.0				
536	ONDR	42 SER	1115.8	1120.4	8.7	181.0U				
327	TRST	46 C	1115.8	1115.9	0.2	225.0			5R	
237	TRST	2 S/F	1115.8	1115.9	0.1	108.0			1R	
3000	POTS	2 S/F	1116.0	1117.4	14.0U	10.0				
9300	KISV	46 C	1116.5	1117.3	4.7	10.0				
5900	KISV	46 C	1116.5	1117.4	7.2	3.0				
15000	KISV	40 F	1116.5	1117.4	5.0	12.0				
5900	KISV	46 C	1116.5	1119.6		3.0				
5900	KISV	46 C	1116.5	1120.6		3.0				
15000	KISV	40 F	1116.5	1119.6		4.0				
9300	KISV	46 C	1116.5	1119.6		4.0				
9300	KISV	46 C	1116.5	1120.6		6.0				
5900	KISV	46 C	1116.5	1118.8		2.0				
9300	KISV	46 C	1116.5	1118.8		4.0				
15000	KISV	40 F	1116.5	1118.8		4.0				

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ²² (10 ⁻²² W/m ² Hz)	Mean		
25	15000	KISV	40 F	1116.5	1120.8		5.0			
	327	TRST	49 GB	1116.7	1121.4		125.0			4R
	810	KRAK	4 S/F	1116.7	1117.5	6.5	12.0	6.0		
	327	TRST	49 GB	1116.7	1119.5		445.0			1R
	327	TRST	49 GB	1116.7	1120.5		406.0			2R
	327	TRST	49 GB	1116.7	1117.6	5.1	1900.0			6R
	650	GORK	46 C	1116.7	1119.7		94.0			
	650	GORK	46 C	1116.7	1120.7		89.0			
	650	GORK	46 C	1116.7	1117.8	4.3	18.0			
	327	TRST	49 GB	1116.7	1118.8		1670.0			1L
	200	GORK	41 F	1116.8	1121.3		660.0			
	237	TRST	49 GB	1116.8	1121.3		596.0			6R
	408	TRST	49 GB	1116.8	1121.4		90.0			1R
	950	GORK	46 C	1116.8	1119.5		39.0			
	408	TRST	49 GB	1116.8	1120.5		296.0			1R
	237	TRST	49 GB	1116.8	1119.5		744.0			3R
	950	GORK	46 C	1116.8	1117.6	4.8	24.0			
	408	TRST	49 GB	1116.8	1119.6		196.0			1L
	408	TRST	49 GB	1116.8	1117.6	5.0	299.0			23R
	200	GORK	41 F	1116.8	1117.7	5.0	5500.0			
	200	GORK	41 F	1116.8	1118.8		560.0			
	237	TRST	49 GB	1116.8	1117.8	5.0	15200.0			0R
	237	TRST	49 GB	1116.8	1118.8		2160.0			3R
	204	IZMI	41 F	1117.0	1118.0	6.0	350.0			
	410	SVTO	4 S/F	1117.0	1117.0	3.0	260.0			QL=5 ST=3 TYP=5
	1415	SVTO	8 S	1117.0	1117.0	1.0	26.0			QL=5 ST=3 TYP=3
	245	SVTO	49 GB	1117.0E	1117.0	2.0D	11000.0			QL=5 ST=3 TYP=6
	3013	IZMI	5 S	1117.0	1118.0	11.0	8.0	5.0		
	9100	GORK	2 S/F	1117.0	1117.2	4.0	10.3			
	3100	CRIM	1 S	1117.0	1117.5	5.0	6.0	2.0		
	610	TRST	46 C	1119.2	1120.5		231.0			1R
	610	TRST	46 C	1119.2	1119.6		279.0			4R
	33	UPIC	42 SER	1119.4	1133.7	17.8				
	30	POTS	42 SER	1119.5	1135.0	17.0	14000.0			
	29	UPIC	42 SER	1119.5	1134.9	16.5				
	950	GORK	29 PBI	1121.6	1121.7	5.3	4.6			
	2950	GORK	4 S/F	1214.2	1214.5	5.0	10.9			
	9100	GORK	20 GRF	1230.0	1300.0U	30.0D	4.5			
	2800	OTTA	40 F	1420.0	1600.0	420.0	6.0			
	245	PALE	4 S/F	1937.0	1937.0	4.0	220.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	2020.0	2020.0	1.0	78.0			QL=5 ST=2 TYP=5
	410	PALE	8 S	2126.0	2126.0	1.0	63.0			QL=5 ST=2 TYP=5
	2800	OTTA	41 F	2136.0	2139.0	15.0	81.0	24.0		
	200	HIRA	46 C	2136.9	2137.6	12.5	2200.0	157.0		0
	200	HIRA	46 C	2136.9	2140.7		510.0			0
245	PALE	49 GB	2137.0	2138.0	6.0	2000.0			QL=5 ST=2 TYP=6	
410	PALE	4 S/F	2137.0	2138.0	3.0	240.0			QL=5 ST=2 TYP=5	
2695	PALE	4 S/F	2137.0	2138.0	4.0	80.0			QL=5 ST=3 TYP=5	
100	HIRA	48 C	2137.6	2137.6	14.5	1000.0D	535.0D			
100	HIRA	48 C	2137.6	2137.8		730.0				
500	HIRA	46 C	2137.8	2138.0	11.0	130.0	15.0		0	
610	PALE	8 S	2138.0	2139.0	2.0	130.0			QL=5 ST=2 TYP=5	
1415	PALE	8 S	2138.0	2139.0	2.0	82.0			QL=5 ST=2 TYP=5	
4995	PALE	8 S	2138.0	2138.0	1.0	40.0			QL=5 ST=2 TYP=3	
100	HIRA	41 F	2207.3	2209.2	4.2	1000.0D				
200	HIRA	41 F	2207.3	2208.9	9.2	3200.0			0	
245	PALE	48 C	2209.0	2209.0	2.0	65.0			QL=5 ST=2 TYP=8	
410	PALE	8 S	2214.0	2215.0	2.0	100.0			QL=5 ST=2 TYP=5	
610	PALE	8 S	2214.0	2215.0	2.0	100.0			QL=5 ST=2 TYP=5	
500	HIRA	41 F	2214.8	2215.0	1.8	110.0			WR	
245	PALE	8 S	2215.0	2215.0	2.0	130.0			QL=5 ST=2 TYP=5	
26	127	TORN	43 NS	0740.0		310.0		2.0		V=1
	260	ONDR	44 NS	0745.0E	0931.5U	435.0D	110.0U			
	245	PALE	43 NS	1930.0	2326.0	480.0D	36.0			QL=5 ST=2 TYP=1
	410	LEAR	4 S/F	0105.0	0106.0	3.0	19.0			QL=5 ST=2 TYP=3

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks	
							Peak ²² (10 ⁻²² W/m ² Hz)	Mean			
26	610	LEAR	4 S/F	0105.0	0106.0	3.0	18.0			QL=5 ST=2 TYP=3	
	410	PALE	8 S	0105.0	0106.0	2.0	38.0			QL=5 ST=2 TYP=3	
	245	LEAR	8 S	0106.0	0106.0	1.0	160.0			QL=5 ST=2 TYP=5	
	245	PALE	8 S	0106.0	0106.0	1.0	190.0			QL=5 ST=2 TYP=5	
	610	PALE	8 S	0106.0	0106.0	1.0	23.0			QL=5 ST=2 TYP=3	
	9300	KISV	22 GRF	0516.1	1225.0	464.0D	6.0				
	9300	KISV	21 GRF	0545.3	0609.8	56.0	7.0				
	5900	KISV	25 R	0547.1	0633.1	433.0D	5.0				
	5900	KISV	21 GRF	0607.1	0609.7	18.8	5.0				
	9100	GORK	1 S	0607.9	0609.8	5.7	6.5				
	30	POTS	41 F	0650.1	0655.2	7.5	180.0				
	950	GORK	1 S	0653.3	0654.7	2.7	1.0				
	234	POTS	41 F	0654.5	0656.2	3.7	1000.0				
	245	LEAR	8 S	0656.0	0656.0	1.0	380.0				QL=5 ST=2 TYP=5
	5900	KISV	23 GRF	0715.3	0718.8	45.2	4.0				
	2950	GORK	20 GRF	0717.1	0734.0	34.5	2.3				
	9300	KISV	21 GRF	0718.0	0718.9	23.8	5.0				
	9100	GORK	20 GRF	0718.2	0719.0	8.6	4.0				
	950	GORK	1 S	0718.4	0719.0	0.9	1.0				
	650	GORK	1 S	0718.5	0718.6	1.4	2.8				
	200	GORK	2 S/F	0754.7	0755.5	2.0	20.0D				
	100	GORK	4 S/F	0755.0	0755.6	1.5	250.0				
	204	IZMI	5 S	0755.0	0755.6	1.0	61.0	55.0			
	5900	KISV	22 GRF	0808.0	0813.6		2.0				
	5900	KISV	22 GRF	0808.0	0808.7	14.6	1.0				
	5900	KISV	22 GRF	0836.0	0845.1	16.7	2.0				
	9300	KISV	45 C	0859.6	0901.1		3.0				
	5900	KISV	45 C	0859.6	0901.2		2.0				
	5900	KISV	45 C	0859.6	0900.3	6.2	2.0				
	9300	KISV	45 C	0859.6	0900.4	3.0	4.0				
	5900	KISV	22 GRF	0925.0	0931.4	36.0	2.0				
	245	LEAR	8 S	0930.0	0931.0	2.0	180.0				QL=5 ST=2 TYP=5
	245	SVTO	8 S	0930.0	0930.0	1.0	210.0				QL=5 ST=2 TYP=5
	200	GORK	4 S/F	0930.7	0931.4	2.4	270.0				
	234	POTS	4 S/F	0930.7	0931.4	2.1	470.0	50.0			
	237	TRST	47 GB	0930.8	0931.3	0.9	755.0				17R
	100	GORK	4 S/F	0930.9	0931.1	1.4	800.0				
	204	IZMI	41 F	0931.0	0931.5	2.0	57.0	5.0			
	30	POTS	4 S/F	0931.4	0932.0	2.2	2000.0				
	33	UPIC	8 S	0931.5	0931.5	0.5					
	29	UPIC	8 S	0931.6	0931.6	0.5					
	237	TRST	46 C	0931.8	0932.1	0.7	80.0				14R
	536	ONDR	8 S	1003.9	1004.0	0.4	4.0				
	327	TRST	45 C	1047.3	1047.3	0.1	43.0				3R
	237	TRST	45 C	1047.3	1047.4	0.2	31.0				1L
	237	TRST	45 C	1050.9	1050.9	0.1	24.0				6R
	327	TRST	46 C	1050.9	1050.9	0.2	33.0				2R
2950	GORK	1 S	1103.0U	1104.3	5.7U	1.4					
5900	KISV	1 S	1107.6	1110.9	7.7	2.0					
2950	GORK	20 GRF	1133.0	1136.0	12.0	1.7					
5900	KISV	20 GRF	1136.0	1234.8	84.0	6.0					
9300	KISV	1 S	1151.5	1152.4	2.8	3.0					
245	SVTO	8 S	1424.0	1424.0	1.0	65.0				QL=1 ST=2 TYP=5	
410	SVTO	8 S	1424.0	1425.0	1.0	18.0				QL=1 ST=2 TYP=3	
245	PALE	8 S	1733.0	1733.0	1.0	26.0				QL=5 ST=2 TYP=3	
200	HIRA	27 RF	2243.0	0244.0	320.0	21.0	13.0			WR	
27	200	GORK	44 NS	0352.0E		401.0D	5.0				
	100	GORK	44 NS	0358.0E		395.0D	5.0				
	260	ONDR	44 NS	0730.0E	0803.9U	393.0D	10.0U				
	245	PALE	43 NS	2117.0	2136.0	433.0D	49.0			QL=5 ST=2 TYP=1	
	200	HIRA	8 S	0403.9	0404.2	1.0	670.0			0	
	650	GORK	22 GRF	0421.0	0516.8	169.0	9.0				
	500	HIRA	27 RF	0442.0	0513.0	155.0	6.0	2.0			0
	2950	GORK	20 GRF	0731.8	0735.0	31.0	3.0	1.5			
5900	KISV	20 GRF	0821.4	0841.5	64.0	4.0					

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak ₂₂ (10 ⁻²² W/m ² Hz)	Mean		
27	2950	GORK	20 GRF	0824.8	0842.0	68.0	1.8			
		5900	KISV	1 S	0937.5	0939.2	3.9	2.0		
	2950	GORK	20 GRF	0939.3	1022.0	65.0D	1.7			
		536	ONDR	8 S	1006.7	1006.8	0.3	43.0		
	536	ONDR	8 S	1058.3	1058.3	0.4	73.0			
		29	UPIC	3 S	1228.2	1228.3	0.4			
	33	UPIC	3 S	1228.2	1228.3	0.2				
		5900	KISV	45 C	1245.6	1246.2		2.0		
	2800	OTTA	40 F	1425.0	1615.0	200.0	3.9			
	500	HIRA	27 RF	2300.0	2354.0	180.0	5.0	2.0	0	
28	200	GORK	44 NS	0436.0E		444.0D		5.0		
	100	GORK	44 NS	0436.0E		444.0D		5.0		
	204	IZMI	43 NS	0600.0		360.0	10.0			
	127	TORN	44 NS	0710.0E		445.0D		2.0		V=1
	260	ONDR	44 NS	0710.0E	1107.8U	480.0D	52.0			
	245	PALE	43 NS	1645.0	0012.0	533.0D	130.0			QL=5 ST=2 TYP=1
	100	HIRA	44 NS	2031.0E	2110.0	190.0D	130.0	40.0		
	200	HIRA	44 NS	2031.0E	2220.0	730.0D	110.0	34.0		WL
	245	LEAR	43 NS	2247.0	0012.0	683.0D	190.0			QL=5 ST=2 TYP=1
	410	PALE	43 NS	2250.0	2351.0	168.0D	20.0			QL=5 ST=2 TYP=1
	410	LEAR	8 S	0107.0	0107.0	1.0	27.0			QL=5 ST=2 TYP=3
	610	LEAR	8 S	0107.0	0108.0	1.0	26.0			QL=5 ST=2 TYP=3
	410	PALE	8 S	0107.0	0107.0	1.0	36.0			QL=5 ST=2 TYP=3
	610	PALE	8 S	0107.0	0107.0	1.0	43.0			QL=5 ST=2 TYP=3
	500	HIRA	6 S	0107.3	0107.8	1.2	66.0			0
	500	HIRA	42 SER	0211.4	0213.6	2.5	15.0			WR
	245	PALE	8 S	0213.0	0213.0	1.0	54.0			QL=5 ST=2 TYP=5
	410	PALE	8 S	0213.0E	0213.0	1.0D	40.0			QL=5 ST=2 TYP=3
	2840	YUNN	1 S	0213.0	0214.0	2.6	2.0			
	204	IZMI	8 S	0623.5	0623.6	0.2	57.0	50.0		
	650	GORK	2 S/F	0634.5	0637.3	3.2	3.1			
	100	GORK	2 S/F	0636.4	0637.2	1.3	10.0			
	2950	GORK	20 GRF	0723.8	0742.0	56.0	3.6			
	536	ONDR	41 F	0746.3	0746.4	0.5	149.0			
	204	IZMI	41 F	0918.0	0918.5	1.5	30.0			
	204	IZMI	41 F	1108.0	1112.5	6.0	180.0			
	33	UPIC	3 S	1310.0	1310.2	0.5				
	29	UPIC	1 S	1310.3	1310.5	0.5				
	237	TRST	46 C	1434.6	1434.7	0.4	432.0			12L
	327	TRST	45 C	1434.6	1434.7	0.4	51.0			6L
410	PALE	8 S	2049.0E	2049.0	1.0D	25.0			QL=5 ST=2 TYP=3	
245	PALE	8 S	2049.0E	2049.0	1.0D	310.0			QL=5 ST=2 TYP=5	
500	HIRA	27 RF	2219.0	2242.0	78.0	35.0	8.0		WL	
500	HIRA	27 RF	2353.0		310.0	11.0	3.0		WL	
29	100	GORK	44 NS	0447.0E		433.0D		5.0		
	200	GORK	44 NS	0447.0E		431.0D		25.0		
	245	SVTO	43 NS	0457.0	0805.0	712.0D	180.0			QL=1 ST=2 TYP=1
	410	SVTO	43 NS	0457.0	1452.0	712.0D	79.0			QL=3 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	100.0			
	234	POTS	44 NS	0600.0E	1040.0	540.0D	140.0			
	260	ONDR	44 NS	0612.0E	1106.3U	468.0D				
	127	TORN	44 NS	0722.0E		448.0D		16.0		V=1
	430	KRAK	43 NS	1012.5		168.0D		4.0		
	245	PALE	43 NS	1644.0	1918.0	439.0D	57.0			QL=5 ST=3 TYP=1
	200	HIRA	44 NS	2031.0E		200.0D		4.0		WR
	100	HIRA	46 C	0241.6		2.6	1000.0D	450.0D		
	245	LEAR	49 GB	0243.0E	0243.0	73.0D	860.0			QL=5 ST=2 TYP=6
	2840	YUNN	20 GRF	0502.5U	0510.2	13.7U	6.0			
	5900	KISV	2 S/F	0507.5	0508.2	7.0	7.0			
	2950	GORK	22 GRF	0507.6	0509.2	18.8	2.4			
	9300	KISV	21 GRF	0526.5	0528.2	28.0	15.0			
	2950	GORK	21 GRF	0532.6	0651.0	90.0D	3.6			
3100	CRIM	21 GRF	0550.0	0631.0	80.0	7.5	3.0			
2840	YUNN	45 C	0623.0	0628.6	14.1	19.0				

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean (10 ⁻²² W/m ² Hz)	Int	Remarks
29	9100	GORK	20 GRF	0624.0	0628.2	67.8	14.0			
	5900	KISV	3 S	0625.3	0628.2	3.5	40.0			
	3013	IZMI	5 S	0627.0	0629.0	8.0	12.0	8.0		
	8800	LEAR	4 S/F	0627.0	0628.0	4.0	21.0			QL=5 ST=2 TYP=3
	2695	LEAR	8 S	0627.0	0628.0	2.0	19.0			QL=5 ST=2 TYP=3
	2950	GORK	3 S	0627.0	0628.3	4.0	18.2			
	3100	CRIM	3 S	0627.0	0628.5	4.0	12.0	4.0		
	650	GORK	4 S/F	0627.7	0629.1	1.3	25.0			
	950	GORK	1 S	0627.9	0628.8	3.0	1.4			
	2950	GORK	29 PBI	0631.0	0631.0	17.4	6.6			
	2840	YUNN	29 PBI	0637.1		25.3	6.0			
	650	GORK	21 GRF	0718.3	0723.2	13.6	2.5			
	950	GORK	1 S	0722.3	0723.5	1.2	0.7			
	2950	GORK	20 GRF	0722.7	0742.0	32.0	1.8			
	5900	KISV	3 S	0726.6	0727.1	2.5	5.0			
	2950	GORK	1 S	0825.9	0827.0	2.8	3.6	1.8		
	3100	CRIM	1 S	0826.5	0827.1	2.0	1.5	0.5		
	2840	YUNN	2 S/F	0826.6	0827.3	2.0	3.0			
	650	GORK	22 GRF	0834.3	1025.0	206.00	5.4			
	245	PALE	8 S	1704.0	1705.0	1.0	85.0			QL=5 ST=2 TYP=5
	245	PALE	8 S	1757.0	1757.0	1.0	240.0			QL=3 ST=2 TYP=5
	2800	OTTA	4 S/F	1826.0	1827.0	6.0	23.9	9.5		
	2800	OTTA	29 PBI	1832.0	1832.0	44.0	4.8	2.4		
	245	PALE	48 C	1947.0	1948.0	2.0	97.0			QL=5 ST=2 TYP=8
	410	PALE	8 S	2010.0	2011.0	1.0	200.0			QL=5 ST=2 TYP=5
	245	PALE	49 GB	2010.0E	2011.0	1.00	2200.0			QL=5 ST=2 TYP=6
	245	PALE	8 S	2134.0	2135.0	2.0	69.0			QL=5 ST=2 TYP=5
	200	HIRA	42 SER	2134.1	2134.7	3.8	430.0			0
	500	HIRA	6 S	2134.7	2135.5	1.5	11.0			WR
500	HIRA	42 SER	2353.5	2354.3	2.2	10.0			0	
30	100	GORK	44 NS	0430.0E		450.00		5.0		
	200	GORK	44 NS	0430.0E		452.00		5.0		
	204	IZMI	43 NS	0600.0		360.0	10.0			
	260	ONDR	44 NS	0706.0E	0810.4U	414.00	113.00U			
	127	TORN	43 NS	0730.0		450.0		17.0		V=1
	29	UPIC	44 NS	0801.2E		422.10				
	33	UPIC	44 NS	0801.5E		422.00				
	245	PALE	43 NS	1644.0	1738.0	706.00	55.0			QL=1 ST=2 TYP=1
	245	LEAR	43 NS	2248.0	0813.0	680.00	60.0			QL=5 ST=2 TYP=1
	245	PALE	8 S	0018.0	0018.0	2.0	180.0			QL=5 ST=2 TYP=5
	500	HIRA	42 SER	0330.6	0339.5	9.5	26.0			0
	410	LEAR	8 S	0336.0	0337.0	1.0	46.0			QL=5 ST=2 TYP=3
	200	HIRA	8 S	0336.2	0336.8	0.9	110.0			0
	245	PALE	8 S	0337.0	0337.0	2.0	89.0			QL=5 ST=2 TYP=5
	245	LEAR	4 S/F	0337.0	0337.0	73.0	100.0			QL=5 ST=2 TYP=5
	410	PALE	4 S/F	0337.0	0337.0	230.0	54.0			QL=5 ST=2 TYP=5
	410	LEAR	8 S	0604.0	0604.0	1.0	170.0			QL=5 ST=2 TYP=5
	245	LEAR	8 S	0604.0	0604.0	1.0	490.0			QL=5 ST=2 TYP=5
	500	HIRA	6 S	0604.0	0604.6	0.9	9.0			0
	234	POTS	41 F	0604.1	0604.5	4.3	550.0			0
	200	HIRA	8 S	0604.2	0604.4	0.5	500.0			0
	650	GORK	4 S/F	0604.3	0604.6	0.9	9.8			
	204	IZMI	5 S	0604.5	0604.7	0.8	360.0	300.0		
	650	GORK	22 GRF	0635.7	0642.9	46.8	2.0			
	237	TRST	45 C	0641.9	0642.5	1.1	62.0			11R
	650	GORK	40 F	0716.8	0717.0	5.6	3.0			
	650	GORK	40 F	0716.8	0722.3		6.0			
	650	GORK	40 F	0716.8	0717.7		4.0			
	327	TRST	42 SER	0721.9	0722.2	0.5	103.0			
	408	TRST	45 C	0722.2	0722.3	0.2	50.0			3L
237	TRST	46 C	0724.2	0724.5	0.5	61.0			2L	
237	TRST	45 C	0727.1	0728.0	1.8	47.0			0L	
3100	CRIM	21 GRF	0756.8	0821.0	45.0	2.2	1.0		4R	
650	GORK	23 GRF	0805.1U		9.0U	1.0				
950	GORK	23 GRF	0805.3E	0808.9	6.9D	3.9				

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ²² W/m ² Hz)	Flux Density Mean (10 ²² W/m ² Hz)	Int	Remarks
30	9100	GORK	20 GRF	0806.0	0810.2	12.6	4.8			
	430	KRAK	4 S/F	0807.5	0810.5	3.7	120.0	5.0		
	810	KRAK	4 S/F	0807.5	0810.5	3.7	22.0	5.0		
	410	SVTO	4 S/F	0808.0	0810.0	3.0	60.0			QL=5 ST=2 TYP=5
	536	ONDR	4 S/F	0808.2	0810.6	3.0	101.0			
	650	GORK	4 S/F	0808.4	0810.5	3.0	31.0	7.0		
	1470	POTS	4 S/F	0809.0	0810.0	2.2	20.0			
	1415	SVTO	8 S	0809.0	0810.0	2.0	23.0			QL=5 ST=2 TYP=3
	245	SVTO	8 S	0809.0	0810.0	2.0	110.0			QL=5 ST=2 TYP=5
	234	POTS	41 F	0809.1	0810.5	2.0	3200.0			
	2950	GORK	1 S	0809.2	0810.1	3.5	2.3	1.0		
	327	TRST	46 C	0809.4	0810.0	1.5	279.0			2L
	237	TRST	46 C	0809.4	0810.6	1.6	295.0			3L
	9500	POTS	1 S	0809.5	0810.3	3.0	4.0			
	950	GORK	46 C	0809.5	0810.5		19.0			
	950	GORK	46 C	0809.5	0809.9	1.7	20.0			
	3100	CRIM	1 S	0809.6	0810.5	1.5	1.6	0.5		
	408	TRST	46 C	0809.6	0810.5	1.3	133.0			11L
	610	TRST	42 SER	0809.9	0810.5	0.8	176.0			3L
	410	LEAR	8 S	0810.0	0810.0	1.0	33.0			QL=5 ST=2 TYP=3
	610	LEAR	8 S	0810.0	0810.0	1.0	23.0			QL=5 ST=2 TYP=3
	1415	LEAR	4 S/F	0810.0	0810.0		31.0			QL=3 ST=2 TYP=3
	245	LEAR	8 S	0810.0	0810.0	1.0	56.0			QL=5 ST=2 TYP=5
	204	IZMI	5 S	0810.5	0810.8	0.5	200.0	180.0		
	245	SVTO	49 GB	0848.0E	0848.0	2.0D	7200.0			QL=1 ST=2 TYP=6
	2950	GORK	1 S	0920.5	0921.0	1.6	2.0	1.0		
	3100	CRIM	1 S	0920.6	0921.0	3.0	1.6	0.5		
	327	TRST	41 F	0921.5	0922.5	1.9	54.0			10L
	408	TRST	45 C	0921.9	0922.0	0.4	65.0			5L
	408	TRST	41 F	1036.8	1037.1	0.5	62.0			21L
	2950	GORK	20 GRF	1042.0	1201.2	80.0D	4.6			
	536	ONDR	42 SER	1044.0	1110.3	36.6	34.0			
	3100	CRIM	24 R	1046.5	1205.0	134.0D	4.0			
	327	TRST	41 F	1052.9	1052.9	0.5	70.0			22L
	408	TRST	45 C	1341.6	1341.7	0.2	60.0			5R
	237	TRST	45 C	1341.8	1342.0	0.3	56.0			13R
	327	TRST	45 C	1341.8	1341.9	0.2	49.0			9R
	408	TRST	46 C	1408.3	1408.4	0.2	42.0			6R
	327	TRST	46 C	1408.3	1408.5	0.4	95.0			0L
	327	TRST	45 C	1424.1	1424.2	0.3	57.0			3R
237	TRST	45 C	1424.2	1424.2	0.3	42.0			16R	
245	SVTO	8 S	1452.0	1452.0	1.0	170.0			QL=1 ST=2 TYP=5	
410	SVTO	8 S	1452.0	1452.0	2.0	57.0			QL=3 ST=2 TYP=5	
237	TRST	46 C	1452.4	1452.8	0.9	404.0			5L	
327	TRST	46 C	1452.4	1452.9	1.6	166.0			2L	
408	TRST	45 C	1452.7	1452.9	0.3	79.0			1L	
245	PALE	48 C	1727.0	1728.0	1.0	74.0			QL=5 ST=2 TYP=8	
200	HIRA	24 R	2030.0E		720.0D		2.0		WR	
2700	PENT	3 S	2307.0	2309.0	5.0	50.0	25.0			
2695	LEAR	8 S	2308.0	2308.0	1.0	68.0			QL=5 ST=2 TYP=5	
31	100	GORK	44 NS	0422.0E		370.0D		5.0		
	200	GORK	44 NS	0422.0E		370.0D		5.0		
	200	HIRA	43 NS	0424.0	0643.0	270.0D	19.0	8.0		WR
	100	HIRA	43 NS	0426.0	0713.0	300.0D	28.0	17.0		
	245	SVTO	43 NS	0454.0	1129.0	718.0D	98.0			QL=1 ST=2 TYP=1
	204	IZMI	44 NS	0600.0E		360.0D	20.0			
	127	TORN	44 NS	0700.0E		480.0D		53.0		V=0
	260	ONDR	44 NS	0703.0E	1156.6U	420.0D	31.0U			
	200	HIRA	44 NS	2024.0E		760.0D		21.0U		MR
	100	HIRA	44 NS	2024.0E		760.0D		70.0U		
	245	LEAR	43 NS	2248.0	0435.0	679.0D	41.0			QL=5 ST=2 TYP=1
	245	PALE	43 NS	2255.0	2255.0U	336.0D	20.0			QL=5 ST=2 TYP=1
	650	GORK	4 S/F	0615.4	0617.1	2.0	8.9			
	950	GORK	2 S/F	0616.0	0616.9	1.2	2.0			
2950	GORK	20 GRF	0625.0	0748.0	240.0D	6.0				

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

51
Mar 88

MARCH 1988

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 ⁻²² W/m ² Hz)	Mean (10 ⁻²² W/m ² Hz)		
31	204 IZMI	4 S/F	0902.3	0902.5	0.5	240.0	200.0		
	650 GORK	20 GRF	0921.3		20.1	1.5			
	536 ONDR	41 F	1051.7	1102.7	34.7	118.0			
	[33 UPIC	4 S/F	1123.9	1124.0	0.5				
	[29 UPIC	4 S/F	1124.0	1124.0	0.4				
	[204 IZMI	5 S	1124.0	1124.5	0.7	3500.0	3000.0		
	[234 POTS	4 S/F	1126.8	1129.8	3.8	3300.0			
	[204 IZMI	5 S	1129.5	1129.8	1.0	150.0	100.0		
	[204 IZMI	41 F	1155.0	1156.0	2.0	300.0			
	[536 ONDR	41 F	1220.7	1220.7	11.8	36.0			
	[2800 OTTA	22 GRF	1545.0	1745.0	240.0	6.0	3.0		
	[2800 OTTA	20 GRF	2015.0	2040.0	100.0	10.5	5.0		
	[4995 PALE	8 S	2044.0	2045.0	1.0	23.0			QL=5 ST=2 TYP=3
	[8800 PALE	8 S	2044.0	2045.0	1.0	30.0			QL=5 ST=2 TYP=3
	[410 PALE	8 S	2204.0	2205.0	1.0	61.0			QL=5 ST=2 TYP=5
[245 PALE	8 S	2205.0	2205.0	1.0	20.0			QL=5 ST=2 TYP=3	

Reports are received routinely from the following observatories:

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

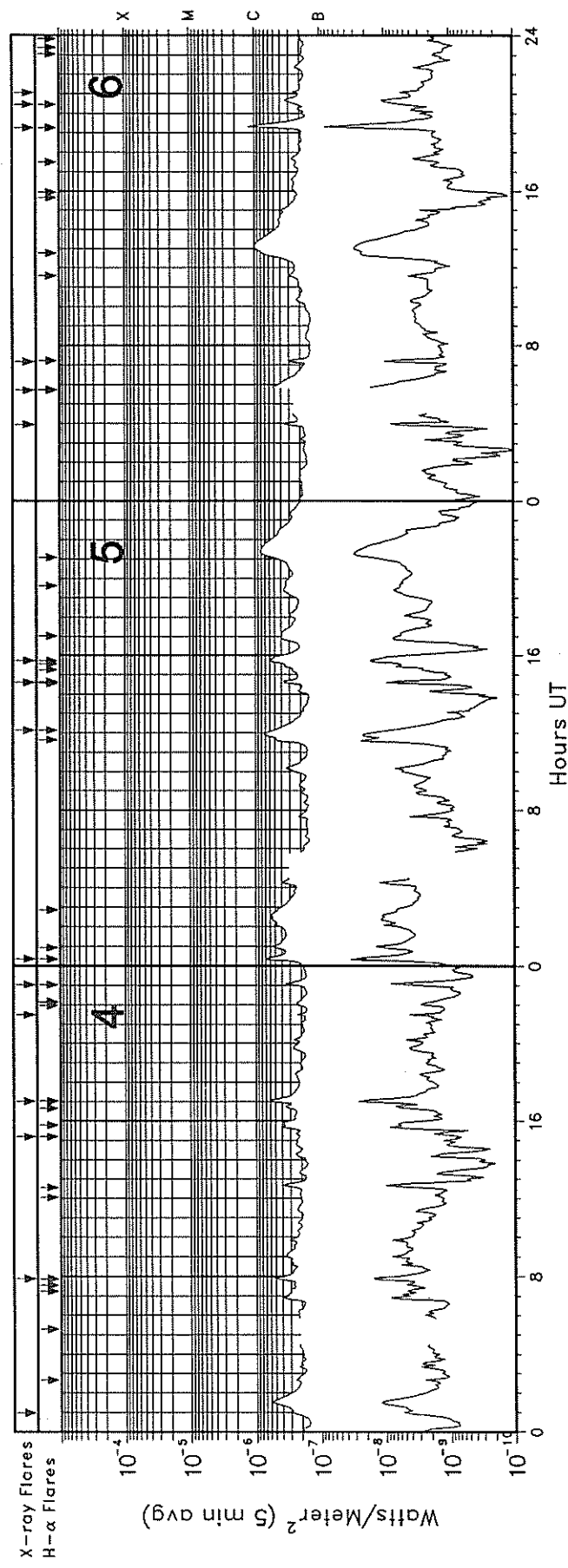
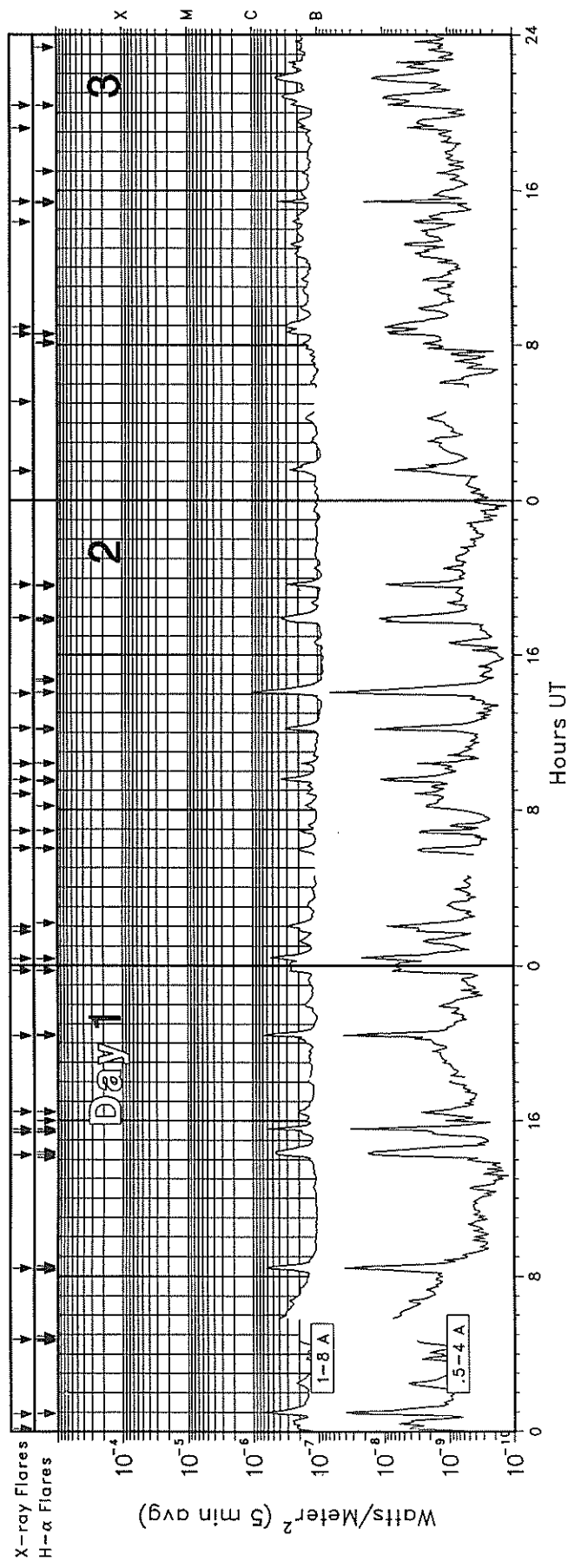
Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	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	
			46F Complex F	

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

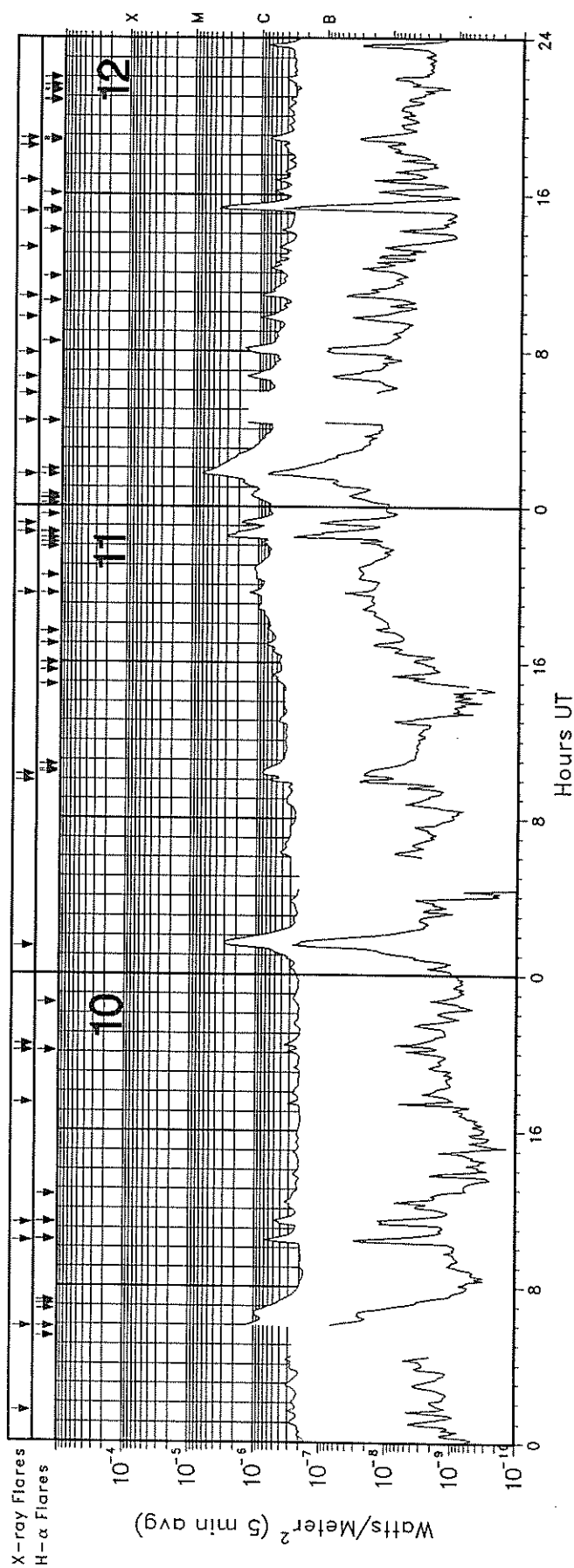
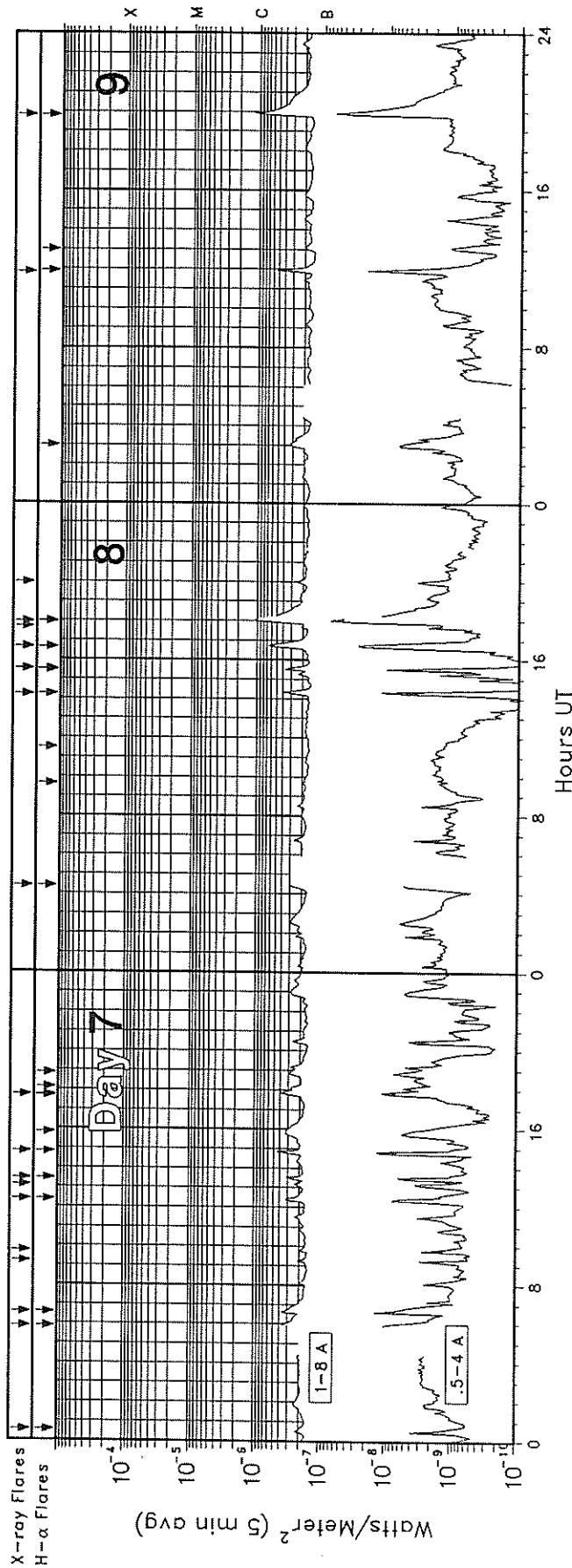
GOES-7 X-RAY DETECTOR

March 1988



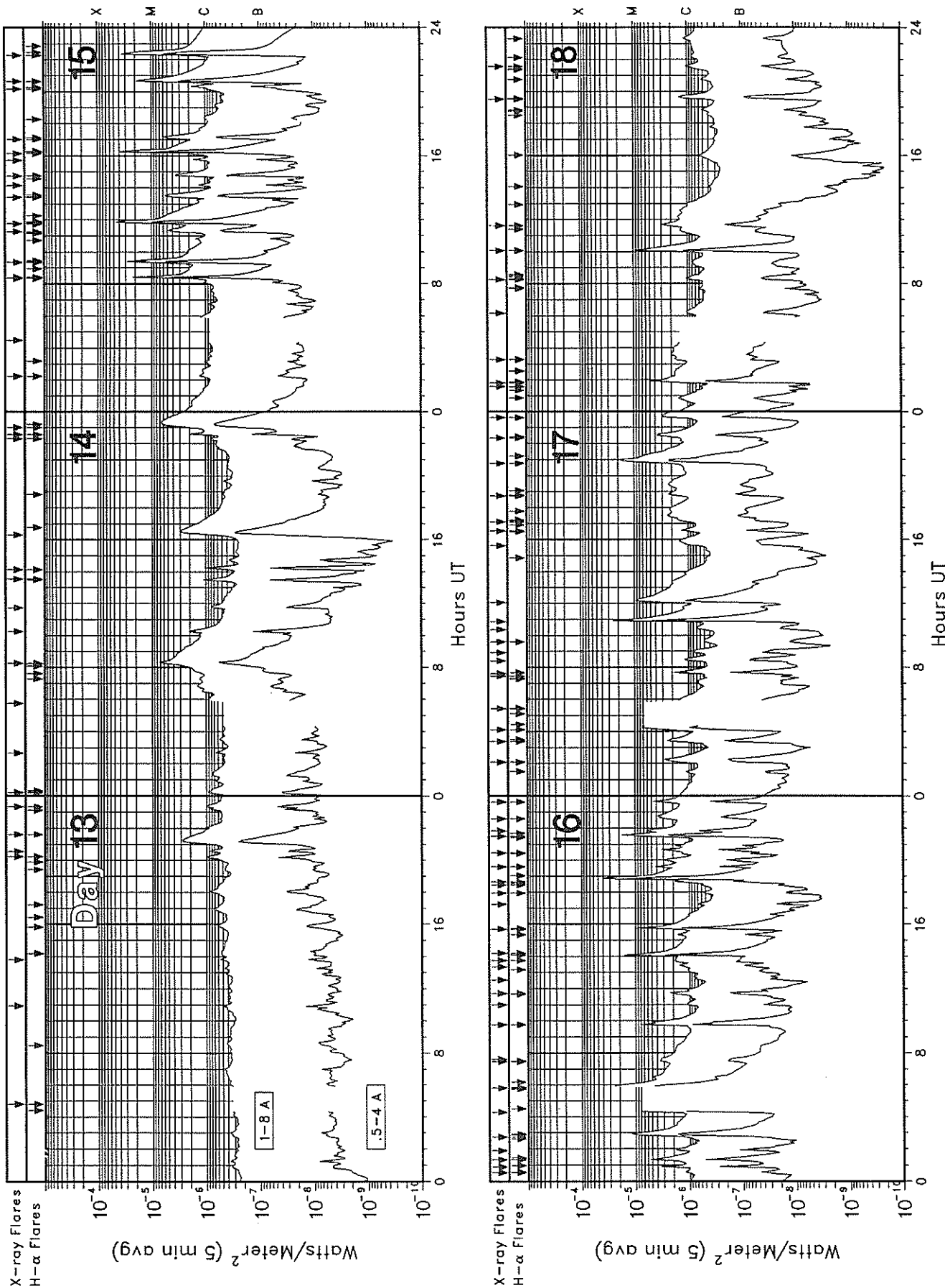
GOES-7 X-RAY DETECTOR

March 1988



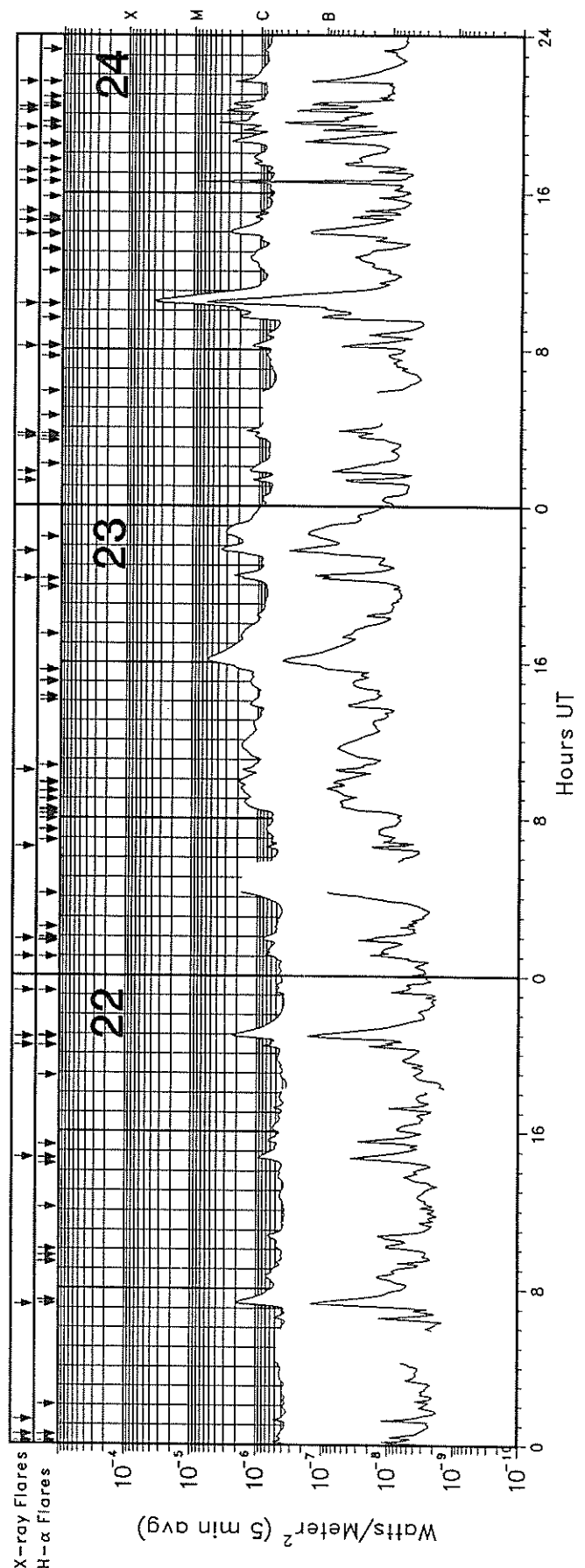
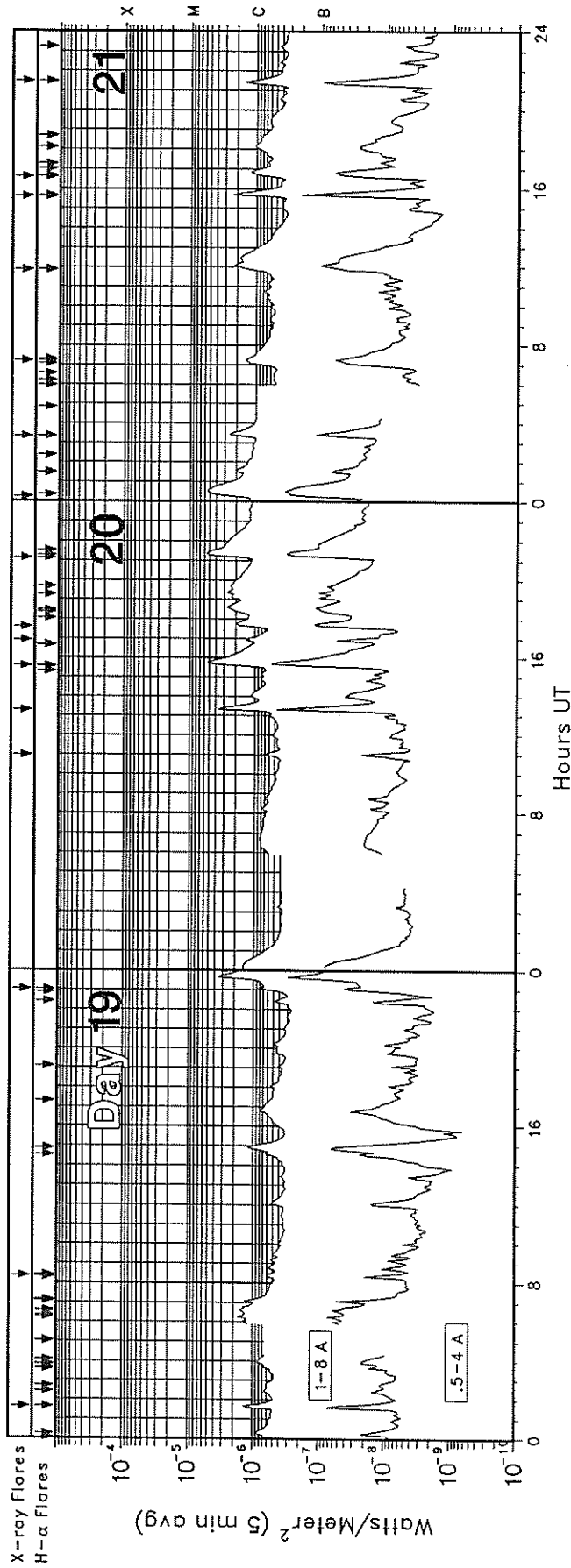
GOES-7 X-RAY DETECTOR

March 1988



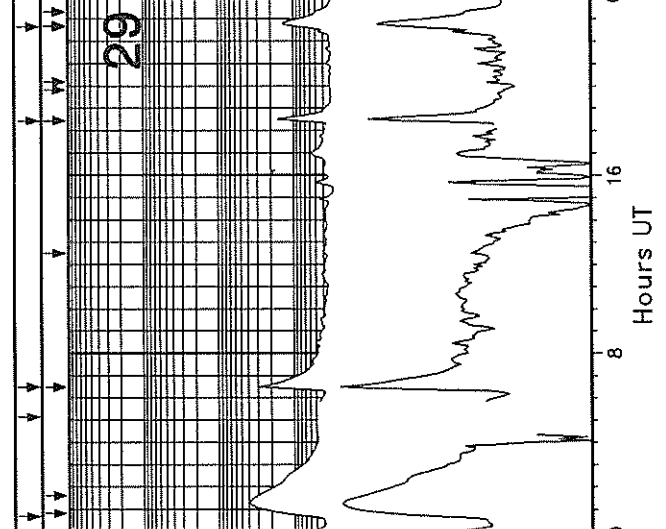
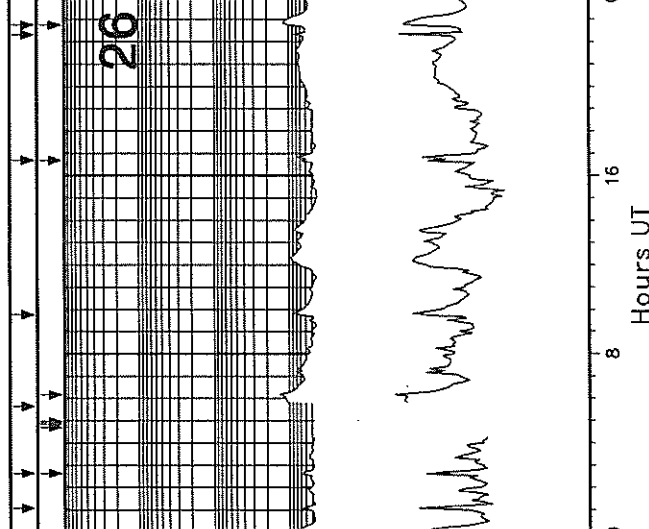
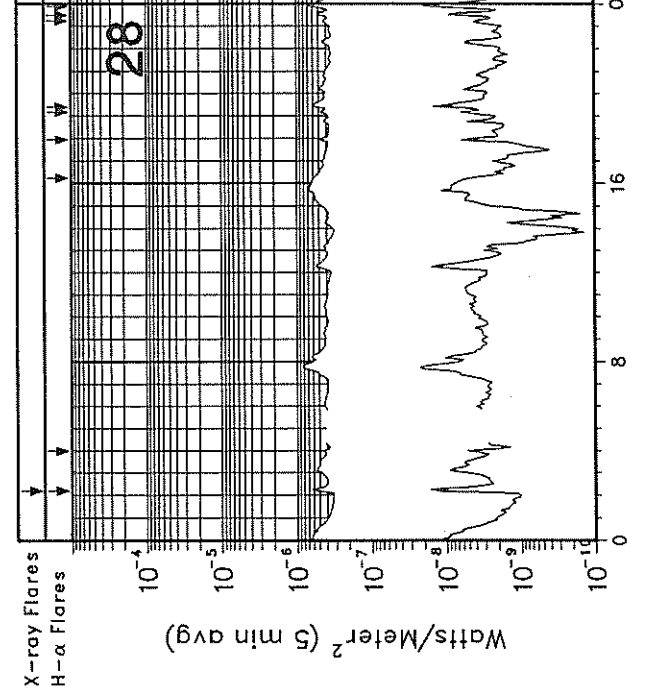
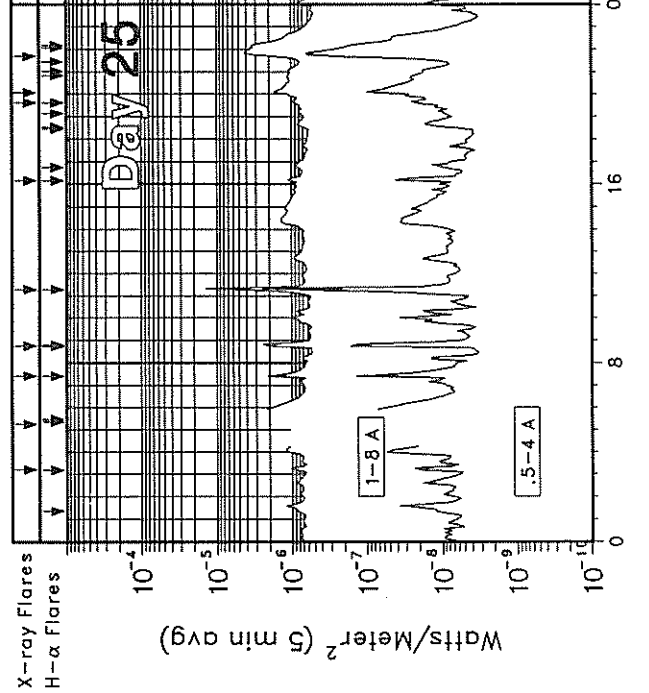
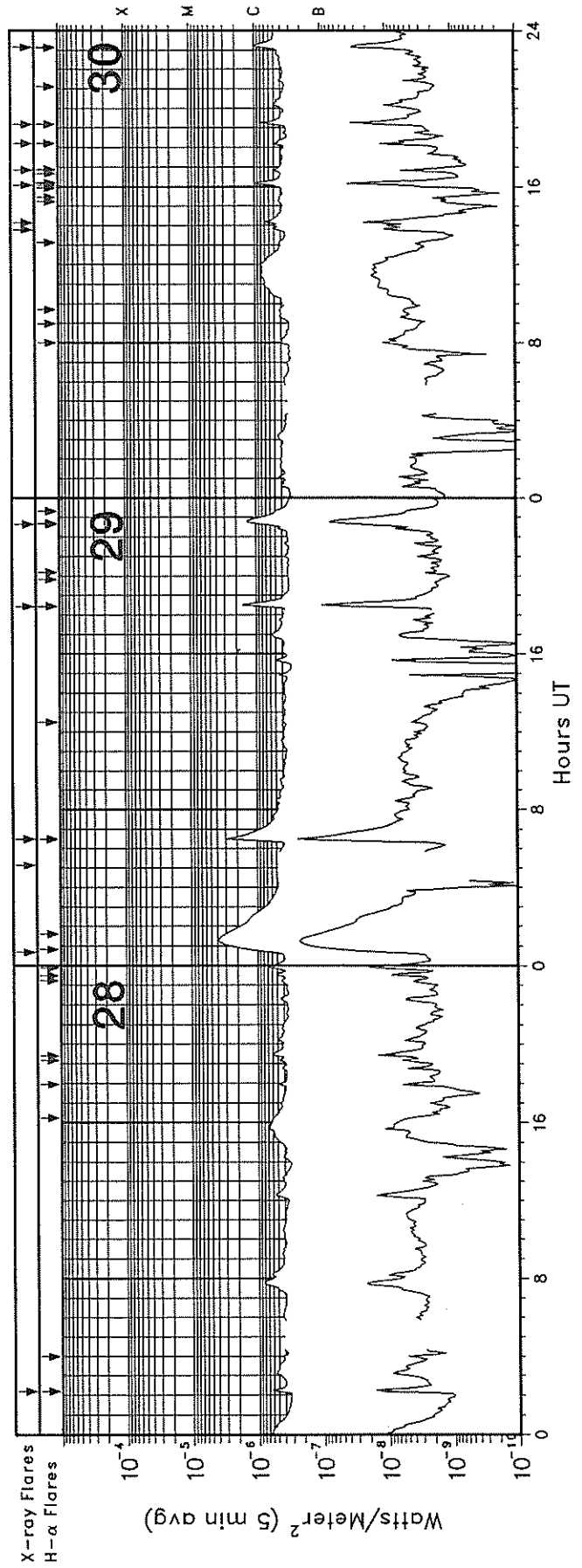
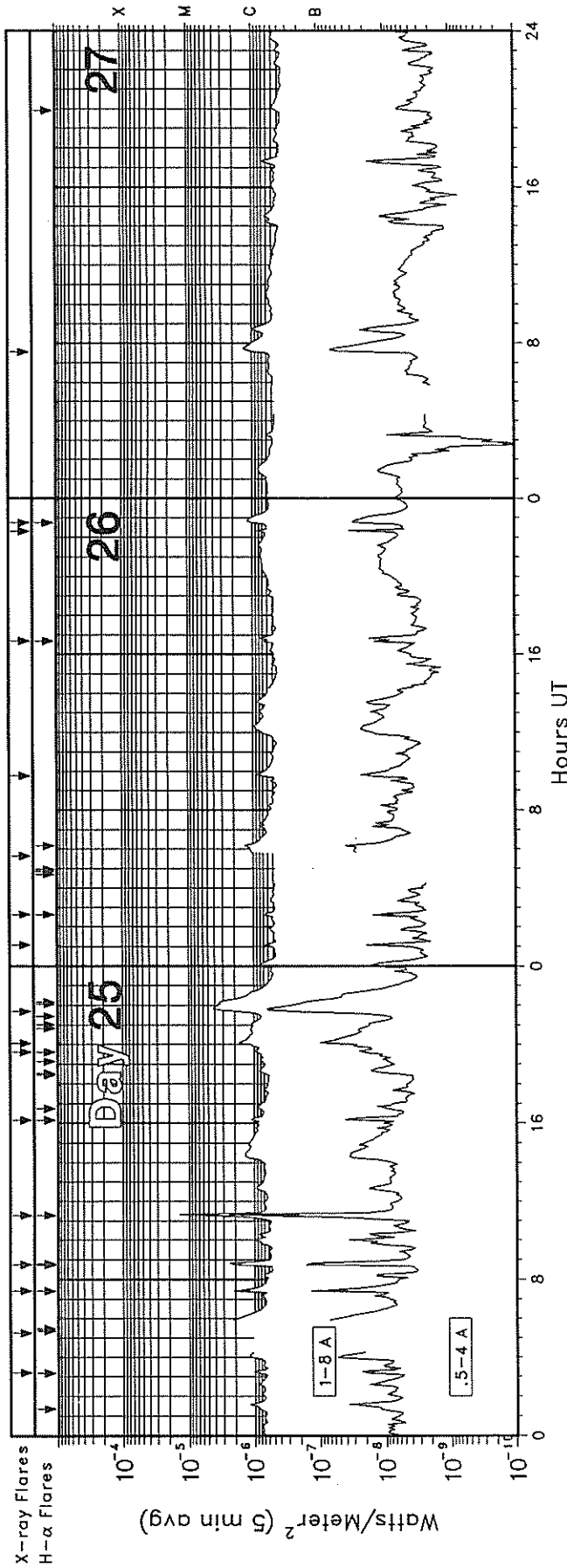
GOES-7 X-RAY DETECTOR

March 1988



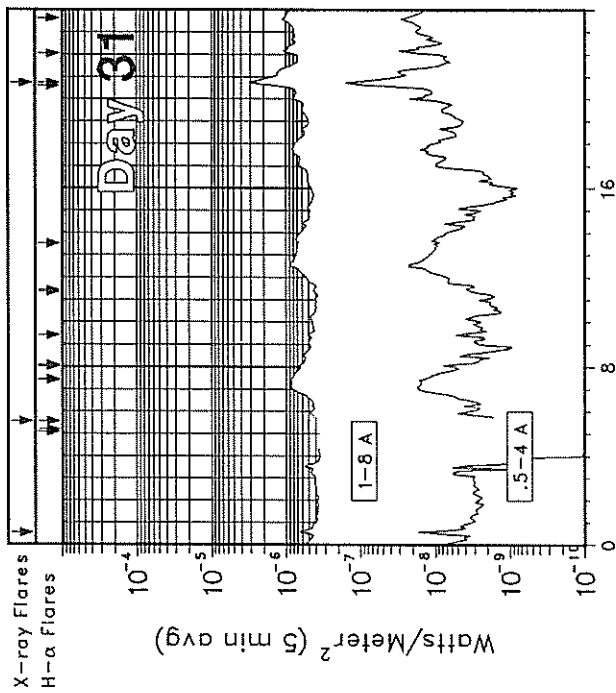
GOES-7 X-RAY DETECTOR

March 1988



GOES-7 X-RAY DETECTOR

March 1988



GOES SOLAR X-RAY FLARES
Preliminary Listing

March 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/USAF Region
01	0009	0037	0042				B2.6	
01	0054	0101	0105				B9.9	
01	0445	0454	0551	S20	W15	1N	C3.1	4954
01	0825	0826	0835	S21	E22	SF	B7.2	4958
01	1414	1419	1434	N17	E37	SF	B4.7	4957
01	1524	1524	1530	N17	E38	SF	B1.9	4957
01	1534	1537	1546	S22	E18	SF	B7.7	4958
01	1627	1628	1636	N17	E39	SF	B2.3	4957
01	2023	2027	2047	S22	E17	SF	B8.5	4958
01	2344	2346	0030D	S21	E13	SF	B3.0	4958
02	0022	0029	0035	S20	E13	SF	B6.1	4958
02	0144	0148	0158				B2.1	
02	0158	0202	0208				B3.3	
02	0600	0601	0605	N23	E31	SF	B2.2	4961
02	0654	0655	0659	S21	E09	SF	B2.9	4958
02	0849	0853	0904				B1.5	
02	0933	0937	0946	N17	E27	SF	B4.0	4957
02	1023	1027	1029				B2.2	
02	1213	1216	1238	N16	E28	SF	B3.9	4957
02	1401	1409	1413				C1.1	
02	1756	1800	1826	N15	E23	SF	B3.8	4957
02	1939	1939	1949	N15	E22	SF	B3.2	4957
03	0132	0138	0144				B2.8	
03	0505	0512	0520				B3.4	
03	0834	0842	0852				B2.9	
03	0855	0859	0908				B3.4	
03	1421	1425	1430				B2.5	
03	1525	1528	1549	S33	W58	SF	B5.1	4962
03	1912	1916	1921				B2.0	
03	2022	2028	2032	S21	W12	SF	B2.8	4958
04	0058	0101	0104				B3.3	
04	0753	0754	0802	N21	E01	SF	B5.6	4961
04	1511	1546	1636	S32	W70	SF	B4.0	4962
04	1701	1707	1727	S21	W23	SF	B6.7	4958
04	2129	2132	2135				B2.5	
04	2303	2307	2320	S33	W74	SF	B4.0	4962
05	0022	0023	0037D	N23	W04	SF	B8.8	4961
05	1208E	1226	1239	N15	W14	SN	B7.3	4957
05	1436	1438	1444	N19	W13	SF	B4.2	4957
05	1544	1546	1550	N19	W15	SF	B6.4	4957
06	0357	0358	0410	N13	W25	SF	B4.7	4957
06	0542	0550	0602	N17	W23	SF	B5.1	4957
06	0710	0713	0721	N14	W28	SF	B4.5	4957
06	1916	1923	1953	N23	W30	SF	C1.3	4961
06	2027	2043	2100	N22	W32	SF	B3.9	4961
06	2103	2106	2109				B2.8	
07	0034	0035	0057	N22	W34	SF	B2.5	4961
07	0552	0555	0626	N24	W35	SF	B3.8	4961
07	0635	0636	0654	N23	W37	SF	B4.3	4961
07	0913	0916	0918				B2.7	
07	0946	0949	0952				B2.2	
07	1223	1225	1230	N16	W44	SF	B4.5	4957
07	1307	1311	1313				B2.8	
07	1328	1328	1338	S19	W58	SF	B3.9	4958
07	1449	1450	1502	N16	W45	SF	C1.3	4957
07	1744	1745	1812	N23	W41	SF	B4.0	4961
08	0423	0424	0433	S24	W69	SF	B3.1	4958
08	1413	1421	1425				B4.7	
08	1532	1533	1538	N26	W55	SF	B4.3	4961
08	1639	1647	1712	N22	W55	SF	B7.0	4961
08	1741	1744	1746				B2.5	
08	1757	1804	1817	N29	W09	SF	C1.1	4963
08	1957	2000	2006				B2.7	
09	1151	1158	1201				B6.1	
09	1950	1955	2045	N28	W26	SF	C1.4	4963
10	0133	0136	0142				B3.1	
10	0553	0556	0619	N27	W31	1F	C4.2	4963
10	1020	1025	1032				B9.2	
10	1114	1128	1135				B5.1	
10	1725	1728	1732				B3.5	
10	2004	2005	2015	N25	W90	SF	B3.5	4961
10	2024	2028	2032				B4.0	
11	0125	0137	0153				C3.0	
11	0955	1002	1007				B6.9	
11	1013	1020	1040				B8.6	
11	1933	1933	1952				C1.4	4963
11	2239	2311	2329	S22	E90	SF	C3.4	4964
11	2305	2311	2324				C1.8	
12	0138	0140	0145	S24	E84	SF	C7.3	4964
12	0423	0424	0431	S21	E84	SF	C6.5	4964
12	0548	0553	0556				C1.2	
12	0639	0648	0652				C1.6	
12	0754	0810	0817				C1.9	
12	0942	0947	0951				C1.0	
12	1047	1056	1103				C1.0	
12	1316	1321	1325				B5.8	
12	1506	1515	1543	S23	E79	1N	C5.0	4964
12	1641	1647	1649				B8.1	
12	1827	1831	1833				B6.4	
12	1850	1858	1916	S24	E80	SF	B9.5	4964
13	0448E	0448	0453	S21	E68	SF	B8.1	4964
13	1056	1059	1101				B5.6	
13	1347	1351	1357				B5.8	
13	2014	2047	2136	S25	E68	SF	C1.1	4964
13	2033	2041	2044				B8.9	
13	2137	2205	2212	S24	E64	SF	C2.8	4964
13	2320	2323	2352	S27	E65	SN	C1.1	4964
14	0013	0013	0032	S27	E64	SF	B9.7	4964
14	0239	0243	0247				B7.2	
14	0545	0548	0553				C1.1	
14	0815	0821	0847	S21	E48	1N	C8.7	4967
14	1015	1018	1024				C2.3	
14	1144	1149	1154				B9.8	
14	1332	1336	1345	S29	E58	SF	C1.2	4964
14	1408	1413	1428D	S26	E56	SF	C1.1	4964
14	1618	1634	1657	S30	E56	SF	C2.9	4964
14	2218	2218	2226	S27	E53	SF	C1.0	4964
14	2234	2238	2245	S24	E47	SF	C2.2	4964
14	2301	2307	2345	S27	E55	1N	C6.6	4964
15	0214	0216	0220	S28	E55	SF	C1.3	4964
15	0429	0434	0437				C1.6	

GOES SOLAR X-RAY FLARES
Preliminary Listing

March 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/USAF Region
15	0824	0826	0846	S22	E45	SN	M2.5	4964
15	0921	0932	0941	S23	E46	SN	M3.3	4964
15	1116	1117	1142	S22	E40	SF	C4.8	4964
15	1145	1154	1206	S23	E47	1B	M5.9	4964
15	1324	1327	1341	S24	E41	SF	C6.3	4964
15	1409	1413	1417				C1.5	
15	1444	1449	1456				C4.5	4964
15	1542	1547	1550				C1.8	
15	1607	1617	1740	S24	E41	1B	M6.5	4964
15	1700	1708	1728	S26	E40	SN	C7.3	4964
15	2010	2020	2033	S26	E33	SF	C1.8	4964
15	2039	2045	2105	S22	E34	1B	M4.4	4964
15	2216	2219	2243	S24	E34	1B	M3.7	4964
16	0033	0035	0046	S24	E35	SF	C1.3	4964
16	0053	0058	0101				C3.9	4964
16	0119	0121	0216	S21	E34	SN	C6.5	4964
16	0153	0159	0205				C1.9	
16	0244	0251	0316	S26	E34	1N	M1.4	4964
16	0417	0423	0432				M1.1	
16	0548	0555	0623	S22	E29	SN	M2.4	4964
16	0728	0732	0735				C4.0	
16	0736	0739	0744				C3.9	
16	0945	0947	1013	S22	E29	1N	M1.0	4964
16	1059	1104	1114				C1.2	
16	1142	1145	1151	S25	E29	SF	C3.2	4964
16	1232	1236	1241				B8.3	
16	1321	1330	1333				C1.7	
16	1345E	1405	1423	S24	E24	SN	C2.6	4964
16	1412	1414	1424	S24	E25	SF	M2.1	4964
16	1541	1546	1615	S24	E27	SB	M1.3	4964
16	1714	1717	1720				B7.5	
16	1756	1756	1802	S24	E27	SF	B5.8	4964
16	1826	1853	2014	S23	E22	1B	C2.1	4964
16	1838	1854	1916	S24	E21	1B	M8.2	4964
16	1935	1940	1956	S25	E14	SF	C3.3	4964
16	2027	2040	2047	S23	E22	SF	C3.8	4964
16	2129	2133	2203	S24	E21	1N	M2.4	4964
16	2150	2155	2157				C8.2	
16	2235	2236	2251	S23	E22	SN	C5.0	4964
16	2338	2340	2354	S23	E18	SN	C5.7	4964
17	0205	0209	0242	S23	E18	SF	C2.8	4964
17	0322	0325	0337	S23	E16	SF	C2.7	4964
17	0407	0417	0432	S23	E17	SN	C7.7	4964
17	0526	0528	0544	S22	E21	SF	C7.6	4964
17	0727	0742	0910	S23	E15	SF	B6.0	4964
17	0737	0743	0748				C2.0	
17	0824	0832	0839				C1.2	
17	0855	0858	0908				B8.9	
17	0935	0936	0940	S23	E13	SF	B5.2	4964
17	1022	1030	1042				B7.1	
17	1052	1058	1111				M3.2	
17	1203	1214	1228				C9.9	
17	1537	1558	1611				C1.4	
17	1632	1636	1646	S23	E09	SF	C1.3	4964
17	1707	1753	1814	S25	E13	SF	C2.6	4964
17	1844	1850	1913	S23	E10	SF	C2.3	4964
17	2046	2053	2159	S23	E07	SB	M2.2	4964
17	2221	2229	2252	S23	E07	SF	C4.8	4964
17	2338	2340	0014	S23	E05	SF	C3.4	4964
18	0135	0136	0140	S23	E05	SF	B6.7	4964
18	0148	0154	0229	S23	E06	1F	C7.1	4964
18	0317	0317	0400	S23	E04	SF	C2.0	4964
18	0610	0614	0625				C1.0	
18	0816	0818	0846	S27	E09	SF	C1.2	4964
18	1004	1005	1019D	S24	E04	1N	M1.0	4964
18	1137	1139	1151	S26	E02	SF	C3.1	4964
18	1931	1938	1956	S23	W05	SF	C1.5	4964
18	2133	2140	2149	S23	W04	SF	C1.1	4964
19	0138	0138	0159	S23	W09	1F	C2.0	4964
19	0822	0822	0830	N20	W14	SF	B7.4	4965
19	2303	2341	0031	S26	W13	SF	C3.6	4964
20	1058	1104	1109				B7.5	
20	1317	1324	1332				C4.0	
20	1535	1543	1627	S27	W21	SN	C5.4	4964
20	1655	1659	1703				C1.5	
20	1736	1747	1801				C1.9	
20	2109	2123	2305	N23	E53	1B	C5.5	4972
21	0015	0034	0056				C5.5	4974
21	0320	0329	0335D	N21	E52	SN	C2.6	4972
21	0713	0718	0740	N17	W40	SF	C1.6	4965
21	1152	1207	1218	N21	E45	SF	C2.2	4972
21	1537	1541	1626	S27	W32	SF	C2.5	4964
21	1637	1646	1723	S27	W32	SF	C1.2	4964
21	2129	2130	2142	S24	W38	SF	C1.7	4964
22	0009	0009	0025	N21	E40	SF	B5.5	4972
22	0029	0029	0037	S28	W79	SF	B6.8	4970
22	0114	0118	0120				B6.4	
22	0710	0719	0733				C2.0	
22	1439	1444	1450				C1.0	
22	2024	2024	2033	N21	E28	SF	B9.2	4972
22	2051	2059	2122	S28	W48	SN	C3.6	4964
22	2313	2315	2318	S26	W52	SF	B7.0	4964
23	0057	0104	0141	S24	W55	SF	B7.6	4964
23	0152	0155	0157				C1.1	
23	0632	0636	0640				B7.8	
23	1025	1031	1036				C1.8	
23	2017	2020	2034	S25	W56	SF	C2.8	4964
23	2142	2151	2203				C3.8	
24	0116	0121	0127				C1.3	
24	0143	0149	0210				C1.4	
24	0332	0334	0354	S27	W65	SF	C1.2	4964
24	0340	0351	0401	S25	W64	SF	C1.6	4964
24	0809	0814	0820				C1.5	
24	1019	1026	1041	N21	E87	1F	M4.3	4975
24	1352	1401	1433	N17	E76	SF	C2.8	4975
24	1434	1449	1501	S27	W67	SN	C1.3	4964
24	1504	1507	1509				C1.1	
24	1634	1635	1649	S26	W69	SN	M1.2	4964
24	1707	1729	1821	N21	E72	SF	C1.7	4975
24	1825	2013	2039	N20	W00	1N	C3.2	4972
24	1918	1920	1957	S26	W69	SF	C6.5	4964
24	2009	2015	2018				C4.7	4974
24	2022	2034	2049	S26	W71	1B	C3.2	4964
24	2138	2142	2151	N21	E70	SN	C3.0	4975

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Mar 88

GOES SOLAR X-RAY FLARES
Preliminary Listing

March 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/USAF Region
25	0312	0316	0319				C1.1	
25	0515	0526	0548				M2.0	
25	0725	0726	0740	N21	E64	1F	C2.7	4975
25	0845	0849	0901	S25	W78	1N	C3.5	4964
25	1117	1122	1129	S30	W80	1N	M2.0	4964
25	1609	1611	1620	S28	W79	SF	C1.3	4964
25	1937	1939	1942	S28	W83	SF	C1.0	4964
25	2004	2009	2014				C1.8	
25	2141	2154	2220				C4.5	
26	0105	0108	0112				B7.5	
26	0238	0238	0243	N16	E57	SF	B9.3	4975
26	0539	0546	0553				C1.7	
26	0946	0952	1002				B8.8	
26	1641	1657	1708	N17	E54	SF	B7.5	4975
26	2219	2223	2225				C1.0	
26	2245	2251	2322	N18	E50	SF	C1.1	4975
27	0733	0747	0808				C1.3	

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/USAF Region
28	0212	0216	0226	N22	W43	SF	B8.8	4972
29	0041	0047	0105	N16	E30	SF	C3.9	4975
29	0508	0513	0520				B8.9	
29	0629	0629	0638	N21	E16	SF	C3.1	4975
29	1826	1829	1858	S24	E35	1N	C1.9	4978
29	2239	2249	2309	N21	E09	SF	C1.4	4975
30	1347	1352	1357				B5.6	
30	1408	1412	1414				B8.6	
30	1605	1612	1626	N19	E01	SF	C1.3	4975
30	1651	1651	1657	S07	E12	SF	B5.7	4975
30	1812	1815	1827	N20	E01	SF	B6.1	4975
30	1911	1915	1925D	N20	E03	SF	C1.0	4975
30	2309	2310	2334	N21	W03	SF	C1.0	4975
31	0032	0037	0041				B7.3	
31	0534	0537	0546	S22	E16	SF	B8.3	4978
31	2044	2046	2125	N18	W15	SF	C3.2	4975

Preliminary GOES Satellite Data
Daily Average X-ray Background

April 1987 - March 1988

Day	1987										1988		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1	A1.1	A4.9	A4.8	---	B1.2	B1.1	A6.8	B2.2	A7.6	B2.0	B2.5	B1.0	
2	<A1.0	A5.0	A3.2	A1.7	B1.2	B1.3	A6.8	B3.8	A8.3	B1.4	B2.5	A8.5	
3	<A1.0	A8.8	A2.7	A1.4	B1.0	B1.3	A7.7	B3.4	A5.2	B4.6	B1.9	B1.1	
4	A2.2	A8.6	A2.7	A1.3	A6.7	B1.3	B1.2	B3.4	A4.8	B2.4	B1.5	B1.8	
5	A2.3	A8.1	A2.3	A1.2	A6.5	B1.4	B1.1	B2.1	A5.3	B2.3	B1.7	B1.6	
6	B2.7	A8.0	A2.0	A1.3	A6.9	B1.4	B1.0	B2.1	A7.8	B2.5	B1.5	B1.4	
7	---	A6.5	A1.9	A1.5	B1.7	B2.7	B1.1	B1.7	A8.5	B2.5	B2.4	B1.6	
8	---	A5.9	A1.9	A5.0	B2.8	B2.2	B1.7	B1.2	A9.1	B2.7	B1.8	B1.6	
9	---	A5.3	A2.8	A3.5	B2.1	B1.6	B2.1	A8.8	B1.4	B2.3	B1.8	B1.6	
10	B2.2	A5.7	A6.3	A3.2	B2.3	B1.7	B2.0	A8.8	A9.4	B3.0	B1.5	B1.8	
11	B1.9	A4.8	A8.5	A2.7	B2.9	B1.6	B1.8	B1.9	B2.3	B2.1	B1.6	B2.8	
12	B1.6	A4.9	A8.7	A1.9	B2.9	B1.3	B1.7	B1.4	B3.2	B3.1	B1.8	B3.4	
13	B1.4	A9.5	A8.8	A1.9	B2.6	B1.2	B2.3	B1.4	B1.8	--	B1.8	B3.4	
14	B1.4	B1.8	A7.9	A3.3	B1.9	A9.5	B2.1	A8.2	B1.3	B4.0	B1.5	B2.5	
15	B1.2	B2.0	A7.3	A4.3	B1.2	A7.1	B2.2	A9.7	B1.4	B3.9	B1.4	B6.0	
16	B2.2	B2.8	A7.1	A5.3	B1.4	A4.6	B2.6	B1.1	B1.2	B5.1	B1.2	B6.9	
17	B2.6	B1.9	A8.9	A4.0	B1.1	A5.2	B2.1	B1.1	A9.5	B3.6	B1.2	B4.6	
18	B2.9	B1.9	A8.6	A5.2	B1.1	A3.8	B2.6	B1.6	A8.9	B2.2	B1.6	B3.0	
19	B2.2	B2.0	A7.4	B1.1	B1.2	A4.7	B2.4	B2.7	A7.3	B2.5	B1.4	B3.3	
20	B1.5	B1.8	A6.4	B1.8	B1.3	A7.6	B1.7	B5.2	A7.1	B2.3	B1.2	B4.4	
21	A7.2	B2.1	A7.7	B2.0	B1.6	A5.9	B1.5	B3.5	A9.8	B2.4	B1.3	B3.8	
22	A3.5	B2.4	B1.2	---	B1.6	A5.0	B1.6	B3.6	B1.5	B2.0	A9.9	B3.7	
23	A2.1	B1.6	A9.7	B3.9	B1.5	A3.4	B1.4	B3.0	B1.0	B2.0	B1.0	B6.0	
24	A2.2	B3.1	B1.1	B3.5	B1.5	A3.7	B1.4	B2.9	B2.3	B3.1	A9.0	B6.8	
25	A1.8	B4.9	A9.5	B3.4	B1.4	A3.0	B1.8	B2.9	B4.9	B1.9	A9.0	B6.1	
26	A1.4	B3.6	A8.3	B3.6	B1.1	A2.7	B1.9	B2.9	B4.7	B2.2	B9.5	B4.5	
27	A1.7	B2.3	A5.5	B3.7	B1.1	A7.6	B2.5	B2.0	B3.4	B4.6	B1.0	B4.0	
28	A1.7	B2.3	A4.6	B3.2	A8.6	B1.0	B2.7	B1.7	B2.3	B5.1	B1.2	B3.5	
29	A1.7	B1.4	A4.0	B2.2	A6.6	A9.8	B1.9	B1.7	B1.8	B4.4	B2.0	B3.5	
30	A2.6	B1.4	A3.9	B1.6	A7.6	A7.0	B2.7	B1.1	B2.5	B2.7		B3.3	
31		A6.7		B1.4	B1.3		B2.7		---	B2.1		B4.2	

MASS EJECTIONS FROM THE SUN

MARCH 1988

Sta	Day	Observed UT			Location		Freq or Wavelength	Kind of Event
		Start	Max	End	RA ^o	R/R _o		
CULG	Mar 01	0453		0457			Meter	II
ABST	Mar 23	0653	E 0704	U 0713	D 073	1.00	H-alpha	SP
ABST	Mar 24	0502	E 0507	U 0625	D 073	1.00	H-alpha	SP
ABST	Mar 24	0601	E 0814	U 1008	D 067	1.00	H-alpha	SP
WEIS	Mar 24	[1644.2		1648.0			80-30 MHz	II Harmonic
SGMR	Mar 24	[1645.0		1651.0			Meter	II
CULG	Mar 25	[0526		0543			Meter	II
LEAR	Mar 25	[0528.0		0537.0			Meter	II
ABST	Mar 25	0559	E 0659	U 1006	D 296	1.00	H-alpha	SP
WEIS	Mar 25	1129.8		1137.2			86-30 MHz	II Harmonic
SGMR	Mar 25	1130.0		1137.0			Meter	II
CULG	Mar 25	[2136		2158.5			Meter; dekameter	II
PALE	Mar 25	[2142.0		2155.0			Meter	II
SGMR	Mar 25	[2143.0		2155.0			Meter	II
CULG	Mar 29	[0052.5		0055.5			Meter	II
LEAR	Mar 29	[0053.0		0056.0			Meter	II
LEAR	Mar 29	0252.0		0258.0			Meter	II
CULG	Mar 29	2106		2112.5			Meter; dekameter	II

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

ABST = Abastumani
 CULG = Culgoora
 LEAR = Learmonth
 PALE = Palehua
 SGMR = Sagamore Hill
 WIES = Weissenau

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

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Mar 88

MARCH 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	Mo	Day	CMP	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
01	ADF	0005E	0959D	S22	W11	02	29.1	2		05	9	9	E	LEAR	4954	
01	ASR	0315E	0959D	S23	W85	02	23.7				9	9	E	LEAR	4953	
01	AFS	1508E	2219D	S22	E19	03	3.1			04	6	6	E	HOLL	4858	
01	ADF	1530E	2133D	N24	E30	03	4.0	1		02	9	9	E	RAMY	4956	
01	ADF	1530E	2133D	S20	E18	03	3.0	2		03	9	9	E	RAMY	4958	
01	ADF	1530E	2133D	S26	E15	03	2.8	2		04	9	9	E	RAMY	4958	
01	DSD	1544E	2133D	S20	W13	02	29.7			02	9	9	E	RAMY	4959	
01	AFS	2300E	1014D	N15	E37	03	4.7			03	9	9	E	LEAR	4957	
01	AFS	2310E	1014	S20	W13	03	1.0			03	9	9	E	LEAR	4958	
01	AFS	2340E	1014D	N28	E07	03	2.5			02	9	9	E	LEAR	4955	
02	DSD	0255	0345D	S20	E09	03	2.8			04	9	9	E	LEAR	4958	
02	APR	0600	1100	S55	W90	02	23.6						V	ATHN		
02	AFS	0734E	1220D	N17	E28	03	4.4			03	9	9	E	SVTO	4957	
02	ADF	0740E	1220D	S20	E09	03	3.0	1		04	9	9	E	SVTO	4958	
02	ADF	1002E	1220D	N29	E06	03	2.9	1		03	9	9	E	SVTO	4955	
02	AFS	1230E	2111D	N16	E25	03	4.4			02	8	7	E	RAMY	4957	
02	ADF	1230E	2111D	N28	E01	03	2.6	1		02	9	9	E	RAMY	4955	
02	ADF	1230E	2111D	S24	E10	03	3.3	2		02	8	6	E	RAMY	4958	
02	AFS	1639E	2059D	N17	E23	03	4.4			04	7	8	E	HOLL	4957	
02	DSD	1640E	2059D	N15	E26	03	4.7			05	5	5	E	HOLL	4957	
02	AFS	2259E	1014D	N14	E23	03	4.7			03	9	9	E	LEAR	4957	
02	AFS	2259E	1014D	S19	W02	03	2.8			04	8	8	E	LEAR	4958	
02	DSD	2325E	0215D	N24	E16	03	4.2			03	9	9	E	LEAR	4957	
03	AFS	0230E	1014D	N22	E19	03	4.6			02	9	9	E	LEAR	4961	
03	ADF	0805E	1610D	S36	W54	02	28.1	1		05	9	9	E	SVTO		
03	AFS	0807E	1610D	N17	E14	03	4.4			02	8	8	E	SVTO	4957	
03	AFS	0808E	1610D	N23	E15	03	4.5			03	9	9	E	SVTO	4961	
03	AFS	1234E	2218D	N15	E16	03	4.7			02	9	9	E	RAMY	4759	
03	ADF	1318E	1730D	S33	W55	02	28.3	2		03	9	9	E	RAMY		
03	DSD	1322E	1504D	S22	W06	03	3.1			03	9	9	E	SVTO	4958	
03	ADF	1335E	1610D	N20	E13	03	4.6	2		07	9	9	E	SVTO	4957	
03	DSD	1337E	2218D	S21	W06	03	3.1			03	9	9	E	RAMY	4958	
03	AFS	1401E	2218D	N22	E14	03	4.6			03	9	9	E	RAMY	4961	
03	DSD	1439E	1459D	S32	W58	02	28.1			02	9	9	E	RAMY		
03	AFS	1459E	2218D	S32	W59	02	28.0			02	9	9	E	RAMY		
03	DSD	1730E	2218D	S32	W60	02	28.1			03	9	9	E	RAMY		
04	AFS	0145E	0842D	S26	E54	03	8.3			02	8	4	E	LEAR	4960	
04	APR	0820	1200	S63	W90	02	25.4						V	ATHN		
04	APR	0825	1200	N48	W90	02	25.9						V	ATHN		
04	APR	0830	1200	N51	E90	03	12.0						V	ATHN		
04	ADF	0920E	1612D	N32	E44	03	7.9	1		03	9	9	E	SVTO		
04	ADF	0922E	1612D	S25	E51	03	8.3	1		05	8	8	E	SVTO	4960	
04	AFS	1149E	2215D	N22	E01	03	4.6			02	8	6	E	RAMY	4961	
04	ADF	1149E	2215D	S21	W20	03	2.9	1		02	9	9	E	RAMY	4958	
04	ADF	1149E	2215D	S32	W69	02	28.1	2		02	9	9	E	RAMY	4962	
04	DSD	1227E	1427D	S31	W67	02	28.3			02	9	9	E	RAMY	4962	
04	ADF	1304E	1612D	S35	W75	02	27.6	1		07	9	9	E	SVTO	4962	
04	ADF	1430E	2215D	N16	E00	03	4.6	2		03	9	9	E	RAMY	4957	
04	ADF	1509E	2215D	S25	W17	03	3.3	2		03	9	9	E	RAMY	4958	
04	APR	1750E	2215D	N54	W90	02	26.1	2			9	9	E	RAMY		
04	DSD	2217E	2258D	N24	W03	03	4.7			02	9	9	E	HOLL	4961	Flare Associated
05	ADF	0230E	0710D	S30	W81	02	27.8	1		06	9	9	E	LEAR	4962	
05	AFS	0230E	0926D	N16	W07	03	4.6			04	7	8	E	LEAR	4957	
05	AFS	0230E	0926D	N16	W07	03	4.6			04	7	8	E	LEAR	4957	
05	AFS	1340E	2112D	N18	W13	03	4.6			04	5	7	E	RAMY	4957	
05	AFS	1340E	2112D	N23	W12	03	4.6			02	7	9	E	RAMY	4961	
05	ADF	1340E	2112D	N25	W14	03	4.5	2		03	9	9	E	RAMY	4961	
05	ADF	1340E	2112D	N29	E51	03	9.6	2		06	9	4	E	RAMY		
05	ADF	1340E	2112D	S22	W35	03	2.9	2		09	9	9	E	RAMY	4958	
05	AFS	1524E	2042D	N17	W13	03	4.6			02	6	9	E	HOLL	4957	
05	DSD	1743E	1817D	N15	W19	03	4.3			02	9	9	E	RAMY	4957	
05	ASR	1841E	1958D	S33	W84	02	28.2				6	9	E	HOLL	4962	
05	APR	1925E	1925D	N55	W90	02	27.1	1			7	9	E	RAMY		
05	DSD	1947E	2054D	N18	W14	03	4.7			04	4	5	E	HOLL	4957	

ACTIVE PROMINENCES AND FILAMENTS

MARCH 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
05	DSD	1948E	2056D	S21	W40	03	2.7		07	7	8	E	HOLL	4958	
05	AFS	2038E	0100D	S18	E34	03	8.4		02	9	9	E	HOLL		
05	AFS	2224E	0015D	N18	W18	03	4.6		03	7	9	E	HOLL	4961	
05	BSD	2233E	2356D	N18	W18	03	4.6		02	4	5	E	HOLL	4957	
05	BSD	2302E	2356D	N17	W20	03	4.4		03	4	6	E	HOLL	4957	
05	ASR	2327E	0023D	S37	W83	02	28.4			4	5	E	HOLL	4962	
06	ASR	0039E	1002D	S34	W87	02	28.2			9	9	E	LEAR	4962	
06	DSD	0319E	0340D	N15	W25	03	4.2		05	9	9	E	LEAR	4957	
06	BSD	1032E	2200D	N21	W31	03	4.1		04	6	9	E	HOLL	4961	Flare Associated
06	AFS	1135E	1814D	N16	W25	03	4.6		03	4	7	E	RAMY	4957	
06	ADF	1135E	1814D	N22	W25	03	4.6	2	07	9	9	E	RAMY	4961	
06	AFS	1135E	1814D	N22	W26	03	4.5		02	8	9	E	RAMY	4961	
06	DSD	1420E	1814D	N16	W26	03	4.6		03	9	9	E	RAMY	4957	
06	ASR	1625E	1856D	S33	W90	02	28.6	2		7	9	E	HOLL	4962	
06	AFS	1728E	1814D	S21	W50	03	2.9		02	9	9	E	RAMY	4958	
06	ADF	1731E	1814D	S22	W57	03	2.3	2	09	9	9	E	RAMY	4958	
06	BSD	2032E	2200D	N23	W31	03	4.5		04	6	9	E	HOLL	4961	Flare Associated
06	ASR	2123E	2312D	S34	W88	02	29.0			6	9	E	HOLL	4962	
06	AFS	2201E	0101D	N32	W23	03	5.1		02	6	9	E	HOLL	4961	
06	BSD	2309E	0101D	S12	E29	03	9.1		02	5	5	E	HOLL	4963	
06	AFS	2318E	0957D	N23	W31	03	4.6		03	9	9	E	LEAR	4961	
06	DSD	2320E	2322D	N24	W30	03	4.6		03	8	9	E	HOLL	4961	
06	DSD	2324E	0101D	S20	W51	03	3.1		05	7	9	E	HOLL	4988	
06	DSD	2332E	0101D	S20	W51	03	3.1		04	7	9	E	HOLL	4958	
06	AFS	2335E	0957D	N29	E13	03	8.0		01	9	9	E	LEAR	4963	
07	ASR	0032E	0505D	S35	W90	02	28.9			9	9	E	LEAR	4962	
07	AFS	1124E	2143D	N23	W39	03	4.5		03	9	9	E	RAMY	4961	
07	AFS	1124E	2143D	N28	E06	03	7.9		02	9	9	E	RAMY	4963	
07	ADF	1124E	2143D	S24	W65	03	2.4	1	04	9	9	E	RAMY	4958	
07	AFS	1640E	0059D	N23	W43	03	4.4		03	6	6	E	HOLL	4961	
07	AFS	1640E	0059D	N30	E04	03	8.0		03	9	9	E	HOLL	4963	
07	BSD	2254E	2359D	N17	W30	03	5.7		01	4	5	E	HOLL	4957	
07	BSD	2309E	0019D	S14	E30	03	10.2		08	5	5	E	HOLL	4963	
08	AFS	0002E	1025D	N27	W01	03	7.9		02	9	9	E	LEAR	4963	
08	AFS	0050E	1025D	N24	W47	03	4.4		04	7	9	E	LEAR	4961	
08	AFS	1330E	2144D	N21	W52	03	4.6		02	9	9	E	RAMY	4961	
08	ADF	1330E	2144D	N22	W53	03	4.5	2	02	9	9	E	RAMY	4961	
08	AFS	1330E	2144D	N29	W07	03	8.0		03	9	9	E	RAMY	4963	
08	AFS	1520E	0100D	N29	W08	03	8.0		03	8	9	E	HOLL	4963	
08	DSD	1520E	1832D	N22	W55	03	4.4		02	7	9	E	HOLL	4961	
08	AFS	2259E	1020D	N28	W12	03	8.0		03	9	9	E	LEAR	4963	
08	DSD	2325	0100D	N31	W10	03	8.2		03	9	9	E	HOLL	4963	
09	AFS	1021E	1600D	N29	W19	03	7.9		04	8	8	E	SVTO	4963	
09	SDF	1440E	1440D	N36	W31	03	7.1		12	0	0	E	HOLL		
09	SDF	1440E	1440D	S50	E64	03	15.0		17	0	0	E	HOLL		
09	AFS	2306E	1018D	N30	W25	03	8.0		03	9	9	E	LEAR	4963	
10	ASR	0835E	1018D	S22	W90	03	3.4			9	9	E	LEAR		
10	ASR	1220E	1406D	S21	W90	03	3.6			9	9	E	RAMY	4958	
10	SDF	1417E	1230D	S27	E06	03	11.1		04	0	0	E	RAMY		
10	SDF	1417E	1230D	S32	E15	03	11.8		10	0	0	E	RAMY		
10	ASR	1630E	2029D	N20	W78	03	4.7			9	9	E	RAMY	4961	
10	ASR	1630E	2029D	S26	E90	03	17.7			9	7	E	RAMY		
10	ASR	1645E	0006D	N18	W90	03	3.8			8	9	E	HOLL	4957	
10	ASR	1645E	2326D	N23	W90	03	3.8			7	8	E	HOLL	4961	
10	ASR	1830E	0245	S23	E90	03	17.7			9	9	E	PALE		
11	ASR	0220E	0255D	N19	W90	03	4.2			8	9	E	LEAR	4957	
11	ASR	0220E	1022D	S22	E90	03	18.0			9	8	E	LEAR		
11	APR	0245E	0424D	S23	E90	03	18.0			0	0	E	PALE		
11	ASR	1016E	1145D	S21	E89	03	18.2			9	9	E	SVTO		
11	ASR	1130E	2206D	S24	E87	03	18.2			9	9	E	RAMY		
11	SDF	1558E	1210D	S25	W38	03	8.7		17	0	0	E	RAMY		
11	ASR	1734E	2130D	S23	E88	03	18.5			9	9	E	HOLL	4964	

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
11	ASR	1800E	0424D	S24	E76	03	17.6			9	9	E	PALE		
11	ASR	1830E	0245	S23	E90	03	18.7			9	9	E	PALE		
11	ASR	2035E	2045D	S21	E83	03	18.2			7	9	E	HOLL	4964	
11	ASR	2122E	0101D	S21	E89	03	18.7			9	9	E	HOLL	4964	
11	ASR	2156E	2312D	S18	E90	03	18.8			9	9	E	HOLL	4964	Flare Associated
11	ASR	2231E	0017D	S23	E90	03	18.9			9	9	E	HOLL	4964	Flare Associated
11	ASR	2305E	1007D	S24	E90	03	18.9			9	9	E	LEAR	4964	
11	ASR	2337E	0017D	S24	E82	03	18.3			6	9	E	HOLL	4964	
12	ASR	0027E	0101D	N23	W87	03	5.3			7	7	E	HOLL	4964	
12	BSD	0750E	1250D	S22	E82	03	18.6			9	9	E	SVTO	4964	
12	BSL	1005	1010D	N29	E90	03	19.5	1-				C	CATA		
12	EPL	1020E	1040D	S38	E90	03	19.7	1-				C	CATA		
12	ASR	1145E	1440D	S23	E82	03	18.8					E	RAMY	4964	
12	SDF	1210E	1210D	S25	W38	03	9.6		17	0	0	E	RAMY		
12	DSD	1514	1607D	S26	E74	03	18.4		06	9	9	E	RAMY	4964	Flare Associated
12	DSD	1515E	1704D	S22	E73	03	18.2		11	9	9	E	HOLL	4964	Flare Associated
12	SDF	1603E	1231D	N14	E25	03	14.5		04	0	0	E	RAMY		
12	AFS	1720E	2129D	S28	E33	03	15.3		02	9	9	E	PALE		
12	AFS	1805E	2039D	S27	E34	03	15.4		02	5	4	E	HOLL		
12	AFS	1805E	2142D	S28	E33	03	15.3		02	9	9	E	RAMY		
12	ADF	1953E	2129D	S24	E84	03	19.3	1	04	9	9	E	PALE	4964	
12	AFS	2036E	0101D	S27	E34	03	15.5		02	9	9	E	HOLL	4966	
12	BSD	2036E	2135D	S27	E31	03	15.3		02	6	6	E	HOLL	4966	
12	DSD	2058E	2112D	S22	E67	03	18.0		05	9	9	E	HOLL	4964	Flare Associated
12	ASR	2231E	0017D	S23	E90	03	19.9			9	9	E	HOLL	4966	Flare Associated
12	ASR	2337E	0017D	S24	E82	03	19.3			6	9	E	HOLL	4964	
12	AFS	2359E	0645D	S26	E30	03	15.3		02	9	9	E	LEAR	4966	
13	DSD	0005E	0418D	S19	E70	03	18.3		03	9	9	E	LEAR	4964	
13	AFS	0006E	0026D	S23	E76	03	18.9		05	9	6	E	HOLL	4964	
13	AFS	0624E	1608D	S23	E73	03	18.9		05	9	9	E	SVTO	4964	
13	ADF	0654E	1608D	S33	E31	03	15.7	1	17	9	9	E	SVTO		
13	BSL	0835	0840	N89	W90	03	4.9	1-				C	CATA		
13	BSL	0845	0845D	N74	E90	03	21.6	1-				C	CATA		
13	BSL	0845	0845D	N87	W90	03	4.9	1-				C	CATA		
13	AFS	1103E	1555D	S26	E69	03	18.8		03	9	9	E	RAMY	4964	
13	AFS	1208E	1555D	S28	E23	03	15.3		03	9	9	E	RAMY	4966	
13	SDF	1231E	1231D	N14	E25	03	15.4		04	0	0	E	RAMY		
13	ASR	1355E	1555D	N27	W85	03	6.9			9	9	E	RAMY	4963	
13	ASR	1510E	1534D	N29	W79	03	7.4			9	9	E	HOLL	4963	
13	AFS	1537E	2228D	S27	E22	03	15.4		04	8	9	E	HOLL	4966	
13	AFS	1720E	1752D	S27	E21	03	15.3		03	9	9	E	PALE	4966	
13	AFS	1740E	1752D	S25	E67	03	18.9		04	9	9	E	PALE	4967	
13	AFS	1754E	0101D	S23	E64	03	18.7		07	6	9	E	HOLL	4964	
13	ASR	1755E	0101D	N27	W78	03	7.7			8	9	E	HOLL	4963	
14	APR	0615	1100	N50	E90	03	21.9					V	ATHN		
14	APR	0615	1115	N45	W90	03	6.8					V	ATHN		
14	APR	0615	1130	S75	W90	03	6.0					V	ATHN		
14	ADF	0615	1145	S35	E40	03	17.4					V	ATHN		
14	AFS	0657E	1437D	S26	E61	03	19.0		04	9	9	E	SVTO	4964	
14	ADF	0703E	1437D	N18	E54	03	18.4	1	07	9	9	E	SVTO	4965	
14	ADF	0714E	1437D	S19	E45	03	17.7	1	06	9	9	E	SVTO	4967	
14	ADF	0724E	1437D	S34	E18	03	15.7	1	22	9	9	E	SVTO		
14	ASR	1300E	2129D	N27	W79	03	8.4			9	9	E	RAMY	4963	
14	AFS	1300E	2129D	S28	E57	03	19.0		02	9	9	E	RAMY	4964	
14	ADF	1300E	2129D	S29	E44	03	18.0	1	02	9	9	E	RAMY	4967	
14	ASR	1300E	2200D	N27	W79	03	8.4			9	9	E	RAMY	4963	
14	AFS	1300E	2200D	S28	E57	03	19.0		02	9	9	E	RAMY	4964	
14	ADF	1300E	2200D	S29	E44	03	18.0	1	02	9	9	E	RAMY	4967	
14	ADF	1327E	2200D	N25	E49	03	18.3	1	02	9	9	E	RAMY	4965	
14	DSD	1355E	1437D	S25	E58	03	19.1	1	06	9	9	E	SVTO	4964	
14	SDF	1356E	1356D	S50	E17	03	16.0		13	0	0	E	RAMY		
14	AFS	2025E	0411D	S25	E55	03	19.1		04	9	9	E	PALE	4964	
14	ADF	2110E	0411D	S26	E54	03	19.1	1	06	9	9	E	PALE	4964	
15	ADF	0700E	1530D	S25	E49	03	19.1	1	08	9	9	E	SVTO	4964	

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	NOAA/ USAF Sta	Reg#	Remarks
15	APR	0815	1000	N40	W90	03	8.0					V	ATHN		
15	DSD	1225E	1504D	N25	E36	03	18.3		05	9	9	E	SVTO	4965	
15	ADF	1320E	2219D	S25	E44	03	19.0	1	09	9	9	E	RAMY	4964	
15	SDF	1430E	1430D	S24	W29	03	13.4		03	0	0	E	RAMY		
15	ADF	1510E	0103D	S28	E44	03	19.1	2	05	8	9	E	HOLL	4964	
15	DSD	1625	2108D	S23	E37	03	18.5		03	9	9	E	HOLL	4964	Flare Associated
15	DSD	1635E	1853D	S27	E37	03	18.6		04	9	9	E	RAMY	4964	Flare Associated
15	AFS	1657E	2219D	S31	E02	03	15.9		02	9	7	E	RAMY		
15	ADF	1736E	0416D	S26	E37	03	18.6	1	02	9	9	E	PALE	4964	
15	AFS	1745E	0416D	S28	E42	03	19.0		03	8	9	E	PALE	4964	
15	AFS	1915E	0416D	S30	E02	03	15.9		02	7	9	E	PALE		
15	DSD	2218E	2340D	S24	E34	03	18.5		13	9	9	E	HOLL	4964	Flare Associated
15	DSD	2228E	2332D	S29	E37	03	18.8		10	9	9	E	PALE	4964	Flare Associated
15	AFS	2320E	0103D	S30	E00	03	16.0		02	6	8	E	HOLL		
16	AFS	0023E	0032D	S23	E35	03	18.7		04	9	9	E	LEAR	4964	
16	AFS	0215E	1007D	S31	E00	03	16.1		03	9	9	E	LEAR		
16	ADF	0220E	1007D	S23	E36	03	18.9	2	06	9	9	E	LEAR	4964	
16	DSD	0305	1007D	S21	E34	03	18.7		06	9	9	E	LEAR	4964	
16	APR	0720	1000	N42	W90	03	8.9					V	ATHN		
16	APR	0725	1000	S40	E90	03	23.6					V	ATHN		
16	ADF	0853E	1607D	S22	E34	03	19.0	1	05	9	9	E	SVTO	4964	
16	ADF	0853E	1607D	S25	E33	03	18.9	1	07	9	9	E	SVTO	4964	
16	DSD	1142E	2157D	S22	E25	03	18.4		03	9	9	E	RAMY	4964	Flare Associated
16	ADF	1142E	2157D	S22	E29	03	18.7	1	14	9	9	E	RAMY	4964	
16	DSD	1254E	1311D	S21	E26	03	18.5		05	9	9	E	SVTO	4964	
16	AFS	1400E	2157D	S24	E24	03	18.4		02	9	9	E	RAMY	4964	
16	AFS	1425E	0054D	S22	E23	03	18.4		02	7	8	E	HOLL	4964	
16	SDF	1457E	1342D	S30	W08	03	16.0		23	0	0	E	RAMY		
16	ADF	1820E	0419D	S16	E12	03	17.7	1	04	9	9	E	PALE		
16	AFS	1820E	0419D	S28	E13	03	17.8		02	9	9	E	PALE		
16	DSD	2039E	2144D	S24	E22	03	18.6		05	9	9	E	PALE	4964	Flare Associated
16	DSD	2139E	2157D	S26	E18	03	18.3		09	9	9	E	RAMY	4964	Flare Associated
16	DSD	2143E	2239D	S25	E22	03	18.6		07	9	9	E	HOLL	4964	Flare Associated
16	DSD	2150	2157D	S21	E20	03	18.4		06	9	9	E	RAMY	4964	Flare Associated
16	DSD	2151E	2239D	S21	E22	03	18.6		04	9	9	E	HOLL	4964	Flare Associated
16	AFS	2240E	0054D	S29	W12	03	16.0		03	9	9	E	HOLL	4970	
16	AFS	2257E	1011D	S28	E27	03	19.1		09	9	9	E	LEAR	4964	
16	AFS	2257E	1011D	S31	W13	03	15.9		02	9	9	E	LEAR	4970	
17	DSD	0130E	0402D	S27	E13	03	18.1		02	9	9	E	PALE	4964	
17	DSD	0134E	0211D	S22	E19	03	18.5		04	9	9	E	LEAR	4964	
17	DSD	0211	0224D	S23	E18	03	18.5		03	9	9	E	LEAR	4964	
17	DSD	0330E	0425D	S26	E25	03	19.1		04	9	9	E	LEAR	4964	
17	AFS	0348E	0419D	S31	W16	03	15.9		03	9	9	E	PALE	4970	
17	SDF	0419E	1655D	S24	E22	03	18.9		08	0	0	E	PALE	4964	
17	SDF	0419E	1655D	S32	E00	03	17.2		13	0	0	E	PALE		
17	SDF	1330E	1330D	S30	W11	03	16.7		07	0	0	E	HOLL		
17	AFS	1411E	2208D	S22	E11	03	18.4		02	9	9	E	HOLL	4964	
17	ADF	1455E	1555D	S24	E10	03	18.4	1	04	9	9	E	RAMY	4964	
17	AFS	1455E	1906D	S23	E11	03	18.5		03	9	9	E	RAMY	4964	
17	AFS	1455E	1906D	S25	E10	03	18.4		02	5	9	E	RAMY	4964	
17	ADF	1515E	1906D	N19	E06	03	18.1	2	17	8	9	E	RAMY	4965	
17	AFS	1515E	1906D	N20	E09	03	18.3		03	9	9	E	RAMY	4965	
17	DSD	1525E	1906D	S30	W20	03	16.1		03	9	9	E	RAMY	4970	
17	AFS	1525E	1906D	S30	W22	03	15.9		03	9	9	E	RAMY	4970	
17	DSD	1555E	1906D	S27	E22	03	19.4		04	9	9	E	RAMY	4964	
17	AFS	1820E	0402D	N22	E08	03	18.4		02	9	9	E	PALE	4965	
17	AFS	1820E	0402D	S30	W24	03	15.9		04	9	9	E	PALE	4970	
17	DSD	2104E	2212	S25	E12	03	18.8		05	9	9	E	HOLL	4964	Flare Associated
18	ADF	0655E	1626D	S28	E10	03	19.1	1	11	9	9	E	SVTO	4964	
18	ADF	0711E	1626D	S24	E00	03	18.3	1	05	9	9	E	SVTO	4964	
18	DSD	0713E	1433D	S27	E12	03	19.2		04	6	9	E	SVTO	4964	
18	DSD	1200E	2151D	S25	E08	03	19.1		03	9	9	E	RAMY	4964	
18	DSD	1200E	2151D	S29	E09	03	19.2		03	9	9	E	RAMY	4964	
18	ADF	1215E	1620D	N18	W02	03	18.3	2	05	9	8	E	RAMY	4965	
18	ASR	1235E	1626D	N21	E90	03	25.4			9	9	E	SVTO		

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
18	AFS	1413E	0050D	N20	E10	03	19.3		03	9	9	E	HOLL	4965	
18	AFS	1428E	0107D	S30	W37	03	15.7		01	8	8	E	HOLL	4970	
18	DSD	1430E	1532D	S18	W11	03	17.8		01	9	9	E	HOLL	4968	
18	ASR	1430E	2151D	N19	E90	03	25.5			6	6	E	RAMY		
18	DSD	1500E	2151D	S20	W69	03	13.3		03	9	9	E	RAMY		
18	DSD	1529E	1623D	S19	W72	03	13.1		01	9	9	E	HOLL		
18	ADF	1610E	2151D	S31	W30	03	16.3	1	05	9	9	E	RAMY	4970	
18	AFS	1610E	2151D	S31	W38	03	15.7		02	9	9	E	RAMY	4970	
18	AFS	1610E	2151D	S32	W36	03	15.8		03	5	7	E	RAMY	4970	
18	ADF	1625E	2151D	S23	E04	03	19.0	1	07	9	6	E	RAMY	4964	
18	ASR	1635E	0040D	N44	E87	03	25.9			7	5	E	HOLL		
18	DSD	1640E	1714D	S26	W33	03	16.1		05	9	9	E	HOLL	4970	
18	AFS	1700E	2151D	N29	W04	03	18.4		03	9	8	E	RAMY		
18	SSB	1717		434	W19	03	16.1			0	0	E	PALE		
18	AFS	1733E	2140D	N30	W04	03	18.4		02	9	9	E	PALE		
18	ADF	1740E	2140D	S23	W02	03	18.6	1	06	9	9	E	PALE	4964	
18	DSD	1826E	1928D	S26	W02	03	18.6		03	9	9	E	PALE	4964	
18	DSD	1830E	2000D	S26	W01	03	18.7		03	9	9	E	HOLL	4964	
18	AFS	1850E	2140D	S26	E04	03	19.1		02	9	9	E	PALE	4964	
18	AFS	1915E	0107D	N29	W06	03	18.3		01	8	9	E	HOLL		
18	AFS	2105E	2140D	S29	W41	03	15.7		02	8	8	E	PALE	4970	
18	SDF	2140E	1740	N03	E20	03	20.4		07	0	0	E	PALE		
18	DSD	2351E	0050D	S23	E07	03	19.5		02	9	9	E	HOLL	4964	Flare Associated
19	DSD	0130E	0740D	S26	E03	03	19.3		04	9	9	E	LEAR	4964	
19	AFS	0130E	0945D	N21	W09	03	18.4		03	9	9	E	LEAR	4065	
19	AFS	0130E	0945D	S30	W40	03	15.9		03	9	9	E	LEAR	4970	
19	DSD	0138	0954D	S23	W08	03	18.4		04	9	9	E	LEAR	4964	
19	DSD	0540	0645	S31	W38	03	16.2		07	9	9	E	LEAR	4970	
19	AFS	0659E	1609D	S30	W46	03	15.7		02	9	9	E	SVTO	4970	
19	ADF	0800E	1609D	S23	W12	03	18.4	1	04	9	9	E	SVTO	4964	
19	DSD	0920E	1009D	S32	W42	03	16.1		04	9	9	E	SVTO	4970	
19	DSD	1020E	1242D	S27	W01	03	19.3		05	9	9	E	SVTO	4964	
19	DSD	1109	1240D	S32	W42	03	16.1		02	9	9	E	SVTO	4970	
19	DSD	1117E	1140D	S32	E02	03	19.6		08	9	7	E	RAMY	4964	
19	DSD	1140E	1603D	S20	W07	03	18.9		06	7	6	E	RAMY	4964	
19	DSD	1442E	1609D	S30	W50	03	15.7		02	9	9	E	HOLL	4970	
19	DSD	1453E	1610D	S30	W47	03	15.9		03	9	9	E	RAMY	4970	
19	SDF	1609E	0622D	S31	W45	03	16.1		09	9	9	E	SVTO		
19	DSD	1742E	2011D	S30	W52	03	15.6		03	9	9	E	RAMY	4970	
19	AFS	1835E	0408D	S27	W08	03	19.1		04	9	9	E	PALE	4964	
19	ASR	1850E	1905D	S20	W86	03	13.2			7	6	E	HOLL		
19	DSD	1851E	0034D	S27	W06	03	19.3		04	9	9	E	HOLL	4964	
19	DSD	1857E	0035D	S30	W54	03	15.5		02	9	9	E	HOLL	4970	
19	DSD	1900E	0035D	N19	W22	03	18.1		06	9	9	E	HOLL	4965	
19	AFS	1906E	2011D	S27	W07	03	19.2		02	9	9	E	RAMY	4964	
19	DSD	1906E	2011D	S29	W06	03	19.3		03	9	9	E	RAMY	4964	
19	ASR	1909E	2011D	S20	W84	03	13.4			9	9	E	RAMY		
19	DSD	1922E	0035D	S28	W53	03	15.7		03	9	9	E	PALE	4970	
20	SDF	0028E	2054D	S60	W44	03	16.1		14	0	0	E	HOLL		
20	SDF	0408E	1948D	N55	W30	03	17.6		09	0	0	E	PALE		
20	DSD	0622E	0730D	N19	W24	03	18.4		04	9	9	E	SVTO	4965	
20	ADF	0700E	1057D	S29	W18	03	18.9	2	03	9	9	E	SVTO	4964	
20	ADF	0702E	1502D	N17	W26	03	18.3	2	04	9	9	E	SVTO	4965	
20	ADF	1353E	1838D	N18	W30	03	18.3	2	05	9	9	E	RAMY	4965	
20	AFS	1428E	1754D	S28	W19	03	19.1		03	9	9	E	HOLL	4964	
20	ADF	1430E	1743D	N20	W30	03	18.3	2	07	9	9	E	HOLL	4965	
20	AFS	1436E	1902D	S18	W22	03	18.9		02	9	9	E	HOLL	4964	
20	SDF	1502E	0620D	S45	W59	03	15.7		70	0	0	E	SVTO		
20	DSD	1530E	1559D	N23	W35	03	17.9		04	9	9	E	HOLL	4965	Flare Associated
20	SDF	1648E	1743D	N20	W30	03	18.4	3	07	9	9	E	HOLL	4965	Flare Associated
20	ADF	1735E	0335D	N26	W31	03	18.3	1	08	9	9	E	PALE	4965	
20	AFS	1805E	0335D	S21	W33	03	18.2		03	9	9	E	PALE	4964	
20	AFS	1815E	1939D	S27	W22	03	19.0		02	9	9	E	RAMY	4964	
20	ADF	1827E	0335D	N21	E58	03	25.2	1	08	9	9	E	PALE	4972	
20	ASR	1835E	0101D	S33	E90	03	27.9			9	9	E	HOLL		
20	SDF	1838E	1910D	N18	W30	03	18.5	3	05	9	9	E	RAMY	4965	Flare Associated

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	NOAA/USAF Sta Reg#	Remarks
20	DSD	1851E	0034D	S27	W06	03 20.3		04	9	9	E	HOLL 4964	
20	DSD	1857E	0035D	S30	W54	03 16.5		02	9	9	E	HOLL 4970	
20	DSD	1900E	0035D	N19	W22	03 19.1		06	9	9	E	HOLL 4965	
20	DSD	2020E	0040D	N25	W37	03 18.0		03	9	9	E	PALE 4965	
20	SDF	2100E	2258D	S49	W43	03 17.2		20	0	0	E	HOLL	
20	SDF	2300E	0120D	N42	W50	03 16.8		20	0	0	E	PALE	
20	SDF	2300E	0120D	N62	W07	03 20.3		40	0	0	E	PALE	
20	SDF	2308E	0103	S61	W03	03 20.7		37	0	0	E	HOLL	
20	DSD	2358	0108D	N21	E51	03 24.9		03	9	9	E	HOLL 4972	
21	ASR	0050E	0335D	S34	E90	03 28.2			9	9	E	PALE	
21	AFS	0058E	0335D	N20	E51	03 24.9		02	9	9	E	PALE 4972	
21	ASR	0141E	0830D	S32	E88	03 28.0			8	8	E	LEAR	
21	DSD	0150E	0555D	N21	E50	03 24.9		04	9	9	E	LEAR 4972	
21	AFS	0150E	0930D	N22	E48	03 24.8		02	9	9	E	LEAR 4972	
21	AFS	0730E	1436D	N22	E44	03 24.7		02	9	9	E	SVTO 4972	
21	APR	0840	0900	S43	E90	03 28.8					V	ATHN	
21	APR	0845	0900	S50	W90	03 13.7					V	ATHN	
21	ADF	1425E	1629D	N20	W42	03 18.4	1	04	7	9	E	HOLL 4965	
21	DSD	1620E	2336D	N24	W45	03 18.2		05	9	9	E	HOLL 4965	
21	ADF	1745E	0416D	N20	W45	03 18.3	1	04	9	9	E	PALE 4965	
21	DSD	1745E	0416D	N23	W48	03 18.0		02	9	9	E	PALE 4965	
21	AFS	1748E	0416D	N21	E44	03 25.1		02	9	9	E	PALE 4972	
21	ADF	1748E	0416D	N24	E49	03 25.5	1	08	9	9	E	PALE 4972	
21	ADF	1824E	0109D	N20	W45	03 18.3	2	04	6	9	E	HOLL 4965	
21	ADF	1825E	0109D	N19	E38	03 24.7	1	05	7	9	E	HOLL 4972	
21	AFS	1825E	0109D	N21	E42	03 25.0		02	8	9	E	HOLL 4972	
21	DSD	2315E	2336D	N25	W47	03 18.3		05	9	9	E	HOLL 4965	Flare Associated
22	DSD	1201E	1533D	S27	W38	03 19.5		04	9	9	E	RAMY 4964	
22	ADF	1351E	2232D	N27	E47	03 26.2	2	14	9	9	E	RAMY 4972	
22	ADF	1403E	0110D	N24	E49	03 26.4	1	16	9	9	E	HOLL 4972	
22	ASR	1410E	1540D	S30	W90	03 15.5			9	7	E	RAMY 4970	
22	ASR	1450E	2343	S32	W90	03 15.5			9	9	E	HOLL 4970	
22	DSD	1500E	0110D	S27	W41	03 19.4		03	9	9	E	HOLL 4964	
22	ADF	1533E	2232D	S30	W54	03 18.4	2	09	7	5	E	RAMY 4964	
22	ADF	1540E	2232D	N18	E31	03 25.0	1	09	9	6	E	RAMY 4972	
22	AFS	1755E	0428D	N20	E25	03 24.6		02	8	7	E	PALE 4972	
22	ADF	1755E	0428D	S22	W54	03 18.6	1	02	9	9	E	PALE 4964	
22	AFS	1759E	0428D	S35	E67	03 28.1		03	9	9	E	PALE 4974	
22	ADF	1855E	0200	N26	E36	03 25.6	1	06	9	9	E	PALE 4972	
22	DSD	2235E	0110D	N24	E34	03 25.6		02	9	9	E	HOLL 4972	
23	SDF	0200	0200	N22	E28	03 25.2		06	9	9	E	PALE 4972	
23	DSD	0205E	0428D	S26	W47	03 19.4		02	9	9	E	PALE 4964	
23	ADF	1229E	1422D	S29	W61	03 18.7	1	06	9	9	E	SVTO 4964	
23	ADF	1237E	1422D	N18	E16	03 24.7	1	05	9	9	E	SVTO 4972	
23	AFS	1246E	1422D	S32	E57	03 28.0		02	9	9	E	SVTO 4974	
23	ASR	1819E	2056	N21	W75	03 18.0			6	6	E	HOLL 4965	
23	ASR	1900E	0111D	N15	E88	03 30.4			8	9	E	HOLL	
23	ADF	1935E	2018D	N17	E12	03 24.7	2	08	9	9	E	RAMY 4972	
23	ADF	1935E	2018D	N23	E18	03 25.2	2	05	9	9	E	RAMY 4972	
23	AFS	2015E	2018D	S35	E50	03 27.8		04	9	9	E	RAMY 4974	
24	AFS	0050E	0416D	S32	E50	03 28.0		02	9	9	E	PALE 4974	
24	AFS	0155E	0958D	S32	E49	03 27.9		02	9	9	E	LEAR 4974	
24	ASR	0210E	0958D	N87	E17	03 25.7			9	9	E	LEAR	
24	ASR	0606E	1601D	N19	E88	03 31.0			9	9	E	SVTO	
24	LPS	1122	1212	N23	E85	03 31.0	1		9	9	E	SVTO	
24	LPS	1139E	1240D	N15	E90	03 31.3			9	9	E	RAMY	
24	ADF	1141E	1601D	S28	W65	03 19.4	1	03	9	9	E	SVTO 4964	
24	AFS	1157E	1601D	S31	E45	03 28.0		03	9	9	E	SVTO 4974	
24	ADF	1440E	1601D	S28	E42	03 27.9	1	06	9	9	E	SVTO 4974	
24	ASR	1612E	1614D	S22	E82	03 31.0			7	9	E	HOLL	
24	ASR	1807E	0416D	N12	E88	03 31.4			9	9	E	PALE	
24	DSD	1815E	0416D	S34	E54	03 29.1		03	9	9	E	PALE 4974	
24	ADF	1820E	0416D	N18	E16	03 26.0	1	11	8	9	E	PALE 4972	
24	ADF	1820E	0416D	N23	E20	03 26.3	1	06	7	8	E	PALE 4972	

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	NOAA/USAF Sta Reg#	Remarks
24	BSD	1839E	1914D	N22	E73	03 30.4		02	9	9	E	HOLL 4975	
24	AFS	1922E	0112D	S33	E40	03 28.0		05	9	9	E	HOLL 4974	
24	AFS	2017E	2347D	S35	E40	03 28.0		03	9	9	E	PALE 4974	
24	DSD	2033E	2347D	S26	W70	03 19.4		08	9	9	E	PALE 4964	Flare Associated
24	ASR	2120E	0112D	N21	W90	03 18.0			9	9	E	HOLL 4965	
24	BSD	2145E	2204D	N21	E70	03 30.3		02	9	9	E	HOLL 4975	
24	DSD	2200E	2250D	S34	W41	03 21.6		04	9	9	E	HOLL 4974	
25	AFS	0800E	1000D	N15	E65	03 30.2		03	9	9	E	LEAR 4975	
25	AFS	0820E	1000D	S32	E32	03 27.9		02	9	9	E	LEAR 4974	
25	DSD	0858	0950D	S25	W78	03 19.3		04	9	9	E	LEAR 4964	
25	ADF	1010E	1634D	S30	W83	03 18.9	1	05	9	9	E	SVTO 4964	
25	DSD	1028E	1634D	N19	E66	03 30.5		02	9	9	E	SVTO 4975	
25	ADF	1029E	1634D	N22	E76	03 31.3	1	06	9	9	E	SVTO 4975	
25	AFS	1039E	1634D	N23	W26	03 23.4		02	9	9	E	SVTO 4976	
25	DSD	1130E	1158D	S30	W80	03 19.2		08	9	9	E	RAMY 4964	Flare Associated
25	AFS	1141E	2053D	N24	W24	03 23.6		02	9	9	E	RAMY 4976	
25	AFS	1343E	0113D	N23	W26	03 23.6		02	9	9	E	HOLL 4976	
25	ASR	1350E	1440D	N21	W90	03 18.7			9	9	E	HOLL 4965	
25	ADF	1503E	2053D	N17	W09	03 24.9	1	07	9	7	E	RAMY 4972	
25	ADF	1503E	2053D	N24	W01	03 25.5	1	13	9	9	E	RAMY 4972	
25	ASR	1503E	2053D	S24	W90	03 18.7			8	6	E	RAMY 4964	
25	ASR	1658E	2053D	S22	E88	04 1.5			9	9	E	RAMY	
25	ASR	1700E	0113D	S21	E88	04 1.4			9	9	E	HOLL	
25	AFS	1755E	0159D	N25	W27	03 23.6		03	9	9	E	PALE 4976	
25	DSD	1857E	0159D	N15	E63	03 30.5		03	9	9	E	PALE 4975	
25	ASR	1925E	0113D	S25	W89	03 18.9			9	9	E	HOLL 4964	
25	EPL	2145E	2300	N21	W90	03 19.0			9	9	E	HOLL 4965	
25	EPL	2207E	2222	N20	W90	03 19.0	3		9	9	E	PALE 4965	
26	ASR	0201E	0953D	S26	W90	03 19.1			9	9	E	LEAR 4964	
26	ADF	0515E	0953D	N21	W19	03 24.8	2	03	9	9	E	LEAR 4972	
26	ASR	0702E	0924D	S30	W90	03 19.2			9	9	E	SVTO 4964	
26	AFS	0820E	1226D	N15	E54	03 30.4		02	9	9	E	SVTO 4975	
26	ADF	0821E	1529D	N20	E66	03 31.4	1	05	9	9	E	SVTO 4975	
26	AFS	0833E	1529D	S19	E74	04 1.0		02	9	9	E	SVTO	
26	ASR	1137E	2139D	S27	W90	03 19.5			9	9	E	RAMY 4964	
26	ADF	1348E	2139D	N17	W24	03 24.7	1	08	9	9	E	RAMY 4972	
26	ADF	1348E	2139D	N25	W18	03 25.2	1	12	9	9	E	RAMY 4972	
26	ASR	1730E	0100D	S27	W90	03 19.7			9	9	E	HOLL 4964	
26	ASR	1830E	0349D	S22	W90	03 19.8			9	9	E	PALE 4964	
26	ADF	1845E	1845D	N16	E52	03 30.7	1	07	9	9	E	RAMY 4975	
26	ADF	1845E	1845D	N22	E52	03 30.8	1	03	9	9	E	RAMY 4975	
26	ADF	1845E	2139D	N16	E52	03 30.7	1	07	9	9	E	RAMY 4975	
26	ADF	1845E	2139D	N22	E52	03 30.8	1	03	9	9	E	RAMY 4975	
26	ADF	1855E	0100D	N14	E47	03 30.3	2	04	9	9	E	HOLL 4975	
26	ADF	1855E	0100D	N16	E49	03 30.5	2	03	9	9	E	HOLL 4975	
26	ADF	1855E	0100D	N16	E54	03 30.9	2	05	9	9	E	HOLL 4975	
26	DSD	1857E	0100D	S33	E11	03 27.7		04	9	9	E	HOLL 4974	
26	ADF	1859E	0349D	N13	E46	03 30.3	2	09	8	9	E	PALE 4975	
26	DSD	1932E	2139D	S33	E11	03 27.7		03	9	9	E	RAMY 4974	
26	ADF	2358E	0340D	N25	W28	03 24.8	1	06	7	6	E	PALE 4972	
27	DSD	0158E	0349D	N14	E40	03 30.1		02	9	9	E	PALE 4975	
27	DSD	1116	1158D	N23	E37	03 30.3		03	7	9	E	SVTO 4975	
27	ADF	1250E	1622D	N25	W32	03 25.0	2	05	9	9	E	RAMY 4973	
27	ADF	1250E	1622D	N27	W23	03 25.7	2	04	9	9	E	RAMY 4972	
27	DSD	1315E	1622D	S32	E02	03 27.7		03	9	9	E	RAMY 4974	
27	ADF	1530E	1622D	N15	E39	03 30.6	1	03	9	9	E	RAMY 4975	
27	ADF	1530E	1622D	N23	E48	03 31.3	1	09	9	9	E	RAMY 4975	
27	ADF	1612E	2255D	N23	W37	03 24.8	2	05	9	9	E	HOLL 4972	
27	AFS	1725E	0430D	S22	E63	04 1.6		01	9	9	E	PALE 4978	
27	AFS	1759E	0430D	S35	E02	03 27.9		02	9	9	E	PALE 4974	
27	AFS	2012E	0430D	N16	E36	03 30.6		02	9	8	E	PALE 4975	
28	ADF	0225E	0430D	N15	E39	03 31.0	1	11	9	9	E	PALE 4975	
28	SDF	0430E	1936D	N21	E57	04 1.5		04	0	0	E	PALE 4975	
28	SDF	0430E	1936D	S25	E70	04 2.6		09	0	0	E	PALE 4978	

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	NOAA/ USAF Sta Reg#	Remarks
28	SDF	0430E	1936D	S33	E60	04 1.9		12	0	0	E	PALE 4978	
28	DSD	0725E	0949D	N17	W50	03 24.5		02	9	9	E	SVTO 4972	
28	AFS	0748E	0949D	S22	E36	03 31.1		01	9	9	E	SVTO 4977	
28	AFS	0758E	0916D	N16	E33	03 30.8		06	9	9	E	LEAR 4975	
28	AFS	0758E	0916D	N32	W03	03 28.1		02	9	9	E	LEAR 4974	
28	AFS	0758E	0916D	S24	E56	04 1.6		02	9	9	E	LEAR 4978	
28	AFS	1309E	1309D	S24	E31	03 30.9		02	9	8	E	RAMY 4977	
28	ADF	1309E	1401D	N22	W50	03 24.7	2	12	9	9	E	RAMY 4972	
28	ADF	1309E	1401D	N23	E36	03 31.3	1	07	9	9	E	RAMY 4975	
28	AFS	1322E	1651D	S22	E31	03 30.9		02	9	9	E	SVTO 4977	
28	ADF	1324E	1651D	N24	E38	03 31.5	1	09	9	9	E	SVTO 4975	
28	ADF	1352E	1401D	N17	E26	03 30.5	1	06	9	9	E	RAMY 4975	
28	ADF	1720E	0038D	N18	E34	03 31.3	1	08	9	9	E	HOLL 4975	
28	ADF	1735E	2318D	N15	E30	03 31.0	1	09	9	9	E	PALE 4975	
28	ADF	1735E	2318D	N19	E24	03 30.6	1	07	9	9	E	PALE 4975	
28	AFS	1850E	2318D	S23	E28	03 30.9		02	8	8	E	PALE 4977	
28	AFS	1902E	0038D	S23	E32	03 31.2		03	9	9	E	HOLL 4977	
28	SDF	1914E	1914D	N21	W53	03 24.7		06	0	0	E	HOLL 4972	
28	ADF	1940E	0038D	N19	E22	03 30.5	2	08	9	9	E	HOLL 4975	
28	ADF	2231E	2318D	S17	E44	04 1.3	1	02	6	9	E	PALE 4978	
28	DSD	2250E	0038D	S19	E44	04 1.3		03	9	9	E	HOLL 4978	
29	SDF	1014E	1235D	N21	E30	03 31.7	3	09	3	9	E	SVTO 4975	
29	AFS	1052E	1613D	S22	E21	03 31.1		02	9	9	E	SVTO 4977	
29	AFS	1255E	2148D	S24	E20	03 31.1		03	9	9	E	RAMY 4977	
29	DSD	1310E	1735D	S19	E35	04 1.2		05	9	9	E	RAMY 4978	
29	ADF	1315E	2148D	N15	E17	03 30.8	2	07	9	9	E	RAMY 4975	
29	ADF	1315E	2148D	N23	E23	03 31.3	2	16	9	9	E	RAMY 4975	
29	ADF	1400E	1650D	N19	E28	03 31.7	2	04	9	9	E	SVTO 4975	
29	DSD	1510E	1610D	S17	E33	04 1.1		03	9	9	E	SVTO 4978	
29	ADF	1754E	0405D	N20	E10	03 30.5	1	07	9	9	E	PALE 4975	
29	AFS	2320E	0455D	N19	E08	03 30.6		05	9	9	E	LEAR 4975	
29	AFS	2345E	0455D	S23	E14	03 31.1		02	8	7	E	LEAR 4977	
30	ASR	0025E	0455D	N25	W81	03 23.7			9	9	E	LEAR 4976	
30	ASR	0610E	1315D	N24	W90	03 23.3			9	9	E	SVTO 4976	
30	SDF	0818	0853D	N22	E18	03 31.7		05	0	0	E	SVTO 4975	Flare Associated
30	DSD	0828E	1003D	N21	E08	03 31.0		03	9	9	E	LEAR 4975	
30	DSD	0854E	1243D	N22	E07	03 30.9		04	9	9	E	SVTO 4975	
30	ADF	0855E	1315D	N24	E11	03 31.2	1	10	9	9	E	SVTO 4975	
30	DSD	1120E	1800D	S36	W34	03 27.7		02	9	9	E	RAMY 4974	
30	ADF	1125E	2122D	N23	E12	03 31.4	2	13	9	9	E	RAMY 4975	
30	ASR	1130E	1450D	N29	W90	03 23.4			9	8	E	RAMY 4976	
30	DSD	1135E	2122D	S18	E24	04 1.3		04	9	9	E	RAMY 4978	
30	ADF	1135E	2122D	S20	E28	04 1.6	2	05	9	9	E	RAMY 4978	
30	AFS	1135E	2122D	S23	E26	04 1.5		03	9	9	E	RAMY 4978	
30	AFS	1208E	1315D	N15	W47	03 26.9		02	9	9	E	SVTO	
30	AFS	1215E	2122D	N17	W44	03 27.2		03	9	9	E	RAMY	
30	AFS	1248E	2122D	N14	W02	03 30.4		03	9	6	E	RAMY 4975	
30	ADF	1248E	2122D	N18	E02	03 30.7	1	06	7	9	E	RAMY 4975	
30	DSD	1533E	1558D	N22	E04	03 30.9		01	9	9	E	HOLL 4975	Flare Associated
30	DSD	1607E	1735D	N21	E04	03 31.0		04	9	9	E	HOLL 4975	
30	DSD	1609E	2245D	N19	E04	03 31.0		03	9	9	E	HOLL 4975	Flare Associated
30	AFS	1730E	0210D	N17	W48	03 27.1		01	9	9	E	PALE	
30	DSD	1733E	0005D	S19	E20	04 1.2		05	6	7	E	HOLL 4978	
30	DSD	1735E	0210D	S20	E20	04 1.3		03	9	9	E	PALE 4978	
30	ADF	1736E	0210D	S21	E05	03 31.1	1	04	9	9	E	PALE 4977	
30	ADF	1737E	0210D	N19	W01	03 30.6	1	04	9	9	E	PALE 4975	
30	DSD	1738E	2120D	N22	E00	03 30.7		03	7	7	E	HOLL 4975	
30	ASR	1846E	2049D	N24	W90	03 23.8			9	9	E	RAMY 4976	
30	DSD	1918E	2122D	N21	E04	03 31.1		06	9	9	E	RAMY 4975	Flare Associated
30	DSD	1922E	0210D	S21	E02	03 31.0		05	9	9	E	PALE 4975	
30	AFS	2348E	0951D	N20	W06	03 30.5		02	9	9	E	LEAR 4975	
31	DSD	0010E	0951D	S19	E16	04 1.2		03	9	9	E	LEAR 4978	
31	AFS	0050E	0240D	N17	W51	03 27.1		01	9	7	E	LEAR 4979	
31	APR	0220E	0951D	N22	W87	03 24.4	2		9	9	E	LEAR 4976	
31	DSD	0726	0951D	S33	W44	03 27.8		04	9	9	E	LEAR 4974	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	Cmd	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
31	AFS	0920E	0951D	S20	W05	03	31.0		02	9	9	E	LEAR	4977	
31	AFS	1130E	2150D	S21	W06	03	31.0		03	9	9	E	RAMY	4977	
31	ADF	1202E	2150D	N23	W02	03	31.3	1	12	8	9	E	RAMY	4975	
31	DSD	1204E	1813D	S23	E10	04	1.3		06	9	9	E	RAMY	4978	
31	ASR	1211E	2150D	N90	W22	03	29.4			6	6	E	RAMY	4972	
31	AFS	1430E	2150D	N20	W14	03	30.5		04	9	8	E	RAMY	4975	
31	ADF	1430E	2150D	S32	W48	03	27.8	1	07	9	9	E	RAMY	4974	
31	ASR	1525E	0100D	N21	W88	03	24.9			5	6	E	HOLL	4972	
31	ADF	1535E	0103D	S33	W48	03	27.8	2	06	9	9	E	HOLL	4974	
31	DSD	1535E	1628D	S33	W47	03	27.9		03	9	9	E	HOLL	4974	
31	DSD	1620E	2150D	N16	W11	03	30.8		03	9	9	E	RAMY	4975	
31	AFS	1801E	0418D	N17	W12	03	30.8		02	9	9	E	PALE	4975	
31	ADF	1814E	0418D	S31	W47	03	28.0	1	04	9	9	E	PALE	4974	
31	AFS	1822E	0418D	S22	W10	03	31.0		02	5	9	E	PALE	4977	
31	DSD	1826E	2150D	N22	W72	03	26.2		02	9	9	E	RAMY	4979	
31	DSD	1957E	2150D	N21	W10	03	31.1		03	9	9	E	RAMY	4975	
31	DSD	2315E	0833D	S19	E04	04	1.3		04	9	9	E	LEAR	4978	
31	AFS	2316E	1002D	N19	W20	03	30.4		03	9	9	E	LEAR	4975	
31	DSD	2320E	0833D	S33	W51	03	27.9		07	9	9	E	LEAR	4974	

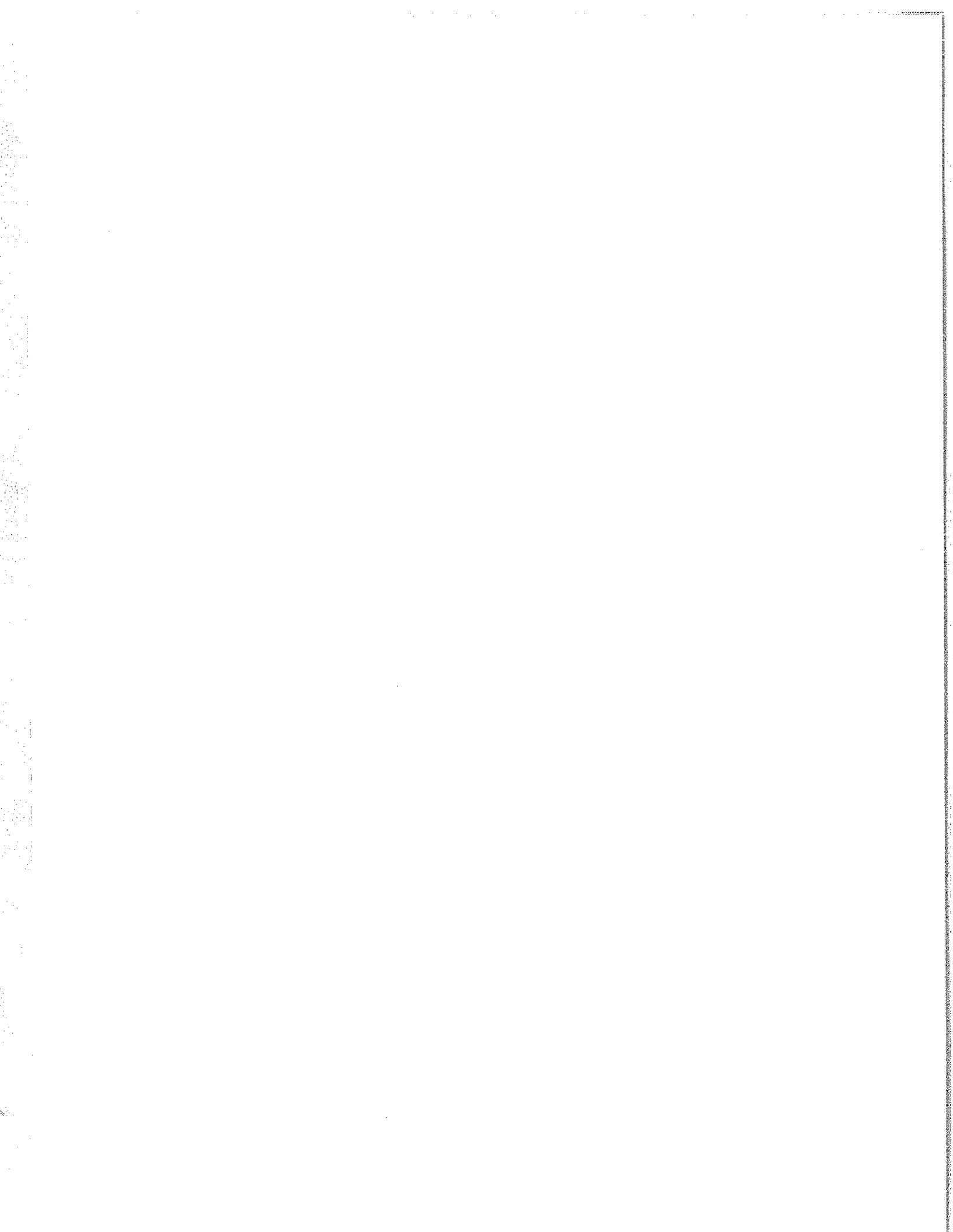
ADF = Active Dark Filament BSL = Bright Surge on Limb LPS = Loops
 AFS = Arch Filament System CAP = CAP Prominence (Tandberg-Hanssen) MDP = Mound Prominence
 APR = Active Prominence CRN = Coronal Rain SDF = Sudden Disappearing Filament
 ASR = Active Surge Region DSD = Dark Surge on Disk SPY = Spray
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

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

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

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

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



C O N T E N T S

Comprehensive Reports

MISCELLANEOUS DATA

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*****NEW DATA*****

SOLAR ULTRAVIOLET RADIATION FROM NOAA SATELLITE

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THE SOLAR UV CORE-TO-WING RATIO FOR THE MG II H & K LINES

Richard F. Donnelly
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Boulder, Colorado 80303, U. S. A.

Heath and Schlesinger (1986) studied the solar ultraviolet measurements from the Solar Backscatter Ultraviolet (SBUV) experiment on the NIMBUS7 satellite and showed that the core-to-wing ratio of the Mg II h & k lines $[R(\text{MgIIc/w})]$ was a good measure of the temporal variations of the solar UV flux, including long-term variations, because the ratio is relatively insensitive to drifts in instrument sensitivity. They defined the ratio as follows:

$$R(\text{MgII},t) = \frac{4[F(\text{C1},t) + F(\text{C2},t) + F(\text{C3},t)]}{3[F(\text{LW1},t) + F(\text{LW2},t) + F(\text{SW1},t) + F(\text{SW2},t)]} \quad (1)$$

where $F(w,t)$ is the measured flux at wavelength w and time t . For NIMBUS7, LW1 = 283.4, LW2 = 283.2, C1 = 280.2, C2 = 280.0, C3 = 279.8, SW1 = 276.8 and SW2 = 276.6 nm. The bandpass of that instrument was 1.1 nm and the steps in wavelength were 0.2 nm. That bandwidth is so wide that the h & k lines are not resolved but blend together to form one large absorption line.

The SBUV/2 Monitor, based on the design of SBUV on NIMBUS7, is now operating on the NOAA9 satellite. The table of results on the next page has been derived from its discrete-wavelength mode, where the flux intensity at 12 wavelengths in the vicinity of the Mg II h & k lines is monitored daily. The bandpass is 1.14 nm and the wavelength step is 0.15 nm. The wavelength C2 is well centered at the minimum of the low resolution h and k line near 280 nm.

The results in the table have been normalized by dividing by the monthly mean of September 1986 $[R(\text{Sept86})]$, which had the lowest monthly value in the NIMBUS7 data, where NIMBUS7 data are currently available through October 29, 1986. Therefore, the monthly mean of September can be used to normalize both the NIMBUS7 and NOAA9 data. The values in the table were derived as follows:

$$\text{Percent Variation} = \frac{[R(\text{MgIIc/w},t) - R(\text{Sept86})]}{R(\text{Sept86})} \times 100\% \quad (2)$$

A complete description of the NOAA9 measurements will be published in early 1989 (Donnelly et al., 1989). $R(\text{MgIIc/w},t)$ is useful for estimating the solar UV flux variations at other UV wavelengths and for chromospheric EUV wavelengths. To help place the results in the accompanying table in perspective, consider that the amplitude of the change in $R(\text{MgIIc/w},t)$ for solar cycle 21 from the NIMBUS7 measurements was about 10% for daily values.

Donnelly, R. F., J. Barrett, S. D. Bouwer, L. C. Puga, and D. E. Stevens, Solar UV Flux Measurements from the SBUV/2 Monitor on the NOAA9 Satellite, Part I. Mg II h & k Line Core-to-Wing Ratios for 1986 - 1987, to be published as a NOAA Tech. Memo., Air Resources Lab., NOAA ERL, Boulder, Colorado 80303, U. S. A.

Heath, D. F., and B. M. Schlesinger, The Mg 280-nm Doublet as a Monitor of Changes in Solar Ultraviolet Irradiance, J. Geophys. Res., 91, 8672, 1986

1986 SOLAR MG II CORE-TO-WING RATIO

Daily percent that the core-to-wing ratio for the combined h & k lines of Mg II near 280 nm exceed the monthly mean for September 1986, based on full-disk discrete-wavelength mode measurements from the Solar Backscatter Ultraviolet (SBUV/2) Monitor on the NOAA9 satellite. N/A indicates the results are not available. Discrete-wavelength mode measurements of the solar Mg II h & k lines started on May 27, 1986.

Day	Month							
	May 86	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1		N/A	-0.09	-0.12	0.09	0.36	1.11	0.32
2		0.10	-0.29	0.15	0.01	0.31	1.25	0.04
3		-0.04	-0.25	0.26	-0.26	0.61	1.00	0.04
4		0.16	-0.23	0.01	-0.03	0.36	0.72	-0.02
5		-0.20	-0.12	0.12	0.07	0.35	0.67	-0.27
6		0.08	-0.01	0.01	-0.07	0.62	0.49	-0.41
7		-0.09	0.08	0.13	N/A	0.57	0.27	-0.42
8		N/A	0.03	0.04	-0.07	0.48	0.02	-0.07
9		0.07	N/A	0.00	N/A	0.69	-0.10	N/A
10		0.06	0.31	0.04	-0.26	0.19	0.01	-0.41
11		-0.15	0.31	0.07	0.13	0.42	-0.29	-0.13
12		0.23	0.37	-0.15	0.05	0.45	-0.13	-0.09
13		0.23	0.19	0.03	0.01	0.33	-0.14	-0.07
14		0.11	0.31	-0.13	0.26	-0.17	-0.13	0.10
15		0.40	0.17	-0.17	0.09	-0.15	-0.01	0.14
16		0.32	0.43	0.11	-0.10	0.09	0.19	0.05
17		0.50	0.51	-0.06	-0.36	-0.03	0.17	0.19
18		0.44	0.43	-0.18	-0.25	0.23	0.47	0.10
19		0.37	0.64	-0.03	0.05	0.39	0.33	0.04
20		0.20	0.46	-0.22	0.05	0.55	0.71	0.07
21		0.17	0.55	-0.08	-0.03	0.65	0.60	N/A
22		0.12	0.51	-0.56	-0.11	0.83	0.39	N/A
23		0.38	0.29	-0.34	-0.07	1.05	0.60	-0.08
24		0.11	0.35	-0.28	0.00	1.18	0.50	-0.06
25		0.06	0.13	-0.22	0.22	1.39	0.69	0.00
26		-0.11	0.17	-0.19	0.18	1.34	0.44	-0.08
27	1.00	-0.01	-0.19	-0.23	-0.01	1.49	0.57	-0.16
28	0.15	-0.04	N/A	-0.10	0.28	1.55	0.50	-0.09
29	0.88	0.02	0.07	0.00	0.16	1.12	0.34	-0.31
30	0.42	-0.09	N/A	0.01	0.14	1.49	-0.02	N/A
31	0.23		0.01	-0.01		1.25		-0.31



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."