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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Number 658

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Dec 98

H α SOLAR FLARES

DECEMBER 1998

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0001	LEAR	01	0409	0411	0416	S23	W44	8392	11	27.9	7	SF	3	E		37		
0002	LEAR	01	0526	0529	0532	N22	E14	8395	12	2.3	6	SF	3	E		16		
0003	LEAR	01	0649	0649	0654	N22	E13	8395	12	2.3	5	SF	3	E		26		
			01 1107		1113	No Flare Patrol												
0004	SVTO	01	1120E	1120U	1132D	N22	E09	8395	12	2.2	12D	SF	2	E		26		F
			01 1137		1226	No Flare Patrol												
			01 1232		1239	No Flare Patrol												
			01 1324		1329	No Flare Patrol												
0005		01	16222	16231	1655	N15	E58	8397	12	6.1	33	SF				47		F
	HOLL	01	1622	1623	1632	N15	E58	8397	12	6.1	10	SF	3	E		58		
	RAMY	01	1624	1624	1718	N15	E57	8397	12	6.0	54	SF	3	E		36		F
0006	HOLL	01	1632	1633	1637	N16	E57	8397	12	6.0	5	SF	3	E		39		
			01 1707		1756	No Flare Patrol												
0007	RAMY	01	1802	1803	1816	N22	E68	8402	12	7.0	14	SF	3	E		32		
0008	HOLL	01	1810	1812	1821	N17	E67	8402	12	6.8	11	SF	3	E		15		
0009	HOLL	01	1822	1824	1850	N18	E68	8402	12	6.9	28	SF	3	E		67		
0010	HOLL	01	1807	1809	1854	N21	W01	8395	12	1.7	47	1F	3	E		137		FU
			01 1950		1955	No Flare Patrol												
			01 2006		2011	No Flare Patrol												
			01 2016		2020	No Flare Patrol												
			01 2142		2152	No Flare Patrol												
			01 2210		2212	No Flare Patrol												
0011	LEAR	02	0110	0114	0119	N23	W05	8395	12	1.7	9	SF	3	E		25		F
0012	LEAR	02	0722	0728	0752	N21	W05	8395	12	1.9	30	SF	3	E		17		
0013	LEAR	02	0755	0756	0805	N21	W10	8395	12	1.6	10	SF	3	E		12		
0014	LEAR	02	0906	0910	0918	N17	E59	8402	12	6.9	12	SF	3	E		62		
			02 1013		1306	No Flare Patrol												
			02 1334		1351	No Flare Patrol												
			02 1355		1359	No Flare Patrol												
			02 1405		1520	No Flare Patrol												
0015	RAMY	02	1521E	1521U	1528D	N16	W14	8395	12	1.6	7D	SF	3	E		37		
			02 1534		1614	No Flare Patrol												
0016	RAMY	02	1624	1625	1638	N19	E53	8402	12	6.7	14	SF	3	E		53		
0017	RAMY	02	1702	1704	1724	N16	W14	8395	12	1.6	22	SF	3	E		16		H
			02 1738		1817	No Flare Patrol												
			02 1825		1845	No Flare Patrol												
			02 1924		2204	No Flare Patrol												
			02 2217		2220	No Flare Patrol												
0018	LEAR	03	0439	0440	0443	N14	E34	8397	12	5.8	4	SF	3	E		16		F
			03 0549		0617	No Flare Patrol												
			03 1013		1028	No Flare Patrol												
			03 1037		1203	No Flare Patrol												
0019	RAMY	03	1204	1205	1237	N19	W25	8395	12	1.6	33	SF	2	E		79		F

H α SOLAR FLARES

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DECEMBER 1998

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)		
			03 1211		1218			No Flare Patrol												
			03 1225		1236			No Flare Patrol												
			03 1243		1330			No Flare Patrol												
			03 1335		1404			No Flare Patrol												
			03 1541		1553			No Flare Patrol												
			03 1608		1835			No Flare Patrol												
			03 1906		2017			No Flare Patrol												
0020	HOLL	03	2019	2019	2025	N12	W15	8401	12	2.7	6	SF		3	E				42	
0021	HOLL	03	2115	2119	2125	N14	E43	8402	12	7.1	10	SF		3	E				29	
0022	HOLL	03	2211	2219	2235	N20	E38	8402	12	6.8	24	SF		3	E				34	
			03 2348		2400			No Flare Patrol												
			04 0122		0137			No Flare Patrol												
			04 0229		0240			No Flare Patrol												
			04 0311		0347			No Flare Patrol												
			04 0402		0907			No Flare Patrol												
0023	SVTO	04	1105	1106	1115	N15	E25	8402	12	6.3	10	SF		3	E				40	
			04 1651		1713			No Flare Patrol												
0024	RAMY	04	1714E	1715U	1737	N27	W24	8399	12	2.8	23D	SF		2	E				54	
			04 2127		2157			No Flare Patrol												
			04 2231		2257			No Flare Patrol												
			05 1046		1231			No Flare Patrol												
0025	HOLL	05	1745	1747	1757	N31	W38	8399	12	2.7	12	SF		3	E				21	
0026	HOLL	05	1801	1803	1806	S19	W78	8393	11	29.9	5	SF		3	E				23	
0027	HOLL	05	1819	1820	1832	N29	W41	8399	12	2.5	13	SF		3	E				12	
			05 2104		2110			No Flare Patrol												
			05 2345		2400			No Flare Patrol												
			06 0000		0018			No Flare Patrol												
			06 0406		0426			No Flare Patrol												
			06 0457		1037			No Flare Patrol												
			06 1103		1107			No Flare Patrol												
0028	KANZ	06	1108E	1108	1112	N14	E06	8402	12	6.9	4D	SF		2	C					
			06 1217		1406			No Flare Patrol												
0029	HOLL	06	1442	1442	1446	N19	E02	8402	12	6.8	4	SF		3	E				16	
0030	HOLL	06	1446	1448	1501	N19	E01	8402	12	6.7	15	SF		3	E				25	
0031	HOLL	06	1515	1516	1518	N22	W60	8398	12	2.0	3	SF		3	E				14	
0032	HOLL	06	1601	1610	1631	S16	E68	8412	12	11.8	30	SF		3	E				77	
0033	HOLL	06	1617	1622	1650	N15	W16	8397	12	5.5	33	SF		3	E				19	
0034		06	19031	19051	1909	N14	E01	8402	12	6.9	6	SF							27	
	RAMY	06	1903	1905	1914D	N14	E01	8402	12	6.9	11D	SF		3	E				34	
	HOLL	06	1904	1905	1909	N14	E01	8402	12	6.9	5	SF		3	E				20	
			06 2349		2400			No Flare Patrol												
			07 0000		0235			No Flare Patrol												
0035	LEAR	07	0400	0409	0434	N16	W08	8402	12	6.5	34	SF		3	E				94	F
0036	LEAR	07	0616	0616	0620	S16	E58	8405	12	11.7	4	SF		3	E				15	

H α SOLAR FLARES

DECEMBER 1998

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	Mo	CMP Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0037		07	08552	08561	0903	N17	W08	8402	12	6.8	8	SF						20		
	LEAR	07	0855	0856	0901	N17	W08	8402	12	6.8	6	SF		3	E			20		
	KANZ	07	0857	0857	0905	N17	W09	8402	12	6.7	8	SF		2	C					
0038		07	0902	0903	0908	N18	W10	8402	12	6.6	6	SF						27	F	
	SVTO	07	0902E	0902U	0908	N18	W11	8402	12	6.5	60	SF		3	E			13	F	
	LEAR	07	0902	0903	0907	N17	W08	8402	12	6.8	5	SF		3	E			41		
0039		07	0949	09503	0956	N20	W08	8402	12	6.8	7	SF						16		
	LEAR	07	0949	0950	0955	N17	W09	8402	12	6.7	6	SF		3	E			16		
	KANZ	07	0949	0953	0957	N23	W06	8402	12	6.9	8	SF		2	C					
0040		07	0953	09561	1003	S23	W02	8404	12	7.2	10	SF						13		
	LEAR	07	0953	0956	1001	S23	W03	8404	12	7.2	8	SF		2	E			13		
	KANZ	07	0953	0957	1005	S23	W01	8404	12	7.3	12	SF		2	C					
0041	KANZ	07	1009	1013	1017	S13	E55	8412	12	11.6	8	SF		2	C					
		07	1304		1344	No Flare Patrol														
		07	1454		1501	No Flare Patrol														
0042	HOLL	07	1537	1538	1543	S16	E55	8405	12	11.8	6	SF		3	E			22		
0043	HOLL	07	1632	1634	1643	S13	E53	8405	12	11.7	11	SF		3	E			13		
0044	HOLL	07	2146	2150	2217	S15	E51	8405	12	11.8	31	SF		3	E			95		
		07	2349		2400	No Flare Patrol														
		08	0000		0013	No Flare Patrol														
		08	0130		0134	No Flare Patrol														
		08	0149		0239	No Flare Patrol														
		08	0248		0340	No Flare Patrol														
		08	0344		0358	No Flare Patrol														
		08	0514		0517	No Flare Patrol														
0045	LEAR	08	0751	0753	0758	S21	W21	8404	12	6.7	7	SF		3	E			14		
0046	LEAR	08	0804	0805	0808	S17	E15	8407	12	9.5	4	SF		3	E			11		
0047	KANZ	08	1017	1017	1021	S32	E74	8409	12	14.3	4	SF		2	C					
0048	KANZ	08	1117	1117	1121	S32	E74	8409	12	14.3	4	SF		2	C					
0049	SVTO	08	1122	1132	1137	S15	E38	8405	12	11.3	15	SF		2	E			14		
0050	KANZ	08	1141	1141	1145	N15	W34	8397	12	5.9	4	SF		2	C					
0051		08	12322	12331	1326	S24	W18	8404	12	7.1	54	SF						33	F	
	SVTO	08	1232	1233	1324	S25	W18	8404	12	7.1	52	SF		3	E			33	F	
	KANZ	08	1234	1234	1329	S23	W18	8404	12	7.1	55	SF		2	C					
0052	KANZ	08	1237	1237	1253	S14	E39	8405	12	11.5	16	SF		2	C					
0053	KANZ	08	1321	1321	1329	S17	E11	8407	12	9.4	8	SF		2	C					
0054	RAMY	08	1403E	1403U	1431D	S14	E40	8405	12	11.6	28D	SF		2	E			29	HT	
0055	RAMY	08	1528	1833	1940D	S23	W24	8404	12	6.8	252D	1F		3	E			120	FT	
		08	1603		1744	No Flare Patrol														
0056	HOLL	08	1808	1851	1924	S24	W27	8404	12	6.7	76	1F		3	E			135		
0057	HOLL	08	1931	1936	1940	S23	W23	8404	12	7.0	9	SF		3	E			35		
0058	HOLL	08	1940	1944	1947	S23	W23	8404	12	7.0	7	SF		3	E			14		
0059	RAMY	08	1940	1940	1956	S14	E38	8405	12	11.7	16	SF		3	E			22		

H α SOLAR FLARES

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Dec 98

DECEMBER 1998

Grp #	Sta	Start Day (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)	
0060	RAMY	08 2012	2012	2044	N27	W75	8399	12	3.0	32	SF		3	E		12		
		08 2015		2109	No Flare Patrol													
0061	HOLL	08 2128	2144	2210	S14	E37	8405	12	11.7	42	SF		3	E		20		
0062	LEAR	08 2233	2236	2240	N29	W75	8395	12	3.0	7	SF		3	E		16		
		09 0019		0026	No Flare Patrol													
		09 0034		0042	No Flare Patrol													
0063	LEAR	09 0124	0126	0131	S14	E38	8405	12	11.9	7	SF		3	E		18		
0064	LEAR	09 0328	0330	0335	N23	W81	8395	12	2.9	7	SF		3	E		21		
0065	LEAR	09 0416	0416	0419	N28	W77	8395	12	3.1	3	SF		3	E		10		
0066	LEAR	09 0507	0508	0520	N17	W34	8402	12	6.6	13	SF		3	E		31		E
		09 0611		0649	No Flare Patrol													
		09 0654		0715	No Flare Patrol													
0067	KANZ	09 0803	0807	0815	N28	W75	8399	12	3.5	12	SF		2	C				
0068	LEAR	09 0815	0816	0836	S14	E30	8405	12	11.6	21	SF					46		E
	KANZ	09 0815	0819	0835	S14	E29	8405	12	11.5	20	SF		3	E		46		E
		09 0815	0819	0835	S14	E29	8405	12	11.5	20	SF		2	C				
0069	KANZ	09 0939	0939	0943	N27	W81	8399	12	3.1	4	SF		2	C				
0070	SVTO	09 1050	1056	1059	N28	W85	8399	12	2.8	9	SF		3	E		22		
	KANZ	09 1051	1051	1055	N27	W81	8399	12	3.1	4	SF		2	C		22		
0071	KANZ	09 1115	1123	1135	S21	W32	8404	12	7.0	20	SF		2	C				
0072	SVTO	09 1147	1147	1150	N33	W82	8399	12	3.0	3	SF		3	E		23		
	KANZ	09 1147	1147	1155	N29	W80	8399	12	3.2	8	SF		2	C		23		
0073	SVTO	09 1206	1211U	1227D	S15	E29	8405	12	11.7	21D	SF		3	E		19		F
		09 1408		1409	No Flare Patrol													
0074	HOLL	09 1536	1546	1603	N19	W40	8402	12	6.6	27	SF		3	E		64		F
		09 1629		1729	No Flare Patrol													
0075	HOLL	09 1737	1741	1843	S14	E26	8405	12	11.7	66	1N		3	E		148		
0076	HOLL	09 2210E	2217	2231	S19	E40	8406	12	13.0	21D	SF		3	E		37		
0077	LEAR	09 2220	2222	2230	S25	E48	8406	12	13.6	10	SF		2	E		22		E
		10 0033		0047	No Flare Patrol													
		10 0052		0138	No Flare Patrol													
0078	LEAR	10 0318	0323	0329	S16	E25	8405	12	12.0	11	SF		3	E		16		E
0079	SVTO	10 0805	0815	0820	S19	E34	8408	12	12.9	15	SF		3	E		12		
0080	SVTO	10 0821	0824	0826	S19	E34	8408	12	12.9	5	SF		3	E		13		
		10 1145		1308	No Flare Patrol													
0081	RAMY	10 1550	1556	1600	S23	W45	8404	12	7.2	10	SF		3	E		17		
0082	RAMY	10 1739	1742	1746	S24	W47	8404	12	7.1	7	SF		4	E		18		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement		Remarks	
															Time (UT)	Apparent (10-6 Disk)		Corr (Sq Deg)
0083	RAMY	10	1906	1909	1930	S15	E14	8405	12	11.8	24	SF		3	E	11		
			10 2110		2202	No Flare Patrol												
0084	LEAR	10	2348	2349	2353	S22	W51	8404	12	7.1	5	SF		3	E	27		
0085	LEAR	11	0324	0325	0330	S34	E40	8409	12	14.3	6	SF		3	E	16		
0086	LEAR	11	0325	0326	0331	S23	W54	8404	12	7.0	6	SF		3	E	16		
0087	LEAR	11	0333	0334	0343	S23	W54	8404	12	7.0	10	SF		3	E	19		
0088	LEAR	11	0429	0431	0448	S17	E07	8405	12	11.7	19	SF		3	E	48	F	
0089	LEAR	11	0542	0601	0614	S22	W55	8404	12	7.0	32	SF		3	E	46		
0090	LEAR	11	0719	0721	0723	S15	E05	8405	12	11.7	4	SF		3	E	11		
0091		11	09093	0917	0930	S14	E04	8405	12	11.7	21	SF				38	F	
	KANZ	11	0909	0917	0925	S14	E04	8405	12	11.7	16	SF		2	C			
	LEAR	11	0912	0917	0935	S15	E04	8405	12	11.7	23	SF		2	E	38	F	
0092	LEAR	11	0927	0927	0936	S21	E22	8408	12	13.1	9	SF		2	E	11	F	
0093	LEAR	11	0955	0956	0958	S19	E19	8408	12	12.9	3	SF		2	E	17		
			11 1035		1139	No Flare Patrol												
0094		11	1147E	1148U	1209	S18	E20	8408	12	13.0	22D	SF				34	F	
	RAMY	11	1147E	1148U	1203D	S17	E20	8408	12	13.0	16D	SF		2	E	34	F	
	KANZ	11	1157E	1157U	1209	S18	E20	8408	12	13.0	12D	SF		2	C			
0095	SVTO	11	1157E	1216U	1222D	S20	E20	8408	12	13.0	25D	SF		3	E	22	F	
0096		11	1653	1656	1706	S19	E16	8408	12	12.9	13	SF				30	F	
	RAMY	11	1653	1656	1706	S19	E16	8408	12	12.9	13	SF		3	E	29		
	HOLL	11	1653	1656	1707	S19	E15	8408	12	12.8	14	SF		3	E	32	F	
0097		11	16571	16571	1715	S30	E31	8409	12	14.1	18	SF				11		
	HOLL	11	1657	1657	1715	S30	E30	8409	12	14.1	18	SF		3	E	10		
	RAMY	11	1658	1658	1715	S29	E32	8409	12	14.2	17	SF		3	E	12		
0098		11	1729*	17475	1817	S18	E16	8408	12	12.9	48	SF				70	F	
	RAMY	11	1729	1752	1819	S19	E17	8408	12	13.0	50	SF		3	E	67	F	
	HOLL	11	1740	1747	1815	S18	E14	8408	12	12.8	35	SF		3	E	72	F	
0099		11	2009	2010	2016	S29	E30	8409	12	14.2	7	SF				19	F	
	HOLL	11	2009	2010	2015	S29	E29	8409	12	14.1	6	SF		3	E	15		
	RAMY	11	2009	2010	2018	S29	E31	8409	12	14.3	9	SF		3	E	23	F	
0100	LEAR	12	0205	0208	0216	S20	E13	8408	12	13.1	11	SF		3	E	20	H	
0101	LEAR	12	0237	0239	0245	S20	E12	8408	12	13.0	8	SF		3	E	20	H	
0102	LEAR	12	0246	0248	0255	S20	E12	8408	12	13.0	9	SF		3	E	17		
0103	LEAR	12	0353	0409	0415	S16	W09	8405	12	11.5	22	SF		3	E	27	H	
0104	LEAR	12	0418	0420	0425	S26	E20	8409	12	13.7	7	SF		3	E	21		
0105	LEAR	12	0425	0429	0439	S20	E12	8408	12	13.1	14	SF		3	E	37		
0106	LEAR	12	0511	0513	0519	S28	E21	8409	12	13.8	8	SF		3	E	41		
0107	LEAR	12	0611	0616	0622	S28	E20	8409	12	13.8	11	SF		3	E	10		
0108	LEAR	12	0626	0632	0636	S27	E20	8409	12	13.8	10	SF		3	E	16	E	
0109	LEAR	12	0701	0703	0710	S30	E62	8411	12	17.2	9	SF		3	E	15		

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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)			
0110	LEAR	12	0737	0738	0743	S26	E19	8409	12	13.8	6	SF		3	E		21				
0111		12	09425	09466	1005	S17	W11	8405	12	11.6	23	SF					75				
	KANZ	12	0942	0946	1006	S17	W10	8405	12	11.6	24	SF		2	C						
	LEAR	12	0947	0952	1004	S17	W12	8405	12	11.5	17	SF		2	E			75			
0112	LEAR	12	0943	0943	0946	S17	E07	8408	12	12.9	3	SF		2	E			11			
0113	KANZ	12	0946	0946	0950	S29	E25	8409	12	14.4	4	SF		2	C						
0114	RAMY	12	1250E	1250U	1254D	S29	E26	8409	12	14.6	40	SF		3	E			18			
0115	RAMY	12	1459	1500	1505D	S22	W74	8404	12	6.9	60	SF		3	E			24			
0116	RAMY	12	1603	1603	1613	S18	E04	8408	12	13.0	10	SF		3	E			11			
0117	HOLL	12	1920	1922	1927	S20	W69	8404	12	7.5	7	SF		3	E			37			
0118		12	23048	23111	2320	S20	W72	8404	12	7.4	16	SF						22			
	HOLL	12	2304	2311	2321	S19	W70	8404	12	7.6	17	SF		3	E			29			
	LEAR	12	2312	2312	2319	S22	W73	8404	12	7.3	7	SF		3	E			16			
0119		12	2325	23271	2340	S16	W18	8405	12	11.6	15	1F						112			
	LEAR	12	2325	2327	2341	S16	W18	8405	12	11.6	16	1F		3	E			101			
	HOLL	12	2325	2328	2339	S15	W18	8405	12	11.6	14	1F		3	E			123			
0120	LEAR	13	0149	0150	0153	S18	E01	8408	12	13.1	4	SF		3	E			18			
0121	LEAR	13	0153	0156	0159	S21	W80	8404	12	6.9	6	SF		3	E			99			
0122	LEAR	13	0155	0200	0206	S28	E16	8409	12	14.3	11	SF		3	E			23			
0123	LEAR	13	0432	0436	0450	S16	W04	8408	12	12.9	18	SF		3	E			44			
0124	LEAR	13	0711	0711	0719	S22	W85	8404	12	6.8	8	SF		3	E			90			
0125	SVTO	13	0946	0946	0950	S29	E49	8411	12	17.2	4	SF		3	E			12		F	
0126	SVTO	13	1032	1034	1057	S19	W04	8408	12	13.1	25	SF		3	E			50		EF	
0127	SVTO	13	1245	1246	1256	S19	W06	8408	12	13.1	11	SF		3	E			26			
0128	SVTO	13	1354	1358	1402	S19	W06	8408	12	13.1	8	SF		3	E			12			
0129	RAMY	13	1532E	1532U	1556D	S16	W10	8408	12	12.9	24D	SF		3	E			25			
0130	HOLL	13	1817	1821	1828	S16	W12	8408	12	12.8	11	SF		3	E			15		F	
0131	HOLL	13	2042	2049	2103	S18	W10	8408	12	13.1	21	SF		3	E			48			
0132		14	00072	0010	0020	S19	W12	8408	12	13.1	13	SB						86		0.9	D
	LEAR	14	0007	0010	0029	S19	W12	8408	12	13.1	22	SN		3	E			94			
	MITK	14	0009	0010	0011	S19	W12	8408	12	13.1	2	SB				0010		79		0.9	D
0133	LEAR	14	0152	0153	0201	S16	W14	8408	12	13.0	9	SF		3	E			31			
0134	LEAR	14	0358	0400	0407	S20	W15	8408	12	13.0	9	1F		3	E			100			
		14	0614		0704	No Flare Patrol															
0135		14	07349	07358	0742	S20	W17	8408	12	13.0	8	SF						14		F	
	SVTO	14	0734	0735	0739	S19	W17	8408	12	13.0	5	SF		3	E			16		F	
	LEAR	14	0743	0743	0746	S20	W17	8408	12	13.0	3	SF		3	E			12			
0136	SVTO	14	0847	0847	0854	S19	W16	8408	12	13.1	7	SF		3	E			12			
0137		14	0941	09431	1008	S18	W20	8408	12	12.9	27	SN						57		F	
	LEAR	14	0941	0943	1007	S18	W20	8408	12	12.9	26	SF		2	E			61		F	
	SVTO	14	0941	0944	1008	S19	W19	8408	12	12.9	27	SN		3	E			53		F	

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	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)	
			14 1115		1231		No Flare Patrol										
0138	RAMY	14	1425	1425	1430	S19	W20 8408	12 13.1	5	SF		3	E			11	
0139	HOLL	14	1654	1655	1703	S18	W24 8408	12 12.9	9	SF		3	E			11	F
			14 2148		2400		No Flare Patrol										
			15 0000		0023		No Flare Patrol										
			15 0052		0116		No Flare Patrol										
			15 0201		0204		No Flare Patrol										
			15 0508		0655		No Flare Patrol										
0140		15	07371	0738	0742	S18	W30 8408	12 13.0	5	SF						19	
	SVTO	15	0737	0738	0742	S17	W31 8408	12 13.0	5	SF		3	E			19	
	LEAR	15	0738	0738	0742	S20	W30 8408	12 13.0	4	SF		3	E			19	
0141		15	08253	08272	0834	S19	W30 8408	12 13.1	9	SF						12	F
	LEAR	15	0825	0829	0835	S20	W30 8408	12 13.0	10	SF		3	E			13	
	KANZ	15	0827	0827	0831	S19	W30 8408	12 13.1	4	SF		2	C				
	SVTO	15	0828	0828	0837	S19	W30 8408	12 13.1	9	SF		3	E			11	F
0142	SVTO	15	1052E	1052U	1055	S28	W15 8409	12 14.3	3D	SF		3	E			17	F
0143		15	1302	1306	1318	N24	E48	12 19.2	16	SF						44	F
	KANZ	15	1302	1306	1314	N24	E47	12 19.2	12	SF		2	C				
	SVTO	15	1309E	1310U	1323	N24	E49	12 19.3	14D	SF		3	E			44	F
0144		15	19255	19264	1940	S18	W38 8408	12 12.9	15	SF						42	
	HOLL	15	1925	1926	1934	S19	W37 8408	12 13.0	9	SF		3	E			38	
	RAMY	15	1930	1930	1945	S18	W38 8408	12 12.9	15	SF		3	E			45	
0145	RAMY	15	2040E	2041U	2049D	S18	W36 8408	12 13.1	9D	SF		2	E			14	
0146	LEAR	16	0133	0133	0141	N21	E21 8410	12 17.7	8	SF		3	E			20	F
0147	LEAR	16	0208	0209	0217	S19	W40 8408	12 13.0	9	SF		3	E			28	
0148		16	10453	1047	1057	S25	W32 8409	12 14.0	12	SN						52	
	SVTO	16	1045	1047	1057	S25	W33 8409	12 13.9	12	SF		3	E			52	
	KANZ	16	1048	1048U	1048D	S25	W32 8409	12 14.0	12D	SN		2	C				
0149	SVTO	16	1200	1203	1209	S28	W28 8409	12 14.3	9	SF		3	E			15	
0150	KANZ	16	1200	1204	1208	S27	W36 8406B	12 13.7	8	SF		2	C				
0151	KANZ	16	1241	1241	1253	N25	E35	12 19.2	12	SF		2	C				
0152		16	16122	16131	1632	S18	W50 8408	12 12.9	20	SF						16	
	RAMY	16	1612	1613	1630D	S18	W50 8408	12 12.9	18D	SF		3	E			16	
	HOLL	16	1614	1614	1632	S17	W50 8408	12 12.9	18	SF		3	E			16	
0153		16	1905	19082	1924	S28	W40 8409	12 13.7	19	SN						34	
	HOLL	16	1905	1908	1923	S28	W39 8409	12 13.7	18	SF		3	E			32	
	RAMY	16	1905	1910	1925	S28	W40 8409	12 13.7	20	SN		4	E			36	
0154	HOLL	16	2153	2201	2227	S18	W53 8408	12 12.9	34	1F		3	E			111	
0155	LEAR	17	0213	0216	0219	S16	W55 8408	12 12.9	6	SF		3	E			10	F
0156	LEAR	17	0226	0229	0241	S17	W54 8408	12 13.0	15	SF		3	E			74	
0157	SVTO	17	0742	0747	0812	S28	W38 8409	12 14.3	30	1B		3	E			141	
0158	LEAR	17	0743	0746	0804	S27	W46 8409	12 13.7	21	1N		3	E			116	
0159		17	1101	1101	1109	S28	W48 8409	12 13.7	8	SF						11	
	SVTO	17	1101	1101	1105	S28	W50 8409	12 13.5	4	SF		3	E			11	
	KANZ	17	1101	1101U	1113	S27	W47 8409	12 13.8	12	SF		2	C				

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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	Imp See	Obs Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0160		17	1125	1125U	1133	S28	W47	8409	12	13.8	8	SF						28	
	RAMY	17	1124E	1125U	1131D	S29	W47	8409	12	13.8	7D	SF		2	E			28	
	KANZ	17	1125	1125U	1133	S28	W47	8409	12	13.8	8	SF		2	C				
0161		17	1240	1241	1244	S30	W49	8409	12	13.7	4	SF						12	
	RAMY	17	1240	1241	1244	S30	W48	8409	12	13.7	4	SF		3	E			14	
	SVTO	17	1240	1241	1245	S29	W50	8409	12	13.6	5	SF		3	E			11	
0162	RAMY	17	1339	1344	1348	N19	E78	8415	12	23.5	9	SF		3	E			63	H
0163		17	1416	1416	1442	S27	W48	8409	12	13.8	26	SN						78	F
	HOLL	17	1415E	1415U	1442	S26	W45	8409	12	14.1	27D	SF		2	E			71	
	RAMY	17	1416	1416	1442	S28	W51	8409	12	13.6	26	SN		3	E			85	F
0164	RAMY	17	1425	1425	1428	N19	E78	8415	12	23.5	3	SF		3	E			14	
0165	RAMY	17	1459	1501	1504	S29	W50	8409	12	13.7	5	SF		3	E			18	
0166	RAMY	17	1548	1549	1551	S30	W46	8409	12	14.0	3	SF		3	E			26	
0167	HOLL	17	1716	1717	1722	N19	E79	8415	12	23.7	6	SF		3	E			24	
0168		17	1739I	1751	1802	N18	E73	8415	12	23.3	23	1N						114	
	HOLL	17	1739	1751	1802	N17	E70	8415	12	23.0	23	1F		3	E			119	
	RAMY	17	1740	1751	1759D	N19	E76	8415	12	23.5	19D	1N		3	E			109	
0169	HOLL	17	1808	1840	1911	S16	W66	8408	12	12.7	63	SF		3	E			62	
0170	HOLL	17	1812	1813	1828	S28	W53	8409	12	13.6	16	SF		3	E			31	
0171	HOLL	17	1841	1843	1849	N19	E75	8415	12	23.5	8	SF		3	E			30	
0172	HOLL	17	1900	1902	1914	N19	E75	8415	12	23.5	14	SF		3	E			26	
0173	HOLL	17	1956	1957	2005	N19	E75	8415	12	23.5	9	SF		3	E			47	
0174	HOLL	17	2043	2055	2102	N19	E73	8415	12	23.4	19	SF		3	E			43	
		17	2237		2245	No Flare Patrol													
0175	HOLL	17	2246	2246	2251	N19	E72	8415	12	23.4	5	SF		3	E			22	
0176		17	2253	2301	2315	N18	E72	8415	12	23.4	22	1F						130	
	HOLL	17	2253	2301	2315	N19	E71	8415	12	23.4	22	1F		3	E			123	
	LEAR	17	2254E	2302U	2315	N17	E72	8415	12	23.4	21D	1F		1	E			136	
0177	LEAR	18	0127	0127	0130	S31	W54	8409	12	13.8	3	SF		3	E			20	
0178	LEAR	18	0302	0305	0315	N18	E71	8415	12	23.5	13	SF		3	E			67	
0179	LEAR	18	0344	0346	0400	N18	E69	8415	12	23.4	16	SF		3	E			68	
0180	LEAR	18	0354	0357	0402	S27	W64	8406	12	13.2	8	SF		3	E			15	
0181	LEAR	18	0450	0453	0500	N19	E69	8415	12	23.5	10	SF		3	E			15	
0182	LEAR	18	0527	0527	0529	N18	E69	8415	12	23.5	2	SF		3	E			13	
0183		18	0748*	0751*	0804	N19	E70	8415	12	23.7	16	SF						24	F
	SVTO	18	0748	0751	0759	N19	E73	8415	12	23.9	11	SF		3	E			19	F
	LEAR	18	0805	0806	0810	N19	E67	8415	12	23.4	5	SF		3	E			28	
0184	SVTO	18	0804	0806	0812	N19	E69	8415	12	23.6	8	SF		3	E			21	
0185	KANZ	18	0923	0923	0932	N35	E44		12	21.9	9	SF		2	C				
0186		18	0937I	0939I	0944	N19	E67	8415	12	23.5	7	SF						28	
	LEAR	18	0937	0939	0943	N19	E68	8415	12	23.6	6	SF		3	E			28	
	KANZ	18	0940	0940	0944	N19	E66	8415	12	23.4	4	SF		2	C				

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/USAF			Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement		Remarks	
						Lat	CMD	Region						Mo	Day		Time (UT)
0187	18	0944	0945	0952	S30	W55	8409	12	14.1	8	SF			30		F	
	SVTO	18	0944	0945	0952	S30	W57	8409	12	13.9	8	SF	3	E	30		F
	KANZ	18	0944	0948	0952	S31	W53	8409	12	14.2	8	SF	2	C			
0188	18	1251	1252	1256	S28	W65	8409	12	13.4	5	SF			18		H	
	SVTO	18	1251	1252	1256	S28	W68	8409	12	13.2	5	SF	3	E	20		
	RAMY	18	1251	1253	1257	S29	W66	8409	12	13.4	6	SF	4	E	15		H
	KANZ	18	1252	1252	1256	S27	W62	8409	12	13.7	4	SF	2	C			
0189	SVTO	18	1333	1338	1342	N18	E67	8415	12	23.7	9	SF	3	E	17		
0190	18	1344	1345	1356	N18	E66	8415	12	23.6	12	SF			23		F	
	SVTO	18	1344	1345	1401	N18	E66	8415	12	23.6	17	SF	2	E	25		F
	RAMY	18	1346	1346	1350	N19	E67	8415	12	23.7	4	SF	4	E	21		
0191	18	1532	1535	1544	N20	E64	8415	12	23.5	12	SF			26			
	RAMY	18	1532	1535	1545	N20	E63	8415	12	23.5	13	SF	3	E	22		
	HOLL	18	1533	1535	1544	N19	E64	8415	12	23.5	11	SF	3	E	29		
0192	18	1601	1601*	1616	N19	E66	8415	12	23.7	15	SF			22			
	RAMY	18	1601	1601	1616	N19	E66	8415	12	23.7	15	SF	3	E	22		
	HOLL	18	1601	1611	1616	N19	E65	8415	12	23.6	15	SF	3	E	21		
0193	18	1714	1726	2000	N28	E34	8414	12	21.4	166	1F			165		U	
	RAMY	18	1714	1726	1951	N29	E33	8414	12	21.3	157	1F	3	E	167		U
	HOLL	18	1720	1726	2010	N28	E35	8414	12	21.4	170	1F	3	E	163		U
0194	18	1717	1720	1845	N20	E66	8415	12	23.8	88	2B			410		FHU	
	HOLL	18	1717	1722	1845	N19	E64	8415	12	23.6	88	2N	3	E	451		F
	RAMY	18	1718	1720	1755D	N21	E69	8415	12	24.0	37D	2B	3	E	368		UH
0195	18	2028	2029	2032	N20	E60	8415	12	23.4	4	SF			14			
	HOLL	18	2028	2029	2032	N20	E60	8415	12	23.4	4	SF	3	E	13		
	RAMY	18	2028	2029	2033	N19	E60	8415	12	23.4	5	SF	3	E	16		
0196	HOLL	18	2118	2119	2123	N20	E68	8415	12	24.1	5	SF	3	E	15		
0197	HOLL	18	2150	2151	2155	N20	E67	8415	12	24.0	5	SF	3	E	18		
0198	HOLL	18	2228	2232	2240	N20	E66	8415	12	24.0	12	SF	3	E	11		
0199	HOLL	18	2233	2235	2237	N23	W16	8410	12	17.7	4	SF	3	E	11		
0200	SVTO	19	0949	0950	0952	S27	W84	8406	12	12.9	3	SF	3	E	17		
0201	19	1004	1005	1010	S30	W72	8409	12	13.7	6	SF			26			
	SVTO	19	1004	1005	1009	S30	W75	8409	12	13.5	5	SF	3	E	26		
	KANZ	19	1006	1006	1010	S30	W69	8409	12	14.0	4	SF	2	C			
0202	KANZ	19	1056	1056	1100	S28	W74	8409	12	13.7	4	SF	2	C			
0203	19	1425	1428	1454D	N20	E54	8415	12	23.7	29D	SF			32			
	SVTO	19	1425	1428	1428D	N19	E54	8415	12	23.7	3D	SF	3	E	24		
	RAMY	19	1426E	1440U	1454D	N20	E55	8415	12	23.8	28D	SF	3	E	40		
		19	1533		1558	No Flare Patrol											
		19	1654		1827	No Flare Patrol											
0204	19	1835	1835	1838	N19	E57	8415	12	24.1	3	SF	3	E	17			
		19	1923		2014	No Flare Patrol											
		19	2027		2203	No Flare Patrol											
0205	LEAR	19	2315	2325	2332	N20	E50	8415	12	23.8	17	SF	3	E	21		
0206	LEAR	20	0415	0417	0439	N24	W33	8410	12	17.6	24	SF	3	E	25		
0207	LEAR	20	0442	0447	0454	N24	W33	8410	12	17.6	12	SF	3	E	17		

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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)		
0208	LEAR	20	0511	0525	0535	N20	E44	8415	12	23.6	24	SF		3	E		14			
0209	LEAR	20	0557	0557	0607	N18	E44	8415	12	23.6	10	SF		4	E		16		F	
0210		20	08463	08581	0916	N20	E46	8415	12	23.9	30	1N					128			
	SVTO	20	0846	0858	0921D	N20	E45	8415	12	23.8	35D	1N		3	E		151			
	LEAR	20	0849	0859	0916	N21	E46	8415	12	23.9	27	1N		3	E		105			
		20	1108		1314	No Flare Patrol														
		20	1321		1330	No Flare Patrol														
		20	1336		1340	No Flare Patrol														
		20	1509		1531	No Flare Patrol														
0211	RAMY	20	1854	1854	1857	N18	E73	8416	12	26.3	3	SF		3	E		11			
0212		20	20271	2028	2034	N19	E86	8416	12	27.4	7	SF					24			
	RAMY	20	2027	2028	2036	N18	E83	8416	12	27.2	9	SF		3	E		23			
	HOLL	20	2028	2028	2033	N20	E89	8416	12	27.7	5	SF		3	E		25			
0213	HOLL	20	2157	2158	2204	N20	E89	8416	12	27.7	7	SF		3	E		34			
0214	VORO	21	0131	0140	0159	N24	W75		12	15.3	28	SF		3	C	0140	54	0.1		
		21	1048		1251	No Flare Patrol														
		21	1300		1325	No Flare Patrol														
0215	RAMY	21	1333	1333	1343	N19	E63	8416	12	26.4	10	SF		3	E		37			
		21	1356		1359	No Flare Patrol														
0216	RAMY	21	1533	1543	1552	N20	E61	8416	12	26.3	19	SF		3	E		17			
0217	RAMY	21	1621	1624	1626	N20	E61	8416	12	26.3	5	SF		3	E		10			
		21	1812		1929	No Flare Patrol														
0218	RAMY	21	1836E	1837U	1850D	N20	E62	8416	12	26.5	14D	SF		2	E		28			
		21	1941		1951	No Flare Patrol														
0219	HOLL	21	1942E	1942U	2015D	N21	E26	8415	12	23.8	33D	SF		3	E		32			
		21	2052		2114	No Flare Patrol														
0220	RAMY	21	2123E	2125U	2127D	N18	E20	8415	12	23.4	4D	SF		2	E		12			
		21	2143		2236	No Flare Patrol														
		21	2320		2322	No Flare Patrol														
0221	LEAR	22	0912	0915	0920	N16	E48	8416	12	26.0	8	SF		3	E		14		F	
		22	1051		1117	No Flare Patrol														
		22	1147		1207	No Flare Patrol														
		22	1225		1229	No Flare Patrol														
		22	1250		1301	No Flare Patrol														
		22	1315		1322	No Flare Patrol														
0222		22	15321	1533	1537	N18	E11	8415	12	23.5	5	SF					20			
	RAMY	22	1532	1533	1538	N18	E11	8415	12	23.5	6	SF		3	E		27			
	HOLL	22	1533	1533	1536	N19	E11	8415	12	23.5	3	SF		3	E		14			
0223	RAMY	22	1825	1834	1843	N19	E58	8416	12	27.2	18	SF		3	E		22			
0224		22	2046*	2114	2119	N18	E09	8415	12	23.5	33	SN					37			
	RAMY	22	2046	2111U	2120D	N18	E08	8415	12	23.5	34D	SN		2	E		42			
	HOLL	22	2111	2114	2119	N19	E10	8415	12	23.6	8	SF		3	E		32			
0225	HOLL	22	2048	2050	2106	N19	E08	8415	12	23.5	18	SF		3	E		42			

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0226	LEAR	23	0230	0231	0252	N26	W23	8414	12	21.3	22	SF		3	E		28		F
0227	LEAR	23	0308	0309	0314	N26	W23	8414	12	21.3	6	SF		3	E		19		F
0228	KANZ	23	1034	1034	1042	N18	E43	8416	12	26.7	8	SF		2	C				
		23	1359		1417	No Flare Patrol													
		23	1440		1451	No Flare Patrol													
		23	1509		1514	No Flare Patrol													
		23	1601		1617	No Flare Patrol													
		23	1642		1658	No Flare Patrol													
0229	HOLL	23	1800	1800	1813	N28	E86	8421	12	30.5	13	SF		3	E		21		
		23	1805		1813	No Flare Patrol													
0230	RAMY	23	1812E	1812U	1841D	N19	E36	8416	12	26.5	29D	SF		2	E		28		FS
		23	1914		1933	No Flare Patrol													
0231	RAMY	23	2000	2002	2007	N26	E30	8419	12	26.2	7	SF		3	E		20		H
		23	2126		2207	No Flare Patrol													
0232	LEAR	24	0122	0126	0156	N19	E32	8416	12	26.5	34	SF		3	E		73		F
0233	LEAR	24	0437	0441	0444	N17	E31	8416	12	26.5	7	SF		4	E		13		
0234	LEAR	24	0813	0822	0831	N17	E29	8416	12	26.5	18	SF		4	E		17		
0235	LEAR	24	0820	0823	0826	N28	E73	8421	12	30.0	6	SF		4	E		14		
		24	1132		1136	No Flare Patrol													
0236		24	1140	1147U	1229D	N28	E76	8421	12	30.4	49D	SF					68		
	SVTO	24	1140	1148U	1229D	N29	E79	8421	12	30.7	49D	SF		3	E		68		
	RAMY	24	1143E	1147U	1213D	N28	E73	8421	12	30.2	30D	SF		3	E		69		
		24	1217		1231	No Flare Patrol													
		24	1245		1339	No Flare Patrol													
		24	1347		1359	No Flare Patrol													
0237		24	1904	1910	1924	N17	E22	8416	12	26.5	20	SF					32		
	HOLL	24	1904	1910	1922	N17	E22	8416	12	26.5	18	SF		3	E		26		
	RAMY	24	1911E	1911U	1925	N17	E22	8416	12	26.5	14D	SF		3	E		39		
0238	HOLL	24	2048	2122	2216	N28	E62	8421	12	29.7	88	1F		3	E		166		
0239	LEAR	25	0031	0031	0040	N28	E60	8421	12	29.7	9	SF		3	E		13		
0240	LEAR	25	0541	0541	0546	N29	E58	8421	12	29.8	5	SF		3	E		17		
0241	LEAR	25	0614	0630	0705	N30	E66	8421	12	30.4	51	SF		3	E		70		
		25	1046		1105	No Flare Patrol													
		25	1127		1235	No Flare Patrol													
0242	HOLL	25	1803	1804	1809	N30	E58	8421	12	30.3	6	SF		3	E		14		
0243	RAMY	25	1833	1833	1836	N25	E01	8419	12	25.8	3	SF		3	E		13		
0244	HOLL	25	2005	2006	2013	N29	E57	8421	12	30.3	8	SF		3	E		15		
0245	HOLL	25	2050	2051	2058	N29	E59	8421	12	30.5	8	SF		3	E		26		
0246	LEAR	26	0137	0137	0149	N29	E56	8421	12	30.4	12	SF		3	E		15		E
0247	LEAR	26	0337	0337	0341	N29	E54	8421	12	30.4	4	SF		4	E		14		

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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)	
0248	LEAR	26	0510	0511	0520	N28	E52	8421	12	30.3	10	SF		4	E		41		E
0249	LEAR	26	0558	0558	0602	S21	E64	8422	12	31.1	4	SF		4	E		38		
0250	LEAR	26	0922	0924	0929	N27	E53	8421	12	30.5	7	SF		3	E		22		F
0251	KANZ	26	1217	1217	1221	N27	E41	8421	12	29.7	4	SF		2	C				
0252		26	1447	1456	1550	N26	E47	8421	12	30.3	63	1F					88		EF
	RAMY	26	1447	1457	1559	N25	E46	8421	12	30.2	72	1F		3	E		102		FE
	HOLL	26	1449	1456	1541	N27	E48	8421	12	30.3	52	SF		3	E		74		F
0253	HOLL	26	1619	1619	1623	N32	E53	8421	12	30.9	4	SF		3	E		17		F
0254		26	1628	1634	1648	N26	W08	8419	12	26.1	20	SF					34		
	HOLL	26	1628	1634	1645	N27	W08	8419	12	26.1	17	SF		3	E		19		
	RAMY	26	1634	1635	1652	N26	W08	8419	12	26.1	18	SF		3	E		49		
0255	RAMY	26	1634	1635	1639	N26	E42	8421	12	29.9	5	SF		3	E		11		
0256	RAMY	26	1705	1710	1716	N28	E44	8421	12	30.1	11	SF		3	E		15		
0257		26	1711	1713	1717	N20	W36	8415	12	24.0	6	SF					22		
	RAMY	26	1711	1713	1718	N20	W36	8415	12	24.0	7	SF		3	E		28		
	HOLL	26	1712	1713	1716	N21	W36	8415	12	23.9	4	SF		3	E		17		
0258	RAMY	26	1721	1721	1727	N21	W09	8416	12	26.0	6	SF		3	E		13		
0259		26	1823	1825	1854	N26	W10	8419	12	26.0	31	SF					52		
	HOLL	26	1823	1827	1853	N26	W10	8419	12	26.0	30	SF		3	E		61		
	RAMY	26	1824	1825	1854	N25	W09	8419	12	26.1	30	SF		3	E		42		
0260		26	1920	1920	1930	N28	E47	8421	12	30.5	10	SF					14		
	RAMY	26	1920	1920	1931	N27	E47	8421	12	30.5	11	SF		3	E		10		
	HOLL	26	1921	1924	1930	N28	E47	8421	12	30.5	9	SF		3	E		18		
0261		26	1935	1939	1950	N28	E46	8421	12	30.4	15	SF					20		
	RAMY	26	1935	1939	1952	N27	E46	8421	12	30.4	17	SF		3	E		21		
	HOLL	26	1936	1940	1948	N28	E46	8421	12	30.4	12	SF		3	E		20		
0262	RAMY	26	2030	2030	2033	N18	W39	8415	12	23.9	3	SF		3	E		10		
0263		26	2031	2037	2119	N26	W10	8419	12	26.1	48	SF					46		
	HOLL	26	2031	2040	2119	N27	W10	8419	12	26.1	48	SF		3	E		40		
	RAMY	26	2033	2037	2102D	N25	W10	8419	12	26.1	29D	SF		3	E		51		
		26	2156		2220	No Flare Patrol													
0264	LEAR	26	2338	2344	2403	N26	W11	8419	12	26.1	25	SF		4	E		67		F
0265	LEAR	27	0117	0117	0124	N26	W11	8419	12	26.2	7	SF		4	E		33		F
0266	LEAR	27	0131	0134	0140	N26	W14	8419	12	26.0	9	SF		4	E		31		E
0267	LEAR	27	0310	0312	0322	N26	E37	8421	12	30.0	12	SF		4	E		59		EF
0268	LEAR	27	0420	0421	0430	N26	W15	8419	12	26.0	10	SF		4	E		15		E
0269	LEAR	27	0459	0507	0510	N28	E37	8421	12	30.1	11	SF		4	E		15		F
0270	LEAR	27	0522	0524	0527	N28	E37	8421	12	30.1	5	SF		4	E		15		F
0271	LEAR	27	0555	0556	0601	N28	E37	8421	12	30.1	6	SF		4	E		25		F
0272	LEAR	27	0650	0652	0700	N26	E38	8421	12	30.2	10	SF		4	E		15		
0273		27	0916	0917	0932	N26	E36	8421	12	30.2	16	SF					22		EF
	LEAR	27	0916	0920	0936	N28	E35	8421	12	30.1	20	SF		4	E		22		FE
	KANZ	27	0917	0917	0929	N25	E36	8421	12	30.2	12	SF		2	C				

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Grp #	Sta	Start Day (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)	
0274	RAMY	27 1542	1542	1546	S24	E39	8422	12 30.7	4	SF		3	E		12		
0275	RAMY	27 1759	1801U	1805D	N15	W90		12 20.9	6D	SF		3	E		38		
0276	RAMY	27 1808	1810	1815	S25	E38	8422	12 30.7	7	SF		3	E		25		S
		27 1819		1845	No Flare Patrol												
0277	HOLL	27 2015	2018	2033	N30	E33	8421	12 30.4	18	SF		3	E		47		
0278	HOLL	27 2153	2153	2157	N21	W19	8416	12 26.4	4	SF		3	E		21		
0279	LEAR	27 2340	2342	2346	N21	W30	8423	12 25.7	6	SF		3	E		19		
0280	LEAR	27 2355	2358	2419	N18	W19	8416	12 26.5	24	SF		3	E		41		
0281	LEAR	28 0047	0054	0103	N25	W24	8419	12 26.2	16	SF		3	E		11		
0282	LEAR	28 0056	0059	0101	N27	E25	8421	12 30.0	5	SF		3	E		11		F
0283	VORO	28 0151E	0153	0158	N26	W25	8419	12 26.1	7D	SN		3	C	0153	36		
0284	LEAR	28 0233	0317	0328	N25	W26	8419	12 26.1	55	SF		3	E		20		
0285	LEAR	28 0357	0403	0438	N25	W26	8419	12 26.1	41	SF		4	E		21		F
0286	LEAR	28 0446	0506	0520	N25	W27	8419	12 26.1	34	SF		4	E		17		
0287	LEAR	28 0516	0521	0633	N28	E26	8421	12 30.2	77	SF		4	E		62		EH
0288	LEAR	28 0635	0637	0640	N27	E24	8421	12 30.1	5	SF		4	E		11		
0289	LEAR	28 0536	0548	0623	N25	W27	8419	12 26.1	47	1B		4	E		118		EZ
0290	LEAR	28 0547	0547	0620	N22	W27	8416	12 26.2	33	SF		4	E		69		E
0291	LEAR	28 0618	0626	0659	S22	E31	8422	12 30.6	41	SF		4	E		65		E
0292		28 08424	08451	0850	N24	W30	8419	12 26.0	8	SF					22		F
	SVTO	28 0842	0845	0851	N24	W30	8419	12 26.0	9	SF		3	E		24		F
	LEAR	28 0843	0845	0850	N24	W30	8419	12 26.0	7	SF		4	E		21		
	KANZ	28 0846	0846	0850	N24	W30	8419	12 26.0	4	SF		2	C				
0293		28 0934*	09371	0950	N24	W31	8419	12 26.0	16	SF					24		E
	KANZ	28 0934	0938	0950	N25	W32	8419	12 25.9	16	SF		2	C				
	LEAR	28 0935	0937	0949	N25	W32	8419	12 25.9	14	SF		3	E		13		E
	SVTO	28 0949	0950U	0955D	N23	W29	8419	12 26.2	6D	SF		3	E		35		
0294		28 10211	1030	1039	N25	W32	8419	12 25.9	18	SF					24		F
	SVTO	28 1021	1030	1040	N25	W30	8419	12 26.1	19	SF		3	E		24		F
	KANZ	28 1022	1030	1038	N25	W34	8419	12 25.8	16	SF		2	C				
0295	KANZ	28 1106	1106	1110	N24	W31	8423	12 26.1	4	SF		2	C				
0296		28 1150	11571	1218	N26	W34	8419	12 25.8	28	1F					75		
	RAMY	28 1149E	1157	1221	N26	W35	8419	12 25.8	32D	SF		3	E		75		
	KANZ	28 1150	1158	1214	N25	W34	8419	12 25.8	24	1F		2	C				
0297	SVTO	28 1312	1313	1315	N24	W33	8419	12 26.0	3	SF		3	E		13		F
0298	SVTO	28 1359	1402U	1406D	N26	E21	8421	12 30.2	7D	SF		3	E		19		
		28 1406		1513	No Flare Patrol												
0299	RAMY	28 1515	1517	1539	S20	E27	8422	12 30.7	24	SF		3	E		31		
0300	RAMY	28 1525	1527	1544	N27	E17	8421	12 30.0	19	SF		3	E		40		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0301		28	17151	1718	1743	N24	W34	8419	12	26.1	28	1N				110		FH
	RAMY	28	1715	1718	1741D	N23	W34	8419	12	26.1	26D	1N	3	E		106		H
	HOLL	28	1716	1718	1743	N24	W34	8419	12	26.1	27	1F	3	E		115		F
		28	1737		1742	No Flare Patrol												
		28	1802		1809	No Flare Patrol												
0302		28	18114	18132	1828	N24	W34	8419	12	26.1	17	SF				29		
	HOLL	28	1811	1813	1833	N25	W33	8419	12	26.2	22	SF	3	E		26		
	RAMY	28	1815	1815	1823	N24	W34	8419	12	26.1	8	SF	3	E		32		
		28	1856		1859	No Flare Patrol												
		28	1911		1930	No Flare Patrol												
0303	HOLL	28	2149	2150	2155	N26	E13	8421	12	29.9	6	SF	3	E		22		
0304	HOLL	28	2211	2214	2224	N26	W41	8419	12	25.7	13	SF	3	E		24		
0305		28	2235*	23235	2435	N26	E13	8421	12	29.9	120	1F				157		
	HOLL	28	2235	2328	2356D	N26	E12	8421	12	29.9	81D	1F	3	E		175		
	LEAR	28	2301	2323	2435	N27	E14	8421	12	30.0	94	1F	3	E		139		
0306	HOLL	28	2324	2335	2356D	N24	W36	8419	12	26.2	32D	1F	3	E		148		
0307	LEAR	29	0044	0044	0048	N27	E14	8421	12	30.1	4	SF	3	E		25		
0308	LEAR	29	0059	0102	0105	N27	E14	8421	12	30.1	6	SF	3	E		15		
0309	LEAR	29	0120	0124	0133	N24	E11	8421	12	29.9	13	SF	3	E		23		
0310	LEAR	29	0218	0221	0223	N25	W38	8419	12	26.1	5	SF	3	E		20		F
0311	LEAR	29	0231	0233	0236	N25	E09	8421	12	29.8	5	SF	3	E		11		F
0312	LEAR	29	0552	0552	0607	N27	W42	8419	12	26.0	15	SF	4	E		17		
0313	LEAR	29	0552	0554	0600	N24	E07	8421	12	29.8	8	SF	4	E		24		E
0314	LEAR	29	0601	0605	0607	N24	E07	8421	12	29.8	6	SF	4	E		15		
0315	LEAR	29	0608	0610	0613	N25	E09	8421	12	29.9	5	SF	4	E		16		
0316	LEAR	29	0619	0624	0627	N26	E10	8421	12	30.0	8	SF	4	E		17		E
0317		29	07412	0743	0751	N26	E10	8421	12	30.1	10	SF				27		EF
	LEAR	29	0741	0743	0751	N26	E10	8421	12	30.1	10	SF	4	E		28		E
	SVTO	29	0741	0743	0752	N26	E10	8421	12	30.1	11	SF	3	E		26		F
	KANZ	29	0743	0743	0751	N26	E10	8421	12	30.1	8	SF	2	C				
0318		29	08341	08381	0848	N25	W42	8419	12	26.1	14	SF				29		
	SVTO	29	0834	0838	0852	N26	W43	8419	12	26.0	18	SF	3	E		29		
	KANZ	29	0835	0839	0843	N24	W40	8419	12	26.3	8	SF	2	C				
0319	SVTO	29	0855	0904	0911	N27	W45	8419	12	25.9	16	SF	3	E		18		
0320	LEAR	29	0926	0929	1006	N27	E13	8421	12	30.4	40	SF	2	E		51		
0321		29	0828*	09363	1031	N26	E02	8421	12	29.5	123	SF				99		F
	SVTO	29	0828	0939	1042	N24	E05	8421	12	29.7	134	SF	3	E		99		F
	KANZ	29	0927	0936	1020	N27	W01	8421	12	29.3	53	SF	2	C				
0322		29	10102	10122	1017	N26	W41	8419	12	26.2	7	SF				28		E
	SVTO	29	1010	1014	1018	N26	W41	8419	12	26.2	8	SF	3	E		30		
	KANZ	29	1012	1012	1016	N26	W40	8419	12	26.3	4	SF	2	C				
	LEAR	29	1012	1014	1017	N25	W41	8419	12	26.2	5	SF	2	E		25		E
0323	KANZ	29	1012	1016	1024	N25	W11	8420	12	28.6	12	SF	2	C				
0324	LEAR	29	1006	1010	1013	N27	E09	8421	12	30.1	7	SF	2	E		32		

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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)	
0325	LEAR	29	1014	1016	1018	N28	E11	8421	12 30.3	4	SF	2 E		16		
0326	SVTO	29	1056	1109	1119D	N24	E04	8421	12 29.8	230	SF	3 E		15		
0327	29	11071	1112	1132	S20	E16	8422	12 30.7	25	SF				38		F
	SVTO	29	1107	1113U	1142D	S20	E17	8422	12 30.8	35D	SF	3 E		38		F
	KANZ	29	1108	1112	1132	S20	E16	8422	12 30.7	24	SF	2 C				
0328	SVTO	29	1210	1216	1219	N24	E07	8421	12 30.0	9	SF	3 E		11		
0329	29	1222*	12311	1248	N24	E06	8421	12 30.0	26	SF				55		
	SVTO	29	1222	1231	1300	N24	E06	8421	12 30.0	38	SF	3 E		55		
	KANZ	29	1232	1232	1236	N23	E07	8421	12 30.1	4	SF	2 C				
0330	29	1304	13041	1312	N24	E04	8421	12 29.8	8	SF				83		
	SVTO	29	1303E	1305	1331D	N24	E06	8421	12 30.0	28D	SF	3 E		83		
	KANZ	29	1304	1304	1312	N24	E03	8421	12 29.8	8	SF	2 C				
		29	1400		1420	No Flare Patrol										
0331	HOLL	29	1509	1509	1515	N27	E08	8421	12 30.2	6	SF	2 E		13		
0332	HOLL	29	1518	1552	1641	N27	E06	8421	12 30.1	83	SF	3 E		63		
0333	HOLL	29	1647	1719	1736	N25	E01	8421	12 29.8	49	SF	3 E		35		
0334	HOLL	29	1824	1824	1836	N27	E05	8421	12 30.1	12	SF	3 E		36		
0335	HOLL	29	1952	2028	2042	N25	E01	8421	12 29.9	50	SF	3 E		38		
0336	HOLL	29	2059	2118	2129	N27	E02	8421	12 30.0	30	SF	3 E		44		
0337	HOLL	29	2231	2232	2237	N29	E04	8421	12 30.2	6	SF	3 E		20		
0338	HOLL	29	2255	2257	2304	N28	E06	8421	12 30.4	9	SF	3 E		42		
0339	LEAR	29	2329	2331	2333	N26	E00	8421	12 30.0	4	SF	3 E		23		
0340	LEAR	30	0138	0138	0145	N27	E01	8421	12 30.1	7	SF	3 E		13		
0341	LEAR	30	0149	0150	0155	N24	W06	8421	12 29.6	6	SF	3 E		24		
0342	LEAR	30	0238	0240	0245	N27	W01	8421	12 30.0	7	SF	3 E		24		
0343	LEAR	30	0528	0530	0532	N27	W01	8421	12 30.1	4	SF	3 E		22		
0344	LEAR	30	0532	0539	0630	N28	E03	8421	12 30.5	58	SF	3 E		97		EF
0345	30	07464	07501	0755	N27	W03	8421	12 30.1	9	SF				38		F
	KANZ	30	0746	0750	0754	N27	W03	8421	12 30.1	8	SF	2 C				
	LEAR	30	0750	0751	0754	N26	W03	8421	12 30.1	4	SF	3 E		39		
	SVTO	30	0750	0751	0756	N27	W02	8421	12 30.2	6	SF	3 E		37		F
0346	KANZ	30	0758	0758	0802	N24	W56	8423	12 26.0	4	SF	2 C				
0347	30	08244	0829	0834	N27	W02	8421	12 30.2	10	SF				17		
	SVTO	30	0824	0829	0838	N27	W02	8421	12 30.2	14	SF	3 E		24		
	LEAR	30	0828	0829	0831	N27	W03	8421	12 30.1	3	SF	3 E		10		
0348	LEAR	30	0940	0940	0944	N27	W04	8421	12 30.1	4	SF	2 E		22		
0349	LEAR	30	1016	1017	1020	N27	W04	8421	12 30.1	4	SF	2 E		20		
0350	KANZ	30	1102	1106	1110	N23	W58	8423	12 26.0	8	SF	2 C				
0351	30	1218	12251	1257	N28	W04	8421	12 30.2	39	SF				29		
	RAMY	30	1218	1225	1256	N27	W05	8421	12 30.1	38	SF	3 E		29		
	KANZ	30	1218	1226	1258	N28	W02	8421	12 30.3	40	SF	2 C				

H α SOLAR FLARES

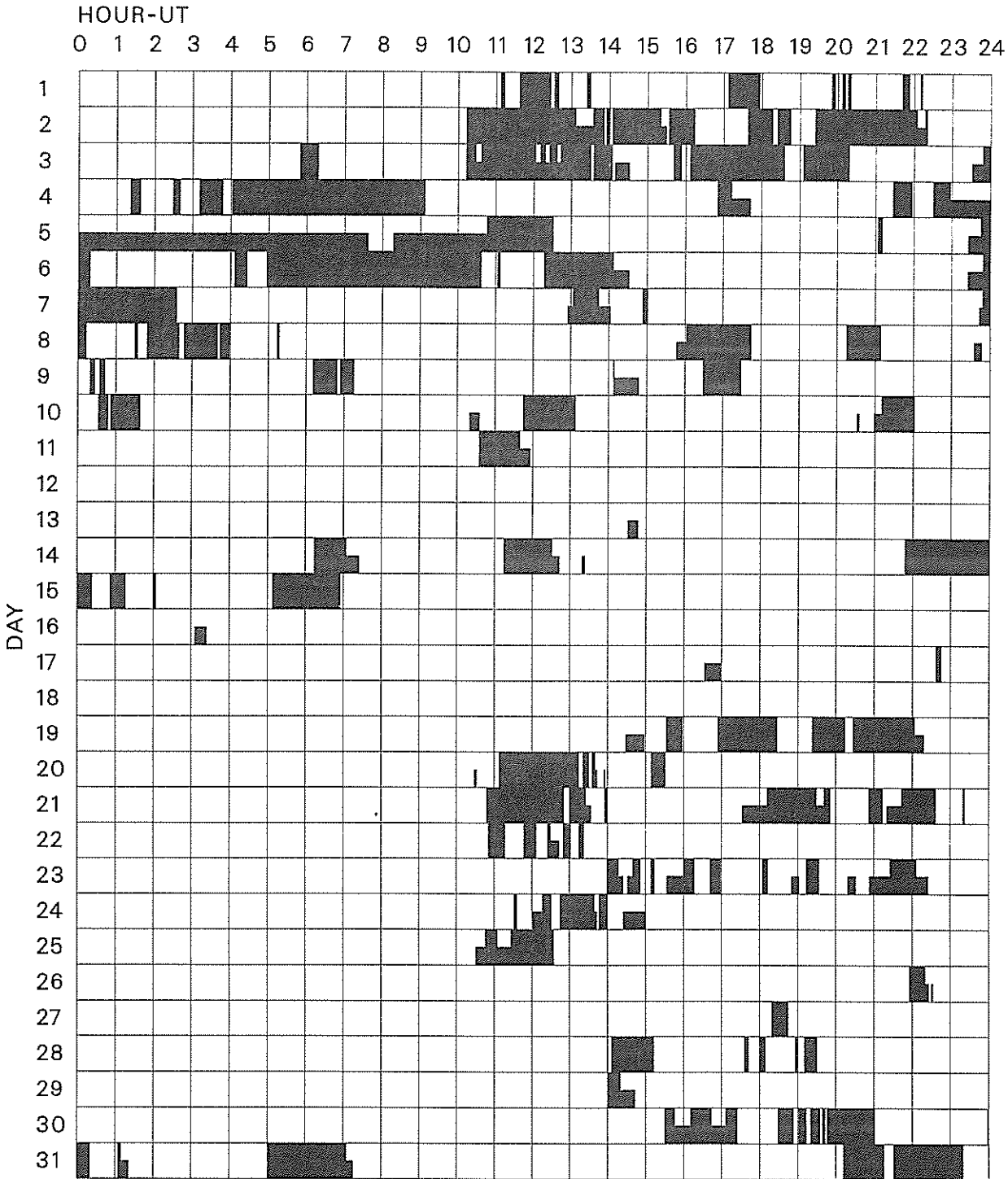
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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0352	RAMY	30	1507	1508	1512	N24	W12	8421	12	29.7	5	SF		3	E			17	
0353	RAMY	30	1515	1520	1547D	N24	W10	8421	12	29.9	32D	SF		3	E			24	
		30	1531		1546														No Flare Patrol
		30	1612		1644														No Flare Patrol
		30	1707		1725														No Flare Patrol
0354		30	1807	1807	1856	N27	W08	8421	12	30.1	49	SF						32	F
	HOLL	30	1807	1807	1856	N28	W06	8421	12	30.3	49	SF		3	E			23	F
	RAMY	30	1807E	1808U	1809D	N26	W11	8421	12	29.9	2D	SF		3	E			42	F
		30	1829		1853														No Flare Patrol
		30	1902		1913														No Flare Patrol
		30	1920		1935														No Flare Patrol
		30	1939		1943														No Flare Patrol
		30	1947		2101														No Flare Patrol
0355	HOLL	30	2058	2100	2102	N26	W12	8421	12	29.9	4	SF		3	E			10	
		30	2358		2400														No Flare Patrol
		31	0000		0020														No Flare Patrol
0356	LEAR	31	0054	0055	0104D	N27	W12	8421	12	30.1	10D	1F		3	E			125	
		31	0105		0109														No Flare Patrol
0357	LEAR	31	0132	0138	0148	N27	W12	8421	12	30.1	16	SF		3	E			25	
0358	LEAR	31	0412E	0414U	0416D	N28	W11	8421	12	30.3	4D	SF		3	E			72	
		31	0502		0705														No Flare Patrol
0359	SVTO	31	0719	0719	0725	N25	W19	8421	12	29.8	6	SF		2	E			17	F
0360		31	08322	08391	0852	N27	W19	8421	12	29.9	20	SF						73	F
	KANZ	31	0832	0840	0852	N27	W17	8421	12	30.0	20	SF		2	C				
	SVTO	31	0834	0839	0849D	N27	W21	8421	12	29.7	15D	SF		3	E			73	F
0361	LEAR	31	0936	0939	0944	N27	W16	8421	12	30.1	8	SF		2	E			13	F
0362		31	09491	09491	1005	N26	W21	8421	12	29.8	16	SF						20	
	SVTO	31	0949	0949	1006	N28	W22	8421	12	29.7	17	SF		3	E			21	
	LEAR	31	0949	0950	1003	N25	W21	8421	12	29.8	14	SF		2	E			19	
	KANZ	31	0950	0950	1006	N24	W21	8421	12	29.8	16	SF		2	C				
0363	LEAR	31	1015	1015	1019	N27	W17	8421	12	30.1	4	SF		2	E			17	
0364		31	11531	11571	1202	N26	W23	8421	12	29.7	9	SF						12	
	SVTO	31	1153	1157	1201	N27	W24	8421	12	29.6	8	SF		3	E			12	
	KANZ	31	1154	1158	1202	N24	W22	8421	12	29.8	8	SF		2	C				
0365	KANZ	31	1258	1314	1334	N30	W15	8421	12	30.4	36	SF		2	C				
0366	RAMY	31	1633	1633	1650	N29	W21	8421	12	30.0	17	SF		3	E			13	
0367	RAMY	31	1756	1757	1802	N27	W32	8421	12	29.2	6	SF		3	E			19	
		31	2012		2115														No Flare Patrol
		31	2131		2320														No Flare Patrol

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

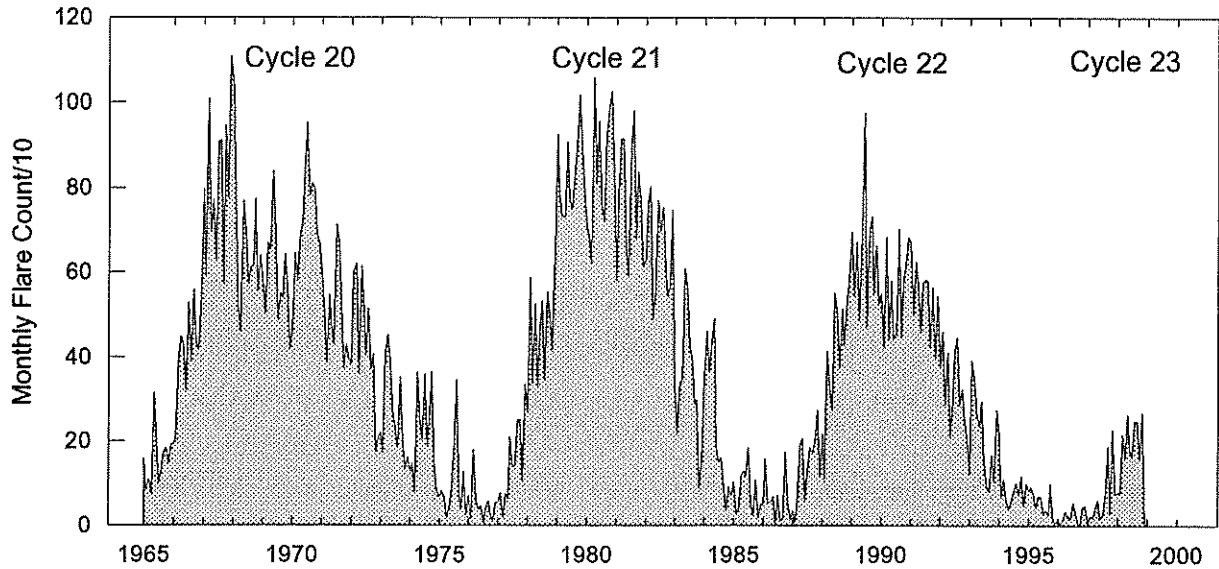
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Times of no flare patrol, shown here as shades areas, combine reports from the stations listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind (neither visual or cinematographic): portions of a panel with only the bottom half shaded mark times of only visual patrol.

Holloman	Kanzelhoehe	Mitaka	San Vito
Hurbanovo	Learmonth	Ramey	

Monthly Counts of Grouped Solar Flares Jan 1965 - Dec 1998



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	158	85	110	74	315	231	99	127	173	184	150	193	1899
1966	194	205	390	449	429	323	528	391	558	432	417	543	4859
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	172	198	273	114	1627
1988	217	109	413	328	274	551	502	375	513	429	518	587	4816
1989	695	544	672	488	691	977	474	699	733	547	665	526	7711
1990	550	424	684	442	580	445	454	703	449	574	623	682	6610
1991	672	503	625	570	458	574	582	581	425	565	396	544	6495
1992	380	462	287	412	214	271	413	447	287	325	248	206	3952
1993	123	392	357	262	237	296	154	92	82	167	104	275	2541
1994	217	67	111	60	40	56	81	101	72	117	45	99	1066
1995	82	95	77	42	69	66	29	37	23	99	14	6	639
1996	14	3	15	34	21	16	54	31	3	0	44	45	280
1997	8	22	18	43	59	18	26	75	188	31	228	74	790
1998	78	76	216	161	264	177	164	248	249	155	268	367	2423

The term 'grouped' means observations of the same event by different sites were lumped together and counted as one.

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

DECEMBER 1998

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 ⁻²² W/m ² Hz)	Mean		
01	127	TORN	44 NS	0820.0E		340.0D		4.0		V=2?,DISTURBED
	204	IZMI	41 F	1119.1	1119.2	0.6	44.0			
	6700	CUBA	21 GRF	1759.0	1826.0	135.0	16.0	8.0		00L
	9500	CUBA	21 GRF	1800.0U	1824.0	82.0U	34.0			
	2695	PALE	4 S/F	1806.0	1807.0	3.0	190.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1806.0	1807.0	4.0	200.0			QL=4 ST=2 TYP=3
	4995	PALE	8 S	1807.0	1807.0	U	35.0			QL=4 ST=2 TYP=3
	4995	SGMR	8 S	1807.0	1807.0	1.0	47.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1807.0	1807.5	3.5	24.0	12.0		9L
	6700	CUBA	1 S	1822.4	1824.0	3.7	9.0	4.0		16L
2800	PENT	1 S	2043.0	2044.0	4.0	7.0				
02	127	TORN	44 NS	0700.0E		180.0D		4.0		V=2?,DISTURBED
	280	CUBA	44 NS	1600.0E		350.0D		16.0		
	235	CUBA	44 NS	1600.0E		350.0D		6.0		
	3000	IZMI	5 S	0722.5	0723.8	2.2	5.0			
	33	UPIC	46 C	0904.0	0906.5	3.0				
	204	IZMI	42 SER	0929.4	0929.5	0.9	101.0			
	204	IZMI	41 F	0959.2	0959.2	0.3	71.0	13.0		
	9500	CUBA	20 GRF	1459.0	1533.0	50.0U	16.0			
03	235	CUBA	44 NS	1300.0E		530.0D		7.0		
	280	CUBA	44 NS	1300.0E		530.0D		17.0		
	204	IZMI	42 SER	0752.0	0807.7	63.0U	146.0			
	204	IZMI	41 F	1138.5	1139.0	0.9	138.0			
	245	SGMR	4 S/F	1732.0	1736.0	4.0	65.0			QL=4 ST=2 TYP=3
04	204	IZMI	43 NS	0700.0		300.0D		10.0		
	280	CUBA	44 NS	1300.0E		530.0D		21.0		
	235	CUBA	44 NS	1300.0E		530.0D		9.0		
	245	SGMR	43 NS	1443.0	1454.0	57.0	74.0			QL=4 ST=2 TYP=1
	245	SGMR	43 NS	1749.0	1749.0	28.0	250.0			QL=4 ST=2 TYP=1
	245	LEAR	8 S	0114.0	0114.0	U	96.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	0114.0	0114.2	0.5	170.0			0
	200	HIRA	8 S	0114.0	0114.2	0.5	17.0			0
	200	HIRA	8 S	0410.6	0410.8	0.5	60.0			0
	200	HIRA	8 S	0410.6	0410.8	0.5	6.0			0
	245	LEAR	8 S	0433.0	0433.0	U	120.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0557.0	0557.0	1.0	66.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0650.0	0650.0	U	1900.0			QL=4 ST=2 TYP=6
	200	HIRA	8 S	0650.0	0650.1	0.2	30.0			0
	200	HIRA	8 S	0650.0	0650.1	0.2	300.0			0
	245	LEAR	8 S	1001.0	1001.0	1.0	230.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	1001.0	1001.0	1.0	79.0			QL=4 ST=2 TYP=3
	204	IZMI	41 F	1001.5	1001.8	0.9	218.0			
	245	SVTO	8 S	1018.0	1018.0	U	56.0			QL=2 ST=2 TYP=3
	204	IZMI	42 SER	1103.6	1105.9	5.7	951.0			
	245	SVTO	8 S	1105.0	1106.0	1.0	250.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1223.0	1224.0	2.0	100.0			QL=2 ST=2 TYP=3
	245	SVTO	8 S	1223.0	1224.0	2.0	57.0			QL=2 ST=2 TYP=3
610	SGMR	8 S	1224.0	1224.0	U	51.0			QL=2 ST=2 TYP=3	
410	SGMR	8 S	1224.0	1224.0	U	70.0			QL=2 ST=2 TYP=3	
33	UPIC	46 C	1224.0	1225.0	2.5					
245	SGMR	8 S	1230.0	1231.0	1.0	360.0			QL=2 ST=2 TYP=3	
245	SVTO	8 S	1230.0	1231.0	1.0	160.0			QL=2 ST=2 TYP=3	
245	SGMR	8 S	1320.0	1320.0	U	62.0			QL=4 ST=2 TYP=3	
245	SGMR	4 S/F	1350.0	1354.0	5.0	55.0			QL=4 ST=2 TYP=3	
245	SGMR	4 S/F	1420.0	1429.0	10.0	93.0			QL=4 ST=2 TYP=3	
2800	PENT	1 S	1707.0	1708.0	24.0	6.0				
610	SGMR	4 S/F	2010.0	2010.0	3.0	94.0			QL=4 ST=2 TYP=3	
05	235	CUBA	44 NS	1400.0E		405.0D		9.0		
	280	CUBA	44 NS	1400.0E		405.0D		20.0		
	245	SGMR	43 NS	1419.0	1629.0	174.0	280.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	1432.0	1436.0	24.0	85.0			QL=4 ST=3 TYP=1
	245	SGMR	43 NS	1750.0	1812.0	106.0	330.0			QL=4 ST=2 TYP=1
	200	HIRA	8 S	0212.4	0212.5	0.3	13.0			WL
	200	HIRA	8 S	0212.4	0212.5	0.3	130.0			WL
245	LEAR	8 S	0244.0	0245.0	2.0	160.0			QL=4 ST=2 TYP=3	

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Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
05	200	HIRA	42	SER	0245.0	0309.4	26.0	21.0		WL
		HIRA	42	SER	0245.0	0309.4	26.0	210.0		WL
	245	LEAR	8	S	0251.0	0251.0	U	160.0		QL=4 ST=2 TYP=3
	245	LEAR	8	S	0306.0	0306.0	1.0	95.0		QL=4 ST=2 TYP=3
	245	LEAR	8	S	0308.0	0309.0	2.0	250.0		QL=4 ST=2 TYP=3
	245	LEAR	4	S/F	0434.0	0435.0	5.0	190.0		QL=4 ST=2 TYP=3
	2840	BEIJ	1	S	0434.0	0438.0	10.0	4.5	3.1	
	200	HIRA	42	SER	0434.2	0435.6	4.8	45.0		WL
	200	HIRA	42	SER	0434.2	0435.6	4.8	450.0		WL
	410	SVTO	48	C	0742.0	0759.0	18.0	88.0		QL=2 ST=2 TYP=8
	245	LEAR	49	GB	0758.0	0759.0	2.0	1800.0		QL=4 ST=2 TYP=6
	410	LEAR	8	S	0759.0	0759.0	1.0	31.0		QL=4 ST=2 TYP=3
	410	SVTO	48	C	0759.0	0759.0	9.0	88.0		QL=2 ST=3 TYP=8
	245	SVTO	49	GB	0759.0	0759.0	1.0	1900.0		QL=2 ST=2 TYP=6
	204	IZMI	45	C	0759.3U	0759.4	1.1U	801.0		
	245	LEAR	4	S/F	0840.0	0842.0	4.0	120.0		QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0841.0	0842.0	3.0	120.0		QL=2 ST=2 TYP=3
	204	IZMI	41	F	0842.6	0842.7	0.3	182.0		
	204	IZMI	41	F	0844.0	0844.0	0.3	435.0		
	204	IZMI	45	C	1027.9	1028.5	1.2	1103.0		
	410	SVTO	8	S	1028.0	1028.0	U	200.0		QL=2 ST=2 TYP=3
	245	SVTO	49	GB	1028.0	1028.0	1.0	740.0		QL=4 ST=2 TYP=6
	245	SVTO	8	S	1152.0	1152.0	U	54.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	1205.0	1205.0	U	50.0		QL=4 ST=2 TYP=3
	245	SGMR	8	S	1302.0	1302.0	U	50.0		QL=4 ST=2 TYP=3
	245	SGMR	8	S	1348.0	1348.0	U	130.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	1348.0	1348.0	U	160.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	1419.0	1420.0	2.0	160.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	1423.0	1423.0	U	62.0		QL=4 ST=2 TYP=3
	410	SGMR	8	S	1707.0	1707.0	U	90.0		QL=4 ST=2 TYP=3
245	SGMR	49	GB	1707.0	1707.0	U	1600.0		QL=4 ST=2 TYP=6	
245	SGMR	49	GB	1712.0	1712.0	U	620.0		QL=4 ST=2 TYP=6	
410	SGMR	8	S	1712.0	1712.0	U	45.0		QL=4 ST=2 TYP=3	
2800	PENT	29	PBI	2038.0	2039.0	17.0	82.0			
06	235	CUBA	44	NS	1300.0E		480.0D	6.0		
	280	CUBA	44	NS	1300.0E		480.0D	17.0		
	204	IZMI	7	C	1055.5	1055.5	0.2	21.0		
	204	IZMI	42	SER	1102.8	1103.0	0.9	52.0		
	33	UPIC	3	S	1103.5	1103.8	0.7			
	245	SGMR	8	S	1635.0	1635.0	U	210.0		QL=4 ST=2 TYP=3
	2800	PENT	40	F	1729.0	1731.0	2.0U	63.0		
	245	LEAR	4	S/F	2324.0	2325.0	6.0	60.0		QL=4 ST=2 TYP=3
07	245	LEAR	8	S	0006.0	0006.0	1.0	110.0		QL=4 ST=2 TYP=3
	245	PALE	4	S/F	0006.0	0006.0	8.0	57.0		QL=4 ST=2 TYP=3
	200	HIRA	8	S	0006.8	0006.9	0.2	100.0		0
	200	HIRA	8	S	0006.8	0006.9	0.2	10.0		0
	245	LEAR	8	S	0455.0	0456.0	1.0	96.0		QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0624.0	0624.0	1.0	590.0		QL=4 ST=2 TYP=6
	245	SVTO	8	S	0624.0	0624.0	U	290.0		QL=2 ST=2 TYP=3
	200	HIRA	8	S	0624.6	0624.7	0.2	29.0		0
	200	HIRA	8	S	0624.6	0624.7	0.2	290.0		0
	245	LEAR	8	S	0635.0	0635.0	U	43.0		QL=4 ST=2 TYP=3
	245	LEAR	8	S	0847.0	0847.0	U	70.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	0847.0	0847.0	U	73.0		QL=2 ST=2 TYP=3
204	IZMI	41	F	0847.3	0847.4	0.3	84.0			
204	IZMI	41	F	0914.0	0914.1	0.2	79.0			
08	235	CUBA	44	NS	1300.0E		480.0D	9.0		
	280	CUBA	44	NS	1300.0E		480.0D	21.0		
	245	LEAR	8	S	0753.0	0753.0	1.0	120.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	0753.0	0753.0	1.0	120.0		QL=2 ST=2 TYP=3
	204	IZMI	7	C	0753.7	0753.9	0.6	236.0		
	3000	IZMI	5	S	1029.2	1029.2	0.2	34.0		
	245	SGMR	8	S	1405.0	1405.0	U	250.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	1405.0	1405.0	U	160.0		QL=2 ST=2 TYP=3
245	SGMR	8	S	1619.0	1619.0	1.0	80.0		QL=4 ST=2 TYP=3	
4995	SGMR	20	GRF	1830.0	1831.0	3.0	33.0		QL=4 ST=2 TYP=2	

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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		
09	280	CUBA	44 NS	1300.0E		530.0D		21.0		
	235	CUBA	44 NS	1300.0E		530.0D		7.0		
	245	SVTO	8 S	0656.0	0657.0	1.0	86.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0657.0	0657.0	U	71.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1006.0	1006.0	U	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1411.0	1413.0	2.0	67.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2224.0	2225.0	1.0	130.0			QL=4 ST=2 TYP=3
10	245	LEAR	8 S	0120.0	0120.0	1.0	54.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0120.0	0120.0	2.0	53.0			QL=4 ST=2 TYP=3
	33	UPIC	46 C	1038.5	1039.0	2.0				
	204	IZMI	41 F	1042.2	1042.5	0.8	292.0			
11	5730	IRKU	1 S	0420.4	0421.0	1.9	2.0		U	
	5730	IRKU	1 S	0427.0	0433.0	14.6	3.0		U	
12	5730	IRKU	1 S	0651.0	0652.2	12.0	3.0		U	
	204	IZMI	41 F	0736.9	0737.6	1.1	533.0			
	245	LEAR	8 S	0737.0	0737.0	U	66.0			QL=4 ST=2 TYP=3
	2800	PENT	1 S	2108.0	2109.0	4.0	6.0			
13	245	LEAR	43 NS	0611.0	0756.0	247.0	260.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	0627.0	0756.0U	328.0	220.0			QL=2 ST=2 TYP=1
	204	IZMI	43 NS	0700.0		300.0D		18.0		
	280	CUBA	44 NS	1300.0E		530.0D		16.0		
	235	CUBA	44 NS	1340.0E		490.0D		13.0		
	245	SVTO	43 NS	1342.0	1356.0	40.0	140.0			QL=2 ST=2 TYP=1
	245	SGMR	43 NS	1342.0	1351.0	63.0	140.0			QL=4 ST=2 TYP=1
	245	SGMR	43 NS	1917.0	1924.0	87.0	72.0			QL=4 ST=2 TYP=1
	245	PALE	43 NS	2331.0	0008.0	242.0	210.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2339.0	0004.0	648.0	260.0			QL=4 ST=2 TYP=1
	2840	BEIJ	5 S	0510.0	0515.0	10.0	92.5	64.7		
	2700	PURP	3 S	0513.3	0515.5	6.7	89.0	64.9		
	245	LEAR	8 S	0515.0	0515.0	U	79.0			QL=4 ST=3 TYP=3
	1415	LEAR	8 S	0515.0	0515.0	U	97.0			QL=4 ST=3 TYP=3
	2695	LEAR	8 S	0515.0	0515.0	1.0	99.0			QL=4 ST=3 TYP=3
	8800	LEAR	8 S	0515.0	0515.0	U	52.0			QL=4 ST=3 TYP=3
	4995	LEAR	8 S	0515.0	0515.0	U	50.0			QL=4 ST=3 TYP=3
	15400	LEAR	8 S	0515.0	0515.0	U	33.0			QL=4 ST=3 TYP=3
	5730	IRKU	4 S/F	0515.0	0515.5	2.8	55.0		U	
	2800	HIRA	4 S/F	0515.4	0515.8	1.8	8.0			WL
	2800	HIRA	4 S/F	0515.4	0515.8	1.8	80.0			WL
	2840	BEIJ	1 S	0606.0	0608.0	5.0	3.0	2.1		
	2840	BEIJ	3 S	0708.0	0710.0	10.0	16.5	11.5		
	410	LEAR	8 S	0709.0	0710.0	1.0	46.0			QL=4 ST=3 TYP=3
	410	SVTO	8 S	0709.0	0710.0	1.0	32.0			QL=2 ST=3 TYP=3
	610	SVTO	4 S/F	0709.0	0710.0	3.0	160.0			QL=2 ST=3 TYP=3
	2700	PURP	1 S	0709.7	0710.3	4.8	33.0	12.4		
	610	LEAR	8 S	0710.0	0710.0	U	170.0			QL=4 ST=3 TYP=3
	3000	IZMI	7 C	0710.2	0710.3	0.4	11.0			
	610	LEAR	8 S	0712.0	0713.0	1.0	120.0			QL=4 ST=3 TYP=3
	3000	IZMI	2 S/F	0712.1	0713.1	1.5	10.0			
	3000	IZMI	42 SER	1033.8	1034.2	3.4	14.0			
2800	PENT	20 GRF	1845.0	1850.0	8.0	3.0				
245	SGMR	8 S	1909.0	1909.0	U	79.0			QL=4 ST=2 TYP=3	
2800	PENT	20 GRF	2040.0	2047.0	13.0	14.0				
9500	CUBA	22 GRF	2041.0	2043.0	35.0	15.0	7.0			
245	LEAR	48 C	2325.0	2329.0	8.0	75.0			QL=4 ST=2 TYP=8	
245	LEAR	8 S	2334.0	2334.0	2.0	66.0			QL=4 ST=2 TYP=3	
14	245	SVTO	43 NS	0639.0	0710.0	273.0	160.0			QL=4 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		35.0		
	127	TORN	44 NS	1150.0E		150.0D		56.0		V=2
	245	SGMR	43 NS	1230.0	1234.0	61.0	60.0			QL=4 ST=2 TYP=1
	235	CUBA	44 NS	1300.0E		530.0D		16.0		
	280	CUBA	44 NS	1340.0E		490.0D		25.0		
	2840	BEIJ	45 C	0610.0	0626.5	37.0	10.1	7.3		
	5730	IRKU	21 GRF	0625.0	0628.6	7.0	23.0		U	
245	SGMR	4 S/F	1229.0	1229.0	691.0	53.0			QL=4 ST=1 TYP=3	

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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		
14	410	SGMR	4 S/F	1551.0	1551.0	489.0	89.0			QL=4 ST=1 TYP=3
	4995	PALE	8 S	2224.0	2224.0	1.0	130.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	2224.0	2224.0	1.0	83.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2224.0	2225.0	1.0	44.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	2224.0	2224.0	1.0	92.0			QL=4 ST=2 TYP=3
15	204	IZMI	44 NS	0700.0E		300.0D		5.0		
	235	CUBA	44 NS	1300.0E		530.0D		9.0		
	280	CUBA	44 NS	1300.0E		530.0D		23.0		
	245	LEAR	8 S	0236.0	0236.0	U	52.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0302.0	0302.0	U	52.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1219.0	1219.0	U	140.0			QL=4 ST=2 TYP=3
16	235	CUBA	44 NS	1300.0E		530.0D		7.0		
	280	CUBA	44 NS	1300.0E		530.0D		19.0		
	5730	IRKU	1 S	0342.2	0342.3	1.1	4.0		U	
	33	UPIC	46 C	0901.0	0901.5	1.5				
	9500	CUBA	4 S/F	1844.7	1851.2	11.1	24.0	12.0		
	410	SGMR	4 S/F	1900.0	1904.0	5.0	90.0			QL=4 ST=2 TYP=3
	2800	PENT	40 F	1903.0	1908.0	14.0	16.0			
	8800	SGMR	8 S	1908.0	1909.0	2.0	35.0			QL=4 ST=2 TYP=3
	4995	SGMR	8 S	1909.0	1909.0	U	28.0			QL=4 ST=2 TYP=3
	17	280	CUBA	44 NS	1300.0E		530.0D		21.0	
235		CUBA	44 NS	1530.0E		380.0D		9.0		
2840		BEIJ	1 S	0240.0	0243.0	6.0	3.9	2.9		
2840		BEIJ	3 S	0736.0	0743.6	20.0	201.0	151.0		
2700		PURP	45 C	0741.0	0743.6	11.5	209.0	177.5		
5730		IRKU	46 C	0741.3	0743.3	12.7	216.0		U	
3000		IZMI	45 C	0741.6	0743.3	8.6	252.0			
2695		LEAR	4 S/F	0742.0	0743.0	4.0	230.0			QL=4 ST=2 TYP=3
245		LEAR	49 GB	0742.0	0743.0	5.0	6500.0			QL=4 ST=2 TYP=6
410		LEAR	48 C	0742.0	0745.0	5.0	1600.0			QL=4 ST=2 TYP=8
1415		LEAR	4 S/F	0742.0	0743.0	4.0	170.0			QL=4 ST=2 TYP=3
4995		LEAR	4 S/F	0742.0	0743.0	7.0	190.0			QL=4 ST=2 TYP=3
8800		LEAR	4 S/F	0742.0	0743.0	6.0	120.0			QL=4 ST=2 TYP=3
245		SVTO	48 C	0742.0	0743.0	5.0	5700.0			QL=2 ST=2 TYP=8
410		SVTO	48 C	0742.0	0745.0	4.0	1200.0			QL=2 ST=2 TYP=8
8800		SVTO	4 S/F	0742.0	0743.0	7.0	150.0			QL=4 ST=2 TYP=3
4995		SVTO	4 S/F	0742.0	0743.0	7.0	180.0			QL=4 ST=2 TYP=3
1415		SVTO	4 S/F	0742.0	0743.0	4.0	140.0			QL=4 ST=2 TYP=3
15400		SVTO	8 S	0742.0	0743.0	1.0	79.0			QL=4 ST=2 TYP=3
2695		SVTO	4 S/F	0742.0	0743.0	4.0	200.0			QL=4 ST=2 TYP=3
204		IZMI	45 C	0742.0	0743.1	7.2	2560.0			
33		UPIC	46 C	0742.5	0743.0	1.5				
610		LEAR	4 S/F	0743.0	0744.0	4.0	220.0			QL=4 ST=2 TYP=3
3000		IZMI	5 S	0804.0	0804.0	0.2	45.0			
204		IZMI	7 C	1124.2	1124.2	0.5	267.0			
280		CUBA	7 C	1414.0	1416.0	3.6	872.0			
245		SGMR	49 GB	1414.0	1415.0	3.0	1700.0			QL=4 ST=2 TYP=6
245		SVTO	49 GB	1414.0	1415.0	3.0	1200.0			QL=2 ST=2 TYP=6
33		UPIC	46 C	1414.5	1415.2	3.5				
15400		SGMR	8 S	1415.0	1416.0	2.0	49.0			QL=4 ST=2 TYP=3
8800		SGMR	8 S	1415.0	1416.0	2.0	88.0			QL=4 ST=2 TYP=3
4995		SGMR	8 S	1415.0	1415.0	1.0	88.0			QL=4 ST=2 TYP=3
2695		SGMR	8 S	1415.0	1415.0	2.0	96.0			QL=4 ST=2 TYP=3
1415		SGMR	8 S	1415.0	1416.0	1.0	61.0			QL=4 ST=2 TYP=3
610		SGMR	8 S	1415.0	1416.0	2.0	150.0			QL=4 ST=2 TYP=3
410		SGMR	8 S	1415.0	1415.0	1.0	280.0			QL=4 ST=2 TYP=3
2695		SVTO	8 S	1415.0	1415.0	1.0	85.0			QL=4 ST=2 TYP=3
4995		SVTO	8 S	1415.0	1415.0	2.0	92.0			QL=4 ST=2 TYP=3
1415		SVTO	8 S	1415.0	1416.0	2.0	62.0			QL=4 ST=2 TYP=3
410		SVTO	8 S	1415.0	1415.0	1.0	150.0			QL=2 ST=2 TYP=3
8800	SVTO	8 S	1415.0	1416.0	2.0	92.0			QL=4 ST=2 TYP=3	
9500	CUBA	1 S	1415.9	1417.3	5.1	75.0	37.0			
15400	SVTO	8 S	1416.0	1416.0	U	32.0			QL=4 ST=2 TYP=3	
245	SGMR	49 GB	1419.0	1419.0	U	610.0			QL=4 ST=2 TYP=6	
245	SVTO	8 S	1419.0	1419.0	U	400.0			QL=2 ST=2 TYP=3	
610	SGMR	8 S	1420.0	1420.0	2.0	220.0			QL=4 ST=2 TYP=3	

S O L A R R A D I O E M I S S I O N
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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			
17	410	SGMR	8 S	1423.0	1423.0	U	69.0			QL=4 ST=2 TYP=3	
	410	SGMR	48 C	1428.0	1428.0	6.0	2700.0			QL=4 ST=2 TYP=8	
	410	SVTO	49 GB	1428.0	1428.0	7.0	1400.0			QL=2 ST=2 TYP=6	
	245	SGMR	8 S	1458.0	1458.0	U	130.0			QL=4 ST=2 TYP=3	
	245	SGMR	8 S	1746.0	1746.0	1.0	110.0			QL=4 ST=2 TYP=3	
	8800	SGMR	8 S	1750.0	1750.0	2.0	25.0			QL=4 ST=2 TYP=3	
	610	SGMR	8 S	1750.0	1750.0	2.0	120.0			QL=4 ST=2 TYP=3	
	1415	SGMR	8 S	1750.0	1751.0	2.0	26.0			QL=4 ST=2 TYP=3	
	2695	SGMR	8 S	1750.0	1750.0	2.0	31.0			QL=4 ST=2 TYP=3	
	4995	SGMR	8 S	1750.0	1750.0	2.0	55.0			QL=4 ST=2 TYP=3	
	9500	CUBA	23 GRF	1750.0	1910.0	118.0	22.0	11.0			
	9500	CUBA	1 S	1750.3	1750.6	1.4	24.0	12.0			
	245	SGMR	4 S/F	1811.0	1813.0	4.0	190.0				QL=4 ST=2 TYP=3
	235	CUBA	7 C	1811.1	1813.5	3.4	1124.0				
	280	CUBA	7 C	1811.1	1813.5	3.4	2650.0				
	9500	CUBA	1 S	1811.6	1813.2	5.7	11.0	5.0			
	610	PALE	49 GB	1812.0	1814.0	4.0	670.0				QL=4 ST=2 TYP=6
	410	PALE	4 S/F	1812.0	1813.0	4.0	120.0				QL=4 ST=2 TYP=3
	610	SGMR	48 C	1812.0	1814.0	4.0	360.0				QL=4 ST=2 TYP=8
	410	SGMR	4 S/F	1812.0	1813.0	4.0	130.0				QL=4 ST=2 TYP=3
	245	PALE	8 S	1813.0	1813.0	U	43.0				QL=4 ST=2 TYP=3
610	LEAR	4 S/F	2337.0	2339.0	3.0	100.0				QL=4 ST=2 TYP=3	
18	235	CUBA	44 NS	1300.0E		510.0D		8.0			
	280	CUBA	44 NS	1300.0E		515.0D		20.0			
	5730	IRKU	1 S	0245.8	0246.0	0.4	13.0	U			
	2840	BEIJ	45 C	0250.0	0305.8	19.0	20.2	15.2			
	2700	PURP	45 C	0303.0	0305.6	8.3	34.0	13.5			
	610	LEAR	8 S	0304.0	0304.0	2.0	39.0				QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	0304.0	0305.0	3.0	29.0				QL=4 ST=2 TYP=3
	410	LEAR	8 S	0304.0	0304.0	2.0	310.0				QL=4 ST=2 TYP=3
	410	PALE	4 S/F	0304.0	0304.0	4.0	270.0				QL=4 ST=2 TYP=3
	610	PALE	4 S/F	0304.0	0304.0	6.0	31.0				QL=4 ST=2 TYP=3
	5730	IRKU	4 S/F	0304.5	0305.8	4.5	17.0	U			
	2840	BEIJ	1 S	0311.0	0311.5	2.0	5.0	3.7			
	610	LEAR	4 S/F	0312.0	0314.0	3.0	34.0				QL=4 ST=2 TYP=3
	245	LEAR	8 S	0313.0	0314.0	2.0	69.0				QL=4 ST=2 TYP=3
	410	LEAR	8 S	0313.0	0313.0	2.0	97.0				QL=4 ST=2 TYP=3
	245	PALE	8 S	0313.0	0313.0	1.0	390.0				QL=2 ST=2 TYP=3
	410	PALE	8 S	0314.0	0314.0	U	55.0				QL=4 ST=2 TYP=3
	2840	BEIJ	1 S	0350.0	0356.5	10.0	10.7	8.0			
	245	LEAR	49 GB	0525.0	0526.0	1.0	790.0				QL=4 ST=2 TYP=6
	410	LEAR	49 GB	0525.0	0526.0	1.0	670.0				QL=4 ST=2 TYP=6
	410	LEAR	8 S	0537.0	0537.0	1.0	170.0				QL=4 ST=2 TYP=3
	245	LEAR	8 S	0537.0	0537.0	1.0	240.0				QL=4 ST=2 TYP=3
	410	LEAR	8 S	0744.0	0745.0	2.0	86.0				QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0744.1	0744.7	3.9	7.0	U			
	245	LEAR	8 S	0745.0	0746.0	1.0	72.0				QL=4 ST=2 TYP=3
	245	SVTO	8 S	0745.0	0747.0	2.0	67.0				QL=2 ST=2 TYP=3
	410	SVTO	8 S	0745.0	0746.0	2.0	32.0				QL=2 ST=2 TYP=3
	204	IZMI	7 C	1127.6	1127.7	0.6	34.0				
	245	SGMR	49 GB	1248.0	1251.0	4.0	2200.0				QL=4 ST=2 TYP=6
	410	SGMR	48 C	1248.0	1251.0	4.0	67.0				QL=4 ST=2 TYP=8
	33	UPIC	46 C	1248.5	1251.0	3.5					
	2800	PENT	29 PBI	1716.0	1717.0	16.0U	895.0				
	2695	SGMR	49 GB	1717.0	1718.0	68.0	880.0				QL=4 ST=2 TYP=6
	1415	SGMR	4 S/F	1717.0	1719.0	66.0	170.0				QL=4 ST=2 TYP=3
	8800	SGMR	49 GB	1717.0	1718.0	71.0	1300.0				QL=4 ST=2 TYP=6
	15400	SGMR	49 GB	1717.0	1718.0	71.0	1200.0				QL=4 ST=2 TYP=6
	4995	SGMR	49 GB	1717.0	1718.0	71.0	1500.0				QL=4 ST=2 TYP=6
9500	CUBA	21 GRF	1718.0	1747.0	162.0	49.0	24.0				
9500	CUBA	45 C	1719.0	1719.0U	3.5	358.0D					
9500	CUBA	45 C	1719.0	1919.8		24.0					
245	SGMR	49 GB	1814.0	1814.0	9.0	4600.0				QL=4 ST=3 TYP=6	
410	SGMR	8 S	1819.0	1819.0	U	76.0				QL=4 ST=3 TYP=3	
245	LEAR	8 S	2247.0	2247.0	1.0	250.0				QL=4 ST=2 TYP=3	
410	LEAR	8 S	2247.0	2247.0	U	68.0				QL=4 ST=2 TYP=3	
500	HIRA	42 SER	2247.2	2247.3	1.0	7.0				0	
500	HIRA	42 SER	2247.2	2247.3	1.0	70.0				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		
19	235	CUBA	44 NS	1310.0E		515.0D		10.0		
	280	CUBA	44 NS	1310.0E		520.0D		23.0		
	2840	BEIJ	3 S	0646.0	0649.9	17.0	21.3	15.9		
	5730	IRKU	42 SER	0649.2	0649.5	10.3	44.0		U	
	2700	PURP	3 S	0649.6	0650.0	4.8	32.0	11.4		
	245	LEAR	8 S	0837.0	0837.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0837.0	0837.0	1.0	110.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0949.0	0949.0	1.0	88.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0949.0	0949.0	1.0	95.0			QL=4 ST=2 TYP=3
	204	IZMI	25 R	1019.0U		47.0U		50.0		
	245	LEAR	8 S	1025.0	1025.0	1.0	110.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1025.0	1025.0	1.0	93.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1055.0	1055.0		U	100.0		QL=4 ST=2 TYP=3
	204	IZMI	45 C	1055.5	1055.7	0.9	1020.0			
	245	SVTO	49 GB	1151.0	1151.0		U	530.0		QL=4 ST=2 TYP=6
	204	IZMI	7 C	1151.3	1151.6	0.6	475.0			
	245	PALE	8 S	1327.0	1327.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1327.0	1327.0	1.0	100.0			QL=4 ST=3 TYP=3
	245	SVTO	8 S	1327.0	1327.0	1.0	77.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	1344.0	1344.0	1.0	110.0			QL=4 ST=2 TYP=3
245	SGMR	8 S	1344.0	1344.0	1.0	110.0			QL=4 ST=3 TYP=3	
245	SVTO	8 S	1344.0	1344.0		U	89.0		QL=4 ST=2 TYP=3	
20	235	CUBA	44 NS	1300.0E		530.0D		10.0		
	280	CUBA	44 NS	1300.0E		530.0D		22.0		
	5730	IRKU	4 S/F	0509.5	0511.2	4.4	6.0		U	
	245	LEAR	8 S	0511.0	0511.0	1.0	74.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0511.0	0511.0		U	13.0		QL=4 ST=2 TYP=3
	200	HIRA	8 S	0511.8	0511.9	0.2	60.0			0
	200	HIRA	8 S	0511.8	0511.9	0.2	6.0			0
	2840	BEIJ	1 S	0518.0	0521.0	8.0	3.9	3.0		
	2840	BEIJ	5 S	0552.0	0554.5	22.0	4.3	3.3		
	3000	IZMI	5 S	0746.3	0746.3	1.1	32.0	15.0		
	3000	IZMI	22 GRF	0846.4	0854.2	23.5	12.0			
	4995	LEAR	4 S/F	0852.0	0856.0	5.0	19.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0852.0	0853.0	2.0	12.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0852.0	0857.0	5.0	17.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0853.0	0854.0	2.0	99.0			QL=4 ST=2 TYP=3
	15400	LEAR	4 S/F	0853.0	0856.0	4.0	68.0			QL=4 ST=2 TYP=3
	2695	SVTO	46 C	0853.0	0857.0	4.0	28.0			QL=4 ST=2 TYP=8
	1415	SVTO	48 C	0853.0	0854.0	4.0	81.0			QL=4 ST=2 TYP=8
	4995	SVTO	46 C	0854.0	0856.0	3.0	24.0			QL=4 ST=2 TYP=8
	3000	IZMI	7 C	0854.5	0854.6	3.2	91.0			
4995	LEAR	4 S/F	0855.0	0856.0	4.0	19.0			QL=4 ST=2 TYP=3	
8800	LEAR	4 S/F	0855.0	0857.0	4.0	13.0			QL=4 ST=2 TYP=3	
610	LEAR	4 S/F	0856.0	0859.0	5.0	28.0			QL=4 ST=2 TYP=3	
2695	LEAR	8 S	0856.0	0857.0	1.0	25.0			QL=4 ST=2 TYP=3	
1415	LEAR	8 S	0856.0	0857.0	1.0	89.0			QL=4 ST=2 TYP=3	
3000	IZMI	20 GRF	0856.4	0857.1	1.4	17.0				
410	LEAR	8 S	0857.0	0857.0		U	110.0		QL=4 ST=2 TYP=3	
15400	LEAR	4 S/F	0857.0	0900.0	4.0	17.0			QL=4 ST=2 TYP=3	
21	204	IZMI	43 NS	0700.0		300.0D		5.0		
	280	CUBA	44 NS	1420.0E		440.0D		20.0		
	235	CUBA	44 NS	1500.0E		400.0D		12.0		
	610	LEAR	49 GB	0134.0	0134.0	1.0	2000.0			QL=4 ST=3 TYP=6
	610	PALE	49 GB	0134.0	0134.0	1.0	1800.0			QL=4 ST=2 TYP=6
	2840	BEIJ	1 S	0134.0	0134.9	2.0	9.9	7.8		
	200	HIRA	8 S	0134.6	0134.7	0.2	120.0			0
	500	HIRA	8 S	0134.6	0134.7	0.2	12.0			0
	5730	IRKU	21 GRF	0419.7	0421.8	49.5	6.0		U	
	245	LEAR	8 S	0630.0	0630.0	1.0	61.0			QL=4 ST=2 TYP=3
2840	BEIJ	1 S	0728.0	0729.5	3.0	3.8	3.0			
22	280	CUBA	44 NS	1300.0E		360.0D		21.0		
	235	CUBA	44 NS	1300.0E		420.0D		10.0		
	2840	BEIJ	1 S	0410.0	0413.4	8.0	3.4	2.7		
	200	HIRA	8 S	0413.6	0413.8	0.4	6.0			0
	200	HIRA	8 S	0413.6	0413.8	0.4	60.0			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 (10 ⁻²² W/m ² Hz)		
22	204	IZMI	41 F	0903.5	0903.7	0.8		21.0		
	204	IZMI	42 SER	0908.1	0911.1	11.7		244.0		
	245	LEAR	4 S/F	0910.0	0912.0	3.0		160.0		QL=4 ST=2 TYP=3
	245	SVTO	4 S/F	0910.0	0912.0	3.0		160.0		QL=2 ST=2 TYP=3
	245	LEAR	8 S	0915.0	0915.0	1.0		70.0		QL=4 ST=2 TYP=3
	245	SVTO	8 S	0915.0	0915.0	U		61.0		QL=2 ST=2 TYP=3
	204	IZMI	41 F	1133.1	1133.9	1.4		26.0		
	245	SGMR	8 S	1421.0	1422.0	1.0		94.0		QL=4 ST=2 TYP=3
	245	SGMR	8 S	1532.0	1532.0	1.0		70.0		QL=4 ST=2 TYP=3
	245	SGMR	8 S	1840.0	1840.0	U		76.0		QL=4 ST=2 TYP=3
	2800	PENT	20 GRF	2039.0	2048.0	13.0		4.0		
	2800	PENT	20 GRF	2107.0	2112.0	11.0		5.0		
	500	HIRA	42 SER	2247.2	2247.8	5.0		56.0		0
	500	HIRA	42 SER	2247.2	2247.8	5.0		560.0		0
	410	LEAR	8 S	2347.0	2347.0	2.0		480.0		QL=4 ST=2 TYP=3
	610	LEAR	49 GB	2347.0	2347.0	2.0		4200.0		QL=4 ST=2 TYP=6
	1415	LEAR	8 S	2347.0	2347.0	U		140.0		QL=4 ST=2 TYP=3
	245	LEAR	49 GB	2347.0	2347.0	2.0		1100.0		QL=4 ST=2 TYP=6
	245	PALE	49 GB	2347.0	2347.0	1.0		770.0		QL=4 ST=2 TYP=6
	410	PALE	8 S	2347.0	2347.0	2.0		400.0		QL=4 ST=2 TYP=3
	610	PALE	8 S	2347.0	2347.0	U		160.0		QL=4 ST=2 TYP=3
	1415	PALE	8 S	2347.0	2347.0	U		150.0		QL=4 ST=2 TYP=3
23	245	LEAR	8 S	0029.0	0029.0	U		280.0		QL=4 ST=2 TYP=3
	410	LEAR	8 S	0230.0	0230.0	1.0		55.0		QL=4 ST=2 TYP=3
	2840	BEIJ	5 S	0325.0	0326.7	10.0		6.2	4.7	
	8800	LEAR	8 S	0326.0	0326.0	1.0		68.0		QL=4 ST=2 TYP=3
	4995	LEAR	8 S	0326.0	0326.0	1.0		30.0		QL=4 ST=2 TYP=3
	5730	IRKU	4 S/F	0326.3	0326.8	17.1		62.0	U	
	2700	PURP	20 GRF	0544.0	0636.0	124.0		35.0	15.4	
	2840	BEIJ	20 GRF	0546.0	0608.0	38.0		9.7	7.3	
	5730	IRKU	21 GRF	0547.2	0646.3	133.00		42.0	U	
	3000	IZMI	20 GRF	1043.6	1044.0	1.2		6.0		
	245	SGMR	8 S	1715.0	1715.0	1.0		66.0		QL=4 ST=2 TYP=3
24	2840	BEIJ	20 GRF	0104.0	0122.0	38.0		23.6	17.5	
	200	HIRA	46 C	0118.0	0121.0	6.0		300.0		0
	200	HIRA	46 C	0118.0	0121.0	6.0		30.0		0
	410	LEAR	4 S/F	0119.0	0121.0	3.0		84.0		QL=4 ST=2 TYP=3
	245	LEAR	4 S/F	0119.0	0120.0	3.0		370.0		QL=4 ST=2 TYP=3
	410	PALE	4 S/F	0119.0	0121.0	3.0		100.0		QL=4 ST=2 TYP=3
	245	PALE	4 S/F	0119.0	0120.0	3.0		340.0		QL=4 ST=2 TYP=3
	2700	PURP	4 S/F	0119.0	0122.3	29.0		39.0	20.4	
	500	HIRA	42 SER	0119.8	0126.2	20.0		90.0		WL
	500	HIRA	42 SER	0119.8	0126.2	20.0		9.0		WL
	610	PALE	8 S	0121.0	0121.0	U		31.0		QL=4 ST=2 TYP=3
	2695	PALE	8 S	0122.0	0122.0	U		25.0		QL=4 ST=2 TYP=3
	4995	PALE	8 S	0122.0	0122.0	U		21.0		QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	0125.0	0126.0	3.0		150.0		QL=4 ST=2 TYP=3
	410	PALE	4 S/F	0125.0	0127.0	3.0		170.0		QL=4 ST=2 TYP=3
	200	HIRA	46 C	0125.6	0131.0	15.0		5.0		0
	200	HIRA	46 C	0125.6	0131.0	15.0		50.0		0
	1415	LEAR	8 S	0126.0	0127.0	1.0		26.0		QL=4 ST=2 TYP=3
	245	LEAR	4 S/F	0126.0	0131.0	8.0		130.0		QL=4 ST=2 TYP=3
	1415	PALE	8 S	0126.0	0127.0	1.0		26.0		QL=4 ST=2 TYP=3
	245	PALE	4 S/F	0126.0	0131.0	7.0		110.0		QL=4 ST=2 TYP=3
	610	PALE	8 S	0126.0	0127.0	1.0		30.0		QL=4 ST=2 TYP=3
	200	HIRA	42 SER	0305.6	0308.6	3.5		28.0		0
	200	HIRA	42 SER	0305.6	0308.6	3.5		280.0		0
	245	LEAR	49 GB	0307.0	0308.0	1.0		2800.0		QL=4 ST=2 TYP=6
	245	PALE	49 GB	0307.0	0308.0	1.0		2000.0		QL=4 ST=2 TYP=6
	500	HIRA	8 S	0307.8	0307.9	0.2		4.0		0
	500	HIRA	8 S	0307.8	0307.9	0.2		40.0		0
	4995	SVTO	4 S/F	1138.0	1140.0	4.0		68.0		QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1140.0	1140.0	1.0		79.0		QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1140.0	1140.0	1.0		32.0		QL=4 ST=2 TYP=3
	4995	SVTO	8 S	1150.0	1150.0	1.0		49.0		QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1150.0	1150.0	1.0		47.0		QL=4 ST=2 TYP=3

S O L A R R A D I O E M I S S I O N
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DECEMBER 1998

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m ² Hz)	Mean		
25	2700	PURP	20	GRF	0216.3	0219.0	16.7	25.0	4.6	
	2840	BEIJ	5	S	0525.0	0534.0	32.0	10.2	7.7	
	5730	IRKU	21	GRF	0528.8	0641.9	152.0D	31.0	U	
	2700	PURP	20	GRF	0530.0	0534.1	9.0	26.0	6.0	
	2840	BEIJ	20	GRF	0559.0	0622.0	42.0	4.6	3.4	
26	280	CUBA	44	NS	1300.0E		435.0D		23.0	
	235	CUBA	44	NS	1300.0E		435.0D		11.0	
	245	LEAR	8	S	0019.0	0019.0	U	120.0		QL=4 ST=2 TYP=3
	245	PALE	8	S	0019.0	0019.0	U	120.0		QL=4 ST=2 TYP=3
	2840	BEIJ	5	S	0045.0	0047.0	6.0	61.7	41.7	
	245	LEAR	49	GB	0045.0	0046.0	2.0	1000.0		QL=4 ST=2 TYP=6
	410	LEAR	8	S	0045.0	0047.0	2.0	210.0		QL=4 ST=2 TYP=3
	245	PALE	49	GB	0045.0	0046.0	2.0	920.0		QL=4 ST=2 TYP=6
	610	LEAR	8	S	0046.0	0047.0	2.0	30.0		QL=4 ST=2 TYP=3
	1415	LEAR	8	S	0046.0	0047.0	2.0	41.0		QL=4 ST=2 TYP=3
	500	HIRA	42	SER	0046.0	0046.2	1.7	3.0		0
	500	HIRA	42	SER	0046.0	0046.2	1.7	30.0		0
	2695	LEAR	8	S	0047.0	0047.0	U	36.0		QL=4 ST=2 TYP=3
	410	PALE	8	S	0047.0	0047.0	U	340.0		QL=4 ST=2 TYP=3
	1415	PALE	8	S	0047.0	0047.0	U	43.0		QL=4 ST=2 TYP=3
	2800	HIRA	8	S	0047.8	0047.9	0.2	40.0		0
	2800	HIRA	8	S	0047.8	0047.9	0.2	4.0		0
	2840	BEIJ	5	S	0153.0	0155.4	10.0	12.0	8.1	
	5730	IRKU	4	S/F	0509.6	0512.0	10.1	5.0	U	
	200	HIRA	42	SER	0553.0	0558.8	9.0	210.0		0
	200	HIRA	42	SER	0553.0	0558.8	9.0	2100.0		0
	245	LEAR	8	S	0554.0	0554.0	U	300.0		QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0557.0	0558.0	2.0	6900.0		QL=4 ST=2 TYP=6
	2840	BEIJ	5	S	0557.0	0559.0	16.0	7.0	4.7	
	410	LEAR	8	S	0558.0	0559.0	1.0	140.0		QL=4 ST=2 TYP=3
	5730	IRKU	4	S/F	0558.0	0558.3	2.0	11.0	U	
	245	LEAR	8	S	0819.0	0819.0	U	64.0		QL=4 ST=2 TYP=3
	245	SVTO	8	S	0819.0	0819.0	U	50.0		QL=2 ST=2 TYP=3
	3000	IZMI	20	GRF	0920.5	0924.4	32.0	16.0		
	204	IZMI	7	C	1038.2	1038.2	0.2	223.0		
	204	IZMI	7	C	1038.9	1039.0	0.3	24.0		
	245	SGMR	8	S	1633.0	1633.0	U	63.0		QL=4 ST=3 TYP=3
6700	CUBA	20	GRF	1821.0	1824.0	114.0D	8.0		33L 2015 OFF	
245	PALE	8	S	1943.0	1943.0	U	120.0		QL=4 ST=2 TYP=3	
245	SGMR	8	S	1943.0	1943.0	U	140.0		QL=4 ST=3 TYP=3	
9500	CUBA	1	S	2013.8	2015.0	6.2	6.0	3.0		
8800	LEAR	8	S	2342.0	2343.0	1.0	23.0		QL=4 ST=2 TYP=3	
4995	LEAR	8	S	2342.0	2343.0	1.0	26.0		QL=4 ST=2 TYP=3	
27	280	CUBA	44	NS	1300.0E		490.0D		23.0	
	235	CUBA	44	NS	1300.0E		490.0D		13.0	
	2840	BEIJ	5	S	0111.0	0116.6	13.0	3.6	2.4	
	245	SVTO	8	S	0654.0	0654.0	2.0	56.0		QL=4 ST=2 TYP=3
	5730	IRKU	1	S	0705.0	0706.2	9.0	5.0	U	
	3000	IZMI	5	S	0848.3	0848.3	0.2	33.0		
28	280	CUBA	44	NS	1300.0E		530.0D		22.0	
	235	CUBA	44	NS	1500.0E		410.0D		9.0	
	5730	IRKU	47	GB	0459.3	0524.3	180.0U	670.0	U	
	2840	BEIJ	45	C	0505.0	0524.5	40.0	357.0	218.0	
	2695	LEAR	4	S/F	0515.0	0524.0	10.0	330.0		QL=4 ST=2 TYP=3
	4995	LEAR	4	S/F	0515.0	0524.0	10.0	490.0		QL=4 ST=2 TYP=3
	2700	PURP	3	S	0515.0	0525.0	13.0	157.0	100.0	
	1415	LEAR	4	S/F	0516.0	0523.0	9.0	62.0		QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0516.0	0524.0	9.0	360.0		QL=4 ST=2 TYP=3
	2800	HIRA	4	S/F	0517.2	0525.0	20.0	27.0		0
	2800	HIRA	4	S/F	0517.2	0525.0	20.0	27.0		0
	15400	LEAR	4	S/F	0518.0	0524.0	7.0	140.0		QL=4 ST=2 TYP=3
	500	HIRA	42	SER	0523.6	0525.0	2.2	7.0		0
	500	HIRA	42	SER	0523.6	0525.0	2.2	70.0		0
	8800	LEAR	4	S/F	0545.0	0547.0	8.0	180.0		QL=4 ST=2 TYP=3
15400	LEAR	4	S/F	0545.0	0547.0	6.0	250.0		QL=4 ST=2 TYP=3	
4995	LEAR	4	S/F	0545.0	0547.0	8.0	110.0		QL=4 ST=2 TYP=3	

S O L A R R A D I O E M I S S I O N
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DECEMBER 1998

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks	
							Peak (10 ⁻²² W/m ² Hz)	Mean			
28	2840	BEIJ	3 S	0545.0	0546.5	12.0	94.5	57.6			
	2695	LEAR	4 S/F	0546.0	0547.0	7.0	110.0			QL=4 ST=2 TYP=3	
	1415	LEAR	4 S/F	0546.0	0547.0	7.0	280.0			QL=4 ST=2 TYP=3	
	610	LEAR	8 S	0546.0	0546.0	1.0	51.0			QL=4 ST=2 TYP=3	
	2700	PURP	3 S	0547.0	0548.0	5.0	124.0	75.9			
	2800	HIRA	3 S	0547.2	0547.6	3.0	8.0			WL	
	2800	HIRA	3 S	0547.2	0547.6	3.0	80.0			WL	
	245	LEAR	8 S	0550.0	0551.0	2.0	390.0			QL=4 ST=2 TYP=3	
	3000	IZMI	5 S	1028.2	1028.4	0.6	9.0	4.0			
	610	SGMR	8 S	1456.0	1456.0	U	55.0			QL=4 ST=2 TYP=3	
	2800	PENT	40 F	1710.0	1716.0	22.0	22.0				
	610	SGMR	8 S	1717.0	1717.0	U	130.0			QL=4 ST=2 TYP=3	
	1415	SGMR	8 S	1717.0	1717.0	1.0	48.0			QL=4 ST=2 TYP=3	
	2695	SGMR	8 S	1717.0	1717.0	U	32.0			QL=4 ST=2 TYP=3	
	9500	CUBA	1 S	1717.1	1717.6	0.9	14.0	7.0			
	6700	CUBA	1 S	1717.3	1717.8	1.1	10.0	5.0			40L
	245	SGMR	8 S	1719.0	1719.0	U	460.0			QL=4 ST=2 TYP=3	
	6700	CUBA	1 S	1733.3	1735.6	6.4	8.0	4.0			9R
	245	SGMR	4 S/F	1800.0	1803.0	8.0	180.0			QL=4 ST=2 TYP=3	
	1415	SGMR	4 S/F	1804.0	1806.0	3.0	49.0			QL=4 ST=2 TYP=3	
	2695	SGMR	4 S/F	1806.0	1806.0	6.0	23.0			QL=4 ST=2 TYP=3	
	4995	LEAR	4 S/F	2318.0	2322.0	26.0	66.0			QL=4 ST=2 TYP=3	
	8800	LEAR	4 S/F	2318.0	2322.0	41.0	100.0			QL=4 ST=2 TYP=3	
	2695	LEAR	8 S	2322.0	2322.0	1.0	26.0			QL=4 ST=2 TYP=3	
	15400	LEAR	4 S/F	2334.0	2336.0	11.0	43.0			QL=4 ST=2 TYP=3	
	29	280	CUBA	44 NS	1300.0E		530.0D		17.0		
		3000	IZMI	20 GRF	1007.2	1014.2	9.3	13.0			
		410	LEAR	8 S	1011.0	1011.0	U	100.0			QL=4 ST=2 TYP=3
1415		LEAR	8 S	1011.0	1011.0	U	36.0			QL=4 ST=2 TYP=3	
2695		LEAR	8 S	1011.0	1011.0	U	39.0			QL=4 ST=2 TYP=3	
4995		SVTO	8 S	1011.0	1011.0	U	29.0			QL=4 ST=2 TYP=3	
410		SVTO	8 S	1011.0	1011.0	U	100.0			QL=2 ST=2 TYP=3	
1415		SVTO	8 S	1011.0	1011.0	U	32.0			QL=4 ST=2 TYP=3	
2695		SVTO	8 S	1011.0	1011.0	U	39.0			QL=4 ST=2 TYP=3	
3000		IZMI	7 C	1011.0	1011.2	1.0	29.0				
9500		CUBA	1 S	1507.3	1508.2	4.3	14.0	7.0			
6700		CUBA	1 S	1508.7	1509.6	4.7	18.0	9.0			9R
9500		CUBA	1 S	1517.3	1518.4	6.4	11.0	5.0			
6700		CUBA	1 S	1518.5	1519.6	5.1	8.0	4.0			00R
6700		CUBA	4 S/F	1550.4	1552.0	7.9	19.0	9.0			13R
9500	CUBA	1 S	1550.6	1551.8	3.7	11.0	5.0				
9500	CUBA	2 S/F	2026.0	2027.8	5.8	31.0	15.0				
6700	CUBA	2 S/F	2026.1	2027.8	5.9	39.0	19.0			3R	
30	235	CUBA	44 NS	1500.0E		410.0D		9.0			
	4995	LEAR	8 S	0004.0	0004.0	1.0	28.0			QL=4 ST=2 TYP=3	
	8800	LEAR	8 S	0004.0	0004.0	1.0	65.0			QL=4 ST=2 TYP=3	
	5730	IRKU	1 S	0508.4	0509.4	4.6	14.0			U	
	5730	IRKU	46 C	0529.0	0545.4	74.0	50.0			U	
	2840	BEIJ	5 S	0533.0	0538.5	27.0	21.0	11.8			
	2700	PURP	1 S	0535.0	0539.0	6.0	39.0	14.0			
	5730	IRKU	1 S	0737.3	0738.1	3.5	10.0			U	
	5730	IRKU	1 S	0749.3	0749.5	6.3	5.0			U	
	204	IZMI	42 SER	0905.8	0906.9	3.1	390.0				
	245	LEAR	8 S	0906.0	0906.0	1.0	290.0			QL=4 ST=2 TYP=3	
	245	SVTO	8 S	0906.0	0906.0	1.0	280.0			QL=2 ST=3 TYP=3	
	204	IZMI	42 SER	1126.4	1128.9	2.6	51.0				
	9500	CUBA	22 GRF	1358.0	1539.0	119.0	17.0	8.0			
	6700	CUBA	20 GRF	1524.0	1524.0	16.0	13.0	6.0			2L
	9500	CUBA	2 S/F	1529.2	1530.1	5.4	32.0	16.0			
	6700	CUBA	21 GRF	1805.0	1818.0	26.0	7.0	3.0			7R
	6700	CUBA	1 S	1805.8	1806.2	2.2	58.0	29.0			12R
	8800	SGMR	8 S	1806.0	1807.0	2.0	24.0			QL=4 ST=2 TYP=3	
	4995	SGMR	8 S	1806.0	1807.0	2.0	32.0			QL=4 ST=2 TYP=3	
9500	CUBA	1 S	1806.8	1807.2	0.9	19.0	9.0				
245	PALE	8 S	1950.0	1951.0	1.0	190.0			QL=4 ST=2 TYP=3		
410	PALE	8 S	1951.0	1951.0	U	91.0			QL=4 ST=2 TYP=3		
245	SGMR	8 S	1951.0	1951.0	1.0	200.0			QL=4 ST=2 TYP=3		

S O L A R R A D I O E M I S S I O N
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DECEMBER 1998

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m ² Hz)	Mean		
30	L	410	SGMR	8 S	1951.0	1951.0	1.0	96.0		QL=4 ST=2 TYP=3
		9500	CUBA	1 S	2042.0	2044.1	6.2	11.0	5.0	
		9500	CUBA	1 S	2134.4	2135.0	1.6	14.0	7.0	
		9500	CUBA	1 S	2149.3	2150.1	1.7	13.0	6.0	
31		5730	IRKU	21 GRF	0302.0	0314.7	27.0	38.0	U	QL=4 ST=2 TYP=3
		5730	IRKU	1 S	0407.2	0409.7	5.8	8.0	U	
		410	LEAR	8 S	0418.0	0419.0	1.0	50.0		
		8800	LEAR	4 S/F	0628.0	0629.0	9.0	330.0		
		5730	IRKU	4 S/F	0628.5	0629.7	23.0	140.0	U	
		4995	LEAR	4 S/F	0629.0	0629.0	8.0	88.0		
		15400	LEAR	8 S	0629.0	0629.0	1.0	97.0		
		2840	BEIJ	5 S	0649.0	0654.2	12.0	7.5	4.3	
		245	LEAR	8 S	0654.0	0655.0	1.0	110.0		
		245	SVTO	8 S	0654.0	0655.0	1.0	110.0		
		410	LEAR	8 S	0655.0	0655.0	1.0	140.0		
		410	SVTO	8 S	0655.0	0655.0	1.0	240.0		
		610	LEAR	8 S	0656.0	0656.0	1.0	100.0		
		610	SVTO	8 S	0656.0	0656.0	1.0	100.0		
		5730	IRKU	1 S	0656.5	0656.9	1.5	7.0	U	
		5730	IRKU	1 S	0700.0	0700.5	1.0	7.0	U	
		5730	IRKU	4 S/F	0717.7	0718.8	7.3	114.0	U	
		8800	LEAR	8 S	0718.0	0718.0	1.0	140.0		
		4995	LEAR	8 S	0718.0	0718.0	1.0	52.0		
		4995	SVTO	8 S	0718.0	0718.0	1.0	64.0		
		8800	SVTO	8 S	0718.0	0718.0	2.0	160.0		
		8800	LEAR	8 S	1038.0	1039.0	1.0	58.0		
		8800	SVTO	8 S	1038.0	1038.0	1.0	75.0		
		4995	LEAR	8 S	1040.0	1041.0	1.0	42.0		
		4995	LEAR	8 S	1043.0	1044.0	1.0	54.0		
		8800	SGMR	8 S	1455.0	1456.0	2.0	93.0		
		8800	SVTO	8 S	1455.0	1456.0	1.0	60.0		
		15400	SGMR	4 S/F	1456.0	1456.0	6.0	30.0		
		4995	SGMR	8 S	1456.0	1456.0	U	48.0		
		2695	SGMR	8 S	1456.0	1456.0	1.0	32.0		
		2695	SVTO	8 S	1456.0	1456.0	U	29.0		
4995	SVTO	8 S	1456.0	1456.0	U	36.0				
245	SGMR	8 S	1553.0	1553.0	1.0	68.0				
245	PALE	8 S	1755.0	1756.0	2.0	150.0				
245	SGMR	8 S	1756.0	1756.0	1.0	160.0				

Reports are received routinely from the following observatories:

BERN = Berne	HUMN = Humain	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	IZMI = IZMIRAN	PEKG = Peking	TORN = Torun
CUBA = Havana	KISV = Kislovodsk	PALE = Palehua	TRST = Trieste
GORK = Gorky	KRAK = Krakow	PENT = Penticton	TYKW = Toyokawa
HIRA = Hiraiso	LEAR = Learmonth	POTS = Potsdam	UPIC = Upice
HUAN = Huancayo	NOBE = Nobeyama	SGMR = Sagamore Hill	

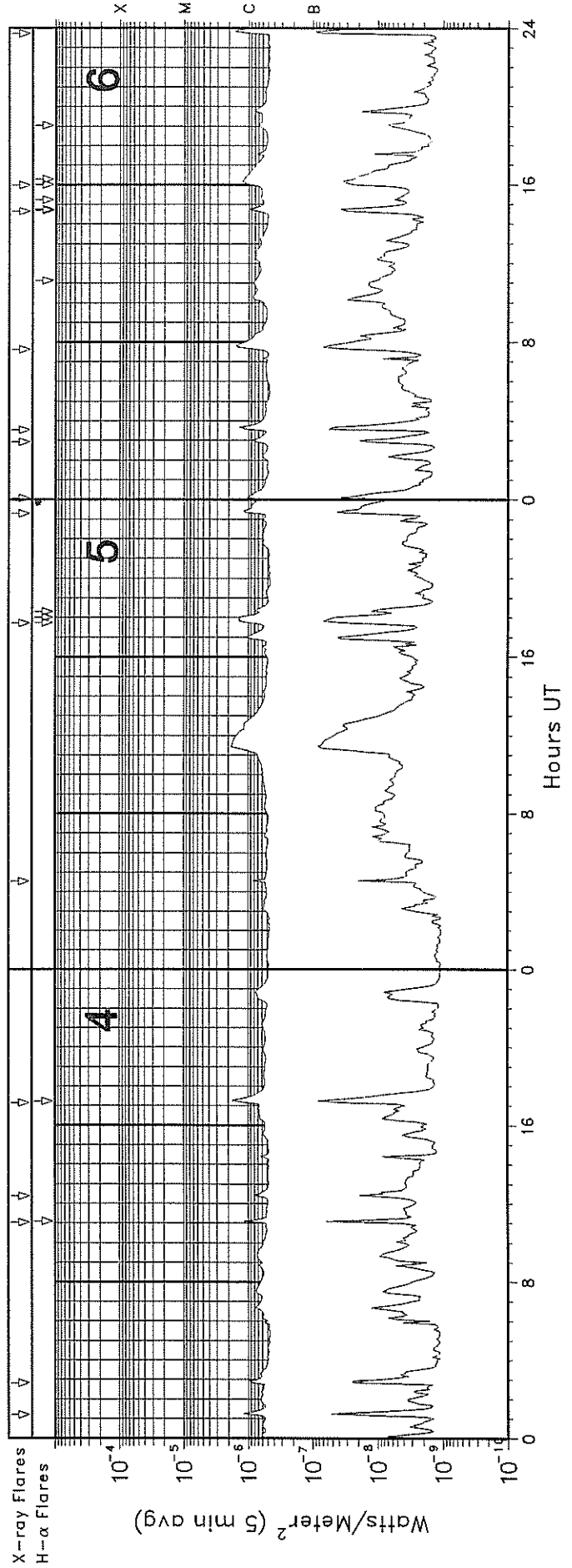
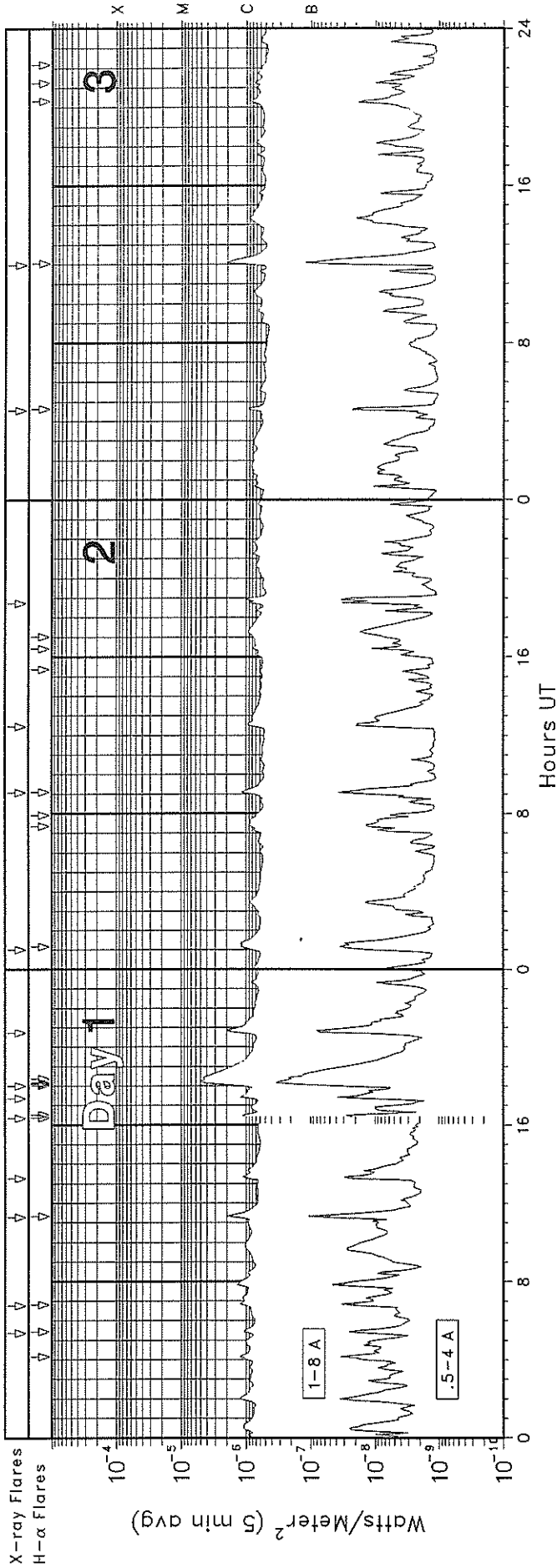
Explanation of Type Code:

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	

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; Penticton, Canada 2800 MHz; and Hiraiso, Japan 500 and 200 MHz.

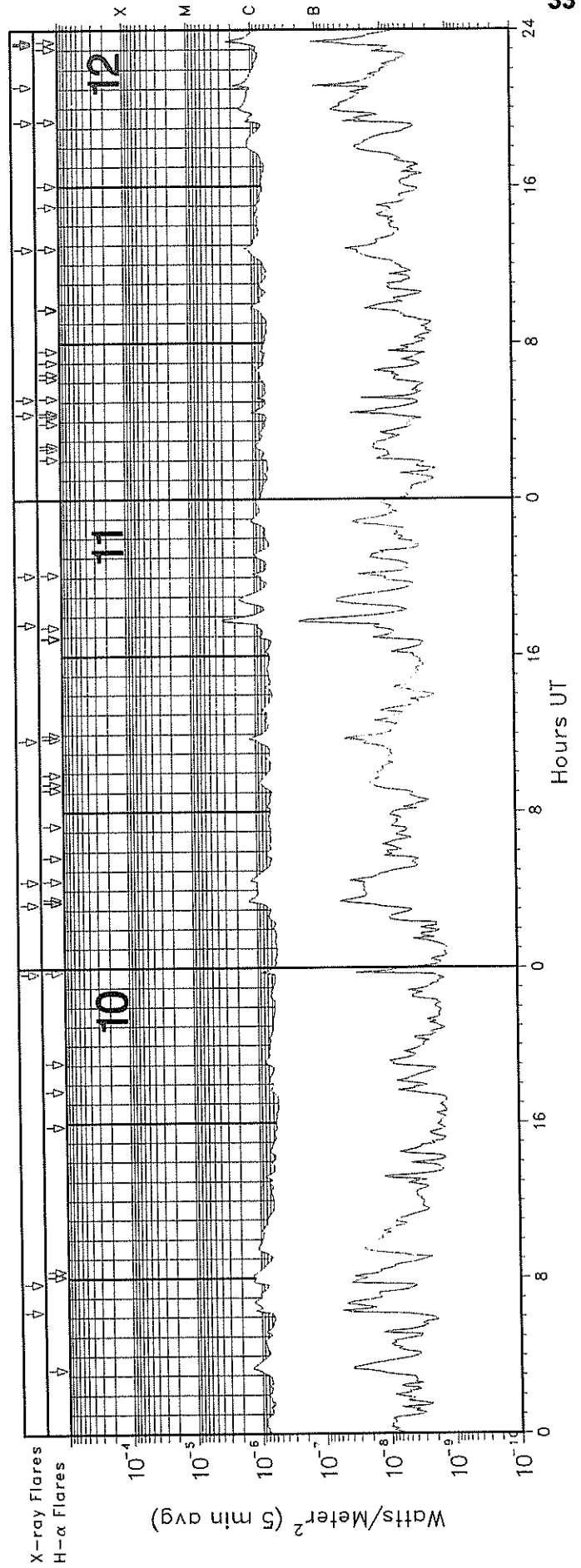
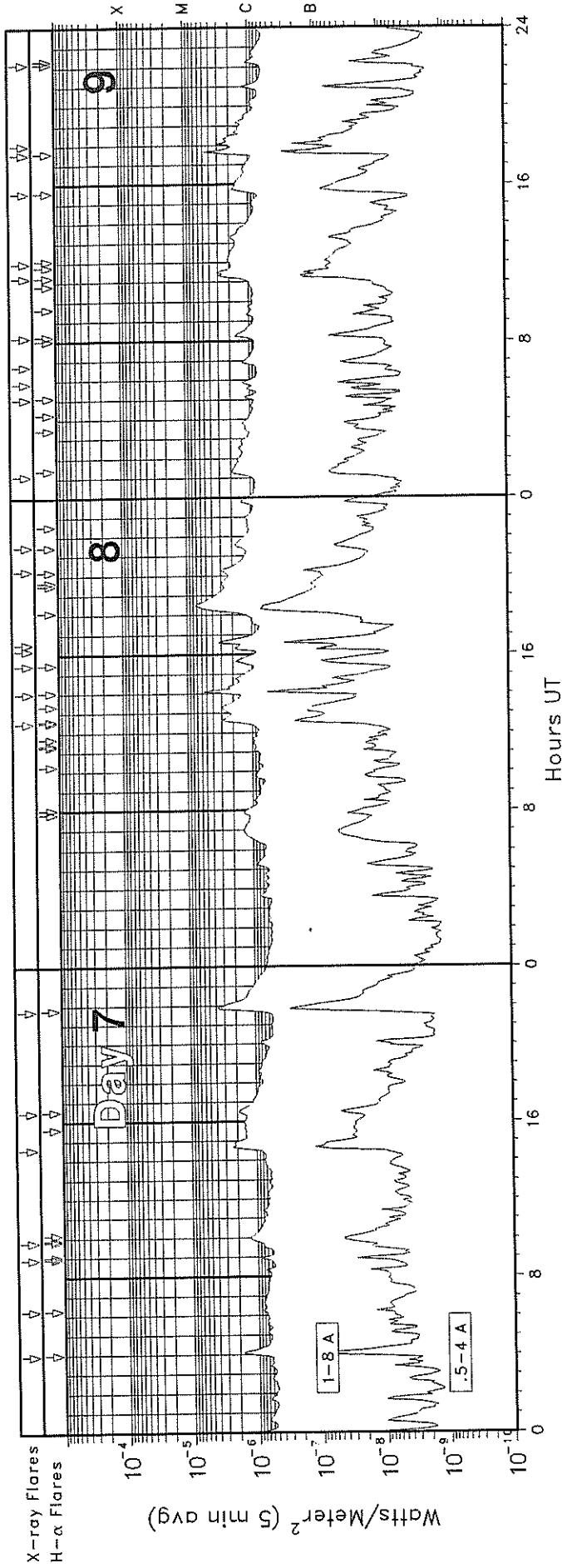
GOES X-RAY DETECTOR

December 1998

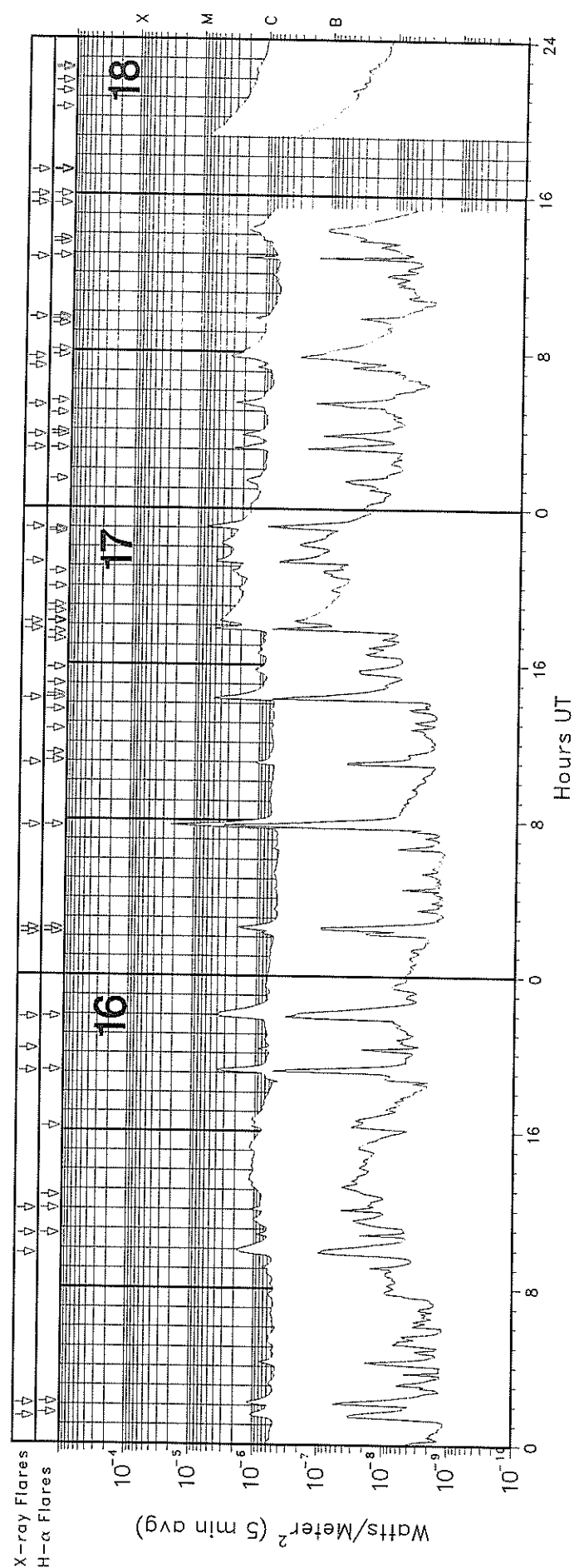
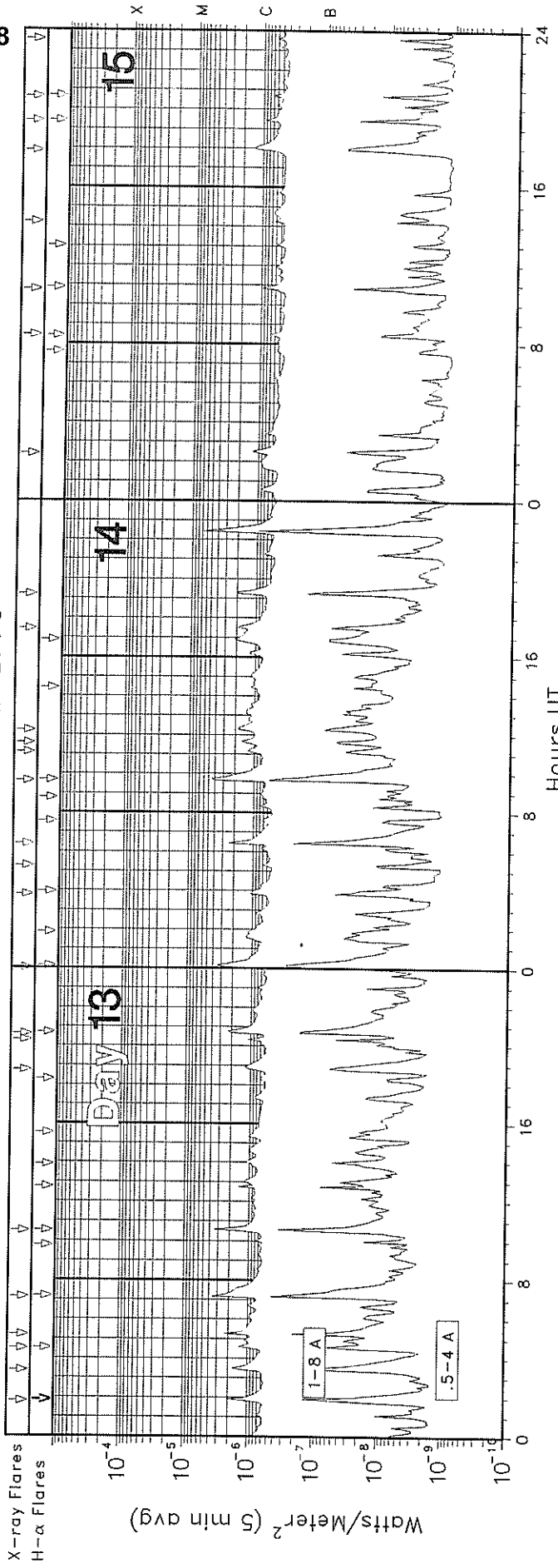


GOES X-RAY DETECTOR

December 1998

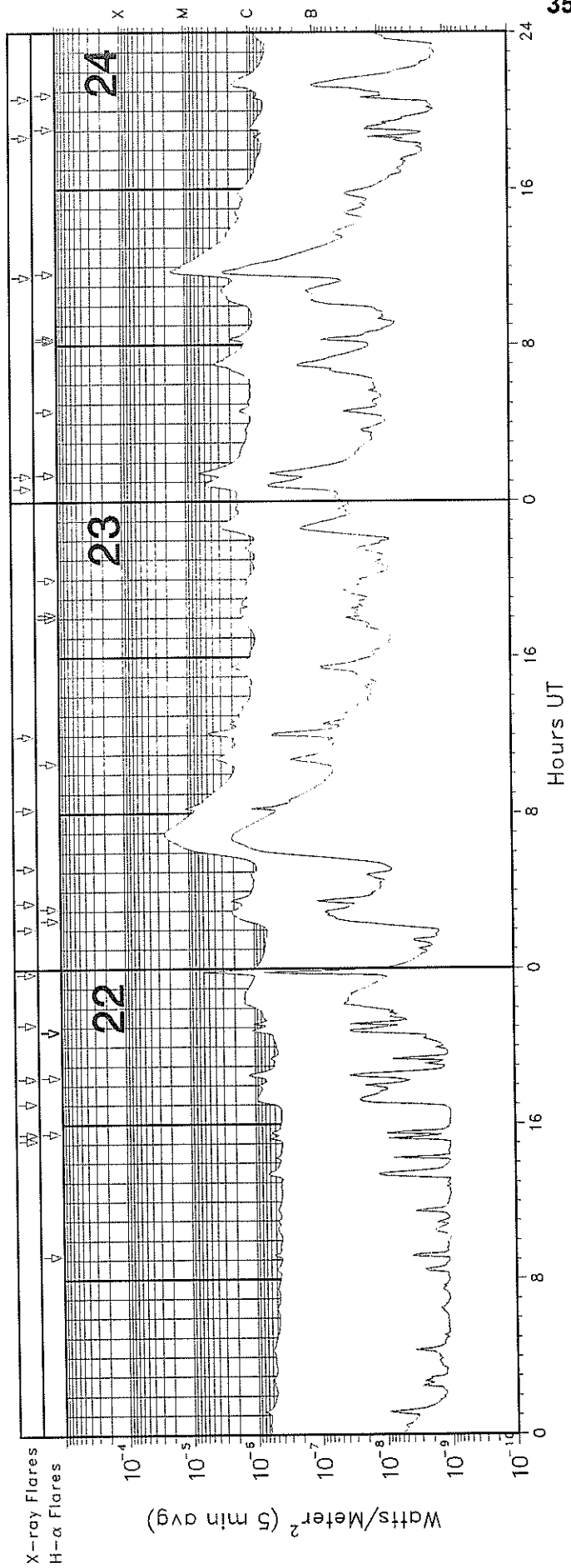
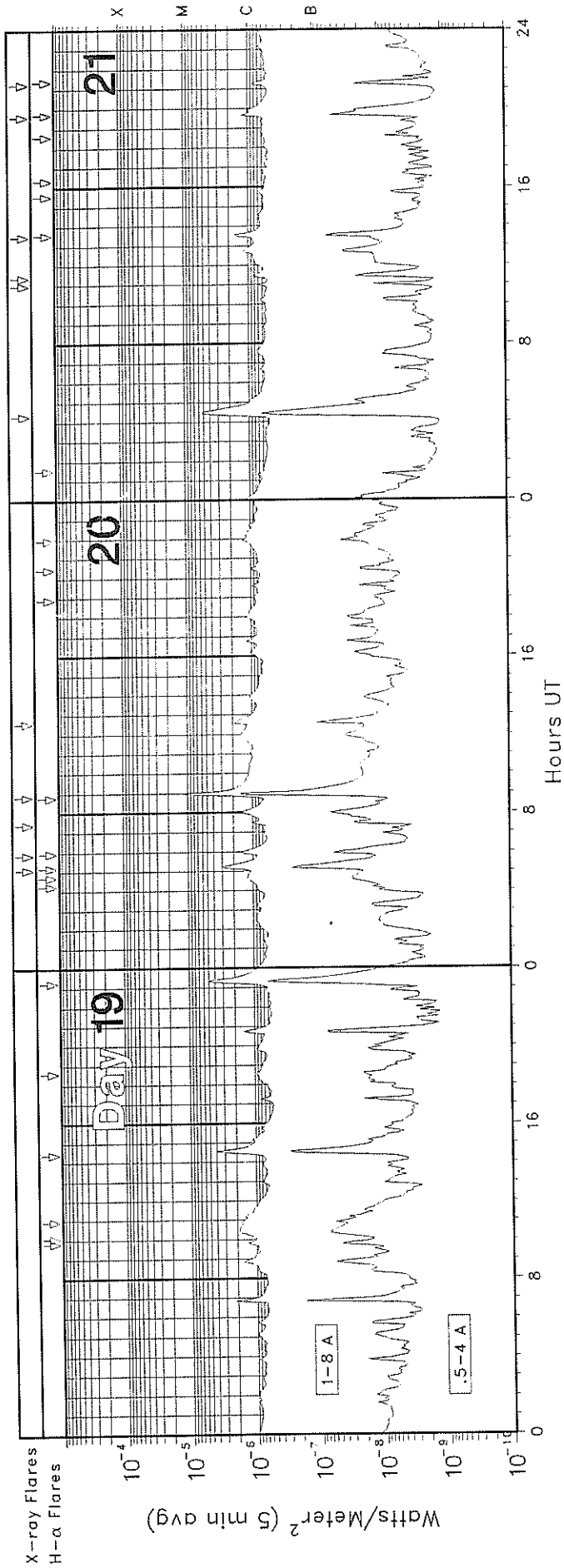


GOES X-RAY DETECTOR December 1998



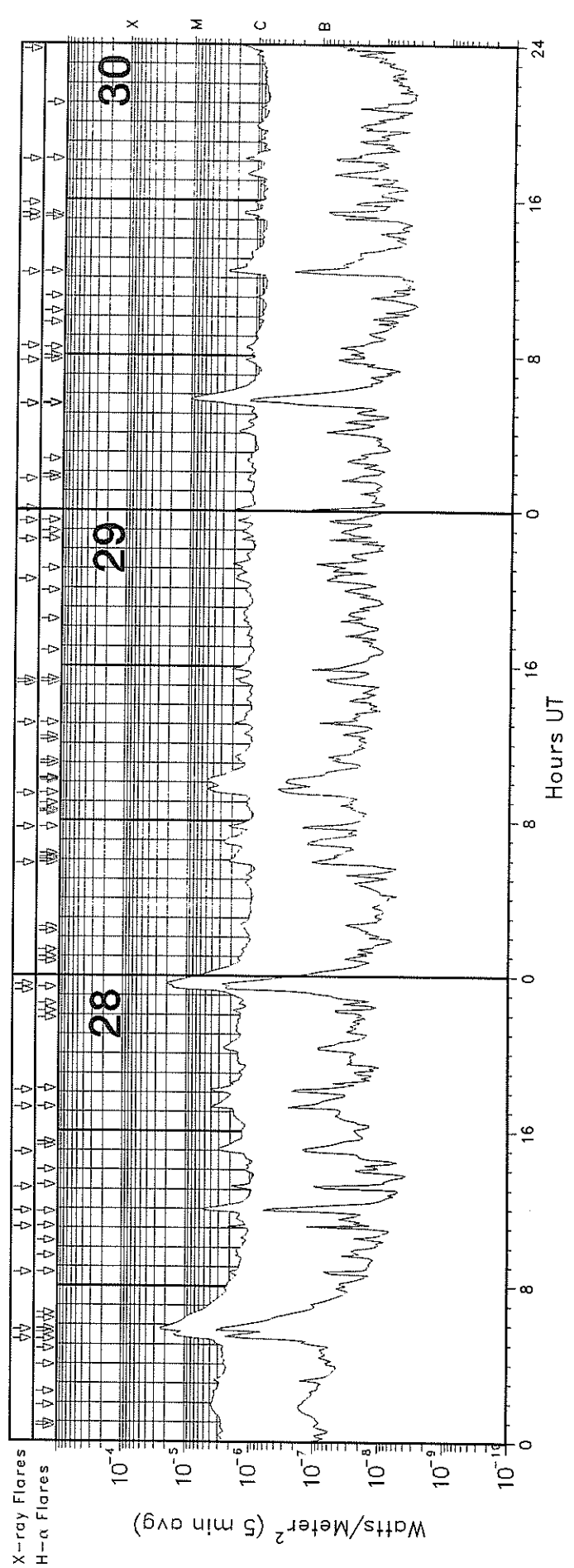
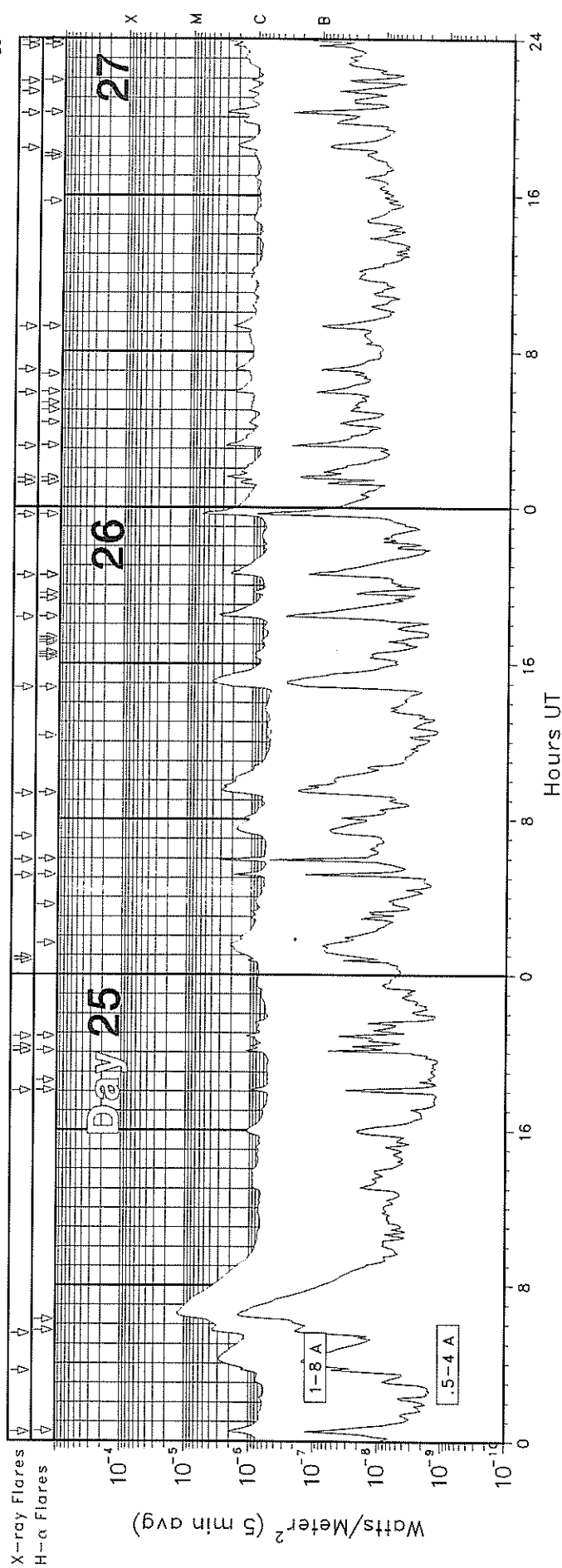
GOES X-RAY DETECTOR

December 1998



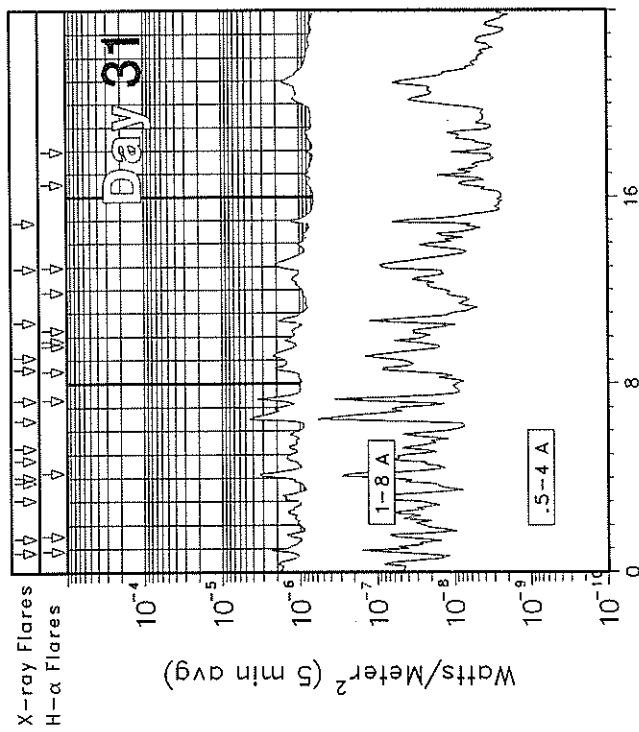
GOES X-RAY DETECTOR

December 1998



GOES X-RAY DETECTOR

December 1998



GOES SOLAR X-RAY FLARES
Preliminary Listing

December 1998

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/USAF Region	Flux
01	0522	0528	0538	N22	E14	SF	C1.0	8395	9.5E-04
01	0646	0650	0655	N22	E13	SF	C1.2	8395	6.2E-04
01	1116	1122	1127	N22	E09	SF	C2.1		1.1E-03
01	1315	1321	1331				C1.1		9.7E-04
01	1620	1626	1630	N15	E58	SF	C1.3	8397	6.6E-04
01	1721	1727	1742				C1.2		1.3E-03
01	1800	1816	1841	N21	W01	1F	C5.0	8402	9.0E-03
01	2043	2050	2100				C2.0		1.7E-03
02	0100	0111	0128	N23	W05	SF	C1.2	8395	1.8E-03
02	0905	0909	0912	N17	E59	SF	C1.3	8402	4.9E-04
02	1227	1236	1305				B9.6		1.9E-03
02	1844	1849	1851				C1.1		3.8E-04
03	0434	0438	0444	N14	E34	SF	C1.0	8397	5.4E-04
03	1159	1207	1220	N19	W25	SF	C2.0	8395	1.9E-03
04	0111	0116	0120				C1.3		5.4E-04
04	0249	0253	0300				C1.0		6.0E-04
04	1102	1106	1110	N15	E25	SF	C1.3	8402	4.7E-04
04	1223	1227	1230				B8.5		3.1E-04
04	1709	1716	1724	N27	W24	SF	C1.8	8399	1.3E-03
05	0433	0437	0439				C1.0		2.8E-04
05	1743	1754	1807	S19	W78	SF	C1.5	8393	1.8E-03
05	2317	2324	2335				C1.2		1.1E-03
06	0004	0008	0013				C1.2		5.5E-04
06	0255	0300	0306				B9.3		5.5E-04
06	0333	0339	0345				C1.6		8.3E-04
06	0738	0750	0804				C1.6		2.0E-03
06	1440	1446	1452	N19	E02	SF	C1.0	8402	6.3E-04
06	1600	1612	1635	S16	E68	SF	C1.2	8397	2.3E-03
06	2343	2352	2401				C1.6		1.4E-03
07	0357	0408	0416	N16	W08	SF	C1.7	8402	1.6E-03
07	0614	0617	0620	S16	E58	SF	B8.9	8405	3.0E-04
07	0853	0858	0903	N17	W08	SF	B9.0	8402	4.8E-04
07	0946	1001	1014	N17	W09	SF	C1.3	8402	2.0E-03
07	1434	1442	1506				C2.3		3.8E-03
07	1629	1633	1643	S13	E53	SF	C1.9	8405	1.5E-03
07	2143	2154	2210	S15	E51	SF	C3.9	8405	4.6E-03
08	1230	1321	1336	S25	W18	SF	C2.9	8404	9.8E-03
08	1400	1407	1413	S14	E40	SF	C5.7	8405	3.4E-03
08	1527	1541	1551				C1.8	8404	2.1E-03
08	1613	1618	1631				C2.0		1.8E-03
08	1632	1638	1645				C3.5		2.2E-03
08	2015	2017	2025	N27	W75	SF	C3.1	8404	1.7E-03
08	2129	2135	2152	S14	E37	SF	C1.8	8405	2.3E-03
09	0107	0122	0204	S14	E38	SF	C1.9	8405	5.6E-03
09	0503	0511	0514	N17	W34	SF	C1.2	8402	7.4E-04
09	0550	0554	0558				C1.4		6.2E-04
09	0644	0655	0710				C1.2		1.7E-03
09	0812	0817	0828	S14	E30	SF	C1.6	8405	1.5E-03
09	1114	1132	1140				C3.1		4.2E-03
09	1158	1200	1223	S15	E29	SF	C2.1	8405	3.7E-03
09	1534	1547	1552	N19	W40	SF	C1.8	8402	1.5E-03
09	1734	1740	1745	S14	E26	1N	C5.9		2.3E-03
09	1801	1806	1810				C3.2		1.4E-03
09	2210	2216	2227	S19	E40	SF	C1.1	8406	9.8E-04
10	0617	0621	0627				C1.2		6.8E-04
10	0743	0808	0819	S19	E34	SF	C1.4	8408	2.7E-03
10	2343	2348	2351	S22	W51	SF	B9.3	8404	3.8E-04

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/USAF Region	Flux
11	0318	0326	0336				C1.3	8404	1.2E-03
11	0428	0431	0440	S17	E07	SF	C1.2	8405	8.6E-04
11	1141	1149	1156	S17	E20	SF	C1.3	8408	1.0E-03
11	1739	1749	1758	S19	E17	SF	C3.4	8408	2.8E-03
11	2007	2011	2014	S29	E29	SF	C1.1	8409	4.2E-04
12	0422	0428	0431	S20	E12	SF	C1.1	8409	5.1E-04
12	0509	0513	0515	S28	E21	SF	C1.0	8409	3.0E-04
12	1248	1251	1253	S29	E26	SF	C1.3	8409	3.7E-04
12	1918	1922	1926	S20	W69	SF	C1.3	8404	5.5E-04
12	2108	2112	2114				C2.5		6.3E-04
12	2317	2320	2322	S22	W73	SF	C1.6	8404	4.0E-04
12	2323	2328	2332	S16	W18	1F	C3.0		1.2E-03
13	0148	0156	0158				C2.7	8409	9.2E-04
13	0323	0331	0337				C1.8		1.2E-03
13	0430	0436	0445	S16	W04	SF	C1.4	8408	1.0E-03
13	0512	0516	0518				C3.0		7.3E-04
13	0707	0712	0715	S22	W85	SF	C5.5		1.3E-03
13	1030	1035	1041	S19	W04	SF	C3.7	8408	1.7E-03
13	1845	1855	1908				C1.2		1.5E-03
13	2018	2022	2025				C1.2		4.3E-04
13	2037	2043	2052	S18	W10	SF	C2.8	8408	1.7E-03
14	0001	0010	0012	S19	W12	SN	C7.0	8408	1.7E-03
14	0348	0353	0357	S20	W15	1F	C1.2		5.4E-04
14	0516	0520	0525				B7.3		3.6E-04
14	0624	0628	0631				C3.6		9.6E-04
14	0938	0944	0948	S19	W19	SN	C7.3	8408	2.3E-03
14	1106	1110	1120				C1.3		9.9E-04
14	1136	1140	1143				C1.7		6.5E-04
14	1214	1218	1225				C1.9		1.1E-03
14	1727	1734	1738				C1.9		1.1E-03
14	1913	1919	1923				C2.6		1.1E-03
15	0224E	0231U	0238D				C1.3		
15	0826	0829	0833	S20	W30	SF	B7.3	8408	2.8E-04
15	1047	1053	1057	S28	W15	SF	C1.0	8409	5.1E-04
15	1414	1417	1420				B7.0		2.2E-04
15	1752	1801	1815				C1.3		1.6E-03
15	1923	1928	1931				C1.0		4.3E-04
15	2037	2041	2045	S18	W36	SF	B7.5		3.1E-04
15	2332	2336	2339				B6.4		2.4E-04
16	0123	0133	0144	N21	E21	SF	C1.0	8410	1.2E-03
16	0203	0209	0213	S19	W40	SF	C1.5		6.7E-04
16	0944	1001	1012				C1.8		2.5E-03
16	1043	1047	1050	S25	W33	SF	C1.0		3.7E-04
16	1158	1203	1206	S28	W28	SF	C1.2	8409	5.2E-04
16	1902	1909	1914	S28	W40	SN	C5.4	8409	2.4E-03
16	2012	2015	2019				C1.0		3.7E-04
16	2149	2200	2215	S18	W53	1F	C4.0		4.8E-03
17	0210	0215	0220	S16	W55	SF	B9.2	8408	4.9E-04
17	0224	0230	0235	S17	W54	SF	C2.2		1.1E-03
17	0740	0745	0749	S27	W46	1N	M3.2		9.1E-03
17	1054	1059	1105	S28	W50	SF	C1.4		7.1E-04
17	1412	1418	1422	S28	W51	SN	C7.2		2.5E-03
17	1746	1753	1757	N17	E70	1F	C6.4		2.6E-03
17	1809	1815	1837	S16	W66	SF	C4.5	8408	6.2E-03
17	2112	2119	2127				C5.9		3.9E-03
17	2258	2306	2310	N19	E71	1F	C8.3	8415	3.9E-03
18	0302	0307	0311	N18	E71	SF	C3.1	8415	1.2E-03
18	0343	0348	0351	N18	E69	SF	C2.5	8415	9.7E-04
18	0514	0527	0530	N18	E69	SF	C3.4	8415	1.9E-03

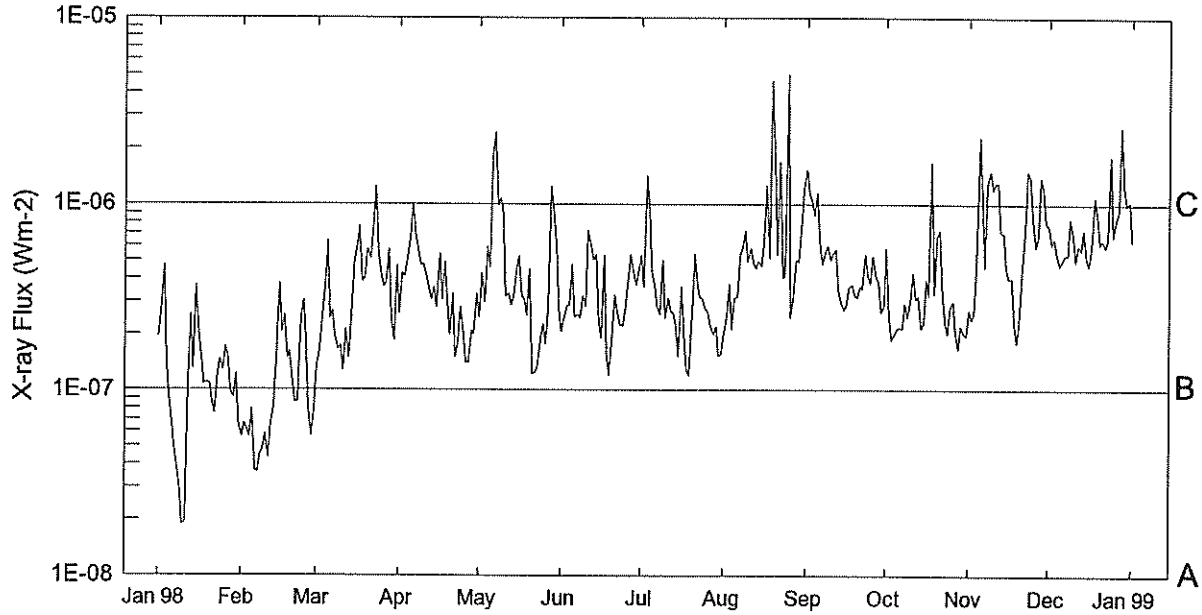
GOES SOLAR X-RAY FLARES
 Preliminary Listing

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 Dec 98

December 1998

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/	Region	Flux	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/	Region	Flux	
								USAF											USAF			
18	0712	0716	0720				C1.3			5.7E-04	27	0307	0312	0321	N26	E37	SF	C3.3	8421	1.9E-03		
18	0742	0750	0758	N19	E73	SF	C3.4	8415		2.8E-03	27	0552	0559	0608	N28	E37	SF	C2.2	8421	1.7E-03		
18	0942	0945	0948	S30	W57	SF	C1.6	8409		5.0E-04	27	0703	0708	0715				C2.2			1.3E-03	
18	1247	1252	1254	S29	W66	SF	C2.9	8409		6.7E-04	27	0915	0921	0927	N28	E35	SF	C2.3	8421	1.5E-03		
18	1533	1537	1540	N20	E63	SF	C1.3	8415		5.2E-04	27	1824	1836	1846				C2.0			2.4E-03	
18	1559	1605	1613	N19	E65	SF	C2.0	8415		1.4E-03	27	2012	2019	2024	N30	E33	SF	C3.4			1.9E-03	
18	1713	1722	1727				M8.0	8415		3.5E-02	27	2117	2123	2129				C1.4			9.5E-04	
											27	2150	2155	2201	N21	W19	SF	C1.4	8416		7.9E-04	
20	0507	0514	0521	N20	E44	SF	C3.4	8415		2.2E-03	27	2338	2342	2346	N21	W30	SF	C2.7	8423		1.1E-03	
20	0552	0600	0607	N18	E44	SF	C1.5	8415		1.2E-03	27	2353	2359	2410	N18	W19	SF	C3.6			3.0E-03	
20	0725	0730	0736				C1.1			6.2E-04												
20	0849	0900	0903	N21	E46	1N	M1.8	8415		6.2E-03	28	0515	0531	0544	N28	E26	SF	M1.4	8416		1.9E-02	
20	1234	1238	1243				C2.2			1.0E-03	28	0545	0548	0559	N25	W27	1B	M3.1				1.9E-02
											28	0841	0845	0847	N24	W30	SF	C2.5	8419		7.5E-04	
21	0417	0429	0440				C5.6			5.4E-03	28	1102	1106	1108				C2.8				7.0E-04
21	1057	1100	1103				B7.7			2.4E-04	28	1152	1200	1208	N26	W35	SF	C5.7				4.3E-03
21	1122	1127	1138				B8.5			7.3E-04	28	1305	1310	1313	N24	W33	SF	C2.3	8419		8.1E-04	
21	1328	1334	1338	N19	E63	SF	C2.0	8416		9.3E-04	28	1454	1505	1520	S20	E27	SF	C3.1	8422		4.0E-03	
21	1937	1941	1948	N21	E26	SF	C1.4	8415		7.1E-04	28	1713	1718	1724	N24	W34	1F	C5.0				2.4E-03
21	2114	2118	2122				B9.4			4.0E-04	28	1804	1811	1814	N25	W33	SF	C4.9	8419		2.4E-03	
											28	2315	2322	2333	N27	E14	1F	M1.7	8421		1.2E-02	
22	1512	1517	1522				B6.2			3.2E-04	28	2333	2338	2351	N24	W36	1F	M2.1				1.9E-02
22	1530	1534	1537	N18	E11	SF	B6.9	8415		2.5E-04	29	0549	0601	0624				C2.2	8421		4.0E-03	
22	1705	1720	1807				B8.9			2.9E-03	29	0739	0744	0750	N26	E10	SF	C2.6	8421		1.4E-03	
22	1822	1833	1845	N19	E58	SF	C1.2	8416		1.4E-03	29	0923	0941	0953	N27	E13	SF	C5.1	8421		6.7E-03	
22	2109	2113	2115	N19	E10	SF	C1.3	8415		3.7E-04	29	1302	1306	1310	N24	E06	SF	C2.0				8.2E-04
22	2345	2351	2355				C6.9			2.5E-03	29	1506	1510	1516	N27	E08	SF	C1.6	8421		8.6E-04	
23	0205	0250	0322	N26	W23	SF	C2.2			6.9E-03	29	1516	1552	1556	N27	E06	SF	C2.4				9.1E-04
23	0326	0332	0350				C2.2			2.5E-03	29	2026	2030	2033	N25	E01	SF	C2.0				8.0E-04
23	0513	0659	0743				M2.3			1.1E-01	29	2228	2233	2238	N29	E04	SF	C1.6	8421		8.5E-04	
23	0813	0816	0821				M1.1			5.0E-03	29	2326	2330	2333	N26	E00	SF	C2.0	8421		7.5E-04	
23	1157	1206	1213				C5.0			3.8E-03												
24	0040	0054	0107				C5.0			7.0E-03	30	0003	0007	0012				C2.1				9.4E-04
24	0120	0127	0134	N19	E32	SF	C6.2			4.4E-03	30	0135	0139	0142	N27	E01	SF	C1.5	8421		5.7E-04	
24	1129	1145	1214				M1.7	8421		3.0E-02	30	0526	0546	0600				M1.0	8421		1.2E-02	
24	1840	1843	1845				B9.8			2.6E-04	30	0528	0531	0534	N27	W01	SF	C2.9	8421		8.5E-04	
24	2037	2120	2145	N28	E62	1F	C1.8			4.7E-03	30	0741	0744	0748				C1.4				5.3E-04
											30	0826	0829	0832	N27	W02	SF	C1.6	8421		5.4E-04	
25	0028	0033	0037	N28	E60	SF	C2.2			1.0E-03	30	1214	1224	1232	N27	W05	SF	C3.0				2.4E-03
25	0337	0414	0449				C2.9			9.1E-03	30	1503	1507	1510	N24	W12	SF	C1.3	8421		4.3E-04	
25	0531	0634	0727	N30	E66	SF	M1.2	8421		5.0E-02	30	1517	1520	1528	N24	W10	SF	C1.9	8421		5.3E-04	
25	1801	1806	1811	N30	E58	SF	C1.0	8421		5.2E-04	30	1550	1554	1557				C1.3				4.7E-04
25	2003	2007	2010	N29	E57	SF	C1.3			4.5E-04	30	1804	1810	1815	N28	W06	SF	C1.7				9.3E-04
25	2017	2020	2023				C1.1			3.5E-04	30	2344	2423	2432				C2.1				4.7E-03
25	2048	2052	2056	N29	E59	SF	C1.2	8421		5.2E-04												
26	0044	0047	0049				C1.3			3.3E-04	31	0051	0055	0059	N27	W12	1F	C2.8	8421		9.7E-04	
26	0054	0138	0222	N29	E56	SF	C2.0	8421		7.8E-03	31	0126	0136	0140	N27	W12	SF	C1.6	8421		1.1E-03	
26	0507	0512	0515	N28	E52	SF	C2.4	8421		7.4E-04	31	0303	0315	0320				C1.8				1.6E-03
26	0555	0559	0601	S21	E64	SF	C7.8	8422		1.2E-03	31	0349	0353	0358				C1.3				6.3E-04
26	0707	0731	0803				C1.7			4.3E-03	31	0401	0412	0415	N28	W11	SF	C3.4				2.4E-03
26	0919	0934	0955	N27	E53	SF	C2.9	8421		5.2E-03	31	0445	0449	0502				C1.6				1.5E-03
26	1447	1507	1524	N25	E46	1F	C4.4	8421		7.0E-03	31	0516	0519	0521				C1.6				4.4E-04
26	1821	1830	1840	N26	W10	SF	C3.5	8419		3.0E-03	31	0626	0632	0642				C4.9				3.3E-03
26	2030	2039	2048	N27	W10	SF	C2.4			2.0E-03	31	0717	0720	0725	N25	W19	SF	C4.1	8421		1.5E-03	
26	2336	2344	2349	N26	W11	SF	C7.8			3.8E-03	31	0836	0839	0843	N27	W21	SF	C2.3	8421		8.8E-04	
											31	0906	0911	0922				C2.2				2.0E-03
27	0114	0119	0124	N26	W11	SF	C2.0	8419		9.7E-04	31	1036	1041	1051				C1.9				1.4E-03
27	0129	0135	0140	N26	W14	SF	C3.0	8419		1.5E-03	31	1254	1308	1318				C2.0				2.6E-03
											31	1454	1459	1505				C1.4				8.1E-04

Preliminary GOES Satellite Daily X-Ray Background Jan 98 - Dec 98



Day	Jan 98	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	B1.9	A5.6	B1.3	B2.6	B2.4	B2.0	B5.3	B1.9	C1.5	B5.8	B2.7	B7.5
2	B2.6	A6.6	B1.5	B4.3	B4.2	B2.4	B3.6	B2.4	C1.1	B2.4	B2.4	B6.0
3	B4.7	A6.1	B2.2	B4.1	B2.9	B2.8	C1.4	B3.7	C1.0	B1.8	B2.6	B6.5
4	B1.4	A5.5	B3.6	B5.2	B5.8	B2.8	B9.2	B2.1	B8.7	B2.0	B4.8	B5.4
5	A9.4	A7.9	B6.3	B6.6	B4.6	B4.7	B4.2	B3.1	C1.1	B2.1	C2.3	B4.7
6	A6.5	A3.6	B2.4	C1.0	C1.8	B2.4	B3.5	B3.1	B5.8	B2.1	C1.1	B5.0
7	A5.0	A3.5	B2.6	B6.6	C2.4	B2.5	B2.8	B5.4	B4.7	B2.1	B4.6	B5.3
8	A3.8	A4.5	B1.9	B5.6	B9.9	B2.4	B2.5	B5.8	B5.4	B2.9	C1.3	B5.3
9	A2.9	A4.7	B1.6	B4.7	C1.0	B3.2	B5.0	B7.2	B6.0	B2.4	C1.5	B8.3
10	A1.8	A5.7	B1.7	B4.8	B8.7	B2.8	B2.4	B4.9	B5.0	B3.0	C1.2	B6.8
11	A1.9	A4.3	B1.2	B4.1	B3.1	B7.2	B3.1	B5.8	B5.4	B4.2	C1.3	B4.9
12	B1.1	A6.6	B2.1	B3.5	B3.3	B6.0	B2.6	B4.8	B5.7	B3.0	C1.3	B6.0
13	B2.5	A7.9	B1.4	B3.1	B2.8	B5.0	B2.6	B4.5	B3.4	B3.2	B7.1	B5.6
14	B1.3	B1.4	B2.5	B3.6	B3.2	B5.3	B2.2	B4.9	B2.9	B2.1	B7.0	B7.2
15	B3.6	B3.7	B4.8	B2.8	B4.4	B2.3	B1.5	B4.6	B2.7	B2.3	B4.5	B5.1
16	B2.0	B2.0	B6.1	B5.4	B5.3	B1.9	B3.6	B6.5	B2.8	B3.9	B4.0	B4.6
17	B1.5	B2.5	B7.6	B3.1	B3.1	B5.3	B2.0	C1.2	B3.6	B3.2	B4.0	B5.8
18	B1.0	B1.4	B3.8	B4.9	B3.0	B1.5	B1.2	B5.1	B3.7	C1.6	B2.3	C1.0
19	B1.0	B1.6	B4.0	B3.0	B2.5	B1.2	B1.2	C4.5	B3.2	B3.3	B1.8	B8.7
20	B1.0	B1.1	B5.7	B2.0	B4.4	B1.9	B2.5	C1.6	B3.1	B6.7	B2.3	B6.1
21	A8.6	A8.6	B5.1	B3.3	B1.2	B3.2	B5.4	B5.3	B3.5	B7.2	B4.2	B6.3
22	A7.4	A8.6	B7.5	B1.5	B1.2	B2.6	B3.8	C1.6	B3.5	B3.7	B7.2	B5.9
23	B1.1	B2.4	C1.2	B1.8	B1.3	B2.2	B3.1	B4.0	B5.3	B2.3	C1.5	B6.5
24	B1.4	B3.0	B5.6	B2.8	B1.8	B2.2	B3.1	B4.1	B4.1	B2.0	C1.4	C1.8
25	B1.2	B1.8	B4.3	B2.0	B2.2	B2.7	B2.7	B4.9	B3.7	B2.8	B8.4	B6.7
26	B1.7	A8.0	B3.6	B1.4	B1.7	B3.8	B2.6	B2.4	B5.3	B3.0	B5.9	B8.0
27	B1.5	A5.6	B3.8	B1.4	B2.7	B5.3	B2.2	B3.0	B4.0	B2.1	B6.8	B9.2
28	A9.9	A7.5	B5.6	B2.1	C1.2	B4.4	B2.0	B5.0	B3.8	B1.6	C1.4	C2.5
29	A9.1		B2.5	B2.0	B8.8	B3.7	B2.2	B4.8	B2.6	B2.2	C1.2	C1.2
30	B1.2		B1.8	B3.3	B5.9	B4.4	B1.5	B7.3	B2.8	B2.0	B8.0	B9.9
31	A6.6		B4.6		B2.7		B1.5	C1.2		B1.9		C1.0

ACTIVE PROMINENCES AND FILAMENTS

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Dec 98

DECEMBER 1998

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
01	DSF	1001U	2223U	N06	E18	12	2.8		06	0	0	E	LEAR	8401	
06	DSF	1959U	1159U	N17	E63	12	11.6		14	0	0	E	RAMY		
13	EPL	2219	2229	N18	E90	12	20.8	3		9	9	E	HOLL		
19	DSF	1448U	0710U	S31	W22	12	17.9	2	05	0	0	E	SVTO		
22	DSF	2039U	1223U	N19	W21	12	21.2		14	0	0	E	RAMY		
22	DSF	2320U	1713U	N23	W23	12	21.2	2	10	0	0	E	HOLL	8414	
23	LPS	0642E	1000	N24	E89	12	30.1			5	6	E	LEAR		
23	DSF	1753U	1812U	N16	E37	12	26.5	3	05	9	9	E	RAMY	8416	Flare Associated
26	DSF	1026U	2242U	N03	E55	12	30.5	2	18	0	0	E	LEAR		
27	DSF	1007U	2239U	S23	W40	12	24.3		09	0	0	E	LEAR	8418	
27	DSF	1733	1805	S16	E36	12	30.5	2	08	5	5	E	RAMY	8422	Flare Associated

ADF = Active Dark Filament
AFS = Arch Filament System
APR = Active Prominence
ASR = Active Surge Region
BSD = Bright Surge on Disk

BSL = Bright Surge on Limb
CAP = CAP Prominence (Tandberg-Hanssen)
CRN = Coronal Rain
DSD = Dark Surge on Disk
DSF = Disappearing Solar Filament

EPL = Eruptive Prominence on Limb
LPS = Loops
MDP = Mound Prominence
SDF/DSF = Sudden Disappearing Filament
SPY = Spray
SSB = Solar Sector Boundary

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

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

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

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

ABST = Abastumani
ATHN = Athens
BUCA = Bucharest
CATA = Catania

HOLL = Holloman
KHAR = Kharkov
LEAR = Learmonth
PALE = Palehua

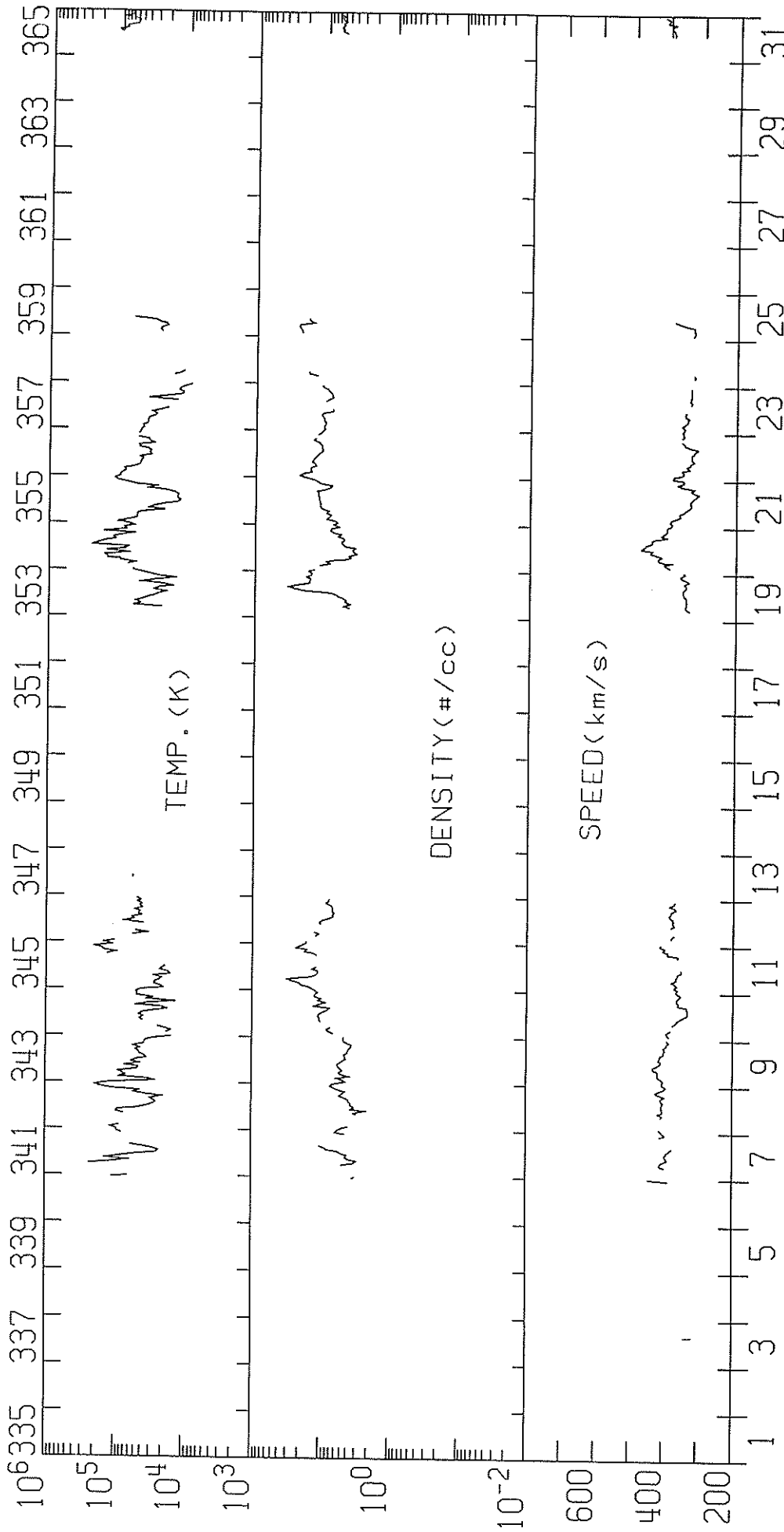
RAMY = Ramey
SVTO = San Vito
VORO = Voroshilov
VALA = Valasske Mezirici
WROC = Wroclaw

NOTE: The U.S. Air Force solar observing sites (HOLL, LEAR, RAMY, AND SVTO) have changed operational requirements and will only report the following: BSL, EPL, LPS, SPY, and DSF's.

IMP 8 SOLAR WIND PLASMA
DECEMBER 1998

MIT/CSR

IMP 8 PLASMA PARAMETERS



DEC 1998

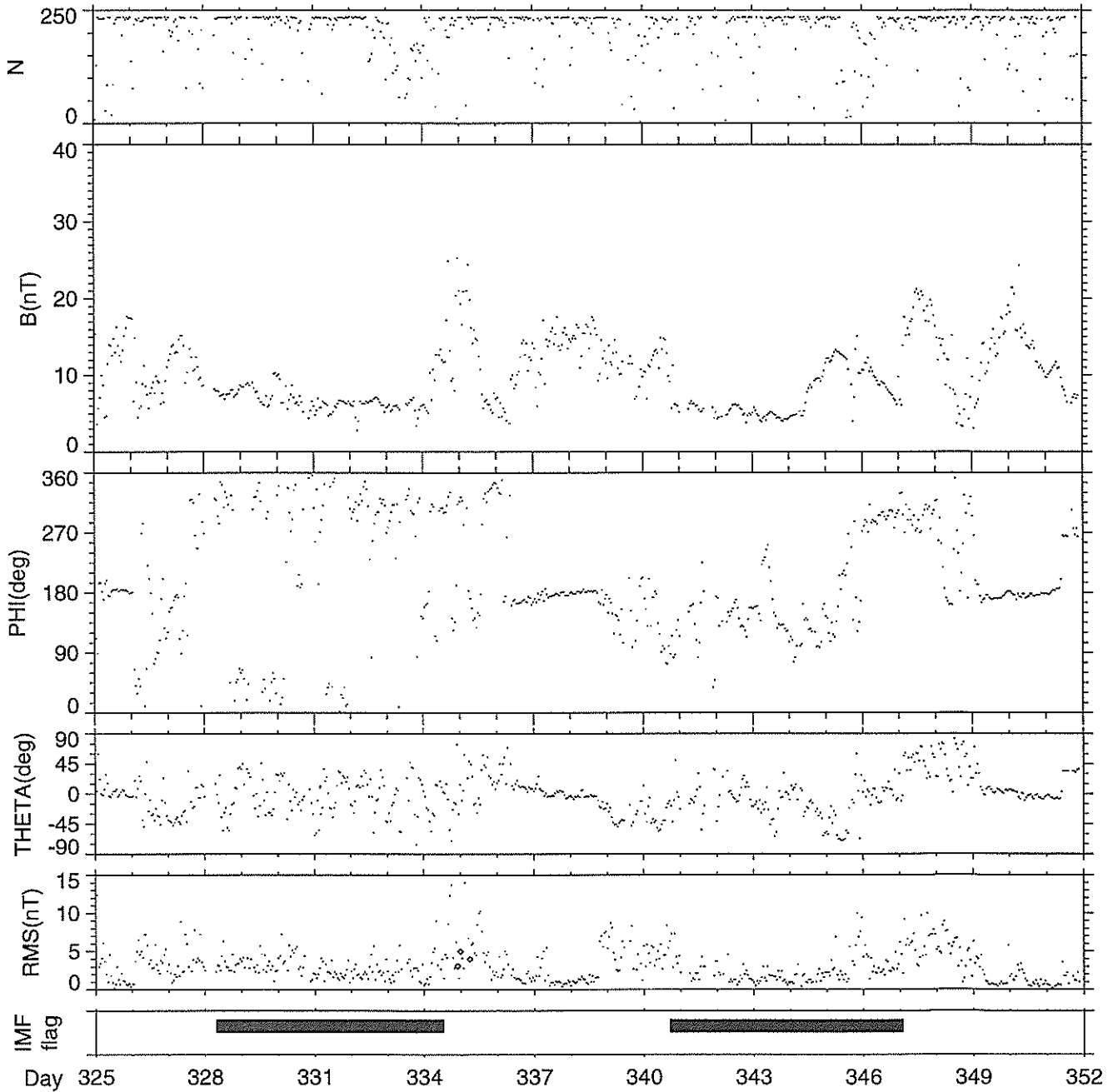
DEC 1998

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages

(c) DOY 325 - 352

November 21 1998 - December 18 1998



Generation Date : Thu May 27 11:40:20 1999

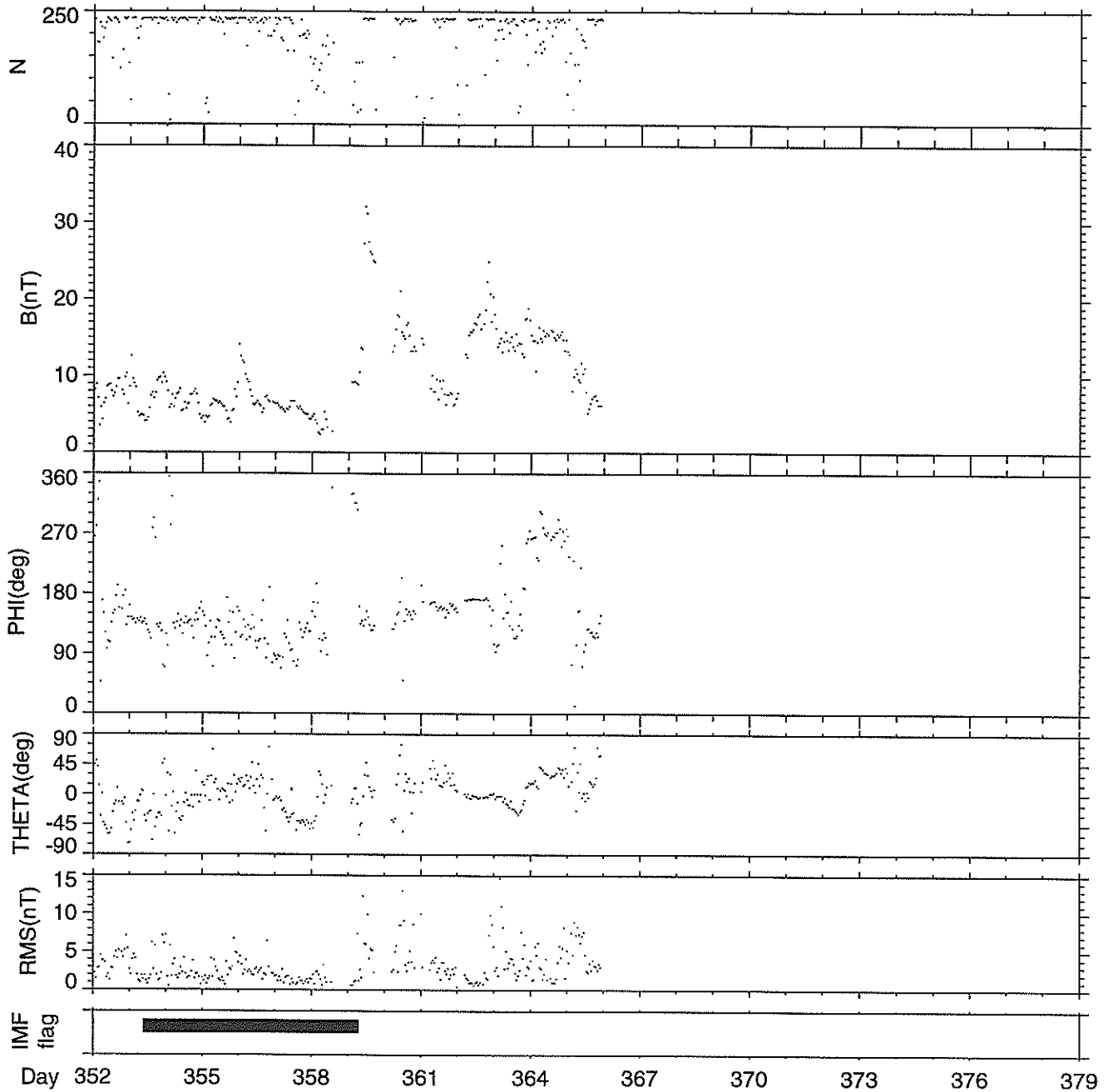
NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages

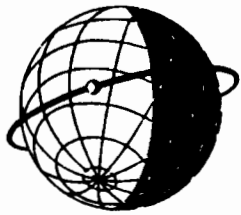
(c) DOY 352 - 365

December 18 1998 - December 31 1998



Generation Date : Thu May 27 11:40:23 1999

NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.



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

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