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Solar - Geophysical Data

Part II (Comprehensive Reports)

NO. 523 MARCH 1988

DATA FOR
SEPTEMBER 1987

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

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NUMBER 523

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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C O N T E N T S

Comprehensive Reports DATA FOR **SEPTEMBER 1987** Number 523 Part II

C A R T E S Y N O P T I Q U E
A C T I V E R E G I O N S
CARRINGTON ROTATION 1793

(6 September to 3 October 1987)

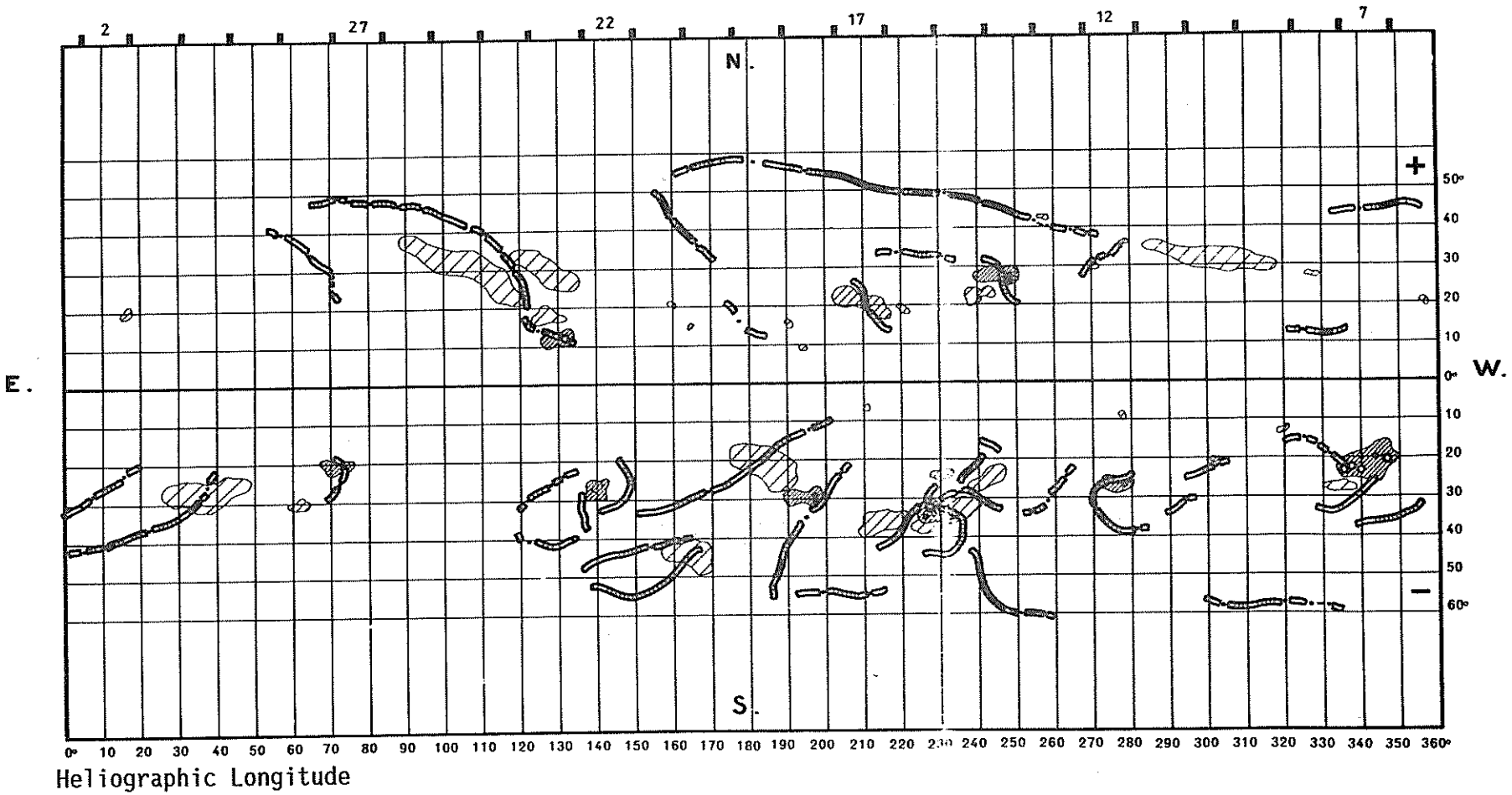
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1792	Activity at West Limb
1	22 S	343	5	>6			decreasing
2	28 N	328	1	-1	x		disappeared
3	13 S	320	1	-4	x		dispersed
4	27 S	277	2	>6		6	decreasing
5	28 N	246	2	>6			decreasing
6	25 S	243	1	>6	x		dispersed
7	23 N	243	1	3	x		dispersed
8	34 S	232	1	>6	x	8	dispersed
9	24 S	231	1	>6	x	9	dispersed
10	34 S	229	3	>6			decreasing
11	19 N	221	1	>6	x		disappeared
12	36 S	216	1	>6	x		dispersed
13	21 N	210	1	>6	x		dispersed
14	29 S	195	3	0			decreasing
15	16 N	191	1	-5	x		(?)
16	26 S	140	1	-4	x		disappeared
17	27 S	140	1	>6	x		disappeared
18	12 N	130	2	>6			decreasing
19	21 S	72	1	>6	x		dispersed
20	31 S	62	1	4	x		disappeared
21	19 N	17	1	3	x		disappeared

C A R T E S Y N O P T I Q U E

CARRINGTON ROTATION NUMBER 1793
(6 September to 3 October 1987)

Meudon Observatory

September 1987



Heliographic Longitude

H - ALPHA SOLAR FLARES

SEPTEMBER 1987

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001		01	0738E	0745	0751	S24	E60	4848	09	5.9	13D	1B	C 1.0				154	2.2	H
	HTPR	01	0738E		0750	S25	E60	4848	09	6.0	12D	1B			C	0742	110	2.2	
	LEAR	01	0742E	0745	0752	S24	E61	4848	09	6.0	10D	1N	C 1.0	3	C		197		H
		01	0939		0948	No Flare Patrol													
0002		01	15277	1539*	1709	S26	E59	4848	09	6.2	102	1F	C 6.6				106		EFHU
	HOLL	01	1527	1541	1729	S26	E59	4848	09	6.2	122	1N	C 6.6	4	C		127		UE
	RAMY	01	1532	1551	1705	S25	E57	4848	09	6.1	93	1F	C 6.6	3	C		114		EH
	SVTO	01	1534	1539	1653	S26	E60	4848	09	6.3	79	SF	C 6.6	3	C		77		F
	KANZ	01	1605E		1605D	S27	E59	4848	09	6.3	79D	SF		1					
0003	HOLL	01	2013	2014	2030	S21	E77	4849	09	7.7	17	SF		3	C		14		
		01	2106		2110	No Flare Patrol													
0004	HOLL	01	2147	2151	2200	S20	E75	4849	09	7.6	13	SF		3	C		17		
0005		02	0438	0457*	0516	S24	E48	4848	09	5.9	38	SN					65	1.8	D
	ABST	02	0438	0509	0528D	S23	E51	4848	09	6.1	50D	SN			P	0509	87	1.8	D
	LEAR	02	0445E	0457	0516	S25	E45	4848	09	5.7	31D	SN		3	C		43		
0006	HOLL	02	1456	1457	1510	S23	E65	4849	09	7.6	14	SF		3	C		18		
0007	HOLL	02	2224	2225	2229	S20	E61	4849	09	7.6	5	SF		3	C		17		
0008	ABST	03	0527	0533	0602	S24	E57	4849	09	7.6	35	SF			C	0533	87	2.0	D
0009	ABST	03	0540	0559	0634	S24	E36	4848	09	6.0	54	SF			C	0559	87	1.3	D
0010		03	07532	0759*	0901	S27	E35	4848	09	6.0	68	SN					105	1.7	EFKS
	HTPR	03	0753	0759	0935	S27	E35	4848	09	6.0	102	SF			C	0759	60	.7	E
	ABST	03	0754	0811	0852	S28	E37	4848	09	6.2	58	1N			C	0811	175	2.8	EK
	BUCA	03	0755	0805	0850	S29	E37	4848	09	6.2	55	SN			C	0805	107	1.6	E
	LEAR	03	0800E	0805U	0847	S25	E32	4848	09	5.8	47D	SN		3	C		77		FS
0011	HTPR	03	1058	1102	1108	S25	W06	4847	09	3.0	10	SF			C	1102	20	.2	
0012	HTPR	03	1157	1206	1215	S25	E46	4849	09	7.1	18	SF			C	1206	20	.3	
0013		03	13192	13193	1328	S25	E34	4848	09	6.2	9	SF					22		FU
	RAMY	03	1319	1319	1329	S26	E34	4848	09	6.2	10	SF		3	C		26		UF
	HOLL	03	1321	1322	1327	S24	E34	4848	09	6.2	6	SF		3	C		18		U
0014		03	1506	1510	1522	S22	E53	4849	09	7.7	16	SF					37		
	RAMY	03	1506	1510	1519	S22	E53	4849	09	7.7	13	SF		3	C		15		
	HOLL	03	1506	1510	1524	S22	E53	4849	09	7.7	18	SF		3	C		59		
0015		03	1524*	1540*	1624	S20	E52	4849	09	7.6	60	SF	C 1.2				63		
	HOLL	03	1524	1541	1659	S21	E52	4849	09	7.6	95	1F	C 1.2	3	C		116		
	RAMY	03	1534	1540	1553	S21	E54	4849	09	7.8	19	SF	C 1.2	3	C		81		
	RAMY	03	1610	1610	1615	S21	E50	4849	09	7.5	5	SF		3	C		26		
	RAMY	03	1622	1624	1629	S18	E50	4849	09	7.5	7	SF		3	C		28		
0016	HOLL	03	2337	2340	2347	S22	E47	4849	09	7.6	10	SF		3	C		28		F
0017		04	0147	01491	0201	S24	E45	4849	09	7.5	14	SN	C 1.4				38		EF
	LEAR	04	0147E	0149	0200	S24	E45	4849	09	7.5	13D	SB	C 1.4	4	C		45		FE
	PALE	04	0147	0150	0202	S23	E45	4849	09	7.5	15	SF	C 1.4	3	C		31		
0018	HTPR	04	0915	0917	0921	S23	E46	4849	09	7.9	6	SN			C	0917	50	.7	
0019	HTPR	04	1003	1011	1045	S23	E15	4848	09	5.6	42	SF			C	1011	20	.2	E
		04	1638		1705	No Flare Patrol													
		04	1711		1753	No Flare Patrol													
0020	RAMY	04	1809	1810	1824	S22	E38	4849	09	7.7	15	SF		3	C		48		
		04	1921		2103	No Flare Patrol													

H - ALPHA SOLAR FLARES

SEPTEMBER 1987

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0021		05	0006E	0020	0040D	S22	E34	4849	09	7.6	34D	1N	C	3.1				150		EF
	LEAR	05	0006E	0020	0040D	S25	E32	4849	09	7.5	34D	1N	C	3.1	3	C		144		FE
	HOLL	05	0015E	0020	0031D	S20	E36	4849	09	7.8	16D	1N	C	3.1	3	C		156		FE
0022	RAMY	05	1550	1551	1601	S21	E27	4849	09	7.7	11	SF			3	C		20		
		05	1805		1817	No Flare Patrol														
		05	1935		2020	No Flare Patrol														
		05	2026		2109	No Flare Patrol														
		05	2238		2241	No Flare Patrol														
0023	SVTO	06	0801	0804	0821	S23	E18	4849	09	7.7	20	SF			3	C		24		H
0024	RAMY	06	1202	1208	1225	S25	W01	4848	09	6.4	23	SF			3	C		60		F
0025	RAMY	06	1332	1332	1344	S21	E14	4849	09	7.6	12	SF			3	C		11		
0026	RAMY	06	1410	1412	1418	S24	E14	4849	09	7.7	8	SF			3	C		31		
0027	RAMY	06	1435	1435	1451	S23	E12	4849	09	7.5	16	SF			3	C		19		
0028		06	1556*	1606*	1624	S23	E12	4849	09	7.6	28	SF						41		F
	RAMY	06	1556	1609	1632	S24	E12	4849	09	7.6	36	SF			3	C		74		F
	HOLL	06	1605	1606	1613	S24	E12	4849	09	7.6	8	SF			3	C		36		F
	HOLL	06	1618	1621	1628	S22	E11	4849	09	7.5	10	SF			3	C		13		
0029	PALE	06	1703E	1708U	1723	S22	E07	4849	09	7.2	20D	SF			2	C		16		
0030	HOLL	06	1930	1931	1943	S21	E07	4849	09	7.3	13	SF			3	C		15		
0031		06	22521	2254	2258	S22	E06	4849	09	7.4	6	SF						18		
	HOLL	06	2252	2254	2301	S22	E07	4849	09	7.5	9	SF			3	C		23		
	PALE	06	2253	2254	2256	S21	E05	4849	09	7.3	3	SF			3	C		13		
0032	HOLL	06	2343	2344	2403	S23	E07	4849	09	7.5	20	SF			3	C		30		
0033	LEAR	07	0015E		0047	S24	E12	4849	09	7.9	32D	SF			3	C		14		FH
0034		07	03282	03301	0340	S24	E10	4849	09	7.9	12	SB	C	1.7				100		EHT
	URUM	07	0328	0330	0336	S25	E09	4849	09	7.8	8	SN	C	1.7		C		129		ET
	LEAR	07	0330	0331	0343	S24	E10	4849	09	7.9	13	SB	C	1.7	4	C		70		H
0035		07	05151	05181	0525	S24	E09	4849	09	7.9	10	SN						72	1.2	DH
	LEAR	07	0515	0519	0524	S24	E09	4849	09	7.9	9	SF			3	C		47		H
	ABST	07	0516	0518	0526	S24	E09	4849	09	7.9	10	SN				C	0518	96	1.2	D
0036	ABST	07	0607	0611	0644	S27	W14	4848	09	6.2	37	SF				C	0611	70	.9	EG
0037		07	0620	06222	0630	S24	E08	4849	09	7.9	10	SB	C	1.0				64	1.0	DF
	ABST	07	0620	0622	0627	S24	E07	4849	09	7.8	7	SN				C	0622	87	1.0	D
	LEAR	07	0620	0624	0633	S24	E09	4849	09	7.9	13	SB	C	1.0	3	C		40		F
0038		07	0657	06555	0704	S24	E06	4849	09	7.7	7	SF						63	.9	EF
	BUCA	07	0655E	0655	0705	S24	E05	4849	09	7.7	10D	SF				C	0655	86	1.0	E
	ABST	07	0657E	0659	0703	S24	E07	4849	09	7.8	6D	SF				P	0659	70	.8	E
	LEAR	07	0657	0659	0705	S23	E08	4849	09	7.9	8	SN			3	C		34		F
	KANZ	07	0657	0700	0704	S23	E06	4849	09	7.7	7	SF			1					
0039		07	0729*	0733*	0756	S23	E04	4849	09	7.6	27	SN	C	2.9				51	.8	DFH
	LEAR	07	0729	0733	0746	S23	E08	4849	09	7.9	17	SB	C	2.9	3	C		47		FH
	KANZ	07	0729	0736	0747	S25	E05	4849	09	7.7	18	SN			2					
	SVTO	07	0733E		0813D	S21	E01	4849	09	7.4	40D	SF	C	2.9	2	C		16		
	ABST	07	0733	0737	0748	S24	E07	4849	09	7.8	15	SN				C	0737	105	1.2	D
	LEAR	07	0751	0753	0803	S24	E06	4849	09	7.8	12	SN	C	2.9	3	C		47		F
	ABST	07	0751E	0754	0807	S21	E02	4849	09	7.5	16D	SF				P	0754	40	.5	D
	KANZ	07	0757	0757	0804	S21	E00	4849	09	7.3	7	SN			2					
0040	KANZ	07	1004	1008	1015	S23	E04	4849	09	7.7	11	SF			1					
0041	KANZ	07	1042	1048	1057	S25	E03	4849	09	7.7	15	SF			1					

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0042		07	12014	12056	1226	S24	E01	4849	09	7.6	25	SN	C 3.1				24		F
	KANZ	07	1201	1205	1217	S25	E03	4849	09	7.7	16	SN		2					
	KANZ	07	1201	1205	1230D	S24	W02	4849	09	7.3	29D	SN		2					
	SVTO	07	1205	1211	1235	S24	E02	4849	09	7.6	30	SF	C 3.1	3	C		24		F
0043		07	1441*	1446*	1618	S22	W01	4849	09	7.5	97	SF	C 1.0				48		EF
	RAMY	07	1441	1446	1525	S21	W03	4849	09	7.4	44	SF	C 1.0	3	C		30		F
	HOLL	07	1449E	1508	1556	S23	W02	4849	09	7.5	67D	SF	C 1.0	3	C		43		F
	RAMY	07	1538	1604	1704	S25	E01	4849	09	7.7	86	SF	C 3.1	3	C		67		FE
	HOLL	07	1603	1617	1647	S24	E00	4849	09	7.7	44	SN	C 3.1	3	C		34		FE
	SVTO	07	1606E	1606U	1624D	S20	W01	4849	09	7.6	18D	SF	C 3.1	2	C		66		F
0044		07	1849*	1851*	1918	S24	W02	4849	09	7.6	29	SF	C 1.0				20		EF
	RAMY	07	1849	1851	1912D	S25	W01	4849	09	7.7	23D	SF		3	C		22		F
	HOLL	07	1849	1852	1902	S24	W02	4849	09	7.6	13	SF	C 1.0	3	C		17		F
	PALE	07	1851	1854	1920	S24	W02	4849	09	7.6	29	SF	C 1.0	3	C		14		FE
	HOLL	07	1905	1909	1931	S24	W05	4849	09	7.4	26	SF		3	C		28		F
0045	HOLL	07	1932	1936	1942	S22	W03	4849	09	7.6	10	SF		3	C		17		F
0046		07	19566	19568	2010	S22	W04	4849	09	7.5	14	SF	C 1.1				13		
	HOLL	07	1956	1956	2010	S22	W03	4849	09	7.6	14	SF	C 1.1	3	C		12		
	PALE	07	2002	2004	2009	S22	W04	4849	09	7.5	7	SF		3	C		14		
0047	PALE	07	2054	2057	2114D	S23	W04	4849	09	7.6	20D	SF		3	C		17		
0048	PALE	07	2146	2146	2156	S22	W04	4849	09	7.6	10	SF		3	C		16		
0049	HOLL	08	0031	0032	0042	S22	W06	4849	09	7.6	11	SF		3	C		19		
0050	LEAR	08	0150E	0152	0200	S24	W08	4849	09	7.4	10D	SF		3	C		68		E
0051	LEAR	08	0325E	0326	0356	S23	W06	4849	09	7.7	31D	SF	C 1.3	4	C		55		F
0052	ABST	08	0454	0454	0457	S24	W04	4849	09	7.9	3	SF			C	0454	87	1.0	DV
0053		08	0457*	0505*	0603	S27	W26	4848	09	6.2	66	SN					104	1.8	EU
	ABST	08	0457	0505	0604	S27	W28	4848	09	6.0	67	SN			C	0505	131	1.8	E
	LEAR	08	0520	0522	0602	S26	W25	4848	09	6.3	42	SN		3	C		78		UE
	MITK	08	0532	0545	0603	S27	W26	4848	09	6.2	31	SN			C	0545			E
0054	ABST	08	0606	0606	0617	S24	W04	4849	09	7.9	11	SF			C	0606	87	1.0	DV
0055		08	0823*	0824*	0849	S24	W10	4849	09	7.6	26	SN	C 1.9				65	1.0	CDE
	HTPR	08	0823	0845	0857	S23	W13	4849	09	7.3	34	SB			C	0845	70	.7	E
	ABST	08	0824	0824	0834	S24	W11	4849	09	7.5	10	SF			C	0824	87	1.1	D
	KHAR	08	0835E	0836U	0840D	S23	W10	4849	09	7.6	5D	SN			V	0836			C
	ABST	08	0837	0841	0854	S26	W09	4849	09	7.6	17	SN			C	0841	87	1.1	D
	SVTO	08	0839	0843	0853	S22	W10	4849	09	7.6	14	SF	C 1.9	3	C		15		
	KANZ	08	0845E	0845	0849	S23	W08	4849	09	7.7	4D	SN		1					
0056	HTPR	08	0837	0855	0920	S27	W31	4848	09	5.9	43	SF			C	0855	30	.3	E
0057		08	10427	10515	1102	S24	W13	4849	09	7.4	20	SF					30	.3	E
	HTPR	08	1042	1051	1105	S24	W14	4849	09	7.4	23	SF			C	1051	30	.3	E
	KANZ	08	1049	1056	1100	S24	W12	4849	09	7.5	11	SF		2					
0058		08	13194	13213	1332	S23	W12	4849	09	7.6	13	SF					25	.4	EF
	HTPR	08	1319	1322	1335	S24	W15	4849	09	7.4	16	SN			C	1322	40	.4	E
	RAMY	08	1320	1321	1335	S21	W10	4849	09	7.8	15	SF		3	C		19		F
	SVTO	08	1323	1324	1327	S24	W10	4849	09	7.8	4	SF		3	C		16		
0059		08	1619	1620	1624	S24	W13	4849	09	7.7	5	SF					29		
	SVTO	08	1619	1619U	1622D	S25	W11	4849	09	7.8	3D	SF		3	C		33		
	HOLL	08	1619	1620	1624	S23	W14	4849	09	7.6	5	SF		3	C		23		
	RAMY	08	1619	1620	1625	S24	W13	4849	09	7.7	6	SF		3	C		31		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0060		08	17571	17571	1805	S23	W14	4849	09	7.7	8	SF					15		F
	RAMY	08	1757	1757	1806	S24	W12	4849	09	7.8	9	SF		3	C		11		
	PALE	08	1758	1758	1801	S23	W14	4849	09	7.7	3	SF		3	C		12		
	HOLL	08	1758	1758	1809	S22	W15	4849	09	7.6	11	SF		3	C		21		F
0061		08	18292	1836	1845	S22	W16	4849	09	7.5	16	SF					28		
	HOLL	08	1829	1836	1848	S20	W17	4849	09	7.5	19	SF		3	C		32		
	RAMY	08	1831	1836	1842	S24	W14	4849	09	7.7	11	SF		3	C		23		
0062		09	06152	06163	0642	S20	W24	4849	09	7.4	27	SN					80	1.1	EV
	MITK	09	0615	0616	0649	S18	W23	4849	09	7.5	34	SN			C	0616			E
	ABST	09	0615E	0616U	0655D	S22	W23	4849	09	7.5	40D	SF			C	0616	87	1.1	EV
	LEAR	09	0617	0619	0636	S21	W26	4849	09	7.3	19	SN		3	C		72		
		09	0944		1019	No Flare Patrol													
0063	HOLL	09	1802	1803	1816	S23	W28	4849	09	7.6	14	SF	C 1.0	3	C		10		
0064		09	1932	1932	1940	S23	W28	4849	09	7.6	8	SF					24		E
	PALE	09	1932	1932	1938	S23	W28	4849	09	7.6	6	SF		3	C		14		
	HOLL	09	1932	1932	1942	S23	W27	4849	09	7.7	10	SF		3	C		35		E
0065		10	07277	07331	0743	S20	W37	4849	09	7.5	16	SF					45	.8	DEV
	HTPR	10	0727	0734	0746	S20	W38	4849	09	7.4	19	SF			C	0734	20	.2	E
	ABST	10	0732	0733	0739	S20	W36	4849	09	7.6	7	SN			C	0732	87	1.3	DV
	SVTO	10	0734	0734U	0744	S21	W36	4849	09	7.5	10	SF		3	C		27		
0066		10	0853	0902	0916	S22	W38	4849	09	7.4	23	SF					32	.5	E
	HTPR	10	0853	0902	0922	S20	W38	4849	09	7.5	29	SF			C	0902	40	.5	E
	SVTO	10	0907E	0907U	0910	S23	W37	4849	09	7.5	3D	SF		3	C		24		
0067		10	1117	1118	1130	S20	W40	4849	09	7.4	13	SF					12	.1	
	HTPR	10	1117	1118	1127	S20	W40	4849	09	7.4	10	SF			C	1118	10	.1	
	RAMY	10	1117	1118	1132	S21	W39	4849	09	7.5	15	SF		3	C		15		
0068		10	1202	1234*	1326	S27	E27	4851	09	12.6	84	SF					32	.4	EF
	HTPR	10	1149E		1212D	S28	E27	4851	09	12.6	23D	SF			C	1205	40	.4	E
	RAMY	10	1202	1234	1321	S25	E25	4851	09	12.4	79	SF		3	C		35		F
	SVTO	10	1240E	1247	1331	S29	E29	4851	09	12.8	51D	SF		2	C		21		
0069	RAMY	10	1246	1246	1249	S21	W39	4849	09	7.5	3	SF		3	C		12		
0070		10	14131	1414*	1437	S23	W41	4849	09	7.4	24	SF					16		F
	RAMY	10	1413	1431	1448	S23	W41	4849	09	7.4	35	SF		3	C		18		
	HOLL	10	1414	1414	1434	S22	W41	4849	09	7.4	20	SF		4	C		14		F
	KANZ	10	1416E	1416U	1428	S23	W41	4849	09	7.4	12D	SF		1					
0071		10	1504	1507	1533	S22	W44	4849	09	7.2	29	SF					19		
	KANZ	10	1504	1507	1532	S21	W43	4849	09	7.3	28	SF		1					
	SVTO	10	1509E	1523U	1534	S22	W44	4849	09	7.2	25D	SF		2	C		19		
0072	HOLL	10	1806	1806	1822	S21	W45	4849	09	7.3	16	SF		3	C		11		
0073	HOLL	10	2111	2121	2133	S26	W63	4848	09	6.0	22	SF		3	C		24		
0074		10	22192	22213	2250	S22	W46	4849	09	7.4	31	SN	C 1.7				44		EF
	HOLL	10	2219	2221	2306	S21	W46	4849	09	7.4	47	SN	C 1.7	3	C		58		FE
	PALE	10	2221	2224	2235	S22	W47	4849	09	7.3	14	SF	C 1.7	3	C		29		
0075		11	0418	0420	0432	S23	W48	4849	09	7.5	14	1N	C 1.6				151		ETU
	URUM	11	0418	0420	0429	S24	W50	4849	09	7.3	11	1N	C 1.6		C		177		ET
	LEAR	11	0425E	0425U	0436	S22	W47	4849	09	7.6	11D	1F	C 1.6	3	C		125		U
0076	HTPR	11	0639	0643	0650	N28	E44	4852	09	14.7	11	SF			C	0643	30	.4	E
0077	KHAR	11	0640E		0645D	N21	E48	4854	09	14.9	5D	SF			V				BEL
0078	KHAR	11	0923E		0932D	S22	W51	4849	09	7.5	9D	SF			V	0923			D
0079	SVTO	11	1018	1019	1027	S25	W53	4849	09	7.3	9	SF		3	C		16		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0080	RAMY	11	1041E	1041U	1102	S24	W02	4851	09	11.3	21D	SN			2	C		24		FH
0081	RAMY	11	1200	1211	1217	S23	W54	4849	09	7.3	17	SF			3	C		13		
0082		11	1804*	18214	1900	S22	W56	4849	09	7.4	56	1F	C	1.6				83		F
	RAMY	11	1804	1821	1844D	S21	W55	4849	09	7.5	40D	SF	C	1.6	3	C		56		F
	HOLL	11	1821	1825	1900	S22	W57	4849	09	7.4	39	1F	C	1.6	3	C		110		F
0083	HOLL	11	1848	1903	2023	S25	E09	4851	09	12.5	95	1N	C	1.2	3	C		155		SU
0084		11	20312	2035	2057	N28	E39	4852	09	14.9	26	SF						15		
	HOLL	11	2031	2038U	2107	N28	E39	4852	09	14.9	36	SF			3	C		19		
	RAMY	11	2033	2035	2047	N29	E39	4852	09	14.9	14	SF			3	C		11		
0085		11	20336	20401	2046	S20	W58	4849	09	7.4	13	SF						22		
	HOLL	11	2033	2040	2047	S20	W58	4849	09	7.4	14	SF			3	C		27		
	RAMY	11	2039	2041	2045	S21	W59	4849	09	7.3	6	SF			3	C		18		
		11	2110		2131	No Flare Patrol														
0086	PALE	11	2158	2202	2212D	S24	W62	4849	09	7.1	14D	SF	C	7.5	2	C		66		EF
0087	LEAR	12	0002E	0002U	0011	S33	E53	4853	09	16.2	9D	SN			3	C		33		
0088		12	06355	06407	0702	S23	W63	4849	09	7.4	27	1N	C	1.2				139		DET
	ABST	12	0635	0640	0646D	S27	W68	4849	09	7.0	11D	1F				P	0640	105		E
	SVTO	12	0635	0642	0707	S23	W62	4849	09	7.5	32	1F	C	1.2	3	C		105		
	KANZ	12	0638E	0644	0704	S22	W60	4849	09	7.7	26D	SB			1					
	URUM	12	0640	0644	0652	S23	W62	4849	09	7.5	12	1N	C	1.2		C				DT
	LEAR	12	0643E	0646	0707	S23	W62	4849	09	7.5	24D	1F	C	1.2	4	C		142		
	YUNN	12	0645E	0647	0700	S22	W64	4849	09	7.4	15D	1N				P		204		
0089		12	10264	10313	1050	S25	W03	4851	09	12.2	24	SN						47	.4	DET
	HTPR	12	1026	1031	1112	S25	W02	4851	09	12.3	46	SN				C	1031	40	.4	E
	SVTO	12	1027	1034	1037	S25	W03	4851	09	12.2	10	SF			3	C		22		
	URUM	12	1030	1032	1040	S26	W03	4851	09	12.2	10	SN				C		80		DT
0090		12	12022	12102	1224	S23	W66	4849	09	7.4	22	1F	C	1.0				150	3.8	EH
	HTPR	12	1202	1212	1220	S23	W67	4849	09	7.3	18	1N				C	1212	160	3.8	E
	RAMY	12	1203	1210	1230	S24	W66	4849	09	7.4	27	1F	C	1.0	3	C		164		H
	SVTO	12	1204	1211	1221	S23	W66	4849	09	7.4	17	1F	C	1.0	3	C		126		H
0091	HTPR	12	1221	1225	1305	S23	W68	4849	09	7.3	44	SF				C	1225	20	.4	
0092	RAMY	12	1507	1507	1516	S24	W67	4849	09	7.4	9	SF			3	C		31		
0093	HOLL	12	1635	1636	1645	S23	W66	4849	09	7.6	10	SF			3	C		13		
0094	RAMY	12	2006	2006	2035	S20	W61	4849	09	8.2	29	SF			3	C		15		
0095		12	2334*	2335*	2346	S22	W72	4849	09	7.4	12	SF						22		
	HOLL	12	2334	2335	2340	S23	W70	4849	09	7.6	6	SF			3	C		17		
	HOLL	12	2346	2347	2352	S21	W73	4849	09	7.4	6	SF			3	C		28		
0096	HOLL	13	0052	0053	0100D	S23	W70	4849	09	7.6	8D	SF			2	C		11		
0097	SVTO	13	0501E	0501U	0527	S30	W34		09	10.5	26D	SF			1	C		68		U
0098	SVTO	13	0650	0653	0656	S24	W76	4849	09	7.4	6	SF			3	C		23		
0099	RAMY	13	1142	1143	1148	S30	W12	4851	09	12.5	6	SF			3	C		11		
0100	KANZ	13	1252	1252	1303	N27	E15	4852	09	14.7	11	SF			2					E
0101	RAMY	13	1657	1657	1700	S34	E31	4853	09	16.2	3	SF			3	C		19		
0102		13	20062	2009	2022	S36	E28	4853	09	16.1	16	SF						18		
	RAMY	13	2006	2009	2024	S35	E28	4853	09	16.1	18	SF			3	C		23		
	HOLL	13	2008	2009	2020	S36	E28	4853	09	16.1	12	SF			3	C		14		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
0103	PALE	13	2118	2119	2125	S35	E28	4853	09	16.1	7	SF			3	C		13		
		13	2301		2307	No Flare Patrol														
0104	HOLL	14	0030E	0033	0055D	S34	E23	4853	09	15.8	25D	SB	C	6.7	3	C		52		
0105	ABST	14	0422	0426	0446	S36	E24	4853	09	16.1	24	SN				C	0426	87	1.3	D
0106	SVTO	14	0519	0519U	0534	S46	E11		09	15.1	15	SF			2	C		26		F
0107		14	06332	0637	0650	S35	E20	4853	09	15.9	17	SN						131	1.9	E
	KANZ	14	0633	0637	0653	S35	E20	4853	09	15.9	20	SN			2					E
	ABST	14	0635	0637	0646	S35	E21	4853	09	15.9	11	SF				C	0637	131	1.9	E
0108		14	07342	07382	0759	S34	E20	4853	09	15.9	25	SN						101	2.1	EF
	ABST	14	0734	0738	0811	S35	E21	4853	09	16.0	37	1N				C	0738	175	2.6	E
	KANZ	14	0735	0739	0755	S34	E19	4853	09	15.8	20	SN			2					
	SVTO	14	0736	0740	0749	S33	E21	4853	09	16.0	13	SF			3	C		20		F
	BUCA	14	0739E	0739U	0800	S34	E22	4853	09	16.1	21D	SN				C	0739	107	1.6	E
	KHAR	14	0752E		0800D	S34	E18	4853	09	15.8	8D	SF				V	0752			
0109		14	11261	11275	1144	S34	E18	4853	09	15.9	18	SN						12		
	RAMY	14	1126	1132	1144	S34	E18	4853	09	15.9	18	SF			3	C		12		
	KANZ	14	1127	1127	1145	S35	E17	4853	09	15.8	18	SN			2					
0110	KANZ	14	1334	1338	1354	S34	E15	4853	09	15.8	20	SF			2					
		14	1721		1727	No Flare Patrol														
		14	1859		1902	No Flare Patrol														
		14	1936		1950	No Flare Patrol														
		14	2153		2159	No Flare Patrol														
		14	2221		2259	No Flare Patrol														
0111		15	02068	02166	0255	N29	W05	4852	09	14.7	49	SN						175	1.7	EFGTU
	MITK	15	0206	0216	0306	N28	W04	4852	09	14.8	60	SN				C	0216			EG
	URUM	15	0214	0222	0240	N28	W04	4852	09	14.8	26	1B				C		321		ET
	LEAR	15	0220E	0228U	0258	N32	W08	4852	09	14.5	38D	SF			3	C		46		UF
	YUNN	15	0222E	0227U	0258D	N28	W04	4852	09	14.8	36D	SB				P	0227	157	1.7	
0112		15	0454	0459	0523	S28	W34	4851	09	12.5	29	1N						179	3.5	ETU
	ABST	15	0454	0459	0526	S28	W35	4851	09	12.5	32	1N				C	0459	227	3.5	E
	URUM	15	0458E	0459	0517	S27	W34	4851	09	12.5	19D	1N				C		241		UT
	SVTO	15	0501E	0501U	0527	S30	W34	4851	09	12.5	26D	SF			1	C		68		U
0113		15	0509*	0511	0531	S36	E09	4853	09	15.9	22	SN						52	1.1	DF
	ABST	15	0509	0511	0528	S35	E07	4853	09	15.8	19	SN				C	0511	79	1.1	D
	SVTO	15	0519	0519U	0534	S36	E11	4853	09	16.1	15	SF			2	C		26		F
0114	HTPR	15	0855	0857	0914	S31	W04	4853	09	15.0	19	SF				C	0857	10	.1	
0115	HTPR	15	1031	1044	1056	S32	E08	4853	09	16.1	25	SF				C	1044	10	.1	
0116	HTPR	15	1432	1435	1442	S33	E04	4853	09	15.9	10	SF				C	1435	10	.1	
0117	HTPR	16	0740	0745	0750	S34	W04	4853	09	16.0	10	SF				C	0745	60	.6	E
0118	HTPR	17	0824	0828	0845	S32	W21	4853	09	15.7	21	SF				C	0828	10	.1	
0119		17	08513	08535	0947	S27	E70	4856	09	22.8	56	1F						178	5.9	AEFU
	HTPR	17	0851	0853	1000	S29	E70	4856	09	22.8	69	2N				C	0853	250	5.9	AE
	KANZ	17	0852	0856	1000	S27	E68	4856	09	22.7	68	1F			2					U
	SVTO	17	0854	0858	0921	S25	E72	4856	09	22.9	27	1F			3	C		105		F
0120	HTPR	17	1031	1036	1113	S30	E70	4856	09	22.9	42	SF				C	1036	20	.5	E
0121		17	11077	11148	1128	S33	W21	4853	09	15.8	21	SN						20	.3	FH
	HTPR	17	1107	1122	1127	S32	W22	4853	09	15.7	20	SN				C	1122	30	.3	
	KANZ	17	1113	1119	1130	S33	W21	4853	09	15.8	17	SN			2					
	RAMY	17	1114	1114	1126	S33	W19	4853	09	15.9	12	SF			4	C		10		FH

H - ALPHA SOLAR FLARES

SEPTEMBER 1987

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
0122		17	1615*	1642	1647	S28	E68	4856	09	23.0	32	1F						82	3.4	EF
	HTPR	17	1615		1655D	S29	E68	4856	09	23.0	40D	1F				C	1626	150	3.4	EF
	RAMY	17	1642	1642	1647	S27	E69	4856	09	23.1	5	SF			3	C		14		F
		17	1948		1950	No Flare Patrol														
0123		17	20081	20111	2026	S27	E64	4856	09	22.8	18	SF	C	1.8				53		
	PALE	17	2008	2011	2024	S27	E63	4856	09	22.7	16	SF	C	1.8	3	C		53		
	RAMY	17	2009	2012	2027	S27	E64	4856	09	22.8	18	SF	C	1.8	2	C				
		17	2047		2056	No Flare Patrol														
		17	2101		2104	No Flare Patrol														
0124	HTPR	18	0720	0726	0730	S33	W29	4853	09	16.0	10	SF				C	0726	10	.1	
0125	HTPR	18	1529	1537	1620	S30	W28	4853	09	16.4	51	SF				C	1537	20	.2	
0126	HOLL	19	0018E	0018	0019	S33	W37	4853	09	16.1	1D	SF			3	C		12		
0127	PALE	19	0314E	0320U	0325D	S27	E48	4856	09	22.9	11D	SF			2	C		57		FU
0128	HTPR	19	0813	0815	0822	S31	W02	4857	09	19.2	9	SF				C	0815	10	.1	
0129	KHAR	18	0816	0818	0820D	N12	E71	4855	09	23.7	4D	SF				V	0818			D
0130	HTPR	19	1042	1045	1100	N13	E54	4855	09	23.5	18	SN				C	1045	30	.5	E
0131		19	1836	1840	1853	S30	W14	4857	09	18.7	17	SF						28		H
	RAMY	19	1836	1840	1853	S31	W15	4857	09	18.6	17	SF			3	C		33		H
	PALE	19	1836	1840	1853	S30	W13	4857	09	18.7	17	SF			3	C		24		H
0132	RAMY	19	1944	1959	2023	S30	W15	4857	09	18.6	39	SF			3	C		24		FH
0133		19	20001	2002	2008	S33	W44	4853	09	16.3	8	SF						32		F
	RAMY	19	2000	2002	2007	S34	W44	4853	09	16.3	7	SF			3	C		34		
	HOLL	19	2001	2002	2008	S32	W44	4853	09	16.3	7	SF			3	C		31		F
0134	RAMY	19	2035	2039	2112	S31	W16	4857	09	18.6	37	SF			3	C		15		
0135	HOLL	19	2254	2256	2300	S33	W46	4853	09	16.3	6	SF			3	C		34		
0136	ABST	20	0650	0654	0700	S34	W50	4853	09	16.3	10	SF				C	0654	79	1.7	D
0137		20	07553	07593	0840	S27	E33	4856	09	22.9	45	SF						49	1.0	DGMU
	KANZ	20	0755	0759	0840	S28	E33	4856	09	22.9	45	SF			2					
	BUCA	20	0755	0801	0840D	S27	E33	4856	09	22.9	45D	SN				C	0801	64	1.0	DG
	SVTO	20	0758	0802	0839	S27	E33	4856	09	22.9	41	SF			3	C		29		UM
	LEAR	20	0800E	0803U	0817D	S25	E32	4856	09	22.8	17D	SF			3	C		55		
0138		20	13405	1355	1425	S32	W26	4857	09	18.5	45	SF						16		
	RAMY	20	1340	1355	1426	S31	W26	4857	09	18.5	46	SF			3	C		18		
	SVTO	20	1345	1355	1424	S32	W25	4857	09	18.6	39	SF			3	C		15		
0139	HOLL	20	1739	1739	1749	S31	W24	4857	09	18.8	10	SF			3	C		12		
0140	HOLL	20	1858	1859	1927	S35	W56	4853	09	16.3	29	SF			3	C		18		
0141	HOLL	20	2329	2330	2338	S33	W57	4853	09	16.4	9	SF			3	C		14		
0142		21	01534	01583	0212	S34	W64	4853	09	16.0	19	1B	M	1.3				114	4.1	DH
	PEKG	21	0153	0201	0210	S33	W63	4853	09	16.1	17	1B	M	1.3		C	0201	126	4.1	D
	MITK	21	0157	0158	0213	S35	W65	4853	09	15.9	16	1N				C	0158	110		H
	LEAR	21	0157E	0204U	0214D	S35	W64	4853	09	16.0	17D	1B	M	1.3	3	C		105		
0143		21	1358*	1408	1418	S35	W69	4853	09	16.1	20	SF	C	1.2				46		F
	RAMY	21	1358	1408	1420	S34	W69	4853	09	16.1	22	SN	C	1.2	3	C		60		F
	HOLL	21	1401	1408	1420	S33	W70	4853	09	16.0	19	SF	C	1.2	3	C		53		
	SVTO	21	1408	1408	1413	S38	W69	4853	09	16.0	5	SF	C	1.2	3	C		26		
0144	HOLL	21	1648	1650	1654	S35	W68	4853	09	16.3	6	SF			3	C		36		

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

SEPTEMBER 1987

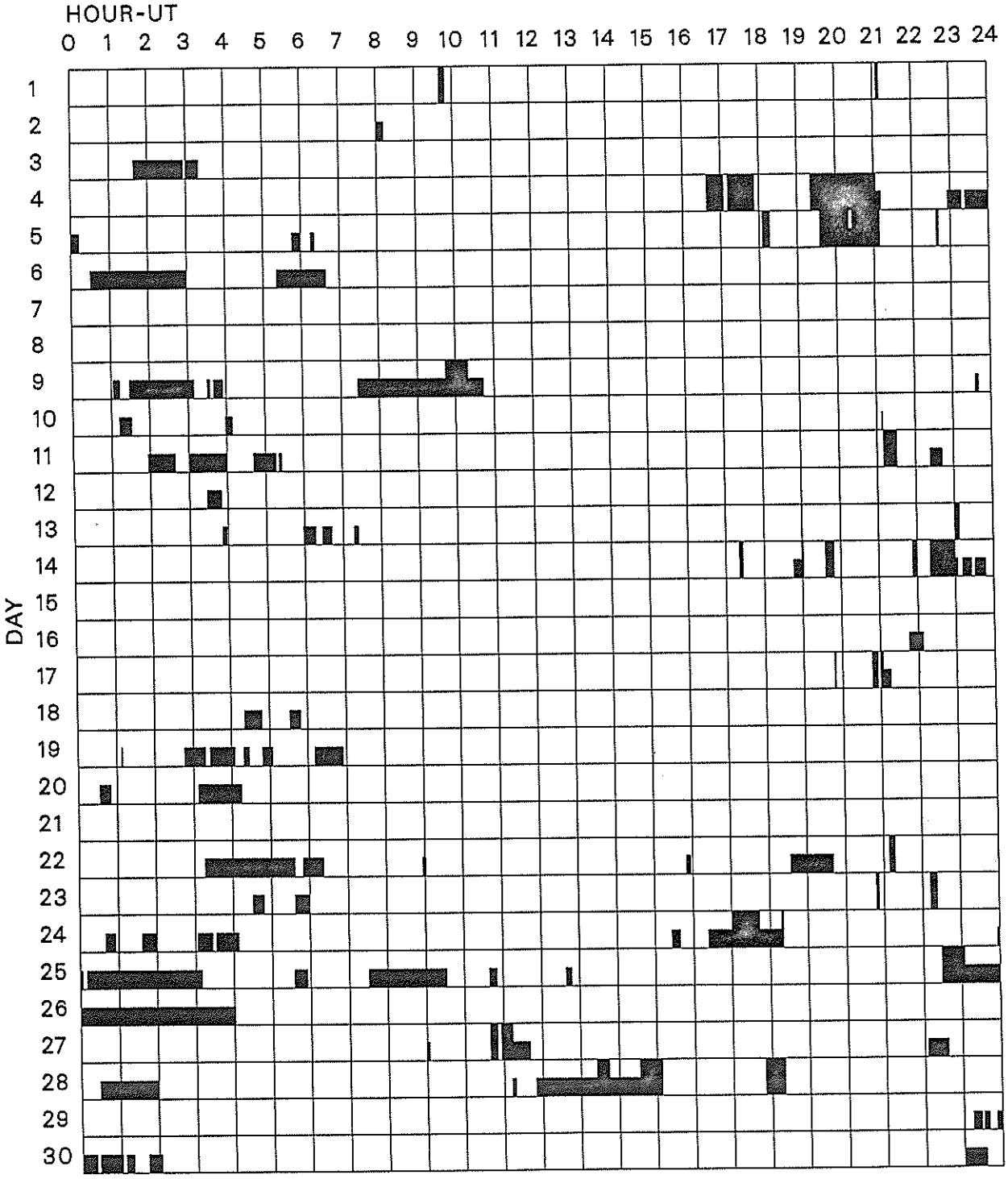
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
0145		21	1731	1731	1744	N12	E25	4855	09	23.6	13	SF					16		
	RAMY	21	1730E	1730U	1740	N12	E25	4855	09	23.6	10D	SF		2	C		17		
	HOLL	21	1731	1731	1748	N12	E25	4855	09	23.6	17	SF		3	C		16		
0146	HOLL	21	1818	1818	1826	S32	W60	4853	09	17.0	8	SF		3	C		17		
0147	HOLL	21	1959	1959	2004	S34	W70	4853	09	16.2	5	SF		3	C		29		
0148	YUNN	22	0656E	0657U	0700	S31	W46	4857	09	18.6	4D	SN			P	0657	24	.5	D
		22	2109		2118	No Flare Patrol													
0149	MITK	22	2338	2340	2345	S32	W90	4853	09	15.8	7	SN			C	2340			DH
0150	HOLL	23	1517	1523	1527	S22	E58	4858	09	28.1	10	SF		4	C		17		
		23	2048		2052	No Flare Patrol													
		23	2213		2223	No Flare Patrol													
		24	1701		1744	No Flare Patrol													
		24	1818		1822	No Flare Patrol													
		25	2229		2305	No Flare Patrol													
		27	1039		1050	No Flare Patrol													
		27	1056		1114	No Flare Patrol													
0151	HOLL	27	1403	1406	1414	S20	E90	4859	10	4.5	11	SN		3	C		49		
0152	RAMY	27	1914	1915	1919	S27	W66	4856	09	22.6	5	SF		3	C		17		F
0153		28	05532	05571	0606	S21	E74	4859	10	3.9	13	1N					68		DG
	ABST	28	0553	0558	0611	S21	E79	4859	10	4.3	18	1N			C	0558	105		D
	YUNN	28	0555	0557	0602	S21	E70	4859	10	3.6	7	SN			P		31		G
		28	1325		1345	No Flare Patrol													
		28	1433		1508	No Flare Patrol													
		28	1750		1821	No Flare Patrol													
0154		29	07048	0714	0722	N31	E85	4860	10	6.0	18	1N					126		F
	ABST	29	0704	0714	0721	N32	E87	4860	10	6.2	17	1N			C	0714	175		F
	SVTO	29	0712	0714	0723	N30	E83	4860	10	5.8	11	SF		3	C		76		
0155	RAMY	29	1105E	1113	1119	N29	E77	4860	10	5.5	14D	SF		3	C		23		F
0156	HOLL	29	1746	1746	1812	S27	E72	4859	10	5.3	26	SF		4	C		21		
0157	LEAR	30	0708	0712	0718	S25	E53	4859	10	4.4	10	SF		3	C		19		
0158	KHAR	30	0840	0842	0846	S23	E62	4859	10	5.1	6	SF			V	0842			D
0159	RAMY	30	1127	1127	1130	S22	E46	4861	10	4.0	3	SF		3	C		16		

"Remarks"

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

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

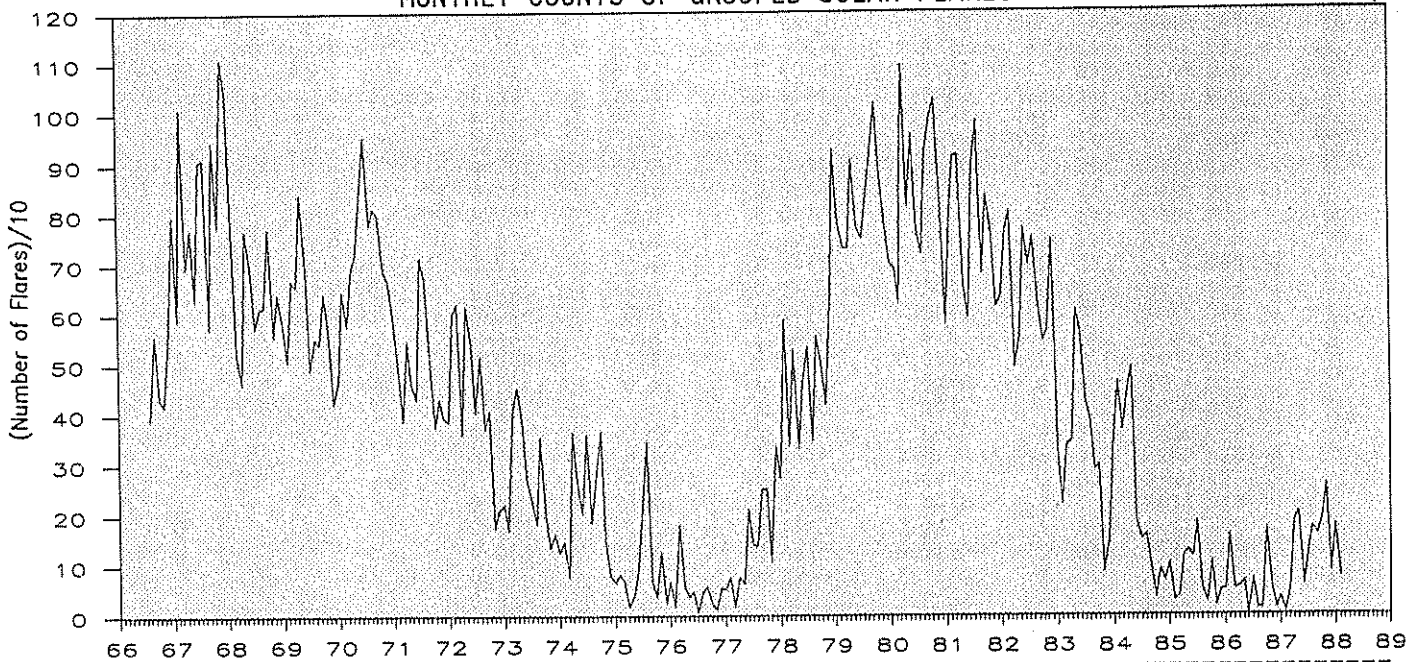
SEPTEMBER 1987



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

Abastumani	Holloman	Learmonth	Palehua	Tashkent
Bucharest	Kandilli	Lvov	Peking	Urumqi
Haute Provence	Kanzelhoehe	Manila	Ramey	Voroshilov
	Kharkov	Mitaka	San Vito	Yunnan

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	51	188	203	59	128	174	159	190	256	88	1539
1988	177	77											254

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

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

SEPTEMBER 1987

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
01	260	ONDR	44	NS	0605.0E	0750.7U	475.0D	25.0U			
	127	TORN	43	NS	0634.0	1058.0	486.0		2.0		V=1
	410	PALE	46	C	0002.0E	0003.0	1.0D	35.0			QL=1 ST=2 TYP=8
	204	IZMI	4	S/F	0646.0	0646.5	2.0	22.0	10.0		
	2950	GORK	20	GRF	0733.0	0741.2	9.3	1.4			
	650	GORK	21	GRF	0735.1		16.1	1.5			
	245	LEAR	46	C	0739.0E	0741.0	3.0D	200.0			QL=5 ST=2 TYP=5
	200	HIRA	41	F	0739.0	0740.6	2.0	180.0			0
	100	HIRA	41	F	0739.6	0740.3	2.6	705.0			
	1000	TYKW	45	C	0740.0	0741.3	2.0	8.0	1.5		
	2000	TYKW	45	C	0740.0	0741.4	2.0	2.0	0.5		
	204	IZMI	5	S	0740.0	0741.0	2.5	160.0	80.0		
	430	KRAK	2	S/F	0740.0	0741.0	2.0	22.0	2.0		
	33	UPIC	45	C	0740.0	0741.2	2.0				
	234	POTS	4	S/F	0740.0	0741.7	3.7	75.0	5.0		
	30	POTS	4	S/F	0740.0	0741.7	4.0	1600.0	500.0		
	950	GORK			0740.1	0741.2		9.0			
	950	GORK	46	C	0740.1	0740.7	3.0	9.0			
	650	GORK	4	S/F	0740.2	0741.1	1.6	5.0	2.0		
	29	UPIC	45	C	0740.4	0741.4U	2.4				
	810	KRAK	1	S	0740.7	0741.3	1.5	5.0	2.0		
	204	IZMI	8	S	0741.0	0741.0	1.0	160.0			QL= ST= TYP=3
	245	SVTO	46	C	0741.0E	0741.0	5.0D	130.0			QL=1 ST=2 TYP=5
	536	ONDR	8	S	0814.3	0814.4	0.2	23.0			
	204	IZMI	41	F	1009.0	1011.8	3.0	26.0			
	610	SGMR	8	S	1534.0E	1535.0	1.0D	19.0			QL=5 ST=3 TYP=3
	2800	OTTA	45	C	1534.0	1537.6	10.7	29.4	17.2		
	245	SGMR	4	S/F	1535.0	1542.0		5.0			QL=5 ST=1 TYP=3
	4995	SGMR	4	S/F	1535.0	1541.0		17.0			QL=5 ST=1 TYP=3
	2695	SVTO	45	C	1535.0	1536.0	8.0	58.0			QL=5 ST=2 TYP=5
	1415	SGMR	46	C	1535.0	1541.0	14.0	46.0			QL=5 ST=3 TYP=8
	2695	SGMR	46	C	1535.0	1536.0	13.0	41.0			QL=5 ST=3 TYP=8
	4995	SVTO	8	S	1537.0	1539.0	2.0	29.0			QL=5 ST=2 TYP=3
	1415	SVTO	4	S/F	1537.0	1538.0	5.0	28.0			QL=5 ST=2 TYP=3
	8800	SVTO	4	S/F	1537.0	1541.0	4.0	36.0			QL=5 ST=2 TYP=3
	410	SGMR	4	S/F	1538.0	1538.0		23.0			QL=5 ST=3 TYP=3
	410	SVTO	8	S	1538.0	1538.0	2.0	26.0			QL=5 ST=2 TYP=3
	4995	SGMR	8	S	1540.0	1541.0	2.0	17.0			QL=5 ST=3 TYP=3
	245	SGMR	46	C	1542.0	1543.0	1.0	6.0			QL=5 ST=3 TYP=8
	2800	OTTA	30	PBI	1544.7	1544.7	950.0D	10.0			
	2800	OTTA	1	S	1545.8	1546.7	2.5	11.0	5.5		
	2800	OTTA	1	S	1548.7	1549.3	2.5	11.2	5.5		
	2800	OTTA	4	S/F	1555.0	1555.9	10.0	13.0	8.0		
	9400	HUAN	2	S/F	2013.5	2017.2	6.0	4.3	0.4		
02	200	GORK	43	NS	0404.0		107.0		5.0		
	260	ONDR	44	NS	0632.0E	1003.0	440.0D	10.0U			
	200	GORK	43	NS	0728.0		203.0		5.0		
	127	TORN	44	NS	0840.0E		270.0D		2.0		V=1
	9100	GORK	20	GRF	0413.4	0428.0	24.3	3.0			
	500	HIRA	46	C	0423.0	0442.7	69.0	12.0	3.0		WL
	200	HIRA	27	RF	0424.4	0442.2	40.0	8.0	2.0		0
	200	HIRA	4	S/F	0426.0	0443.0	17.0	8.0			QL= ST= TYP=3
	650	GORK	23	GRF	0426.7	0448.1	52.5	5.6			
	1000	TYKW	45	C	0433.0	0442.8	15.0	145.0	25.0		
	950	GORK	23	GRF	0433.0	0436.0	33.0	4.0			
	2000	TYKW	21	GRF	0434.0	0455.0	120.0	1.5	0.7		
	3750	TYKW	21	GRF	0435.0	0500.0	90.0	1.5	0.7		
	2950	GORK			0436.5	0445.1		10.0			
	2950	GORK	46	C	0436.5	0439.6	15.0	7.5			
	200	GORK	27	RF	0436.6	0442.7	10.3	7.0			
	2000	TYKW	45	C	0437.0	0443.3	10.0	39.0	9.0		
	610	LEAR	4	S/F	0437.0	0443.0	9.0	25.0			QL=5 ST=2 TYP=3
	1415	LEAR	46	C	0437.0	0444.0	8.0	91.0			QL=3 ST=2 TYP=5
	950	GORK	46	C	0437.2	0439.3	10.0	41.0			
	950	GORK			0437.2	0442.8					
	650	GORK	46	C	0437.6	0439.0	9.0	19.0			
	650	GORK			0437.6	0443.3		25.0			
	3750	TYKW	45	C	0438.0	0438.4	2.0	2.0	0.5		
	1000	TYKW	29	PBI	0448.0		90.0	1.0	0.5		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
02	33	UPIC	2	S/F	1152.8	1153.7	1.0				
	29	UPIC	2	S/F	1153.0	1153.9	1.0				
	536	ONDR	8	S	1334.3	1334.4	0.3	3.0			
	9400	HUAN	1	S	1832.8	1834.7	3.0	7.9	1.2		
03	260	ONDR	44	NS	0700.0E	0758.5	426.0D	14.0U			
	200	GORK	43	NS	0749.0		251.0		5.0		
	127	TORN	44	NS	0750.0E		330.0D		2.0		
	200	HIRA	44	NS	2010.0E	0735.0	770.0D	60.0	11.0		SL
	100	HIRA	43	NS	2304.0		146.0	120.0			QL= ST= TYP=1
	9400	TYKW	5	S	0526.0	0527.4	3.0	5.0	1.5		
	650	GORK	40	F	0750.4	0751.6	4.5	2.3			
	650	GORK			0750.4	0754.7		1.5			
	3100	CRIM	8	S	0802.0	0803.0	2.0	1.0			QL= ST= TYP=3
	9400	HUAN	1	S	2035.7	2037.7	4.2	8.9	3.1		
	9400	HUAN	8	S	2100.2	2101.0	1.4	26.8	8.3		
	245	PALE	48	C	2343.0	2346.0	3.0	57.0			QL=5 ST=2 TYP=8
	245	LEAR	48	C	2344.0	2345.0	14.0	100.0			QL=5 ST=2 TYP=8
04	245	LEAR	44	NS	0030.0E	0727.0	567.0D	260.0			QL=5 ST=2 TYP=1
	245	SVTO	44	NS	0038.0E	0600.0	1402.0D	78.0			QL=5 ST=1 TYP=1
	410	LEAR	44	NS	0040.0E	0801.0	557.0D	28.0			QL=5 ST=2 TYP=1
	200	GORK	44	NS	0352.0E		480.0D		20.0		
	245	SVTO	43	NS	0438.0	0721.0	739.0D	120.0			QL=5 ST=2 TYP=1
	234	POTS	44	NS	0555.0E	0727.0U	265.0D	45.0	25.0		
	100	HIRA	43	NS	0600.0	0756.0	120.0D	84.0	25.0		
	127	TORN	44	NS	0620.0E		520.0D		6.0		V=1
	260	ONDR	44	NS	0620.0E	0750.0U	454.0D				
	430	KRAK	43	NS	0710.3	0753.2	78.5D	69.0	5.0		
	204	IZMI	44	NS	0740.0E		260.0D	120.0			
	245	PALE	43	NS	1645.0	1850.0	705.0D	37.0			QL=5 ST=2 TYP=1
	245	SGMR	43	NS	1653.0	1850.0	360.0D	78.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2010.0E	2121.0	770.0D	21.0	8.0		ML
	245	LEAR	43	NS	2248.0	2302.0	669.0D	78.0			QL=5 ST=2 TYP=1
	3750	TYKW	5	S	0033.0	0033.6	1.5	4.0	1.0		
	3750	TYKW	5	S	0146.0	0148.0	20.0	3.0	1.0		
	9400	TYKW	5	S	0147.0	0149.0	15.0	2.0	1.0		
	200	HIRA	42	SER	0223.5	0224.4	10.6	105.0			ML
	245	PALE	8	S	0240.0	0240.0	1.0	24.0			QL=5 ST=2 TYP=3
	245	PALE	4	S/F	0249.0	0252.0	4.0	49.0			QL=5 ST=2 TYP=3
	245	PALE	46	C	0326.0	0326.0	4.0	59.0			QL=5 ST=2 TYP=5
	650	GORK	22	GRF	0416.6	0422.8	16.0	2.5			
	650	GORK	22	GRF	0718.0		109.3	5.0			
	536	ONDR	41	F	0740.0U	0954.0	310.0U	40.0U			
	610	LEAR	8	S	0915.0E	0916.0	1.0D	6.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	0915.0	0915.0	1.0	40.0			QL=5 ST=2 TYP=3
	245	LEAR	46	C	0915.0	0915.0	1.0	63.0			QL=5 ST=2 TYP=5
	2950	GORK	1	S	0915.0	0915.8	2.3	3.9			
	3000	POTS	1	S	0915.0	0915.8	1.7	4.0			
	3100	CRIM	1	S	0915.6	0915.9	1.0	1.0	1.0		
	1470	POTS	8	S	0915.8	0915.9	0.5	5.0			
	3000	POTS	20	GRF	0955.0	1108.0	73.0	6.0			
	1470	POTS	20	GRF	0955.0	1051.5	124.0	4.0			
	2950	GORK	20	GRF	1003.0	1017.8	105.0D	2.7			
	9400	HUAN			1350.2	1354.0		7.2			
	9400	HUAN	2	S/F	1350.2	1353.3	6.7	8.2	6.1		
	9400	HUAN	1	S	1420.7	1423.2	5.1	4.3	0.9		
	9400	HUAN	1	S	1730.6	1732.5	4.6	7.2	4.0		
	9400	HUAN	2	S/F	1744.5	1747.6	7.5	5.8	1.8		
	9400	HUAN			1744.5	1750.9		5.1			
	245	PALE	46	C	1752.0E	1752.0	435.0D	65.0			QL=5 ST=2 TYP=5
	9400	HUAN	20	GRF	1810.6	1821.2	33.5	7.2	3.6		
05	200	GORK	44	NS	0355.0E		365.0D		10.0		
	245	SVTO	43	NS	0439.0	1647.0	737.0D	250.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	30.0			
	127	TORN	44	NS	0620.0E		520.0D		8.0		V=2
	260	ONDR	44	NS	0647.0E	1223.0	441.0D	14.0U			
	200	HIRA	44	NS	2010.0E	2116.0	770.0D	6.0	3.0		WL
	245	PALE	43	NS	2220.0	2356.0	369.0D	21.0			QL=5 ST=2 TYP=1

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
05	245	LEAR	44	NS	2247.0E	2357.0	73.0D	30.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2248.0	2302.0	669.0D	78.0			QL=5 ST=2 TYP=1
	2000	TYKW	21	GRF	0003.0	0012.0	45.0	1.0	0.5		
	3750	TYKW	5	S	0003.0	0006.2	10.0	3.0	1.5		
	245	PALE	46	C	0012.0E	0013.0	1.0D	180.0			QL=5 ST=2 TYP=5
	3750	TYKW	30	PBI	0013.0		25.0	1.0	0.5		
	2000	TYKW	20	GRF	0016.0	0019.0	30.0	1.5	0.7		
	9400	TYKW	21	GRF	0016.0	0020.0	40.0	4.0	2.0		
	1000	TYKW	45	C	0017.0	0017.8	1.5	8.0	1.5		
	3750	TYKW	5	S	0017.0	0018.8	4.0	4.0	2.0		
	3750	TYKW	29	PBI	0021.0		15.0	2.0	1.0		
	3750	TYKW	31	ABS	0038.0	0110.0	85.0	-2.0	-1.0		
	2000	TYKW	31	ABS	0048.0	0108.0	60.0	-1.0	-0.5		
	9400	TYKW	31	ABS	0056.0	0120.0	100.0	-2.0	-1.0		
	1000	TYKW	5	S	0112.0	0113.1	2.0	1.0	0.3		
	1000	TYKW	32	ABS	0250.0	0320.0	95.0	-1.0	-0.5		
	3750	TYKW	32	ABS	0250.0	0340.0	110.0	-1.0	-0.5		
	2000	TYKW	32	ABS	0308.0	0334.0	80.0	-1.0	-0.5		
	2000	TYKW	32	ABS	0455.0	0546.0	90.0	-1.5	-0.7		
	245	LEAR	8	S	0457.0E	0459.0	2.0D	43.0			QL=5 ST=2 TYP=3
	3750	TYKW	32	ABS	0519.0	0546.0	65.0	-2.0	-1.0		
	2950	GORK	20	GRF	0606.5	0713.2	234.0D	2.8			
	200	GORK			0721.8	0723.3		40.0D			
	200	GORK	45	C	0721.8	0722.8	2.2	40.0D			
	650	GORK	40	F	0724.4	0725.7	3.1	3.5			
	200	GORK			0754.0	0813.1		40.0D			
	200	GORK			0754.0	0932.2		40.0D			
	200	GORK	41	F	0754.0	0805.3	123.0	40.0D			
	200	GORK			0754.0	0940.4		40.0D			
	200	GORK			0754.0	0937.6		40.0D			
	200	GORK			0754.0	0858.7		40.0D			
	200	GORK	41	F	0754.0	0935.9		40.0D			
	430	KRAK	4	S/F	0916.3	0916.6	1.0	200.0	20.0		
	536	ONDR	1	S	1044.7	1044.8	0.3	3.0			
	430	KRAK	42	SER	1125.8	1126.0	7.7	48.0			
	430	KRAK			1125.8	1133.0		13.0			
	430	KRAK			1125.8	1127.7		300.0			
	810	KRAK	8	S	1126.0	1126.1	0.2	30.0			
	536	ONDR	1	S	1254.6	1254.7	0.1	13.0			
	536	ONDR	1	S	1317.3	1317.4	0.2	8.0			
	2800	OTTA	22	GRF	1528.0		21.2D	2.3			
	9400	HUAN	1	S	1750.1	1751.3	5.0	4.4	1.7		
	9400	HUAN	20	GRF	1847.6	1859.7	22.4	2.9	0.9		
	9400	HUAN	1	S	1923.5	1924.5	3.2	4.4	2.0		
	9400	HUAN	1	S	1937.0	1938.5	2.7	3.7	2.5		
	245	PALE	8	S	2011.0	2011.0	1.0	39.0			QL=5 ST=2 TYP=3
	2800	OTTA	22	GRF	2024.2	2027.5	18.0	2.3			
06	200	GORK	44	NS	0354.0E		384.0D		5.0		
	245	SVTO	44	NS	0527.0E	1641.0	687.0D	170.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0	15.0			
	127	TORN	44	NS	0620.0E		520.0D		3.0		V=1
	260	ONDR	44	NS	0826.0E	0837.0U	343.0D	12.0U			
	200	HIRA	44	NS	2112.0E	0318.0	770.0D	8.0	4.0		WR
	245	LEAR	44	NS	2246.0E	0102.0	74.0D	40.0			QL=5 ST=1 TYP=1
	204	IZMI	41	F	0614.0	0623.5	10.0	47.0			
	200	GORK	5	S	0746.2	0747.0	1.3	40.0D			
	204	IZMI	5	S	1151.0	1151.5	2.0	95.0	70.0		
	9400	HUAN	2	S/F	1227.0	1229.4	6.6	4.2	1.2		
	536	ONDR	1	S	1336.7	1336.8	0.3	6.0			
	2800	OTTA	20	GRF	1434.0	1436.0	21.0	1.6			
	2800	OTTA	20	GRF	1650.0	1720.0	120.0	1.9			
	3750	TYKW	5	S	2251.0	2251.9	2.0	6.0	2.0		RAIN
	3750	TYKW	29	PBI	2253.0		10.0	1.0	0.5		
	3750	TYKW	20	GRF	2339.0	2344.0	30.0	1.5	0.7		
07	200	GORK	44	NS	0336.0E		524.0D		5.0		
	221	ABST	43	NS	0500.0	1023.0	360.0	9.0			QL= ST= TYP=1
	204	IZMI	43	NS	0600.0		360.0	35.0			
	260	ONDR	44	NS	0600.0E	1316.0U	480.0D	16.0U			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
07	127	TORN	44	NS	0620.0E		520.0D		1.0		V=1
	245	SVTO	43	NS	1200.0	1336.0	293.0D	110.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1641.0	0008.0	706.0D	110.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2112.0E	0002.0	770.0D	30.0	17.0		MR
	245	LEAR	43	NS	2245.0	0008.0	673.0D	120.0			QL=5 ST=2 TYP=1
	245	LEAR	4	S/F	0327.0	0328.0	3.0	23.0			QL=5 ST=2 TYP=3
	410	LEAR	46	C	0327.0	0328.0	3.0	190.0			QL=5 ST=2 TYP=5
	610	LEAR	4	S/F	0327.0	0330.0	3.0	38.0			QL=5 ST=2 TYP=3
	1000	TYKW	45	C	0327.5	0328.7	7.0	17.0	2.0		
	2000	TYKW	45	C	0327.5	0328.8	2.5	45.0	7.0		
	3750	TYKW	5	S	0328.0	0328.6	2.0	12.0	3.0		
	9400	TYKW	5	S	0328.0	0328.6	1.5	13.0	3.0		
	1415	LEAR	8	S	0328.0	0329.0	1.0D	25.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	0328.0	0328.0	1.0	32.0			QL=5 ST=2 TYP=3
	1415	PALE	8	S	0328.0	0328.0	1.0	29.0			QL=5 ST=2 TYP=3
	2695	PALE	4	S/F	0328.0	0328.0		30.0			QL=5 ST=2 TYP=3
	410	PALE	46	C	0328.0	0328.0	1.0	190.0			QL=5 ST=2 TYP=5
	3750	TYKW	29	PBI	0330.0		25.0	1.5	0.7		
	2000	TYKW	29	PBI	0330.0		25.0	1.0	0.5		
	650	GORK	21	GRF	0429.6	0453.0	40.8	1.1			
	650	GORK	1	S	0439.2	0439.5	0.5	6.0			
	3750	TYKW	20	GRF	0457.0	0500.0	30.0	1.5	0.7		
	650	GORK	22	GRF	0511.3	0514.2	9.7	1.1			
	650	GORK	4	S/F	0515.3	0515.5	4.0	23.0			
	5900	KISV	1	S	0543.0	0544.3	5.0	3.0			
	650	GORK	4	S/F	0548.4	0548.4	0.2	6.7			
	9300	KISV	1	S	0548.9	0550.4	3.0	6.0			
	2950	GORK	21	GRF	0606.8	1016.2	374.0D	4.1			
	5900	KISV	4	S/F	0620.0	0622.0	3.0	6.0			QL= ST= TYP=3
	5900	KISV			0620.0	0621.7		6.0			
	5900	KISV	40	F	0620.0	0620.8	3.0	3.0			
	2950	GORK	46	C	0620.1	0620.6	2.6	1.6			
	2950	GORK			0620.1	0621.7		2.9			
	650	GORK	2	S/F	0621.4	0622.1	0.7	3.5			
	9300	KISV	2	S/F	0621.4	0621.7	1.0	8.0			
	1000	TYKW	45	C	0630.0	0630.5	1.0	95.0	10.0		
	5900	KISV	1	S	0656.2	0657.8	2.0	2.0			
	9300	KISV	1	S	0656.9	0657.6	1.5	5.0			
	650	GORK	1	S	0719.7	0720.1	0.8	2.0			
	8800	SVTO	4	S/F	0730.0	0736.0		40.0			QL=5 ST=1 TYP=3
	5900	KISV	28	PRE	0733.1	0734.8	2.0	3.0			
	9100	GORK	4	S/F	0733.3	0736.4	7.5	54.0	20.0		
	3750	TYKW	5	S	0735.0	0736.4	4.0	6.0	2.0		
	9400	TYKW	5	S	0735.0	0736.4	3.0	60.0	18.0		
	1000	TYKW	45	C	0735.0	0736.4	3.0	17.0	1.5		
	2000	TYKW	45	C	0735.0	0736.5	4.0	5.0	1.0		
	8800	LEAR	45	C	0735.0	0736.0	2.0	51.0			QL=5 ST=2 TYP=5
	9300	KISV	4	S/F	0735.4	0736.3	2.0	63.0			
	3000	POTS	2	S/F	0735.5	0736.2	2.5				
	950	GORK	46	C	0735.5	0736.3	2.0	10.0			
	5900	KISV	4	S/F	0735.5	0736.4	3.0	31.0			
	9500	POTS	3	S	0735.5	0736.4	7.0	45.0			
	950	GORK			0735.5	0736.6		7.0			
	2950	GORK	4	S/F	0735.7	0736.4	2.0	4.5			
	15000	KISV	2	S/F	0735.8	0736.8	1.5	35.0			
	15400	LEAR	8	S	0736.0	0736.0	1.0	33.0			QL=5 ST=2 TYP=3
	15400	SVTO	45	C	0736.0	0736.0	1.0	60.0			QL=5 ST=2 TYP=5
	1470	POTS	2	S/F	0736.0	0736.5	2.0	3.0			
	9300	KISV	29	PBI	0737.5	0737.5	8.0	9.0			
	9400	TYKW	29	PBI	0738.0		10.0	4.0	2.0		
	5900	KISV	29	PBI	0738.5	0738.5	6.5	4.0			
	5900	KISV	1	S	0751.1	0751.9	3.0	3.0			
	5900	KISV	1	S	0858.5	0859.0	1.5	3.0			
	5900	KISV	1	S	1001.5	1002.4	4.0	3.0			
	9300	KISV	20	GRF	1001.7	1003.3	11.0	4.0			
	9100	GORK	20	GRF	1039.6	1045.8	13.5	6.0			
	5900	KISV	40	F	1040.2	1041.3	2.5	4.0			
	430	KRAK	2	S/F	1046.0	1047.0	1.7	10.0	4.0		
	3000	POTS	27	RF	1156.0	1211.2	138.0	16.0			
	9100	GORK	21	GRF	1157.6	1205.5	23.0D	9.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
07	9500	POTS	4	S/F	1159.0	1201.5	36.0	37.0			
	3100	CRIM	1	S	1159.0	1201.9	5.0	1.0	1.0		
	9300	KISV	4	S/F	1159.7	1202.0	9.0	43.0			
	9100	GORK	46	C	1159.8	1201.2	5.2	35.0			
	9100	GORK			1159.8	1202.5		23.0			
	5900	KISV	4	S/F	1159.8	1201.9	7.0	19.0			
	650	GORK	4	S/F	1159.9	1202.0	2.8	9.0			
	8800	SVTO	4	S/F	1200.0E	1201.0	3.0D	38.0			QL=5 ST=2 TYP=3
	1470	POTS	2	S/F	1200.0	1201.5	9.0	5.0			
	2950	GORK	4	S/F	1200.2	1201.7	4.2	2.7			
	1415	SVTO	8	S	1201.0	1201.0	1.0	10.0			QL=5 ST=2 TYP=3
	4995	SVTO	8	S	1201.0	1201.0	2.0	18.0			QL=5 ST=2 TYP=3
	15400	SVTO	8	S	1201.0	1201.0	2.0	27.0			QL=5 ST=2 TYP=3
	2695	SVTO	8	S	1201.0	1201.0	1.0	8.0			QL=5 ST=2 TYP=3
	15000	KISV	40	F	1201.3	1201.7	2.0	26.0			
	2800	OTTA	32	ABS	1300.0		120.0	-1.4			
	33	UPIC	2	S/F	1438.2	1438.5	0.7				
	29	UPIC	2	S/F	1438.5	1438.7	0.4				
	2800	OTTA	22	GRF	1508.0	1629.0	280.0	12.4			
	33	UPIC	45	C	1519.3	1519.7	1.0				
	29	UPIC	45	C	1519.5	1519.9	0.9				
	9400	HUAN	1	S	1624.7	1626.7	4.8	9.1	4.1		
	2800	OTTA	22	GRF	1846.0	1910.0	105.0	3.4			
	3750	TYKW	5	S	2211.0	2212.0	4.0	2.0	0.7		
	9400	TYKW	5	S	2211.0	2211.9	4.0	8.0	2.0		RAIN
	3750	TYKW	21	GRF	2319.0	2327.0	90.0	4.0	2.0		
	9400	TYKW	21	GRF	2319.0	2325.0	90.0	4.0	2.0		
	2000	TYKW	20	GRF	2320.0	2327.0	110.0	2.0	1.0		
	3750	TYKW	20	GRF	2352.0	2357.0	35.0	1.0	0.5		
	9400	TYKW	45	C	2352.0	2356.3	20.0	5.0	1.5		
08	200	GORK	44	NS	0330.0E		510.0D		10.0		
	245	SVTO	43	NS	0442.0	0927.0	729.0D	240.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	45.0			
	127	TORN	44	NS	0620.0E		520.0D		2.0		V=1
	260	ONDR	44	NS	0625.0E	1100.0U	469.0D				
	245	SGMR	44	NS	1036.0E	1145.0	804.0D	82.0			QL=5 ST=3 TYP=1
	245	PALE	43	NS	1640.0	2129.0	706.0D	140.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2112.0E	0046.0	770.0D	25.0	10.0		MR
	245	LEAR	43	NS	2244.0	0114.0	675.0D	160.0			QL=5 ST=2 TYP=1
	9400	TYKW	5	S	0030.0	0031.4	5.0	3.0	1.0		
	2000	TYKW	32	ABS	0100.0	0140.0	75.0	-1.0	-0.5		
	3750	TYKW	32	ABS	0104.0	0140.0	70.0	-2.0	-1.0		
	15400	PALE	8	S	0152.0	0152.0	1.0	38.0			QL=5 ST=2 TYP=3
	8800	PALE	8	S	0152.0	0152.0	1.0	31.0			QL=5 ST=2 TYP=3
	9400	TYKW	45	C	0152.7	0152.9	3.0	27.0	3.0		
	17000	NOBE	1	S	0152.8	0152.9	0.5	24.0	24.0		
	3750	TYKW	20	GRF	0310.0	0320.0	40.0	1.5	0.7		
	9400	TYKW			0319.0	0331.4		13.0			
	9400	TYKW	45	C	0319.0	0325.9	22.0	15.0	3.0		
	2950	GORK	20	GRF	0348.0	0915.7	492.0D	4.5			
	9100	GORK	20	GRF	0351.3	0417.7	45.0	7.0			
	9400	TYKW	5	S	0356.0	0358.1	10.0	4.0	1.0		
	2000	TYKW	5	S	0502.0	0503.2	7.0	1.5	0.5		
	3750	TYKW	20	GRF	0520.0	0557.0	90.0	2.0	1.0		
	2000	TYKW	20	GRF	0520.0	0600.0	100.0	1.5	0.7		
	9100	GORK	1	S	0736.5	0736.8	2.5	5.0	2.0		
	5900	KISV	40	F	0736.7	0736.9	1.0	3.0			
	5900	KISV	23	GRF	0820.4	0823.1	34.0	6.0			
	5900	KISV			0820.4	0839.2		5.0			
	9100	GORK	22	GRF	0820.7	0843.1	31.5	8.0			
	9300	KISV	23	GRF	0820.8	0841.1	33.0	11.0			
	9300	KISV			0820.8	0849.9		6.0			
	9100	GORK	21	GRF	0906.4	0917.9	30.0	6.0			
	9300	KISV	4	S/F	0915.8	0916.3	1.0	27.0			
	8800	LEAR	8	S	0916.0	0917.0	1.0	21.0			QL=5 ST=2 TYP=3
	9100	GORK	1	S	0916.0	0916.2	1.4	23.0	10.0		
	5900	KISV	2	S/F	0916.0	0916.3	2.5	7.0			
	15000	KISV	2	S/F	0916.1	0916.3	1.5	18.0			
	9300	KISV	29	PBI	0916.8	0916.8	5.5	6.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
08	15400	LEAR	8	S	0917.0E	0917.0	1.0D	22.0			QL=5 ST=2 TYP=3
	9100	GORK	20	GRF	1049.6	1050.7	8.8	8.0			
	5900	KISV	2	S/F	1050.4	1050.7	2.0	5.0			
	9100	GORK	24	R	1136.9	1155.5	20.0D	4.7			
	9400	HUAN	20	GRF	1246.8	1321.2	71.9	6.8	3.7		
	245	SVTO	49	GB	1322.0E	1322.0	1.0D	680.0			QL=1 ST=2 TYP=6
	2800	OTTA	22	GRF	1430.0	1436.5	40.0	1.6			
	9400	HUAN	1	S	1602.9	1604.4	5.1	5.4	1.6		
	9400	HUAN	2	S/F	1618.5	1620.0	3.3	2.7	1.8		
	9400	HUAN	21	GRF	1703.1	1716.0	26.7	8.2	1.9		
	9400	HUAN	1	S	1710.7	1713.9	5.3	10.9	5.9		
	2800	OTTA	1	S	1712.0	1714.0	8.0	1.9			
	2800	OTTA	31	ABS	1720.0		50.0	-1.6			
	9400	HUAN	2	S/F	1754.8	1756.8	7.6	10.9	3.3		
09	200	GORK	44	NS	0355.0E		485.0D		5.0		
	245	SVTO	43	NS	0443.0	0752.0	726.0D	91.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	20.0			
	260	ONDR	44	NS	0604.0E	1150.0U	490.0D				
	127	TORN	44	NS	0620.0E		150.0D		8.0		V=1
	245	SGMR	44	NS	1142.0E	1302.0	662.0D	33.0			QL=5 ST=3 TYP=1
	245	SGMR	44	NS	1142.0E	1302.0	738.0D	33.0			QL=5 ST=3 TYP=1
	2950	GORK	21	GRF	0612.0	0617.0	42.5	1.8			
	3100	CRIM	1	S	0614.5	0616.0	4.0	1.0	1.0		
	2000	TYKW	5	S	0615.0	0615.6	6.0	2.0	0.5		
	3750	TYKW	45	C	0615.0	0615.8	6.0	4.0	1.0		
	2950	GORK	1	S	0615.0	0615.8	1.7	1.8			
	200	GORK			0723.8	0836.1		40.0D			
	200	GORK	41	F	0723.8	0724.1	72.4	40.0D			
	200	GORK			0723.8	0741.2		40.0D			
	200	GORK			0723.8	0805.5		40.0D			
	200	GORK			0723.8	0759.8		40.0D			
	200	GORK			0723.8	0809.9		40.0D			
	200	GORK			1027.5	1048.0		40.0D			
	200	GORK			1027.5	1047.1		40.0D			
	200	GORK			1027.5	1121.3		40.0D			
	200	GORK			1027.5	1140.3		40.0D			
	200	GORK			1027.5	1154.3		40.0			
	200	GORK			1027.5	1041.4		40.0D			
	200	GORK	41	F	1027.5	1029.4	95.0	40.0			
	200	GORK			1027.5	1143.7		40.0D			
	200	GORK			1027.5	1130.8		40.0D			
	9100	GORK	20	GRF	1142.0	1148.5	18.0D	4.8			
	2950	GORK	20	GRF	1142.0	1146.5	18.1D	3.1			
	8800	SGMR	46	C	1930.0	1931.0	2.0	61.0			QL=1 ST=3 TYP=5
	15400	SGMR	46	C	1930.0	1931.0	2.0	58.0			QL=1 ST=3 TYP=5
	8800	PALE	8	S	1931.0	1931.0	1.0	44.0			QL=5 ST=3 TYP=3
10	127	TORN	44	NS	0730.0E		450.0D				V=1
	3750	TYKW	20	GRF	0340.0	0405.0	80.0	1.5	0.7		
	260	ONDR	41	F	0600.0	1003.0U	421.0D	14.0U			
	5900	KISV	1	S	0716.8	0717.6	2.0	2.0			
	5900	KISV	1	S	0732.1	0732.3	2.5	4.0			
	2950	GORK	20	GRF	0852.1	0853.6	18.8	2.5			
	204	IZMI	5	S	0855.0	0855.2	0.5	36.0	20.0		
	204	IZMI	41	F	0950.0	1001.0	11.0	56.0			
	204	IZMI	41	F	1002.0	1002.4	2.0	180.0			
	9400	HUAN	20	GRF	1640.8	1652.0	23.0	4.6	2.0		
	9400	HUAN	1	S	2130.5	2132.7	4.0	2.3	1.2		
	9400	TYKW	45	C	2220.0	2221.3	3.0	18.0	8.0		
	3750	TYKW	5	S	2220.0	2221.3	7.0	6.0	3.0		
	9400	TYKW	29	PBI	2223.0		15.0	6.0	3.0		
	3750	TYKW	29	PBI	2227.0		15.0	2.0	1.0		
	3750	TYKW	5	S	2247.0	2248.5	6.0	3.0	1.0		
11	9400	TYKW	20	GRF	0040.0	0056.0	60.0	4.0	2.0		
	3750	TYKW	5	S	0047.0	0056.0	30.0	4.0	1.0		
	3750	TYKW	21	GRF	0332.0	0355.0	100.0	2.0	1.0		
	3750	TYKW	5	S	0401.0	0408.0	11.0	4.0	2.0		
	2000	TYKW	5	S	0402.0	0408.0	10.0	1.5	0.7		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
11	9400	TYKW	20	GRF	0410.0	0427.0	60.0	6.0	3.0		RAIN
	2000	TYKW	30	PBI	0412.0		50.0	1.0	0.5		
	3750	TYKW	30	PBI	0412.0		55.0	2.0	1.0		
	3750	TYKW	5	S	0414.0	0418.0	11.0	5.0	2.0		
	2000	TYKW	5	S	0414.0	0417.4	15.0	2.0	0.5		
	3750	TYKW	29	PBI	0425.0		40.0	2.0	1.0		
	245	LEAR	46	C	0608.0E	0608.0	1.0D	420.0			QL=5 ST=2 TYP=5
	234	POTS	42	SER	0608.0	0608.4	16.0	500.0			
	204	IZMI	42	SER	0608.0	0621.5	16.0	400.0			
	30	POTS	42	SER	0609.1	0621.3	14.0	4000.0			
	5900	KISV	4	S/F	0620.0	0622.0	5.0	3.0			QL= ST= TYP=3
	245	LEAR	46	C	0620.0	0621.0	3.0	70.0			QL=5 ST=2 TYP=5
	5900	KISV	1	S	0620.3	0621.7	4.5	3.0			
	2000	TYKW	20	GRF	0640.0	0700.0	90.0	1.5	0.7		
	3750	TYKW	20	GRF	0640.0	0700.0	90.0	1.5	0.7		
	5900	KISV	1	S	0710.0	0710.4	1.5	3.0			
	260	ONDR	4	S/F	1201.4	1201.6	12.0	5.0			
	260	ONDR	3	S	1301.9	1301.9	4.3	5.0U			
	33	UPIC	8	S	1306.5	1306.5	0.7				
	29	UPIC	8	S	1306.5	1306.6	0.7				
	260	ONDR	4	S/F	1314.3	1316.0	4.0	12.0U			
	33	UPIC	8	S	1459.5	1459.6	0.5				
	29	UPIC	2	S/F	1459.6	1459.8	0.4				
	2800	OTTA	20	GRF	1808.5	1814.0	25.0	1.9			
	2800	OTTA	22	GRF	1824.5	1834.0	55.0	5.6			
	245	PALE	46	C	1847.0E	1848.0	2.0D	47.0			QL=5 ST=2 TYP=8
	2800	OTTA	20	GRF	1848.2	1913.8	25.6D	9.0			
	245	PALE	46	C	1853.0	1856.0	5.0	35.0			QL=5 ST=2 TYP=8
	245	SGMR	46	C	1853.0	1856.0	5.0	34.0			QL=5 ST=2 TYP=8
	410	SGMR	48	C	1853.0	1855.0	2.0	55.0			QL=5 ST=2 TYP=8
	610	SGMR	4	S/F	1855.0	1855.0		10.0			QL=5 ST=2 TYP=3
	1415	PALE	20	GRF	1901.0	1903.0	3.0	19.0			QL=5 ST=2 TYP=2
	610	PALE	20	GRF	1903.0	1904.0	1.0	11.0			QL=5 ST=2 TYP=2
	1415	SGMR	4	S/F	1903.0	1903.0		11.0			QL=5 ST=2 TYP=3
	2695	SGMR	46	C	1904.0	1905.0	1.0	9.0			QL=5 ST=2 TYP=8
	610	SGMR	4	S/F	1904.0	1904.0		10.0			QL=5 ST=2 TYP=3
	245	SGMR	46	C	1909.0	1911.0	2.0	18.0			QL=5 ST=2 TYP=8
	410	SGMR	48	C	1909.0	1913.0	5.0	73.0			QL=5 ST=2 TYP=8
	2800	OTTA	30	PBI	1909.3	1909.3	200.0D	5.5			
	610	SGMR	46	C	1910.0	1911.0	1.0	17.0			QL=5 ST=2 TYP=8
	3750	TYKW	5	S	2153.0	2159.0	15.0	11.0	4.0		
	2800	OTTA	22	GRF	2153.5	2200.0	30.0	5.9			
	9400	TYKW	21	GRF	2158.0	2200.0	35.0	8.0	4.0		
	3750	TYKW	30	PBI	2208.0		30.0	4.0	2.0		
	9400	TYKW	31	ABS	2233.0	2255.0	60.0	-2.0	-1.0		
	3750	TYKW	31	ABS	2238.0	2300.0	55.0	-1.0	-0.5		
12	221	ABST	43	NS	0500.0	0832.0	360.0	9.0			QL= ST= TYP=1
	3750	TYKW	5	S	0221.0	0227.5	15.0	1.0	0.5		
	3750	TYKW	5	S	0306.0	0307.3	3.0	2.5	1.5		
	3750	TYKW	29	PBI	0309.0		10.0	1.0	0.5		
	3750	TYKW	5	S	0429.0	0429.3	1.0	1.5	0.5		
	3750	TYKW	5	S	0443.0	0444.0	4.0	1.0	0.5		
	9400	TYKW	5	S	0450.8	0451.5	1.5	7.0	2.0		
	2950	GORK	21	GRF	0636.6	0644.5	17.0	1.6			
	3750	TYKW	45	C	0637.0	0637.5	6.0	7.0	3.0		RAIN
	2000	TYKW	5	S	0637.0	0637.6	3.0	2.0	1.0		
	3100	CRIM			0637.1	0639.0		2.0			
	3100	CRIM	29	PBI	0637.1	0642.1	10.0	1.0	0.5		
	3100	CRIM			0637.1	0640.5		2.0			
	3100	CRIM	45	C	0637.1	0637.6	5.0	3.0	1.5		
	2950	GORK			0637.3	0639.0		1.8			
	2950	GORK	46	C	0637.3	0637.6	4.0	3.0			
	2000	TYKW	29	PBI	0640.0		15.0	1.0	0.5		
	3750	TYKW	29	PBI	0643.0		25.0	2.0	1.0		
	260	ONDR	8	S	0805.7	0805.7	0.2	1.0			
	536	ONDR	4	S/F	0839.6	0839.7	0.3	4.0			
	260	ONDR	8	S	0946.5	0946.6	0.5	2.0			
	260	ONDR	8	S	1008.8	1009.3	0.5	2.0			
	260	ONDR	40	F	1028.9	1031.7	6.6	2.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
12	260	ONDR	40	F	1056.9	1102.7	5.8	3.0			
	127	TORN	45	C	1143.2	1144.3	1.3	20.0	10.0		
	127	TORN	7	C	1155.7	1156.3	1.4	60.0	30.0		
	9400	HUAN	1	S	1752.1	1756.2	6.0	4.1	2.1		
13	9400	TYKW	20	GRF	0200.0	0215.0	50.0	2.0	1.0		
	3750	TYKW	20	GRF	0200.0	0215.0	60.0	1.5	0.7		
	2000	TYKW	20	GRF	0200.0	0205.0	70.0	1.0	0.5		
	650	GORK	20	GRF	0404.8	0418.9	14.1	2.0			
	650	GORK	20	GRF	0554.6	0627.0	66.0	2.7			
	260	ONDR	42	SER	0832.9	0833.0	1.6	1.0			
	650	GORK	1	S	0838.7	0839.2	1.5	2.2			
	260	ONDR			0906.7	0907.0	0.7	1.0			
	260	ONDR			1006.4	1006.5	0.6	1.0			
	29	UPIC	46	C	1211.2	1212.0	5.1				
	33	UPIC	46	C	1211.7	1211.9	4.8				
	9400	HUAN	20	GRF	1317.5	1328.5	45.7	7.9	4.7		
	2800	OTTA	1	S	1532.2	1533.5	2.8	1.6			
	9400	HUAN	2	S/F	1626.0	1628.2	5.8	6.6	2.5		
	2800	OTTA	20	GRF	1748.8	1754.5	20.5	1.6			
	2800	OTTA	40	F	1821.0		18.0	1.8			
	2800	OTTA	1	S	2005.0	2006.5	2.5	1.8			
	2800	OTTA	29	PBI	2006.5	2006.5	31.5	1.2			
	2800	OTTA	20	GRF	2115.2	2121.0	16.2	2.4			
	245	PALE	8	S	2343.0	2343.0	1.0	46.0			QL=5 ST=2 TYP=3
	1000	TYKW	45	C	2358.0	2358.6	1.5	10.0	1.5		
14	200	HIRA	42	SER	0022.8	0023.6	5.3	58.0			0
	100	HIRA	41	F	0022.9		10.0	1000.0D			
	3750	TYKW	45	C	0023.0	0026.3	7.0	47.0	12.0		
	1000	TYKW	45	C	0023.0	0026.4	8.0	7.0	2.0		
	2000	TYKW	45	C	0023.0	0026.4	7.0	21.0	6.0		
	3750	TYKW			0023.0	0024.6	3.0	33.0			
	2000	TYKW			0023.0	0024.6		14.0			
	9400	TYKW			0023.0	0024.6	3.0	21.0	6.0		
	1000	TYKW			0023.0	0024.7		7.0			
	9400	TYKW	45	C	0023.0	0026.9	7.0	25.0	7.0		
	245	LEAR	4	S/F	0023.0	0023.0	5.0	17.0			QL=5 ST=2 TYP=3
	610	LEAR	4	S/F	0023.0	0024.0	5.0	10.0			QL=5 ST=2 TYP=3
	2695	LEAR	4	S/F	0023.0	0026.0	5.0	33.0			QL=5 ST=2 TYP=3
	4995	LEAR	4	S/F	0023.0	0026.0	5.0	33.0			QL=5 ST=2 TYP=3
	8800	LEAR	4	S/F	0023.0	0023.0	5.0	23.0			QL=5 ST=2 TYP=3
	4995	PALE	45	C	0023.0	0026.0	4.0	44.0			QL=5 ST=2 TYP=8
	8800	PALE	45	C	0023.0	0026.0	4.0	31.0			QL=5 ST=2 TYP=8
	2700	PENT	40	F	0023.0	0026.5	6.0	34.6			
	500	HIRA	46	C	0023.2	0024.5	4.5	6.0	2.0		WL
	2695	PALE	46	C	0024.0	0026.0	4.0	48.0			QL=1 ST=2 TYP=8
	1415	PALE	4	S/F	0026.0	0026.0		14.0			QL=5 ST=1 TYP=3
	2800	OTTA	29	PBI	0026.5	0026.5		1.7			
	2000	TYKW	29	PBI	0030.0		30.0	1.0	0.5		
	3750	TYKW	29	PBI	0030.0		30.0	2.0	1.0		
	9400	TYKW	29	PBI	0030.0		30.0	4.0	2.0		
	2000	TYKW	45	C	0419.0	0420.0	7.0	4.0	1.0		
	3750	TYKW	5	S	0419.0	0421.0	6.0	1.5	0.5		
	1000	TYKW	5	S	0419.0	0419.9	3.0	3.0	1.0		
	650	GORK	20	GRF	0419.0	0419.8	7.8	2.0			
	2950	GORK	1	S	0419.2	0420.6	3.8	2.1			
	950	GORK	20	GRF	0419.3	0419.9	13.0	2.0			
	245	LEAR	46	C	0420.0E	0420.0	5.0D	84.0			QL=5 ST=2 TYP=5
	2000	TYKW	45	C	0634.5	0635.0	2.5	2.0	1.0		
	3750	TYKW	45	C	0634.5	0636.2	3.5	3.0	1.0		
	2950	GORK			0634.7	0636.2		2.5			
	2950	GORK	46	C	0634.7	0635.2	2.4	2.6			
	260	ONDR	42	SER	0721.7	0723.6	5.0	2.0			
	650	GORK	1	S	0735.7	0736.7	2.4	1.5			
	950	GORK	1	S	0735.8	0736.3	2.0	4.0			
	3000	POTS	3	S	0913.0	0913.5	1.9	8.0			
	260	ONDR			1025.7	1026.6	2.8	2.0			
	29	UPIC	48	C	1123.0		5.9				
	33	UPIC	48	C	1123.0	1126.7	5.9				

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

SEPTEMBER 1987

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
14	1470	POTS	2	S/F	1125.0	1126.4	3.5	2.0			
	3000	POTS	1	S	1125.0	1126.6	3.0	2.0			
	9400	HUAN	20	GRF	1216.1	1229.0	23.4	5.6	1.4		
	29	UPIC	48	C	1330.7		5.9				
	33	UPIC	48	C	1330.8	1333.3	6.5				
	1470	POTS	4	S/F	1333.2	1334.6	4.3	8.0			
	9400	HUAN	22	GRF	1553.1	1600.9	30.1	4.9	2.0		
	9400	HUAN	2	S/F	1650.2	1652.2		5.6			
	9400	HUAN	2	S/F	1650.2	1654.3		4.9			
	9400	HUAN	2	S/F	1650.2	1650.8	6.8	4.2	2.5		
	9400	HUAN	1	S	1717.1	1719.0	5.7	2.8	1.4		
15	610	PALE	46	C	0053.0	0053.0	1.0D	120.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	0053.0	0054.0	1.0	39.0			QL=5 ST=2 TYP=3
	200	HIRA	8	S	0053.1	0053.2	0.2	45.0			0
	500	HIRA	8	S	0053.5	0054.0	0.8	320.0			WL
	245	LEAR	46	C	0054.0	0054.0	5.0	310.0			QL=5 ST=2 TYP=5
	410	LEAR	46	C	0054.0	0054.0	3.0	85.0			QL=5 ST=2 TYP=5
	610	LEAR	46	C	0054.0	0054.0	5.0	170.0			QL=5 ST=2 TYP=5
	245	PALE	46	C	0054.0	0054.0	17.0	300.0			QL=3 ST=2 TYP=5
	2000	TYKW	20	GRF	0205.0	0225.0	80.0	1.5	0.7		
	9400	TYKW	20	GRF	0206.0	0225.0	65.0	3.0	1.5		
	3750	TYKW	20	GRF	0206.0	0223.0	70.0	2.0	1.0		
	1000	TYKW	45	C	0207.5	0208.0	2.5	3.0	1.0		
	200	HIRA	46	C	0208.6	0211.7	7.3	13.0	4.0		WR
	2000	TYKW	21	GRF	0450.0	0512.0	60.0	2.0	1.0		
	3750	TYKW	20	GRF	0450.0	0510.0	60.0	2.0	1.0		
	9400	TYKW	20	GRF	0450.0	0515.0	60.0	4.0	2.0		
	2000	TYKW	45	C	0518.0	0521.0	10.0	2.0	0.7		
	260	ONDR	42	SER	0749.1	0749.1	0.6	1.0			
	260	ONDR			0836.0	0836.0	0.2	1.0			
	9400	HUAN	1	S	1309.4	1311.4	3.6	4.4	1.5		
	410	PALE	8	S	1854.0E	1854.0	1.0D	45.0			QL=5 ST=2 TYP=3
16	9400	HUAN	2	S/F	1816.8	1819.4	5.6	3.0	1.8		
	9400	HUAN	20	GRF	1833.2	1841.0	25.0	2.4	0.9		
	9400	HUAN	1	S	1949.2	1951.9	4.3	3.0	1.6		
	9400	HUAN	1	S	2010.1	2011.5	2.6	3.6	1.9		
17	245	LEAR	8	S	0523.0E	0523.0	1.0D	22.0			QL=5 ST=2 TYP=3
	245	SVTO	46	C	0646.0E	0647.0	2.0D	180.0			QL=1 ST=2 TYP=5
	245	LEAR	46	C	0647.0E	0648.0	1.0D	59.0			QL=5 ST=2 TYP=5
	204	IZMI	5	S	0648.0	0648.5	1.0	35.0	20.0		
	260	ONDR	8	S	0922.9	0923.0	0.9	8.0			
	260	ONDR	45	C	0948.0	0948.2	2.0U	2.0			
	260	ONDR	8	S	1001.9	1001.9	1.8	2.0			
	9400	HUAN	1	S	1333.7	1335.1	3.9	3.4	1.4		
	9400	HUAN	1	S	1401.9	1403.5	3.1	2.7	0.7		
	9400	HUAN	1	S	1618.4	1620.8	4.8	4.1	1.4		
	245	PALE	4	S/F	1932.0E	1932.0	17.0D	47.0			QL=5 ST=2 TYP=3
18	536	ONDR	8	S	0932.7	0932.8	0.4	7.0			
	536	ONDR	2	S/F	0952.5	0952.7	0.6	13.0			
	200	GORK	4	S/F	1009.6	1009.8	1.8	35.0			
	650	GORK	1	S	1009.8	1010.7	1.9	4.0			
	650	GORK	1	S	1010.4	1010.7	0.5	4.0			
	536	ONDR	8	S	1052.4	1052.4	0.3	8.0			
	536	ONDR	8	S	1227.7	1227.8	0.2	6.0			
	9400	HUAN	22	GRF	1335.5	1351.4	55.0	6.9	2.6		
19	2000	TYKW	45	C	0254.0	0255.5	9.0	6.0	2.0		
	200	HIRA	41	F	0254.0	0256.7	4.4	19.0			0
	500	HIRA	46	C	0254.2	0256.3	4.5	5.0	1.0		0
	1000	TYKW	45	C	0254.5	0258.4	5.5D	3.0	1.0D		
	3750	TYKW	45	C	0254.5	0255.6	5.5D	3.5	2.0D		
	9400	TYKW	20	GRF	0255.0	0258.0	50.0	2.0	1.0		
	3750	TYKW	29	PBI	0303.0E		50.0D	1.5D	0.7D		
	2000	TYKW	29	PBI	0303.0		65.0	1.0	0.5		
	204	IZMI	4	S/F	0727.5	0727.6	0.6	120.0	100.0		
	260	ONDR	8	S	0957.9	0958.0	1.2	5.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

SEPTEMBER 1987

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
20	430	KRAK	8	S	1145.5	1145.5	0.1	8.0			
	8800	SVTO	46	C	1204.0E	1204.0	3.0D	120.0			QL=1 ST=2 TYP=5
	234	POTS	4	S/F	1212.0	1212.1	1.3	325.0	30.0		
	234	POTS	4	S/F	1242.1	1242.2	0.9	83.0	13.0		
	245	SGMR	46	C	1807.0	1809.0	5.0	190.0			QL=5 ST=2 TYP=5
	245	PALE	46	C	1808.0	1808.0	1.0	250.0			QL=1 ST=2 TYP=5
	15400	PALE	45	C	1808.0	1810.0	2.0	41.0			QL=1 ST=2 TYP=8
	245	PALE	46	C	1857.0	1858.0	1.0	110.0			QL=5 ST=2 TYP=5
	245	SGMR	46	C	1857.0	1858.0	2.0	110.0			QL=1 ST=2 TYP=5
	245	PALE	8	S	2004.0	2004.0	1.0	42.0			QL=5 ST=2 TYP=3
	245	SGMR	46	C	2004.0	2004.0	3.0	54.0			QL=1 ST=3 TYP=5
	200	HIRA	41	F	2150.6	2152.7	4.2	160.0			0
	100	HIRA	42	SER	2151.5	2152.7	2.1	760.0			
	500	HIRA	7	C	2153.0	2153.2	5.0	8.0	1.0		WL
21	200	GORK	44	NS	0403.0E		360.0D		5.0		
	245	LEAR	46	C	0029.0	0029.0	1.0	59.0			QL=5 ST=2 TYP=5
	2000	TYKW	45	C	0156.0	0158.9	6.0	15.0	3.5		
	3750	TYKW	45	C	0156.0	0158.9	5.0	23.0	6.0		
	200	HIRA	46	C	0156.1	0158.3	2.8	310.0	64.0		0
	100	HIRA	46	C	0156.6		3.4	1000.0D	640.0D		
	9400	TYKW	45	C	0157.0	0159.8	5.0	15.0	7.0		
	1000	TYKW	45	C	0157.0	0158.9	6.0	43.0	2.0		
	500	HIRA	46	C	0157.0	0159.0	3.5	34.0	6.0		0
	410	LEAR	46	C	0158.0E	0159.0	7.0D	70.0			QL=5 ST=2 TYP=5
	410	PALE	46	C	0158.0	0159.0	1.0	30.0			QL=5 ST=3 TYP=8
	2695	PALE	8	S	0158.0	0158.0	1.0	22.0			QL=5 ST=3 TYP=3
	4995	PALE	8	S	0158.0	0158.0	1.0	16.0			QL=5 ST=3 TYP=3
	245	PALE	48	C	0158.0	0159.0	1.0	430.0			QL=5 ST=3 TYP=8
	3750	TYKW	29	PBI	0201.0		25.0	1.5	0.7		
	9400	TYKW	29	PBI	0202.0		30.0	4.0	2.0		
	9300	KISV	2	S/F	0744.6	0745.2	1.5	10.0			
	260	ONDR	40	F	0745.0E	1155.0U	375.0D	4.0U			
	430	KRAK	41	F	1017.5	1028.8	34.5	28.0	8.0		
	33	UPIC	2	S/F	1040.8	1041.1	1.2				
	29	UPIC		S/F	1041.0	1041.3	1.1				
	2800	OTTA	20	GRF	1723.0	1728.0	45.0D	0.9			
	245	PALE	46	C	1752.0	1753.0	1.0	120.0			QL=1 ST=2 TYP=5
22	204	IZMI	4	S/F	0828.0	0829.5	2.5	22.0	12.0		
	260	ONDR	42	SER	0912.3	0932.6	21.5	10.0			
	536	ONDR	8	S	1044.4	1044.6	0.6	22.0			
	260	ONDR			1149.3	1158.8	10.5	4.0			
	2800	OTTA	42	SER	1929.0	1931.2	4.0	14.2	2.1		
	9400	HUAN	22	GRF	2115.2	2119.5	12.1	4.4	1.2		
23	200	GORK	43	NS	0537.0		315.0		5.0		
	536	ONDR	42	SER	1313.4	1318.6	11.6	17.0			
	245	LEAR	46	C	2340.0	2341.0	2.0	130.0			QL=5 ST=2 TYP=5
	245	PALE	46	C	2340.0	2341.0	1.0	100.0			QL=5 ST=2 TYP=5
24	260	ONDR	40	F	1006.0	1104.0	90.0	48.0U			
	2800	OTTA	8	S	1916.3	1916.5	3.0	12.5	2.3		
	15400	SGMR	46	C	2132.0E	2133.0	2.0D	62.0			QL=5 ST=2 TYP=5
25	9400	HUAN			2020.7	2023.0		4.4			
	9400	HUAN	2	S/F	2020.7	2022.0	5.3	3.8	1.4		
26	9400	HUAN	1	S	1511.7	1515.1	5.0	4.8	1.8		
27	260	ONDR	40	F	1232.6	1232.8	0.5	3.0			
	9400	HUAN	20	GRF	1302.3	1306.3	11.3	4.0	2.0		
	9400	HUAN	1	S	1411.1	1414.6	7.1	4.6	2.7		
28	245	LEAR	46	C	0559.0	0600.0	2.0	67.0			QL=5 ST=2 TYP=5
	204	IZMI	41	F	0559.0	0600.5	2.0	60.0	30.0		
	536	ONDR	2	S/F	0901.3	0901.5	0.9	7.0			
29	536	ONDR	8	S	1456.0	1456.1	1.1	28.0U			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

SEPTEMBER 1987

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
30	2000	TYKW	32 ABS	0222.0	0237.0	30.0	-1.5	-0.7		INTERFERENCE
	245	LEAR	8 S	0737.0	0737.0	2.0	45.0			QL=5 ST=2 TYP=3
	536	ONDR	8 S	1045.1	1045.1	0.3	18.0			
	204	IZMI	4 S/F	1057.0	1058.0	1.5	96.0	80.0		
	260	ONDR	40 F	1057.3	1057.3	1.4	12.0U			

Reports are received routinely from the following observatories:

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

Explanation of Type Code:

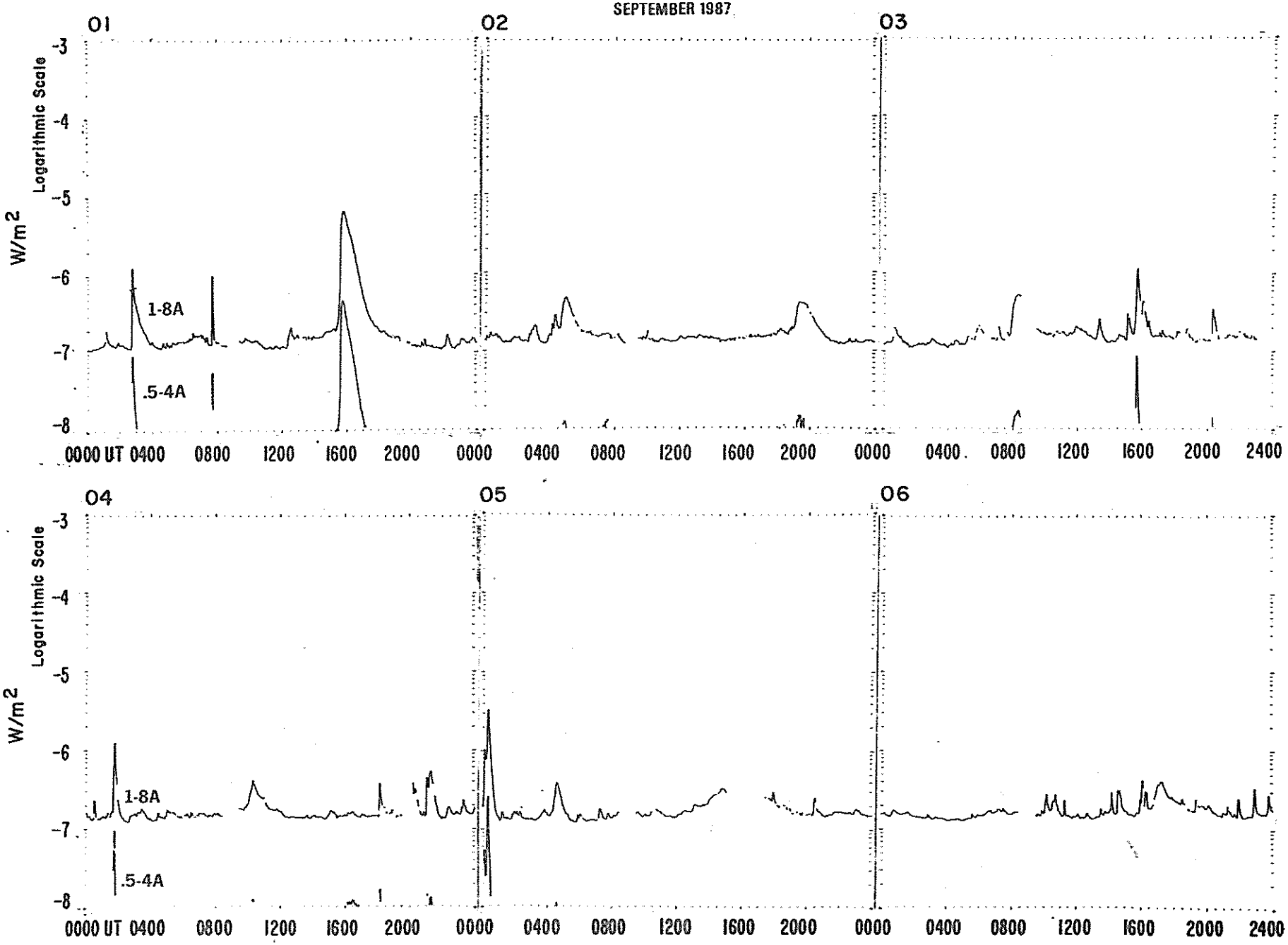
1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple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

1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A
			46F Complex F

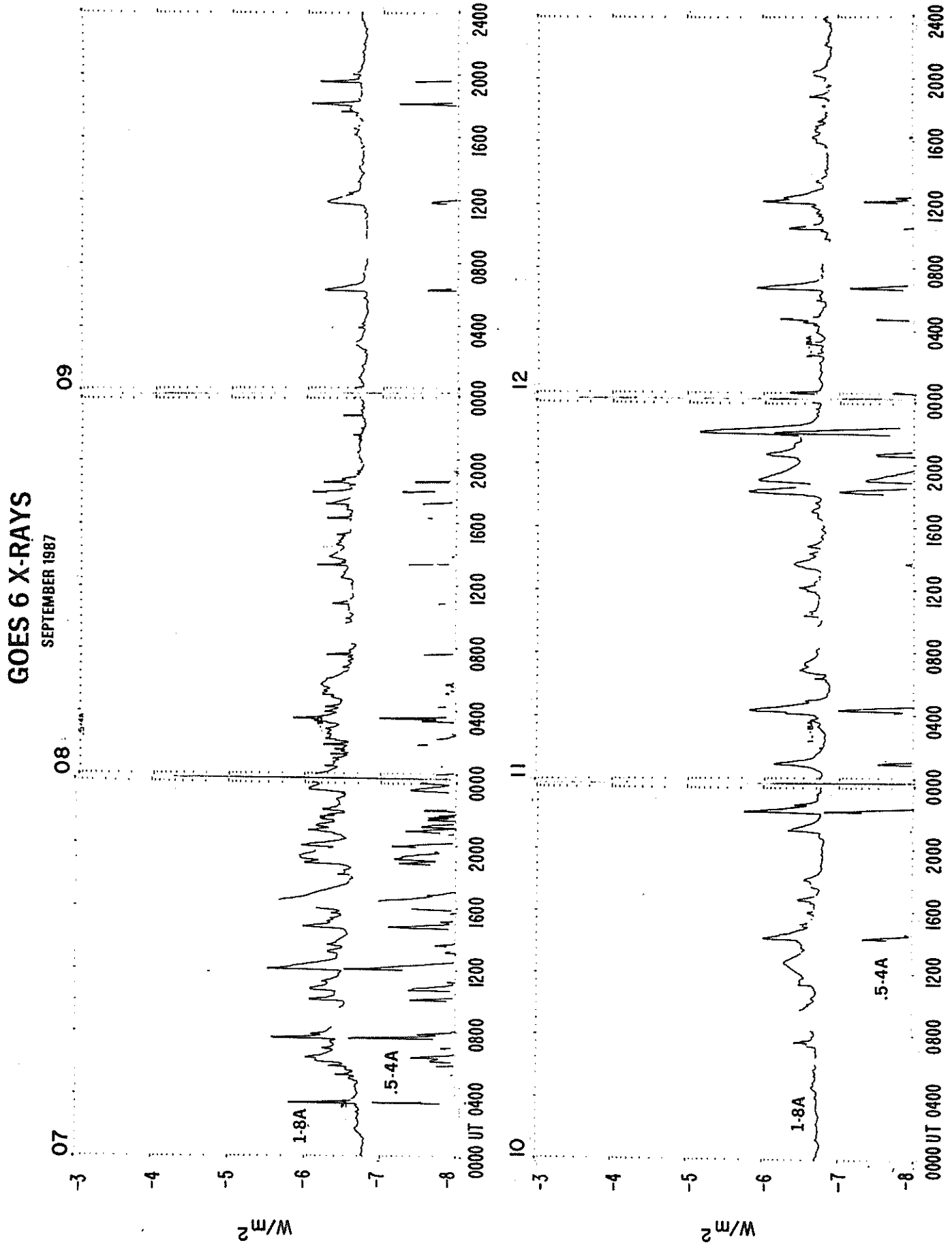
RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Ottawa, Canada 2800 MHz; Hiraiso, Japan 500 and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

GOES 6 X-RAYS

SEPTEMBER 1987



27 Sep 87


GOES 6 X-RAYS
SEPTEMBER 1987
07
08
09
10
11
12
W/m2
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
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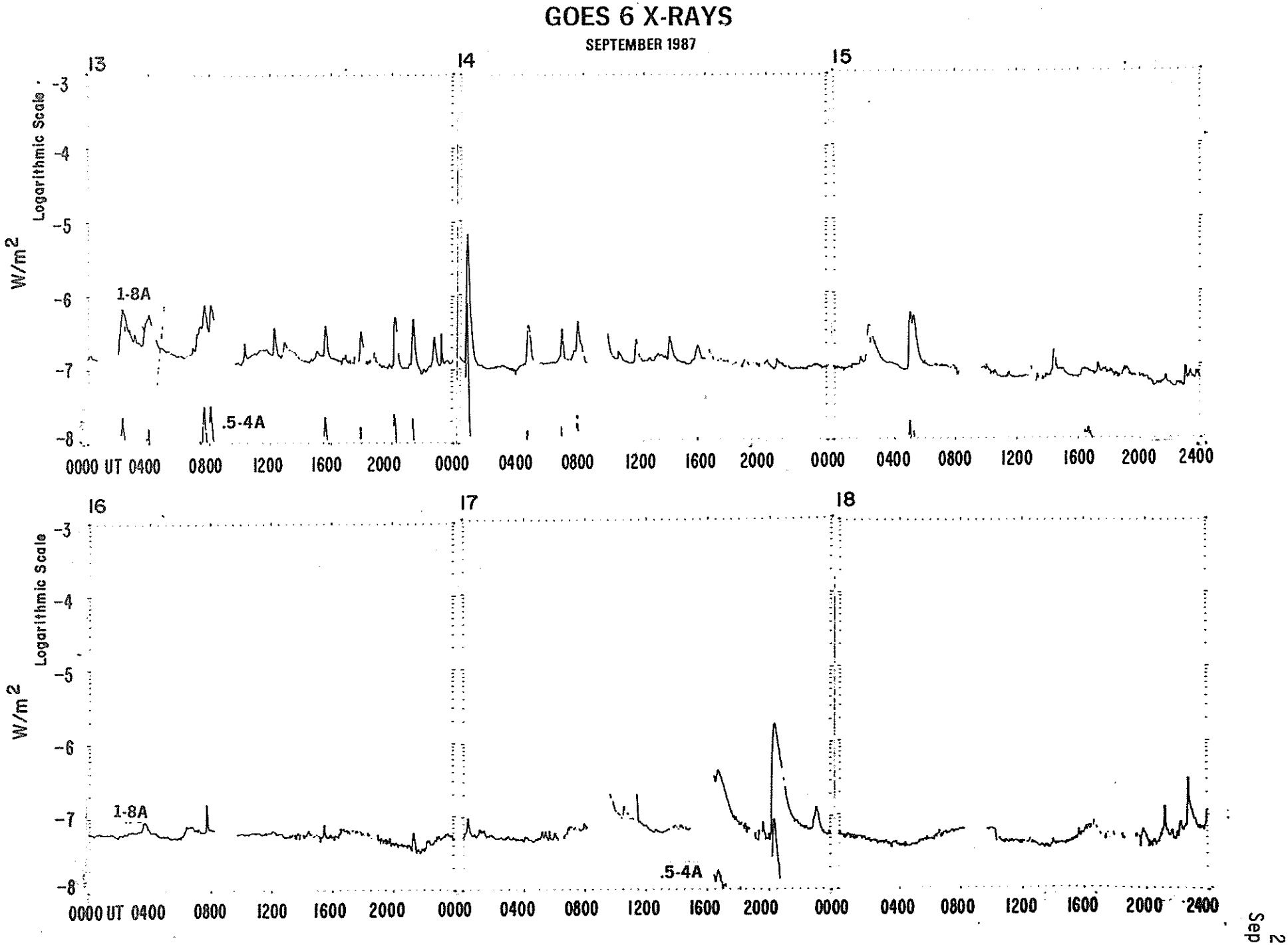
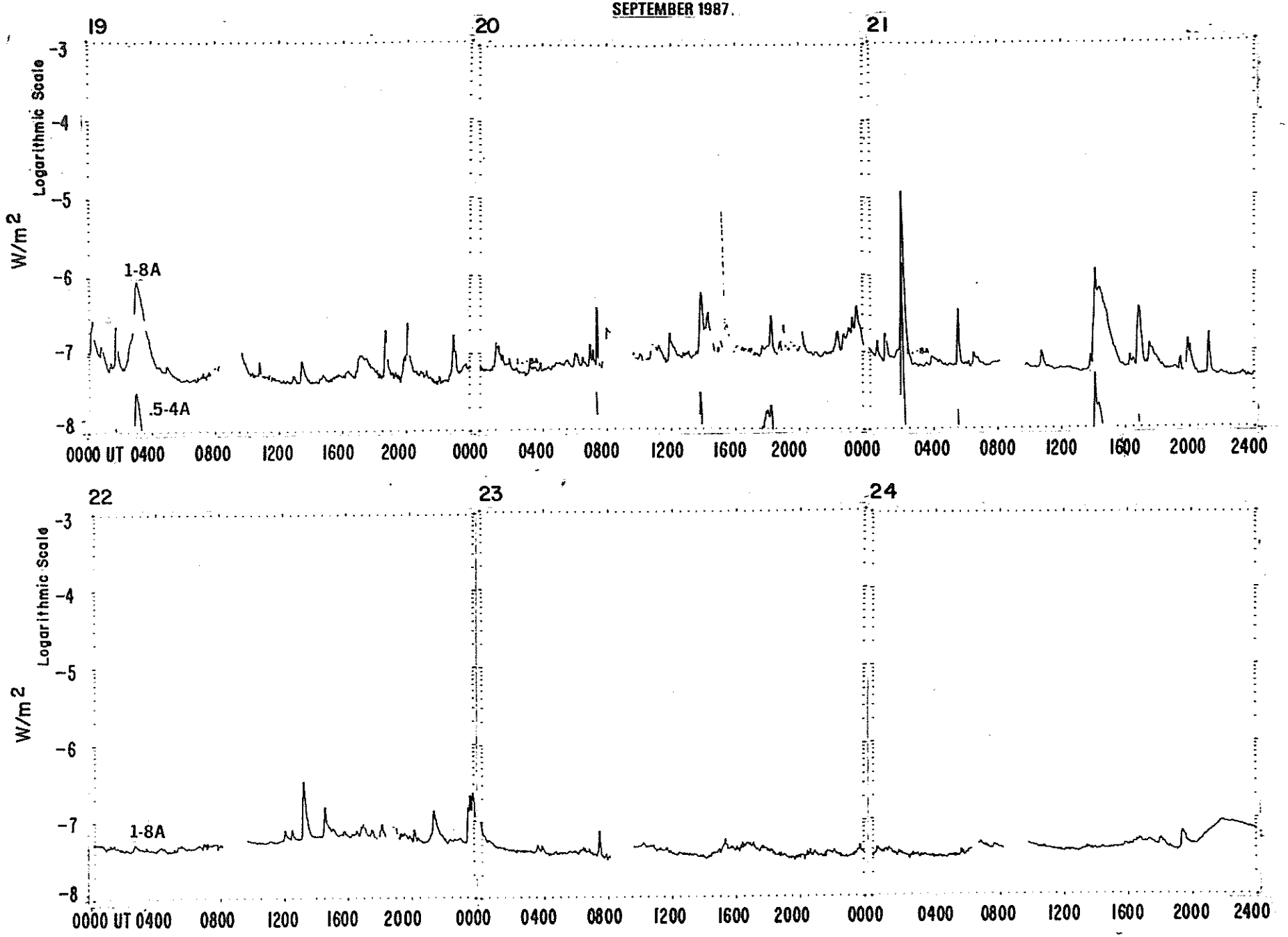

GOES 6 X-RAYS
SEPTEMBER 1987
13
14
15
16
17
18
Logarithmic Scale
W/m2
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400
29 Sep 87

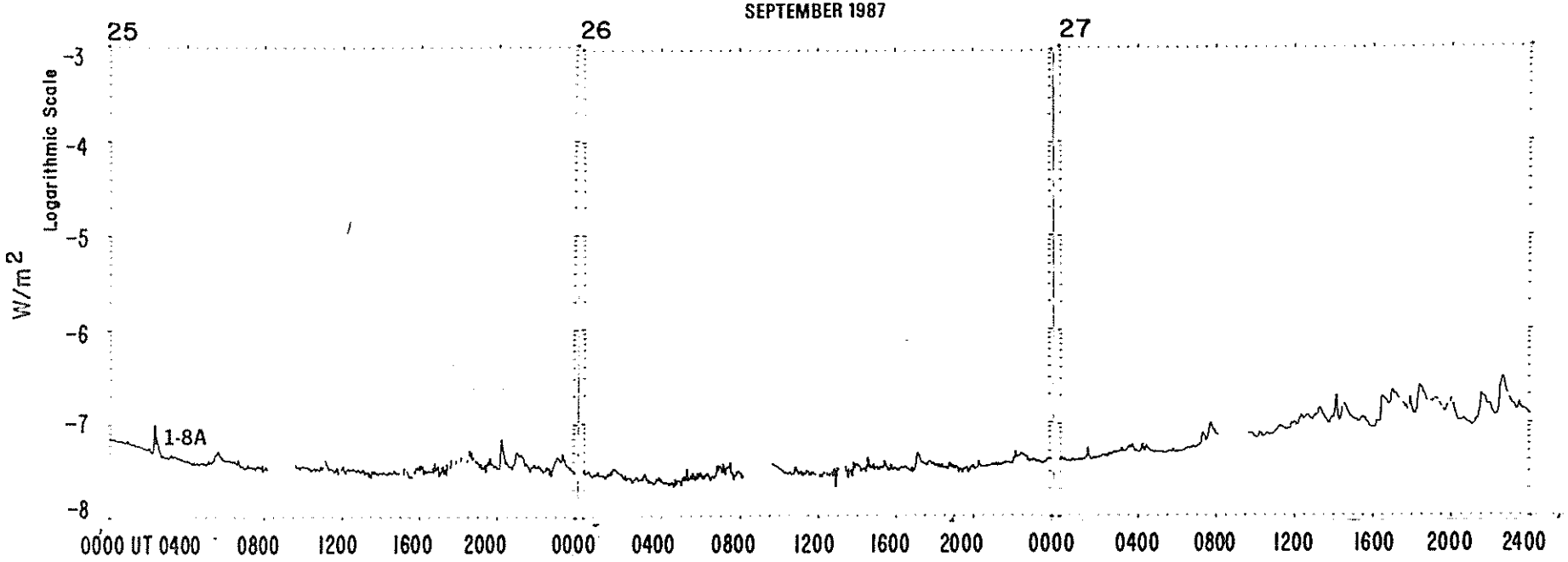
GOES 6 X-RAYS

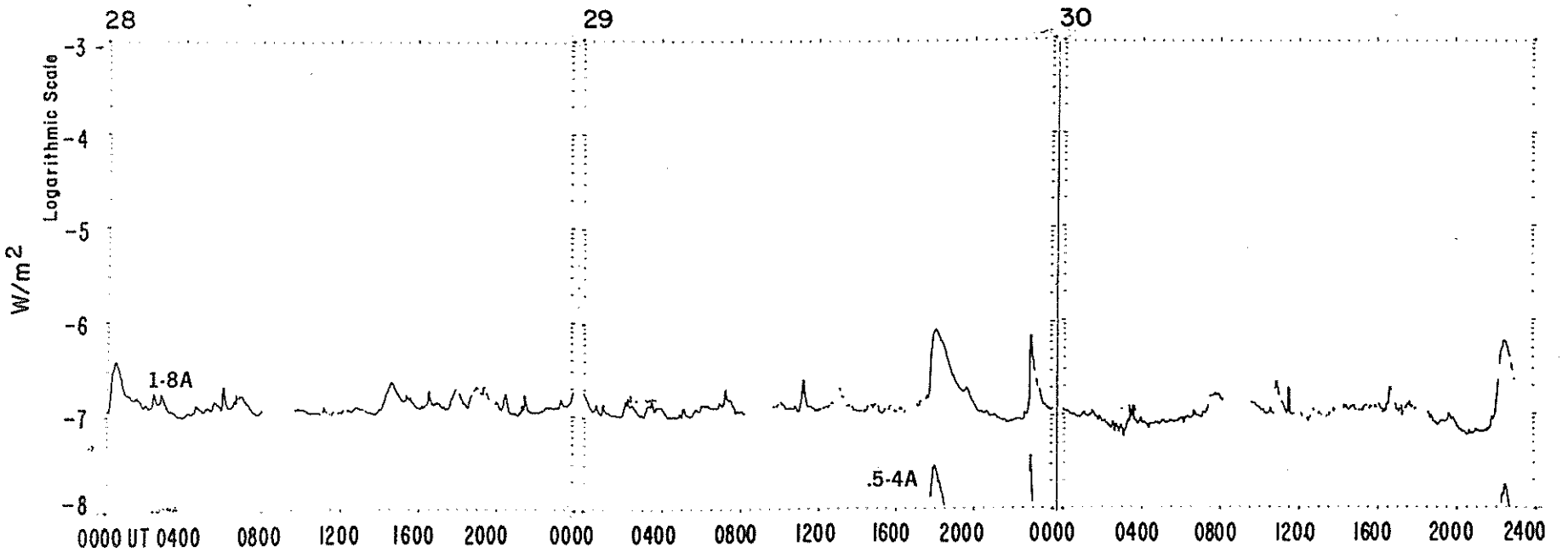
SEPTEMBER 1987



GOES 6 X-RAYS

SEPTEMBER 1987





31
Sep 8

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

Preliminary Listing

September 1987

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
01	0244	0250	0254				C1.2	
01	0629	0632	0634				B1.7	
01	0742E	0745	0752	S24	E61	SN	C1.0	4848
01	1527	1541	1729	S26	E59	1N	C6.6	4848
01	2047	2050	2052				B1.8	
02	0405	0409	0413				B2.1	
02	0414	0420	0425				B2.8	
03	1506	1510	1530	S22	E53	SF	B3.0	4849
03	1524	1541	1659	S21	E52	1F	C1.2	4849
03	2014	2019	2028				B3.5	
03	2337	2340	2347	S22	E47	SF	B3.6	4849
04	0032	0037	0040				B2.3	
04	0147E	0149	0202	S24	E45	SB	C1.4	4849
04	0914	0917	0919				B4.5	
04	1809	1810	1824	S22	E38	SF	B3.4	4849
04	1955	2012	2018				B4.1	
04	2100	2119	2131				B5.4	
05	0006E	0020	0040	S25	E32	1N	C3.1	4849
05	2026	2029	2035				B2.5	
06	1007	1010	1012				B2.5	
06	1115	1118	1120				B2.2	
06	1410	1412	1418	S24	E14	SF	B2.9	4849
06	1435	1435	1451	S23	E12	SF	B3.2	4849
06	1556	1609	1632	S24	E12	SF	B4.3	4849
06	1615	1622	1625	S22	E11	SF	B3.0	4849
06	2152	2156	2201				B2.5	
06	2252	2254	2301	S22	E07	SF	B3.3	4849
06	2343	2344	0003	S23	E07	SF	B2.8	4849
07	0330	0331	0343	S24	E10	SB	C1.7	4849
07	0515	0519	0524	S24	E09	SF	B4.1	4849
07	0548	0552	0555				B5.2	
07	0620	0624	0633	S24	E09	SB	C1.0	4849
07	0729	0733	0746	S23	E08	SB	C2.9	4849
07	0751	0753	0803	S24	E06	SN	B8.8	4849
07	1001	1008	1014				B9.0	
07	1040	1047	1059				B8.7	
07	1205	1211	1235	S24	E02	SF	C3.1	4849
07	1334	1339	1345				B4.6	
07	1441	1446	1525	S21	W03	SF	C1.0	4849
07	1603	1617	1647	S24	W00	SF	C3.1	4849
07	1807	1810	1813				B4.0	
07	1851	1854	1920	S24	W02	SF	C1.0	4849
07	1956	1956	2010	S22	W03	SF	C1.1	4849
07	2054	2057	2114D	S23	W04	SF	B9.4	4849
07	2146	2146	2156	S22	W04	SF	B6.7	4849
07	2210	2215	2222				B6.0	
07	2321	2332	0006				B8.9	
08	0031	0032	0042	S22	W06	SF	B5.8	4849
08	0206	0216	0300				B5.5	
08	0325E	0326	0356	S23	W06	SF	C1.3	4849
08	0414	0418	0421				B5.5	
08	0735	0738	0740				B5.9	
08	0821	0827	0833				B3.8	
08	0839	0843	0853	S22	W10	SF	C1.9	4849
08	0914	0918	0921				B6.3	
08	1049	1053	1057				B4.4	
08	1320	1321	1335	S21	W10	SF	B7.5	4849
08	1619	1620	1625	S24	W13	SF	B6.0	4849
08	1711	1715	1720				B5.7	
08	1758	1758	1809	S22	W15	SF	B9.0	4849
08	1829	1836	1848	S20	W17	SF	B5.9	4849
08	2131	2134	2137				B2.6	
09	0617	0619	0636	S21	W26	SN	B6.1	4849
09	1143	1156	1211				B5.7	
09	1734	1737	1740				B3.7	
09	1802	1803	1816	S23	W28	SF	C1.0	4849
09	1930	1933	1936				B7.8	4849
10	0734	0734	0744	S21	W36	SF	B4.1	4849
10	0907E	0907	0910	S23	W37	SF	B6.4	4849
10	1117	1118	1132	S21	W39	SF	B2.9	4849
10	1202	1234	1321	S25	E25	SF	B5.1	4851
10	1414	1414	1434	S22	W41	SF	B9.7	4849
10	2111	2121	2133	S26	W63	SF	B4.7	4848
10	2219	2221	2306	S21	W46	SN	C1.7	4849
10	2248	2251	2254				B3.9	
11	0030	0056	0108				B8.0	
11	0425E	0425	0436	S22	W47	1F	C1.6	4849
11	0620	0623	0626				B2.2	
11	1018	1019	1027	S25	W53	SF	B3.0	4849
11	1444	1449	1455				B2.3	
11	1804	1821	1900	S21	W55	SF	C1.6	4849
11	1848	1903	2023	S25	E09	1N	C1.2	4851
11	2033	2040	2047	S20	W58	SF	B9.9	4849
11	2158	2202	2212D	S24	W62	SF	C7.5	4849
12	0002E	0002	0011	S33	E53	SN	B4.4	4853
12	0306	0311	0319				B2.2	
12	0443	0446	0449				B6.4	
12	0635	0642	0707	S23	W62	1F	C1.2	4849
12	1027	1034	1037	S25	W03	SF	B4.6	4851
12	1204	1211	1221	S23	W66	1F	C1.0	4849
13	0200	0216	0233				B6.8	
13	0337	0358	0420				B5.5	
13	0707	0740	0749				B7.9	
13	0759	0806	0815				B7.8	4849
13	1016	1019	1023				B2.4	
13	1211	1216	1221				B3.8	
13	1531	1538	1544				B4.0	
13	1752	1758	1804				B3.4	
13	1848	1851	1855				B1.9	
13	2006	2009	2024	S35	E28	SF	B5.2	4853
13	2118	2119	2125	S35	E28	SF	B5.1	4853
13	2240	2245	2251				B2.8	
13	2309	2314	2316				B3.1	
14	0030E	0033	0055D	S34	E23	SB	C6.7	4853
14	0417	0422	0433	S34	E26	SF	B3.7	4853
14	0630	0636	0649	S34	E26	SF	B3.4	4853
14	0736	0740	0749	S33	E21	SF	B4.2	4853
14	0921	0930	0940				B3.3	
14	1126	1132	1144	S34	E18	SF	B2.3	4853
14	1335	1341	1350				B2.4	
14	1612	1616	1627				B1.1	
15	0204	0218	0255	N28	W03	SF	B3.6	4852
15	0450	0457	0526	S25	W35	SF	B5.4	4851
15	1422	1427	1432				B1.6	
15	2257	2300	2303				B1.0	
16	0741	0745	0748				B1.5	
17	0017	0020	0026				B1.0	
17	0854	0858	0921	S25	E72	1F	B4.2	4856
17	1114	1114	1126	S33	W19	SF	B2.1	4853
17	1642	1642	1647	S27	E69	SF	B4.4	4856
17	2008	2011	2024	S27	E63	SF	C1.8	4856

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

Preliminary Listing

September 1987

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
18	2107	2111	2115				B1.3	
18	2237	2243	2246				B3.0	
19	0000E	0018	0019	S33	W37	SF	B2.7	4853
19	0139	0145	0150				B2.4	
19	0314E	0320	0325D	S27	E48	SF	B9.0	4856
19	1836	1840	1853	S30	W13	SF	B2.1	4857
19	2001	2002	2008	S32	W44	SF	B2.5	4853
19	2254	2256	2300	S33	W46	SF	B1.8	4853
20	0059	0106	0115				B1.4	
20	0652	0658	0701				B1.2	
20	0719	0723	0725				B3.7	
20	0758	0802	0839	S27	E33	SF	B1.7	4856
20	1150	1155	1204				B1.7	
20	1340	1355	1426	S31	W26	SF	B5.9	4857
20	1503	1504	1508	S29	W25	SF	B1.4	4857
20	1522	1528	1536				B2.2	
20	1807	1813	1817				B2.9	
20	1858	1859	1927	S35	W56	SF	B2.3	4853
20	2314	2317	2320				B2.8	
20	2329	2330	2338	S33	W57	SF	B3.9	4853
21	0027	0031	0035				B1.4	
21	0056	0100	0109				B1.8	
21	0157E	0204	0214D	S35	W64	1B	M1.3	4853
21	0526	0532	0536				B3.8	
21	1358	1408	1420	S34	W69	SN	C1.2	4853
21	1648	1650	1654	S35	W68	SF	B3.8	4853
21	1959	1959	2004	S34	W70	SF	B1.4	4853
21	2105	2111	2114				B1.7	
22	1309	1316	1322				B3.3	
22	1430	1434	1440				B1.5	
22	2119	2125	2133				B1.3	
22	2329	2353	2358	S34	W90		B2.4	4853
25	0219	0222	0224				B1.0	
27	1403	1406	1414	S20	E90	SN	B2.0	4859
27	1623	1700	1734				B2.2	
27	2223	2237	2246				B2.8	
28	0011	0029	0045	S20	E90		B3.8	4859
28	0556	0601	0605	S21	E79	1N	B2.0	4859
28	2126	2130	2133				B1.6	
29	0712	0714	0723	N30	E83	SF	B1.7	4860
29	1105E	1113	1119	N29	E77	SF	B2.5	4860
29	1746	1746	1812	S27	E72	SF	B8.4	4859
29	2249	2254	2300				B7.2	
30	1045	1053	1101				B2.1	
30	1635	1640	1649				B1.5	
30	1808	1813	1821				B1.6	

Preliminary GOES Satellite Data
Daily Average X-ray Background

October 1986 - September 1987

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

MASS EJECTIONS FROM THE SUN

SEPTEMBER 1987

Sta	Day	Observed UT LStart	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
PALE	Sep 11	1858.0		1920.0			Meter	II
PALE	Sep 14	0023.0		0034.0			Meter	IV
CULG	Sep 14	0029.0		0034.0			Meter	II Single burst
KHAR	Sep 14	0825		0835 D	252	1.00	H-alpha	S
KHAR	Sep 14	1048 E		1105 D	006	0.47	H-alpha	S
LEAR	Sep 17	0654.0		0704.0			Meter	II
CULG	Sep 17	0655.0		0708.0			Meter	II
WEIS	Sep 17	1513.5		1519.0			Meter	II Herringbone
SGMR	Sep 17	1515.0		1525.0			Meter	II
CULG	Sep 21	0202.0		0211.0			Meter	II
LEAR	Sep 21	0205.0		0211.0			Meter	II
KHAR	Sep 23	1012 E		1028 D	238	1.00	H-alpha	S
CULG	Sep 23	2138.0		2158.0			Meter; dekameter	II
PALE	Sep 24	0353.0		0357.0			Meter	II
CULG	Sep 25	2138.0		2158.0			Meter; dekameter	II
KHAR	Sep 30	0742 E		0755 D	128	0.80	H-alpha	S

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

REPORTING STATIONS
- CULG = Culgoora
- KHAR = Kharkov
- PALE = Palehua
- SGMR = Sagamore Hill
- WEIS = Weissenau

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

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMP CMD	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	ADF	0542E	1700D	S26	E23	09	3.0	1	04	9	9	E	SVTO	4847	
01	ADF	0548E	1700D	S22	E64	09	6.2	1	05	9	9	E	SVTO	4848	
01	ADF	0710E	0935D	S25	E62	09	6.1	1	06	9	9	E	LEAR	4848	
01	DSD	0742E	0935D	S24	E61	09	6.0		06	9	9	E	LEAR	4848	
01	ADF	1106E	2058D	S26	E20	09	3.0	1	05	9	9	E	RAMY	4847	
01	DSD	1335E	1515D	S25	E61	09	6.3	2	07	9	9	E	HOLL	4848	
01	ADF	1400E	2058D	S23	E61	09	6.3	1	06	9	9	E	RAMY	4848	
01	ADF	1515E	1730D	S22	E56	09	5.9	2	08	9	9	E	HOLL	4848	
01	SDF	1545E	1730D	S22	E56	09	6.0	2	08	0	0	E	HOLL	4848	Flare Associated
01	DSD	1545E	1705D	S26	E59	09	6.2		03	9	9	E	RAMY	4848	Flare Associated
01	AFS	1805E	2025D	S25	E15	09	2.9		02	8	9	E	HOLL	4847	
01	AFS	1830E	2009D	S20	E66	09	6.8		02	9	9	E	PALE	4849	
01	DSD	2024E	0038D	S22	E57	09	6.2		07	9	9	E	HOLL	4848	
01	DSD	2045E	2058D	S20	E57	09	6.2		03	9	9	E	RAMY	4848	
01	DSD	2050E	2120D	S25	E07	09	2.4		03	7	9	E	HOLL	4847	
01	DSD	2051E	2058D	S26	E09	09	2.6		03	9	9	E	RAMY	4847	
01	DSD	2114E	0313D	S21	E56	09	6.2		03	9	9	E	PALE	4848	
01	ADF	2114E	0433D	S22	E53	09	5.9	1	03	9	9	E	PALE	4848	
01	ADF	2114E	0433D	S24	E12	09	2.8	1	06	9	9	E	PALE	4847	
01	ASR	2227E	2310	S23	E85	09	8.5			9	9	E	PALE	4849	
01	AFS	2320E	0545D	S25	E14	09	3.0		01	9	9	E	LEAR	4847	
01	ADF	2325E	0941D	S25	E59	09	6.5	1	09	9	9	E	LEAR	4848	
01	DSD	2330E	0545D	S21	E76	09	7.8		03	9	9	E	LEAR	4849	
01	ASR	2335E	0935D	N21	E90	09	8.9			9	8	E	LEAR		
02	DSD	0027E	0310D	S24	E06	09	2.5		04	9	9	E	PALE	4847	
02	ADF	0635E	1605D	S28	E12	09	3.2	1	05	9	9	E	SVTO	4847	
02	ADF	0702E	1605D	S23	E52	09	6.3	1	07	9	9	E	SVTO	4848	
02	ADF	0900E	0941D	S24	E03	09	2.6	1	04	6	9	E	LEAR	4847	
02	AFS	1012E	1605D	S19	W54	08	29.4		02	9	9	E	SVTO		
02	ADF	1200E	2156D	S25	E49	09	6.3	2	06	9	9	E	RAMY	4848	
02	ADF	1200E	2156D	S30	E09	09	3.2	2	04	9	9	E	RAMY	4847	
02	ADF	2127E	0300D	S22	E40	09	6.0	1	10	9	9	E	PALE	4848	
03	AFS	0135E	0939D	S23	E60	09	7.7		01	9	9	E	LEAR	4849	
03	BSL	0616	0909	S21	E90	09	10.2	1				C	ABST		
03	SDF	0745E	0840D	S25	E33	09	5.9	3	06	9	9	E	LEAR	4848	Flare Associated
03	ADF	1104E	2211D	S17	E54	09	7.6	1	07	7	4	E	RAMY	4849	
03	ADF	1104E	2211D	S24	E35	09	6.2	2	08	9	7	E	RAMY	4848	
03	ADF	1104E	2211D	S25	W07	09	2.9	1	13	7	5	E	RAMY	4847	
03	ADF	1323	2351D	S21	E31	09	5.9	2	03	9	9	E	HOLL	4848	Flare Associated
03	DSD	1331E	1435D	S22	E31	09	5.9		04	9	9	E	RAMY	4848	Flare Associated
03	ADF	1415E	2155D	S22	E51	09	7.5	1	02	9	8	E	HOLL	4849	
03	AFS	1654E	1820D	S22	E50	09	7.5		02	9	9	E	PALE	4849	
03	ADF	1700E	0353D	S22	E33	09	6.2	1	07	9	9	E	PALE	4848	
03	BSD	2158	2231D	S26	E27	09	6.0	1	02	4	4	E	HOLL	4848	
04	DSD	0150E	0353D	S19	E36	09	6.8		04	9	9	E	PALE	4849	
04	AFS	0750E	0923D	S22	E39	09	7.3		02	9	9	E	LEAR	4849	
04	BSL	0809	0905	S29	W90	08	28.4	1				C	ABST		
04	DSD	1115E	2156D	N23	E39	09	7.5		03	9	8	E	RAMY	4849	
04	AFS	1115E	2156D	S20	E39	09	7.4		04	9	6	E	RAMY	4849	
04	AFS	1115E	2156D	S22	E41	09	7.6		04	9	7	E	RAMY	4849	
04	AFS	1235E	1432D	S21	E40	09	7.6		03	9	9	E	SVTO	4849	
04	DSD	1310E	1450D	S27	W21	09	2.9		03	9	8	E	RAMY	4847	
04	ADF	1320E	2156D	S27	E27	09	6.6	2	05	9	9	E	RAMY	4848	
04	AFS	2115E	0157D	S23	E33	09	7.4		01	8	9	E	PALE	4849	
04	AFS	2350E	0953D	S24	E32	09	7.5		01	9	9	E	LEAR	4849	
05	AFS	0525E	0953D	N27	W38	09	2.3		01	9	9	E	LEAR		
05	AFS	0607E	1348D	N24	W39	09	2.2		01	9	9	E	SVTO		
05	AFS	0623E	1348D	S30	E12	09	6.2		03	9	9	E	SVTO	4849	
05	ADF	0827E	1220D	S23	E29	09	7.6	2	05	9	9	E	SVTO	4849	
05	DSD	0835E	0953D	S21	E21	09	7.0		01	9	9	E	LEAR	4849	
05	SDF	1031E	1414D	S26	E27	09	7.5		09	0	0	E	RAMY	4849	
05	AFS	1040E	1856D	S22	E28	09	7.6		04	9	9	E	RAMY	4849	
05	DSD	1040E	1856D	S24	E27	09	7.5		04	9	9	E	RAMY	4849	
05	DSD	1128E	1144D	S31	W31	09	3.0		05	9	9	E	RAMY	4847	
05	DSD	1330E	1726D	S24	E05	09	5.9		04	9	9	E	RAMY	4848	
05	ADF	1330E	1856D	S19	E04	09	5.9	2	08	9	9	E	RAMY	4848	
05	AFS	2022E	2346D	S22	E22	09	7.5		01	9	9	E	PALE	4849	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
05	SDF	2040E	0029D	S57	W04	09	5.5		33	0	0	E	HOLL		
05	SDF	2342E	1703D	S52	E14	09	7.2		32	0	0	E	PALE		
06	AFS	0530E	0950D	S22	E14	09	7.3		01	9	9	E	LEAR	4849	
06	DSD	0642E	0740D	S23	E20	09	7.8		04	9	9	E	SVTO	4849	
06	ADF	0745E	1000D	S24	E17	09	7.6		05	9	9	E	SVTO	4849	
06	DSD	0747E	0759D	S23	E21	09	7.9		02	9	9	E	SVTO	4849	
06	DSD	0804E	0839D	S23	E19	09	7.8		03	9	9	E	SVTO	4849	
06	SDF	0950E	2330D	S50	E10	09	7.2		25	0	0	E	LEAR		
06	ASR	1013E	1040D	S23	E90	09	13.4			9	8	E	SVTO		
06	DSD	1050E	1113D	S24	E15	09	7.6		06	9	9	E	SVTO	4849	
06	DSD	1135E	1400D	S24	E17	09	7.8		02	9	9	E	RAMY	4849	
06	DSD	1135E	1907D	S17	E12	09	7.4		04	9	9	E	RAMY	4849	
06	AFS	1135E	1907D	S21	E14	09	7.5		03	9	9	E	RAMY	4849	
06	SDF	1305E	1130D	S46	W10	09	5.7		21	0	0	E	RAMY		
06	ADF	1358E	1907D	S26	W06	09	6.1	2	09	9	8	E	RAMY	4848	
06	ADF	1528E	1907D	S27	W05	09	6.2	2	09	9	9	E	RAMY	4848	
06	APR	1950E	0003D	S34	E90	09	14.0	2		9	9	E	HOLL	4851	
06	SDF	2040E	0029D	S57	W04	09	6.5		33	0	0	E	HOLL		
06	DSD	2225	0003D	S24	E11	09	7.8		06	9	9	E	HOLL	4849	
06	SDF	2342E	1703D	S52	E14	09	8.2		32	0	0	E	PALE		
06	DSD	2350E	0420D	S24	E11	09	7.8		03	9	9	E	LEAR	4849	
07	DSD	0025	0347D	S25	E72	09	12.6		01	9	9	E	PALE	4851	
07	ASR	0125	0254D	S30	E79	09	13.3			9	9	E	PALE	4851	
07	ADF	0317E	0347D	S21	E03	09	7.4	1	02	8	9	E	PALE	4848	
07	AFS	0355E	0947D	S22	E05	09	7.5		01	9	9	E	LEAR	4849	
07	BSL	0419	0837	N46	E90	09	14.7	1				C	ABST		
07	APR	0419	0837	S48	E90	09	14.7	1				C	ABST		
07	BSL	0452	0837	S31	E90	09	14.3	1				C	ABST		
07	APR	0455E	0845D	S29	E90	09	14.3	2		9	9	E	LEAR	4851	
07	ASR	0455E	0947D	S28	E90	09	14.2			9	9	E	LEAR	4851	
07	DSD	0522	0550D	S24	E09	09	7.9		03	9	9	E	LEAR	4849	
07	DSD	0739	0840D	S23	E08	09	7.9		04	9	9	E	LEAR	4849	
07	EPL	0840E	0947D	S29	E90	09	14.4			9	9	E	LEAR	4851	
07	APR	1215E	2057D	S48	E90	09	15.1	2		9	9	E	RAMY		
07	ADF	1428E	2057D	S28	W18	09	6.2	2	07	9	9	E	RAMY	4848	
07	ADF	1438E	0107D	S26	W20	09	6.0	2	11	9	9	E	HOLL	4848	
07	DSD	1515E	1750D	S19	W08	09	7.0		06	9	9	E	HOLL	4849	
07	DSD	1732E	0319D	S24	E02	09	7.9		03	9	9	E	PALE	4849	
07	ADF	1735E	0319D	S24	W24	09	5.9	1	17	9	9	E	PALE	4848	
07	AFS	2058E	0107D	S26	E58	09	12.4		02	7	8	E	HOLL	4851	
07	ADF	2320E	0828D	S20	W30	09	5.7	2	13	3	7	E	LEAR	4848	
08	AFS	0101E	0945D	S22	W07	09	7.5		02	8	5	E	LEAR	4849	
08	BSL	0525	0909	N55	E90	09	16.0	1				C	ABST		
08	APR	0525	0909	S48	E90	09	15.8	1				C	ABST		
08	ADF	0708E	0714D	S32	E60	09	13.0	1				V	KHAR		
08	AFS	0935E	1622D	S24	E58	09	12.9	1	02	9	9	E	SVTO	4851	
08	ADF	1056E	1622D	S21	W33	09	5.9	1	12	9	9	E	SVTO	4848	
08	ADF	1057E	1622D	S23	W11	09	7.6	1	05	9	9	E	SVTO	4849	
08	ADF	1110E	2019D	S22	W10	09	7.7	1	05	9	9	E	RAMY	4849	
08	ADF	1115E	2019D	S20	W33	09	5.9	1	10	9	9	E	RAMY	4848	
08	DSD	1345E	1410D	S24	E52	09	12.6	1	01	9	9	E	RAMY	4851	
08	ADF	1533E	2019D	S30	E55	09	13.0	1	06	9	9	E	RAMY	4851	
08	ADF	1715E	0107D	S23	W39	09	5.7	2	06	4	4	E	HOLL	4848	
08	DSD	1920	2010D	S23	W17	09	7.5		02	9	9	E	PALE	4849	
08	ADF	1920E	0359D	S19	W18	09	7.4	1	06	6	7	E	PALE	4849	
08	AFS	1940	2100D	S27	E50	09	12.7		01	6	7	E	PALE	4851	
08	ADF	2100E	0359D	S25	E47	09	12.5	1	09	7	6	E	PALE	4851	
08	ADF	2310E	0943D	S25	W43	09	5.6	1	10	8	3	E	LEAR	4848	
09	APR	0444	0640	N61	E90	09	17.1	1				C	ABST		
09	AFS	0505E	0943D	S21	W22	09	7.5		03	9	9	E	LEAR	4849	
09	ADF	0831E	1618D	S24	W23	09	7.6	1	07	9	9	E	SVTO	4849	
09	ADF	1555E	1737D	S21	W29	09	7.4	2	14	8	8	E	RAMY	4849	
09	ADF	1555E	1737D	S25	E38	09	12.6	2	05	9	7	E	RAMY	4851	
09	ADF	1718E	0206D	S25	E34	09	12.3	1	15	7	9	E	PALE	4851	
09	BSD	1718E	1753D	S27	W46	09	6.1		02	8	9	E	PALE	4848	
09	ADF	1757E	0206D	N29	E66	09	14.9	1	03	9	9	E	PALE	4852	
09	ADF	1847E	0112D	N28	E65	09	14.9	1	03	9	8	E	HOLL	4852	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMP CMD	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
09	ADF	1854E	2230D	S18	W32	09	7.3	1	04	7	9	E	HOLL	4849	
09	ADF	1927E	2039D	S25	W51	09	5.8	1	17	9	7	E	PALE	4848	
09	DSD	2000	2230D	S21	W36	09	7.1		04	9	9	E	HOLL	4849	
09	ADF	2032E	0206D	S20	W33	09	7.3	1	08	9	9	E	PALE	4849	
09	ADF	2050E	2231D	S31	E42	09	13.2	1	05	9	9	E	HOLL	4851	
10	SDF	0206E	1715D	S28	E28	09	12.3		07	0	0	E	PALE	4851	
10	APR	0428	0852	N57	E90	09	18.0	1				C	ABST		
10	BSL	0546	0852	S20	E90	09	17.1	1				C	ABST		
10	ADF	0955E	1612D	N29	E57	09	14.9	1	04	8	8	E	SVTO	4852	
10	ADF	0955E	1612D	S25	W38	09	7.5	1	07	9	9	E	SVTO	4849	
10	ADF	0956E	1612D	S25	E27	09	12.5	1	06	8	8	E	SVTO	4851	
10	ADF	0956E	1612D	S28	W52	09	6.3	1	05	8	8	E	SVTO	4848	
10	ADF	1125E	1737D	S26	E28	09	12.6	2	08	9	9	E	RAMY	4851	
10	BSD	1130E	1420D	S30	E73	09	16.2		08	9	9	E	SVTO		
10	SDF	1234E	1105D	S28	E31	09	12.9		08	0	0	E	RAMY	4851	
10	AFS	1245E	1612D	S29	E29	09	12.8	1	04	9	9	E	SVTO	4851	
10	SDF	1326E	2146D	S30	E28	09	12.8		07	0	0	E	HOLL	4851	
10	ADF	1451E	1737D	S23	W40	09	7.5	2	09	9	6	E	RAMY	4849	
10	BSD	2109	2135	S26	W64	09	5.9		13	9	9	E	HOLL	4848	Flare Associated
10	AFS	2332E	0950D	S33	E72	09	16.7		01	9	9	E	LEAR	4853	
11	ADF	0101E	0325D	S27	E19	09	12.5	1	03	9	9	E	LEAR	4851	
11	DSD	0150E	0650D	S31	E65	09	16.2		02	9	9	E	LEAR	4853	
11	ADF	0240E	0415D	S24	E17	09	12.4	1	03	6	9	E	PALE	4851	
11	ADF	0545E	1352D	S19	W50	09	7.4	1	09	8	8	E	SVTO	4849	
11	ADF	0546E	1528D	S26	E14	09	12.3	1	08	9	9	E	SVTO	4851	
11	ADF	0547E	1520D	S30	E66	09	16.4	1	04	8	8	E	SVTO	4853	
11	ASF	0640E	0720	N18	E46	09	14.8	2				V	KHAR		
11	AFS	0654E	0950D	N27	E43	09	14.6		02	9	6	E	LEAR	4852	
11	AFS	0804E	1359D	N29	E43	09	14.7		02	9	9	E	SVTO	4852	
11	ADF	0835	0935D	S19	W55	09	7.2	1				V	KHAR		
11	DSD	1250E	1714D	S27	E10	09	12.3		03	9	9	E	RAMY	4851	
11	ADF	1250E	2203D	S24	E12	09	12.5	2	06	9	9	E	RAMY	4851	
11	ADF	1743E	0057D	S24	E07	09	12.3	2	13	9	9	E	HOLL	4851	
11	SDF	1848	1907D	S25	E05	09	12.2	3	05	0	0	E	HOLL	4851	Flare Associated
11	ADF	2045E	0403D	S28	E12	09	12.8	1	03	6	6	E	PALE	4851	
11	AFS	2320E	0415D	N28	E35	09	14.7		01	9	9	E	LEAR	4852	
11	AFS	2335E	0403D	N24	E39	09	15.0		01	9	9	E	PALE	4852	
12	DSD	0243E	0415D	S22	W59	09	7.6		02	9	9	E	LEAR	4849	
12	ADF	0601E	1630D	S20	W63	09	7.4	1	09	8	8	E	SVTO	4849	
12	ADF	0602E	1630D	S25	E01	09	12.3	1	07	9	9	E	SVTO	4851	
12	AFS	0603E	1630D	S33	E52	09	16.4		04	9	9	E	SVTO	4853	
12	AFS	0735E	1630D	N23	E36	09	15.1		02	9	9	E	SVTO		
12	AFS	0825E	0935D	N24	E34	09	15.0		02	8	5	E	LEAR		
12	DSD	1045E	1240D	S26	W03	09	12.2		04	9	9	E	RAMY	4851	Flare Associated
12	DSD	1049E	1630D	S26	W03	09	12.2		04	9	9	E	SVTO	4851	
12	ADF	1110E	2205D	S25	W01	09	12.4	2	16	9	9	E	RAMY	4851	
12	ADF	1715E	0102D	S28	E00	09	12.7	2	06	9	9	E	HOLL	4851	
12	ADF	1724E	1936D	N28	E26	09	14.7	2	05	9	9	E	RAMY	4852	
12	ADF	1730E	0412D	S25	W04	09	12.4	1	12	9	9	E	PALE	4851	
12	ADF	1733E	0412D	N28	E26	09	14.8	1	04	8	8	E	PALE	4852	
12	ADF	1735E	0412D	N24	E66	09	17.8	1	05	8	9	E	PALE		
12	DSD	1831E	1833D	N24	E29	09	15.0	1	02	9	9	E	RAMY	4854	
12	ASR	1917E	2205D	S30	W90	09	5.7	1		9	9	E	RAMY	4848	
12	ASR	1922E	1935	S27	W90	09	5.8			9	9	E	PALE	4848	
13	AFS	0250E	0938D	S33	E37	09	16.0		02	9	8	E	LEAR	4853	
13	AFS	0555E	0850D	N23	E22	09	14.9		02	9	9	E	LEAR	4854	
13	ADF	0555E	0938D	S25	W06	09	12.8	1	11	9	9	E	LEAR	4851	
13	BSD	0802E	0849D	S24	W78	09	7.3		09	9	9	E	SVTO	4849	
13	BSD	0830E	0850D	S25	W78	09	7.3		05	9	9	E	LEAR	4849	
13	ADF	0833E	1612D	S26	W13	09	12.3	1	13	9	9	E	SVTO	4851	
13	ADF	1158E	2050D	S25	W13	09	12.5	2	15	9	9	E	RAMY	4851	
13	ADF	1252E	1520D	N27	E14	09	14.6	2	05	9	9	E	RAMY	4852	
13	DSD	1302E	1438D	S15	W60	09	9.0		03	9	9	E	RAMY		
13	ADF	1528E	2050D	S33	E26	09	15.7	2	10	9	9	E	RAMY	4853	
13	ADF	1735E	0055D	S25	W16	09	12.5	1	05	9	9	E	HOLL	4851	
13	ASR	1851E	0055D	S25	W90	09	6.8			9	9	E	HOLL	4849	
13	ASR	1905E	0403D	S20	W90	09	6.9			7	8	E	PALE	4849	

ACTIVE PROMINENCES AND FILAMENTS

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Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
13	ADF	1920E	0403D	S25	W17	09	12.5	1	18	9	9	E	PALE	4851	
13	AFS	1925E	0100D	S35	E28	09	16.0		01	9	9	E	PALE	4853	
14	AFS	0008	0403D	S14	W56	09	9.8		02	9	9	E	PALE		
14	BSL	0428	0909	N42	E90	09	21.6	1				C	ABST		
14	APR	0518	0903	N28	E90	09	21.2	1				C	ABST		
14	ASR	0612E	1229D	S23	W87	09	7.5			9	9	E	SVTO	4849	
14	ADF	0619E	1632D	S30	W25	09	12.3	1	09	9	9	E	SVTO	4853	
14	APR	0629	0903	S01	E90	09	21.0	1				C	ABST		
14	AFS	0819E	0945D	S33	E18	09	15.8		03	9	9	E	LEAR	4853	
14	BSL	0825	0835	S18	W90	09	7.5	1				V	KHAR		
14	DSD	1048E	1105D	N34	E03	09	14.7	1				V	KHAR		
14	ADF	1132E	2139D	S33	W20	09	12.9	2	08	9	9	E	RAMY	4851	
14	ASR	1217E	1435D	S22	W90	09	7.6			7	6	E	RAMY	4849	
14	ADF	1442E	2139D	S34	E26	09	16.7	2	06	9	9	E	RAMY	4853	
14	ADF	1756E	0403D	S25	W31	09	12.3	1	13	9	9	E	PALE	4851	
14	ADF	1756E	0403D	S26	E10	09	15.5	1	07	9	9	E	PALE	4853	
14	ADF	1756E	0403D	S31	E20	09	16.3	1	08	9	9	E	PALE	4853	
14	ADF	1925E	0317D	S32	E33	09	17.4	1	08	9	9	E	PALE	4853	
14	AFS	2001E	0403D	S34	E14	09	15.9		02	9	9	E	PALE	4853	
14	DSD	2001E	2147D	S33	E18	09	16.3		02	9	9	E	PALE	4853	
15	BSL	0456	0902	S50	E90	09	22.8	1				C	ABST		
15	BSL	0541	0902	S50	E90	09	22.8	1				C	ABST		
15	ADF	0651E	1506D	N25	E30	09	17.6	1	11	9	9	E	SVTO		
15	ADF	0651E	1511D	S33	E15	09	16.5	1	08	9	9	E	SVTO	4853	
15	AFS	0913E	1511D	S35	E08	09	16.0		04	8	8	E	SVTO	4853	
15	AFS	0922E	1623D	N23	W04	09	15.1		04	7	7	E	SVTO	4854	
15	DSD	1855	2148D	S33	E01	09	15.9		03	9	9	E	PALE	4853	
15	DSD	1904E	2106D	S35	E00	09	15.8		02	9	9	E	RAMY	4853	
16	ADF	0040E	0314D	S37	E09	09	16.7	1	03	5	8	E	PALE	4853	
16	APR	0436	0822	N50	E90	09	23.8	1				C	ABST		
16	APR	0516	0822	S35	E90	09	23.4	1				C	ABST		
16	APR	0516	0822	S50	E90	09	23.8	1				C	ABST		
16	APR	0708	0822	N11	W90	09	9.5	1				C	ABST		
16	ADF	0710E	1528D	S30	W46	09	12.7	1	06	9	9	E	SVTO	4851	
16	ADF	0711E	1615D	S35	E06	09	16.8	1	09	9	9	E	SVTO	4853	
16	ADF	0712E	1530D	N20	E15	09	17.4	1	06	8	8	E	SVTO		
16	SDF	1330E	1030D	N49	W16	09	15.2		45	0	0	E	RAMY		
16	DSD	1611	1858D	S33	W08	09	16.0		03	9	9	E	HOLL	4853	
16	SDF	1615E	0815D	N48	W01	09	16.6		35	0	0	E	SVTO		
16	DSD	1825E	0222D	S34	W07	09	16.2		02	9	9	E	PALE	4853	
16	APR	2209E	0150D	N23	E90	09	23.8	1				C	VORO		
16	APR	2209E	0150D	N48	E90	09	24.5	1				C	VORO		
16	SDF	2332E	1508D	N52	W05	09	16.5		31	0	0	E	HOLL		
17	BSL	0020	0050	N14	E90	09	23.8	1				C	VORO		
17	SDF	0212E	0916D	N38	W48	09	13.2	3	48	0	0	E	LEAR		
17	SDF	0222E	1718D	N37	W56	09	12.6		30	0	0	E	PALE		
17	DSD	0420E	0520D	S31	W14	09	16.1		04	9	6	E	LEAR	4853	
17	AFS	0520E	0933D	S32	W14	09	16.1		02	9	9	E	LEAR	4853	
17	APR	0522	0831	N22	E90	09	24.1	1				C	ABST		
17	APR	0608	0831	N50	E90	09	24.9	1				C	ABST		
17	ADF	0710E	1505D	N25	W34	09	14.7	1	07	9	9	E	SVTO	4852	
17	APR	0725E	1505D	N19	E90	09	24.2	2		9	9	E	SVTO		
17	DSD	0824E	1505D	S35	W17	09	16.0		04	9	9	E	SVTO	4853	
17	ADF	0850E	1608D	S28	E78	09	23.5	2	06	9	9	E	SVTO		
17	ASR	0851E	0951D	S28	E90	09	24.4			9	9	E	SVTO		
17	BSD	0857E	0933D	S36	W72	09	11.6		03	9	8	E	LEAR		
17	DSD	1120	1147D	S34	W19	09	15.9		03	9	9	E	RAMY	4853	Flare Associated
17	DSD	1120	1147D	S34	W19	09	15.9		03	9	9	E	RAMY	4853	Flare Associated
17	DSD	1300E	1909D	S35	W20	09	15.9		04	9	8	E	RAMY	4853	
17	AFS	1300E	2100D	S35	W19	09	16.0		02	9	6	E	RAMY	4853	
17	AFS	1400E	1811D	S33	W19	09	16.1		01	9	9	E	HOLL	4853	
17	SDF	1508E	1508D	N52	W05	09	17.2		31	0	0	E	HOLL		
17	ADF	1510E	1514D	S37	W09	09	16.9	1	06	9	9	E	SVTO	4853	
17	ADF	1510E	1608D	S25	W28	09	15.5	1	07	9	9	E	SVTO	4853	
17	DSD	1650E	1909D	S35	W20	09	16.1		03	9	9	E	RAMY	4853	
17	DSD	1718E	0052D	N14	E78	09	23.6		04	8	6	E	PALE	4855	
17	ADF	1718E	0052D	S34	W21	09	16.0	1	02	9	9	E	PALE	4853	

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
17	ADF	2016E	2029D	S35	W16	09	16.6	1	06	9	9	E	PALE	4853	
17	ADF	2233	0043	N53	W12	09	16.9	1				C	VORO		
18	APR	0010	0135D	N49	E90	09	25.6	1				C	VORO		
18	AFS	0636E	1034D	S29	E10	09	19.0		02	9	9	E	SVTO		
18	ADF	0702E	1555D	S25	E61	09	23.0	2	04	9	9	E	SVTO	4856	
18	DSD	0710E	0948D	S32	W28	09	16.1		03	9	9	E	LEAR	4853	
18	AFS	0740E	0948D	N14	E68	09	23.4		02	9	9	E	LEAR	4855	
18	DSD	1155E	2034D	S34	W29	09	16.2		03	9	9	E	RAMY	4853	
18	SDF	1155E	2100D	S32	W30	09	16.1		10	0	0	E	RAMY	4853	
18	ADF	1344E	2153D	S32	W28	09	16.3	2	10	7	6	E	RAMY	4853	
18	AFS	1753E	0325D	N14	E61	09	23.3		01	9	9	E	PALE	4855	
18	ADF	1753E	0325D	S27	E53	09	22.9	1	05	9	9	E	PALE	4856	
18	ADF	1809E	2153D	S28	E54	09	23.0	1	03	9	9	E	RAMY	4856	
18	AFS	1813E	0325D	S33	W36	09	15.9		01	9	9	E	PALE	4853	
18	DSD	1830	2144D	S34	W35	09	16.0		02	9	9	E	PALE	4853	
18	SDF	2000E	0150D	S42	E01	09	18.9		13	0	0	E	PALE		
18	AFS	2034E	2153D	S33	W35	09	16.1		02	9	9	E	RAMY	4853	
18	APR	2357E	0055D	N48	E90	09	26.6	1				C	VORO		
19	AFS	0455E	0940D	N12	E55	09	23.3		02	8	9	E	LEAR	4855	
19	DSD	0645E	0810D	S32	W39	09	16.2		04	9	9	E	LEAR	4853	
19	AFS	0645E	0940D	S32	W38	09	16.3		04	9	9	E	LEAR	4853	
19	AFS	0945E	1603D	S32	W42	09	16.1	1	02	9	9	E	SVTO	4853	
19	AFS	1426E	2147D	S32	W45	09	16.0		02	9	9	E	RAMY	4853	
19	SDF	1603E	0737D	S13	W20	09	18.1		15	0	0	E	SVTO		
19	DSD	1635E	2245D	S30	W14	09	18.6		04	9	9	E	HOLL	4857	
19	DSD	1705E	1835D	S31	W16	09	18.4		05	9	9	E	RAMY	4857	
19	DSD	1707E	0350D	S30	W09	09	19.0		02	9	9	E	PALE	4857	
19	AFS	1707E	2053D	N13	E50	09	23.5		01	8	9	E	PALE	4855	
19	DSD	1743E	2046D	S35	W44	09	16.2		02	9	9	E	PALE	4853	
19	ADF	1804E	0416D	S24	E38	09	22.7	1	07	9	9	E	PALE	4856	
19	DSD	1853E	1902	S29	W17	09	18.4		07	9	9	E	RAMY	4857	Flare Associated
19	DSD	2002E	2031D	S30	W17	09	18.5		08	9	9	E	RAMY	4857	Flare Associated
19	DSD	2002E	2031D	S31	W16	09	18.6		03	9	9	E	RAMY	4857	Flare Associated
19	AFS	2035E	0416D	S30	W15	09	18.7		01	9	9	E	PALE	4857	
19	AFS	2345E	0051D	N12	E59	09	24.4		01	8	9	E	HOLL	4855	
19	AFS	2345E	0051D	S33	W38	09	17.0		02	8	8	E	HOLL	4853	
19	AFS	2350E	0305D	N13	E47	09	23.5		03	9	7	E	LEAR	4855	
20	DSD	0009E	0420D	S31	W16	09	18.7		02	7	7	E	LEAR	4857	
20	AFS	0009E	0930D	S31	W17	09	18.7		02	9	9	E	LEAR	4857	
20	SDF	0057E	1309D	S14	W21	09	18.4		13	0	0	E	HOLL		
20	DSD	0150E	0350D	S32	W50	09	16.1		03	9	9	E	LEAR	4853	
20	DSD	0235E	0330D	N12	E45	09	23.5		04	9	7	E	LEAR	4855	
20	SDF	0416E	1640	N55	W25	09	18.0		17	0	0	E	PALE		
20	SDF	0416E	1640	S14	E30	09	22.4		13	0	0	E	PALE	4856	
20	SDF	0416E	1640	S26	W01	09	20.1		12	0	0	E	PALE		
20	SDF	0416E	1640	S40	E33	09	22.9		17	0	0	E	PALE		
20	BSD	0753E	0759D	S26	E30	09	22.6		03	9	9	E	SVTO	4856	
20	AFS	0825E	1539D	S31	W21	09	18.7		05	9	9	E	SVTO	4857	
20	AFS	1141E	1811D	S31	W22	09	18.7		02	9	9	E	RAMY	4857	
20	AFS	1141E	1811D	S34	W56	09	16.0		02	9	9	E	RAMY	4853	
20	AFS	1400E	0100D	S30	W25	09	18.6		02	9	9	E	HOLL	4857	
20	SDF	1507E	1935D	S20	E19	09	22.1		15	0	0	E	HOLL	4856	
20	SDF	1515E	0821D	S13	E21	09	22.2		17	0	0	E	SVTO		
20	ADF	1550E	0057D	S27	E40	09	23.8	2	05	9	9	E	HOLL	4856	
20	AFS	1557E	0057D	S30	W14	09	19.6		02	7	8	E	HOLL	4856	
20	AFS	1641E	0050D	S29	W27	09	18.6		03	9	9	E	PALE	4857	
20	DSD	1714E	1800D	S29	W25	09	18.7		03	9	9	E	PALE	4857	
20	APR	1717E	1811D	S57	W90	09	12.9			5	8	E	RAMY		
20	APR	1718E	1843	S51	W90	09	13.1	2		8	8	E	PALE		
20	SDF	1811E	1510D	S27	E10	09	21.5		09	0	0	E	RAMY		
20	SDF	1811E	1510D	S51	W31	09	18.1		14	0	0	E	RAMY		
20	EPL	1815E	1950D	S50	W90	09	13.1			9	9	E	HOLL		
20	EPL	1843	1916D	S51	W90	09	13.1	2		9	9	E	PALE		
20	AFS	2007E	0100D	N14	E35	09	23.5		03	7	5	E	HOLL	4855	
20	DSD	2007E	2240D	N15	E35	09	23.5		04	7	9	E	HOLL	4855	
20	SDF	2147E	1150D	S21	W12	09	20.0		12	9	9	E	RAMY		
20	DSD	2206E	0050D	S29	W28	09	18.7		03	9	9	E	PALE	4857	
20	DSD	2250E	0100D	N15	E32	09	23.4		04	9	9	E	HOLL	4855	

ACTIVE PROMINENCES AND FILAMENTS

SEPTEMBER 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
20	DSD	2300	0100D	S30	W27	09	18.8		04	9	9	E	HOLL	4857	
21	SDF	0100E	1545D	S40	W36	09	18.1		06	0	0	E	HOLL		
21	SDF	0100E	1545D	S52	W37	09	17.9		09	0	0	E	HOLL		
21	SPY	0201E	0224D	S35	W64	09	16.0			9	9	E	LEAR	4853	
21	AFS	0627E	0940D	S31	W32	09	18.7		02	9	9	E	LEAR	4857	
21	ADF	0749E	1559D	S32	W34	09	18.6	1	03	9	9	E	SVTO	4857	
21	AFS	0832E	0940D	N15	E28	09	23.5		01	9	9	E	LEAR	4855	
21	AFS	1251E	2040D	N13	E26	09	23.5		03	9	8	E	RAMY	4855	
21	ADF	1654E	0406D	S27	W37	09	18.8	1	02	9	9	E	PALE	4857	
21	ASR	1720	2013D	S34	W70	09	16.1			7	9	E	HOLL	4853	
21	ADF	1748E	0406D	S32	E17	09	23.1	1	03	5	9	E	PALE	4856	
21	SDF	1811E	1510D	S27	E10	09	22.5		09	0	0	E	RAMY		
21	SDF	1811E	1510D	S29	E35	09	24.5		07	0	0	E	RAMY		
21	SDF	1811E	1510D	S51	W31	09	19.1		14	0	0	E	RAMY		
21	DSD	1915E	2013D	N12	E24	09	23.6	1	02	9	9	E	HOLL	4855	
22	AFS	1239E	1606D	S31	W50	09	18.6		03	9	9	E	SVTO	4857	
22	SDF	1500E	1500D	N54	E57	09	27.5		23	0	0	E	HOLL		
22	ASR	1645E	2000D	S32	W90	09	15.6			9	9	E	HOLL	4853	
22	BSL	2329	0013	S32	W90	09	15.8	2				C	VORO		
23	AFS	0109E	0940D	S30	W53	09	18.9		01	9	9	E	LEAR	4857	
23	AFS	0625E	1602D	S32	W59	09	18.6		06	9	9	E	SVTO	4857	
23	BSL	1012E	1028	S32	W90	09	16.3	1				V	KHAR		
23	AFS	1403E	1758D	N12	E02	09	23.7		04	8	6	E	RAMY	4855	
23	DSD	1403E	1758D	S19	E62	09	28.3		02	9	9	E	RAMY		
23	SDF	1413E	1039D	S33	W27	09	21.4		10	0	0	E	RAMY		
23	DSD	1431E	1635D	S21	E59	09	28.1		03	9	9	E	HOLL	4858	
23	AFS	1441E	1635D	S06	W02	09	23.5		01	9	9	E	HOLL		
23	AFS	1649E	2240D	S20	E59	09	28.2		02	9	9	E	HOLL	4858	
24	APR	0430	0907	S36	E90	10	1.4	1				C	ABST		
24	ADF	0431	1000	S58	W30	09	21.6	1				C	ABST		
24	ASF	0431	1000	S58	W30	09	21.6	1				C	ABST		
24	ADF	0747E	1535D	S20	E48	09	28.0	1	03	9	9	E	SVTO	4858	
24	ADF	0755E	0944D	S20	E49	09	28.1	1	04	9	9	E	LEAR	4858	
24	SDF	1204E	1250D	S50	W22	09	22.6		20	0	0	E	RAMY		
24	ADF	1250E	1905D	S21	E45	09	28.0	2	08	9	8	E	RAMY	4858	
24	SDF	1319E	1319D	S52	W21	09	22.8		19	0	0	E	HOLL		
24	DSD	1430E	1905D	S30	E55	09	28.9		02	9	9	E	RAMY		
24	ASR	2150E	2251D	S29	W77	09	18.9	1		5	9	E	HOLL	4857	
24	ADF	2245E	0009D	S23	E39	09	27.9	1	02	9	7	E	HOLL	4858	
25	ASR	0640E	1024D	S33	E90	10	2.4			9	9	E	SVTO	4857	
25	AFS	1102E	1417D	S29	E43	09	28.8		04	8	9	E	SVTO		
25	ASR	1111E	1339D	S30	W80	09	19.2			9	9	E	RAMY	4857	
25	AFS	1111E	1356D	S30	E42	09	28.8		01	8	8	E	RAMY		
25	ADF	1132E	2206D	S23	E32	09	27.9	1	05	9	9	E	RAMY	4858	
25	AFS	1644E	2030D	S31	E40	09	28.8		01	5	5	E	HOLL		
25	ADF	1753E	2228D	S21	E29	09	28.0	1	05	9	9	E	HOLL	4858	
25	ASR	2025	2130D	S27	W90	09	18.8			9	9	E	HOLL	4857	
26	ADF	0845E	0913D	N12	W39	09	23.4	1	06	9	9	E	SVTO	4855	
26	SDF	0855E	0903D	N12	W39	09	23.4		06	0	0	E	SVTO	4855	
26	SDF	1313E	1343D	S21	E18	09	27.9		05	0	0	E	HOLL	4858	
26	SDF	1359E	1359D	S20	E19	09	28.0		07	0	0	E	SVTO	4858	
26	ADF	1403E	2117D	N14	W39	09	23.6	1	04	9	9	E	RAMY	4855	
26	ADF	1420E	2210D	N15	W39	09	23.6	1	05	9	9	E	HOLL	4855	
26	ADF	1745E	0358D	N22	W35	09	24.0	1	12	9	9	E	PALE	4855	
26	SDF	2206E	1403D	S22	E19	09	28.4		05	0	0	E	RAMY	4858	
27	DSD	0335E	0540D	S26	W57	09	22.7		02	9	9	E	LEAR	4856	
27	AFS	0540E	0959D	S26	W57	09	22.8		03	9	9	E	LEAR	4856	
27	ADF	0908E	1105D	S29	W62	09	22.5	1	04	8	8	E	SVTO	4856	
27	ADF	0908E	1105D	S29	W62	09	22.5	1	04	9	9	E	SVTO	4856	
27	ASR	0955E	1315D	S19	E90	10	4.3			9	9	E	SVTO		
27	ASR	0955E	1315D	S19	E90	10	4.3			9	9	E	SVTO		
27	ADF	1155E	2145D	N17	W45	09	24.1	1	07	8	5	E	RAMY	4855	
27	AFS	1155E	2145D	S27	W61	09	22.7		03	9	9	E	RAMY	4856	
27	AFS	1205E	1315D	S28	W63	09	22.6		01	9	9	E	SVTO	4856	

ACTIVE PROMINENCES AND FILAMENTS

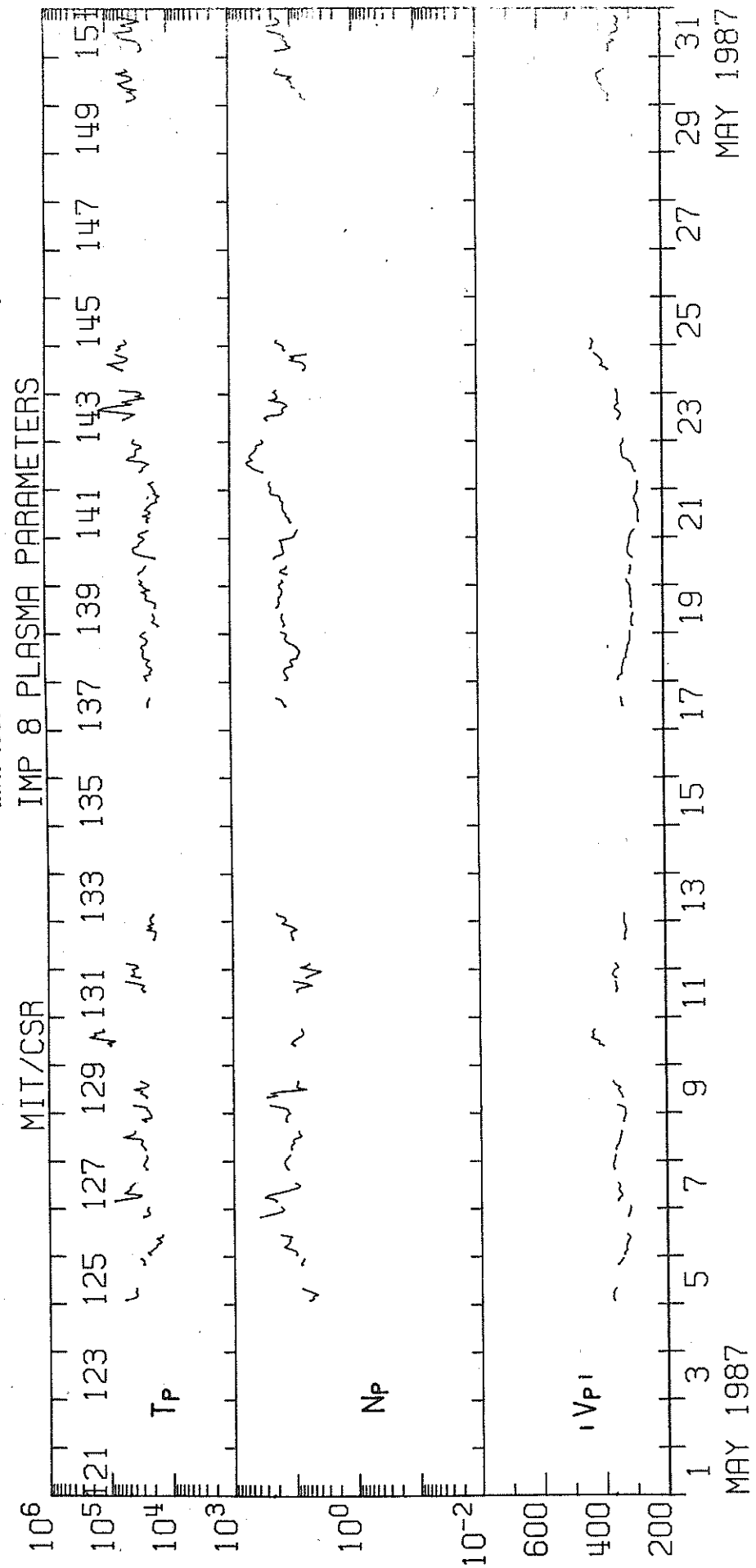
SEPTEMBER 1987

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
27	ADF	1345E	2032D	N13	W51	09	23.7	2	06	4	8	E	RAMY	4855	
27	APR	1415E	1537D	S23	E90	10	4.5	2		9	8	E	HOLL		
27	SDF	1417E	1210D	N14	W54	09	23.5		03	0	0	E	RAMY	4855	
27	ASR	1530E	2200D	S21	E90	10	4.5			9	9	E	HOLL	4859	
27	DSD	1739E	1816D	S28	W66	09	22.6		01	7	9	E	PALE	4856	
27	ASR	1750E	2145D	S21	E88	10	4.5			9	8	E	RAMY	4859	
27	ASR	1802E	2044D	S21	E78	10	3.7			8	6	E	PALE		
27	CAP	2028E	2145D	S15	E90	10	4.7		03	9	9	E	RAMY	4859	
27	APR	2330E	0310D	S20	E90	10	4.9	1		9	9	E	LEAR	4859	
28	EPL	0018E	0031D	S20	E90	10	4.9	3		9	9	E	LEAR	4859	
28	EPL	0018E	0105D	S20	E90	10	4.9	3		9	9	E	LEAR	4859	
28	APR	0615	0948	S31	W90	09	21.1	1				C	ABST		
28	BSL	0615	0948	S41	W90	09	20.9	1				C	ABST		
28	ASR	1410E	1917D	N84	E31	10	1.5			8	7	E	RAMY		
28	ASR	1540E	0036D	N31	E90	10	5.7			9	8	E	HOLL	4860	
28	ADF	1550E	0036D	S19	E75	10	4.4	1	05	9	9	E	HOLL	4859	
28	ASR	1912	0028D	S27	W87	09	22.0			9	9	E	PALE	4856	
28	ASR	1915E	1936	S27	W77	09	22.8			8	9	E	HOLL	4856	
28	ASR	1957E	2015D	N30	E88	10	5.7			9	9	E	PALE		
28	ADF	2019E	0407D	S13	E76	10	4.6	1	09	9	9	E	PALE	4859	
28	BSD	2125E	0020D	S21	E81	10	5.1		02	9	9	E	PALE	4859	
29	ADF	0040E	0407D	N32	W02	09	28.9	1	04	7	9	E	PALE		
29	ADF	0233E	0434D	S23	E69	10	4.4	2	02	9	9	E	LEAR	4859	
29	APR	0522	0906	S29	E90	10	6.3	1				C	ABST		
29	APR	0522	0906	S46	E90	10	6.7	1				C	ABST		
29	ASR	0525E	1003D	S26	W80	09	23.0			7	5	E	LEAR	4856	
29	ADF	0600E	1321D	S19	E70	10	4.6	1	05	9	9	E	SVTO	4859	
29	AFS	0602E	1003D	N31	E79	10	5.5		02	9	9	E	LEAR	4860	
29	ADF	0602E	1321D	N33	E77	10	5.4	1	04	9	9	E	SVTO	4860	
29	AFS	0604E	1321D	N22	E38	10	2.2		10	9	9	E	SVTO		
29	AFS	0820E	1003D	S17	E63	10	4.1		02	9	9	E	LEAR	4859	
29	DSD	1220E	1621D	N29	E80	10	5.8		04	9	9	E	RAMY	4860	
29	ASR	1739E	1825D	S31	E86	10	6.5			8	9	E	PALE	4859	
29	AFS	1747E	2206D	N30	E73	10	5.5		02	9	9	E	HOLL	4860	
29	AFS	1755E	0330D	N29	E76	10	5.7		03	9	9	E	PALE	4860	
29	ADF	1755E	2015D	N32	E69	10	5.2	1	04	9	9	E	PALE	4860	
29	ADF	2025E	0348D	N31	E80	10	6.2	1	02	9	9	E	PALE	4860	
29	ADF	2123E	0348D	N32	E67	10	5.2	1	03	5	9	E	PALE	4860	
29	DSD	2135E	0348D	S22	E55	10	4.1		02	9	9	E	PALE	4859	
29	AFS	2300E	0545D	N31	E70	10	5.5		02	9	9	E	LEAR	4860	
30	DSD	0650E	0945D	N31	E66	10	5.5		04	9	9	E	LEAR	4860	
30	ADF	0720E	0945D	S28	E58	10	4.8	2	06	9	9	E	LEAR	4859	
30	DSD	0742E	0755	S25	E45	10	3.8	1				V	KHAR		
30	ADF	0742E	0854D	S27	E67	10	5.5	1				V	KHAR		
30	AFS	1120E	1609D	N21	E21	10	2.1		03	9	9	E	RAMY		
30	ADF	1122E	1417D	N32	E68	10	5.8	2	04	9	9	E	RAMY	4860	
30	DSD	1133E	1148D	S21	E46	10	4.0		02	9	9	E	RAMY	4859	Flare Associated
30	SDF	1200E	1500D	N40	E67	10	5.9		07	0	0	E	RAMY	4860	
30	AFS	1420E	1609D	N29	E65	10	5.7		03	9	9	E	RAMY	4860	
30	AFS	1420E	1609D	N32	E66	10	5.8		04	9	9	E	RAMY	4860	
30	DSD	1548E	1850D	N31	E63	10	5.6		08	9	9	E	HOLL	4860	
30	AFS	1625E	1850D	N28	E61	10	5.4	1	04	9	9	E	HOLL	4860	
30	AFS	1910E	2210D	N21	E18	10	2.2		01	7	6	E	HOLL		
30	AFS	1950E	2210D	N29	E63	10	5.8		02	9	9	E	HOLL	4860	
30	AFS	2000E	0405D	N31	E62	10	5.7		01	9	9	E	PALE	4860	
30	AFS	2000E	0405D	S24	E50	10	4.7		02	9	9	E	PALE	4859	
30	AFS	2032E	0405D	N07	W16	09	29.6		02	5	9	E	PALE		
30	ADF	2040E	0405D	N31	E62	10	5.7	1	05	9	9	E	PALE	4860	
30	ADF	2246E	0401D	S23	E43	10	4.3	2	03	9	9	E	LEAR	4859	
30	AFS	2320E	0423D	S23	E43	10	4.3		02	9	9	E	LEAR	4859	
30	ADF	2336E	0405D	S29	E56	10	5.4	1	06	9	9	E	PALE	4859	
30	ADF	2353	2356D	N31	E63	10	6.0	2	03	9	9	E	LEAR	4860	

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

C O N T E N T S

Comprehensive Reports MISCELLANEOUS DATA Number 523 Part II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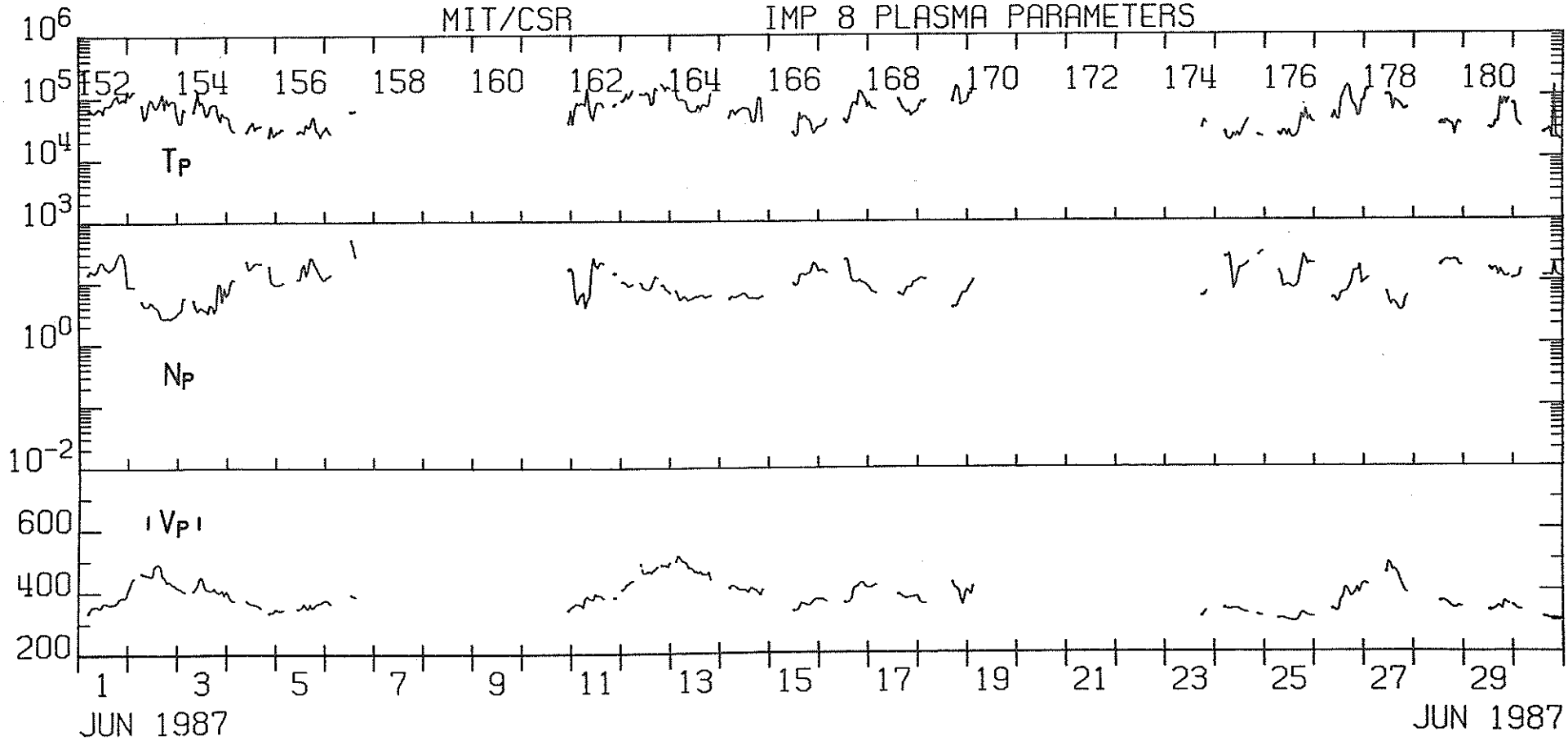
MAY 1987
MIT/CSR
IMP 8 PLASMA PARAMETERS
T_P
N_P
$|V_P|$
MAY 1987
MAY 1987

IMP 8 SOLAR WIND PLASMA

JUNE 1987



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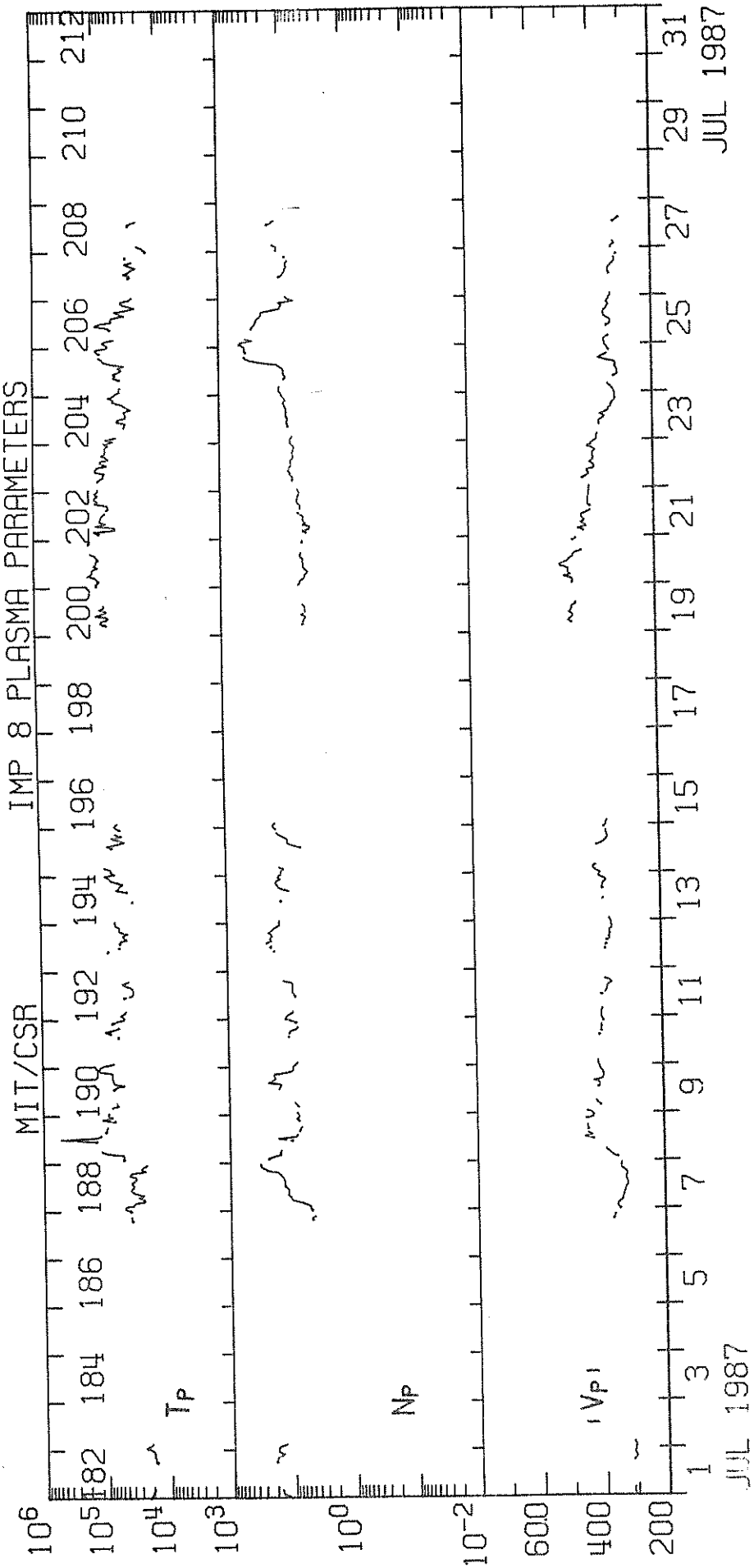

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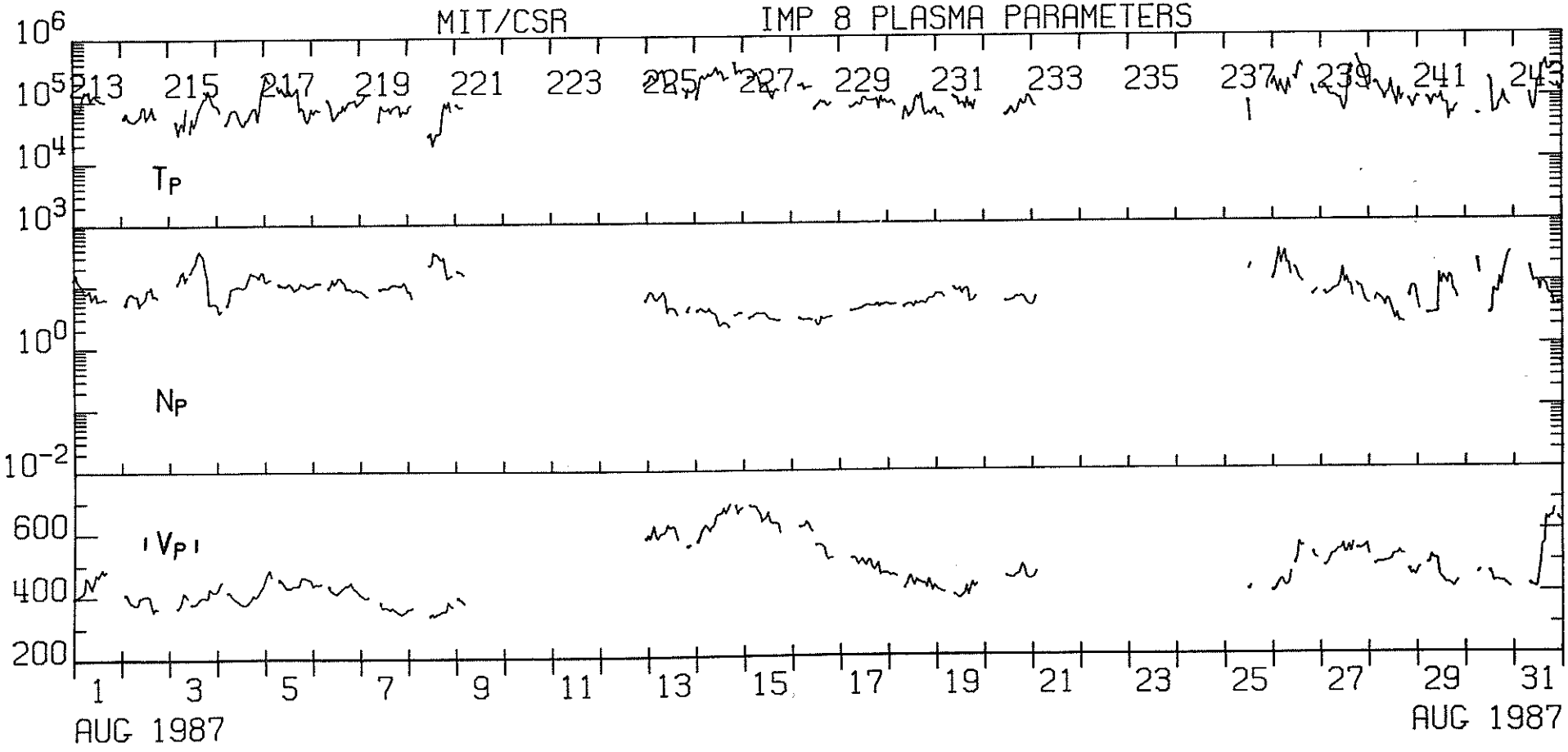

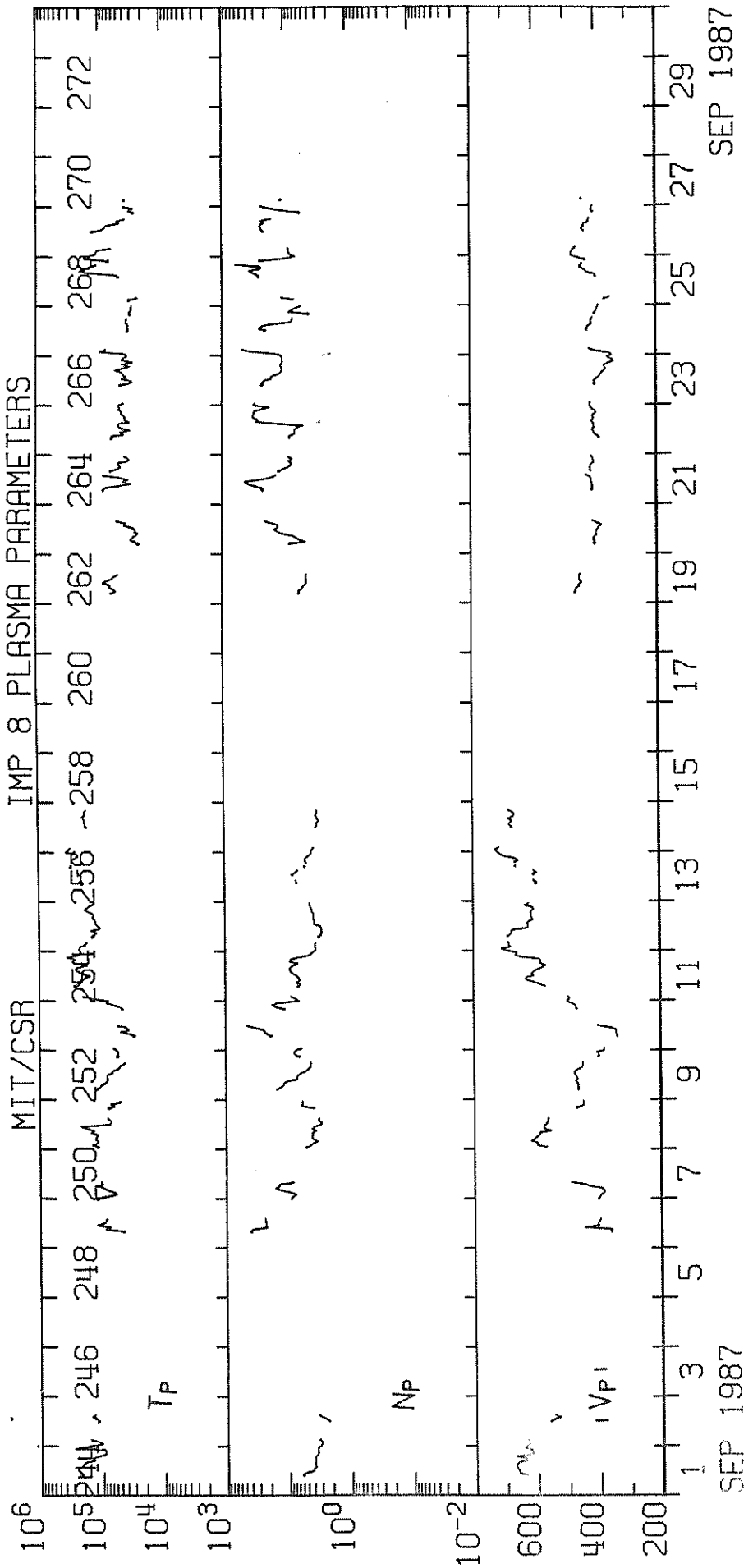
IMP 8 SOLAR WIND PLASMA
SEPTEMBER 1987
MIT/CSR
IMP 8 PLASMA PARAMETERS
T_P
N_P
$|V_P|$
SEP 1987
SEP 1987

1978 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2

1978

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01												---
02												1371.4
03												1371.2
04												1371.4
05												---
06												1371.8
07												1371.4
08												1371.7
09												---
10												1370.0
11												1369.6
12												1369.9
13												---
14												1370.2
15												1371.0
16											1370.8	1371.6
17											1371.1	1371.2
18											1371.4	1371.1
19											---	1371.0
20											1371.3	1371.3
21											1370.8	---
22											1371.2	1371.1
23											1370.9	1371.6
24											1371.2	1371.8
25											1371.3	---
26											1371.6	1371.9
27											---	1371.4
28											1371.4	1371.8
29											1371.2	---
30											1371.6	1370.8
31												1370.3

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

Irradiance observations published in SOLAR-GEOPHYSICAL DATA, No. 485, Part II, differ from the above measurements by at most a few tenths of a watt per square meter because the earlier data were not cosine-corrected and because some daily means included either values from questionable orbits or fewer observations.

1979 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C
The Eppley Laboratory, Inc.

Units: Watts/m2 — 1979

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1370.4	---	1372.3	1371.7	1370.9	1371.4	---	1371.4	1370.3	---	1371.2	1371.4
02	---	1372.0	1372.6	---	---	1371.2	1371.2	---	1369.9	1371.3	---	1371.2
03	1370.6	---	---	1371.5	1371.7	---	1371.0	1372.3	---	1371.3	1370.9	1371.2
04	1371.7	1371.5	1372.3	---	1371.8	1370.6	1371.2	1371.6	1368.8	1371.5	1370.6	---
05	1371.8	---	1372.6	1371.6	1372.0	1370.4	---	1372.1	1368.3	---	1371.1	1371.4
06	---	1371.9	1372.7	---	---	1370.6	1371.5	---	1368.3	1370.8	---	---
07	1371.6	---	---	1372.4	1372.1	---	1371.2	1371.8	1370.5	1370.1	1369.8	1372.1
08	1371.6	1372.1	1372.0	---	1371.9	1370.8	1371.5	1371.5	1370.7	1370.3	1368.8	---
09	1371.6	1372.3	1372.0	1372.0	1371.9	1370.9	1372.0	1371.6	1371.7	---	1369.3	1372.1
10	---	1372.1	1372.4	1371.6	---	1370.6	1371.8	1371.2	1371.6	1370.8	---	1372.0
11	1371.5	---	---	1371.8	1371.3	---	1371.5	1371.0	---	1370.4	1369.6	1371.6
12	1371.6	1371.8	1372.6	---	---	1370.6	1371.8	1370.8	1371.4	1370.6	1369.4	---
13	1371.8	1372.2	1373.1	1371.5	1371.4	1370.6	---	1370.8	1371.0	---	1369.9	1372.1
14	---	1372.2	1372.9	1371.3	1371.4	1370.6	1372.0	---	1370.5	1371.8	---	1371.5
15	1371.3	---	---	1371.5	1371.7	---	1371.5	1370.2	---	1371.5	1370.9	1371.6
16	1371.6	1371.6	1372.4	1371.2	---	1371.1	1371.6	1369.5	1371.7	1371.4	1371.0	---
17	1372.1	1371.0	1372.3	1371.4	1372.0	1370.8	---	1369.4	1371.3	---	1371.3	1371.8
18	---	1370.4	1372.4	1371.6	---	1371.4	1371.4	---	1371.6	1370.8	---	---
19	1371.5	---	---	1371.8	1372.3	---	1371.3	1368.7	---	1370.7	1371.3	1371.3
20	1371.2	1370.4	1371.9	---	1372.1	1371.3	1371.3	1368.4	1370.9	1371.1	1370.8	---
21	1371.0	1371.0	1371.9	1371.8	1372.2	1371.4	---	1368.3	1370.6	---	1371.1	1371.0
22	---	1371.4	1372.1	1371.8	---	1371.6	1371.4	1367.8	1370.9	1371.7	---	1370.4
23	1370.5	---	---	1371.6	1372.2	---	1371.1	1368.5	---	1371.2	1371.1	1370.8
24	---	1372.0	1371.8	---	1372.1	1371.7	1371.4	1369.7	1371.2	1372.0	1370.5	---
25	1371.3	---	1372.0	1371.5	1372.3	1371.5	1371.7	1369.1	1371.0	---	1371.0	1371.5
26	---	1372.0	1371.9	1371.1	1371.7	1371.8	1371.3	---	1371.2	1371.6	---	1371.5
27	1371.5	---	---	1371.3	1371.7	1372.2	1371.5	1369.0	---	1371.0	1371.6	1371.3
28	---	1372.0	1372.2	1371.0	```	1371.8	1371.7	1369.1	1370.2	1371.2	1371.4	---
29	1372.3		1372.2	1371.2	1372.1	1371.8	---	1371.4	1369.7	---	1371.5	1371.3
30	---		1372.3	---	1371.8	1371.9	1371.3	---	1370.5	1371.3	---	1371.1
31	1372.9		---		1371.9		1371.3	1371.1		1370.7		1371.6

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1980 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2

1980

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	---	1371.0	---	1371.3	1371.0	---	1371.4	1371.3	---	1371.4	1370.7	1370.7
02	1372.1	---	1371.8	---	1370.3	1371.1	1371.6	1371.4	1369.8	1371.6	1370.2	1371.3
03	1371.8	1370.4	1371.7	1371.5	1370.6	1370.8	---	1371.6	1369.4	1372.2	1370.0	1371.0
04	1371.9	1370.4	1371.6	---	---	1371.0	1370.7	---	1369.7	1371.5	---	1371.3
05	---	1370.7	---	1370.5	1371.0	---	1370.7	1371.2	---	1371.3	1369.5	---
06	1372.1	---	1371.7	---	1371.1	1371.1	1370.8	1371.1	1370.6	1371.6	1369.1	---
07	1371.5	1370.8	1371.7	1369.4	1371.3	1371.0	1370.7	1370.9	1370.7	---	1369.2	1372.0
08	1371.6	1370.4	1371.4	1368.7	---	1371.5	1370.9	---	1371.7	1371.5	---	1371.9
09	---	1370.8	---	1369.2	1371.8	1372.1	1370.7	1371.0	---	1370.8	1369.1	1372.0
10	1371.6	---	1371.9	---	1371.5	1371.3	1370.6	1370.9	1371.9	1370.5	1369.1	---
11	1371.4	1371.0	1371.5	1369.5	1371.4	1371.2	---	1371.0	1371.6	---	1369.2	1371.6
12	1371.8	1371.0	1371.7	1369.7	---	1371.7	1370.6	---	1371.5	1370.0	---	1370.7
13	---	1371.2	1372.0	1370.2	1371.1	---	1370.2	1371.1	---	1369.8	1369.8	1370.7
14	1372.5	---	1371.6	---	1370.9	1371.6	1370.4	1371.2	1371.1	1370.8	1370.0	---
15	1371.4	1371.3	1371.4	1370.9	1371.5	1371.3	---	1371.9	1371.0	---	1370.6	1370.4
16	1371.5	1370.9	1371.5	1370.9	---	1371.0	1370.7	---	1371.3	1371.8	---	1370.0
17	---	1371.1	---	1371.5	1371.4	---	1370.4	1371.5	---	1371.6	1371.2	1370.5
18	1371.5	---	1371.8	---	1371.4	1371.7	1370.5	1371.3	1371.7	1371.6	1370.7	---
19	1371.3	1371.7	1371.5	1371.8	1371.4	1371.7	---	1371.4	1371.2	---	1370.7	1370.9
20	1371.4	1371.5	1371.5	1371.4	---	1371.8	1370.5	---	1371.1	1370.9	---	1371.0
21	---	1371.5	---	1371.3	1371.2	---	1370.6	1371.3	---	1370.2	1370.9	1371.7
22	1371.5	---	1371.6	---	1370.6	1371.3	1370.7	1370.9	1370.9	1370.3	1370.9	---
23	1370.9	1371.0	1371.4	1371.0	1370.2	---	---	1370.9	1370.7	---	1371.2	1371.5
24	1371.0	1370.9	1371.8	1370.5	---	---	1371.3	---	1371.0	1370.8	---	1371.0
25	---	1371.1	---	1370.8	1369.8	---	1371.4	1371.3	---	1371.2	1371.4	1371.3
26	1371.7	---	1371.9	---	1369.5	1371.5	1371.4	1370.8	1371.5	1371.5	1371.2	---
27	1371.7	1371.7	1371.7	1371.2	1370.0	1371.5	---	1370.8	1371.2	---	1371.5	1371.3
28	1372.0	1371.7	1371.5	1371.2	1369.8	1371.7	1371.0	---	1371.2	1371.6	---	1370.7
29	---	1371.7	---	1371.4	1370.5	---	1370.8	1370.6	---	1371.4	1371.1	1370.8
30	1371.8		1371.3	---	1370.6	1371.2	1370.7	1369.6	1371.7	1371.2	1370.5	---
31	1371.4		1371.1		1371.1		---	1369.3		---		1371.7

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1981 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2 — 1981

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1371.8	1370.9	1369.9	---	1371.2	1371.0	1370.2	1370.7	1371.3	1371.6	1370.6	---
02	1372.2	1370.3	1370.1	1371.8	1371.3	1371.0	1370.3	1371.0	1371.0	---	1370.3	1371.3
03	---	1370.4	1370.4	1371.4	---	1371.1	1370.7	---	1371.3	1371.7	---	1371.4
04	1370.9	---	---	1371.4	1371.0	1371.5	1370.7	1370.8	---	1371.2	1370.2	1371.8
05	1370.5	1371.1	1371.2	1371.6	1370.9	1371.5	1370.6	1370.6	1370.8	1371.0	1370.3	---
06	1371.2	1371.0	1370.5	1371.0	1370.8	1371.1	---	1370.5	1370.2	---	1370.9	1371.3
07	---	1370.9	1370.9	1370.5	---	1371.4	1370.6	---	1370.3	1371.1	---	1370.2
08	1371.2	---	---	1370.6	1370.9	---	1370.7	1369.7	---	1371.1	1371.1	1369.6
09	1371.1	1370.9	1370.6	---	1371.1	1371.5	1370.8	1369.6	1371.0	1371.3	1370.8	---
10	1371.2	1370.4	1370.5	1370.5	1370.9	1371.4	---	1369.9	1370.7	---	1370.8	1369.7
11	1372.0	1370.7	1371.1	1370.1	---	1371.4	1370.5	1370.3	1370.4	1370.5	1370.5	1369.9
12	1371.8	---	---	1370.6	1370.8	---	1370.4	1370.7	---	1369.7	1370.3	1370.2
13	1371.3	1371.3	1371.4	---	1370.4	1370.8	1370.4	1370.9	1371.0	1369.2	1370.8	---
14	1371.7	1370.6	1371.2	1370.2	1370.6	1370.7	---	1371.8	1370.8	---	```	1370.9
15	---	1370.6	1371.4	1370.1	---	1370.6	1370.4	---	1371.0	1369.3	---	1370.7
16	1371.7	---	---	1370.2	1370.2	1370.5	1370.3	1371.1	---	1368.7	1371.4	1370.8
17	1371.2	1370.5	1371.7	---	1370.3	1370.8	1370.5	1370.8	1371.5	1368.7	1370.9	---
18	1371.7	1370.1	1371.3	1370.3	1370.4	1370.9	---	1370.6	1371.1	---	1371.1	1371.0
19	---	1370.6	1371.4	1370.4	---	1371.2	1370.5	---	1371.2	1369.7	---	1370.7
20	1372.0	---	---	1370.8	1371.1	---	1369.9	1370.9	---	1369.6	1370.9	1370.8
21	1371.6	1370.9	1370.6	1370.9	1371.6	1371.2	1369.3	1370.8	1371.3	1370.3	1370.6	---
22	1371.8	1370.2	1370.5	1370.8	1371.7	1371.0	---	1371.2	1371.8	1370.6	1370.9	1371.2
23	---	1370.3	1370.8	1370.4	---	1371.1	1368.4	---	1371.9	1371.3	---	1371.0
24	1371.7	---	---	1371.2	1371.3	---	1367.9	1371.7	1372.4	1371.3	1371.2	1371.4
25	1371.4	1370.3	1371.2	---	1371.1	1370.5	1367.8	1371.4	1371.9	1371.2	1371.1	---
26	1371.5	1370.2	1370.8	1371.2	1371.1	1370.6	---	1371.1	1371.4	---	1371.3	1371.1
27	---	1370.0	1371.1	1371.1	---	1370.2	1368.1	1370.7	1371.4	1371.3	---	1370.5
28	1371.6	---	---	1371.0	1370.9	---	1368.4	1371.0	---	1371.6	1370.5	1370.8
29	1371.5		1371.2	---	1370.8	1370.4	1369.0	1370.7	1371.4	1371.8	1370.2	---
30	1371.4		1371.2	1371.2	1371.3	1370.3	1369.8	1371.0	1371.3	---	1370.4	1371.7
31	---		1371.7		---		1369.8	---		1371.2		---

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1982 SOLAR IRRADIANCE (Daily Mean)*
NIMBUS 7 CHANNEL 10C
The Eppley Laboratory, Inc.

Units: Watts/m2 1982

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1371.8	1368.6	1369.8	1371.2	1371.2	1371.3	1371.2	1370.4	1371.0	---	1371.8	1370.8
02	---	1369.3	1369.8	1371.3	---	1371.3	1370.8	---	1371.4	1370.9	---	1370.6
03	1371.7	---	---	1371.6	1371.2	1371.4	1370.8	1370.3	---	1371.2	1371.7	1370.3
04	1371.2	1370.7	1370.3	---	1371.0	1371.0	1371.0	1370.9	1371.4	1371.8	1371.2	---
05	1371.6	1370.7	1370.4	1371.2	1371.1	1370.6	---	1370.9	1371.1	---	1371.4	1369.8
06	---	1370.7	1370.7	1371.0	1370.9	1370.2	1371.0	---	1371.5	1371.7	---	1369.8
07	1371.7	---	---	1371.3	1370.8	---	1370.8	1370.8	---	1371.1	1371.1	1370.3
08	1371.1	1369.6	1371.5	1371.3	1370.8	1370.0	1371.1	1371.0	1371.5	1371.2	1370.8	---
09	1371.5	1368.9	1371.0	1371.5	1371.0	1369.5	---	1371.0	1371.3	---	1371.2	1370.4
10	---	1368.8	1371.2	1370.8	---	1369.6	1370.5	---	1371.3	1371.2	---	1369.7
11	1371.2	---	---	1370.4	1371.0	---	1369.8	1371.1	---	1370.8	1370.6	1369.8
12	1371.8	1369.7	1371.5	---	1371.1	1369.8	1369.5	---	1371.1	1370.9	1370.2	---
13	1370.7	1369.3	1371.0	1370.5	1371.2	1369.5	---	1371.3	1370.5	---	1369.8	1369.4
14	---	1370.0	1370.6	1370.0	---	1369.4	1368.8	---	1370.6	1370.8	---	1369.4
15	1370.4	---	---	1370.5	1371.0	---	1368.8	1371.0	---	1370.5	1369.6	1369.9
16	1369.9	1370.3	1369.5	---	1370.5	1368.8	1369.0	1370.5	1370.9	1370.8	1369.6	---
17	1370.4	1369.8	1368.8	1370.5	1370.6	1368.6	---	1370.5	1370.6	---	1370.1	1371.0
18	---	1369.8	1369.0	1370.1	---	1368.7	1370.0	---	1370.5	1370.9	---	1371.0
19	1370.9	---	---	1370.5	1370.9	---	1370.7	1370.7	---	1370.7	1370.3	1371.5
20	1370.7	1370.2	1369.9	---	1370.3	1368.8	1371.3	1370.6	1370.6	1370.8	1369.8	---
21	1370.8	1370.3	1370.1	1370.5	1370.3	1369.4	---	1370.4	1370.4	---	1369.5	1371.5
22	---	1370.9	1370.7	1370.2	---	1369.7	1371.5	---	1370.8	1370.8	---	1371.0
23	1371.0	---	---	1370.0	1370.4	---	1371.2	1369.9	---	1370.6	1370.2	1371.4
24	1370.8	1371.6	1370.1	---	1370.5	1370.7	1371.0	1369.4	1371.9	1370.7	1370.4	---
25	1371.1	1371.0	1369.8	1369.9	1371.1	1371.0	---	1369.6	1371.7	---	1370.9	1371.4
26	1371.1	1371.3	1369.9	1370.0	---	1371.5	1371.0	```	1371.5	1370.0	---	1370.7
27	1371.4	---	---	1370.8	1370.8	---	---	1369.3	---	1369.9	1371.3	1371.1
28	1370.2	1370.5	1370.1	---	1370.5	1371.4	1370.7	1369.3	1370.7	1370.9	1371.0	---
29	1369.9		1370.1	1371.4	1371.0	1371.2	---	1369.8	1369.9	---	1371.0	1371.6
30	---		1370.2	1371.2	---	1371.2	1370.6	---	1370.6	1371.5	---	1370.6
31	1369.1		---		1371.4		1370.3	1371.3		---		1370.9

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1983 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2 — 1983

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	---	1370.4	1370.9	1371.0	---	1371.0	1370.2	---	1370.5	1370.2	1370.0	1370.5
02	1371.1	---	---	1371.1	1371.1	---	1370.3	1369.8	---	1370.2	1370.2	1370.5
03	1370.6	1370.9	1371.0	---	1370.7	1370.4	1370.5	1369.8	1370.5	1370.3	1370.0	1370.4
04	1370.9	1370.2	1370.2	1371.0	1371.0	1370.2	---	1369.8	1370.3	1370.5	1370.4	1370.6
05	---	1370.5	1370.5	1370.8	---	1369.8	1370.6	---	1371.0	1370.3	1370.1	1370.4
06	1371.4	---	---	1371.0	1370.9	1368.9	1370.4	1370.2	---	1370.1	1370.1	1370.6
07	1371.0	1370.3	1370.8	---	1370.6	1369.0	1370.3	1370.4	1370.8	1370.0	1370.4	1370.4
08	1371.2	1370.4	1370.6	1370.6	1370.9	1369.3	---	1370.2	1370.4	1369.9	1370.8	1370.6
09	---	1370.9	1371.0	1370.6	---	1369.6	1370.2	---	1370.9	1370.0	1370.5	1370.5
10	1371.4	---	---	1370.6	1370.3	---	1370.2	1369.7	---	1369.7	1370.6	1370.6
11	1371.0	1371.3	1370.8	---	1369.6	1370.0	1370.3	1369.4	1370.9	1370.0	1370.6	1370.6
12	1371.0	1370.8	1370.5	1371.2	1369.5	1370.2	---	1370.4	1370.5	1370.5	1370.8	1370.7
13	---	1371.0	1370.9	1370.7	1369.6	1370.5	1370.5	---	1370.9	1370.7	1370.6	1370.3
14	1371.3	---	---	1371.1	1370.4	---	1370.3	1370.7	1370.8	1370.4	1370.3	1370.6
15	1370.9	1370.7	1370.8	1371.4	1370.4	1371.0	1370.5	1370.6	1370.7	1370.1	1370.3	1370.5
16	1370.9	1370.2	1370.0	1371.0	1370.9	1371.0	---	1370.8	1370.4	1370.2	1370.0	1370.5
17	---	1370.6	1370.5	1370.8	---	1371.0	1370.7	---	1370.6	1370.3	1370.2	1370.3
18	1370.4	---	1370.8	1370.7	1371.0	---	1370.8	1370.8	1370.2	1370.2	1370.2	1370.6
19	1370.1	1370.6	1370.5	---	1371.2	1371.0	1370.9	1370.8	1370.4	1370.4	1370.4	1370.4
20	1370.0	1370.2	1370.0	1371.1	1370.9	1370.9	1371.5	1370.9	1369.9	1370.5	1370.5	1370.6
21	---	1370.8	1370.5	1370.6	---	1371.2	1370.8	---	1370.5	1371.2	1370.4	1370.6
22	1370.6	---	---	1371.0	1371.9	1371.0	1370.5	1370.5	1370.8	1370.9	1370.3	1370.4
23	1370.5	1371.0	1371.4	---	1371.0	1370.2	1370.7	1370.8	1370.8	1371.0	1370.4	1370.1
24	1371.2	1370.6	1371.0	1371.0	1371.2	1370.2	---	1370.9	1370.3	1370.6	1370.7	1370.4
25	---	1370.9	1371.3	1370.7	---	1370.4	1370.6	---	1370.3	1370.5	1370.7	1370.2
26	1371.0	---	---	1370.8	1371.7	---	1370.5	1370.6	1370.4	1370.5	1370.8	1370.5
27	1370.4	1371.2	1371.6	---	1371.6	1370.7	1370.7	1370.3	1370.3	1370.5	1370.6	1370.4
28	1370.7	1370.7	1371.0	1370.7	1371.7	1370.6	---	1370.7	1370.2	1370.4	1370.8	1370.5
29	---		1371.3	1370.4	---	1370.5	1370.4	---	1370.3	1370.4	1370.8	1370.4
30	1370.5		---	1370.7	1371.4	---	1369.9	1370.7	1370.1	1370.3	1371.0	1370.6
31	1369.9		1371.4		1370.8		1370.1	1370.5		1370.5		1370.0

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1984 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2

1984

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1370.2	1368.8	1370.3	1368.9	1368.4	1370.2	1370.5	1370.8	1370.0	1370.5	1370.2	1370.3
02	1370.2	1370.0	1370.1	---	1369.4	1370.1	---	1371.1	1370.0	---	1370.1	1370.4
03	1370.5	1370.1	1370.2	1369.3	---	1370.3	1370.8	1370.8	1370.0	1370.4	1370.1	1370.4
04	1370.5	1370.6	1370.0	1369.8	1370.4	---	1370.5	1371.0	---	1370.4	1369.9	1370.5
05	1370.7	1370.3	1370.4	1369.7	1369.9	1370.5	1370.7	1370.8	1369.9	1370.7	1370.1	1370.4
06	1370.4	1370.2	1369.9	1369.9	1370.0	1370.3	---	1370.9	1369.4	---	1370.1	1370.6
07	1370.7	1369.6	1370.3	1369.9	---	1370.6	1370.9	---	1371.2	1370.8	1370.0	1370.3
08	1370.6	1369.7	1369.8	1370.1	1369.6	---	1371.0	1370.6	---	1370.6	1369.9	1370.6
09	1370.4	1369.1	1370.1	1369.8	1369.1	1370.9	1371.1	1370.6	1370.8	1370.4	1370.0	1370.4
10	1370.2	1369.2	1369.8	1370.1	1368.9	1370.7	---	1370.8	1370.7	---	1369.8	1370.1
11	1370.4	1369.2	1370.2	1369.8	---	1371.1	1371.2	---	1370.7	1370.3	1370.0	1370.0
12	1370.0	1369.7	1369.9	1370.2	1369.2	---	1370.4	1370.8	1370.3	1370.2	1369.9	1370.2
13	1370.1	1369.7	1370.1	1369.8	1369.0	1371.2	1370.7	1370.6	1370.4	1370.7	1369.9	1370.0
14	1369.8	1370.4	1369.7	1370.1	1369.5	1370.8	---	1370.8	1370.0	---	1370.1	1370.3
15	1370.2	1370.5	1370.3	1369.9	---	1370.7	1370.2	---	1369.9	1370.5	1370.0	1370.2
16	1370.1	1370.6	1370.3	1369.7	1370.6	---	1370.2	1370.8	---	1370.5	1369.9	1370.4
17	1369.9	1370.3	1370.5	---	1370.6	1370.7	1370.3	1370.3	1370.1	1370.3	1369.9	1370.3
18	1369.7	1370.8	1370.4	1369.9	1370.8	1370.4	---	1370.4	1370.3	---	1369.9	1370.0
19	1370.3	1370.2	1370.7	1369.8	---	1370.6	1370.3	---	1370.2	1370.1	1369.8	1370.0
20	1370.1	1370.4	1370.3	1370.3	1370.8	---	1370.1	1370.6	---	1370.2	1369.8	1370.2
21	1370.3	1369.7	1370.6	---	1370.4	1370.6	1370.4	1370.6	1370.2	1370.2	1369.8	1370.0
22	1370.1	1369.6	1370.1	1370.4	1370.5	1370.1	---	1370.6	1370.4	---	1369.8	1370.2
23	1370.4	1369.3	1370.4	1369.7	---	1370.5	1370.0	---	1370.3	1370.8	1369.7	1370.1
24	1369.8	1369.6	1370.0	1369.0	1370.2	---	1369.8	1369.8	---	1370.6	1369.7	1370.3
25	1369.5	1369.4	1370.5	---	1370.0	1370.2	1369.9	1369.7	1370.4	1370.6	1369.7	1370.4
26	1368.2	1369.9	1370.1	1367.8	1370.5	1370.1	---	1369.7	1370.2	---	1369.4	1370.0
27	1367.6	1370.0	1370.3	1367.1	---	1370.2	1370.1	---	1370.1	1370.6	1369.6	1370.0
28	1367.3	1370.3	1369.9	1367.4	1371.1	---	1369.8	1370.4	---	1370.3	1369.8	1370.1
29	1367.3	1370.1	1369.6	---	1370.6	1370.6	1370.1	1370.1	1370.8	1370.3	1369.9	1370.3
30	1367.6		1369.3	1368.1	1370.6	1370.3	---	1370.2	1370.7	1370.2	1370.4	1370.2
31	1368.4		1369.0		---		1371.1	---		1370.2		1370.4

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1985 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2 — 1985

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1370.6	1370.0	1370.2	1370.3	1370.1	1370.3	1370.3	1370.4	1370.5	1370.2	1369.8	1369.9
02	1370.4	1370.2	1370.5	1370.4	1370.2	1370.7	1370.3	1370.3	1370.3	1369.8	1369.9	1369.8
03	1370.3	1370.2	1370.2	1370.4	1370.1	1370.5	1370.1	1370.4	1370.3	1370.3	1369.9	1369.8
04	1370.0	1370.5	1370.5	1370.6	1370.4	1370.7	1370.5	1370.4	1369.9	1370.3	1369.9	1369.8
05	1370.3	1370.3	1370.1	1370.2	1370.2	1370.4	1370.2	1370.5	1370.0	1370.3	1370.0	1369.8
06	1370.1	1370.5	1370.3	1370.2	1370.4	1370.2	1370.1	1370.3	1369.8	1370.1	1370.0	1370.1
07	1370.4	1370.1	1370.3	1370.2	1370.2	1370.0	1369.9	1370.8	1369.8	1370.0	1370.0	1369.8
08	1370.4	1370.6	1370.3	1370.0	1370.2	1369.9	1369.9	1370.8	1369.3	1369.9	1370.2	1369.9
09	1370.7	1370.3	1370.3	1370.2	1370.2	1369.9	1369.9	1370.5	1370.1	1369.9	1369.9	1369.8
10	1370.5	1370.8	1370.3	1370.1	1370.0	1369.8	1370.3	1370.4	1370.0	1369.6	1370.0	1370.1
11	1370.4	1370.5	1370.3	1370.1	1369.9	1369.7	1370.4	1370.3	1370.0	1369.6	1369.9	1370.1
12	1370.5	1370.1	1370.3	1370.0	1369.9	1370.1	1370.5	1370.4	1369.8	1370.1	1370.1	1370.3
13	1370.5	1369.9	1370.1	1370.1	1369.9	1370.4	1370.5	1370.0	1369.7	1370.1	1370.0	1370.2
14	1370.5	1370.0	1370.4	1370.2	1369.9	1370.5	1370.3	1370.4	1369.6	1369.9	1370.2	1370.3
15	1370.1	1369.7	1370.2	1370.1	1370.1	1370.4	1370.1	1370.1	1369.5	1370.0	1369.8	1370.2
16	1369.9	1370.0	1370.4	1370.1	1369.6	1370.4	1370.6	1370.2	1369.1	1369.8	1369.8	1370.2
17	1370.2	1370.0	1370.2	1370.0	1369.9	1370.5	1370.4	1369.9	1370.0	1369.9	1369.9	1370.3
18	1370.3	1370.2	1370.4	1370.0	1369.9	1370.5	1370.4	1369.9	1369.8	1369.7	1370.0	1370.4
19	1370.0	1369.8	1370.1	1370.0	1370.1	1370.3	1370.2	1370.4	1370.4	1369.7	1370.1	1370.4
20	1369.4	1370.2	1370.3	1370.0	1370.0	1370.5	1370.3	1370.5	1370.2	1370.0	1370.2	1370.4
21	1369.7	1370.0	1370.2	1370.0	1369.8	1370.4	1370.4	1370.2	1370.4	1370.0	1370.4	1370.4
22	1369.8	1370.1	1370.4	1369.8	1369.8	1370.5	1370.4	1370.5	1370.1	1369.6	1370.1	1370.3
23	1370.3	1369.9	1370.2	1369.6	1370.0	1370.6	1370.2	1370.5	1370.4	1369.9	1370.1	1370.3
24	1370.0	1370.2	1370.4	1369.2	1370.1	1370.9	1370.4	1370.4	1370.1	1370.0	1370.2	1370.0
25	1370.4	1369.9	1370.3	1369.3	1370.2	1370.4	1370.4	1370.4	1370.1	1370.2	1370.0	1370.2
26	1370.4	1370.2	1370.3	1369.4	1370.1	1370.3	1370.3	1370.3	1370.0	1370.4	1370.1	1369.9
27	1370.5	1370.1	1370.3	1369.4	1370.5	1369.9	1370.4	1370.3	1370.0	1370.4	1370.1	1370.2
28	1370.2	1370.2	1370.2	1369.7	1370.1	1370.1	1370.6	1370.2	1369.6	1370.2	1370.1	1370.0
29	1370.5		1370.0	1369.9	1370.3	1370.0	1370.7	1370.0	1369.6	1369.8	1370.1	1369.8
30	1369.9		1370.1	1370.3	1370.4	1370.5	1370.4	1370.8	1369.7	1369.9	1370.1	1369.9
31	1370.2		1370.3		1370.5		1370.6	1370.6		1369.7		1369.8

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1986 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C
The Eppley Laboratory, Inc.

Units: Watts/m2 1986

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1369.8	1370.2	1370.2	1370.3	1370.2	1370.2	1370.3	1370.1	1369.8	1370.0	1369.6	1369.8
02	1370.0	1370.0	1370.1	1370.4	1370.0	1370.6	1370.1	1370.4	1369.5	1370.1	1370.3	1369.8
03	1369.8	1369.5	1370.2	1370.3	1369.8	1370.1	1370.3	1370.0	1370.0	1370.5	1370.3	1369.9
04	1370.0	1369.3	1370.0	1370.1	1369.7	1370.2	1370.1	1370.3	1370.2	1370.2	1370.4	1369.9
05	1369.9	1369.4	1370.2	1370.4	1370.0	1369.9	1370.5	1370.4	1370.5	1370.4	1370.4	1370.0
06	1369.8	1369.5	1369.9	1370.1	1369.8	1370.0	1370.3	1370.7	1370.4	1370.3	1370.5	1369.9
07	1369.8	1369.8	1370.0	1370.2	1370.0	1370.0	1370.5	1370.6	1370.6	1370.3	1370.5	1370.2
08	1370.0	1370.0	1369.8	1369.9	1369.7	1370.2	1370.3	1370.4	1370.2	1370.1	1370.5	1370.0
09	1370.0	1370.0	1370.2	1370.2	1370.0	1370.0	1370.8	1370.5	1370.3	1370.2	1370.3	1370.3
10	1370.1	1369.8	1370.1	1369.7	1369.8	1370.4	1370.4	1370.4	1370.1	1370.2	1370.2	1370.4
11	1370.1	1369.8	1370.4	1369.8	1370.0	1370.0	1370.5	1370.6	1370.2	1370.4	1370.2	1370.3
12	1370.0	1369.6	1370.2	1369.9	1369.9	1370.4	1370.5	1370.8	1370.4	1370.4	1370.2	1370.4
13	1370.0	1370.1	1370.0	1369.8	1370.1	1370.2	1370.7	1370.5	1370.4	1370.2	1370.1	1370.5
14	1370.1	1369.9	1369.9	1369.8	1369.8	1370.5	1370.6	1370.8	1370.4	1370.2	1370.4	1370.6
15	1370.3	1370.1	1370.2	1369.9	1370.1	1370.5	1370.9	1370.4	1370.4	1370.3	1370.3	1370.7
16	1370.4	1369.9	1370.0	1369.7	1370.1	1370.3	1370.8	1370.6	1370.2	1370.3	1370.3	---
17	1370.3	1369.9	1370.0	1369.7	1370.4	1370.6	1371.1	1370.4	1370.3	1370.2	1370.4	---
18	1370.0	1369.7	1369.9	1369.6	1370.2	1370.7	1370.8	1370.4	1370.2	1370.2	1370.3	---
19	1370.0	1369.8	1370.2	1369.8	1370.6	1370.0	1371.0	1370.3	1370.4	1370.1	1370.5	1370.8
20	1369.9	1369.8	1370.1	1369.6	1370.4	1370.5	1370.8	1370.8	1370.4	1369.8	1370.6	1371.0
21	1369.9	1370.0	1370.3	1369.9	1370.9	1370.3	1371.0	1370.5	1370.5	1370.1	1370.5	1371.0
22	1369.9	1370.0	1370.2	1370.0	1370.3	1370.3	1370.6	1370.5	1370.4	1370.3	1370.4	1370.7
23	1369.9	1370.0	1370.3	1369.8	1370.3	1370.1	1371.0	1370.6	1370.4	1370.2	1370.6	1370.6
24	1369.8	1369.9	1370.0	1369.5	1370.4	1370.3	1370.5	1370.5	1370.2	1370.1	1370.6	1370.7
25	1370.0	1370.0	1370.1	1369.7	1370.4	1370.8	1370.7	1370.4	1370.2	1370.2	1370.5	1370.4
26	1369.9	1370.0	1370.2	1369.5	1370.6	1370.4	1370.5	1370.4	1370.3	1370.2	1370.4	1369.9
27	1369.9	1370.2	1370.2	1369.9	1370.4	1370.7	1370.7	1370.1	1370.3	1370.2	1370.5	1369.5
28	1370.0	1370.1	1370.3	1369.7	1370.5	1370.4	1370.5	1370.0	1370.4	1370.3	1370.4	1369.7
29	1370.0		1370.1	1370.0	1370.3	1370.8	1370.4	1369.9	1370.4	1370.3	1369.9	1369.7
30	1370.1		1370.3	1369.9	1370.6	1370.2	1370.3	1369.8	1370.2	1370.0	1369.9	1370.0
31	1370.0		1370.3		1370.5		1370.4	1369.7		1369.6		1370.0

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

1987 SOLAR IRRADIANCE (Daily Mean)*

NIMBUS 7 CHANNEL 10C

The Eppley Laboratory, Inc.

Units: Watts/m2 — 1987

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	1369.8	---										
02	1370.0	1370.5										
03	1370.1	1370.4										
04	1370.1	1370.3										
05	1370.4	1369.8										
06	1370.4	1370.0										
07	1370.5	1370.0										
08	1370.1	1370.3										
09	1370.1	1370.0										
10	1370.1	1370.3										
11	1370.4	---										
12	1370.4	---										
13	1370.6	---										
14	1370.5	---										
15	1370.3	---										
16	1370.3	---										
17	1370.4	1370.0										
18	1370.3	1370.2										
19	1370.6	1370.0										
20	1370.2	1370.3										
21	1370.6	1370.2										
22	1370.4	1370.3										
23	1370.7	1369.7										
24	1370.4	1370.2										
25	1370.8	1370.1										
26	1370.4	1370.2										
27	1370.2	1370.1										
28	1370.1	1370.3										
29	1370.3											
30	1370.1											
31	1370.3											

*Daily averages are cosine-corrected for any off-axis positioning of the sun in the telescope aperture. All values are normalized to 1 astronomical unit.

NOAA Space Environment Services Center

Solar Proton Events Affecting the Earth Environment
January 1976 – January 1988

Preliminary Listing

PARTICLE EVENT						ASSOCIATED FLARE AND ACTIVE REGION					
Start		Maximum		Satellite Proton Flux* $(cm^2-s-sr)^{-1}$	Riometer Absorption decibels	Maximum		Importance		Disk Location	NOAA/ USAF Region Number
Date	Time UT	Date	Time UT			Date	Time UT	X-ray	Optical	°Lat °Long	
					1976						
Apr 30	2120	May 01	1700	12	0.0	Apr 30	2114	X2	2B	S09 W47	0700
					1977						
Sept 19	1430	Sept 19	2130	200	4.5	Sept 19	1054	X2	3B	N08 W58	0889
Nov 22	1400	Nov 22	1800	160	0.7	Nov 22	1006	X1	2N	N24 W38	0939
					1978						
Feb 13	0930	Feb 14	1000	850	6.3	Feb 13	0255	M7	0B	N22 W13	1001
Apr 11	1530	Apr 11	1630	0	3.2	Apr 11	1353	X2	2B	N19 W54	1057
Apr 29	0445	Apr 30	2000	1000	9.8	Apr 28	1306	X5	4B	N22 E41	1092
May 07	0420	May 07	0420	100	0.0	May 07	0330	X2	2B	N22 W64	1095
June 02	0730	June 02	0935	19	1.8	May 31	1009	M5	2B	N23 W50	1129
June 24	0900	June 25	0230	25	1.2	June 22	1709	M2	3B	N19 E18	1164
July 13	0300	July 13	1000	20	0.0	---	---	---	--	---	---
Sept 23	1035	Sept 24	0400	2200	9.6	Sept 23	0941	X1	3B	N35 W50	1294
Nov 10	2130	Nov 10	2140	38	0.0	Nov 10	0042	M1	2N	N17 E02	1385
					1979						
Feb 17	2020	Feb 17	2205	31	0.0	Feb 16	0200	X2	2B	N15 E48	1574
Apr 03	1600	Apr 03	2310	45	2.6	---	---	---	--	---	---
June 06	1850	June 07	0005	950	5.9	June 04	0409	X1	2B	N20 E34	1781
July 07	0015	July 07	1010	50	0.0	---	---	---	--	---	---
Aug 19	0850	Aug 20	0830	450	4.4	Aug 18	1343	X1	--	S08 E90	---
Aug 19	0850	Aug 20	1700	410	0.0	Aug 18	1343	X1	--	S08 E90	---
Aug 19	0850	Aug 21	0740	500	0.0	Aug18	1343	X1	--	S08 E90	---
Sept 15	1500	Sept 16	1200	60	0.0	Sept 14	0802	X2	--	N10 E90	1994
Nov 16	0430	Nov 16	1300	75	3.0	Nov 15	1639	M1	0B	N34 W25	2110
					1980						
Feb 06	1340	Feb 06	1850	12	1.0	---	---	---	--	---	---
July 17	2300	July 19	1930	100	2.0	July 17	0603	M3	1B	S12 E06	2562
					1981						
Mar 30	0900	Mar 30	2115	30	0.0	Mar 30	0049	M3	2N	N13 W74	2993
Apr 10	1745	Apr 11	1400	50	1.8	Apr 10	1655	X2	3B	N09 W40	3025
Apr 24	1515	Apr 24	2330	160	2.3	Apr 24	1400	X5	2B	N18 W50	3049
May 09	1200	May 10	2130	150	0.0	May 08	2252	M7	2B	N09 E37	3099
May 15	0300	May 16	1950	130	3.7	May 13	0425	X1	3B	N11 E58	3106
July 20	1430	July 20	1825	100	2.5	July 20	1329	M5	1B	S26 W75	3204
July 25	0600	July 25	1320	18	0.0	---	---	---	--	---	---
Aug 10	0115	Aug 10	0435	57	0.0	Aug 07	1916	M4	2B	S10 E24	3257
Oct 08	1235	Oct 11	0600	83	1.7	Oct 07	2308	X3	1B	S19 E88	3390
Oct 12	0700	Oct 13	2247	2000	6.3	Oct 12	0636	X3	3B	S16 E20	3390
Dec 10	0545	Dec 11	0900	65	0.0	Dec 09	1854	M5	3B	N12 W16	3496
					1982						
Jan 31	0055	Jan 31	1630	830	2.2	Jan 30	2358	X1	3B	S13 E19	3576
June 06	0245	June 06	0245	10	0.0	June 03	1146	X8	2B	S09 E72	3763
June 09	0040	June 09	0510	30	0.0	June 06	1637	X12	3B	S11 E26	3763
July 11	0700	July 13	1615	2900	12.5	July 09	0742	X9	3B	N17 E73	3804
July 22	2030	July 23	0220	240	3.0	July 22	1734	M4	0F	N29 W86	3804
Sept 05	2205	Sept 06	0100	66	1.0	Sept 04	0400	M4	3N	N11 E30	3886
Nov 22	1940	Nov 22	2140	40	0.0	Nov 22	1828	M7	1N	N11 W43	3994
Nov 26	0605	Nov 26	1500	25	3.0	Nov 26	0253	X4	2B	S11 W87	3994
Dec 08	0010	Dec 08	1000	1000	0.0	Dec 07	2354	X2	0B	S14 W81	4007
Dec 17	1845	Dec 18	0945	130	3.7	Dec 15	0202	X12	2B	S10 E24	4026
Dec 19	1920	Dec 20	0515	85	3.0	Dec 19	1624	M9	2B	N10 W75	4022
Dec 27	0600	Dec 27	1345	190	4.6	Dec 25	0752	X2	1B	S14 E31	4033

Solar Proton Events Affecting the Earth Environment--*continued*

PARTICLE EVENT							ASSOCIATED FLARE AND ACTIVE REGION					
Start		Maximum		Satellite Proton Flux* $(cm^2-s-sr)^{-1}$	Riometer Absorption decibels		Maximum		Importance		Disk Location	NOAA/ USAF Region Number
Date	Time UT	Date	Time UT				Date	Time UT	X-ray	Optical	°Lat °Long	
						1983						
Feb 03	1200	Feb 04	1620	340	3.9		Feb 02	0619	X4	3B	S19 W08	4077
June 15	0435	June 15	1800	18	0.0		June 14	---	---	--	S09 W90	4201
						1984						
Feb 16	0915	Feb 16	1005	660	0.8		Feb 16	---	---	--	S12 W95	4408
Feb 19	1310	Feb 21	1415	55	0.5		Feb 17	2301	X2	2B	N16 E82	4421
Mar 13	1440	Mar 13	1450	10	0.0		---	---	---	--	---	---
Mar 14	0405	Mar 14	0505	100	0.0		Mar 14	0334	M2	2B	S12 W42	4433
Apr 25	1330	Apr 26	1420	2500	17.0		Apr 24	0005	X13	3B	S12 E43	4474
May 24	1045	May 24	1140	31	0.0		May 24	1503	M6	2B	S09 E24	4492
May 31	1315	May 31	1415	15	0.0		May 31	1142	M1	--	S09 W90	4492
						1985						
Jan 22	0415	Jan 31	0550	14	0.0		Jan 21	2350	X4	2B	S08 W38	4617
Apr 25	1430	Apr 26	0600	160	1.1		Apr 24	0935	X1	3B	N06 E27	4647
July 09	0235	July 09	0325	140	0.0		July 09	0204	M2	1B	S16 W36	4671
						1986						
Feb 06	0825	Feb 07	1730	130	1.1		Feb 06	0625	X1	3B	S04 W06	4711
Feb 14	1155	Feb 15	0400	130	2.3		Feb 14	0929	M6	1B	N01 W76	4713
May 04	1255	May 04	1320	16	0.0		May 04	1007	M1	---	N06 W90	4727
						1987						
Nov 08	0200	Nov 08	0940	120	---		Nov 07	2014	M1	--	N31 W90	4875
						1988						
Jan 02	2325	Jan 03	0835	92	-0.5		Jan 02	2145	X1	3B	S34 W18	4912

*Particle flux measured at >10 MeV at geosynchronous satellite orbit.

WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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