MAY 2003 NUMBER 705 - Part II

Solar-Geophysical Data comprehensive reports

Data for November 2002 and Miscellaneous
Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

NEW DATA:

ACE Solar Wind, Interplanetary Magnetic Field and Particles -- Monthly Plots

NGDC On-Line Addresses:

World-Wide Web	http://www.ngdc.noaa.gov
Gopher	gopher.ngdc.noaa.gov
Anonymous FTP:	ftp.ngdc.noaa.gov

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL GEOPHYSICAL DATA CENTER / BOULDER, COLORADO

U.S. DEPARTMENT OF COMMERCE
Donald L. Evans, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary/Administrator

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Gregory W. Withee, Assistant Administrator

MAY 2003 NUMBER 705 - Part II

Solar-Geophysical Data comprehensive reports

Data for November 2002 and Late Data

International Standard Serial Number: 0038-0911
Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER
Christopher G. Fox, Acting Director
Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 705

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Herbert W. Kroehl
Solar-Terrestrial Physics Division

Staff: Edward H. Erwin

CONTENTS

PART I (PROMPT REPORTS) Page

PART II (COMPREHENSIVE REPORTS) Page

NEW DATA:

ACE SOLAR WIND, INTERPLANETARY MAGNETIC FIELD AND PARTICLES -- MONTHLY PLOTS

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	SEP 02	OCT	NOV	DEC	JAN 03	FEB	MAR	APR
A.	SOLAR AND INTERPLANETARY								
A.1	Sunspot Drawings	699A 52	700A 50	701A 48	702A 50	703A 44	704A 52	705A 43	
A.2aa	International Sunspot Numbers	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25	704A 28	705A 25
A.2c	American Sunspot Numbers	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25	704A 28	705A 25
A.3a	Mt. Wilson Magnetograms	699A 52	700A 50	701A 48	702A 50	703A 44	704A 52	705A 43	
A.3b	Sunspot Mag Class and Regions	699A 91	700A 90	701A 86	702A 90	703A 84	704A 87	705A 77	
A.3c	Kitt Peak Magnetograms	699A 52	700A 50	701A 48	702A 50	703A 44	704A 52	705A 43	
A.3d	Mean Solar Magnetic Field (Stanford)	698A 41	699A 41	700A 39	701A 39	702A 39	703A 34	704A 38	705A 36
A.3e	Stanford Magnetograms	699A 52	700A 50	701A 48	702A 50	703A 44	704A 52	705A 43	
A.4	H-alpha Filtergrams	699A 52	700A 50	701A 48	702A 50	703A 44	704A 52	705A 43	
A.5d	PhotometricCa II Faculae(SanFernando)	Jan 92-Dec 96 - 631B 22; 1997-1998 in 663B 66							
A.6c	Stanford Solar Mag Field Synoptic Maps	699A 46	700A 44	701A 42	702A 44	703A 38	704A 42	705A 40	
A.6d	Kitt Peak Solar Mag Field Synoptic Map						704A 46	705A 42	
A.6f	Active Prominences and Filaments	703B 52	704B 48	705B 40					
A.6g	Sac Peak Coronal Line Synoptic Maps	699A48	700A 46	701A 44	702A 46	703A 40	704A 46	----------	
A.6h	Photometric White Light (San Fernando)	Jul-Dec 96 630B 32; 1997-1998 in 663B 51							
A.7h	Coronal Line Emission (Sac Peak)	699A 52	700A 50	701A 48	702A 50	703A 44	704A 52	705A 43	
A.7j	Coronal Hole Daily Maps (NSO/KP)	699A 82	700A 81	701A 78	702A 81	703A 75	704A 80	705A 74	
A.7k	Coronal Index (Slovak Academy)	1939-1996 - 644B 28							
A.7m	Coronal Mass Ejections (CSPSW)								
A.8aa	2800 MHz- Solar Flux (Penticton)	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25	704A 28	705A 25
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25	704A 28	705A 25
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25	704A 28	705A 25
A.10g	Nancay Radioheliograph -164&327 MHz	699A149	700A138	701A124	702A122	703A119	704A109	705A119	
A.10h	Nobeyama Radioheliograph -17 GHz	699A 86	700A 84	701A 81	702A 84	703A 79	704A 82	705A 77	
A.11g	Solar X-ray GOES (graphs/event table)	703B 44	704B 38	705B 32					
A.11k	Solar UV NOAA-9	May 86-Dec 88 in 566B 84							
A.11l	Solar UV NIMBUS7	Nov 78-Oct 84 in 542B 82							
A.11m	Solar UV SOLSTICE (UARS)	Oct 91-Sep 94 in 607B 46							
A.11o	Solar UV SUSIM (UARS)	Oct 91-Jan 97 in 629B 30							
A.11p	Solar UV Mg II Daily Index	703B 53	704B 49	705B 41					
A.12g	Solar Particles (GOES-7)	698A 4	699A 4	700A 4	701A 4	702A 4	703A 4	704A 4	705A 4
A.12i	Interplanetary Particles (ACE)	703B 56	704B 52	705B 44					
A.13g	Solar Plasma (ACE)	703B 55	704B 51	705B 43					
A.16c	ERBS, NOAA-9 & -10 Solar Irradiance	ERBS Oct 84-Jun 00 in 671B 36							
A.16d	UARS Solar Irradiance	Oct 91-May 2001 684B 26 – Complete Mission							
A.16e	VIRGO/SOHO Solar Irradiance	Jan 96-Sep 00 in 678B 46							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989-Jan 94 in 611A118							
A.17d	ACE Interplanetary Mag Field	703B 54	704B 50	705B 42					
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	698A 30	699A 30	700A 30	701A 31	702A 32	703A 28	704A 31	705A 28
C.1ba	H-alpha Flare Groups	703B 4	704B 4	705B 4					
C.1d	Flare Patrol Obsevations	703B 17	704B 17	705B 15					
C.1h	H-alpha Flare Index (ImpxDur)	Jan 76-Dec 85 in 639B 26; Jan 86-Oct 96 in 635B 24; Jan 96-Dec 98 in 665B 63							
C.3	Radio Bursts Fixed Frequency	703B 19	704B 19	705B 17					
C.3	Radio Bursts Fixed Frequency Selected	698A 38	699A 39	700A 38	701A 37	702A 38	703A 33	704A 36	705A 34
C.4	Radio Bursts Spectral	699A120	700A114	701A108	702A109	703A103	704A100	705A103	
C.6	Sudden Ionospheric Disturbances	699A118	700A112	701A105	702A107	703A101	704A 98	705A101	
D.	GEOMAGNETIC EVENTS								
D.1a	Geomagnetic Indices	699A160	700A149	701A135	702A132	703A129	704A116	705A127	
D.1ba	27-day Chart of Kp Indices	699A162	700A151	701A137	702A134	703A131	704A118	705A129	
D.1cb	Monthly Mean aa Indices	699A163	700A152	701A138	702A135	703A132	704A119	705A130	
D.1d	Principal Magnetic Storms	699A168	700A157	701A143	702A140	703A139	704A123	705A134	
D.1f	Sudden Commencements/Flare Effects	699A169	700A158	701A144	702A141	703A140	704A124	705A135	
D.1g	Equatorial Indices Dst	699A165	700A154	701A140	702A137	703A136	704A121	705A132	
D.1l	Polar Cap (PC) Index	699A166	700A155	701A141	702A138	703A137	704A122	705A133	
F.	COSMIC RAYS								
F.1b	Cosmic Ray Neutron Cts (Climax)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
F.1h	Cosmic Ray Neutron Cts (Thule)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
F.1l	Cosmic Ray Neutron Cts (Kiel)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
F.1n	Cosmic Ray Neutron Cts (Beijing)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
F.1m	Cosmic Ray Neutron Cts (Haleakala)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
F.1o	Cosmic Ray Neutron Cts (Moscow)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
F.1p	Cosmic Ray Neutron Cts (Calgary)	699A152	700A141	701A127	702A124	703A121	704A111	705A122	
H.	MISCELLANEOUS								
H.60	ISES Alert Periods	698A 19	699A 20	700A 19	701A 20	702A 20	703A 18	704A 20	705A 19

The entry "699A 52" under Sep 02, for example, means that the sunspot drawings for Sep 02 appear in SOLAR-GEOPHYSICAL DATA No. 699, Part I, and that they begin on page 52. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

CONTENTS

Comprehensive Reports Number 705 Part II

DATA FOR **NOVEMBER 2002**

Hα SOLAR FLARES

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		01	0009		0230	No Flare Patrol													
0001	KANZ	01	0811E		0830	N15	E25	10175	11	3.2	19D	SF		2	E				
0002	KANZ	01	0857	0859	0908	S29	E28	10174	11	3.6	11	SF		2	E				
0003	KANZ	01	0942	0944	0950	N15	E26	10175	11	3.4	8	SF		2	E				
0004		01	1034*	1039*	1057	N16	E24	10175	11	3.3	23	SN					17		F
	KANZ	01	1034	1039	1053	N15	E25	10175	11	3.3	19	SN		2	E				
	RAMY	01	1053	1057	1101	N16	E24	10175	11	3.3	8	SF		3	E		17		F
0005	RAMY	01	1221	1221	1230	S15	E89	10182	11	8.2	9	SF		3	E		14		
0006	RAMY	01	1614	1620	1640	N18	E41	10177	11	4.8	26	SF		3	E		18		F
0007	RAMY	01	1931	1931	1935	N10	W76		10	27.2	4	SF		3	E		34		F
		01	2056		2211	No Flare Patrol													
0008	LEAR	02	0811	0813	0816	S09	E62	10180	11	7.0	5	SF		3	E		35		F
0009		02	1355	1355	1359	N14	E37	10177	11	5.4	4	SF					17		F
	SVTO	02	1355	1355	1359	N12	E37	10177	11	5.4	4	SF		3	E		17		F
	RAMY	02	1355	1355	1359	N15	E37	10177	11	5.4	4	SF		3	E		17		F
		02	1917		1924	No Flare Patrol													
		02	1932		2001	No Flare Patrol													
		02	2014		2024	No Flare Patrol													
0010		02	2208	2219	2250	S10	E55	10180	11	7.0	42	1F					132		F
	HOLL	02	2208	2219	2300D	S09	E52	10180	11	6.8	52D	1F		3	E		185		
	LEAR	02	2215E	2215U	2250	S12	E58	10180	11	7.3	35D	SF		3	E		78		F
0011	LEAR	03	0554	0605	0641	N15	E25	10177	11	5.1	47	SF		3	E		90		F
0012	LEAR	03	0951	0957	1005	N17	E24	10177	11	5.2	14	SF		3	E		41		F
		03	1007		1041	No Flare Patrol													
0013		03	1257	1258	1312	S09	E44	10180	11	6.8	15	SF					11		
	SVTO	03	1257E	1258U	1305D	S11	E43	10180	11	6.8	8D	SF		2	E		11		
	RAMY	03	1257	1258	1312	S07	E45	10180	11	6.9	15	SF		3	E		11		
0014	RAMY	03	1344	1350	1442	N15	E26	10177	11	5.5	58	1F		3	E		187		FH
0015		03	1400	1401	1438	N14	E22	10177	11	5.2	38	1F					242		FH
	SVTO	03	1356E	1406U	1445D	N15	E20	10177	11	5.1	49D	1F		2	E		261		FH
	HOLL	03	1400	1401	1438	N14	E25	10177	11	5.5	38	1F		3	E		223		FH
0016	HOLL	03	1445	1446	1454	S08	E43	10180	11	6.8	9	SF		3	E		16		F
0017	RAMY	03	1734	1801	1817	S06	E43	10180	11	6.9	43	SF		3	E		31		FH
0018	HOLL	03	1914	1922	1930	S09	E41	10180	11	6.9	16	SF		3	E		34		
0019	HOLL	03	1952	1953	1958	S08	E40	10180	11	6.8	6	SF		3	E		20		F
0020	LEAR	04	0122	0127	0136	S09	E37	10180	11	6.8	14	SF		3	E		36		F
0021	LEAR	04	0324	0330	0346	N14	E19	10177	11	5.6	22	SF		3	E		25		F
0022	LEAR	04	0511	0515	0535	S10	E33	10180	11	6.7	24	SF		3	E		14		
0023	LEAR	04	0642	0646	0650	S10	E32	10180	11	6.7	8	SF		3	E		13		
0024	LEAR	04	0716	0728	0732	S11	E33	10180	11	6.8	16	SF		3	E		11		
0025	LEAR	04	0733	0735	0738	S10	E36	10180	11	7.0	5	SF		3	E		20		F

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0026	LEAR	04	0752	0755	0809	S10	E31	10180	11	6.6	17	SF		3	E		17		H
0027	LEAR	04	0837	0838	0846	S10	E31	10180	11	6.7	9	SF		3	E		15		
0028	LEAR	04	0930	0931	0938	S10	E30	10180	11	6.6	8	SF		3	E		11		
		04	0952		1048	No Flare Patrol													
		04	1103		1124	No Flare Patrol													
0029	RAMY	04	1125E	1127U	1136	S08	E31	10180	11	6.8	11D	SF		3	E		14		F
		04	1529		1543	No Flare Patrol													
0030	RAMY	04	1625	1634	1708	N16	E03	10177	11	4.9	43	SF		3	E		19		F
		04	1711		1809	No Flare Patrol													
0031	RAMY	04	1811E	1822U	1906	S09	E26	10180	11	6.7	55D	SF		3	E		47		F
		04	1836		1901	No Flare Patrol													
		04	2007		2210	No Flare Patrol													
0032	LEAR	05	0330	0331	0425	S12	E29	10180	11	7.3	55	SF		4	E		16		
0033	LEAR	05	0449	0456	0457	S10	E19	10180	11	6.6	8	SF		3	E		15		
0034	LEAR	05	0458	0511	0514	S10	E19	10180	11	6.6	16	SF		3	E		27		F
0035	LEAR	05	0552	0554	0557	N19	W01	10177	11	5.2	5	SF		3	E		52		FH
0036	SVTO	05	0945	0947	0949D	N13	E02	10177	11	5.5	4D	SF		3	E		20		F
		05	1055		1056	No Flare Patrol													
0037		05	12591	12592	1305	N20	W05	10177	11	5.1	6	SF					19		FH
	KANZ	05	1259	1259	1304D	N20	W06	10177	11	5.1	5D	SF		2	E				
	RAMY	05	1300	1301	1305	N20	W04	10177	11	5.2	5	SF		3	E		19		FH
0038		05	12563	12575	1313	S10	E22	10180	11	7.2	17	SF					52		FH
	RAMY	05	1256	1257	1313	S10	E24	10180	11	7.3	17	SN		3	E		83		FH
	SVTO	05	1258E	1302U	1303D	S12	E22	10180	11	7.2	5D	SF		2	E		21		
	KANZ	05	1259	1302	1304D	S09	E21	10180	11	7.1	5D	SF		2	E				
0039		05	1344*	1350*	1401	S10	E15	10180	11	6.7	17	SF					16		F
	RAMY	05	1344	1350	1356	S09	E15	10180	11	6.7	12	SF		3	E		17		F
	RAMY	05	1400	1401	1406	S10	E15	10180	11	6.7	6	SF		3	E		15		
0040	RAMY	05	1609	1610	1620	N20	W07	10177	11	5.1	11	SN		3	E		46		H
0041	RAMY	05	1636	1638	1704	S11	E15	10180	11	6.8	28	SF		3	E		63		F
0042	HOLL	05	1818	1822	1835	S14	E57	10185	11	10.1	17	SF		3	E		49		F
0043	HOLL	05	2043	2044	2054	N21	W09	10177	11	5.2	11	SF		3	E		21		FH
0044	HOLL	05	2103	2109	2136	N15	W06	10177	11	5.4	33	SF		3	E		52		F
0045	HOLL	05	2152	2153	2219	N15	W07	10177	11	5.4	27	SF		3	E		23		F
0046	LEAR	06	0509	0528	0559	S13	E13	10180	11	7.2	50	SF		3	E		93		FH
0047	KANZ	06	0801	0806	0813	N15	W13	10177	11	5.3	12	SF		2	E				
0048	LEAR	06	0801	0812	0819	N17	W15	10177	11	5.2	18	SF		3	E		24		F
0049		06	0833	0833	0839	S08	E02	10180	11	6.5	6	SF					20		
	LEAR	06	0833	0833	0839	S08	E02	10180	11	6.5	6	SF		3	E		20		
	KANZ	06	0836E	0836U	0839	S08	E03	10180	11	6.6	3D	SF		2	E				

Hα SOLAR FLARES

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0050		06	0838	0838	0848	S04	W10	10181	11	5.6	10	SF					10		
	KANZ	06	0836E	0838	0848	S05	W10	10181	11	5.6	12D	SF		2	E				
	LEAR	06	0838	0838	0847	S04	W10	10181	11	5.6	9	SF		3	E		10		
0051	KANZ	06	1159	1207	1221	N15	W15	10177	11	5.4	22	SF		2	E				
0052		06	1434	1438	1448	N12	E26	10188	11	8.6	14	SF					42		FH
	HOLL	06	1434	1438	1445	N12	E26	10188	11	8.6	11	SF		3	E		37		H
	RAMY	06	1434	1438	1452	N11	E26	10188	11	8.6	18	SF		3	E		47		F
0053	RAMY	06	1444	1446	1456	S08	E03	10180	11	6.8	12	SF		3	E		15		F
0054	HOLL	06	1524	1533	1555	N11	E26	10188	11	8.6	31	SF		3	E		19		FH
0055	RAMY	06	1532	1543	1554	N11	E25	10188	11	8.5	22	SF		3	E		29		FH
0056		06	16411	1643	1648	S08	E06	10180	11	7.1	7	SF					28		FH
	HOLL	06	1641	1643	1648	S08	E06	10180	11	7.1	7	SF		3	E		19		F
	RAMY	06	1642	1643	1648	S08	E06	10180	11	7.1	6	SF		3	E		36		H
0057		06	1646	1647	1654	N16	W16	10177	11	5.5	8	SF					24		FH
	HOLL	06	1646	1647	1654	N16	W16	10177	11	5.5	8	SF		3	E		22		F
	RAMY	06	1646	1647	1654	N16	W17	10177	11	5.4	8	SF		3	E		25		FH
0058	RAMY	06	1756	1758	1807	S09	E02	10180	11	6.9	11	SF		3	E		21		
0059	RAMY	06	1818	1819	1822	S08	E01	10180	11	6.8	4	SF		3	E		10		
0060		06	18275	18341	1848	N12	E24	10188	11	8.6	21	SF					18		F
	RAMY	06	1827	1834	1851	N11	E23	10188	11	8.5	24	SF		3	E		24		F
	HOLL	06	1832	1835	1846	N12	E24	10188	11	8.6	14	SF		3	E		13		F
0061		06	19431	19441	2008	N06	E10	10187	11	7.6	25	SF					40		F
	RAMY	06	1943	1945	2023	N05	E09	10187	11	7.5	40	SF		3	E		66		
	HOLL	06	1944	1944	1952	N06	E10	10187	11	7.6	8	SF		3	E		14		F
0062	RAMY	06	1945	1946	2024	N11	E22	10188	11	8.5	39	SF		3	E		15		
0063	HOLL	06	2018	2018	2023	N12	E23	10188	11	8.6	5	SF		3	E		28		
0064	HOLL	06	2140	2140	2144	S08	W04	10180	11	6.6	4	SF		3	E		14		F
0065	HOLL	06	2154	2156	2158	S08	W02	10180	11	6.8	4	SF		3	E		14		F
0066		06	2311	23155	2338	N16	W22	10177	11	5.3	27	SF					77		F
	LEAR	06	2311	2315	2334	N16	W23	10177	11	5.2	23	SF		2	E		76		F
	HOLL	06	2311	2320	2341	N16	W21	10177	11	5.4	30	SF		3	E		78		F
0067	HOLL	06	2320	2320	2329	N11	E21	10188	11	8.5	9	SF		3	E		13		F
0068	LEAR	07	0125	0125	0137	N09	E20	10188	11	8.6	12	SF		2	E		13		F
0069	LEAR	07	0343	0344	0351	S10	W05	10180	11	6.8	8	SF		2	E		34		F
0070	LEAR	07	0525	0533	0601	S10	W06	10180	11	6.8	36	SF		3	E		72		F
0071	LEAR	07	0622	0807	0830	S10	W07	10180	11	6.7	128	SF		3	E		43		F
0072		07	0626*	06334	0648	N18	W30	10177	11	5.0	22	SF					49		F
	LEAR	07	0626	0633	0654	N17	W30	10177	11	5.0	28	SF		3	E		78		F
	SVTO	07	0636	0637	0641	N18	W29	10177	11	5.1	5	SF		3	E		20		F
0073	LEAR	07	0827	0827	0841	N10	E16	10188	11	8.5	14	SF		3	E		17		
0074	SVTO	07	0903	0904	0908	S10	W11	10180	11	6.5	5	SF		3	E		51		F
0075	RAMY	07	1140	1145	1152	S12	W16	10180	11	6.3	12	SF		3	E		34		F
0076	RAMY	07	1156	1159	1208	S08	W07	10180	11	7.0	12	SF		3	E		23		F

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0077	RAMY	07	1328	1329	1335	S22	E62	10190	11	12.3	7	SF		3	E		14		
0078	RAMY	07	1350	1354	1359	S22	E62	10190	11	12.3	9	SF		3	E		19		
0079		07	1427*	1448	1452	S22	E60	10190	11	12.2	25	SF					24		F
	HOLL	07	1427	1448	1452	S22	E60	10190	11	12.2	25	SF		3	E		31		F
	RAMY	07	1448	1448	1452	S22	E61	10190	11	12.3	4	SF		3	E		16		
0080	RAMY	07	2034	2034	2045	S06	W16	10180	11	6.6	11	SF		3	E		10		
0081	LEAR	08	0203	0204	0224	S08	W19	10180	11	6.7	21	SF		3	E		30		F
0082	LEAR	08	0502	0504	0518	S07	W22	10180	11	6.6	16	SF		2	E		59		F
0083		08	0820	08444	0930	S09	W22	10180	11	6.7	70	SF					70		F
	KANZ	08	0820	0844	0928	S08	W24	10180	11	6.5	68	SF		2	E				
	LEAR	08	0820	0848	0933	S10	W19	10180	11	6.9	73	SF		3	E		70		F
0084	KANZ	08	1004	1009	1017	S08	W24	10180	11	6.6	13	SF		2	E				
		08	1038		1041	No Flare Patrol													
0085	RAMY	08	1059	1059	1109	S08	W26	10180	11	6.5	10	SF		3	E		20		
0086	RAMY	08	1222	1223	1231	S09	W26	10180	11	6.6	9	SF		3	E		14		
0087	HOLL	08	1427	1428	1433	S08	W27	10180	11	6.6	6	SF		3	E		53		F
0088	RAMY	08	1447	1448	1456	S09	W27	10180	11	6.6	9	SF		3	E		13		
0089	RAMY	08	1457	1458	1502	S08	W27	10180	11	6.6	5	SF		3	E		14		
0090	RAMY	08	1758	1807	1900	S11	W18	10180	11	7.4	62	SF		3	E		90		FH
0091	HOLL	08	1802	1818	1903	S12	W19	10180	11	7.3	61	1F		3	E		127		FH
		08	1958		2158	No Flare Patrol													
		09	0946		1006	No Flare Patrol													
0092	RAMY	09	1148	1148	1218	S11	W36	10180	11	6.8	30	SF		3	E		23		FH
0093	RAMY	09	1317	1317	1322	S12	W01	10185	11	9.5	5	SF		3	E		10		
0094	RAMY	09	1350	1402	1428	N10	W14	10188	11	8.5	38	SF		3	E		49		F
0095	RAMY	09	1309	1322	1428	S12	W29	10180	11	7.4	79	2B		3	E		555		FU
0096	SVTO	09	1416E	1416U	1422	S07	W32	10180	11	7.2	6D	SF		2	E		37		F
0097	RAMY	09	1522	1526	1530	S10	W38	10180	11	6.8	8	SF		3	E		21		F
0098	HOLL	09	1533	1551	1604	N15	W81	10175	11	3.5	31	SF		3	E		91		
0099	RAMY	09	1620	1620	1629	S11	W40	10180	11	6.7	9	SF		3	E		15		F
0100	HOLL	09	1622	1622	1625	S12	W32	10180	11	7.3	3	SF		3	E		13		
0101		09	1742	17422	1748	S20	E70	10191	11	15.1	6	SF					30		FH
	RAMY	09	1742	1742	1747	S20	E69	10191	11	15.0	5	SF		3	E		22		H
	HOLL	09	1742	1744	1748	S19	E70	10191	11	15.1	6	SF		3	E		39		F
0102	RAMY	09	1817	1828	1834	S11	W41	10180	11	6.7	17	SF		3	E		21		
0103	RAMY	09	1835	1835	1838	S19	E64	10191	11	14.6	3	SF		3	E		11		
0104	RAMY	09	1919	1920	1925	S11	W42	10180	11	6.6	6	SF		3	E		15		F
0105	RAMY	09	1956	2004	2025	S10	W42	10180	11	6.7	29	SF		3	E		17		

Hα SOLAR FLARES

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0106	RAMY	09	2012	2013	2016	S17	E67	10191	11	14.9	4	SF		3	E		10		
0107	HOLL	09	2034	2035	2045	S18	E67	10191	11	14.9	11	SF		3	E		45		
0108	HOLL	09	2109	2117	2123	S10	W44	10180	11	6.6	14	SF		3	E		12		
		09	2256		2310	No Flare Patrol													
0109	LEAR	10	0307	0314	0358	S12	W37	10180	11	7.3	51	2N		3	E		522		FU
0110		10	07412	0743	0746	S10	W47	10180	11	6.8	5	SF					23		
	KANZ	10	0741	0743	0745	S10	W45	10180	11	6.9	4	SF		2	E				
	LEAR	10	0743	0743	0746	S10	W49	10180	11	6.6	3	SF		3	E		23		
0111	KANZ	10	0839	0840	0841	S18	E58	10191	11	14.8	2	SF		2	E				
0112	LEAR	10	0939	0939	0943	S17	E60	10191	11	15.0	4	SF		2	E		21		
		10	1010		1021	No Flare Patrol													
0113	KANZ	10	1045	1046	1049	S22	E19	10190	11	11.9	4	SF		2	E				
0114		10	1136	11371	1144	S18	E60	10191	11	15.0	8	SF					23		
	KANZ	10	1136	1137	1139	S19	E60	10191	11	15.1	3	SF		2	E				
	RAMY	10	1136	1138	1149	S18	E60	10191	11	15.0	13	SF		3	E		23		
0115		10	1143*	12125	1236	S08	W48	10180	11	6.9	53	SF					70		F
	RAMY	10	1143	1217	1242	S08	W48	10180	11	6.9	59	SF		3	E		70		F
	KANZ	10	1208	1212	1230	S08	W48	10180	11	6.9	22	SF		2	E				
0116	KANZ	10	1149	1150	1206	S07	W48	10181	11	6.9	17	SF		2	E				
0117	RAMY	10	1419	1419	1424	S12	W43	10180	11	7.3	5	SF		3	E		12		F
0118	RAMY	10	1458	1459	1507	S19	E55	10191	11	14.8	9	SF		3	E		15		
0119	RAMY	10	1459	1504	1531	S10	W54	10180	11	6.6	32	SF		3	E		21		
0120	RAMY	10	1508	1509	1515	S14	E38	10191	11	13.5	7	SF		3	E		14		
		10	1809		2202	No Flare Patrol													
0121	LEAR	11	0037	0037	0043	S12	W49	10180	11	7.3	6	SF		3	E		27		F
0122	LEAR	11	0235	0236	0238	S10	W51	10180	11	7.3	3	SF		2	E		14		F
0123	LEAR	11	0344	0355	0411	S11	W52	10180	11	7.2	27	SF		3	E		45		H
0124		11	06483	06513	0658	S12	W53	10180	11	7.3	10	SF					30		
	LEAR	11	0648	0651	0700	S11	W54	10180	11	7.2	12	SF		3	E		45		
	SVTO	11	0651	0654	0656	S12	W52	10180	11	7.4	5	SF		3	E		15		
0125		11	0710*	07312	0842	S10	W54	10180	11	7.2	92	2B					369		EF
	SVTO	11	0710	0733	0917	S07	W55	10180	11	7.2	127	2B		3	E		546		FE
	LEAR	11	0729	0731	0807	S12	W53	10180	11	7.3	38	1N		3	E		192		FE
0126	KANZ	11	1029	1030	1034	N10	W38	10188	11	8.6	5	SF		2	E				
0127	RAMY	11	1135	1142	1157	S12	W56	10180	11	7.3	22	SF		3	E		52		F
0128		11	12289	12491	1337	S10	W57	10180	11	7.2	69	1F					144		FH
	KANZ	11	1228	1249	1340	S11	W56	10180	11	7.3	72	1F		2	E				
	RAMY	11	1236	1250	1353	S12	W57	10180	11	7.2	77	1F		3	E		145		FH
	SVTO	11	1237	1249	1318	S07	W59	10180	11	7.1	41	1F		3	E		143		FH
0129	RAMY	11	1411	1416	1418	S12	W59	10180	11	7.1	7	SF		3	E		12		
0130	SVTO	11	1437	1439	1457	S07	W59	10180	11	7.2	20	SF		3	E		43		F

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0131	RAMY	11	1437	1519	1739	S13	W60	10180	11	7.1	182	1N		3	E		112		FH
0132	RAMY	11	1732	1732	1740	S14	W28	10185	11	9.6	8	SF		3	E		16		
0133	LEAR	11	2241	2325	2443	S23	E34	10191	11	14.6	122	SF		3	E		42		F
0134	LEAR	12	0028	0030	0051	S10	W66	10180	11	7.1	23	SF		3	E		28		F
0135	LEAR	12	0211	0212	0233	S11	W67	10180	11	7.0	22	SF		3	E		35		F
		12	0303		0446	No Flare Patrol													
0136		12	07451	07475	0757	S12	W66	10180	11	7.3	12	SF					55		F
	KANZ	12	0745	0747	0754	S11	W65	10180	11	7.4	9	SF		2	E				
	LEAR	12	0746	0752	0800	S12	W66	10180	11	7.3	14	SF		3	E		55		F
0137	KANZ	12	0920	0921	0927	S18	E35	10191	11	15.0	7	SF		2	E				
0138	KANZ	12	0938	0938	0949	S23	W07	10190	11	11.9	11	SF		2	E				
0139	RAMY	12	1130	1130	1135	S14	W67	10180	11	7.4	5	SF		3	E		23		F
0140		12	11321	11351	1141	S18	E34	10191	11	15.1	9	SF					13		F
	RAMY	12	1132	1136	1142	S17	E33	10191	11	15.0	10	SF		3	E		13		F
	KANZ	12	1133	1135	1140	S18	E34	10191	11	15.1	7	SF		2	E				
0141	RAMY	12	1523	1524	1529	S23	W09	10190	11	11.9	6	SF		3	E		11		
0142	HOLL	12	1732	1737	1740	S11	W74	10180	11	7.2	8	SF		3	E		12		
0143		12	17551	18171	1836	S12	W76	10180	11	7.0	41	2N					380		H
	RAMY	12	1755	1817	1834	S12	W77	10180	11	6.9	39	2N		3	E		343		H
	HOLL	12	1756	1818	1839	S11	W75	10180	11	7.1	43	2N		3	E		417		
0144	RAMY	12	1801	1801	1813	S19	E28	10191	11	14.9	12	SF		3	E		13		
0145	HOLL	12	1808	1808	1811	S14	E10	10191	11	13.5	3	SF		3	E		11		
0146		12	18442	18553	1934	S12	W77	10180	11	7.0	50	1N					122		F
	HOLL	12	1844	1855	1934	S11	W76	10180	11	7.1	50	1N		3	E		135		F
	RAMY	12	1846	1858	1935	S12	W78	10180	11	6.9	49	1N		3	E		109		
0147	LEAR	13	0627	0627	0630	N07	W66	10187	11	8.3	3	SF		3	E		16		FH
		13	0938		0942	No Flare Patrol													
		13	1005		1009	No Flare Patrol													
		13	1041		1043	No Flare Patrol													
0148		13	14383	14411	1511	S20	E15	10191	11	14.7	33	SF					16		F
	RAMY	13	1438	1442	1511	S19	E14	10191	11	14.7	33	SF		3	E		16		F
	HOLL	13	1441	1441	1511	S20	E16	10191	11	14.8	30	SF		3	E		17		F
0149	RAMY	13	1728	1730	1827	S20	E15	10191	11	14.9	59	SF		3	E		21		
0150	RAMY	13	1828	1837	1840	S18	E14	10191	11	14.8	12	SF		3	E		20		F
0151	RAMY	13	1844	1847	1850	S18	E14	10191	11	14.8	6	SF		3	E		13		F
		13	1905		2021	No Flare Patrol													
		13	2121		2133	No Flare Patrol													
		14	1001		1050	No Flare Patrol													
0152	RAMY	14	1333	1336	1339	S13	E66	10195	11	19.5	6	SF		3	E		10		F
0153	RAMY	14	1341	1345	1404	S13	E68	10195	11	19.7	23	1N		3	E		167		FU
0154	HOLL	14	1520	1522	1524	S13	W66	10185	11	9.6	4	SF		3	E		15		
0155	RAMY	14	1600	1602	1609	S13	E68	10195	11	19.8	9	SF		3	E		32		

Hα SOLAR FLARES

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0156	HOLL	14	1844	1845	1850	S13	E67	10195	11	19.8	6	SF		3	E		19		
		14	1916		1952	No Flare Patrol													
0157	HOLL	14	2007	2009	2011	N10	W33	10192	11	12.3	4	SF		3	E		29		
		14	2215		2243	No Flare Patrol													
0158		14	22532	2257	2307	S14	E62	10195	11	19.6	14	SF					30		F
	HOLL	14	2253	2257	2306	S13	E63	10195	11	19.7	13	SF		3	E		17		
	LEAR	14	2255	2257	2308	S15	E62	10195	11	19.6	13	SF		3	E		43		F
0159	LEAR	14	2315	2316	2321	N12	W34	10192	11	12.4	6	SF		3	E		11		
0160	LEAR	15	0226	0229	0240	N12	W36	10192	11	12.4	14	SF		3	E		31		F
0161	LEAR	15	0545	0548	0552	N13	W36	10192	11	12.5	7	SF		3	E		21		F
0162	LEAR	15	0656	0701	0704	N13	W37	10192	11	12.5	8	SF		3	E		15		
0163	LEAR	15	0720	0728	0734	N12	W37	10192	11	12.5	14	SF		3	E		27		FH
0164	LEAR	15	0828	0833	0914	S14	E58	10195	11	19.7	46	SF		2	E		76		F
		15	0956		1049	No Flare Patrol													
0165	RAMY	15	1133E	1155	1211	N11	W40	10192	11	12.5	38D	1F		3	E		157		F
0166	RAMY	15	1225	1226	1235	S11	E58	10195	11	19.9	10	SF		3	E		18		
0167	RAMY	15	1345	1347	1357	N11	W41	10192	11	12.5	12	SF		3	E		33		F
0168	RAMY	15	1700	1702	1711	N12	W44	10192	11	12.4	11	SF		3	E		19		
0169	RAMY	15	1803	1804	1808	N11	W46	10192	11	12.3	5	SF		3	E		26		
0170	RAMY	15	1833	1833	1840	N11	W43	10192	11	12.5	7	SF		3	E		21		
		15	1906		1911	No Flare Patrol													
0171	HOLL	15	1943	1944	1947	S14	E51	10195	11	19.7	4	SF		3	E		13		
		15	2016		2021	No Flare Patrol													
0172	HOLL	15	2235	2235	2240	N13	W45	10192	11	12.5	5	SF		3	E		23		F
0173	LEAR	16	0258	0259	0306	S16	E51	10195	11	20.0	8	SF		3	E		18		F
0174	LEAR	16	0404	0411	0414	S16	E47	10195	11	19.7	10	SF		3	E		22		F
0175	LEAR	16	0623	0624	0632	S15	E45	10195	11	19.7	9	SF		3	E		74		F
0176	LEAR	16	0634	0635	0644	S19	W18	10191	11	14.9	10	SF		3	E		25		F
0177	LEAR	16	0645	0647	0653	S16	E45	10195	11	19.7	8	SF		3	E		34		F
0178	LEAR	16	0741	0811	0824	N12	W53	10192	11	12.3	43	SF		3	E		16		F
0179	LEAR	16	0851	0852	0856	N12	W53	10192	11	12.4	5	SF		3	E		15		
0180	LEAR	16	0926	0926	0930	S18	E67	10198	11	21.5	4	SF		3	E		21		
0181	LEAR	16	0934	0937	0942	N12	W53	10192	11	12.4	8	SF		3	E		18		
		16	1006		1054	No Flare Patrol													
0182	RAMY	16	1100E	1102U	1113D	N13	W50	10192	11	12.7	13D	SF		3	E		20		
0183	RAMY	16	1226	1227	1232	S15	E73	10198	11	22.0	6	SF		3	E		29		

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0184	RAMY	16	1358	1359	1415	S20	W21	10191	11	15.0	17	SF		3	E		44		F
0185	HOLL	16	1406	1407	1411	S19	W21	10191	11	15.0	5	SF		3	E		17		F
0186	HOLL	16	1421	1421	1428	S19	W22	10191	11	14.9	7	SF		3	E		19		
0187	HOLL	16	1422	1426	1435	S14	E42	10195	11	19.8	13	SF		3	E		28		
0188	HOLL	16	1515	1515	1521	S13	E42	10195	11	19.8	6	SF		3	E		14		
0189		16	15362	15383	1546	S12	E41	10195	11	19.7	10	SF					20		
	HOLL	16	1536	1541	1546	S13	E41	10195	11	19.7	10	SF		3	E		19		
	RAMY	16	1538	1538	1546	S12	E41	10195	11	19.7	8	SF		3	E		21		
0190	RAMY	16	1609	1612	1623	S14	E40	10195	11	19.7	14	SF		3	E		57		
0191		16	1617*	1640	1647	N14	W56	10192	11	12.4	30	SF					18		
	RAMY	16	1617	1640	1649	N13	W56	10192	11	12.4	32	SF		3	E		22		
	HOLL	16	1638	1640	1645	N15	W55	10192	11	12.5	7	SF		3	E		13		
0192	HOLL	16	1951	1952	2002	S14	E39	10195	11	19.8	11	SF		3	E		33		FH
0193	LEAR	17	0104	0105	0122	N16	W60	10192	11	12.5	18	SF		3	E		49		FH
0194	LEAR	17	0714	0719	0725	N15	W63	10192	11	12.5	11	SF		3	E		19		
		17	1014		1021	No Flare Patrol													
0195	HOLL	17	1435	1452	1516	S18	E62	10198	11	22.3	41	SF		3	E		57		
0196		17	1442	1444	1447	N16	W67	10192	11	12.5	5	SF					24		
	HOLL	17	1442	1444	1447	N15	W67	10192	11	12.5	5	SF		3	E		28		
	SVTO	17	1444E	1444U	1450D	N16	W67	10192	11	12.5	6D	SF		2	E		20		
0197	HOLL	17	1508	1508	1512	S19	W35	10191	11	14.9	4	SF		3	E		11		
0198	HOLL	17	1528	1529	1541	S17	W38	10191	11	14.7	13	SF		3	E		11		
0199	HOLL	17	1529	1529	1541	S18	E65	10198	11	22.6	12	SF		3	E		10		
0200	HOLL	17	1603	1608	1610	S18	W38	10191	11	14.8	7	SF		3	E		19		
0201	HOLL	17	1609	1611	1613	N11	W70	10192	11	12.4	4	SF		3	E		15		
0202	HOLL	17	1635	1635	1639	S17	W39	10191	11	14.7	4	SF		3	E		18		
0203	HOLL	17	1720	1721	1724	S21	W37	10191	11	14.9	4	SF		3	E		24		
0204	HOLL	17	1729	1729	1734	N12	W70	10192	11	12.4	5	SF		3	E		15		
		17	1852		1933	No Flare Patrol													
0205	HOLL	17	2134	2136	2143	S16	E59	10198	11	22.4	9	SF		3	E		16		F
0206	HOLL	17	2143	2145	2205	N10	W73	10192	11	12.4	22	SF		3	E		21		F
0207	LEAR	18	0024	0025	0029	S20	W33	10191	11	15.5	5	SF		3	E		31		F
0208		18	02045	02064	0216	S16	E56	10198	11	22.3	12	1N					54	0.1	EFH
	LEAR	18	0204	0206	0222	S17	E56	10198	11	22.3	18	1F		3	E		101		FE
	MITK	18	0209	0210	0210	S16	E56	10198	11	22.3	1	SN			C	0210	7	0.1	H
0209	LEAR	18	0437	0440	0445	N13	W80	10192	11	12.1	8	SF		3	E		35		H
0210	LEAR	18	0707	0710	0715	N15	W75	10192	11	12.6	8	1F		3	E		112		H
		18	1021		1029	No Flare Patrol													

Hα SOLAR FLARES

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0211		18	16151	16161	1624	N14	W80	10192	11	12.6	9	SF					26		
	RAMY	18	1615	1617	1626	N14	W80	10192	11	12.6	11	SF		3	E		41		
	HOLL	18	1616	1616	1621	N15	W79	10192	11	12.7	5	SF		3	E		10		
0212		18	16506	1657	1704	N15	W82	10192	11	12.5	14	SF					48		
	RAMY	18	1650	1650U	1705	N15	W82	10192	11	12.5	15	SF		3	E		52		
	HOLL	18	1656	1657	1702	N15	W81	10192	11	12.6	6	SF		3	E		44		
0213	LEAR	19	0207	0208	0211	N32	E43	10199	11	22.5	4	SF		3	E		11		
0214	LEAR	19	0216	0217	0220	N31	E41	10199	11	22.3	4	SF		3	E		23		F
0215	LEAR	19	0351	0351	0406	S21	E37	10198	11	22.0	15	SF		3	E		21		F
		19	1004		1009	No Flare Patrol													
		19	1116		1125	No Flare Patrol													
0216	RAMY	19	1344	1348U	1351	S20	W66	10191	11	14.5	7	SF		3	E		29		F
0217	RAMY	19	1438	1445U	1454D	S18	W64	10191	11	14.7	16D	SF		3	E		42		F
0218	RAMY	19	1528E	1528U	1532	S20	E32	10198	11	22.1	4D	SF		3	E		10		
0219		19	1950	1951*	1957	S19	E36	10198	11	22.6	7	SF					27		F
	HOLL	19	1950	1951	1957	S19	E36	10198	11	22.6	7	SF		3	E		27		F
	RAMY	19	1953E	2002	2016D	S19	E36	10198	11	22.6	23D	SF		3	E		27		F
0220	RAMY	19	2050E	2052	2101	S19	E30	10198	11	22.1	11D	SF		3	E		21		
		20	1009		1054	No Flare Patrol													
0221	RAMY	20	1110E	1122U	1141D	S19	E22	10198	11	22.1	31D	SF		3	E		30		F
0222	RAMY	20	1522E	1522U	1529	S16	E20	10198	11	22.1	7D	SF		3	E		16		F
0223		20	1718*	1806	1819	S19	E21	10198	11	22.3	61	SN					80		FH
	RAMY	20	1718	1809U	1827D	S19	E18	10198	11	22.1	69D	SF		3	E		82		FH
	HOLL	20	1800	1806	1819	S19	E24	10198	11	22.6	19	SN		3	E		77		FH
0224	HOLL	20	1927	1929	1934	S19	E21	10198	11	22.4	7	SF		3	E		42		F
		20	1955		2026	No Flare Patrol													
		20	2033		2104	No Flare Patrol													
0225	LEAR	20	2356	2356	2359	S19	E12	10198	11	21.9	3	SF		3	E		14		
0226	LEAR	21	0134	0134	0147	S17	E15	10198	11	22.2	13	SF		4	E		31		
0227	LEAR	21	0305	0310	0316	S17	E16	10198	11	22.3	11	SF		4	E		29		F
0228	LEAR	21	0639	0642U	0735D	S18	E13	10198	11	22.3	56D	SF		3	E		33		F
0229	LEAR	21	0809	0809	0821	S20	E11	10198	11	22.2	12	SF		3	E		19		FH
		21	0951		1041	No Flare Patrol													
0230		21	11022	11041	1112	S18	E12	10198	11	22.4	10	SF					44		F
	SVTO	21	1102	1105	1111	S19	E11	10198	11	22.3	9	SF		3	E		41		
	RAMY	21	1104	1104	1114	S17	E12	10198	11	22.4	10	SF		3	E		48		F
0231	RAMY	21	1252	1252	1256	S17	E06	10198	11	22.0	4	SF		3	E		27		
0232	HOLL	21	1644	1646	1655	S17	E10	10198	11	22.4	11	SF		3	E		33		
0233	HOLL	21	1902	1902	1907	S18	E08	10198	11	22.4	5	SF		3	E		12		
0234	HOLL	21	1953	1954	2004	S17	E08	10198	11	22.4	11	SF		3	E		30		F
0235	HOLL	21	2025	2033	2042	S15	E00	10198	11	21.8	17	SF		3	E		26		F

NOVEMBER 2002

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
0236	LEAR	22	0217	0217	0222	S15	W03	10198	11	21.9	5	SF			2	E		31		
		22	1006		1020	No Flare Patrol														
0237	RAMY	22	1157	1158	1204	S15	W09	10198	11	21.8	7	SF			3	E		24		F
		22	1326		1348	No Flare Patrol														
0238	HOLL	22	1540	1540	1546	S17	W07	10198	11	22.1	6	SF			3	E		14		F
0239	RAMY	22	2008	2027	2049D	S19	W12	10198	11	21.9	41D	2F			3	E		327		
		22	2128		2136	No Flare Patrol														
		22	2144		2203	No Flare Patrol														
0240		23	08391	08421	0845	S17	W14	10198	11	22.3	6	SF						89		F
	KANZ	23	0839	0843	0844	S17	W13	10198	11	22.4	5	SF			2	E				
	SVTO	23	0840	0842	0846	S17	W15	10198	11	22.2	6	SF			3	E		89		F
0241		23	10492	1051	1058	S18	W12	10198	11	22.5	9	SF						13		
	KANZ	23	1049	1051	1058	S18	W12	10198	11	22.5	9	SF			2	E				
	SVTO	23	1051	1051	1058	S17	W13	10198	11	22.5	7	SF			3	E		13		
0242	RAMY	23	1138E	1148U	1200D	S14	W18	10198	11	22.1	22D	SF			3	E		25		F
0243		23	13551	13557	1408	S19	W17	10198	11	22.3	13	SF						22		
	KANZ	23	1355	1355	1404D	S19	W16	10198	11	22.3	9D	SF			2	E				
	SVTO	23	1356	1402	1408	S19	W18	10198	11	22.2	12	SF			3	E		22		
0244	RAMY	23	1356	1414U	1432D	S16	W18	10198	11	22.2	36D	SF			3	E		66		FH
		23	2143		2152	No Flare Patrol														
0245	KANZ	24	1003	1004	1010	N27	W52	10197	11	20.4	7	SF			2	E				
		24	1025		1111	No Flare Patrol														
0246	RAMY	24	1127E	1127U	1145	N26	W42	10197	11	21.2	18D	SF			3	E		58		F
		24	1243		1252	No Flare Patrol														
0247	RAMY	24	1432E	1432U	1436	N14	E75	10202	11	30.3	4D	SF			3	E		16		H
0248	RAMY	24	1728E	1728U	1832	S19	W37	10198	11	21.9	64D	SF			3	E		46		F
0249	RAMY	24	2035E	2035U	2110D	S17	W37	10198	11	22.0	35D	SF			3	E		83		FU
		25	0955		1118	No Flare Patrol														
0250	RAMY	25	1536	1537	1541	N25	W68	10197	11	20.4	5	SF			3	E		29		
		26	1000		1128	No Flare Patrol														
0251	RAMY	26	1210	1211	1216	N25	W81	10197	11	20.2	6	SF			3	E		40		
0252		24	1625*	1625*	7113	S02	E04	10202	11	25.0	3288	SF						18		F
	RAMY	24	1625	1625	1630D	N13	E73	10202	11	30.2	5D	SF			3	E		13		
	LEAR	26	2305	2306	2313	S16	W65	10198	11	22.0	8	SF			3	E		24		F
		26	1839		2223	No Flare Patrol														
0253	LEAR	27	0243	0246	0307	S18	W66	10198	11	22.1	24	SF			3	E		41		F
0254	KANZ	27	1129	1131	1157D	N15	E45	10204	11	30.9	28D	SF			2	E				
0255	RAMY	27	1138	1144	1152	S19	E90	10207	12	4.3	14	SF			3	E		39		
0256	RAMY	27	1153	1205	1211	S19	E69	10207	12	2.8	18	SF			3	E		57		F

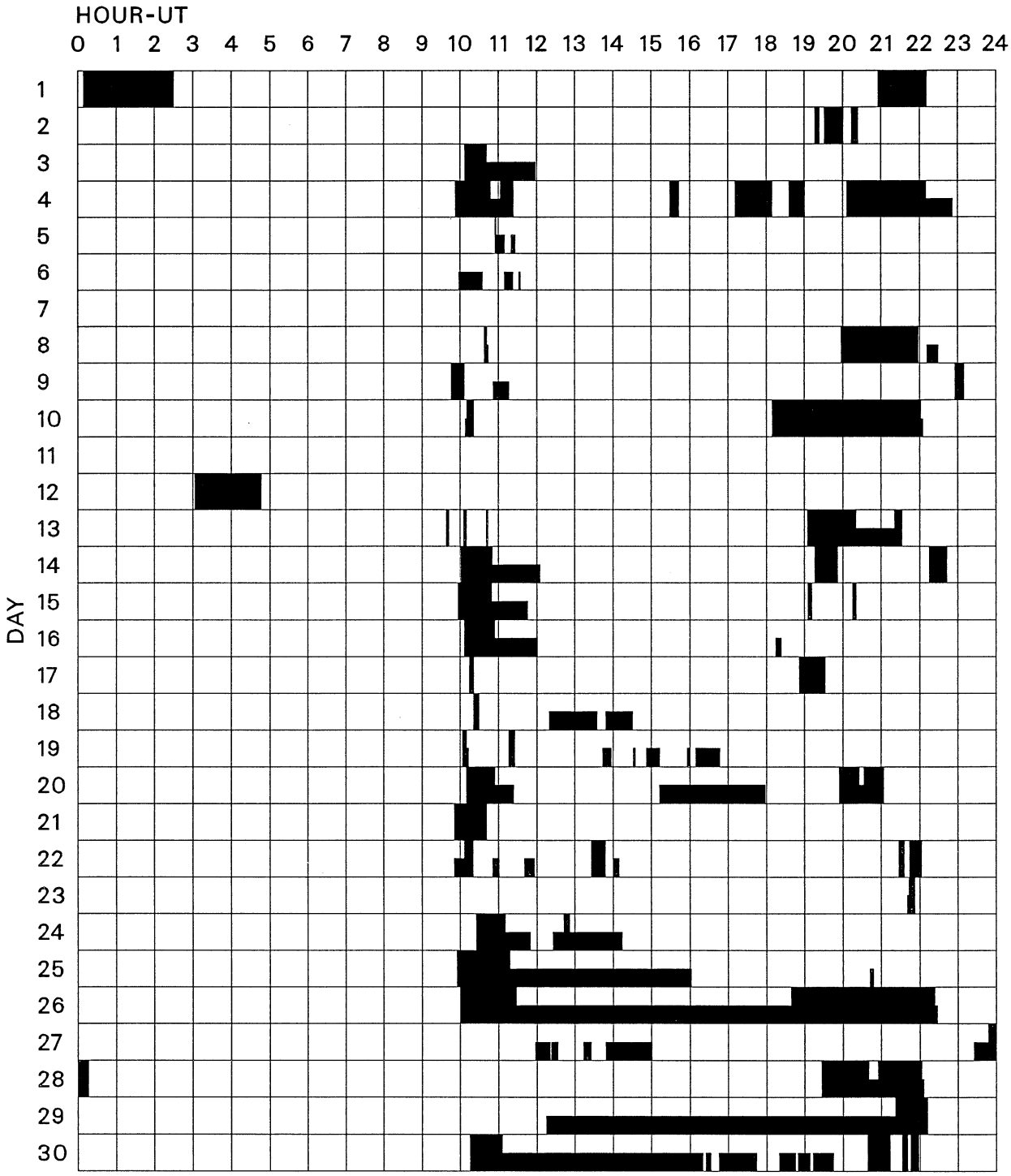
Hα SOLAR FLARES

NOVEMBER 2002

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0257	RAMY	27	1224	1226	1231	S19	E90	10207	12	4.4	7	SF		3	E		13		
0258	RAMY	27	1224	1229	1231	S17	W60	10198	11	22.9	7	SF		3	E		12		
0259	HOLL	27	1556	1606	1615	S17	E72	10207	12	3.1	19	SF		3	E		42		F
0260	RAMY	27	1609	1609	1612	S19	E90	10207	12	4.5	3	SF		3	E		26		
0261	RAMY	27	1620	1638	1702	S19	E89	10207	12	4.5	42	SF		3	E		68		F
0262	RAMY	27	1621	1643	1652	N15	E48	10202	12	1.3	31	SF		3	E		13		F
0263	RAMY	27	1637	1643	1653	S20	W72	10198	11	22.2	16	SF		3	E		86		F
0264	RAMY	27	1653	1720	1733	N14	E40	10202	11	30.7	40	SF		3	E		16		F
0265	RAMY	27	1700	1707	1734	S18	W63	10198	11	22.9	34	SF		3	E		23		
0266	RAMY	27	1720	1730	1742	S19	E86	10207	12	4.3	22	SF		3	E		47		
0267	HOLL	27	2127	2127	2130	S18	E71	10207	12	3.3	3	SF		3	E		12		F
0268	HOLL	27	2220	2224	2231	S19	W71	10198	11	22.5	11	SF		3	E		57		F
0269	HOLL	27	2258	2302	2316	S18	W72	10198	11	22.5	18	SF		3	E		34		FH
		27	2348		2400	No Flare Patrol													
		28	0000		0016	No Flare Patrol													
0270	LEAR	28	0106	0106	0113	S17	W71	10198	11	22.6	7	1F		3	E		105		
0271	LEAR	28	0258	0258	0301	S17	W72	10198	11	22.6	3	SF		3	E		22		
0272	KANZ	28	1050	1050	1056	N13	E21	10202	11	30.0	6	SF		2	E				
0273	RAMY	28	1134E	1134U	1217D	S20	W74	10198	11	22.8	43D	SF		3	E		55		FH
0274		28	13581	14026	1421	S20	E64	10207	12	3.5	23	SF					54		F
	RAMY	28	1358	1408	1428	S18	E64	10207	12	3.4	30	SF		3	E		65		F
	SVTO	28	1359	1402	1414	S23	E64	10207	12	3.5	15	SF		3	E		44		F
0275	HOLL	28	1525	1526	1529	S20	E67	10207	12	3.8	4	SF		3	E		33		
		28	1927		2040	No Flare Patrol													
0276	RAMY	28	2049E	2049U	2054D	S19	E60	10207	12	3.4	5D	SF		3	E		38		F
		28	2055		2203	No Flare Patrol													
0277	RAMY	29	1506	1507	1519	N19	E52	10207	12	3.6	13	SF		3	E		22		
0278	RAMY	29	1817	1819	1834	S20	E78	10209	12	5.7	17	SF		3	E		31		
		29	2122		2212	No Flare Patrol													
		30	1015		1106	No Flare Patrol													
0279	RAMY	30	1123	1124	1133	S19	E67	10209	12	5.6	10	SF		3	E		43		FH
		30	2039		2114	No Flare Patrol													
		30	2133		2141	No Flare Patrol													
		30	2146		2158	No Flare Patrol													

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

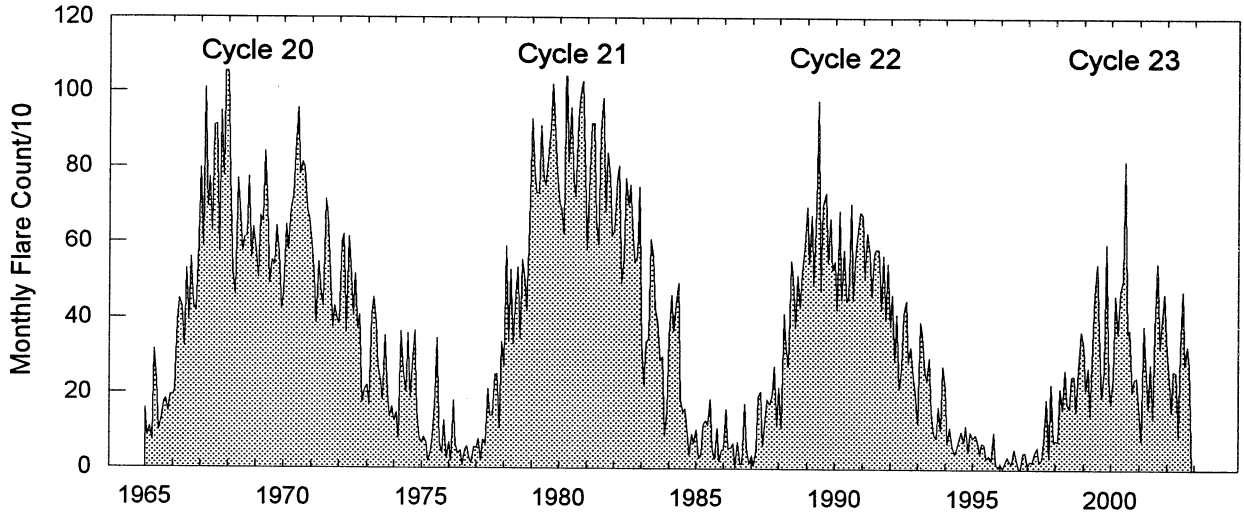
NOVEMBER 2002



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

Holloman	Learmonth	Ramey	San Vito
Mitaka	Kharkov	Kanzelhoehe	

Monthly Counts of Grouped Solar Flares
Jan 1965 - Nov 2002



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1965	158	85	110	74	315	231	99	127	173	184	150	193	1899
1966	194	205	390	449	429	323	528	391	558	432	417	543	4859
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	172	198	273	114	1627
1988	217	109	413	328	274	551	502	375	513	429	518	587	4816
1989	695	544	672	488	691	977	474	699	733	547	665	526	7711
1990	550	424	684	442	580	445	454	703	449	574	623	682	6610
1991	672	503	625	570	458	574	582	581	425	565	396	544	6495
1992	380	462	287	412	214	271	413	447	287	325	248	206	3952
1993	123	392	357	262	237	296	154	92	82	167	104	275	2541
1994	217	67	111	60	40	56	81	101	72	117	45	99	1066
1995	82	95	77	42	69	66	29	37	23	99	14	6	639
1996	14	3	15	34	21	16	54	31	3	0	44	45	280
1997	8	22	18	43	59	18	26	75	188	31	228	74	790
1998	78	76	216	161	264	177	164	248	249	155	268	367	2423
1999	330	212	271	145	330	466	544	368	192	264	598	243	3963
2000	175	248	462	362	473	505	818	364	372	208	241	246	4474
2001	147	77	383	284	164	282	137	376	549	325	405	468	3597
2002	318	261	155	263	259	91	318	474	280	329	279		3027

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

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

NOVEMBER 2002

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	235	CUBA	44	NS	1310.0E		330.0D		5.0		
	280	CUBA	44	NS	1310.0E		330.0D		6.0		
	500	HIRA	8	S	0140.0	0140.0	1.0	25.0			0
	200	HIRA	8	S	0216.0	0216.0	1.0	30.0			WL
	500	HIRA	8	S	0412.0	0412.0	1.0	10.0			0
	410	LEAR	8	S	0412.0	0412.0	U	86.0			QL=4 ST=2 TYP=3
	900	GORK	8	S	0631.2	0631.3	0.2	43.0			
	600	GORK	4	S/F	0636.4	0637.5	6.5	240.0			
	600	GORK	41	F	0823.8	0824.1	4.3	13.0			
	600	GORK	41	F	0823.8	0827.7		28.0			
	204	IZMI	41	F	0824.8	0825.1	0.9	23.0			
	245	LEAR	8	S	0827.0	0827.0	1.0	310.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0827.0	0827.0	1.0	150.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	0827.7	0827.8	0.2	32.0			
	204	IZMI	45	C	0828.4	0828.6	0.7	207.0			
	204	IZMI	42	SER	0856.1	0859.9	5.1	51.0			
	245	LEAR	8	S	0933.0	0933.0	U	170.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0933.0	0933.0	U	83.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0933.6	0933.7	0.4	53.0			
	2695	SVTO	8	S	1027.0	1027.0	U	52.0			QL=4 ST=2 TYP=3
	3000	IZMI	7	C	1037.1	1037.8	2.3	7.0	2.4		
	610	SVTO	8	S	1120.0	1121.0	1.0	69.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2235.0	2235.0	U	120.0			QL=4 ST=3 TYP=3
02	245	LEAR	43	NS	0925.0	1002.0	38.0	80.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1300.0E		530.0D		5.0		
	280	CUBA	44	NS	1300.0E		530.0D		12.0		
	245	LEAR	48	C	0210.0	0210.0	5.0	97.0			QL=4 ST=3 TYP=8
	245	LEAR	8	S	0220.0	0220.0	U	71.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0220.0	0220.0	U	70.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0348.0	0348.0	U	85.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0516.0	0516.0	U	56.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0537.0	0537.0	U	56.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	0842.6	0842.8	0.3	16.0			
	245	LEAR	8	S	0917.0	0917.0	U	56.0			QL=4 ST=2 TYP=3
03	245	LEAR	43	NS	0203.0	0205.0	28.0	130.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	0609.0	0623.0	198.0	390.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0638.0	0638.0	U	59.0			QL=4 ST=2 TYP=1
	127	TORN	44	NS	0640.0E		320.0D		6.0		V=1
	204	IZMI	44	NS	0700.0E		300.0D		15.0		
	245	LEAR	43	NS	0704.0	0704.0	U	100.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	1030.0	1301.0	293.0	220.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1317.0	1855.0	443.0	300.0			QL=4 ST=3 TYP=1
	245	SGMR	43	NS	1317.0	1400.0	643.0	270.0			QL=4 ST=3 TYP=1
	245	PALE	43	NS	1708.0	2317.0	630.0	400.0			QL=4 ST=2 TYP=1
	200	HIRA	8	S	0130.0	0132.0	2.0	30.0			WR
	500	HIRA	8	S	0228.0	0228.0	1.0	10.0			0
	2840	PEKG	20	GRF	0550.0	0557.2	42.0	17.8			
	245	LEAR	8	S	0551.0	0551.0	U	69.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0610.0	0610.0	U	110.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0616.0	0616.0	U	58.0			QL=4 ST=2 TYP=3
	245	LEAR	48	C	0621.0	0623.0	7.0	410.0			QL=4 ST=2 TYP=8
	245	LEAR	48	C	0630.0	0632.0	2.0	100.0			QL=4 ST=2 TYP=8
	245	LEAR	8	S	0658.0	0658.0	U	140.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0854.0	0854.0	U	160.0			QL=4 ST=2 TYP=3
	900	GORK	7	C	0948.9	0952.4		6.1			
	900	GORK	7	C	0948.9	0950.9	5.2	3.7			
	9100	GORK	21	GRF	0949.3	0952.7	16.4	14.0			
	2950	GORK	41	F	0950.2	0952.7		7.0			
	2950	GORK	41	F	0950.2	0950.9	3.0	8.2			
	600	GORK	41	F	0950.6	0952.4		3.7			
	600	GORK	41	F	0950.6	0950.9	2.8	6.4			
	9100	GORK	7	C	0955.5	0957.3		24.0			
	9100	GORK	7	C	0955.5	0956.6	2.1	12.0			
	245	SVTO	48	C	1001.0	1004.0	3.0	75.0			QL=4 ST=2 TYP=8
	245	LEAR	8	S	1004.0	1004.0	U	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1008.0	1008.0	1.0	96.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	1009.0	1009.0	U	100.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

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
03	245	SGMR	8	S	1314.0	1314.0	1.0	100.0			QL=4 ST=2 TYP=3
	9500	CUBA	20	GRF	1346.0	1413.0	108.0	22.0	11.0		
┌	245	SGMR	8	S	1411.0	1411.0	U	420.0			QL=4 ST=2 TYP=3
└	245	SVTO	8	S	1411.0	1411.0	U	130.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1948.0	1950.0	2.0	430.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2152.0	2152.0	U	63.0			QL=4 ST=2 TYP=3
04	245	SVTO	43	NS	0612.0	0754.0	270.0	200.0			QL=4 ST=2 TYP=1
┌	127	TORN	44	NS	0650.0E		470.0D		50.0		V=2
├	204	IZMI	44	NS	0700.0E		300.0D		60.0		
├	610	SVTO	43	NS	1020.0	1029.0	22.0	86.0			QL=4 ST=2 TYP=1
├	410	SVTO	43	NS	1020.0	1029.0	820.0	86.0			QL=4 ST=1 TYP=1
├	245	SGMR	43	NS	1142.0	1530.0	567.0	570.0			QL=4 ST=2 TYP=1
├	245	SVTO	43	NS	1304.0	1326.0	138.0	87.0			QL=4 ST=3 TYP=1
├	235	CUBA	44	NS	1400.0E		300.0D		26.0		
├	280	CUBA	44	NS	1400.0E		300.0D		36.0		
├	245	PALE	43	NS	1718.0	1719.0	402.0	57.0			QL=4 ST=1 TYP=1
├	245	LEAR	43	NS	2207.0	0449.0	715.0	1200.0			QL=4 ST=2 TYP=1
└	245	LEAR	43	NS	2211.0	2238.0	421.0	110.0			QL=4 ST=3 TYP=1
	200	HIRA	47	GB	0127.0	0127.0	1.0	630.0			0
	200	HIRA	8	S	0234.0	0234.0	1.0	125.0			0
	410	PALE	8	S	0318.0	0318.0	U	54.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0449.0	0449.0	U	1200.0			QL=4 ST=1 TYP=6
	2840	PEKG	1	S	0815.0	0817.9	8.0	9.7			
	2840	PEKG	45	C	0836.0	0841.2	15.0	30.0			
┌	900	GORK	42	SER	1011.6	1012.0	9.0	12.0			
└	900	GORK	42	SER	1011.6	1020.6		4.9			
┌	2950	GORK	7	C	1019.3	1020.1	2.1	4.7			
├	2950	GORK	7	C	1019.3	1020.3		5.9			
└	3000	IZMI	22	GRF	1019.7	1020.3	3.7	7.0	1.9		
	33	UPIC	46	C	1120.0	1121.0	2.0				
	2800	PENT	20	GRF	1604.0	1626.0	69.0	5.0			
	410	SGMR	8	S	1648.0	1648.0	U	94.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1850.0	1850.0	1.0	110.0			QL=4 ST=2 TYP=3
	410	SGMR	49	GB	1856.0	1856.0	1.0	610.0			QL=4 ST=2 TYP=6
	2800	PENT	4	S/F	2045.0	2105.0	43.0	29.0			
┌	610	PALE	48	C	2104.0	2106.0	5.0	270.0			QL=4 ST=2 TYP=8
└	1415	PALE	8	S	2104.0	2106.0	2.0	73.0			QL=4 ST=2 TYP=3
┌	410	PALE	8	S	2213.0	2214.0	1.0	100.0			QL=4 ST=2 TYP=3
└	200	HIRA	8	S	2214.0	2214.0	1.0	80.0			WL
	2800	PENT	29	PBI	2229.0	2237.0	44.0	17.0			
	200	HIRA	8	S	2236.0	2236.0	1.0	110.0			WL
	500	HIRA	8	S	2238.0	2239.0	2.0	70.0			WR
05	245	SVTO	43	NS	0601.0	0643.0	47.0	77.0			QL=4 ST=2 TYP=1
├	245	LEAR	43	NS	0640.0	0643.0	1040.0	64.0			QL=4 ST=3 TYP=1
├	127	TORN	44	NS	0650.0E		470.0D		30.0		V=2
├	204	IZMI	44	NS	0700.0E		300.0D		40.0		
├	245	SGMR	43	NS	1146.0	2043.0	542.0	920.0			QL=4 ST=2 TYP=1
├	235	CUBA	44	NS	1310.0E		110.0D		9.0		
├	280	CUBA	44	NS	1310.0E		110.0D		6.0		
└	245	PALE	43	NS	1718.0	2036.0	620.0	370.0			QL=4 ST=2 TYP=1
┌	500	HIRA	47	GB	0117.0	0117.0	1.0	680.0			
├	200	HIRA	8	S	0117.0	0117.0	2.0	415.0			
├	245	LEAR	8	S	0117.0	0117.0	U	320.0			QL=4 ST=2 TYP=3
├	410	LEAR	8	S	0117.0	0117.0	U	180.0			QL=4 ST=2 TYP=3
├	245	PALE	49	GB	0117.0	0117.0	U	520.0			QL=4 ST=2 TYP=6
├	410	PALE	8	S	0117.0	0117.0	U	210.0			QL=4 ST=2 TYP=3
└	610	PALE	8	S	0117.0	0117.0	U	53.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0248.0	0248.0	1.0	105.0			
	410	PALE	8	S	0250.0	0250.0	1.0	60.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0325.0	0325.0	U	68.0			QL=4 ST=2 TYP=3
┌	200	HIRA	47	GB	0333.0	0334.0	3.0	1000.0			
└	245	LEAR	8	S	0333.0	0334.0	2.0	160.0			QL=4 ST=2 TYP=3
┌	200	HIRA	8	S	0345.0	0346.0	1.0	50.0			
└	245	LEAR	8	S	0346.0	0346.0	U	130.0			QL=4 ST=2 TYP=3
┌	200	HIRA	7	C	0406.0	0408.0	2.0	60.0			
└	245	LEAR	8	S	0407.0	0407.0	U	110.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0505.0	0505.0	1.0	40.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

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	200	HIRA	8	S	0512.0	0513.0	1.0	55.0			
	200	HIRA	8	S	0551.0	0552.0	2.0	400.0			
	245	LEAR	48	C	0551.0	0551.0	3.0	310.0			QL=4 ST=2 TYP=8
	245	SVTO	48	C	0551.0	0551.0	3.0	110.0			QL=2 ST=3 TYP=8
	410	SVTO	4	S/F	0551.0	0551.0	3.0	68.0			QL=2 ST=3 TYP=3
	500	HIRA	8	S	0552.0	0552.0	2.0	215.0			
	610	LEAR	8	S	0552.0	0552.0	U	55.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	0552.0	0552.0	U	54.0			QL=2 ST=3 TYP=3
	245	SVTO	8	S	0619.0	0620.0	1.0	90.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0620.0	0620.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0707.0	0707.0	U	97.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0754.0	0754.0	1.0	81.0			QL=4 ST=2 TYP=3
	600	GORK	7	C	0808.1	0808.4	0.9	27.0			
	600	GORK	7	C	0808.1	0808.7		7.7			
	2840	PEKG	5	S	0812.0	0814.8	8.0	12.6			
	9100	GORK	1	S	0812.6	0815.1	3.5	8.7			
	900	GORK	1	S	0814.4	0815.0	0.9	6.1			
	600	GORK	2	S/F	0814.5	0815.0	1.0	7.7			
	2950	GORK	2	S/F	0814.5	0814.8	1.2	15.0			
	3000	IZMI	5	S	0814.6	0814.8	0.4	13.0	7.5		
	127	TORN	4	S/F	0904.4	0905.8	2.4	310.0	8.0		
	9100	GORK	40	F	0909.5	0910.7	2.3	30.0			
	900	GORK	41	F	0914.3	0916.3		11.0			
	900	GORK	41	F	0914.3	0914.8	2.2	20.0			
	600	GORK	42	SER	0914.6	0919.2	23.1	7.1			
	600	GORK	42	SER	0914.6	0937.4		4.9			
	204	IZMI	42	SER	0920.7	0923.3	5.1	72.0			
	204	IZMI	42	SER	1005.9	1011.8	6.5	223.0			
	600	GORK	41	F	1009.0	1009.1	0.5	4.8			
	600	GORK	41	F	1009.0	1009.3		20.0			
	600	GORK	1	S	1014.8	1015.2	0.8	2.9			
	900	GORK	7	C	1017.9	1018.4	1.4	7.3			
	900	GORK	7	C	1017.9	1018.9		3.6			
	600	GORK	7	C	1033.6	1033.8	0.7	12.0			
	600	GORK	7	C	1033.6	1033.9		15.0			
	204	IZMI	7	C	1112.2	1112.2	0.2	17.0			
	204	IZMI	41	F	1138.8	1139.0	1.1	126.0			
	204	IZMI	46	C	1146.7	1146.8	0.7	1126.0			
	4995	SVTO	8	S	1255.0	1256.0	2.0	84.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1255.0	1256.0	2.0	93.0			QL=4 ST=2 TYP=3
	15400	SVTO	8	S	1255.0	1256.0	2.0	77.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1256.0	1256.0	1.0	66.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1256.0	1256.0	U	43.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1256.0	1256.0	1.0	48.0			QL=4 ST=2 TYP=3
	33	UPIC	8	S	1256.5	1257.5	1.5				
	245	SGMR	49	GB	1257.0	1257.0	2.0	610.0			QL=4 ST=2 TYP=6
	127	TORN	4	S/F	1257.2	1257.6	0.9	2000.0	1000.0		
	2800	PENT	29	PBI	1604.0	1609.0	71.0	36.0			
	245	SGMR	49	GB	1608.0	1608.0	5.0	4700.0			QL=4 ST=2 TYP=6
	410	SGMR	49	GB	1608.0	1608.0	1.0	3400.0			QL=4 ST=2 TYP=6
	410	SGMR	49	GB	1608.0	1608.0	2.0	3400.0			QL=4 ST=2 TYP=6
	1415	SGMR	8	S	1608.0	1608.0	U	29.0			QL=4 ST=2 TYP=3
	1415	SGMR	8	S	1608.0	1609.0	1.0	220.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1608.0	1609.0	1.0	49.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1608.0	1609.0	2.0	72.0			QL=4 ST=2 TYP=3
	15400	SGMR	8	S	1608.0	1609.0	1.0	96.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1608.0	1609.0	3.0	150.0			QL=4 ST=2 TYP=3
	245	PALE	48	C	1832.0	1837.0	7.0	74.0			QL=4 ST=2 TYP=8
	245	PALE	8	S	1945.0	1946.0	2.0	120.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	2001.0	2001.0	1.0	220.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2015.0	2015.0	1.0	240.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2015.0	2015.0	U	45.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	2039.0	2044.0	10.0	1100.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	2043.0	2044.0	2.0	150.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	2045.0	2045.0	1.0	150.0			QL=4 ST=2 TYP=3
	1415	PALE	8	S	2045.0	2045.0	U	70.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	2045.0	2045.0	U	47.0			QL=4 ST=2 TYP=3
	610	PALE	4	S/F	2111.0	2114.0	4.0	67.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	2224.0	2224.0	1.0	15.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

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	200	HIRA	8	S	2253.0	2253.0	1.0	20.0			
	500	HIRA	7	C	2339.0	2340.0	4.0	40.0			
06	204	IZMI	44	NS	0700.0E		300.0D		10.0		
	127	TORN	44	NS	1330.0E		70.0D		6.0		V=1
	235	CUBA	44	NS	1430.0E		240.0D		6.0		
	280	CUBA	44	NS	1430.0E		240.0D		14.0		
	245	LEAR	43	NS	2154.0	2218.0	30.0	55.0			QL=4 ST=2 TYP=1
	2840	PEKG	1	S	0105.0	0107.7	9.0	3.9			
	200	HIRA	47	GB	0107.0	0107.0	1.0	1015.0			
	245	LEAR	49	GB	0107.0	0107.0	U	670.0			QL=2 ST=2 TYP=6
	245	PALE	49	GB	0107.0	0107.0	1.0	980.0			QL=4 ST=2 TYP=6
	2840	PEKG	1	S	0132.0	0133.9	5.0	5.8			
	200	HIRA	8	S	0133.0	0133.0	1.0	355.0			
	245	PALE	8	S	0133.0	0134.0	1.0	320.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0134.0	0134.0	U	88.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0240.0	0240.0	1.0	94.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0256.0	0258.3	6.0	4.6			
	500	HIRA	8	S	0258.0	0258.0	1.0	45.0			
	200	HIRA	8	S	0258.0	0258.0	1.0	295.0			
	2840	PEKG	3	S	0459.0	0528.3	55.0	52.5			
	2800	HIRA	7	C	0517.0	0529.0	17.0	35.0			
	500	HIRA	47	GB	0517.0	0532.0	23.0	625.0			
	610	LEAR	4	S/F	0518.0	0519.0	4.0	170.0			QL=4 ST=2 TYP=3
	610	LEAR	48	C	0524.0	0531.0	10.0	440.0			QL=4 ST=2 TYP=8
	200	HIRA	8	S	0525.0	0525.0	1.0	110.0			
	410	LEAR	4	S/F	0525.0	0534.0	9.0	79.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0614.0	0631.0	21.0	120.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0630.0	0631.0	5.0	120.0			QL=4 ST=3 TYP=3
	200	HIRA	8	S	0631.0	0631.0	1.0	120.0			
	245	LEAR	8	S	0631.0	0631.0	U	250.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0631.0	0631.0	U	37.0			QL=4 ST=2 TYP=3
	600	GORK	42	SER	0714.6	0717.6	8.4	6.0			
	600	GORK	42	SER	0714.6	0721.7		5.1			
	900	GORK	42	SER	0719.6	0739.4		3.4			
	900	GORK	42	SER	0719.6	0719.8	20.0	33.0			
	204	IZMI	42	SER	0903.9	0906.9	3.9	52.0			
	245	LEAR	8	S	0921.0	0921.0	U	79.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	1001.0	1002.0	1.0	260.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	1002.0	1002.0	U	57.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1346.0	1348.0	2.0	130.0			QL=4 ST=2 TYP=8
	127	TORN	45	C	1346.8	1349.7	4.0	340.0	80.0		
	245	SGMR	8	S	1437.0	1437.0	U	120.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1437.0	1437.0	U	91.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1437.0	1437.0	U	32.0			QL=4 ST=2 TYP=3
	245	SGMR	49	GB	1517.0	1518.0	1.0	780.0			QL=4 ST=2 TYP=6
	410	SGMR	8	S	1518.0	1518.0	U	42.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	1629.0	1641.0	30.0	70.0			
	245	SGMR	48	C	1636.0	1638.0	3.0	280.0			QL=4 ST=2 TYP=8
	245	SGMR	48	C	1636.0	1642.0	7.0	340.0			QL=4 ST=2 TYP=8
	410	SGMR	49	GB	1639.0	1640.0	4.0	2500.0			QL=4 ST=2 TYP=6
	610	SGMR	8	S	1640.0	1641.0	1.0	470.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1641.2	1641.4	0.5	12.0	6.0		
	410	SGMR	8	S	1645.0	1646.0	1.0	340.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1645.0	1646.0	1.0	340.0			QL=4 ST=3 TYP=3
	610	SGMR	8	S	1645.0	1646.0	1.0	88.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1646.1	1646.6	1.3	18.0	9.0		
	245	SGMR	8	S	1701.0	1701.0	U	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1821.0	1821.0	U	99.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1822.0	1822.0	U	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1942.0	1942.0	U	55.0			QL=4 ST=2 TYP=3
	200	HIRA	7	C	2136.0	2138.0	4.0	55.0			0
	245	PALE	8	S	2138.0	2138.0	U	59.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	2138.0	2138.0	1.0	99.0			QL=4 ST=2 TYP=3
	500	HIRA	8	S	2155.0	2157.0	3.0	95.0			WR
	245	PALE	48	C	2155.0	2156.0	4.0	210.0			QL=4 ST=2 TYP=8
	410	PALE	8	S	2203.0	2203.0	U	180.0			QL=4 ST=2 TYP=3
	2800	PENT	21	GRF	2306.0	2310.0	15.0	8.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	204	IZMI	44	NS	0856.0E		184.0D		10.0		
	245	LEAR	43	NS	0913.0	0913.0	49.0	90.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1400.0E		120.0D		4.0		
	280	CUBA	44	NS	1400.0E		120.0D		10.0		
	200	HIRA	8	S	0234.0	0234.0	1.0	25.0			0
	2950	GORK	46	C	0624.8	0628.1		23.0			
	2950	GORK	46	C	0624.8	0627.6	11.1	12.0			
	600	GORK	40	F	0625.0	0626.3	3.8	20.0			
	900	GORK	4	S/F	0625.0	0626.5	4.6	9.0			
	500	HIRA	7	C	0627.0	0628.0	2.0	35.0			0
	245	LEAR	8	S	0628.0	0628.0	U	91.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0628.0	0628.0	U	95.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0628.0	0628.0	U	48.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0646.0	0646.0	U	75.0			QL=4 ST=2 TYP=3
	900	GORK	4	S/F	0805.0	0805.4	2.6	29.0			
	9100	GORK	3	S	0839.4	0839.8	1.8	32.0			
	245	LEAR	8	S	0857.0	0857.0	U	52.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	0902.0	0902.0	U	32.0			QL=2 ST=3 TYP=3
	245	LEAR	8	S	0904.0	0904.0	U	61.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0904.0	0904.0	U	63.0			QL=4 ST=2 TYP=3
	900	GORK	42	SER	0905.1	0905.3	3.9	6.8			
	900	GORK	42	SER	0905.1	0908.7		11.0			
	9100	GORK	4	S/F	0909.4	0910.4	13.9	40.0			
	245	SVTO	8	S	1034.0	1034.0	U	54.0			QL=4 ST=2 TYP=3
	33	UPIC	42	SER	1134.0	1156.5	24.0				UNCERTN
	204	IZMI	42	SER	1142.1	1142.4	0.7	87.0			
	204	IZMI	45	C	1143.0	1143.1	0.2	664.0			
	204	IZMI	42	SER	1143.2	1143.3	0.6	49.0			
	204	IZMI	7	C	1154.2	1154.3	0.2	26.0			
	245	SVTO	49	GB	1155.0	1156.0	2.0	780.0			QL=4 ST=2 TYP=6
	204	IZMI	46	C	1155.6	1156.1	0.8	1398.0			
	245	SGMR	8	S	1305.0	1305.0	U	63.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1437.0	1437.3	1.8	17.0	8.0		
	2800	PENT	21	GRF	1619.0	1640.0	61.0	5.0			
	245	SGMR	8	S	1653.0	1653.0	1.0	320.0			QL=4 ST=3 TYP=3
	245	SGMR	8	S	1711.0	1711.0	U	250.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1813.0	1813.0	U	110.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	1842.0	1853.0	26.0	6.0			
08	235	CUBA	44	NS	1415.0E		455.0D		5.0		
	280	CUBA	44	NS	1415.0E		455.0D		13.0		
	245	LEAR	8	S	0154.0	0154.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0209.0	0209.0	U	60.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0822.9	0823.1	1.7	6.0			
	204	IZMI	41	F	0943.5	0943.7	0.4	10.0			
	245	LEAR	8	S	1001.0	1001.0	U	53.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	1001.0	1001.0	U	33.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1100.0	1100.0	U	51.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1833.0	1834.0	1.0	270.0			QL=4 ST=2 TYP=3
	245	PALE	49	GB	1834.0	1834.0	U	990.0			QL=2 ST=2 TYP=6
09	200	HIRA	7	C	0349.0	0351.0	4.0	15.0			WR
	200	HIRA	7	C	0400.0	0415.0	15.0	15.0			WR
	204	IZMI	42	SER	0712.3	0713.1	0.9	39.0			
	3000	IZMI	7	C	1147.1	1148.3	2.3	17.0			
	245	SGMR	48	C	1309.0	1312.0	651.0	390.0			QL=4 ST=1 TYP=8
	33	UPIC	42	SER	1309.0	1333.5	27.0				
	127	TORN	49	GB	1310.0		19.0		530.0		
	2695	SGMR	48	C	1310.0	1316.0	650.0	500.0			QL=4 ST=1 TYP=8
	2695	SGMR	4	S/F	1310.0	1312.0	650.0	210.0			QL=4 ST=1 TYP=3
	9500	CUBA	49	GB	1310.0	1321.2	18.1	602.0	301.0		
	610	SGMR	8	S	1311.0	1311.0	U	29.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	1311.0	1311.0	U	27.0			QL=4 ST=2 TYP=3
	1415	SGMR	48	C	1311.0	1316.0	649.0	330.0			QL=4 ST=1 TYP=8
	8800	SGMR	48	C	1311.0	1316.0	649.0	330.0			QL=4 ST=1 TYP=8
	4995	SGMR	4	S/F	1311.0	1312.0	649.0	200.0			QL=4 ST=1 TYP=3
	410	SVTO	8	S	1312.0	1312.0	U	25.0			QL=4 ST=2 TYP=3
	410	SGMR	4	S/F	1312.0	1314.0	648.0	130.0			QL=4 ST=1 TYP=3
	15400	SGMR	4	S/F	1312.0	1312.0	648.0	47.0			QL=4 ST=1 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
09	15400	SGMR	4	S/F	1312.0	1317.0	648.0	190.0			QL=4 ST=1 TYP=3
	9500	CUBA	30	PBI	1327.0	1327.0	73.0	91.0	45.0		
	9500	CUBA	2	S/F	1404.5	1405.1	2.5	22.0	11.0		
	245	SGMR	8	S	1405.0	1405.0	U	200.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1405.0	1405.0	U	30.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1405.0	1405.0	U	87.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	2309.0	2309.0	1.0	245.0			0
	245	LEAR	8	S	2309.0	2309.0	U	90.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2309.0	2309.0	U	190.0			QL=4 ST=2 TYP=3
10	127	TORN	44	NS	0700.0E		450.0D		12.0		V=0
	2840	PEKG	47	GB	0301.0	0311.3	32.0	556.8			
	2800	HIRA	3	S	0306.0	0311.0	13.0	410.0			0
	500	HIRA	7	C	0307.0	0311.0	14.0	45.0			
	200	HIRA	7	C	0307.0	0309.0	10.0	100.0			
	2695	PALE	4	S/F	0307.0	0311.0	10.0	400.0			QL=4 ST=2 TYP=3
	245	PALE	48	C	0308.0	0308.0	5.0	72.0			QL=4 ST=2 TYP=8
	4995	PALE	49	GB	0308.0	0311.0	9.0	700.0			QL=4 ST=2 TYP=6
	8800	PALE	4	S/F	0309.0	0311.0	6.0	460.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	0311.0	0311.0	2.0	59.0			QL=4 ST=2 TYP=3
	15400	PALE	8	S	0311.0	0312.0	2.0	160.0			QL=4 ST=2 TYP=3
	410	PALE	4	S/F	0311.0	0316.0	6.0	58.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0740.8	0741.7	1.3	70.0			
	204	IZMI	42	SER	0742.4	0744.0	1.7	7.0			
	2950	GORK	20	GRF	0826.0	0919.1	61.0D	12.0			
	9100	GORK	20	GRF	0844.8	1017.9	102.2D	37.0			
	204	IZMI	42	SER	0848.2	0850.8	49.2	17.0			
	900	GORK	46	C	0853.2	0904.4		55.0			
	900	GORK	46	C	0853.2	0859.4	15.9	50.0			
	600	GORK	41	F	0914.6	0915.1	1.4	10.0			
	600	GORK	41	F	0914.6	0915.8		3.9			
	204	IZMI	42	SER	1148.0	1148.1	1.6	25.0			
	245	SGMR	8	S	2006.0	2006.0	1.0	170.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2007.0	2007.0	U	190.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	2336.0	2343.1	15.0	30.8			
11	127	TORN	44	NS	0700.0E		450.0D		14.0		V=0
	235	CUBA	44	NS	1400.0E		470.0D		7.0		
	280	CUBA	44	NS	1400.0E		470.0D		14.0		
	200	HIRA	8	S	0008.0	0008.0	1.0	30.0			0
	500	HIRA	8	S	0402.0	0402.0	1.0	50.0			
	200	HIRA	8	S	0402.0	0402.0	1.0	15.0			0
	410	LEAR	8	S	0402.0	0402.0	U	280.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0723.0	0730.0	25.0	214.7			
	9100	GORK	3	S	0726.3	0729.8U	16.5	500.0U			
	2950	GORK	4	S/F	0726.4	0730.1	11.1	260.0			
	2950	GORK	21	GRF	0726.4	0824.7	141.3	22.0			
	3000	IZMI	45	C	0728.9	0730.0	3.7	221.0			
	8800	LEAR	49	GB	0729.0	0730.0	2.0	550.0			QL=4 ST=3 TYP=6
	2695	LEAR	8	S	0729.0	0730.0	2.0	190.0			QL=4 ST=3 TYP=3
	15400	LEAR	8	S	0729.0	0730.0	2.0	490.0			QL=4 ST=3 TYP=3
	4995	LEAR	4	S/F	0729.0	0730.0	3.0	340.0			QL=4 ST=3 TYP=3
	8800	SVTO	49	GB	0729.0	0730.0	6.0	600.0			QL=4 ST=2 TYP=6
	1415	SVTO	4	S/F	0729.0	0730.0	7.0	120.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0729.0	0730.0	3.0	180.0			QL=4 ST=2 TYP=3
	4995	SVTO	4	S/F	0729.0	0730.0	5.0	330.0			QL=4 ST=2 TYP=3
	15400	SVTO	4	S/F	0729.0	0730.0	3.0	430.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0729.3	0733.2	7.1	50.0			
	900	GORK	45	C	0729.8	0731.1	7.5	25.0			
	900	GORK	45	C	0729.8	0732.2		20.0			
	1415	LEAR	8	S	0730.0	0730.0	1.0	120.0			QL=4 ST=3 TYP=3
	600	GORK	7	C	0730.0	0733.3		11.0			
	600	GORK	7	C	0730.0	0730.4	4.8	9.5			
	127	TORN	49	GB	0731.0	0732.0	11.7	570.0	90.0		
	245	SVTO	8	S	0732.0	0732.0	U	27.0			QL=4 ST=2 TYP=3
	2950	GORK	1	S	0740.8	0741.0	0.5	3.6			
	9500	CUBA	2	S/F	1437.0	1441.3	6.9	31.0	15.0		
	9500	CUBA	21	GRF	1512.0U	1611.0	105.0D	212.0	106.0		
	9500	CUBA	2	S/F	1523.0	1524.5	3.0	11.0	5.0		

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

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	2800	PENT	29	PBI	1559.0	1611.0	87.0	232.0			
	1415	SGMR	4	S/F	1605.0	1606.0	9.0	73.0			QL=4 ST=2 TYP=3
	4995	SGMR	48	C	1605.0	1607.0	14.0	230.0			QL=4 ST=2 TYP=8
	2695	SGMR	4	S/F	1605.0	1611.0	13.0	230.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1605.0	1611.0	13.0	120.0			QL=4 ST=2 TYP=3
	9500	CUBA	4	S/F	1605.2	1611.8	13.8	89.0	44.0		
	245	SGMR	8	S	1606.0	1606.0	U	51.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1607.0	1607.0	1.0	130.0			QL=4 ST=2 TYP=3
	15400	SGMR	4	S/F	1607.0	1610.0	6.0	45.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1610.0	1610.0	1.0	41.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	1845.0	1850.0	10.0	5.0			
	2800	PENT	40	F	2229.0	2322.0	55.0U	30.0			
12	235	CUBA	44	NS	1305.0E		525.0D		6.0		
	280	CUBA	44	NS	1305.0E		525.0D		13.0		
	500	HIRA	7	C	0353.0	0400.0	13.0	30.0			0
	2840	PEKG	20	GRF	0353.0	0401.7	17.0	14.6			
	200	HIRA	3	S	0355.0	0400.0	14.0	490.0			0
	245	LEAR	49	GB	0356.0	0400.0	7.0	1000.0			QL=4 ST=2 TYP=6
	410	LEAR	49	GB	0356.0	0358.0	4.0	780.0			QL=4 ST=2 TYP=6
	245	LEAR	8	S	0707.0	0707.0	U	97.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0707.0	0707.0	U	65.0			QL=4 ST=2 TYP=3
	2950	GORK	1	S	0707.2	0707.6	1.0	4.9			
	2840	PEKG	3	S	0741.0	0745.9	15.0	14.2			
	2950	GORK	1	S	0744.6	0746.1	4.2	14.0			
	9100	GORK	1	S	0745.2	0746.2	7.2	11.0			
	600	GORK	1	S	0937.4	0938.8	2.2	3.8			
	600	GORK	45	C	0946.1	0946.3	1.1	32.0			
	600	GORK	45	C	0946.1	0946.6		40.0			
	900	GORK	7	C	0946.2	0946.3	0.4	5.9			
	900	GORK	7	C	0946.2	0946.5		7.4			
	245	LEAR	8	S	1000.0	1000.0	U	85.0			QL=4 ST=2 TYP=3
	9100	GORK	7	C	1047.1	1048.1		14.0			
	9100	GORK	7	C	1047.1	1047.7	2.8	16.0			
	2950	GORK	1	S	1047.3	1048.0	5.0	4.9			
	245	SGMR	8	S	1517.0	1517.0	U	89.0			QL=4 ST=3 TYP=3
	9500	CUBA	2	S/F	1813.8	1814.7	3.2	39.0	19.0		
	4995	PALE	8	S	1814.0	1814.0	U	41.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1814.0	1814.0	2.0	61.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1814.0	1814.0	2.0	53.0			QL=4 ST=2 TYP=3
	2800	PENT	29	PBI	1837.0	1853.0	55.0U	39.0			
	9500	CUBA	4	S/F	1848.2	1854.8	9.8	29.0			
	4995	PALE	4	S/F	1853.0	1853.0	3.0	55.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	1853.0	1855.0	3.0	63.0			QL=4 ST=2 TYP=3
	2695	SGMR	46	C	1853.0	1853.0	U	33.0			QL=4 ST=2 TYP=8
	4995	SGMR	48	C	1853.0	1853.0	2.0	58.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1853.0	1854.0	3.0	58.0			QL=4 ST=2 TYP=8
	245	PALE	8	S	1900.0	1901.0	2.0	200.0			QL=2 ST=2 TYP=3
	410	PALE	8	S	1900.0	1901.0	2.0	68.0			QL=4 ST=2 TYP=3
13	235	CUBA	44	NS	1400.0E		240.0D		6.0		
	280	CUBA	44	NS	1400.0E		240.0D		12.0		
	245	LEAR	43	NS	2350.0	0051.0	10.0	79.0			QL=4 ST=1 TYP=1
	245	LEAR	43	NS	2350.0	0132.0	10.0	120.0			QL=4 ST=1 TYP=1
	600	GORK	4	S/F	0642.7	0643.0	0.8	20.0			
	204	IZMI	7	C	0817.9	0817.9	0.2	13.0			
	600	GORK	41	F	0912.0	0912.3	2.4	3.0			
	600	GORK	41	F	0912.0	0913.7		14.0			
	600	GORK	46	C	0933.5	0933.7	0.7	17.0			
	600	GORK	46	C	0933.5	0933.9		30.0			
	2950	GORK	20	GRF	0953.0	1007.9	46.0	10.0			
	245	SGMR	8	S	1154.0	1154.0	U	60.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	1154.6	1154.6	0.3	16.0			
	4995	SGMR	8	S	1437.0	1437.0	U	68.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1437.0	1437.0	U	55.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1437.0	1437.9	1.8	42.0	21.0		
	245	SGMR	8	S	1648.0	1648.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1653.0	1653.0	U	79.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1656.0	1656.0	U	58.0			QL=4 ST=2 TYP=3

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

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
13	245	SGMR	8	S	1710.0	1710.0	U	72.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	1833.0	1836.0	6.0	3.0			
	245	SGMR	8	S	1838.0	1838.0	U	58.0			QL=4 ST=2 TYP=3
14	204	IZMI	43	NS	0700.0		300.0D		15.0		
	127	TORN	44	NS	0700.0E		450.0D		40.0		V=1
	235	CUBA	44	NS	1305.0E		415.0D		9.0		
	280	CUBA	44	NS	1305.0E		415.0D		20.0		
	245	SGMR	43	NS	1505.0	1505.0	62.0	65.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	2350.0	0132.0	462.0	120.0			QL=4 ST=2 TYP=1
	2840	PEKG	1	S	0137.0	0139.5	6.0	4.3			
	245	SVTO	8	S	0731.0	0731.0	1.0	120.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0731.0	0731.0	U	52.0			QL=4 ST=2 TYP=3
	1415	SVTO	8	S	1109.0	1109.0	U	33.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1109.0	1109.0	U	51.0			QL=4 ST=2 TYP=3
	4995	SVTO	8	S	1109.0	1109.0	U	23.0			QL=4 ST=2 TYP=3
	3000	IZMI	7	C	1109.4	1109.7	0.7	54.0			
	245	SVTO	49	GB	1339.0	1343.0	5.0	530.0			QL=4 ST=2 TYP=6
	410	SGMR	48	C	1342.0	1344.0	2.0	150.0			QL=4 ST=2 TYP=8
	410	SVTO	48	C	1342.0	1344.0	2.0	130.0			QL=4 ST=2 TYP=8
	245	SGMR	49	GB	1344.0	1344.0	U	1400.0			QL=4 ST=2 TYP=6
	245	SGMR	8	S	1414.0	1414.0	U	50.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1503.0	1503.0	U	68.0			QL=4 ST=2 TYP=3
	500	HIRA	8	S	2223.0	2224.0	2.0	335.0			0
	2800	HIRA	8	S	2224.0	2224.0	1.0	40.0			0
	4995	LEAR	8	S	2224.0	2224.0	U	52.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	2224.0	2224.0	U	66.0			QL=4 ST=2 TYP=3
15	204	IZMI	44	NS	0700.0E		300.0D		20.0		
	127	TORN	44	NS	0700.0E		450.0D		70.0		V=2
	235	CUBA	44	NS	1340.0E		260.0D		11.0		
	280	CUBA	44	NS	1340.0E		260.0D		15.0		
	500	HIRA	7	C	0112.0	0128.0	45.0	80.0			0
	2840	PEKG	1	S	0149.0	0153.7	10.0	5.9			
	2840	PEKG	1	S	0553.0	0556.1	7.0	8.0			
	245	LEAR	8	S	0726.0	0726.0	U	52.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1206.0	1208.0	2.0	72.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1211.0	1212.0	1.0	60.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1216.0	1216.0	U	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1711.0	1711.0	U	160.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1856.0	1856.0	U	90.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2009.0	2009.0	1.0	51.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2156.0	2156.0	U	60.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	2157.0	2157.0	U	49.0			QL=4 ST=2 TYP=3
16	204	IZMI	44	NS	0700.0E		300.0D		25.0		
	127	TORN	44	NS	0700.0E		450.0D		20.0		V=1
	245	SGMR	43	NS	1158.0	1222.0	522.0	530.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1410.0E		460.0D		23.0		
	280	CUBA	44	NS	1410.0E		460.0D		34.0		
	245	PALE	43	NS	1722.0	1739.0	398.0	100.0			QL=4 ST=1 TYP=1
	245	LEAR	43	NS	2212.0	0705.0	713.0	540.0			QL=4 ST=2 TYP=1
	900	GORK	1	S	0633.6	0635.2	4.8	2.2			
	600	GORK	20	GRF	0633.7	0639.2	14.0	4.8			
	245	LEAR	8	S	0832.0	0832.0	U	72.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0955.7	0955.8	0.3	40.0			
	15400	SVTO	8	S	1059.0	1100.0	2.0	110.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1357.0	1358.0	1.0	62.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1357.0	1358.0	1.0	100.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1357.0	1358.0	1.0	64.0			QL=4 ST=2 TYP=3
	33	UPIC	45	C	1423.0	1423.5	1.5				
	2800	PENT	1	S	1708.0	1715.0	12.0	5.0			
	410	PALE	8	S	1856.0	1856.0	2.0	75.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	2315.0	2315.0	1.0	110.0			0
17	204	IZMI	44	NS	0700.0E		300.0D		65.0		
	127	TORN	44	NS	0700.0E		450.0D		50.0		V=3
	245	SGMR	43	NS	1621.0	1812.0	254.0	600.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	1722.0	2108.0	579.0	180.0			QL=4 ST=2 TYP=1

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

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
17	410	LEAR	8	S	0251.0	0251.0	1.0	69.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	0504.0	0504.0	1.0	10.0			0
	200	HIRA	8	S	0539.0	0540.0	1.0	50.0			ML
	500	HIRA	7	C	0540.0	0544.0	10.0	80.0			0
	410	LEAR	48	C	0543.0	0543.0	3.0	120.0			QL=4 ST=2 TYP=8
	900	GORK	1	S	0854.5	0854.8	0.6	3.3			
	900	GORK	41	F	0909.5	0909.6	1.5	3.3			
	900	GORK	41	F	0909.5	0910.6		11.0			
	9100	GORK	1	S	0952.9	0955.0	4.8	15.0			
	2950	GORK	1	S	0954.4	0955.6	3.0	3.5			
	600	GORK	1	S	0954.6	0955.8	2.1	2.9			
	600	GORK	41	F	0957.3	1001.1		5.8			
	600	GORK	41	F	0957.3	0958.8	4.3	6.8			
	600	GORK	41	F	1013.8	1014.1		4.8			
	600	GORK	41	F	1013.8	1013.9	0.4	5.8			
	1415	SVTO	8	S	1445.0	1446.0	1.0	49.0			QL=2 ST=2 TYP=3
	2695	SVTO	8	S	1445.0	1446.0	2.0	80.0			QL=2 ST=2 TYP=3
	4995	SVTO	8	S	1445.0	1446.0	2.0	150.0			QL=2 ST=2 TYP=3
	8800	SVTO	8	S	1445.0	1446.0	2.0	100.0			QL=2 ST=2 TYP=3
	15400	SVTO	8	S	1446.0	1446.0	U	37.0			QL=2 ST=2 TYP=3
	2800	PENT	29	PBI	1646.0	1654.0	41.0	7.0			
	15400	SGMR	49	GB	1733.0	1733.0	387.0	510.0			QL=4 ST=1 TYP=6
	410	SGMR	4	S/F	1733.0	1733.0	387.0	55.0			QL=4 ST=1 TYP=3
	610	SGMR	4	S/F	1733.0	1733.0	387.0	47.0			QL=4 ST=1 TYP=3
	1415	SGMR	4	S/F	1733.0	1733.0	387.0	120.0			QL=4 ST=1 TYP=3
	2695	SGMR	4	S/F	1733.0	1733.0	387.0	170.0			QL=4 ST=1 TYP=3
	4995	SGMR	4	S/F	1733.0	1733.0	387.0	220.0			QL=4 ST=1 TYP=3
	8800	SGMR	4	S/F	1733.0	1733.0	387.0	310.0			QL=4 ST=1 TYP=3
	2800	PENT	20	GRF	2036.0	2049.0	29.0	4.0			
	245	PALE	49	GB	2134.0	2135.0	1.0	970.0			QL=4 ST=2 TYP=6
	410	PALE	8	S	2134.0	2134.0	2.0	68.0			QL=4 ST=2 TYP=3
	610	PALE	8	S	2134.0	2135.0	2.0	240.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	2134.0	2134.0	1.0	47.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2134.0	2135.0	3.0	180.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	2134.0	2135.0	3.0	210.0			QL=4 ST=2 TYP=3
18	127	TORN	43	NS	0730.0		190.0		10.0		V=1
	204	IZMI	43	NS	0820.0		220.0D		15.0		
	245	SVTO	43	NS	0824.0	0855.0	42.0	180.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	1152.0	1208.0	39.0	110.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1203.0	1306.0	255.0	310.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1500.0E		240.0D		6.0		
	280	CUBA	44	NS	1500.0E		240.0D		20.0		
	245	PALE	43	NS	1727.0	1729.0	605.0	310.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1756.0	1756.0	154.0	75.0			QL=4 ST=2 TYP=1
	2695	PALE	8	S	0022.0	0023.0	1.0	58.0			QL=4 ST=2 TYP=3
	4995	PALE	8	S	0022.0	0023.0	1.0	74.0			QL=4 ST=2 TYP=3
	2840	PEKG	5	S	0022.0	0023.8	9.0	64.9			
	410	LEAR	8	S	0023.0	0023.0	U	83.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	0023.0	0023.0	U	120.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0023.0	0023.0	U	76.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0023.0	0023.0	U	43.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0200.0	0205.5	17.0	222.3			
	2800	HIRA	3	S	0202.0	0206.0	8.0	170.0			0
	610	LEAR	49	GB	0203.0	0208.0	7.0	1300.0			QL=4 ST=2 TYP=6
	4995	LEAR	4	S/F	0203.0	0205.0	6.0	320.0			QL=4 ST=2 TYP=3
	610	PALE	49	GB	0203.0	0208.0	6.0	850.0			QL=4 ST=2 TYP=6
	2695	PALE	4	S/F	0203.0	0205.0	3.0	140.0			QL=4 ST=2 TYP=3
	4995	PALE	4	S/F	0203.0	0205.0	5.0	340.0			QL=4 ST=2 TYP=3
	500	HIRA	47	GB	0203.0	0208.0	10.0	905.0			0
	200	HIRA	8	S	0204.0	0205.0	3.0	450.0			0
	410	LEAR	48	C	0204.0	0209.0	6.0	210.0			QL=4 ST=3 TYP=8
	8800	LEAR	48	C	0204.0	0205.0	5.0	210.0			QL=4 ST=2 TYP=8
	245	LEAR	49	GB	0204.0	0205.0	1.0	1000.0			QL=4 ST=2 TYP=6
	1415	LEAR	8	S	0204.0	0205.0	2.0	92.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0204.0	0205.0	2.0	160.0			QL=4 ST=2 TYP=3
	410	PALE	48	C	0204.0	0208.0	6.0	190.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	0204.0	0205.0	4.0	190.0			QL=4 ST=2 TYP=8
	245	PALE	49	GB	0204.0	0204.0	1.0	960.0			QL=4 ST=2 TYP=6

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	1415	PALE	8	S	0204.0	0204.0	1.0	74.0			QL=4 ST=2 TYP=3
	15400	PALE	4	S/F	0204.0	0206.0	4.0	100.0			QL=4 ST=2 TYP=3
	15400	LEAR	4	S/F	0205.0	0206.0	4.0	120.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0226.0	0226.0	U	69.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	0345.0	0345.0	U	80.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0608.0	0608.0	U	100.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0702.0	0702.0	U	70.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0702.0	0702.0	U	71.0			QL=4 ST=2 TYP=3
	610	LEAR	8	S	0708.0	0708.0	1.0	64.0			QL=4 ST=2 TYP=3
	610	SVTO	4	S/F	0708.0	0709.0	3.0	67.0			QL=4 ST=2 TYP=3
	600	GORK	41	F	0708.7	0708.8	1.1	100.0			
	600	GORK	41	F	0708.7	0709.8		130.0			
	410	LEAR	8	S	0709.0	0709.0	U	230.0			QL=4 ST=2 TYP=3
	410	SVTO	49	GB	0709.0	0709.0	U	630.0			QL=4 ST=2 TYP=6
	900	GORK	41	F	0709.4	0709.8	2.7	16.0			
	900	GORK	41	F	0709.4	0710.8		6.1			
	245	SVTO	8	S	0715.0	0715.0	U	51.0			QL=4 ST=2 TYP=3
	900	GORK	2	S/F	0715.5	0716.0	1.6	4.9			
	245	LEAR	8	S	0810.0	0810.0	U	54.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0959.0	1001.0	2.0	130.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1000.0	1000.0	U	56.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	1001.0	1001.0	U	59.0			QL=2 ST=2 TYP=3
	900	GORK	8	S	1001.9	1002.0	0.2	22.0			
	245	SVTO	8	S	1048.0	1048.0	U	77.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1152.0	1152.0	1.0	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1200.0	1200.0	U	120.0			QL=4 ST=2 TYP=3
	9500	CUBA	1	S	1614.8	1615.4	1.3	27.0	13.0		
	2800	PENT	29	PBI	1649.0	1656.0	43.0U	24.0			
	410	SGMR	8	S	1654.0	1654.0	U	37.0			QL=4 ST=2 TYP=3
	610	SGMR	8	S	1654.0	1654.0	1.0	95.0			QL=4 ST=2 TYP=3
	1415	SGMR	8	S	1654.0	1655.0	1.0	31.0			QL=4 ST=2 TYP=3
	4995	SGMR	8	S	1654.0	1655.0	1.0	45.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1654.0	1654.0	1.0	100.0			QL=4 ST=2 TYP=3
	15400	SGMR	8	S	1654.0	1654.0	1.0	54.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1655.0	1655.0	U	27.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1708.0	1708.0	U	64.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1711.0	1711.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1854.0	1854.0	U	59.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2030.0	2030.0	U	88.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2201.0	2201.0	1.0	74.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2253.0	2253.0	U	58.0			QL=4 ST=2 TYP=3
19	204	IZMI	43	NS	0916.0		164.0D		20.0		
	245	SGMR	43	NS	1326.0	1411.0	294.0	410.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1330.0E		270.0D		8.0		
	280	CUBA	44	NS	1330.0E		270.0D		11.0		
	245	SVTO	43	NS	1404.0	1411.0	62.0	150.0			QL=4 ST=2 TYP=1
	410	PALE	43	NS	2122.0	2153.0	158.0	570.0			QL=4 ST=1 TYP=1
	245	PALE	43	NS	2341.0	2342.0	189.0	70.0			QL=4 ST=2 TYP=1
	245	SGMR	8	S	1236.0	1236.0	U	79.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1240.0	1240.0	U	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1332.0	1332.0	2.0	170.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1332.0	1332.0	U	77.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	1644.0	1701.0	34.0	3.0			
	2800	PENT	20	GRF	2042.0	2103.0	43.0	5.0			
20	245	LEAR	43	NS	0009.0	0025.0	131.0	230.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	0022.0	0025.0	103.0	320.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0556.0	0605.0	61.0	170.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		300.0D		20.0		
	245	SVTO	44	NS	0603.0E	0633.0U	30.0D	64.0			QL=2 ST=2 TYP=1
	127	TORN	43	NS	0730.0		160.0		12.0		V=2
	245	LEAR	43	NS	0913.0	0951.0	50.0	270.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	0927.0	1059.0	100.0	260.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1216.0	1556.0	283.0	340.0			QL=4 ST=3 TYP=1
	245	SVTO	43	NS	1234.0	1255.0	59.0	84.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1320.0E		280.0D		8.0		
	280	CUBA	44	NS	1320.0E		280.0D		13.0		
	410	LEAR	8	S	0028.0	0028.0	U	73.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

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	2840	PEKG	5	S	0304.0	0308.1	8.0	16.1			
	200	HIRA	8	S	0308.0	0308.0	1.0	90.0			0
	410	LEAR	8	S	0308.0	0308.0	U	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0440.0	0441.0	1.0	71.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0447.0	0447.0	U	82.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0606.0	0607.0	2.0	390.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0606.0	0607.0	2.0	180.0			QL=2 ST=2 TYP=3
	204	IZMI	42	SER	0732.2	0732.7	1.4	37.0			
	245	LEAR	8	S	0742.0	0742.0	U	210.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0742.0	0742.0	U	190.0			QL=4 ST=2 TYP=3
	204	IZMI	41	F	0742.4	0742.6	0.5	38.0			
	245	SVTO	8	S	0754.0	0754.0	U	53.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0754.0	0754.0	U	23.0			QL=4 ST=2 TYP=3
	2840	PEKG	20	GRF	0811.0	0815.4	21.0	4.0			
	245	LEAR	8	S	0847.0	0847.0	U	81.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0847.0	0847.0	U	52.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0850.0	0851.0	4.0	150.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0851.0	0851.0	1.0	150.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0913.0	0913.0	1.0	84.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0924.0	0924.0	U	57.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	1030.1	1030.3	0.3	13.0			
	204	IZMI	42	SER	1058.2	1059.6	2.3	301.0			
	204	IZMI	7	C	1117.4	1117.4	0.1	14.0			
	204	IZMI	42	SER	1119.9	1121.2	2.4	38.0			
	245	SVTO	8	S	1201.0	1201.0	U	92.0			QL=2 ST=2 TYP=3
	245	SGMR	48	C	1210.0	1211.0	3.0	450.0			QL=4 ST=2 TYP=8
	245	SVTO	48	C	1210.0	1211.0	3.0	300.0			QL=2 ST=2 TYP=8
	245	SVTO	8	S	1419.0	1419.0	U	59.0			QL=2 ST=2 TYP=3
	245	SVTO	8	S	1451.0	1451.0	U	92.0			QL=2 ST=2 TYP=3
	2800	PENT	1	S	1659.0	1703.0	9.0	3.0			
	9500	CUBA	21	GRF	1801.0	1808.0	40.0	17.0	8.0		
	9500	CUBA	2	S/F	1805.0	1806.9	3.3	33.0	16.0		
	245	SGMR	8	S	1814.0	1814.0	U	59.0			QL=4 ST=2 TYP=3
	2800	PENT	8	S	1839.0	1842.0	6.0	24.0			
	245	SGMR	8	S	1854.0	1854.0	U	110.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	2109.0	2118.0	18.0	5.0			
	2840	PEKG	3	S	2352.0	2356.1	11.0	12.0			
21	235	CUBA	44	NS	1320.0E		400.0D		6.0		
	280	CUBA	44	NS	1320.0E		400.0D		13.0		
	245	SGMR	43	NS	1532.0	1545.0	25.0	250.0			QL=4 ST=2 TYP=1
	200	HIRA	8	S	0139.0	0139.0	1.0	35.0			
	2840	PEKG	3	S	0636.0	0638.2	21.0	24.5			
	600	GORK	46	C	0823.1	0824.1		8.7			
	600	GORK	46	C	0823.1	0823.5	1.3	2.9			
	204	IZMI	45	C	1143.5	1143.6	0.3	140.0			
	33	UPIC	45	C	1148.0	1148.5	1.5				
	1415	SGMR	8	S	1243.0	1243.0	U	65.0			QL=4 ST=2 TYP=3
	1415	SVTO	8	S	1243.0	1243.0	U	70.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1409.0	1410.0	1.0	190.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1410.0	1410.0	2.0	87.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1519.0	1519.0	1.0	92.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1529.0	1529.0	U	150.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1649.0	1649.0	1.0	75.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1655.0	1656.0	2.0	110.0			QL=4 ST=2 TYP=3
	2800	PENT	29	PBI	1853.0	1901.0	39.0U	8.0			
	410	PALE	8	S	2025.0	2025.0	U	62.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	2112.0	2124.0	18.0	4.0			
22	235	CUBA	44	NS	1315.0E		330.0D		6.0		
	280	CUBA	44	NS	1315.0E		330.0D		15.0		
	200	HIRA	8	S	0030.0	0030.0	1.0	20.0			0
	2840	PEKG	20	GRF	0212.0	0216.5	13.5	4.3			
	900	GORK	46	C	0916.0	0916.2	1.0	13.0			
	900	GORK	46	C	0916.0	0916.4		27.0			
	900	GORK	41	F	1027.4	1028.2		140.0			
	900	GORK	41	F	1027.4	1027.8	1.1	10.0			
	600	GORK	2	S/F	1028.4	1028.7	1.4	12.0			
	204	IZMI	42	SER	1047.2	1047.7	1.3	23.0			

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

NOVEMBER 2002

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
22	245	SGMR	8	S	1547.0	1547.0	U	180.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1557.0	1557.0	3.0	170.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	1602.0	1602.0	U	71.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1939.0	1940.0	1.0	460.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1943.0	1943.0	U	240.0			QL=4 ST=2 TYP=3
23	204	IZMI	43	NS	1122.0		38.0D		25.0		
	245	SGMR	43	NS	1300.0	1300.0	U	52.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1335.0E		265.0D		6.0		
	280	CUBA	44	NS	1335.0E		265.0D		12.0		
	245	SGMR	43	NS	1519.0	1519.0	7.0	190.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	2323.0	0237.0	248.0	290.0			QL=4 ST=2 TYP=1
	2840	PEKG	1	S	0119.0	0121.8	5.0	7.3			
	500	HIRA	8	S	0121.0	0121.0	1.0	10.0			0
	2800	HIRA	1	S	0123.0	0129.0	6.0	25.0			0
	2840	PEKG	45	C	0127.0	0128.9	6.0	21.9			
	200	HIRA	8	S	0131.0	0131.0	1.0	30.0			0
	200	HIRA	8	S	0309.0	0309.0	1.0	30.0			0
	200	HIRA	8	S	0529.0	0529.0	1.0	45.0			0
	200	HIRA	8	S	0623.0	0623.0	1.0	20.0			0
	2840	PEKG	1	S	0712.0	0714.3	7.0	2.4			
	600	GORK	4	S/F	0717.9	0718.1	0.7	21.0			
	2840	PEKG	1	S	0756.0	0757.5	6.0	6.0			
	600	GORK	46	C	0800.7	0801.0		73.0			
	600	GORK	46	C	0800.7	0800.8	0.5	40.0			
	2950	GORK	2	S/F	0826.3	0826.8	2.4	3.8			
	2950	GORK	45	C	0840.8	0842.0	2.2	22.0			
	2950	GORK	45	C	0840.8	0842.2		18.0			
	610	SVTO	8	S	0841.0	0841.0	U	260.0			QL=4 ST=2 TYP=3
	600	GORK	46	C	0841.6	0841.8	1.5	150.0U			
	900	GORK	46	C	0841.8	0842.0	3.2	54.0			
	3000	IZMI	5	S	0841.8	0842.0	0.6	20.0	13.7		
	900	GORK	46	C	0841.8	0842.2		30.0			
	900	GORK	46	C	0841.8	0842.4		10.0			
	410	SVTO	8	S	0842.0	0842.0	U	27.0			QL=4 ST=2 TYP=3
	1415	SVTO	8	S	0842.0	0842.0	U	30.0			QL=4 ST=2 TYP=3
	2950	GORK	29	PBI	0843.0	0843.0	2.9	3.8			
	204	IZMI	41	F	0848.0	0848.2	0.3	12.0			
	900	GORK	42	SER	0950.0	0953.2	46.2	13.0			
	900	GORK	42	SER	0950.0	0954.8		22.0			
	600	GORK	41	F	0958.9	1000.1	5.8	2.9			
	600	GORK	41	F	0958.9	1002.8		2.9			
	2950	GORK	2	S/F	0959.6	1000.0	0.7	26.0			
	245	SVTO	49	GB	1000.0	1000.0	U	1000.0			QL=4 ST=2 TYP=6
	410	SVTO	8	S	1000.0	1000.0	U	150.0			QL=4 ST=2 TYP=3
	3000	IZMI	1	S	1000.0	1000.1	0.2	11.0			
	204	IZMI	7	C	1000.1	1000.2	0.3	45.0			
	204	IZMI	7	C	1022.3	1022.3	0.2	16.0			
	204	IZMI	42	SER	1029.3	1031.5	5.2	52.0			
	610	SVTO	8	S	1049.0	1049.0	2.0	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1258.0	1258.0	U	100.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1258.0	1258.0	U	38.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1317.0	1317.0	U	86.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1317.0	1317.0	U	41.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1332.0	1333.0	3.0	210.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1333.0	1333.0	2.0	56.0			QL=4 ST=2 TYP=3
	1415	SGMR	8	S	1355.0	1356.0	2.0	100.0			QL=4 ST=2 TYP=3
	1415	SVTO	4	S/F	1355.0	1356.0	4.0	100.0			QL=4 ST=2 TYP=3
	1415	SGMR	8	S	1358.0	1358.0	1.0	85.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1514.0	1514.0	U	61.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1908.0	1908.0	U	51.0			QL=4 ST=2 TYP=3
	2800	PENT	21	GRF	2049.0	2104.0	43.0U	4.0			
24	245	SVTO	43	NS	0607.0	0640.0U	74.0	160.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1400.0E		270.0D		10.0		
	280	CUBA	44	NS	1400.0E		270.0D		22.0		
	245	SGMR	43	NS	1436.0	1528.0	311.0	240.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	1441.0	1458.0	22.0	96.0			QL=2 ST=2 TYP=1
	2840	PEKG	1	S	0220.0	0222.1	6.0	6.0			

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
24	410	SVTO	8	S	0617.0	0619.0	2.0	70.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0653.0	0653.0	U	330.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0653.0	0653.0	2.0	110.0			QL=4 ST=2 TYP=3
	245	SVTO	48	C	0710.0	0710.0	2.0	190.0			QL=4 ST=2 TYP=8
	410	SVTO	8	S	0710.0	0710.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0732.0	0732.0	U	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0744.0	0744.0	2.0	130.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0744.0	0744.0	U	44.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0816.0	0822.0	9.0	88.0			QL=4 ST=2 TYP=3
	900	GORK	41	F	0817.1	0818.0	1.6	2.2			
	900	GORK	41	F	0817.1	0818.5		5.6			
	600	GORK	2	S/F	0817.6	0817.8	0.4	7.7			
	245	SVTO	8	S	0832.0	0832.0	1.0	190.0			QL=4 ST=2 TYP=3
	245	SVTO	49	GB	0835.0	0836.0	2.0	1000.0			QL=4 ST=2 TYP=6
	410	SVTO	8	S	0836.0	0836.0	U	97.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	0842.4	0842.5	0.2	6.0			
	245	SVTO	8	S	0847.0	0847.0	U	56.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0855.0	0855.0	U	150.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	0855.0	0855.0	U	67.0			QL=4 ST=2 TYP=3
	204	IZMI	7	C	0903.6	0903.6	0.1	6.0			
	204	IZMI	41	F	0927.6	0927.7	0.3	24.0			
	245	SGMR	48	C	1332.0	1333.0	1.0	92.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	1336.0	1336.0	1.0	74.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1338.0	1338.0	2.0	150.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1338.0	1338.0	U	92.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1432.0	1432.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1432.0	1432.0	U	95.0			QL=4 ST=2 TYP=3
	2800	PENT	29	PBI	1718.0	1727.0	14.0U	32.0			
	245	PALE	8	S	1756.0	1756.0	2.0	99.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	1859.0	1908.0	17.0	5.0			
25	204	IZMI	43	NS	0818.0		222.0D		60.0		
	245	LEAR	43	NS	0823.0	0824.0	1.0	100.0			QL=4 ST=3 TYP=1
	245	SVTO	43	NS	0840.0	0858.0	110.0	110.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0858.0	0858.0	69.0	150.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1320.0E		220.0D		7.0		
	280	CUBA	44	NS	1320.0E		220.0D		20.0		
	245	SGMR	43	NS	1331.0	1334.0	31.0	130.0			QL=4 ST=2 TYP=1
	245	SGMR	43	NS	1942.0	1954.0	29.0	80.0			QL=4 ST=2 TYP=1
	2840	PEKG	20	GRF	0603.0	0608.3	15.0	5.1			
	245	LEAR	8	S	0804.0	0804.0	U	51.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0812.0	0812.0	U	57.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0819.0	0819.0	U	71.0			QL=4 ST=2 TYP=3
	245	SVTO	48	C	0819.0	0821.0	6.0	810.0			QL=4 ST=2 TYP=8
	410	SVTO	8	S	0819.0	0821.0	2.0	150.0			QL=4 ST=2 TYP=3
	610	SVTO	8	S	0820.0	0821.0	1.0	37.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	0827.0	0827.0	U	71.0			QL=4 ST=2 TYP=3
	2950	GORK	20	GRF	0948.6	1032.3	66.2	6.5			
	9100	GORK	8	S	1003.8	1004.0	0.4	69.0			
	600	GORK	28	PRE	1018.7	1038.4	20.6	18.0			
	9100	GORK	2	S/F	1019.3	1019.8	1.0	24.0			
	204	IZMI	45	C	1019.3	1019.8	0.9	69.0			
	600	GORK	46	C	1039.3	1046.2	20.7D	100.0			
	600	GORK	46	C	1039.3	1056.9		37.0			
	9100	GORK	20	GRF	1041.6	1042.1	9.9	12.0			
	204	IZMI	46	C	1041.7	1042.2	0.8	1102.0			
	3000	IZMI	7	C	1041.8	1041.9	0.4	15.0	5.6		
	245	SGMR	48	C	1237.0	1237.0	4.0	110.0			QL=4 ST=2 TYP=8
	245	SGMR	8	S	1258.0	1258.0	U	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1327.0	1327.0	U	53.0			QL=4 ST=2 TYP=3
	2800	PENT	20	GRF	1617.0	1624.0	15.0	3.0			
	245	SGMR	8	S	1619.0	1619.0	U	62.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1630.0	1630.0	U	66.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1641.0	1641.0	U	76.0			QL=4 ST=2 TYP=3
	2800	PENT	24	R	1650.0	1703.0	42.0U	4.0			
	245	SGMR	8	S	1706.0	1706.0	U	60.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1712.0	1713.0	2.0	85.0			QL=4 ST=2 TYP=3
	245	SGMR	48	C	1712.0	1714.0	7.0	150.0			QL=4 ST=2 TYP=8
	410	PALE	8	S	1748.0	1748.0	1.0	61.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	245	PALE	8	S	1750.0	1750.0	U	48.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1833.0	1833.0	U	51.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1914.0	1914.0	2.0	78.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1915.0	1915.0	1.0	78.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1935.0	1935.0	U	70.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1949.0	1950.0	1.0	110.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1950.0	1950.0	U	81.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	2228.0	2231.0	7.0	9.0			
26	245	LEAR	43	NS	0333.0	0334.0	50.0	220.0			QL=4 ST=2 TYP=1
	245	LEAR	43	NS	0600.0	0921.0	245.0	160.0			QL=4 ST=2 TYP=1
	245	SVTO	43	NS	0618.0	0917.0	213.0	160.0			QL=4 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D		20.0		
	245	SGMR	43	NS	1228.0	1835.0	462.0	210.0			QL=4 ST=2 TYP=1
	245	PALE	43	NS	1930.0	2309.0	420.0	260.0			QL=4 ST=2 TYP=1
	9100	GORK	46	C	0751.8	0752.0		55.0			
	9100	GORK	46	C	0751.8	0751.9	0.5	30.0			
	204	IZMI	7	C	0915.6	0915.7	0.1	9.0			
	204	IZMI	42	SER	0921.4	0921.5	0.4	80.0			
	600	GORK	41	F	0944.2	0946.0		12.0			
	600	GORK	41	F	0944.2	0944.4	2.5	4.1			
	245	SGMR	8	S	1220.0	1220.0	U	58.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1427.0	1427.0	U	52.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1606.0	1606.0	U	380.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1650.0	1650.0	U	51.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1807.0	1807.0	U	60.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2036.0	2036.0	U	58.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	2044.0	2045.0	1.0	73.0			QL=4 ST=2 TYP=3
	500	HIRA	8	S	2305.0	2305.0	1.0	20.0			0
27	204	IZMI	44	NS	0700.0E		300.0D		25.0		
	127	TORN	43	NS	0750.0		150.0		18.0		V=2
	235	CUBA	44	NS	1320.0E		400.0D		6.0		
	280	CUBA	44	NS	1320.0E		400.0D		16.0		
	245	PALE	43	NS	2144.0	0115.0	347.0	680.0			QL=4 ST=2 TYP=1
	245	LEAR	8	S	0001.0	0001.0	U	72.0			QL=4 ST=2 TYP=3
	245	LEAR	49	GB	0202.0	0202.0	1.0	700.0			QL=4 ST=2 TYP=6
	200	HIRA	47	GB	0203.0	0203.0	1.0	845.0			0
	245	LEAR	8	S	0743.0	0744.0	1.0	85.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	0743.0	0743.0	4.0	58.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0752.0	0752.0	U	58.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1205.0	1205.0	U	110.0			QL=4 ST=2 TYP=3
	245	SVTO	8	S	1218.0	1218.0	U	54.0			QL=4 ST=2 TYP=3
	245	SVTO	4	S/F	1352.0	1354.0	3.0	100.0			QL=4 ST=2 TYP=3
	410	SVTO	8	S	1355.0	1355.0	U	30.0			QL=4 ST=2 TYP=3
	410	SGMR	8	S	1435.0	1435.0	U	58.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1505.0	1505.0	U	110.0			QL=4 ST=3 TYP=3
	2800	PENT	20	GRF	1620.0	1629.0	37.0	5.0			
	245	LEAR	8	S	2200.0	2200.0	1.0	140.0			QL=4 ST=2 TYP=3
28	127	TORN	44	NS	0720.0E		250.0D		20.0		V=2
	204	IZMI	43	NS	0858.0		182.0D		40.0		
	235	CUBA	44	NS	1315.0E		345.0D		5.0		
	280	CUBA	44	NS	1315.0E		345.0D		14.0		
	610	LEAR	4	S/F	0030.0	0031.0	4.0	31.0			QL=4 ST=2 TYP=3
	2840	PEKG	1	S	0030.0	0032.0	5.0	7.9			
	1415	LEAR	8	S	0031.0	0031.0	1.0	30.0			QL=4 ST=2 TYP=3
	410	LEAR	4	S/F	0031.0	0031.0	7.0	44.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	0031.0	0031.0	1.0	70.0			QL=4 ST=2 TYP=3
	500	HIRA	8	S	0257.0	0258.0	1.0	65.0			0
	2840	PEKG	1	S	0433.0	0436.3	7.0	6.4			
	410	LEAR	8	S	0724.0	0724.0	U	79.0			QL=4 ST=2 TYP=3
	2840	PEKG	3	S	0803.0	0806.9	10.0	12.4			
	2840	PEKG	3	S	0820.0	0825.3	6.0	21.0			
	245	LEAR	8	S	0913.0	0913.0	U	54.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	0924.0	0925.0	1.0	57.0			QL=4 ST=2 TYP=3
	245	SVTO	48	C	0924.0	0925.0	8.0	55.0			QL=4 ST=3 TYP=8
	410	SVTO	48	C	0925.0	0926.0	6.0	58.0			QL=4 ST=3 TYP=8
	245	LEAR	8	S	1005.0	1005.0	U	67.0			QL=2 ST=2 TYP=3

SOLAR RADIO EMISSION
Outstanding Occurrences

NOVEMBER 2002

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
28	245	SVTO	8	S	1023.0	1023.0	U	53.0			QL=4 ST=2 TYP=3
29	245	SGMR	43	NS	1223.0	1506.0	163.0	89.0			QL=4 ST=2 TYP=1
	235	CUBA	44	NS	1330.0E		330.0D		3.0		
	280	CUBA	44	NS	1330.0E		330.0D		31.0		
	200	HIRA	8	S	0421.0	0421.0	1.0	20.0			0
	204	IZMI	42	SER	0840.2	0840.2	0.1	7.0			
	245	LEAR	8	S	0952.0	0952.0	U	52.0			QL=4 ST=2 TYP=3
	204	IZMI	42	SER	0952.6	0952.8	0.4	33.0			
	245	LEAR	8	S	1005.0	1005.0	U	140.0			QL=4 ST=2 TYP=3
	410	LEAR	8	S	1005.0	1005.0	U	53.0			QL=4 ST=2 TYP=3
	33	UPIC	46	C	1050.0	1051.5	5.0				UNCERTN
	245	SVTO	8	S	1129.0	1129.0	U	54.0			QL=4 ST=2 TYP=3
	410	PALE	8	S	1845.0	1845.0	U	55.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	1943.0	1943.0	U	74.0			QL=4 ST=2 TYP=3
	245	SGMR	8	S	1943.0	1943.0	U	97.0			QL=4 ST=3 TYP=3
	245	PALE	8	S	2030.0	2030.0	U	56.0			QL=4 ST=2 TYP=3
	245	LEAR	8	S	2323.0	2323.0	U	53.0			QL=4 ST=2 TYP=3
	245	PALE	8	S	2323.0	2323.0	U	120.0			QL=4 ST=2 TYP=3
	200	HIRA	8	S	2324.0	2324.0	1.0	175.0			0
30	204	IZMI	43	NS	0809.0		231.0D		10.0		
	235	CUBA	44	NS	1400.0E		300.0D		4.0		
	280	CUBA	44	NS	1400.0E		300.0D		13.0		
	33	UPIC	42	SER	1040.0	1055.5	34.0				UNCERTN

Reports are received routinely from the following observatories:

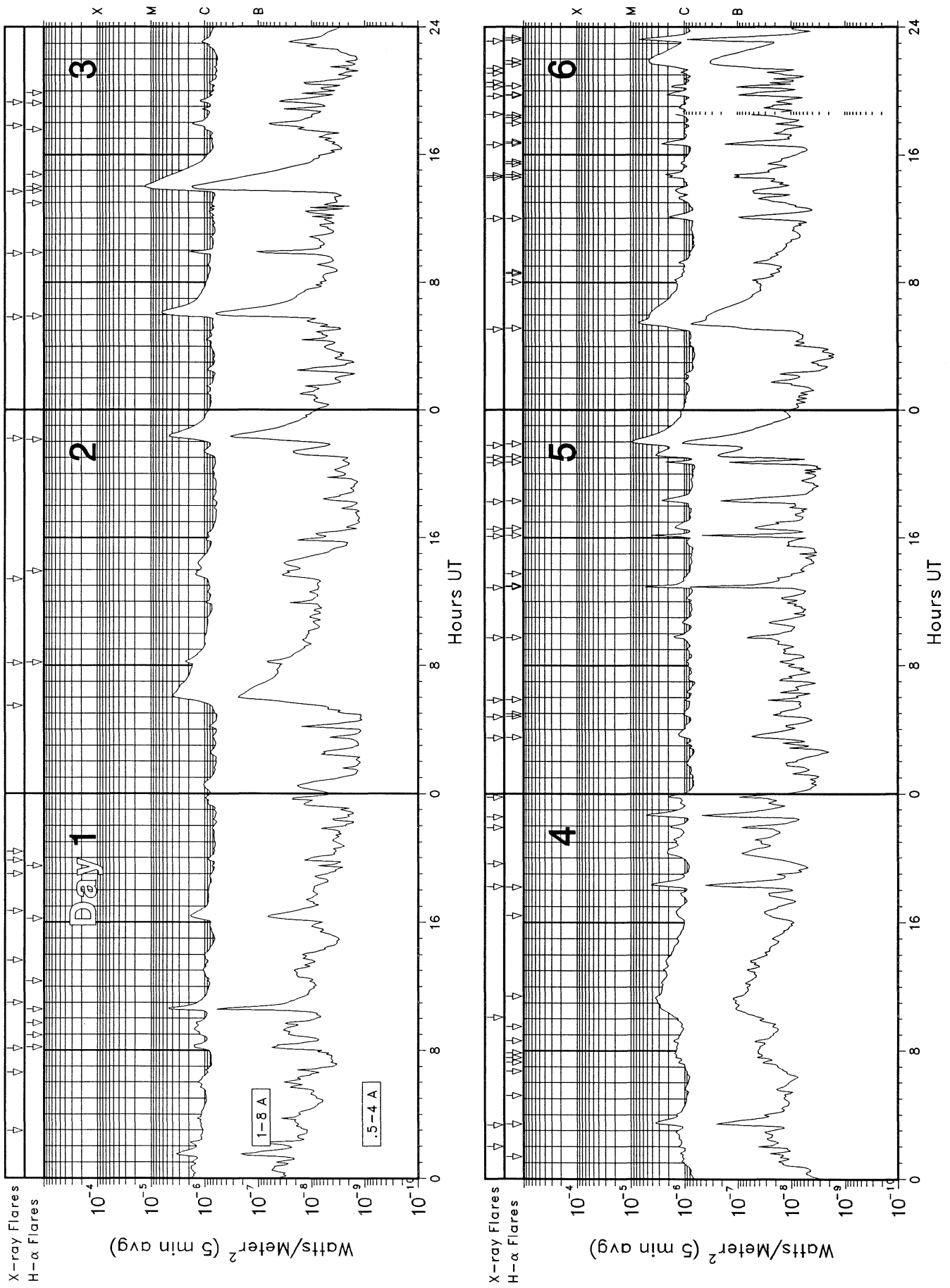
BERN = Berne	HUMN = Humain	ONDR = Ondrejov	SVTO = San Vito
CRIM = Crimea	IZMI = IZMIRAN	PEKG = Peking	TORN = Torun
CUBA = Havana	KISV = Kislovodsk	PALE = Palehua	TRST = Trieste
GORK = Gorky	KRAK = Krakow	PENT = Penticton	TYKW = Toyokawa
HIRA = Hiraiso	LEAR = Learmonth	POTS = Potsdam	UPIC = Upice
HUAN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

Explanation of Type Code:

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

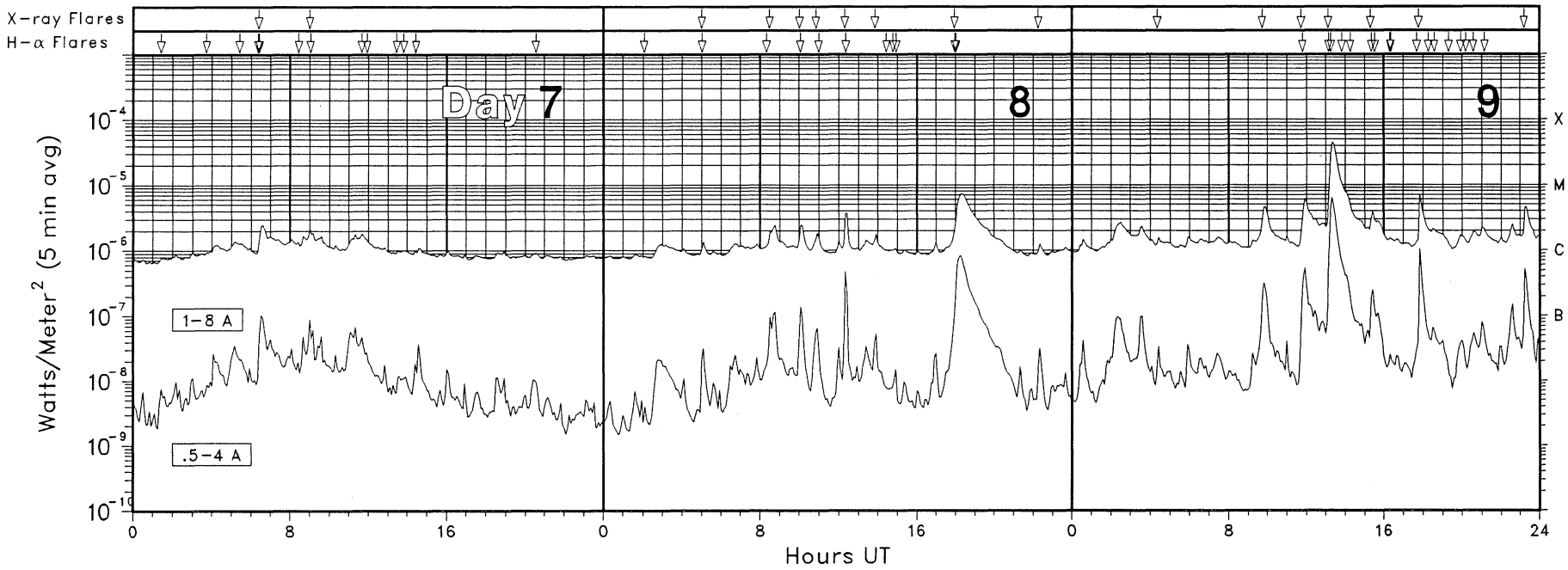
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A

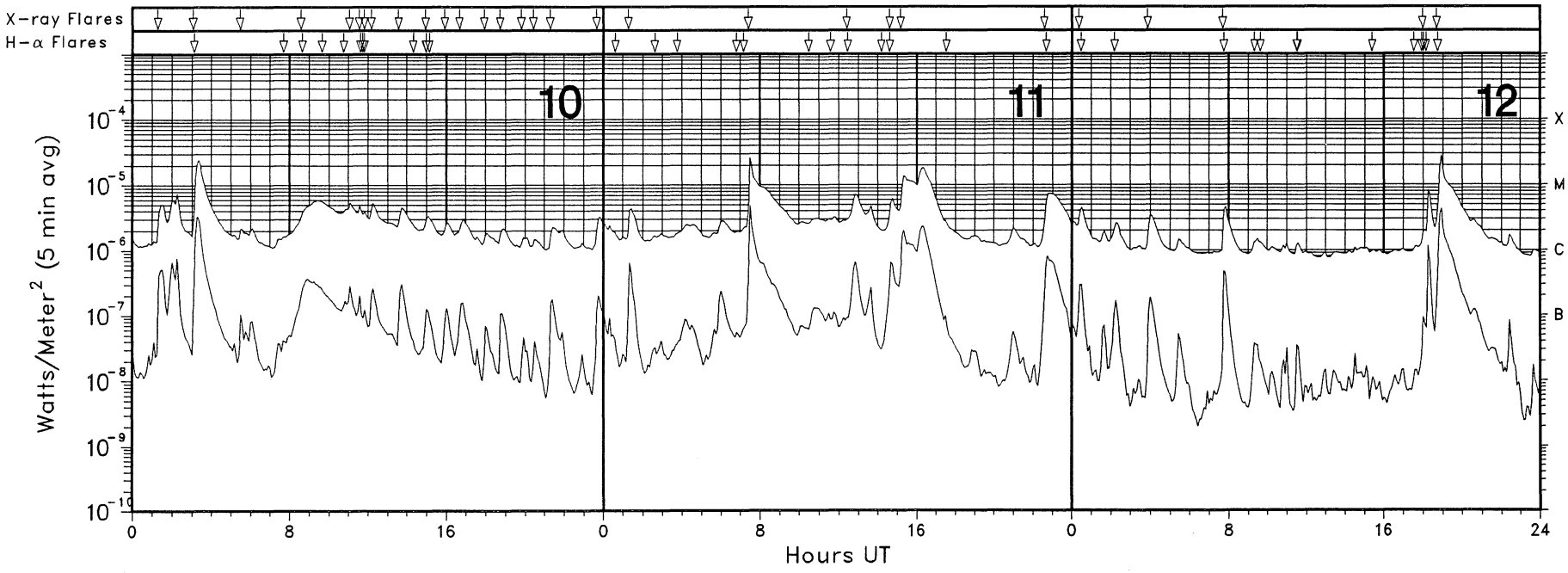
RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Penticton, Canada 2800 MHz; and Hiraiso, Japan 500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


GOES X-RAY DETECTOR
November 2002
Day 1
1
2
3
4
5
6
X
M
C
B
1-8 A
.5-4 A
X-ray Flares
H-α Flares
Watts/Meter² (5 min avg)
Hours UT
0
8
16
24

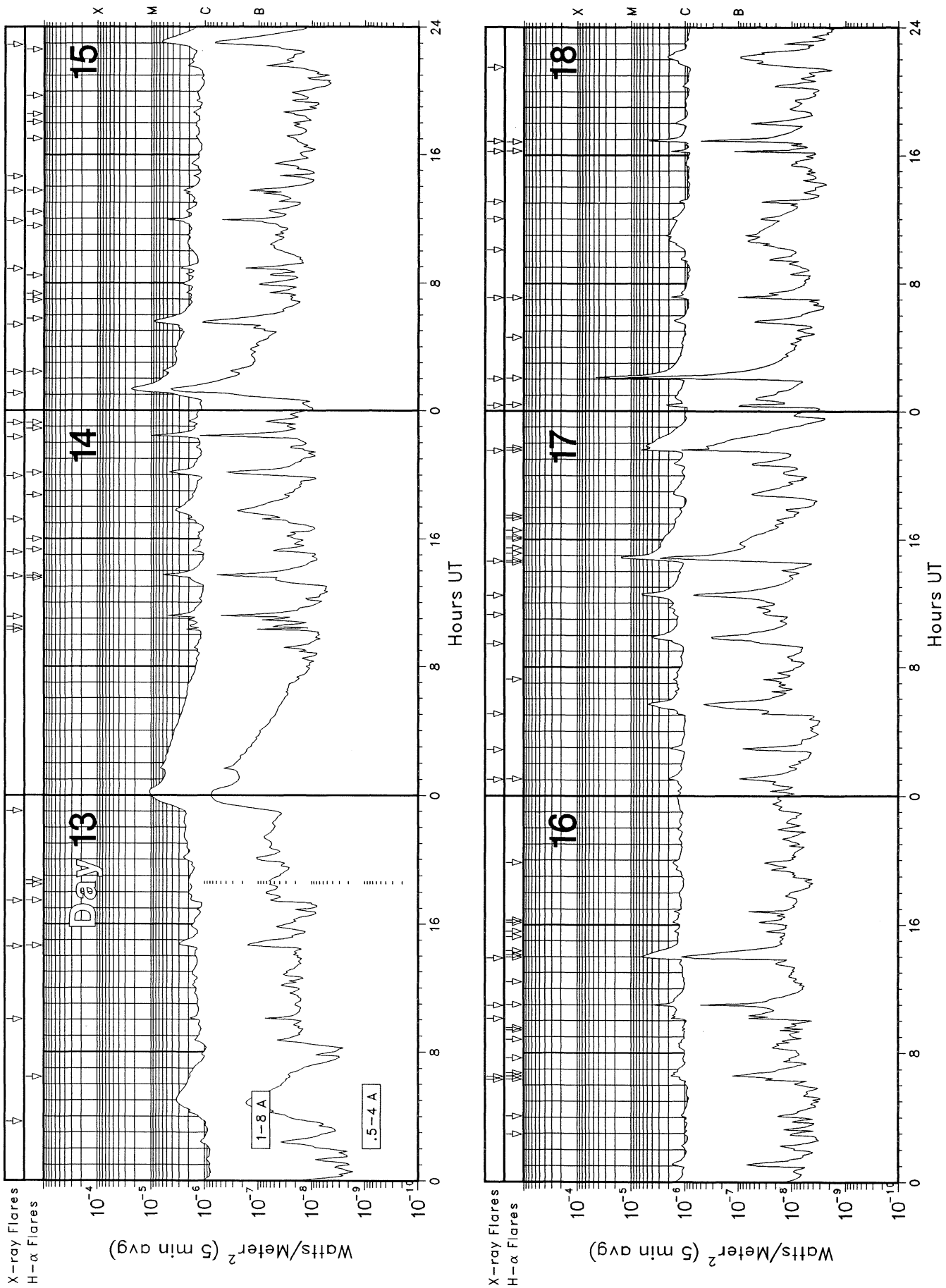
GOES X-RAY DETECTOR

November 2002



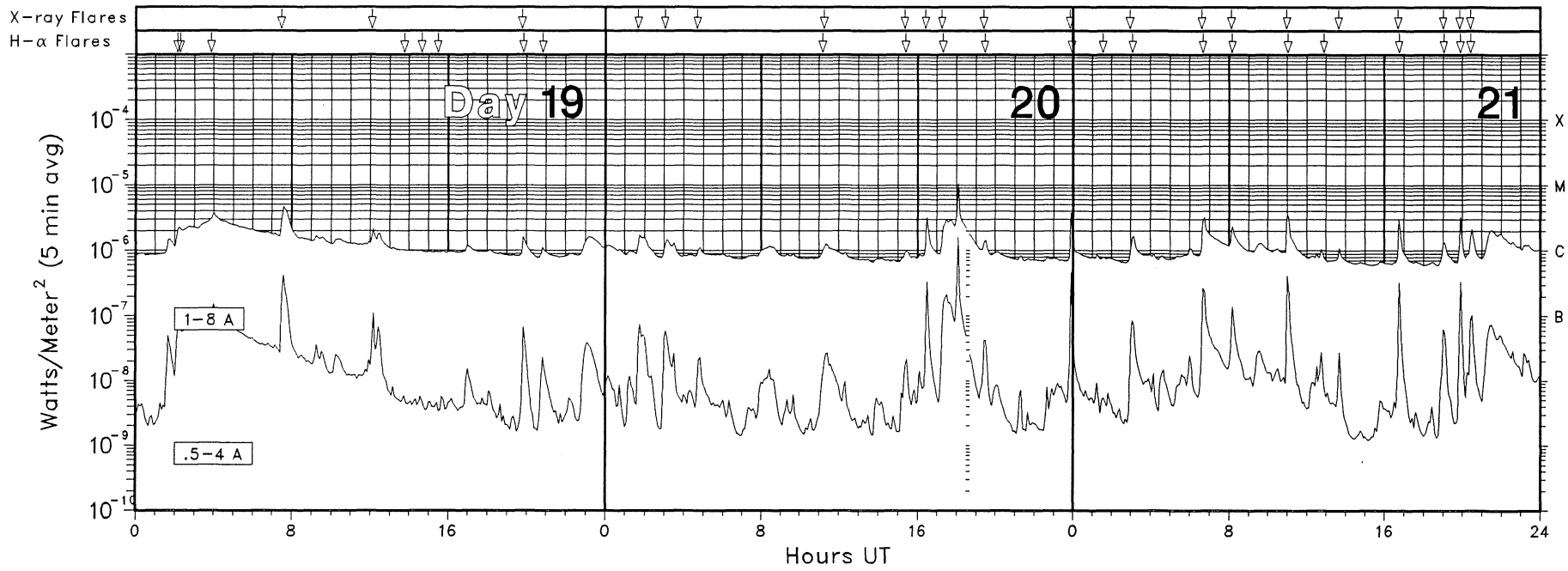


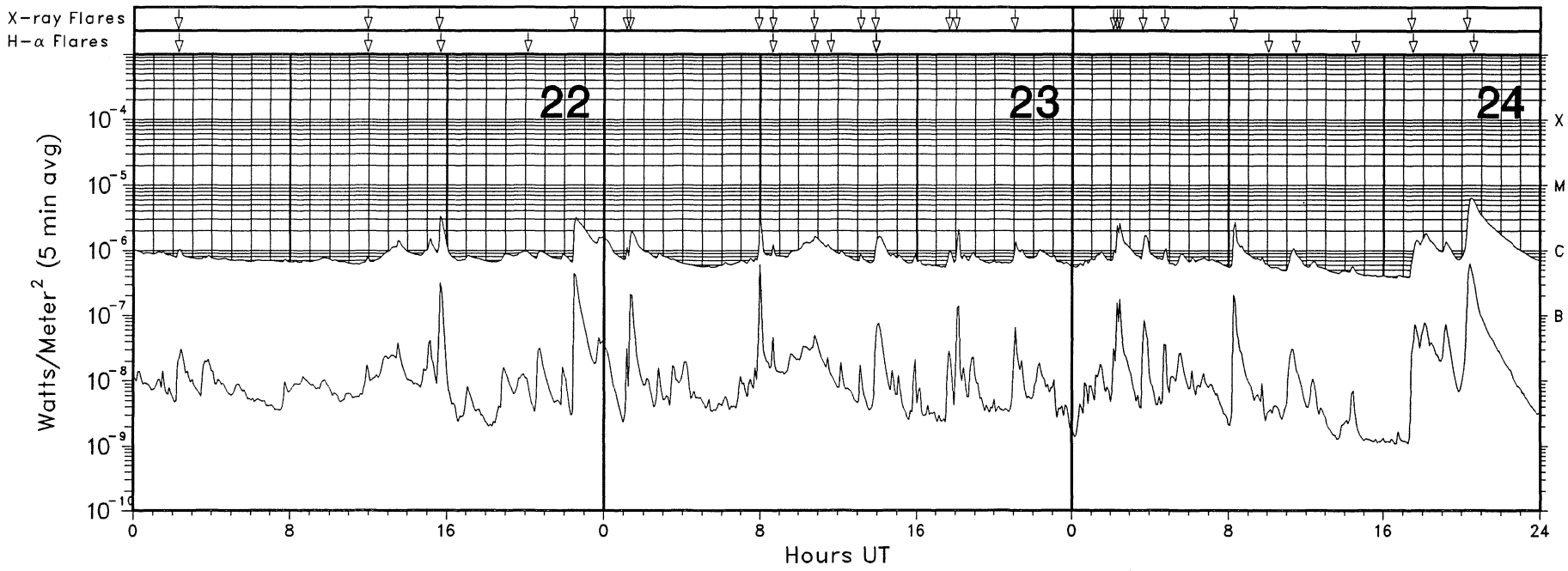
GOES X-RAY DETECTOR
November 2002

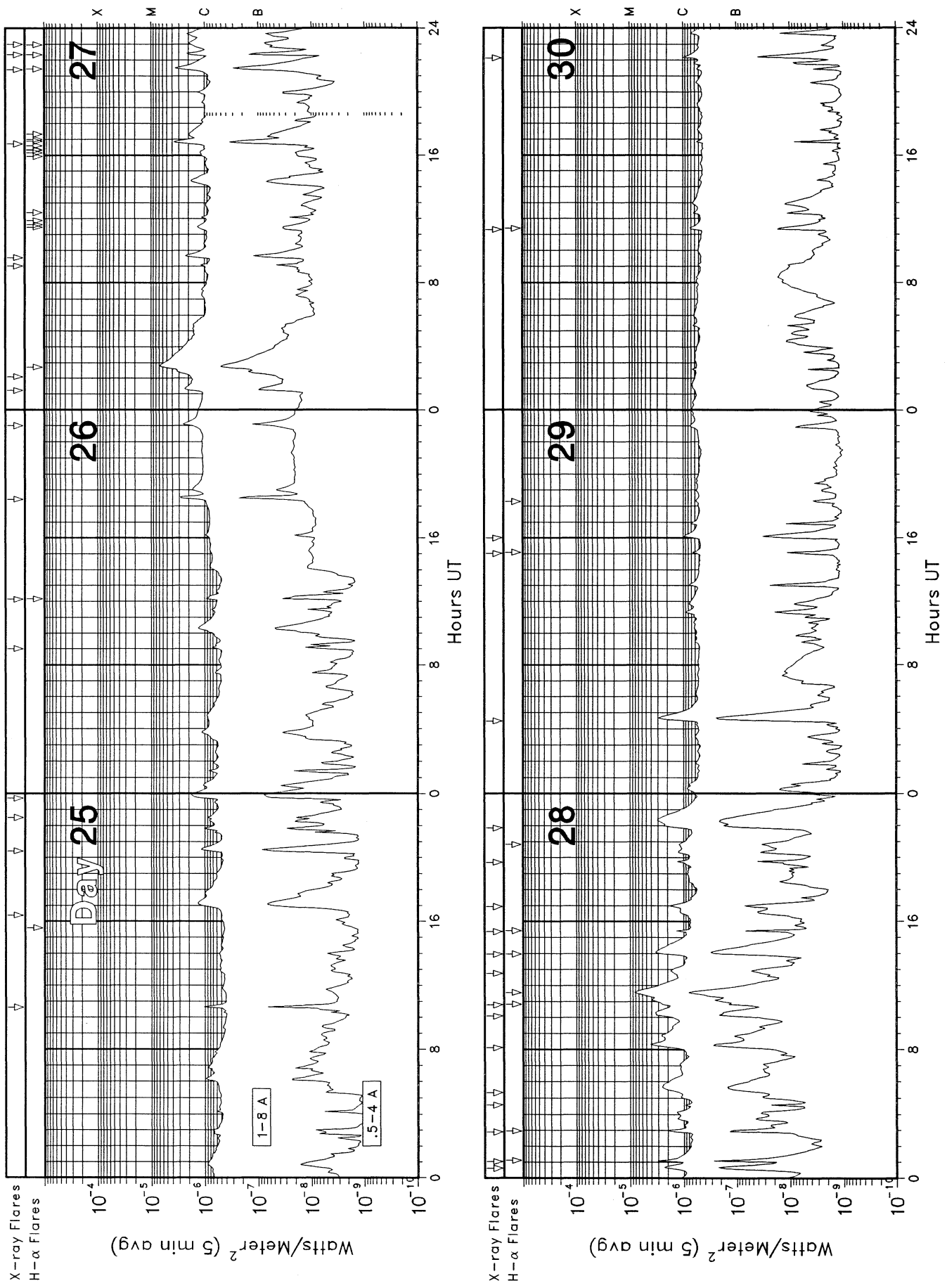


GOES X-RAY DETECTOR

November 2002






GOES X-RAY DETECTOR
November 2002
Day 25
26
27
28
29
30
1-8 A
.5-4 A
X
M
C
B
X-ray Flares
H-α Flares
Watts/Meter² (5 min avg)
Hours UT
0
8
16
24

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

November 2002

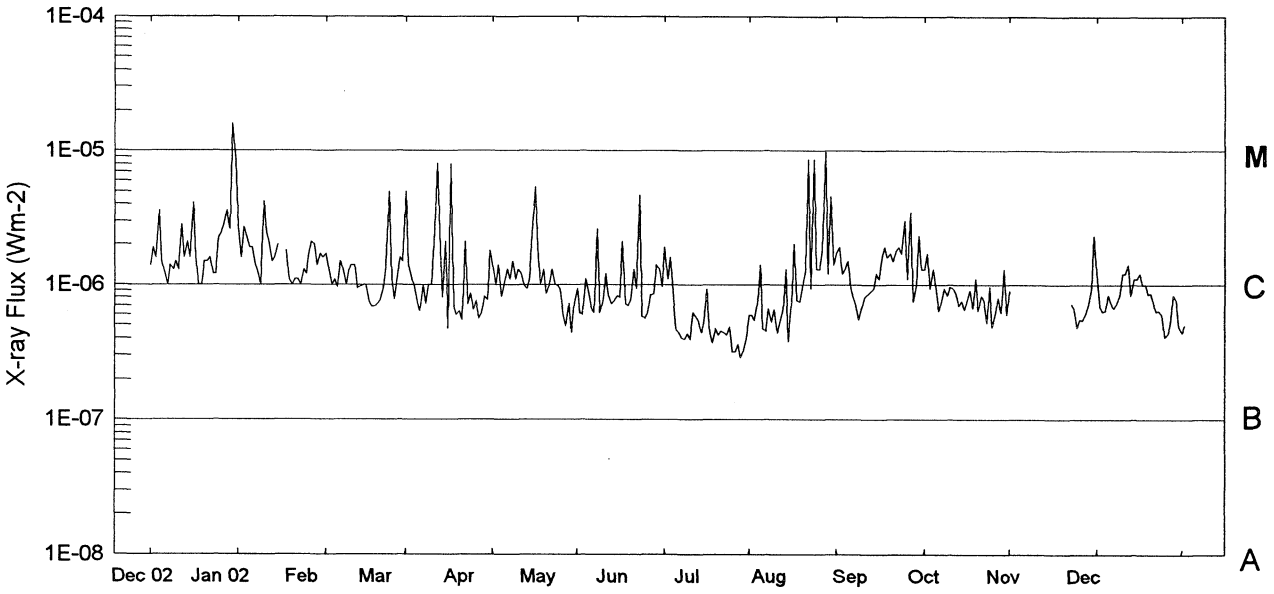
Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp	Xray	NOAA/ USAF Region	Flux
01	0258	0309	0314	S17	E16	SF	C2.1		10198	1.3E-03
01	0636	0644	0650	S18	E13	SF	C4.0		10198	2.1E-03
01	0807	0812	0816	S20	E11	SF	C2.4		10198	1.1E-03
01	1059	1104	1106	S19	E11	SF	C6.6		10198	1.6E-03
01	1338	1341	1344				C1.2			3.7E-04
01	1642	1647	1651	S17	E10	SF	C3.8		10198	1.3E-03
01	1900	1904	1907	S18	E08	SF	C1.8		10198	6.0E-04
01	1951	1957	2000	S17	E08	SF	C3.8		10198	1.3E-03
01	2024	2030	2036	S15	E00	SF	C2.2		10198	1.3E-03
02	0528	0607	0704				C3.9			1.5E-02
02	0809	0815	0821	S09	E62	SF	C2.3		10180	1.5E-03
02	1325	1345	1403	N12	E37	SF	C1.4		10177	2.9E-03
02	2212	2222	2237	S09	E52	1F	C4.5		10180	5.7E-03
03	0551	0610	0627	N15	E25	SF	C6.3		10177	9.8E-03
03	0948	0957	1000	N17	E24	SF	C2.4		10177	1.1E-03
03	1341	1403	1427	N14	E25	1F	M1.3		10177	2.4E-02
03	1748	1759	1803	S06	E43	SF	C1.7		10180	1.3E-03
03	1917	1925	1927	S09	E41	SF	C1.2		10180	6.8E-04
04	0200	0204	0206				C1.7			4.9E-04
04	0320	0330	0343	N14	E19	SF	C3.7		10177	3.9E-03
04	1005	1120	1213	S08	E31	SF	C3.7		10180	2.0E-02
04	1813	1823	1832	S09	E26	SF	C4.4		10180	3.6E-03
04	1939	2024	2046				C2.1			5.9E-03
04	2154	2158	2203				C2.1			9.7E-04
04	2233	2243	2249				C5.4			3.4E-03
04	2347	2352	2358				C2.1			1.2E-03
05	0328	0348	0405	S12	E29	SF	C1.2		10180	2.5E-03
05	0447	0455	0502	S10	E19	SF	C1.0		10180	8.3E-04
05	0550	0554	0556	N19	W01	SF	C1.2		10177	3.6E-04
05	0944	0947	0955	N13	E02	SF	C1.6		10177	9.9E-04
05	1253	1257	1301	N20	W04	SF	C7.5		10177	2.1E-03
05	1606	1610	1613	N20	W07	SN	C6.4		10177	1.4E-03
05	1633	1642	1655	S11	E15	SF	C1.4		10180	1.7E-03
05	1815	1822	1831	S14	E57	SF	C2.7		10185	2.0E-03
05	2041	2046	2049	N21	W09	SF	C2.8		10177	8.7E-04
05	2101	2111	2135	N15	W06	SF	C3.4		10177	5.3E-03
05	2147	2201	2218	N15	W07	SF	C9.5		10177	1.3E-02
06	0505	0532	0614	S13	E13	SF	C7.2		10180	1.8E-02
06	1159	1207	1214				C1.9			1.4E-03
06	1433	1438	1440	N11	E26	SF	C2.7		10188	7.1E-04
06	1441	1445	1448	S08	E03	SF	C2.6		10180	8.9E-04
06	1636	1642	1645	S08	E06	SF	C3.7		10180	1.1E-03
06	1830	1833	1835	N12	E24	SF	C1.6		10188	4.5E-04
06	1940	1946	1956	N06	E10	SF	C2.2		10187	1.6E-03
06	2014	2019	2022	N12	E23	SF	C2.4		10188	8.5E-04
06	2031	2034	2036				C1.1			3.0E-04
06	2107	2110	2115				C1.2			5.2E-04
06	2125	2157	2223	S08	W04	SF	C4.5		10180	1.2E-02
06	2308	2316	2323	N16	W21	SF	C7.3		10177	4.0E-03
07	0624	0635	0648	N17	W30	SF	C2.5		10177	3.0E-03
07	0901	0904	0906	S10	W11	SF	C2.8		10180	6.7E-04
08	0501	0506	0512	S07	W22	SF	C1.3		10180	8.0E-04
08	0829	0834	0839	S10	W19	SF	C2.1		10180	1.1E-03
08	1001	1009	1015				C2.7			1.8E-03
08	1051	1055	1101	S08	W26	SF	C1.9		10180	1.0E-03
08	1219	1224	1227	S09	W26	SF	C5.8		10180	1.9E-03
08	1351	1355	1358				C2.0			7.2E-04
08	1757	1820	1848	S12	W19	1F	C7.4		10180	1.6E-02
08	2216	2220	2224				C1.3			5.6E-04
09	0422	0426	0430				C1.6			7.0E-04
09	0944	0954	1003				C4.7			4.6E-03
09	1144	1158	1208	S11	W36	SF	C6.3		10180	6.5E-03
09	1308	1323	1336	S12	W29	2B	M4.6		10180	4.8E-02
09	1519	1526	1531	S10	W38	SF	C4.1		10180	2.4E-03
09	1747	1752	1758	S19	E70	SF	C7.9		10191	3.6E-03
09	2312	2319	2324				C5.8			2.9E-03
10	0117	0133	0141				C5.5			6.2E-03
10	0304	0321	0335	S12	W37	2N	M2.4		10180	3.0E-02
10	0528	0533	0541				C2.3			1.6E-03
10	0835	0928	1016				C5.9			3.0E-02
10	1103	1107	1112				C5.5			2.8E-03
10	1133	1136	1139	S18	E60	SF	C5.1		10191	1.7E-03
10	1149	1152	1155				C3.9			1.4E-03
10	1210	1215	1226				C5.4		10180	4.6E-03
10	1335	1346	1404				C4.5			6.6E-03
10	1457	1505	1517				C3.4		10180	3.7E-03
10	1556	1605	1613				C2.6			2.5E-03
10	1640	1655	1702				C3.3			3.5E-03
10	1756	1804	1817				C1.9			2.1E-03
10	1844	1856	1908				C2.1			2.9E-03
10	1949	1958	2006				C1.6			1.5E-03
10	2026	2033	2043				C1.5			1.4E-03
10	2118	2129	2205				C2.3			5.6E-03
10	2339	2351	2411				C3.2			5.2E-03
11	0117	0123	0140				C4.9			5.1E-03
11	0725	0733	0739	S12	W53	1N	M2.9		10180	1.4E-02
11	1225	1254	1310	S12	W57	1F	C7.1		10180	1.4E-02
11	1437	1445	1455	S07	W59	SF	C6.5		10180	5.8E-03
11	1511	1620	1645	S13	W60	1N	M1.8		10180	7.2E-02
11	2235	2255	2334	S23	E34	SF	C7.4		10191	2.2E-02
12	0022	0030	0039	S10	W66	SF	C4.8		10180	4.2E-03
12	0352	0403	0419				C3.5			4.5E-03
12	0742	0749	0758	S12	W66	SF	C5.3		10180	3.5E-03
12	1758	1818	1824	S11	W75	2N	C9.9		10180	6.4E-03
12	1841	1856	1903	S11	W76	1N	M2.9		10180	2.0E-02
13	0341	0511	0552				C3.2			1.8E-02
13	1002	1006	1013				C1.9			1.1E-03
13	1435	1447	1504	S19	E14	SF	C3.0		10191	4.4E-03
13	1727	1803	1823	S20	E15	SF	C1.9		10191	6.1E-03
13	2303	2417	2452				M1.0			4.8E-02
14	1017	1021	1024				C2.6			7.9E-04
14	1029	1034	1039				C2.1			1.1E-03
14	1107	1111	1115				C5.5			1.8E-03
14	1340	1345	1348	S13	E68	1N	C8.1		10195	2.5E-03
14	1511	1515	1528	S13	W66	SF	C1.8		10182	1.5E-03
14	1713	1716	1721				C2.2			9.4E-04
14	1956	2012	2019	N10	W33	SF	C4.7		10192	4.2E-03
14	2221	2226	2230				M1.0			3.7E-03
14	2315	2321	2329	N12	W34	SF	C1.9		10192	1.5E-03
15	0106	0124	0134				M2.4			2.8E-02
15	0225	0230	0236	N12	W36	SF	C5.8		10192	3.6E-03
15	0524	0536	0545	N13	W36	SF	C8.9		10192	9.1E-03
15	0854	0858	0902	S14	E58	SF	C3.3		10195	1.3E-03
15	1152	1156	1159	N11	W40	1F	C6.2		10192	1.9E-03

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

November 2002

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/ USAF Region	Flux
15	1345	1348	1351	N11	W41	SF	C3.2	10192	9.4E-04
15	1438	1441	1443				C1.9		4.8E-04
15	2255	2306	2321				C6.4		8.2E-03
16	0620	0624	0627	S15	E45	SF	C1.5	10195	5.4E-04
16	0632	0636	0642	S19	W18	SF	C1.9	10191	9.8E-04
16	1007	1012	1039				C1.8		3.0E-03
16	1057	1102	1104	N13	W50	SF	C5.4	10192	1.5E-03
16	1354	1359	1411	S20	W21	SF	C8.6	10191	5.4E-03
17	0101	0105	0113	N16	W60	SF	C2.2	10192	1.3E-03
17	0251	0258	0305				C1.7		1.4E-03
17	0504	0543	0552				C5.0		7.8E-03
17	0928	0957	1005				C4.2		5.7E-03
17	1116	1119	1122				C1.8		5.7E-04
17	1229	1234	1239				C7.0		3.7E-03
17	1439	1454	1459	S18	E62	SF	M2.0	10198	1.1E-02
17	2131	2137	2142	S16	E59	SF	C7.9	10198	3.2E-03
18	0021	0024	0026	S20	W33	SF	C4.5	10191	8.5E-04
18	0201	0208	0211	S17	E56	1F	M7.4	10198	1.8E-02
18	0706	0711	0713	N15	W75	1F	C2.2	10192	6.7E-04
18	1005	1101	1131				C2.4		8.5E-03
18	1200	1204	1208				C1.9		8.2E-04
18	1304	1308	1312				C1.4		6.1E-04
18	1613	1617	1620	N15	W79	SF	C2.2	10192	6.7E-04
18	1652	1657	1700	N15	W81	SF	C6.3	10192	1.7E-03
18	2130	2213	2231				C2.1		5.5E-03
19	0728	0737	0753				C4.9		5.6E-03
19	1205	1208	1210				C1.8		4.7E-04
19	1205	1214	1216				C2.5		1.2E-03
19	1947	1952	1959	S19	E36	SF	C1.7	10198	1.0E-03
20	0141	0146	0206				C1.7		2.3E-03
20	0302	0312	0316				C1.4		1.1E-03
20	0442	0450	0457				C1.1		9.1E-04
20	1115	1124	1131	S19	E22	SF	C1.3	10198	1.1E-03
20	1520	1525	1530	S16	E20	SF	C1.0	10198	5.8E-04
20	1625	1633	1636				C3.8		1.6E-03
20	1715	1807	1809	S19	E24	SN	M1.4	10198	1.1E-02
20	1924	1929	1934	S19	E21	SF	C1.6	10198	8.3E-04
20	2351	2356	2359	S19	E12	SF	C5.2	10198	1.3E-03
21	0258	0309	0314	S17	E16	SF	C2.1	10198	1.3E-03
21	0636	0644	0650	S18	E13	SF	C4.0	10198	2.1E-03
21	0807	0812	0816	S20	E11	SF	C2.4	10198	1.1E-03
21	1059	1104	1106	S19	E11	SF	C6.6	10198	1.6E-03
21	1338	1341	1344				C1.2		3.7E-04
21	1642	1647	1651	S17	E10	SF	C3.8	10198	1.3E-03
21	1900	1904	1907	S18	E08	SF	C1.8	10198	6.0E-04
21	1951	1957	2000	S17	E08	SF	C3.8	10198	1.3E-03
21	2024	2030	2036	S15	E00	SF	C2.2	10198	1.3E-03
22	0215	0218	0220	S15	W03	SF	C1.0	10198	3.0E-04
22	1157	1159	1201	S15	W09	SF	B6.5	10198	2.0E-04
22	1536	1542	1553	S17	W07	SF	C3.4	10198	2.6E-03
22	2228	2233	2259				C3.9		4.9E-03
23	0108	0112	0114				C1.3		3.7E-04
23	0119	0125	0138				C2.1		2.0E-03
23	0755	0804	0806				C4.6		1.8E-03
23	0839	0842	0844	S17	W15	SF	C1.9	10198	3.6E-04
23	1047	1052	1056	S17	W13	SF	C1.6	10198	8.5E-04
23	1310	1313	1315				C1.0		2.7E-04
23	1353	1407	1424				C1.6		2.7E-03
23	1739	1745	1749				C1.0		5.7E-04
23	1801	1810	1813				C2.7		1.2E-03
23	2101	2106	2112				C1.4		7.7E-04
24	0208	0213	0217				C1.0		5.2E-04
24	0219	0223	0226				C3.7		9.7E-04
24	0228	0231	0235				C2.8		1.0E-03
24	0338	0347	0359				C1.8		1.8E-03
24	0445	0449	0453				C1.2		5.1E-04
24	0815	0819	0822				C4.8		1.2E-03
24	1723	1809	1840	S19	W37	SF	C1.8	10198	6.2E-03
24	2014	2029	2057	S17	W37	SF	C6.4	10198	1.2E-02
25	1038	1042	1045				C1.3		4.0E-04
25	1623	1710	1800				C1.3		5.2E-03
25	2025	2033	2044				C1.2		1.2E-03
25	2230	2233	2235				C1.0		2.7E-04
25	2342	2357	2412				C1.7		2.6E-03
26	0901	0906	0911				B7.7		4.1E-04
26	1208	1212	1216	N25	W81	SF	C1.0	10197	4.1E-04
26	1826	1835	1839				C3.6	10197	1.9E-03
26	2301	2307	2317	S16	W65	SF	C2.6	10198	2.2E-03
27	0113	0119	0140				C2.4		3.4E-03
27	0206	0251	0358	S18	W66	SF	C6.7	10198	2.6E-02
27	0902	0905	0907				C1.4		3.6E-04
27	0933	0943	0951				C2.3	10198	2.0E-03
27	1643	1653	1700	S20	W72	SF	C3.8	10198	2.9E-03
27	2124	2132	2139	S18	E71	SF	C3.5	10207	2.6E-03
27	2220	2224	2228	S19	W71	SF	C2.9	10198	1.0E-03
27	2259	2307	2312	S18	W72	SF	C1.9	10198	1.4E-03
28	0036	0042	0048				C2.4		1.5E-03
28	0102	0107	0111	S17	W71	1F	C3.7	10198	1.3E-03
28	0254	0300	0304	S17	W72	SF	C2.4	10198	1.1E-03
28	0434	0437	0439				C1.0		2.8E-04
28	0520	0543	0604				C2.5		5.4E-03
28	0806	0821	0831				C4.3		4.5E-03
28	1005	1022	1033				C3.4		5.1E-03
28	1047	1136	1150	S20	W74	SF	C8.4	10198	1.8E-02
28	1246	1256	1303				C1.7		1.7E-03
28	1357	1404	1426	S18	E64	SF	C3.5	10207	4.9E-03
28	1522	1525	1527	S20	E67	SF	C2.0	10207	4.1E-04
28	1656	1701	1706				C1.8		9.9E-04
28	1943	1946	1949				C1.4		4.4E-04
28	2151	2224	2244				C3.1		7.5E-03
29	0429	0443	0455				C2.9		3.3E-03
29	1501	1505	1511	N19	E52	SF	B7.0	10207	3.7E-04
29	1600	1608	1620				B9.9		1.0E-03
30	1119	1125	1132	S19	E67	SF	B8.0	10209	5.4E-04
30	2208	2212	2216				C1.1	10209	4.3E-04

Preliminary GOES Satellite Daily X-Ray Background
Dec 2001 - Nov 2002



Day	Dec 01	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	C1.9	C1.6	C1.3	C1.4	C1.0	C1.9	C1.1	B5.9	C1.9	C1.7	*	B7.0
2	C1.6	C2.7	C1.0	C1.1	C1.4	C1.2	C1.6	B5.4	C1.2	B9.4	*	B6.3
3	C3.6	C2.3	C1.1	B9.8	B8.1	C1.3	B9.0	B7.5	C1.3	C1.3	*	B6.4
4	C1.5	C1.9	B9.6	B7.3	C1.0	C1.5	B4.6	C1.4	C1.5	B9.7	*	B8.3
5	C1.2	C1.9	C1.5	B6.4	C1.3	B9.5	B4.4	B4.7	B9.5	B6.4	*	B7.3
6	C1.0	C1.4	C1.3	B9.9	C1.1	B8.0	B4.0	B4.5	B8.0	B7.5	*	B6.7
7	C1.4	C1.2	C1.0	B7.2	C1.5	B6.8	B3.9	B6.6	B6.8	B9.4	*	B7.2
8	C1.3	C1.0	C1.3	C1.0	C1.1	B5.5	B4.3	B5.3	B5.5	B8.3	*	B8.4
9	C1.5	C4.2	C1.4	C1.0	C1.3	B6.8	B3.9	B6.5	B6.8	B9.6	*	C1.2
10	C1.3	C2.5	C1.4	C2.0	C1.2	B8.0	B6.2	B4.4	B8.0	B9.3	*	C1.2
11	C2.8	C2.1	B9.5	C8.1	C1.0	B8.5	B5.8	B5.2	B8.5	B8.7	*	C1.4
12	C1.6	C1.5	B9.6	C2.5	B9.3	B8.9	B5.4	B6.5	B8.9	B7.0	*	B8.3
13	C2.1	C1.6	C1.0	B8.0	C1.1	B9.3	B4.4	C1.3	B9.3	B7.5	*	C1.1
14	C1.6	C2.0	C1.0	C2.1	C2.4	C1.2	B5.2	B3.8	C1.2	B6.5	*	C1.1
15	C4.1	*	B7.4	B4.7	C5.4	C1.1	B9.2	B7.3	C1.1	B7.7	*	C1.2
16	C1.6	*	B6.9	C8.0	C1.9	C1.6	B4.4	C2.0	C1.6	B9.0	*	C1.0
17	C1.0	C1.8	B6.9	B7.0	C1.0	C1.9	B3.7	B7.6	C1.9	B6.7	*	C1.0
18	C1.0	C1.1	B7.2	B6.0	C1.3	C1.6	B4.7	B7.4	C1.6	C1.1	*	B8.5
19	C1.5	C1.0	B7.6	B6.3	B8.6	C1.7	B4.2	B9.7	C1.7	B6.4	*	B8.6
20	C1.5	C1.1	B9.5	B5.5	C1.0	C1.5	B4.5	C1.3	C1.5	B8.2	*	B7.1
21	C1.6	C1.1	C1.4	C2.1	C1.3	C1.8	B4.4	C8.6	C1.8	B7.6	*	B6.3
22	C1.2	C1.0	C5.0	B7.1	C1.0	C1.9	B4.2	B9.3	C1.9	B5.2	B7.1	B6.4
23	C1.2	C1.3	C1.1	B8.6	B9.9	C1.7	B4.8	C8.6	C1.7	B9.7	B6.7	B5.9
24	C2.2	C1.2	B7.8	B6.5	B9.2	C3.0	B3.2	C1.3	C3.0	B4.8	B4.8	B4.1
25	C2.4	C1.7	C1.2	B7.5	B5.9	C1.1	B3.2	C1.3	C1.1	B6.0	B5.5	B4.3
26	C2.9	C2.1	C1.6	B5.6	B4.9	C3.5	B3.6	C1.8	C3.5	B7.9	B5.4	B5.1
27	C3.6	C2.0	C1.5	B6.1	B7.2	B7.4	B2.9	C9.8	B7.4	B6.2	B6.0	B8.3
28	C2.6	C1.4	C5.0	B8.1	B4.4	C1.0	B3.3	C1.2	C1.0	C1.3	B6.9	B7.6
29	M1.6	C1.7		B7.7	B7.1	C2.3	B3.9	C4.6	C2.3	B6.0	B9.4	B4.9
30	C8.4	C1.6		C1.8	B9.4	C1.3	B5.9	C1.4	C1.3	B9.0	C2.3	B4.4
31	C2.7	C1.7		C1.4		C1.3		C1.7	C1.3		C1.1	

NOTE: * = Data not available.

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 2002

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	EPL	0403E	0434	S30	W90	10	25.2	3		5	9	E	LEAR		
02	DSF	1418U	1233U	N13	W42	10	30.5		04	0	0	E	SVTO		
02	DSF	1928U	1050U	N08	W45	10	30.5		07	0	0	E	RAMY		
04	DSF	0943U	2253U	S20	W08	11	3.8	2	09	0	0	E	LEAR		
04	DSF	1334U	0814U	S19	W14	11	3.5		10	0	0	E	SVTO		
04	DSF	1942U	1134U	S35	E11	11	5.7		11	0	0	E	RAMY		
05	DSF	1515U	0722U	S07	W43	11	2.4		07	0	0	E	SVTO		
08	DSF	0954U	2238U	N21	E05	11	8.8		08	0	0	E	LEAR		
12	LPS	2025E	2240	S12	W88	11	6.2			9	9	E	HOLL	0180	
15	LPS	0329	0820	S19	E90	11	22.0			8	9	E	LEAR		
15	DSF	0950U	2230U	N24	E12	11	16.3		07	0	0	E	LEAR		
18	BSL	1705	0000	N20	W90	11	11.8			9	9	E	RAMY	0192	Flare Associated
18	BSL	1705	1817	N20	W90	11	11.8			9	9	E	RAMY	0192	Flare Associated
19	BSL	1010E	1028U	S11	W90	11	12.6	1	07	9	9	V	KHAR		
20	SPY	1938	1948	S15	W90	11	14.0	1		0	0	E	HOLL	0191	
24	DSF	1847	1950	N10	E27	11	26.8		33	0	0	E	HOLL		
24	DSF	1849	2058	N06	E28	11	26.9		31	0	0	E	RAMY		
27	BSL	0705	1010	N25	W81	11	21.0	1		9	8	E	LEAR	0197	
27	BSL	0938	1010	S20	W68	11	22.2	1		9	9	E	LEAR	0198	
27	DSF	1001U	0018U	S39	E03	11	27.7		11	0	0	E	LEAR		
27	BSL	1005E	1032D	S20	W90	11	20.5			9	9	E	SVTO	0198	

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

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

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

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

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

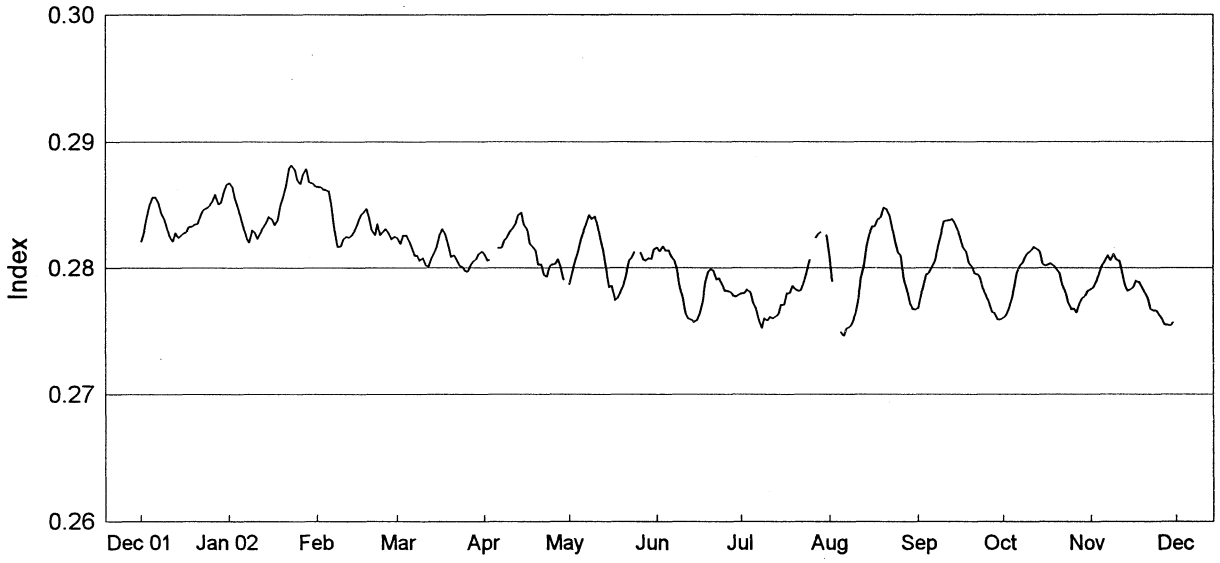
ABST = Abastumani
ATHN = Athens
BUCA = Bucharest
CATA = Catania
HOLL = Holloman
KHAR = Kharkov
LEAR = Learmonth
PALE = Palehua
RAMY = Ramey
SVTO = San Vito
VORO = Voroshilov
VALA = Valasske Mezirici
WROC = Wroclaw

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

NOAA Solar Ultraviolet (UV) MgII Core-to-Wing Index

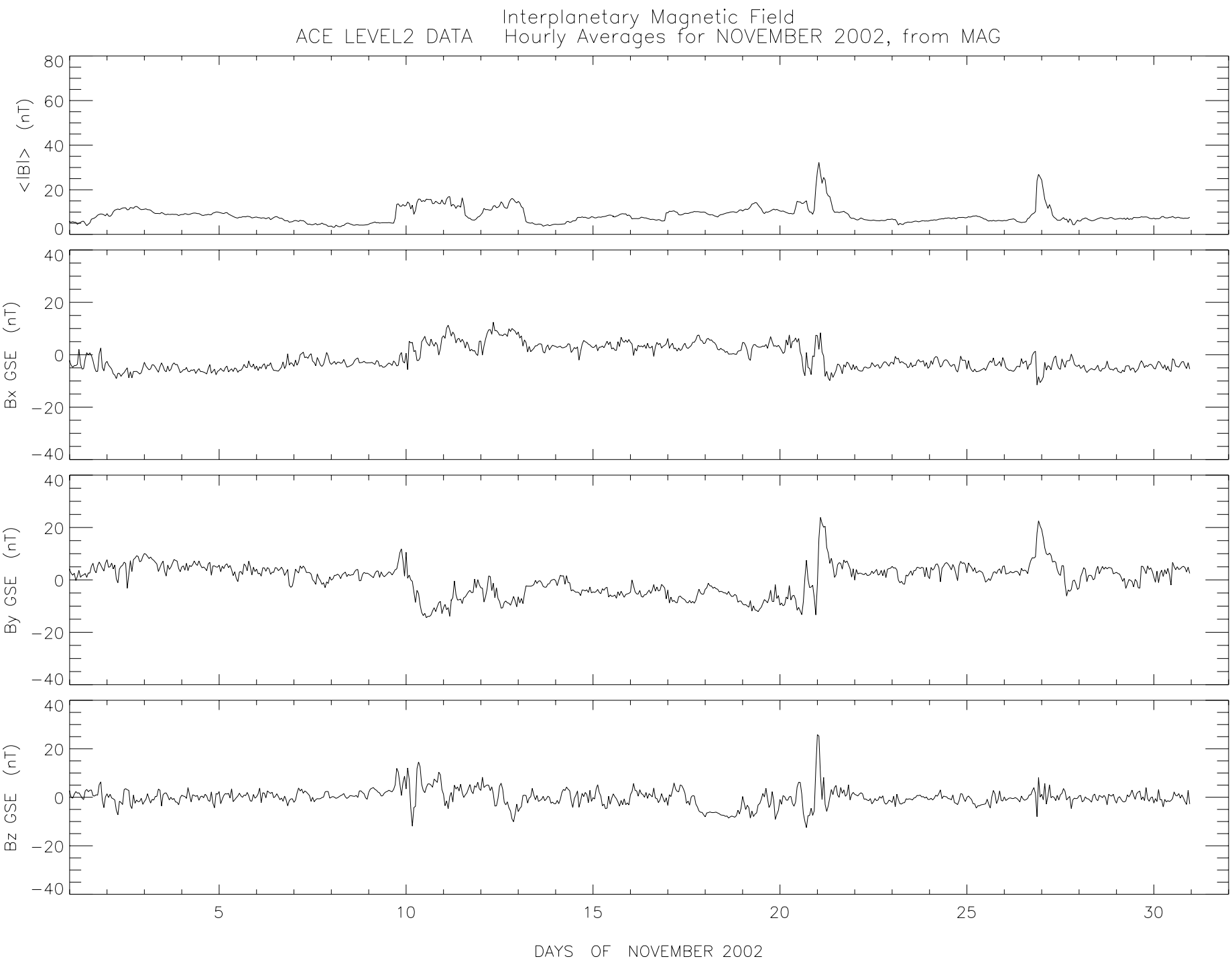
Dec 2001 - Nov 2002

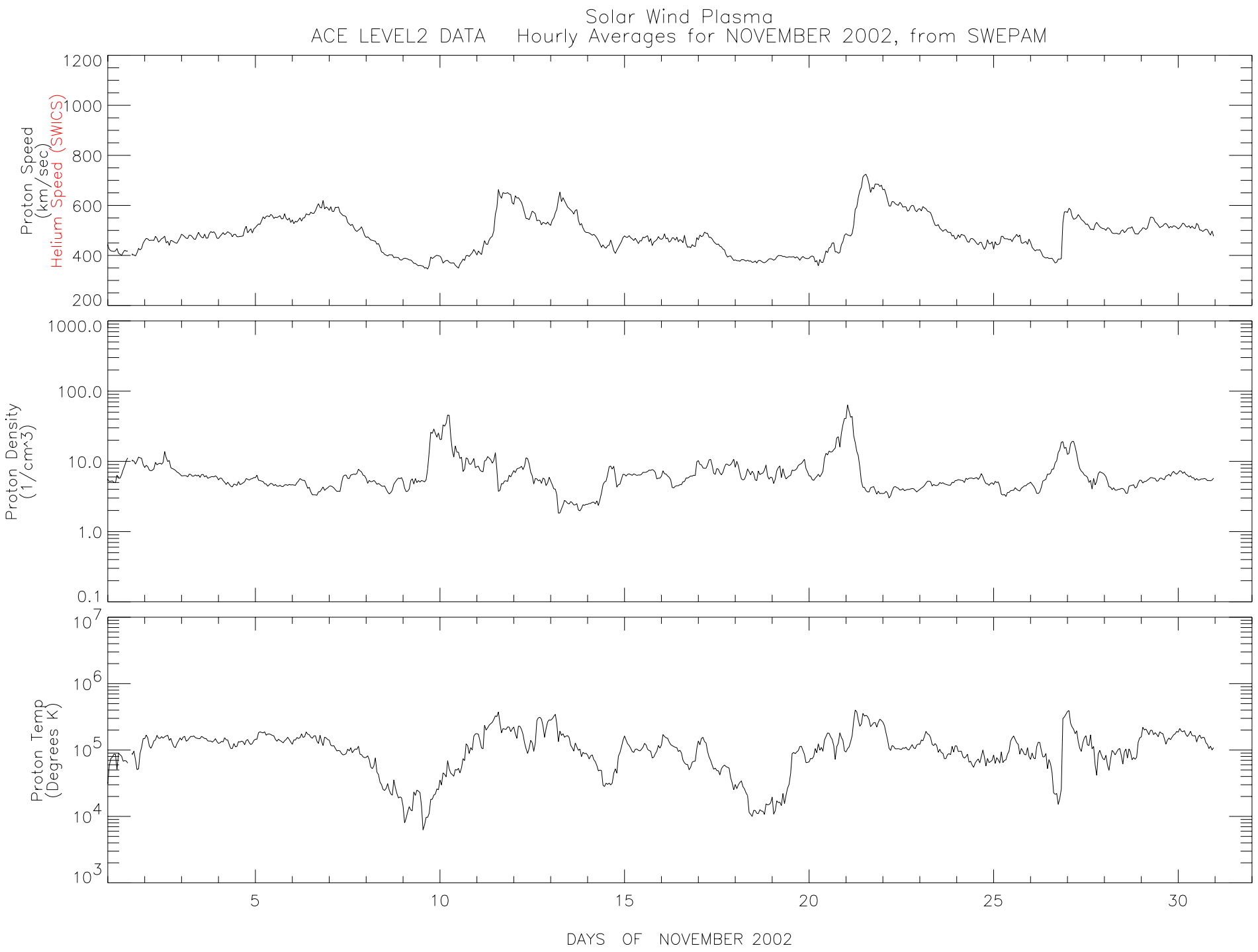
Version 9.1

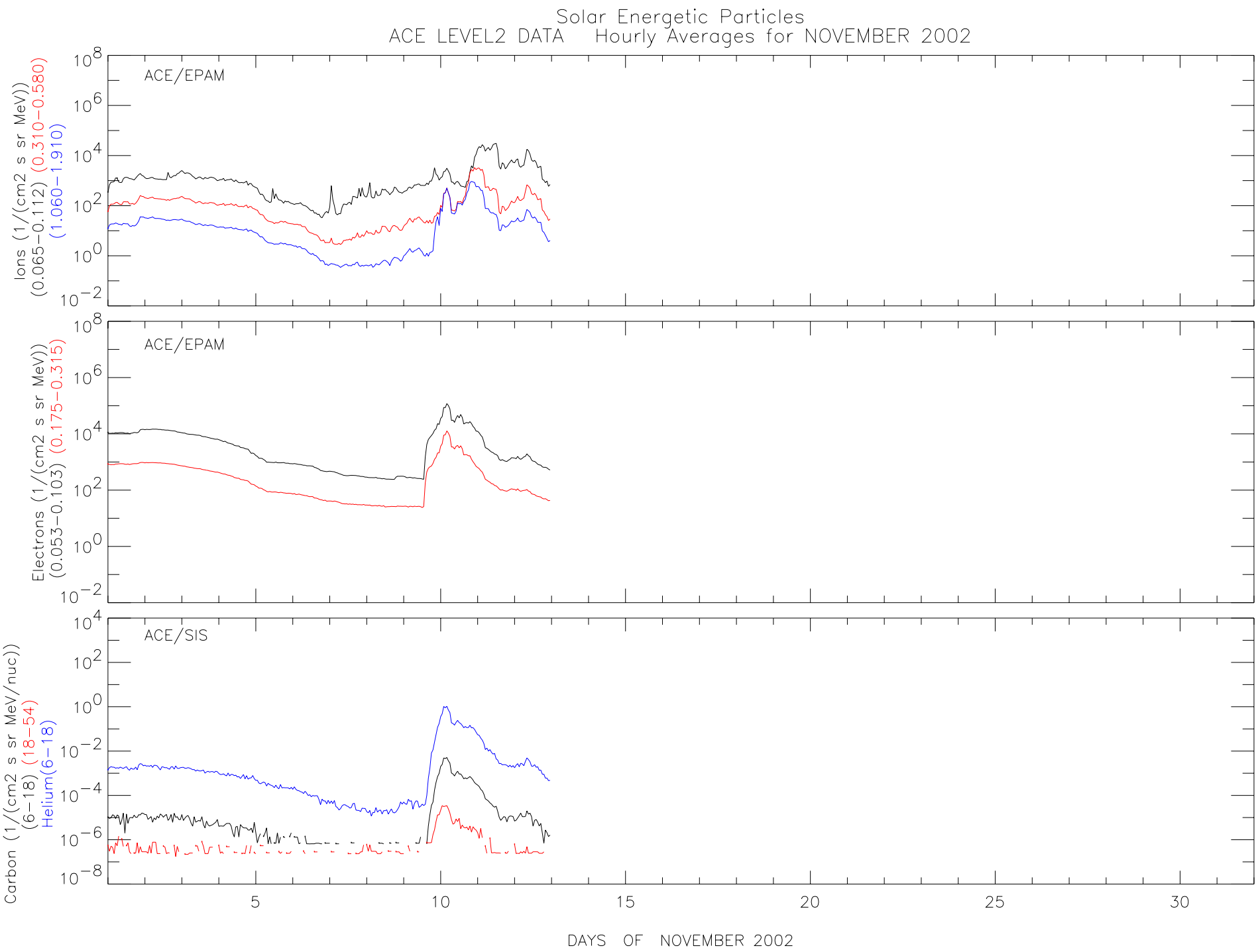


Day	Dec 01	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	0.2821	0.2868	0.2865	0.2824	0.2811	0.2787	0.2816	0.2780	0.2808	0.2768	0.2760	0.2783
2	0.2828	0.2865	0.2865	0.2819	0.2806	0.2795	0.2813	0.2780	0.2789	0.2778	0.2762	0.2785
3	0.2841	0.2855	0.2863	0.2826	0.2807	0.2806	0.2817	0.2783	----	0.2785	0.2767	0.2789
4	0.2850	0.2849	0.2863	0.2826	----	0.2812	0.2814	0.2781	----	0.2795	0.2775	0.2796
5	0.2857	0.2841	0.2861	0.2822	----	0.2823	0.2814	0.2773	0.2749	0.2796	0.2785	0.2802
6	0.2857	0.2833	0.2849	0.2817	0.2816	0.2829	0.2809	0.2767	0.2746	0.2801	0.2796	0.2805
7	0.2851	0.2824	0.2828	0.2810	0.2816	0.2836	0.2806	0.2759	0.2752	0.2805	0.2802	0.2810
8	0.2844	0.2820	0.2817	0.2810	0.2822	0.2842	0.2799	0.2752	0.2753	0.2817	0.2804	0.2806
9	0.2839	0.2830	0.2817	0.2806	0.2824	0.2839	0.2786	0.2760	0.2756	0.2825	0.2810	0.2811
10	0.2832	0.2828	0.2823	0.2808	0.2829	0.2841	0.2776	0.2758	0.2764	0.2837	0.2812	0.2807
11	0.2825	0.2823	0.2825	0.2803	0.2831	0.2834	0.2764	0.2761	0.2774	0.2838	0.2814	0.2806
12	0.2821	0.2828	0.2824	0.2801	0.2835	0.2824	0.2760	0.2760	0.2791	0.2838	0.2817	0.2797
13	0.2828	0.2832	0.2826	0.2807	0.2842	0.2813	0.2759	0.2761	0.2802	0.2839	0.2815	0.2786
14	0.2824	0.2836	0.2830	0.2812	0.2844	0.2801	0.2757	0.2763	0.2817	0.2836	0.2813	0.2782
15	0.2826	0.2841	0.2835	0.2817	0.2834	0.2785	0.2758	0.2771	0.2826	0.2830	0.2804	0.2783
16	0.2828	0.2839	0.2842	0.2826	0.2831	0.2786	0.2763	0.2771	0.2833	0.2823	0.2802	0.2785
17	0.2829	0.2834	0.2844	0.2831	0.2819	0.2774	0.2773	0.2780	0.2833	0.2816	0.2803	0.2790
18	0.2833	0.2838	0.2847	0.2827	0.2817	0.2776	0.2788	0.2780	0.2839	0.2813	0.2804	0.2789
19	0.2833	0.2850	0.2840	0.2818	0.2814	0.2780	0.2797	0.2786	0.2840	0.2804	0.2805	0.2785
20	0.2835	0.2856	0.2830	0.2809	0.2803	0.2786	0.2799	0.2783	0.2848	0.2801	0.2806	0.2781
21	0.2835	0.2867	0.2826	0.2810	0.2803	0.2793	0.2798	0.2782	0.2847	0.2796	0.2796	0.2775
22	0.2842	0.2879	0.2835	0.2807	0.2795	0.2806	0.2791	0.2782	0.2842	0.2795	0.2787	0.2768
23	0.2846	0.2882	0.2826	0.2802	0.2793	0.2808	0.2792	0.2789	0.2832	0.2792	0.2781	0.2766
24	0.2848	0.2879	0.2829	0.2801	0.2801	0.2813	0.2787	0.2796	0.2822	0.2784	0.2773	0.2766
25	0.2849	0.2870	0.2831	0.2798	0.2803	----	0.2782	0.2807	0.2812	0.2777	0.2767	0.2762
26	0.2853	0.2867	0.2827	0.2797	0.2803	0.2812	0.2782	----	0.2810	0.2773	0.2768	0.2759
27	0.2859	0.2875	0.2823	0.2802	0.2807	0.2807	0.2781	0.2824	0.2791	0.2765	0.2764	0.2755
28	0.2851	0.2879	0.2825	0.2805	0.2801	0.2806	0.2778	0.2827	0.2784	0.2764	0.2772	0.2755
29	0.2852	0.2869		0.2807	0.279	----	0.2777	0.2829	0.2772	0.2759	0.2776	0.2754
30	0.2861	0.2868		0.2811	0.2786	----	0.2779	----	0.2768	0.2759	0.2778	0.2757
31	0.2867	0.2866		0.2813		----		0.2826	0.2767		0.2782	
Mean	0.2841	0.2851	0.2836	0.2812	0.2814	0.2808	0.2787	0.2782	0.2799	0.2800	0.2790	0.2783

Data at: http://www.sec.noaa.gov/ftpmenu/sbuv.html


Interplanetary Magnetic Field
ACE LEVEL2 DATA Hourly Averages for NOVEMBER 2002, from MAG
<|B|> (nT)
Bx GSE (nT)
By GSE (nT)
Bz GSE (nT)
80
60
40
20
0
40
20
0
−20
−40
5
10
15
20
25
30
DAYS OF NOVEMBER 2002


Solar Wind Plasma
ACE LEVEL2 DATA Hourly Averages for NOVEMBER 2002, from SWEPAM
Proton Speed (km/sec)
Helium Speed (SWICS)
1200
1000
800
600
400
200
Proton Density (1/cm^3)
1000.0
100.0
10.0
1.0
0.1
Proton Temp (Degrees K)
10^7
10^6
10^5
10^4
10^3
5
10
15
20
25
30
DAYS OF NOVEMBER 2002


Solar Energetic Particles
ACE LEVEL2 DATA Hourly Averages for NOVEMBER 2002
ACE/EPAM
Ions (1/(cm2 s sr MeV))
(0.065–0.112) (0.310–0.580)
(1.060–1.910)
ACE/EPAM
Electrons (1/(cm2 s sr MeV))
(0.053–0.103) (0.175–0.315)
ACE/SIS
Carbon (1/(cm2 s sr MeV/nuc))
(6–18) (18–54)
Helium(6–18)
DAYS OF NOVEMBER 2002