

MAY 2000 NUMBER 669 - Part II

Solar-Geophysical Data comprehensive reports



Data for November 1999 and Miscellaneous

Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

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

William M. Daley, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

D. James Baker, Administrator

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Gregory W. Withee, Assistant Administrator

MAY 2000 NUMBER 669 - Part II

Solar-Geophysical Data comprehensive reports

Data for November 1999 and Late Data

International Standard Serial Number: 0038-0911

Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER

Michael S. Loughridge, Director

Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 669

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Herbert W. Kroehl
Solar-Terrestrial Physics Division

Staff: Edward H. Erwin
Susan E. Wahl

CONTENTS

PART I (PROMPT REPORTS)	Page
DETAILED INDEX FOR 1999-2000	2
DATA FOR APRIL 2000	3- 44
DATA FOR MARCH 2000	45-180
 PART II (COMPREHENSIVE REPORTS)	 Page
DETAILED INDEX FOR 1999-2000	2
DATA FOR NOVEMBER 1999	3-65

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	SEP 99	OCT	NOV	DEC	JAN 00	FEB	MAR	APR
A.	SOLAR AND INTERPLANETARY								
A.1	Sunspot Drawings	663A 48	664A 52	665A 46	666A 43	667A 50	668A 60	669A 52	
A.2aa	International Provisional Sunspot Numbers	662A 25	663A 27	664A 26	665A 26	666A 27	667A 27	668A 30	669A 28
A.2c	American Sunspot Numbers	662A 25	664B154	665A148	666A135			668A 30	669A 28
A.3a	Mt. Wilson Magnetograms	663A 48	664A 52	665A 46	666A 43	667A 50	668A 60	669A 52	
A.3b	Sunspot Mag Class and Regions	663A102	664A110	665A101	666A 93	667A 99	668A106	669A101	
A.3c	Kitt Peak Magnetograms	663A 48	664A 52	665A 46	666A 43	667A 50	668A 60	669A 52	
A.3d	Mean Solar Magnetic Field (Stanford)	662A 35	663A 39	664A 47	665A 37	666A 37	667A 39	668A 51	669A 43
A.3e	Stanford Magnetograms	663A 48	664A 52	665A 46	666A 43	667A 50	668A 60	669A 52	
A.4	H-alpha Filtergrams	663A 48	664A 52	665A 46	666A 43	667A 50	668A 60	669A 52	
A.5d	Photometric Ca II Faculae (San Fernando)	May 88-Dec 91 in 630B 37; Jan 92-Dec 96 in 631B 22; 97-98 in 663B 66							
A.6c	Stanford Solar Mag Field Synoptic Maps	663A 42	664A 50	665A 42	666A 40	667A 44	668A 54	669A 46	
A.6d	Kitt Peak Solar Mag Field Synoptic Maps	663A 47	665A 44	665A 54	666A 42	667A 49	668A 59	669A 51	
A.6f	Active Prominences and Filaments	667B 31	668B 38	669B 62					
A.6g	Sac Peak Coronal Line Synoptic Maps	663A 44	667B 38			667A 46	668A 56	669A 48	
A.6h	Photometric White Light (San Fernando)	Aug 95-Jun 96 in 624B 24; Jul-Dec 96 630B 32; 97-98 in 663B 51							
A.7h	Coronal Line Emission (Sac Peak)	663A 48	664A 52	665A 46	666A 43	667A 50	668A 60	669A 52	
A.7j	Coronal Hole Daily Maps (NSO/KP)	663A 78	664A 83	665A 91	666A 82	667A 89	668A 97	669A 91	
A.7k	Coronal Index (Slovak Academy)	1939-1996 in 644B 28							
A.8aa	2800 MHz- Solar Flux (Penticton)	662A 25	663A 27	664A 26	665A 26	666A 27	667A 27	668A 30	669A 28
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	662A 25	663A 27	664A 26	665A 26	666A 27	667A 27	668A 30	669A 28
A.8g	Adjusted Daily Solar Fluxes (Learmonth)	662A 25	663A 27	664A 26	665A 26	666A 27	667A 27	668A 30	669A 28
A.10g	Nancay Radioheliograph - 1648327 MHz	664B 58	664A144	667B 41	667B 43	667A136	668A152	669A160	
A.10h	Nobeyama Radioheliograph Maps - 17 GHz	663A 97	664A104	665A 96	666A 87	667A 93	668A101	669A 95	
A.11g	Solar X-ray GOES (graphs/event table)	667B 23	668B 29	669B 53					
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.11n	Solar YOHKOH Soft X-ray Images	662A 80	663A 82	664A 88	665A 76	666A 74	667A 81	668A 89	669A 83
A.11o	Solar UV SUSIM (UARS)	Oct 91-Jan 97 in 629B 30							
A.12g	Solar Particles (GOES-7)	662A 4	663A 4	664A 4	665A 4	666A 4	667A 4	668A 4	669A 4
A.12h	Interplanetary Particles (SAMPEX)	Jul 95-Dec 96 in 632B 22; Jan-Dec 97 in 647B 33							
A.13e	Solar Plasma (IMP-8)	667B 33	668B 39	669B 63					
A.16c	ERBS, NOAA-9 & -10 Solar Irradiance	ERBS Jan-Dec 96 in 632B 64; Jan-Oct 97 in 639B 58							
A.16d	UARS Solar Irradiance	Oct 91-Dec 97 in 642B 32							
A.16e	VIRGO/SOHO Solar Irradiance	Jan 96-Nov 99 in 664B 60							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989-Jan 94 in 611A118							
A.17	IMP-8 Interplanetary Mag Field	667B 34	668B 40	669B 64					
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	662A 28	663A 30	664A 29	665A 29	666A 30	667A 30	668A 33	669A 31
C.1ba	H-alpha Flare Groups	667B 4	668B 4	669B 4					
C.1d	Flare Patrol Observations	667B 13	668B 15	669B 26					
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	667B 15	668B 17	669B 28					
C.3	Radio Bursts Fixed Frequency Selected	662A 33	663A 37	664A 43	665A 36	666A 35	667A 37	668A 46	669A 40
C.4	Radio Bursts Spectral	663A118	664A133	665A127	666A111	667A123	668A134	669A131	
C.6	Sudden Ionospheric Disturbances	663A116	664A130	665A124	666A109	667A121	668A132	669A128	
D.	GEOMAGNETIC EVENTS								
D.1a	Geomagnetic Indices	663A140	664A154	665A148	666A135	667A146	668A162	669A171	
D.1ba	27-day Chart of Kp Indices	663A142	664A156	665A150	666A137	667A148	668A164	669A173	
D.1cb	Monthly Mean aa Indices	663A143	664A157	665A151	666A138	667A149	668A165	669A174	
D.1d	Principal Magnetic Storms	663A148	664A161	665A156	666A143	667A156	668A170	669A179	
D.1f	Sudden Commencements/Flare Effects	663A149	664A162	665A157	666A144	667A157	668A171	669A180	
D.1g	Equatorial Indices Dst	663A145	665B 62	665A153	666A140	667A153	668A167	669A176	
D.1i	Polar Cap (PC) Index	663A146	664A159	665A154	666A141	667A154	668A168	669A177	
F.	COSMIC RAYS								
F.1b	Cosmic Ray Neutron Cts (Climax)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
F.1h	Cosmic Ray Neutron Cts (Thule)								
F.1i	Cosmic Ray Neutron Cts (Kiel)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
F.1n	Cosmic Ray Neutron Cts (Beijing)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
F.1m	Cosmic Ray Neutron Cts (Haleakala)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
F.1o	Cosmic Ray Neutron Cts (Moscow)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
F.1p	Cosmic Ray Neutron Cts (Calgary)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
F.1r	Cosmic Ray Neutron Cts (Goose Bay)	663A132	664A146	665A143	666A130	667A138	668A154	669A163	
H.	MISCELLANEOUS								
H.60	ISES Alert Periods	662A 19	663A 20	664A 19	665A 20	666A 20	667A 19	668A 20	669A 19

The entry "663A 48" under Sep 99, for example, means that the sunspot drawings for Sep 99 appear in SOLAR-GEOPHYSICAL DATA No. 663, Part I, and that they begin on page 48. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

CONTENTS

Comprehensive Reports

Number 669 Part II

DATA FOR NOVEMBER 1999

	Page
SOLAR FLARES	
H-alpha Solar Flare Groups	4-25
Intervals of No Flare Patrol Observation	26
Number of Solar Flares January 1965-present	27
SOLAR RADIO BURSTS AT FIXED FREQUENCIES.....	28-52
SOLAR X-RAY RADIATION FROM GOES SATELLITE	
Graphs	53-57
Preliminary Event List	58-60
Preliminary Daily Average Background	61
ACTIVE PROMINENCES AND FILAMENTS	62
IMP-8 SOLAR WIND Plot	63
IMP-8 INTERPLANETARY MAGNETIC FIELD Plot	64-65

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/	CMP	Dur	Imp	Obs	Time	Area Measurement		Corr	Remarks		
								USAF						Region	Mo			Day	(Min)
0001	LEAR	01	0022	0035	0048	N09	E12	8747	11	1.9	26	SF		4	E		27		
0002	LEAR	01	0133	0142	0221	S19	E15	8749	11	2.2	48	SF		3	E		85		
0003	LEAR	01	0443	0451	0511	S18	E14	8749	11	2.3	28	SF		3	E		65		
0004	LEAR	01	0649	0653	0707	S19	E13	8749	11	2.3	18	SF		3	E		68		
0005	RAMY	01	1144	1145	1200	S18	E09	8749	11	2.2	16	SF		3	E		62	F	
0006	SVTO	01	1307E	1307U	1322D	N09	E05	8747	11	1.9	15D	SF		3	E		10		
		01	1316		1338	No Flare Patrol													
0007	HOLL	01	1413	1416	1440	S20	E10	8749	11	2.3	27	SF		3	E		31		
0008	HOLL	01	1517	1522	1528	S19	E10	8749	11	2.4	11	SF		3	E		22		
0009	RAMY	01	1854	1856	1901	S24	W71	8741	10	27.4	7	SF		3	E		14		
0010		01	19283	19331	1940	S24	W68	8741	10	27.6	12	SF					16		
	RAMY	01	1928	1933	1940	S24	W71	8741	10	27.4	12	SF		3	E		18		
	HOLL	01	1931	1934	1939	S24	W64	8741	10	28.0	8	SF		3	E		14		
0011	HOLL	01	2039	2040	2045	S23	W67	8741	10	27.8	6	SF		3	E		14		
0012		01	2116	2118	2123	S24	W70	8741	10	27.6	7	SF					30		
	RAMY	01	2116E	2117U	2123D	S23	W70	8741	10	27.6	7D	SF		2	E		28		
	HOLL	01	2116	2118	2123	S24	W69	8741	10	27.6	7	SF		3	E		32		
0013	HOLL	01	2234	2235	2241	S24	W71	8741	10	27.5	7	SF		3	E		27		
0014	HOLL	01	2310	2311	2316	S24	W70	8741	10	27.6	6	SF		3	E		17		
		01	2343		2400	No Flare Patrol													
		02	0000		0018	No Flare Patrol													
		02	0130		0145	No Flare Patrol													
		02	0153		0238	No Flare Patrol													
		02	0458		0614	No Flare Patrol													
0015		02	09425	09484	0958	S19	W03	8749	11	2.2	16	SF					51		
	LEAR	02	0942	0952	1002	S19	W03	8749	11	2.2	20	SF		2	E		54		
	SVTO	02	0947	0948	0955	S19	W03	8749	11	2.2	8	SF		3	E		48		
0016		02	1246	1250	1255	S20	W02	8749	11	2.4	9	SF					32		
	RAMY	02	1246	1250	1255	S19	W04	8749	11	2.2	9	SF		3	E		32		
	SVTO	02	1246	1250	1255	S22	E01	8749	11	2.6	9	SF		3	E		33		
		03	0153		0518	No Flare Patrol													
0017	LEAR	03	0830	0833	0843	N09	W16	8747	11	2.1	13	SF		3	E		30	F	
		03	1017		1051	No Flare Patrol													
0018	RAMY	03	1214	1214	1220	N10	W17	8747	11	2.2	6	SF		3	E		12		
		03	1716		1742	No Flare Patrol													
0019	HOLL	03	1925	1926	1930	S14	W29	8749	11	1.6	5	SF		3	E		39		
0020	LEAR	03	2247	2248	2309	S19	W23	8749	11	2.2	22	1F		4	E		122		
0021	LEAR	04	0054	0103	0114	S19	W22	8749	11	2.3	20	SF		3	E		29		
0022	LEAR	04	0131	0143	0157	S19	W25	8749	11	2.1	26	SF		3	E		46		
0023	LEAR	04	0236	0300U	0300D	S19	W25	8749	11	2.2	24D	1F		3	E		132		
		04	0327		0349	No Flare Patrol													

H α SOLAR FLARES5
Nov 99

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0024	LEAR	04	0423	0502	0533	S19	W26	8749	11	2.2	70	1N		3	E		181		
0025	LEAR	04	0434	0435	0440	N11	W26	8747	11	2.2	6	SF		3	E		24		F
0026	LEAR	04	0540	0540	0555	S19	W25	8749	11	2.3	15	SF		3	E		30		
			04 1015		1038			No Flare Patrol											
			04 1102		1114			No Flare Patrol											
			04 1949		2013			No Flare Patrol											
0027	HOLL	04	2123	2123	2128	S12	W48	8745	11	1.3	5	SF		3	E		13		
0028		04	22454	22531	2356	S18	W36	8749	11	2.2	71	SF					80		F
	HOLL	04	2245	2253	2359D	S18	W36	8749	11	2.2	74D	SF		3	E		91		
	LEAR	04	2249	2254	2356	S18	W36	8749	11	2.2	67	SF		3	E		70		F
			05 0959		1048			No Flare Patrol											
			05 1131		1140			No Flare Patrol											
0029	RAMY	05	1142	1144	1205	N09	W41	8747	11	2.4	23	SF		3	E		10		
			05 1155		1203			No Flare Patrol											
			05 1318		1337			No Flare Patrol											
0030		05	17151	17161	1811	S20	W46	8749	11	2.2	56	1N					108		F
	HOLL	05	1715	1716	1811	S19	W45	8749	11	2.3	56	1F		3	E		118		
	RAMY	05	1716	1717	1811	S20	W47	8749	11	2.1	55	SN		3	E		98		F
			05 1830		1840			No Flare Patrol											
			05 1902		1905			No Flare Patrol											
0031	HOLL	05	1905	1907	1910	S16	W61	8745	11	1.2	5	SF		3	E		15		
0032		05	19132	19183	2007	S14	W62	8745	11	1.1	54	SF					68		F
	HOLL	05	1913	1918	2007	S13	W64	8745	11	1.0	54	SF		3	E		71		
	RAMY	05	1915	1921	2007D	S14	W61	8745	11	1.2	52D	SF		3	E		64		F
0033	HOLL	05	2116	2118	2125	S24	W50	8749	11	2.0	9	SF		3	E		41		
0034	LEAR	06	0329	0331	0339	S17	W66	8745	11	1.1	10	SF		3	E		19		
0035	KHAR	06	0950E	0952U	1006U	N23	E36	8753	11	9.2	16U	SF		2	V				EH
			06 1000		1112			No Flare Patrol											
0036	KHAR	06	1037		1050D	N06	W56	8747	11	2.2	13D	SF		2	V				D
			06 1124		1149			No Flare Patrol											
			06 1214		1232			No Flare Patrol											
			06 1255		1342			No Flare Patrol											
0037	HOLL	06	2031	2038	2047	S22	W55	8749	11	2.6	16	SF		3	E		41		
			06 2210		2223			No Flare Patrol											
			06 2240		2241			No Flare Patrol											
0038	HOLL	06	2247	2302	2302D	N10	E66	8759	11	11.9	15D	1F		3	E		145		
0039	LEAR	06	2300	2301	2307	N09	E82	8759	11	13.1	7	SF		3	E		79		
0040	LEAR	07	0114	0136	0222	N38	W06	8757	11	6.6	68	SF		4	E		69		E
0041	LEAR	07	0254	0258	0311	N38	W05	8757	11	6.7	17	SF		4	E		18		
0042	LEAR	07	0312	0317	0348	N38	W05	8757	11	6.7	36	SF		3	E		30		
0043	LEAR	07	0338	0357	0402	S17	W65	8749	11	2.2	24	SF		3	E		16		
0044	LEAR	07	0425	0437	0502	N37	W06	8757	11	6.7	37	SF		4	E		28		

6
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/USAF		CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
								Region									Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0045	LEAR	07	0433	0437	0456	S18	W66	8749		11	2.2	23	SF		4	E			50	
		07	1021		1100	No Flare Patrol														
0046	RAMY	07	1105E	1107U	1137	N16	E53	8758		11	11.5	32D	SF		2	E			40	
		07	1829		1830	No Flare Patrol														
		07	1847		2005	No Flare Patrol														
		07	2016		2048	No Flare Patrol														
		07	2056		2106	No Flare Patrol														
		07	2137		2200	No Flare Patrol														
0047	LEAR	07	2302	2302	2313	N19	E64	8758		11	12.8	11	SF		3	E			30	
0048	LEAR	07	2343	2353	2407	N20	E18	8753		11	9.4	24	SF		3	E			42	E
		08	0000		0232	No Flare Patrol														
0049	LEAR	08	0003	0006	0011	N38	W18	8757		11	6.5	8	SF		3	E			24	
0050	LEAR	08	0036	0040	0045	N17	E50	8758		11	11.8	9	SF		3	E			20	
0051	LEAR	08	0101	0102	0106	N14	E73	8759		11	13.5	5	SF		3	E			13	
0052	LEAR	08	0114	0136	0222	N38	W06	8757		11	7.6	68	SF		4	E			69	E
0053	LEAR	08	0123	0124	0127	N19	E64	8758		11	12.9	4	SF		3	E			13	
0054	LEAR	08	0128	0132	0136	S17	W78	8749		11	2.1	8	SF		3	E			20	
0055	LEAR	08	0150	0155	0200	N18	E64	8758		11	12.9	10	SF		3	E			15	
0056	LEAR	08	0209	0209	0213	N37	W20	8757		11	6.5	4	SF		3	E			15	
0057	LEAR	08	0209	0209	0213	N11	E59	8759		11	12.5	4	SF		3	E			17	
0058	LEAR	08	0258	0302	0306	N20	E16	8753		11	9.3	8	SF		3	E			15	
0059	LEAR	08	0335	0338	0345	N20	E14	8753		11	9.2	10	SF		4	E			28	E
0060	LEAR	08	0433	0437	0456	S18	W66	8749		11	3.2	23	SF		4	E			50	
0061	LEAR	08	0440	0454	0505	N13	E32	8760		11	10.6	25	SF		4	E			16	
0062	LEAR	08	0514	0518	0532	N13	E32	8760		11	10.6	18	SF		4	E			26	
		08	0551		1047	No Flare Patrol														
0063	LEAR	08	0557	0558	0614	S18	W82	8749		11	2.0	17	SF		4	E			47	
0064	LEAR	08	0643	0646	0652	N09	E65	8759		11	13.1	9	SF		4	E			30	
0065	LEAR	08	0648	0652	0806	N12	E31	8760		11	10.6	78	SF		4	E			52	
0066	LEAR	08	0857	0900	0907	N13	E31	8760		11	10.7	10	SF		3	E			29	
		08	1054		1101	No Flare Patrol														
0067	RAMY	08	1116E	1117U	1139D	N12	E28	8760		11	10.6	23D	SN		3	E			62	F
0068	RAMY	08	1256	1309	1346	N07	E54	8759		11	12.6	50	SF		3	E			59	
0069		08	1609	1614	1644	N12	E24	8760		11	10.5	35	SF						38	F
	RAMY	08	1608E	1612U	1642	N11	E25	8760		11	10.5	34D	SF		3	E			45	
	HOLL	08	1609	1614	1646	N12	E24	8760		11	10.5	37	SF		3	E			32	F
0070	HOLL	08	1838	1852	1923	N12	E65	8759		11	13.7	45	SF		3	E			35	F
0071	HOLL	08	1957	1957	2001	N21	E45	8758		11	12.3	4	SF		3	E			21	

H α SOLAR FLARES7
Nov 99

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
			08 2056		2118			No Flare Patrol										
0072	HOLL	08	2240	2241	2244	N10	E49	8759	11 12.6	4	SF		3	E			12	
0073		08	2329	2337	2345	N10	E56	8759	11 13.2	16	SF						16	
	LEAR	08	2329	2337	2344	N09	E55	8759	11 13.1	15	SF		3	E			12	
	HOLL	08	2336E	2336U	2346	N10	E56	8759	11 13.2	10D	SF		2	E			19	
0074	LEAR	09	0122	0149U	0202D	N14	E24	8760	11 10.9	40D	SF		3	E			21	
0075	LEAR	09	0158	0159	0219	N20	E39	8758	11 12.1	21	SF		3	E			71	
0076	LEAR	09	0203	0206	0216	N12	E20	8760	11 10.6	13	SF		3	E			12	
0077	LEAR	09	0217	0218	0228	N12	E20	8760	11 10.6	11	SF		3	E			23	
0078		09	03242	03273	0343	N16	E39	8758	11 12.1	19	1N						166	2.4 D
	LEAR	09	0324	0327	0400	N17	E36	8758	11 11.9	36	1N		3	E			157	
	MITK	09	0325	0327	0331	N11	E41	8758	11 12.2	6	1N			C	0327		148	2.1
	URUM	09	0326	0330	0338	N20	E40	8758	11 12.2	12	1N			C			193	2.7 D
0079	LEAR	09	0413	0606	0935	N12	E18	8760	11 10.5	322	2B		3	E			271	FT
0080	LEAR	09	0512	0602	0634	N09	E52	8759	11 13.1	82	SF		4	E			61	
0081	LEAR	09	0858	0859	0906	N23	W54	8751	11 5.2	8	SF		4	E			28	E
0082		09	09371	09402	0947	N16	E18	8760	11 10.8	10	SF						45	EF
	LEAR	09	0937	0942	1015D	N16	E18	8760	11 10.8	38D	SF		3	E			45	F
	KHAR	09	0938	0940	0947	N17	E17	8760	11 10.7	9	SF		2	V				E
			09 1021		1046			No Flare Patrol										
0083	RAMY	09	1332	1337	1355	N06	E44	8759	11 12.8	23	SF		3	E			78	
0084	HOLL	09	1446	1447	1500	N14	E14	8760	11 10.7	14	SF		3	E			22	
0085		09	1552	16211	1641	N12	E12	8760	11 10.6	49	SF						68	
	RAMY	09	1552	1621	1632	N11	E11	8760	11 10.5	40	SF		3	E			79	
	HOLL	09	1555E	1622	1650	N12	E12	8760	11 10.6	55D	SF		3	E			56	
0086	HOLL	09	1719	1720	1723	N14	E13	8760	11 10.7	4	SF		3	E			25	
0087	HOLL	09	1739	1749	1814	N14	E12	8760	11 10.6	35	SF		3	E			69	
0088	HOLL	09	1926	1927	1929	N12	E11	8760	11 10.6	3	SF		3	E			35	
0089	HOLL	09	1946	2007	2042	N10	E53	8759	11 13.8	56,	1F		3	E			187	
0090		10	0143	0144	0150	N16	E08	8760	11 10.7	7	SN						75	0.6 D
	MITK	10	0143	0144	0145	N17	E08	8760	11 10.7	2	SN			C	0144		53	0.6 D
	LEAR	10	0143	0144	0154	N16	E09	8760	11 10.7	11	SN		3	E			97	
0091	LEAR	10	0208	0209	0212	N12	E07	8760	11 10.6	4	SF		4	E			18	
0092	LEAR	10	0223	0224	0227	N12	E07	8760	11 10.6	4	SF		3	E			19	
0093	LEAR	10	0246	0252	0317	N19	E37	8761	11 12.9	31	SF		4	E			49	
0094	LEAR	10	0249	0249	0253	N12	E07	8760	11 10.6	4	SF		4	E			25	
0095	LEAR	10	0250	0252	0305	N17	E23	8758	11 11.9	15	SF		4	E			17	
0096	LEAR	10	0331	0332	0350	N12	E06	8760	11 10.6	19	SF		3	E			67	
0097	LEAR	10	0345	0348	0400	N17	E22	8758	11 11.8	15	SF		4	E			28	
0098	LEAR	10	0538	0547	0605	N16	E06	8760	11 10.7	27	SF		4	E			39	

8
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0099	LEAR	10	0602	0605	0620	N06	E36	8759	11	12.9	18	SF		3	E		64		F
0100	LEAR	10	0605	0712	0840	N12	E04	8760	11	10.5	155	1N		3	E		146		
0101	LEAR	10	0659	0714	0818	N21	W15	8753	11	9.1	79	SF		3	E		68		F
0102	LEAR	10	0741	0751	0813	S18	E81	8763	11	16.5	32	1F		3	E		166		E
0103	LEAR	10	0914	0921	0942	N12	E03	8760	11	10.6	28	SF		3	E		45		
			10 1022		1258	No Flare Patrol													
			10 1304		1344	No Flare Patrol													
0104	HOLL	10	1439	1441	1455	S16	E73	8763	11	16.1	16	SF		3	E		26		
0105	HOLL	10	1524	1525	1527	N21	W18	8753	11	9.3	3	SF		3	E		12		
0106	HOLL	10	1544	1549	1558	N17	W21	8753	11	9.0	14	SF		3	E		99		
0107	HOLL	10	1604	1610	1627	N21	W22	8753	11	9.0	23	SF		3	E		69		
0108	HOLL	10	1633	1634	1647	S16	E79	8763	11	16.7	14	1F		3	E		119		
0109	HOLL	10	1708	1712	1720	S18	E74	8763	11	16.3	12	SF		3	E		21		
0110	HOLL	10	1728	1732	1737	S13	E75	8763	11	16.4	9	SF		3	E		38		
0111	HOLL	10	1814	1816	1827	N12	W05	8760	11	10.4	13	SF		3	E		15		
0112	HOLL	10	1937	2005	2025	N10	E35	8759	11	13.4	48	SF		3	E		68		
0113	HOLL	10	1947	1951	2019	N19	E26	8761	11	12.8	32	SF		3	E		93		
0114	HOLL	10	2010	2018	2029	S15	E73	8763	11	16.4	19	SF		3	E		45		
0115	HOLL	10	2135	2136	2140	S16	E71	8763	11	16.3	5	SF		3	E		29		
0116	HOLL	10	2138	2138	2140	N10	E33	8759	11	13.4	2	SF		3	E		13		
0117		10	2211	22123	2220	N18	W25	8753	11	9.0	9	1N					142		E
	HOLL	10	2211	2212	2220	N17	W25	8753	11	9.0	9	1N		3	E		143		
	LEAR	10	2214E	2215	2222D	N20	W25	8753	11	9.0	8D	1F		2	E		140		E
0118	HOLL	10	2244	2308	2321	N09	E33	8759	11	13.4	37	SF		3	E		22		
0119	LEAR	11	0118	0153	0214	N09	E32	8759	11	13.4	56	SF		3	E		44		
0120		11	01262	0129	0136	N18	W27	8753	11	9.0	10	SN					62	0.6	DE
	LEAR	11	0126	0129	0142	N18	W27	8753	11	9.0	16	SN		3	E		71		E
	MITK	11	0128	0129	0130	N17	W27	8753	11	9.0	2	SN			C	0129	53	0.6	D
0121	LEAR	11	0157	0201	0221	N37	W56	8757	11	6.6	24	SN		3	E		94		E
0122	LEAR	11	0248	0249	0327	N09	E27	8759	11	13.1	39	SF		3	E		31		
0123	LEAR	11	0300	0303	0338	S18	E69	8763	11	16.4	38	SF		3	E		61		
0124	LEAR	11	0427E	0445U	0448D	N09	E26	8759	11	13.1	21D	SF		2	E		12		
0125	LEAR	11	0444E	0458U	0507D	N20	W24	8753	11	9.4	23D	SF		3	E		36		
0126	LEAR	11	0456E	0457U	0521	S17	E69	8763	11	16.4	25D	1F		3	E		107		F
0127	LEAR	11	0510	0519	0522	N20	W24	8753	11	9.4	12	SF		3	E		15		
0128	LEAR	11	0512	0515	0518	N09	E26	8759	11	13.2	6	SF		3	E		15		
0129	LEAR	11	0548	0550	0557	N20	E21	8761	11	12.8	9	SF		3	E		21		

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/	CMP	Dur	Imp	Obs	Time	Area Measurement		Remarks		
								USAF Region						Mo	Day		(Min)	Opt
0130	LEAR	11	0548	0549	0553	N20	W24	8753	11	9.4	5	SF	3	E		15		
		11	0606		1345	No Flare Patrol												
0131	HOLL	11	1441	1443	1512	N09	E19	8759	11	13.0	31	1N	3	E		139		
0132	HOLL	11	1500	1501	1508	S14	E62	8763	11	16.3	8	SF	3	E		18		
0133	HOLL	11	1503	1505	1531	N14	W14	8760	11	10.6	28	SF	3	E		72		
0134	HOLL	11	1719	1722	1735	N12	W15	8760	11	10.6	16	SF	3	E		11		
0135	HOLL	11	1755	1756	1801	N14	W17	8760	11	10.5	6	SF	3	E		19		
0136	HOLL	11	1758	1802	1820	S15	E63	8763	11	16.5	22	SF	3	E		20		
0137	HOLL	11	1945	1953	2007	N20	W38	8753	11	8.9	22	SF	3	E		28		
0138	HOLL	11	1958	1959	2029	N08	E18	8759	11	13.2	31	SF	3	E		78		
0139	HOLL	11	2053	2055	2057	S15	E61	8763	11	16.5	4	SF	3	E		17		
0140	HOLL	11	2115	2116	2119	N10	E23	8759	11	13.6	4	SF	3	E		35		
0141	HOLL	11	2144	2145	2149	S15	E61	8763	11	16.5	5	SF	3	E		96		
0142	HOLL	11	2152	2152	2156	N14	E21	8759	11	13.5	4	SF	3	E		22		
0143	HOLL	11	2247	2248	2258	N15	W20	8760	11	10.4	11	SF	3	E		29		
0144	HOLL	11	2253	2256	2301	S15	E60	8763	11	16.5	8	SF	3	E		69		
		11	2355		2400	No Flare Patrol												
		12	0000		0010	No Flare Patrol												
0145	LEAR	12	0004E	0015U	0026	S18	E59	8763	11	16.5	22D	SF	2	E		59		
		12	0030		0106	No Flare Patrol												
		12	0113		0402	No Flare Patrol												
0146	LEAR	12	0350E	0350U	0408D	S14	E55	8763	11	16.3	18D	SF	2	E		73		
0147	LEAR	12	0416	0450	0518	N18	W35	8753	11	9.5	62	SF	3	E		40	F	
0148	LEAR	12	0441	0442	0458	N18	W30	8764	11	9.9	17	SF	3	E		16		
0149	LEAR	12	0450	0453	0457	N09	E12	8759	11	13.1	7	SF	3	E		20		
0150	LEAR	12	0515	0519	0524	S11	E67	8765	11	17.2	9	SF	3	E		19		
0151	LEAR	12	0526	0527	0531	N09	E12	8759	11	13.1	5	SF	3	E		13		
0152	LEAR	12	0532	0538	0551	N09	E12	8759	11	13.1	19	SF	3	E		19		
0153	LEAR	12	0555	0555	0602	N09	E12	8759	11	13.1	7	SF	3	E		12		
0154	LEAR	12	0536	0536	0550	N12	W21	8760	11	10.6	14	SF	3	E		27		
0155	LEAR	12	0557	0559	0617	N12	W22	8760	11	10.6	20	SF	3	E		41		
0156	LEAR	12	0621	0622	0640	N12	W22	876										

10
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0159	RAMY	12	1238E	1238	1244	N08	E06	8759	11	13.0	6D	SF		3	E		30		
			12 1247		1335			No Flare Patrol											
			12 1343		1347			No Flare Patrol											
0160	HOLL	12	1424	1427	1438	N07	E12	8759	11	13.5	14	SF		3	E		22		
0161	HOLL	12	1427	1441	1507	S15	E53	8763	11	16.6	40	SF		3	E		96		
0162	RAMY	12	1429E	1430U	1439D	N15	E51	8763	11	16.5	10D	SF		2	E		36		
0163	HOLL	12	1440	1441	1450	N13	W27	8760	11	10.6	10	SF		3	E		49		
0164	HOLL	12	1617	1726	1820	S17	E48	8763	11	16.3	123	1F		3	E		171		F
0165	HOLL	12	1826	1828	1838	S14	E52	8763	11	16.7	12	SF		3	E		54		
0166	HOLL	12	1843	1843	1847	S15	E50	8763	11	16.6	4	SF		3	E		10		
0167	HOLL	12	1827	1827	1848	N11	E16	8759	11	14.0	21	SF		3	E		15		
0168	HOLL	12	1849	1849	1903	N12	E12	8759	11	13.7	14	SF		3	E		27		
0169	HOLL	12	2340	2341	2352	N07	E00	8759	11	13.0	12	SF		2	E		15		F
			12 2355		2400			No Flare Patrol											
			13 0000		0010			No Flare Patrol											
0170	LEAR	13	0200E	0219U	0300D	S09	E52	8765	11	17.0	60D	SF		2	E		80		F
0171	LEAR	13	0200E	0219U	0300D	S15	E44	8763	11	16.4	60D	1F		2	E		148		E
0172	URUM	13	0304	0311	0315D	S15	E43	8763	11	16.4	11D	1F			P		225	3.4	E
0173	LEAR	13	0336E	0357U	0404D	S09	E51	8765	11	17.0	28D	SF		2	E		31		
0174	LEAR	13	0417E	0419U	0423D	S15	E43	8763	11	16.4	6D	SF		2	E		20		
0175	LEAR	13	0424E	0424U	0429D	N20	W55	8753	11	9.0	5D	SF		2	E		16		
0176	LEAR	13	0438	0442	0449	S15	E42	8763	11	16.4	11	SF		3	E		52		
0177	LEAR	13	0534E	0535U	0542D	S15	E42	8763	11	16.4	8D	SF		2	E		36		E
			13 0719		0745			No Flare Patrol											
0178	LEAR	13	0806E	0808U	0839D	S15	E40	8763	11	16.4	33D	SF		2	E		73		
			13 0824		0832			No Flare Patrol											
			13 1024		1210			No Flare Patrol											
0179	RAMY	13	1235E	1235U	1246	N16	W48	8764	11	9.9	11D	SF		2	E		16		
0180	RAMY	13	1235E	1235U	1247D	N18	W57	8753	11	9.2	12D	SF		2	E		31		F
			13 1248		1256			No Flare Patrol											
0181	RAMY	13	1257E	1258U	1320	S18	E37	8763	11	16.3	23D	SF		2	E		18		
			13 1334		1345			No Flare Patrol											
0182	HOLL	13	1404E	1406U	1445	N12	E03	8759	11	13.8	41D	SF		2	E		51		
0183	HOLL	13	1517	1518	1535	N14	E00	8759	11	13.6	18	SF		3	E		26		
0184	HOLL	13	1544	1544	1550	S16	E39	8763	11	16.6	6	SF		3	E		40		
0185	HOLL	13	1551	1628	1725D	S16	E39	8763	11	16.6	94D	1F		3	E		196		

H α SOLAR FLARES11
Nov 99

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0186	HOLL	13	1559	1601	1610	N11	E02	8759	11	13.8	11	SF		3	E		37		F
0187	HOLL	13	1614	1630	1645	S12	E51	8765	11	17.5	31	SF		3	E		35		
		13	1719		1724	No Flare Patrol													
0188		13	1725	1726	1740	S12	E47	8765	11	17.3	15	SF					40		
	HOLL	13	1725	1726	1744D	S12	E47	8765	11	17.3	19D	SF		3	E		51		
	RAMY	13	1727E	1727U	1740	S11	E47	8765	11	17.3	13D	SF		3	E		28		
0189	HOLL	13	1745	1746	1751	N15	W03	8759	11	13.5	6	SF		3	E		48		
0190	HOLL	13	1916	1916	1922	S13	E47	8765	11	17.3	6	SF		3	E		40		
0191	HOLL	13	1924	1925	1929	S13	E47	8765	11	17.3	5	SF		3	E		30		
0192		13	1924	1925	1936	N10	W02	8759	11	13.6	12	SF					66		F
	HOLL	13	1924	1925	1933	N10	W03	8759	11	13.6	9	SF		3	E		94		F
	RAMY	13	1924	1925	1938	N09	W01	8759	11	13.7	14	SF		3	E		37		
0193	HOLL	13	2101	2102	2104	S12	E45	8765	11	17.3	3	SF		3	E		27		
0194	LEAR	13	2328	2341	2412	S09	E40	8765	11	17.0	44	SN		3	E		60		F
0195	LEAR	13	2356		2521	S15	E32	8763	11	16.4	85	SF		3	E		25		F
0196	LEAR	13	2359		2403	N09	W12	8759	11	13.1	4	SF		3	E		14		
0197	LEAR	14	0015	0026	0030	S09	E40	8765	11	17.0	15	SF		3	E		18		
0198	LEAR	14	0037	0048	0104	S09	E40	8765	11	17.0	27	SF		3	E		46		
0199	LEAR	14	0111	0111	0114	S09	E40	8765	11	17.0	3	SF		3	E		16		
0200	LEAR	14	0122	0126	0137	S15	E31	8763	11	16.4	15	SF		3	E		29		
0201	LEAR	14	0142	0142	0149	N17	E65	8766	11	19.0	7	SF		3	E		13		
0202	LEAR	14	0156	0156	0200	N17	E65	8766	11	19.0	4	SF		3	E		12		
0203	LEAR	14	0142	0144	0207	S15	E31	8763	11	16.4	25	SF		3	E		32		
0204	LEAR	14	0147	0147	0155	S09	E39	8765	11	17.0	8	SF		3	E		21		
0205	LEAR	14	0212	0215	0217	S09	E39	8765	11	17.0	5	SF		3	E		14		
0206	LEAR	14	0256	0256	0300	S10	E44	8765	11	17.4	4	SF		3	E		13		F
0207	LEAR	14	0348	0352	0414	S10	E43	8765	11	17.4	26	SF		3	E		51		F
0208	LEAR	14	0435	0438	0522	N10	W09	8759	11	13.5	47	1F		3	E		156		E
0209	LEAR	14	0436	0438	0444	N17	E64	8766	11	19.0	8	SF		3	E		21		
0210	URUM	14	0446	0450	0452	N10	W28	8767B	11	12.1	6	1N			C		241	2.8	E
0211	LEAR	14	0449	0500	0505	N17	E63	8766	11	19.0	16	SF		3	E		26		
0212	LEAR	14	0528	0534	0543	S09	E37	8765	11	17.0	15	SF		3	E		20		
0213	LEAR	14	0532	0537	0543	N17	E63	8766	11	19.0	11	SF		3	E		21		
0214	LEAR	14	0610	0618	0644	S09	E37	8765	11	17.0	34	SF		3	E		89		
0215	LEAR	14	0627	0642	0706	N17	E62	8766	11	19.0	39	SF		3	E		52		
0216	LEAR	14	0714	0715	0717	N17	E62	8766	11	19.0	3	SF		3	E		40		
0217	LEAR	14	0720	0721	0723	N17	E62	8766	11	19.0	3	SF		3	E		44		

12
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0218	LEAR	14	0647	0650	0658	S09	E37	8765	11	17.0	11	SF		3	E		32		
0219	LEAR	14	0720	0720	0723	S09	E36	8765	11	17.0	3	SF		3	E		19		
0220	URUM	14	0830E	0830	0902	S15	E29	8763	11	16.5	32D	1N			P		289	3.6	E
		14	1022		1132			No Flare Patrol											
		14	1210		1350			No Flare Patrol											
0221	HOLL	14	1400E	1401U	1526	N18	E61	8766	11	19.2	86D	SF		2	E		86		
0222	HOLL	14	1400E	1402U	1519	S12	E38	8765	11	17.4	79D	SF		2	E		93		
0223	HOLL	14	1403E	1404U	1446	N09	W15	8759	11	13.4	43D	SF		2	E		21		F
0224	HOLL	14	1526	1528	1538	S12	E38	8765	11	17.5	12	SF		3	E		17		
0225		14	1536	16034	1803	N18	E62	8766	11	19.4	147	2B					256		
	HOLL	14	1536	1607	1803	N18	E63	8766	11	19.4	147	2N		3	E		319		
	RAMY	14	1554E	1603	1725D	N18	E60	8766	11	19.2	91D	1B		3	E		194		
0226	HOLL	14	1538	1810	1854	S11	E36	8765	11	17.3	196	1N		3	E		178		
0227	RAMY	14	1603	1604	1620	S13	E36	8765	11	17.4	17	SF		3	E		13		
0228	RAMY	14	1621	1623	1743D	S11	E36	8765	11	17.4	82D	SN		3	E		77		H
0229	HOLL	14	1714	1728	1840	N10	W13	8759	11	13.7	86	SF		3	E		39		
0230	HOLL	14	1750	1752	1800	S16	E18	8763	11	16.1	10	SF		3	E		37		
0231	HOLL	14	1819	1821	1824	N18	E60	8766	11	19.3	5	SF		3	E		17		
0232	HOLL	14	1851	1853	1857	N17	E55	8766	11	19.0	6	SF		3	E		19		
0233	HOLL	14	1910	1917	1926	S11	E36	8765	11	17.5	16	SF		3	E		28		
0234	HOLL	14	1944	1945	1948	S11	E36	8765	11	17.5	4	SF		3	E		21		
0235	HOLL	14	1949	1952	2028	S11	E36	8765	11	17.5	39	SF		3	E		56		
0236	HOLL	14	2045	2046	2053	S12	E36	8765	11	17.6	8	SF		3	E		10		F
0237	HOLL	14	2114	2116	2129	S12	E31	8765	11	17.2	15	SF		3	E		31		
0238	HOLL	14	2242	2246	2248	S12	E32	8765	11	17.3	6	SF		3	E		10		
0239		14	22403	22444	2358	S17	E18	8763	11	16.3	78	1F					120		F
	HOLL	14	2240	2248	2352D	S19	E18	8763	11	16.3	72D	1F		3	E		146		
	LEAR	14	2243	2244	2358	S15	E19	8763	11	16.4	75	SF		4	E		95		F
0240	LEAR	14	2246	2436	2559	S09	E27	8765	11	17.0	193	SF		3	E		83		T
0241		14	23131	23144	2320	N16	E54	8766	11	19.1	7	SF					27		
	HOLL	14	2313	2318	2320	N14	E56	8766	11	19.2	7	SF		3	E		19		
	LEAR	14	2314	2314	2320	N17	E53	8766	11	19.0	6	SF		3	E		35		
0242		14	23261	23278	2344	N17	E53	8766	11	19.0	18	SF					20		
	HOLL	14	2326	2327	2352D	N17	E53	8766	11	19.0	26D	SF		2	E		16		
	LEAR	14	2327	2335	2344	N17	E53	8766	11	19.0	17	SF		4	E		25		
0243	HOLL	14	2321	2325	2352D	S09	E28	8765	11	17.1	31D	SF		3	E		13		
0244	LEAR	15	0007E	0007	0032	N17	E53	8766	11	19.0	25D	SF		4	E		55		
0245	LEAR	15	0046	0051	0101	N09	W25	8759	11	13.1	15	SF		4	E		19		
0246	LEAR	15	0116	0127	0143	N17	E52	8766	11	19.0	27	SF		4	E		60		

H α SOLAR FLARES13
Nov 99

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0247	LEAR	15	0147	0147	0155	N09	W26	8759	11	13.1	8	SF		3	E		33		
0248	LEAR	15	0218	0219	0223	S09	E26	8765	11	17.0	5	SF		3	E		45		
0249	LEAR	15	0219	0222	0223	N17	E52	8766	11	19.0	4	SF		3	E		32		
0250	LEAR	15	0238	0240	0252	N17	E51	8766	11	19.0	14	SF		3	E		23		
0251	LEAR	15	0241	0301	0334	S09	E25	8765	11	17.0	53	SF		4	E		69		
0252	URUM	15	0405	0413	0424	S11	E29	8765	11	17.3	19	SN			C		129	1.6	D
0253	LEAR	15	0436	0447	0526	N18	E57	8766	11	19.5	50	SF		2	E		56		F
0254	URUM	15	0455	0502	0506	N10	W19	8759	11	13.8	11	SN			C		48	0.5	D
0255	LEAR	15	0613	0615	0628	S16	E17	8763	11	16.5	15	SN		2	E		76		F
0256	LEAR	15	0651	0654	0706	S12	E29	8765	11	17.5	15	SF		2	E		14		
0257	LEAR	15	0721	0721	0737	S14	E23	8765	11	17.0	16	SF		2	E		80		F
0258		15	08165	08343	0903	S14	E27	8765	11	17.4	47	2B					360	5.0	EF
	LEAR	15	0816	0834	1014D	S13	E29	8765	11	17.5	118D	2N		2	E		302		F
	URUM	15	0821	0837	0903	S14	E25	8765	11	17.2	42	1B			C		418	5.0	E
0259	LEAR	15	1017E	1021U	1026D	N17	E47	8766	11	19.0	9D	SF		2	E		30		E
		15	1034		1351	No Flare Patrol													
0260	HOLL	15	1425	1430	1435	N17	E45	8766	11	19.0	10	SF		3	E		33		
0261	HOLL	15	1605	1607	1613	S09	E18	8765	11	17.0	8	SF		3	E		14		
0262	HOLL	15	1711	1714	1724	S15	E12	8763	11	16.6	13	1N		3	E		158		
0263	HOLL	15	1732	1735	1739	S09	E17	8765	11	17.0	7	SF		3	E		25		
0264	HOLL	15	1847	1857	1916	S13	E18	8765	11	17.1	29	1F		3	E		123		
0265	HOLL	15	1941	1942	1956	S13	E18	8765	11	17.2	15	SF		3	E		30		
0266	HOLL	15	2017	2024	2027	N17	E41	8766	11	19.0	10	SF		3	E		22		
0267	HOLL	15	2017	2023	2028	S09	E16	8765	11	17.0	11	SF		3	E		18		
0268	LEAR	15	2303	2307	2403	S12	E18	8765	11	17.3	60	SF		3	E		56		
0269	LEAR	15	2343	2344	2403	N17	E40	8766	11	19.0	20	SF		3	E		27		
0270	LEAR	16	0107	0111	0125	S14	E13	8765	11	17.0	18	SF		3	E		86		
0271	LEAR	16	0110	0111	0125	N16	E17	8768	11	17.3	15	SF		3	E		39		
0272	LEAR	16	0218	0219	0230	N13	W34	8759	11	13.5	12	1F		3	E		113		
0273	URUM	16	0236	0238	0250	N11	W29	8759	11	13.9	14	1F			C		273	3.3	E
0274		16	0238*	02468	0309	N17	E38	8766	11	19.0	31	1N					225	3.2	E
	LEAR	16	0238	0246	0312	N17	E38	8766	11	19.0	34	1B		3	E		209		
	URUM	16	0250	0254	0306	N17	E37	8766	11	18.9	16	1F			C		241	3.2	E
0275	LEAR	16	0240	0246	0254	N09	W40	8759	11	13.1	14	1F		3	E		122		
0276	LEAR	16	0255	0402	0448	S09	E11	8765	11	16.9	113	SF		3	E		78		
0277		16	04062	04102	0424	N14	W72	8760	11	10.7	18	1B					86		E
	LEAR	16	0406	0410	0420	N12	W74	8760	11	10.6	14	SN		3	E		44		
	URUM	16	0408	0412	0427	N15	W70	8760	11	10.9	19	1B			C		129		E

14
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/	CMP	Dur	Imp	Obs	Area Measurement			Remarks		
								USAF/Region					Mo	Day	(Min)		Opt	Xray
0278	URUM	16	0423	0509	0540	N07	W36	8759	11	13.5	77	2B		C		804	10.3	E
0279	LEAR	16	0424	0608	0851	N09	W42	8759	11	13.0	267	3N	2	E		619		EU
0280	LEAR	16	0510	0510	0521	N18	E43	8766	11	19.5	11	SF	2	E		18		E
0281	LEAR	16	0514	0548	0617	S13	E14	8765	11	17.3	63	1F	3	E		140		
0282	MITK	16	0548	0551	0559	N07	W33	8759	11	13.8	11	SN		C	0551	53	0.7	B
0283	LEAR	16	0618	0622	0708	S14	E10	8765	11	17.0	50	1N	3	E		104		E
0284	LEAR	16	0728	0757	0822	S14	E11	8765	11	17.1	54	SF	2	E		59		F
0285	URUM	16	0748E	0748	0831	N09	W36	8759	11	13.6	43D	3N		P		1125	14.3	E
0286	LEAR	16	0754	0800	0810	N16	E13	8768	11	17.3	16	SF	2	E		16		
0287	LEAR	16	0852	0952	1025D	S09	E08	8765	11	17.0	93D	SF	2	E		45		F
0288	LEAR	16	0910	0922	1004	N15	E12	8768	11	17.3	54	SN	2	E		73		E
		16	1026		1351	No Flare Patrol												
0289	HOLL	16	1402	1402U	1508	S09	E06	8765	11	17.0	66	1N	2	E		235		
0290	HOLL	16	1547	1548	1558	S09	E05	8765	11	17.0	11	SF	3	E		23		
0291	HOLL	16	1601	1603	1608	S09	E05	8765	11	17.0	7	SF	3	E		30		
0292	HOLL	16	1643	1647	1706	S09	E05	8765	11	17.1	23	SF	3	E		52		
0293	HOLL	16	1754	1756	1801	N19	E33	8766	11	19.3	7	SF	3	E		20		
0294	HOLL	16	1834	1835	1841	S13	E09	8765	11	17.4	7	SF	3	E		17		
0295	HOLL	16	1925	1927	1934	N19	E34	8766	11	19.4	9	SF	3	E		18		
0296	HOLL	16	1938	1940	1947	N17	E29	8766	11	19.0	9	SF	3	E		27		
0297	HOLL	16	2006	2014	2016	N09	W51	8759	11	13.0	10	SF	3	E		19		
0298	HOLL	16	2012	2017	2020	N16	E30	8766	11	19.1	8	SF	3	E		57		
0299	HOLL	16	2120	2127	2220	S11	E08	8765	11	17.5	60	1N	3	E		215		
0300	HOLL	16	2122	2122	2131	N17	E29	8766	11	19.1	9	SF	3	E		11		
0301	HOLL	16	2122	2122	2128	N13	W39	8759	11	13.9	6	SF	3	E		19		
0302	HOLL	16	2146	2148	2150	S12	E69	8769	11	22.1	4	SF	3	E		14		
0303	HOLL	16	2223	2224	2227	N17	E27	8766	11	19.0	4	SF	3	E		12		
0304	HOLL	16	2230	2231	2309	N09	W52	8759	11	13.0	39	SF	3	E		22		
0305	LEAR	16	2232	2232	2241	N13	W40	8759	11	13.9	9	SF	3	E		10		
0306		16	22561	2301	2303	S14	E64	8769	11	21.8	7	SF				18		
	HOLL	16	2256	2301	2304	S13	E63	8769	11	21.7	8	SF	3	E		17		
	LEAR	16	2257	2301	2302	S14	E64	8769	11	21.8	5	SF	3	E		20		
0307		16	23124	2321	2334	N14	W42	8759	11	13.8	22	SF				43		
	LEAR	16	2312	2321	2334	N14	W45	8759	11	13.6	22	SF	3	E		42		
	HOLL	16	2316	2321	2351D	N13	W40	8759	11	13.9	35D	SF	3	E		44		
0308	LEAR	16	2332	2333	2343	S14	W04	8765	11	16.7	11	SN	3	E		69		
0309	LEAR	17	0112	0113	0115	N16	W40	8759	11	14.0	3	SF	3	E		14		

H α SOLAR FLARES15
Nov 99

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0310	LEAR	17	0206	0207	0210	S09	W01	8765	11	17.0	4	SF		3	E		15		
0311	LEAR	17	0214	0216	0218	N09	W53	8759	11	13.1	4	SF		3	E		28		
0312	URUM	17	0218	0248	0315	N17	W43	8759	11	13.8	57	SN			C		129	1.9	E
0313	LEAR	17	0223	0229	0233	N14	W47	8759	11	13.5	10	SF		3	E		36		
0314	LEAR	17	0233	0236	0238	N14	W47	8759	11	13.5	5	SF		3	E		38		
0315	LEAR	17	0237	0239	0242	S15	W05	8765	11	16.7	5	SF		3	E		63		
0316	LEAR	17	0404	0406	0410	S14	W05	8765	11	16.8	6	SF		3	E		14		
0317	LEAR	17	0502	0503	0509	N15	E27	8766	11	19.2	7	SF		3	E		12		
0318	LEAR	17	0507	0507	0524	N16	E01	8768	11	17.3	17	SF		4	E		14		F
0319	LEAR	17	0548	0552	0614	S14	W01	8765	11	17.2	26	SF		3	E		65		
0320	LEAR	17	0707	0709	0722	N19	E26	8766	11	19.3	15	SF		3	E		49		
0321	LEAR	17	0826	0826	0835	N13	W45	8759	11	13.9	9	SF		3	E		16		
0322	LEAR	17	0846	0849	0853	S17	E74	8769	11	23.0	7	SF		3	E		30		E
0323		17	0930	0935	0939	S14	W02	8765	11	17.2	9	1N					153		F
	LEAR	17	0930	0935	1003D	S15	W02	8765	11	17.2	33D	1N		3	E		153		F
	KHAR	17	0935E		0939	S14	W01	8765	11	17.3	4D	SN		2	V				
0324	KHAR	17	0937U	0939U	1000U	N19	E21	8766	11	19.0	23U	1B		2	P	0939	190	2.2	
0325	LEAR	17	0951	0955	1024D	N17	E21	8766	11	19.0	33D	2B		3	E		369		E
			17 1025		1352	No Flare Patrol													
0326	HOLL	17	1414E	1430U	1458	N16	W03	8768	11	17.4	44D	SF		3	E		41		F
0327	HOLL	17	1456	1502	1507	S14	E59	8769	11	22.1	11	SF		3	E		56		
0328	HOLL	17	1515	1516	1529	S15	E60	8769	11	22.2	14	SF		3	E		12		
0329	HOLL	17	1558	1600	1611	S11	W03	8765	11	17.4	13	SF		3	E		30		
0330	HOLL	17	1725	1728	1735	S13	W34	8770	11	15.2	10	SF		3	E		17		
0331	HOLL	17	1741	1741	1754	S15	E60	8769	11	22.3	13	SF		3	E		29		
0332	HOLL	17	1743	1746	1748	S14	W33	8770	11	15.2	5	SF		3	E		14		
0333	HOLL	17	1755	1800	1805	N19	W04	8768	11	17.4	10	SF		3	E		11		
0334	HOLL	17	1945	1946	1948	N09	W63	8759	11	13.1	3	SF		3	E		19		
0335	HOLL	17	2016	2017	2027	S15	E70	8773	11	23.1	11	SF		3	E		19		H
0336	HOLL	17	2259	2301	2305	S06	W12	8765	11	17.0	6	SF		3	E		15		
0337	HOLL	17	2307	2310	2318	N16	W62	8758	11	13.3	11	SF		3	E		13		
0338	LEAR	17	2332	2405	2423	N18	W61	8759	11	13.3	51	SF		3	E		61		
0339	LEAR	17	2357	2358	2408	N18	W08	8768	11	17.4	11	SF		3	E		55		
0340	LEAR	18	0002	0019	0040	S13	W07	8765	11	17.5	38	SF		3	E		54		
0341	LEAR	18	0144	0146	0159	S17	E55	8771	11	22.2	15	1F		3	E		120		
0342	LEAR	18	0326	0335	0348	S16	E54	8771	11	22.2	22	SF		3	E		13		

16
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/USAF		Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
								Region	Mo Day						Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0343	LEAR	18	0337	0343	0354	S11	W41	8770	11 15.1	17	SF		3	E		15		
0344	LEAR	18	0434	0440	0448	S12	W42	8770	11 15.0	14	SF		3	E		23		
0345	LEAR	18	0451	0451	0509	S11	W11	8765	11 17.4	18	SF		3	E		21		
0346	LEAR	18	0512	0518	0531	S12	W42	8770	11 15.0	19	SF		3	E		36		
0347		18	0749*	0803*	0848	N13	W60	8759	11 13.8	59	2N					246	8.6	EF
	LEAR	18	0749	0803	0910	N14	W60	8759	11 13.8	81	2N		3	E		306		F
	URUM	18	0758	0806	0806D	N12	W61	8759	11 13.7	8D	2B			P		402	8.6	E
	SVTO	18	0759	0814	0827	N13	W60	8759	11 13.8	28	SF		3	E		30		F
0348	LEAR	18	0807	0810	0816	S13	E58	8771	11 22.7	9	SF		3	E		38		
0349	LEAR	18	0846	0847	0855	S11	W12	8765	11 17.5	9	SF		3	E		29		
			18 1020		1134			No Flare Patrol										
			18 1141		1203			No Flare Patrol										
			18 1246		1320			No Flare Patrol										
0350	RAMY	18	1351E	1351U	1352D	N19	E11	8766	11 19.4	1D	SF		1	E		15		
			18 1353		1451			No Flare Patrol										
			18 1525		1545			No Flare Patrol										
0351	HOLL	18	1712	1712	1719	S11	W14	8765	11 17.7	7	SF		3	E		43		F
0352	HOLL	18	1849	1852	1904	S14	W51	8770	11 14.9	15	SF		3	E		58		
0353	HOLL	18	1859	1901	1921	S11	W14	8765	11 17.7	22	1F		3	E		129		
0354	HOLL	18	2207	2217	2310D	N14	E03	8766	11 19.1	63D	SF		3	E		91		
0355		18	2311*	2312*	2326	S10	W24	8765	11 17.2	15	SF					15		
	HOLL	18	2311	2312	2323	S11	W21	8765	11 17.4	12	SF		3	E		19		
	LEAR	18	2323	2323	2330	S09	W26	8765	11 17.0	7	SF		3	E		11		
0356	LEAR	19	0123	0124	0128	S09	W27	8765	11 17.0	5	SF		3	E		20		
0357	LEAR	19	0157	0158	0200	S09	W28	8765	11 17.0	3	SF		3	E		17		
0358	LEAR	19	0315	0352	0359	S09	W29	8765	11 16.9	44	SF		3	E		37		
0359	LEAR	19	0406	0406	0409	S09	W29	8765	11 17.0	3	SF		3	E		11		
0360	LEAR	19	0317	0317	0343	S18	W39	8763	11 16.2	26	SF		3	E		30		
0361	LEAR	19	0317	0317	0343	S14	W51	8770	11 15.3	26	SF		3	E		35		
0362	URUM	19	0335	0345	0351	S12	W19	8765	11 17.7	16	1N			C		225	2.5	E
0363	LEAR	19	0420	0420	0430	N17	W06	8766	11 18.7	10	SF		3	E		11		
0364	URUM	19	0424E	0424	0440	N14	E01	8766	11 19.2	16D	SN			P		64	0.7	E
0365	LEAR	19	0541	0542	0545	S09	W30	8765	11 17.0	4	SF		4	E		17		
0366	LEAR	19	0624	0626	0631	S09	W30	8765	11 17.0	7	1F		4	E		101		
0367	LEAR	19	0636	0637	0700	S09	W30	8765	11 17.0	24	SF		4	E		67		
0368	LEAR	19	0706	0708	0709	S09	W30	8765	11 17.0	3	SF		4	E		28		
0369	LEAR	19	0625	0626	0629	S19	E33	8771	11 21.8	4	SF		4	E		21		
0370	LEAR	19	0640	0642	0653	S19	E33	8771	11 21.8	13	SF		4	E		23		
0371	LEAR	19	0706	0706	0709	S19	E33	8771	11 21.8	3	SF		4	E		27		

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/	CMP	Dur	Imp	Obs	Area Measurement			Remarks	
								USAF/					Region	Mo	Day		(Min)
0372	LEAR	19	0739	0743	0844	N18	W24	8768	11	17.5	65	1N	4	E		101	U
0373	LEAR	19	0739	0752	0814	S09	W31	8765	11	17.0	35	SF	4	E		57	
0374	LEAR	19	0824	0825	0829	S19	E32	8771	11	21.8	5	SF	4	E		28	
0375	LEAR	19	0940	0940	0952	N09	W85	8759	11	13.0	12	SF	3	E		23	
		19	1027		1356			No Flare Patrol									
		19	1418		1429			No Flare Patrol									
0376	HOLL	19	1503	1506	1515	S11	W26	8765	11	17.7	12	SF	3	E		80	
0377	HOLL	19	1600	1601	1604	S16	E38	8771	11	22.5	4	SF	3	E		24	
0378	HOLL	19	1601	1603	1604	S14	W59	8770	11	15.2	3	SF	3	E		10	
		19	1618		1658			No Flare Patrol									
0379	HOLL	19	1847	1849	1852	S14	W33	8765	11	17.3	5	SF	3	E		21	
		19	1923		2038			No Flare Patrol									
0380	LEAR	20	0055	0055	0100	S09	W40	8765	11	17.0	5	SF	3	E		13	
0381	LEAR	20	0113	0113	0127	S19	E23	8771	11	21.8	14	SF	3	E		14	
0382	LEAR	20	0154	0156	0204	S19	E22	8771	11	21.7	10	SF	4	E		14	
0383	LEAR	20	0312	0312	0315	S19	E22	8771	11	21.8	3	SF	4	E		13	
0384	LEAR	20	0334	0334	0338	S09	W42	8765	11	17.0	4	SF	4	E		11	
0385	LEAR	20	0404	0404	0409	S19	E21	8771	11	21.8	5	SF	4	E		12	
0386	LEAR	20	0424	0454	0542	S19	E21	8771	11	21.8	78	SF	5	E		70	
0387	LEAR	20	0427	0428	0440	N18	W35	8768	11	17.5	13	SF	4	E		19	
0388	URUM	20	0840	0856	0903	S13	W62	8770	11	15.7	23	SF		C		48	1.1 D
		20	1028		1250			No Flare Patrol									
		20	1342		1349			No Flare Patrol									
		20	1353		1356			No Flare Patrol									
0389	HOLL	20	1430	1436	1445	S14	E21	8771	11	22.2	15	SF	3	E		31	
0390	HOLL	20	1529	1531	1545	S16	E19	8771	11	22.1	16	SF	3	E		26	
0391	HOLL	20	1545	1546	1549	S16	E19	8771	11	22.1	4	SF	3	E		21	
0392	HOLL	20	1543	1544	1557	S15	E29	8773	11	22.8	14	SF	3	E		19	
0393	HOLL	20	1603	1603	1609	S14	E27	8773	11	22.7	6	SF	3	E		16	
		20	1825		1829			No Flare Patrol									
		20	1836		1839			No Flare Patrol									
		20	1950		1959			No Flare Patrol									
		20	2053		2100			No Flare Patrol									
		20	2125		2133			No Flare Patrol									
0394		20	2219	2232*	2425	S15	E19	8771	11	22.4	126	2B				466	ETU
	LEAR	20	2219	2232	2425	S15	E19	8771	11	22.4	126	2B	3	E		417	UET
	HOLL	20	2219	2243	2349D	S15	E19	8771	11	22.4	90D	2N	3	E		515	
0395	LEAR	20	2238	2238	2248	S09	W52	8765	11	17.0	10	SF	3	E		14	
0396	LEAR	21	0008	0011	0054	S09	W53	8765	11	17.0	46	1N	3	E		182	F

18
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0397	LEAR	21	0225	0229	0234	S19	E09	8771	11	21.8	9	SF		3	E		44		
0398	LEAR	21	0424	0425	0430	S14	W50	8765	11	17.4	6	SF		4	E		46		
0399		21	05023	05121	0529	S14	W50	8765	11	17.4	27	SN					70	1.3	DFH
	URUM	21	0502	0513	0521	S14	W48	8765	11	17.6	19	SN			C		80	1.3	D
	LEAR	21	0505	0512	0537	S15	W51	8765	11	17.3	32	SF		3	E		61		FH
0400	LEAR	21	0511	0512	0516	N15	W49	8768	11	17.5	5	SF		3	E		33		F
0401	LEAR	21	0717	0718	0720	S17	E14	8771	11	22.4	3	SF		3	E		15		
0402	LEAR	21	0754	0758	0807	N15	W55	8768	11	17.2	13	SF		3	E		23		
0403		21	0757	0804*	0825	S14	W50	8765	11	17.5	28	SN					92	1.5	E
	LEAR	21	0757	0804	0828D	S15	W52	8765	11	17.4	31D	SN		2	E		87		
	URUM	21	0817E	0817	0825	S12	W48	8765	11	17.7	8D	SF			P		96	1.5	E
0404	LEAR	21	0823	0828U	0859	S17	E14	8771	11	22.4	36	1N		2	E		140		U
0405	LEAR	21	0841E	0841U	0848	S15	W82	8770	11	15.1	7D	SF		2	E		56		
0406		21	08512	09002	0916	S15	W49	8775	11	17.6	25	SN					68	1.3	E
	URUM	21	0851	0900	0900D	S15	W46	8775	11	17.9	9D	SN			P		80	1.3	E
	LEAR	21	0853	0902	0916	S15	W52	8775	11	17.4	23	SF		3	E		57		
0407	LEAR	21	0927	1010U	1026D	S15	W53	8765	11	17.4	59D	SN		2	E		80		E
		21	1026		1159	No Flare Patrol													
		21	1211		1229	No Flare Patrol													
		21	1339		1357	No Flare Patrol													
0408	RAMY	21	1436	1437	1444	N16	W59	8768	11	17.1	8	SF		3	E		14		
0409	HOLL	21	1724	1725	1728	S15	W56	8765	11	17.5	4	SF		3	E		28		
0410	HOLL	21	1812	1822	1848	S15	W56	8765	11	17.5	36	2N		3	E		471		
0411	HOLL	21	1913	1914	1917	S15	W56	8765	11	17.6	4	SF		3	E		21		
0412	HOLL	21	1930	1932	1941	S14	W60	8765	11	17.3	11	SF		3	E		33		
0413		21	19511	1952	2003	S18	E08	8771	11	22.4	12	SF					18		S
	HOLL	21	1951	1952	2004	S17	E08	8771	11	22.4	13	SF		3	E		24		
	RAMY	21	1952	1952	2002	S18	E08	8771	11	22.4	10	SF		3	E		12		S
0414	HOLL	21	2045	2046	2053	N16	W62	8768	11	17.2	8	SF		3	E		32		
0415		21	22182	2222*	2250	N16	W61	8768	11	17.3	32	SF					20		
	HOLL	21	2218	2222	2233	N15	W64	8768	11	17.1	15	SF		3	E		13		
	LEAR	21	2220	2254	2306	N18	W58	8768	11	17.5	46	SF		3	E		27		
0416	LEAR	22	0147	0149	0154	S19	W04	8771	11	21.8	7	SF		3	E		25		
0417	LEAR	22	0216	0216	0223	S09	W67	8765	11	17.1	7	SN		3	E		94		
0418	LEAR	22	0344	0346	0351	S15	W67	8765	11	17.1	7	SF		3	E		42		
0419	LEAR	22	0408	0435	0501	S28	E09	8776	11	22.9	53	SF		3	E		40		
0420	LEAR	22	0445	0454	0535	S18	E01	8771	11	22.3	50	SF		3	E		26		
0421	LEAR	22	0508	0514	0515	N16	W67	8768	11	17.1	7	SF		3	E		16		
0422	LEAR	22	0618	0621	0627	S16	W01	8771	11	22.2	9	SF		2	E		56		F
0423	LEAR	22	0636	0636	0646	S15	W06	8771	11	21.8	10	SF		3	E		12		
0424	LEAR	22	0651	0658	0711	S19	W07	8771	11	21.7	20	SF		3	E		26		

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0425	LEAR	22	0841	0841	0851	S26	E36	8777	11	25.1	10	SF		3	E		20		
0426	LEAR	22	0948	0948	0954	S14	W65	8765	11	17.5	6	SF		3	E		14		
			22 1028		1110			No Flare Patrol											
			22 1113		1124			No Flare Patrol											
			22 1131		1427			No Flare Patrol											
0427	RAMY	22	1227	1227	1312D	S16	W75	8765	11	16.8	45D	SF		3	E		69		
0428	HOLL	22	1441	1442	1502D	N06	E23	8772	11	24.3	21D	SF		3	E		23		
			22 1453		1501			No Flare Patrol											
0429	HOLL	22	1652	1654	1656	N15	W78	8768	11	16.8	4	SF		3	E		31		
0430	HOLL	22	1702	1703	1713	S18	W03	8771	11	22.5	11	SF		3	E		27		F
0431	HOLL	22	1710	1711	1714	S14	E57	8778	11	27.0	4	SF		3	E		18		
			22 1717		1721			No Flare Patrol											
0432	HOLL	22	1723	1723	1733	N16	W47	8766	11	19.1	10	SF		3	E		15		
0433	HOLL	22	1723	1723	1728	S27	E01	8776	11	22.8	5	SF		3	E		22		
0434	HOLL	22	1755	1757	1806	S14	E56	8778	11	27.0	11	SF		3	E		21		
0435	HOLL	22	1941	1949	2017	S15	E54	8778	11	26.9	36	SF		3	E		70		
0436	HOLL	22	2115	2115	2120	S18	W08	8771	11	22.3	5	SF		3	E		20		
0437	HOLL	22	2154	2156	2204	S16	W05	8771	11	22.5	10	SF		3	E		30		
0438	HOLL	22	2302	2306	2313	N18	W50	8766	11	19.1	11	SF		3	E		14		
0439	LEAR	22	2344	2354	2415	N18	W49	8766	11	19.2	31	SF		3	E		43		
0440	LEAR	22	2345	2347	2347D	S15	E50	8778	11	26.8	2D	SF		3	E		38		
0441	LEAR	23	0222	0222	0234	S16	W15	8771	11	22.0	12	SF		3	E		26		
0442	LEAR	23	0229	0231	0236	N17	W77	8768	11	17.2	7	SF		3	E		22		
0443	LEAR	23	0342	0342	0350	S14	W10	8771	11	22.4	8	SF		3	E		43		F
0444	LEAR	23	0359	0405	0427	S16	W16	8771	11	21.9	28	SF		3	E		82		F
0445	LEAR	23	0441	0446	0506	S19	W19	8771	11	21.7	25	SF		3	E		17		
0446	LEAR	23	0509	0510	0512	S19	W19	8771	11	21.8	3	SF		3	E		12		
0447	LEAR	23	0615	0618	0620	S16	W15	8771	11	22.1	5	SF		3	E		33		E
0448	LEAR	23	0625	0626	0644	S19	W20	8771	11	21.7	19	SF		3	E		82		F
0449	LEAR	23	0654	0656	0659	N04	E13	8772	11	24.2	5	SF		3	E		14		
0450	LEAR	23	0749	0749	0754	S20	W16	8771	11	22.1	5	SF		3	E		14		
0451	LEAR	23	0937	0939	0941	S19	W22	8771	11	21.7	4	SF		3	E		37		E
0452	LEAR	23	0944	0945	0952	S26	E21	8777	11	25.0	8	SF		3	E		15		
			23 1035		1107			No Flare Patrol											
			23 1122		1357			No Flare Patrol											
0453	HOLL	23	1841	1841	1852	S19	W20	8771	11	22.2	11	SF		3	E		18		

20
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	(Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																	Apparent (10-6 Disk)	Corr (Sq Deg)	
0454	HOLL	23	2216	2216	2226	S15	W25	8771	11	22.0	10	SF		3	E		24		
0455		23	2222	2225	2255	S16	E39	8778	11	26.9	33	SF					30		
	LEAR	23	2222	2224U	2256	S17	E39	8778	11	26.9	34	SF		3	E		36		
	HOLL	23	2222	2225	2254	S16	E39	8778	11	26.9	32	SF		3	E		23		
0456	HOLL	23	2333	2334	2340D	S15	E39	8778	11	26.9	7D	SF		3	E		17		F
0457	LEAR	24	0056	0057	0123	S15	E37	8778	11	26.8	27	SF		3	E		28		
0458	LEAR	24	0135	0136	0145	S15	W30	8771	11	21.8	10	SF		3	E		31		
0459	LEAR	24	0142	0207	0247	S14	E37	8778	11	26.9	65	SF		3	E		65		F
0460	LEAR	24	0213	0214	0221	N18	W75	8766	11	18.4	8	SF		3	E		45		E
0461	LEAR	24	0231	0231	0236	S16	W27	8771	11	22.0	5	SF		3	E		10		
0462	LEAR	24	0305	0309	0332	S19	W31	8771	11	21.8	27	SF		3	E		46		
0463	LEAR	24	0332	0354	0409	S14	W29	8771	11	21.9	37	SF		3	E		64		
0464	URUM	24	0452	0504	0516	S17	W27	8771	11	22.1	24	1F			C		321	3.9	E
0465	LEAR	24	0634	0636	0644	S19	W33	8771	11	21.7	10	SF		3	E		22		
0466	LEAR	24	0715	0716	0721	S19	W34	8771	11	21.7	6	SF		3	E		19		
0467	LEAR	24	0722	0723	0726	S19	W34	8771	11	21.7	4	SF		3	E		18		
0468	LEAR	24	0746	0748	0750	S14	E34	8778	11	26.9	4	SF		3	E		18		
0469	LEAR	24	0838	0839	0840	S14	W90	8765	11	17.5	2	SF		3	E		13		
0470	LEAR	24	1004	1010	1022	S14	E27	8778	11	26.4	18	SF		2	E		28		E
0471	HOLL	24	1501E	1507	1518	S15	E30	8778	11	26.9	17D	SF		3	E		49		
0472	HOLL	24	1540	1540	1547	S15	E30	8778	11	26.9	7	SF		3	E		13		
0473	HOLL	24	1547	1548	1558	S20	W32	8771	11	22.2	11	SF		3	E		11		
0474		24	1719	1724	1754	S16	E28	8778	11	26.8	35	SF					29		
	RAMY	24	1719	1724	1751	S16	E28	8778	11	26.8	32	SF		3	E		30		
	HOLL	24	1719	1724	1756	S16	E28	8778	11	26.8	37	SF		3	E		28		
0475	HOLL	24	1825	1825	1833	S16	W35	8771	11	22.1	8	SF		3	E		10		F
0476		24	1845I	1847	1858	S15	E25	8778	11	26.7	13	SF					22		
	HOLL	24	1845	1847	1900	S15	E25	8778	11	26.7	15	SF		3	E		23		
	RAMY	24	1846	1847	1855	S15	E25	8778	11	26.7	9	SF		3	E		20		
0477		24	1857S	1913*	2007	S13	W37	8771	11	22.0	70	1N					125		F
	HOLL	24	1857	1929	2010	S13	W38	8771	11	21.9	73	1N		3	E		156		
	RAMY	24	1902	1913	2004	S13	W36	8771	11	22.1	62	SF		3	E		94		F
0478	HOLL	24	2143	2143	2212	S14	W38	8771	11	22.0	29	SF		3	E		13		
0479	HOLL	24	2154	2156	2202	S13	E20	8778	11	26.4	8	1B		3	E		146		
0480	HOLL	24	2215	2239	2348D	S13	W35	8771	11	22.3	93D	SF		3	E		73		
0481	LEAR	24	2338	2401	2425	S19	W43	8771	11	21.7	47	SF		3	E		94		
0482	LEAR	25	0026	0028	0143	S19	W43	8771	11	21.7	77	SF		3	E		42		
0483	LEAR	25	0159	0235	0248	S19	W44	8771	11	21.7	49	SF		3	E		55		
0484	LEAR	25	0606	0621	0632	S19	W46	8771	11	21.7	26	SF		4	E		25		

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Time (UT)	Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0485	LEAR	25	0628	0633	0638	S12	E21	8778	11 26.8	10	SF	4 E		17		
0486	LEAR	25	0641	0647	0658	S12	E20	8778	11 26.8	17	1N	4 E		130		
0487	LEAR	25	0819	0826	0834	S13	E15	8778	11 26.5	15	SF	3 E		61		H
0488	LEAR	25	1015	1020	1033D	S15	E15	8778	11 26.6	18D	SF	2 E		76		FH
		25	1034		1104											
		25	1259		1309											
								No Flare Patrol								
								No Flare Patrol								
0489	RAMY	25	1312	1313	1317	S13	E12	8778	11 26.4	5	SF	3 E		15		
0490	HOLL	25	1508	1509	1512	S14	E09	8778	11 26.3	4	SF	3 E		28		
0491	RAMY	25	1521	1523	1542	S13	W45	8771	11 22.2	21	SF	3 E		17		
0492		25	1714	1717	1812	S16	W45	8771	11 22.3	58	1F			89		
	HOLL	25	1714	1717	1806	S16	W45	8771	11 22.3	52	1F	3 E		103		
	RAMY	25	1714	1717	1819	S16	W45	8771	11 22.3	65	SF	3 E		75		
0493		25	1841	18412	1852	S17	W52	8771	11 21.8	11	SF			18		
	RAMY	25	1841	1841	1855	S15	W50	8771	11 22.0	14	SF	3 E		12		
	HOLL	25	1841	1843	1850	S19	W53	8771	11 21.7	9	SF	3 E		23		
0494		25	1901	19192	1958	S15	W48	8771	11 22.1	57	2N			302		F
	HOLL	25	1901	1919	1952	S15	W48	8771	11 22.1	51	2N	3 E		315		
	RAMY	25	1901	1921	2004	S15	W47	8771	11 22.2	63	2N	3 E		290		F
0495	HOLL	25	2110	2112	2117	S07	W56	8769	11 21.7	7	SF	3 E		22		
0496	HOLL	25	2118	2122	2125	S08	W55	8769	11 21.8	7	SF	3 E		16		
0497	HOLL	25	2135	2136	2142	S13	E06	8778	11 26.3	7	SF	3 E		38		H
0498	LEAR	25	2215	2222	2224	S10	W52	8769	11 22.0	9	SF	3 E		12		
0499	LEAR	25	2302	2302	2306	S12	E11	8778	11 26.8	4	SF	3 E		32		
0500	LEAR	25	2322	2322	2337	S19	W56	8771	11 21.7	15	SF	3 E		20		E
0501	LEAR	25	2339	2351	2356	S19	W56	8771	11 21.7	17	SF	3 E		23		E
0502	LEAR	25	2357	2403	2408	S19	W56	8771	11 21.7	11	SF	3 E		22		
0503	LEAR	25	2342	2343	2354	S12	E11	8778	11 26.8	12	SF	3 E		62		
0504	LEAR	26	0047	0049	0055	S19	W56	8771	11 21.7	8	SF	3 E		14		
0505	LEAR	26	0057	0131	0223	S14	W55	8771	11 21.9	86	3B	3 E		614		E
0506	LEAR	26	0105	0107	0110	S12	E10	8778	11 26.8	5	SF	3 E		13		
0507	LEAR	26	0352	0357	0502	S19	W58	8771	11 21.7	70	2B	3 E		269		F
0508	LEAR	26	0439	0443	0557	S12	E08	8778	11 26.8	78	SF	4 E		45		
0509	LEAR	26	0556	0558	0616	S19	W59	8771	11 21.7	20	SN	4 E		72		
0510		26	06591	0701	0752	S12	E04	8778	11 26.6	53	SF			72		FH
	LEAR	26	0659	0701	0751	S12	E07	8778	11 26.8	52	SF	3 E		76		H
	SVTO	26	0700	0700U	0754	S13	E01	8778	11 26.4	54	SF	3 E		67		F
0511		26	08423	0857	0932	S16	W58	8771	11 22.0	50	1N			84		
	LEAR	26	0842	0857	0939	S19	W61	8771	11 21.7	57	1N	3 E		147		
	SVTO	26	0845	0906U	0926	S14	W55	8771	11 22.2	41	SF	3 E		21		
0512	SVTO	26	1059	1101	1108	S19	W61	8771	11 21.8	9	SF	3 E		24		

22
NOV 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0513		26	13412	1343	1501	S15	W59	8771	11	22.1	80	2B					249		E
	SVTO	26	1341	1343U	1446D	S15	W59	8771	11	22.1	65D	1B		3	E		223		
	RAMY	26	1343	1343	1501	S15	W59	8771	11	22.1	78	2N		3	E		275		E
0514	HOLL	26	1400E	1425	1515	S19	W64	8771	11	21.7	75D	2N		3	E		370		
0515	SVTO	26	1406	1409U	1445D	S14	W02	8778	11	26.4	39D	SF		3	E		12		
0516	HOLL	26	1423	1425	1427	S12	E03	8778	11	26.8	4	SF		2	E		27		
0517	HOLL	26	1438	1441	1447	S12	E02	8778	11	26.8	9	SF		3	E		38		
0518	HOLL	26	1707	1731	1738	S15	W60	8771	11	22.2	31	SF		3	E		28		
0519		26	17384	1743	1755	S17	W60	8771	11	22.2	17	SF					40		
	HOLL	26	1738	1743	1802	S19	W66	8771	11	21.7	24	SF		3	E		63		
	RAMY	26	1742	1743	1748	S15	W55	8771	11	22.6	6	SF		3	E		16		
0520		26	1757	18046	1842	S12	W09	8778	11	26.1	45	SF					52		FS
	RAMY	26	1757	1804	1842	S12	W10	8778	11	26.0	45	SF		3	E		66		FS
	HOLL	26	1757	1810	1843	S12	W08	8778	11	26.1	46	SF		3	E		39		
0521		26	19402	1943	1955	S14	W04	8778	11	26.5	15	SF					36		F
	HOLL	26	1940	1943	1955	S14	W04	8778	11	26.5	15	SF		3	E		58		
	RAMY	26	1942	1943	1955	S14	W03	8778	11	26.6	13	SF		3	E		14		F
0522	HOLL	26	2030	2031	2034	S13	W57	8771	11	22.5	4	SF		3	E		20		
0523	HOLL	26	2058	2104	2123	S15	W60	8771	11	22.3	25	SF		3	E		28		
0524	HOLL	26	2152	2214	2221	S19	W68	8771	11	21.7	29	SF		3	E		34		
0525	HOLL	26	2214	2220	2223	S12	E40	8781	11	29.9	9	SF		3	E		21		
0526	LEAR	27	0022	0023	0027	S19	W69	8771	11	21.7	5	SF		4	E		28		H
0527	LEAR	27	0030	0042	0057	S19	W70	8771	11	21.7	27	SF		4	E		61		H
0528	LEAR	27	0204	0206	0220	S14	W63	8771	11	22.3	16	1N		4	E		139		H
0529	LEAR	27	0238	0241	0330	S19	W71	8771	11	21.7	52	1N		4	E		121		H
0530		27	0453	04543	0518	S13	W14	8778	11	26.1	25	1N					323	4.0	DEF
	MITK	27	0453	0454	0503	S12	W15	8778	11	26.1	10	SN			C	0454	166	1.8	D
	LEAR	27	0453	0455	0539	S12	W15	8778	11	26.1	46	1N		3	E		241		F
	URUM	27	0453	0457	0513	S14	W13	8778	11	26.2	20	2B			C		563	6.2	E
0531	URUM	27	0500E	0500	0516	S13	W60	8773	11	22.7	16D	SF			C		80	1.7	D
0532	LEAR	27	0541	0548	0623	S14	W66	8771	11	22.2	42	1N		3	E		141		E
0533	LEAR	27	0723	0739	0759	S15	W07	8778	11	26.8	36	SF		3	E		68		F
0534		27	07461	0748	0752	S12	W61	8771	11	22.7	6	SF					70	2.3	E
	SVTO	27	0746	0748	0800D	S12	W62	8771	11	22.6	14D	SF		3	E		42		
	LEAR	27	0747	0748	0751	S12	W62	8771	11	22.6	4	SF		3	E		55		
	URUM	27	0748E	0748	0752	S11	W58	8771	11	23.0	4D	1N			P		113	2.3	E
0535	SVTO	27	0809	0826	0837	S26	W63	8776	11	22.4	28	SF		3	E		16		F
0536		27	08152	08203	0838	N04	W38	8772	11	24.5	23	SF					40		F
	SVTO	27	0815	0820	0846	N05	W38	8772	11	24.5	31	SF		3	E		36		F
	LEAR	27	0817	0823	0831	N04	W37	8772	11	24.6	14	SF		3	E		43		F
0537	SVTO	27	0854	0900	0912	S19	W74	8771	11	21.7	18	SF		3	E		26		F
0538	RAMY	27	1114E	1114U	1138D	S15	W66	8771	11	22.5	24D	SF		3	E		29		

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																	Apparent (10-6 Disk)	Corr (Sq Deg)	
0539		27	12081	12111	1308	S15	W70	8771	11	22.2	60	2B					236		FH
	RAMY	27	1208	1212	1319	S15	W68	8771	11	22.3	71	2B		3	E		299		H
	SVTO	27	1209	1211	1256	S15	W71	8771	11	22.1	47	1B		3	E		172		F
0540	HOLL	27	2055	2055	2100	S12	W60	8773	11	23.3	5	SF		3	E		18		
0541	HOLL	27	2106	2108	2111	S12	W60	8773	11	23.3	5	SF		3	E		12		
0542		27	2239	2240	2305	S14	W63	8773	11	23.2	26	SF					30		H
	LEAR	27	2239	2240	2303	S15	W65	8773	11	23.0	24	SF		3	E		28		H
	HOLL	27	2239	2240	2307	S12	W61	8773	11	23.3	28	SF		3	E		31		
0543	HOLL	27	2303	2304	2309	S14	W79	8771	11	22.0	6	SF		3	E		32		
0544	LEAR	28	0033	0051	0130	S19	W83	8771	11	21.7	57	SF		3	E		75		
0545	LEAR	28	0127	0129	0139	S12	W16	8778	11	26.8	12	SF		3	E		46		
0546	LEAR	28	0136	0143	0227	S19	W83	8771	11	21.7	51	SN		3	E		94		
0547	URUM	28	0300E	0304	0320	S13	W15	8778	11	27.0	20D	SN			P		161	1.8	E
0548	LEAR	28	0552	0557	0608	S15	W81	8771	11	22.1	16	SF		3	E		62		E
		28	1033		1049	No Flare Patrol													
0549	RAMY	28	1133	1135	1151	N04	W54	8772	11	24.4	18	SF		3	E		76		FU
0550	RAMY	28	1153	1153	1203	S16	W79	8771	11	22.5	10	SF		3	E		13		
0551	RAMY	28	1235	1235	1240	S13	W66	8773	11	23.5	5	SF		4	E		11		F
0552	HOLL	28	1432	1435	1445	S13	E28	8781	11	30.7	13	SF		3	E		24		
0553	HOLL	28	1438	1439	1445	S13	W72	8773	11	23.2	7	SF		3	E		14		
0554	HOLL	28	1546	1546	1549	S11	E04	8780	11	28.9	3	SF		3	E		17		
0555		28	1702	1704	1711	S14	W72	8773	11	23.3	9	SF					77		FH
	HOLL	28	1702	1704	1709	S13	W73	8773	11	23.2	7	SF		3	E		66		
	RAMY	28	1702	1704	1713	S14	W70	8773	11	23.4	11	SF		4	E		88		FH
0556	RAMY	28	1746	1747	1753	S13	W71	8773	11	23.4	7	SF		4	E		13		
0557		28	19497	19551	2003	S14	W34	8778	11	26.2	14	SF					13		
	HOLL	28	1949	1955	2000	S14	W34	8778	11	26.2	11	SF		3	E		14		
	RAMY	28	1956	1956	2006	S15	W33	8778	11	26.3	10	SF		4	E		12		
0558	HOLL	28	2024	2026	2030	S14	W34	8778	11	26.3	6	SF		3	E		17		
0559	HOLL	28	2121	2122	2131	S14	W35	8778	11	26.2	10	SF		3	E		31		
0560	HOLL	28	2132	2143	2158	S14	W34	8778	11	26.3	26	SF		3	E		14		
0561	HOLL	28	2133	2133	2140	N10	W15	8782	11	27.8	7	SF		3	E		18		
0562	HOLL	28	2217	2218	2220	S12	E25	8781	11	30.8	3	SF		3	E		18		
0563		28	2243	2259	2307	S14	W34	8778	11	26.4	24	SF					70		F
	HOLL	28	2243	2259	2307	S14	W36	8778	11	26.2	24	SF		3	E		77		
	LEAR	28	2252E	2255U	2311D	S13	W32	8778	11	26.5	19D	SF		3	E		62		F
0564	LEAR	29	0108	0108	0117	N11	W15	8782	11	27.9	9	SF		3	E		22		
0565	LEAR	29	0109	0115	0147	S14	W34	8778	11	26.5	38	SF		3	E		54		E
0566	LEAR	29	0129	0131U	0142	S13	W88	8771	11	22.4	13	SF		3	E		40		
0567	LEAR	29	0150	0150	0154	N10	W16	8782	11	27.9	4	SF		3	E		18		

24
Nov 99

H α SOLAR FLARES

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0568	LEAR	29	0157	0222	0252	N10	W16	8782	11	27.9	55	SF		3	E		37		
0569		29	03105	03149	0332	S13	W32	8778	11	26.7	22	1F					130	2.5	EF
	URUM	29	0310	0314	0314D	S14	W34	8778	11	26.6	4D	1F			P		193	2.5	E
	LEAR	29	0315	0323	0332	S12	W31	8778	11	26.8	17	SF		2	E		66		F
0570	LEAR	29	0413	0434	0436	N10	W17	8782	11	27.9	23	SF		3	E		28		
0571	LEAR	29	0422	0437	0501	S14	W36	8778	11	26.5	39	SF		3	E		86		F
0572	LEAR	29	0522	0523	0532	S12	W32	8778	11	26.8	10	SF		3	E		23		
0573	LEAR	29	0614	0617	0626	S12	W32	8778	11	26.8	12	SF		3	E		45		
0574	LEAR	29	0629	0630	0650	S14	W37	8778	11	26.5	21	SF		3	E		39		
0575	LEAR	29	0637	0641	0650	N10	W18	8782	11	27.9	13	SF		3	E		21		
0576	LEAR	29	0744	0754	0802	N10	W19	8782	11	27.9	18	SF		3	E		26		
0577	LEAR	29	0804	0818	0827	N10	W19	8782	11	27.9	23	SF		3	E		28		
0578	LEAR	29	0830	0832	0835	S12	W34	8778	11	26.8	5	SF		3	E		11		
0579	LEAR	29	0846	0850	0928	S11	W07	8780	11	28.8	42	1F		3	E		165		
0580	LEAR	29	0849	0850	0907	S12	W34	8778	11	26.8	18	SF		3	E		22		
0581	LEAR	29	1012	1022	1022D	S16	W36	8778	11	26.7	10D	SF		2	E		32		
		29	1022		1141	No Flare Patrol													
0582	RAMY	29	1143	1201	1209	S18	W38	8778	11	26.6	26	SF		2	E		19		
		29	1147		1158	No Flare Patrol													
		29	1315		1340	No Flare Patrol													
		29	1351		1401	No Flare Patrol													
0583	RAMY	29	1416	1416	1422	S14	W84	8773	11	23.2	6	SF		3	E		36		
0584	RAMY	29	1435	1436	1451	S14	W46	8778	11	26.1	16	SF		3	E		16		
0585	HOLL	29	1532	1533	1605	S15	W40	8778	11	26.6	33	SF		3	E		20		
0586	HOLL	29	1635	1637	1641	S14	W90	8771	11	22.9	6	SF		3	E		19		
0587	HOLL	29	1757	1757	1804	S16	W39	8778	11	26.8	7	SF		3	E		27		
		29	1821		1827	No Flare Patrol													
		29	1956		2013	No Flare Patrol													
		29	2037		2200	No Flare Patrol													
		29	2215		2217	No Flare Patrol													
		29	2240		2255	No Flare Patrol													
		29	2259		2400	No Flare Patrol													
		30	0000		0008	No Flare Patrol													
		30	0052		0110	No Flare Patrol													
0588	LEAR	30	0330	0342	0423	N10	W30	8782	11	27.9	53	1F		3	E		122		E
0589	LEAR	30	0620	0629	0629	N10	W31	8782	11	27.9	9	SF		3	E		16		
0590	LEAR	30	0704	0705	0713	S16	W45	8778	11	26.9	9	SF		3	E		86		
0591	LEAR	30	0725	0726	0729	S12	W46	8778	11	26.8	4	SF		3	E		29		
0592	LEAR	30	0739	0745	0755	N10	W32	8782	11	27.9	16	SF		2	E		81		
0593	LEAR	30	0830	0833	0953	N10	W33	8782	11	27.9	83	1F		2	E		138		

NOVEMBER 1999

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0594	LEAR	30	0802	0802	0808	N10	W32	8782	11	27.9	6	SF		2	E		62		
0595	LEAR	30	0814	0822	0827	N10	W33	8782	11	27.9	13	SF		2	E		63		
		30	1044		1139	No Flare Patrol													
0596	RAMY	30	1425	1425	1437	N10	W35	8782	11	28.0	12	SF		3	E		24		
0597		30	16053	1608	1614	N10	W36	8782	11	28.0	9	SF					45		
	HOLL	30	1605	1608	1615	N11	W37	8782	11	27.9	10	SF		3	E		59		
	RAMY	30	1608	1608	1612	N10	W35	8782	11	28.0	4	SF		3	E		31		
0598		30	17393	17411	1754	N11	W36	8782	11	28.0	15	SF					34		F
	HOLL	30	1739	1741	1801	N11	W37	8782	11	27.9	22	SF		3	E		48		
	RAMY	30	1742	1742	1748	N11	W36	8782	11	28.0	6	SF		3	E		20		F
		30	2013		2234	No Flare Patrol													
		30	2334		2400	No Flare Patrol													

"Remarks"

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
 B = Probably the end of a more important flare.
 C = Invisible 10 minutes before.
 D = Brilliant point.
 E = Two or more brilliant points.
 F = Several eruptive centers.
 G = No visible spots in the neighborhood.
 H = Flare accompanied by high-speed dark filament.
 I = Active region very extended.
 J = Distinct variations of plage intensity before or after the flare.
 K = Several intensity maxima.
 L = Existing filaments show signs of sudden activity.
 M = White-light flare.
 N = Continuous spectrum shows effects of polarization.

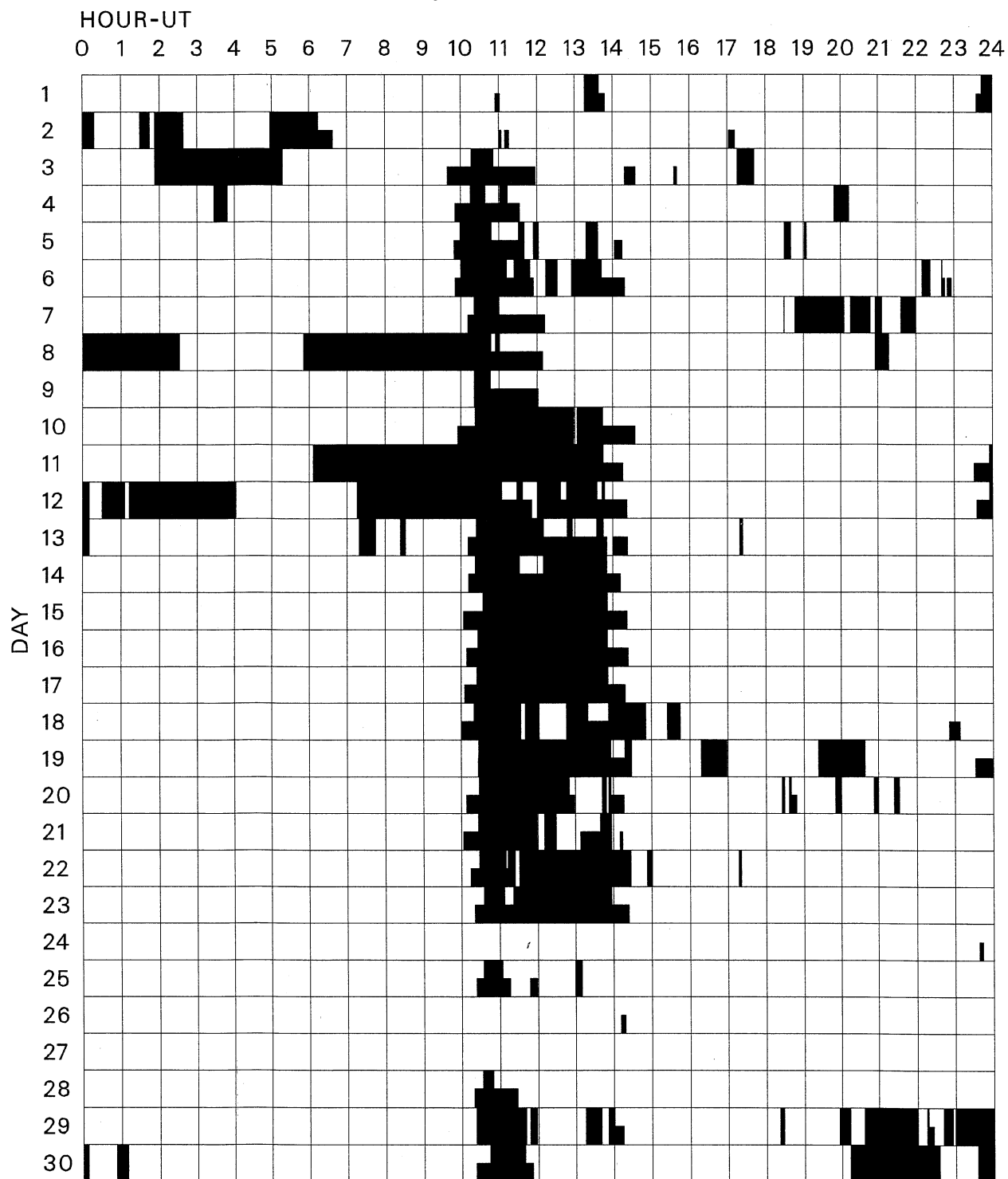
O = Observations have been made in the H and K lines of Ca II.
 P = Flare shows Helium D3 in emission.
 Q = Flare shows Balmer continuum in emission.
 R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
 S = Brightness follows disappearance of filament in same position.
 T = Region active all day.
 U = Two bright branches, parallel or converging.
 V = Occurrence of an explosive phase; important, expansion within roughly 1 minute that often includes a significant intensity increase.
 W = Great increase in area after time of maximum intensity.
 X = Unusually wide H-alpha line.
 Y = System of loop-type prominences.
 Z = Major sunspot umbra covered by flare.

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

26
Nov 99

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

NOVEMBER 1999

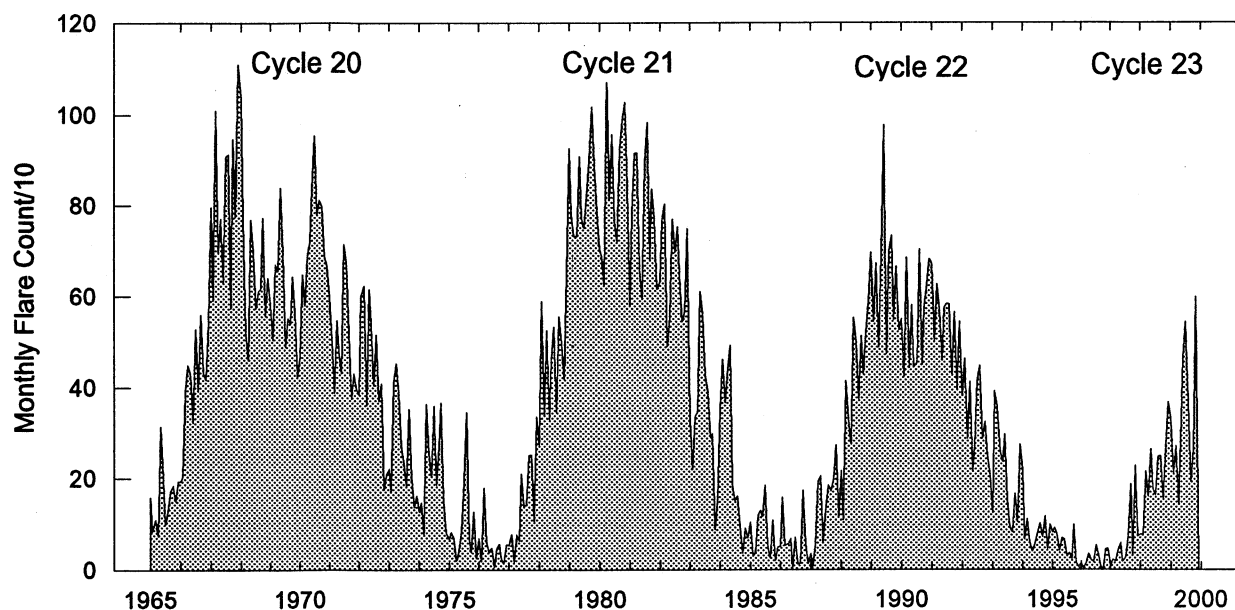


Times of no flare patrol, shown here as shades areas, combine reports from the stations listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind (neither visual or cinematographic): portions of a panel with only the bottom half shaded mark times of only visual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

Holloman	Kharkov	Learmonth	Ramey	San Vito
Mitaka	Urumqi			

Monthly Counts of Grouped Solar Flares Jan 1965 - Nov 1999

27
Nov 99



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		3720

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

28
Nov 99

SOLAR RADIO EMISSION Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
01	245	PALE	43 NS	0015.0	0042.0	1425.0	190.0			QL=4 ST=1 TYP=1
	245	LEAR	43 NS	0534.0	0628.0	209.0	130.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	0556.0	0623.0	1084.0	55.0			QL=2 ST=1 TYP=1
	204	IZMI	44 NS	0700.0E		177.00		20.0		
	280	CUBA	44 NS	1410.0E		460.00		19.0		
	235	CUBA	44 NS	1410.0E		460.00		10.0		
	245	LEAR	8 S	0015.0	0015.0	U	140.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	0015.6	0015.8	0.4	80.0			0
	245	LEAR	8 S	0026.0	0026.0	U	240.0			QL=4 ST=2 TYP=3
	500	HIRA	46 C	0148.0	0150.0	23.0	100.0			ML
	410	LEAR	49 GB	0150.0	0152.0	20.0	530.0			QL=4 ST=2 TYP=6
	610	LEAR	4 S/F	0151.0	0153.0	3.0	110.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	0152.0	0153.0	2.0	90.0			QL=4 ST=2 TYP=3
	410	PALE	49 GB	0152.0	0153.0	3.0	520.0			QL=4 ST=2 TYP=6
	410	PALE	20 GRF	0157.0	0206.0	13.0	200.0			QL=4 ST=2 TYP=2
	5730	IRKU	20 GRF	0422.6	0507.0	83.4	9.0		U	
	245	LEAR	8 S	0423.0	0423.0	1.0	72.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0512.0	0512.0	U	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0519.0	0519.0	1.0	270.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0648.2	0700.0	31.8	5.0		U	
	204	IZMI	45 C	1010.3	1010.8	1.8	273.0			
	204	IZMI	7 C	1047.0	1047.2	0.4	133.0			
	204	IZMI	7 C	1110.4	1110.5	0.2	36.0			
	245	SVTO	4 S/F	1453.0	1456.0	7.0	160.0			QL=4 ST=3 TYP=3
	245	SVTO	8 S	1456.0	1456.0	U	160.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1743.0	1744.0	1.0	54.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1822.0	1822.0	1.0	59.0			QL=4 ST=2 TYP=3
	2800	PENT	41 F	2111.0	2115.0	15.0	13.0			
02	235	CUBA	44 NS	1350.0E		460.00		9.0		
	280	CUBA	44 NS	1350.0E		460.00		18.0		
	2840	PEKG	1 S	0354.0	0406.0	14.0	3.0			
	5730	IRKU	1 S	0405.4	0406.6	4.6	5.0		U	
	200	HIRA	46 C	0405.6	0406.6	3.2	100.0			0
	2840	PEKG	1 S	0520.0	0521.0	10.0	4.3			
	200	HIRA	46 C	0559.4	0601.0	2.0	350.0			WL
	245	LEAR	8 S	0614.0	0615.0	1.0	280.0			QL=4 ST=2 TYP=3
	2840	PEKG	1 S	0614.0	0615.0	2.0	2.0			
	200	HIRA	46 C	0614.6	0615.0	2.2	290.0			WL
	245	SVTO	8 S	0615.0	0615.0	1.0	190.0			QL=2 ST=3 TYP=3
	245	LEAR	8 S	0659.0	0659.0	U	130.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0659.0	0659.0	U	77.0			QL=4 ST=2 TYP=3
	204	IZMI	41 F	0829.0	0829.6	1.6	31.0			
	33	UPIC	45 C	1226.5	1228.2	3.0				
	204	IZMI	41 F	1227.1	1227.4	0.4	60.0			
03	245	LEAR	43 NS	0546.0	0547.0	1094.0	90.0			QL=4 ST=1 TYP=1
	280	CUBA	44 NS	1400.0E		460.00		18.0		
	235	CUBA	44 NS	1400.0E		460.00		8.0		
	5730	IRKU	1 S	0541.7	0548.2	12.3	3.0		U	
	204	IZMI	7 C	0906.8	0906.9	0.3	243.0			
	204	IZMI	45 C	1054.8	1055.4	1.4	142.0			
	245	SGMR	8 S	1402.0	1403.0	1.0	67.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1402.0	1402.0	2.0	74.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1701.0	1701.0	1.0	80.0			QL=4 ST=2 TYP=3
	2800	PENT	1 S	2231.0	2242.0	38.0	98.0			
	2695	LEAR	4 S/F	2240.0	2242.0	3.0	81.0			QL=4 ST=2 TYP=3
	4995	LEAR	4 S/F	2240.0	2242.0	3.0	66.0			QL=4 ST=2 TYP=3
	2800	HIRA	3 S	2240.0	2242.6	6.6	80.0			0
	500	HIRA	4 S/F	2240.0	2241.6	3.2	30.0			0
	8800	LEAR	8 S	2241.0	2242.0	1.0	33.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	2241.0	2241.0	1.0	54.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2243.0	2243.0	U	66.0			QL=4 ST=2 TYP=3
04	235	CUBA	44 NS	1300.0E		530.00		8.0		
	280	CUBA	44 NS	1300.0E		530.00		18.0		
	2840	PEKG	45 C	0118.0	0139.5	37.0	26.9			
	245	LEAR	49 GB	0130.0	0130.0	1.0	1300.0			QL=4 ST=2 TYP=6
	5730	IRKU	4 S/F	0130.0	0130.8	3.3	26.0		U	

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

Outstanding Occurrences

29
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
04	200	HIRA	47 GB	0130.6	0131.0	0.8	3800.0			0
	500	HIRA	8 S	0130.6	0130.8	0.4	40.0			0
	245	PALE	49 GB	0131.0	0131.0		1000.0			QL=4 ST=2 TYP=6
	200	HIRA	42 SER	0137.2	0138.6	2.0	130.0			0
	5730	IRKU	4 S/F	0137.5	0139.4	29.3	13.0		U	
	245	LEAR	4 S/F	0138.0	0139.0	3.0	66.0			QL=4 ST=2 TYP=3
	5730	IRKU	4 S/F	0248.6	0257.7	41.8	48.0		U	
	2840	PEKG	5 S	0252.0	0254.5	4.0	12.5			
	200	HIRA	4 S/F	0253.8	0254.2	0.8	80.0			0
	2840	PEKG	5 S	0337.0	0338.0	4.0	27.7			
	5730	IRKU	3 S	0337.7	0338.3	6.8	47.0		U	
	2840	PEKG	45 C	0451.0	0501.0	18.0	36.8			
	5730	IRKU	4 S/F	0455.0	0502.0	41.8	38.0		U	
	200	HIRA	4 S/F	0504.8	0505.0	0.4	50.0			0
	245	LEAR	8 S	0505.0	0505.0		250.0			QL=4 ST=2 TYP=3
	204	IZMI	42 SER	0905.5	0906.4	1.9	82.0			
	900	GORK	2 S/F	1042.2	1042.7	2.3	17.0			
	600	GORK	41 F	1042.3	1043.1	1.3	5.5			
	245	SGMR	8 S	2035.0	2036.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	2042.0	2042.0	1.0	37.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	2042.0	2042.0	1.0	86.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	2046.0	2046.0		81.0			QL=2 ST=3 TYP=3
	245	SGMR	8 S	2046.0	2046.0		19.0			QL=2 ST=3 TYP=3
05	235	CUBA	44 NS	1300.0E		410.0D		8.0		
	280	CUBA	44 NS	1500.0E		410.0D		20.0		
	204	IZMI	41 F	0805.5	0806.1	1.2	32.0			
	900	GORK	2 S/F	0808.5	0810.2	2.5	22.0			
	600	GORK	40 F	0808.6	0810.2	3.4	12.0			
	410	SVTO	8 S	1443.0	1443.0	1.0	49.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1443.0	1444.0	2.0	77.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	1642.0	1643.0	2.0	56.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1642.0	1643.0	2.0	34.0			QL=4 ST=2 TYP=3
	2800	PENT	29 PBI	1713.0	1716.0	19.0U	59.0			
	2695	PALE	4 S/F	1715.0	1716.0	4.0	60.0			QL=4 ST=2 TYP=3
	1415	PALE	4 S/F	1715.0	1716.0	4.0	57.0			QL=4 ST=2 TYP=3
	6700	CUBA	2 S/F	1715.5	1716.2	2.5	40.0		20.0	18L
	6700	CUBA	29 PBI	1718.0		41.0D	13.0			00L 1759 OFF
	410	PALE	8 S	1803.0	1804.0	1.0	45.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	1803.0	1804.0	1.0	150.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	1837.0	1837.0	1.0	310.0			QL=4 ST=2 TYP=3
	2800	PENT	41 F	1851.0	1919.0	41.0U	13.0			
	410	PALE	4 S/F	1914.0	1917.0	6.0	77.0			QL=4 ST=2 TYP=3
	410	SGMR	48 C	1914.0	1917.0	9.0	84.0			QL=4 ST=2 TYP=8
	245	PALE	4 S/F	1917.0	1918.0	4.0	40.0			QL=4 ST=2 TYP=3
	245	SGMR	4 S/F	1917.0	1918.0	6.0	36.0			QL=4 ST=2 TYP=3
	235	CUBA	48 C	2017.5	2023.8	9.8	16.0			
	280	CUBA	48 C	2017.5	2023.8	9.8	38.0			
	2800	PENT	3 S	2107.0	2121.0	25.0U	10.0			
	245	PALE	4 S/F	2138.0	2138.0	8.0	92.0			QL=4 ST=2 TYP=3
06	235	CUBA	44 NS	1300.0E		530.0D		8.0		
	280	CUBA	44 NS	1300.0E		530.0D		20.0		
	33	UPIC	45 C	0900.5	0901.5	1.5				
	204	IZMI	42 SER	0925.4	0926.8	3.7	171.0		1.0	
	2950	GORK	7 C	1056.0	1056.6	4.8	7.0			
	3000	IZMI	20 GRF	1056.2	1056.7	5.0	11.0			
	2800	PENT	29 PBI	1701.0	1704.0	31.0U	36.0			
	245	SGMR	8 S	1758.0	1758.0	1.0	75.0			QL=4 ST=2 TYP=3
07	235	CUBA	44 NS	1300.0E		530.0D		10.0		
	280	CUBA	44 NS	1300.0E		530.0D		20.0		
	5730	IRKU	8 S	0403.5	0403.8	1.9	2.0		U	
	2840	PEKG	1 S	0734.0	0735.6	5.0	8.2			
	5730	IRKU	4 S/F	0734.5	0735.5	8.9	74.0		U	
	3000	IZMI	20 GRF	0735.2	0735.6	2.0	17.0			
	2950	GORK	3 S	0735.3	0735.5	0.8	11.8			
	245	SVTO	8 S	0842.0	0842.0	1.0	450.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0842.0	0842.0	1.0	160.0			QL=4 ST=2 TYP=3

30
Nov 99

SOLAR RADIO EMISSION Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
07	245	SGMR	8 S	1213.0	1213.0	1.0	56.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1213.0	1213.0	1.0	90.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	1213.0	1213.0	1.0	30.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1934.0	1935.0	1.0	62.0			QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	2346.0	2346.0	6.0	110.0			QL=4 ST=2 TYP=3
08	235	CUBA	44 NS	1440.0E		430.0D		19.0		
	280	CUBA	44 NS	1440.0E		430.0D		31.0		
	245	SGMR	43 NS	1847.0	2015.0	131.0	150.0			QL=4 ST=2 TYP=1
	245	PALE	43 NS	1849.0	0117.0	478.0	250.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2239.0	0135.0	211.0	190.0			QL=4 ST=2 TYP=1
	5730	IRKU	1 S	0455.2	0457.0	6.8	5.0		U	
	204	IZMI	7 C	0659.0	0659.1	0.2	23.0			
	204	IZMI	42 SER	0713.9	0715.8	2.9	16.0			
	900	GORK	40 F	0715.0	0716.2	1.7	12.0			
	600	GORK	40 F	0715.0	0716.5	1.7	10.0			
	600	GORK	4 S/F	0754.1	0754.4	0.6	13.0			
	900	GORK	45 C	0754.2	0754.4	0.6	6.0			
	2950	GORK	21 GRF	0819.0	0916.3	161.0D	10.6			
	204	IZMI	7 C	0820.4	0820.6	0.4	38.0			
	1415	SVTO	20 GRF	0826.0	1113.0	410.0	13.0			QL=4 ST=2 TYP=2
	8800	SVTO	20 GRF	0826.0	1056.0	410.0	98.0			QL=4 ST=2 TYP=2
	4995	SVTO	20 GRF	0826.0	1056.0	410.0	32.0			QL=4 ST=2 TYP=2
	2695	SVTO	20 GRF	0857.0	1056.0	379.0	17.0			QL=4 ST=2 TYP=2
	2950	GORK	1 S	0950.8	0951.5	1.0	4.1			
	204	IZMI	41 F	0953.9	0954.4	1.4	39.0			
	245	SVTO	8 S	1109.0	1110.0	1.0	190.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	1109.0	1109.0	1.0	25.0			QL=4 ST=2 TYP=3
	204	IZMI	45 C	1109.4	1109.9	17.6	268.0			
	33	UPIC	46 C	1110.0	1110.5	2.0				
	6700	CUBA	1 S	1457.5	1458.3	1.9	8.0	4.0		00L
	2800	PENT	40 F	1604.0	1614.0	24.0	10.0			
	245	SGMR	49 GB	1612.0	1614.0	4.0	1300.0			QL=4 ST=2 TYP=6
	280	CUBA	6 S	1615.4	1617.4	2.9	281.0D			
	235	CUBA	6 S	1615.4	1617.4	2.9	251.0D			
	6700	CUBA	3 S	1722.5	1726.5	8.9	9.0	4.0		00L
	6700	CUBA	21 GRF	1752.0	1841.0	102.0	37.0	18.0		8L
	245	PALE	8 S	1826.0	1827.0	1.0	59.0			QL=4 ST=2 TYP=3
	2800	PENT	29 PBI	1829.0	1838.0	59.0	13.0			
	4995	SGMR	4 S/F	1835.0	1838.0	5.0	46.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1835.0	1838.0	5.0	53.0			QL=4 ST=2 TYP=3
	6700	CUBA	45 C	1835.3	1838.2	5.3	34.0	12.0		11L
	15400	PALE	4 S/F	1837.0	1838.0	3.0	56.0			QL=4 ST=2 TYP=3
	15400	SGMR	8 S	1837.0	1838.0	1.0	29.0			QL=4 ST=2 TYP=3
	4995	PALE	8 S	1838.0	1838.0		50.0			QL=4 ST=2 TYP=3
	245	PALE	4 S/F	1838.0	1838.0	5.0	94.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	2008.4	2009.2	1.4	5.0	2.0		36L
09	204	IZMI	43 NS	0700.0		300.0D		30.0		
	410	SGMR	43 NS	1152.0	1221.0	347.0	120.0			QL=4 ST=2 TYP=1
	245	SGMR	43 NS	1152.0	1209.0	606.0	240.0			QL=4 ST=2 TYP=1
	280	CUBA	44 NS	1400.0E		423.0D		43.0		
	235	CUBA	44 NS	1400.0E		423.0D		35.0		
	245	PALE	43 NS	1705.0	1725.0	415.0	170.0			QL=4 ST=1 TYP=1
	245	PALE	43 NS	1705.0	1710.0	415.0	140.0			QL=4 ST=1 TYP=1
	410	LEAR	8 S	0131.0	0131.0	1.0	120.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	0138.0	0138.0	1.0	310.0			QL=4 ST=2 TYP=3
	2840	PEKG	1 S	0500.0	0506.5	10.0	8.2			
	5730	IRKU	4 S/F	0526.0	0528.9	25.0	18.0		U	
	5730	IRKU	21 GRF	0558.0	0616.8	37.5	28.0		U	
	2840	PEKG	3 S	0600.0	0616.8	25.0	132.0			
	245	LEAR	49 GB	0612.0	0612.0	1.0	560.0			QL=4 ST=2 TYP=6
	245	LEAR	8 S	0615.0	0616.0	2.0	63.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0615.0	0616.0	2.0	11.0			QL=4 ST=2 TYP=3
	4995	LEAR	4 S/F	0615.0	0616.0	3.0	15.0			QL=4 ST=2 TYP=3
	1415	LEAR	4 S/F	0615.0	0616.0	3.0	160.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0615.0	0616.0	3.0	63.0			QL=4 ST=2 TYP=3
	610	LEAR	4 S/F	0615.0	0616.0	3.0	16.0			QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	0615.0	0615.0	3.0	74.0			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

31
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
09	2800	HIRA	42 SER	0615.6	0616.2	0.8	70.0			0
	500	HIRA	42 SER	0615.6	0616.2	2.2	80.0			WL
	245	SVTO	8 S	0616.0	0616.0	1.0	220.0			QL=4 ST=2 TYP=3
	1415	SVTO	8 S	0616.0	0616.0	1.0	140.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0616.0	0616.0	1.0	22.0			QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	0635.0	0636.0	4.0	43.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0635.0	0636.0	1.0	75.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0636.0	0636.0	U	2100.0			QL=4 ST=2 TYP=6
	245	SVTO	49 GB	0636.0	0636.0	U	1400.0			QL=4 ST=3 TYP=6
	5730	IRKU	4 S/F	0652.3	0702.2	31.5	25.0		U	
	410	LEAR	8 S	0720.0	0720.0	1.0	46.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0720.0	0720.0	1.0	60.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0720.0	0721.0	1.0	27.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0720.0	0720.0	1.0	140.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0720.0	0721.0	1.0	51.0			QL=4 ST=2 TYP=3
	204	I2MI	41 F	0720.5	0720.6	1.5	248.0			
	600	GORK	23 GRF	0721.0E	0813.4	88.5U	40.0			
	245	LEAR	49 GB	0747.0	0747.0	U	540.0			QL=4 ST=2 TYP=6
	245	SVTO	8 S	0747.0	0747.0	U	460.0			QL=4 ST=2 TYP=3
	204	I2MI	7 C	0747.5	0747.6	0.3	716.0			
	410	SVTO	8 S	0825.0	0826.0	2.0	390.0			QL=4 ST=2 TYP=3
	4995	LEAR	8 S	0826.0	0826.0	U	48.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0826.0	0826.0	1.0	150.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0826.0	0826.0	1.0	1600.0			QL=4 ST=2 TYP=6
	1415	LEAR	8 S	0826.0	0826.0	U	75.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0826.0	0826.0	U	36.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0826.0	0826.0	1.0	380.0			QL=4 ST=2 TYP=3
	4995	SVTO	8 S	0826.0	0826.0	1.0	50.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0826.0	0826.0	1.0	28.0			QL=4 ST=2 TYP=3
	1415	SVTO	8 S	0826.0	0826.0	2.0	120.0			QL=4 ST=2 TYP=3
	245	SVTO	49 GB	0826.0	0826.0	1.0	1100.0			QL=4 ST=2 TYP=6
	610	SVTO	8 S	0826.0	0826.0	1.0	90.0			QL=4 ST=2 TYP=3
	204	I2MI	45 C	0826.2	0826.3	1.8	1837.0			
	900	GORK	45 C	0826.2	0826.4	5.6	20.0			
	900	GORK	45 C	0826.2	0827.4	5.6	9.6			
	2950	GORK	3 S	0826.2	0826.4	2.7	35.0			
	600	GORK	45 C	0826.2	0826.4	27.0	77.0			
	600	GORK	45 C	0826.2	0827.4	27.0	12.0			
	5730	IRKU	4 S/F	0826.2	0826.5	4.8	59.0		U	
	3000	I2MI	45 C	0826.2	0826.5	4.6	46.0			
	33	UPIC	46 C	0826.5	0827.0	1.5				
	33	UPIC	46 C	0837.0	0837.3	1.0				
	245	LEAR	8 S	0849.0	0849.0	1.0	120.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0849.0	0850.0	1.0	75.0			QL=4 ST=2 TYP=3
	204	I2MI	41 F	0849.7	0850.0	1.0	25.6			
	2950	GORK	3 S	0849.9	0850.1	0.5	5.6			
	2950	GORK	3 S	0904.9	0905.0	0.6	5.6			
	1415	LEAR	8 S	0931.0	0932.0	1.0	100.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0931.0	0931.0	U	200.0			QL=4 ST=2 TYP=3
	204	I2MI	41 F	0931.8E	0932.0	1.3U	89.0			
	204	I2MI	45 C	0936.8	0937.2	1.0	1058.0			
	410	LEAR	8 S	0937.0	0937.0	U	65.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0937.0	0937.0	U	390.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0937.0	0937.0	U	370.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0937.0	0937.0	U	140.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0937.0	0937.0	U	58.0			QL=4 ST=2 TYP=3
	3000	I2MI	45 C	0937.1	0937.3	1.8	137.0			
	245	LEAR	8 S	0940.0	0941.0	1.0	290.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0940.0	0940.0	1.0	150.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0940.0	0940.0	1.0	270.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0940.0	0940.0	1.0	130.0			QL=4 ST=2 TYP=3
	1415	SVTO	8 S	0940.0	0940.0	1.0	89.0			QL=4 ST=2 TYP=3
	204	I2MI	42 SER	0940.1	0941.1	1.3	1017.0			
	3000	I2MI	45 C	0940.8	0940.9	0.6	101.0			
	245	SVTO	8 S	0941.0	0941.0	U	380.0			QL=4 ST=2 TYP=3
	2950	GORK	1 S	1024.6	1025.2	0.7	4.6			
	900	GORK	40 F	1024.9	1026.5	2.0	4.8			
	245	SVTO	8 S	1026.0	1026.0	1.0	82.0			QL=4 ST=2 TYP=3
	610	SVTO	8 S	1026.0	1026.0	1.0	33.0			QL=4 ST=2 TYP=3

32
Nov 99

SOLAR RADIO EMISSION

Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
09	410	SVTO	8 S	1026.0	1026.0	1.0	60.0			QL=4 ST=2 TYP=3
	3000	IZMI	5 S	1101.2	1101.6	0.9	15.0			
	1415	SVTO	8 S	1153.0	1153.0	2.0	33.0			QL=4 ST=2 TYP=3
	1415	SGMR	4 S/F	1153.0	1154.0	727.0	100.0			QL=4 ST=1 TYP=3
	3000	IZMI	7 C	1154.3	1154.6	0.9	14.0			
	1415	SGMR	8 S	1206.0	1206.0	1.0	120.0			QL=4 ST=2 TYP=3
	33	UPIC	3 S	1209.5	1209.7	0.5				
	8800	SVTO	8 S	1251.0	1252.0	1.0	40.0			QL=4 ST=2 TYP=3
	610	SGMR	8 S	1252.0	1252.0	1.0	45.0			QL=4 ST=3 TYP=3
	2695	SGMR	4 S/F	1252.0	1252.0	4.0	160.0			QL=4 ST=3 TYP=3
	4995	SGMR	4 S/F	1252.0	1252.0	4.0	57.0			QL=4 ST=3 TYP=3
	8800	SGMR	4 S/F	1252.0	1252.0	4.0	62.0			QL=4 ST=3 TYP=3
	1415	SGMR	49 GB	1252.0	1252.0	4.0	13000.0			QL=4 ST=3 TYP=6
	1415	SVTO	49 GB	1252.0	1252.0	1.0	10000.0			QL=4 ST=2 TYP=6
	4995	SVTO	8 S	1252.0	1252.0	1.0	28.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1252.0	1252.0	1.0	140.0			QL=4 ST=2 TYP=3
	610	SVTO	8 S	1252.0	1252.0	U	40.0			QL=4 ST=2 TYP=3
	33	UPIC	46 C	1252.5	1253.0	1.5				
	610	SVTO	4 S/F	1255.0	1255.0	3.0	150.0			QL=4 ST=2 TYP=3
	1415	SVTO	4 S/F	1255.0	1256.0	3.0	480.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1256.0	1257.0	3.0	57.0			QL=4 ST=2 TYP=3
	245	SGMR	49 GB	1256.0	1256.0	3.0	970.0			QL=4 ST=2 TYP=6
	1415	SGMR	4 S/F	1256.0	1256.0	3.0	460.0			QL=4 ST=2 TYP=3
	410	SGMR	49 GB	1256.0	1256.0	3.0	850.0			QL=4 ST=2 TYP=6
	4995	SGMR	4 S/F	1256.0	1256.0	3.0	34.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1256.0	1257.0	1.0	29.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	1256.0	1257.0	3.0	34.0			QL=4 ST=2 TYP=3
	33	UPIC	46 C	1257.0	1258.2	2.0				
	1415	SVTO	8 S	1333.0	1334.0	2.0	87.0			QL=4 ST=2 TYP=3
	1415	SGMR	8 S	1334.0	1334.0	1.0	97.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	1515.0	1515.0	1.0	420.0			QL=4 ST=3 TYP=3
	245	SGMR	49 GB	1515.0	1515.0	1.0	880.0			QL=4 ST=3 TYP=6
	4995	SGMR	8 S	1534.0	1534.0	2.0	37.0			QL=4 ST=3 TYP=3
	8800	SGMR	8 S	1534.0	1534.0	2.0	57.0			QL=4 ST=3 TYP=3
	6700	CUBA	1 S	1534.5	1534.8	0.7	30.0	15.0		12R
	6700	CUBA	21 GRF	1556.0	1622.0	50.0	18.0	9.0		6R
	6700	CUBA	1 S	1557.1	1557.8	0.9	10.0	5.0		25L
	4995	SGMR	20 GRF	1601.0	1643.0U	43.0	52.0			QL=4 ST=2 TYP=2
	8800	SGMR	20 GRF	1601.0	1621.0U	64.0	60.0			QL=4 ST=2 TYP=2
	2695	SGMR	20 GRF	1601.0	1602.0U	63.0	41.0			QL=4 ST=2 TYP=2
	6700	CUBA	2 S/F	1620.5	1621.1	1.0	27.0	13.0		23L
	6700	CUBA	21 GRF	1727.0	1746.0	98.0	31.0	15.0		6L
	6700	CUBA	2 S/F	1755.6	1756.7	2.4	15.0	7.0		16L
	2800	PENT	1 S	1836.0	1847.0	45.0	12.0			
	6700	CUBA	20 GRF	1944.0	1957.0	95.0	42.0	21.0		22L
	2800	PENT	45 C	2041.0	2051.0	29.0	3.0			
10	245	SVTO	44 NS	0604.0E	0618.0	401.0D	400.0			QL=2 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		40.0		
	235	CUBA	44 NS	1300.0E		530.0D		24.0		
	280	CUBA	44 NS	1300.0E		530.0D		35.0		
	245	SGMR	43 NS	1702.0	1750.0	290.0	290.0			QL=4 ST=2 TYP=1
	245	PALE	43 NS	1702.0	1715.0	418.0	180.0			QL=4 ST=1 TYP=1
	245	PALE	43 NS	1702.0	1855.0	418.0	390.0			QL=4 ST=1 TYP=1
	410	PALE	43 NS	2004.0	2104.0	119.0	97.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2335.0	0026.0	175.0	130.0			QL=4 ST=2 TYP=1
	2840	PEKG	1 S	0138.0	0142.8	6.0	4.3			
	2840	PEKG	45 C	0329.0	0332.5	6.0	6.8			
	5730	IRKU	45 C	0331.0	0332.4	18.9	17.0		U	
	5730	IRKU	1 S	0354.3	0356.0	3.7	3.0		U	
	5730	IRKU	1 S	0409.2	0410.7	5.8	2.0		U	
	5730	IRKU	21 GRF	0426.0	0434.2	23.6	3.0		U	
	5730	IRKU	1 S	0452.6	0453.8	4.1	2.0		U	
	5730	IRKU	21 GRF	0457.0	0500.9	28.2	11.0		U	
	245	LEAR	8 S	0546.0	0546.0	U	130.0			QL=4 ST=2 TYP=3
	410	LEAR	49 GB	0546.0	0546.0	1.0	860.0			QL=4 ST=2 TYP=6
	5730	IRKU	21 GRF	0546.5	0546.6	6.8	7.0		U	
	2840	PEKG	4 S/F	0559.0	0602.0	6.0	7.3			
	5730	IRKU	4 S/F	0604.0	0608.8	8.0	3.0		U	

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

Outstanding Occurrences

33
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
10	2840	PEKG	5 S	0659.0	0700.0	3.0	14.0			
	5730	IRKU	4 S/F	0659.2	0700.6	6.5	8.0	U		
	3000	IZMI	5 S	0700.1	0700.4	0.5	22.0	10.0		
	5730	IRKU	1 S	0705.7	0714.0	25.3	16.0	U		
	410	LEAR	8 S	0741.0	0742.0	1.0	59.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0748.5	0750.1	7.0	10.0	U		
	245	LEAR	8 S	0831.0	0831.0	U	250.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0831.0	0831.0	U	49.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0831.0	0000.0	U	33.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0831.0	0831.0	U	33.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0831.0	0831.0	U	210.0			QL=2 ST=2 TYP=3
	410	LEAR	8 S	0922.0	0922.0	U	130.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0932.0	0932.0	U	130.0			QL=4 ST=2 TYP=3
	245	SGMR	4 S/F	1322.0	1324.0	4.0	64.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	1322.0	1324.0	2.0	51.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1324.0	1324.0	1.0	51.0			QL=2 ST=2 TYP=3
	410	SVTO	8 S	1324.0	1324.0	U	56.0			QL=4 ST=2 TYP=3
	6700	CUBA	20 GRF	1335.0	1402.0	52.0	8.0	4.0		00L
	245	SGMR	8 S	1402.0	1403.0	1.0	390.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1402.0	1403.0	1.0	370.0			QL=2 ST=2 TYP=3
	235	CUBA	6 S	1403.0	1403.1	0.4	1113.0			
	280	CUBA	6 S	1403.0	1403.1	0.4	219.0			
	6700	CUBA	2 S/F	1438.7	1439.9	3.2	8.0	4.0		22R
	245	SGMR	8 S	1509.0	1510.0	1.0	91.0			QL=4 ST=2 TYP=3
	245	SGMR	49 GB	1523.0	1524.0	3.0	530.0			QL=4 ST=2 TYP=6
	245	SGMR	8 S	1533.0	1534.0	1.0	210.0			QL=4 ST=3 TYP=3
	610	SGMR	8 S	1533.0	1533.0	1.0	52.0			QL=4 ST=3 TYP=3
	6700	CUBA	2 S/F	1533.7	1534.0	1.3	9.0	4.0		48L
	610	SGMR	48 C	1544.0	1548.0	5.0	72.0			QL=4 ST=2 TYP=8
	245	SGMR	49 GB	1545.0	1548.0	8.0	2900.0			QL=4 ST=2 TYP=6
	6700	CUBA	42 SER	1545.1	1548.4	4.1	91.0	28.0		10L
	1415	SGMR	4 S/F	1546.0	1548.0	7.0	56.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1546.0	1548.0	7.0	47.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1547.0	1548.0	6.0	130.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1547.0	1548.0	6.0	74.0			QL=4 ST=2 TYP=3
	280	CUBA	7 C	1547.8	1548.4	0.6	3046.0			
	235	CUBA	7 C	1547.8	1548.4	0.6	5330.0			
	15400	SGMR	4 S/F	1548.0	1548.0	3.0	110.0			QL=4 ST=2 TYP=3
	2800	PENT	1 S	1643.0	1645.0	5.0	6.0			
	410	SGMR	8 S	1645.0	1645.0	2.0	99.0			QL=4 ST=2 TYP=3
	245	SGMR	49 GB	1645.0	1645.0	2.0	2500.0			QL=4 ST=2 TYP=6
	280	CUBA	7 C	1645.2	1645.6	0.9	1707.0			
	235	CUBA	7 C	1645.2	1645.6	0.9	1707.0			
	245	SGMR	8 S	1659.0	1659.0	1.0	110.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	1742.0	1743.0	1.0	93.0			QL=4 ST=2 TYP=3
	6700	CUBA	22 GRF	1907.0	1952.0	71.0	14.0	7.0		14L
	410	PALE	8 S	1921.0	1921.0	1.0	60.0			QL=4 ST=2 TYP=3
	245	SGMR	49 GB	2030.0	2030.0	1.0	920.0			QL=4 ST=2 TYP=6
	410	SGMR	8 S	2030.0	2030.0	1.0	56.0			QL=4 ST=2 TYP=3
	2800	PENT	1 S	2051.0	2053.0	5.0	13.0			
	6700	CUBA	1 S	2053.2	2053.8	1.2	17.0	8.0		26L
	4995	PALE	4 S/F	2202.0	2212.0	17.0	330.0			QL=4 ST=2 TYP=3
	410	LEAR	49 GB	2211.0	2211.0	1.0	690.0			QL=2 ST=2 TYP=6
	1415	LEAR	8 S	2211.0	2212.0	2.0	290.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	2211.0	2212.0	2.0	180.0			QL=4 ST=2 TYP=3
	610	LEAR	49 GB	2211.0	2211.0	1.0	520.0			QL=2 ST=2 TYP=6
	8800	LEAR	8 S	2211.0	2212.0	1.0	240.0			QL=4 ST=2 TYP=3
	4995	LEAR	8 S	2211.0	2212.0	1.0	200.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	2211.0	2212.0	2.0	360.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	2211.0	2212.0	1.0	6100.0			QL=2 ST=2 TYP=6
	15400	PALE	8 S	2211.0	2212.0	2.0	420.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2211.0	2212.0	2.0	330.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	2211.0	2212.0	1.0	200.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	2211.0	2212.0	1.0	300.0			QL=4 ST=2 TYP=3
	410	PALE	49 GB	2211.0	2212.0	1.0	1000.0			QL=4 ST=2 TYP=6
	245	PALE	49 GB	2211.0	2212.0	1.0	8800.0			QL=4 ST=2 TYP=6
	610	PALE	49 GB	2211.0	2212.0	5.0	1100.0			QL=4 ST=2 TYP=6
	6700	CUBA	45 C	2211.4	2212.2	1.6	244.0	104.0		12L
	2800	HIRA	3 S	2211.4	2212.2	1.4	150.0			WR

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

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
10	500	HIRA	47 GB	2211.8	2212.0	1.4	560.0			WL
	6700	CUBA	29 PBI	2213.0		5.00	11.0			OOL SUNSET
11	410	LEAR	43 NS	0212.0	0212.0	1308.0	56.0			QL=4 ST=1 TYP=1
	410	PALE	43 NS	0221.0	0222.0U	73.0	85.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	0438.0	0438.0	24.0	120.0			QL=4 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.00		35.0		
	245	SVTO	43 NS	1049.0	1106.0	263.0	260.0			QL=2 ST=2 TYP=1
	410	SVTO	43 NS	1106.0	1130.0	24.0	140.0			QL=2 ST=2 TYP=1
	245	SGMR	43 NS	1200.0	1513.0U	221.0	200.0			QL=4 ST=2 TYP=1
	280	CUBA	44 NS	1320.0E		510.00		35.0		
	235	CUBA	44 NS	1320.0E		510.00		25.0		
	245	SGMR	43 NS	1658.0	2023.0	295.0	210.0			QL=4 ST=2 TYP=1
	245	PALE	43 NS	1658.0	2111.0U	636.0	640.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2216.0	0111.0	758.0	440.0			QL=4 ST=2 TYP=1
	2840	PEKG	45 C	0124.0	0129.0	9.0	8.3			
	245	LEAR	8 S	0126.0	0127.0	1.0	410.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	0127.0	0127.4	0.8	360.0			0
	5730	IRKU	4 S/F	0127.2	0128.9	3.8U	33.0		U	
	2840	PEKG	1 S	0157.0	0159.0	5.0	7.3			
	5730	IRKU	4 S/F	0159.0	0159.5	1.0	28.0		U	
	245	LEAR	8 S	0253.0	0253.0	1.0	270.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	0253.2	0253.6	0.8	310.0			0
	5730	IRKU	45 C	0351.1	0400.4	24.9	30.0		U	
	245	LEAR	8 S	0355.0	0355.0	1.0	340.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	0355.8	0356.0	5.8	110.0			0
	410	LEAR	8 S	0357.0	0358.0	1.0	110.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0358.0	0358.0		330.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0358.0	0358.0		350.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	0358.0	0358.2	0.4	120.0			WR
	245	LEAR	8 S	0401.0	0401.0	2.0	240.0			QL=4 ST=2 TYP=3
	2840	PEKG	1 S	0429.0	0431.5	5.0	4.8			
	5730	IRKU	1 S	0430.0	0432.0	6.0	10.0		U	
	200	HIRA	42 SER	0431.2	0433.0	2.0	110.0			0
	5730	IRKU	4 S/F	0450.3	0458.2	13.7	20.0		U	
	245	LEAR	49 GB	0452.0	0453.0	1.0	620.0			QL=4 ST=2 TYP=6
	2840	PEKG	1 S	0452.0	0453.0	2.0	9.1			
	200	HIRA	42 SER	0452.8	0453.6	1.0	280.0			0
	410	LEAR	8 S	0453.0	0453.0		120.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0453.0	0453.0		53.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0453.0	0453.0		42.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	0453.0	0453.2	0.4	90.0			WR
	245	LEAR	8 S	0515.0	0516.0	1.0	320.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	0516.2	0516.4	2.6	360.0			0
	5730	IRKU	1 S	0525.5	0530.5	13.0	5.0		U	
	5730	IRKU	1 S	0553.5	0556.0	5.0	5.0		U	
	2950	GORK	23 GRF	0633.5	0747.2	104.5	36.0			
	5730	IRKU	1 S	0727.8	0732.7	13.4	10.0		U	
	245	LEAR	8 S	0730.0	0730.0		160.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0730.0	0730.0		290.0			QL=2 ST=2 TYP=3
	900	GORK	23 GRF	0740.0	0745.2	9.0	3.0			
	5730	IRKU	4 S/F	0742.6	0748.9	16.4	14.0		U	
	2950	GORK	45 C	0743.4	0745.1	2.1	7.3			
	600	GORK	40 F	0744.2	0744.5	1.1	7.0			
	900	GORK	45 C	0744.4	0744.6	0.5	3.0			
	5730	IRKU	1 S	0812.1	0812.8	3.4	9.0		U	
	204	IZMI	25 R	1024.0		96.00		63.0		
	245	SGMR	8 S	1318.0	1318.0	2.0	210.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1417.0	1418.0	2.0	390.0			QL=2 ST=2 TYP=3
	245	SVTO	8 S	1418.0	1418.0		190.0			QL=2 ST=2 TYP=3
	245	SVTO	8 S	1418.0	1418.0		190.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	1440.0	1443.0	8.0	37.0			QL=2 ST=2 TYP=3
	4995	SVTO	4 S/F	1441.0	1442.0	7.0	110.0			QL=2 ST=2 TYP=3
	8800	SVTO	4 S/F	1441.0	1442.0	7.0	62.0			QL=2 ST=2 TYP=3
	4995	SGMR	4 S/F	1441.0	1442.0	10.0	130.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1442.0	1442.0	9.0	90.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1442.0	1443.0	9.0	51.0			QL=4 ST=2 TYP=3
	15400	SGMR	4 S/F	1442.0	1442.0	9.0	25.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	1453.0	1453.0	1.0	64.0			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

35
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
11	245	SGMR	8 S	1613.0	1613.0	U	50.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	1703.0	1704.0	2.0	76.0			QL=4 ST=2 TYP=3
	245	SGMR	4 S/F	1816.0	1816.0	3.0	330.0			QL=2 ST=2 TYP=3
	245	PALE	4 S/F	1923.0	1924.0	4.0	380.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1924.0	1924.0	2.0	320.0			QL=2 ST=2 TYP=3
12	410	LEAR	43 NS	0212.0	0212.0	178.0	56.0			QL=4 ST=2 TYP=1
	245	SVTO	44 NS	0607.0E	0617.0U	1073.0D	180.0			QL=2 ST=1 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		40.0		
	410	SVTO	43 NS	1026.0	1148.0	191.0	82.0			QL=2 ST=2 TYP=1
	245	SGMR	43 NS	1153.0	1154.0U	518.0	570.0			QL=4 ST=2 TYP=1
	410	SGMR	43 NS	1153.0	1242.0U	727.0	100.0			QL=4 ST=1 TYP=1
	410	SGMR	43 NS	1253.0	1207.0U	667.0	53.0			QL=4 ST=1 TYP=1
	245	PALE	43 NS	1659.0	1701.0U	421.0	120.0			QL=4 ST=1 TYP=1
	245	PALE	43 NS	1759.0	1945.0	120.0	280.0			QL=4 ST=2 TYP=1
	5730	IRKU	4 S/F	0124.4	0125.2	1.9	26.0		U	
	2840	PEKG	1 S	0128.0	0129.5	3.0	4.6			
	5730	IRKU	1 S	0142.5	0143.5	4.6	13.0		U	
	200	HIRA	27 RF	0153.0	0234.0	70.0	150.0			ML
	5730	IRKU	21 GRF	0234.5	0240.8	24.2	17.0		U	
	2840	PEKG	5 S	0239.0	0240.7	4.0	11.6			
	410	LEAR	8 S	0240.0	0240.0	1.0	220.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0240.0	0240.0	1.0	120.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0240.0	0241.0	1.0	420.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	0240.0	0241.0	1.0	460.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	0240.0	0240.0	1.0	130.0			QL=4 ST=2 TYP=3
	5730	IRKU	45 C	0305.0	0341.5	56.0	22.0		U	
	5730	IRKU	21 GRF	0634.4	0655.9	27.9	6.0		U	
	5730	IRKU	21 GRF	0709.8	0722.0	31.2	10.0		U	
	5730	IRKU	45 C	0741.2	0751.0	18.8	25.0		U	
	5730	IRKU	4 S/F	0802.5	0813.6	18.5	20.0		U	
	5730	IRKU	46 C	0821.5	0826.3	8.5U	80.0		U	
	4995	SVTO	4 S/F	0823.0	0825.0	11.0	36.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0823.0	0826.0	10.0	27.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	0824.0	0825.0	15.0	20.0			QL=4 ST=2 TYP=3
	4995	LEAR	8 S	0825.0	0825.0	1.0	52.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0826.0	0826.0	U	24.0			QL=4 ST=2 TYP=3
	410	LEAR	49 GB	0832.0	0832.0	1.0	600.0			QL=4 ST=2 TYP=6
	610	SVTO	8 S	0832.0	0832.0	U	46.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0832.0	0832.0	U	400.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0832.0	0832.0	1.0	110.0			QL=2 ST=2 TYP=3
	245	SVTO	49 GB	0851.0	0852.0	2.0	640.0			QL=2 ST=2 TYP=6
	245	LEAR	49 GB	0852.0	0852.0	U	770.0			QL=4 ST=2 TYP=6
	1415	SVTO	48 C	0906.0	0911.0	15.0	210.0			QL=4 ST=2 TYP=8
	1415	LEAR	8 S	0907.0	0907.0	U	100.0			QL=4 ST=2 TYP=3
	1415	LEAR	4 S/F	0910.0	0911.0	10.0	190.0			QL=4 ST=2 TYP=3
	2695	LEAR	46 C	0912.0	0916.0	4.0	32.0			QL=4 ST=2 TYP=8
	410	SVTO	4 S/F	0948.0	0949.0	3.0	120.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0949.0	0949.0	1.0	130.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0949.0	0950.0	2.0	160.0			QL=4 ST=2 TYP=3
	610	SVTO	8 S	0949.0	0949.0	2.0	110.0			QL=4 ST=2 TYP=3
	610	SVTO	8 S	1036.0	1037.0	1.0	100.0			QL=4 ST=2 TYP=3
	2800	PENT	F	1620.0	1717.0	72.0U	10.0			
13	204	IZMI	44 NS	0700.0E		105.5D		15.0		
	245	LEAR	8 S	0419.0	0419.0	1.0	270.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	0419.2	0419.6	0.8	110.0			0
	5730	IRKU	8 S	0425.0	0425.5	1.0	2.0		U	
	245	LEAR	8 S	0433.0	0433.0	U	260.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0531.0	0533.7	14.5	12.0		U	
	5730	IRKU	1 S	0615.0	0616.4	14.5	6.0		U	
	245	LEAR	8 S	0616.0	0617.0	2.0	60.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0616.0	0617.0	2.0	160.0			QL=2 ST=2 TYP=3
	5730	IRKU	1 S	0650.5	0651.8	5.0	3.0		U	
	600	GORK	46 C	0703.4	0704.0	3.5	3.1			
	600	GORK	46 C	0703.4	0704.6	3.5	11.0			
	5730	IRKU	1 S	0713.0	0714.5	4.0	2.0		U	
	2950	GORK	1 S	0802.8	0803.3	1.4	3.5			
	245	LEAR	8 S	0936.0	0936.0	1.0	79.0			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 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
13	245	SVTO	8 S	0936.0	0936.0	1.0	54.0			QL=4 ST=2 TYP=3
	204	IZMI	7 C	0947.0	0947.1	0.1	72.0			
	6700	CUBA	2 S/F	1352.1	1352.4	2.9	9.0	4.0		34R
	245	SGMR	8 S	1559.0	1600.0	1.0	75.0			QL=4 ST=2 TYP=3
	2800	PENT	20 GRF	1605.0	1618.0	87.0U	10.0			
	6700	CUBA	2 S/F	1723.0	1726.6	6.0	14.0	7.0		11L
	2800	PENT	1 S	1856.0	1900.0	8.0	4.0			
	6700	CUBA	21 GRF	1916.0	1928.0	46.0	11.0	5.0		00L
	2800	PENT	29 PBI	1919.0	1924.0	13.0U	21.0			
	6700	CUBA	1 S	1924.3	1924.8	1.1	14.0	7.0		16R
14	410	LEAR	8 S	2351.0	2351.0	U	50.0			QL=4 ST=2 TYP=3
	204	IZMI	44 NS	0700.0E		300.0D		10.0		
	235	CUBA	44 NS	1300.0E		530.0D		11.0		
	5730	IRKU	1 S	0307.7	0308.6	8.3	5.0	U		
	2840	PEKG	45 C	0342.0	0351.5	14.0	27.5			
	5730	IRKU	45 C	0349.1	0352.4	23.9	40.0	U		
	2840	PEKG	5 S	0424.0	0440.0	28.0	10.1			
	5730	IRKU	1 S	0431.5	0440.2	23.0	11.0	U		
	5730	IRKU	4 S/F	0503.5	0541.1	67.0	17.0	U		
	245	LEAR	8 S	0519.0	0520.0	1.0	81.0			QL=4 ST=2 TYP=3
14	5730	IRKU	45 C	0613.2	0618.0	14.0	12.0	U		
	5730	IRKU	4 S/F	0629.4	0631.4	32.1	29.0	U		
	200	HIRA	42 SER	0630.0	0632.4	2.6	160.0			0
	245	LEAR	8 S	0632.0	0632.0	U	91.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0632.0	0632.0	U	84.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0706.0	0706.0	U	52.0			QL=4 ST=2 TYP=3
	5730	IRKU	4 S/F	0715.5	0717.5	31.5	10.0	U		
	245	LEAR	8 S	0724.0	0724.0	U	71.0			QL=4 ST=2 TYP=3
	33	UPIC	40 F	0746.5	0748.2	12.5				
	2950	GORK	21 GRF	0747.0	0914.6	145.4	16.0			
14	5730	IRKU	1 S	0749.6	0751.7	3.6	4.0	U		
	2840	PEKG	47 GB	0750.0	0757.5	15.0	620.0			
	204	IZMI	7 C	0751.2	0751.3	0.3	235.0			
	2950	GORK	46 C	0754.4	0757.0U	23.6	70.0U			
	2950	GORK	46 C	0754.4	0800.3	23.6	245.0			
	3000	IZMI	45 C	0755.7	0757.9	30.9	560.0			
	1415	LEAR	4 S/F	0756.0	0757.0	13.0	400.0			QL=4 ST=2 TYP=3
	2695	LEAR	49 GB	0756.0	0758.0	16.0	640.0			QL=4 ST=2 TYP=6
	15400	SVTO	4 S/F	0756.0	0801.0	15.0	240.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0756.0	0757.0	15.0	490.0			QL=4 ST=2 TYP=3
14	1415	SVTO	4 S/F	0756.0	0757.0	14.0	410.0			QL=4 ST=2 TYP=3
	4995	SVTO	49 GB	0756.0	0757.0	16.0	610.0			QL=4 ST=2 TYP=6
	2695	SVTO	49 GB	0756.0	0757.0	16.0	540.0			QL=4 ST=2 TYP=6
	8800	LEAR	48 C	0756.0	0801.0	964.0	380.0			QL=4 ST=1 TYP=8
	8800	LEAR	4 S/F	0756.0	0757.0	964.0	440.0			QL=4 ST=1 TYP=3
	8800	LEAR	4 S/F	0756.0	0757.0	964.0	440.0			QL=4 ST=1 TYP=3
	4995	LEAR	49 GB	0756.0	0757.0	964.0	670.0			QL=4 ST=1 TYP=6
	5730	IRKU	46 C	0756.0	0757.5	26.0	122.0	U		
	600	GORK	46 C	0756.3	0757.0	6.7	27.0			
	600	GORK	46 C	0756.3	0758.2	6.7	30.0			
14	610	LEAR	4 S/F	0757.0	0758.0	3.0	30.0			QL=4 ST=2 TYP=3
	15400	LEAR	48 C	0757.0	0801.0	9.0	220.0			QL=4 ST=2 TYP=8
	410	LEAR	8 S	0757.0	0757.0	1.0	64.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0757.0	0757.0	U	61.0			QL=4 ST=2 TYP=3
	900	GORK		0757.0E	0757.0U	14.0D	145.0U			
	33	UPIC	31 ABS	0759.0	0802.5	39.0				
	600	GORK	29 PBI	0803.0	0803.0	9.0	6.5			
	204	IZMI	42 SER	1031.7	1033.5	24.0	97.0			
	204	IZMI	45 C	1042.9	1043.0	0.7	1093.0			
	245	SVTO	8 S	1043.0	1043.0	U	250.0			QL=2 ST=2 TYP=3
14	15400	SGMR	8 S	1317.0	1317.0	2.0	130.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1317.0	1317.0	2.0	65.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1317.0	1317.0	1.0	42.0			QL=4 ST=2 TYP=3
	15400	SVTO	8 S	1317.0	1317.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1417.0	1417.0	1.0	110.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1417.0	1417.0	1.0	100.0			QL=4 ST=2 TYP=3
	6700	CUBA	45 C	1455.6	1502.0U	17.7	267.0D			1R COMPLX POL.
	6700	CUBA	45 C	1455.6	1504.3		65.0			00L

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

Outstanding Occurrences

37
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
14	15400	SVTO	8 \$	1501.0	1502.0	2.0	230.0			QL=2 ST=2 TYP=3
	8800	SVTO	4 S/F	1501.0	1502.0	4.0	360.0			QL=2 ST=2 TYP=3
	4995	SVTO	4 S/F	1501.0	1502.0	4.0	150.0			QL=2 ST=2 TYP=3
	2695	SVTO	4 S/F	1501.0	1501.0	4.0	26.0			QL=2 ST=2 TYP=3
	15400	SGMR	4 S/F	1502.0	1502.0	4.0	300.0			QL=4 ST=2 TYP=3
	4995	SGMR	8 S	1502.0	1502.0	2.0	180.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1502.0	1502.0	4.0	470.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	1537.0	1537.0	1.0	290.0			QL=4 ST=2 TYP=3
	6700	CUBA	31 ABS	1544.0	1548.0	16.1	-21.0	-10.0		8L
	2800	PENT	40 F	1558.0	1602.0	94.0U	68.0			
	15400	SGMR	4 S/F	1600.0	1602.0	12.0	120.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1600.0	1602.0	16.0	200.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1600.0	1602.0	11.0	140.0			QL=4 ST=2 TYP=3
	6700	CUBA	21 GRF	1600.0	1657.0	142.0	49.0	24.0		6L
	6700	CUBA	45 C	1600.6	1602.2	3.4	127.0			14L
	2695	SGMR	4 S/F	1601.0	1602.0	10.0	78.0			QL=4 ST=2 TYP=3
	6700	CUBA	46 C	1619.2	1622.2	4.8	166.0	40.0		4L
	15400	SGMR	4 S/F	1620.0	1622.0	3.0	200.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1620.0	1622.0	5.0	260.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1620.0	1621.0	4.0	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1701.0	1705.0	10.0	57.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1805.0	1805.0	2.0	68.0			QL=4 ST=2 TYP=3
	2800	PENT	20 GRF	2107.0	2115.0	17.0	7.0			
	410	LEAR	8 S	2232.0	2233.0	1.0	200.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	2305.2	2313.2	9.0	60.0			0
	410	PALE	4 S/F	2312.0	2317.0	7.0	240.0			QL=4 ST=2 TYP=3
	245	PALE	4 S/F	2312.0	2313.0	3.0	180.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	2313.0	2314.0	2.0	78.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2313.0	2313.0	2.0	160.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	2313.0	2314.0	2.0	18.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2313.0	2314.0	2.0	49.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	2313.2	2313.4	0.4	40.0			0
	1415	LEAR	8 S	2314.0	2314.0	1.0	58.0			QL=4 ST=2 TYP=3
15	204	IZMI	44 NS	0700.0E		300.0D		25.0		
	245	LEAR	43 NS	0712.0	0746.0	94.0	180.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	0716.0	0809.0	90.0	240.0			QL=2 ST=2 TYP=1
	245	SVTO	43 NS	0937.0	0953.0	37.0	75.0			QL=2 ST=2 TYP=1
	245	SVTO	43 NS	1231.0	1439.0	158.0	150.0			QL=2 ST=2 TYP=1
	245	SGMR	43 NS	1231.0	1248.0	379.0	160.0			QL=4 ST=2 TYP=1
	280	CUBA	44 NS	1333.5E		425.0D		40.0		
	235	CUBA	44 NS	1335.0E		425.0D		20.0		
	245	PALE	43 NS	1715.0	2032.0	594.0	510.0			QL=4 ST=2 TYP=1
	245	SGMR	43 NS	1915.0	1940.0	88.0	140.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2211.0	2313.0	734.0	170.0			QL=4 ST=2 TYP=1
	4995	PALE	8 S	0006.0	0007.0	2.0	37.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0006.0	0007.0	6.0	53.0			QL=4 ST=2 TYP=3
	245	PALE	4 S/F	0006.0	0009.0	3.0	400.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0007.0	0007.0	U	330.0			QL=4 ST=2 TYP=3
	410	PALE	4 S/F	0007.0	0009.0	3.0	49.0			QL=4 ST=2 TYP=3
	200	HIRA	47 GB	0007.2	0007.6	0.8	1800.0			0
	410	LEAR	8 S	0008.0	0009.0	2.0	51.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	0008.8	0009.0	0.4	40.0			MR
	2840	PEKG	1 S	0142.0	0145.8	6.0	9.3			
	245	LEAR	4 S/F	0201.0	0201.0	4.0	440.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0205.0	0205.0	U	290.0			QL=4 ST=2 TYP=3
	200	HIRA	47 GB	0205.0	0212.2	38.0	920.0			0
	245	LEAR	49 GB	0211.0	0212.0	1.0	2400.0			QL=4 ST=2 TYP=6
	245	PALE	49 GB	0212.0	0212.0	U	1800.0			QL=4 ST=2 TYP=6
	410	PALE	4 S/F	0221.0	0223.0	3.0	63.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0222.0	0223.0	1.0	210.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0222.0	0223.0	1.0	43.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0222.0	0223.0	2.0	230.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0230.0	0231.0	1.0	70.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0230.0	0231.0	1.0	58.0			QL=4 ST=2 TYP=3
	2840	PEKG	5 S	0240.0	0241.0	4.0	18.6			
	5730	IRKU	45 C	0240.8	0241.6	49.2	32.0	U		
	200	HIRA	42 SER	0254.0	0257.2	3.4	70.0			0
	245	LEAR	8 S	0257.0	0257.0	U	120.0			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 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
15	610	LEAR	4 S/F	0407.0	0408.0	3.0	81.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0407.6	0412.2	14.4	10.0	U		
	5730	IRKU	1 S	0521.7	0527.7	23.3	10.0	U		
	245	SVTO	8 S	0602.0	0602.0	U	62.0			QL=2 ST=2 TYP=3
	410	SVTO	8 S	0602.0	0602.0	U	37.0			QL=2 ST=2 TYP=3
	5730	IRKU	45 C	0602.0	0606.5	26.0	12.0	U		
	2840	PEKG	5 S	0611.0	0614.2	6.0	10.7			
	245	LEAR	8 S	0639.0	0640.0	1.0	97.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0702.0	0704.0	2.0	410.0			QL=4 ST=2 TYP=3
	245	SVTO	4 S/F	0702.0	0704.0	3.0	130.0			QL=4 ST=3 TYP=3
	410	SVTO	49 GB	0702.0	0704.0	3.0	590.0			QL=4 ST=3 TYP=6
	500	HIRA	42 SER	0702.8	0704.0	1.4	190.0			0
	204	IZMI	42 SER	0702.8	0704.9	2.5	579.0			
	245	LEAR	4 S/F	0703.0	0705.0	5.0	160.0			QL=4 ST=2 TYP=3
	600	GORK	4 S/F	0703.7	0704.2	1.0	22.0			
	900	GORK	4 S/F	0703.8	0704.2	1.1	17.0			
	2950	GORK	1 S	0703.9	0704.3	1.4	4.2			
	245	SVTO	8 S	0704.0	0704.0	1.0	130.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0704.0	0705.0	1.0	76.0			QL=4 ST=2 TYP=3
	204	IZMI	25 R	0706.0U		121.0U		55.0		
	5730	IRKU	1 S	0719.0	0721.0	14.0	12.0	U		
	2950	GORK	21 GRF	0746.0	0852.5	110.0D	23.0			
	5730	IRKU	1 S	0756.9	0801.9	11.3	11.0	U		
	2950	GORK	1 S	0757.1	0759.9	6.7	5.1			
	4995	SVTO	20 GRF	0817.0	0829.0	154.0	52.0			QL=4 ST=2 TYP=2
	8800	SVTO	20 GRF	0818.0	0837.0	136.0	64.0			QL=4 ST=2 TYP=2
	2950	GORK	4 S/F	0823.6	0829.6	28.5	28.8			
	5730	IRKU	4 S/F	0824.0	0830.0	16.0U	69.0	U		
	2695	SVTO	20 GRF	0825.0	0835.0	31.0	20.0			QL=4 ST=2 TYP=2
	2695	LEAR	8 S	0826.0	0827.0	1.0	24.0			QL=4 ST=2 TYP=3
	4995	LEAR	4 S/F	0826.0	0830.0	16.0	57.0			QL=4 ST=2 TYP=3
	3000	IZMI	22 GRF	0826.3	0830.7	17.4	44.0			
	8800	LEAR	20 GRF	0828.0	0836.0	14.0	44.0			QL=4 ST=2 TYP=2
	15400	SVTO	20 GRF	0829.0	0842.0	56.0	43.0			QL=4 ST=2 TYP=2
	15400	LEAR	8 S	0832.0	0834.0	2.0	25.0			QL=4 ST=2 TYP=3
	4995	SGMR	46 C	1617.0E	1621.0U	20.0D	49.0			QL=4 ST=2 TYP=8
	8800	SGMR	4 S/F	1619.0E	1621.0U	18.0D	40.0			QL=4 ST=2 TYP=3
	15400	SGMR	20 GRF	1619.0E	1636.0U	18.0D	42.0			QL=4 ST=2 TYP=2
	6700	CUBA	1 S	1620.5	1621.3	1.4	9.0	4.0		10R
	2800	PENT	45 C	1709.0	1711.0	17.0	63.0			
	6700	CUBA	1 S	1712.2	1712.8	1.5	31.0	15.0		15R
	245	SGMR	8 S	1902.0	1902.0	U	60.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	2001.0	2001.0	2.0	84.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	2027.0	2028.0	1.0	100.0			QL=4 ST=2 TYP=3
	2800	PENT	20 GRF	2044.0	2119.0	48.0U	6.0			
16	245	SVTO	43 NS	0650.0	0953.0	308.0	140.0			QL=2 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		20.0		
	235	CUBA	44 NS	1300.0E		530.0D		17.0		
	235	CUBA	44 NS	1300.0E		530.0D		17.0		
	280	CUBA	44 NS	1300.0E		530.0D		34.0		
	245	SGMR	43 NS	1305.0	1453.0	445.0	220.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	1321.0	1453.0	107.0	100.0			QL=2 ST=2 TYP=1
	245	PALE	43 NS	1703.0	2048.0	256.0	140.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2330.0	0636.0	625.0	290.0			QL=4 ST=2 TYP=1
	200	HIRA	42 SER	0038.6	0040.4	2.0	70.0			0
	2840	PEKG	5 S	0112.0	0114.5	5.0	13.0			
	2840	PEKG	1 S	0201.0	0203.0	4.0	2.3			
	2840	PEKG	1 S	0211.0	0214.5	6.0	7.7			
	2840	PEKG	45 C	0223.5	0239.5	16.0	390.0			
	5730	IRKU	4 S/F	0236.0	0239.3	41.5	370.0	U		
	200	HIRA	47 GB	0237.0	0238.4	15.0	2400.0			WR
	2800	HIRA	6 S	0237.2	0239.2	6.2	310.0			WR
	500	HIRA	46 C	0237.2	0239.8	6.2	60.0			WR
	410	LEAR	8 S	0238.0	0238.0	2.0	81.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0238.0	0238.0	1.0	1400.0			QL=4 ST=2 TYP=6
	4995	LEAR	4 S/F	0238.0	0239.0	4.0	390.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0238.0	0239.0	4.0	360.0			QL=4 ST=2 TYP=3
	1415	LEAR	4 S/F	0238.0	0239.0	6.0	230.0			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

39
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
16	610	LEAR	4 S/F	0238.0	0240.0	6.0	160.0			QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	0238.0	0239.0	3.0	160.0			QL=4 ST=2 TYP=3
	4995	PALE	4 S/F	0238.0	0239.0	3.0	280.0			QL=4 ST=2 TYP=3
	410	PALE	4 S/F	0238.0	0238.0	5.0	110.0			QL=4 ST=2 TYP=3
	610	PALE	4 S/F	0238.0	0240.0	5.0	110.0			QL=4 ST=2 TYP=3
	1415	PALE	4 S/F	0238.0	0239.0	6.0	250.0			QL=4 ST=2 TYP=3
	245	PALE	49 GB	0238.0	0238.0	1.0	1400.0			QL=4 ST=2 TYP=6
	2695	PALE	4 S/F	0238.0	0239.0	7.0	350.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	0238.0	0239.0	2.0	110.0			QL=4 ST=2 TYP=3
	2840	PEKG	45 C	0331.0	0409.0	50.0	165.0			
	5730	IRKU	46 C	0407.4	0409.2	102.6	210.0		U	
	1415	LEAR	8 S	0408.0	0409.0	2.0	71.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0408.0	0408.0	1.0	150.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	0408.0	0408.0	1.0	100.0			QL=4 ST=2 TYP=3
	4995	LEAR	8 S	0408.0	0409.0	2.0	180.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0408.0	0409.0	2.0	170.0			QL=4 ST=2 TYP=3
	2800	HIRA	3 S	0408.0	0409.2	4.2	140.0			0
	2840	PEKG	5 S	0433.0	0456.5	32.0	13.8			
	2840	PEKG	1 S	0511.0	0515.5	8.0	4.6			
	2840	PEKG	46 C	0527.0	0606.5	40.0	302.0			
	1415	LEAR	4 S/F	0531.0	0534.0	7.0	47.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0531.0	0533.0	2.0	23.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0534.0	0534.0	1.0	63.0			QL=4 ST=2 TYP=3
	1415	LEAR	48 C	0558.0	0606.0	14.0	3300.0			QL=4 ST=2 TYP=8
	5730	IRKU	46 C	0600.0	0607.6	15.0	210.0		U	
	2800	HIRA	4 S/F	0603.6	0606.6	9.0	230.0			MR
	2695	LEAR	4 S/F	0604.0	0607.0	7.0	340.0			QL=4 ST=2 TYP=3
	500	HIRA	46 C	0604.0	0610.2	8.6	130.0			MR
	610	LEAR	48 C	0605.0	0610.0	6.0	390.0			QL=4 ST=2 TYP=8
	4995	SVTO	4 S/F	0605.0	0607.0	6.0	270.0			QL=2 ST=2 TYP=3
	2695	SVTO	4 S/F	0605.0	0607.0	6.0	380.0			QL=2 ST=2 TYP=3
	1415	SVTO	49 GB	0605.0	0606.0	6.0	1900.0			QL=2 ST=2 TYP=6
	610	SVTO	4 S/F	0605.0	0610.0U	6.0	180.0			QL=2 ST=2 TYP=3
	245	SVTO	4 S/F	0605.0	0607.0U	5.0	250.0			QL=2 ST=2 TYP=3
	410	SVTO	4 S/F	0605.0	0607.0U	5.0	300.0			QL=2 ST=2 TYP=3
	4995	LEAR	4 S/F	0606.0	0607.0	3.0	85.0			QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	0606.0	0607.0	5.0	100.0			QL=4 ST=2 TYP=3
	5730	IRKU	45 C	0618.1	0646.1	80.4	40.0		U	
	1415	SVTO	8 S	0640.0	0641.0	2.0	100.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0641.0	0641.0	1.0	93.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0641.0	0641.0	U	71.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0641.0	0641.0	U	100.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0644.0	0644.0	U	57.0			QL=4 ST=2 TYP=3
	1415	SVTO	8 S	0644.0	0644.0	1.0	69.0			QL=4 ST=2 TYP=3
	2840	PEKG	46 C	0702.0	0706.0	8.0	50.3			
	2695	LEAR	8 S	0706.0	0706.0	U	62.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0706.0	0706.0	U	90.0			QL=4 ST=2 TYP=3
	2950	GORK	20 GRF	0745.0E	0758.8	42.00	7.7			
	410	SVTO	8 S	0806.0	0806.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	SVTO	49 GB	0806.0	0807.0	1.0	520.0			QL=4 ST=2 TYP=6
	900	GORK	22 GRF	0908.5	0917.1	27.5	10.0			
	900	GORK	22 GRF	0908.5	0921.9	27.5	24.0			
	2950	GORK	23 GRF	0909.4	1006.6	150.60	21.1			
	2950	GORK	23 GRF	0909.4	1034.9	150.60	19.7			
	600	GORK	45 C	0912.7	0913.3	3.0	5.0			
	600	GORK	45 C	0912.7	0915.5	3.0	9.0			
	600	GORK	45 C	0912.7	0914.6	3.0	22.0			
	600	GORK	30 PBI	0915.7	0921.0	17.1	3.0			
	600	GORK	42 SER	0922.7	0927.0	12.4	5.0			
	600	GORK	42 SER	0922.7	0923.2	12.4	3.0			
	3000	IZMI	22 GRF	0958.2	1010.0	39.0	22.0			
	600	GORK	42 SER	1030.4	1043.1	12.9	15.0			
	600	GORK	42 SER	1030.4	1030.7	12.9	10.0			
	900	GORK	40 F	1030.8	1033.9	3.7	25.0			
	2950	GORK	1 S	1033.3	1033.4	0.2	2.8			
	6700	CUBA	21 GRF	1339.0	1408.0	376.0	49.0	24.0		3L
	6700	CUBA	46 C	1349.1	1350.0	10.9	19.0	8.0		23L COMPLEX POL
	4995	SGMR	20 GRF	1359.0	1400.0	61.0	35.0			QL=4 ST=3 TYP=2
	8800	SGMR	20 GRF	1400.0	1408.0	60.0	52.0			QL=4 ST=3 TYP=2

40
Nov 99

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

Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
16	15400	SGMR	20 GRF	1401.0	1417.0	59.0	31.0			QL=4 ST=3 TYP=2
	6700	CUBA	2 S/F	1552.1	1555.2	4.3	20.0	10.0		19L
	6700	CUBA	2 S/F	1629.2	1632.7	4.8	22.0	11.0		00L
	8800	SGMR	4 S/F	1632.0	1632.0	4.0	78.0			QL=4 ST=2 TYP=3
	15400	SGMR	4 S/F	1633.0	1633.0	3.0	17.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1643.0	1645.0	15.0	59.0			QL=4 ST=2 TYP=3
	15400	SGMR	4 S/F	1644.0	1646.0	14.0	25.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1645.5	1646.0	1.3	15.0	7.0		00L
	6700	CUBA	2 S/F	1834.2	1835.8	1.9	16.0	8.0		22L
	2800	PENT	45 C	2035.0	2121.0	57.0U	24.0			
	6700	CUBA	31 ABS	2111.4	2117.6	7.9	-9.0	-4.0		17R
	8800	PALE	4 S/F	2120.0	2121.0	4.0	180.0			QL=4 ST=2 TYP=3
	15400	PALE	4 S/F	2120.0	2121.0	25.0	230.0			QL=4 ST=2 TYP=3
	4995	PALE	4 S/F	2120.0	2121.0	25.0	240.0			QL=4 ST=2 TYP=3
	6700	CUBA	45 C	2120.2	2122.0	9.8	230.0	44.0		7R
	6700	CUBA	29 PBI	2130.0		36.0	21.0	10.0		00L
	610	PALE	8 S	2142.0	2142.0		99.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2142.0	2142.0		83.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2243.0	2244.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	LEAR	4 S/F	2252.0	2259.0	8.0	170.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2259.0	2259.0	1.0	160.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	2259.6	2259.8	0.4	210.0			0
17	245	SVTO	44 NS	0602.0E	0636.0	1078.0D	260.0			QL=2 ST=1 TYP=1
	204	IZMI	44 NS	0700.0E		72.0D		35.0		
	204	IZMI	44 NS	0812.0E		228.0D		80.0		
	245	SGMR	43 NS	1209.0	1358.0	499.0	290.0			QL=4 ST=2 TYP=1
	235	CUBA	44 NS	1300.0E		530.0D		35.0		
	280	CUBA	44 NS	1300.0E		530.0D		50.0		
	610	SGMR	43 NS	1435.0	1447.0	40.0	64.0			QL=4 ST=2 TYP=1
	245	PALE	43 NS	1702.0	1710.0U	418.0	150.0			QL=4 ST=1 TYP=1
	245	PALE	43 NS	1702.0	1811.0U	418.0	250.0			QL=4 ST=1 TYP=1
	245	LEAR	43 NS	2210.0	0726.0	707.0	180.0			QL=4 ST=2 TYP=1
	2840	PEKG	5 S	0234.0	0235.5	4.0	16.2			
	5730	IRKU	4 S/F	0234.9	0235.6	4.0	35.0		U	
	5730	IRKU	4 S/F	0325.0	0327.4	8.5	9.0		U	
	5730	IRKU	8 S	0337.0	0337.4	0.9	4.0		U	
	245	LEAR	8 S	0345.0	0345.0		300.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0349.0	0349.0	1.0	730.0			QL=4 ST=2 TYP=6
	5730	IRKU	8 S	0507.5	0508.0	1.8	7.0		U	
	245	LEAR	8 S	0516.0	0517.0	1.0	220.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0534.0	0535.0	2.0	61.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0538.6	0539.7	4.9	8.0		U	
	5730	IRKU	4 S/F	0545.2	0550.6	46.8	29.0		U	
	245	LEAR	8 S	0651.0	0651.0	2.0	330.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0651.0	0651.0	1.0	190.0			QL=2 ST=2 TYP=3
	900	GORK	4 S/F	0725.6	0726.3	1.1	25.0			
	900	GORK	2 S/F	0844.7	0845.0	0.6	3.4			
	600	GORK	41 F	0844.7	0845.1	3.2	14.0			
	600	GORK	41 F	0844.7	0845.6	3.2	17.0			
	600	GORK	41 F	0844.7	0846.8	3.2	13.0			
	2950	GORK	46 C	0844.9	0845.5	2.3	27.0			
	2950	GORK	46 C	0844.9	0845.9	2.3	28.0			
	3000	IZMI	7 C	0845.1	0845.6	2.1	34.0			
	2950	GORK	1 S	0929.6	0930.2	2.3	8.8			
	2950	GORK	21 GRF	0929.6	0935.9	80.9	13.0			
	3000	IZMI	28 PRE	0929.7	0930.1	21.2U	18.0			
	600	GORK	2 S/F	0929.9	0930.0	0.6	19.0			
	2950	GORK	45 C	0949.7	0953.0U	13.3				
	2950	GORK	45 C	0949.7	0957.6	13.3	390.0			
	4995	SVTO	49 GB	0950.0	0954.0	9.0	720.0			QL=4 ST=2 TYP=6
	410	SVTO	49 GB	0951.0	0953.0	8.0	1000.0			QL=4 ST=2 TYP=6
	245	SVTO	49 GB	0951.0	0953.0	8.0	1800.0			QL=2 ST=2 TYP=6
	2695	SVTO	4 S/F	0951.0	0952.0	8.0	280.0			QL=4 ST=2 TYP=3
	1415	SVTO	4 S/F	0951.0	0957.0	9.0	150.0			QL=4 ST=2 TYP=3
	610	SVTO	49 GB	0951.0	0958.0	11.0	500.0			QL=4 ST=2 TYP=6
	8800	SVTO	49 GB	0951.0	0953.0	16.0	1000.0			QL=4 ST=2 TYP=6
	600	GORK	45 C	0951.0	0953.1	11.3	113.0			
	600	GORK	45 C	0951.0	0957.6	11.3	124.0			

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

Outstanding Occurrences

41
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
17	3000	IZMI	45 C	0951.1	0957.2	15.5	451.0			
	900	GORK	45 C	0951.2	0957.7	15.7	105.0			
	900	GORK	45 C	0951.2	0952.9	15.7	113.0			
	204	IZMI	47 GB	0951.9	0952.5	14.9	42668.0			
	15400	SVTO	49 GB	0952.0	0953.0	10.0	520.0			QL=4 ST=2 TYP=6
	33	UPIC	47 GB	0952.0	0953.0	26.0				
	2950	GORK	29 PBI	1003.0	1003.0	14.6	22.0			
	8800	SVTO	4 S/F	1148.0	1150.0	7.0	200.0			QL=4 ST=2 TYP=3
	15400	SVTO	8 S	1149.0	1150.0	2.0	160.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1236.0	1236.0	U	320.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1236.0	1236.0	U	230.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1246.0	1246.0	1.0	360.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1457.5	1458.0	1.3	9.0	4.0		9L
	6700	CUBA	20 GRF	1558.0	1601.0	11.0	11.0	5.0		18L
	6700	CUBA	21 GRF	1720.0	1750.0	56.0	14.0	7.0		5L
	6700	CUBA	42 SER	1729.1	1729.6	9.7	31.0	8.0		5R
	4995	PALE	8 S	1737.0	1737.0	1.0	37.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	1737.0	1737.0	1.0	59.0			QL=4 ST=2 TYP=3
	15400	SGMR	8 S	1737.0	1737.0	1.0	54.0			QL=4 ST=2 TYP=3
	4995	SGMR	8 S	1737.0	1737.0	1.0	39.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1737.0	1737.0	1.0	50.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2012.0	2014.0	2.0	73.0			QL=4 ST=2 TYP=3
18	245	SVTO	43 NS	0600.0	0754.0U	372.0	200.0			QL=2 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.00		45.0		
	245	SGMR	43 NS	1201.0	1355.0U	593.0	170.0			QL=4 ST=2 TYP=1
	280	CUBA	44 NS	1300.0E		530.00		54.0		
	235	CUBA	44 NS	1300.0E		530.00		38.0		
	245	SVTO	43 NS	1300.0	1319.0U	126.0	140.0			QL=2 ST=2 TYP=1
	245	PALE	43 NS	1702.0	1703.0	418.0	96.0			QL=4 ST=1 TYP=1
	245	LEAR	43 NS	2205.0	0913.0	715.0	140.0			QL=4 ST=2 TYP=1
	2840	PEKG	5 S	0143.0	0146.0	8.0	36.5			
	1415	LEAR	8 S	0145.0	0146.0	2.0	62.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0145.0	0146.0	1.0	41.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	0145.0	0146.0	2.0	62.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	0145.0	0146.0	1.0	40.0			QL=4 ST=2 TYP=3
	2800	HIRA	3 S	0145.2	0145.6	2.8	40.0			0
	5730	IRKU	21 GRF	0445.0	0508.5	72.0	20.0	U		
	5730	IRKU	1 S	0618.5	0619.5	5.5	10.0	U		
	2840	PEKG	1 S	0641.0	0645.0	8.0	4.3			
	5730	IRKU	1 S	0642.9	0644.9	15.0	18.0	U		
	900	GORK	3 S	0713.3	0714.8	3.5	8.0			
	600	GORK	4 S/F	0714.2	0714.6	1.2	38.0			
	245	SVTO	8 S	0725.0	0726.0	1.0	310.0			QL=2 ST=2 TYP=3
	245	LEAR	8 S	0754.0	0754.0	1.0	170.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0754.3	0759.9	25.7U	20.0	U		
	33	UPIC	46 C	0901.0	0904.0	5.0				
	2950	GORK	3 S	0922.3	0923.1	1.7	12.0			
	3000	IZMI	5 S	0922.7	0923.2	1.2	15.0	7.0		
	600	GORK	42 SER	0935.6	0938.3	10.6	11.0			
	600	GORK	42 SER	0935.6	0946.4	12.6	10.0			
	600	GORK	42 SER	0935.6	0935.8	10.6	12.0			
	900	GORK	40 F	0950.2	0951.0	0.9	2.4			
	15400	SGMR	8 S	1415.0	1415.0	1.0	49.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1415.0	1415.0	1.0	53.0			QL=4 ST=2 TYP=3
	15400	SVTO	8 S	1415.0	1415.0	1.0	30.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1415.0	1415.0	1.0	46.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1415.5	1415.7	1.3	29.0	14.0		14L
	2800	PENT	29 PBI	1704.0	1712.0	28.0U	47.0			
	6700	CUBA	1 S	1712.2	1712.4	1.3	45.0	22.0		15L
	6700	CUBA	29 PBI	1713.5		4.7	11.0	5.0		18L
	6700	CUBA	21 GRF	1807.0	1904.0	93.0	16.0	8.0		11L
	2800	PENT	41 F	1842.0	1901.0	50.0U	76.0			
	6700	CUBA	1 S	1849.1	1851.1	4.6	29.0	14.0		3R
	4995	SGMR	4 S/F	1900.0	1901.0	3.0	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1900.0	1901.0	2.0	81.0			QL=4 ST=2 TYP=3
	6700	CUBA	45 C	1900.0	1901.3	4.0	65.0			23L
	2695	PALE	8 S	1901.0	1901.0	1.0	67.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	1901.0	1901.0	U	27.0			QL=4 ST=2 TYP=3

42
Nov 99

SOLAR RADIO EMISSION

Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
18	8800	PALE	8 S	1901.0	1901.0	1.0	58.0			QL=4 ST=2 TYP=3
	4995	PALE	8 S	1901.0	1901.0	1.0	110.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1901.0	1901.0	1.0	72.0			QL=4 ST=2 TYP=3
	2800	PENT	8 S	2101.0	2103.0	4.0	12.0			
	200	HIRA	8 S	2202.2	2202.4	0.4	100.0			0
	500	HIRA	8 S	2208.6	2208.8	0.4	30.0			0
	200	HIRA	42 SER	2208.8	2210.6	5.0	60.0			0
	610	LEAR	4 S/F	2234.0	2237.0	4.0	110.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	2234.0	2235.0	1.0	24.0			QL=4 ST=2 TYP=3
	410	PALE	4 S/F	2234.0	2237.0	5.0	490.0			QL=4 ST=2 TYP=3
	610	PALE	4 S/F	2234.0	2237.0	4.0	130.0			QL=4 ST=2 TYP=3
	500	HIRA	42 SER	2235.0	2241.2	7.6	480.0			SL
	410	LEAR	8 S	2236.0	2237.0	2.0	460.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	2240.0	2240.2	7.6	230.0			0
	610	PALE	8 S	2241.0	2241.0	1.0	350.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2241.0	2241.0	1.0	300.0			QL=4 ST=2 TYP=3
19	245	SVTO	43 NS	0612.0	0834.0	158.0	100.0			QL=2 ST=3 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		90.0		
	245	SGMR	43 NS	1203.0	1211.0U	497.0	190.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	1329.0	1428.0	96.0	130.0			QL=2 ST=2 TYP=1
	235	CUBA	44 NS	1335.0E		495.0D		33.0		
	280	CUBA	44 NS	1335.0E		495.0D		43.0		
	245	PALE	43 NS	1703.0	1813.0	241.0	220.0			QL=4 ST=2 TYP=1
	245	LEAR	43 NS	2302.0	2303.0	487.0	90.0			QL=4 ST=2 TYP=1
	2840	PEKG	1 S	0006.0	0007.6	3.0	7.3			
	2840	PEKG	1 S	0123.0	0125.0	4.0	2.7			
	5730	IRKU	8 S	0333.4	0334.2	1.4	2.0		U	
	5730	IRKU	21 GRF	0335.8	0338.2	13.3	6.0		U	
	200	HIRA	42 SER	0413.8	0420.0	6.4	250.0			0
	410	SVTO	48 C	0810.0	0814.0	6.0	65.0			QL=4 ST=2 TYP=8
	410	LEAR	8 S	0814.0	0815.0	1.0	79.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1949.0	1953.4	6.8	6.0	3.0		42L
	6700	CUBA	2 S/F	2145.8	2147.0	3.5	19.0	9.0		12L
20	204	IZMI	44 NS	0700.0E		300.0D		20.0		
	235	CUBA	44 NS	1300.0E		530.0D		9.0		
	280	CUBA	44 NS	1300.0E		530.0D		22.0		
	5730	IRKU	21 GRF	0248.2	0248.6	8.3	9.0		U	
	2840	PEKG	1 S	0254.0	0255.0	2.0	5.5			
	5730	IRKU	8 S	0413.0	0413.8	1.5	3.0		U	
	5730	IRKU	1 S	0635.4	0637.9	23.6	18.0		U	
	2840	PEKG	1 S	0640.0	0644.0	10.0	7.1			
	204	IZMI	42 SER	0911.1	0912.3	2.2	91.0			
	600	GORK	4 S/F	1004.4	1005.0	0.6	24.0			
	245	SGMR	8 S	1216.0	1216.0	U	290.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1216.0	1216.0	U	210.0			QL=2 ST=3 TYP=3
	245	SGMR	8 S	1737.0E	1738.0U	2.0D	130.0			QL=4 ST=2 TYP=3
	280	CUBA	41 F	1738.0	1739.0U	4.2	91.0D			
	235	CUBA	41 F	1738.0	1739.0U	6.2	44.0D			
	2800	PENT	29 PBI	1911.0	1924.0	21.0U	76.0			
	6700	CUBA	28 PRE	1915.0	1921.0	6.0	13.0	6.0		23L
	15400	PALE	4 S/F	1921.0	1924.0	9.0	89.0			QL=4 ST=2 TYP=3
	6700	CUBA	3 S	1921.0	1924.3	12.2	116.0			14L
	8800	SGMR	4 S/F	1922.0	1924.0	7.0	110.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	1923.0	1924.0	2.0	56.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	1923.0	1924.0	3.0	79.0			QL=4 ST=2 TYP=3
	4995	PALE	4 S/F	1923.0	1924.0	4.0	150.0			QL=4 ST=2 TYP=3
	1415	PALE	48 C	1923.0	1927.0	4.0	180.0			QL=4 ST=2 TYP=8
	2695	SGMR	4 S/F	1923.0	1924.0	6.0	66.0			QL=4 ST=2 TYP=3
	1415	SGMR	48 C	1923.0	1926.0	4.0	170.0			QL=4 ST=2 TYP=8
	4995	SGMR	4 S/F	1923.0	1924.0	6.0	130.0			QL=4 ST=2 TYP=3
	15400	SGMR	8 S	1923.0	1924.0	2.0	45.0			QL=4 ST=2 TYP=3
	1415	SGMR	8 S	1929.0	1929.0	2.0	270.0			QL=4 ST=2 TYP=3
	6700	CUBA	29 PBI	1933.2		115.0	19.0	9.0		13L
	2800	HIRA	46 C	2219.6	2232.0	16.0	90.0			WL
	2695	LEAR	20 GRF	2224.0	2232.0	11.0	130.0			QL=4 ST=2 TYP=2
	4995	LEAR	20 GRF	2225.0	2231.0	8.0	110.0			QL=4 ST=2 TYP=2
	1415	LEAR	48 C	2227.0	2231.0	5.0	80.0			QL=4 ST=2 TYP=8

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

Outstanding Occurrences

43
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
20	15400	LEAR	20 GRF	2227.0	2238.0	13.0	75.0			QL=4 ST=2 TYP=2
	500	HIRA	47 GB	2228.2	2230.2	8.0	2800.0			MR
	610	LEAR	49 GB	2229.0	2230.0	5.0	2400.0			QL=4 ST=2 TYP=6
	410	LEAR	49 GB	2229.0	2231.0	6.0	3200.0			QL=4 ST=2 TYP=6
	8800	LEAR	8 S	2231.0	2231.0	1.0	46.0			QL=4 ST=2 TYP=3
	245	LEAR	4 S/F	2233.0	2236.0	3.0	160.0			QL=4 ST=2 TYP=3
	2800	HIRA	3 S	2246.2	2250.4	5.6	40.0			WL
	245	LEAR	4 S/F	2247.0	2248.0	3.0	110.0			QL=4 ST=2 TYP=3
	410	PALE	4 S/F	2247.0	2249.0	3.0	30.0			QL=4 ST=2 TYP=3
	200	HIRA	46 C	2247.6	2248.0	6.2	80.0			0
	245	PALE	8 S	2248.0	2248.0	2.0	93.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	2248.0	2249.0	2.0	27.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	2249.0	2250.0	2.0	59.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2249.0	2250.0	1.0	44.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	2250.0	2250.0	U	44.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	2250.0	2250.0	U	39.0			QL=4 ST=2 TYP=3
21	204	IZMI	44 NS	0700.0E		300.0D		30.0		
	245	SVTO	43 NS	1057.0	1105.0	41.0	95.0			QL=2 ST=3 TYP=1
	280	CUBA	44 NS	1317.0E		513.0D		27.0		
	235	CUBA	44 NS	1317.0E		513.0D		19.0		
	2840	PEKG	3 S	0004.0	0011.0	13.0	90.1			
	4995	LEAR	8 S	0010.0	0010.0	1.0	53.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0010.0	0010.0	1.0	78.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0010.0	0010.0	4.0	85.0			QL=4 ST=2 TYP=3
	4995	PALE	8 S	0010.0	0010.0	1.0	40.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	0010.0	0011.0	1.0	280.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	0010.0	0010.0	1.0	53.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	0010.8	0011.4	0.8	60.0			0
	2695	LEAR	8 S	0011.0	0011.0	U	280.0			QL=4 ST=2 TYP=3
	2800	HIRA	8 S	0011.2	0011.4	0.4	220.0			0
	2840	PEKG	1 S	0504.0	0505.1	2.0	9.5			
	5730	IRKU	21 GRF	0504.5	0505.2	35.3	22.0		U	
	33	UPIC	4 S/F	0704.0	0705.0	2.0				
	5730	IRKU	8 S	0715.8	0716.3	1.0	4.0		U	
	5730	IRKU	46 C	0802.4	0803.6	4.7	60.0		U	
	3000	IZMI	7 C	0802.6	0803.7	4.8	18.0			
	610	LEAR	49 GB	0803.0	0803.0	U	1500.0			QL=4 ST=2 TYP=6
	4995	LEAR	8 S	0803.0	0803.0	2.0	27.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	0803.0	0803.0	1.0	37.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0803.0	0803.0	1.0	18.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0803.0	0803.0	2.0	42.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0803.0	0803.0	1.0	11.0			QL=4 ST=2 TYP=3
	15400	SVTO	8 S	0803.0	0803.0	1.0	30.0			QL=4 ST=3 TYP=3
	1415	SVTO	8 S	0803.0	0803.0	1.0	14.0			QL=4 ST=3 TYP=3
	2695	SVTO	8 S	0803.0	0803.0	1.0	12.0			QL=4 ST=3 TYP=3
	610	SVTO	49 GB	0803.0	0803.0	U	1100.0			QL=4 ST=3 TYP=6
	4995	SVTO	8 S	0803.0	0803.0	2.0	26.0			QL=4 ST=3 TYP=3
	8800	SVTO	8 S	0803.0	0803.0	2.0	54.0			QL=4 ST=3 TYP=3
	3000	IZMI	22 GRF	0818.2	0825.5	31.1	17.0			
	2950	GORK	1 S	0823.7	0825.8	5.0	5.6			
	2950	GORK	1 S	0851.6	0852.4	2.0	3.4			
	3000	IZMI	5 S	0851.8	0852.4	6.8	8.0			
	204	IZMI	25 R	0855.4		184.6D		50.0		
	900	GORK	4 S/F	0934.3	0934.9	0.8	21.0			
	2950	GORK	1 S	0934.4	0934.7	1.6	6.0			
	3000	IZMI	7 C	0934.4	0934.8	1.5	12.0			
	8800	LEAR	8 S	1004.0	1005.0	2.0	160.0			QL=4 ST=2 TYP=3
	4995	LEAR	8 S	1005.0	1005.0	1.0	42.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	1005.0	1005.0	1.0	180.0			QL=4 ST=2 TYP=3
	4995	SVTO	8 S	1005.0	1005.0	1.0	60.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1005.0	1005.0	1.0	210.0			QL=4 ST=2 TYP=3
	15400	SVTO	8 S	1005.0	1005.0	1.0	140.0			QL=4 ST=2 TYP=3
	2950	GORK		1005.0U	1006.0U	2.0D	5.0U			
	900	GORK	4 S/F	1005.2	1005.8	0.9	17.0			
	3000	IZMI	7 C	1005.4	1005.8	7.1	19.0			
	2950	GORK	46 C	1012.6	1015.0	4.2	5.0			
	2950	GORK	46 C	1012.6	1013.1	4.2	2.5			
	900	GORK	4 S/F	1013.5	1014.5	1.8D	36.0			

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

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
21	3000	IZMI	22 GRF	1013.8	1015.2	10.7	11.0			
	900	GORK	8 S	1015.6	1015.8	0.5	43.0			
	245	SVTO	8 S	1216.0	1216.0	U	210.0			QL=2 ST=3 TYP=3
	6700	CUBA	28 PRE	1754.0	1813.0	19.0	11.0	5.0		10L
	8800	PALE	4 S/F	1813.0	1815.0	3.0	240.0			QL=4 ST=2 TYP=3
	4995	PALE	4 S/F	1813.0	1815.0	15.0	310.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	1813.0	1815.0	12.0	280.0			QL=4 ST=2 TYP=3
	15400	SGMR	4 S/F	1813.0	1815.0	13.0	210.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1813.0	1815.0	13.0	330.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1813.0	1815.0	13.0	310.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1813.0	1815.0	13.0	270.0			QL=4 ST=2 TYP=3
	6700	CUBA	46 C	1813.0	1814.0U	14.0	293.0D			13L
	610	PALE	8 S	1815.0	1815.0	U	110.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	1815.0	1815.0	U	120.0			QL=4 ST=2 TYP=3
	1415	PALE	4 S/F	1815.0	1816.0	9.0	210.0			QL=4 ST=2 TYP=3
	610	SGMR	8 S	1815.0	1815.0	U	110.0			QL=4 ST=2 TYP=3
	1415	SGMR	4 S/F	1815.0	1816.0	11.0	210.0			QL=4 ST=2 TYP=3
	6700	CUBA	29 PBI	1827.0		126.5	29.0	14.0		00L
	245	PALE	8 S	2113.0	2113.0	U	190.0			QL=4 ST=2 TYP=3
	410	PALE	4 S/F	2120.0	2123.0	5.0	110.0			QL=4 ST=2 TYP=3
	245	PALE	49 GB	2120.0	2123.0	4.0	510.0			QL=4 ST=2 TYP=6
	235	CUBA	7 C	2123.5	2124.0	3.0	215.0			
	280	CUBA	7 C	2123.5	2124.0	3.0	332.0			
	245	PALE	8 S	2148.0	2149.0	1.0	93.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	2321.0	2323.0	3.0	1900.0			QL=4 ST=2 TYP=6
	410	LEAR	4 S/F	2321.0	2324.0	3.0	170.0			QL=4 ST=2 TYP=3
	245	PALE	49 GB	2321.0	2323.0	4.0	1700.0			QL=4 ST=2 TYP=6
	410	PALE	4 S/F	2321.0	2324.0	6.0	180.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	2321.8	2323.0	2.2	430.0			0
	500	HIRA	8 S	2323.4	2323.6	0.4	100.0			WL
	245	LEAR	4 S/F	2345.0	2348.0	4.0	91.0			QL=4 ST=2 TYP=3
22	280	CUBA	44 NS	1300.0E		530.0D		21.0		
	235	CUBA	44 NS	1300.0E		530.0D		9.0		
	245	LEAR	43 NS	2352.0	0000.0	55.0	71.0			QL=4 ST=2 TYP=1
	4995	LEAR	8 S	0215.0	0215.0	1.0	52.0			QL=4 ST=2 TYP=3
	2840	PEKG	5 S	0215.0	0215.6	2.0	11.3			
	5730	IRKU	46 C	0215.2	0215.6	2.8	70.0	U		
	2695	LEAR	4 S/F	0253.0	0255.0	3.0	25.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	0254.0	0254.0	1.0	96.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0254.0	0254.0	2.0	94.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0254.0	0255.0	2.0	37.0			QL=4 ST=2 TYP=3
	4995	LEAR	8 S	0254.0	0254.0	2.0	34.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0254.0	0255.0	1.0	76.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	0254.0	0254.0	1.0	32.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	0254.0	0254.0	1.0	68.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	0254.0	0254.0	1.0	97.0			QL=4 ST=2 TYP=3
	2840	PEKG	5 S	0254.0	0255.0	3.0	21.2			
	5730	IRKU	46 C	0254.0	0254.7	9.0	85.0	U		
	5730	IRKU	8 S	0305.0	0306.0	1.5	4.0	U		
	5730	IRKU	1 S	0330.0	0331.0	7.0	7.0	U		
	5730	IRKU	1 S	0426.0	0427.0	3.5	4.0	U		
	2840	PEKG	5 S	0619.0	0621.3	4.0	10.9			
	5730	IRKU	4 S/F	0620.0	0621.0	5.0	20.0	U		
	4995	SGMR	8 S	1213.0	1214.0	1.0	190.0			QL=4 ST=2 TYP=3
	4995	SVTO	4 S/F	1213.0	1214.0	4.0	150.0			QL=4 ST=3 TYP=3
	15400	SVTO	4 S/F	1213.0	1214.0	3.0	50.0			QL=4 ST=3 TYP=3
	8800	SVTO	4 S/F	1213.0	1214.0	4.0	140.0			QL=4 ST=3 TYP=3
	8800	SGMR	8 S	1214.0	1214.0	U	190.0			QL=4 ST=2 TYP=3
	33	UPIC	46 C	1300.0	1301.5	4.0				
	2800	PENT	29 PBI	2109.0	2115.0	23.0U	5.0			
	245	PALE	8 S	2359.0	2359.0	1.0	100.0			QL=4 ST=2 TYP=3
23	280	CUBA	44 NS	1318.0E		512.0D		24.0		
	235	CUBA	44 NS	1318.0E		512.0D		11.0		
	245	SGMR	43 NS	1829.0	1829.0	120.0	86.0			QL=4 ST=3 TYP=1
	245	PALE	43 NS	1829.0	1934.0	384.0	140.0			QL=4 ST=2 TYP=1
	5730	IRKU	8 S	0221.8	0222.1	0.6	9.0	U		
	245	LEAR	8 S	0243.0	0243.0	1.0	55.0			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

45
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
23	245	PALE	8 S	0243.0	0243.0	2.0	63.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0307.5	0309.3	2.5	6.0		U	
	5730	IRKU	4 S/F	0403.5	0404.8	6.5	34.0		U	
	204	IZMI	7 C	0713.1	0713.1	0.3	30.0			
	204	IZMI	41 F	0715.6	0715.8	0.5	64.0			
	204	IZMI	42 SER	0727.2	0728.1	5.4	105.0			
	204	IZMI	45 C	0755.9	0756.4	1.5	248.0			
	245	LEAR	49 GB	0756.0	0756.0	1.0	650.0			QL=4 ST=2 TYP=6
	245	SVTO	49 GB	0756.0	0756.0	1.0	700.0			QL=2 ST=2 TYP=6
	204	IZMI	42 SER	0817.8	0819.0	1.7	132.0			
	245	SVTO	8 S	0818.0	0819.0	1.0	170.0			QL=2 ST=2 TYP=3
	245	LEAR	8 S	0819.0	0819.0		160.0			QL=4 ST=2 TYP=3
	204	IZMI	42 SER	0828.5	0828.9	1.0	2258.0			
	204	IZMI	42 SER	0909.4	0910.3	1.3	168.0			
	204	IZMI	42 SER	0933.6	0946.6	13.2	75.0			
	245	LEAR	8 S	0946.0	0946.0	1.0	70.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1034.0	1035.0	1.0	87.0			QL=2 ST=2 TYP=3
	245	SVTO	8 S	1040.0	1041.0	1.0	160.0			QL=2 ST=2 TYP=3
	204	IZMI	42 SER	1050.4	1050.6	5.0	81.0			
	245	SVTO	8 S	1210.0	1210.0		120.0			QL=2 ST=2 TYP=3
	245	SVTO	8 S	1215.0	1215.0	1.0	61.0			QL=2 ST=2 TYP=3
	245	SVTO	48 C	1228.0	1229.0	6.0	120.0			QL=2 ST=2 TYP=8
	245	SGMR	8 S	1229.0	1230.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1416.0	1417.0	1.0	75.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1417.0	1417.0		86.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1429.0	1429.0		66.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1429.0	1429.0		65.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1439.0	1439.0	1.0	84.0			QL=4 ST=2 TYP=3
	245	SGMR	4 S/F	1547.0	1550.0	4.0	55.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1613.0	1613.0		83.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1657.0	1657.0		57.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	1742.0	1742.0		55.0			QL=4 ST=2 TYP=3
	245	PALE	20 GRF	1805.0	1807.0	4.0	200.0			QL=4 ST=2 TYP=2
	245	SGMR	8 S	1807.0	1807.0	1.0	130.0			QL=4 ST=2 TYP=3
	280	CUBA	7 C	1807.2	1808.0	2.8	191.0			
	235	CUBA	7 C	1807.2	1808.0	2.8	175.0			
	245	PALE	8 S	1822.0	1823.0	1.0	200.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1822.0	1823.0	1.0	150.0			QL=4 ST=2 TYP=3
	2800	PENT	1 S	1838.0	1842.0	6.0	5.0			
	2800	PENT	1 S	2045.0	2047.0	6.0	8.0			
	4995	PALE	4 S/F	2047.0	2047.0	7.0	83.0			QL=4 ST=3 TYP=3
	6700	CUBA	1 S	2047.5	2047.8	1.3	48.0	24.0		12R
	245	LEAR	8 S	2241.0	2242.0	1.0	68.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2303.0	2303.0		63.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2306.0	2306.0	1.0	81.0			QL=4 ST=2 TYP=3
24	204	IZMI	43 NS	0700.0		300.00		5.0		
	280	CUBA	44 NS	1300.0E		530.00		21.0		
	235	CUBA	44 NS	1300.0E		530.00		9.0		
	245	PALE	43 NS	1713.0	1729.0	158.0	96.0			QL=4 ST=2 TYP=1
	410	PALE	43 NS	2131.0	2136.0	84.0	55.0			QL=4 ST=2 TYP=1
	245	PALE	43 NS	2159.0	2114.0	5.0	270.0			QL=4 ST=2 TYP=1
	245	LEAR	8 S	0004.0	0004.0	1.0	230.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0052.0	0052.0	1.0	270.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0156.0	0157.0	1.0	62.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0156.0	0156.0	1.0	690.0			QL=4 ST=2 TYP=6
	245	PALE	49 GB	0156.0	0156.0	1.0	860.0			QL=4 ST=2 TYP=6
	410	PALE	8 S	0156.0	0157.0	1.0	68.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	0156.4	0156.6	0.4	80.0			0
	5730	IRKU	42 SER	0307.8	0309.5	33.7	8.0		U	
	5730	IRKU	4 S/F	0353.0	0359.0	19.0	8.0		U	
	245	LEAR	4 S/F	0406.0	0407.0	4.0	62.0			QL=4 ST=2 TYP=3
	245	LEAR	4 S/F	0449.0	0449.0	3.0	430.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0623.0	0623.0	1.0	78.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0623.0	0623.0	2.0	820.0			QL=4 ST=2 TYP=6
	245	SVTO	49 GB	0623.0	0623.0	1.0	830.0			QL=4 ST=2 TYP=6
	410	SVTO	8 S	0623.0	0623.0	1.0	100.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	0623.2	0623.4	0.4	30.0			0
	2840	PEKG	1 S	0632.0	0634.0	6.0	4.8			

46
Nov 99

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

Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
24	5730	IRKU	4 S/F	0632.6	0633.9	13.9	17.0		U	
	5730	IRKU	1 S	0654.0	0654.8	8.0	3.0		U	
	204	IZMI	41 F	0708.8	0710.4	2.1	53.0			
	2840	PEKG	1 S	0712.0	0714.0	5.0	3.1			
	3000	IZMI	1 S	0714.2	0714.6	1.2	10.0	5.0		
	2840	PEKG	1 S	0718.0	0721.0	5.0	7.3			
	3000	IZMI	5 S	0721.3	0721.4	0.3	17.0	9.0		
	245	SVTO	8 S	1003.0	1003.0		150.0			QL=2 ST=2 TYP=3
	204	IZMI	42 SER	1003.2	1003.6	32.2	9519.0			
	245	SVTO	8 S	1033.0	1033.0	1.0	79.0			QL=2 ST=2 TYP=3
	204	IZMI	45 C	1047.2	1047.3	0.3	2242.0			
	33	UPIC	45 C	1051.5	1052.0	1.0				
	33	UPIC	45 C	1149.0	1149.5	2.0				
	245	SGMR	4 S/F	1300.0	1303.0	3.0	55.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1435.0	1435.0	1.0	160.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1611.0	1611.0	1.0	73.0			QL=4 ST=2 TYP=3
	245	SGMR	4 S/F	1720.0	1728.0	10.0	110.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1811.0	1811.0	2.0	52.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1820.0	1820.0		72.0			QL=4 ST=2 TYP=3
	2800	PENT	41 F	1839.0	1903.0	28.0	5.0			
	235	CUBA	48 C	1841.1	1845.8	9.8	2177.0			
	280	CUBA	48 C	1841.1	1845.8	9.8	4928.00			
	245	PALE	49 GB	1845.0	1845.0	2.0	2100.0			QL=4 ST=2 TYP=6
	410	PALE	8 S	1845.0	1847.0	2.0	160.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	1845.0	1845.0	1.0	60.0			QL=4 ST=2 TYP=3
	610	SGMR	4 S/F	1845.0	1845.0	315.0	52.0			QL=4 ST=1 TYP=3
	6700	CUBA	2 S/F	1845.0	1846.8	3.7	18.0	9.0		22R
	410	SGMR	4 S/F	1846.0	1847.0	314.0	150.0			QL=4 ST=1 TYP=3
	2800	PENT	29 PBI	1925.0	1927.0	7.0U	55.0			
	6700	CUBA	21 GRF	1926.0	1930.0	59.0	19.0	9.0		5L
	6700	CUBA	2 S/F	1927.0	1928.0	2.0	52.0	26.0		7L
	4995	PALE	8 S	1927.0	1928.0	2.0	64.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	1927.0	1928.0	2.0	56.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	1927.0	1928.0	1.0	39.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	1927.0	1928.0	2.0	340.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	1927.0	1927.0	1.0	60.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1927.0	1928.0	3.0	53.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1927.0	1928.0	3.0	63.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1927.0	1927.0	3.0	51.0			QL=4 ST=2 TYP=3
	610	SGMR	4 S/F	1927.0	1928.0	3.0	280.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	1928.0	1929.0	1.0	40.0			QL=4 ST=2 TYP=3
	1415	SGMR	8 S	1928.0	1928.0	2.0	44.0			QL=4 ST=2 TYP=3
	15400	SGMR	8 S	1928.0	1928.0		33.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2002.0	2003.0	2.0	260.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2003.0	2003.0		53.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	2003.0	2003.0	1.0	170.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	2005.0	2005.0		32.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2051.0	2051.0		190.0			QL=4 ST=2 TYP=3
	245	PALE	49 GB	2154.0	2155.0	2.0	6900.0			QL=4 ST=2 TYP=6
	6700	CUBA	2 S/F	2154.0	2156.3	3.6	84.0	42.0		8R
	200	HIRA	47 GB	2154.2	2155.6	3.0	1900.0			0
	4995	LEAR	8 S	2155.0	2156.0	2.0	39.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	2155.0	2156.0	2.0	27.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	2155.0	2156.0	2.0	28.0			QL=4 ST=2 TYP=3
	410	PALE	49 GB	2155.0	2156.0	2.0	510.0			QL=4 ST=2 TYP=6
	8800	PALE	8 S	2155.0	2156.0	1.0	79.0			QL=4 ST=2 TYP=3
	4995	PALE	8 S	2155.0	2156.0	2.0	74.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	2155.0	2156.0	2.0	130.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2155.0	2156.0	2.0	37.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	2155.0	2156.0	2.0	180.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	2156.0	2156.0	1.0	32.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	2156.2	2156.4	0.4	120.0			0
	2800	PENT	1 S	2236.0	2238.0	5.0	19.0			
	245	LEAR	8 S	2254.0	2254.0		56.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2254.0	2254.0	2.0	77.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2256.0	2257.0	1.0	53.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2256.0	2256.0	1.0	23.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2256.0	2256.0		80.0			QL=4 ST=2 TYP=3
	8800	PALE	48 C	2326.0	2330.0	12.0	280.0			QL=4 ST=2 TYP=8

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

Outstanding Occurrences

47
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
24	4995	PALE	4 S/F	2328.0	2330.0	4.0	220.0			QL=4 ST=2 TYP=3
	15400	LEAR	8 S	2329.0	2329.0	2.0	57.0			QL=4 ST=2 TYP=3
	4995	LEAR	4 S/F	2329.0	2330.0	3.0	190.0			QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	2329.0	2330.0	3.0	240.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2329.0	2330.0	2.0	260.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	2329.0	2330.0	4.0	110.0			QL=4 ST=2 TYP=3
	1415	LEAR	4 S/F	2329.0	2330.0	5.0	85.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	2329.0	2330.0	3.0	82.0			QL=4 ST=2 TYP=3
	1415	PALE	4 S/F	2329.0	2330.0	5.0	89.0			QL=4 ST=2 TYP=3
	15400	PALE	8 S	2329.0	2329.0	2.0	74.0			QL=4 ST=2 TYP=3
	2800	HIRA	3 S	2329.2	2331.0	5.6	90.0			0
	200	HIRA	4 S/F	2329.2	2330.0	2.0	110.0			0
	500	HIRA	3 S	2329.2	2330.8	5.6	30.0			0
	610	LEAR	8 S	2330.0	2330.0	1.0	24.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	2330.0	2330.0	1.0	56.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2330.0	2330.0	1.0	84.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	2330.0	2330.0	1.0	26.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2330.0	2330.0	1.0	400.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	2345.2	2345.4	0.4	60.0			0
	200	HIRA	42 SER	2357.0	2358.0	2.0	80.0			0
25	245	SVTO	43 NS	0630.0	0633.0	61.0	220.0			QL=2 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		15.0		
	245	SVTO	43 NS	1029.0	1340.0	272.0	190.0			QL=2 ST=2 TYP=1
	245	SGMR	43 NS	1247.0	1832.0	460.0	450.0			QL=4 ST=2 TYP=1
	235	CUBA	44 NS	1300.0E		530.0D		17.0		
	280	CUBA	44 NS	1300.0E		530.0D		33.0		
	410	LEAR	8 S	0000.0	0000.0	U	29.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0015.0	0016.0	1.0	90.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0052.0	0052.0	1.0	56.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0052.0	0052.0	1.0	75.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	0052.2	0052.4	0.4	60.0			0
	245	LEAR	8 S	0116.0	0116.0	U	55.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0135.0	0137.0	2.0	43.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0135.0	0137.0	2.0	31.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0135.0	0137.0	2.0	180.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0135.0	0137.0	2.0	230.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	0135.0	0137.2	2.6	220.0			0
	500	HIRA	8 S	0137.0	0137.2	0.4	40.0			0
	245	PALE	8 S	0219.0	0219.0	U	79.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0230.0	0231.0	2.0	93.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0231.0	0231.0	1.0	140.0			QL=2 ST=2 TYP=3
	245	LEAR	8 S	0237.0	0237.0	1.0	56.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0237.0	0237.0	1.0	88.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0409.9	0411.5	10.1	4.0		U	
	200	HIRA	42 SER	0446.4	0447.8	1.6	50.0			0
	245	LEAR	8 S	0447.0	0447.0	1.0	98.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0507.0	0508.0	1.0	110.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0511.0	0511.0	1.0	140.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0511.0	0511.0	1.0	110.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0559.0	0559.0	U	150.0			QL=4 ST=2 TYP=3
	245	LEAR	4 S/F	0618.0	0624.0	6.0	140.0			QL=4 ST=2 TYP=3
	245	SVTO	48 C	0618.0	0622.0	4.0	120.0			QL=2 ST=2 TYP=8
	200	HIRA	42 SER	0618.8	0622.4	3.8	50.0			0
	2840	PEKG	1 S	0621.0	0624.0	6.0	7.3			
	5730	IRKU	1 S	0622.0	0624.0	9.8	3.0		U	
	245	LEAR	49 GB	0643.0	0645.0	3.0	1300.0			QL=2 ST=2 TYP=6
	410	LEAR	4 S/F	0643.0	0643.0	3.0	450.0			QL=4 ST=2 TYP=3
	2840	PEKG	5 S	0643.0	0646.0	7.0	15.7			
	245	SVTO	49 GB	0643.0	0645.0	3.0	1200.0			QL=2 ST=2 TYP=6
	410	SVTO	49 GB	0643.0	0643.0	123.0	580.0			QL=4 ST=2 TYP=6
	500	HIRA	42 SER	0643.6	0646.0	5.2	80.0			MR
	5730	IRKU	4 S/F	0643.6	0645.7	8.4	40.0		U	
	200	HIRA	47 GB	0643.8	0645.2	2.6	1000.0			0
	610	LEAR	4 S/F	0644.0	0646.0	3.0	110.0			QL=4 ST=2 TYP=3
	610	SVTO	4 S/F	0644.0	0646.0	3.0	85.0			QL=4 ST=2 TYP=3
	1415	LEAR	8 S	0645.0	0646.0	1.0	46.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0645.0	0645.0	1.0	42.0			QL=4 ST=2 TYP=3
	1415	SVTO	8 S	0645.0	0645.0	1.0	57.0			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 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
25	8800	SVTO	8 S	0645.0	0645.0	1.0	42.0			QL=4 ST=2 TYP=3
	204	IZMI	45 C	0731.1	0732.7	4.4	6303.0			
	900	GORK	45 C	0731.3	0733.9	4.8	56.0			
	245	LEAR	49 GB	0732.0	0733.0	2.0	860.0			QL=2 ST=2 TYP=6
	245	LEAR	49 GB	0732.0	0733.0	2.0	860.0			QL=4 ST=2 TYP=6
	410	SVTO	8 S	0732.0	0733.0	2.0	140.0			QL=4 ST=2 TYP=3
	245	SVTO	49 GB	0732.0	0733.0	2.0	540.0			QL=2 ST=2 TYP=6
	245	SVTO	49 GB	0732.0	0733.0	2.0	540.0			QL=4 ST=2 TYP=6
	245	SVTO	49 GB	0732.0	0733.0	2.0	540.0			QL=4 ST=2 TYP=6
	600	GORK	40 F	0733.0	0734.0	4.0	46.0			
	610	LEAR	8 S	0733.0	0734.0	1.0	52.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0733.0	0733.0	1.0	200.0			QL=4 ST=2 TYP=3
	610	SVTO	8 S	0733.0	0733.0	1.0	43.0			QL=4 ST=2 TYP=3
	204	IZMI	7 C	0755.2	0755.5	0.6	59.0			
	600	GORK	42 SER	0812.0	0825.1	13.2	19.0			
	600	GORK	42 SER	0812.0	0816.1	13.2	19.0			
	600	GORK	42 SER	0812.0	0819.3	13.2	9.8			
	600	GORK	42 SER	0812.0	0821.8	13.2	20.0			
	410	LEAR	8 S	0817.0	0817.0	1.0	390.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0817.0	0817.0	1.0	370.0			QL=4 ST=2 TYP=3
	204	IZMI	42 SER	0819.0	0819.2	0.7	90.0			
	204	IZMI	41 F	0823.7	0824.8	2.5	713.0			
	2950	GORK	45 C	0824.0	0825.0	1.6	3.0			
	410	LEAR	8 S	0824.0	0825.0	1.0	130.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0824.0	0825.0	1.0	480.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0824.0	0824.0	1.0	480.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0824.0	0824.0	1.0	290.0			QL=4 ST=2 TYP=3
	2950	GORK	45 C	0824.0	0824.5	1.6	2.6			
	600	GORK	42 SER	0922.4	0949.0	58.8	23.0			
	600	GORK	42 SER	0922.4	0952.2	58.8	33.0			
	600	GORK	42 SER	0922.4	0958.3	58.8	10.0			
	600	GORK	42 SER	0922.4	1006.3	58.8	15.0			
	600	GORK	42 SER	0922.4	1000.4	58.8	14.0			
	600	GORK	42 SER	0922.4	0933.4	58.8	20.0			
	600	GORK	42 SER	0922.4	1000.8	58.8	68.0			
	600	GORK	42 SER	0922.4	0922.8	58.8	18.0			
	2950	GORK	23 GRF	0923.3	0948.6	33.7	5.9			
	204	IZMI	42 SER	0925.8	0954.1	37.1	194.0			
	245	LEAR	8 S	0932.0	0933.0	1.0	150.0			QL=4 ST=2 TYP=3
	900	GORK	42 SER	0932.0	0933.1	70.6	28.0			
	900	GORK	42 SER	0932.0	0952.2	70.6	49.0			
	900	GORK	42 SER	0932.0	1020.6	70.6	24.0			
	900	GORK	42 SER	0932.0	0949.9	70.6	14.0			
	245	SVTO	8 S	0933.0	0933.0	U	140.0			QL=4 ST=2 TYP=3
	2950	GORK	42 SER	0939.3	0952.1	13.2	2.5			
	2950	GORK	42 SER	0939.3	0939.5	13.2	4.6			
	410	LEAR	4 S/F	0947.0	0949.0	4.0	91.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0949.0	0949.0	1.0	110.0			QL=4 ST=2 TYP=3
	245	SVTO	4 S/F	0951.0	0954.0	3.0	170.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0952.0	0954.0	2.0	170.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0958.0	0958.0	U	78.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0958.0	0958.0	U	100.0			QL=4 ST=2 TYP=3
	33	UPIC	3 S	0958.0	0958.5	1.0				
	245	SVTO	48 C	1018.0	1020.0	4.0	140.0			QL=2 ST=2 TYP=8
	245	SVTO	48 C	1018.0	1020.0	4.0	140.0			QL=4 ST=2 TYP=8
	204	IZMI	25 R	1026.8		31.2		15.0		
	410	SVTO	8 S	1054.0	1054.0	U	61.0			QL=4 ST=2 TYP=3
	204	IZMI	7 C	1137.5	1137.8	0.4	261.0			
	204	IZMI	41 F	1142.0	1142.3	0.7	353.0			
	245	SVTO	8 S	1205.0	1206.0	1.0	230.0			QL=2 ST=2 TYP=3
	410	SVTO	8 S	1206.0	1206.0	U	36.0			QL=4 ST=2 TYP=3
	245	SGMR	49 GB	1221.0	1222.0	1.0	890.0			QL=4 ST=2 TYP=6
	410	SGMR	8 S	1222.0	1222.0	U	150.0			QL=4 ST=2 TYP=3
	610	SGMR	8 S	1222.0	1222.0	1.0	40.0			QL=2 ST=2 TYP=3
	410	SVTO	8 S	1318.0	1318.0	U	34.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1318.0	1318.0	U	150.0			QL=2 ST=2 TYP=3
	245	SVTO	8 S	1322.0	1323.0	1.0	250.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1323.0	1323.0	U	230.0			QL=4 ST=2 TYP=3
	410	SGMR	8 S	1323.0	1323.0	U	68.0			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

49
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
25	410	SVTO	8 S	1323.0	1323.0	U	86.0			QL=4 ST=2 TYP=3
	6700	CUBA	21 GRF	1600.0	1630.0	135.0	12.0	6.0		9L
	2800	PENT	29 PBI	1709.0	1714.0	23.0U	7.0			
	1415	SGMR	4 S/F	1739.0	1740.0	5.0	34.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1739.0	1739.0	5.0	31.0			QL=2 ST=2 TYP=3
	8800	SGMR	4 S/F	1739.0	1739.0	5.0	47.0			QL=2 ST=2 TYP=3
	2695	SGMR	4 S/F	1739.0	1739.0	5.0	44.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1739.8	1740.6	2.2	15.0	7.0		19L
	2800	PENT	40 F	1856.0	1910.0	36.0U	41.0			
	6700	CUBA	21 GRF	1901.0	1921.0	161.0D	46.0			8L 2142 OFF
	8800	PALE	4 S/F	1905.0	1912.0	12.0	60.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1905.7	1906.3	2.1	7.0	3.0		15L
	2695	PALE	8 S	1906.0	1906.0	U	44.0			QL=4 ST=2 TYP=3
	4995	PALE	8 S	1906.0	1906.0	1.0	30.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	1910.0	1910.0	1.0	110.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1910.0	1910.0	7.0	48.0			QL=4 ST=2 TYP=3
	4995	SGMR	4 S/F	1910.0	1911.0	7.0	66.0			QL=2 ST=2 TYP=3
	1415	SGMR	4 S/F	1910.0	1910.0	7.0	110.0			QL=4 ST=2 TYP=3
	6700	CUBA	2 S/F	1910.3	1911.9	4.7	49.0	24.0		7L
	15400	PALE	4 S/F	1911.0	1912.0	6.0	34.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1911.0	1911.0	6.0	55.0			QL=2 ST=2 TYP=3
	245	PALE	8 S	2037.0	2038.0	1.0	170.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2135.0	2136.0	1.0	360.0			QL=4 ST=2 TYP=3
	200	HIRA	47 GB	2135.8	2139.8	4.8	540.0			WR
	245	PALE	8 S	2139.0	2140.0	1.0	300.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2139.0	2139.0	1.0	440.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	2139.2	2139.4	0.4	40.0			0
	200	HIRA	47 GB	2236.4	2236.6	1.8	780.0			WL
	245	LEAR	8 S	2237.0	2237.0	1.0	330.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	2237.0	2237.0	1.0	130.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2237.0	2237.0U	1.0	150.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2237.0	2237.0U	1.0	360.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2320.0	2320.0	1.0	110.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2320.0	2320.0	U	150.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	2320.0	2320.2	0.4	350.0			0
	245	LEAR	8 S	2321.0	2323.0	2.0	140.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2322.0	2323.0	1.0	210.0			QL=4 ST=2 TYP=3
	200	HIRA	8 S	2332.8	2333.0	0.4	300.0			0
	410	LEAR	8 S	2333.0	2333.0	U	470.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	2333.0	2333.0	U	780.0			QL=4 ST=2 TYP=6
	410	PALE	8 S	2333.0	2333.0	U	420.0			QL=4 ST=2 TYP=3
	245	PALE	49 GB	2333.0	2333.0	U	1000.0			QL=4 ST=2 TYP=6
	500	HIRA	8 S	2333.0	2333.2	0.4	30.0			0
	245	LEAR	8 S	2359.0	0000.0	2.0	82.0			QL=4 ST=2 TYP=3
26	245	PALE	43 NS	0205.0	0300.0	86.0	380.0			QL=4 ST=2 TYP=1
	245	SVTO	43 NS	0617.0	0732.0	331.0	340.0			QL=2 ST=2 TYP=1
	204	IZMI	44 NS	0700.0E		300.0D		70.0		
	280	CUBA	44 NS	1300.0E		530.0D		42.0		
	235	CUBA	44 NS	1300.0E		530.0D		28.0		
	245	SGMR	43 NS	1425.0	1602.0	376.0	85.0			QL=4 ST=2 TYP=1
	410	PALE	8 S	0000.0	0000.0	U	33.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0000.0	0000.0	U	88.0			QL=4 ST=2 TYP=3
	200	HIRA	42 SER	0000.0	0005.2	6.0	320.0			0
	245	LEAR	4 S/F	0003.0	0005.0	3.0	180.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0005.0	0005.0	1.0	190.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0005.0	0005.0	U	180.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	0005.0	0005.0	U	190.0			QL=4 ST=2 TYP=3
	500	HIRA	8 S	0005.6	0005.8	0.4	40.0			0
	245	LEAR	8 S	0104.0	0104.0	1.0	79.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0104.0	0104.0	U	150.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0110.0	0110.0	1.0	120.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0110.0	0110.0	1.0	140.0			QL=4 ST=2 TYP=3
	2840	PEKG	3 S	0115.0	0120.5	23.0	187.0			
	4995	LEAR	4 S/F	0118.0	0120.0	19.0	220.0			QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	0118.0	0120.0	19.0	200.0			QL=4 ST=2 TYP=3
	2800	HIRA	3 S	0118.2	0121.0	7.0	170.0			0
	1415	LEAR	4 S/F	0119.0	0121.0	3.0	48.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0119.0	0120.0	6.0	180.0			QL=4 ST=2 TYP=3

50
Nov 99

SOLAR RADIO EMISSION

Outstanding Occurrences

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
26	610	LEAR	8 S	0119.0	0119.0	1.0	55.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0119.0	0120.0	7.0	210.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	0119.0	0119.0	1.0	58.0			QL=4 ST=2 TYP=3
	1415	PALE	4 S/F	0119.0	0121.0	3.0	50.0			QL=4 ST=2 TYP=3
	15400	LEAR	4 S/F	0119.0	0120.0	18.0	100.0			QL=4 ST=2 TYP=3
	4995	PALE	4 S/F	0119.0	0120.0	12.0	210.0			QL=4 ST=2 TYP=3
	15400	PALE	4 S/F	0119.0	0120.0	16.0	130.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0119.0	0120.0	16.0	150.0			QL=4 ST=2 TYP=3
	410	LEAR	49 GB	0120.0	0120.0		550.0			QL=4 ST=2 TYP=6
	410	PALE	8 S	0120.0	0120.0		440.0			QL=4 ST=2 TYP=3
	500	HIRA	47 GB	0120.0	0120.4	0.8	2700.0			0
	245	LEAR	8 S	0126.0	0126.0		83.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0126.0	0126.0		90.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0139.0	0139.0		560.0			QL=4 ST=2 TYP=6
	245	PALE	49 GB	0139.0	0140.0	1.0	840.0			QL=4 ST=2 TYP=6
	200	HIRA	8 S	0139.4	0139.6	0.4	420.0			0
	245	LEAR	8 S	0211.0	0211.0	1.0	69.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0352.0	0352.7	1.9	7.0		U	
	5730	IRKU	20 GRF	0354.6	0400.7	58.1	17.0		U	
	2840	PEKG	1 S	0552.0	0556.0	8.0	9.2			
	5730	IRKU	4 S/F	0553.6	0555.0	9.9	12.0		U	
	245	SVTO	4 S/F	0657.0	0700.0	6.0	470.0			QL=2 ST=2 TYP=3
	2840	PEKG	5 S	0658.0	0700.0	20.0	32.1			
	500	HIRA	46 C	0658.2	0658.6	2.8	60.0			0
	5730	IRKU	21 GRF	0658.6	0659.7	49.7	18.0		U	
	200	HIRA	46 C	0658.8	0659.0	2.8	150.0			0
	3000	IZMI	22 GRF	0659.0	0700.0	1.6	23.0			
	1415	LEAR	8 S	0659.0	0700.0	2.0	46.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0659.0	0659.0	1.0	58.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0659.0	0659.0	2.0	94.0			QL=4 ST=2 TYP=3
	410	LEAR	8 S	0659.0	0700.0	2.0	110.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0659.0	0700.0	3.0	560.0			QL=2 ST=3 TYP=6
	1415	SVTO	8 S	0659.0	0700.0	2.0	48.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	0659.0	0700.0	2.0	67.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0659.0	0659.0	1.0	59.0			QL=4 ST=2 TYP=3
	610	SVTO	8 S	0659.0	0659.0	1.0	55.0			QL=4 ST=2 TYP=3
	204	IZMI	45 C	0659.0E	0700.6	3.0U	351.0			
	3000	IZMI	1 S	0705.6	0705.8	0.3	11.0			
	2950	GORK	42 SER	0709.5	0711.1	1.8	1.6			
	2950	GORK	42 SER	0709.5	0709.6	1.8	7.6			
	3000	IZMI	5 S	0709.5	0709.6	0.3	13.0			
	600	GORK	40 F	0710.2	0713.3	3.8	4.3			
	3000	IZMI	5 S	0711.1	0711.2	0.3	21.0			
	600	GORK	4 S/F	0727.3	0727.5	0.7	1.8			
	33	UPIC	45 C	0800.5	0801.0	1.5				
	33	UPIC	46 C	0807.0	0808.3	2.0				
	600	GORK	42 SER	0810.0	0810.1	31.6	15.0			
	600	GORK	42 SER	0810.0	0841.5	31.6	13.0			
	600	GORK	42 SER	0810.0	0829.5	31.6	20.0			
	410	SVTO	8 S	0840.0	0841.0	1.0	66.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0841.0	0841.0	1.0	530.0			QL=2 ST=2 TYP=6
	410	LEAR	8 S	0841.0	0841.0		54.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0841.0	0841.0		490.0			QL=2 ST=2 TYP=3
	2950	GORK	1 S	0855.0	0855.3	0.6	3.8			
	8800	SGMR	49 GB	1340.0	1342.0	17.0	580.0			QL=2 ST=2 TYP=6
	15400	SGMR	4 S/F	1341.0	1342.0	9.0	430.0			QL=2 ST=2 TYP=3
	2695	SVTO	4 S/F	1341.0	1342.0	7.0	77.0			QL=4 ST=2 TYP=3
	15400	SVTO	49 GB	1341.0	1341.0	5.0	550.0			QL=4 ST=2 TYP=6
	4995	SGMR	4 S/F	1341.0	1342.0	16.0	370.0			QL=2 ST=2 TYP=3
	2695	SGMR	4 S/F	1341.0	1342.0	16.0	87.0			QL=4 ST=2 TYP=3
	4995	SVTO	4 S/F	1341.0	1342.0	16.0	360.0			QL=4 ST=2 TYP=3
	8800	SVTO	49 GB	1341.0	1342.0	17.0	620.0			QL=4 ST=2 TYP=6
	6700	CUBA	45 C	1341.0	1342.0U	8.5	301.00			9R COMPLEX POL
	6700	CUBA	30 PBI	1350.0		137.0	56.0	28.0		4L
	6700	CUBA	2 S/F	1350.5	1352.0	4.5	15.0	7.0		14L
27	204	IZMI	44 NS	0700.0E		300.0D		5.0		
	245	LEAR	8 S	0026.0	0027.0	1.0	58.0			QL=4 ST=2 TYP=3
	2840	PEKG	5 S	0221.0	0225.0	28.0	13.6			

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

Outstanding Occurrences

51
Nov 99

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
27	5730	IRKU	21 GRF	0235.6	0245.2	52.9	9.0		U	
	200	HIRA	8 S	0340.8	0341.2	0.8	230.0			0
	2840	PEKG	3 S	0450.0	0452.5	12.0	91.7			
	610	LEAR	4 S/F	0451.0	0453.0	7.0	92.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0451.0	0452.0	7.0	84.0			QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	0451.0	0453.0	7.0	290.0			QL=4 ST=2 TYP=3
	245	LEAR	49 GB	0451.0	0453.0	7.0	510.0			QL=4 ST=2 TYP=6
	4995	LEAR	4 S/F	0452.0	0452.0	6.0	47.0			QL=4 ST=2 TYP=3
	1415	LEAR	4 S/F	0452.0	0454.0	6.0	150.0			QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	0452.0	0452.0	6.0	48.0			QL=4 ST=2 TYP=3
	200	HIRA	47 GB	0452.0	0452.2	13.0	520.0			0
	5730	IRKU	46 C	0452.1	0452.3	41.9	52.0		U	
	2800	HIRA	4 S/F	0452.2	0453.2	4.0	60.0			0
	500	HIRA	4 S/F	0452.2	0453.2	2.0	100.0			0
	610	LEAR	8 S	0459.0	0459.0		76.0			QL=4 ST=2 TYP=3
	500	HIRA	47 GB	0500.0	0508.0	80.0	620.0			0
	410	LEAR	20 GRF	0505.0	0514.0	89.0	390.0			QL=4 ST=2 TYP=2
	5730	IRKU	20 GRF	0545.0	0547.6	55.0	9.0		U	
	245	SVTO	8 S	0610.0	0610.0	2.0	130.0			QL=2 ST=2 TYP=3
	245	LEAR	8 S	0744.0	0744.0		67.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0744.0	0744.0		56.0			QL=4 ST=2 TYP=3
	204	IZMI	42 SER	0823.2	0823.9	1.2	45.0			
	204	IZMI	42 SER	1117.2	1118.5	2.1	52.0			
	33	UPIC	32 ABS	1207.0	1212.5	37.5				
	1415	SVTO	4 S/F	1208.0	1213.0	9.0	120.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	1208.0	1210.0	15.0	260.0			QL=4 ST=2 TYP=3
	15400	SVTO	49 GB	1208.0	1209.0	15.0	600.0			QL=4 ST=2 TYP=6
	8800	SVTO	4 S/F	1208.0	1210.0	37.0	490.0			QL=4 ST=2 TYP=3
	4995	SVTO	4 S/F	1208.0	1210.0	43.0	420.0			QL=4 ST=2 TYP=3
	33	UPIC	40 F	1220.0	1221.0	132.0				
28	204	IZMI	44 NS	0700.0E		164.0D		5.0		
	235	CUBA	44 NS	1300.0E		530.0D		10.0		
	280	CUBA	44 NS	1300.0E		530.0D		24.0		
	2840	PEKG	1 S	0140.0	0141.5	2.0	4.7			
	2840	PEKG	4 S/F	0237.0	0254.0	28.0	20.9			
	5730	IRKU	4 S/F	0249.7	0253.2	10.0	14.0		U	
	2695	LEAR	4 S/F	0251.0	0253.0	3.0	17.0			QL=4 ST=2 TYP=3
	1415	LEAR	4 S/F	0251.0	0253.0	7.0	23.0			QL=4 ST=2 TYP=3
	410	LEAR	4 S/F	0252.0	0253.0	3.0	43.0			QL=4 ST=2 TYP=3
	1415	PALE	4 S/F	0252.0	0254.0	3.0	20.0			QL=4 ST=2 TYP=3
	410	PALE	4 S/F	0252.0	0253.0	3.0	53.0			QL=4 ST=2 TYP=3
	610	PALE	4 S/F	0252.0	0254.0	3.0	16.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0252.0	0253.0	3.0	31.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0253.0	0253.0		91.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	0253.0	0253.0	2.0	110.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	0254.0	0254.0		14.0			QL=4 ST=2 TYP=3
	5730	IRKU	1 S	0446.5	0447.7	3.5	9.0		U	
	5730	IRKU	4 S/F	0524.8	0525.3	5.2	8.0		U	
	5730	IRKU	1 S	0549.5	0552.3	18.0	13.0		U	
	15400	SVTO	48 C	0655.0	0658.0	7.0	60.0			QL=4 ST=2 TYP=8
	204	IZMI	42 SER	1040.6	1040.8	0.3	78.0			
	204	IZMI	41 F	1132.5	1132.8	0.4	108.0			
	410	SVTO	8 S	1203.0	1204.0	1.0	90.0			QL=2 ST=2 TYP=3
	245	SGMR	8 S	1234.0	1234.0	1.0	77.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1234.0	1235.0	1.0	100.0			QL=4 ST=2 TYP=3
	33	UPIC	46 C	1234.0	1236.0	3.0				
	245	SGMR	8 S	1411.0	1411.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	SGMR	4 S/F	1415.0	1416.0	3.0	63.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1415.0	1415.0	1.0	61.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	1457.0	1457.0		65.0			QL=4 ST=2 TYP=3
	6700	CUBA	20 GRF	1810.0	2040.0	226.0	28.0	14.0		9L
	245	PALE	8 S	1930.0	1930.0		78.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1930.0	1930.0	1.0	78.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	1950.0	1950.0	1.0	56.0			QL=4 ST=2 TYP=3
29	204	IZMI	44 NS	0700.0E		136.0D		20.0		
	204	IZMI	44 NS	0916.0E		164.0D		10.0		
	280	CUBA	44 NS	1300.0E		530.0D		22.0		

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

NOVEMBER 1999

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
29	235	CUBA	44 NS	1300.0E		530.0D		11.0		
	5730	IRKU	20 GRF	0425.5	0438.2	34.5	7.0	U		
	245	LEAR	8 S	0616.0	0616.0	1.0	75.0			QL=4 ST=2 TYP=3
	204	IZMI	41 F	0706.9	0707.4	0.9	59.0			
	204	IZMI	42 SER	0720.5	0720.8	4.1	194.0			
	204	IZMI	42 SER	0755.7	0756.2	0.8	138.0			
	204	IZMI	41 F	0840.1	0840.4	0.5	120.0			
	245	LEAR	8 S	0841.0	0841.0	U	58.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0847.0	0848.0	1.0	61.0			QL=4 ST=2 TYP=3
	245	SVTO	8 S	0847.0	0847.0	1.0	52.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	0927.0	0927.0	U	57.0			QL=4 ST=2 TYP=3
	204	IZMI	25 R	1145.1		16.0D		15.0		
	204	IZMI	41 F	1147.5	1148.0	0.6	60.0			
	6700	CUBA	2 S/F	1250.3	1253.0	7.7	17.0	8.0		22R
	410	SGMR	4 S/F	1408.0	1410.0	3.0	57.0			QL=4 ST=2 TYP=3
	410	SVTO	8 S	1409.0	1410.0	2.0	61.0			QL=4 ST=2 TYP=3
	6700	CUBA	1 S	1412.0	1413.0	2.5	25.0	12.0		3L
	6700	CUBA	1 S	1633.0	1634.0	2.0	8.0	4.0		00L
	245	PALE	8 S	2054.0	2054.0	U	57.0			QL=4 ST=2 TYP=3
	245	LEAR	8 S	2250.0	2250.0	1.0	130.0			QL=4 ST=2 TYP=3
30	204	IZMI	44 NS	0700.0E		300.0D		5.0		
	235	CUBA	44 NS	1300.0E		530.0D		9.0		
	280	CUBA	44 NS	1300.0E		530.0D		29.0		
	245	SVTO	43 NS	1351.0	1409.0	19.0	70.0			QL=2 ST=2 TYP=1
	5730	IRKU	1 S	0309.7	0310.0	17.3	2.0	U		
	5730	IRKU	4 S/F	0339.5	0339.8	6.8	7.0	U		
	5730	IRKU	1 S	0702.6	0704.5	11.4	5.0	U		
	2840	PEKG	1 S	0703.0	0704.5	3.0	5.0			
	204	IZMI	41 F	0902.4	0902.8	1.1	31.0			
	410	SVTO	8 S	1315.0	1315.0	1.0	59.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	1317.0	1317.0	U	140.0			QL=4 ST=2 TYP=3
	245	SVTO	48 C	1317.0	1323.0	6.0	130.0			QL=4 ST=2 TYP=8
	245	SGMR	8 S	1519.0	1519.0	U	140.0			QL=4 ST=2 TYP=3
	2800	PENT	20 GRF	2047.0	2053.0	26.0	3.0			

Reports are received routinely from the following observatories:

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

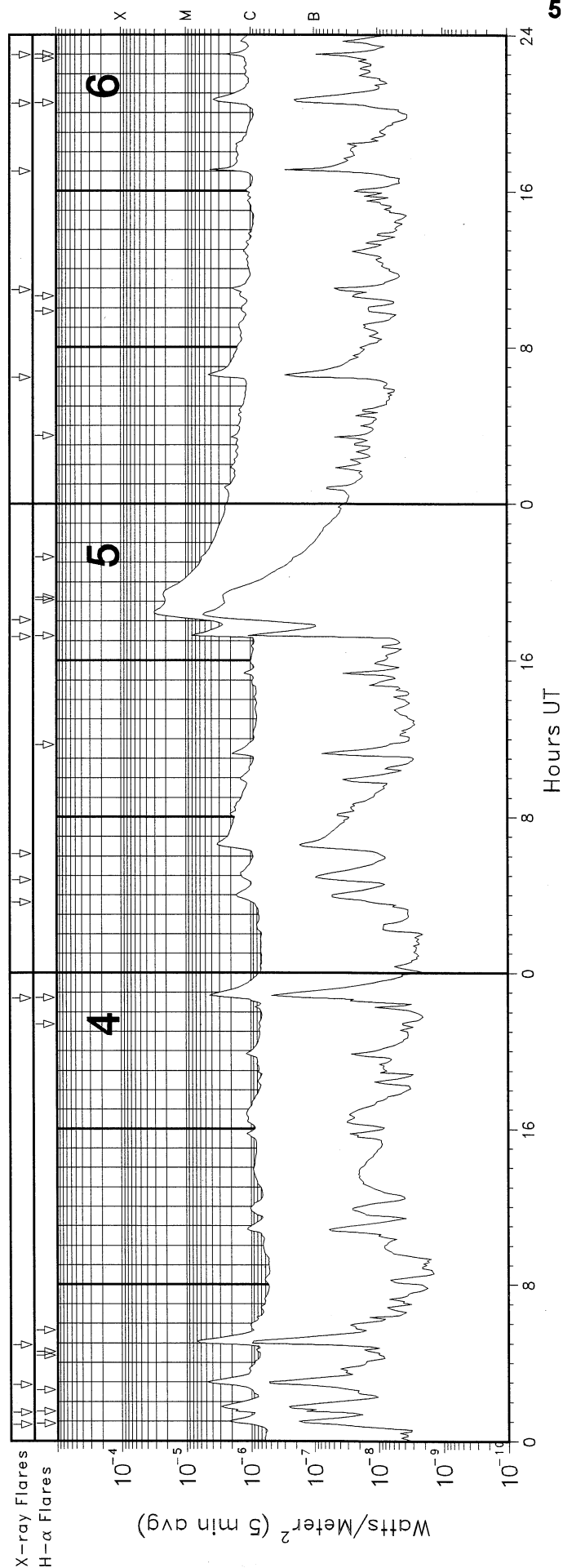
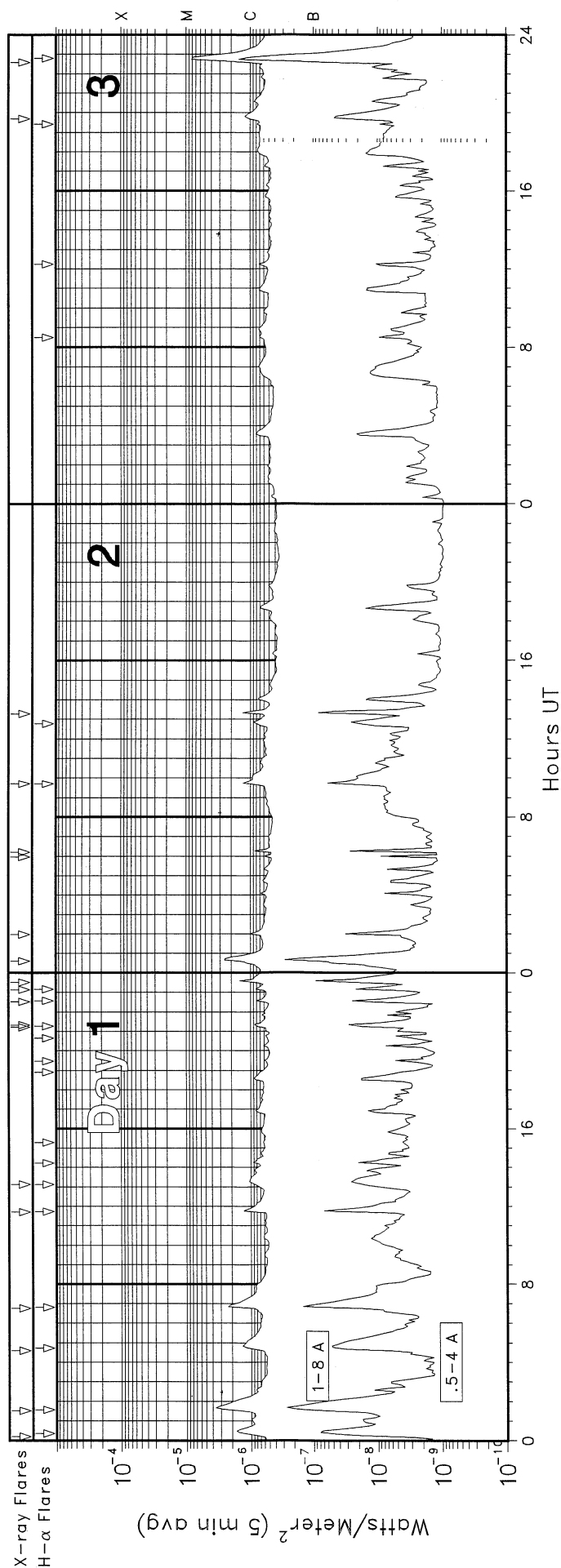
Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F	
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A	
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A	

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

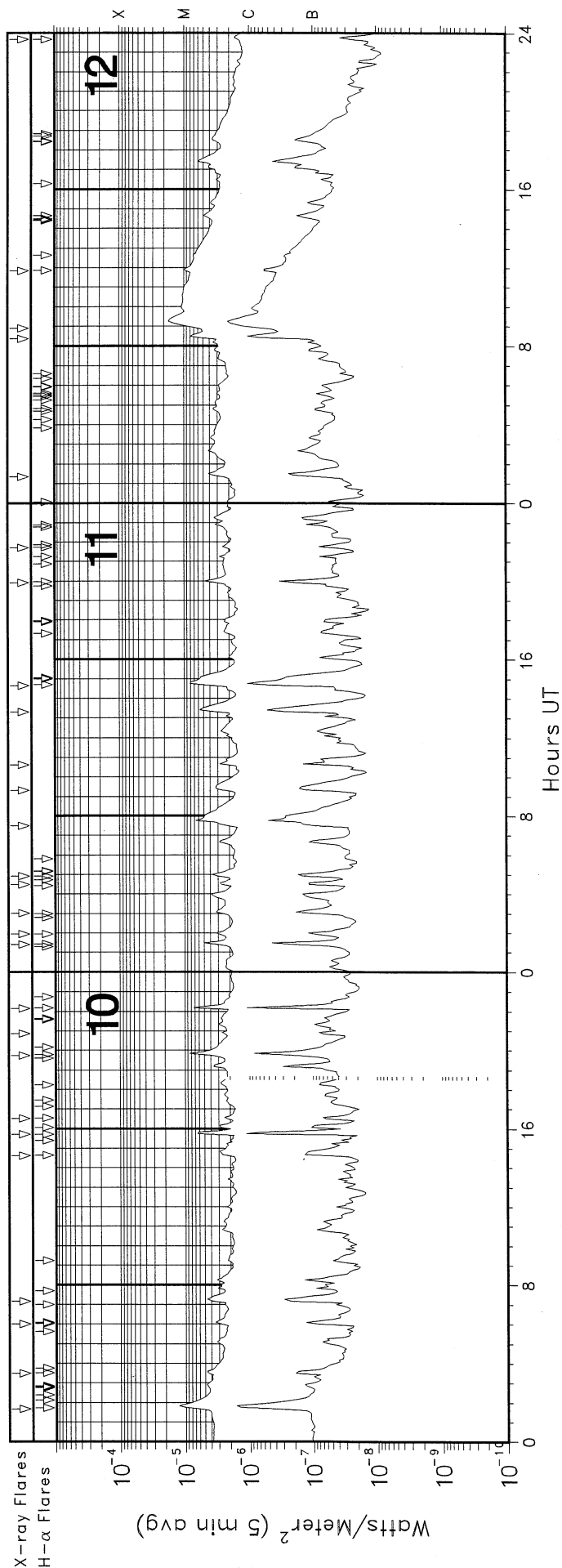
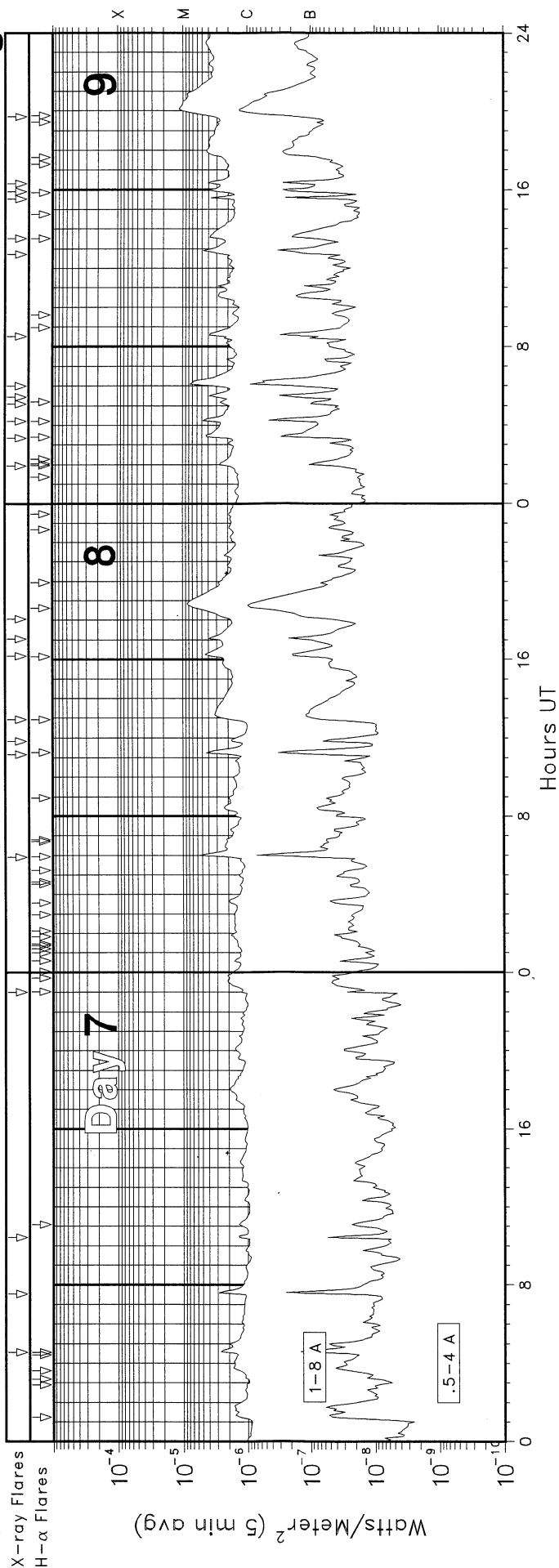
GOES X-RAY DETECTOR

November 1999



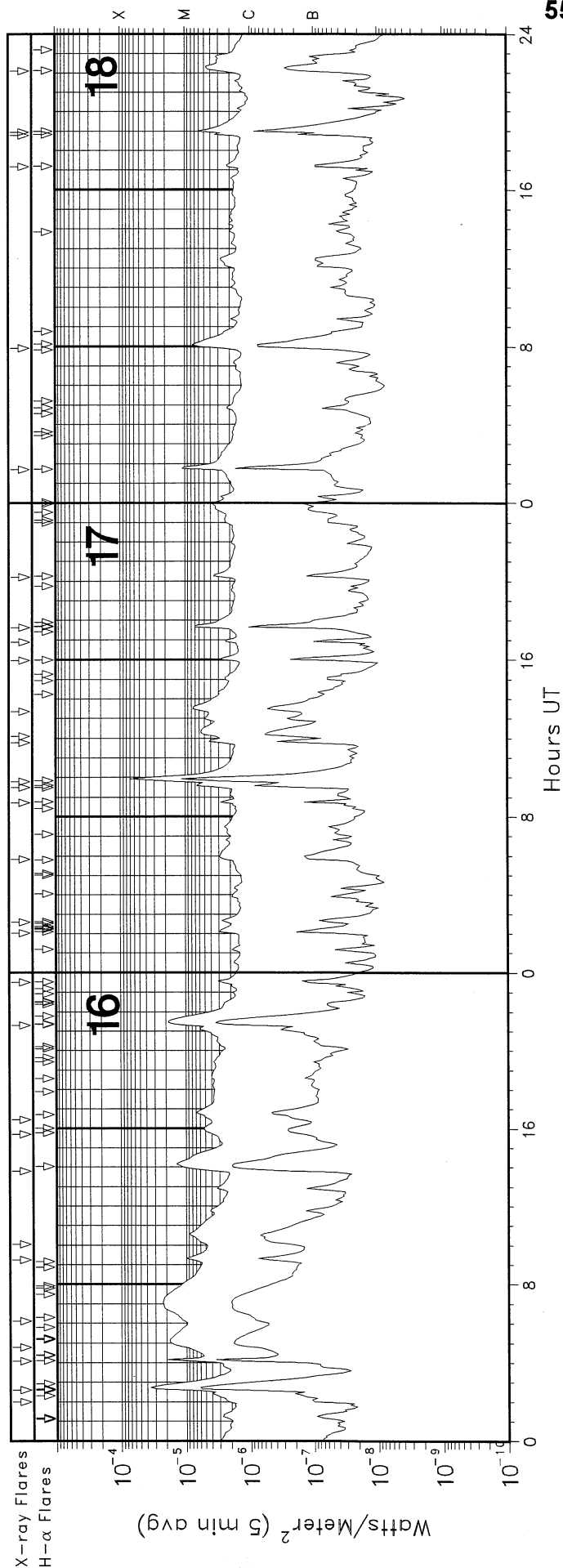
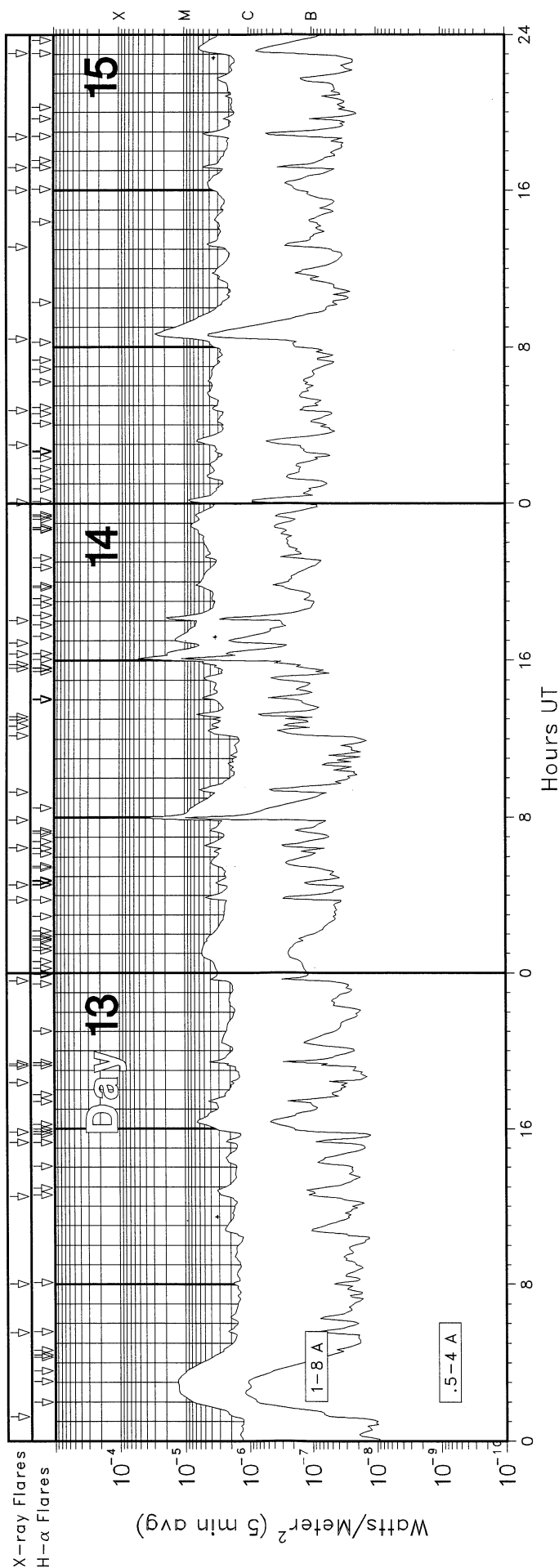
GOES X-RAY DETECTOR

November 1999



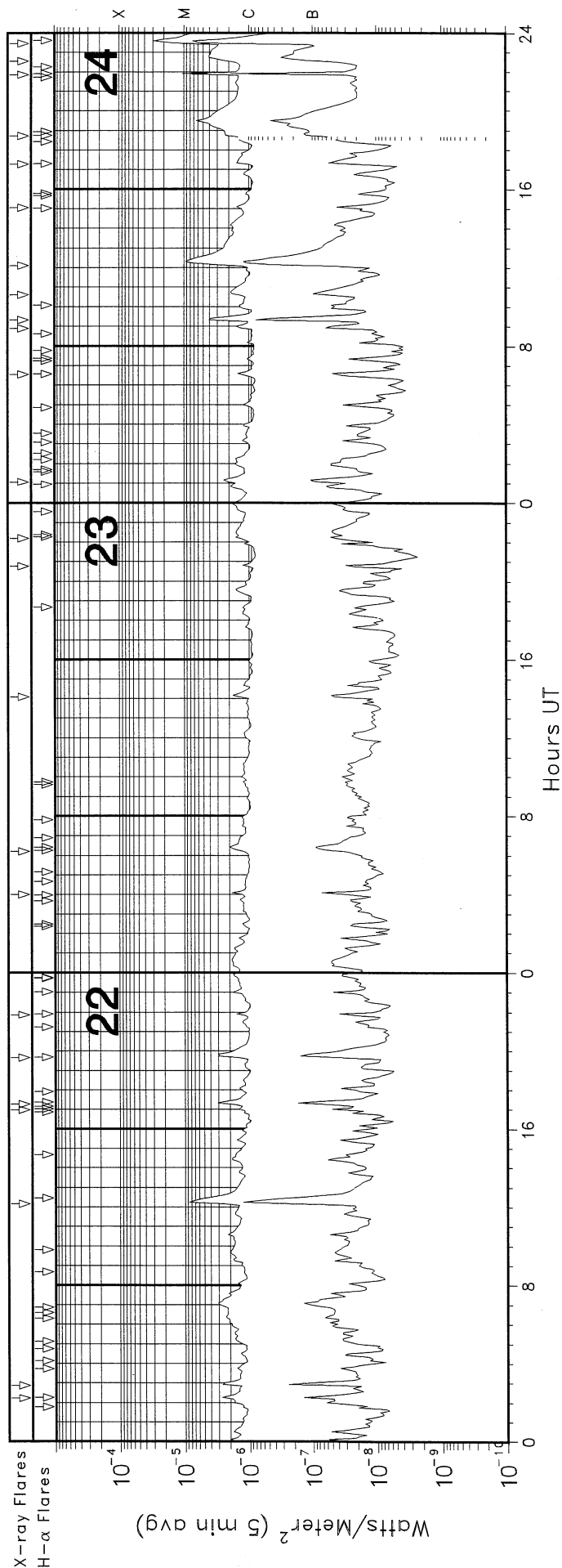
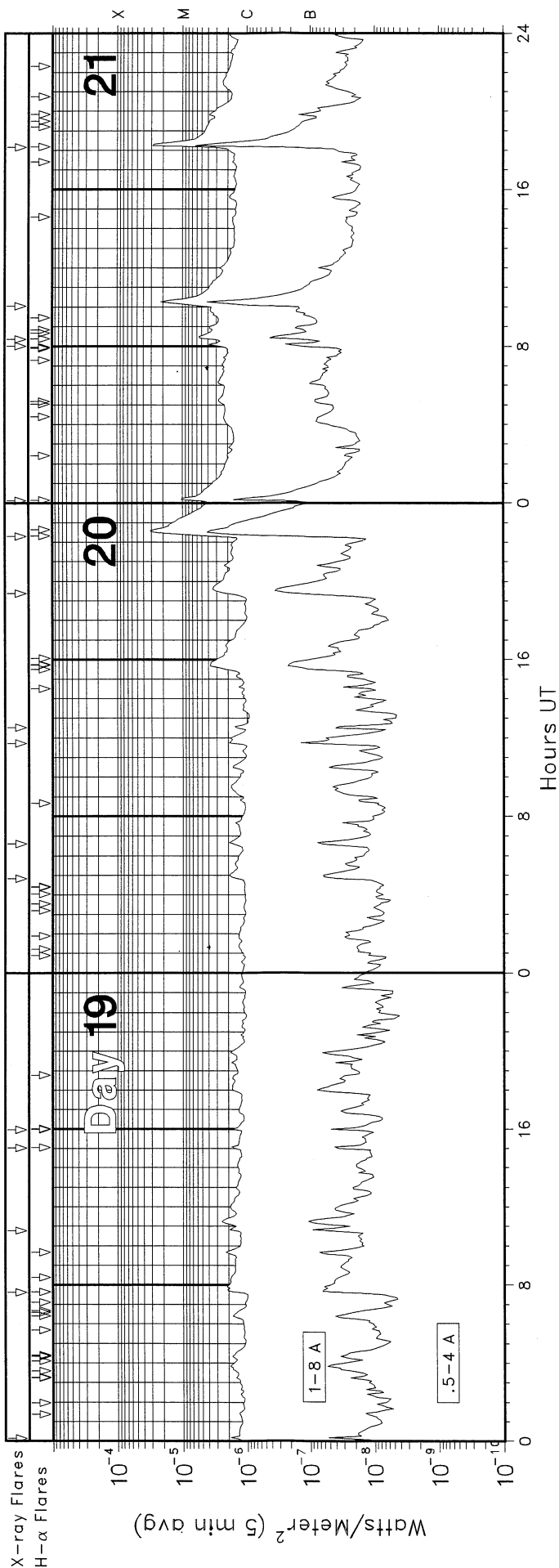
GOES X-RAY DETECTOR

November 1999

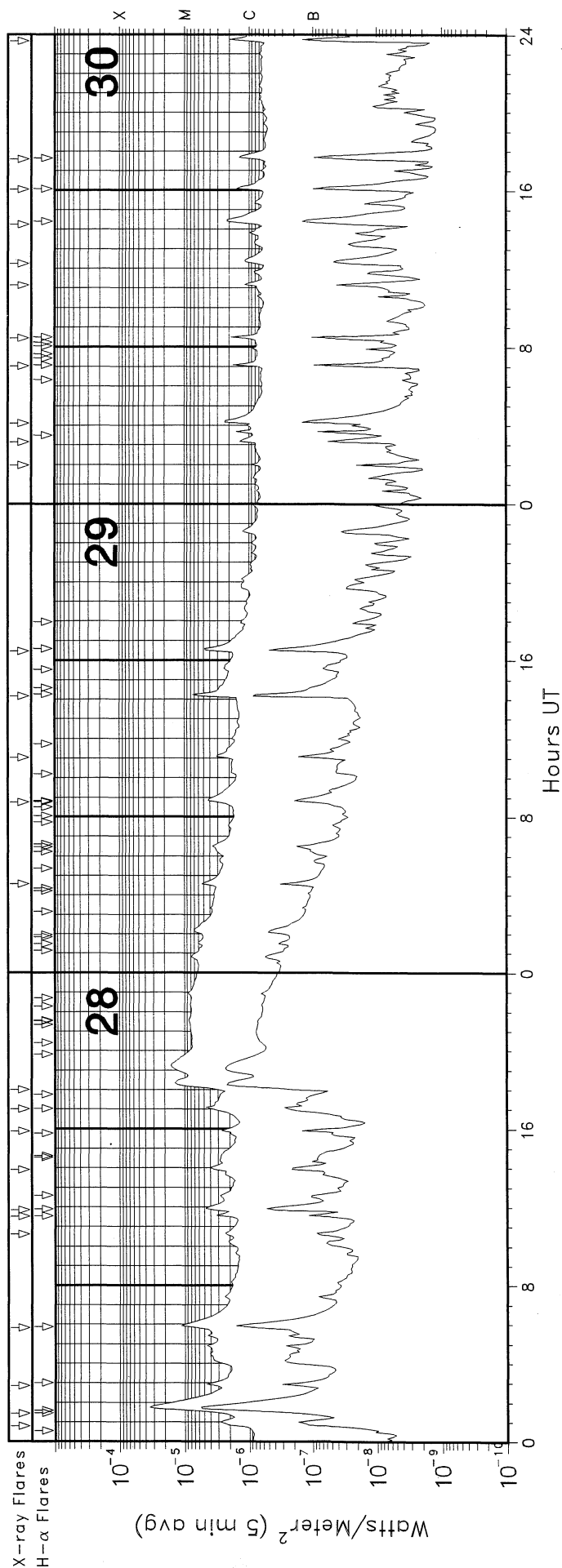


GOES X-RAY DETECTOR

November 1999



November 1999



58
Nov 99

GOES SOLAR X-RAY FLARES
Preliminary Listing

November 1999

NOAA/USAF										NOAA/USAF									
Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	Region	Flux	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	Region	Flux
01	0012	0030	0043	N09	E12	SF	C1.7	8747	2.4E-03	10	0140	0151	0200	N10	E50	1N	M1.3	8759	1.2E-02
01	0130	0142	0155	S19	E15	SF	C3.7	8749	4.2E-03	10	0330	0334	0338	N12	E06	SF	C5.2	8760	2.3E-03
01	0435	0451	0514	S18	E14	SF	C1.4	8749	2.6E-03	10	0600	0605	0614	N06	E36	SF	C3.7	8759	2.7E-03
01	0646	0653	0705	S19	E13	SF	C2.4	8749	2.2E-03	10	0709	0715	0728	N21	W15	SF	C4.9		4.7E-03
01	1142	1147	1158	S18	E09	SF	C1.3	8749	1.0E-03	10	1438	1449	1502	S16	E73	SF	C3.0	8763	3.8E-03
01	1307	1316	1328	N09	E05	SF	C1.1	8747	1.2E-03	10	1544	1549	1551	N17	W21	SF	M1.5	8753	3.0E-03
01	2113	2116	2119	S24	W69	SF	B8.9	8741	2.6E-04	10	1631	1634	1638	S16	E79	1F	C2.8	8763	1.0E-03
01	2119	2122	2124	S23	W70	SF	B9.9	8741	2.6E-04	10	1945	1952	1956	N19	E26	SF	C9.6		4.2E-03
01	2231	2235	2239	S24	W71	SF	B9.4	8741	3.6E-04	10	2052	2055	2057				C3.0		8.3E-04
01	2308	2312	2319	S24	W70	SF	B8.6	8741	5.1E-04	10	2209	2213	2216	N17	W25	1N	M1.1	8753	2.9E-03
01	2331	2336	2339				C1.8		5.9E-04										
02	0037	0043	0052				C2.8		2.0E-03	11	0125	0131	0134	N18	W27	SN	C5.6	8753	2.3E-03
02	0158	0202	0206				C1.1		4.5E-04	11	0157	0200	0202	N37	W56	SN	C3.8	8757	9.9E-04
02	0558	0602	0604				B6.9		2.1E-04	11	0302	0309	0313	S18	E69	SF	C3.4	8763	2.0E-03
02	0613	0617	0620				C1.0		3.2E-04	11	0429	0432	0440	N09	E26	SF	C3.0	8759	1.8E-03
02	0942	0949	0952	S19	W03	SF	C1.4	8749	7.0E-04	11	0455	0500	0506	S17	E69	1F	C3.9		2.3E-03
02	1316	1321	1327				C1.4		6.9E-04	11	0730	0747	0810				C7.0		1.1E-02
03	1941	1949	2002				C1.2		1.4E-03	11	0918	0932	0946				C3.3		5.0E-03
03	2234	2249	2258	S19	W23	1F	C8.9		7.2E-03	11	1038	1043	1047				C3.2		1.4E-03
04	0051	0102	0110	S19	W22	SF	C2.2	8749	2.0E-03	11	1318	1328	1339				C5.8		5.8E-03
04	0127	0146	0157	S19	W25	SF	C2.9	8749	3.8E-03	11	1439	1449	1508	N09	E19	1N	C8.6	8759	1.1E-02
04	0253	0300	0307	S19	W25	1F	C5.2	8749	3.4E-03	11	1955	2000	2006	N08	E18	SF	C5.1	8759	2.7E-03
04	0455	0503	0514				C7.9	8749	5.7E-03	11	2142	2145	2147	S15	E61	SF	C2.9	8763	7.3E-04
04	2243	2253	2303	S18	W36	SF	C4.8		3.8E-03	12	0121	0130	0138				C4.6		3.6E-03
05	0338	0402	0414				C1.6		2.9E-03	12	0822	0833	0842				C8.6		7.7E-03
05	0448	0509	0519				C1.4		2.5E-03	12	0854	0916	0936				M1.7	8759	3.2E-02
05	0607	0639	0707				C3.3		7.7E-03	12	1150	1154	1157	N10	E17	SF	M1.1		4.0E-03
05	1712	1718	1722	S19	W45	1F	M1.2		3.8E-03	12	2340	2345	2356	N07	E00	SF	C1.6	8759	1.5E-03
05	1804	1829	1944				M3.0		1.3E-01	13	0114	0258	0351	S15	E44	1F	M1.3	8763	8.4E-02
06	0628	0636	0648				C4.6		4.2E-03	13	0532	0535	0543	S15	E42	SF	C2.2	8763	1.4E-03
06	1056	1100	1104				C2.0		8.9E-04	13	0801	0804	0806	S15	E40	SF	C2.4	8763	6.0E-04
06	1701	1706	1709				C5.0		1.6E-03	13	1231	1246	1257	N16	W48	SF	C3.1	8764	4.6E-03
06	2029	2040	2053	S22	W55	SF	C3.7	8749	4.1E-03	13	1517	1524	1528	N14	E00	SF	C2.4	8759	1.4E-03
06	2259	2302	2304	N09	E82	SF	C2.9	8759	7.3E-04	13	1550	1623	1653				C6.6	8763	1.7E-02
07	0433	0438	0443	S18	W66	SF	C3.1	8749	1.5E-03	13	1822	1825	1827				C2.5		5.9E-04
07	0732	0737	0743				C3.1		1.6E-03	13	1914	1917	1919	S13	E47	SF	C2.6	8765	6.7E-04
07	1025	1029	1032				C1.8		6.3E-04	13	1921	1926	1931				C4.5	8759	2.0E-03
07	2300	2303	2306	N19	E64	SF	C1.4	8758	4.7E-04	13	2338	2342	2348	S09	E40	SN	C4.6	8765	2.2E-03
08	0555	0602	0609	S18	W82	SF	C5.9	8749	3.4E-03	14	0348	0355	0403	S10	E43	SF	C5.0	8765	3.6E-03
08	1110	1117	1124	N12	E28	SN	C4.6		2.8E-03	14	0435	0440	0445	N10	W09	1F	C3.6	8759	1.9E-03
08	1149	1153	1201				C2.0		1.2E-03	14	0629	0638	0644				C4.9	8765	3.9E-03
08	1255	1312	1406	N07	E54	SF	C3.2	8759	1.2E-02	14	0754	0801	0804	S15	E27	2B	M8.0	8763	2.3E-02
08	1610	1615	1625	N12	E24	SF	C4.6	8760	3.7E-03	14	0919	0925	0932				C6.3		4.2E-03
08	1703	1707	1712				C4.2		2.0E-03	14	1211	1229	1236				C4.3		5.5E-03
08	1804	1852	1925	N12	E65	SF	C8.5	8759	2.6E-02	14	1239	1244	1248				C4.3		2.0E-03
09	0157	0202	0213	N20	E39	SF	C2.7	8758	2.4E-03	14	1258	1301	1305				C3.8		1.5E-03
09	0322	0328	0342	N17	E36	1N	C4.9	8758	4.5E-03	14	1309	1315	1322				C7.0		4.3E-03
09	0413	0418	0422				C5.8		2.4E-03	14	1536	1540	1542				C5.0	8765	1.3E-03
09	0505	0509	0517	N09	E52	SF	C2.6		1.8E-03	14	1547	1607	1613				M5.6	8766	3.3E-02
09	0526	0531	0538				C3.9		2.5E-03	14	1620	1623	1626	S11	E36	SN	M2.2	8765	7.1E-03
09	0600	0607	0620				C8.6		7.6E-03	14	1654	1704	1719	N10	W13	SF	M1.4	8759	1.9E-02
09	0832	0838	0846				C4.3		3.0E-03	14	1803	1809	1813				M2.8		1.0E-02
09	1244	1258	1301				C5.6		3.8E-03	15	0004	0009	0017	N17	E53	SF	C8.9	8766	6.2E-03
09	1332	1338	1356	N06	E44	SF	C3.9	8759	5.0E-03	15	0259	0313	0322				C6.5		7.6E-03
09	1532	1536	1539				C4.4		1.3E-03	15	0445	0449	0500	N18	E57	SF	C3.9	8766	3.1E-03
09	1554	1601	1606	N11	E11	SF	C4.3		2.5E-03	15	0825	0841	0855	S13	E29	2N	M2.9	8765	3.6E-02
09	1619	1622	1627				C4.6	8760	1.9E-03	15	1307	1317	1325				C4.6		4.1E-03
09	1942	2009	2058	N10	E53	1F	M1.1	8759	4.0E-02	15	1601	1619	1639	S09	E18	SF	C4.4	8765	9.2E-03
										15	1710	1714	1716	S15	E12	1N	C8.9	8763	2.0E-03
										15	1845	1856	1901	S13	E18	1F	C5.5	8765	4.0E-03
										15	2303	2323	2345	S12	E18	SF	C5.8	8765	1.3E-02

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

59
Nov 99

November 1999

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/ USAF		
								Region	Flux	
16	0200	0203	0210				C2.8		1.4E-03	
16	0236	0246	0254	N17	E38	1B	M3.8	8766	2.8E-02	
16	0405	0410	0413	N12	W74	SN	M3.0	8760	7.5E-03	
16	0447	0512	0545	N18	E43	SF	M1.8	8766	5.2E-02	
16	0606	0710	0739	S14	E10	1N	M2.3	8765	1.0E-01	
16	0915	0923	0928	N15	E12	SN	M1.0	8768	7.0E-03	
16	1003	1035	1050				C9.4		2.0E-02	
16	1347	1411	1436	S09	E06	1N	M1.4	8765	2.9E-02	
16	1541	1603	1613	S09	E05	SF	C5.3	8765	9.0E-03	
16	1627	1651	1702	S09	E05	SF	C6.8	8765	1.2E-02	
16	2118	2124	2143	S11	E08	1N	M2.0	8765	2.4E-02	
16	2331	2335	2338	S14	W04	SN	C3.8	8765	1.4E-03	
17	0202	0208	0222	S09	W01	SF	C3.1	8765	3.2E-03	
17	0236	0241	0246	S15	W05	SF	C2.8	8765	1.5E-03	
17	0550	0602	0619	S14	W01	SF	C3.0	8765	4.8E-03	
17	0844	0849	0851	S17	E74	SF	C3.2	8769	1.2E-03	
17	0930	0938	0947	S15	W02	1N	C7.0	8765	5.3E-03	
17	0947	0957	1002	N17	E21	2B	M7.4	8766	4.0E-02	
17	1147	1154	1200				C4.6		3.0E-03	
17	1205	1224	1243				C5.7		1.1E-02	
17	1322	1333	1348				C7.8		1.0E-02	
17	1557	1602	1610	S11	W03	SF	C3.0	8765	2.0E-03	
17	1654	1659	1703				C2.8		1.3E-03	
17	1738	1743	1749	S15	E60	SF	C9.2	8769	4.3E-03	
17	2012	2018	2027	S15	E70	SF	C3.8		2.9E-03	
18	0142	0149	0154	S17	E55	1F	M1.4	8771	6.7E-03	
18	0755	0807	0823	N13	W60	SF	C7.5	8759	9.4E-03	
18	1710	1714	1717	S11	W14	SF	C2.7	8765	9.6E-04	
18	1846	1852	1857	S14	W51	SF	C3.5	8770	1.7E-03	
18	1857	1903	1906	S11	W14	1F	C8.3	8765	2.8E-03	
18	2205	2210	2229				C5.1		5.9E-03	
19	0007	0011	0013				C2.1		6.5E-04	
19	0737	0745	0838	N18	W24	1N	C2.1	8768	6.8E-03	
19	1047	1052	1100				C1.9		1.4E-03	
19	1501	1505	1508	S11	W26	SF	C1.9	8765	7.5E-04	
19	1558	1601	1604	S16	E38	SF	C1.9	8771	6.0E-04	
20	0450	0501	0517				C1.9	8768	2.8E-03	
20	0636	0640	0649				C1.9		1.4E-03	
20	1143	1148	1156				C2.1		1.4E-03	
20	1231	1234	1239				C1.8		7.7E-04	
20	1922	1937	2005				C3.4		7.5E-03	
20	2217	2235	2251	S15	E19	2B	M3.2	8771	3.9E-02	
21	0007	0014	0018	S09	W53	1N	M1.3	8765	6.2E-03	
21	0801	0805	0810	N15	W55	SF	C4.2	8765	1.9E-03	
21	0822	0829	0839	S17	E14	1N	C6.0	8771	5.1E-03	
21	1003	1017	1024	S15	W53	SN	M2.2	8765	1.7E-02	
21	1810	1820	1825	S15	W56	2N	M3.4	8765	1.9E-02	
22	0213	0217	0220	S09	W67	SN	C3.2	8765	1.1E-03	
22	0253	0258	0304				C2.9		1.6E-03	
22	1210	1217	1228	S16	W75	SF	C8.9	8765	6.8E-03	
22	1659	1702	1707	S18	W03	SF	C1.6	8771	7.0E-04	
22	1716	1723	1726	S27	E01	SF	C3.9	8776	1.6E-03	
22	1940	1950	1955	S15	E54	SF	C3.5	8778	2.3E-03	
22	2152	2155	2158	S16	W05	SF	C1.7	8771	5.5E-04	
23	0401	0405	0410	S16	W16	SF	C2.0	8771	8.8E-04	
23	0613	0625	0633				C2.0	8771	2.0E-03	
23	1405	1410	1418				C1.8		1.2E-03	
23	2046	2051	2055				C1.3		6.3E-04	
23	2212	2215	2221	S15	W25	SF	C1.6	8771	8.2E-04	
24	0104	0111	0116	S15	E37	SF	C2.5	8778	1.6E-03	
24	0632	0635	0640	S19	W33	SF	C1.5	8771	6.6E-04	
24	0854	0859	0907				C1.6		1.1E-03	
24	0919	0924	0927				C7.2		2.0E-03	
24	1036	1044	1102				C1.9		2.7E-03	
24	1206	1222	1236				C9.6		1.1E-02	
24	1504	1508	1511	S15	E30	SF	C1.6	8778	6.2E-04	
24	1716	1721	1743	S16	E28	SF	C1.6	8778	2.2E-03	
24	1843	1930	1943				C6.6	8771	1.3E-02	
24	2152	2156	2158	S13	E20	1B	M2.2	8778	3.2E-03	
24	2233	2249	2323				C4.3	8771	1.0E-02	
24	2327	2337	2344	S19	W43	SF	M3.0	8771	2.0E-02	
25	0559	0613	0629	S19	W46	SF	C1.6	8771	2.6E-03	
25	0641	0648	0650	S12	E20	1N	C5.2	8778	1.7E-03	
25	0731	0734	0739				C1.4		5.8E-04	
25	0822	0826	0828	S13	E15	SF	C3.2	8778	8.0E-04	
25	1008	1027	1038	S15	E15	SF	C1.9	8778	2.8E-03	
25	1519	1527	1536	S13	W45	SF	C1.1	8771	1.1E-03	
25	1712	1717	1725	S16	W45	1F	C7.4	8771	3.8E-03	
25	1839	1845	1851	S19	W53	SF	C1.6	8771	1.1E-03	
25	1859	1919	1929	S15	W48	2N	M2.0	8771	2.1E-02	
25	2341	2344	2347	S12	E11	SF	C1.6	8778	5.2E-04	
26	0110	0123	0138				M5.7	8771	4.9E-02	
26	0350	0400	0414	S19	W58	2B	M1.9	8771	1.7E-02	
26	0553	0558	0621	S19	W59	SN	C2.8	8771	3.6E-03	
26	0657	0705	0725	S12	E07	SF	C3.9	8778	5.3E-03	
26	0848	0906	0920	S14	W55	SF	C5.0	8771	6.6E-03	
26	1057	1103	1113	S19	W61	SF	C2.6	8771	2.3E-03	
26	1338	1343	1408	S15	W59	2N	M6.0	8778	6.6E-02	
26	1740	1805	1818	S12	W10	SF	C2.3	8778	4.4E-03	
26	1939	1947	1954	S14	W03	SF	C2.0	8778	1.7E-03	
26	2059	2103	2108	S15	W60	SF	C1.4	8771	7.4E-04	
26	2148	2215	2221	S19	W68	SF	C3.1	8771	2.4E-03	
27	0019	0044	0053				C7.8	8771	8.9E-03	
27	0201	0206	0212	S14	W63	1N	C7.2	8771	2.9E-03	
27	0236	0301	0312	S19	W71	1N	M2.8	8771	3.8E-02	
27	0450	0508	0543				C9.9	8778	2.2E-02	
27	0452	0457	0508	S12	W15	1N	C5.6	8778	5.4E-03	
27	0543	0549	0558	S14	W66	1N	M1.2	8771	8.9E-03	
27	0745	0748	0750	S12	W62	SF	C2.3	8771	6.1E-04	
27	0953	1012	1018				C3.0		4.0E-03	
27	1111	1122	1138	S15	W66	SF	C2.8	8771	3.7E-03	
27	1205	1212	1216	S15	W68	2B	X1.4	8771	4.6E-02	
27	1834	1837	1839				C1.5		3.7E-04	
27	1939	1943	1949				C1.2		7.0E-04	
27	2237	2240	2242	S12	W61	SF	C2.1	8773	5.3E-04	
28	0047	0102	0112	S19	W83	SF	C2.8	8771	3.4E-03	
28	0126	0146	0200				M3.5	8771	3.9E-02	
28	0251	0256	0302				C4.7		2.7E-03	
28	0549	0557	0607	S15	W81	SF	M1.1	8771	9.9E-03	
28	1036	1039	1045				C2.7		1.3E-03	
28	1131	1136	1143				C3.4		2.0E-03	
28	1150	1153	1208	S16	W79	SF	C5.3	8771	4.5E-03	
28	1354	1359	1408				C4.1		3.1E-03	
28	1553	1558	1602				C2.8		1.4E-03	
28	1701	1705	1709	S13	W73	SF	C5.1	8771	2.1E-03	
28	1800	1917	1955				M1.6		7.9E-02	
29	0434	0438	0442	S14	W36	SF	C6.0	8778	2.5E-03	
29	0845	0852	0905				C4.3	8778	4.5E-03	
29	1101	1107	1117				C3.2		2.7E-03	
29	1409	1414	1418	S14	W84	SF	M1.1	8773	3.6E-03	
29	1628	1634	1638	S14	W90	SF	C6.6	8771	2.7E-03	

60
Nov 99

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

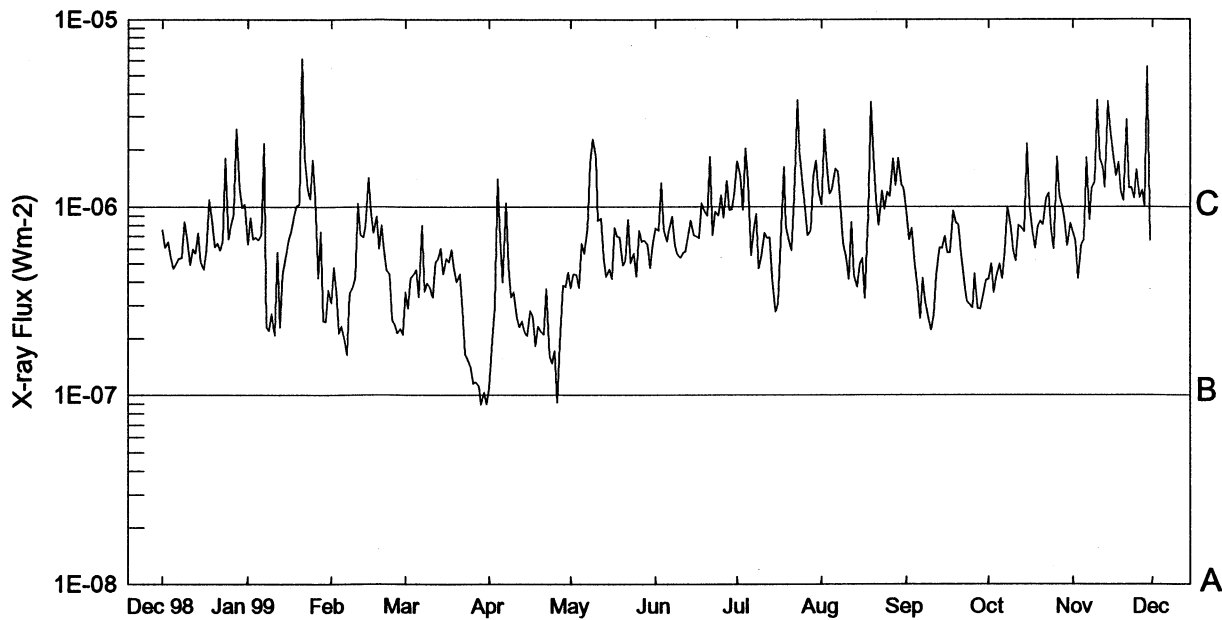
November 1999

NOAA/									
USAF									
Start	Max	End			Imp	NOAA/			
Day (UT)	(UT)	(UT)	Lat	CMD	Opt	Xray	Region	Flux	
30	0158	0201	0204			B9.7		3.2E-04	
30	0308	0313	0318			C1.6		7.7E-04	
30	0407	0414	0421	N10	W30	1F	C2.6 8782	1.7E-03	
30	0701	0706	0711	S16	W45	SF	C1.8 8778	8.1E-04	
30	0827	0830	0834	N10	W33	1F	C2.3 8782	7.1E-04	

NOAA/									
USAF									
Start	Max	End			Imp	NOAA/			
Day (UT)	(UT)	(UT)	Lat	CMD	Opt	Xray	Region	Flux	
30	1108	1113	1117			C1.2		5.9E-04	
30	1215	1225	1238			C1.1		1.4E-03	
30	1415	1429	1440	N10	W35	SF	C2.2 8782	2.5E-03	
30	1602	1608	1613	N11	W37	SF	C1.8 8782	8.7E-04	
30	1736	1744	1753	N11	W37	SF	C1.4 8782	1.2E-03	
30	2340	2345	2348			C2.7		7.9E-04	

Preliminary GOES Satellite Daily X-Ray Background Dec 1998 - Nov 1999

61
Nov 99



Day	Dec 98	Jan 99	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	B7.5	B6.3	B3.0	B3.5	B1.1	B3.7	B7.6	C1.7	C1.0	B9.3	B4.1	B7.3
2	B6.0	B8.7	B4.7	B2.8	B1.9	B4.3	B7.5	C1.4	C2.5	B6.6	B4.9	B6.5
3	B6.5	B6.7	B3.5	B4.1	B2.9	B4.3	C1.3	B9.5	C1.6	B7.7	B3.4	B4.1
4	B5.4	B6.8	B2.1	B4.3	C1.3	B3.7	B7.5	C2.0	C1.1	B4.9	B4.2	B6.3
5	B4.7	B6.6	B2.3	B4.6	B6.8	B6.3	B6.5	C1.3	C1.2	B3.7	B4.9	B6.7
6	B5.0	B7.0	B1.9	B3.3	B3.9	B5.6	B7.4	B5.5	C1.5	B2.5	B4.1	C1.8
7	B5.3	C2.1	B1.6	B8.0	C1.0	B7.6	B8.9	B7.4	C1.5	B4.1	B5.7	B8.5
8	B5.3	B2.3	B3.4	B3.5	B4.8	C1.6	B6.3	B9.1	C1.0	B3.1	C1.0	C1.2
9	B8.3	B2.2	B3.6	B3.9	B3.3	C2.2	B5.6	B4.6	B6.4	B2.5	B7.9	C1.3
10	B6.8	B2.7	B4.1	B3.7	B3.5	C1.8	B5.3	B5.4	B5.3	B2.2	B5.8	C3.6
11	B4.9	B2.0	C1.0	B3.3	B2.6	B8.4	B5.7	B7.2	B4.1	B2.6	B5.1	C1.8
12	B6.0	B5.7	B7.1	B5.0	B2.3	B8.7	B5.8	B6.8	B8.2	B4.3	B7.9	C1.6
13	B5.6	B2.2	B6.8	B5.2	B2.4	B5.4	B7.0	B6.8	B4.3	B6.0	B7.8	C1.2
14	B7.2	B4.4	B7.8	B6.0	B2.1	B4.2	B8.5	B4.1	B3.7	B6.0	B7.3	C3.6
15	B5.1	B5.5	C1.4	B4.3	B2.0	B4.6	B7.0	B2.7	B4.9	B6.9	C2.1	C2.5
16	B4.6	B6.6	B9.2	B5.3	B2.8	B4.1	B6.9	B3.0	B5.3	B5.7	C1.0	C1.9
17	B5.8	B7.4	B7.2	B5.0	B2.6	B7.7	B6.8	B6.5	B3.2	B5.7	B7.3	C1.4
18	C1.0	B9.2	B8.9	B5.9	B1.8	B6.9	C1.0	C1.6	B9.1	B9.5	B6.0	C1.7
19	B8.7	C1.0	B6.0	B4.6	B2.3	B6.8	B9.3	B7.9	C3.5	B8.2	B7.9	C1.1
20	B6.1	C1.0	B7.9	B3.9	B2.1	B4.8	B9.0	B6.6	C1.8	B8.0	B8.4	C1.0
21	B6.3	C6.1	B5.9	B4.4	B2.0	B5.1	C1.8	B5.8	C1.0	B5.7	B8.0	C2.8
22	B5.9	C1.8	B4.6	B2.8	B3.6	B8.5	B7.0	C1.1	B7.9	B4.0	C1.1	C1.2
23	B6.5	C1.2	B4.4	B1.6	B1.6	B5.0	B9.4	C3.6	C1.2	B3.1	C1.1	C1.2
24	C1.8	C1.0	B2.4	B1.5	B1.4	B5.6	B8.9	C1.9	B9.6	B3.0	B7.5	C1.1
25	B6.7	C1.7	B2.3	B1.4	B1.7	B4.2	C1.1	C1.3	C1.1	B2.9	B5.9	C1.5
26	B8.0	C1.1	B2.1	B1.1	A9.1	B7.5	B8.7	B9.8	C1.1	B4.4	C1.8	C1.1
27	B9.2	B4.2	B2.2	B1.1	B1.8	B6.5	C1.3	B7.0	C1.7	B2.8	C1.1	C1.2
28	C2.5	B7.4	B2.0	B1.1	B3.8	B6.6	B9.6	B7.4	C1.2	B2.8	C1.0	B9.9
29	C1.2	B2.4		A8.9	B3.7	B6.3	B9.6	C1.4	C1.8	B3.3	B8.4	C5.5
30	B9.9	B2.4		B1.0	B4.4	B4.7	C1.2	C1.7	C1.3	B4.0	B6.2	B6.5
31	C1.0	B3.6		A8.9		B6.3		C1.1	C1.2		B8.1	

62
Nov 99

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 1999

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
06	DSD	1003U	1017U	N22	E37	11	9.3	1	03		9	V	KHAR		
06	BSL	1005U	1050D	N13	E90	11	13.2	1	02	9	9	V	KHAR		
06	DSF	2205U	1207U	N47	W11	11	6.0		06	0	0	E	RAMY		
06	BSL	2300	0000	N08	E90	11	13.7			9	9	E	LEAR	8759	Flare Associated
06	BSL	2300	2331	N08	E90	11	13.7			9	9	E	LEAR	8759	Flare Associated
13	DSF	1356U	1719U	S13	E40	11	16.6		05	9	9	E	RAMY	8763	
14	DSF	1006U	2210U	N41	E29	11	16.8	3	22	0	0	E	LEAR		
14	DSF	1845	2115U	N44	E32	11	17.4	3	24	0	0	E	HOLL		
17	ADF	0928U	1000D	N09	W58	11	13.0	1	04	9	9	V	KHAR		
17	EPL	2020	2048	S19	E90	11	24.7	3		9	9	E	HOLL		Flare Associated
19	DSF	1007U	2217U	S35	E26	11	21.5	3	12	0	0	E	LEAR		
20	DSF	1927	2027U	N16	W41	11	17.7	3	09	9	9	E	RAMY	8768	
21	DSF	1923U	1953U	S17	E07	11	22.3	3	09	9	9	E	RAMY	8771	Flare Associated
24	EPL	1731E	1756	N45	W90	11	17.2	3		8	8	E	RAMY		
24	EPL	1735E	1801D	N46	W90	11	17.2	3		7	6	E	HOLL		
26	DSF	1012U	2240U	S55	W11	11	25.5	2	35	0	0	E	LEAR		
26	DSF	1751	1805	S11	W08	11	26.1	3	07	9	9	E	RAMY	8778	Flare Associated
30	DSF	1615U	1822U	N12	E17	12	1.9	2	09	8	8	E	RAMY		

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.

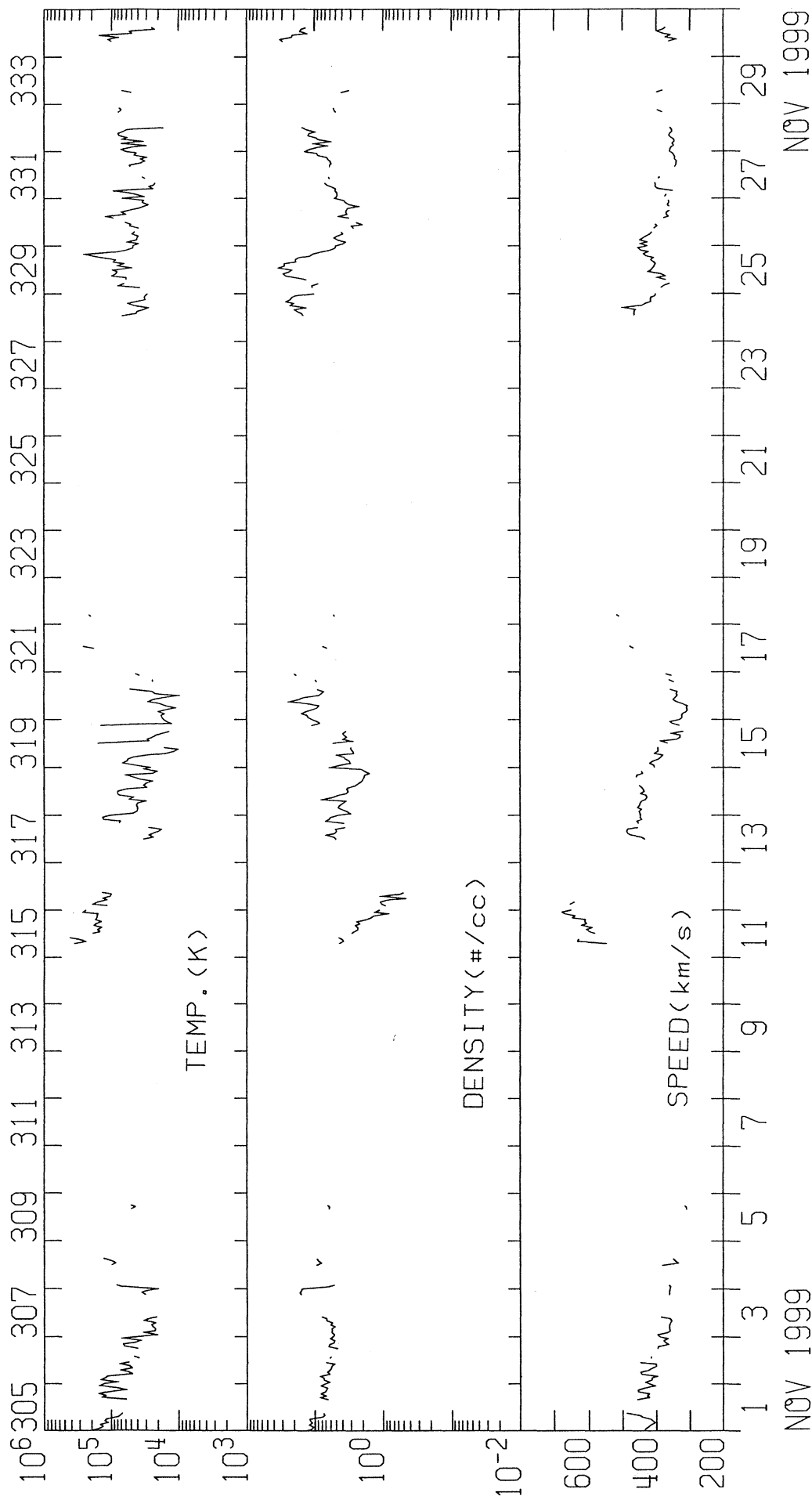
Observation Type: C= Cinematographic, E= Electronic, P= Photographic, V= Visual.

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.

MIT/CSR
IMP 8 PLASMA PARAMETERS

ONE-HOUR AVERAGES

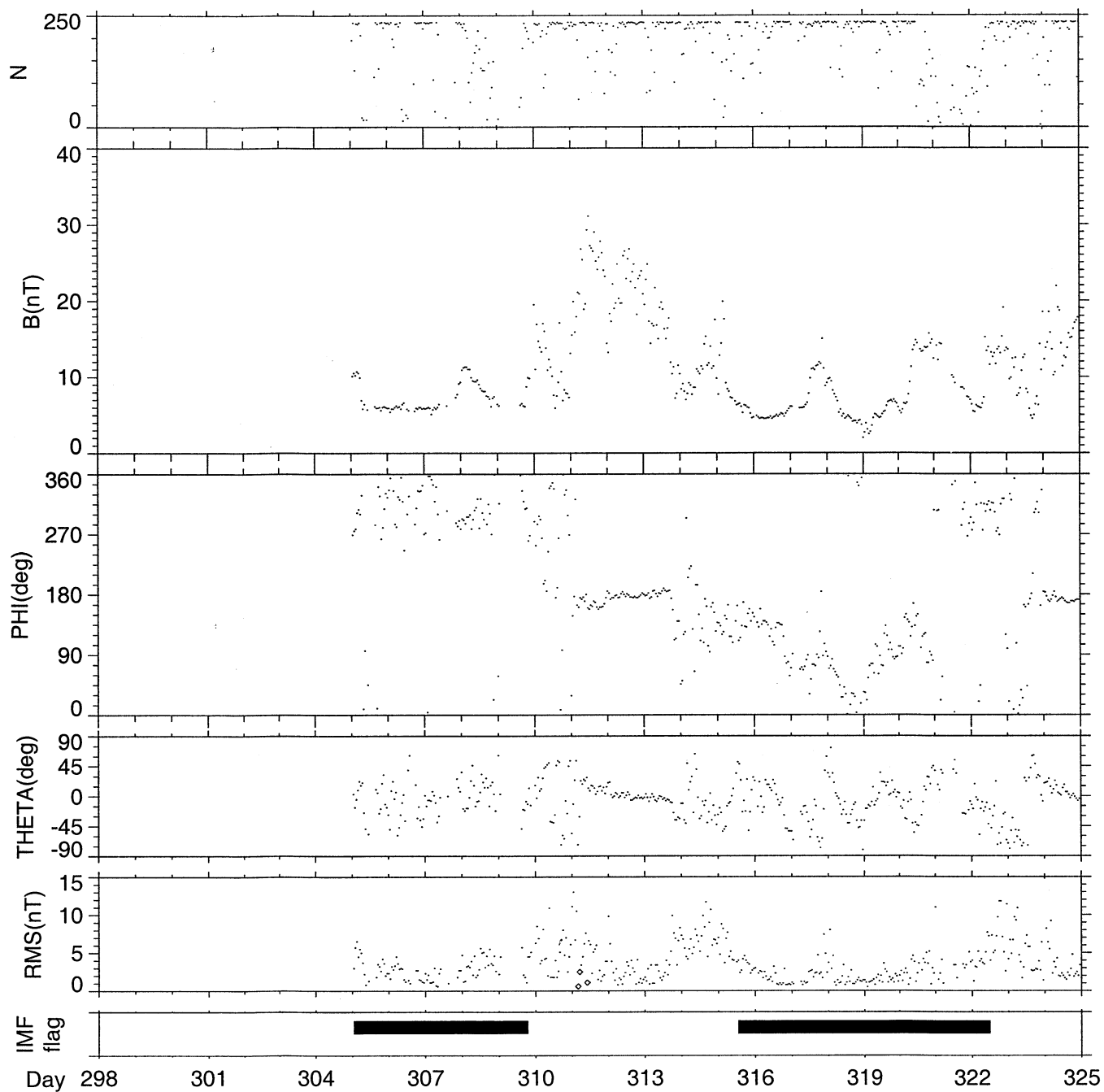
63
Nov 99

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages

(c) DOY 305 - 325

November 1 1999 - November 21 1999



Generation Date : Fri Jan 21 14:09:00 2000

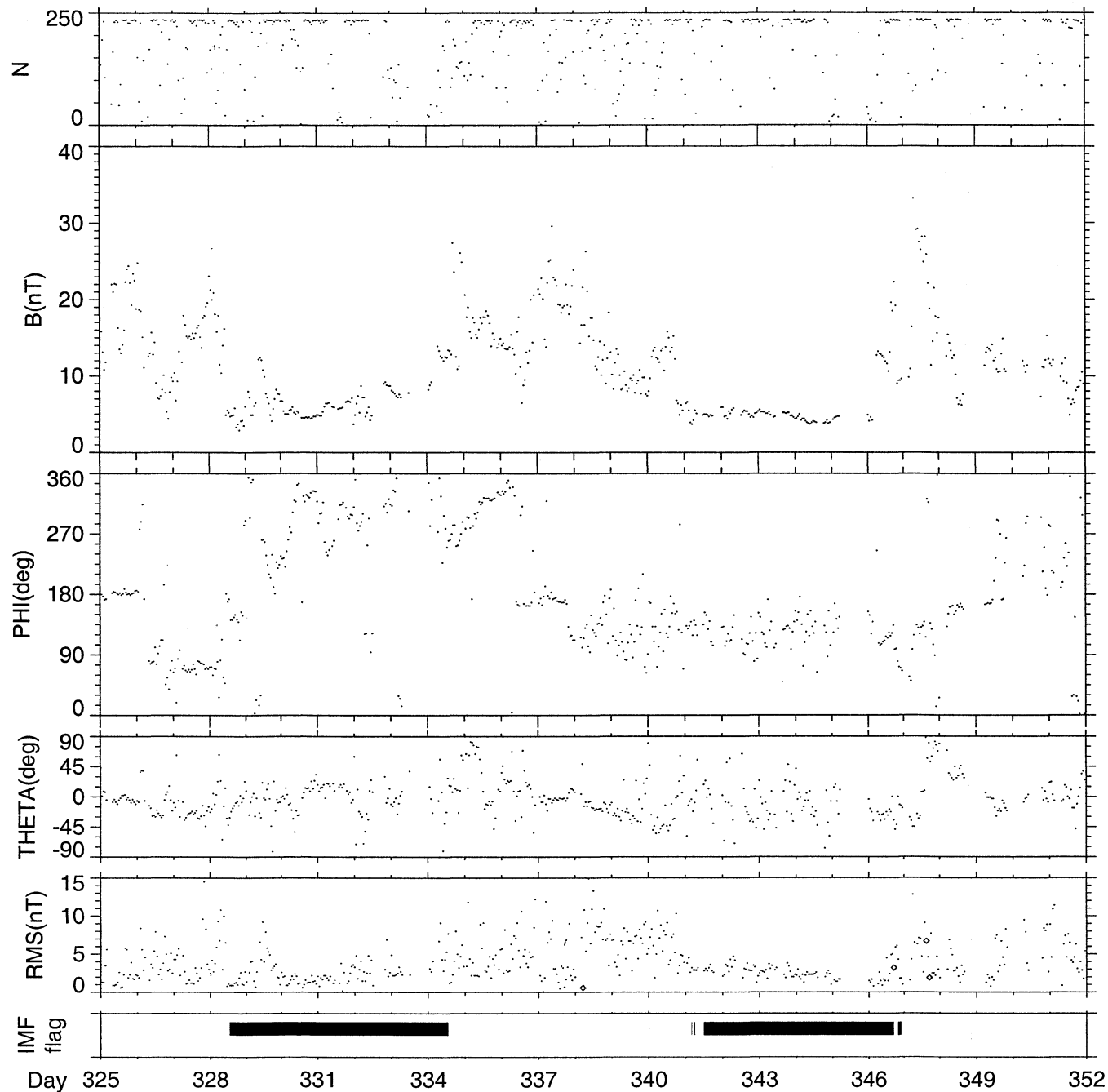
NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages

(c) DOY 325 - 352

November 21 1999 - December 18 1999



Generation Date : Fri Jan 21 14:09:17 2000

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