

U.S. DEPARTMENT OF COMMERCE

Robert A. Mosbacher, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

William E. Evans, Under Secretary for Oceans and Atmosphere

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Thomas N. Pyke, Jr., Assistant Administrator

MAY 1989 NUMBER 537 - Part II

Solar-Geophysical Data comprehensive reports

Data for November 1988

International Standard Serial Number: 0038-0911

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

NATIONAL GEOPHYSICAL DATA CENTER

Michael A. Chinnery, Director

Boulder, Colorado

Subscription information is on the inside back cover.

S O L A R - G E O P H Y S I C A L D A T A

NUMBER 537

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Joe H. Allen
Solar-Terrestrial Physics Division

Staff: Daniel C. Wilkinson
Carol Weathers
John A. McKinnon

C O N T E N T S

PART I (PROMPT REPORTS)

	Page
DETAILED INDEX FOR 1988-1989	2
DATA FOR APRIL 1989.	3- 33
DATA FOR MARCH 1989.	35-140
LATE DATA.141-146
H-alpha Solar Synoptic Charts 1811-1812 Jan-Feb 89	
Stanford Source Surface Magnetic Field Synoptic Charts 1811-1812 Jan-Feb 89	

PART II (COMPREHENSIVE REPORTS)

	Page
DETAILED INDEX FOR 1988 and 1989	2
DATA FOR NOVEMBER 1988	3-81
MISCELLANEOUS DATA	83-85
Meudon Carte Synoptique Sep 88	

C O N T E N T S

Comprehensive Reports DATA FOR NOVEMBER 1988 Number 537 Part II

	Page
MEUDON CARTE SYNOPTIQUE (Unavailable at time of publication.)	
Active Regions and Filaments	
Synoptic Solar Maps	
SOLAR FLARES	
H-alpha Solar Flare Groups.	4-27
Intervals of No Flare Patrol Observation.	28
Number of Solar Flares August 1966-present.	29
SOLAR RADIO BURSTS AT FIXED FREQUENCIES.	30-61
INTERPLANETARY SOLAR PARTICLES AND PLASMA (Unavailable at time of publication.)	
SOLAR X-RAY RADIATION FROM GOES SATELLITE Graphs	62-66
Preliminary Event List.	67-68
Preliminary Daily Average Background.	69
MASS EJECTIONS FROM THE SUN.	70-71
ACTIVE PROMINENCES AND FILAMENTS	72-81
SOLAR IRRADIANCE (Unavailable at time of publication.)	

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Start Day (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
														Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0085	06	1026*	1030*	1120	S16	W37	5212	11	3.6	54	SN			151	2.7	F	
	KANZ	06 1026	1030	1053	S14	W39	5212	11	3.5	27	SN	2	C				
	CATA	06 1026	1041	1041D	S16	W41	5212	11	3.3	15D	1B	1	C	1041	169	2.5	
	ATHN	06 1030E	1034	1040D	S12	W35	5212	11	3.8	10D	1N	2	V	1034	223	3.0	
	KANZ	06 1045	1045	1049	S18	W37	5212	11	3.6	4	SN	2	C				
	CATA	06 1054E	1054	1054D	S16	W41	5212	11	3.3	4D	1N	1	C	1054	169	2.5	
	KANZ	06 1105	1109	1147	S16	W36	5212	11	3.7	42	SF	2	C				
	KANZ	06 1109	1113	1151	S18	W31	5212	11	4.1	42	SF	2	C				
	RAMY	06 1133E	1142U	1212D	S18	W38	5212	11	3.6	39D	SF	2	E		42		F
0086	06	14003	14071	1429	S21	W36	5212	11	3.8	29	SF			18			
	KANZ	06 1400	1408	1427	S20	W36	5212	11	3.8	27	SF	2	C				
	RAMY	06 1403	1407	1431	S22	W35	5212	11	3.9	28	SF	3	E		18		
0087	06	14381	14422	1448	N12	E08	5218	11	7.2	10	SF			14			
	HOLL	06 1438	1444	1448	N11	E08	5218	11	7.2	10	SF	3	E	13			
	RAMY	06 1439	1442	1448	N12	E07	5218	11	7.1	9	SF	3	E	16			
0088	HOLL	06 1727	1727	1751	S15	W43	5212	11	3.5	24	SF	4	E	14			
0089	06	1820	1823	1858	S20	W39	5212	11	3.8	38	2B M 4.9			280			F
	HOLL	06 1820	1823	1900	S20	W37	5212	11	3.9	40	2B M 4.9	4	E	298			F
	RAMY	06 1820	1828U	1857	S20	W41	5212	11	3.6	37	2B M 4.9	3	E	263			F
0090	06	18393	18437	1859	N11	E06	5218	11	7.2	20	SF			15			F
	RAMY	06 1839	1843	1903D	N11	E06	5218	11	7.2	24D	SF	3	E	19			F
	HOLL	06 1842	1850	1859	N11	E06	5218	11	7.2	17	SF	4	E	11			F
0091	HOLL	06 1906	1907	1920	N12	E05	5218	11	7.2	14	SF	4	E	10			F
0092	HOLL	06 2000	2001	2027	S22	W39	5212	11	3.8	27	SF	3	E	50			F
0093	HOLL	06 2006	2009	2017	N11	E04	5218	11	7.1	11	SF	3	E	16			
		06 2030		2036													No Flare Patrol
		06 2216		2217													No Flare Patrol
		06 2238		2239													No Flare Patrol
0094	VORO	06 2356	2358	2411	N13	E03	5218	11	7.2	15	SF	2	C	2358	116	1.2	DIJT
0095	VORO	07 0028	0030	0042	N11	E07	5218	11	7.5	14	SF	2	C	0030	72	0.7	DIJT
0096	07	0141	0144	0151	N10	E06	5218	11	7.5	10	SN			78			EIJT
	VORO	07 0141	0144	0151	N10	E06	5218	11	7.5	10	SF	2	C	0144	90	0.9	EIJT
	YUNN	07 0146E	0146U	0151	N11	E06	5218	11	7.5	5D	SN		P	0146	65	0.7	
0097	VORO	07 0221	0225	0237	N11	E05	5218	11	7.5	16	SF	2	C	0231	108	1.1	EIJT
0098	07	0309	0313	0330	N10	E04	5218	11	7.4	21	SN C 1.4			30			EF
	YUNN	07 0307E	0311U	0340D	N11	E05	5218	11	7.5	33D	SN		P	0311	33	0.3	
	LEAR	07 0309	0313	0320	N09	E05	5218	11	7.5	11	SF C 1.4	3	E	27			F
	MITK	07 0313E		0340	N10	E03	5218	11	7.3	27D	SB		C	0313			E
0099	07	0520	0522	0528	N11	E04	5218	11	7.5	8	SN			75			F
	TACH	07 0518E		0525	N13	E03	5218	11	7.4	7D	SB		V	120			F
	LEAR	07 0520	0522	0531	N09	E04	5218	11	7.5	11	SF	3	E	30			F
0100	07	1017	1024	1039	S22	W48	5212	11	3.7	22	SF C 1.3			63			
	SVTO	07 1017E	1018U	1025	S22	W48	5212	11	3.7	8D	SF C 1.3	1	E	63			
	KANZ	07 1017	1024	1053	S21	W47	5212	11	3.8	36	SF	2	C				
0101	07	11034	11053	1144	S20	W48	5212	11	3.8	41	1N M 3.0			275			EF
	RAMY	07 1103	1106	1129	S21	W51	5212	11	3.5	26	SF M 3.0	2	E	86			FE
	KANZ	07 1104	1107	1200	S19	W47	5212	11	3.9	56	1N	2	C				
	ATHN	07 1104E	1108	1132D	S21	W48	5212	11	3.8	28D	2N	2	V	1108	414	6.8	
	SVTO	07 1105E	1105	1105D	S17	W47	5212	11	3.9	28D	1N M 3.0	3	E	150			
	CATA	07 1107	1107	1113D	S23	W48	5212	11	3.8	6D	2B	1	C	1107	450	7.9	

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/ USAF			Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
						Lat	Cmd	Region						Mo	Day	Time (UT)	
0102		07	1218*	1222*	1244	N11	W00	5218	11	7.5	26	SF			16		F
	RAMY	07	1218	1222	1231	N11	W01	5218	11	7.4	13	SF	3	E	13		F
	KANZ	07	1222	1236	1251	N11	W00	5218	11	7.5	29	SF	2	C			
	RAMY	07	1233	1235	1249	N11	E00	5218	11	7.5	16	SF	3	E	19		F
0103		07	1750	17512	1800	N11	W03	5218	11	7.5	10	SF			18		F
	RAMY	07	1750	1751	1757	N11	W03	5218	11	7.5	7	SF	4	E	14		F
	HOLL	07	1750	1753	1803	N11	W03	5218	11	7.5	13	SF	4	E	23		F
0104	HOLL	07	1826	1827	1832	N12	W06	5218	11	7.3	6	SF	4	E	10		
0105	HOLL	07	2056	2057	2106	S19	W51	5212	11	4.0	10	SF	3	E	19		
0106	HOLL	07	2157	2202	2213	N10	W09	5218	11	7.2	16	SF	3	E	13		
		08	1213		1222	No Flare Patrol											
0107		08	1229	1232*	1414	N17	W07	5222	11	8.0	105	2N C 3.0			648	10.6	F
	CATA	08	1225E	1232	1242D	N18	W07	5222	11	8.0	17D	2B	2	C	1232	1012	10.6
	RAMY	08	1228E	1248U	1414	N16	W07	5222	11	8.0	106D	2F C 3.0	3	E	283		F
	KANZ	08	1229	1250	1439D	N18	W07	5222	11	8.0	130D	2F	2	C			
0108	RAMY	08	1613	1616	1628	N31	W69	5223	11	3.2	15	SF	4	E	17		
0109		08	1619	1621	1630	S24	W64	5213	11	3.7	11	SF C 1.3			80		F
	RAMY	08	1619	1621	1630	S25	W64	5213	11	3.7	11	SF C 1.3	4	E	69		F
	HOLL	08	1622E	1622U	1633D	S24	W65	5213	11	3.7	11D	SF C 1.3	1	E	92		F
0110	RAMY	08	1650	1655	1701	N31	W72	5223	11	3.0	11	SF	4	E	12		
		08	2137		2144	No Flare Patrol											
0111	LEAR	09	0043	0051	0113	N13	W19	5218	11	7.6	30	SF	3	E	19		F
0112		09	0157*	0215	0229	N14	W21	5218	11	7.5	32	SN C 4.3			95	2.4	F
	YUNN	09	0157	0215	0229	N14	W21	5218	11	7.5	32	1B		C	212	2.4	
	LEAR	09	0210	0215	0229	N13	W20	5218	11	7.6	19	SF C 4.3	3	E	43		F
	PALE	09	0213E	0213U	0236D	N14	W21	5218	11	7.5	23D	SF C 4.3	3	E	31		
0113	MITK	09	0436	0436	0517	N13	W20	5218	11	7.7	41	SB		C	0436		E
0114		09	07534	07571	0814	N14	W22	5218	11	7.7	21	SN			22	0.4	
	YUNN	09	0753	0758	0812	N13	W22	5218	11	7.7	19	SN		C	33	0.4	
	LEAR	09	0757	0757	0816	N14	W22	5218	11	7.7	19	SF	3	E	10		
		09	1022		1104	No Flare Patrol											
0115	RAMY	09	1142	1151	1154	N33	E78	5229	11	15.7	12	SF	3	E	29		
0116		09	1203	1231	1252	N13	W28	5218	11	7.4	49	1B M 9.7			134	1.2	BDFS
	RAMY	09	1203	1231	1257	N13	W29	5218	11	7.3	54	1B M 9.7	4	E	162		FS
	ABST	09	1232E	1233U	1248	N13	W26	5218	11	7.6	16D	SN		P	1233	105	1.2
0117	RAMY	09	1418	1421	1422	S21	W76	5212	11	3.8	4	SF	3	E	15		
0118		09	1433	14341	1456	N14	W25	5218	11	7.7	23	SF			28		F
	HOLL	09	1433	1434	1455	N14	W25	5218	11	7.7	22	SF	3	E	25		F
	RAMY	09	1433	1435	1458	N14	W25	5218	11	7.7	25	SF	4	E	30		F
0119	RAMY	09	1524	1526	1530	S21	W78	5212	11	3.7	6	SF	4	E	11		
0120	RAMY	09	1527	1529	1536	N10	W32	5218	11	7.2	9	SF	4	E	10		F
0121		09	15568	16091	1621	S20	W76	5212	11	3.8	25	SF			20		
	RAMY	09	1556	1609	1621	S21	W78	5212	11	3.7	25	SF	3	E	21		
	HOLL	09	1604	1610	1621	S19	W74	5212	11	4.0	17	SF	3	E	20		
0122	HOLL	09	1731	1731	1735	N21	E52	5228	11	13.7	4	SF C 2.0	3	E	23		

10
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Dur Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0123	HOLL	09	1754	1754	1812	N28	W34	5216	11	7.1	18	SF		3	E		12		F
0124		09	18327	1840	1846	S22	W82	5212	11	3.5	14	SF					18		
	RAMY	09	1832	1840	1849	S22	W81	5212	11	3.5	17	SF		3	E		20		
	HOLL	09	1839	1840	1844	S21	W82	5212	11	3.5	5	SF		3	E		15		
0125	RAMY	09	1905	1905	1924	N13	W28	5218	11	7.7	19	SF		3	E		12		H
0126		09	1932	19344	2005	N13	W30	5218	11	7.5	33	2B M	4.5				337		F
	HOLL	09	1932	1934	2005	N13	W30	5218	11	7.5	33	1B M	4.5	4	E		241		F
	PALE	09	1935E	1936U	2007D	N13	W29	5218	11	7.6	32D	2N M	4.5	3	E		432		
	RAMY	09	1936E	1938	2010D	N13	W30	5218	11	7.5	34D	2B M	4.5	2	E		338		F
0127	HOLL	09	2033	2036	2044	N33	E68	5229	11	15.2	11	SF		4	E		21		
0128	HOLL	09	2134	2135	2146	N21	E50	5228	11	13.7	12	SF		4	E		19		
0129	PALE	09	2210	2211	2214	S18	W76	5212	11	4.1	4	SF		3	E		17		
0130	HOLL	09	2250	2257	2315	N12	W32	5218	11	7.5	25	SF		4	E		21		F
0131		10	0020	0021	0049	N14	W32	5218	11	7.6	29	SF					48	1.0	DFJT
	VORO	10	0020	0021	0039	N14	W34	5218	11	7.4	19	SF		2	C	0021	81	1.0	DJT
	PALE	10	0055E	0055U	0059	N14	W31	5218	11	7.7	4D	SF		3	E		15		F
0132	YUNN	10	0233	0238U	0241	N21	E46	5228	11	13.6	8	SN			P	0238	24	0.4	
0133	MITK	10	0251	0253	0304	N13	W33	5218	11	7.6	13	SN			C	0253			E
0134	LEAR	10	0533	0538	0552	N31	E62	5229	11	15.1	19	SN C	2.5	3	E		78		
0135		10	06022	0613	0640	N13	E87	5233	11	16.8	38	2B M	9.5				340		AFH
	MITK	10	0602	0613	0658D	N13	E89	5233	11	17.0	56D	3B			C	0613	370		FH
	PEKG	10	0603	0613	0635	N14	E90	5233	11	17.0	32	2B			C	0613	273		A
	LEAR	10	0604	0613	0645	N13	E83	5233	11	16.5	41	2N M	9.5	3	E		378		
0136	LEAR	10	0704	0705	0716	N30	E61	5229	11	15.1	12	SF		3	E		35		
0137		10	08442	08451	0850	N19	E42	5228	11	13.6	6	SF					21		
	LEAR	10	0844	0845	0849	N19	E42	5228	11	13.6	5	SF		3	E		21		
	KANZ	10	0846	0846	0850	N19	E43	5228	11	13.6	4	SF		2	C				
0138		10	0919	0922	0924	N13	W42	5218	11	7.2	5	SF							D
	KHAR	10	0915U		0923	N15	W42	5218	11	7.2	8U	SF		2	V	0920			D
	KANZ	10	0919	0922	0925	N11	W41	5218	11	7.3	6	SF		2	C				
0139	RAMY	10	1240	1247	1257	N31	E60	5229	11	15.3	17	SF		3	E		19		
0140	RAMY	10	1240	1249	1256	N19	E41	5228	11	13.6	16	SF		3	E		14		
0141	HOLL	10	1424	1438	1503	N33	E58	5229	11	15.2	39	SF		3	E		27		FH
0142	HOLL	10	1659	1702	1704	N32	E59	5229	11	15.4	5	SF		3	E		11		
0143		10	1800	1801	1823	N32	E60	5229	11	15.5	23	SF					14		
	HOLL	10	1800	1801	1823	N33	E62	5229	11	15.7	23	SF		3	E		17		
	RAMY	10	1807E	1819U	1829D	N31	E59	5229	11	15.4	22D	SF		3	E		11		
0144		10	1849	18571	1911	N32	E58	5229	11	15.4	22	SF					18		
	HOLL	10	1849	1858	1910	N32	E58	5229	11	15.4	21	SF		3	E		17		
	RAMY	10	1856E	1857	1912	N32	E59	5229	11	15.4	16D	SF		3	E		18		
0145	RAMY	10	1858	1901	1917	N14	W46	5218	11	7.3	19	SF		3	E		36		
0146	PALE	10	2211	2212	2214	N13	E77	5233	11	16.7	3	SF		3	E		10		
0147		10	2251	2252	2304	N22	E37	5228	11	13.8	13	SF C	1.6				35		F
	PALE	10	2251	2252	2300	N22	E37	5228	11	13.8	9	SF C	1.6	3	E		24		F
	HOLL	10	2251	2252	2308	N21	E37	5228	11	13.8	17	SF C	1.6	3	E		46		F

H α SOLAR FLARES

11
Nov 88

NOVEMBER 1988

Grp #	Sta	Start Day	Start (UT)	Max (UT)	End (UT)	Lat	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)		
0148		11	0111	01118	0124	N12 W50	5218	11	7.3	13	1N C 2.3		76	2.1	EFIJT	
	PALE	11	0111	0111	0120	N13 W48	5218	11	7.4	9	SF C 2.3	3 E	28		F	
	VORO	11	0119E	0119	0129	N12 W51	5218	11	7.2	10D	1N	2 C	0119	125	2.1	EIJT
0149	PALE	11	0121	0126	0129	N13 E61	5231	11	15.6	8	SF	3 E		13		
0150		11	04562	05103	0532	N15 W48	5218	11	7.6	36	1N		357	5.4	E	
	MITK	11	0456	0510	0600D	N16 W48	5218	11	7.6	64D	SN	C	0510		E	
	PEKG	11	0458	0513	0532	N14 W48	5218	11	7.6	34	2N	C	0514	357	5.4	E
0151	ABST	11	0703	0705	0708D	N32 E55	5229	11	15.6	5D	1N	C	0705	105	2.1	D
0152		11	08205	08246	0841	N32 E56	5229	11	15.8	21	SN		77	1.6	DK	
	KHAR	11	0820	0824	0844	N32 E56	5229	11	15.8	24	SN	2 P	0826	90	1.9	K
	KANZ	11	0825	0829	0840	N31 E55	5229	11	15.7	15	SF	2 C				
	BUCA	11	0825	0830	0840	N33 E57	5229	11	15.9	15	SN	C	0830	64	1.3	D
0153		11	08585	09003	0906	N16 W52	5218	11	7.4	8	SN		54	0.8	D	
	KHAR	11	0858	0901	0908	N17 W55	5218	11	7.2	10	SF	2 V	0901		D	
	BUCA	11	0900E	0900	0915D	N14 W50	5218	11	7.6	15D	SB	C	0900	54	0.8	D
	KANZ	11	0903	0903	0905	N16 W50	5218	11	7.6	2	SF	2 C				
0154	KHAR	11	0934	0935	0943	N17 W55	5218	11	7.2	9	SF	2 V	0935			D
0155	KANZ	11	0948	0952	1007	N13 W56	5218	11	7.2	19	SF	2 C				
0156	KHAR	11	1039	1041	1048	N14 E90	5235	11	18.2	9	SF	2 P	1041			DH
0157		11	13333	13354	1346	N12 W54	5218	11	7.5	13	SF			13		
	RAMY	11	1333	1335	1344	N12 W56	5218	11	7.3	11	SF	3 E		13		
	KANZ	11	1336	1339	1347	N11 W52	5218	11	7.6	11	SF	2 C				
0158		11	1456	1505	1520	N32 E54	5229	11	15.9	24	SF C 2.2		46			
	RAMY	11	1456	1505	1511	N31 E54	5229	11	15.9	15	SF C 2.2	3 E	39			
	HOLL	11	1458E	1504U	1528	N33 E53	5229	11	15.8	30D	SF C 2.2	3 E	53			
0159		11	15121	1516	1624	N12 W53	5218	11	7.6	72	1N C 6.6		180		EF	
	HOLL	11	1512	1516	1622	N12 W53	5218	11	7.6	70	1N C 6.6	3 E	202		FE	
	RAMY	11	1513	1516	1626	N13 W53	5218	11	7.6	73	1N C 6.6	3 E	158		FE	
0160		11	1659	1721	1736	N10 W54	5218	11	7.6	37	SF		34			
	RAMY	11	1659	1721	1736	N10 W54	5218	11	7.6	37	SF	3 E	39			
	HOLL	11	1717E	1720U	1722D	N09 W54	5218	11	7.7	5D	SF	3 E	30			
		11	1743		1745	No Flare Patrol										
		11	1837		1850	No Flare Patrol										
0161	PALE	11	2046	2047	2053	N13 W57	5218	11	7.6	7	SF C 3.0	3 E		18		
0162	PALE	11	2154	2159	2210	N11 W58	5218	11	7.5	16	SF C 2.4	3 E		31		
		11	2239		2249	No Flare Patrol										
0163	HOLL	11	2256E	2257U	2305	N32 E48	5229	11	15.7	9D	SF C 2.1	3 E		13		
0164		12	07222	0724	0737	N14 E79	5235	11	18.3	15	SF C 1.8		28			
	KANZ	12	0722	0724	0740	N15 E79	5235	11	18.3	18	SF	1 C				
	LEAR	12	0724	0724	0734	N14 E79	5235	11	18.3	10	SF C 1.8	3 E		28		
0165	ATHN	12	1145E	1153U	1157D	N13 E55	5233	11	16.6	12D	1N	2 V	1153	223	4.2	
0166		12	11484	1151	1232	N34 E44	5229	11	16.0	44	SN C 7.4		40		H	
	KANZ	12	1148	1151	1238	N34 E45	5229	11	16.1	50	SN	2 C				
	RAMY	12	1152	1155U	1225	N34 E43	5229	11	15.9	33	SF C 7.4	2 E		40		H
0167		12	11593	1203	1210	N12 W66	5218	11	7.5	11	SF		21			
	KANZ	12	1159	1203	1211	N13 W67	5218	11	7.4	12	SF	2 C				
	RAMY	12	1202	1203	1208	N11 W64	5218	11	7.7	6	SF	2 E		21		

12
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	NOAA/ USAF		CMP Mo	Dur Day	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks	
							Region	Cmd								Apparent (10-6 Disk)	Corr (Sq Deg)		
0168	RAMY	12	1339	1339	1344	N13	W67	5218	11	7.5	5	SF	3	E		30			
0169	RAMY	12	1344	1344	1355	N34	E42	5229	11	15.9	11	SF C	1.9	3	E		26		
0170	RAMY	12	1357	1400	1401	S25	W05	5236	11	12.2	4	SF		3	E		12		
0171	RAMY	12	1541	1541	1547	N34	E41	5229	11	15.9	6	SF C	1.1	3	E		17		
0172		12	16041	16081	1706	N35	E44	5229	11	16.2	62	2B M	5.1			265		F	
	RAMY	12	1604	1609	1706	N35	E45	5229	11	16.3	62	2B M	5.1	3	E		275	F	
	HOLL	12	1605	1608	1705	N35	E44	5229	11	16.2	60	2B M	5.1	3	E		255	F	
0173		12	1615	1616	1630	N12	W68	5218	11	7.5	15	SF					15		
	HOLL	12	1615	1616	1630	N12	W68	5218	11	7.5	15	SF		3	E		15		
	RAMY	12	1615	1616	1631	N12	W68	5218	11	7.5	16	SF		3	E		15		
0174		12	18342	18351	1844	N12	W69	5218	11	7.6	10	SF					12		
	RAMY	12	1834	1835	1844	N12	W69	5218	11	7.6	10	SF		3	E		12		
	HOLL	12	1836	1836	1845	N12	W69	5218	11	7.6	9	SF		3	E		11		
0175		12	18522	18542	1906	N34	E40	5229	11	16.0	14	SF					21	F	
	RAMY	12	1852	1854	1912	N33	E41	5229	11	16.0	20	SF		3	E		26	F	
	HOLL	12	1854	1856	1901	N34	E40	5229	11	16.0	7	SF		3	E		16		
0176		12	19415	19471	1959	N12	W70	5218	11	7.5	18	SN C	6.6				50		
	HOLL	12	1941	1948	1959	N12	W70	5218	11	7.5	18	SF C	6.6	3	E		36		
	PALE	12	1946	1947	1959	N13	W71	5218	11	7.5	13	SN C	6.6	3	E		63		
0177		12	19451	1946	1956	N34	E39	5229	11	15.9	11	SF					18		
	HOLL	12	1945	1946	1953	N34	E39	5229	11	15.9	8	SF		3	E		17		
	PALE	12	1946	1946	1959	N35	E39	5229	11	15.9	13	SF		3	E		20		
0178		12	2117	2117	2131	N34	E39	5229	11	16.0	14	SF C	5.5				24		
	HOLL	12	2117	2117	2130	N34	E39	5229	11	16.0	13	SF C	5.5	3	E		17		
	PALE	12	2117	2117	2132	N34	E39	5229	11	16.0	15	SF		3	E		32		
0179		12	2224*	22463	2312	N34	E42	5229	11	16.3	48	SF C	4.2				35	F	
	PALE	12	2224	2232U	2310D	N34	E42	5229	11	16.3	46D	SF		3	E		54	F	
	HOLL	12	2227	2249	2316	N34	E41	5229	11	16.2	49	SF C	4.2	3	E		28	F	
	LEAR	12	2235	2246	2307	N33	E44	5229	11	16.4	32	SF C	4.2	3	E		24	F	
0180		13	01273	01469	0230	N34	E37	5229	11	16.0	63	SN C	6.0				52	0.5	F
	PALE	13	0127	0146	0229	N35	E37	5229	11	16.0	62	SF C	6.0	3	E		89	F	
	LEAR	13	0130	0155	0232	N33	E37	5229	11	16.0	62	SF C	6.0	4	E		33	F	
	YUNN	13	0147E	0159U	0217D	N34	E38	5229	11	16.1	30D	SB		P	0159	33	0.5		
0181		13	01371	01422	0156	N12	W74	5218	11	7.5	19	SF					45	F	
	LEAR	13	0137	0144	0155	N12	W75	5218	11	7.4	18	SF		4	E		58	F	
	PALE	13	0138	0142	0156	N13	W74	5218	11	7.5	18	SF		3	E		32		
0182		13	02503	02556	0307	N32	E26	5229	11	15.2	17	SN					33	0.6	E
	YUNN	13	0250	0301	0312	N32	E26	5229	11	15.2	22	SN			C		49	0.6	E
	LEAR	13	0253	0255	0302	N31	E27	5229	11	15.2	9	SF		4	E		17		
0183		13	0450*	05334	0639	N34	E35	5229	11	16.0	109	1N M	7.0				320	5.4	E
	LEAR	13	0450	0537	0639	N33	E37	5229	11	16.1	109	1N M	7.0	4	E		213		
	ABST	13	0524E	0535	0537D	N34	E34	5229	11	15.9	13D	1N		P	0535	306	4.4	E	
	MITK	13	0525	0533	0630D	N36	E34	5229	11	15.9	65D	2N		C	0533	440	6.3	E	
0184	YUNN	13	0701E	0702	0722	N35	E33	5229	11	15.9	21D	SN		P		33	0.5		
0185		13	0716	0725	0728	N20	E86	5240	11	19.9	12	SN C	4.3				47		O
	YUNN	13	0716E	0716U	0724	N22	E89	5240	11	20.1	8D	SN		P	0716	24		O	
	LEAR	13	0716	0725	0731	N19	E84	5240	11	19.7	15	SF C	4.3	3	E		70		
0186	RAMY	13	1108	1123	1143	S24	W21	5227	11	11.8	35	SF		2	E		29		F
0187	RAMY	13	1113	1146	1158	N21	E80	5240	11	19.6	45	SF		2	E		36		

H α SOLAR FLARES

13
Nov 88

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0188	RAMY	13	1203	1211	1215	N11	W47	5234	11	10.0	12	SF	3	E		10			
0189	RAMY	13	1229	1229	1241	S22	W22	5227	11	11.8	12	SF	3	E		11			
0190	RAMY	13	1245	1317	1350	S22	W22	5227	11	11.8	65	SF C	8.8	3	E		51	F	
0191	RAMY	13	1306	1307	1312	N12	W48	5234	11	9.9	6	SF	3	E		17			
0192		13	1255*	1310*	1403	N31	E31	5229	11	16.0	68	SF C	6.7			41		EF	
	RAMY	13	1255	1310	1359	N32	E30	5229	11	15.9	64	SN		3	E	77		FE	
	SVTO	13	1311E	1312U	1406D	N29	E31	5229	11	16.0	55D	SF		2	E	35			
	RAMY	13	1403	1404	1407	N33	E32	5229	11	16.1	4	SF C	6.7	3	E	12			
0193	RAMY	13	1413	1414	1425	S24	W21	5227	11	12.0	12	SF	3	E		11		F	
0194	RAMY	13	1433	1434	1439	S24	W21	5227	11	12.0	6	SF	3	E		15		F	
0195	RAMY	13	1457	1524	1546	N21	E80	5240	11	19.7	49	1F C	4.5	3	E		110		
0196	RAMY	13	1603	1604	1614	N33	E29	5229	11	16.0	11	SF	3	E		12		F	
0197		13	1628	1633	1720	N31	E23	5229	11	15.5	52	1B M	3.4			195		F	
	HOLL	13	1628	1633	1722	N31	E24	5229	11	15.6	54	1B M	3.4	3	E	198		F	
	RAMY	13	1628	1635	1718	N31	E22	5229	11	15.4	50	1B M	3.4	3	E	192		F	
0198	RAMY	13	1647	1648	1656	N21	E80	5240	11	19.8	9	SF	3	E		16			
		13	2004		2021	No Flare Patrol													
0199	HOLL	13	2022E	2105	2231	N34	E27	5229	11	16.0	129D	1B M	3.8	4	E		124		FU
0200		13	2148E		2249	N33	E22	5229	11	15.6	61D	1F M	3.8			70		F	
	PALE	13	2148E		2246	N32	E20	5229	11	15.5	58D	1F M	3.8	3	E	102		F	
	LEAR	13	2154E		2252	N34	E25	5229	11	15.9	58D	SF M	3.8	1	E	38		F	
0201		13	22475	23077	2405	S24	W27	5227	11	11.9	78	1B M	3.2			132	2.4	EFIJTUZ	
	HOLL	13	2247	2307	2354D	S24	W27	5227	11	11.9	67D	1B M	3.2	4	E	127		F	
	LEAR	13	2252	2309	2405	S23	W27	5227	11	11.9	73	1N M	3.2	4	E	138		ZU	
	PALE	13	2253E	2308U	2308D	S23	W28	5227	11	11.8	15D	SB M	3.2	3	E	77			
	VORO	13	2303E	2314	2345U	S24	W27	5227	11	11.9	42U	1N		2	C	2315	188	2.4	EIJT
0202		14	01444	01505	0226	N23	E73	5240	11	19.7	42	1N M	2.3			203		F	
	MITK	14	0144	0152	0228	N23	E72	5240	11	19.6	44	2N		C	0152	310			
	LEAR	14	0146	0155	0230	N21	E72	5240	11	19.6	44	2N M	2.3	4	E	292			
	VORO	14	0147	0150	0220	N24	E75	5240	11	19.9	33	1N		V					
	PALE	14	0148	0155	0228	N22	E74	5240	11	19.8	40	1N M	2.3	3	E	193		F	
	YUNN	14	0211E	0211U	0220D	N23	E74	5240	11	19.8	9D	SN		P	0211	16			
0203		14	02424	0250	0256	S24	W31	5227	11	11.7	14	SF				40		F	
	LEAR	14	0242	0250	0259D	S25	W31	5227	11	11.7	17D	SF		4	E	54			
	PALE	14	0246	0250	0256	S23	W31	5227	11	11.7	10	SF		3	E	25		F	
0204		14	0429	0415*	0514	S23	W30	5227	11	11.9	45	1N M	1.3			266	5.8	E	
	LEAR	14	0323E	0415	0520	S23	W30	5227	11	11.8	117D	SN M	1.3	3	E	93			
	MITK	14	0429	0441	0508	S23	W30	5227	11	11.9	39	2N		C	0441	440	5.8	E	
0205	LEAR	14	0634	0644	0703	S23	W33	5227	11	11.7	29	SF C	3.8	4	E		29		
		14	0740		0758	No Flare Patrol													
		14	0802		0816	No Flare Patrol													
		14	0823		1010	No Flare Patrol													
		14	1012		1055	No Flare Patrol													
0206	RAMY	14	1150	1206	1244	S23	W35	5227	11	11.8	54	SF M	1.3	3	E		33		F
0207	RAMY	14	1159	1203	1241	N22	E68	5240	11	19.7	42	1N		3	E		210		EF
0208	RAMY	14	1210	1222	1319	N31	E11	5229	11	15.4	69	SF		3	E		24		F

14
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0209	RAMY	14	1346	1346	1354	N11	W62	5234	11	9.9	8	SF	3	E		12			
0210		14	1344	14372	1546	N32	E14	5229	11	15.7	122	2B M	2.2			278		FH	
	RAMY	14	1344	1437	1558	N31	E11	5229	11	15.4	134	2B M	2.2	3	E	267		F	
	HOLL	14	1404E	1439	1534	N34	E16	5229	11	15.9	90D	2B M	2.2	3	E	288		FH	
0211		14	14368	1445	1510	S23	W37	5227	11	11.7	34	SF				12		F	
	RAMY	14	1436	1445	1529	S23	W38	5227	11	11.7	53	SF		3	E	12		F	
	HOLL	14	1444	1445	1452	S23	W36	5227	11	11.8	8	SF		3	E	12			
0212	HOLL	14	1513	1514	1528	S23	W39	5227	11	11.6	15	SF		3	E		21		
0213	RAMY	14	1614	1614	1634D	S24	W42	5227	11	11.4	20D	SF		2	E		12		
0214		14	1644	16464	1720	N32	E10	5229	11	15.5	36	1B M	3.4			149		EF	
	RAMY	14	1640E	1646	1723	N31	E09	5229	11	15.4	43D	1B M	3.4	3	E	148		F	
	HOLL	14	1644	1650	1717	N32	E10	5229	11	15.5	33	1N M	3.4	3	E	150		FE	
0215	RAMY	14	1732	1734	1744	N30	E09	5229	11	15.4	12	SF		3	E		12		F
0216	PALE	14	1826	1835	1849	S21	W40	5227	11	11.7	23	SF		3	E		55		
0217		14	1944	1947	2024	N22	E62	5240	11	19.6	40	2B M	4.0			278		FH	
	PALE	14	1944	1947	2022	N21	E61	5240	11	19.5	38	2B M	4.0	3	E	253			
	HOLL	14	1944	1947	2025	N23	E64	5240	11	19.7	41	2B M	4.0	4	E	303		FH	
0218	HOLL	14	2026	2034	2058	N26	E79	5241	11	21.0	32	SF		4	E		48		F
0219	HOLL	14	2037	2043	2049	S23	W39	5227	11	11.8	12	SF C	5.0	4	E		14		F
0220		14	23331	2335*	2402	N32	E07	5229	11	15.5	29	SF				16		E	
	HOLL	14	2333	2335	2352D	N31	E06	5229	11	15.4	19D	SF		3	E	12			
	MITK	14	2333	2347	2423	N32	E07	5229	11	15.5	50	SF			C	2347		E	
	PALE	14	2334	2336	2342	N32	E07	5229	11	15.5	8	SF		3	E		21		
0221	PALE	14	2358	2404	2410	S25	W35	5236	11	12.3	12	SF		3	E		39		
0222		15	0036*	0036*	0048	N32	E05	5229	11	15.4	12	SF				18			
	PALE	15	0036	0036	0039	N32	E05	5229	11	15.4	3	SF		3	E	10			
	MITK	15	0037E		0047	N31	E04	5229	11	15.3	10D	SF			C	0037			
	PALE	15	0056	0056	0059	N34	E07	5229	11	15.6	3	SF		3	E		27		
0223	PALE	15	0129	0135	0143	S25	W36	5236	11	12.3	14	SF		3	E		46		
0224		15	02385	02484	0315	N32	E06	5229	11	15.6	37	1F C	4.4			256	4.2	EF	
	MITK	15	0238	0252	0335	N32	E05	5229	11	15.5	57	1F			C	0252	350	4.1	E
	YUNN	15	0241	0248	0305	N33	E07	5229	11	15.7	24	1F			C		358	4.3	F
	PALE	15	0243	0250	0304	N32	E05	5229	11	15.5	21	SF C	4.4	3	E		60		
0225	YUNN	15	0458	0507	0515	S25	W40	5236	11	12.1	17	SN			C		24	0.4	
0226	BUCA	15	0810E	0810	0828	S23	W40	5227	11	12.2	18D	SN			C	0810	54	0.8	D
0227	BUCA	15	0828	0829	0833	S20	W47	5227	11	11.7	5	SB			C	0829	43	0.7	D
0228		15	0850*	09053	0936	S23	W44	5227	11	12.0	46	SB				57	0.8	D	
	BUCA	15	0850	0905	0947	S22	W43	5227	11	12.1	57	SB			C	0905	64	1.0	D
	HPR	15	0902	0908	0925	S24	W46	5227	11	11.8	23	SN			C	0908	50	0.7	
0229	HPR	15	0918	0918	0925	N15	E28	5235	11	17.5	7	SF			C	0918	30	0.3	E
0230	HPR	15	0932	0945	0950	N32	E06	5229	11	15.9	18	SN			C	0945	50	0.5	E
0231	HPR	15	1019	1023	1028	N34	W02	5229	11	15.3	9	SN			C	1023	30	0.3	E
0232	HPR	15	1052	1053	1101	N36	E10	5229	11	16.2	9	SB			C	1053	100	1.2	E
0233	HPR	15	1055	1102	1120	N33	W03	5229	11	15.2	25	SB			C	1102	60	0.7	E

H α SOLAR FLARES

15
Nov 88

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0234		15	1127	1134	1150	N34	W03	5229	11	15.2	23	SF				40	0.7	EI
	HTPR	15	1127	1134	1150	N32	W02	5229	11	15.3	23	SF		C	1134	60	0.7	EI
	SVTO	15	1128E	1129U	1421D	N36	W04	5229	11	15.1	173D	SF	2	E		21		
0235		15	1334	1336*	1405	N20	W26	5228	11	13.6	31	SF				22	0.3	EI
	RAMY	15	1334	1336	1350	N20	W25	5228	11	13.6	16	SF	4	E		14		
	HTPR	15	1334	1402	1420	N20	W28	5228	11	13.4	46	SF		C	1402	30	0.3	EI
0236		15	14118	14203	1454	N19	E52	5240	11	19.5	43	SF				50	1.8	EI
	HTPR	15	1411	1420	1520	N20	E50	5240	11	19.4	69	SF		C	1420	120	1.8	EI
	RAMY	15	1417	1422	1441	N19	E53	5240	11	19.6	24	SF	4	E		14		
	HOLL	15	1419	1423	1440	N19	E53	5240	11	19.6	21	SF	2	E		16		
0237	HTPR	15	1418	1420	1433	S26	W56	5236	11	11.2	15	SF		C	1420	10	0.2	
0238		15	14288	1440	1452	S24	W51	5227	11	11.7	24	SN	C 2.7			95	1.9	EF
	HTPR	15	1428	1440	1450	S23	W52	5227	11	11.6	22	SB		C	1440	120	1.9	E
	RAMY	15	1434	1440	1500	S23	W51	5227	11	11.7	26	1F	C 2.7 3	E		101		F
	HOLL	15	1436	1440	1446	S25	W49	5227	11	11.8	10	SF	C 2.7 2	E		64		F
0239		15	1435*	15031	1543	N32	W03	5229	11	15.4	68	SF				44	0.8	EFI
	HTPR	15	1435	1503	1537	N32	W05	5229	11	15.2	62	SF		C	1503	70	0.8	EI
	RAMY	15	1459E	1528U	1604	N33	W03	5229	11	15.4	65D	SF	2	E		40		F
	HOLL	15	1501	1504	1529	N31	E00	5229	11	15.6	28	SF	2	E		23		F
0240	HOLL	15	1600	1619	1647	N26	E65	5241	11	20.7	47	SF	2	E		54		
0241		15	1611	1651	1717	N34	W01	5229	11	15.6	66	SF	C 3.3			32		
	HOLL	15	1611	1651	1717	N35	W01	5229	11	15.6	66	SF	C 3.3 3	E		44		
	RAMY	15	1633E	1633U	1636D	N32	W01	5229	11	15.6	3D	SF	C 3.3 1	E		20		
0242	HOLL	15	1638	1639	1649	N21	E51	5240	11	19.6	11	SF	3	E		16		
0243	HOLL	15	1656	1705	1709	S24	W49	5227	11	11.9	13	SF	3	E		20		
0244		15	17491	17511	1757	S24	W51	5227	11	11.8	8	SF	C 7.3			37		F
	HOLL	15	1749	1752	1758	S24	W50	5227	11	11.9	9	SF	C 7.3 3	E		49		F
	RAMY	15	1749	1752	1759D	S24	W52	5227	11	11.7	10D	SF	C 7.3 2	E		44		F
	PALE	15	1750	1751	1756	S24	W50	5227	11	11.9	6	SF	C 7.3 3	E		18		F
0245		15	1815	18321	1900	N32	W03	5229	11	15.5	45	SF				24		F
	PALE	15	1815	1832	1904	N32	W03	5229	11	15.5	49	SF	3	E		20		F
	HOLL	15	1815	1833	1857	N32	W03	5229	11	15.5	42	SF	3	E		28		F
0246	HOLL	15	1944	1951U	2018	N20	E50	5240	11	19.6	34	SF	C 2.0 3	E		46		F
0247	HOLL	15	1957	1957	2000	S22	W52	5227	11	11.8	3	SF	3	E		18		FH
0248		15	20343	2040	2101	S24	W52	5227	11	11.8	27	1N	C 7.0			86		FH
	PALE	15	2034	2039U	2105D	S24	W53	5227	11	11.8	31D	SN	C 7.0 3	E		68		FH
	HOLL	15	2037	2040	2101	S24	W51	5227	11	11.9	24	1N	C 7.0 3	E		104		FH
0249	HOLL	15	2043	2045	2058	N20	W30	5228	11	13.6	15	SF	3	E		27		F
0250	HOLL	15	2044	2047	2100	N20	E49	5240	11	19.6	16	SF	3	E		17		
0251	HOLL	15	2105	2106	2138	N33	E00	5229	11	15.9	33	SF	3	E		21		F
0252	HOLL	15	2154	2205	2220	S24	W52	5227	11	11.9	26	SF	C 1.9 3	E		50		FH
0253	PALE	15	2215	2223U	2318D	N36	W01	5229	11	15.8	63D	1N	M 2.0 3	E		142		F
0254	HOLL	15	2219	2233	2331	N19	E47	5240	11	19.5	72	SF	3	E		74		
0255	PALE	16	0039	0040	0048	N34	E04	5229	11	16.3	9	SF	3	E		16		
0256	PALE	16	0115	0116	0123	N34	E02	5229	11	16.2	8	SF	C 3.2 3	E		22		H
0257	YUNN	16	0159E	0159U	0205D	N08	W90		11	9.3	6D	SN		P	0159	24		

16
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Start Day	Max (UT)	End (UT)	Lat	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Area Measurement			Remarks	
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
		16 0216		0221		No Flare Patrol										
0258	YUNN	16 0232E	0232U	0235	N33 W12	5229	11	15.1	3D	SF		P	0232	49	0.6	E
		16 0303		0304		No Flare Patrol										
0259		16 03043	03053	0324	N20 E45	5240	11	19.6	20	1N C 4.4				116	2.5	D
	PEKG	16 0304	0305	0324	N20 E46	5240	11	19.6	20	1N		P	0306	168	2.5	D
	PALE	16 0307	0308	0317D	N20 E44	5240	11	19.5	10D	SF C 4.4	3	E		64		
0260	YUNN	16 0328E	0332U	0332D	N34 W03	5229	11	15.9	4D	SF		P	0332	163	2.0	F
0261		16 0414	04186	0459	N32 W14	5229	11	15.1	45	2N				480	5.8	DE
	PEKG	16 0414	0418	0459	N32 W14	5229	11	15.1	45	2N		P	0418	589	7.1	D
	MITK	16 0417E	0424	0426D	N32 W13	5229	11	15.1	9D	1F		C	0424	370	4.6	E
0262	PEKG	16 0503	0504	0529	S23 W58	5227	11	11.7	26	1N		P	0504	168	3.5	
0263	MITK	16 0534	0539	0547	N32 E00	5229	11	16.2	13	SF		C	0539			E
0264		16 0630E	0631	0655	N32 E00	5229	11	16.3	25D	2B				576	6.8	F
	PEKG	16 0630E	0631	0654	N32 W00	5229	11	16.3	24D	2N		C	0631	631	7.5	
	YUNN	16 0636E	0636U	0656	N33 E00	5229	11	16.3	20D	2B		P	0636	521	6.2	F
0265	YUNN	16 0638	0642	0647	S34 W44	5243	11	12.8	9	SN		C		24	0.4	D
0266		16 07591	0810	0824	N33 W04	5229	11	16.0	25	1B				186	2.2	EI
	HTPR	16 0723E		0800	N35 W08	5229	11	15.7	37D	SF		C	0731	80	1.0	E
	TACH	16 0759	0809U	0827	N34 W01	5229	11	16.2	28	1B		C	0809	239	2.9	E
	HTPR	16 0759	0810	0830	N32 W03	5229	11	16.1	31	1B		C	0810	200	2.3	EI
	CATA	16 0800	0810	0841	N32 W03	5229	11	16.1	41	1B	2	C	0810	225	2.7	
0267	HTPR	16 0828	0833	0845	N20 W35	5228	11	13.7	17	SF		C	0833	20	0.2	
0268	HTPR	16 0848	0849	0908	N35 W08	5229	11	15.7	20	SN		C	0849	100	1.2	EI
0269	HTPR	16 0849	0855	0912	N20 E40	5240	11	19.4	23	SB		C	0855	40	0.5	E
0270	HTPR	16 0902		0915D	S25 W48	5227	11	12.6	13D	SF		C	0906	20	0.3	
		16 0916		0918		No Flare Patrol										
0271	HTPR	16 0919E		0957	N26 E60	5241	11	21.0	38D	SF		C	0924	30	0.6	E
0272	HTPR	16 0920	0924	0928	N22 E43	5240	11	19.7	8	SF		C	0924	10	0.1	
0273	HTPR	16 0920	0928	1013	S23 W60	5227	11	11.8	53	SB		C	0928	80	1.6	EIK
0274	RAMY	16 1145	1152	1206D	S24 W61	5227	11	11.8	21D	1F C 7.8	2	E		105		
0275	HTPR	16 1204E		1227	N21 E38	5240	11	19.4	23D	SF		C	1207	20	0.2	E
0276	HTPR	16 1204E		1226	N32 W02	5229	11	16.3	22D	SF		C	1207	20	0.2	E
0277		16 1234	12376	1300	N32 W02	5229	11	16.4	26	SN				120	1.2	EK
	HTPR	16 1234	1237	1300	N32 W02	5229	11	16.4	26	SN		C	1237	120	1.2	EK
	HTPR	16 1234	1243	1300	N32 W02	5229	11	16.4	26	SN		C				
0278		16 1157*	13071	1330	N24 E52	5241	11	20.5	93	1N C 2.4				118	2.6	EF
	RAMY	16 1157	1307	1334	N23 E51	5241	11	20.4	97	SN C 2.4	2	E		77		FE
	HTPR	16 1306	1308	1326	N25 E53	5241	11	20.6	20	1N		C	1308	160	2.6	E
0279		16 13146	13322	1346	N15 W02	5231	11	16.4	32	SF				42	0.6	EF
	HTPR	16 1314	1332	1355	N15 W03	5231	11	16.3	41	SF		C	1332	60	0.6	E
	RAMY	16 1320	1334	1338	N15 W01	5231	11	16.5	18	SF	2	E		23		F
0280	RAMY	16 1320	1321	1329	N28 W13	5229	11	15.5	9	SF	2	E		16		F

H α SOLAR FLARES

17
Nov 88

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement		Remarks			
													Time (UT)	Apparent (10-6 Disk)		Corr (Sq Deg)		
0281		16	14146	14186	1435	S24	W63	5227	11	11.7	21	SF C 5.2		60	3.1	E		
	HOLL	16	1414	1418	1439	S25	W63	5227	11	11.7	25	SF C 5.2	2 E	19				
	RAMY	16	1420E	1421U	1437	S25	W63	5227	11	11.7	17D	SF C 5.2	2 E	22				
	HTPR	16	1420	1424	1430	S22	W64	5227	11	11.7	10	1N		C	1424	140	3.1	E
0282		16	14064	14352	1500	N32	W04	5229	11	16.3	54	1N M 1.1		93	1.4	EF		
	HTPR	16	1406		1529D	N31	W05	5229	11	16.2	83D	SB		C	1424	120	1.4	E
	HOLL	16	1410	1435	1458	N31	W04	5229	11	16.3	48	1N M 1.1	2 E	105		FE		
	RAMY	16	1411E	1437	1454D	N31	W02	5229	11	16.4	43D	1N M 1.1	2 E	103		FE		
	SVTO	16	1438E	1438U	1501	N36	W07	5229	11	16.0	23D	SF	2 E	45				
0283		16	1453	14582	1532	N20	E38	5240	11	19.5	39	1N M 2.7		226	3.6	EF		
	HTPR	16	1453	1458	1520	N22	E38	5240	11	19.5	27	1B		C	1458	280	3.6	E
	RAMY	16	1458E	1458	1539	N19	E39	5240	11	19.6	41D	1N M 2.7	2 E	168		FE		
	HOLL	16	1500E	1500	1537	N19	E37	5240	11	19.4	37D	1N M 2.7	4 E	231		FE		
0284		16	1458	1505	1524	S24	W63	5227	11	11.7	26	1F		76	2.2	E		
	HTPR	16	1458		1529D	S22	W64	5227	11	11.7	31D	1F		C	1506	100	2.2	E
	HOLL	16	1500E	1505	1529	S26	W62	5227	11	11.8	29D	1F	4 E	104				
	RAMY	16	1503E	1504U	1519	S24	W62	5227	11	11.8	16D	SF	2 E	25				
0285		16	1513	1515	1520	N31	W08	5229	11	16.0	7	SF		38	0.7	EF		
	HTPR	16	1513		1529D	N32	W06	5229	11	16.1	16D	SF		C	1516	60	0.7	E
	RAMY	16	1515E	1515	1520	N30	W11	5229	11	15.8	5D	SF	2 E	17		F		
0286	HOLL	16	1604	1605	1608	S24	W60	5227	11	12.0	4	SF	4 E	39				
0287		16	17123	17162	1735	N19	E36	5240	11	19.5	23	SN C 7.3		52		EF		
	HOLL	16	1712	1716	1738	N19	E36	5240	11	19.5	26	SN C 7.3	4 E	78		FE		
	PALE	16	1715	1718	1732	N19	E36	5240	11	19.5	17	SF C 7.3	3 E	26		F		
0288		16	1718*	1723*	1754	N34	W06	5229	11	16.2	36	SN M 1.1		60		EFH		
	HOLL	16	1718	1723	1728	N35	W06	5229	11	16.2	10	SF	4 E	12		H		
	PALE	16	1721	1723	1727	N35	W05	5229	11	16.3	6	SF	3 E	33		H		
	HOLL	16	1729	1734	1821	N31	W07	5229	11	16.2	52	SN M 1.1	4 E	97		FE		
	PALE	16	1731	1734	1820	N34	W08	5229	11	16.1	49	SN M 1.1	3 E	98		F		
0289	HOLL	16	1751	1752	1756	N23	W45	5242	11	13.3	5	SF	3 E	11				
0290		16	18321	1833	1836	N35	W06	5229	11	16.3	4	SF		18		H		
	PALE	16	1832	1833	1836	N35	W06	5229	11	16.3	4	SF	3 E	15		H		
	HOLL	16	1833	1833	1837	N35	W06	5229	11	16.3	4	SF	3 E	21				
0291		16	19091	19122	1922	N32	W20	5229	11	15.2	13	SF C 5.1		40				
	HOLL	16	1909	1912	1925	N32	W20	5229	11	15.2	16	SF C 5.1	3 E	48				
	PALE	16	1910	1914	1920	N32	W19	5229	11	15.3	10	SF C 5.1	3 E	33				
0292		16	19384	19421	2002	N19	E36	5240	11	19.6	24	SN		38				
	HOLL	16	1938	1942	2005	N19	E36	5240	11	19.6	27	SN	3 E	44				
	PALE	16	1942	1943	1958	N19	E37	5240	11	19.6	16	SF	3 E	32				
0293		16	1957	1959*	2041	N32	W06	5229	11	16.3	44	1B M 1.2		117		EF		
	HOLL	16	1957	1959	2041	N32	W06	5229	11	16.3	44	1B M 1.2	3 E	128		FE		
	PALE	16	1957	2011	2011D	N32	W06	5229	11	16.3	14D	1N M 1.2	3 E	106		F		
0294	HOLL	16	2030	2033	2044	N31	E11	5244	11	17.7	14	SF	3 E	23				
0295	HOLL	16	2049	2051	2101	N31	E11	5244	11	17.7	12	SF	3 E	13		F		
0296	HOLL	16	2118	2139	2156	S34	W54	5243	11	12.6	38	SF	3 E	25		FH		
0297	HOLL	16	2119	2120	2125	N21	W44	5228	11	13.5	6	SN	3 E	65		EF		
0298	HOLL	16	2139	2140	2222	N32	W17	5229	11	15.5	43	SB C 9.4	3 E	93		EF		
0299	HOLL	16	2154	2220	2232	N19	E34	5240	11	19.5	38	SF	3 E	20		F		
0300	HOLL	16	2209	2209	2212	S22	W68	5227	11	11.7	3	SF	3 E	19				

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Start Day (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/	CMP	Dur	Imp	Obs	Area Measurement	Corr	Remarks	
							USAF Region								Mo Day
0301	HOLL	16 2227	2237	2258	N32	W22	5229	11 15.2	31	SF	3 E	29		FU	
0302	HOLL	16 2234	2234	2253	N19	E33	5240	11 19.4	19	SF	3 E	12		F	
0303	HOLL	16 2306	2306	2312	S24	W65	5227	11 11.9	6	SF	3 E	12			
0304	HOLL	16 2312	2314	2326	N30	W17	5229	11 15.6	14	SF	3 E	19		F	
0305	HOLL	16 2336	2337	2342	N34	W11	5229	11 16.1	6	SF	2 E	16			
		16 2352		2400	No Flare Patrol										
		17 0000		0249	No Flare Patrol										
0306	LEAR	17 0434	0435	0440	S22	W72	5227	11 11.6	6	SF	3 E	13			
0307	LEAR	17 0556	0559	0613	S34	W54	5243	11 12.9	17	SF	3 E	45			
0308	LEAR	17 0616	0616	0621	N20	E28	5240	11 19.4	5	SF	3 E	15			
0309	LEAR	17 0541*	0555*	0736	N32	W18	5229	11 15.8	115	SN C 5.4		147	2.3	DEFR	
	LEAR	17 0541	0555	0653	N33	W22	5229	11 15.5	72	1F C 5.4	3 E	136		F	
	SVTO	17 0647E	0647U	0746	N33	W23	5229	11 15.4	590	SN C 8.0	3 E	85		F	
	KANZ	17 0723	0730	0742	N31	W13	5229	11 16.3	19	SF	1 C				
	PEKG	17 0724	0728	0740D	N31	W16	5229	11 16.0	160	1N	P	0733	336	4.1	D
	HTPR	17 0726E		0747	N32	W16	5229	11 16.0	210	SN	C	0733	130	1.5	E
	LEAR	17 0726	0727	0743	N33	W23	5229	11 15.5	17	SF C 8.0	3 E	59			
	CATA	17 0733E	0733	0743	N31	W17	5229	11 16.0	100	1B	2 C	0733	169	2.1	
	TACH	17 0737E		0745D	N34	W11	5229	11 16.4	80	SN	C	0737	117	1.4	ER
0310	HTPR	17 0827	0828	0837	N34	W18	5229	11 15.9	10	SF	C	0828	20	0.2	E
0311	HTPR	17 0857	0859	0900	N34	W18	5229	11 15.9	3	SF	C	0859	20	0.2	E
0312	SVTO	17 0937	0941	1028	S34	W59	5243	11 12.7	51	SF	3 E	41			
0313	HTPR	17 0950	0959	1027	N34	W17	5229	11 16.0	37	SN	C	0959	30	0.3	E
0314		17 10253	10323	1100	N16	W14	5231	11 16.4	35	SF		120	1.2	E	
	HTPR	17 1025	1035	1115	N15	W15	5231	11 16.3	50	SF	C	1035	120	1.2	E
	KANZ	17 1028	1032	1044	N16	W14	5231	11 16.4	16	SF	2 C				
0315	HTPR	17 1032	1107	1135	N32	W08	5244	11 16.8	63	SB	C	1121	100	1.1	EK
0316		17 11128	11212	1132	N32	W18	5229	11 16.0	20	SN		116	2.4		
	CATA	17 1112	1121	1147D	N31	W20	5229	11 15.9	35D	1B	2 C	1121	197	2.4	
	KANZ	17 1119	1123	1130	N32	W17	5229	11 16.1	11	SF	2 C				
	SVTO	17 1120	1122	1133	N34	W16	5229	11 16.2	13	SN	3 E	34			
0317		17 1202*	1213	1241	S34	W58	5243	11 12.9	39	SF		34			
	SVTO	17 1202	1213	1241	S35	W59	5243	11 12.8	39	SF	3 E	38			
	RAMY	17 1227	1232U	1250D	S34	W58	5243	11 12.9	23D	SF	2 E	29			
0318		17 1229	12302	1235	N24	W56	5242	11 13.2	6	SF		18			
	RAMY	17 1227E	1232	1239D	N24	W56	5242	11 13.2	12D	SF	2 E	21			
	SVTO	17 1229	1230	1235	N23	W56	5242	11 13.2	6	SF	3 E	15			
0319		17 12557	13033	1320	N32	W30	5229	11 15.2	25	SN		75	0.9	EF	
	HTPR	17 1255	1303	1318	N32	W30	5229	11 15.2	23	SB	C	1303	80	0.9	E
	SVTO	17 1301	1303	1325	N32	W32	5229	11 15.0	24	SN	3 E	70		F	
	KANZ	17 1302	1306	1318	N32	W29	5229	11 15.2	16	SF	2 C				
0320	SVTO	17 1326	1329	1345	S33	W59	5243	11 12.9	19	SF	3 E	19			
0321		17 1334*	13482	1444	N21	E27	5240	11 19.6	70	1N C 9.1		246	5.0	EF	
	HTPR	17 1334	1348	1442	N22	E27	5240	11 19.6	68	1B	C	1348	450	5.0	E
	KANZ	17 1340	1350	1425D	N20	E27	5240	11 19.6	45D	1N	2 C				
	SVTO	17 1345	1350	1354D	N24	E27	5240	11 19.6	90	2N C 9.1	3 E	263		F	
	HOLL	17 1358E	1400U	1445	N20	E27	5240	11 19.6	47D	1F C 9.1	2 E	245		F	
	RAMY	17 1427E	1427U	1432D	N19	E25	5240	11 19.5	50	SF	2 E	24			

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0322		17	1300*	14051	1426	N31	W16	5229	11	16.3	86	1N				117	2.9	EFV	
	RAMY	17	1300	1306U	1427D	N30	W14	5229	11	16.4	87D	SF	2	E		31			
	HOLL	17	1403E	1405U	1428	N30	W15	5229	11	16.4	25D	SN	2	E		40		F	
	SVTO	17	1403	1406U	1406D	N32	W18	5229	11	16.2	3D	1B	3	E		138		F	
	HTPR	17	1404	1405	1424	N31	W19	5229	11	16.1	20	1B		C	1405	260	2.9	EV	
	KANZ	17	1406	1406	1425D	N33	W15	5229	11	16.4	19D	1N	2	C					
0323		17	14234	14311	1446	N14	W26	5231	11	15.6	23	SF				34	0.5	E	
	HTPR	17	1423	1432	1453	N14	W27	5231	11	15.5	30	SF		C	1432	50	0.5	E	
	HOLL	17	1427	1431	1440	N13	W26	5231	11	15.6	13	SF	2	E		18			
0324	HTPR	17	1428	1433	1508	S22	W78	5227	11	11.6	40	SN		C	1433	30			
0325	HOLL	17	1518	1519	1525	N31	W26	5229	11	15.6	7	SF	3	E		12		F	
0326	HOLL	17	1534	1537	1555	N31	W21	5229	11	16.0	21	SF	3	E		36		F	
			17	1558		1731	No Flare Patrol												
0327	HOLL	17	1802	1832	1841	S34	W60	5243	11	13.0	39	SF	3	E		21			
0328		17	18042	1810	1834	N25	W58	5242	11	13.2	30	SF				40			
	HOLL	17	1804	1810	1857	N25	W57	5242	11	13.3	53	SF	3	E		70			
	PALE	17	1806	1810	1812	N25	W59	5242	11	13.2	6	SF	3	E		10			
0329	HOLL	17	1823	1835	1852	N31	W33	5229	11	15.2	29	SF C 3.2	3	E		73		EF	
0330	HOLL	17	1903	1903	1915	N23	E27	5240	11	19.9	12	SF	3	E		11			
0331	HOLL	17	2031	2032	2043	N14	W29	5231	11	15.7	12	SF	3	E		22		H	
0332	HOLL	17	2059	2131	2203	N19	E21	5240	11	19.5	64	SN	3	E		63		FH	
0333	HOLL	17	2128	2130	2146	N32	W25	5229	11	15.9	18	SF	3	E		39			
0334	HOLL	17	2302	2305	2317	N31	W33	5229	11	15.3	15	SF C 2.2	3	E		30		F	
			18	0019		0045	No Flare Patrol												
			18	0051		0054	No Flare Patrol												
0335	LEAR	18	0231	0241	0318	N29	W34	5229	11	15.4	47	SF	3	E		60			
0336	HTPR	18	0903	0904	0907	S20	W88	5227	11	11.6	4	SN		C	0904	20			
0337	HTPR	18	0905	0908	0915	N22	E17	5240	11	19.7	10	SF		C	0908	30	0.3		
0338	CATA	18	0932	0932	0932D	N29	W28	5229	11	16.2	10D	SN	2	C	0932	84	1.1		
0339		18	11093	11141	1128	N36	W28	5229	11	16.2	19	SB				57	0.9	E	
	HTPR	18	1109	1115	1128	N36	W26	5229	11	16.4	19	SB		C	1115	70	0.9	E	
	SVTO	18	1112	1114	1124D	N36	W30	5229	11	16.0	12D	SN	3	E		44			
0340	HTPR	18	1149	1151	1156	N30	W28	5229	11	16.3	7	SN		C	1151	60	0.7	E	
0341	HTPR	18	1210	1211	1215	N36	W30	5229	11	16.1	5	SF		C	1211	20	0.2	E	
			18	12358	12442	1253	N36	W34	5229	11	15.8	18	SF				20	0.4	E
			18	1235	1246	1257	N36	W32	5229	11	15.9	22	SF		C	1246	30	0.4	E
	18	1243	1244	1249	N35	W36	5229	11	15.6	6	SF	2	E		11				
0343		18	1400	1408	1428	N32	W44	5229	11	15.1	28	SN C 2.0				89	1.6	EF	
	HTPR	18	1400	1408	1427	N33	W43	5229	11	15.2	27	SN		C	1408	120	1.6	E	
	HOLL	18	1404E	1405U	1430	N32	W44	5229	11	15.1	26D	SN C 2.0	1	E		58		F	
0344	HTPR	18	1410	1412	1416	N36	W28	5229	11	16.3	6	SN		C	1412	40	0.5	E	
0345		18	1638	1702	1722	N26	E28	5241	11	20.9	44	SF C 1.6				44		F	
	HOLL	18	1638	1702	1722	N28	E30	5241	11	21.0	44	SF C 1.6	3	E		56		F	
	RAMY	18	1640E	1702U	1717D	N24	E26	5241	11	20.7	37D	SF C 1.6	2	E		32			

20
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Start 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)		
0346		18	1717	1724	1815	N20	E10	5240	11	19.5	58	1F C 3.1				79		FU	
	RAMY	18	1717	1719U	1810	N21	E11	5240	11	19.6	53	SF C 3.1	2	E		40		F	
	HOLL	18	1717	1724	1820	N19	E10	5240	11	19.5	63	1F C 3.1	3	E		118		UF	
0347		18	19431	1944	2020	N33	W48	5229	11	15.0	37	1N C 6.9				108		EF	
	RAMY	18	1943	1944	2026	N32	W47	5229	11	15.1	43	1N C 6.9	3	E		105		E	
	HOLL	18	1944	1944	2013	N34	W49	5229	11	14.9	29	1N C 6.9	3	E		110		FE	
0348	RAMY	18	2006	2007	2014	S35	W72	5243	11	13.1	8	SF		3	E		12		
0349	HOLL	18	2203	2205	2230	N23	E13	5240	11	19.9	27	SF		3	E		31		F
0350	LEAR	18	2317	2317	2321	N25	W70	5242	11	13.5	4	SF C 1.1	3	E		11			
0351	MITK	19	0416	0427	0435	N31	E18	5241	11	20.6	19	SN		C	0427				
0352	MITK	19	0636	0639	0648	N13	W25	5235	11	17.4	12	SN		C	0639			E	
0353	HTPR	19	0851E		0913	N26	E20	5241	11	20.9	22D	SF		C	0851	50	0.6	E	
0354		19	0851E	0905	0912	N30	W43	5229	11	16.0	21D	1B				90	1.3	E	
	HTPR	19	0851E		0915	N30	W45	5229	11	15.8	24D	SN		C	0906	40	0.5	E	
	CATA	19	0905E	0905	0910	N29	W41	5229	11	16.2	5D	1B	2	C	0905	141	2.1		
0355		19	0933*	0948*	1006	N32	W54	5229	11	15.1	33	SN				71	1.7	EFK	
	HTPR	19	0933	0948	1008	N32	W57	5229	11	14.9	35	SN		C	0948	40	0.8	EK	
	LEAR	19	0948	0951	0954	N33	W56	5229	11	15.0	6	SF	3	E		19			
	SVTO	19	0949	1001	1013	N30	W56	5229	11	15.0	24	SN	3	E		79			
	HTPR	19	0950	1001	1009	N34	W47	5229	11	15.7	19	SF		C	1001	30	0.4	E	
	CATA	19	0955E	1000	1000D	N30	W57	5229	11	14.9	5D	1B	2	C	1000	112	2.4		
	LEAR	19	1000	1001	1006	N34	W50	5229	11	15.4	6	SF	3	E		61		F	
	ATHN	19	1000E	1001U	1006	N35	W57	5229	11	14.8	6D	1N	2	V	1006	159	3.3		
0356	HTPR	19	1056	1104	1108	N30	W37	5244	11	16.5	12	SF		C	1104	20	0.3	E	
0357		19	11043	1115	1122	N27	E19	5241	11	20.9	18	SF				44	0.8	E	
	HTPR	19	1104	1115	1125	N28	E21	5241	11	21.1	21	SF		C	1115	70	0.8	E	
	SVTO	19	1107		1119	N26	E17	5241	11	20.8	12	SF	2	E		17			
0358	RAMY	19	1131	1131	1149	N21	E01	5240	11	19.5	18	SF		2	E		17		
0359	RAMY	19	1138	1147	1201	N31	W50	5229	11	15.5	23	SF		3	E		59		
0360	HTPR	19	1150	1203	1222	N23	E12	5241	11	20.4	32	SN		C	1203	40	0.4	E	
0361	RAMY	19	1204	1207	1218	N20	E03	5240	11	19.7	14	SF		3	E		17		F
0362		19	12263	1230	1242	S34	W87	5243	11	12.6	16	SF				24			
	HTPR	19	1226	1230	1242	S32	W85	5243	11	12.8	16	SN		C	1230	20			
	RAMY	19	1227E	1227U	1242	S34	W88	5243	11	12.5	15D	SF	3	E		24			
	SVTO	19	1229		1243	S35	W88	5243	11	12.5	14	SF	2	E		29			
0363	RAMY	19	1327	1329	1351	N31	W52	5229	11	15.4	24	SF		3	E		10		F
0364	RAMY	19	1331	1335	1356	N18	W01	5240	11	19.5	25	SF		3	E		49		FH
		19	1525		1538	No Flare Patrol													
0365	RAMY	19	1645E	1645U	1650	N34	W75		11	13.7	5D	SF		2	E		10		
0366	RAMY	19	1758E	1759U	1811D	N25	E14	5241	11	20.8	13D	SF		1	E		21		F
0367		19	1837	1846	1920	N20	W02	5240	11	19.6	43	SF				24		F	
	HOLL	19	1837	1846	1920	N21	W01	5240	11	19.7	43	SF	3	E		35		F	
	RAMY	19	1845E	1929U	1936D	N20	W02	5240	11	19.6	51D	SF	1	E		12		F	
		19	1958		2004	No Flare Patrol													
0368	HOLL	19	2021	2024	2036	N33	W63	5229	11	14.8	15	SF		3	E		26		

H α SOLAR FLARES

21
Nov 88

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
														Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0369	HOLL	19	2128	2129	2136	N21 W03	5240	11 19.7	8	SF		3	E		20		H
0370	HOLL	19	2215	2218	2240	N24 W01	5240	11 19.8	25	SF C	2.4	3	E		50		
0371	HOLL	19	2313	2316	2323	N34 W53	5229	11 15.7	10	SF C	1.8	3	E		48		
		20	0006		0013	No Flare Patrol											
0372	LEAR	20	0200	0201	0204	N24 W02	5240	11 19.9	4	SF		3	E		14		F
		20	0307		0309	No Flare Patrol											
		20	0320		0559	No Flare Patrol											
0373	KHAR	20	0812E		0828U	N23 W07	5240	11 19.8	16U	SF		2	V				
0374	KHAR	20	0817U		0849	N21 W90	5228	11 13.4	32U	SF		2	P	0836			D
0375	KHAR	20	0854		0902U	N23 W08	5240	11 19.7	8U	SF		2	P	0855			E
0376	KHAR	20	0907	0910	0920	N21 W90	5228	11 13.5	13	SF		2	V	0910			D
0377	KHAR	20	0940	0942	0958	N21 W90	5228	11 13.5	18	SF		2	V	0942			D
		20	1101		1109	No Flare Patrol											
0378	CATA	20	1110E	1110	1120	N18 W90	5228	11 13.6	10D	1F		2	C	1110	56		
		20	1121		1128	No Flare Patrol											
0379	RAMY	20	1144	1145	1158	N22 W09	5240	11 19.8	14	SF C	1.1	3	E		25		F
0380	RAMY	20	1234	1235	1249	N22 W09	5240	11 19.8	15	SF		3	E		14		F
0381		20	1313Z	1317A	1337	N28 E04	5241	11 20.9	24	SF					29		F
	SVTO	20	1313	1317	1337	N27 E03	5241	11 20.8	24	SF		3	E		26		F
	RAMY	20	1315	1321	1337D	N28 E05	5241	11 20.9	22D	SF		3	E		32		F
0382	SVTO	20	1412	1412	1418	N23 W12	5240	11 19.7	6	SF C	1.8	3	E		26		
0383		20	1417	1418Z	1451	N13 W37	5235	11 17.8	34	SB C	6.4				97		F
	SVTO	20	1417	1418	1456D	N12 W38	5235	11 17.7	39D	SB C	6.4	3	E		97		F
	HOLL	20	1417	1420	1451	N13 W36	5235	11 17.9	34	SN C	6.4	3	E		92		F
	RAMY	20	1418E	1419U	1451D	N14 W37	5235	11 17.8	33D	1B C	6.4	3	E		101		F
0384		20	1430I	1431I	1441	N35 W57	5229	11 16.0	11	SF					30		F
	SVTO	20	1430	1432	1446	N34 W58	5229	11 16.0	16	SF		3	E		42		
	HOLL	20	1431	1431	1436	N36 W56	5229	11 16.1	5	SF		3	E		17		
	RAMY	20	1434E	1434U	1448D	N36 W57	5229	11 16.0	14D	SF		3	E		31		F
0385		20	1527	1529	1536	N27 E03	5241	11 20.9	9	SF					21		F
	HOLL	20	1527	1529	1536	N27 E03	5241	11 20.9	9	SF		3	E		24		F
	RAMY	20	1528E	1531U	1538D	N27 E03	5241	11 20.9	10D	SF		2	E		18		F
0386		20	1634Z	1639I	1708	N26 E00	5241	11 20.7	34	1N C	6.0				210		EF
	HOLL	20	1634	1639	1708	N27 E01	5241	11 20.8	34	1N C	6.0	3	E		239		FE
	RAMY	20	1636	1640	1717D	N25 W01	5241	11 20.6	41D	1F C	6.0	2	E		181		F
0387		20	1651	1652	1708	N16 W56	5231	11 16.4	17	SF					49		F
	HOLL	20	1651	1652	1708	N17 W56	5231	11 16.4	17	SF		3	E		16		
	RAMY	20	1656E	1657U	1721D	N16 W56	5231	11 16.4	25D	SF		1	E		82		F
0388	HOLL	20	1849	1849	1854	N23 W11	5240	11 19.9	5	SF		3	E		13		
0389		20	1937	1938	1948	N14 W39	5235	11 17.9	11	SF C	1.4				24		
	HOLL	20	1937	1938	1947	N14 W39	5235	11 17.9	10	SF C	1.4	3	E		22		
	RAMY	20	1940E	1940U	1949	N14 W39	5235	11 17.9	9D	SF C	1.4	2	E		25		
0390		20	1959A	2002*	2021	N35 W60	5229	11 16.0	22	SF					21		
	RAMY	20	1959	2002	2022D	N34 W62	5229	11 15.9	23D	SF		3	E		25		
	HOLL	20	2003	2017	2021	N36 W59	5229	11 16.1	18	SF		3	E		17		

22
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks	
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
			20 2231		2232			No Flare Patrol												
0391			20 2238	2239	2247	N14	W42	5235	11	17.8	9	SF	C				17			
	PALE		20 2218E	2218U	2235D	N13	W41	5235	11	17.8	17D	SF	C	3.4	3	E	20			
	HOLL		20 2238	2239	2247	N14	W42	5235	11	17.8	9	SF	C	3.4	3	E	14			
			21 0223		0224			No Flare Patrol												
0392	YUNN	21	0246E	0246	0258	N14	W43	5235	11	17.9	12D	SN				P	16	0.2		
0393			21 0334	0336E	0400	N12	W44	5235	11	17.8	26	SN					24	0.3	E	
	YUNN	21	0334	0336	0347	N12	W44	5235	11	17.8	13	SN				C	24	0.3		
	MITK	21	0334	0338	0413	N13	W45	5235	11	17.7	39	SN				C	0338		E	
0394	LEAR	21	0406	0407	0411	N32	W71	5229	11	15.5	5	SF				3	E	17		
0395	ABST	21	0558	0600	0610	N14	W45	5235	11	17.8	12	SN				C	0600	87	1.2	D
0396			21 0706	0708	0717	S27	E69	5249	11	26.7	11	1N					60		D	
	YUNN	21	0700E	0700U	0716D	S28	E68	5249	11	26.6	16D	SN				P	0700	33		
	ABST	21	0706	0708	0717	S26	E70	5249	11	26.7	11	1N				C	0708	87		D
0397	LEAR	21	0716	0717	0719	N33	W69	5229	11	15.8	3	SF				3	E	15		
0398	YUNN	21	0824	0827	0840	N21	W25	5240	11	19.4	16	SN				C	24	0.3		
0399	RAMY	21	1215	1215	1225	S27	E68	5249	11	26.8	10	SF				4	E	25		
0400	RAMY	21	1227	1230	1306	N19	W25	5240	11	19.6	39	1F	C	2.1	4	E	164		F	
0401	RAMY	21	1349	1349	1417	N24	W10	5241	11	20.8	28	SF				3	E	38		F
0402			21 1356*	1415E	1447	N22	W22	5240	11	19.9	51	1N	C	6.7			164		EFH	
	RAMY	21	1356	1415	1458	N21	W22	5240	11	19.9	62	1N	C	6.7	4	E	178		FH	
	HOLL	21	1411	1417	1436	N23	W21	5240	11	20.0	25	1N	C	6.7	3	E	151		EH	
0403	RAMY	21	1436	1442	1451	S28	E69	5249	11	27.0	15	SF				4	E	14		
0404			21 1527	1529E	1548	N26	W11	5241	11	20.8	21	SF	C	2.0			34		F	
	RAMY	21	1527	1529	1549	N26	W11	5241	11	20.8	22	SF	C	2.0	4	E	31		F	
	HOLL	21	1527	1530	1548	N27	W11	5241	11	20.8	21	SF	C	2.0	3	E	38		F	
0405			21 1654*	1654*	1805	N21	W32	5240	11	19.2	71	SF	C	1.6			25		EF	
	RAMY	21	1642E	1824U	1827D	N20	W31	5240	11	19.3	105D	SF	C	1.6	2	E	18			
	HOLL	21	1654	1654	1717	N21	W31	5240	11	19.3	23	SN	C	8.6	3	E	43		FE	
	HOLL	21	1822	1824	1831	N21	W32	5240	11	19.3	9	SF	C	1.6	3	E	22			
	PALE	21	1823	1824	1826	N21	W32	5240	11	19.3	3	SF	C	1.6	2	E	16			
0406			21 1852	1852	1905	N14	W55	5235	11	17.6	13	SF	C	1.7			22			
	HOLL	21	1852	1852	1905	N14	W55	5235	11	17.6	13	SF				3	E	24		
	RAMY	21	1852	1852	1905	N14	W55	5235	11	17.6	13	SF	C	1.7	2	E	19			
0407			21 1914E	1919E	1956	N27	W12	5241	11	20.9	42	SF					66			
	HOLL	21	1914	1919	2028	N27	W12	5241	11	20.9	74	1F				3	E	109		
	RAMY	21	1917E	1918U	1955	N27	W11	5241	11	20.9	38D	SF				2	E	45		
	PALE	21	1918	1920	1926	N27	W12	5241	11	20.9	8	SF				3	E	44		
0408			21 1915E	1923E	2025	N23	W26	5240	11	19.8	70	1F					136		F	
	HOLL	21	1915	1923	2036	N23	W26	5240	11	19.8	81	1N				3	E	131		
	RAMY	21	1917E	1924	2034	N23	W27	5240	11	19.7	77D	1F				2	E	147		
	PALE	21	1918	1923	2004	N24	W26	5240	11	19.8	46	1F				3	E	130		
0409	HOLL	21	2220	2228	2245	N13	W54	5235	11	17.8	25	SF				3	E	39		F
0410	HOLL	21	2221	2236	2322	N27	W15	5241	11	20.8	61	SF				3	E	53		
0411	HOLL	21	2225	2227	2248	N21	W35	5240	11	19.2	23	SF				3	E	14		F

H α SOLAR FLARES

23
Nov 88

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Area Measurement			Remarks	
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
0412		21	22502	22554	2333	N15	W55	5235	11	17.8	43	1N	M	1.6			96		EFY	
	HOLL	21	2250	2259	2344	N14	W56	5235	11	17.7	54	1B	M	1.6	3	E	103		YF	
	LEAR	21	2252	2255	2328	N16	W54	5235	11	17.8	36	SN	M	1.6	3	E	66		FE	
	PALE	21	2303E	2304U	2327	N14	W56	5235	11	17.7	24D	1N			3	E	119		F	
0413	MITK	22	0034	0056	0136	N22	W30	5240	11	19.7	62	1F				C	0056	180	2.3	E
0414	LEAR	22	0625	0625	0633	N28	W18	5241	11	20.9	8	SF	C	4.6	3	E		16		
0415	ABST	22	0703	0706	0715	N35	W90	5229	11	15.1	12	1N				C	0706	87		D
0416	HPR	22	1007	1009	1030	N15	W65	5235	11	17.5	23	SF				C	1009	20	0.5	
0417	HPR	22	1308	1316	1326	N26	W41	5240	11	19.4	18	SF				C	1316	30	0.4	
0418		22	14156	14241	1438	N26	W24	5241	11	20.7	23	SN						84	1.6	EF
	HPR	22	1415	1424	1442	N26	W24	5241	11	20.7	27	SN				C	1424	150	1.6	E
	HOLL	22	1421	1425	1435	N27	W23	5241	11	20.8	14	SF			3	E	19			F
0419	HPR	22	1426	1430	1450	N25	W42	5240	11	19.3	24	SN				C	1430	80	1.1	E
0420		22	14458	1501	1539	N28	W24	5241	11	20.7	54	1N	C	9.3				302	5.0	EFI
	HPR	22	1445		1520D	N27	W21	5241	11	21.0	35D	1N				C	1502	450	5.0	EI
	HOLL	22	1453	1501	1539	N28	W26	5241	11	20.6	46	1F	C	9.3	3	E	154			F
0421	HOLL	22	1856	1921	1927	S38	W33	5246	11	20.1	31	SF			3	E		22		
0422	HOLL	22	1916	1919	1929	N19	W45	5240	11	19.4	13	SF			3	E		33		
0423	HOLL	22	1957	2000	2008	N22	W38	5240	11	19.9	11	SF			3	E		34		
0424	HOLL	22	2054	2107	2217	N21	W44	5240	11	19.5	83	SF	C	3.7	3	E		84		F
0425	HOLL	22	2110	2112	2130	S15	W54	5247	11	18.8	20	SF			3	E		79		
		23	0133		0134	No Flare Patrol														
0426	YUNN	23	0145E	0145U	0148	S14	W60	5247	11	18.5	3D	SN				P	0145	16	0.4	D
0427	LEAR	23	0332	0333	0339	N21	E66	5251	11	28.2	7	SF	C	1.1	3	E		31		
0428	HPR	23	1105	1117	1130	N27	W35	5241	11	20.7	25	SF				C	1117	40	0.5	E
0429	HPR	23	1138	1144	1156	S14	W66	5247	11	18.5	18	SF				C	1144	30	0.7	E
0430	HPR	23	1303	1306	1313	N15	W70	5235	11	18.2	10	SF				C	1306	20		
0431		23	13382	13401	1344	N16	E58	5251	11	28.0	6	SN						43	1.4	EF
	HPR	23	1338	1341	1343	N17	E58	5251	11	28.0	5	SB				C	1341	70	1.4	EF
	KANZ	23	1340	1340U	1340D	N15	E58	5251	11	28.0	5D	SF			1	C				
	RAMY	23	1340	1340	1345	N17	E58	5251	11	28.0	5	SF			3	E		16		
0432	HPR	23	1446	1449	1453	N17	E57	5251	11	27.9	7	SN				C	1449	80	1.5	E
0433	HOLL	23	1906	1908	1931	N03	E03		11	24.0	25	SF	C	1.3	3	E		57		F
0434	HOLL	23	1935	1938	1957	N28	W39	5241	11	20.8	22	SF			3	E		20		
0435		23	1950	2001	2047	S30	E38	5249	11	26.8	57	SF						62		F
	HOLL	23	1950	2001	2047	S31	E38	5249	11	26.8	57	SF			3	E		68		F
	PALE	23	2003E	2012U	2055D	S30	E38	5249	11	26.8	52D	SF			3	E		56		F
0436		24	0220	0221	0225	N18	E50	5251	11	27.9	5	SF						24		
	PALE	24	0220	0221	0225	N18	E51	5251	11	28.0	5	SF			3	E		24		
	LEAR	24	0220	0221	0225	N18	E50	5251	11	27.9	5	SF			3	E		23		
0437	ABST	24	0522	0524	0527	N20	E50	5251	11	28.0	5	SF				C	0524	87	1.5	D
0438	KHAR	24	0828		0836	N20	E54	5251	11	28.5	8	SF			2	V	0830			D

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks	
																	Apparent (10-6 Disk)	Corr (Sq Deg)		
0439		24	08532	0857*	0930	N22	W70	5240	11	19.0	37	SF				0909	20		DE	
	HTPR	24	0853	0909	0930	N24	W72	5240	11	18.8	37	SF			C	0909	20		E	
	KHAR	24	0855	0857	0915U	N21	W68	5240	11	19.1	20U	SF	2	V		0857			D	
0440	KHAR	24	0958		1030U	S21	E90	5254	12	1.3	32U	SF			V	1005			D	
0441	KHAR	24	1015U	1016U	1025	S12	W80	5247	11	18.4	10U	SF			V	1016			D	
0442		24	1115	11272	1142	N19	W60	5240	11	19.9	27	SF				1127	38	0.8	E	
	HTPR	24	1115	1127	1140	N19	W59	5240	11	20.0	25	SF			C	1127	40	0.8	E	
	RAMY	24	1117E	1129	1143	N19	W61	5240	11	19.8	26D	SF	3	E		36				
0443	HTPR	24	1200	1217	1225	S14	W90	5247	11	17.7	25	SF			C	1217	30			
0444		24	12422	1244	1255	N31	E80	5255	11	30.8	13	SF				1244	30			
	HTPR	24	1242	1244	1256	N35	E80	5255	11	30.9	14	SF			C	1244	30			
	KANZ	24	1244	1244	1254	N27	E79	5255	11	30.7	10	SF	1	C						
0445	RAMY	24	1250E	1251U	1258	S17	E88	5254	12	1.2	8D	SF	C 5.8	2	E		81			
0446	HTPR	24	1325	1339	1355	S20	W42		11	21.3	30	SN			C	1339	60	0.8	E	
0447	PEKG	25	0412	0413	0416	S21	E90	5254	12	2.1	4	SN			P	0413	50		D	
0448		25	1355	1358	1418	N27	W62	5241	11	20.7	23	SF				1358	15	0.3		
	HTPR	25	1355	1358	1430	N27	W62	5241	11	20.7	35	SF			C	1358	20	0.3		
	RAMY	25	1359E	1359U	1406	N27	W61	5241	11	20.8	7D	SF	2	E		10				
0449	RAMY	25	1536	1537	1542	N20	W89	5240	11	18.8	6	SF			E		41			
0450	HOLL	25	1614E	1616U	1630D	S17	E76	5254	12	1.4	16D	SF	C 3.8	2	E		34			
		25	2058		2111	No Flare Patrol														
		25	2243		2256	No Flare Patrol														
0451	MITK	26	0543	0604	0624	S31	E07	5249	11	26.8	41	1N			C	0604	170	2.1	E	
0452		26	0901	0905	0912	N24	W71	5241	11	20.9	11	SN					38			
	HTPR	26	0735E		0920	N26	W71	5241	11	20.8	105D	SF			C	0905	20			
	CATA	26	0901	0905	0905	N23	W71	5241	11	20.9	4	SN	2	C		0905	56			
0453		26	1033*	1100*	1140	N23	W90	5240	11	19.5	67	1F	C 3.4				115		EF	
	HTPR	26	1033	1100	1140	N27	W90	5240	11	19.4	67	1F			C	1100	120		E	
	CATA	26	1054E	1100	1137	N19	W90	5240	11	19.6	43D	2N		2	C	1100	197			
	RAMY	26	1107E	1136	1143	N23	W88	5240	11	19.7	36D	SF	C 3.4	2	E		31		F	
	CATA	26	1137	1137	1140D	N22	W90	5240	11	19.6	3D	1F		1	C	1137	112			
0454		26	11247	11341	1144	N28	W85	5241	11	19.8	20	SN					40		A	
	HTPR	26	1124	1134	1145	N28	W86	5241	11	19.7	21	SN			C	1134	40		A	
	KANZ	26	1131	1135	1143	N27	W84	5241	11	19.9	12	SF		2	C					
0455		26	1335	1345	1355	N26	W90	5240	11	19.6	20	SN					21		E	
	HTPR	26	1335	1345	1355	N27	W90	5240	11	19.5	20	SN			C	1345	30		E	
	RAMY	26	1339E	1340U	1349D	N24	W90	5240	11	19.6	10D	SF		2	E		12			
0456	RAMY	26	1348E	1348U	1355D	S18	E56	5254	11	30.8	7D	SF		2	E		15		F	
		26	1620		1624	No Flare Patrol														
0457		26	1710	1711U	1734	S30	E00	5249	11	26.7	24	SF	C 3.0				38		F	
	HOLL	26	1710	1711U	1730	S30	E00	5249	11	26.7	20	SF	C 3.0	2	E		32			
	RAMY	26	1712E	1712U	1738	S30	E00	5249	11	26.7	26D	SF	C 3.0	2	E		45		F	
0458		26	23061	23071	2322	N17	E14	5251	11	28.0	16	SF					33			
	HOLL	26	2306	2308	2325	N16	E14	5251	11	28.0	19	SF		2	E		32			
	PALE	26	2307	2307	2320	N18	E15	5251	11	28.1	13	SF		3	E		34			
0459		26	2330	2338	2429	S18	E54	5254	12	1.1	59	SF	M 1.2				38		F	
	PALE	26	2330	2338	2429	S17	E57	5254	12	1.3	59	SF	M 1.2	3	E		56		F	
	HOLL	26	2334E	2337U	2348D	S19	E50	5254	11	30.8	14D	SF	M 1.2	1	E		20			

H α SOLAR FLARES

25
Nov 88

NOVEMBER 1988

Grp #	Sta	Start Day (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See	Type	Area Measurement		Remarks		
													Time (UT)	Apparent (10-6 Disk)		Corr (Sq Deg)	
0460		27 0211	0215*	0242	N17	E13	5251	11 28.1	31	SN	C 3.3		59	0.9	DEF		
	MITK	27 0211	0215	0250	N17	E13	5251	11 28.1	39	SN		C	0215		E		
	PEKG	27 0220E	0227	0235	N17	E13	5251	11 28.1	15D	SN		C	0231	84	0.9	D	
	PALE	27 0221E	0222U	0253D	N18	E13	5251	11 28.1	32D	SF	C 3.3	3	E	34		F	
		27 0831		0859	No Flare Patrol												
		27 1313		1329	No Flare Patrol												
0461	HOLL	27 1448	1500	1508	S19	E47	5254	12 1.2	20	SF		2	E		38		
0462		27 1458*	15039	1513	N22	E07	5256	11 28.2	15	SF					14		
	HOLL	27 1458	1503	1506	N22	E07	5256	11 28.2	8	SF		2	E		16		
	HOLL	27 1510	1512	1520	N22	E07	5256	11 28.2	10	SF		3	E		13		
0463	RAMY	27 1630E	1632U	1641D	N23	E07	5256	11 28.2	11D	SF		2	E		15		
0464	RAMY	27 1717	1717	1732	S17	E48	5254	12 1.4	15	SF		3	E		11		
0465	RAMY	27 1735	1739	1757	S17	E45	5254	12 1.1	22	SF		3	E		13		
0466	RAMY	27 1755	1755	1806	N23	E06	5256	11 28.2	11	SF		3	E		12		
0467		27 1918*	19398	2013	S18	E48	5254	12 1.4	55	SF					40		
	HOLL	27 1918	1947	2015	S18	E48	5254	12 1.4	57	SF		3	E		52		
	RAMY	27 1928	1939	2011	S17	E47	5254	12 1.4	43	SF		3	E		29		
0468		27 20251	20282	2046	S20	E38	5254	11 30.7	21	SF					36		
	HOLL	27 2025	2030	2047	S20	E38	5254	11 30.7	22	SF		3	E		37		
	RAMY	27 2026	2028	2046	S19	E38	5254	11 30.7	20	SF		3	E		35		
0469		27 2207	2230	2342D	S18	E46	5254	12 1.4	95D	1B	M 6.5				197	FZ	
	HOLL	27 2207	2230	2342D	S18	E45	5254	12 1.3	95D	1B	M 6.5	3	E		202	ZF	
	PALE	27 2215E	2216U	2320D	S18	E48	5254	12 1.6	65D	1N	M 6.5	3	E		192	F	
		27 2344		2400	No Flare Patrol												
		28 0000		0007	No Flare Patrol												
0470		28 07291	07471	0806	S20	E36	5254	12 1.1	37	1N					151	2.1	EZ
	PEKG	28 0729	0747	0812D	S19	E37	5254	12 1.1	43D	1N		P	0747	151	2.1	EZ	
	KANZ	28 0730	0748	0806	S20	E36	5254	12 1.1	36	SF		1	C			E	
0471	KHAR	28 1015	1016U	1020	N09	E80	5258	12 4.4	5	SF		2	V	1016		D	
0472		28 10353	1045	1107	S30	W21	5249	11 26.8	32	1N					250	3.0	EH
	KHAR	28 1035	1043U	1055D	S30	W20	5249	11 26.9	20D	1N		2	P	1045	250	3.0	EH
	KANZ	28 1038	1045	1107	S30	W22	5249	11 26.7	29	SF		2	C			E	
0473	RAMY	28 1128E	1129U	1216	S19	E31	5254	11 30.8	48D	SN	C 3.2	2	E		54		FH
0474	RAMY	28 1322	1323	1330	N18	E01	5251	11 28.6	8	SF		4	E		13		F
0475	HOLL	28 1609	1616	1627	N16	W08	5251	11 28.1	18	SF		3	E		25		
0476	HOLL	28 1643	1654	1721	S18	E36	5254	12 1.4	38	SF		3	E		33		U
0477	HOLL	28 1744	1744	1754	S33	W22	5249	11 27.0	10	SF		3	E		17		
0478	HOLL	28 1751	1757	1817	S19	E31	5254	12 1.1	26	SF		3	E		19		F
0479	HOLL	28 1834	1836	1848	N19	W06	5251	11 28.3	14	SF		3	E		50		F
0480		28 1901	1903	1925	N16	W10	5251	11 28.0	24	SF					40		F
	HOLL	28 1901	1903	1925	N17	W10	5251	11 28.0	24	SF		3	E		33		F
	PALE	28 1920E	1922U	1948D	N16	W11	5251	11 28.0	28D	SF		3	E		46		F
0481	HOLL	28 1952	1956	2010	S19	E29	5254	12 1.0	18	SF		3	E		45		F
0482	HOLL	28 2328	2329	2337	S20	E24	5254	11 30.8	9	SF		3	E		20		

26
Nov 88

H α SOLAR FLARES

NOVEMBER 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Imp See	Obs Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
0483	HOLL	28	2333	2343	2347D	N32	E28	5255	12	1.2	14D	SF		3	E	15			F
0484	LEAR	29	0223	0224	0241	S18	E23	5254	11	30.8	18	SF C	3.7	3	E	60			F
0485	LEAR	29	0551	0553	0602	S19	E20	5254	11	30.8	11	SF		3	E	15			
0486	LEAR	29	0634	0636	0656	S22	E21	5254	11	30.9	22	SF C	1.7	3	E	36			H
0487		29	0757	07584	0810	N17	W17	5251	11	28.0	13	SN				98	1.9		DF
	LEAR	29	0757	0758	0812	N18	W18	5251	11	28.0	15	SF		3	E	21			F
	ABST	29	0757	0802	0808	N16	W16	5251	11	28.1	11	SN			C	0802	174	1.9	D
0488	SVTO	29	0832	0834	0834	S30	W65	5252	11	24.2	2	SF		2	E	87			
		29	1040		1057	No Flare Patrol													
0489	CATA	29	1101E	1101	1101D	S19	E18	5254	11	30.8	2D	2N		2	C	1101	450	5.2	
		29	1102		1110	No Flare Patrol													
		29	1117		1138	No Flare Patrol													
		29	1143		1214	No Flare Patrol													
0490		29	1352	1353	1356	S22	E26	5254	12	1.6	4	SN				44			
	SVTO	29	1352E	1353U	1355	S24	E28	5254	12	1.7	3D	SN		1	E	60			
	RAMY	29	1352	1353	1356	S20	E25	5254	12	1.5	4	SF		3	E	29			
		29	1647		1711	No Flare Patrol													
0491	RAMY	29	1714E	1716U	1733	S19	E20	5254	12	1.2	19D	SF		2	E	49			F
0492	HOLL	29	1759	1759	1811	S28	W70	5252	11	24.3	12	SF C	1.2	3	E	11			
0493		29	2041	2048	2104	S19	E16	5254	12	1.1	23	SF C	1.0			30			F
	RAMY	29	2027E	2040U	2100	S17	E16	5254	12	1.1	33D	SF C	1.0	2	E	12			F
	HOLL	29	2041	2048	2108	S21	E16	5254	12	1.1	27	SF C	1.0	3	E	47			F
0494	LEAR	30	0337	0338	0354	S21	E12	5254	12	1.1	17	SF C	1.3	3	E	38			F
0495		30	04331	0439	0455	S20	E12	5254	12	1.1	22	SN C	2.6			68			E
	MITK	30	0433	0439	0500	S21	E12	5254	12	1.1	27	SN			C	0439			E
	LEAR	30	0434	0439	0450	S20	E11	5254	12	1.0	16	SF C	2.6	3	E	68			
0496	ABST	30	0537	0537	0551	N17	E17	5260	12	1.5	14	SF			C	0537	87	1.0	D
0497	ABST	30	0554	0557	0609	S19	E14	5254	12	1.3	15	SF			C	0557	148	1.7	E
0498		30	06093	06183	0708	S18	E14	5254	12	1.3	59	SN C	1.5			60	1.1		DKZ
	ABST	30	0609	0618	0721	S17	E14	5254	12	1.3	72	SN			C	0618	96	1.1	DK
	LEAR	30	0612	0621	0656	S18	E14	5254	12	1.3	44	SF C	1.5	3	E	23			Z
0499	ABST	30	0616	0618	0636	N18	E18	5260	12	1.6	20	SF			C	0618	105	1.2	EK
0500	ABST	30	0704	0706	0725	N24	W27	5256	11	28.2	21	SN			C	0706	87	1.1	D
0501		30	1621	16234	1640	N16	W35	5251	11	28.0	19	SF				24			F
	RAMY	30	1621	1623	1641	N17	W35	5251	11	28.0	20	SF		3	E	26			
	HOLL	30	1621	1627	1640	N16	W35	5251	11	28.0	19	SF		3	E	23			F
0502	HOLL	30	1648	1656	1712	N17	E12	5260	12	1.6	24	SF		3	E	31			F
0503	HOLL	30	1836	1837	1849	S18	E09	5254	12	1.5	13	SF		3	E	23			F
0504	RAMY	30	1957	2013	2032	N18	E63	5261	12	5.6	35	SF		3	E	46			
0505	HOLL	30	2103	2106	2116	S14	E04	5254	12	1.2	13	SF		3	E	13			

H α SOLAR FLARES

27
Nov 88

NOVEMBER 1988

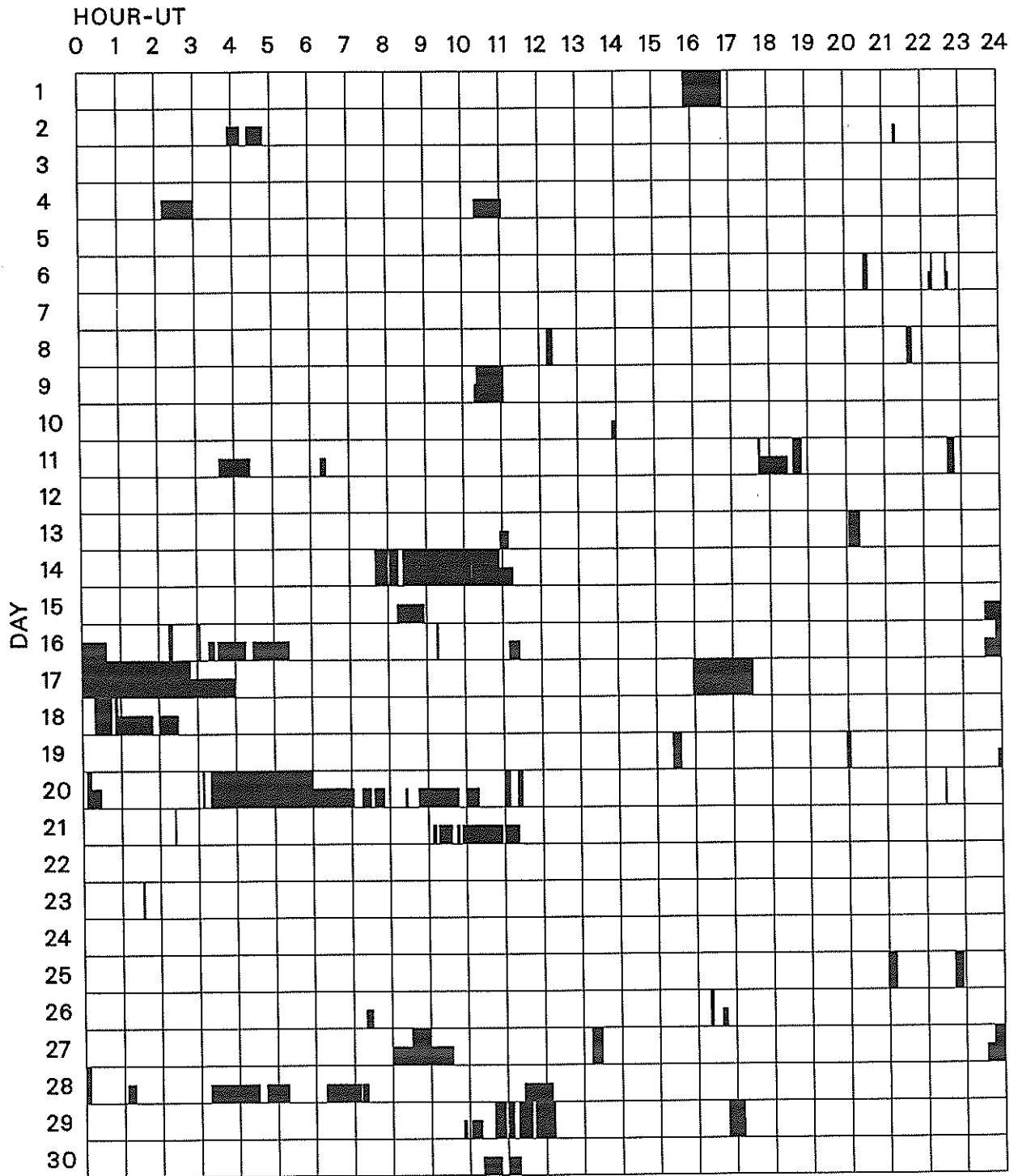
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/		Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement		Remarks
								USAF Region	CMP Mo Day						Time (UT)	Apparent (10 ⁻⁶ Disk)	
0506	HOLL	30	2233	2235	2246	S21	E02	5254	12	1.1	13	SF	3	E		26	F
0507	LEAR	30	2255	2318	2324	N17	E08	5260	12	1.6	29	SF	3	E		52	
0508	LEAR	30	2257	2257	2316	N18	E60	5261	12	5.5	19	SF	3	E		10	

"Remarks"

- | | |
|---|---|
| <p>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.</p> | <p>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.</p> |
|---|---|

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

NOVEMBER 1988



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

Abastumani
Athens
Bucharest

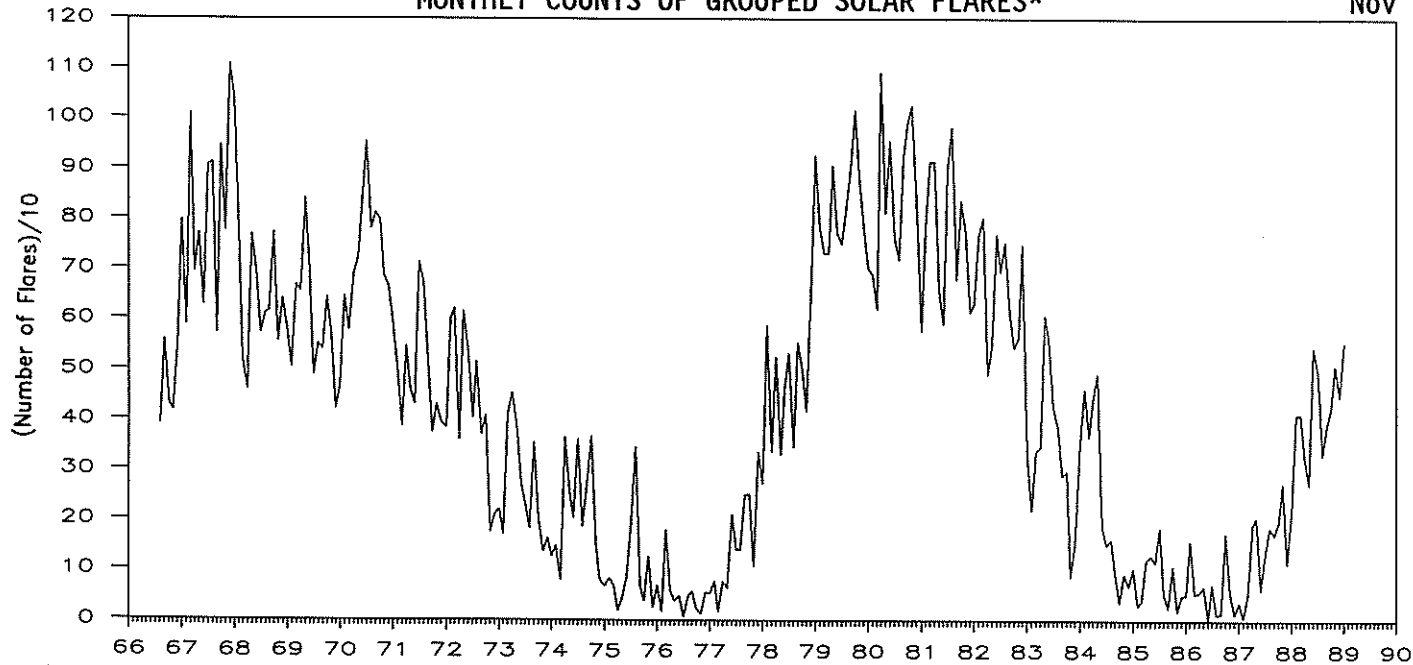
Catania
Haute Provence
Holloman

Kandilli
Kanzelhoehe
Kharkov
Learmonth

Mitaka
Palehua
Peking
Ramey

San Vito
Tashkent
Voroshilov
Yunnan

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	171	198	273	114	1626
1988	217	412	412	328	272	544	499	331	390	421	508	447	4781
1989	555												555

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

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 ⁻²² W/m ² Hz)		Int	Remarks
							Peak	Mean		
01	260	ONDR	44 NS	0800.0E	1102.0	360.0D				
	245	SVTO	44 NS	1105.0E	1121.0	91.0D	40.0			QL=1 ST=2 TYP=1
	410	SVTO	44 NS	1105.0E	1125.0	101.0D	53.0			QL=1 ST=2 TYP=1
	100	GORK	43 NS	1112.0		51.0		5.0		
	200	GORK	43 NS	1121.0		42.0D		5.0		
	200	HIRA	44 NS	2100.0E	0211.0	640.0D	13.0	7.0		
	245	LEAR	44 NS	2156.0E	0215.0	124.0D	66.0			QL=1 ST=1 TYP=1
	245	PALE	44 NS	2221.0E	0222.0	318.0D	82.0			QL=1 ST=2 TYP=1
	500	HIRA	46 C	0250.2	0254.0	25.0	14.0	2.0		0
	9100	GORK	1 S	0636.0	0636.7	1.1	4.8			
	5900	KISV	3 S	0702.9	0703.4	2.0	29.0			
	15000	KISV	1 S	0703.2	0703.4	0.5	15.0			
	9100	GORK	1 S	0703.3	0703.5	2.2	27.0			
	204	IZMI	8 S	0807.4	0807.4	0.1	46.0	22.0		
	430	KRAK	8 S	0822.2	0822.5	0.4	8.0			
	430	KRAK	7 C	0825.0	0828.4	6.5	13.0	3.0		
	430	KRAK	8 S	0834.5	0834.7	0.5	6.0			
	9100	GORK	1 S	0909.9	0910.4	1.9	5.0			
	9100	GORK	1 S	0953.2	0953.6	1.3	5.8			
	810	KRAK	8 S	0955.2	0955.2	0.1	12.0			
	430	KRAK	8 S	0955.3	0955.3	0.1	12.0			
	204	IZMI	5 S	1048.5	1048.6	0.3	100.0	80.0		
	2950	GORK	21 GRF	1053.5		70.0D				
	9100	GORK	21 GRF	1055.0	1105.4	59.0D	9.2			
	950	GORK	30 PBI	1056.4	1104.1	53.3	6.0			
	950	GORK	46 C	1056.4	1058.4		1040.0			
	950	GORK	46 C	1056.4	1057.4	6.6	93.0			
	5900	KISV	29 PBI	1056.4	1103.5	42.0	11.0			
	5900	KISV	4 S/F	1056.4	1058.6	7.0	174.0			
	9300	KISV	29 PBI	1056.4	1103.7	44.0	15.0			
	9300	KISV	4 S/F	1056.4	1059.9	4.0	246.0			
	3100	CRIM	3 S	1057.0	1059.0	8.0	102.0	30.0		
	1470	POTS	4 S/F	1057.0	1059.0	8.0	132.0			
	9500	POTS	4 S/F	1057.0	1100.0	18.0	2210.0			
	2950	GORK	45 C	1057.0	1058.1		140.0			
	2950	GORK	45 C	1057.0	1057.8	5.6	185.0			
	810	KRAK	46 C	1057.3	1122.0		34.0			
	15000	KISV	29 PBI	1057.3	1104.1	12.0	10.0			
	810	KRAK	46 C	1057.3	1128.5		27.0			
	810	KRAK	46 C	1057.3	1139.6		9.0			
	810	KRAK	46 C	1057.3	1058.7	47.0	190.0D	10.0		
	15000	KISV	4 S/F	1057.3	1059.9	7.0	296.0			
	3000	POTS	4 S/F	1057.5	1059.0	33.0	361.0			
	9100	GORK	4 S/F	1057.5	1059.9	7.4	235.0			
	3013	IZMI	7 C	1058.0	1059.0	6.0	106.0	80.0		
	2695	SVTO	8 S	1058.0E	1059.0	1.0D	160.0			QL=1 ST=2 TYP=3
	8800	SVTO	4 S/F	1058.0E	1100.0	4.0D	190.0			QL=1 ST=2 TYP=3
	15400	SVTO	4 S/F	1058.0E	1100.0	4.0D	390.0			QL=1 ST=2 TYP=3
	1415	SVTO	8 S	1058.0E	1059.0	2.0D	150.0			QL=1 ST=2 TYP=3
	4995	SVTO	8 S	1058.0E	1058.0	2.0D	150.0			QL=1 ST=2 TYP=3
650	GORK	46 C	1058.0	1128.5		60.0				
650	GORK	46 C	1058.0	1059.5	34.0	460.0				
650	GORK	46 C	1058.0	1110.8		54.0				
536	ONDR	49 GB	1058.4	1058.8	65.5	73.0				
430	KRAK	46 C	1058.5	1155.0		34.0				
430	KRAK	46 C	1058.5	1124.2		52.0				
430	KRAK	46 C	1058.5	1059.4	63.7	160.0D	13.0			
430	KRAK	46 C	1058.5	1110.5		60.0				
204	IZMI	45 C	1059.0	1100.0	6.0	30000.0	500.0			
410	SVTO	8 S	1059.0E	1059.0	1.0D	87.0			QL=1 ST=2 TYP=3	
234	POTS	42 SER	1059.2	1101.3	91.0	55000.0				
100	GORK	47 GB	1059.6	1106.2	12.0	12800.0				
245	SVTO	49 GB	1100.0E	1101.0	2.0D	4600.0			QL=1 ST=2 TYP=6	
30	POTS	42 SER	1100.0	1109.9	37.0	8000.0				
200	GORK	46 C	1101.0	1102.0	5.0	30.0D				
200	GORK	46 C	1101.0	1103.8		15.0				
127	TORN	27 RF	1102.0	1102.0U	40.0					
127	TORN	47 GB	1102.0	1105.5	9.5	8000.0D	2600.0			
204	IZMI	29 PBI	1105.0	1121.0	55.0	130.0	30.0			

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

31
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
01	33	UPIC	46 C	1109.4	1109.6	1.1				
	200	GORK	46 C	1116.0	1116.6	6.0	30.0			
	200	GORK	46 C	1116.0	1120.8		100.0			
	100	GORK	8 S	1120.0	1121.0	1.5	220.0			
	950	GORK	4 S/F	1121.0	1122.1	1.7	31.0			
	950	GORK	4 S/F	1124.3	1128.5	5.3	37.0			
	950	GORK	46 C	1137.4	1140.4		23.0			
	950	GORK	46 C	1137.4	1139.6	4.5	24.0			
	810	KRAK	27 RF	1320.7	1341.0	31.3	15.0	10.0		
	2800	OTTA	22 GRF	1420.0	1700.0	330.0	36.7	18.0		
	610	SGMR	8 S	1515.0E	1515.0	1.0D	78.0			QL=1 ST=2 TYP=3
	1415	SGMR	8 S	1517.0E	1518.0	1.0D	130.0			QL=1 ST=2 TYP=3
	610	SGMR	8 S	1520.0E	1520.0	U	55.0			QL=1 ST=2 TYP=3
	15400	PALE	8 S	2145.0E	2145.0	2.0D	410.0			QL=1 ST=2 TYP=3
	4995	PALE	8 S	2145.0E	2146.0	1.0D	65.0			QL=1 ST=2 TYP=3
	8800	PALE	4 S/F	2145.0E	2145.0	135.0D	250.0			QL=1 ST=1 TYP=3
	245	PALE	8 S	2148.0E	2148.0	1.0D	130.0			QL=1 ST=2 TYP=3
200	HIRA	42 SER	2222.4	2232.3	17.2	21.0			0	
500	HIRA	4 S/F	2235.2	2236.1	4.5	5.0			0	
02	200	GORK	44 NS	0457.0E		393.0D		10.0		
	245	SVTO	44 NS	0542.0E	1149.0	1098.0D	53.0			QL=1 ST=1 TYP=1
	204	IZMI	43 NS	0700.0		300.0	30.0			
	260	ONDR	44 NS	0800.0E	0956.2	370.0D	28.0			
	127	TORN	43 NS	0907.0	0907.0U	330.0		11.0		V=1
	245	SGMR	43 NS	1141.0	1201.0	572.0D	77.0			QL=1 ST=2 TYP=1
	245	PALE	44 NS	1654.0E	0132.0	645.0D	92.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2100.0E	0034.0	640.0D	27.0	15.0		0
	245	LEAR	44 NS	2155.0E	0938.0	744.0D	120.0			QL=1 ST=2 TYP=1
	9100	GORK	21 GRF	0544.1	0959.8	376.0D	29.0			
	245	SVTO	8 S	0654.0E	0654.0	1.0D	60.0			QL=1 ST=2 TYP=3
	5900	KISV	22 GRF	0700.4	0709.6	47.0	7.0			
	2950	GORK	20 GRF	0705.0	0709.0	24.0	4.1			
	3100	CRIM	25 R	0854.8	0957.0		3.0			
	100	GORK	8 S	0951.0	0953.8	2.8	4000.0			
	3000	POTS	4 S/F	0955.0	0958.0	8.5	18.0			
	9500	POTS	4 S/F	0955.0	0956.5	12.0	34.0			
	9300	KISV	45 C	0955.1	0956.4	3.5	51.0			
	9300	KISV	29 PBI	0955.1	0958.7	34.0	13.0			
	9300	KISV	45 C	0955.1	0957.8		31.0			
	5900	KISV	45 C	0955.2	0956.4	3.5	37.0			
	5900	KISV	29 PBI	0955.2	0958.7	49.0	10.0			
	5900	KISV	45 C	0955.2	0957.9		33.0			
	2950	GORK	45 C	0955.5	0957.2		19.0			
	2950	GORK	29 PBI	0955.5	0958.4	24.0	7.1			
	2950	GORK	45 C	0955.5	0956.5	2.8	19.0			
	536	ONDR	48 C	0955.8	0956.0	5.0				
	15000	KISV	45 C	0955.8	0957.1		14.0			
	15000	KISV	45 C	0955.8	0956.4	5.0	23.0			
	650	GORK	46 C	0955.9	0956.2	3.0	140.0			
	650	GORK	46 C	0955.9	0957.2		480.0			
	245	LEAR	8 S	0956.0E	0956.0	1.0D	77.0			QL=1 ST=2 TYP=3
	610	LEAR	8 S	0956.0E	0956.0	2.0D	180.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	0956.0E	0956.0	1.0D	86.0			QL=1 ST=2 TYP=3
	3100	CRIM	29 PBI	0956.0	1000.0	11.0	6.2	2.0		
	3100	CRIM	45 C	0956.0	0956.5	4.0	12.9			
	3100	CRIM	45 C	0956.0	0957.5		14.4			
	3013	IZMI	7 C	0956.0	0956.5	0.5	17.0	10.0		
	950	GORK	4 S/F	0956.1	0957.7U	2.2	49.0D			
	610	TRST	47 GB	0956.2	0956.2	0.2	1014.0			5R
408	TRST	42 SER	0956.2	0956.3	0.4	109.0			1L	
430	KRAK	42 SER	0956.2	0957.5	1.7	160.0D				
1470	POTS	4 S/F	0956.2	0957.5	6.5	25.0				
327	TRST	42 SER	0956.2	0956.5	0.4	142.0			5L Var. Pol.	
237	TRST	46 C	0956.2	0956.5	0.4	295.0			15L	
234	POTS	4 S/F	0956.2	0956.6	1.4	140.0	5.0			
810	KRAK	4 S/F	0956.5	0958.0	2.2	240.0	8.0			
204	IZMI	5 S	0956.5	0956.7	0.4	320.0	250.0			
610	TRST	47 GB	0957.0	0957.2	0.4	587.0			2R	

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density (10 ⁻²² W/m ² Hz)		Int	Remarks
							Peak	Mean		
02	9100	GORK	46 C	0957.0	0957.3	1.8	23.0			
	9100	GORK	46 C	0957.0	0957.8		24.0			
	650	GORK	2 S/F	1142.5	1142.60	0.3	9.0			
	950	GORK	22 GRF	1147.5	1150.3	7.6	4.0			
	650	GORK	4 S/F	1150.1	1150.8	0.8	92.0			
	2950	GORK	4 S/F	1150.2	1153.7	6.4	8.9			
	810	KRAK	42 SER	1150.5	1153.0	3.2	130.0			
	950	GORK	4 S/F	1150.6	1150.8	0.4	42.0			
	3000	POTS	3 S	1152.0	1153.5	4.5	8.0			
	1470	POTS	4 S/F	1152.0	1154.9	4.5	24.0			
	5900	KISV	2 S/F	1152.2	1153.5	7.0	13.0			
	9100	GORK	2 S/F	1152.3	1153.5	3.6	26.0			
	9300	KISV	4 S/F	1152.3	1153.5	8.0	27.0			
	3100	CRIM	1 S	1152.5	1153.5	3.0	4.7	2.0		
	15000	KISV	2 S/F	1152.5	1153.5	6.0	28.0			
	9500	POTS	3 S	1152.5	1153.5	4.0	14.0			
	650	GORK	2 S/F	1152.6	1153.0	0.5	6.0			
	430	KRAK	8 S	1154.2	1154.2	0.1	46.0			
	127	TORN	4 S/F	1207.5	1208.0	3.0	2000.0	1000.0		
	3100	CRIM	29 PBI	1209.5	1214.5	7.0	8.0	3.0		
	3100	CRIM	3 S	1209.5	1211.9	5.0	19.7	7.0		
	1415	SGMR	4 S/F	1210.0E	1211.0	3.0D	77.0			QL=1 ST=2 TYP=3
	9500	POTS	20 GRF	1210.0	1231.0	115.0	16.0			
	3000	POTS	3 S	1210.0	1211.5	4.0	23.0			
	3000	POTS	20 GRF	1210.0	1245.5	85.0	14.0			
	1470	POTS	20 GRF	1210.0	1303.5	110.0	8.0			
	1470	POTS	4 S/F	1210.8	1211.5	3.9	62.0			
	3100	CRIM	20 GRF	1221.2	1232.0	19.0	10.2	3.3		
	127	TORN	45 C	1224.7	1225.7	2.0	2700.0	500.0		
	3000	POTS	3 S	1230.5	1231.7	2.5	18.0			
	1470	POTS	4 S/F	1230.5	1231.9	3.0	17.0			
	3100	CRIM	1 S	1249.0	1250.5	2.5	4.7	1.5		
	3000	POTS	3 S	1249.5	1250.3	3.0	18.0			
	127	TORN	45 C	1249.5	1249.8	2.3	400.0	120.0		
1470	POTS	4 S/F	1249.5	1250.9	2.7	15.0				
9500	POTS	3 S	1410.0	1410.6	2.5	24.0				
2800	OTTA	4 S/F	1643.0	1643.3	10.0	13.6	4.0			
15400	SGMR	8 S	1643.0E	1643.0	1.0D	95.0			QL=1 ST=2 TYP=3	
245	PALE	8 S	1700.0E	1700.0	U	160.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	1700.0E	1700.0	U	320.0			QL=1 ST=2 TYP=3	
410	PALE	8 S	1725.0E	1725.0	1.0D	63.0			QL=1 ST=2 TYP=3	
500	HIRA	23 GRF	2220.0	2308.0	360.0	5.0	3.0		0	
03	200	GORK	44 NS	0449.0E		172.0D	5.0			
	100	GORK	43 NS	0450.0		170.0	5.0			
	245	SVTO	44 NS	0543.0E	0938.0	579.0D	110.0			QL=1 ST=2 TYP=1
	127	TORN	44 NS	0700.0E	0700.0U	420.0D		11.0		V=1
	204	IZMI	43 NS	0700.0		300.0	70.0			
	260	ONDR	44 NS	0800.0E	1255.4	370.0D	88.0U			
	245	SGMR	43 NS	1142.0	1359.0	569.0D	160.0			QL=1 ST=2 TYP=1
	245	PALE	44 NS	1659.0E	0212.0	639.0D	240.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2030.0E	0248.0	630.0D	22.0	13.0		0
	245	LEAR	44 NS	2155.0E	0212.0	745.0D	200.0			QL=1 ST=3 TYP=1
	15400	LEAR	4 S/F	0008.0E	0012.0	6.0D	53.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0009.0E	0012.0	4.0D	51.0			QL=1 ST=2 TYP=3
	200	HIRA	46 C	0457.8	0458.2	2.6	1400.0			0
	245	LEAR	49 GB	0459.0E	0459.0	2.0D	830.0			QL=1 ST=2 TYP=6
	200	GORK	41 F	0459.1	0459.1	1.8	2000.0			
	200	GORK	41 F	0459.1	0500.5		260.0			
	9100	GORK	20 GRF	0503.0	0917.3	381.0D	29.0			
	2840	PEKG	46 C	0621.0	0621.3	1.5	10.9	7.3		
	5900	KISV	2 S/F	0621.6	0622.3	1.5	5.0			
	9300	KISV	2 S/F	0621.7	0622.3	1.5	5.0			
	650	GORK	4 S/F	0621.7	0621.9	1.5	24.0			
	2950	GORK	4 S/F	0622.1	0622.4	1.1	12.4			
	3100	CRIM	1 S	0622.2	0622.5	1.3	7.6	2.5		
	5900	KISV	22 GRF	0724.6	0729.0	16.0	5.0			
9500	POTS	20 GRF	0726.5	0729.2	8.5	10.0				
2950	GORK	21 GRF	0829.5	0912.0	194.0	9.6				

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

33
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
03	3100	CRIM	20 GRF	0830.0	0917.8	98.0	7.0	3.0		
	245	LEAR	8 S	0841.0E	0841.0	U	140.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	0841.0E	0841.0	U	140.0			QL=1 ST=2 TYP=3
	2950	GORK	1 S	0850.9	0851.6	2.5	3.0			
	536	ONDR	42 SER	0911.8	0912.3	4.2	35.0			
	2950	GORK	1 S	0916.9	0917.3	1.8	1.8			
	2950	GORK	1 S	0945.8	0946.0	0.8	2.4			
	245	SVTO	49 GB	1054.0E	1054.0	U	900.0			QL=1 ST=2 TYP=6
	9500	POTS	1 S	1112.5	1112.9	2.0	6.0			
	9500	POTS	20 GRF	1210.0	1221.7	23.0	17.0			
	9500	POTS	20 GRF	1241.0	1247.5	20.0	11.0			
	9500	POTS	3 S	1312.0	1314.2	8.0	21.0			
	9500	POTS	27 RF	1329.0	1331.0	31.0	10.0			
	536	ONDR	42 SER	1333.3	1335.7	3.0	36.0			
	9500	POTS	3 S	1404.5	1405.7	16.0	37.0			
	245	PALE	8 S	1735.0E	1735.0	U	210.0			QL=1 ST=3 TYP=3
	245	PALE	8 S	1756.0E	1756.0	1.0D	140.0			QL=1 ST=2 TYP=3
	15400	PALE	8 S	1841.0E	1841.0	1.0D	71.0			QL=1 ST=2 TYP=3
	200	HIRA	48 C	2121.8	2122.8	5.3	14000.0U	1100.0U		O SUNRISE
	1415	PALE	4 S/F	2122.0E	2123.0	3.0D	190.0			QL=/ ST=2 TYP=3
	15400	PALE	8 S	2122.0E	2122.0	2.0D	480.0			QL=/ ST=2 TYP=3
	2695	PALE	4 S/F	2122.0E	2122.0	3.0D	140.0			QL=/ ST=2 TYP=3
	410	PALE	49 GB	2122.0E	2122.0	2.0D	530.0			QL=/ ST=2 TYP=6
	610	PALE	4 S/F	2122.0E	2123.0	3.0D	230.0			QL=/ ST=2 TYP=3
245	PALE	49 GB	2122.0E	2122.0	2.0D	11000.0			QL=/ ST=2 TYP=6	
8800	PALE	8 S	2122.0E	2122.0	2.0D	180.0			QL=/ ST=2 TYP=3	
4995	PALE	8 S	2122.0E	2122.0	2.0D	100.0			QL=/ ST=2 TYP=3	
500	HIRA	46 C	2122.0U	2122.8	7.5D	750.0	54.0		SR SUNRISE	
100	HIRA	46 C	2122.2		8.6	1000.0D	270.0D			
04	245	SVTO	44 NS	0544.0E	1204.0	1096.0D	81.0			QL=1 ST=1 TYP=1
	204	IZMI	43 NS	0700.0		300.0	40.0			
	260	ONDR	44 NS	0730.0E	1208.0U	390.0D				
	127	TORN	44 NS	0900.0E	0900.0U	160.0D		9.0		V=1
	245	SGMR	43 NS	1144.0	1208.0	736.0	110.0			QL=1 ST=3 TYP=1
	200	HIRA	44 NS	2103.0E	0430.0	630.0D	37.0	14.0		WL
	245	LEAR	44 NS	2155.0E	0710.0	745.0D	260.0			QL=1 ST=2 TYP=1
	410	LEAR	44 NS	2340.0E	0252.0	297.0D	44.0			QL=1 ST=2 TYP=1
	15400	LEAR	8 S	0001.0E	0001.0	1.0D	41.0			QL=1 ST=2 TYP=3
	8800	LEAR	8 S	0001.0E	0001.0	1.0D	86.0			QL=1 ST=2 TYP=3
	410	LEAR	8 S	0254.0E	0254.0	U	89.0			QL=1 ST=2 TYP=3
	2840	PEKG	40 F	0525.0	0527.0	6.0	55.0	37.6		
	410	LEAR	49 GB	0526.0E	0526.0	4.0D	730.0			QL=1 ST=2 TYP=6
	650	GORK	4 S/F	0526.2	0529.2	4.7	21.0			
	9100	GORK	4 S/F	0526.3	0529.4	6.7	28.0			
	500	HIRA	46 C	0526.3	0528.5	7.3	42.0	18.0		MR
	3100	CRIM	3 S	0527.5	0529.5	6.0	28.7	9.0		
	950	GORK	4 S/F	0527.5	0529.6	5.9	26.0			
	2950	GORK	4 S/F	0527.8	0529.5	3.0	37.0			
	245	LEAR	8 S	0528.0E	0529.0	1.0D	290.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0529.0E	0529.0	U	37.0			QL=1 ST=2 TYP=3
	610	LEAR	8 S	0529.0E	0530.0	1.0D	43.0			QL=1 ST=2 TYP=3
	2950	GORK	20 GRF	0619.5	1124.0	360.0D	80.0			
	9100	GORK	21 GRF	0620.5	0641.5	53.0	17.0			
	9300	KISV	29 PBI	0632.1	0644.4	12.5	8.0			
	9300	KISV	45 C	0632.1	0638.5		13.0			
	9300	KISV	45 C	0632.1	0633.6	12.5	36.0			
	5900	KISV	29 PBI	0632.3	0640.2	8.5	6.0			
	5900	KISV	45 C	0632.3	0638.6		17.0			
	5900	KISV	45 C	0632.3	0633.7	8.0	8.0			
	15000	KISV	29 PBI	0637.5E	0643.1	12.5D	13.0			
	15000	KISV	4 S/F	0637.5E	0638.6	6.0D	31.0			
9100	GORK	1 S	0637.8	0638.6	2.0	19.0	10.0			
9100	GORK	21 GRF	0731.6	0833.6	268.0D	14.5				
5900	KISV	23 GRF	0828.7	0832.5	27.0	9.0				
5900	KISV	23 GRF	0828.7	0840.9		6.0				
9300	KISV	23 GRF	0829.4	0841.0		7.0				
9300	KISV	23 GRF	0829.4	0832.5	28.5	22.0				
15000	KISV	2 S/F	0831.9	0832.4	1.5	11.0				

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

NOVEMBER 1988

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 ⁻²² W/m ² Hz)	Mean		
04	9100 GORK	1 S	0832.1	0832.5	0.9	12.0	6.0		
	15000 KISV	2 S/F	1031.2	1031.4	3.8	9.0			
	9300 KISV	2 S/F	1031.2	1031.4	3.8	17.0			
	5900 KISV	2 S/F	1031.2	1031.4	4.0	7.0			
	9100 GORK	1 S	1031.2	1031.5	1.6	14.0	7.0		
	536 ONDR	42 SER	1110.0	1113.7	4.3	11.0			
	5900 KISV	2 S/F	1116.2	1117.3	4.3	5.0			
	9300 KISV	2 S/F	1116.3	1117.4	7.2	8.0			
	9500 POTS	1 S	1116.5	1117.4	3.0	6.0			
	245 SVTO	8 S	1122.0E	1122.0	1.0D	110.0			QL=1 ST=2 TYP=3
	9300 KISV	2 S/F	1156.5	1156.8	1.5	6.0			
	5900 KISV	2 S/F	1156.5	1156.9	1.7	4.0			
245 SGMR	8 S	1813.0E	1813.0	1.0D	240.0			QL=1 ST=2 TYP=3	
05	100 HIRA	43 NS	0400.0	0455.0	210.0D	140.0	40.0		
	245 SVTO	44 NS	0545.0E	0710.0	574.0D	240.0			QL=1 ST=2 TYP=1
	234 POTS	44 NS	0620.0E	1027.0	490.0D	300.0	100.0		
	410 SVTO	44 NS	0634.0E	0759.0	407.0D	49.0			QL=1 ST=2 TYP=1
	610 LEAR	44 NS	0638.0E	0834.0	222.0D	38.0			QL=1 ST=2 TYP=1
	410 LEAR	44 NS	0645.0E	0845.0	215.0D	54.0			QL=1 ST=2 TYP=1
	127 TORN	44 NS	0700.0E	0700.0U	420.0D		745.0		V=1
	204 IZMI	43 NS	0700.0		300.0	380.0			
	430 KRAK	44 NS	0800.0E	0851.7	352.0D	40.0	19.0		
	260 ONDR	44 NS	0850.0E	1205.0	350.0D	52.0			
	245 SGMR	44 NS	1145.0E	1600.0	564.0D	420.0			QL=1 ST=2 TYP=1
	245 PALE	44 NS	1653.0E	1805.0	644.0D	350.0			QL=1 ST=2 TYP=1
	200 HIRA	44 NS	2105.0E	2238.0	630.0D	35.0	19.0		MR
	410 LEAR	44 NS	2154.0E	0831.0	747.0D	120.0			QL=1 ST=2 TYP=1
	245 LEAR	44 NS	2154.0E	0210.0	747.0D	290.0			QL=1 ST=2 TYP=1
	500 HIRA	27 RF	0001.5	0018.0	48.0	8.0	3.0		WR
	200 HIRA	46 C	0029.0	0029.7	1.5				SL
	500 HIRA	22 GRF	0126.5	0142.0	75.0	11.0	4.0		O
	500 HIRA	23 GRF	0340.0	0417.0	145.0	14.0	7.0		WL
	410 LEAR	8 S	0414.0E	0414.0	1.0D	67.0			QL=1 ST=2 TYP=3
	2840 PEKG	1 S	0527.0	0528.7	2.2	6.3	4.4		
	9100 GORK	2 S/F	0527.9	0528.8	5.8	7.8			
	610 LEAR	8 S	0528.0E	0528.0	U	71.0			QL=1 ST=2 TYP=3
	650 GORK	4 S/F	0528.1	0528.4	1.4	57.0			
	950 GORK	1 S	0528.4	0528.9	1.2	3.0			
	200 HIRA	46 C	0542.6	0543.6	3.4	540.0			SL
	500 HIRA	24 R	0627.0		60.0D		7.0U		WR SUNSET
	650 GORK	22 GRF	0627.7	0826.1	302.0D	21.0			
	2950 GORK	20 GRF	0634.6	0745.0	73.0	4.9			
	810 KRAK	8 S	0834.0	0834.0U	0.2	7.0			
	536 ONDR	41 F	0850.0E	1227.5	290.0D				
	9500 POTS	29 PBI	0906.0	0907.5	29.0	9.0			
	5900 KISV	22 GRF	0906.3	0907.3	11.7	6.0			
	9300 KISV	22 GRF	0906.5	0907.7	11.5	9.0			
	15000 KISV	22 GRF	0906.7	0907.3	11.3	6.0			
	3100 CRIM	1 S	1024.8	1028.2	12.0	4.0	1.0		
	610 SGMR	4 S/F	1226.0E	1227.0	3.0D	490.0			QL=1 ST=2 TYP=3
	610 TRST	47 GB	1226.7	1227.6	1.7	2559.0			1L Spikes
	3000 POTS	3 S	1227.0U	1227.5	3.0U	14.0			
	3100 CRIM	1 S	1227.1	1228.1	2.0	7.0	2.0		
	9500 POTS	3 S	1227.5	1227.7	2.0	16.0			
	1470 POTS	3 S	1227.5	1227.8	2.5	11.0			
	610 TRST	42 SER	1228.8	1229.0	1.0	279.0			5L Spikes
	610 SGMR	8 S	1321.0E	1321.0	U	110.0			QL=1 ST=2 TYP=3
	810 KRAK	8 S	1321.3	1321.4U	0.5	8.0			
	610 SGMR	4 S/F	1520.0E	1520.0	3.0D	23.0			QL=1 ST=3 TYP=3
	610 SGMR	8 S	1521.0E	1521.0	U	97.0			QL=1 ST=2 TYP=3
410 SGMR	49 GB	1521.0E	1521.0	U	890.0			QL=1 ST=3 TYP=6	
245 SGMR	49 GB	1541.0E	1541.0	U	860.0			QL=1 ST=2 TYP=6	
245 SGMR	49 GB	1614.0E	1615.0	1.0D	930.0			QL=1 ST=2 TYP=6	
245 SGMR	49 GB	1713.0E	1714.0	1.0D	770.0			QL=1 ST=2 TYP=6	
245 PALE	49 GB	1714.0E	1715.0	1.0D	500.0			QL=1 ST=2 TYP=6	
410 SGMR	49 GB	1800.0E	1800.0	1.0D	1000.0			QL=1 ST=3 TYP=6	
245 SGMR	49 GB	1800.0E	1801.0	1.0D	17000.0			QL=1 ST=3 TYP=6	
2800 OTTA	3 S	1800.3	1801.5	6.0	45.7	13.0			

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

35
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
05	245	PALE	49 GB	1801.0E	1802.0	1.0D	13000.0			QL=1 ST=2 TYP=6
	410	PALE	49 GB	1801.0E	1801.0	U	1300.0			QL=1 ST=2 TYP=6
	610	SGMR	8 S	1801.0E	1801.0	U	170.0			QL=1 ST=3 TYP=3
	610	PALE	8 S	1802.0E	1802.0	U	120.0			QL=1 ST=2 TYP=3
	245	SGMR	49 GB	1804.0E	1804.0	U	560.0			QL=1 ST=2 TYP=6
	610	SGMR	8 S	2049.0E	2049.0	1.0D	57.0			QL=1 ST=2 TYP=3
	410	SGMR	8 S	2049.0E	2049.0	1.0D	95.0			QL=1 ST=2 TYP=3
	500	HIRA	22 GRF	2130.0	2246.0	193.0	15.0	8.0		0
	610	LEAR	8 S	2213.0E	2213.0	1.0D	150.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	2213.0E	2213.0	1.0D	150.0			QL=1 ST=2 TYP=3
	410	LEAR	49 GB	2213.0E	2213.0	1.0D	2400.0			QL=1 ST=2 TYP=6
06	100	GORK	44 NS	0457.0E		333.0D		5.0		
	200	GORK	44 NS	0500.0E		300.0D		5.0		
	245	SVTO	44 NS	0547.0E	0801.0	571.0D	160.0			QL=1 ST=2 TYP=1
	950	GORK	43 NS	0612.0		258.0D		18.0		
	234	POTS	44 NS	0630.0E	0909.0	501.0D	120.0	57.0		
	650	GORK	43 NS	0634.2		236.0D		5.0		
	610	LEAR	44 NS	0640.0E	0810.0	221.0D	110.0			QL=1 ST=2 TYP=1
	127	TORN	44 NS	0700.0E	0700.0U	420.0D		70.0		V=2
	204	IZMI	43 NS	0700.0		300.0		70.0		
	410	SVTO	44 NS	0704.0E	0832.0	286.0D	130.0			QL=1 ST=2 TYP=1
	430	KRAK	44 NS	0800.0E	0823.3U	360.0D	150.0D	25.0		
	260	ONDR	44 NS	0800.0E	0823.3	360.0D				
	810	KRAK	44 NS	0801.0E	0831.0	87.0D	60.0U	20.0U		
	245	SGMR	44 NS	1146.0E	1515.0	561.0D	110.0			QL=1 ST=2 TYP=1
	245	PALE	44 NS	1656.0E	0223.0	640.0D	140.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2105.0E	0010.0	630.0D	57.0	35.0		MR
	100	HIRA	44 NS	2105.0E	0542.0	630.0D	50.0	17.0		
	245	LEAR	44 NS	2154.0E	0308.0	747.0D	170.0			QL=1 ST=2 TYP=1
	2840	PEKG	1 S	0133.0	0134.5	2.0	12.2	8.4		
	15400	LEAR	8 S	0136.0E	0136.0	U	37.0			QL=1 ST=2 TYP=3
	245	LEAR	49 GB	0136.0E	0136.0	1.0D	1000.0			QL=1 ST=2 TYP=6
	610	LEAR	8 S	0136.0E	0136.0	U	50.0			QL=1 ST=2 TYP=3
	8800	LEAR	8 S	0136.0E	0136.0	U	26.0			QL=1 ST=2 TYP=3
	410	LEAR	49 GB	0136.0E	0136.0	1.0D	2200.0			QL=1 ST=2 TYP=6
	200	HIRA	8 S	0136.2	0136.3	0.5	10000.0			0
	245	PALE	49 GB	0137.0E	0137.0	U	1900.0			QL=1 ST=2 TYP=6
	410	PALE	49 GB	0137.0E	0137.0	U	3600.0			QL=1 ST=2 TYP=6
	610	LEAR	8 S	0157.0E	0157.0	U	51.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	0211.0E	0211.0	U	350.0			QL=1 ST=2 TYP=3
	15400	LEAR	8 S	0402.0E	0402.0	1.0D	15.0			QL=1 ST=2 TYP=3
	610	LEAR	49 GB	0402.0E	0402.0	1.0D	990.0			QL=1 ST=2 TYP=6
	410	LEAR	8 S	0402.0E	0403.0	1.0D	140.0			QL=1 ST=2 TYP=3
	200	GORK	4 S/F	0510.9	0511.0	1.3	270.0			
	3100	CRIM	25 R	0619.0	0808.0		7.1			
	650	GORK	28 PRE	0631.9	0632.3	1.8	49.0			
	650	GORK	28 PRE	0631.9	0633.6		30.0			
	610	LEAR	8 S	0633.0E	0633.0	U	83.0			QL=1 ST=2 TYP=3
	15000	KISV	2 S/F	0633.4	0633.6	0.3	8.0			
	15000	KISV	1 S	0655.7	0655.8	0.5	19.0			
	15000	KISV	2 S/F	0706.2	0706.4	0.5	8.0			
	2950	GORK	23 GRF	0715.0	0809.0	155.0	5.0			
	9100	GORK	23 GRF	0715.0	0807.1	135.0D	12.0			
5900	KISV	2 S/F	0716.2	0716.7	1.2	3.0				
410	LEAR	49 GB	0729.0E	0730.0	1.0D	1100.0			QL=1 ST=2 TYP=6	
536	ONDR	41 F	0800.0E	0822.7	360.0D	12.0U				
5900	KISV	2 S/F	0806.6	0807.1	0.9	13.0				
9300	KISV	2 S/F	0806.7	0807.1	0.7	8.0				
15000	KISV	2 S/F	0806.8	0807.0	0.5	9.0				
3100	CRIM	1 S	0806.8	0807.2	1.0	5.1	2.7			
2950	GORK	1 S	0806.8	0807.2	0.5	8.8	4.0			
950	GORK	46 C	0820.7	0821.1	3.8	14.0				
950	GORK	46 C	0820.7	0823.5		17.0				
410	LEAR	8 S	0822.0E	0823.0	1.0D	230.0			QL=1 ST=2 TYP=3	
8800	LEAR	8 S	0822.0E	0823.0	2.0D	30.0			QL=1 ST=2 TYP=3	
15400	LEAR	8 S	0822.0E	0823.0	2.0D	39.0			QL=1 ST=2 TYP=3	
610	LEAR	8 S	0822.0E	0822.0	1.0D	150.0			QL=1 ST=2 TYP=3	
15000	KISV	45 C	0822.0	0823.1	7.5	44.0				

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
06	650	GORK	46 C	0822.7	0823.0	1.6	120.0			
	650	GORK	46 C	0822.7	0823.3		80.0			
	200	GORK	3 S	0822.8	0823.5	1.3	270.0			
	100	GORK	8 S	0822.8	0823.6	0.8	7200.0			
	2950	GORK	45 C	0822.9	0823.2	1.5	20.0			
	9100	GORK	4 S/F	0822.9	0823.4	1.5	33.0			
	2950	GORK	45 C	0822.9	0823.5		20.0			
	9300	KISV	4 S/F	0822.9	0823.5	1.5	39.0			
	2950	GORK	45 C	0822.9	0823.7		16.3			
	5900	KISV	45 C	0822.9	0823.7	3.2	24.0			
	245	LEAR	8 S	0823.0E	0823.0		400.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0823.0E	0823.0	1.0D	21.0			QL=1 ST=2 TYP=3
	410	SVTO	8 S	0823.0E	0823.0	1.0D	370.0			QL=1 ST=2 TYP=3
	245	SVTO	49 GB	0823.0E	0823.0	1.0D	500.0			QL=1 ST=2 TYP=6
	11800	BERN	4 S/F	0823.0	0823.3	2.0	40.0			
	5200	BERN	4 S/F	0823.0	0823.3	2.0	17.0			
	3200	BERN	4 S/F	0823.0	0823.3	2.0	16.0			
	19600	BERN	4 S/F	0823.0	0823.3	2.0	80.0			
	8400	BERN	4 S/F	0823.0	0823.3	2.0	35.0			
	204	IZMI	5 S	0823.0	0823.5	1.0	1900.0	1000.0		
	9500	POTS	3 S	0823.0	0823.5	2.0	28.0			
	3100	CRIM	1 S	0823.0	0823.7	2.0	9.2	3.0		
	3000	POTS	3 S	0823.0	0823.8	2.0	21.0			
	127	TORN	8 S	0823.3	0823.6	1.6	4500.0D	2200.0D		
	650	GORK	8 S	0922.7	0922.8	0.3	50.0			
	15000	KISV	2 S/F	0945.4	0946.2	1.8	10.0			
	9300	KISV	2 S/F	0945.5	0946.2	1.5	9.0			
	5900	KISV	2 S/F	0945.6	0946.2	3.6	8.0			
	3100	CRIM	1 S	0945.8	0946.0	1.0	3.1	1.0		
	9300	KISV	2 S/F	0952.1	0952.6	2.2	10.0			
	5900	KISV	2 S/F	0952.2	0952.3	3.8	5.0			
	2950	GORK	3 S	1029.5	1030.3	2.4	6.7			
	9300	KISV	45 C	1042.7	1044.2	6.3	29.0			
	9300	KISV	45 C	1042.7	1046.2		14.0			
	9300	KISV	23 GRF	1042.7	1104.5	44.8	14.0			
	5900	KISV	2 S/F	1043.0	1044.2	5.0	24.0			
	5900	KISV	23 GRF	1043.0	1115.7	44.3	12.0			
	15000	KISV	23 GRF	1043.4	1120.0	65.6	16.0			
	15000	KISV	2 S/F	1043.4	1044.2	4.6	25.0			
	9500	POTS	22 GRF	1055.0	1109.5	65.0	11.0			
245	SGMR	8 S	1220.0E	1221.0	1.0D	74.0			QL=1 ST=2 TYP=3	
410	SGMR	8 S	1221.0E	1221.0		87.0			QL=1 ST=2 TYP=3	
245	SVTO	8 S	1221.0E	1221.0		72.0			QL=1 ST=2 TYP=3	
810	KRAK	8 S	1350.5	1350.6	0.5	11.0				
245	SGMR	8 S	1546.0E	1546.0	1.0D	280.0			QL=1 ST=2 TYP=3	
2800	OTTA	4 S/F	1819.5	1823.1	14.8	136.4	65.0			
2695	PALE	20 GRF	1821.0E	1823.0	7.0D	110.0			QL=1 ST=3 TYP=2	
8800	PALE	4 S/F	1821.0E	1822.0	8.0D	250.0			QL=1 ST=3 TYP=3	
4995	PALE	4 S/F	1821.0E	1822.0	8.0D	290.0			QL=1 ST=3 TYP=3	
4995	SGMR	4 S/F	1821.0E	1822.0	9.0D	290.0			QL=1 ST=2 TYP=3	
8800	SGMR	4 S/F	1821.0E	1822.0	9.0D	350.0			QL=1 ST=2 TYP=3	
2695	SGMR	20 GRF	1821.0E	1823.0	9.0D	120.0			QL=1 ST=2 TYP=2	
610	SGMR	8 S	1822.0E	1822.0	1.0D	63.0			QL=1 ST=2 TYP=3	
1415	SGMR	20 GRF	1822.0E	1828.0	8.0D	45.0			QL=1 ST=2 TYP=2	
15400	SGMR	20 GRF	1822.0E	1822.0	8.0D	190.0			QL=1 ST=2 TYP=2	
410	PALE	8 S	2240.0E	2240.0	1.0D	75.0			QL=1 ST=2 TYP=3	
07	650	GORK	44 NS	0518.0E		36.0D		2.0		
	200	GORK	44 NS	0520.0E		360.0D		5.0		
	100	GORK	44 NS	0545.0E		315.0D		5.0		
	410	SVTO	44 NS	0548.0E	0609.0	398.0D	18.0			QL=1 ST=2 TYP=1
	245	SVTO	44 NS	0548.0E	0946.0	569.0D	130.0			QL=1 ST=2 TYP=1
	234	POTS	44 NS	0620.0E	1137.0	510.0D	66.0	37.0		
	127	TORN	44 NS	0700.0E	0700.0D	420.0D		20.0		V=2
	204	IZMI	43 NS	0700.0		300.0	150.0			
	430	KRAK	44 NS	0806.0E	1009.9	301.0D	27.0	3.0		
	260	ONDR	44 NS	0830.0E	0954.5	300.0D	48.0			
	245	SGMR	44 NS	1148.0E	1204.0	558.0D	91.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2105.0E	0351.0	630.0D	28.0	13.0		MR

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

37
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
07	245	LEAR	44 NS	2153.0E	0741.0	749.0D	140.0			QL=1 ST=2 TYP=1
	245	PALE	44 NS	2218.0E	0230.0	318.0D	26.0			QL=1 ST=2 TYP=1
	200	HIRA	41 F	0121.8	0150.2	37.0	510.0			0
	650	GORK	46 C	0137.3	0641.9		18.0			
	500	HIRA	22 GRF	0440.0	0510.0	115.0	72.0	8.0		WR
	650	GORK	46 C	0637.3	0638.2	7.6	6.5			
	9300	KISV	22 GRF	0724.5	0733.9	58.5	9.0			
	5900	KISV	22 GRF	0728.4	0729.4	47.5	3.0			
	9100	GORK	20 GRF	0730.0	0736.3	9.3	7.6			
	15000	KISV	2 S/F	0753.4	0753.6	0.7	8.0			
	9100	GORK	21 GRF	0800.0E	1114.2	195.0D	42.0			
	9300	KISV	29 PBI	0802.3	0806.1	6.7	12.0			
	9300	KISV	4 S/F	0802.3	0803.8	3.7	94.0			
	15000	KISV	29 PBI	0802.4	0805.2	4.2	15.0			
	5900	KISV	29 PBI	0802.4	0806.7	9.0	6.0			
	15000	KISV	4 S/F	0802.4	0803.8	2.8	138.0			
	5900	KISV	4 S/F	0802.4	0803.8	4.3	34.0			
	9500	POTS	3 S	0802.7	0804.0	32.0	81.0			
	15400	LEAR	8 S	0803.0E	0803.0	2.0D	150.0			QL=1 ST=2 TYP=3
	8800	LEAR	8 S	0803.0E	0803.0	2.0D	83.0			QL=1 ST=2 TYP=3
	9100	GORK	3 S	0803.0	0803.9	4.8	92.0			
	15000	KISV	2 S/F	0839.2	0839.7	1.2	10.0			
	536	ONDR	41 F	0900.0E	1150.0	300.0D	3.0			
	9300	KISV	2 S/F	0900.5	0900.7	0.6	3.0			
	9300	KISV	22 GRF	0905.2	0919.0	52.3	10.0			
	9500	POTS	20 GRF	0912.0	0919.0U	40.0	8.0			
	15000	KISV	22 GRF	0937.8	1009.8	52.0	11.0			
	9300	KISV	28 PRE	1002.5	1008.9	58.5	8.0			
	15000	KISV	2 S/F	1012.0	1012.5	0.6	4.0			
	5900	KISV	23 GRF	1013.5	1033.4	30.0	10.0			
	5900	KISV	2 S/F	1013.5	1014.8	2.0	14.0			
	9300	KISV	45 C	1013.8	1014.3	1.7	5.0			
	9300	KISV	45 C	1013.8	1014.8		4.0			
	2950	GORK	20 GRF	1024.0	1028.5	8.2	4.2			
	9300	KISV	1 S	1024.1	1026.7	3.8	4.0			
	15000	KISV	45 C	1030.0	1033.6		43.0			
	9300	KISV	46 C	1031.9	1033.4		7.0			
	9300	KISV	46 C	1031.9	1032.8	2.5	6.0			
	9300	KISV	46 C	1031.9	1033.9		5.0			
	15000	KISV	28 PRE	1032.5	1033.5	5.8	5.0			
	100	GORK	46 C	1035.5	1036.1		100.0			
	100	GORK	46 C	1035.5	1035.9	0.6	100.0			
	2950	GORK	21 GRF	1036.0	1113.2	60.0D	22.0			
	9500	POTS	4 S/F	1037.0	1038.2	6.8	20.0			
	15000	KISV	45 C	1037.3	1038.0	5.0	16.0			
9300	KISV	45 C	1037.3	1038.0	10.7	20.0				
9300	KISV	45 C	1037.3	1039.6		19.0				
9100	GORK	2 S/F	1037.6	1038.0	4.3	15.0				
5900	KISV	4 S/F	1100.5	1106.3	9.7	251.0				
5900	KISV	29 PBI	1100.5	1110.3	53.0D	36.0				
9300	KISV	29 PBI	1101.0	1115.0	23.0	36.0				
9300	KISV	4 S/F	1101.0	1106.0U	14.0	104.0D				
9500	POTS	4 S/F	1102.0	1105.8	32.0	175.0				
1470	POTS	29 PBI	1103.0	1106.6	207.0D	68.0				
15000	KISV	45 C	1103.4	1106.3		82.0				
15000	KISV	29 PBI	1103.4	1108.5	16.0	23.0				
15000	KISV	45 C	1103.4	1105.8	5.0	113.0				
3000	POTS	29 PBI	1103.5	1106.4	117.0	111.0				
3013	IZMI	7 C	1103.5	1106.5	12.0	100.0	80.0			
2950	GORK	3 S	1104.0	1106.0U	6.3	36.0D				
9100	GORK	4 S/F	1104.8	1105.5	5.8	200.0				
950	GORK	2 S/F	1105.0	1106.0	4.5	77.0				
2695	SVTO	4 S/F	1105.0E	1106.0	4.0D	110.0			QL=1 ST=2 TYP=3	
4995	SVTO	4 S/F	1105.0E	1106.0	4.0D	160.0			QL=1 ST=2 TYP=3	
8800	SVTO	4 S/F	1105.0E	1106.0	3.0D	210.0			QL=1 ST=2 TYP=3	
3200	BERN	46 C	1105.0	1106.3	5.0	144.0				
11800	BERN	46 C	1105.0	1106.3	5.0	162.0				
5200	BERN	46 C	1105.0	1106.3	5.0	234.0				
8400	BERN	46 C	1105.0	1106.3	5.0	252.0				

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
07	950	GORK	3 S	1105.0	1106.7	5.6	19.0			
	1415	SVTO	8 S	1106.0E	1107.0	1.0D	61.0			QL=1 ST=2 TYP=3
	5900	KISV	2 S/F	1112.8	1113.2	0.5	10.0			
	9500	POTS	3 S	1358.5	1359.6	55.0U	30.0			
	15400	SGMR	8 S	1359.0E	1359.0	1.0D	88.0			QL=1 ST=2 TYP=3
	15400	SVTO	8 S	1359.0E	1359.0	1.0D	73.0			QL=1 ST=2 TYP=3
08	200	GORK	44 NS	0508.0E		360.0D		5.0		
	100	GORK	44 NS	0508.0E		382.0D		5.0		
	245	SVTO	44 NS	0549.0E	1107.0	567.0D	130.0			QL=1 ST=2 TYP=1
	234	POTS	44 NS	0620.0E	1034.5	540.0D	90.0			
	127	TORN	44 NS	0700.0E	0700.0U	406.0D		445.0		V=1
	204	I2MI	43 NS	0700.0		300.0	100.0			
	260	ONDR	44 NS	0800.0E	1253.6	300.0D				
	245	SGMR	43 NS	1149.0	1520.0	556.0	410.0			QL=1 ST=2 TYP=1
	410	SVTO	44 NS	1424.0E	1502.0	52.0D	75.0			QL=1 ST=2 TYP=1
	410	SGMR	43 NS	1506.0	1523.0	148.0D	90.0			QL=1 ST=2 TYP=1
	245	PALE	44 NS	1655.0E	2330.0	641.0D	160.0			QL=1 ST=3 TYP=1
	100	HIRA	44 NS	2105.0E		240.0D		180.0		
	200	HIRA	44 NS	2105.0E		630.0D		77.0		
	245	LEAR	44 NS	2153.0E	2303.0	749.0D	380.0			QL=1 ST=2 TYP=1
	245	SVTO	8 S	0741.0E	0741.0	1.0D	120.0			QL=1 ST=2 TYP=3
	100	GORK	8 S	0903.1	0903.2	0.2	350.0			
	100	GORK	8 S	1039.0	1039.2	0.3	100.0			
	100	GORK	8 S	1054.8	1055.1	1.0	150.0			
	9300	KISV	2 S/F	1114.3	1115.0	1.0	4.0			
	15000	KISV	2 S/F	1114.4	1115.0	1.3	4.0			
	5900	KISV	2 S/F	1114.4	1114.9	1.0	2.0			
	5200	BERN	46 C	1143.0	1153.0	30.0	104.0			
	3200	BERN	46 C	1143.0	1153.0	30.0	152.0			
	8400	BERN	46 C	1143.0	1153.0	30.0	57.0			
	245	SGMR	8 S	1158.0E	1158.0	U	93.0			QL=1 ST=2 TYP=3
	9500	POTS	1 S	1205.5	1206.0	1.5	5.0			
	245	SGMR	8 S	1207.0E	1207.0	2.0D	97.0			QL=1 ST=2 TYP=3
	234	POTS	49 GB	1220.0	1336.4	180.0D	50000.0			
	245	SGMR	49 GB	1223.0E	1334.0	132.0D	20000.0			QL=1 ST=2 TYP=7
	1470	POTS	47 GB	1225.0	1230.2	105.0	266.0			
	1470	POTS	47 GB	1225.0	1329.5		205.0			
	1470	POTS	47 GB	1225.0	1258.6		375.0			
	1470	POTS	47 GB	1225.0	1256.7		315.0			
	1470	POTS	47 GB	1225.0	1330.9		205.0			
1415	SVTO	4 S/F	1226.0E	1259.0	73.0D	430.0			QL=1 ST=2 TYP=5	
410	SVTO	49 GB	1226.0E	1315.0	112.0D	3700.0			QL=1 ST=2 TYP=7	
430	KRAK	49 GB	1226.2	1329.2U	1075.0D	1000.0D	360.0D			
810	KRAK	49 GB	1226.5	1242.7	99.5	550.0	90.0			
2695	SVTO	4 S/F	1227.0E	1252.0	107.0D	140.0			QL=1 ST=2 TYP=3	
536	ONDR	41 F	1227.0	1253.6	90.0D					
1415	SGMR	4 S/F	1228.0E	1258.0	84.0D	430.0			QL=1 ST=2 TYP=5	
3000	POTS	45 C	1228.0	1252.5	62.0	129.0				
9500	POTS	20 GRF	1228.5	1253.0	102.0	35.0				
610	SGMR	49 GB	1229.0E	1259.0	92.0D	2300.0			QL=1 ST=2 TYP=7	
410	SGMR	49 GB	1230.0E	1329.0	125.0D	7700.0			QL=1 ST=2 TYP=7	
127	TORN	27 RF	1230.0	1230.0U	136.0		1700.0			
245	SVTO	49 GB	1231.0E	1331.0	106.0D	11000.0			QL=1 ST=2 TYP=7	
30	POTS	49 GB	1233.0	1239.0	25.0D	10000.0				
610	SVTO	49 GB	1239.0E	1259.0	60.0D	3100.0			QL=1 ST=2 TYP=7	
2695	SGMR	20 GRF	1245.0E	1252.0	47.0D	130.0			QL=1 ST=2 TYP=2	
4995	SGMR	4 S/F	1246.0E	1252.0	79.0D	56.0			QL=1 ST=2 TYP=3	
4995	SVTO	4 S/F	1246.0E	1252.0	674.0D	85.0			QL=1 ST=1 TYP=5	
245	PALE	8 S	2304.0E	2304.0	U	470.0			QL=1 ST=2 TYP=3	
09	410	LEAR	44 NS	0037.0E	0042.0	144.0D	32.0			QL=1 ST=2 TYP=1
	100	GORK	44 NS	0509.0E		396.0D		10.0		
	200	GORK	44 NS	0509.9E		300.0D		10.0		
	245	SVTO	44 NS	0550.0E	1518.0	568.0D	260.0			QL=1 ST=2 TYP=1
	127	TORN	44 NS	0700.0E	0700.0U	406.0D		165.0		V=1
	204	I2MI	43 NS	0700.0		300.0	100.0			
	234	POTS	44 NS	0700.0E	1304.0	471.0D	550.0	95.0		
260	ONDR	44 NS	0800.0E	1248.0U	360.0D					

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

39
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks	
09	410	SVTO	44 NS	1243.0E	1248.0	152.0D	230.0			QL=1 ST=2 TYP=1	
	245	SGMR	43 NS	1243.0	1324.0	501.0	470.0			QL=1 ST=2 TYP=1	
	410	SGMR	43 NS	1243.0	1305.0	501.0	140.0			QL=1 ST=2 TYP=1	
	245	PALE	44 NS	1659.0E	2255.0	636.0D	330.0			QL=1 ST=2 TYP=1	
	200	HIRA	44 NS	2105.0E	2238.0	630.0D	21.0	8.0		0	
	245	LEAR	44 NS	2152.0E	0258.0	751.0D	280.0			QL=1 ST=2 TYP=1	
	2840	PEKG	45 C	0206.0	0211.0	8.0	18.9	15.0			
	245	LEAR	4 S/F	0210.0E	0211.0	3.0D	44.0				QL=1 ST=2 TYP=3
	410	LEAR	4 S/F	0210.0E	0211.0	5.0D	230.0				QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0210.0E	0212.0	5.0D	27.0				QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0210.0E	0212.0	5.0D	36.0				QL=1 ST=2 TYP=3
	610	LEAR	4 S/F	0211.0E	0212.0	4.0D	36.0				QL=1 ST=2 TYP=3
	15400	LEAR	4 S/F	0211.0E	0212.0	4.0D	51.0				QL=1 ST=2 TYP=3
	2840	PEKG	29 PBI	0214.0		37.0D	6.0	4.7			
	9100	GORK	21 GRF	0504.6	1111.8	390.0	17.0				
	2840	PEKG	3 S	0616.0	0617.0	2.0	28.1	22.3			
	9300	KISV	2 S/F	0618.6	0618.9	1.3	10.0				
	5900	KISV	2 S/F	0618.6	0618.9	1.3	7.0				
	950	GORK	46 C	0618.7	0619.0	1.7	5.0				
	650	GORK	4 S/F	0618.7	0619.0	0.7	8.0				
	15000	KISV	2 S/F	0618.7	0619.0	1.1	10.0				
	9100	GORK	1 S	0618.7	0619.1	1.8	6.9				
	950	GORK	46 C	0618.7	0619.7		3.5				
	2950	GORK	3 S	0618.8	0619.0	0.8	47.0				
	2950	GORK	29 PBI	0618.8	0619.6	10.5	2.5				
	245	LEAR	8 S	0619.0E	0619.0		300.0				QL=1 ST=2 TYP=3
	245	SVTO	8 S	0619.0E	0619.0		330.0				QL=1 ST=2 TYP=3
	245	SVTO	8 S	0633.0E	0633.0	1.0D	120.0				QL=1 ST=3 TYP=3
	2840	PEKG	1 S	0642.0	0643.0	3.0	2.6	2.0			
	15000	KISV	2 S/F	0642.0U	0645.7	8.0U	25.0U				
	9300	KISV	2 S/F	0643.7	0645.1	5.5	13.0				
	5900	KISV	2 S/F	0643.9	0645.7	3.0	8.0				
	5900	KISV	29 PBI	0643.9	0646.9	3.5	3.0				
	9100	GORK	1 S	0645.0	0645.7	2.0	8.6				
	5900	KISV	2 S/F	0742.2	0742.6	0.9	1.0				
	9300	KISV	2 S/F	0742.3	0742.6	0.7	5.0				
	5900	KISV	45 C	0748.6	0756.0		31.0				
	5900	KISV	45 C	0748.6	0749.9	27.0	4.0				
	9300	KISV	45 C	0749.3	0755.9		27.0				
	9300	KISV	45 C	0749.3	0749.9	33.0	13.0				
	15000	KISV	45 C	0749.5	0756.0		16.0				
	15000	KISV	45 C	0749.5	0750.0	22.5	10.0				
	9500	POTS	42 SER	0749.5	0755.5	25.0	25.0U				
	9100	GORK	1 S	0749.8	0749.9	1.1	10.0				
	245	SVTO	4 S/F	0753.0E	0754.0	3.0D	150.0				QL=1 ST=2 TYP=3
	2950	GORK	3 S	0754.2	0756.1	3.9	28.0	14.0			
	2950	GORK	29 PBI	0754.2	0757.9	11.0	6.6				
	9100	GORK	1 S	0754.7	0755.9	3.0	16.0				
	3000	POTS	3 S	0755.0	0756.0	5.0	24.0				
	1470	POTS	4 S/F	0755.0	0756.5	8.5	14.0				
3013	IZMI	5 S	0755.1	0756.0	5.0	30.0	25.0				
950	GORK	3 S	0755.4	0756.7	2.0	4.5					
650	GORK	2 S/F	0755.6	0756.3	2.2	2.0					
100	GORK	8 S	0759.1	0759.2	0.5	700.0					
9500	POTS	20 GRF	0802.0	0834.5	68.0	10.0					
9300	KISV	45 C	0815.5	0818.3	5.0	20.0					
950	GORK	22 GRF	0815.8	0834.9	20.0	2.0					
410	LEAR	8 S	0817.0E	0818.0	1.0D	210.0				QL=1 ST=2 TYP=3	
100	GORK	46 C	0817.1	0818.1		170.0					
2950	GORK	1 S	0817.1	0818.3	2.0	3.6	1.8				
100	GORK	46 C	0817.1	0817.6	1.3	350.0					
5900	KISV	45 C	0817.6	0818.2	1.6	9.0					
9100	GORK	2 S/F	0817.7	0818.2	1.4	20.0					
430	KRAK	2 S/F	0817.8	0818.0	1.3	80.0	4.0				
245	LEAR	8 S	0818.0E	0818.0		100.0				QL=1 ST=2 TYP=3	
410	SVTO	8 S	0818.0E	0818.0		180.0				QL=1 ST=3 TYP=3	
245	SVTO	8 S	0818.0E	0818.0		100.0				QL=1 ST=3 TYP=3	
1470	POTS	4 S/F	0818.0	0818.1	1.2	14.0					
950	GORK	4 S/F	0818.0	0818.2	1.1	14.0					

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
09	15000	KISV	45 C	0818.0	0818.2	0.6	14.0			
	810	KRAK	1 S	0818.0	0818.2	0.8	13.0	3.0		
	3000	POTS	1 S	0818.0	0818.2	1.0	6.0			
	9500	POTS	3 S	0818.0	0818.5	2.0	17.0U			
	650	GORK	4 S/F	0818.0	0818.6	1.7	25.0			
	2950	GORK	20 GRF	0840.4	1111.0	200.0D	6.7			
	950	GORK	22 GRF	0857.9	0918.0	29.1	3.0			
	650	GORK	40 F	0900.0	0900.2	1.5	22.0			
	430	KRAK	42 SER	0909.0	0916.0	58.7	36.0			
	9100	GORK	45 C	1018.8	1019.6	2.9	19.0			
	9100	GORK	45 C	1018.8	1020.9		23.0			
	5900	KISV	22 GRF	1059.1	1111.6	27.5	9.0			
	9300	KISV	22 GRF	1059.2	1111.6	29.0	11.0			
	9500	POTS	20 GRF	1106.0	1111.0	44.0	8.0			
	9500	POTS	45 C	1201.0	1225.0	89.0	454.0			
	430	KRAK	42 SER	1205.2	1213.0	17.0	24.0			
	3000	POTS	45 C	1220.0	1225.0	110.0	562.0			
	1470	POTS	45 C	1220.0	1225.0	130.0D	107.0			
	15400	SVTO	49 GB	1221.0E	1225.0	19.0D	650.0			QL=1 ST=2 TYP=6
	810	KRAK	27 RF	1221.0	1221.8	100.0D	160.0	8.0		
	8800	SVTO	4 S/F	1223.0E	1225.0	17.0D	430.0			QL=1 ST=2 TYP=3
	4995	SVTO	4 S/F	1223.0E	1225.0	17.0D	270.0			QL=1 ST=2 TYP=3
	536	ONDR	41 F	1223.0	1315.5	97.0	4.1			
	3100	CRIM	3 S	1223.2	1225.0	11.0	178.0	60.0		
	3100	CRIM	30 PBI	1223.2	1234.0	30.0D	7.0			
	430	KRAK	49 GB	1223.5	1251.2	97.0D	160.0D	60.0U		
	2695	SGMR	4 S/F	1224.0E	1225.0	5.0D	240.0			QL=1 ST=2 TYP=3
	4995	SGMR	4 S/F	1224.0E	1225.0	9.0D	280.0			QL=1 ST=2 TYP=3
	1415	SGMR	4 S/F	1224.0E	1225.0	4.0D	96.0			QL=1 ST=2 TYP=3
	8800	SGMR	20 GRF	1224.0E	1225.0	7.0D	370.0			QL=1 ST=2 TYP=2
	1415	SVTO	4 S/F	1224.0E	1225.0	9.0D	96.0			QL=1 ST=2 TYP=3
	2695	SVTO	4 S/F	1224.0E	1225.0	9.0D	260.0			QL=1 ST=2 TYP=3
	11800	BERN	47 GB	1224.0	1225.0	12.0	630.0			
	5200	BERN	47 GB	1224.0	1225.0	12.0	370.0			
	3200	BERN	47 GB	1224.0	1225.0	12.0	315.0			
	19600	BERN	47 GB	1224.0	1225.0	12.0	556.0			
	8400	BERN	47 GB	1224.0	1225.0	12.0	470.0			
	15400	SGMR	49 GB	1224.0E	1225.0	696.0D	620.0			QL=1 ST=1 TYP=6
	245	SGMR	4 S/F	1226.0E	1236.0	14.0D	170.0			QL=1 ST=2 TYP=5
	1415	SVTO	4 S/F	1228.0E	1230.0	32.0D	250.0			QL=1 ST=2 TYP=3
	3100	CRIM	1 S	1235.7	1237.4	3.5	9.0	3.0		
	127	TORN	27 RF	1238.0	1238.0U	128.0		490.0		
	245	SGMR	20 GRF	1240.0E	1259.0	24.0D	380.0			QL=1 ST=2 TYP=2
	410	SGMR	20 GRF	1243.0E	1248.0	21.0D	200.0			QL=1 ST=2 TYP=2
	245	SVTO	20 GRF	1245.0E	1253.0	15.0D	210.0			QL=1 ST=2 TYP=2
	245	PALE	4 S/F	1837.0E	1838.0	4.0D	250.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1931.8	1933.9	7.2	34.2	17.0		
	15400	PALE	8 S	1932.0E	1932.0	2.0D	100.0			QL=1 ST=2 TYP=3
	8800	PALE	4 S/F	1932.0E	1932.0	3.0D	100.0			QL=1 ST=2 TYP=3
	15400	SGMR	4 S/F	1932.0E	1932.0	268.0D	110.0			QL=1 ST=1 TYP=3
4995	SGMR	8 S	1933.0E	1933.0	1.0D	58.0			QL=1 ST=2 TYP=3	
1415	PALE	20 GRF	1936.0E	1937.0	1.0D	56.0			QL=1 ST=2 TYP=2	
10	200	GORK	44 NS	0521.0E		50.0D		10.0		
	245	SVTO	44 NS	0552.0E	0616.0	28.0D	20.0			QL=1 ST=2 TYP=1
	204	IZMI	43 NS	0800.0		240.0	15.0			
	260	ONDR	44 NS	0810.0E	1040.0	350.0D	19.1			
	430	KRAK	43 NS	0943.0	1040.5	102.0	10.0			
	245	SGMR	43 NS	1152.0	1512.0	551.0	180.0			QL=1 ST=2 TYP=1
	245	LEAR	44 NS	2152.0E	0120.0	752.0D	84.0			QL=1 ST=3 TYP=1
	200	HIRA	43 NS	2241.0	0217.0	300.0D	9.0	2.0		WR
	410	LEAR	8 S	0033.0E	0034.0	1.0D	100.0			QL=1 ST=2 TYP=3
	245	LEAR	49 GB	0033.0E	0034.0	1.0D	3000.0			QL=1 ST=2 TYP=6
	200	HIRA	46 C	0033.0	0033.7	2.1	8600.0			0
	100	HIRA	46 C	0033.2		1.5	1000.0D			
	610	LEAR	8 S	0034.0E	0034.0	U	40.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0034.0E	0034.0	U	16.0			QL=1 ST=2 TYP=3
8800	LEAR	8 S	0034.0E	0034.0	U	28.0			QL=1 ST=2 TYP=3	
410	PALE	8 S	0034.0E	0034.0	U	470.0			QL=1 ST=2 TYP=3	

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

41
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
10	245	PALE	49 GB	0034.0E	0034.0	U	3500.0			QL=1 ST=2 TYP=6
	245	PALE	8 S	0258.0E	0258.0	U	360.0			QL=1 ST=2 TYP=3
	100	HIRA	41 F	0333.8	0335.6	2.6	390.0			
	410	LEAR	4 S/F	0334.0E	0336.0	5.0D	55.0			QL=1 ST=2 TYP=3
	610	LEAR	4 S/F	0334.0E	0336.0	5.0D	15.0			QL=1 ST=2 TYP=3
	245	LEAR	49 GB	0334.0E	0336.0	2.0D	630.0			QL=1 ST=2 TYP=6
	200	HIRA	41 F	0335.1	0336.3	1.3	1500.0			0
	200	GORK	41 F	0536.5	0543.2		14.0			
	200	GORK	41 F	0536.5	0542.8	14.0	14.0			
	650	GORK	23 GRF	0604.2	0642.8	123.0U	5.0			
	950	GORK	47 GB	0604.5	0718.0		1600.0			
	950	GORK	29 PBI	0604.5	0736.0	111.0	12.0			
	950	GORK	47 GB	0604.5	0614.7	91.5	1000.0			
	950	GORK	47 GB	0604.5	0712.8		1344.0			
	2840	PEKG	45 C	0605.0	0612.0	41.0	253.0D	193.2D		
	5900	KISV	47 GB	0605.0	0614.1	18.0	152.3			
	5900	KISV	29 PBI	0605.0	0623.3	71.0	148.0			
	2950	GORK	30 PBI	0605.1	0709.0	264.0	47.0			
	9100	GORK	30 PBI	0605.1	0642.0	271.0	45.0			
	9100	GORK	47 GB	0605.1	0614.1	37.0	2158.0			
	2950	GORK	47 GB	0605.1	0612.1	124.0	1064.0			
	2695	LEAR	49 GB	0608.0E	0612.0	20.0D	730.0			QL=1 ST=2 TYP=7
	9300	KISV	47 GB	0608.3	0614.0	15.0	2318.0			
	9300	KISV	29 PBI	0608.3	0623.5	70.0	113.0			
	15000	KISV	47 GB	0609.7	0614.0	13.5	1611.0			
	100	GORK	47 GB	0609.7	0616.3		21500.0			
	15000	KISV	29 PBI	0609.7	0623.4	69.5	54.0			
	100	GORK	47 GB	0609.7	0613.5	73.0	22000.0			
	100	GORK	47 GB	0609.7	0707.6		120.0			
	100	GORK	47 GB	0609.7	0639.7		160.0			
	100	GORK	47 GB	0609.7	0617.9		22000.0			
	2695	SVTO	49 GB	0610.0E	0612.0	13.0D	610.0			QL=1 ST=2 TYP=7
	500	HIRA	48 C	0610.0	0612.6		165.0			0
	500	HIRA	48 C	0610.0	0707.7	80.0D	1000.0D	210.0U		ML SUNSET
	200	HIRA	49 GB	0610.2	0613.0	79.0D	53000.0	675.0U		0 SUNSET
	200	HIRA	49 GB	0610.2	0718.5		2600.0U			WL
	1415	SVTO	49 GB	0611.0E	0612.0	7.0D	440.0			QL=1 ST=2 TYP=7
	8800	LEAR	49 GB	0611.0E	0614.0	18.0D	1500.0			QL=1 ST=2 TYP=7
	610	LEAR	49 GB	0611.0E	0613.0	11.0D	270.0			QL=1 ST=2 TYP=7
	410	LEAR	49 GB	0611.0E	0612.0	10.0D	690.0			QL=1 ST=2 TYP=7
	4995	SVTO	49 GB	0611.0E	0614.0	12.0D	1100.0			QL=1 ST=2 TYP=7
	8800	SVTO	49 GB	0611.0E	0614.0	11.0D	1900.0			QL=1 ST=2 TYP=7
	15400	LEAR	49 GB	0611.0E	0614.0	20.0D	1900.0			QL=1 ST=2 TYP=7
	650	GORK	47 GB	0611.1	0617.0		280.0			
	650	GORK	47 GB	0611.1	0614.0	10.9	280.0			
	100	HIRA	48 C	0612.0		73.0D	1000.0D	360.0D		SUNSET
	245	LEAR	49 GB	0612.0E	0612.0	9.0D	28000.0			QL=1 ST=2 TYP=7
	245	SVTO	49 GB	0612.0E	0612.0	9.0D	26000.0			QL=1 ST=2 TYP=7
	410	SVTO	49 GB	0612.0E	0612.0	5.0D	440.0			QL=1 ST=2 TYP=7
	200	GORK	49 GB	0612.4	0613.1	180.0	23800.0			
200	GORK	49 GB	0612.4	0613.4		22900.0				
234	POTS	45 C	0624.0E	0729.0	156.0D	2800.0				
2695	LEAR	4 S/F	0633.0E	0635.0	10.0D	140.0			QL=1 ST=2 TYP=3	
15000	KISV	22 GRF	0633.8	0638.2	13.0	16.0				
9300	KISV	20 GRF	0634.7	0635.8	13.0	52.0				
610	LEAR	8 S	0635.0E	0636.0	1.0D	15.0			QL=1 ST=2 TYP=3	
8800	LEAR	4 S/F	0635.0E	0635.0	4.0D	36.0			QL=1 ST=2 TYP=3	
4995	SVTO	4 S/F	0635.0E	0635.0	3.0D	120.0			QL=1 ST=2 TYP=3	
650	GORK	47 GB	0649.7	0717.5	69.8	2340.0				
650	GORK	47 GB	0649.7	0734.7		1470.0				
610	LEAR	49 GB	0651.0E	0717.0	67.0D	1200.0			QL=1 ST=2 TYP=7	
410	LEAR	49 GB	0652.0E	0720.0	73.0D	1100.0			QL=1 ST=2 TYP=7	
245	LEAR	49 GB	0652.0E	0721.0	70.0D	1500.0			QL=1 ST=2 TYP=7	
245	SVTO	49 GB	0652.0E	0721.0	70.0D	2000.0			QL=1 ST=2 TYP=7	
410	SVTO	49 GB	0653.0E	0720.0	61.0D	860.0			QL=1 ST=2 TYP=7	
610	SVTO	49 GB	0656.0E	0717.0	62.0D	2300.0			QL=1 ST=2 TYP=7	
127	TORN	27 RF	0700.0E	0700.0U	54.0D		1200.0			
204	IZMI	47 GB	0700.0	0722.0	60.0	1700.0	800.0			
9500	POTS	22 GRF	0700.0U	0704.7	55.0U	17.0				

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
10	3000	POTS	4 S/F	0700.0U	0704.8	15.0U	41.0			
	1470	POTS	4 S/F	0700.0U	0704.9		8.0U			
	2695	LEAR	4 S/F	0702.0E	0705.0	5.0D	35.0			QL=1 ST=2 TYP=3
	5200	BERN	3 S	0702.3	0704.5	13.0	52.0			
	3200	BERN	3 S	0702.3	0704.5	13.0	135.0			
	2950	GORK	45 C	0702.5	0705.0	6.0	42.0			
	2950	GORK	45 C	0702.5	0707.4		24.0			
	3013	IZMI	42 SER	0703.0	0705.0	10.0	30.0	20.0		
	2950	GORK	1 S	0843.2	0845.0	2.6	2.3			
	810	KRAK	8 S	0942.5	0942.5	0.1	12.0			
	810	KRAK	41 F	1008.5	1021.8	14.0	5.0	2.0		
	536	ONDR	42 SER	1038.8	1039.0	12.5	13.3			
	100	GORK	8 S	1040.0	1040.3	0.5	500.0			
	9100	GORK	1 S	1040.0	1040.3	1.0	20.0	10.0		
	40	POTS	4 S/F	1040.0	1040.3	0.6	750.0	150.0		
	234	POTS	4 S/F	1040.0	1040.3	0.6	935.0	180.0		
	204	IZMI	5 S	1040.0	1040.5	0.8	1350.0	1000.0		
	950	GORK	1 S	1040.2	1040.3	0.4	1.6			
	327	TRST	46 C	1040.2	1040.3	0.3	414.0			19L Var. Pol.
	237	TRST	47 GB	1040.2	1040.4	0.4	2646.0			30L Var. Pol.
	650	GORK	1 S	1040.3	1040.4	0.4	3.5			
	204	IZMI	42 SER	1047.5	1100.3	16.5	500.0			
	408	TRST	46 C	1100.2	1100.2	0.3	404.0			18L Var. Pol
	327	TRST	47 GB	1100.2	1100.2	0.3	638.0			3L
237	TRST	46 C	1100.2	1100.3	0.3	382.0			23L	
237	TRST	42 SER	1200.8	1200.8	0.2	99.0			6L	
408	TRST	46 C	1200.8	1200.8	0.1	184.0			14L	
810	KRAK	27 RF	1216.0	1231.5U	27.5	27.0	15.0			
536	ONDR	41 F	1223.0	1227.5	87.0D	9.3				
237	TRST	46 C	1225.0	1225.0	0.1	253.0			10L	
245	PALE	8 S	2115.0E	2115.0	1.0D	360.0			QL=1 ST=2 TYP=3	
11	245	PALE	44 NS	0114.0E	0226.0	132.0D	74.0			QL=1 ST=2 TYP=1
	200	GORK	44 NS	0518.0E		300.0D		10.0		
	200	GORK	44 NS	0530.0E		120.0D		5.0		
	245	SVTO	44 NS	0552.0E	1205.0	562.0D	100.0			QL=1 ST=2 TYP=1
	204	IZMI	43 NS	0700.0		300.0	20.0			
	260	ONDR	44 NS	0750.0E	1205.0	300.0D	6.7			
	245	SGMR	44 NS	1153.0E	1455.0	549.0D	62.0			QL=1 ST=2 TYP=1
	410	SGMR	44 NS	1153.0E	1719.0	549.0D	25.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2105.0E	2308.0	330.0D	7.0	3.0		0
	245	LEAR	44 NS	2152.0E	0632.0	752.0D	40.0			QL=1 ST=2 TYP=1
	500	HIRA	27 RF	0013.0	0030.0	44.0	9.0	4.0		WR
	2840	PEKG	1 S	0452.0	0453.0	3.0	10.4	7.5		
	9100	GORK	1 S	0532.5	0533.0	1.6	12.0			
	2950	GORK	21 GRF	0551.2	0700.0	250.0	7.7			
	9100	GORK	21 GRF	0628.2	0828.6	301.0	8.5			
	9100	GORK	1 S	0632.6	0633.4	2.0	12.7	6.0		
	200	GORK	4 S/F	0656.3	0656.8	3.0	19.0			
	9100	GORK	1 S	0732.9	0733.6	2.1	5.0	2.5		
	200	GORK	4 S/F	0744.0	0744.7	2.3	19.0			
	5900	KISV	2 S/F	0824.9	0828.2	8.0	5.0			
	9300	KISV	22 GRF	0826.7	0831.4	12.5	6.0			
	2950	GORK	1 S	0945.5	0946.0	2.0	3.9	1.1		
	536	ONDR	41 F	1149.9	1257.7	121.0D	4.4			
	5900	KISV	2 S/F	1153.5	1153.8	2.5	1.0			
	9300	KISV	2 S/F	1153.6	1153.7	2.5	4.0			
	245	SGMR	8 S	1204.0E	1205.0	1.0D	130.0			QL=1 ST=2 TYP=3
	237	TRST	42 SER	1204.8	1205.0	0.5	391.0			5L
327	TRST	46 C	1422.2	1422.3	0.3	376.0			3L	
327	TRST	46 C	1506.5	1506.6	0.1	322.0			6L	
610	SGMR	8 S	1513.0E	1513.0	1.0D	200.0			QL=1 ST=2 TYP=3	
15400	SGMR	8 S	1513.0E	1514.0	2.0D	220.0			QL=1 ST=2 TYP=3	
4995	SGMR	8 S	1513.0E	1514.0	2.0D	170.0			QL=1 ST=2 TYP=3	
8800	SGMR	8 S	1513.0E	1514.0	2.0D	240.0			QL=1 ST=2 TYP=3	
2695	SGMR	4 S/F	1513.0E	1514.0	3.0D	130.0			QL=1 ST=2 TYP=3	
1415	SGMR	4 S/F	1513.0E	1514.0	3.0D	200.0			QL=1 ST=2 TYP=3	
2800	OTTA	3 S	1513.5	1514.8	5.4	138.0	69.0			
610	TRST	42 SER	1513.8	1513.8	0.8	2176.0			15L Spikes	

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

43
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m ² Hz)	Mean (2 Hz)		
11	2800	OTTA	29 PBI	1518.9	1518.9	50.0	20.5	10.0		
	245	SGMR	8 S	1551.0E	1551.0	1.0D	370.0			QL=1 ST=2 TYP=3
	245	SGMR	8 S	1926.0E	1927.0	2.0D	420.0			QL=1 ST=3 TYP=3
	245	PALE	8 S	1927.0E	1927.0	U	340.0			QL=1 ST=2 TYP=3
	610	SGMR	8 S	1927.0E	1927.0	1.0D	84.0			QL=1 ST=3 TYP=3
	410	PALE	8 S	1928.0E	1928.0	U	56.0			QL=1 ST=2 TYP=3
	610	PALE	8 S	1928.0E	1928.0	U	81.0			QL=1 ST=2 TYP=3
12	245	SVTO	44 NS	0554.0E	0626.0	55.0D	23.0			QL=1 ST=2 TYP=1
	204	IZMI	43 NS	0700.0		60.0	10.0			
	260	ONDR	44 NS	0740.0E	1228.5	370.0D	5.2			
	245	SGMR	44 NS	1155.0E	1243.0	546.0D	85.0			QL=1 ST=2 TYP=1
	500	HIRA	42 SER	0345.5	0351.5	53.0	14.0			0
	200	GORK	41 F	0555.0	0605.0	43.0	20.0			
	200	GORK	41 F	0555.0	0609.2		20.0			
	200	GORK	41 F	0653.9	0723.0		20.0			
	200	GORK	41 F	0653.9	0658.0	22.0	20.0			
	200	GORK	41 F	0653.9	0751.7		20.0			
	536	ONDR	41 F	1115.0	1151.0	39.0	1.5			
	9500	POTS	21 GRF	1140.0	1214.0	55.0	18.0			
	9300	KISV	46 C	1140.2	1153.3		37.0			
	9300	KISV	46 C	1140.2	1146.4	45.0D	26.0			
	9300	KISV	46 C	1140.2	1150.5		32.0			
	5900	KISV	46 C	1140.4	1153.3		50.0			
	5900	KISV	46 C	1140.4	1150.8		18.0			
	5900	KISV	46 C	1140.4	1145.8	26.5	19.0			
	11800	BERN	46 C	1144.0	1145.0	13.0	150.0			
	19600	BERN	46 C	1144.0	1145.0	13.0	195.0			
	8400	BERN	46 C	1144.0	1145.0	13.0	135.0			
	1470	POTS	21 GRF	1145.0	1209.0	40.0	4.0			
	9500	POTS	4 S/F	1145.0	1146.3	2.7	29.0			
	15000	KISV	46 C	1145.2	1150.3		34.0			
	15000	KISV	46 C	1145.2	1153.3		49.0			
	15000	KISV	46 C	1145.2	1145.9	21.5	64.0			
	9500	POTS	4 S/F	1149.0	1150.5	2.6	31.0			
	9500	POTS	4 S/F	1153.0	1153.2	2.5	51.0			
	5900	KISV	2 S/F	1202.9	1203.4	1.6	16.0			
	3000	POTS	3 S	1203.0	1203.1	0.7	17.0			
	9500	POTS	3 S	1203.0	1203.3	1.0	31.0			
	1470	POTS	3 S	1203.0	1203.4	1.5	32.0			
	15000	KISV	2 S/F	1203.1	1203.3	0.9	15.0			
	9300	KISV	2 S/F	1203.1	1203.4	0.8	23.0			
	5900	KISV	22 GRF	1209.6	1216.0	14.5D	12.0			
	1470	POTS	3 S	1323.0U	1323.4	15.0U	31.0			
	9500	POTS	40 F	1341.5	1345.1	14.0	18.0			
	2800	OTTA	28 PRE	1513.0	1604.0	51.0	5.1	2.0		
	2800	OTTA	45 C	1604.0	1608.0	17.0	216.2	108.0		
	4995	SGMR	4 S/F	1605.0E	1608.0	9.0D	480.0			QL=1 ST=2 TYP=3
	8800	SGMR	49 GB	1605.0E	1608.0	9.0D	1800.0			QL=1 ST=2 TYP=6
	15400	SGMR	49 GB	1605.0E	1607.0	9.0D	2600.0			QL=1 ST=2 TYP=6
	2695	SGMR	4 S/F	1606.0E	1608.0	8.0D	250.0			QL=1 ST=2 TYP=3
	410	SGMR	4 S/F	1607.0E	1607.0	4.0D	160.0			QL=1 ST=2 TYP=3
	1415	SGMR	4 S/F	1607.0E	1608.0	4.0D	160.0			QL=1 ST=2 TYP=3
	245	SGMR	4 S/F	1607.0E	1609.0	4.0D	350.0			QL=1 ST=2 TYP=3
	610	SGMR	4 S/F	1607.0E	1608.0	3.0D	68.0			QL=1 ST=2 TYP=3
245	SGMR	8 S	1614.0E	1614.0	U	60.0			QL=1 ST=2 TYP=3	
2695	SGMR	8 S	1614.0E	1614.0	U	76.0			QL=1 ST=2 TYP=3	
4995	SGMR	8 S	1614.0E	1614.0	1.0D	110.0			QL=1 ST=2 TYP=3	
410	SGMR	8 S	1614.0E	1614.0	U	99.0			QL=1 ST=2 TYP=3	
8800	SGMR	4 S/F	1614.0E	1614.0	5.0D	140.0			QL=1 ST=2 TYP=3	
15400	SGMR	8 S	1619.0E	1620.0	2.0D	70.0			QL=1 ST=2 TYP=3	
2800	OTTA	29 PBI	1621.0	1621.0	300.0D	15.3	7.0			
2800	OTTA	3 S	1944.0	1945.0	13.0	52.5	25.0			
1415	PALE	8 S	1944.0E	1945.0	1.0D	100.0			QL=1 ST=2 TYP=3	
4995	SGMR	8 S	1944.0E	1944.0	1.0D	53.0			QL=1 ST=2 TYP=3	
1415	SGMR	8 S	1944.0E	1944.0	1.0D	100.0			QL=1 ST=2 TYP=3	
8800	SGMR	8 S	1944.0E	1944.0	1.0D	63.0			QL=1 ST=2 TYP=3	
2695	SGMR	8 S	1945.0E	1945.0	U	19.0			QL=1 ST=2 TYP=3	
15400	SGMR	8 S	1946.0E	1946.0	U	7.0			QL=1 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 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m ² Hz)	Mean		
13	200	GORK	44 NS	0518.0E		240.0D		5.0		
	200	GORK	44 NS	0518.0E		372.0D		10.0		
	127	TORN	44 NS	0700.0E	0700.0U	396.0D		14.0		V=1
	204	IZMI	43 NS	0700.0		300.0	15.0			
	260	ONDR	44 NS	0800.0E	1004.2	350.0D	2.7			
	200	GORK	44 NS	1045.0E		50.0D		5.0		
	245	SGMR	44 NS	1156.0E	1806.0	543.0D	130.0			QL=1 ST=2 TYP=1
	2840	PEKG	5 S	0450.0	0454.7	14.0	15.7	11.9		
	200	HIRA	8 S	0517.8	0518.1	0.9	60.0			0
	2840	PEKG	45 C	0521.0	0537.0	22.0	357.5	259.1		
	9100	GORK	47 GB	0522.5	0533.4	16.8	289.0			
	9100	GORK	29 PBI	0522.5	0539.5	93.0	100.0			
	9100	GORK	47 GB	0522.5	0536.7		880.0			
	2950	GORK	30 PBI	0525.0E	0539.0	24.0D	16.0			
	2950	GORK	45 C	0525.0E	0529.4		27.0			
	2950	GORK	45 C	0525.0E	0536.6		60.0			
	2950	GORK	45 C	0525.0E	0528.6	18.3D	26.0			
	8800	LEAR	49 GB	0526.0E	0536.0	24.0D	890.0			QL=1 ST=2 TYP=7
	950	GORK	30 PBI	0526.3E	0540.0U	28.0D	14.0			
	950	GORK	46 C	0526.3E	0534.1U	127.0D	40.0D			
	950	GORK	46 C	0526.3E	0536.5		130.0			
	650	GORK	46 C	0527.0E	0534.0	18.0D	94.0			
	650	GORK	46 C	0527.0E	0536.5		144.0			
	15400	LEAR	8 S	0528.0E	0528.0	U	27.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0528.0E	0536.0	12.0D	390.0			QL=1 ST=2 TYP=5
	500	HIRA	46 C	0528.1	0536.1	25.5	96.0	19.0		0
	500	HIRA	46 C	0528.1	0532.8		91.0			0
	3100	CRIM	3 S	0530.0E	0536.0U	155.0D	15.0U			
	410	LEAR	4 S/F	0531.0E	0533.0	7.0D	200.0			QL=1 ST=2 TYP=3
	610	LEAR	4 S/F	0531.0E	0536.0	8.0D	98.0			QL=1 ST=2 TYP=5
	200	HIRA	46 C	0531.0	0534.3	88.0	30.0	8.0		0
	200	HIRA	46 C	0531.0	0611.9		25.0			WL
	100	HIRA	41 F	0531.4	0533.9	4.8	240.0			
	100	GORK	41 F	0531.8	0534.0	5.0	1200.0			
	100	GORK	41 F	0531.8	0536.0		115.0			
	245	LEAR	4 S/F	0534.0E	0536.0	3.0D	74.0			QL=1 ST=2 TYP=3
	650	GORK	29 PBI	0540.0E	0545.0	9.0D	10.0			
	2840	PEKG	30 PBI	0543.0	0543.3	25.0	27.7	20.0		
	2840	PEKG	5 S	0548.0	0551.0	6.0	22.7	16.5		
	3100	CRIM	45 C	0548.1	0550.1		15.5	5.0		
	3100	CRIM	45 C	0548.1	0548.3	11.0	5.0			
	950	GORK	45 C	0548.1	0550.4		8.0			
	950	GORK	45 C	0548.1	0551.5		7.5			
	950	GORK	45 C	0548.1	0548.6	3.9	6.4			
	2950	GORK	1 S	0549.8	0550.3	2.2	8.0			
3200	BERN	4 S/F	0713.0	0714.3	1.5	100.0				
5200	BERN	4 S/F	0713.0	0714.3	1.5	89.0				
2840	PEKG	5 S	0713.0	0715.3	5.0	83.5	60.5			
3100	CRIM	3 S	0713.5	0714.9	4.0	45.6	15.0			
100	GORK	46 C	0713.7	0715.3		110.0				
2950	GORK	3 S	0713.7	0714.7	2.3	81.0				
100	GORK	46 C	0713.7	0714.7	13.0	450.0				
5900	KISV	4 S/F	0713.8	0714.6	3.0	61.0				
9100	GORK	1 S	0713.9	0714.5	2.4	26.0				
9300	KISV	2 S/F	0713.9	0714.7	3.0	32.0				
2695	SVTO	8 S	0714.0E	0714.0	1.0D	72.0			QL=1 ST=2 TYP=3	
4995	SVTO	8 S	0714.0E	0714.0	U	62.0			QL=1 ST=2 TYP=3	
650	GORK	1 S	0714.1	0714.7	0.9	1.2				
950	GORK	1 S	0714.1	0714.7	1.5	3.0				
15000	KISV	2 S/F	0714.3	0714.6	3.0	9.0				
5900	KISV	2 S/F	0808.3	0810.9	9.0	14.0				
100	GORK	46 C	0809.9	0810.5	1.6	1400.0				
100	GORK	46 C	0809.9	0810.8		550.0				
3100	CRIM	1 S	0810.0	0811.0	2.5	5.7	2.0			
15000	KISV	45 C	0810.0	0811.2		7.0				
9500	POTS	40 F	0810.0	0810.8	9.0	16.0				
15000	KISV	45 C	0810.0	0810.9	4.8	7.0				
9100	GORK	2 S/F	0810.2	0811.1	4.1	14.0				
9300	KISV	45 C	0810.2	0811.3		13.0				

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

45
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Mean	Int	Remarks
13	9300	KISV	45 C	0810.2	0810.9	4.5	15.0			
	2950	GORK	3 S	0810.4	0810.9	2.0	6.2			
	9300	KISV	2 S/F	0840.5	0843.1	9.0	5.0			
	810	KRAK	46 C	0900.0	0920.0	21.5	220.0	22.0		
	5900	KISV	22 GRF	0910.4	0915.5	80.5	4.0			
	9300	KISV	22 GRF	0910.6	0917.2	12.8	5.0			
	204	IZMI	41 F	0911.0	0911.5	1.0	30.0			
	15000	KISV	21 GRF	0924.0	0935.5	25.0	4.0			
	5900	KISV	21 GRF	0924.2	0935.4	17.6	5.0			
	9500	POTS	4 S/F	0934.0	0935.5	6.0	11.0			
	9100	GORK	2 S/F	0934.1	0934.7	4.7	6.8			
	9300	KISV	21 GRF	0934.2	0935.6	24.9	8.0			
	9100	GORK	1 S	1005.9	1006.3	0.9	8.4	4.0		
	810	KRAK	8 S	1011.5	1011.6	0.5	7.0			
	9300	KISV	22 GRF	1032.2	1050.6		3.0			
	9300	KISV	22 GRF	1038.2	1043.0	21.7	3.0			
	9100	GORK	22 GRF	1106.4	1122.7	235.00	7.5			
	9300	KISV	2 S/F	1109.8	1110.3	3.0	4.0			
	9300	KISV	2 S/F	1122.3	1122.8	1.2	6.0			
	5900	KISV	2 S/F	1122.4	1122.8	0.8	3.0			
	810	KRAK	8 S	1211.9	1212.0	0.1	80.0			
	810	KRAK	8 S	1224.5	1224.5	0.1	6.0			
	3000	POTS	21 GRF	1305.0	1314.0	35.00	10.0			
	9500	POTS	21 GRF	1305.0	1314.0	30.00	14.0			
	536	ONDR	8 S	1305.8	1306.0	1.0	4.0			
	810	KRAK	42 SER	1306.3	1319.3	14.0	150.0			
	2800	OTTA	3 S	1307.0	1310.0	9.0	78.0	39.0		
	2695	SVTO	4 S/F	1308.0E	1310.0	4.00	66.0			QL=1 ST=2 TYP=3
	3000	POTS	4 S/F	1308.0	1310.1	5.0	77.0			
	1470	POTS	4 S/F	1308.0	1310.3	4.5	29.0			
	2695	SGMR	8 S	1309.0E	1310.0	1.00	64.0			QL=1 ST=2 TYP=3
	245	SGMR	8 S	1309.0E	1309.0	1.00	55.0			QL=1 ST=2 TYP=3
	9500	POTS	3 S	1309.5	1310.2	3.5	25.0			
	237	TRST	47 GB	1309.6	1309.7	0.1	1195.0			20L
	430	KRAK	1 S	1309.7	1310.0	1.0	6.0	2.0		
	9500	POTS	3 S	1316.0	1316.9	2.0	35.0			
	4995	SGMR	8 S	1318.0E	1319.0	1.00	53.0			QL=1 ST=2 TYP=3
	9500	POTS	3 S	1318.5	1319.0	0.8	19.0			
	2800	OTTA	3 S	1318.7	1319.0	2.0	25.4	12.0		
	1470	POTS	4 S/F	1318.9	1319.0	1.6	22.0			
	3000	POTS	4 S/F	1318.9	1319.0	1.6	25.0			
	237	TRST	46 C	1433.3	1433.5	0.7	82.0			4R
	2800	OTTA	22 GRF	1611.0	1757.0	137.0	8.1	4.0		
	2800	OTTA	3 S	1629.0	1630.2	2.4	25.4	12.0		
	2800	OTTA	31 ABS	1631.4	1639.0	11.6	5.5	2.0		
	245	SGMR	49 GB	1632.0E	1633.0	2.00	560.0			QL=1 ST=2 TYP=6
	245	SGMR	20 GRF	1634.0E	1645.0	27.00	88.0			QL=1 ST=2 TYP=2
2800	OTTA	3 S	2020.5	2021.7	3.5	16.5	8.0			
410	PALE	4 S/F	2102.0E	2108.0	13.00	260.0			QL=1 ST=2 TYP=5	
410	SVTO	4 S/F	2102.0E	2108.0	13.00	260.0			QL=1 ST=2 TYP=3	
200	HIRA	24 R	2113.0E	2213.0	260.00	10.0	6.0		0	
2695	PENT	47 GB	2252.0	2309.0	22.0	642.0	320.0			
15400	LEAR	49 GB	2256.0E	2308.0	51.00	1500.0			QL=1 ST=2 TYP=7	
2695	LEAR	49 GB	2257.0E	2309.0	29.00	700.0			QL=1 ST=2 TYP=7	
500	HIRA	48 C	2258.0	2401.0		54.0			WL	
500	HIRA	48 C	2258.0	2307.5	81.0	710.0	62.0		SR	
610	LEAR	49 GB	2259.0E	2307.0	32.00	1000.0			QL=1 ST=2 TYP=7	
410	LEAR	49 GB	2302.0E	2307.0	27.00	1000.0			QL=1 ST=2 TYP=7	
2695	PALE	49 GB	2302.0E	2309.0	21.00	620.0			QL=1 ST=2 TYP=7	
245	LEAR	49 GB	2304.0E	2305.0	19.00	390.0			QL=1 ST=2 TYP=7	
410	PALE	49 GB	2304.0E	2307.0	20.00	1200.0			QL=1 ST=2 TYP=7	
200	HIRA	48 C	2304.0	2305.3	47.5	705.0	80.0		WR	
400	HIRA	48 C	2305.0		67.0	170.0				
14	200	GORK	44 NS	0500.0E		240.00		5.0		
	260	ONDR	44 NS	0800.0E	1102.9	410.00	6.7			
	245	SGMR	43 NS	1457.0	1939.0	361.0	150.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2113.0E	2343.0	350.00	6.0	3.0		0
	200	HIRA	41 F	0046.2	0048.1	2.1	240.0			0

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean (W/m ² Hz)	Int	Remarks
14	100	HIRA	41 F	0046.2	0046.3	2.2	150.0			
	245	LEAR	8 S	0047.0E	0048.0	2.0D	250.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0056.0E	0056.0	U	58.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0104.0E	0105.0	1.0D	330.0			QL=1 ST=2 TYP=3
	2840	PEKG	5 S	0148.0	0153.5	15.0	11.1	7.9		
	100	HIRA	46 C	0149.5	0150.6	6.7	880.0	165.0		
	245	LEAR	8 S	0210.0E	0210.0	1.0D	100.0			QL=1 ST=2 TYP=3
	200	HIRA	46 C	0214.9	0215.5	1.5	90.0			0
	200	HIRA	42 SER	0236.7	0241.8	10.2	1300.0			0
	245	LEAR	8 S	0237.0E	0237.0	2.0D	180.0			QL=1 ST=2 TYP=3
	245	LEAR	49 GB	0240.0E	0242.0	4.0D	820.0			QL=1 ST=2 TYP=6
	245	PALE	49 GB	0242.0E	0243.0	1.0D	1200.0			QL=1 ST=2 TYP=6
	245	LEAR	8 S	0247.0E	0247.0	U	260.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0249.0E	0249.0	1.0D	200.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	0249.0E	0250.0	1.0D	230.0			QL=1 ST=2 TYP=3
	15400	LEAR	4 S/F	0412.0E	0413.0	9.0D	74.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0441.0E	0441.0	1.0D	100.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0620.0E	0621.0	1.0D	71.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	0620.0E	0621.0	1.0D	67.0			QL=1 ST=2 TYP=3
	9100	GORK	21 GRF	0625.2	0752.0	329.0	34.0			
	2950	GORK	21 GRF	0627.0	0643.0	54.0	4.9			
	3100	CRIM	1 S	0628.3	0629.0	1.0	4.7	1.5		
	2950	GORK	1 S	0628.3	0628.9	1.0	5.5	2.5		
	5900	KISV	2 S/F	0628.3	0628.9	1.3	20.0			
	9100	GORK	1 S	0628.4	0628.9	1.1	10.0	5.0		
	9300	KISV	2 S/F	0628.4	0628.9	1.0	13.0			
	5900	KISV	2 S/F	0705.2	0705.9	4.4	4.0			
	5900	KISV	45 C	0714.3	0714.5	2.0	3.0			
	2950	GORK	22 GRF	0723.6	0755.0	274.0	13.8			
	5900	KISV	20 GRF	0738.7	0752.0	41.0	28.0			
	9300	KISV	46 C	0739.0	0750.2	39.0	46.0			
	650	GORK	8 S	0739.5	0739.5	0.1	31.0			
	3100	CRIM	24 R	0741.0	0752.0		9.0			
	5900	KISV	2 S/F	0743.0	0743.2	1.0	3.0			
	9100	GORK	2 S/F	0747.5	0749.1	2.1	14.5			
	8800	LEAR	4 S/F	0748.0E	0750.0	7.0D	28.0			QL=1 ST=2 TYP=3
	5900	KISV	46 C	0748.2	0749.2	2.6	5.0			
	5900	KISV	46 C	0748.2	0750.2		11.0			
	15400	LEAR	4 S/F	0749.0E	0751.0	5.0D	23.0			QL=1 ST=2 TYP=3
	8800	SVTO	8 S	0750.0E	0750.0	U	51.0			QL=1 ST=3 TYP=3
	9500	POTS	4 S/F	0750.3E	0750.3		35.0			
	204	IZMI	5 S	0902.0	0902.3	0.5	97.0	75.0		
	430	KRAK	8 S	0929.0	0929.0	0.4	11.0			
	5900	KISV	2 S/F	0946.9	0947.0	0.5	2.0			
	204	IZMI	5 S	1002.0	1002.2	0.5	135.0	120.0		
237	TRST	46 C	1002.1	1002.1	0.2	291.0			12L	
9300	KISV	2 S/F	1032.0	1034.8	6.3	3.0				
5900	KISV	2 S/F	1032.4	1034.8	3.9	3.0				
536	ONDR	42 SER	1042.1	1042.5	23.3	5.2				
9300	KISV	2 S/F	1043.8	1044.8	2.4	4.0				
5900	KISV	2 S/F	1044.6	1044.8	0.7	3.0				
408	TRST	46 C	1103.9	1104.2	0.6	161.0			1L	
327	TRST	42 SER	1103.9	1104.3	1.0	225.0			0R	
237	TRST	45 C	1104.1	1104.3	0.4	46.0			5R Var. Pol.	
536	ONDR	42 SER	1143.8	1144.0	27.5	9.4				
3100	CRIM	45 C	1159.0	1203.0		27.0				
3100	CRIM	45 C	1159.0	1202.2	11.0	27.0	9.0			
1470	POTS	4 S/F	1200.0	1202.5	5.0	22.0				
3000	POTS	4 S/F	1200.0	1202.8	7.8	41.0				
810	KRAK	4 S/F	1200.5	1201.8	3.5	28.0	7.0			
237	TRST	2 S/F	1200.8	1200.8	0.1	125.0			3R	
9500	POTS	29 PBI	1201.0	1202.4	39.0	14.0				
430	KRAK	41 F	1201.5	1201.6	3.5	40.0	2.0			
3100	CRIM	1 S	1209.0	1209.5	1.0	5.0	1.5			
113	POTS	27 RF	1210.0	1331.0	160.0D	125.0				
3100	CRIM	1 S	1212.5	1213.8	2.0	3.0	1.0			
3000	POTS	4 S/F	1346.0U	1347.0U	3.0U	14.0				
237	TRST	46 C	1346.1	1346.1	0.1	145.0			14L	
9500	POTS	3 S	1346.4	1347.0	1.6	12.0				

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

47
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 ⁻²² W/m ² Hz)	Mean (10 ⁻²² W/m ² Hz)		
14	810	KRAK	41 F	1357.5	1400.6	5.5	16.0	3.0		
	430	KRAK	41 F	1358.0	1400.1	2.5	16.0	6.0		
	2800	OTTA	22 GRF	1422.0	1426.8	125.0	19.9	8.0		
	3000	POTS	45 C	1424.0U	1447.0U		94.0			
	3000	POTS	45 C	1424.0U	1438.0U	31.0D	179.0			
	1470	POTS	45 C	1425.0	1447.0		62.0			
	1470	POTS	45 C	1425.0	1438.9	30.0U	56.0			
	408	TRST	27 RF	1433.0	1510.0	57.0	110.0			46L Var. Pol.
	327	TRST	27 RF	1434.0	1454.0	56.0	199.0			35L Pulsations
	8400	BERN	46 C	1434.0	1438.3	20.0	115.0			
	3200	BERN	46 C	1434.0	1438.3	20.0	198.0			
	5200	BERN	46 C	1434.0	1438.3	20.0	165.0			
	2800	OTTA	4 S/F	1434.2	1438.0	9.9	183.0	73.0		
	9500	POTS	45 C	1435.0	1447.1		20.0			
	9500	POTS	45 C	1435.0	1438.1	14.0D	54.0			
	237	TRST	27 RF	1435.0	1449.2	55.0	118.0			2R Var. Pol.
	8800	SGMR	4 S/F	1436.0E	1436.0	4.0D	270.0			QL=1 ST=2 TYP=3
	2695	SGMR	4 S/F	1436.0E	1437.0	4.0D	150.0			QL=1 ST=2 TYP=3
	2695	SVTO	4 S/F	1436.0E	1437.0	14.0D	190.0			QL=1 ST=3 TYP=5
	4995	SVTO	4 S/F	1436.0E	1438.0	14.0D	140.0			QL=1 ST=3 TYP=5
	4995	SGMR	4 S/F	1437.0E	1437.0	3.0D	100.0			QL=1 ST=2 TYP=3
	8800	SVTO	4 S/F	1437.0E	1438.0	13.0D	92.0			QL=1 ST=3 TYP=5
	1415	SVTO	4 S/F	1437.0E	1438.0	12.0D	62.0			QL=1 ST=3 TYP=3
	234	POTS	27 RF	1437.0	1449.0	28.0	121.0	40.0		
	610	SGMR	8 S	1439.0E	1439.0	1.0D	85.0			QL=1 ST=2 TYP=3
	2800	OTTA	3 S	1445.2	1446.9	4.7	99.4	40.0		
	4995	SGMR	8 S	1446.0E	1446.0	1.0D	80.0			QL=1 ST=2 TYP=3
	2695	SGMR	8 S	1446.0E	1446.0	1.0D	90.0			QL=1 ST=2 TYP=3
	610	SGMR	8 S	1446.0E	1447.0	1.0D	200.0			QL=1 ST=2 TYP=3
	245	SGMR	8 S	1448.0E	1449.0	1.0D	71.0			QL=1 ST=2 TYP=3
	245	SGMR	8 S	1453.0E	1454.0	1.0D	60.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	1456.0E	1456.0	U	59.0			QL=1 ST=2 TYP=3
	410	SGMR	8 S	1509.0E	1509.0	1.0D	94.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1642.2	1645.5	5.2	37.7	19.0		
	1415	SGMR	8 S	1643.0E	1643.0	2.0D	180.0			QL=1 ST=2 TYP=3
	610	SGMR	4 S/F	1646.0E	1646.0	4.0D	400.0			QL=1 ST=2 TYP=3
	2800	OTTA	29 PBI	1647.7	1647.7	200.0	17.0	8.0		
	410	SGMR	8 S	1648.0E	1649.0	2.0D	150.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	1939.0E	1939.0	U	120.0			QL=1 ST=2 TYP=3
	2800	OTTA	3 S	1944.7	1946.7	3.1	120.1	60.0		
4995	SGMR	8 S	1945.0E	1946.0	2.0D	150.0			QL=1 ST=2 TYP=3	
15400	PALE	8 S	1946.0E	1946.0	1.0D	86.0			QL=1 ST=2 TYP=3	
8800	PALE	8 S	1946.0E	1946.0	1.0D	93.0			QL=1 ST=2 TYP=3	
4995	PALE	8 S	1946.0E	1946.0	1.0D	120.0			QL=1 ST=2 TYP=3	
1415	PALE	8 S	1946.0E	1946.0	1.0D	100.0			QL=1 ST=2 TYP=3	
2695	PALE	8 S	1946.0E	1946.0	1.0D	100.0			QL=1 ST=2 TYP=3	
245	PALE	8 S	1946.0E	1946.0	1.0D	250.0			QL=1 ST=2 TYP=3	
1415	SGMR	8 S	1946.0E	1946.0	1.0D	110.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	1946.0E	1946.0	U	320.0			QL=1 ST=2 TYP=3	
2695	SGMR	8 S	1946.0E	1946.0	1.0D	110.0			QL=1 ST=2 TYP=3	
15400	SGMR	8 S	1946.0E	1946.0	U	67.0			QL=1 ST=2 TYP=3	
8800	SGMR	8 S	1946.0E	1946.0	U	71.0			QL=1 ST=2 TYP=3	
610	SGMR	4 S/F	2014.0E	2016.0	5.0D	59.0			QL=1 ST=2 TYP=3	
245	LEAR	8 S	2243.0E	2243.0	U	310.0			QL=1 ST=2 TYP=3	
245	PALE	4 S/F	2243.0E	2243.0	60.0D	440.0			QL=1 ST=2 TYP=3	
410	PALE	4 S/F	2243.0E	2243.0	60.0D	120.0			QL=1 ST=2 TYP=3	
500	HIRA	4 S/F	2318.3	2319.0	1.1	53.0			WL	
500	HIRA	46 C	2333.7	2337.5	4.1	25.0			WL	
15	200	GORK	44 NS	0521.0E		240.0D		10.0		
	260	ONDR	44 NS	0800.0E	1053.0	330.0D	9.1			
	245	LEAR	44 NS	2211.0E	0241.0	736.0D	350.0			QL=1 ST=2 TYP=1
	200	HIRA	43 NS	2228.0	2312.0	510.0D	53.0	25.0		WL
	100	HIRA	43 NS	2235.0	0010.0	320.0D	240.0	105.0		
	245	PALE	8 S	0103.0E	0103.0	U	70.0			QL=1 ST=2 TYP=3
	500	HIRA	46 C	0251.8	0254.1	17.0	14.0	3.0		O
	200	HIRA	42 SER	0438.3	0447.2	22.4	84.0			ML
	500	HIRA	41 F	0608.8	0609.5	1.1	264.0			WL
	950	GORK	1 S	0609.6	0610.5	1.4	4.0			

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 ⁻²² W/m ² Hz)	Mean (10 ⁻²² W/m ² Hz)		
15	650	GORK	1 S	0610.5	0610.6	0.6	2.0			
	2950	GORK	21 GRF	0716.4	0845.0	254.0	6.0			
	408	TRST	46 C	0739.1	0739.1	0.2	180.0			2L Var. Pol.
	245	LEAR	8 S	0751.0E	0751.0	2.00	100.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	0751.0E	0757.0	6.00	98.0			QL=1 ST=2 TYP=3
	237	TRST	41 F	0751.4	0752.2	1.7	724.0			33L Spikes
	204	IZMI	41 F	0751.5	0752.2	1.0	4000.0			
	327	TRST	41 F	0751.7	0752.0	0.7	163.0			46L Spikes
	410	LEAR	8 S	0753.0E	0753.0	U	32.0			QL=1 ST=2 TYP=3
	327	TRST	46 C	0753.2	0753.3	0.3	94.0			34L
	408	TRST	46 C	0753.2	0753.3	0.3	93.0			7L
	9100	GORK	20 GRF	0824.0	0911.2	113.0	8.5			
	2950	GORK	1 S	0833.6	0833.7	0.5	1.8	0.9		
	204	IZMI	42 SER	0910.2	0936.0	35.0	350.0			
	245	LEAR	8 S	0916.0E	0917.0	1.00	110.0			QL=1 ST=2 TYP=3
	234	POTS	42 SER	0916.5	0943.0	28.0	165.0	1.00		
	237	TRST	46 C	0916.6	0917.2	1.2	216.0			15R
	327	TRST	41 F	0916.9	0917.2	0.4	184.0			68R Spikes
	327	TRST	41 F	0917.8	0917.9	0.2	133.0			62R Spikes
	2950	GORK	1 S	0928.7	0929.9	2.5	1.7			
	245	LEAR	8 S	0942.0E	0943.0	1.00	87.0			QL=1 ST=2 TYP=3
	237	TRST	46 C	0942.8	0942.9	0.4	361.0			14L
	3100	CRIM	42 SER	1050.0	1055.0		6.9			
	5900	KISV	46 C	1050.0	1052.2	17.7	16.0			
	3100	CRIM	42 SER	1050.0	1052.3	11.0	28.0	9.0		
	3100	CRIM	42 SER	1050.0	1057.5		2.9			
	9300	KISV	46 C	1050.5	1059.0		9.0			
	9300	KISV	46 C	1050.5	1052.2		20.0			
	9300	KISV	46 C	1050.5	1055.4		13.0			
	9300	KISV	46 C	1050.5	1051.4	21.5	8.0			
	9100	GORK	23 GRF	1050.6	1050.6	47.00				
	245	SVTO	49 GB	1051.0E	1051.0	U	570.0			QL=1 ST=2 TYP=6
	3013	IZMI	42 SER	1051.0	1052.2	5.0	8.0	4.0		
	430	KRAK	8 S	1051.0	1051.2	0.6	190.00			
	15000	KISV	2 S/F	1051.0	1052.3	2.7	36.0			
	408	TRST	47 GB	1051.1	1051.2	0.1	549.0			9L
	11800	BERN	4 S/F	1051.1	1052.2	10.0	32.0			
	19600	BERN	4 S/F	1051.1	1052.2	10.0	28.0			
	8400	BERN	4 S/F	1051.1	1052.2	10.0	20.0			
	5200	BERN	4 S/F	1051.1	1052.2	10.0	22.0			
	3200	BERN	4 S/F	1051.1	1052.2	10.0	40.0			
	9100	GORK	1 S	1051.1	1051.5	0.5	6.7	3.0		
	810	KRAK	2 S/F	1051.3	1052.0		41.0			
	810	KRAK	2 S/F	1051.3	1051.3	2.0	31.0	3.0		
	430	KRAK	8 S	1051.8	1052.0	0.4	190.00			
	9500	POTS	42 SER	1051.8	1052.0	5.2	17.0			
	1470	POTS	42 SER	1051.8	1052.1	5.2	32.0			
	2950	GORK	3 S	1051.8	1052.2	1.0	32.0			
	3000	POTS	42 SER	1051.8	1052.3	4.7	42.0			
	9100	GORK	1 S	1051.9	1052.3	1.0	19.4	10.0		
9100	GORK	1 S	1055.0	1055.3	1.1	8.4	4.0			
2950	GORK	1 S	1055.0	1055.3	1.2	10.0	5.0			
2950	GORK	1 S	1058.0	1059.0	1.8	2.9	1.4			
9100	GORK	1 S	1058.5	1059.0	1.2	4.2	2.0			
5900	KISV	45 C	1117.2	1119.7	4.0	6.0				
810	KRAK	8 S	1118.4	1118.5	0.2	31.0				
15000	KISV	2 S/F	1118.9	1119.6	2.2	6.0				
9300	KISV	2 S/F	1119.2	1119.6	1.2	8.0				
1470	POTS	1 S	1119.5	1119.6	1.5	5.0				
3100	CRIM	21 GRF	1135.0	1146.0	28.0	4.6	1.3			
430	KRAK	8 S	1136.2	1136.2	0.1	18.0				
536	ONDR	42 SER	1150.0	1150.7	2.0	15.6				
3100	CRIM	1 S	1154.5	1155.0	1.0	3.0	1.0			
5900	KISV	2 S/F	1154.7	1154.9	1.9	5.0				
9300	KISV	2 S/F	1154.8	1155.1	1.1	8.0				
1470	POTS	1 S	1155.0	1155.0	1.0	5.0				
3000	POTS	1 S	1155.0U	1155.0	1.0U	4.0				
810	KRAK	8 S	1155.2	1155.2	0.2	13.0				
33	UPIC	3 S	1413.0	1413.7	0.7					

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

49
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
15	2800	OTTA	22 GRF	1515.0	1700.0	300.0D	9.7	4.0		
	245	SGMR	8 S	1631.0E	1631.0	U	490.0			QL=1 ST=2 TYP=3
	245	SGMR	8 S	1739.0E	1739.0	U	81.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	1947.0E	1947.0	1.0D	170.0			QL=1 ST=2 TYP=3
	200	HIRA	8 S	2158.2	2158.6	0.5	1050.0			0
	2695	PENT	4 S/F	2209.0	2223.0	22.0	86.3	34.0		
	410	LEAR	4 S/F	2217.0E	2224.0	8.0D	54.0			QL=1 ST=2 TYP=3
	610	LEAR	4 S/F	2217.0E	2222.0	8.0D	15.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	2217.0E	2222.0	8.0D	73.0			QL=1 ST=2 TYP=3
	15400	LEAR	4 S/F	2217.0E	2226.0	10.0D	41.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	2218.0E	2223.0	7.0D	40.0			QL=1 ST=2 TYP=3
	245	LEAR	4 S/F	2218.0E	2226.0	9.0D	240.0			QL=1 ST=2 TYP=3
	200	HIRA	41 F	2223.9	2225.8	2.6	340.0			0
	245	LEAR	8 S	2312.0E	2312.0	U	330.0			QL=1 ST=3 TYP=3
	200	HIRA	41 F	2347.5	2351.7	5.1	1100.0			0
	245	PALE	49 GB	2349.0E	2351.0	4.0D	1500.0			QL=1 ST=2 TYP=6
	410	PALE	4 S/F	2349.0E	2351.0	4.0D	85.0			QL=1 ST=2 TYP=3
	410	LEAR	8 S	2352.0E	2352.0	U	44.0			QL=1 ST=2 TYP=3
245	LEAR	49 GB	2352.0E	2352.0	U	890.0			QL=1 ST=2 TYP=6	
16	200	GORK	44 NS	0533.0E		200.0D		10.0		
	100	GORK	44 NS	0533.0E		375.0D		10.0		
	245	SVTO	44 NS	0559.0E	0717.0	549.0D	86.0			QL=1 ST=2 TYP=1
	410	SVTO	44 NS	0559.0E	0731.0	549.0D	79.0			QL=1 ST=2 TYP=1
	410	LEAR	44 NS	0632.0E	0736.0	235.0D	72.0			QL=1 ST=2 TYP=1
	610	LEAR	44 NS	0633.0E	0736.0	147.0D	100.0			QL=1 ST=2 TYP=1
	127	TORN	44 NS	0700.0E	0700.0U	456.0D		65.0		V=1
	204	IZMI	43 NS	0700.0		300.0	60.0			
	430	KRAK	44 NS	0755.5E	0808.0	365.0D	180.0D	6.0		
	430	KRAK	44 NS	0755.5E	1236.4		56.0			
	260	ONDR	44 NS	0800.0E	1238.0	350.0D	14.7U			
	200	GORK	44 NS	1106.0E		40.0D		5.0		
	245	SGMR	43 NS	1200.0	1439.0	536.0D	170.0			QL=1 ST=2 TYP=1
	245	PALE	44 NS	1714.0E	0055.0	619.0D	150.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2117.0E	2248.0	610.0D	16.0	6.0		WR
	245	LEAR	44 NS	2150.0E	0130.0	757.0D	170.0			QL=1 ST=2 TYP=1
	410	LEAR	8 S	0038.0E	0038.0	U	68.0			QL=1 ST=2 TYP=3
	245	LEAR	49 GB	0038.0E	0038.0	U	500.0			QL=1 ST=2 TYP=6
	610	LEAR	8 S	0038.0E	0038.0	U	42.0			QL=1 ST=2 TYP=3
	245	PALE	49 GB	0038.0E	0038.0	1.0D	640.0			QL=1 ST=2 TYP=6
	410	PALE	8 S	0038.0E	0038.0	U	170.0			QL=1 ST=2 TYP=3
	200	HIRA	42 SER	0112.8	0114.9	5.0	2400.0			0
	245	LEAR	49 GB	0114.0E	0115.0	1.0D	870.0			QL=1 ST=2 TYP=6
	245	PALE	8 S	0241.0E	0241.0	1.0D	380.0			QL=1 ST=3 TYP=3
	2840	PEKG	28 PRE	0252.0	0300.0	8.0	2.5	1.6		
	2840	PEKG	45 C	0300.0	0305.3	8.0	17.1	11.1		
	2840	PEKG	29 PBI	0308.0		12.0D	7.8	5.1		
	2840	PEKG	5 S	0330.0	0331.0	2.0	11.9	7.7		
	2840	PEKG	3 S	0408.0	0410.3	10.0	82.0	53.2		
	15400	LEAR	4 S/F	0409.0E	0409.0	5.0D	210.0			QL=1 ST=2 TYP=3
	200	HIRA	8 S	0457.6	0457.7	0.8	120.0			WL
	2950	GORK	28 PRE	0610.0	0613.3	7.7	12.3			
	2840	PEKG	28 PRE	0612.0	0623.4	13.0	4.6	3.0		
	950	GORK	4 S/F	0612.3	0613.2	2.6	68.0			
	650	GORK	28 PRE	0612.8	0613.4	1.1	3.0	1.5		
	245	SVTO	49 GB	0619.0E	0619.0	U	520.0			QL=1 ST=2 TYP=6
2950	GORK	21 GRF	0619.7	0940.0	320.0D	14.4				
500	HIRA	46 C	0620.5	0633.1		212.0			MR	
500	HIRA	46 C	0620.5	0628.1	51.0D	302.0	38.0U		MR SUNSET	
2695	SVTO	8 S	0621.0E	0622.0	2.0D	220.0			QL=1 ST=2 TYP=3	
245	SVTO	8 S	0621.0E	0621.0	1.0D	200.0			QL=1 ST=2 TYP=3	
410	SVTO	4 S/F	0621.0E	0621.0	4.0D	240.0			QL=1 ST=2 TYP=3	
1415	SVTO	4 S/F	0621.0E	0621.0	3.0D	430.0			QL=1 ST=2 TYP=3	
950	GORK	23 GRF	0622.8	0640.3	50.4	10.0				
5900	KISV	45 C	0623.0	0627.3	31.5	34.0				
9300	KISV	45 C	0623.0	0627.3	34.2	22.0				
9300	KISV	45 C	0623.0	0633.5		34.0				
5900	KISV	45 C	0623.0	0633.6		42.0				
950	GORK	47 GB	0623.1	0633.3	12.0	266.0				

50
Nov 88

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m ² Hz)	Mean		
16	650	GORK	23 GRF	0623.2	0644.7	203.0U	23.0			
	245	LEAR	8 S	0624.0E	0624.0	U	390.0			QL=1 ST=2 TYP=3
	410	LEAR	4 S/F	0625.0E	0627.0	10.0D	310.0			QL=1 ST=2 TYP=3
	3100	CRIM	20 GRF	0625.0	0630.0	33.0	8.0	3.0		
	3100	CRIM	3 S	0625.0	0627.5	5.0	111.0	33.0		
	2840	PEKG	45 C	0625.0	0627.5	13.0	161.5	104.8		
	100	HIRA	42 SER	0625.3	0631.2	26.0	430.0			
	200	HIRA	46 C	0625.3	0626.4	55.0D	320.0	30.0U		0 SUNSET
	200	HIRA	46 C	0625.3	0643.6U		40.0			0
	2950	GORK	46 C	0625.7	0633.4		48.0			
	2950	GORK	46 C	0625.7	0627.4	12.3	166.0			
	9100	GORK	21 GRF	0625.8U	0633.5	316.0D	27.5			
	2695	LEAR	4 S/F	0626.0E	0627.0	3.0D	230.0			QL=1 ST=2 TYP=3
	8800	LEAR	8 S	0626.0E	0627.0	1.0D	17.0			QL=1 ST=2 TYP=3
	650	GORK	47 GB	0626.1	0633.4		530.0			
	650	GORK	47 GB	0626.1	0627.5	8.7	320.0			
	100	GORK	41 F	0627.0	0633.0		170.0			
	410	SVTO	8 S	0627.0E	0627.0	1.0D	84.0			QL=1 ST=2 TYP=3
	1415	SVTO	8 S	0627.0E	0628.0	2.0D	210.0			QL=1 ST=2 TYP=3
	100	GORK	41 F	0627.0	0627.2	6.4	230.0			
	100	GORK	41 F	0627.0	0631.4		370.0			
	15000	KISV	45 C	0628.0	0628.7		14.0			
	15000	KISV	45 C	0628.0	0633.8	26.0	25.0			
	8800	LEAR	4 S/F	0631.0E	0633.0	5.0D	26.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0631.0E	0633.0	7.0D	33.0			QL=1 ST=2 TYP=3
	3100	CRIM	1 S	0631.5	0633.5	4.0	17.0	6.0		
	410	LEAR	8 S	0632.0E	0632.0	2.0D	72.0			QL=1 ST=2 TYP=3
	610	LEAR	8 S	0632.0E	0633.0	2.0D	330.0			QL=1 ST=2 TYP=3
	950	GORK	4 S/F	0634.3	0655.2	21.0	13.0			
	2840	PEKG	29 PBI	0638.0		24.0	9.0	5.8		
	5200	BERN	4 S/F	0646.4	0647.3		32.0			
	3200	BERN	4 S/F	0646.4	0647.3	14.0	26.0			
	650	GORK	4 S/F	0736.2	0736.8	0.8	160.0			
	610	TRST	47 GB	0736.3	0736.6	0.5	1018.0			22L Spikes
	408	TRST	46 C	0736.6	0736.7	0.2	189.0			4R
	5900	KISV	46 C	0758.0	0808.4		18.0			
	5900	KISV	46 C	0758.0	0807.5		22.0			
	5900	KISV	46 C	0758.0	0806.7		23.0			
	950	GORK	23 GRF	0758.4	0849.7	24.4	6.0			
	3000	POTS	40 F	0802.5	0808.2U	11.0	17.0			
	1470	POTS	46 C	0802.5	0808.7	12.0	790.0			
	410	SVTO	8 S	0803.0E	0803.0	U	320.0			QL=1 ST=2 TYP=3
	1415	SVTO	49 GB	0803.0E	0803.0	U	930.0			QL=1 ST=2 TYP=6
	810	KRAK	42 SER	0803.0	0808.0	11.0	280.0D			
	3100	CRIM	42 SER	0804.0	0805.0	6.0	4.9	3.0		
	3100	CRIM	42 SER	0804.0	0808.1		10.0			
	3100	CRIM	42 SER	0804.0	0807.2		8.8			
	9300	KISV	46 C	0804.0	0808.3		11.0			
	9300	KISV	46 C	0804.0	0807.4		10.0			
	9300	KISV	46 C	0804.0	0806.7	14.8	12.0			
	2950	GORK	46 C	0804.6	0805.2	9.0	5.9			
	2950	GORK	46 C	0804.6	0808.2		11.8			
	2950	GORK	46 C	0804.6	0807.3		8.8			
	245	LEAR	4 S/F	0805.0E	0806.0	3.0D	64.0			QL=1 ST=2 TYP=3
	410	LEAR	49 GB	0805.0E	0808.0	4.0D	560.0			QL=1 ST=2 TYP=6
	610	LEAR	4 S/F	0805.0E	0808.0	3.0D	83.0			QL=1 ST=2 TYP=3
	650	GORK	46 C	0805.3E	0807.0		50.0			
	650	GORK	46 C	0805.3E	0808.3		100.0			
	650	GORK	46 C	0805.3E	0805.6U	3.7D	80.0D			
	950	GORK	47 GB	0805.4E	0808.3	3.6D	1027.0			
	410	SVTO	8 S	0807.0E	0807.0	1.0D	220.0			QL=1 ST=2 TYP=3
	327	TRST	47 GB	0807.8	0808.1	0.7	6788.0D			
	610	TRST	46 C	0807.8	0808.1	0.7	408.0			3R Spikes
	408	TRST	47 GB	0807.8	0808.1	0.7	3439.0			25L Spikes
	2695	LEAR	8 S	0808.0E	0808.0	U	13.0			QL=1 ST=2 TYP=3
	410	LEAR	8 S	0811.0E	0812.0	2.0D	170.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0811.0E	0812.0	2.0D	43.0			QL=1 ST=2 TYP=3
	408	TRST	47 GB	0812.7	0812.8	0.2	620.0			17L
	327	TRST	47 GB	0812.7	0812.9	0.2	728.0			2L

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

51
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
16	3000	POTS	42 SER	0846.5	0847.3	16.0	28.0			
	2950	GORK	45 C	0846.9	0849.7		6.4			
	2950	GORK	45 C	0846.9	0848.7	3.2	5.4			
	5900	KISV	46 C	0847.0	0849.0		14.0			
	9300	KISV	46 C	0847.0	0849.0		9.0			
	3100	CRIM	1 S	0847.0U	0847.0U	1.0U	14.0U			
	5900	KISV	46 C	0847.0	0850.1		15.0			
	9300	KISV	46 C	0847.0	0850.2		10.0			
	810	KRAK	42 SER	0847.0	0849.2	4.5	33.0			
	5900	KISV	46 C	0847.0	0855.5		10.0			
	5900	KISV	46 C	0847.0	0847.6	25.0	25.0			
	9300	KISV	46 C	0847.0	0847.6	26.5	11.0			
	950	GORK	4 S/F	0847.2	0847.4	0.7	34.0			
	1470	POTS	42 SER	0847.2	0847.4	15.0	22.0			
	9100	GORK	2 S/F	0847.3	0847.4	3.2	8.5			
	3013	IZMI	5 S	0847.5	0848.0	3.0	8.0	4.0		
	100	GORK	46 C	0848.2	0848.4	1.0	300.0			
	100	GORK	46 C	0848.2	0848.6		1600.0			
	650	GORK	4 S/F	0848.3	0849.3	2.0	56.0			
	610	TRST	27 RF	0848.4	0849.3	1.6	197.0			39R Spikes
	2950	GORK	2 S/F	0853.7	0858.3	5.7	2.3			
	3000	POTS	25 R	0916.0	0924.5	69.0	21.0			
	5900	KISV	29 PBI	0918.0	0926.3	63.7	30.0			
	2950	GORK	1 S	0918.0	0919.7	2.0	2.9			
	5900	KISV	2 S/F	0918.0	0924.7	83.0	45.0			
	9300	KISV	2 S/F	0918.5	0925.0	8.5	34.0			
	9300	KISV	29 PBI	0918.5	0927.0	57.0	18.0			
	3200	BERN	3 S	0920.0	0925.0	20.0	21.0			
	8400	BERN	3 S	0920.0	0925.0	20.0	43.0			
	11800	BERN	3 S	0920.0	0925.0	20.0	27.0			
	9500	POTS	25 R	0920.0	0925.3	65.0	25.0			
	1470	POTS	32 ABS	0920.0	0921.5	5.0	5.0			
	2950	GORK	45 C	0921.0	0925.0		12.1			
	2950	GORK	45 C	0921.0	0922.2	8.0	8.6			
	9100	GORK	2 S/F	0921.6	0924.6	4.8	16.8			
	204	IZMI	41 F	1027.0	1027.8	1.0	150.0			
	204	IZMI	41 F	1111.0	1111.8	1.0	450.0			
	408	TRST	46 C	1111.4	1111.6	0.4	154.0			3L
	204	IZMI	41 F	1130.5	1131.0	1.0	200.0			
	810	KRAK	8 S	1145.5	1145.5	0.1	11.0			
	4995	SVTO	8 S	1146.0E	1146.0	1.00	110.0			QL=1 ST=3 TYP=3
	8800	SVTO	8 S	1146.0E	1146.0	1.00	220.0			QL=1 ST=3 TYP=3
	15400	SVTO	8 S	1146.0E	1146.0	1.00	180.0			QL=1 ST=2 TYP=3
	5900	KISV	4 S/F	1150.7	1152.0	8.0	174.0			
	9300	KISV	45 C	1151.0	1152.1	84.0	97.00			
	9300	KISV	45 C	1151.0	1154.7		25.0			
	15000	KISV	45 C	1151.5	1152.0	7.5	91.0			
	9500	POTS	42 SER	1151.5	1152.0	9.5	213.0			
	3000	POTS	4 S/F	1151.5	1152.0	2.0	10.0			
	15000	KISV	45 C	1151.5	1154.5		33.0			
3013	IZMI	1 S	1151.7	1153.1	2.5	10.0	5.0			
204	IZMI	5 S	1152.5	1152.6	0.2	55.0	26.0			
810	KRAK	42 SER	1230.0	1237.0	10.5	88.0				
536	ONDR	41 F	1233.0	1236.5	5.0	7.1				
1470	POTS	40 F	1235.0U	1237.3	10.0U	48.0				
234	POTS	8 S	1237.9	1238.3	1.0	550.0	200.0			
245	SGMR	8 S	1238.0E	1238.0	U	310.0			QL=1 ST=2 TYP=3	
810	KRAK	41 F	1331.5	1332.9	3.0	12.0	3.0			
2800	OTTA	4 S/F	1430.0	1435.0	16.0	20.2	10.0			
610	SVTO	49 GB	1430.0E	1433.0	570.00	550.0			QL=1 ST=2 TYP=6	
234	POTS	4 S/F	1432.2	1433.8	4.5	275.0	45.0			
610	SGMR	49 GB	1433.0E	1433.0	1.00	830.0			QL=1 ST=2 TYP=6	
245	SGMR	8 S	1433.0E	1433.0	2.00	420.0			QL=1 ST=2 TYP=3	
410	SGMR	8 S	1433.0E	1433.0	2.00	120.0			QL=1 ST=2 TYP=3	
410	SVTO	8 S	1433.0E	1433.0	2.00	110.0			QL=1 ST=2 TYP=3	
245	SVTO	8 S	1433.0E	1433.0	2.00	300.0			QL=1 ST=2 TYP=3	
40	POTS	8 S	1433.2	1434.0	2.7	525.0	175.0			
1470	POTS	4 S/F	1434.2E	1434.2						
2800	OTTA	4 S/F	1452.0	1456.0	8.0	163.8	80.0			

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks	
							Peak (10 -22 W/m 2 Hz)	Mean			
16	2695	SGMR	4 S/F	1454.0E	1455.0	3.0D	150.0			QL=1 ST=2 TYP=3	
	8800	SGMR	4 S/F	1454.0E	1457.0	4.0D	110.0			QL=1 ST=3 TYP=3	
	15400	SGMR	4 S/F	1454.0E	1457.0	4.0D	81.0			QL=1 ST=3 TYP=3	
	2695	SVTO	4 S/F	1454.0E	1455.0	3.0D	130.0			QL=1 ST=2 TYP=3	
	4995	SGMR	4 S/F	1455.0E	1455.0	3.0D	110.0			QL=1 ST=2 TYP=5	
	15400	SGMR	8 S	1457.0E	1457.0	1.0D	81.0			QL=1 ST=2 TYP=3	
	8800	SGMR	8 S	1457.0E	1457.0	1.0D	110.0			QL=1 ST=2 TYP=3	
	245	SGMR	49 GB	1458.0E	1459.0	1.0D	520.0			QL=1 ST=2 TYP=6	
	245	SVTO	8 S	1458.0E	1459.0	1.0D	280.0			QL=1 ST=2 TYP=3	
	2800	OTTA	29 PBI	1500.0	1503.0	60.0	12.5	6.0			
	2800	OTTA	22 GRF	1618.0	1733.0	142.0	34.4	6.0			
	610	SGMR	8 S	1636.0E	1636.0	1.0D	150.0				QL=1 ST=2 TYP=3
	410	SGMR	8 S	1637.0E	1637.0	U	64.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	1717.0E	1717.0	1.0D	340.0				QL=1 ST=3 TYP=3
	245	SGMR	49 GB	1717.0E	1717.0	1.0D	580.0				QL=1 ST=2 TYP=6
	245	PALE	8 S	1829.0E	1829.0	U	270.0				QL=1 ST=2 TYP=3
	245	SGMR	8 S	1829.0E	1829.0	U	480.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	1832.0E	1832.0	U	210.0				QL=1 ST=2 TYP=3
	245	SGMR	8 S	1832.0E	1832.0	U	300.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	1926.0E	1926.0	2.0D	320.0				QL=1 ST=2 TYP=3
	245	SGMR	49 GB	1926.0E	1926.0	2.0D	570.0				QL=1 ST=2 TYP=6
	2695	PENT	4 S/F	1953.0	2002.0	15.0	87.7	43.0			
	245	PALE	49 GB	1958.0E	1958.0	4.0D	2700.0				QL=1 ST=2 TYP=6
	610	PALE	8 S	1958.0E	1958.0	U	320.0				QL=1 ST=2 TYP=3
	410	PALE	8 S	1959.0E	1959.0	U	110.0				QL=1 ST=2 TYP=3
	1415	PALE	8 S	2000.0E	2001.0	2.0D	86.0				QL=1 ST=2 TYP=3
	2695	PALE	8 S	2000.0E	2001.0	2.0D	98.0				QL=1 ST=2 TYP=3
	4995	PALE	8 S	2000.0E	2001.0	2.0D	78.0				QL=1 ST=2 TYP=3
	245	SGMR	8 S	2039.0E	2039.0	U	96.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	2047.0E	2047.0	U	110.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	2117.0E	2118.0	1.0D	160.0				QL=1 ST=2 TYP=3
	100	HIRA	42 SER	2145.3	2146.3	10.0	970.0				0
	500	HIRA	42 SER	2146.0	2146.4	13.5	890.0				0
	245	PALE	49 GB	2146.0E	2147.0	2.0D	520.0				QL=1 ST=2 TYP=6
	410	PALE	8 S	2146.0E	2146.0	U	250.0				QL=1 ST=2 TYP=3
15400	LEAR	8 S	2350.0E	2350.0	U	69.0				QL=1 ST=2 TYP=3	
8800	LEAR	8 S	2350.0E	2350.0	U	39.0				QL=1 ST=2 TYP=3	
15400	PALE	8 S	2350.0E	2350.0	U	100.0				QL=1 ST=2 TYP=3	
17	200	GORK	44 NS	0512.0E		190.0D		5.0			
	127	TORN	44 NS	0700.0E	0700.0U	430.0D		4.0		V=0	
	204	IZMI	43 NS	0700.0		300.0	15.0				
	260	ONDR	44 NS	0800.0E	1107.0	340.0D	17.3				
	200	GORK	44 NS	1024.0E		70.0D		5.0			
	245	SGMR	44 NS	1201.0E	1944.0	535.0D	130.0				QL=1 ST=2 TYP=1
	234	POTS	43 NS	1416.0	1441.0	59.0D	385.0				
	245	PALE	44 NS	2025.0E	0034.0	427.0D	140.0				QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2117.0E	0030.0	600.0D	72.0	34.0			MR
	245	LEAR	44 NS	2150.0E	0745.0	758.0D	95.0				QL=1 ST=2 TYP=1
	15400	LEAR	8 S	0002.0E	0003.0	1.0D	47.0				QL=1 ST=2 TYP=3
	610	LEAR	8 S	0002.0E	0003.0	1.0D	350.0				QL=1 ST=2 TYP=3
	245	LEAR	8 S	0002.0E	0003.0	1.0D	220.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	0002.0E	0003.0	1.0D	110.0				QL=1 ST=2 TYP=3
	610	PALE	8 S	0002.0E	0002.0	1.0D	250.0				QL=1 ST=2 TYP=3
	100	HIRA	45 C	0002.4		1.3	1000.0D				0
	200	HIRA	8 S	0002.6	0002.8	0.9	570.0				0
	500	HIRA	42 SER	0002.7	0002.9	28.5	1300.0				0
	245	LEAR	8 S	0005.0E	0006.0	1.0D	64.0				QL=1 ST=2 TYP=3
	200	HIRA	46 C	0010.0	0012.3	6.3	28.0	6.0			WR
	245	LEAR	8 S	0011.0E	0011.0	U	150.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	0011.0E	0011.0	U	200.0				QL=1 ST=2 TYP=3
	200	HIRA	8 S	0029.7	0029.7	0.9	5500.0				0
	8800	LEAR	8 S	0030.0E	0030.0	1.0D	71.0				QL=1 ST=2 TYP=3
	15400	LEAR	8 S	0030.0E	0030.0	U	110.0				QL=1 ST=2 TYP=3
	245	LEAR	8 S	0030.0E	0030.0	U	80.0				QL=1 ST=2 TYP=3
	245	PALE	8 S	0030.0E	0030.0	U	96.0				QL=1 ST=2 TYP=3
	15400	PALE	8 S	0030.0E	0030.0	U	130.0				QL=1 ST=2 TYP=3
	200	HIRA	8 S	0106.4	0107.3	1.0	490.0				0
	100	HIRA	46 C	0106.8	0107.3	2.2	630.0				0

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

53
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 ⁻²² W/m ² Hz)	Mean		
17	245	LEAR	8 S	0107.0E	0107.0		U	68.0		QL=1 ST=2 TYP=3
	8800	LEAR	8 S	0107.0E	0107.0	1.0D		39.0		QL=1 ST=2 TYP=3
	245	PALE	8 S	0107.0E	0107.0		U	96.0		QL=1 ST=2 TYP=3
	2840	PEKG	1 S	0153.0	0155.3	4.0		3.2	2.1	
	2840	PEKG	8 S	0215.0	0215.5	1.0		33.7	22.3	
	245	LEAR	8 S	0329.0E	0330.0	1.0D		82.0		QL=1 ST=2 TYP=3
	200	HIRA	45 C	0448.2	0448.8	1.1		1200.0		0
	100	HIRA	46 C	0448.3	0449.4	1.3		475.0		
	500	HIRA	41 F	0448.9	0449.0	0.8		580.0		WL
	8800	LEAR	8 S	0449.0E	0449.0		U	28.0		QL=1 ST=2 TYP=3
	245	LEAR	8 S	0449.0E	0449.0	1.0D		330.0		QL=1 ST=2 TYP=3
	9100	GORK	2 S/F	0557.8	0559.0	3.1		10.0		
	2950	GORK	21 GRF	0602.3	0636.0	320.0		8.9		
	9100	GORK	22 GRF	0612.0E	0734.7	99.0D		19.0		
	200	GORK	3 S	0616.4	0616.7	1.0		20.0		
	500	HIRA	42 SER	0632.0	0639.2	9.3		260.0		0
	2840	PEKG	5 S	0632.5	0635.0	5.5		51.3	34.0	
	5900	KISV	4 S/F	0635.6	0639.5	7.8		73.0		
	650	GORK	4 S/F	0635.7	0639.4U	3.7		100.0		
	650	GORK	29 PBI	0635.7	0640.6	13.6		4.5		
	9300	KISV	45 C	0636.9	0639.4	5.3		49.0		
	9300	KISV	45 C	0636.9	0638.8			28.0		
	3100	CRIM	3 S	0637.1	0639.4	4.7		46.0	15.0	
	2950	GORK	45 C	0637.1	0639.4	5.4		60.0		
	2950	GORK	45 C	0637.1	0639.6			60.0		
	200	HIRA	46 C	0637.3	0638.9	2.1		1030.0		0
	950	GORK	4 S/F	0637.5	0639.4U	3.0		374.0		
	950	GORK	29 PBI	0637.5	0640.5	17.5		21.0		
	245	LEAR	49 GB	0638.0E	0638.0	2.0D		1700.0		QL=1 ST=2 TYP=6
	410	LEAR	49 GB	0638.0E	0638.0	2.0D		870.0		QL=1 ST=2 TYP=6
	410	SVTO	49 GB	0638.0E	0638.0	1.0D		1300.0		QL=1 ST=2 TYP=6
	245	SVTO	49 GB	0638.0E	0638.0	1.0D		1900.0		QL=1 ST=2 TYP=6
	1415	SVTO	49 GB	0638.0E	0640.0	2.0D		540.0		QL=1 ST=2 TYP=6
	100	HIRA	46 C	0638.2		2.1		1000.0D		
	9100	GORK	46 C	0638.5	0640.4			39.0		
	15000	KISV	45 C	0638.5	0639.4	1.9		9.0		
	15000	KISV	45 C	0638.5	0638.8			5.0		
	9100	GORK	46 C	0638.5	0638.9	1.9		19.0		
	200	GORK	3 S	0638.7	0639.0	2.0		29.0		
	100	GORK	46 C	0638.7	0639.0			2250.0		
	100	GORK	46 C	0638.7	0639.4			1800.0		
	100	GORK	46 C	0638.7	0638.9	2.2		3000.0		
	610	LEAR	8 S	0639.0E	0639.0	1.0D		160.0		QL=1 ST=2 TYP=3
	2695	SVTO	8 S	0639.0E	0640.0	1.0D		75.0		QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0639.0E	0639.0	1041.0D		73.0		QL=1 ST=1 TYP=3
	234	POTS	4 S/F	0648.5	0648.8	1.9		700.0	100.0	
	30	POTS	4 S/F	0648.8	0649.5	1.7		1600.0	100.0	
	204	IZMI	42 SER	0721.0	0736.4	17.0		300.0		
	2950	GORK	1 S	0721.6	0722.0	0.7		3.6	1.8	
	3013	IZMI	7 C	0722.5	0726.0	18.0		51.0		
100	GORK	41 F	0722.6	0736.1			600.0			
100	GORK	41 F	0722.6	0723.8	15.0		500.0			
234	POTS	42 SER	0722.8	0736.2	15.0		330.0	1.0U		
245	LEAR	4 S/F	0723.0E	0724.0	3.0D		150.0		QL=1 ST=2 TYP=3	
245	SVTO	8 S	0723.0E	0724.0	1.0D		160.0		QL=1 ST=2 TYP=3	
200	GORK	3 S	0723.0	0724.0U	1.8		20.0			
30	POTS	42 SER	0723.1	0726.1	12.0		1200.0			
950	GORK	46 C	0723.2	0727.3			92.0			
950	GORK	46 C	0723.2	0725.7	7.3		61.0			
1470	POTS	4 S/F	0723.5	0726.0	5.5		23.0U			
650	GORK	46 C	0723.5	0727.3			89.0			
650	GORK	46 C	0723.5	0725.8	4.8		83.0			
2950	GORK	46 C	0723.6	0727.2			35.0			
2950	GORK	46 C	0723.6	0736.2			12.8			
2950	GORK	46 C	0723.6	0727.8			37.0			
2950	GORK	46 C	0723.6	0725.8	15.8		46.0			
127	TORN	42 SER	0723.7	0736.0	15.0		3500.0D	20.0		
3200	BERN	4 S/F	0724.0	0726.0	6.0		44.0			
5200	BERN	4 S/F	0724.0	0726.0	6.0		52.0			

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 ⁻²² W/m ² Hz)	Mean		
17	3100	CRIM	45 C	0724.5	0727.0		23.0			
	3100	CRIM	45 C	0724.5	0725.5	4.0	32.6	11.0		
	3100	CRIM	30 PBI	0724.5	0728.7	10.0	4.8	2.0		
	3100	CRIM	45 C	0724.5	0727.8		24.0			
	5900	KISV	46 C	0724.8	0725.9	16.8	42.0			
	610	LEAR	8 S	0725.0E	0727.0	2.00	200.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0725.0E	0725.0	2.00	36.0			QL=1 ST=2 TYP=3
	2840	PEKG	5 S	0725.0	0726.0	5.0	37.3	24.7		
	9500	POTS	25 R	0725.0	0735.4	30.0	17.0			
	9300	KISV	46 C	0725.0	0727.9	20.5	20.0			
	9100	GORK	2 S/F	0725.3	0726.0	2.9	15.0			
	15000	KISV	22 GRF	0725.5	0735.0	17.5	18.0			
	650	GORK	40 F	0729.4	0733.5	7.7	8.0			
	3100	CRIM	1 S	0735.8	0736.3	1.0	6.7	2.0		
	245	LEAR	8 S	0736.0E	0736.0		190.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	0736.0E	0736.0		210.0			QL=1 ST=2 TYP=3
	2840	PEKG	1 S	0737.0	0738.1	6.0	4.0	2.6		
	3100	CRIM	1 S	0826.0	0826.8	1.5	4.0	1.3		
	2950	GORK	1 S	0826.1	0826.2	1.1	3.6			
	430	KRAK	42 SER	0838.2	0838.6	6.5	15.0			
	810	KRAK	8 S	0959.5	0959.6	0.3	14.0			
	536	ONDR	42 SER	1106.0	1107.6	16.0	14.6			
	650	GORK	41 F	1106.0	1107.7		275.0			
	650	GORK	41 F	1106.0	1106.7	3.2	21.0			
	650	GORK	41 F	1106.0	1108.7		70.0			
	950	GORK	4 S/F	1106.2	1107.7	1.8	31.0			
	610	TRST	47 GB	1107.4	1107.5	0.6	2353.0			19L
	1470	POTS	3 S	1107.5	1107.6	1.5	7.0			
	237	TRST	46 C	1107.6	1107.8	0.3	463.0			9L Var. Pol.
	430	KRAK	42 SER	1118.0	1120.0	5.0	170.00			
	5900	KISV	2 S/F	1119.4	1120.4	5.1	11.0			
	9300	KISV	2 S/F	1119.8	1120.4	6.6	7.0			
	810	KRAK	2 S/F	1120.0	1120.0	2.0	15.0	3.0		
	950	GORK	46 C	1120.0	1121.1		7.8			
	950	GORK	46 C	1120.0	1120.2	1.5	7.8			
	650	GORK	4 S/F	1120.0	1120.3	1.6	70.0			
	1470	POTS	1 S	1120.0	1120.3	2.5	4.0			
	408	TRST	46 C	1120.2	1120.2	0.2	208.0			6L
	610	TRST	46 C	1120.2	1120.2	0.2	263.0			4L
	237	TRST	46 C	1120.2	1120.2	0.2	89.0			22L
	327	TRST	46 C	1120.2	1120.3	0.3	156.0			3L Var. Pol.
	810	KRAK	8 S	1142.0	1142.1	0.2	7.0			
	430	KRAK	8 S	1142.3	1142.5	0.5	8.0			
	810	KRAK	8 S	1144.4	1144.5	0.1	16.0			
	430	KRAK	8 S	1205.2	1205.2	0.1	19.0			
	430	KRAK	42 SER	1216.0	1223.5	14.5	12.0			
	810	KRAK	8 S	1223.4	1223.5	0.1	7.0			
	2800	OTTA	3 S	1330.0	1345.0	62.0	68.3	27.0		
	810	KRAK	8 S	1331.3	1331.5	0.5	28.0			
	9500	POTS	20 GRF	1339.0	1345.5	31.00	22.0			
1470	POTS	45 C	1340.0	1344.5	12.0	83.0				
810	KRAK	7 C	1340.5	1343.5	7.5	50.0	23.0			
3200	BERN	4 S/F	1341.0	1345.0	20.0	50.0				
5200	BERN	4 S/F	1341.0	1345.0	20.0	35.0				
3000	POTS	3 S	1341.0	1344.5	14.0	45.0				
430	KRAK	7 C	1341.3	1344.3	5.0	11.0	7.0			
610	SGMR	8 S	1342.0E	1343.0	2.00	70.0			QL=1 ST=3 TYP=3	
2695	SVTO	20 GRF	1342.0E	1345.0	4.00	67.0			QL=1 ST=2 TYP=2	
1415	SGMR	4 S/F	1343.0E	1344.0	3.00	84.0			QL=1 ST=3 TYP=3	
2695	SGMR	8 S	1343.0E	1344.0	2.00	60.0			QL=1 ST=3 TYP=3	
4995	SGMR	4 S/F	1343.0E	1345.0	5.00	46.0			QL=1 ST=3 TYP=3	
8800	SGMR	4 S/F	1343.0E	1345.0	5.00	20.0			QL=1 ST=3 TYP=3	
1415	SVTO	20 GRF	1343.0E	1344.0	3.00	79.0			QL=1 ST=2 TYP=2	
4995	SVTO	20 GRF	1343.0E	1345.0	2.00	52.0			QL=1 ST=2 TYP=2	
4995	SGMR	4 S/F	1344.0E	1345.0	4.00	46.0			QL=1 ST=2 TYP=3	
8800	SGMR	4 S/F	1344.0E	1345.0	4.00	38.0			QL=1 ST=2 TYP=3	
430	KRAK	42 SER	1401.5	1405.0		125.00				
430	KRAK	42 SER	1401.5	1403.5	6.7	130.00				
610	SGMR	8 S	1402.0E	1403.0	1.00	54.0			QL=1 ST=2 TYP=3	

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

55
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Flux Density Mean	Int	Remarks
17	810	KRAK	42 SER	1402.5	1405.0	3.0	50.0			
	1470	POTS	4 S/F	1402.5	1405.4	75.0U	24.0U			
	3000	POTS	4 S/F	1402.5U	1404.5U	55.0U	15.0			
	8800	SGMR	8 S	1821.0E	1822.0	1.0D	50.0			QL=1 ST=2 TYP=3
	410	PALE	8 S	2127.0E	2128.0	2.0D	120.0			QL=1 ST=2 TYP=3
18	200	GORK	NS	0600.0E		150.0D		10.0		
	245	SVTO	43 NS	0602.0	0649.0	544.0D	6.0			QL=1 ST=2 TYP=1
	100	GORK	44 NS	0615.0E		315.0D		5.0		
	127	TORN	44 NS	0700.0E	0700.0U	240.0D		20.0		V=1
	204	IZMI	43 NS	0700.0		300.0	6.0D			
	260	ONDR	44 NS	0800.0E	1032.5	345.0D	3.8			
	200	GORK	44 NS	1015.0E		90.0D		10.0		
	245	SGMR	44 NS	1202.0E	1635.0	533.0D	120.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2120.0E	0025.0	600.0D	25.0	10.0		MR
	245	LEAR	44 NS	2150.0E	2310.0	758.0D	87.0			QL=1 ST=2 TYP=1
	245	LEAR	8 S	0233.0E	0233.0	1.0D	92.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	0233.0E	0233.0	U	90.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0256.0E	0256.0	U	150.0			QL=1 ST=2 TYP=3
	9300	KISV	22 GRF	0723.0	0739.5	277.0	6.0			
	2950	GORK	1 S	0809.5	0810.0	1.2	1.8	0.9		
	410	LEAR	4 S/F	0903.0E	0904.0	4.0D	130.0			QL=1 ST=2 TYP=3
	245	LEAR	4 S/F	0903.0E	0904.0	5.0D	130.0			QL=1 ST=2 TYP=3
	610	LEAR	4 S/F	0903.0E	0904.0	5.0D	160.0			QL=1 ST=2 TYP=3
	5900	KISV	21 GRF	0904.0	0910.8	35.5	5.0			
	3100	CRIM	26 FAL	0908.0	1030.0		6.7			
	237	TRST	46 C	0930.3	0930.5	0.3	113.0			8R Noise Storm
	9300	KISV	2 S/F	1111.7	1112.0	0.5	3.0			
	5900	KISV	2 S/F	1111.7	1112.0	0.7	2.0			
	536	ONDR	41 F	1243.0	1243.2	14.5	2.4			
	245	SVTO	8 S	1328.0E	1329.0	1.0D	250.0			QL=1 ST=2 TYP=3
	245	SGMR	8 S	1329.0E	1329.0	U	370.0			QL=1 ST=2 TYP=3
	234	POTS	4 S/F	1329.0	1329.4	1.0	165.0	40.0		
	810	KRAK	2 S/F	1331.3	1332.0	1.5	28.0	2.0		
	430	KRAK	8 S	1331.8	1332.0	0.3	71.0			
	245	PALE	8 S	2047.0E	2048.0	1.0D	230.0			QL=1 ST=3 TYP=3
245	SGMR	8 S	2047.0E	2048.0	1.0D	300.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	2054.0E	2055.0	1.0D	310.0			QL=1 ST=2 TYP=3	
410	SGMR	8 S	2054.0E	2054.0	U	130.0			QL=1 ST=2 TYP=3	
19	200	GORK	44 NS	0600.0E		150.0D		5.0		
	100	GORK	44 NS	0624.0E		283.0D		10.0		
	127	TORN	44 NS	0700.0E	0700.0U	240.0D		15.0		V=1
	204	IZMI	43 NS	0700.0		300.0	15.0			
	260	ONDR	44 NS	0800.0E	1128.0	340.0D	2.6			
	245	SGMR	44 NS	1204.0E	1331.0	530.0D	28.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2121.0E	0122.0	600.0D	7.0	4.0		WR
	245	LEAR	44 NS	2150.0E	2239.0	759.0D	36.0			QL=1 ST=2 TYP=1
	950	GORK	41 F	0635.7	0636.1	5.5	2.0			
	950	GORK	41 F	0635.7	0639.2		9.0			
	650	GORK	4 S/F	0635.8	0636.3	1.2	20.0			
	2950	GORK	1 S	0635.9	0636.2	20.0	8.5	4.0		
	3100	CRIM	1 S	0638.7	0639.4	1.0	8.3	3.0		
	5900	KISV	1 S	0638.9	0639.2	0.7	5.0			
	2950	GORK	20 GRF	0732.5	0739.0	12.8	3.0			
	536	ONDR	41 F	0956.9	0957.9	1.5				
	2950	GORK	1 S	1000.0	1000.8	1.5	2.9	1.4		
	5900	KISV	20 GRF	1002.0	1008.0	10.5	3.0			
	245	SGMR	8 S	1331.0E	1331.0	1.0D	110.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	1331.0E	1331.0	1.0D	80.0			QL=1 ST=2 TYP=3
40	POTS	4 S/F	1331.2	1332.0	3.3	2300.0	160.0			
234	POTS	4 S/F	1331.4	1331.6	1.4	150.0	30.0			
245	PALE	8 S	1846.0E	1847.0	2.0D	210.0			QL=/ ST=3 TYP=3	
20	100	GORK	43 NS	0530.0		300.0D		5.0		
	200	GORK	44 NS	0545.0E		150.0D		5.0		
	245	SVTO	44 NS	0604.0E	0624.0	1076.0D	52.0			QL=1 ST=1 TYP=1
	127	TORN	44 NS	0700.0E		240.0D		15.0		V=1
	204	IZMI	43 NS	0700.0		300.0	15.0			

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
20	260	ONDR	44 NS	0820.0E	1152.0	310.0D	5.0U			
	200	HIRA	44 NS	2122.0E	0543.0	600.0D	8.0	3.0		WR
	200	HIRA	46 C	0434.3	0434.7	1.8	57.0			WR
	100	GORK	8 S	0545.2	0545.4	0.3	200.0			
	9300	KISV	22 GRF	0600.0	0935.8	360.0	2.0			
	2950	GORK	2 S/F	0622.1	0626.4	5.9	3.1			
	950	GORK	1 S	0624.0	0624.3	0.8	1.5			
	2950	GORK	2 S/F	0634.1	0635.7	6.5	3.8			
	5900	KISV	2 S/F	0634.8	0634.9	0.3	2.0			
	9300	KISV	2 S/F	0634.8	0634.9	0.3	3.0			
	650	GORK	4 S/F	0635.8	0636.8	1.2	20.0			
	9300	KISV	2 S/F	0656.7	0656.9	3.7	4.0			
	100	GORK	46 C	0709.6	0710.0		160.0			
	100	GORK	46 C	0709.6	0709.7	0.6	400.0			
	5900	KISV	21 GRF	0809.5	0813.0	16.0	10.0			
	9300	KISV	21 GRF	0811.8	0813.0	17.5	11.0			
	9500	POTS	3 S	0812.5	0813.0	1.5	12.0			
	9100	GORK	20 GRF	0812.6	0813.1	9.5	8.4			
	5900	KISV	22 GRF	0844.8	0853.3	24.0	2.0			
	100	GORK	8 S	0910.4	0910.7	0.3	270.0			
	5900	KISV	1 S	0935.8	0937.0	1.9	1.0			
	5900	KISV	22 GRF	0947.8	0948.2	29.0	1.0			
	5900	KISV	2 S/F	1002.8	1004.3	7.6	3.0			
	5900	KISV	2 S/F	1110.3	1110.5	0.4	2.0			
	536	ONDR	41 F	1133.5	1137.2	7.0				
	5900	KISV	22 GRF	1135.3	1157.0	24.0	3.0			
	5900	KISV	2 S/F	1141.7	1143.3	4.3	6.0			
	204	IZMI	42 SER	1150.4	1150.5	3.6	1300.0			
	430	KRAK	8 S	1151.6	1151.8	0.4	51.0			
	245	SGMR	8 S	1319.0E	1319.0	1.0D	51.0			QL=1 ST=1 TYP=3
	245	SGMR	8 S	1325.0E	1325.0	U	90.0			QL=1 ST=2 TYP=3
	410	SGMR	8 S	1325.0E	1325.0	U	50.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	1325.0E	1325.0	1.0D	65.0			QL=1 ST=2 TYP=3
	410	SVTO	8 S	1325.0E	1325.0	1.0D	150.0			QL=1 ST=2 TYP=3
	430	KRAK	8 S	1326.0	1326.0	0.1	32.0			
	245	SGMR	8 S	1405.0E	1405.0	1.0D	72.0			QL=1 ST=2 TYP=3
	40	POTS	42 SER	1407.0	1417.2	13.0	4500.0			
	245	SGMR	8 S	1409.0E	1409.0	1.0D	320.0			QL=1 ST=3 TYP=3
	410	SVTO	8 S	1409.0E	1410.0	1.0D	120.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	1409.0E	1410.0	1.0D	240.0			QL=1 ST=2 TYP=3
	234	POTS	42 SER	1409.5	1416.4	11.0	165.0			
	245	SGMR	4 S/F	1416.0E	1416.0	3.0D	210.0			QL=1 ST=2 TYP=3
	245	SVTO	4 S/F	1416.0E	1416.0	3.0D	160.0			QL=1 ST=2 TYP=3
	1470	POTS	4 S/F	1416.0	1418.0	40.0	32.0U			
	9500	POTS	3 S	1416.0	1417.5	5.0	45.0			
	2800	OTTA	4 S/F	1416.3	1418.1	6.2	93.6	46.0		
	8400	BERN	4 S/F	1416.5	1417.5	4.5	75.0			
11800	BERN	4 S/F	1416.5	1417.5	4.5	42.0				
2695	SGMR	8 S	1417.0E	1417.0	1.0D	80.0			QL=1 ST=2 TYP=3	
4995	SGMR	8 S	1417.0E	1417.0	1.0D	97.0			QL=1 ST=2 TYP=3	
4995	SVTO	8 S	1417.0E	1418.0	1.0D	110.0			QL=1 ST=2 TYP=3	
2695	SVTO	8 S	1417.0E	1418.0	1.0D	81.0			QL=1 ST=2 TYP=3	
2800	OTTA	4 S/F	1636.2	1637.9	6.9	29.9	15.0			
2800	OTTA	29 PBI	1643.1	1643.1	72.0	10.7	5.0			
245	PALE	8 S	1732.0E	1732.0	1.0D	150.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	1732.0E	1732.0	1.0D	180.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	1937.0E	1937.0	U	56.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	2028.0E	2028.0	1.0D	53.0			QL=1 ST=2 TYP=3	
500	HIRA	42 SER	2148.0	2148.3	4.2	25.0			MR	
15400	LEAR	4 S/F	2222.0E	2225.0	4.0D	84.0			QL=1 ST=2 TYP=3	
8800	LEAR	8 S	2223.0E	2223.0	1.0D	22.0			QL=1 ST=2 TYP=3	
200	HIRA	42 SER	2315.5	2322.8	11.9	160.0			O	
100	HIRA	41 F	2322.3		5.3	1000.0D				
500	HIRA	41 F	2322.7	2326.7	5.3	62.0			MR	
245	LEAR	8 S	2323.0E	2323.0	U	37.0			QL=1 ST=3 TYP=3	
410	LEAR	4 S/F	2324.0E	2325.0	3.0D	77.0			QL=1 ST=2 TYP=3	
610	LEAR	8 S	2325.0E	2327.0	2.0D	23.0			QL=1 ST=2 TYP=3	
21	200	GORK	NS	0545.0E		100.0D		5.0		

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

57
Nov 88

NOVEMBER 1988

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	204	IZMI	43 NS	0700.0		300.0	10.0			
	260	ONDR	44 NS	0810.0E	1311.1	330.0D	6.6			
	245	SVTO	43 NS	1250.0	1314.0	134.0D	69.0			QL=1 ST=2 TYP=1
	200	HIRA	44 NS	2122.0E	2243.0	600.0D	9.0	4.0		MR
	200	HIRA	42 SER	0106.7	0114.9	18.5	350.0			MR
	2695	LEAR	8 S	0107.0E	0107.0	1.0D	25.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0107.0E	0107.0	1.0D	62.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	0107.0E	0107.0	1.0D	69.0			QL=1 ST=2 TYP=3
	100	HIRA	42 SER	0107.4	0115.5	10.1	730.0			
	500	HIRA	4 S/F	0114.8	0115.7	2.8	36.0			WR
	245	LEAR	8 S	0115.0E	0115.0	2.0D	280.0			QL=1 ST=2 TYP=3
	610	LEAR	8 S	0115.0E	0115.0	1.0D	47.0			QL=1 ST=2 TYP=3
	410	LEAR	8 S	0115.0E	0115.0	1.0D	41.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	0115.0E	0115.0	1.0D	280.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0159.0E	0159.0	1.0D	13.0			QL=1 ST=2 TYP=3
	610	LEAR	8 S	0159.0E	0159.0	1.0D	19.0			QL=1 ST=2 TYP=3
	500	HIRA	41 F	0159.1	0159.5	2.2	35.0			MR
	245	LEAR	8 S	0200.0E	0201.0	1.0D	76.0			QL=1 ST=2 TYP=3
	100	HIRA	42 SER	0204.6		57.0	1000.0D			
	200	HIRA	42 SER	0237.6	0244.2	23.2	170.0			WR
	2950	GORK	3 S	0519.2	0524.0	6.2	34.0			
	950	GORK	46 C	0555.4	0602.2		68.0			
	950	GORK	46 C	0555.4	0557.9	188.0D	69.0			
	650	GORK	46 C	0557.2	0558.7		18.0			
	650	GORK	46 C	0557.2	0557.8	2.8	18.0			
	5900	KISV	20 GRF	0622.0	0832.1	218.0	11.0			
	9300	KISV	22 GRF	0655.8	0830.6	163.0	7.0			
	5900	KISV	1 S	0749.3	0754.6	9.0	2.0			
	650	GORK	2 S/F	0753.2	0755.4	4.3	5.0			
	950	GORK	46 C	0753.4	0757.0		39.0			
	950	GORK	46 C	0753.4	0755.9	3.9	20.0			
	1470	POTS	3 S	0754.5	0755.3	25.0	7.0			
	9500	POTS	1 S	0755.5	0756.0	1.0	7.0			
	430	KRAK	41 F	0829.0	0830.8	3.5	7.0	1.0		
	2950	GORK	2 S/F	1011.7	1014.0	6.3	8.1			
	1470	POTS	40 F	1012.5	1018.0	11.0	12.0			
	950	GORK	46 C	1013.3	1017.0	5.7	47.0			
	650	GORK	40 F	1013.3	1017.2	6.6	13.0			
	950	GORK	46 C	1013.3	1017.7		60.0			
	810	KRAK	42 SER	1013.6	1017.9	5.2	57.0			
	15000	KISV	40 F	1044.1	1044.7	1.7	4.0			
	204	IZMI	41 F	1100.0	1103.2	3.8	100.0			
	327	TRST	27 RF	1106.7	1108.5	3.3	74.0			58R
430	KRAK	2 S/F	1107.2	1108.5	3.0	14.0	3.0			
408	TRST	27 RF	1107.5	1108.3	2.3	64.0			42R	
2950	GORK	22 GRF	1113.0	1116.6	12.7	4.2				
3100	CRIM	1 S	1116.4	1116.6	1.0	5.7	2.0			
536	ONDR	41 F	1212.4	1225.0	14.5	2.4				
430	KRAK	42 SER	1222.5	1225.2	6.2	9.0				
1470	POTS	4 S/F	1226.0	1228.5	6.0	10.0				
3100	CRIM	1 S	1227.1	1228.6	2.0	13.0	4.0			
245	SGMR	8 S	1310.0E	1311.0	2.0D	73.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	1314.0E	1314.0	U	93.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	1410.0E	1410.0	1.0D	180.0			QL=1 ST=2 TYP=3	
245	SVTO	8 S	1410.0E	1410.0	1.0D	130.0			QL=1 ST=2 TYP=3	
1470	POTS	4 S/F	1410.5E	1410.5						
245	SGMR	8 S	1432.0E	1432.0	U	19.0			QL=1 ST=2 TYP=3	
2800	OTTA	4 S/F	1653.0	1654.2	5.3	27.3	13.0			
245	SGMR	49 GB	1653.0E	1654.0	1.0D	600.0			QL=1 ST=2 TYP=6	
410	SGMR	8 S	1653.0E	1653.0	1.0D	160.0			QL=1 ST=2 TYP=3	
2800	OTTA	29 PBI	1658.5	1658.5	27.8	4.2	2.0			
245	SGMR	8 S	1819.0E	1819.0	U	150.0			QL=1 ST=2 TYP=3	
245	PALE	4 S/F	1819.0E	1819.0	59.0D	120.0			QL=1 ST=2 TYP=3	
410	SGMR	8 S	1823.0E	1823.0	U	78.0			QL=1 ST=3 TYP=3	
245	SGMR	8 S	1823.0E	1823.0	U	190.0			QL=1 ST=3 TYP=3	
245	PALE	8 S	2047.0E	2047.0	1.0D	78.0			QL=1 ST=2 TYP=3	
245	SGMR	8 S	2047.0E	2047.0	U	56.0			QL=1 ST=2 TYP=3	
245	PALE	8 S	2053.0E	2054.0	1.0D	230.0			QL=1 ST=2 TYP=3	
245	PALE	8 S	2130.0E	2130.0	U	120.0			QL=1 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 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks	
							Peak (10 ⁻²² W/m ² Hz)	Mean (2 Hz)			
21	245	LEAR	8 S	2224.0E	2224.0	U	62.0			QL=1 ST=2 TYP=3	
	100	HIRA	41 F	2249.2	2252.1	6.7	960.0				
	500	HIRA	46 C	2249.7	2254.0	15.0	196.0	30.0		MR	
	200	HIRA	46 C	2249.8	2252.1	14.5	90.0	21.0		O	
	245	LEAR	4 S/F	2251.0E	2252.0	5.00	260.0			QL=1 ST=2 TYP=3	
	410	LEAR	4 S/F	2251.0E	2252.0	11.00	190.0			QL=1 ST=2 TYP=3	
	610	LEAR	49 GB	2251.0E	2253.0	11.00	1100.0			QL=1 ST=2 TYP=6	
	2695	LEAR	4 S/F	2252.0E	2254.0	4.00	54.0			QL=1 ST=2 TYP=3	
	410	PALE	8 S	2252.0E	2254.0	2.00	180.0			QL=1 ST=2 TYP=3	
	245	PALE	8 S	2252.0E	2252.0	2.00	310.0			QL=1 ST=2 TYP=3	
	8800	LEAR	4 S/F	2253.0E	2254.0	3.00	50.0			QL=1 ST=2 TYP=3	
	610	PALE	49 GB	2253.0E	2253.0	2.00	920.0			QL=1 ST=2 TYP=6	
	1415	PALE	8 S	2253.0E	2254.0	1.00	57.0			QL=1 ST=2 TYP=3	
	15400	LEAR	8 S	2254.0E	2254.0	U	26.0			QL=1 ST=2 TYP=3	
410	PALE	8 S	2258.0E	2258.0	1.00	61.0			QL=1 ST=2 TYP=3		
610	PALE	8 S	2258.0E	2259.0	2.00	77.0			QL=1 ST=2 TYP=3		
22	245	SVTO	44 NS	0606.0E	0613.0	36.00	120.0			QL=1 ST=2 TYP=1	
	204	IZMI	43 NS	0700.0		300.0	15.0				
	260	ONDR	44 NS	0800.0E	1219.5	330.00					
	245	LEAR	8 S	0252.0E	0252.0	U	90.0			QL=1 ST=2 TYP=3	
	245	PALE	8 S	0252.0E	0252.0	U	100.0			QL=1 ST=2 TYP=3	
	245	LEAR	8 S	0324.0E	0324.0	U	390.0			QL=1 ST=2 TYP=3	
	410	LEAR	8 S	0324.0E	0324.0	U	54.0			QL=1 ST=2 TYP=3	
	245	PALE	8 S	0324.0E	0324.0	U	420.0			QL=1 ST=2 TYP=3	
	245	LEAR	8 S	0333.0E	0333.0	U	50.0			QL=1 ST=2 TYP=3	
	245	LEAR	8 S	0505.0E	0505.0	1.00	300.0			QL=1 ST=2 TYP=3	
	410	LEAR	8 S	0505.0E	0505.0	1.00	52.0			QL=1 ST=2 TYP=3	
	200	HIRA	46 C	0505.5	0506.1	1.2	450.0			O	
	500	HIRA	41 F	0505.5	0507.2	3.0	57.0			MR	
	100	HIRA	46 C	0505.6	0507.6	2.8	1000.00				
	650	GORK	40 F	0622.3	0623.1	3.1	2.0				
	950	GORK	46 C	0622.3	0622.6	3.7	9.7				
	950	GORK	46 C	0622.3	0624.9		16.7				
	650	GORK	40 F	0622.3	0624.9		3.5				
	5900	KISV	2 S/F	0724.0	0726.0	2.6	11.0				
	5900	KISV	29 PBI	0724.0	0726.6	9.0	3.0				
	245	SVTO	8 S	0725.0E	0726.0	1.00	58.0				QL=1 ST=2 TYP=3
	30	POTS	4 S/F	0725.6	0726.3	1.9	450.0	60.0			
	234	POTS	4 S/F	0725.8	0726.0	1.2	200.0	35.0			
	245	LEAR	8 S	0726.0E	0726.0	U	64.0				QL=1 ST=2 TYP=3
	33	UPIC	4 S/F	0726.0	0726.0	1.8					
	3013	IZMI	5 S	0726.0	0726.5	1.0	7.0	5.0			
	9300	KISV	2 S/F	0726.0	0726.5	2.0	3.0				
	204	IZMI	41 F	0726.0	0726.7	2.0	180.0				
	234	POTS	8 S	1057.1	1057.2	0.6	4100.0	1400.0			
	30	POTS	8 S	1057.2	1057.5	0.9	50.0	15.0			
536	ONDR	6 S	1300.9	1301.2	1.4	13.0					
2800	OTTA	22 GRF	1400.0	1501.0	277.0	36.3	11.0				
245	PALE	8 S	2223.0E	2224.0	1.00	78.0				QL=1 ST=2 TYP=3	
245	LEAR	8 S	2224.0E	2224.0	U	74.0				QL=1 ST=2 TYP=3	
23	260	ONDR	44 NS	0810.0E	1145.0	330.00	6.8				
	245	SGMR	44 NS	1408.0E	1408.0	592.00	13.0				
	200	HIRA	8 S	0320.9	0321.3	0.7	107.0				
	5900	KISV	1 S	0551.1	0552.4	2.0	8.0				
	5900	KISV	2 S/F	0554.6	0558.7	6.0	10.0				
	204	IZMI	7 C	0837.4	0837.6	0.6	55.0	26.0			
	245	SGMR	8 S	1339.0E	1339.0	1.00	110.0				QL=1 ST=2 TYP=3
	245	SVTO	8 S	1339.0E	1339.0	1.00	77.0				QL=1 ST=2 TYP=3
	234	POTS	8 S	1339.2	1339.6	1.0	150.0	50.0			
	810	KRAK	2 S/F	1342.0	1342.0	0.6	4.0	1.0			
	430	KRAK	2 S/F	1342.0	1342.5	0.7	11.0	2.0			
245	SGMR	8 S	1344.0E	1344.0	U	61.0				QL=1 ST=2 TYP=3	
8800	SGMR	8 S	1636.0E	1636.0	1.00	210.0				QL=1 ST=2 TYP=3	
24	260	ONDR	44 NS	0830.0E	1312.0	300.00					
	245	SGMR	44 NS	1210.0E	1844.0	520.00	35.0				
	200	HIRA	43 NS	2343.0	0049.0	198.0	6.0	2.0			

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

59
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
24	245	LEAR	8 S	0120.0E	0121.0	1.0D	200.0			QL=1 ST=2 TYP=3
	200	HIRA	8 S	0120.5	0120.6	0.2	330.0			0
	200	HIRA	42 SER	0444.6	0508.7	97.0	650.0			0
	410	LEAR	8 S	0457.0E	0457.0	1.0D	99.0			QL=1 ST=2 TYP=3
	245	LEAR	8 S	0457.0E	0457.0	1.0D	66.0			QL=1 ST=2 TYP=3
	500	HIRA	8 S	0457.4	0457.5	0.8	405.0			0
	100	HIRA	8 S	0508.2	0508.6	0.8	1000.0D			
	245	LEAR	8 S	0541.0E	0541.0	U	58.0			QL=1 ST=2 TYP=3
	5900	KISV	2 S/F	0601.6	0602.6	3.0	8.0			
	3200	BERN	3 S	1243.2	1244.4	5.0	28.0			
	5200	BERN	3 S	1243.2	1244.4	5.0	22.0			
	536	ONDR	40 F	1243.6	1244.0	2.0	13.1			
	1470	POTS	3 S	1243.7	1244.7	12.0	17.0			
	810	KRAK	46 C	1253.8	1254.4	21.0	124.0	7.0		
	245	SVTO	8 S	1339.0E	1339.0	1.0D	77.0			QL=1 ST=2 TYP=3
245	LEAR	8 S	2343.0E	2343.0	1.0D	55.0			QL=1 ST=2 TYP=3	
25	100	GORK	NS	0553.0E		88.0D		5.0		
	260	ONDR	44 NS	0830.0E	1157.4	300.0D	10.6			
	245	SGMR	44 NS	1211.0E	1605.0	518.0D	46.0			QL=1 ST=2 TYP=1
	204	IZMI	8 S	0738.6	0738.6	0.2	94.0	47.0		
	536	ONDR	41 F	1147.0	1147.1	11.0				
	410	SVTO	8 S	1157.0E	1157.0	U	81.0			QL=1 ST=2 TYP=3
	245	SVTO	8 S	1157.0E	1157.0	1.0D	250.0			QL=1 ST=2 TYP=3
	234	POTS	4 S/F	1157.0	1157.5	1.1	150.0	15.0		
	327	TRST	46 C	1157.2	1157.2	0.8	278.0			0L
	408	TRST	46 C	1157.2	1157.3	0.6	180.0			3R
	237	TRST	46 C	1157.2	1157.5	0.8	242.0			8L
	430	KRAK	8 S	1157.3	1157.3U	1.0	120.0			
	430	KRAK	41 F	1200.5	1201.3	2.3	8.0	1.0		
	430	KRAK	2 S/F	1212.5	1213.0	0.5	8.0	1.0		
	408	TRST	45 C	1213.0	1213.0	0.1	48.0			4R
327	TRST	46 C	1213.0	1213.0	0.1	84.0			3R	
237	TRST	2 S/F	1213.0	1213.1	0.1	32.0			2L	
26	260	ONDR	44 NS	0830.0E	1202.1	300.0D	0.8			
	5900	KISV	1 S	0901.9	0905.8	6.7	1.0			
	5900	KISV	20 GRF	0920.3	0933.1	39.0	2.0			
	5900	KISV	2 S/F	1017.9	1018.2	0.9	1.0			
	536	ONDR	41 F	1048.5	1052.0	6.5	0.7			
	15000	KISV	32 ABS	1114.1	1114.7	1.8	3.0			
	430	KRAK	8 S	1128.8	1129.0	0.5	10.0			
	9300	KISV	21 GRF	1155.4	1155.6	8.5	3.0			
	5900	KISV	2 S/F	1158.4	1201.4	5.2U	5.0			
	15000	KISV	32 ABS	1201.7	1204.8	3.8	3.0			
	200	HIRA	42 SER	2212.9	2213.2	22.4	53.0			0
	245	PALE	8 S	2213.0E	2213.0	1.0D	110.0			QL=1 ST=2 TYP=3
	200	HIRA	42 SER	2257.6	2257.8	4.9	820.0			0
	245	LEAR	8 S	2259.0E	2300.0	1.0D	73.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	2259.0E	2300.0	1.0D	100.0			QL=1 ST=2 TYP=3
8800	LEAR	4 S/F	2329.0E	2330.0	7.0D	55.0			QL=1 ST=2 TYP=3	
2695	LEAR	8 S	2329.0E	2330.0	2.0D	23.0			QL=1 ST=2 TYP=3	
15400	LEAR	8 S	2329.0E	2330.0	2.0D	68.0			QL=1 ST=2 TYP=3	
2695	LEAR	8 S	2353.0E	2353.0	U	11.0			QL=1 ST=2 TYP=3	
27	245	SVTO	44 NS	0612.0E	0615.0	1068.0D	75.0			QL=1 ST=1 TYP=1
	500	HIRA	46 C	0212.7	0214.2	4.2	32.0			WR
	200	HIRA	46 C	0212.8	0213.1	7.3	460.0	140.0		0
	100	HIRA	42 SER	0212.9	0213.7	9.2	970.0			
	245	LEAR	8 S	0213.0E	0213.0	2.0D	300.0			QL=1 ST=2 TYP=3
	245	PALE	8 S	0213.0E	0213.0	1.0D	420.0			QL=1 ST=2 TYP=3
	2840	PEKG	46 C	0213.0	0213.7	2.0	6.7	5.7		
	410	LEAR	8 S	0214.0E	0214.0	U	20.0			QL=1 ST=2 TYP=3
	610	LEAR	8 S	0214.0E	0214.0	U	20.0			QL=1 ST=2 TYP=3
	5900	KISV	25 R	0624.5	0909.6	332.5	18.0			
	9300	KISV	25 R	0706.2	0915.7	294.0	15.0			
	15000	KISV	22 GRF	0731.3	0825.3	262.0	24.0			
	5900	KISV	46 C	0802.3	0825.0		11.0			
	5900	KISV	46 C	0802.3	0821.1		11.0			

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

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
27	5900	KISV	46 C	0802.3	0822.4			11.0		
	5900	KISV	46 C	0802.3	0819.5			11.0		
	5900	KISV	46 C	0802.3	0812.5	47.5		11.0		
	5900	KISV	46 C	0802.3	0813.8			4.0		
	9300	KISV	46 C	0808.6	0821.0			27.0		
	9300	KISV	46 C	0808.6	0825.0			32.0		
	9300	KISV	46 C	0808.6	0811.0	41.7		18.0		
	9300	KISV	46 C	0808.6	0822.4			27.0		
	9300	KISV	46 C	0808.6	0819.5			39.0		
	9100	GORK	21 GRF	0811.1E	0822.1	199.00		15.0		
	9500	POTS	3 S	0818.0	0819.5	2.0		24.0		
	9100	GORK	1 S	0819.1	0819.4	1.0		20.0	10.0	
	15000	KISV	2 S/F	0819.2	0819.5	0.7		15.0		
	810	KRAK	42 SER	0819.5	0823.5	4.2		20.0		
	9100	GORK	1 S	0824.2	0824.8	2.5		7.5		
	9300	KISV	2 S/F	0852.2	0852.4	0.6		2.0		
	260	ONDR	45 C	0924.0	0925.9	2.5		6.2		
	5900	KISV	2 S/F	1024.3	1025.4	2.5		1.0		
	5900	KISV	2 S/F	1159.3	1202.1	5.0		5.0		
	8800	LEAR	4 S/F	2210.0E	2211.0	7.00		330.0		QL=1 ST=2 TYP=3
	15400	LEAR	4 S/F	2210.0E	2211.0	7.00		170.0		QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	2211.0E	2211.0	6.00		95.0		QL=1 ST=2 TYP=3
	410	LEAR	4 S/F	2222.0E	2223.0	6.00		200.0		QL=1 ST=2 TYP=3
	245	LEAR	8 S	2222.0E	2223.0	2.00		480.0		QL=1 ST=2 TYP=3
	610	LEAR	4 S/F	2222.0E	2223.0	6.00		49.0		QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	2222.0E	2223.0	3.00		59.0		QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	2222.0E	2223.0	6.00		98.0		QL=1 ST=2 TYP=3
	4995	PALE	8 S	2222.0E	2223.0	2.00		69.0		QL=1 ST=3 TYP=3
	1415	PALE	4 S/F	2222.0E	2223.0	3.00		59.0		QL=1 ST=3 TYP=3
	2695	PALE	4 S/F	2222.0E	2223.0	3.00		59.0		QL=1 ST=3 TYP=3
	245	PALE	49 GB	2222.0E	2223.0	1.00		640.0		QL=1 ST=3 TYP=6
	410	PALE	8 S	2222.0E	2223.0	2.00		81.0		QL=1 ST=3 TYP=3
	500	HIRA	46 C	2222.5	2223.2	6.0		75.0	8.0	WL
	15400	LEAR	8 S	2229.0E	2229.0	1.00		73.0		QL=1 ST=2 TYP=3
28	15000	KISV	2 S/F	0630.2	0630.5	0.8		3.0		
	5900	KISV	2 S/F	0730.8	0731.9	2.0		2.0		
	15000	KISV	22 GRF	0737.0	0748.0	72.0		14.0		
	5900	KISV	25 R	0737.9	0748.0			17.0		
	5900	KISV	25 R	0737.9	0742.6	262.0		16.0		
	9300	KISV	20 GRF	0738.5	0758.2	63.5		9.0		
	9100	GORK	20 GRF	0740.7	0801.9	160.0		8.4		
	5900	KISV	2 S/F	0803.0	0804.3	4.0		3.0		
	5900	KISV	45 C	0810.4	0811.8			2.0		
	5900	KISV	45 C	0810.4	0810.9	3.5		1.0		
	9300	KISV	1 S	0847.7	0848.6	1.8		2.0		
	5900	KISV	46 C	0855.0	0856.2			6.0		
	5900	KISV	46 C	0855.0	0857.5			5.0		
	5900	KISV	46 C	0855.0	0855.7	16.4		6.0		
	9300	KISV	40 F	0855.2	0855.7	1.5		2.0		
	5900	KISV	45 C	0942.1	0943.1			2.0		
	5900	KISV	45 C	0942.1	0942.8	4.5		3.0		
	5900	KISV	32 ABS	1054.0	1113.4	34.0		4.0		
	260	ONDR	42 SER	1105.2	1112.5	20.3		0.3		
	204	IZMI	41 F	1112.4	1112.5	1.2		119.0		
1470	POTS	20 GRF	1114.0	1202.5	136.0		5.0			
9500	POTS	20 GRF	1120.0	1141.0	115.0		13.0			
536	ONDR	42 SER	1133.6	1144.0	11.7		4.7			
29	260	ONDR	44 NS	0820.0E	1304.5	300.00		0.4		
	650	GORK	40 F	0632.4	0633.1	4.3		5.0		
	650	GORK	40 F	0632.4	0634.6			7.5		
	950	GORK	1 S	0632.5	0635.3	5.2		3.0		
	9100	GORK	20 GRF	0827.3	0829.0	9.3		4.2		
	5900	KISV	2 S/F	1031.7	1033.1	8.5		5.0		
	9100	GORK	2 S/F	1032.1	1033.1	6.7		6.7		
	9300	KISV	2 S/F	1032.2	1033.1	8.0		6.0		
	536	ONDR	40 F	1113.9	1114.2	1.3		4.1		
	536	ONDR	40 F	1225.8	1226.6	1.6		4.1		

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

61
Nov 88

NOVEMBER 1988

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22 W/m 2 Hz)	Mean		
29	410	SGMR	8 S	1351.0E	1351.0	U	100.0			QL=1 ST=2 TYP=3
	245	SGMR	49 GB	1351.0E	1351.0	U	550.0			QL=1 ST=2 TYP=6
	245	SVTO	8 S	1351.0E	1351.0	U	340.0			QL=1 ST=2 TYP=3
	410	SVTO	8 S	1351.0E	1351.0	1.0D	110.0			QL=1 ST=2 TYP=3
	430	KRAK	8 S	1351.0	1351.2U	0.5	140.0			
	234	POTS	4 S/F	1351.3	1351.4	1.2	700.0	140.0		
	30	POTS	4 S/F	1351.3	1351.5	0.6	4000.0U			
	410	SGMR	8 S	1352.0E	1352.0	1.0D	59.0			QL=1 ST=2 TYP=3
	430	KRAK	8 S	1352.9	1352.9U	0.1	60.0			
30	245	LEAR	43 NS	2304.0	0003.0	56.0	40.0			QL=1 ST=1 TYP=1
	260	ONDR	41 F	0948.0	0949.5	5.0	0.2			
	9100	GORK	20 GRF	0950.5	1042.2	90.0	8.3			
	536	ONDR	8 S	1028.5	1028.7	0.7	5.9			
	408	TRST	42 SER	1028.7	1028.7	0.2	80.0			OR
	5900	KISV	22 GRF	1034.9	1038.4	13.5	5.0			
	9300	KISV	22 GRF	1037.5	1040.1	17.5	4.0			

Reports are received routinely from the following observatories:

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

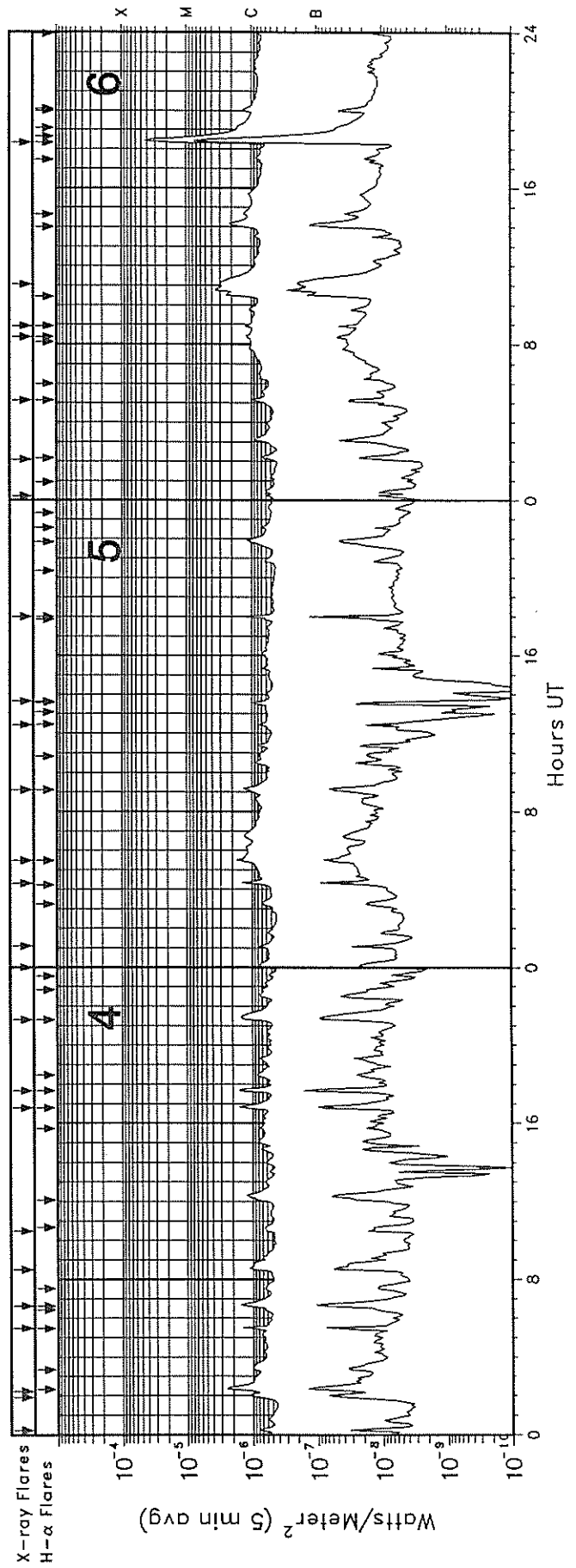
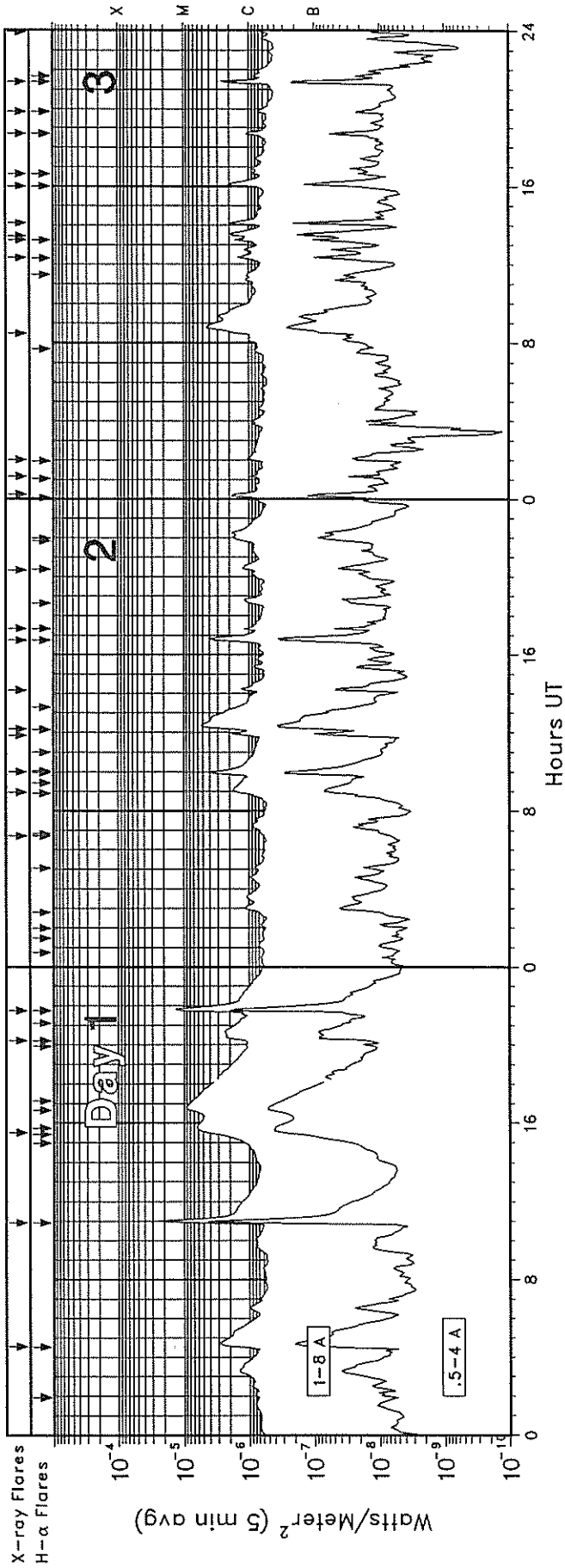
Explanation of Type Code:

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

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

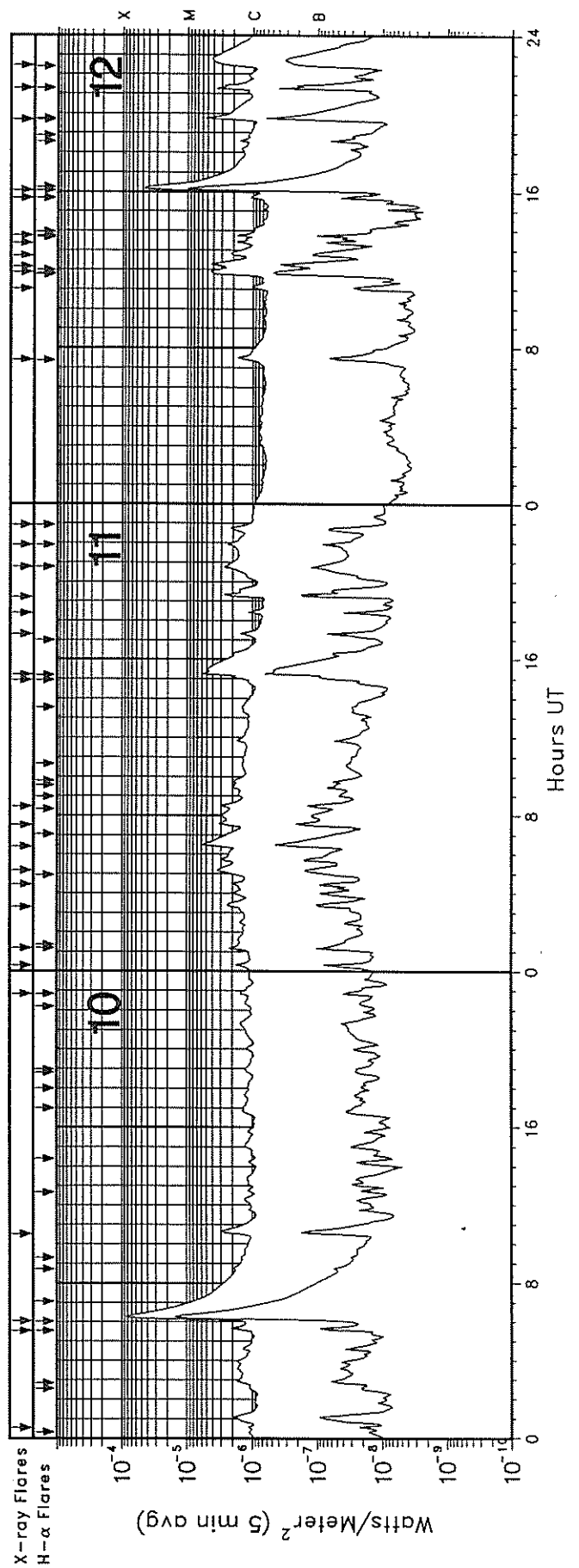
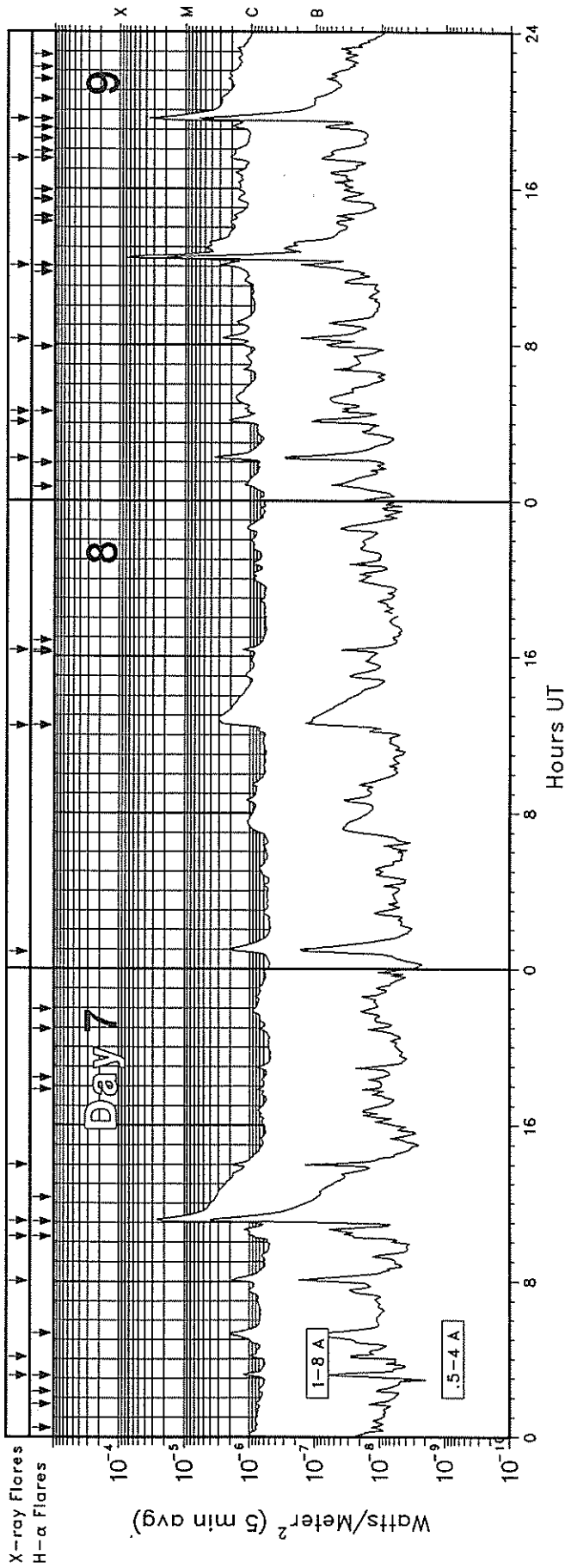
GOES-7 X-RAY DETECTOR

November 1988



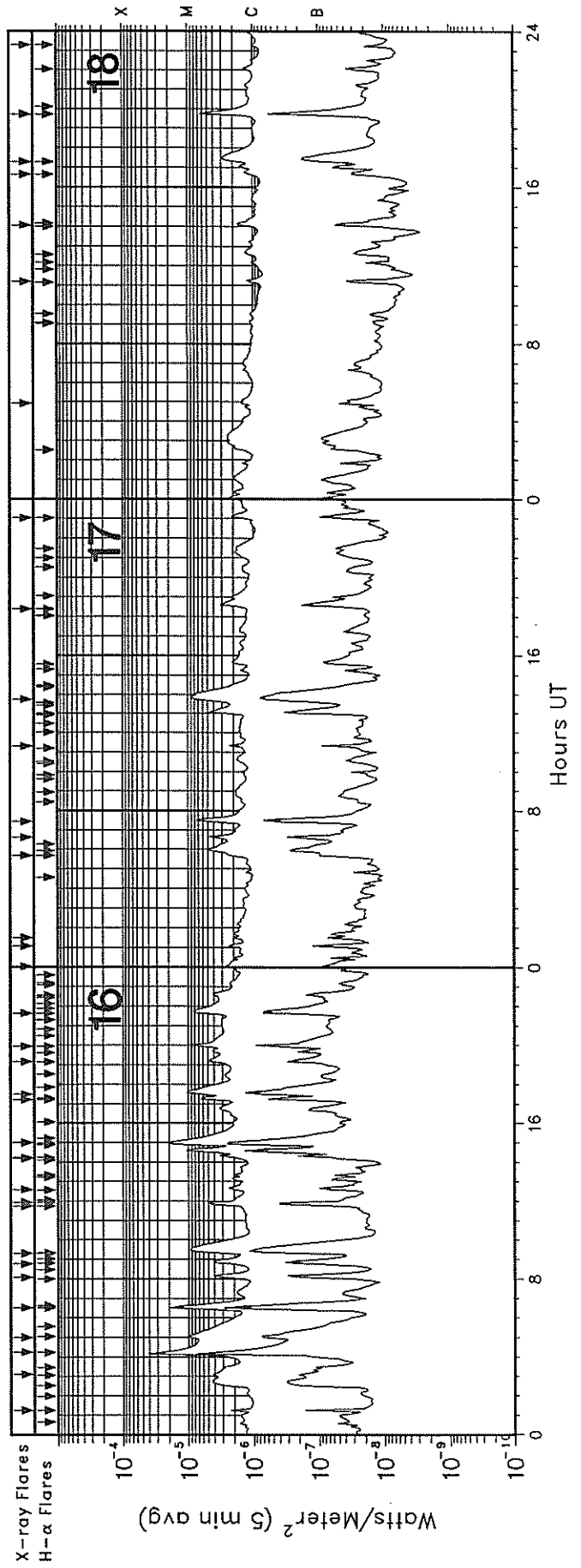
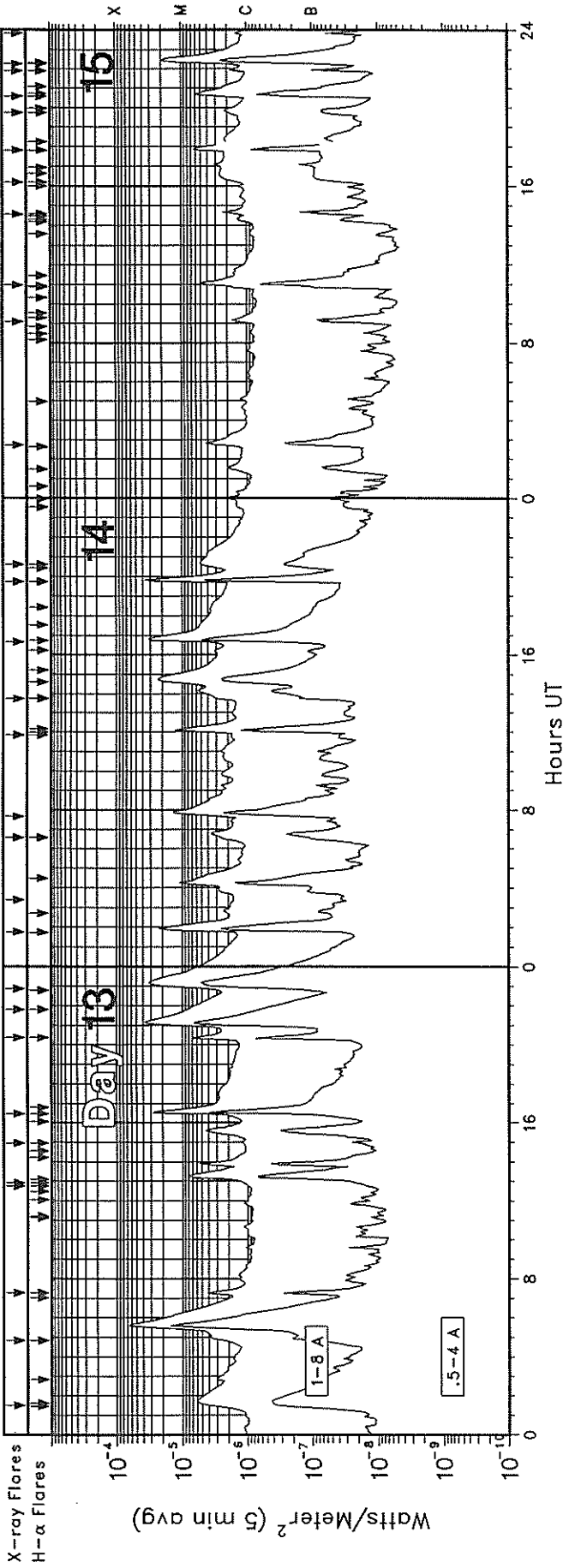
GOES-7 X-RAY DETECTOR

November 1988



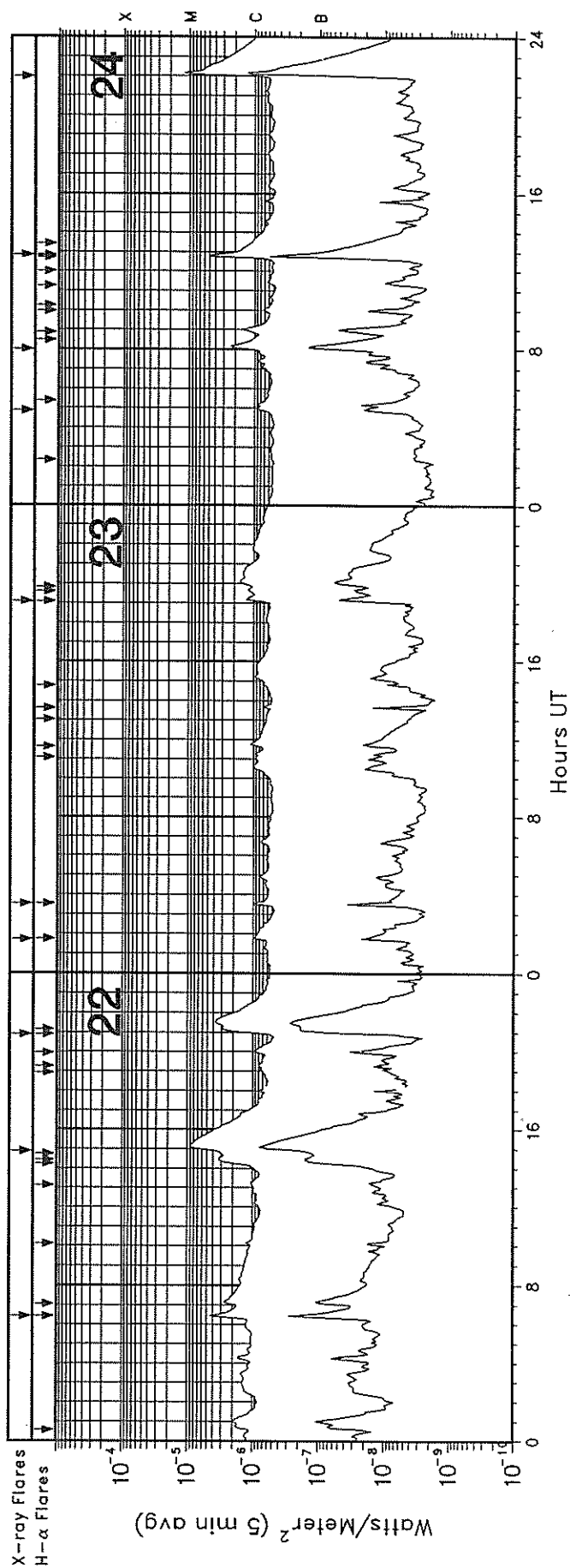
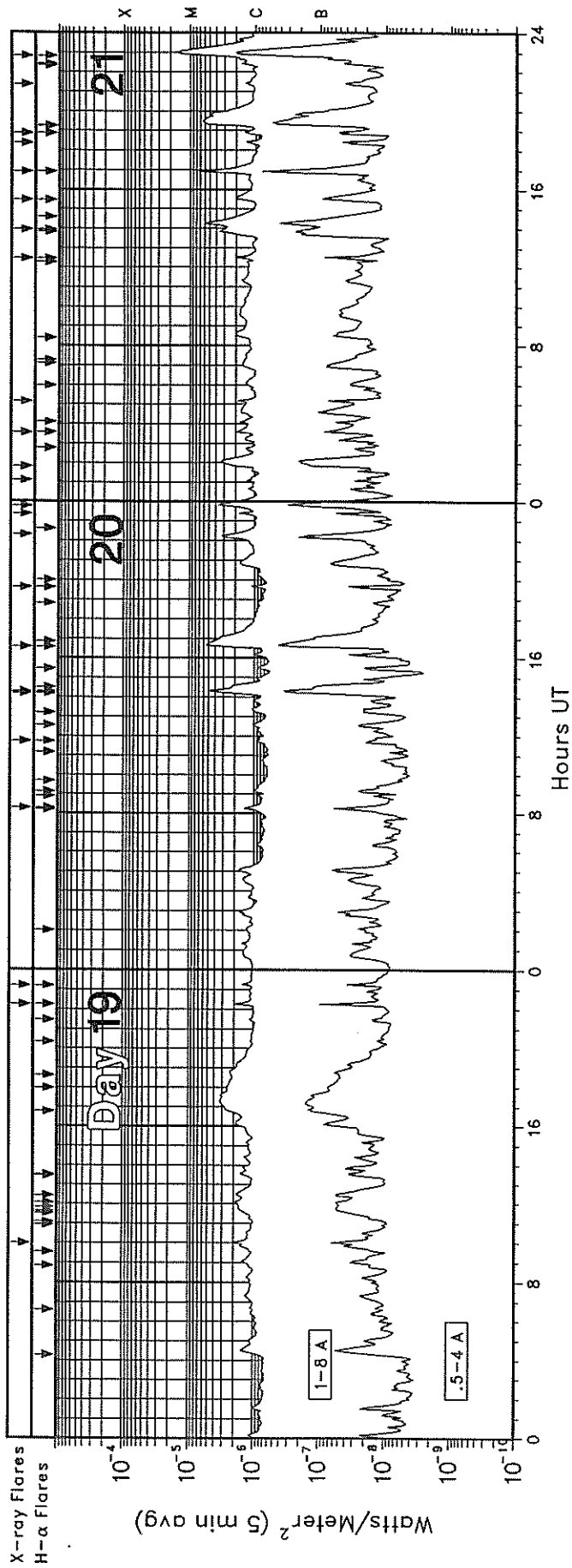
GOES-7 X-RAY DETECTOR

November 1988



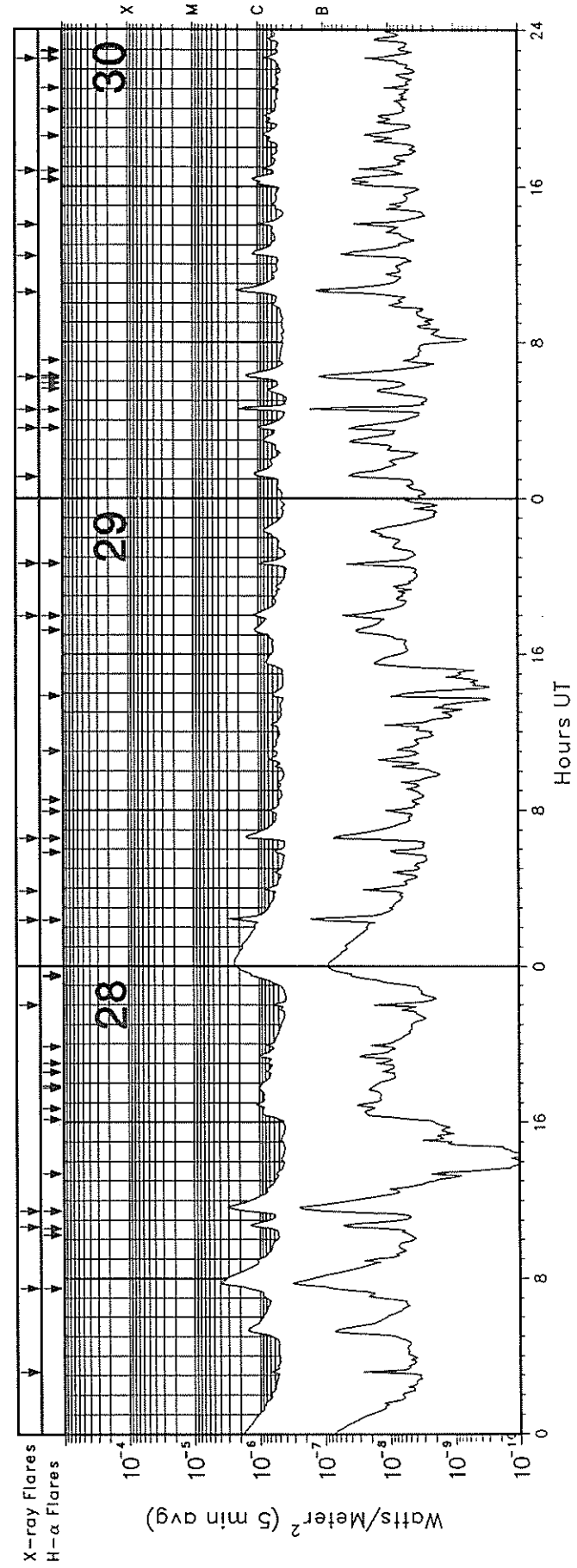
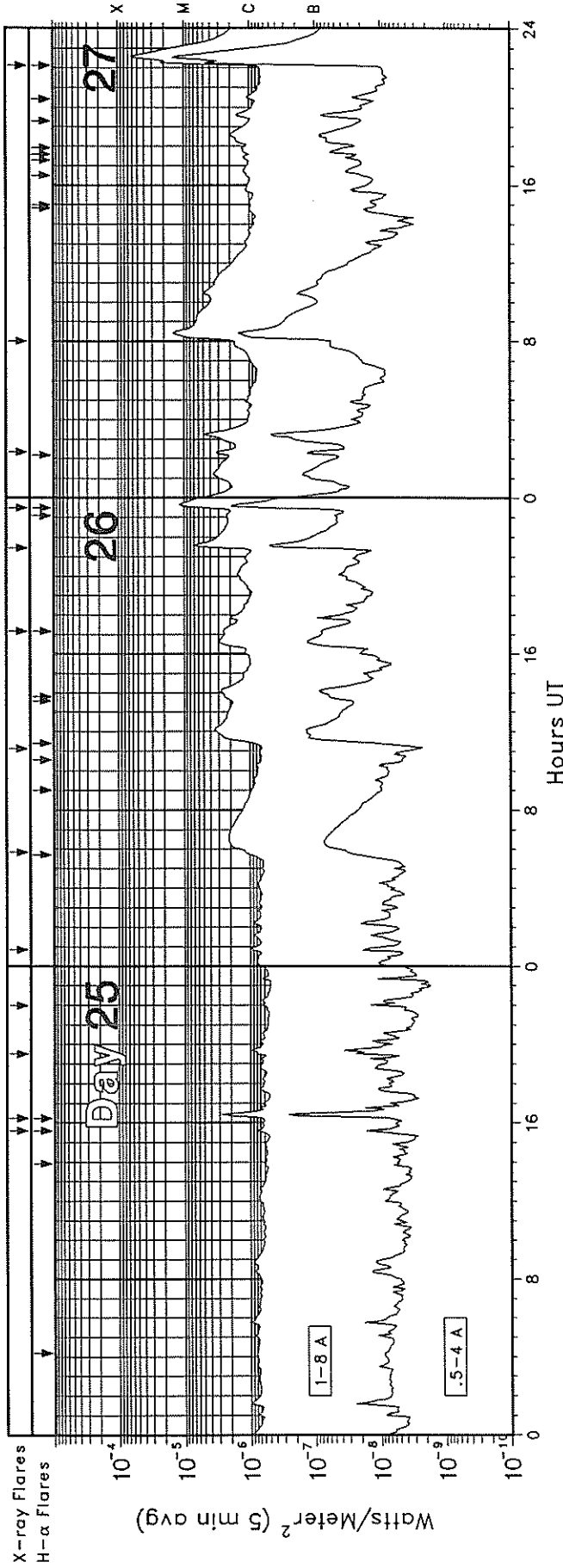
GOES-7 X-RAY DETECTOR

November 1988



GOES-7 X-RAY DETECTOR

November 1988



GOES SOLAR X-RAY FLARES
 Preliminary Listing

67
 NOV 88

November 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/USAF Region
01	0433E	0446	0456D	S19	E30	SF	C2.8	5212
01	1055E	1059	1118D	N14	E81	1N	M3.4	5218
01	1530E	1533	1710D	S16	E29	SF	C9.2	5212
01	2013E	2021	2149D	N16	E03	1F	C2.3	5211
01	2145E	2148	2206D	N11	E74	SN	M1.6	5218
02	0642E	0848	0926D	N13	E65	SF	C1.0	5218
02	0857E	0858	0922D	N17	W03	SF	C1.7	5211
02	1000E	1004	1018D	S16	E18	SF	C5.3	5212
02	1151	1157	1204				C1.9	
02	1210	1222	1257				C5.4	
02	1410	1416	1420				C1.4	
02	1644E	1644	1705D	N13	E65	SF	C4.2	5218
02	1720E	1722	1728D	S19	E15	SF	C1.3	5212
02	2020E	2028	2058D	N17	E25	1N	C1.3	5217
03	0015E	0017	0020D	N13	E62	SF	C2.1	5218
03	0110E	0111	0114D	S27	E23	SF	C1.1	5213
03	0201E	0203	0211D	S18	E07	SF	C1.0	5212
03	0828E	0846	0918D	S18	E03	1F	C4.4	5212
03	1220E	1222	1254D	S19	E05	SF	C1.5	5212
03	1314E	1330	1339D	S19	E04	SF	C1.7	5212
03	1327	1347U	1422D	S19	E06	SN	C2.0	5212
03	1406E	1407	1417D	S19	E04	SF	C2.2	5212
03	1600E	1608	1640D	N11	E46	SF	C2.1	5218
03	1638E	1639	1718D	S18	E04	SF	B9.0	5212
03	1842E	1842	1858D	S16	W00	SF	C1.3	5212
03	1951E	1952	2006D	N12	E46	SF	B7.6	5218
03	2123E	2124	2135D	N13	E50	SN	C4.3	5218
03	2354E	2357	0000D				B7.1	
04	0015	0019	0022				B9.6	
04	0155	0203	0211				C1.1	
04	0214E	0221	0234D	S13	E07	1N	C2.7	5212
04	0529E	0530	0536D	N11	E40	SF	C1.8	5218
04	0638E	0638	0644D	S16	W06	SF	C1.5	5212
04	0830	0835	0846				C1.2	
04	1030	1034	1052				B6.9	
04	1647E	1648	1700D	S18	W12	SF	C1.7	5212
04	1740E	1744	1752D	S18	W12	SF	C2.1	5212
04	2118E	2123	2133D	N11	E32	SF	C1.5	5218
05	0000	0006	0023				B7.8	
05	0106	0109	0111				C1.1	
05	0418	0422	0426				C1.6	
05	0529E	0529	0535D	N13	E33	SF	C2.1	5218
05	0907E	0912	0930D	S19	W20	SF	C1.4	5212
05	1226	1229	1231				B9.5	
05	1339E	1340	1343D	N14	E29	SF	C1.1	5218
05	1800E	1803	1808D	N14	E26	SF	C1.8	5218
06	0013	0016	0021				B6.4	
06	0206	0215	0222				B7.6	
06	0508E	0508	0516D	S22	W31	SF	C1.2	5212
06	0822	0825	0827				C1.4	
06	0856E	0856	0900D	S22	W32	SF	C1.4	5212
06	1103E	1106U	1129D	S21	W51	SF	C3.6	5212
06	1820E	1823	1900D	S20	W37	2B	M4.9	5212
07	0309E	0313	0320D	N09	E05	SF	C1.4	5218
07	0406	0411	0417				C1.0	
07	0802	0807	0815				C1.9	
07	1017	1018U	1025D	S24	W48	SF	C1.3	5212
07	1105E	1105	1105D	S17	W47	1N	M3.0	5212
07	1359	1402	1407				C2.1	

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/USAF Region
08	0052	0102	0111				C2.1	
08	1228	1248U	1414D	N16	W07	2F	C3.0	5218
08	1619E	1621	1630D	S25	W64	SF	C1.3	5212
09	0210E	0215	0229D	N13	W20	SF	C4.3	5218
09	0403	0411	0418				C2.3	
09	0435	0438	0442				C1.2	
09	0817	0823	0831				C2.7	
09	1203	1207	1211				C2.8	
09	1203E	1231	1257D	N13	W29	1B	M9.7	5218
09	1731E	1731	1735D	N21	E52	SF	C2.0	5228
09	1932E	1934	2005D	N13	W30	1B	M4.5	5218
10	0033	0036	0038				C1.5	
10	0533E	0538	0552D	N31	E62	SN	C2.5	5229
10	0604E	0613	0645D	N13	E83	2N	M9.5	5231
10	1031	1042	1051				C3.0	
10	2251E	2252	2308D	N21	E37	SF	C1.6	5228
11	0018	0022	0025				C1.9	
11	0111E	0111	0120D	N13	W48	SF	C2.3	5218
11	0317E	0321	0337D	N15	E75	SF	C2.4	5233
11	0427	0430	0433				C2.5	
11	0510E	0517	0557D	N12	W52	1F	C3.2	5218
11	0624	0634	0645				C5.9	
11	0731	0738	0747				C3.2	
11	0828	0831	0834				C3.4	
11	1456E	1505	1528D	N32	E53	SF	C2.2	5229
11	1513E	1516	1626D	N13	W53	1N	C6.6	5218
11	1718	1723	1730				C1.5	
11	1823	1828	1832				C1.1	
11	1913	1922	1926				C3.1	
11	2046E	2047	2053D	N13	W57	SF	C3.0	5218
11	2154E	2159	2210D	N11	W58	SF	C2.4	5218
11	2256	2257U	2305D	N32	E48	SF	C2.1	5229
12	0724E	0724	0734D	N14	E79	SF	C1.8	5235
12	1101	1105	1117				C1.0	
12	1152E	1155U	1225D	N34	E43	SF	C7.4	5229
12	1209	1219	1230				C4.0	
12	1243	1251	1300				C2.2	
12	1322	1326	1330				C2.0	
12	1344E	1344	1355D	N34	E42	SF	C1.9	5229
12	1541E	1541	1547D	N34	E41	SF	C1.1	5229
12	1605E	1608	1705D	N35	E44	2B	M5.1	5229
12	1941E	1948	1959D	N12	W70	SF	C6.6	5218
12	2117E	2117	2130D	N34	E39	SF	C5.5	5229
12	2227E	2249	2316D	N34	E41	SF	C4.2	5229
13	0130E	0155	0232D	N33	E37	SF	C6.0	5229
13	0450E	0537	0639D	N33	E37	1N	M7.0	5229
13	0716E	0725	0731D	N19	E84	SF	C4.3	5240
13	1245E	1317	1350D	S22	W22	SF	C8.8	5227
13	1255E	1404	1407D	N32	E30	SN	C6.7	5229
13	1457E	1524	1546D	N21	E80	1F	C4.5	5240
13	1628E	1633	1722D	N31	E24	1B	M3.4	5229
13	2022	2025	2028				M1.2	5229
13	2148	2205	2252D	N34	E27	1B	M3.8	5229
13	2252E	2309	0005D	S23	W27	1N	M3.2	5227
14	0146E	0155	0230E	N21	E72	2N	M2.3	5240
14	0323	0415	0520D	S23	W30	SN	M1.3	5227
14	0634E	0644	0703D	S23	W33	SF	C3.8	5227
14	0739	0756	0823				M1.4	
14	1150E	1206	1244E	S23	W35	SF	M1.3	5227

GOES SOLAR X-RAY FLARES
Preliminary Listing

November 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/USAF Region
14	1344E	1437	1558D	N31	E11	2B	M2.2	5229
14	1640	1646	1723D	N31	E09	1B	M3.4	5229
14	1944E	1947	2025D	N23	E64	2B	M4.0	5240
14	2037E	2043	2049D	S23	W39	SF	C5.0	5227
15	0243E	0250	0304D	N32	E05	SF	C4.4	5229
15	0905	0911	0918				C1.7	
15	1058	1105	1112				C5.5	
15	1434E	1440	1500D	S23	W51	1F	C2.7	5227
15	1611E	1651	1717D	N35	W01	SF	C3.3	5229
15	1749E	1752	1758D	S24	W50	SF	C7.3	5227
15	1944E	1951U	2018D	N20	E50	SF	C2.0	5240
15	2034E	2039U	2105	S24	W53	SN	C7.0	5227
15	2154E	2205	2220D	S24	W52	SF	C1.9	5227
15	2215E	2223U	2225	N36	W01	1N	M2.0	5229
15	2350	2354	2356				C1.8	
16	0115E	0116	0123D	N34	E02	SF	C3.2	5229
16	0307E	0308	0317	N20	E44	SF	C4.4	5240
16	0415		0450D	N33	W13	1B	M4.7	5229
16	0500	0504	0524				M1.2	
16	0631		0655	N32	W00	1B	M2.1	5229
16	0804	0812	0817				C4.6	
16	0846	0856	0902				C4.5	
16	0919	0935	0950				M1.0	
16	1145E	1152	1206	S24	W61	1F	C7.8	5227
16	1157E	1307	1334D	N23	E51	SN	C2.4	5241
16	1236	1243	1247				C2.7	
16	1411	1437	1454	N31	W02	1N	M1.1	5229
16	1414E	1418	1439D	S25	W63	SF	C5.2	5227
16	1500	1500	1537D	N19	E37	1N	M2.7	5240
16	1712E	1716	1738D	N19	E36	SN	C7.3	5240
16	1729E	1734	1821D	N31	W07	SN	M1.1	5229
16	1910E	1914	1920D	N32	W19	SF	C5.1	5229
16	1957E	2011	2035	N32	W06	1N	M1.2	5229
16	2139E	2140	2222D	N32	W17	SB	C9.4	5229
17	0002	0005	0013				C2.8	
17	0105	0109	0112				C3.0	
17	0130	0133	0135				C2.2	
17	0541E	0555	0653D	N33	W22	1F	C5.4	5229
17	0637	0641	0645				C5.4	
17	0726E	0727	0743D	N33	W23	SF	C8.0	5229
17	1118	1122	1125				C2.6	
17	1345E	1350	1434D	N24	E27	2B	C9.1	5240
17	1823E	1835	1852D	N31	W33	SF	C3.2	5229
17	2302E	2305	2317D	N31	W33	SF	C2.2	5229
18	0455	0459	0512				C1.6	
18	1111E	1115	1119				C1.4	
18	1404	1405U	1430D	N32	W44	SN	C2.0	5229
18	1638E	1702	1722D	N28	E30	SF	C1.6	5241
18	1717E	1724	1820D	N19	E10	1F	C3.1	5240
18	1943E	1944	2026D	N32	W47	1N	C6.9	5229
18	2317E	2317	2321D	N25	W70	SF	C1.1	5242
19	0959	1002	1005				C2.2	
19	2215E	2218	2240D	N24	W01	SF	C2.4	5240
19	2313E	2316	2323D	N34	W53	SF	C1.8	5229
20	0816	0819	0822				C1.7	
20	1144E	1145	1158D	N22	W09	SF	C1.1	5240
20	1412E	1412	1418D	N23	W12	SF	C1.8	5240
20	1417E	1420	1451D	N13	W36	SN	C6.4	5235
20	1634E	1639	1708D	N27	E01	1N	C6.0	5241
20	1937E	1938	1947D	N14	W39	SF	C1.4	5235
20	2218	2218U	2235	N13	W41	SF	C3.4	5235

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/USAF Region
20	2322	2326	2329					C2.0
20	2346	2352	2359					C3.8
21	0106	0109	0111					C1.8
21	0149	0208	0217					C3.6
21	0333	0338	0347					C1.9
21	0508	0512	0514					C2.4
21	1227E	1230	1306D	N19	W25	1F	C2.1	5240
21	1356E	1415	1458D	N21	W22	1N	C6.7	5240
21	1527E	1529	1549D	N26	W11	SF	C2.0	5241
21	1654E	1654	1717D	N21	W31	SN	C8.6	5240
21	1822E	1824	1831D	N21	W32	SF	C1.6	5240
21	1852E	1852	1905D	N14	W55	SF	C1.7	5235
21	2122	2125	2129				C1.6	
21	2250E	2259	2344D	N14	W56	1B	M1.6	5235
22	0625E	0625	0633D	N28	W18	SF	C4.6	5241
22	1453E	1501	1539D	N28	W26	1F	C9.3	5241
22	2054E	2107	2217D	N21	W44	SF	C3.7	5240
23	0143	0147	0211				B9.9	
23	0332E	0333	0339D	N21	E66	SF	C1.1	5251
23	1906E	1908	1931D	N03	E03	SF	C1.3	5241
24	0452	0514	0519				B9.4	
24	0801	0811	0819				C2.4	
24	1250	1251U	1258D	S17	E88	SF	C5.8	5254
24	2158E	2207	2226D	S20	E87	SN	M1.5	5254
25	1536E	1537	1542D	N20	W89	SF	B9.2	5240
25	1614	1616U	1630	S17	E76	SF	C3.8	5254
25	1930	1933	1936				B9.7	
25	2159	2202	2204				B7.8	
26	0051	0055	0102				C1.0	
26	0550	0625	0800				C2.1	
26	1107	1136	1143D	N23	W88	SF	C3.4	5240
26	1710E	1711U	1730D	S30	W00	SF	C3.0	5249
26	2127	2136	2150				C7.3	
26	2330E	2338	0029D	S17	E57	SF	M1.2	5254
27	0221	0222U	0253	N18	E13	SF	C3.3	5251
27	0801E	0812	0820	N29	W90	1N	M1.4	5241
27	2207E	2230	2342	S18	E45	1B	M6.5	5254
28	0311	0314	0316				B8.3	
28	0730E	0748	0921	S20	E34	1N	C4.1	5254
28	1039	1045	1055				C1.4	
28	1128	1129U	1216D	S19	E31	SN	C3.2	5254
28	2200	2204	2207				B7.9	
29	0223E	0224	0241D	S18	E23	SF	C3.7	5254
29	0352E	0358	0406D	S14	E24	SF	B8.5	5254
29	0634E	0638	0656	S20	E22	SF	C1.7	5254
29	1759E	1759	1811D	S28	W70	SF	C1.2	5252
29	2041E	2048	2108D	S21	E16	SF	C1.0	5254
30	0107	0121	0129				C1.1	
30	0337E	0338	0354D	S21	E12	SF	C1.3	5254
30	0434E	0439	0450D	S20	E11	SF	C2.6	5254
30	0612E	0621	0656D	S18	E14	SF	C1.5	5254
30	1034	1040	1047				C2.5	
30	1226	1240	1249				C1.2	
30	1402	1407	1411				C1.0	
30	1648E	1656	1712D	N17	E12	SF	B8.5	5260
30	2233E	2235	2246D	S21	E02	SF	B8.2	5254

Preliminary GOES Satellite Data
Daily Average X-ray Background
December 1987 - November 1988

Day	1987	1988										
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	A7.6	B2.0	B2.5	B1.0	B4.4	B1.9	B7.5	B8.4	B9.4	B6.9	C1.0	B5.7
2	A8.3	B1.4	B2.5	A8.5	B3.5	B2.6	B6.6	B7.1	B9.8	B6.5	C1.2	B6.1
3	A5.2	B4.6	B1.9	B1.1	B3.7	B3.7	B7.1	B9.7	C1.1	B6.9	C1.3	B5.2
4	A4.8	B2.4	B1.5	B1.8	B3.5	B5.1	B9.5	B6.3	B8.6	B6.7	C1.0	B5.0
5	A5.3	B2.3	B1.7	B1.6	B4.2	B4.1	B6.0	B6.4	B8.3	B6.4	B8.7	B4.6
6	A7.8	B2.5	B1.5	B1.4	B4.3	B2.9	B4.8	B6.5	B7.9	B6.1	C1.0	B5.8
7	A8.5	B2.5	B2.4	B1.6	B3.8	B3.1	B5.6	B6.8	B8.2	B6.9	B7.4	B5.5
8	A9.1	B2.7	B1.8	B1.6	B3.9	B2.5	B5.2	B7.0	C1.1	B5.5	B5.3	B5.5
9	B1.4	B2.3	B1.8	B1.6	B3.2	B1.8	B6.4	B7.7	C1.0	B4.8	B5.0	B9.2
10	A9.4	B3.0	B1.5	B1.8	B3.1	B1.6	B4.9	B9.1	C1.0	B3.2	B4.7	B9.8
11	B2.3	B2.1	B1.6	B2.8	B4.5	B1.6	B4.3	B7.7	B6.7	B2.7	B4.9	B9.8
12	B3.2	B3.1	B1.8	B3.4	B5.5	B1.5	B3.7	B4.9	B5.1	B2.8	B5.4	B6.3
13	B1.8	--	B1.8	B3.4	B4.4	B1.4	B3.0	B5.3	B3.9	B2.4	B5.4	B8.9
14	B1.3	B4.0	B1.5	B2.5	B6.0	B1.3	B2.8	B5.0	B3.1	B2.3	B4.7	C1.3
15	B1.4	B3.9	B1.4	B6.0	B7.4	B1.1	B3.3	B4.7	B3.2	B2.6	B5.9	B7.9
16	B1.2	B5.1	B1.2	B6.9	B9.2	B1.3	B3.7	B5.5	B3.0	B3.0	B7.8	C1.4
17	A9.5	B3.6	B1.2	B4.6	B5.3	B2.0	B3.6	B4.8	B3.2	B3.6	C1.2	C1.0
18	A8.9	B2.2	B1.6	B3.0	B3.9	B3.2	B4.0	B6.7	B2.8	B5.3	B8.0	B8.1
19	A7.3	B2.5	B1.4	B3.3	B5.5	B2.9	B2.6	B9.2	B2.7	B4.8	B8.3	B8.4
20	A7.1	B2.3	B1.2	B4.4	B5.1	B3.2	B2.6	B4.5	B2.7	B6.9	B6.8	B6.6
21	A9.8	B2.4	B1.3	B3.8	B4.7	B4.1	B3.5	B6.5	B2.8	B7.2	B7.3	C1.1
22	B1.5	B2.0	A9.9	B3.7	B3.1	B5.8	B4.6	B7.2	B2.7	C1.0	B8.2	B8.3
23	B1.0	B2.0	B1.0	B6.0	B2.2	B8.8	B9.8	B6.1	B7.4	B8.8	B8.0	B5.1
24	B2.3	B3.1	A9.0	B6.8	B2.6	B4.5	C1.2	B6.7	B7.7	B8.1	B6.6	B5.3
25	B4.9	B1.9	A9.0	B6.1	B2.0	B5.3	---	B7.7	B7.3	B8.5	B6.0	B5.7
26	B4.7	B2.2	B9.5	B4.5	B1.5	B3.8	C2.7	B8.0	B7.4	B6.2	B5.3	B7.2
27	B3.4	B4.6	B1.0	B4.0	B1.1	B3.7	C1.1	B8.9	B8.1	B7.3	B6.7	B7.5
28	B2.3	B5.1	B1.2	B3.5	B1.1	B5.0	C1.6	B9.4	B7.3	B6.0	B7.3	B4.2
29	B1.8	B4.4	B2.0	B3.5	B1.1	B7.2	C1.5	B9.9	B9.2	B6.0	B8.4	B4.3
30	B2.5	B2.7		B3.3	B1.6	B8.0	B8.1	B7.8	B9.4	B8.4	B8.0	B4.1
31	---	B2.1		B4.2		B8.5		B9.4	B8.9		B6.7	

MASS EJECTIONS FROM THE SUN

NOVEMBER 1988

Sta	Day	Observed UT			Location		Freq or Wavelength	Kind of Event
		Start	Max	End	RA ^o	R/R _o		
WEIS	Nov 01	1100.7		1122.6			150- 30 MHz	II Herringbone
KHAR	Nov 01	1101 E		1109 D	079	1.00-1.12	H-alpha	SP
SVTO	Nov 01	1101.0		1122.0			Meter	IV
CULG	Nov 03	2126		2132			Meter; dekameter	II
KHAR	Nov 04	1003 E		1020	072	0.68	H-alpha	S
KHAR	Nov 04	1057		1115 D	073	0.68	H-alpha	S
KHAR	Nov 05	0900 E		0917	057	0.58	H-alpha	S
KHAR	Nov 05	0924		0942 D	057	0.58	H-alpha	S
VORO	Nov 05	2311	2315 U	2333 D	100	0.9	H-alpha	SP
WEIS	Nov 06	1430.1		1431.2			64- 42 MHz	II
WEIS	Nov 08	1230.4		1256.3			160- 30 MHz	II Herringbone
SVTO	Nov 08	1231.0		1248.0			Meter	IV
SGMR	Nov 08	1231.0		1248.0			Meter	IV
SGMR	Nov 08	1237.0		1244.0			Meter	II
WEIS	Nov 08	1245		1404			600- 50 MHz	IV Pulsations
SGMR	Nov 08	1251.0		1304.0			Meter	II
SGMR	Nov 08	1257.0		1244.0			Meter	II
SVTO	Nov 10	0612.0		0631.0			Meter	IV
LEAR	Nov 10	0612.0		0713.0			Meter	IV
CULG	Nov 10	0613		0636			Meter; dekameter	II
CULG	Nov 10	0635		0651			Meter; dekameter	IV
WEIS	Nov 10	0705		0748			700-180 MHz	IV Decimeter
KHAR	Nov 10	1015 E		1023	257	1.00-1.02	H-alpha	S
VORO	Nov 10	2300 E	2303 U	2312	045	0.8	H-alpha	SP
KHAR	Nov 11	0934		0953	289	0.82	H-alpha	S
SGMR	Nov 12	1611.0		1620.0			Meter	II
CULG	Nov 13	0537		0555			Meter; dekameter	II
LEAR	Nov 13	0537.0		0820.0			Meter	IV
LEAR	Nov 13	0547.0		0553.0			Meter	II
SGMR	Nov 13	1634.0		1638.0			Meter	II
PALE	Nov 13	2305.0		2328.0			Meter	IV
CULG	Nov 13	2308		2326			Meter; dekameter	II
LEAR	Nov 13	2310.0		2320.0			Meter	IV
LEAR	Nov 13	2320.0		2438.0			Meter	IV
WEIS	Nov 14	1437.7		1442.3			86- 46 MHz	II
LEAR	Nov 16	0637.0		0639.0			Meter	II
LEAR	Nov 16	0643.0		0745.0			Meter	IV
SGMR	Nov 16	1714.0		1717.0			Meter	II
CULG	Nov 20	0708.5		0709.5			Meter	II
WEIS	Nov 20	1430.1		1436.0			42- 30 MHz	II
LEAR	Nov 21	2302.0		2318.0			Meter	II
PALE	Nov 21	2311.0		2317.0			Meter	II
LEAR	Nov 21	2311.0		0425.0			Meter	IV
CULG	Nov 21	2314		2318			Meter	II
LEAR	Nov 24	0555.0		0601.0			Meter	II
LEAR	Nov 24	0600.0		0623.0			Meter	IV
KHAR	Nov 24	0832 E		0848	109	1.00-1.02	H-alpha	S
KHAR	Nov 24	0844 E		0856	111	1.00-1.02	H-alpha	S
CULG	Nov 26	0551		0557			Meter	II
LEAR	Nov 26	0551.0		0557.0			Meter	II
LEAR	Nov 26	0600.0		0700.0			Meter	IV
CULG	Nov 27	0221.5		0224			Meter	II

MASS EJECTIONS FROM THE SUN

71
Nov 88

NOVEMBER 1988

Sta	Day	Observed UT			Location		Freq or Wavelength	Kind of Event
		Start	Max	End	RA ^o	R/R _o		
KHAR	Nov 28	0828	E	0840	D 114	0.70	H-alpha	S
KHAR	Nov 28	0828	E	0850	114	0.62	H-alpha	S
KHAR	Nov 28	0859	E 0900	U 0905	D 114	0.62	H-alpha	S
KHAR	Nov 28	0907	0910	U 0929	D 114	0.70	H-alpha	S
KHAR	Nov 28	1043		1055	D 205	0.61	H-alpha	S

QUALIFIERS ON START, MAX AND END TIMES

- D = event ended after tabulated time
- E = event began before the tabulated time
- U = uncertain time

REPORTING STATIONS

- KHAR = Kharkov
- LEAR = Learmonth
- PALE = Palehua
- SGMR = Sagamore Hill
- SVTO = San Vito
- VORO = Voroshilov
- WEIS = Weissenau

TYPE OF EVENT

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

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
01	ASR	0310E	0730D	N11	E90	11	7.9			6	9	E	LEAR	5218	
01	APR	0845E	0917D	N42	W90	10	25.1	1				V	KHAR		
01	ADF	0845E	0917D	S04	E36	11	4.0	1				V	KHAR		
01	SDF	0952E	2224D	S04	E35	11	4.0		10	0	0	E	LEAR	5212	
01	BSL	1101E	1109	N11	E90	11	8.2	2				V	KHAR		
01	APR	1101E	1138D	N42	W90	10	25.2	1				V	KHAR		
01	DSD	1211E	1255D	N14	E74	11	7.1		08	9	7	E	RAMY	5218	
01	ADF	1211E	1830D	S29	W26	10	30.6	1	09	9	9	E	RAMY	5207	
01	AFS	1228E	1545D	N12	E72	11	6.9		03	9	9	E	SVTO	5218	
01	DSD	1238E	1420D	S15	E24	11	3.3		03	9	9	E	RAMY	5212	
01	ASR	1259E	1418D	N13	E80	11	7.6			9	8	E	RAMY	5218	
01	AFS	1319E	2139D	N20	W26	10	30.7		02	9	7	E	RAMY	5208	
01	SDF	1548E	2041D	S10	E28	11	3.8		21	0	0	E	HOLL		
01	ADF	1700E	2122D	S26	W30	10	30.5	1	07	9	9	E	HOLL	5207	Flare Associated
01	DSD	1708E	1729	S26	W33	10	30.2		04	9	9	E	HOLL	5207	Flare Associated
01	SDF	1710E	1830D	S29	W26	10	30.8		09	9	9	E	RAMY	5207	Flare Associated
01	AFS	1730E	0000D	N11	E75	11	7.4		03	9	9	E	HOLL	5218	
01	DSD	1732E	2122D	S15	E27	11	3.8		04	6	5	E	HOLL	5212	
01	SSB	1823		340	W59	10	29.3			0	0	E	HOLL		
01	SSB	1828		285	W04	11	8.1			0	0	E	HOLL		
01	ADF	1829E	2122D	N18	E05	11	2.1	1	04	9	9	E	HOLL	5211	
01	DSD	2000E	2139D	N11	E72	11	7.2		06	9	9	E	RAMY	5218	
01	AFS	2000E	2139D	N12	E73	11	7.3		04	9	9	E	RAMY	5218	
01	ADF	2030E	2139D	N17	E03	11	2.1	1	08	9	9	E	RAMY	5211	
01	ADF	2120E	2326D	S17	E22	11	3.6	1	03	9	9	E	HOLL	5212	
01	BSD	2145	2158	N10	E77	11	7.7		11	9	9	E	HOLL	5218	Flare Associated
01	ASR	2200E	2234D	N15	E90	11	8.7			9	9	E	HOLL	5218	
01	DSD	2234E	0339D	N11	E73	11	7.4		05	9	9	E	PALE	5218	
02	SDF	0000E	1445D	N00	W19	10	31.6		12	0	0	E	HOLL		
02	SDF	0000E	1445D	S31	W38	10	30.1		08	0	0	E	HOLL		
02	SDF	0205E	0905D	N38	W41	10	29.9		15	0	0	E	LEAR		
02	AFS	0300E	0848D	N10	E68	11	7.2		02	9	9	E	LEAR	5218	
02	ADF	0300E	1003D	N19	E03	11	2.3		07	9	9	E	LEAR	5211	
02	ADF	0745E	1155D	N17	E29	11	4.5	1	03	9	9	E	SVTO	5217	
02	ADF	0905E	1157D	N12	W04	11	2.1	1	05	9	9	E	SVTO	5211	
02	AFS	1125E	2004D	N12	E64	11	7.3		02	9	9	E	RAMY	5218	
02	ADF	1125E	2004D	S14	E15	11	3.6	1	05	7	5	E	RAMY	5212	
02	SDF	1350E	1350D	N32	E36	11	5.4	2	14	0	0	E	SVTO	5213	
02	ADF	1545E	2004D	N09	E62	11	7.3	1	06	9	9	E	RAMY	5218	
02	ADF	1545E	2004D	S15	E10	11	3.4	1	07	6	5	E	RAMY	5212	
02	SSB	1601		285	W16	11	9.1			0	0	E	HOLL		
02	SSB	1601		340	W71	10	30.1			0	0	E	HOLL		
02	ADF	1601E	0002D	S16	E10	11	3.4	1	04	5	5	E	HOLL	5212	
02	AFS	1735E	2004D	N31	W34	10	31.0		03	9	9	E	RAMY		
02	ADF	1735E	2004D	N38	W34	10	31.0	1	09	9	9	E	RAMY		
02	AFS	1745E	2054D	N31	W34	10	31.0		02	9	9	E	HOLL		
02	AFS	1808E	0339D	N31	W34	10	31.1		03	9	9	E	PALE		
02	AFS	1810E	0002D	N11	E60	11	7.3		03	9	9	E	HOLL	5218	
02	AFS	1810E	0339D	N12	E64	11	7.6		05	9	9	E	PALE	5218	
02	ADF	1815E	0002D	N11	W11	11	1.9	1	04	9	9	E	HOLL	5211	
02	ADF	1815E	0339D	N38	W34	10	31.0	1	08	9	9	E	PALE		
02	DSD	1916E	2054D	N31	W37	10	31.0		05	9	9	E	HOLL		
02	SDF	2004E	1127D	N37	W32	10	31.2		10	9	9	E	RAMY	5220	
02	SDF	2004E	1127D	S35	W38	10	30.9		10	9	9	E	RAMY	5207	
03	ADF	0110	0555D	S29	E27	11	5.2		06	9	7	E	LEAR	5213	
03	EPL	0116	0245D	S42	W90	10	26.8					V	VORO		
03	APR	0116	0300D	S52	W90	10	26.5	1				V	VORO		
03	APR	0140	0300D	N39	E90	11	10.4	1				V	VORO		
03	APR	0610E	1000D	N30	E90	11	10.3					V	ATHN		
03	APR	0615E	1000D	N48	W90	10	26.8					V	ATHN		
03	APR	0800E	1000D	S51	W90	10	26.8					V	ATHN		
03	ADF	1230E	1532D	N18	W19	11	2.1	1	08	9	9	E	RAMY	5211	
03	ADF	1230E	1532D	N25	W53	10	30.5	1	09	9	9	E	RAMY	5210	
03	ADF	1230E	1925D	S19	E05	11	3.9	2	05	7	8	E	RAMY	5212	
03	AFS	1230E	2002D	N11	E51	11	7.3		03	9	9	E	RAMY	5218	
03	AFS	1230E	2002D	N31	W46	10	31.0		03	9	9	E	RAMY	5220	
03	ADF	1415E	2002D	S29	E19	11	5.1	1	04	9	8	E	RAMY	5213	
03	ADF	1444E	1901D	S08	E00	11	3.6		03	9	9	E	HOLL	5212	

ACTIVE PROMINENCES AND FILAMENTS

73
Nov 88

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
03	SDF	1454E	1538D	N09	E46	11	7.1		02	3	9	E	HOLL	5218	
03	AFS	1808E	0339D	N31	W34	11	1.1		03	9	9	E	PALE		
03	ADF	1815E	0339D	N38	W34	11	1.0	1	08	9	9	E	PALE		
03	SSB	1906		285	W31	11	10.5			0	0	E	HOLL		
03	ASR	1950E	0001D	S36	W89	10	27.8			9	9	E	HOLL	5206	
03	AFS	2258E	0041D	N12	E45	11	7.3		02	8	8	E	PALE	5218	
04	ADF	0259E	1019D	N21	W23	11	2.4		11	9	9	E	LEAR	5211	
04	ADF	0925E	0950	N18	E71	11	9.8	1				V	KHAR		
04	DSD	1003E	1020	N14	E42	11	7.6	1				V	KHAR		
04	DSD	1057	1115D	N14	E42	11	7.6	1				V	KHAR		
04	ASR	1105E	1134	S39	W90	10	28.2			9	9	E	RAMY	5206	
04	DSD	1113E	1355D	N15	E43	11	7.7		03	9	9	E	RAMY	5218	
04	AFS	1113E	2050D	N10	E35	11	7.1		03	9	9	E	RAMY	5218	
04	ADF	1123E	2050D	N19	W30	11	2.2	1	12	9	9	E	RAMY	5211	
04	AFS	1127E	1748D	N15	E02	11	4.6		02	9	9	E	RAMY	5217	
04	DSD	1130E	1210D	N31	W55	10	31.1		02	9	9	E	RAMY	5220	
04	AFS	1130E	1358D	N31	W57	10	31.0		02	8	8	E	RAMY	5220	
04	AFS	1342E	2110D	N11	E33	11	7.0		02	7	8	E	HOLL	5218	
04	ADF	1350E	2050D	S07	W13	11	3.6	2	08	9	9	E	RAMY	5212	
04	SSB	1540		255	W12	11	8.8			0	0	E	HOLL		285 W42
04	DSD	1730E	2050D	N11	E37	11	7.5		03	9	9	E	RAMY	5218	
04	AFS	1730E	2050D	N20	E45	11	8.2		02	9	9	E	RAMY		
04	APR	2319E	0300D	S50	W90	10	28.4	1				V	VORO		
04	APR	2330	0300D	N46	W90	10	28.6	1				V	VORO		
05	ADF	0050E	1019D	N11	W43	11	1.8		21	9	9	E	LEAR	5211	
05	DSD	0900E	0917	N20	E32	11	7.8	1				V	KHAR		
05	DSD	0924	0942D	N20	E32	11	7.8	1				V	KHAR		
05	ADF	1000E	1015	N10	E27	11	7.4	1				V	KHAR		
05	ADF	1025	1100	N10	E27	11	7.5	1				V	KHAR		
05	AFS	1224E	2051D	N33	W30	11	3.1		02	9	9	E	RAMY	5223	
05	DSD	1259E	1756D	S19	W21	11	3.9		02	9	9	E	RAMY	5212	
05	ADF	1259E	2051D	S08	W25	11	3.7	1	08	9	9	E	RAMY	5212	
05	AFS	1259E	2051D	S15	W29	11	3.3		02	9	9	E	RAMY	5212	
05	ADF	1330E	2051D	N17	W14	11	4.5	1	03	9	9	E	RAMY	5217	
05	AFS	1336E	2051D	N11	E21	11	7.1		02	9	9	E	RAMY	5218	
05	DSD	1339	2051D	N14	E29	11	7.8		03	9	9	E	RAMY	5218	Flare Associated
05	AFS	1339E	2051D	N31	W70	10	31.0		02	8	6	E	RAMY	5220	
05	AFS	1400E	2051D	N20	E32	11	8.0		02	8	6	E	RAMY	5222	
05	APR	1530E	2051D	S31	W90	10	29.6	2		9	9	E	RAMY	5207	
05	APR	1645E	2146D	S31	W90	10	29.7			9	9	E	HOLL	5207	
05	AFS	1646E	2359D	N32	W32	11	3.2		04	9	9	E	HOLL	5223	
05	SDF	1730E	1933D	N15	W49	11	2.0		08	0	0	E	HOLL	5211	
05	DSD	1803	2141D	N14	E27	11	7.8		05	9	9	E	HOLL	5218	Flare Associated
05	ASR	1929E	2214D	N25	E90	11	12.8			8	8	E	HOLL		
05	APR	1929E	2214D	N29	E90	11	12.9			7	6	E	HOLL		
05	ADF	2007E	2359D	N11	W55	11	1.7	2	05	9	9	E	HOLL	5211	
05	ADF	2127E	2157D	N12	E30	11	8.1	2	08	9	9	E	HOLL	5218	
05	SDF	2129	2157	N16	E29	11	8.1		08	0	0	E	HOLL	5218	
05	ADF	2157E	2344D	N18	E24	11	7.7	2	05	9	9	E	HOLL	5218	
05	DSD	2311	2333D	N26	W56	11	1.6	1				V	VORO		
06	APR	0010	0221D	S56	W90	10	29.3	1				V	VORO		
06	AFS	0122E	1020D	S19	W30	11	3.8		05	9	8	E	LEAR	5212	
06	BSL	1026	1041D	N80	W90	10	29.2	1-				C	CATA		
06	BSL	1054E	1106	N80	E90	11	14.8	1-				C	CATA		
06	BSL	1106	1120	N13	W90	10	30.8	1-				C	CATA		
06	DSD	1133E	1450D						03	9	9	E	RAMY	5218	
06	ASR	1133E	1903D	N19	W90	10	30.7			9	9	E	RAMY	5208	
06	ADF	1133E	1903D	S17	W40	11	3.4	1	04	9	9	E	RAMY	5212	
06	AFS	1220E	1903D	N32	W43	11	3.1		02	8	6	E	RAMY	5223	
06	ASR	1450E	1903D	N30	W87	10	30.9			9	9	E	RAMY	5220	
06	ADF	1720E	1907D	S11	W43	11	3.5	1	07	9	9	E	HOLL	5212	
06	DSD	1901E	1903D	S20	W44	11	3.4		05	9	9	E	RAMY	5212	Flare Associated
06	ADF	2018E	2237D	N12	E06	11	7.3	1	05	9	9	E	HOLL	5218	
06	SSB	2040		251	W36	11	10.9			0	0	E	HOLL		
06	APR	2222	0300D	N59	W90	10	30.1	1				V	VORO		
06	APR	2240	0300D	N52	W90	10	30.4	1				V	VORO		
06	AFS	2345E	0955D	N10	E02	11	7.1		03	9	9	E	LEAR	5218	

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
07	APR	0033	0300D	N47	W90	10	30.6	1				V	VORO		
07	ADF	0053	0300	S45	W19	11	5.4	1				V	VORO		
07	APR	0059	0300D	S37	E90	11	14.3	1				V	VORO		
07	BSL	0110	0133	S11	E90	11	13.8	1				V	VORO		
07	AFS	0719E	1517D	N11	W01	11	7.2		02	9	9	E	SVTO	5218	
07	BSL	0944E	1004D	S27	E90	11	14.4	1				C	CATA		
07	SDF	0955E	2213D	S26	W10	11	6.6		18	0	0	E	LEAR		
07	AFS	1325E	2102D	N11	W07	11	7.0		02	7	7	E	RAMY	5218	
07	SDF	1400E	2135D	S02	E48	11	11.2		06	0	0	E	HOLL		
07	DSD	1419E	2102D	N25	W15	11	6.4		03	9	9	E	RAMY	5216	
07	DSD	1520E	1819D	S17	W51	11	3.8		04	9	9	E	HOLL	5219	
07	ADF	1654E	2102D	N13	W04	11	7.4	2	05	8	9	E	RAMY	5218	
07	DSD	1740E	2050D	N15	W01	11	7.7		04	9	9	E	RAMY	5218	
07	ADF	1824E	2357D	N15	E03	11	8.0	1	09	9	9	E	HOLL	5218	
07	SDF	1901E	1405D	N12	E06	11	8.2		13	0	0	E	HOLL	5218	
07	AFS	2020E	2357D	S34	E12	11	8.8		02	5	4	E	HOLL	5225	
07	SSB	2142		251	W51	11	12.2			0	0	E	HOLL		
08	SDF	0105E	1817D	N12	E01	11	8.1		12	0	0	E	PALE	5218	
08	AFS	0730E	1504D	N11	W13	11	7.3		02	9	9	E	SVTO	5218	
08	ADF	0730E	1504D	N20	W10	11	7.5	1	10	9	9	E	SVTO	5218	
08	ASR	0730E	1504D	N36	E90	11	15.5			9	9	E	SVTO		
08	APR	0800E	1135D	S43	E90	11	15.7					V	ATHN		
08	ASR	0800E	1010D	N29	E90	11	15.4			9	9	E	LEAR		
08	ADF	0840E	1135D	N20	W05	11	8.0					V	ATHN		
08	BSL	0846E	0900	N31	E90	11	15.5	1-				C	CATA		
08	BSL	0907	0916	N31	E90	11	15.5	1-				C	CATA		
08	BSL	0907	0923	N03	E90	11	15.1	1-				C	CATA		
08	APR	0910E	1135D	N58	E90	11	16.2					V	ATHN		
08	BSL	0911	0916	N33	E90	11	15.5	1-				C	CATA		
08	BSL	0923	0945D	N15	E90	11	15.2	1				C	CATA		
08	AFS	1135E	1814D	N10	W17	11	7.2		02	6	7	E	RAMY	5218	
08	ASR	1135E	2120D	N31	E90	11	15.6			9	9	E	RAMY		
08	AFS	1135E	2120D	N32	W67	11	3.2		03	9	9	E	RAMY	5223	
08	BSL	1208	1222	N36	E90	11	15.7	1-				C	CATA		
08	BSL	1208	1232	N31	E90	11	15.6	1				C	CATA		
08	DSD	1350	1410	N09	W21	11	7.0		02	9	9	E	SVTO	5218	
08	ADF	1445E	2001D	N19	W10	11	7.8	1	12	8	9	E	RAMY	5218	
08	ADF	1455E	2001D	N13	W18	11	7.3	1	08	9	9	E	RAMY	5218	
08	ASR	1630E	2154D	N33	E90	11	15.8			9	9	E	HOLL		
08	DSD	1647E	2010D	S24	W65	11	3.7		03	9	4	E	RAMY	5212	Flare Associated
08	DSD	1708E	1843D	N34	W74	11	2.8		03	9	9	E	RAMY	5223	
08	AFS	1710E	2154D	N33	W68	11	3.3		02	8	8	E	HOLL	5223	
08	ASR	1805E	0318D	N34	E90	11	15.9			9	9	E	PALE		
08	AFS	1811E	0318D	N32	W72	11	3.0		02	9	9	E	PALE	5223	
08	AFS	1900E	2120D	S25	E49	11	12.6		02	9	7	E	RAMY	5227	
08	DSD	2010E	2120D	S16	W68	11	3.7		02	9	6	E	RAMY	5212	
08	DSD	2057E	2116D	S24	E56	11	13.2		06	9	9	E	RAMY	5227	
08	ASR	2310E	1021D	N32	E90	11	16.1			9	9	E	LEAR		
08	DSD	2325E	0235D	N26	W33	11	6.4		06	9	9	E	LEAR	5216	
08	DSD	2354E	0318D	N26	W34	11	6.3		03	9	9	E	PALE	5216	
09	BSD	0013E	0257D	N13	W19	11	7.6		01	9	9	E	LEAR	5218	
09	ADF	0345E	1021D	N11	W28	11	7.0		11	9	9	E	LEAR	5218	Flare Associated
09	BSD	0358E	1021D	N31	W75	11	3.2		05	7	6	E	LEAR	5223	
09	ASR	0748E	1021D	N15	E76	11	15.1			9	9	E	LEAR		
09	ADF	1130E	1231	N14	W24	11	7.7	1	12	9	9	E	RAMY	5218	
09	DSD	1130E	1450D	S23	W73	11	3.8		03	9	9	E	RAMY	5212	
09	DSD	1130E	1920D	N09	W32	11	7.1		03	9	9	E	RAMY	5218	
09	ASR	1130E	2051D	N11	E90	11	16.2			9	9	E	RAMY		
09	AFS	1130E	2051D	N32	E74	11	15.3		03	9	9	E	RAMY	5229	
09	SDF	1210	1231	N14	W24	11	7.7		12	9	9	E	RAMY	5218	Flare Associated
09	ASR	1305E	2051D	N33	E90	11	16.7			9	9	E	RAMY	5229	
09	AFS	1313E	2051D	S25	E37	11	12.4		03	9	9	E	RAMY	5227	
09	AFS	1320E	2051D	N20	E53	11	13.6		03	9	9	E	RAMY	5228	
09	AFS	1325E	1530D	N32	W80	11	3.2		03	9	9	E	RAMY	5223	
09	ADF	1330E	2051D	N13	W27	11	7.5	1	10	9	9	E	RAMY	5218	
09	AFS	1439E	2356D	N33	E73	11	15.4		02	9	9	E	HOLL	5229	
09	ASR	1443E	1700D	N34	E89	11	16.7			9	9	E	HOLL		

ACTIVE PROMINENCES AND FILAMENTS

75
Nov 88

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
09	AFS	1443E	2356D	N21	E52	11 13.6		02	7	5	E	HOLL	5228	
09	ASR	1700E	2051D	N31	W85	11 3.0			9	9	E	RAMY	5223	
09	DSD	1703E	1746D	N12	W38	11 6.8		06	9	9	E	HOLL	5218	
09	ASR	1703E	1752	N32	W83	11 3.1			9	9	E	HOLL	5223	
09	DSD	1745E	1826D	N20	E52	11 13.7		05	9	9	E	HOLL		
09	ASR	1745E	1827	N34	W82	11 3.2			9	9	E	HOLL		
09	ADF	1757E	2356D	N30	W35	11 7.0	1	03	9	9	E	HOLL	5216	
09	ASR	1850	1901	N35	E87	11 16.7			7	8	E	HOLL	5229	
09	AFS	1859E	2356D	N14	E54	11 13.9		01	5	5	E	HOLL		
09	DSD	1908	2010D	N13	W28	11 7.7		02	9	9	E	RAMY	5218	Flare Associated
09	AFS	1908E	2051D	N13	E54	11 13.9		01	8	6	E	RAMY		
09	ASR	2114E	2356D	S21	W82	11 3.6			9	9	E	HOLL	5212	
09	ADF	2342	0043D	N44	W22	11 8.2	1				V	VORO		
10	ASR	0056E	0904D	N10	W90	11 3.3			9	9	E	LEAR	5212	
10	ADF	0056E	0904D	N13	W33	11 7.5	2	07	9	9	E	LEAR	5218	
10	AFS	0056E	0904D	N19	E47	11 13.6		02	9	9	E	LEAR	5228	
10	ASR	0231E	0310D	S19	W90	11 3.2			9	9	E	PALE	5212	
10	BSD	0235E	0435D	N35	E90	11 17.3		11	9	9	E	LEAR	5229	
10	BSL	0615	0638	N16	E90	11 17.1			9	9	E	LEAR		Flare Associated
10	ADF	0936E	0950D	N11	W47	11 6.9	1				V	KHAR		
10	BSL	1015E	1023D	S14	W90	11 3.6	1				V	KHAR		
10	AFS	1220E	1720D	S26	E23	11 12.3		02	8	8	E	RAMY	5227	
10	AFS	1220E	1738D	N13	E45	11 13.9		03	9	9	E	RAMY		
10	DSD	1220E	1957D	N10	E69	11 15.7		04	9	9	E	RAMY	5231	
10	AFS	1220E	2048D	N12	E68	11 15.6		03	9	9	E	RAMY	5231	
10	ADF	1220E	2048D	N12	W39	11 7.6	1	07	9	9	E	RAMY	5218	
10	AFS	1220E	2048D	N31	E58	11 15.1		03	9	9	E	RAMY	5229	
10	APR	1220E	2048D	N31	E90	11 17.6	1		9	8	E	RAMY		
10	ASR	1220E	2048D	N32	W90	11 3.4			9	9	E	RAMY	5223	
10	ASR	1220E	2048D	S21	W90	11 3.6			9	9	E	RAMY	5212	
10	AFS	1310E	1640D	N34	E67	11 15.9		03	9	9	E	RAMY	5229	
10	ASR	1411E	2338D	S20	W83	11 4.2			9	9	E	HOLL	5212	
10	AFS	1425E	1628D	N14	E43	11 13.8		02	9	9	E	HOLL		
10	DSD	1459E	1526D	N32	E52	11 14.7		03	9	9	E	HOLL	5229	Flare Associated
10	AFS	1459E	2338D	N32	E52	11 14.7		02	9	9	E	HOLL	5229	
10	ADF	1511E	2338D	N12	E41	11 13.7	1	07	9	9	E	HOLL	5218	
10	AFS	1620E	2338D	N13	E65	11 15.6		02	9	9	E	HOLL	5231	
10	AFS	1640E	2048D	N31	E64	11 15.7		02	9	9	E	RAMY	5229	
10	ASR	1720E	1801	N30	W85	11 4.0			9	9	E	HOLL	5223	
10	AFS	1721E	2048D	N20	E39	11 13.7		01	8	6	E	RAMY	5228	
10	ASR	1736E	0335D	S21	W84	11 4.3			9	9	E	PALE	5212	
10	AFS	1739E	0335D	N33	E59	11 15.4		03	9	9	E	PALE	5229	
10	AFS	1743E	0335D	N13	E65	11 15.6		02	9	9	E	PALE	5231	
10	DSD	1812E	1901D	N21	E39	11 13.7		04	9	9	E	HOLL	5228	
10	DSD	2008E	2048D	N11	W43	11 7.6		03	9	9	E	RAMY	5218	
10	DSD	2141E	2338D	S21	E07	11 11.4		03	9	9	E	HOLL	5226	
10	AFS	2228E	2338D	N13	W10	11 10.2		01	9	9	E	HOLL		
10	DSD	2245	2229D	N13	W10	11 10.2		02	9	9	E	HOLL		
10	DSD	2300	2313	N14	W47	11 7.4	1				V	VORO		
10	DSD	2346	2355D	N11	E51	11 14.8		04	9	9	E	HOLL	5218	
11	APR	0133	0300D	N20	E90	11 17.9	1				V	VORO		
11	DSD	0934E	0953D	N17	W56	11 7.1	1				V	KHAR		
11	APR	1120E	1240D	S50	E90	11 19.1					V	ATHN		
11	APR	1130E	1240D	S30	E90	11 18.5					V	ATHN		
11	ASR	1149E	1836D	N15	E90	11 18.3			9	9	E	RAMY	5235	
11	ADF	1219E	1836D	N13	W54	11 7.4	2	04	9	9	E	RAMY	5218	
11	AFS	1219E	1836D	N30	E46	11 15.1		02	9	9	E	RAMY	5229	
11	AFS	1227E	1836D	N18	E28	11 13.6		01	8	6	E	RAMY	5228	
11	AFS	1227E	1836D	S24	E04	11 11.8		02	9	9	E	RAMY	5227	
11	ASR	1259E	1836D	N18	W90	11 4.7			9	9	E	RAMY	5212	
11	ASR	1444E	2355D	N20	E90	11 18.5			9	9	E	HOLL		
11	DSD	1509E	1717D	N13	W58	11 7.2		05	9	9	E	HOLL	5218	Flare Associated
11	AFS	1718E	2355D	S23	E01	11 11.8		02	7	7	E	HOLL	5227	
11	AFS	1905E	0334D	S23	E01	11 11.9		02	9	9	E	PALE	5227	
12	AFS	0005E	1023D	S03	W23	11 10.3		02	9	9	E	LEAR	5227	
12	AFS	0052E	0334D	S25	E08	11 12.6		03	9	9	E	PALE	5228	
12	AFS	0259E	1023D	N19	E20	11 13.6		02	9	6	E	LEAR	5228	

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
12	APR	0615E	1230D	S07	W90	11 5.5					V	ATHN		
12	APR	0630E	1230D	S16	W90	11 5.4					V	ATHN		
12	APR	0645E	1230D	S65	E90	11 20.3					V	ATHN		
12	DSD	1152E	1912D	N12	W66	11 7.5		02	9	9	E	RAMY	5218	
12	AFS	1320E	1912D	N12	W33	11 10.1		02	9	9	E	RAMY	5234	
12	ADF	1324E	1912D	N15	E74	11 18.2	1	02	9	9	E	RAMY	5235	
12	AFS	1430E	1912D	N16	E08	11 13.2		02	9	9	E	RAMY	5228	
12	AFS	1435E	1912D	N32	E37	11 15.5		01	8	6	E	RAMY	5229	
12	AFS	1435E	1912D	S24	W11	11 11.7		02	9	9	E	RAMY	5227	
12	AFS	1544E	1912D	N24	W26	11 10.6		02	8	6	E	RAMY		
12	DSD	1746E	2305D	N12	W75	11 7.1		03	9	9	E	HOLL	5218	
12	AFS	1823E	0334D	S23	W12	11 11.8		02	9	9	E	PALE	5227	
12	AFS	1829E	0334D	N12	E38	11 15.6		02	8	8	E	PALE	5231	
12	AFS	1829E	0334D	N32	E33	11 15.4		02	9	9	E	PALE	5229	
12	AFS	1835E	2155D	S23	W13	11 11.8		02	9	9	E	HOLL	5227	
12	DSD	1839E	2309D	N13	W36	11 10.1		02	9	9	E	HOLL	5234	
12	DSD	1843E	2200D	N31	E28	11 15.0		04	9	9	E	HOLL	5229	
12	AFS	2018E	0334D	N12	W36	11 10.1		02	9	9	E	PALE	5234	
12	AFS	2150E	2354D	N12	W37	11 10.1		03	8	8	E	HOLL	5234	
12	ADF	2200E	2354D	N34	E38	11 15.9	1	05	9	9	E	HOLL	5229	
12	ASR	2305E	2354D	N14	W74	11 7.4			9	9	E	HOLL	5218	
13	ASR	0108E	0334D	N22	E87	11 19.7			9	9	E	PALE		
13	DSD	0300E	0334D	N34	E29	11 15.4		03	9	9	E	PALE	5229	
13	ASR	0447E	1012D	N20	E86	11 19.8			9	9	E	LEAR		
13	DSD	0517E	0548D	N13	W42	11 10.0		03	9	9	E	LEAR	5234	
13	ADF	0808E	1450D	S25	W16	11 12.1	1	04	9	9	E	SVTO	5227	
13	ADF	0827E	1450D	N09	W44	11 10.0	1	03	9	9	E	SVTO	5234	
13	SDF	1012E	2230D	S46	E40	11 16.8		38	0	0	E	LEAR		
13	AFS	1145E	1750D	N30	E20	11 15.1		03	7	8	E	RAMY	5229	
13	AFS	1240E	1750D	S24	W22	11 11.8		02	9	9	E	RAMY	5227	
13	DSD	1240E	1818D	S25	W19	11 12.0		06	9	9	E	RAMY	5227	Flare Associated
13	ASR	1408E	1818D	N10	W89	11 6.9			9	9	E	RAMY	5218	
13	DSD	1430E	1818D	N12	W48	11 10.0		05	9	9	E	RAMY	5234	Flare Associated
13	AFS	1430E	1818D	N16	W07	11 13.1		03	8	8	E	RAMY	5237	
13	DSD	1430E	1818D	N18	W05	11 13.2		04	9	9	E	RAMY	5237	
13	ADF	1430E	1818D	N33	E20	11 15.2	1	09	9	9	E	RAMY	5229	
13	DSD	1430E	1818D	N34	E31	11 16.1		08	9	9	E	RAMY	5229	Flare Associated
13	ADF	1447E	1748D	N33	E20	11 15.2	1	04	9	9	E	HOLL	5229	
13	DSD	1447E	2022D	N32	E12	11 14.6		03	9	9	E	HOLL	5229	
13	DSD	1447E	2210D	N34	E32	11 16.2		04	9	9	E	HOLL	5229	
13	APR	1449E	1950D	N09	W90	11 6.9			9	9	E	HOLL	5218	
13	BSD	1520E	1737D	N21	E79	11 19.7		09	9	9	E	HOLL	5240	
13	SDF	1733E	2354D	S43	W36	11 10.8		34	0	0	E	HOLL		
13	AFS	1950E	2210D	S25	W22	11 12.1		02	9	9	E	HOLL	5227	
13	DSD	1950E	2210D	S26	W25	11 11.9		03	9	9	E	HOLL	5227	
13	AFS	1953E	2354D	N11	W50	11 10.1		02	6	5	E	HOLL	5234	
13	DSD	2201E	2354D	N32	E08	11 14.5		05	9	9	E	HOLL	5229	
13	ASR	2339E	0334D	N13	W90	11 7.2			9	9	E	PALE	5218	
14	APR	0602E	0822D	N14	W90	11 7.4	2		9	9	E	LEAR	5218	
14	ADF	1145E	1752D	N12	W60	11 10.0	1	08	9	9	E	RAMY	5234	
14	ADF	1145E	1752D	N35	E20	11 16.1	1	07	9	9	E	RAMY	5229	
14	ADF	1145E	1752D	S24	W35	11 11.8	1	07	9	9	E	RAMY	5227	
14	ASR	1238E	1752D	N12	W90	11 7.7			9	9	E	RAMY	5218	
14	ADF	1307E	1752D	N33	E08	11 15.2	1	09	9	9	E	RAMY	5229	
14	DSD	1355E	1617D	S22	W36	11 11.8		05	9	9	E	RAMY	5227	
14	DSD	1440E	1555D	N35	E16	11 15.9		07	9	9	E	HOLL	5229	Flare Associated
14	SDF	1518E	1840D	S43	W26	11 12.5		24	0	0	E	HOLL		
14	ADF	1738E	2352D	N26	E77	11 20.7	1	06	9	9	E	HOLL		
14	DSD	1743E	2053	N15	E38	11 17.6		05	9	9	E	HOLL	5235	
14	APR	1812E	2041	N13	W90	11 8.0			9	9	E	HOLL	5218	
14	DSD	1911E	2352D	S25	W40	11 11.7		03	4	4	E	HOLL	5227	
14	AFS	1913E	2352D	N32	E07	11 15.3		02	6	6	E	HOLL	5229	
14	AFS	1941E	0333D	N32	E06	11 15.3		02	7	7	E	PALE	5229	
14	DSD	1948	2014	N21	E64	11 19.7		07	9	9	E	HOLL	5240	Flare Associated
15	AFS	0202E	0333D	N22	E60	11 19.7		02	6	6	E	PALE	5240	
15	ADF	0755E	1427D	N23	E71	11 20.8	1	07	9	9	E	SVTO	5241	
15	ADF	0755E	1427D	N28	E69	11 20.7	1	08	9	9	E	SVTO	5241	

ACTIVE PROMINENCES AND FILAMENTS

77
NOV 88

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
15	AFS	0755E	1427D	N30	E72	11	21.0		02	7	7	E	SVTO	5241	
15	ADF	0758E	1427D	S25	W45	11	11.8	1	08	9	9	E	SVTO	5227	
15	AFS	0759E	1427D	N31	W05	11	14.9		03	7	7	E	SVTO	5229	
15	AFS	0800E	1427D	N34	E06	11	15.8		02	9	9	E	SVTO	5229	
15	ADF	1200E	1811D	N32	W01	11	15.4	1	20	9	9	E	RAMY	5229	
15	DSD	1200E	1811D	S22	W47	11	11.9		03	9	9	E	RAMY	5227	
15	AFS	1200E	1811D	S26	W45	11	12.0		03	9	9	E	RAMY	5227	
15	ADF	1207E	1741D	N20	W20	11	14.0	2	07	9	9	E	RAMY	5228	
15	ADF	1221E	1811D	N18	E41	11	18.6	1	08	9	9	E	RAMY	5235	
15	AFS	1221E	1811D	N18	E53	11	19.5		02	9	9	E	RAMY	5240	
15	ADF	1221E	1811D	N22	E67	11	20.7	1	15	9	9	E	RAMY	5241	
15	ADF	1233E	1811D	S25	W46	11	11.9	1	12	9	9	E	RAMY	5227	
15	DSD	1554	2001D	N21	W28	11	13.5		03	9	9	E	HOLL	5228	
15	ADF	1604	2351D	N27	E67	11	20.9	2	06	9	9	E	HOLL	5241	
15	AFS	1655E	2351D	N25	W31	11	13.3		02	5	6	E	HOLL	5242	
15	DSD	1655E	2353D	N33	E07	11	16.3		07	9	9	E	HOLL	5229	
15	DSD	1741E	1811D	N21	W28	11	13.6		03	9	9	E	RAMY	5228	
15	AFS	1829E	0317D	N22	W29	11	13.5		02	9	9	E	PALE	5228	
15	AFS	1830E	0317D	N26	W33	11	13.2		02	9	9	E	PALE		
15	AFS	1950E	2351D	N20	W30	11	13.5		03	9	9	E	HOLL	5228	
15	DSD	1955	2351D	S22	W52	11	11.8		04	9	9	E	HOLL	5227	Flare Associated
15	BSD	2009E	2105D	S22	W72	11	10.3		05	9	9	E	HOLL	5226	
15	ADF	2120E	2351D	N30	W04	11	15.6	1	06	9	9	E	HOLL	5229	
15	DSD	2210E	0317D	S22	W53	11	11.8		04	9	9	E	PALE	5227	
16	DSD	0122E	0317D	N34	E02	11	16.2		03	9	9	E	PALE	5229	Flare Associated
16	AFS	1112E	1640D	S23	W59	11	11.9		03	9	9	E	RAMY	5227	
16	ASR	1147E	1326D	N11	W90	11	9.7			9	9	E	RAMY	5234	
16	DSD	1349E	1600D	N30	W03	11	16.3		04	9	9	E	RAMY	5229	
16	DSD	1403E	1629D	N20	W39	11	13.6		03	9	9	E	HOLL	5228	
16	ADF	1411E	1731D	N17	E39	11	19.5	1	03	9	9	E	HOLL	5240	
16	AFS	1412E	1730D	N20	E40	11	19.6		03	9	9	E	HOLL	5240	
16	DSD	1414E	1540D	N28	W04	11	16.3		03	8	7	E	HOLL	5229	
16	DSD	1425E	2351D	S39	W45	11	12.9		04	9	9	E	HOLL	5243	
16	AFS	1547E	2351D	N27	E53	11	20.8		02	9	9	E	HOLL	5241	
16	AFS	1652E	2351D	S16	W09	11	16.0		02	5	5	E	HOLL		
16	AFS	1654E	2351D	S35	W48	11	12.9		03	9	9	E	HOLL	5243	
16	DSD	1720E	2028D	N35	W06	11	16.2		04	9	9	E	PALE	5229	Flare Associated
16	DSD	1724	1820D	N35	W06	11	16.2		04	9	9	E	HOLL	5229	Flare Associated
16	DSD	1747	2135D	N33	W15	11	15.5		07	9	9	E	HOLL	5229	Flare Associated
16	AFS	1806E	2028D	N21	E37	11	19.6		03	9	9	E	PALE	5240	
16	AFS	1807E	2028D	S15	W09	11	16.1		02	9	9	E	PALE		
16	AFS	1807E	2028D	S34	W48	11	12.9		03	9	9	E	PALE	5243	
16	ASR	2005	2302D	N20	W82	11	10.6			8	9	E	HOLL	5238	
16	DSD	2005E	2300D	N31	W08	11	16.2		07	9	9	E	HOLL	5229	Flare Associated
16	ADF	2055E	2351D	N20	E37	11	19.7	1	06	9	9	E	HOLL	5240	
16	BSD	2119	2130D	N22	W46	11	13.3		05	9	9	E	HOLL	5242	Flare Associated
16	DSD	2130E	2159D	N22	W46	11	13.4		07	9	9	E	HOLL	5242	Flare Associated
16	DSD	2130E	2351D	N35	W07	11	16.3		05	9	9	E	HOLL	5229	
16	BSD	2151E	2217D	S34	W54	11	12.6		09	9	9	E	HOLL	5243	Flare Associated
17	AFS	0530E	1010D	S15	W17	11	15.9		02	9	6	E	LEAR		
17	ADF	0600E	1010D	N29	E48	11	21.0	1	05	9	9	E	LEAR	5241	
17	DSD	0705E	1512D	N34	W38	11	14.3		03	9	9	E	SVTO	5229	
17	ADF	0706E	1512D	N30	W15	11	16.1	1	04	9	9	E	SVTO	5229	
17	AFS	0731E	1512D	N25	W53	11	13.2		04	9	9	E	SVTO	5242	
17	BSL	0738	0751D	N47	E90	11	24.8	1-				C	CATA		
17	ADF	0820E	1512D	N27	E43	11	20.7	1	05	8	8	E	SVTO	5241	
17	ADF	0835E	1512D	N15	W13	11	16.4	1	06	9	9	E	SVTO	5233	
17	AFS	0840E	1512D	N16	W18	11	16.0		03	9	9	E	SVTO		
17	BSL	0943E	0951	S68	W90	11	9.3	1-				C	CATA		
17	ASR	1250E	1432D	N21	W90	11	10.6			9	9	E	RAMY	5238	
17	AFS	1250E	1432D	N31	W26	11	15.5		03	9	9	E	RAMY	5229	
17	AFS	1250E	1432D	S34	W60	11	12.7		02	9	9	E	RAMY	5243	
17	AFS	1432E	1432D	N20	E25	11	19.5		02	9	9	E	RAMY	5240	
17	APR	1512E	2226D	N21	W90	11	10.7	1		9	9	E	HOLL	5238	
17	AFS	1808E	2350D	S16	W24	11	15.9		02	9	9	E	HOLL	5245	
17	AFS	1925E	0159D	S16	W26	11	15.8		02	9	9	E	PALE		
17	AFS	1950E	2259D	S33	W62	11	12.9		04	9	9	E	HOLL	5243	
17	DSD	2039E	2200D	N14	W29	11	15.7		04	9	9	E	HOLL	5231	Flare Associated

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
17	DSD	2145E	2350D	N21	E22	11	19.6		04	9	9	E	HOLL	5240	Flare Associated
17	AFS	2225E	0927D	N21	E23	11	19.7		03	9	9	E	LEAR	5240	
18	AFS	0328E	0927D	S18	W29	11	15.9		02	9	9	E	LEAR	5245	
18	AFS	0334E	0927D	N28	W06	11	17.7		02	9	9	E	LEAR	5244	
18	BSD	0630E	0805	S29	W80	11	12.0		06	6	5	E	LEAR	5227	
18	APR	0700E	0927D	S20	W90	11	11.4	2		4	5	E	LEAR	5227	
18	ADF	0923E	1127D	N30	W38	11	15.4	1	04	9	9	E	SVTO	5229	
18	ADF	0933E	1127D	N25	E24	11	20.2	1	17	9	9	E	SVTO	5241	
18	ADF	1248E	1858D	N31	W25	11	16.6	2	06	9	9	E	RAMY	5229	
18	DSD	1248E	1900D	S37	W75	11	12.5		03	9	9	E	RAMY	5243	
18	ASR	1248E	2041D	N24	W89	11	11.6			9	9	E	RAMY	5227	
18	ADF	1248E	2041D	N34	W28	11	16.3	1	06	9	9	E	RAMY	5229	
18	ADF	1300E	2041D	N22	E29	11	20.8	2	06	9	9	E	RAMY	5241	
18	ADF	1300E	2041D	N30	E28	11	20.7	2	05	9	9	E	RAMY	5241	
18	AFS	1333E	2041D	S17	E36	11	21.3		02	8	6	E	RAMY	5245	
18	ASR	1505E	2350D	S24	W90	11	11.7			9	9	E	HOLL	5227	
18	DSD	1740E	2010D	N18	E08	11	19.3		02	9	9	E	RAMY	5240	Flare Associated
18	DSD	1811E	2158D	N31	W53	11	14.6		05	8	8	E	HOLL	5229	
18	DSD	2016E	2041D	N28	W29	11	16.6		03	9	9	E	RAMY	5229	Flare Associated
18	ASR	2148E	2350D	S35	W75	11	12.9			9	8	E	HOLL	5243	
19	DSD	0010E	0133	N20	E09	11	19.7		04	9	9	E	LEAR	5240	
19	AFS	0335E	1027D	N20	E04	11	19.4		03	6	4	E	LEAR	5240	
19	AFS	0335E	1027D	S17	W44	11	15.8		02	7	7	E	LEAR	5245	
19	BSD	0405E	0730D	N19	W74	11	13.5		03	7	5	E	LEAR	5242	
19	ASR	0430E	0900D	S23	W90	11	12.2			9	7	E	LEAR	5227	
19	BSL	0730E	0741	S25	W90	11	12.3	1-				C	CATA		
19	BSL	0809	0820D	S28	W90	11	12.3	2				C	CATA		
19	BSL	0817	0820D	S25	W90	11	12.4	1-				C	CATA		
19	APR	0930E	1245D	S56	E90	11	27.2					V	ATHN		
19	APR	0935E	1245D	N40	W90	11	12.1					V	ATHN		
19	ASR	1114E	2126D	S36	W89	11	12.3			9	9	E	RAMY	5243	
19	ASR	1130E	1139D	S35	W90	11	12.3			9	9	E	SVTO	5243	
19	DSD	1206E	1517D	S30	W50	11	15.6		03	9	9	E	RAMY	5229	Flare Associated
19	DSD	1332E	1450D	N18	W01	11	19.5		04	9	9	E	RAMY	5240	Flare Associated
19	ASR	1415E	1437D	S27	W89	11	12.6			9	8	E	RAMY	5236	
19	ASR	1454E	2126D	N21	W85	11	13.1			9	9	E	RAMY	5237	
19	AFS	1539E	2126D	N19	W02	11	19.5		03	9	9	E	RAMY	5240	
19	AFS	1610E	2134D	N20	W02	11	19.5		03	9	9	E	HOLL	5240	
19	ASR	1614E	1741	S32	W89	11	12.6			9	9	E	HOLL	5243	
19	ASR	1614E	2335D	S35	W89	11	12.5			9	9	E	HOLL	5243	
19	ADF	1750E	2139D	N27	E15	11	20.9	1	05	9	9	E	HOLL	5241	
19	DSD	1819	1855D	N17	W29	11	17.5		04	9	9	E	HOLL	5235	
19	ASR	1827E	0319D	S32	W88	11	12.8			9	9	E	PALE	5243	
19	AFS	1935E	2126D	N27	E10	11	20.6		02	8	7	E	RAMY	5241	
19	AFS	2046E	0319D	N21	W05	11	19.5		03	9	9	E	PALE	5240	
19	ASR	2113	1441D	S35	W90	11	12.7			9	9	E	SVTO	5243	
19	DSD	2134E	2350D	N21	W04	11	19.6		03	9	9	E	HOLL	5240	Flare Associated
20	ASR	0100E	0220D	S33	W90	11	12.9			8	7	E	LEAR	5243	
20	AFS	0110E	0824D	N21	W10	11	19.3		02	8	6	E	LEAR	5240	
20	ASR	0120E	0220D	N26	W90	11	13.1			9	9	E	LEAR	5242	
20	APR	0700E	0900D	S59	E90	11	28.2					V	ATHN		
20	APR	0705E	0900D	N45	W90	11	12.8					V	ATHN		
20	BSL	0828E	0836	N24	E90	11	27.3	1-				C	CATA		
20	BSL	0948E	0956	N19	W90	11	13.5	1-				C	CATA		
20	BSL	1143	1201	N18	W90	11	13.6	1-				C	CATA		
20	ASR	1217E	2133D	N23	W90	11	13.6			9	9	E	RAMY	5228	
20	DSD	1258E	1949D	S14	W66	11	15.5		06	9	9	E	RAMY	5245	
20	AFS	1258E	1505D	N26	W01	11	20.5		02	9	9	E	SVTO	5241	
20	ADF	1302E	2133D	N19	W12	11	19.6	1	08	9	9	E	RAMY	5240	
20	ASR	1306E	1505D	N19	W90	11	13.7			9	9	E	SVTO	5228	
20	DSD	1328E	2133D	N14	W37	11	17.8		04	9	9	E	RAMY	5235	
20	ADF	1348E	1505D	N18	W14	11	19.5	1	05	9	9	E	SVTO	5240	
20	AFS	1356E	1505D	S40	W04	11	20.2		01	9	9	E	SVTO		
20	ASR	1525E	2200D	S36	W90	11	13.4			9	9	E	HOLL	5243	
20	DSD	1642	2200	N28	E04	11	21.0		05	9	9	E	HOLL	5241	Flare Associated
20	ADF	1755E	2311D	N20	W15	11	19.6	2	08	9	9	E	HOLL	5240	
20	AFS	1802E	2133D	N21	W15	11	19.6		03	8	8	E	RAMY	5240	

ACTIVE PROMINENCES AND FILAMENTS

79
Nov 88

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
20	DSD	1802E	2133D	N21	W20	11	19.2		03	9	9	E	RAMY	5240	
20	ASR	1806E	0253D	N22	W84	11	14.3			9	9	E	PALE	5228	
20	AFS	1806E	0318D	N28	E02	11	20.9		02	9	9	E	PALE	5241	
20	AFS	1811E	0318D	N04	W14	11	19.7		02	9	9	E	PALE	5235	
20	AFS	1830E	2133D	N14	W40	11	17.7		02	8	9	E	RAMY	5235	
20	ASR	1835E	2133D	S36	W90	11	13.5			8	8	E	RAMY	5243	
20	AFS	1910E	0318D	N22	W16	11	19.6		02	9	9	E	PALE	5240	
20	ASR	1939E	2133D	N16	E90	11	27.6			9	9	E	RAMY		
20	DSD	1949E	2133D	S38	W08	11	20.2		03	9	9	E	RAMY	5246	
20	ADF	1954E	0318D	N19	W20	11	19.3	1	06	9	9	E	PALE	5240	
20	SDF	2116E	1820D	N18	E46	11	24.4		13	0	0	E	PALE		
20	ASR	2139E	0318D	N18	E90	11	27.7			8	8	E	PALE		
20	AFS	2200E	2311D	S14	W26	11	18.9		01	6	5	E	HOLL		
20	AFS	2242E	0318D	S14	W28	11	18.8		03	9	9	E	PALE		
21	BSL	0508E	0633D	N21	W90	11	14.3	1				C	ABST		
21	APR	0615E	0630D	S48	E90	11	28.8					V	ATHN		
21	AFS	0725E	0944D	S13	W38	11	18.4		02	9	9	E	LEAR	5246	
21	AFS	0727E	0944D	S31	W14	11	20.2		02	9	9	E	LEAR		
21	BSL	0829	0835D	N15	E90	11	28.2	1-				C	CATA		
21	BSL	0835	0835D	N20	W90	11	14.5	1-				C	CATA		
21	BSL	0915	0915D	N33	W90	11	14.2	1-				C	CATA		
21	BSL	0949E	0951D	N23	W90	11	14.5	1				C	CATA		
21	AFS	1110E	2034D	N13	W48	11	17.8		03	9	9	E	RAMY	5235	
21	AFS	1115E	2026D	N19	E22	11	23.1		02	9	9	E	RAMY		
21	DSD	1117E	1448D	S28	E67	11	26.7		04	9	9	E	RAMY		
21	AFS	1119E	2034D	S15	W34	11	18.9		03	9	9	E	RAMY		
21	ASR	1135E	2034D	N33	W83	11	14.9			9	9	E	RAMY	5229	
21	ASR	1150E	2034D	N19	E90	11	28.4			9	9	E	RAMY	5251	
21	DSD	1415	1454	N23	W22	11	19.9		05	9	9	E	HOLL	5240	Flare Associated
21	ADF	1415E	2349D	N20	W24	11	19.7	2	05	9	9	E	HOLL	5240	
21	ASR	1416E	1453	N23	W90	11	14.6			9	9	E	HOLL		
21	ASR	1416E	1619	N31	W88	11	14.6			9	9	E	HOLL	5229	
21	AFS	1441E	2349D	S15	W37	11	18.8		02	5	4	E	HOLL	5247	
21	AFS	1500E	1700D	N14	W52	11	17.7		02	9	9	E	HOLL	5235	
21	AFS	1700E	2349D	S28	E67	11	26.9		02	9	9	E	HOLL	5249	
21	ASR	1806E	0253D	N22	W84	11	15.3			9	9	E	PALE	5228	
21	AFS	1835E	0321D	N14	W52	11	17.8		02	9	9	E	PALE	5235	
21	AFS	1839E	0321D	S28	E67	11	27.0		02	9	9	E	PALE	5249	
21	ASR	2104E	0321D	N32	W90	11	14.7			9	9	E	PALE	5229	
21	SDF	2116E	1820D	N18	E46	11	25.4		13	0	0	E	PALE		
21	ASR	2148E	2349D	N32	W90	11	14.8			9	9	E	HOLL	5229	
21	ADF	2210E	2349D	N28	W11	11	21.1	1	08	9	9	E	HOLL	5241	
21	LPS	2321	2349D	N14	W56	11	17.7			9	9	E	HOLL	5235	Flare Associated
22	AFS	0001E	1015D	S38	W22	11	20.2		02	9	9	E	LEAR	5246	
22	APR	0706	0725	N36	W90	11	15.1	1				C	ABST		
22	ASR	0715E	1015D	N37	W87	11	15.3			7	7	E	LEAR	5229	
22	DSD	0916	1015D	N28	W16	11	21.1		08	9	9	E	LEAR	5241	
22	DSD	1205E	1410D	N28	W19	11	21.0		01	9	9	E	RAMY	5241	
22	DSD	1240E	1418D	S39	W28	11	20.2		01	9	9	E	RAMY	5246	
23	BSL	0526	0718D	S37	W90	11	16.0	1				C	ABST		
23	ASR	1315E	1346D	N14	W90	11	16.7			9	9	E	RAMY	5233	
23	AFS	1323E	1839D	S28	E10	11	24.3		02	9	9	E	RAMY		
23	ADF	1328E	1839D	N19	W52	11	19.6	1	05	9	9	E	RAMY	5240	
23	AFS	1328E	1839D	S39	W44	11	20.0		02	9	9	E	RAMY	5246	
23	ADF	1419E	1839D	N22	E59	11	28.1	2	03	9	9	E	RAMY	5251	
23	DSD	1612E	1839D	S14	W70	11	18.4		03	9	9	E	RAMY	5247	
23	AFS	1721E	2347D	S28	E07	11	24.3		03	9	9	E	HOLL		
23	DSD	1805E	2030D	S37	W45	11	20.1		04	9	9	E	HOLL	5246	
23	SSB	2027		S50	W00	11	20.1			0	0	E	HOLL		
23	SSB	2027		S50	W50	11	23.8			0	0	E	HOLL		
23	AFS	2045E	0250D	N28	W35	11	21.1		02	9	9	E	PALE	5241	
23	AFS	2046E	0244D	S38	W47	11	20.1		02	7	7	E	PALE	5246	
23	AFS	2055E	2347D	N27	W37	11	21.0		02	9	9	E	HOLL	5241	
23	AFS	2121E	0244D	S28	E05	11	24.3		02	9	9	E	PALE	5252	
23	AFS	2204E	1012D	N18	W61	11	19.3		05	9	6	E	LEAR	5240	
23	AFS	2204E	1012D	N27	W45	11	20.4		06	9	9	E	LEAR	5241	
23	AFS	2204E	1012D	S28	E05	11	24.3		02	9	9	E	LEAR	5252	

ACTIVE PROMINENCES AND FILAMENTS

NOVEMBER 1988

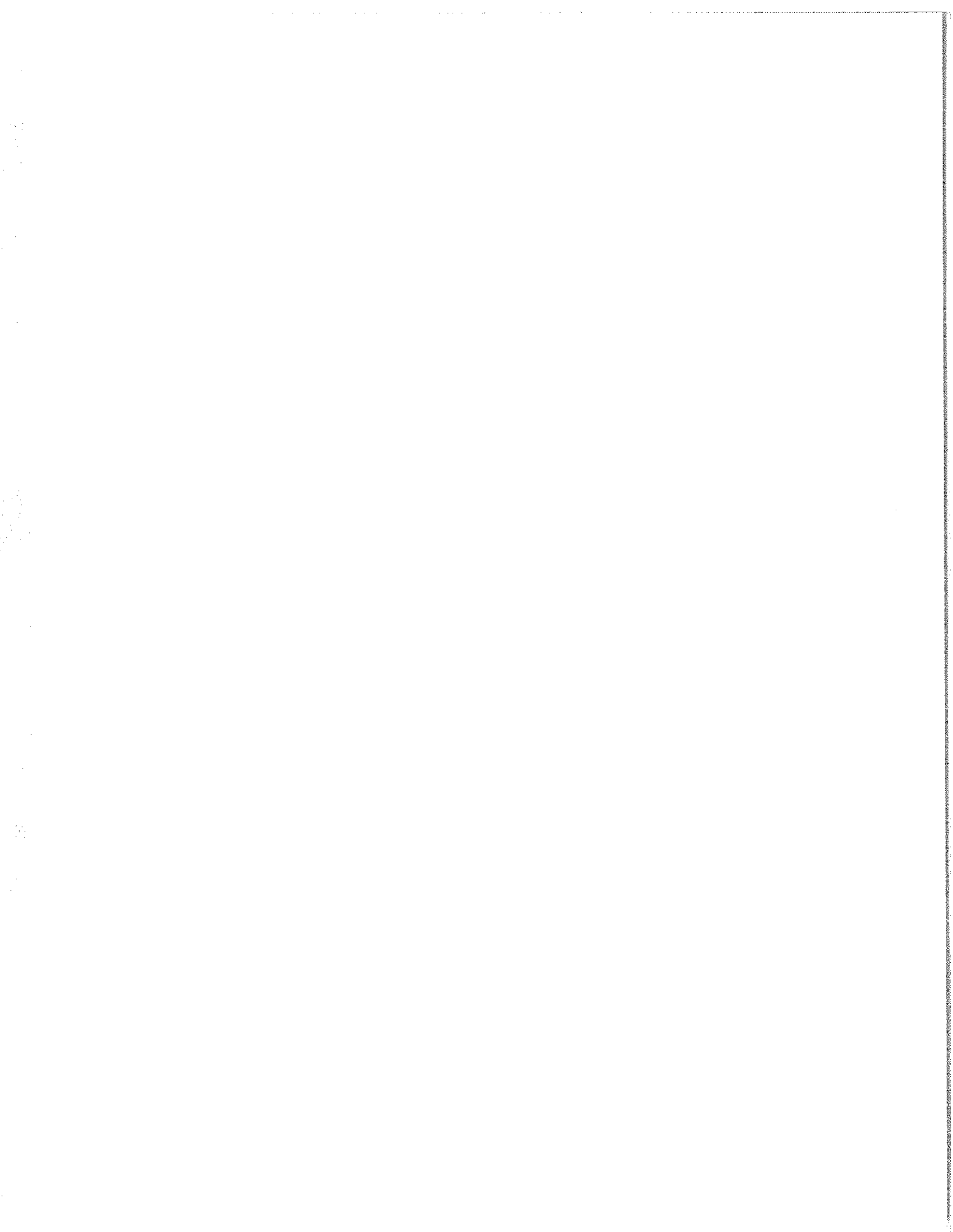
Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
23	ASR	2238	2340D	N27	E90	11 30.9			9	9	E	HOLL		
23	ASR	2239E	0420D	N27	E90	11 30.9			9	9	E	LEAR		
23	ASR	2251E	0250D	N28	E90	12 1.0			9	9	E	PALE		
24	ADF	0215E	1012D	N24	W48	11 20.4	2	07	9	9	E	LEAR	5241	
24	ADF	0820E	1120D	N16	W54	11 20.2	1	08	9	9	E	SVTO	5240	
24	BSL	0821	0905D	N10	W90	11 17.6	1				C	ABST		
24	BSL	0821	0905D	N10	W90	11 17.6	1				C	ABST		
24	AFS	0821E	1120D	S28	E00	11 24.3		02	9	9	E	SVTO	5252	
24	BSL	0832E	0848	S19	E90	12 1.2	1				V	KHAR		
24	BSL	0844E	0856	S21	E90	12 1.3	1				V	KHAR		
24	SDF	0949E	2217D	S07	E14	11 25.4		17	0	0	E	LEAR		
24	ASR	1130E	2124D	N14	W90	11 17.7			9	9	E	RAMY	5235	
24	AFS	1132E	2004D	N28	W44	11 21.0		03	8	9	E	RAMY	5241	
24	AFS	1144E	1638D	N17	E45	11 27.9		03	9	9	E	RAMY	5251	
24	AFS	1205E	1550D	S38	W56	11 20.0		03	8	8	E	RAMY	5246	
24	APR	1230E	1630D	N29	W90	11 17.5	2		9	9	E	RAMY	5244	
24	ASR	1300E	2124D	S19	E90	12 1.4			9	9	E	RAMY	5254	
24	APR	1459E	2330D	N13	W90	11 17.8	1		9	9	E	HOLL	5235	
24	ASR	1533E	2330D	N29	W80	11 18.4			9	9	E	HOLL	5244	
24	ADF	1545E	2124D	N19	E48	11 28.3	1	04	9	9	E	RAMY	5251	
24	ASR	1620E	2124D	N29	W90	11 17.6			9	9	E	RAMY	5244	
24	APR	1644E	2000D	N22	W90	11 17.8	2		7	9	E	RAMY		
24	ASR	1647E	2124D	S14	W90	11 17.9			5	8	E	RAMY	5247	
24	ASR	1827E	0100D	N28	W86	11 18.0			9	9	E	PALE	5244	
24	AFS	1832E	0309D	N21	E48	11 28.4		02	8	8	E	PALE	5251	
24	ASR	2044E	2124D	N28	E89	12 1.8			9	9	E	RAMY		
24	ASR	2100E	0309D	S14	W84	11 18.5			9	9	E	PALE	5247	
24	AFS	2150E	1007D	N32	W53	11 20.7		05	9	9	E	LEAR	5241	
24	ASR	2150E	1007D	S13	W90	11 18.1			9	9	E	LEAR	5247	
24	ASR	2150E	1007D	S20	E90	12 1.8			9	9	E	LEAR	5254	
24	AFS	2225E	1007D	N24	E25	11 26.9		05	9	9	E	LEAR		
25	BSL	0549	0610	S10	W90	11 18.5	1				C	ABST		
25	BSL	1057E	1115D	N10	E90	12 2.2	3				C	CATA		
25	BSL	1126E	1130D	N22	W90	11 18.5	1				C	CATA		
25	ASR	1200	2023D	N22	W88	11 18.7			9	9	E	RAMY	5240	
25	ASR	1920E	2023D	N17	W90	11 19.0			9	9	E	RAMY	5247	
25	ASR	1923E	0331D	S16	W90	11 19.0			9	9	E	PALE	5247	
25	ASR	1941E	0331D	N21	W90	11 18.9			9	9	E	PALE	5240	
26	BSL	1000E	1013	N23	W90	11 19.5	1-				C	CATA		
26	BSL	1000E	1035D	N20	W90	11 19.5	1-				C	CATA		
26	BSL	1005E	1013	N30	W90	11 19.3	1				C	CATA		
26	ASR	1107E	2015D	N21	W90	11 19.6			9	9	E	RAMY	5240	
26	AFS	1140E	1640D	N17	E18	11 27.8		02	7	6	E	RAMY	5251	
26	BSL	1230	1235D	N35	E90	12 3.7	1-				C	CATA		
26	ASR	1430E	1640D	N27	W76	11 20.7			8	9	E	RAMY	5241	
26	ASR	1722E	2238D	N28	W77	11 20.7			9	9	E	HOLL	5241	
26	ASR	1722E	2348D	N22	W90	11 19.8			9	9	E	HOLL	5240	
26	ADF	1727E	2348D	S26	E59	12 1.3	1	07	9	9	E	HOLL	5254	
26	ASR	1736E	0231D	N21	W87	11 20.1			9	9	E	PALE	5240	
26	ADF	1900E	2015D	S19	E55	12 1.0	1	13	9	9	E	RAMY	5254	
26	DSD	1951E	2234	N23	E18	11 28.2		03	9	9	E	PALE	5251	
26	ADF	1958E	0231D	S28	E62	12 1.7	1	16	9	9	E	PALE	5254	
26	ASR	2341E	0231D	N27	E88	12 3.8			9	9	E	PALE	5241	
27	ASR	0810E	0938D	N28	W81	11 21.0			9	9	E	SVTO	5241	Normal Emission 1/3
27	SPY	0819E	0830D	N28	W88	11 20.5					V	ATHN		
27	ADF	0946E	1452D	S18	E56	12 1.7	1	05	9	9	E	SVTO	5254	
27	AFS	0956E	1452D	N24	E10	11 28.2		03	9	9	E	SVTO	5251	
27	ASR	1345E	2136D	N28	W90	11 20.5			9	9	E	RAMY	5241	
27	DSD	1350E	1433D	N23	E06	11 28.0		03	9	9	E	RAMY	5251	
27	DSD	1430E	2136D	S21	E45	12 1.0		03	9	9	E	RAMY	5254	
27	AFS	1640E	2343D	N23	E06	11 28.1		03	9	9	E	HOLL	5256	
27	SDF	1726	2013	S55	E32	11 30.5		15	0	0	E	HOLL		
27	SDF	1726	2013	S65	E20	11 29.5		41	0	0	E	HOLL		
27	ASR	1912E	2343D	N26	W90	11 20.8			9	9	E	HOLL	5241	
27	SDF	2331E	1442D	N43	E08	11 28.6		10	0	0	E	HOLL		

ACTIVE PROMINENCES AND FILAMENTS

81
Nov 88

NOVEMBER 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/USAF Reg#	Remarks
28	DSD	0828E	0840D	S16	E42	12	1.5	1				V	KHAR		
28	DSD	0828E	0850	S15	E36	12	1.1	1				V	KHAR		
28	DSD	0859E	0905	S15	E36	12	1.1	1				V	KHAR		
28	DSD	0907	0929	S16	E42	12	1.6	1				V	KHAR		
28	DSD	1043	1055D	S33	W17	11	27.1	1				V	KHAR		
28	ADF	1130E	1415D	S17	E28	11	30.6	1	10	9	9	E	RAMY	5254	
28	DSD	1130E	1415D	S18	E32	11	30.9		03	9	9	E	RAMY	5254	Flare Associated
28	AFS	1150E	2120D	N23	W05	11	28.1		04	9	9	E	RAMY	5256	
28	DSD	1240E	2120D	S20	E39	12	1.5		03	9	9	E	RAMY	5254	
28	AFS	1454E	1824D	N22	W06	11	28.1		02	6	9	E	HOLL	5256	
28	ASR	1458E	2320D	N24	W90	11	21.7			9	9	E	HOLL	5241	
28	BSD	1649E	1135D	S65	E10	11	29.6		40	0	0	E	RAMY		
28	ADF	1822E	2347D	S20	E31	12	1.1	1	04	9	9	E	HOLL	5254	
28	ASR	2018E	1927D	N24	W88	11	22.0			9	9	E	PALE	5241	
28	ADF	2316E	2347D	N39	E35	12	1.8	1	10	9	9	E	HOLL	5255	
29	DSD	0634	0745	S17	E21	11	30.9		05	9	9	E	LEAR	5254	
29	AFS	1120E	1409D	N21	E15	11	30.6		02	9	9	E	SVTO		
29	AFS	1120E	1409D	S30	W65	11	24.4		04	9	9	E	SVTO	5252	
29	ADF	1400E	2130D	S12	E21	12	1.2	1	04	9	9	E	RAMY	5254	
29	ADF	1400E	2130D	S14	E26	12	1.5		05	9	9	E	RAMY	5254	
29	AFS	1400E	2130D	S20	E18	12	1.0		02	9	9	E	RAMY	5254	
29	AFS	1400E	2130D	S29	W67	11	24.3		01	8	6	E	RAMY	5252	
29	DSD	1400E	2130D	S30	W68	11	24.2		02	9	9	E	RAMY	5252	
29	AFS	1439E	2130D	N20	E14	11	30.7		01	9	9	E	RAMY		
29	ADF	1500E	2130D	N42	E27	12	1.8	2	12	9	9	E	RAMY	5255	
29	AFS	1514E	1828D	S29	W68	11	24.3		01	5	9	E	HOLL	5252	
29	AFS	1736E	0135D	N19	E13	11	30.7		02	9	9	E	PALE		
29	AFS	1739E	0135D	S30	W71	11	24.1		01	8	8	E	PALE	5252	
29	SSB	1748		268	W00	12	4.8			0	0	E	HOLL		
29	DSD	1759	1952D	N14	E58	12	4.1		01	9	9	E	HOLL	5258	
29	DSD	2115E	2220D	N17	W23	11	28.1		04	9	9	E	HOLL	5251	
29	SDF	2210	2228	S14	E26	12	1.9		07	0	0	E	HOLL	5254	
29	SDF	2310	2347D	N07	E04	11	30.3		05	9	9	E	HOLL		
29	ADF	2324E	0950D	S22	E29	12	2.2		24	9	9	E	LEAR	5254	
29	APR	2339	0235D	N43	W90	11	22.6	1				V	VORO		
29	AFS	2350E	1020D	N09	E21	12	1.6		02	9	9	E	LEAR	5259	
30	AFS	0130E	0135D	N17	E20	12	1.6		02	9	9	E	PALE		
30	AFS	0230E	1020D	N17	E19	12	1.5		02	9	9	E	LEAR		
30	AFS	0525E	1020D	N22	W28	11	28.1		02	9	9	E	LEAR	5256	
30	DSD	0530	0800D	S21	E09	11	30.9		07	9	9	E	LEAR	5254	
30	BSL	0609	0745D	S40	E90	12	7.6	1				C	ABST		
30	BSL	0945	0955D	N35	W90	11	23.2	1-				C	CATA		
30	BSL	1050E	1110	S18	E90	12	7.3	1-				C	CATA		
30	ADF	1225E	2130D	S15	E15	12	1.6	1	04	9	9	E	RAMY	5254	
30	ASR	1225E	2130D	S29	W86	11	23.8			9	9	E	RAMY	5252	
30	AFS	1510E	2346D	N17	E12	12	1.5		04	9	9	E	HOLL		
30	DSD	1719E	1800D	N18	E13	12	1.7		05	9	9	E	HOLL		
30	DSD	1719E	1945D	N18	E11	12	1.5		04	9	9	E	RAMY	5260	
30	AFS	1814E	0315D	N18	E12	12	1.7		02	9	9	E	PALE	5260	
30	AFS	1830E	2346D	N15	E38	12	3.6		02	8	7	E	HOLL		
30	SDF	1846E	2218D	S18	W10	11	30.0		03	0	0	E	PALE	5260	
30	SSB	1949		265	W07	12	5.7			0	0	E	HOLL		
30	ASR	2201E	2346D	N25	E90	12	7.9			9	9	E	HOLL		
30	AFS	2215E	1035D	N16	E09	12	1.6		02	9	9	E	LEAR	5260	
30	AFS	2215E	1035D	N20	W04	11	30.6		02	9	9	E	LEAR	5259	
30	DSD	2220E	1035D	N16	E57	12	5.2		05	9	9	E	LEAR	5261	
30	AFS	2225E	1035D	S14	E35	12	3.6		02	9	9	E	LEAR		
30	ASR	2245E	0533D	N25	E89	12	7.8			8	8	E	LEAR		
30	DSD	2303E	2346D	N18	E58	12	5.4		04	9	9	E	HOLL	5261	
30	AFS	2350E	1020D	N09	E21	12	2.6		02	9	9	E	LEAR	5259	



C O N T E N T S

Comprehensive Reports

MISCELLANEOUS DATA

Number 537 Part II

Page

MEUDON CARTE SYNOPTIQUE Carrington Rotation 1807 September 1988.	84- 85
Active Regions and Filaments	
Synoptic Solar Map	

CARTE SYNOPTIQUE
ACTIVE REGIONS
CARRINGTON ROTATION 1807

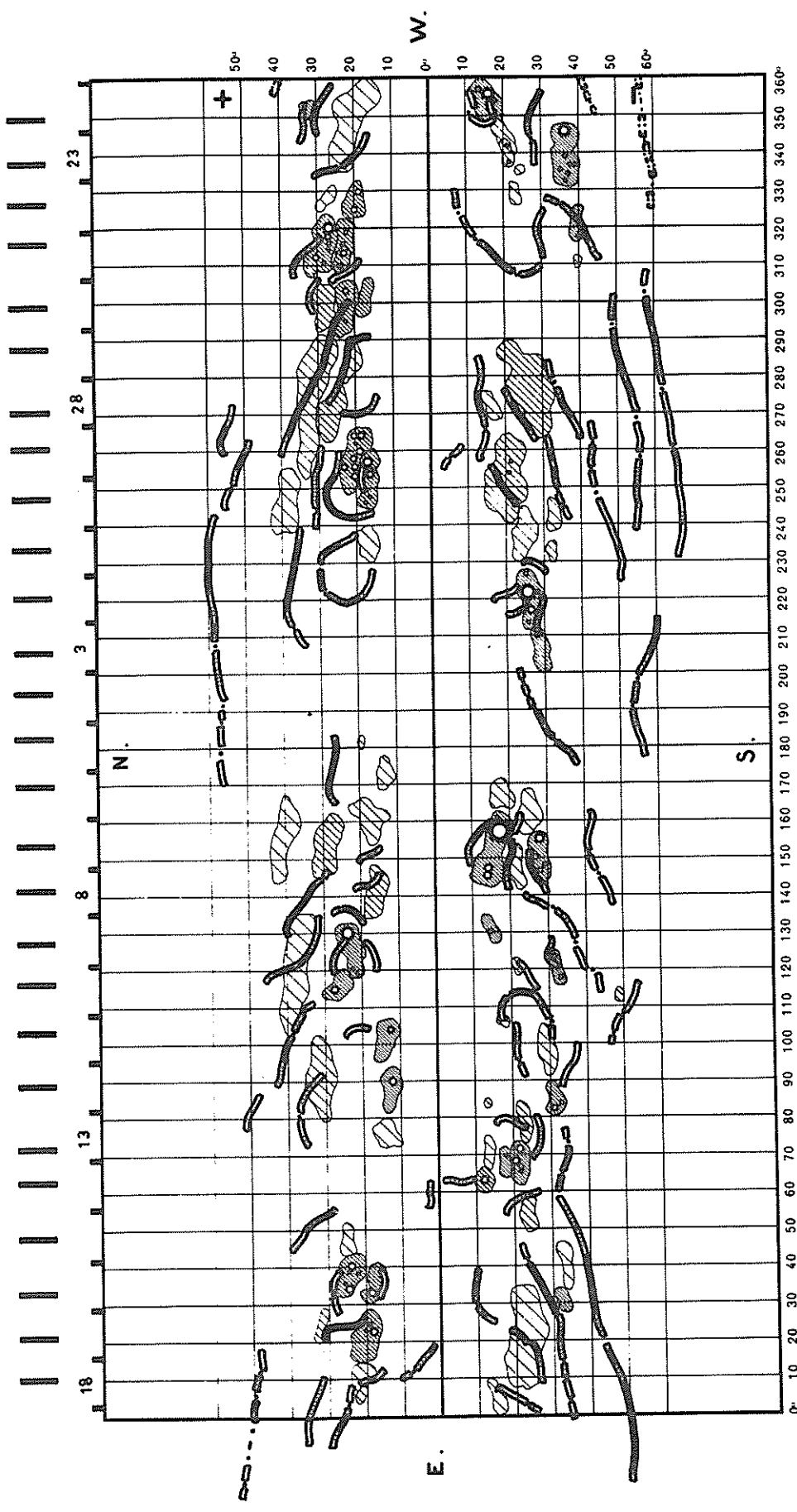
(21 September to 19 October 1988)

Region No.	Coordinates		Imp	Age at	Spotless Region	Region No. in Rotation 1806	Activity at West Limb
	Lat.	Long.		CMP (Days)			
1	15 S	354	3	>6			decreasing
2	33 N	352	2	+2			dispersed
3	20 S	344	1	>6	x		decreasing
4	21 S	340	2	-3			stable
5	36 S	339	4	>6			decreasing
6	20 N	327	3	+3			decreasing
7	39 S	321	2	+6			decreasing
8	23 N	318	2	+6			decreasing
9	28 N	316	4	>6			decreasing
10	23 N	312	2	+2			decreasing
11	17 N	302	1	>6	x		dispersed
12	29 N	300	1	>6	x		decreasing
13	23 N	299	2	>6			decreasing
14	21 N	284	1	>6	x	13	dispersed
15	26 S	277	1	>6	x	11	decreasing
16	33 N	275	1	>6	x	10	dispersed
17	16 S	272	1	>6	x		dispersed
18	27 N	270	1	>6	x		dispersed
19	21 N	259	4	>6		18	stable
20	17 N	256	3	>6			stable
21	21 S	254	2	>6			decreasing
22	17 N	250	2	-3			decreasing
23	32 S	243	1	>6	x		dispersed
24	25 S	238	1	>6	x		decreasing
25	32 S	233	1	-3	x		dispersed
26	26 S	220	5	>6			decreasing
27	29 S	207	1	>6	x	22	decreasing
28	13 N	174	1	>6	x		disappeared
29	17 S	167	1	>6	x	31	dispersed
30	18 N	162	1	>6	x	29	dispersed
31	29 N	154	1	>6	x		decreasing
32	15 S	153	5	>6			decreasing
33	27 S	150	3	-4			decreasing
34	21 S	148	1	>6	x	35	dispersed
35	16 N	141	1	>6	x	38	decreasing
36	14 S	131	2	-1			decreasing
37	23 N	125	4	>6			decreasing
38	21 S	121	1	-4	x		stable
39	32 S	120	2	+1			decreasing
40	27 N	116	2	>6			decreasing
41	49 S	113	1	-2	x		disappeared
42	17 S	106	1	-4	x		increasing
43	14 N	101	2	>6			decreasing
44	29 S	99	1	>6	x		dispersed
45	32 N	92	1	>6	x	43	dispersed
46	13 N	87	2	>6			decreasing
47	31 S	85	2	+5			decreasing
48	32 S	79	1	>6	x		dispersed
49	18 S	78	2	-1			stable
50	22 S	78	3	-2			stable
51	12 S	62	2	>6		48	stable
52	24 S	55	1	>6	x		decreasing
53	25 N	47	1	>6	x		disappeared
54	24 N	38	3	-2			decreasing
55	17 N	36	2	>6			decreasing
56	33 S	31	1	-3	x		increasing
57	32 N	24	1	+1	x		decreasing
58	20 N	22	2	>6			decreasing
59	21 N	10	1	>6	x	60+61	decreasing
60	15 S	6	1	>6	x		dispersed
61	21 N	6	1	-2	x		dispersed

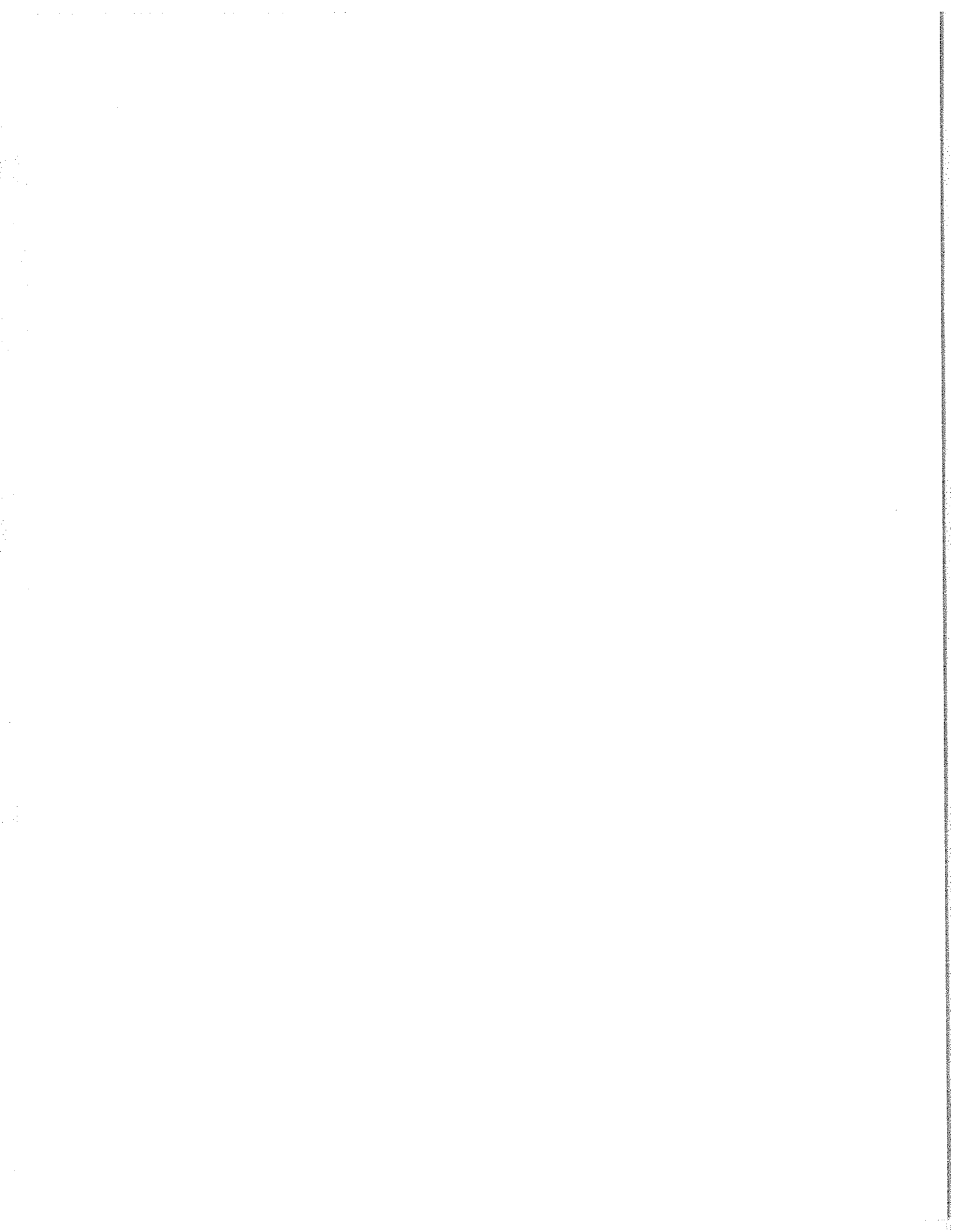
CARTE SYNOPTIQUE
CARRINGTON ROTATION NUMBER 1807
(21 September to 19 October 1988)

September 1988

Meudon Observatory



Heliographic Longitude



UAG SERIES OF REPORTS

Fewer than four UAG Reports are published at irregular intervals each year. Copies of these publications may be purchased through the NATIONAL GEOPHYSICAL DATA CENTER, Solar-Terrestrial Physics Division (E/GC2) 325 Broadway, Boulder, Colorado 80303, USA. A \$10.00 handling charge per order will be added to single-copy price, if any, listed below. Please note, too, that some reports are available on microfiche only. Orders must include check or money order payable in U.S. currency to Commerce, NOAA/NGDC.

- UAG- 1 IQSY NIGHT AIRGLOW DATA, by L.L. Smith, F.E. Roach, and J.M. McKennan, ESSA Aeronomy Laboratory, Boulder, CO, July 1968, 305 pp, \$1.75.
- UAG- 2 A REEVALUATION OF SOLAR FLARES, 1964-1966, by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontaic, MI, August 1968, 28 pp.
- UAG- 3 OBSERVATIONS OF JUPITER'S SPORADIC RADIO EMISSION IN THE RANGE 7.6-41 MHZ, 6 JULY 1966 THROUGH 8 SEPTEMBER 1968, by James W. Warwick and George A. DuIk, University of Colorado, Boulder, CO, October 1968, 35 pp.
- UAG- 4 ABBREVIATED CALENDAR RECORD 1966-1967, by J. Virginia Lincoln, Hope I. Leighton and Dorothy K. Kropp, ESSA [now NOAA], Aeronomy and Space Data Center, Boulder, CO, January 1969, 170 pp.
- UAG- 5 DATA ON SOLAR EVENT OF MAY 23, 1967, AND ITS GEOPHYSICAL EFFECTS, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA [now NOAA], Boulder, CO, February 1969, 120 pp.
- UAG- 6 INTERNATIONAL GEOPHYSICAL CALENDARS 1957-1969, by A.H. Shapley and J. Virginia Lincoln, ESSA Research Laboratories [now NOAA], Boulder, CO, March 1969, 25 pp.
- UAG- 7 OBSERVATIONS OF THE SOLAR ELECTRON CORONA: FEBRUARY 1964 - JANUARY 1968, by Richard T. Hansen, High Altitude Observatory, NCAR, Boulder, CO, and Kamuela, HI, October 1969, 12 pp.
- UAG- 8 DATA ON SOLAR-GEOPHYSICAL ACTIVITY OCTOBER 24 - NOVEMBER 6, 1968, Parts 1 and 2, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA [now NOAA], Boulder, CO, March 1970, 312 pp, \$1.75 (includes Parts 1 and 2).
- UAG- 9 DATA ON COSMIC RAY EVENT OF NOVEMBER 18, 1968, AND ASSOCIATED PHENOMENA, compiled by J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA [now NOAA], Boulder, CO, April 1970, 109 pp.
- UAG-10 ATLAS OF IONOGRAMS, edited by A.H. Shapley, ESSA Research Laboratories [now NOAA], Boulder, CO, May 1970, 243 pp, \$1.50.
- UAG-11 [Superseded by UAG-30]
- UAG-12 SOLAR-GEOPHYSICAL ACTIVITY ASSOCIATED WITH THE MAJOR GEOMAGNETIC STORM OF MARCH 8, 1970, Parts 1, 2 and 3, compiled by J. Virginia Lincoln and Dale B. Bucknam, World Data Center A, Upper Atmosphere Geophysics, ESSA [now NOAA], Boulder, CO, April 1971, 466 pp, \$3.00 (includes 3 parts).
- UAG-13 DATA ON THE SOLAR PROTON EVENT OF NOVEMBER 2, 1969, THROUGH THE GEOMAGNETIC STORM OF NOVEMBER 8-10, 1969, compiled by Dale B. Bucknam and J. Virginia Lincoln, World Data Center A, Upper Atmosphere Geophysics, ESSA [now NOAA], Boulder, CO, May 1971, 76 pp.
- UAG-14 AN EXPERIMENTAL, COMPREHENSIVE FLARE INDEX AND ITS DERIVATION FOR 'MAJOR' FLARES, 1955-1969, by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, July 1971, 25 pp.
- UAG-15 [Superseded by UAG-30]
- UAG-16 TEMPORAL DEVELOPMENT OF THE GEOPHYSICAL DISTRIBUTION OF AURORAL ABSORPTION FOR 30 SUBSTORM EVENTS IN EACH OF IQSY (1964-65) AND IASY (1960), by F.T. Berkey, University of Alaska, Fairbanks, AK; V.M. Driatskiy, Arctic and Antarctic Research Institute, Leningrad, USSR; K. Henriksen, Auroral Observatory, Tromso, Norway; D.H. Jelly, Communications Research Center, Ottawa, Canada; T.I. Shchuka, Arctic and Antarctic Research Institute, Leningrad, USSR; A. Theander, Kiruna Geophysical Observatory, Kiruna, Sweden; and J. Yliniemi, University of Oulu, Oulu, Finland, September 1971, 131 pp, \$1.50 (microfiche only).
- UAG-17 IONOSPHERIC DRIFT VELOCITY MEASUREMENTS AT JICAMARCA, PERU (JULY 1967 - MARCH 1970), by Ben B. Balsley, NOAA Aeronomy Laboratory, Boulder, CO, and Ronald F. Woodman, Jicamarca Radar Observatory, Instituto Geofisico del Peru, Lima, Peru, October 1971, 45 pp, \$1.50 (microfiche only).
- UAG-18 A STUDY OF POLAR CAP AND AURORAL ZONE MAGNETIC VARIATIONS, by K. Kawasaki and S.-I. Akasofu, University of Alaska, Fairbanks, AK, June 1972, 21 pp.

UAG SERIES OF REPORTS (Continued)

- UAG-19 REEVALUATION OF SOLAR FLARES 1967, by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, and Marta Rovira de Miceli, San Miguel Observatory, Argentina, June 1972, 15 pp.
- UAG-20 [Superseded by UAG-30]
- UAG-21 PRELIMINARY COMPILATION OF DATA FOR RETROSPECTIVE WORLD INTERVAL JULY 26 - AUGUST 14, 1972, by J. Virginia Lincoln and Hope I. Leighton, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, November 1972, 128 pp.
- UAG-22 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES (AE) FOR 1970, by Joe Haskell Allen, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, November 1972, 146 pp.
- UAG-23 U.R.S.I. HANDBOOK OF IONOGRAM INTERPRETATION AND REDUCTION, Second Edition, November 1972, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 324 pp, \$1.75.
- UAG-23A U.R.S.I. HANDBOOK OF IONOGRAM INTERPRETATION AND REDUCTION, Second Edition, Revision of Chapters 1-4, edited by W.R. Piggott, Radio and Space Research Station, Slough, UK, and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, November 1972, 135 pp, \$2.00.
- UAG-24 DATA ON SOLAR-GEOPHYSICAL ACTIVITY ASSOCIATED WITH THE MAJOR GROUND LEVEL COSMIC RAY EVENTS OF 24 JANUARY AND 1 SEPTEMBER 1971, Parts 1 and 2, compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, December 1972, 462 pp, \$2.00 (includes Parts 1 and 2).
- UAG-25 OBSERVATIONS OF JUPITER'S SPORADIC RADIO EMISSION IN THE RANGE 7.6-41 MHZ, 9 SEPTEMBER 1968 THROUGH 9 DECEMBER 1971, by James W. Warwick, George A. Duik and David G. Swann, University of Colorado, Boulder, CO, February 1973, 35 pp.
- UAG-26 DATA COMPILATION FOR THE MAGNETOSPHERICALLY QUIET PERIODS FEBRUARY 19-23 AND NOVEMBER 29 - DECEMBER 3, 1970, compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1973, 129 pp.
- UAG-27 HIGH SPEED STREAMS IN THE SOLAR WIND, by D.S. Intriligator, University of Southern California, Los Angeles, CA, June 1973, 16 pp.
- UAG-28 COLLECTED DATA REPORTS ON AUGUST 1972 SOLAR-TERRESTRIAL EVENTS, Parts 1, 2 and 3, edited by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, July 1973, 932 pp, \$4.50.
- UAG-29 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11) FOR 1968, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, October 1973, 148 pp.
- UAG-30 CATALOGUE OF DATA ON SOLAR-TERRESTRIAL PHYSICS, prepared by NOAA Environmental Data Service, Boulder, CO, October 1973, 317 pp, \$1.75. Supersedes catalogs UAG-11, 15 and 20.
- UAG-31 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11) FOR 1969, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1974, 142 pp.
- UAG-32 SYNOPTIC RADIO MAPS OF THE SUN AT 3.3 MM FOR THE YEARS 1967-1969, by Earle B. Mayfield, Kennon P. White III, and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, April 1974, 26 pp.
- UAG-33 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(10) FOR 1967, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1974, 142 pp.
- UAG-34 ABSORPTION DATA FOR THE IGY/IGC AND IQSY, compiled and edited by A.H. Shapley, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; W.R. Piggott, Appleton Laboratory, Slough, UK; and K. Rawer, Arbeitsgruppe fur Physikalische Weltraumforschung, Freiburg, GFR, June 1974, 381 pp, \$2.00.
- UAG-35 [Superseded by UAG-92]
- UAG-36 AN ATLAS OF EXTREME ULTRAVIOLET FLASHES OF SOLAR FLARES OBSERVED VIA SUDDEN FREQUENCY DEVIATIONS DURING THE ATM-SKYLAB MISSIONS, by R.F. Donnelly and E.L. Berger, NOAA Space Environment Laboratory; Lt. J.D. Busman, NOAA Commissioned Corps; B. Henson, NASA Marshall Space Flight Center; T.B. Jones, University of Leicester, UK; G.M. Lerfald, NOAA Wave Propagation Laboratory; K. Najita, University of Hawaii; W.M. Retallack, NOAA Space Environment Laboratory and W.J. Wagner, Sacramento Peak Observatory, October 1974, 95 pp.

UAG SERIES OF REPORTS (Continued)

- UAG-37 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(10) FOR 1966, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1974, 142 pp.
- UAG-38 MASTER STATION LIST FOR SOLAR-TERRESTRIAL PHYSICS DATA AT WDC-A FOR SOLAR-TERRESTRIAL PHYSICS, by R.W. Buhmann, World Data Center A for Solar-Terrestrial Physics, Boulder, CO; Juan D. Roederer, University of Denver, Denver, CO; and M.A. Shea and D.F. Smart, Air Force Cambridge Research Laboratories, Hanscom AFB, MA, December 1974, 110 pp, \$1.60.
- UAG-39 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11) FOR 1971, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1975, 144 pp, \$2.05.
- UAG-40 H-ALPHA SYNOPTIC CHARTS OF SOLAR ACTIVITY FOR THE PERIOD OF SKYLAB OBSERVATIONS, MAY 1973 - MARCH 1974, by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, February 1975, 32 pp.
- UAG-41 H-ALPHA SYNOPTIC CHARTS OF SOLAR ACTIVITY DURING THE FIRST YEAR OF SOLAR CYCLE 20 OCTOBER 1964 - AUGUST 1965, by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, and Jerome T. Noite, American Science and Engineering, Inc., Cambridge, MA, March 1975, 25 pp.
- UAG-42 OBSERVATIONS OF JUPITER'S SPORADIC RADIO EMISSION IN THE RANGE 7.6-80 MHZ, 10 DECEMBER 1971 THROUGH 21 MARCH 1975, by James W. Warwick, George A. Dulk and Anthony C. Riddle, University of Colorado, Boulder, CO, April 1975, 49 pp.
- UAG-43 CATALOG OF OBSERVATION TIMES OF GROUND-BASED SKYLAB-COORDINATED SOLAR OBSERVING PROGRAMS, compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, May 1975, 159 pp, \$3.00.
- UAG-44 SYNOPTIC MAPS OF SOLAR 9.1 CM MICROWAVE EMISSION FROM JUNE 1962 TO AUGUST 1973, by Werner Graf and Ronald N. Bracewell, Stanford University, Stanford, CA, May 1975, 183 pp, \$2.55.
- UAG-45 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11) FOR 1972, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, May 1975, 144 pp, \$1.50 (microfiche only).
- UAG-46 INTERPLANETARY MAGNETIC FIELD DATA 1963-1964, by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, MD, June 1975, 382 pp, \$2.95.
- UAG-47 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11) FOR 1973, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, June 1975, 144 pp, \$1.50 (microfiche only).
- UAG-48 [Superseded by UAG-48A]
- UAG-48A SYNOPTIC OBSERVATIONS OF THE SOLAR CORONA DURING CARRINGTON ROTATIONS 1580-1596 (11 OCTOBER 1971 - 15 JANUARY 1973), [Re-issue of UAG-48 with quality images], by R.A. Howard, M.J. Koomen, D.J. Michels, R. Tousey, C.R. Detwiler, D.E. Roberts, R.T. Seal, and J.D. Whitney, U.S. Naval Research Laboratory, Washington, DC; and R.T. Hansen and S.F. Hansen, C.J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, CO, February 1976, 200 pp, \$4.27. Supersedes UAG-48.
- UAG-49 [Superseded by UAG-92]
- UAG-50 HIGH-LATITUDE SUPPLEMENT TO THE URSI HANDBOOK ON IONOGRAM INTERPRETATION AND REDUCTION, edited by W.R. Piggott, British Antarctic Survey, c/o Appleton Laboratory, Slough, UK, October 1975, 294 pp, \$4.00.
- UAG-51 SYNOPTIC MAPS OF SOLAR CORONAL HOLE BOUNDARIES DERIVED FROM HE II 304A SPECTROHELIOGRAMS FROM THE MANNED SKYLAB MISSIONS, by J.D. Bohlin and D.M. Rubenstein, U.S. Naval Research Laboratory, Washington, DC, November 1975, 30 pp.
- UAG-52 EXPERIMENTAL COMPREHENSIVE SOLAR FLARE INDICES FOR CERTAIN FLARES, 1970-1974, by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, University of Michigan, Pontiac, MI, November 1975, 27 pp.
- UAG-53 DESCRIPTION AND CATALOG OF IONOSPHERIC F-REGION DATA, JICAMARCA RADIO OBSERVATORY (NOVEMBER 1966 - APRIL 1969), by W.L. Clark and T.E. Van Zandt, NOAA Aeronomy Laboratory, Boulder, CO, and J.P. McClure, University of Texas at Dallas, Dallas, TX, April 1976, 10 pp.
- UAG-54 [Superseded by UAG-85]

UAG SERIES OF REPORTS (Continued)

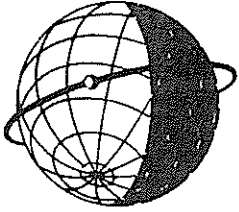
- UAG-55 EQUIVALENT IONOSPHERIC CURRENT REPRESENTATIONS BY A NEW METHOD, ILLUSTRATED FOR 8-9 NOVEMBER 1969 MAGNETIC DISTURBANCES, by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO; H.W. Kroehl, Data Studies Division, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; M. Kanamitsu, Advanced Study Program, National Center for Atmospheric Research, Boulder, CO; Joe Haskell Allen, Data Studies Division, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; and S.-I. Akasofu, Geophysical Institute, University of Alaska, Fairbanks, AK, April 1976, 91 pp, \$1.50 (microfiche only).
- UAG-56 ISO-INTENSITY CONTOURS OF GROUND MAGNETIC H PERTURBATIONS FOR THE DECEMBER 16-18, 1971, GEOMAGNETIC STORM, Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, CO, April 1976, 37 pp.
- UAG-57 MANUAL ON IONOSPHERIC ABSORPTION MEASUREMENTS, edited by K. Rawer, Institut fur Physikalische Weltraumforschung, Freiburg, GFR, June 1976, 302 pp, \$4.00.
- UAG-58 ATS-6 RADIO BEACON ELECTRON CONTENT MEASUREMENTS AT BOULDER, JULY 1974 - MAY 1975, by R.B. Fritz, NOAA Space Environment Laboratory, Boulder, CO, September 1976, 61 pp.
- UAG-59 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11) FOR 1974, by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, December 1976, 144 pp, \$2.16.
- UAG-60 GEOMAGNETIC DATA FOR JANUARY 1976 [AE(7) INDICES AND STACKED MAGNETOGRAMS], by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, July 1977, 57 pp.
- UAG-61 COLLECTED DATA REPORTS FOR STIP INTERVAL II 20 MARCH - 5 MAY 1976, edited by Helen E. Coffey and John A. McKinnon, World Data Center A for Solar-Terrestrial Physics, Boulder, CO, August 1977, 313 pp, \$2.95.
- UAG-62 GEOMAGNETIC DATA FOR FEBRUARY 1976 [AE(7) INDICES AND STACKED MAGNETOGRAMS], by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, September 1977, 55 pp.
- UAG-63 GEOMAGNETIC DATA FOR MARCH 1976 [AE(7) INDICES AND STACKED MAGNETOGRAMS], by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, September 1977, 57 pp.
- UAG-64 GEOMAGNETIC DATA FOR APRIL 1976 [AE(8) INDICES AND STACKED MAGNETOGRAMS], by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO, February 1978, 55 pp.
- UAG-65 THE INFORMATION EXPLOSION AND ITS CONSEQUENCES FOR DATA ACQUISITION, DOCUMENTATION, PROCESSING, by G.K. Hartmann, Max-Planck-Institut fur Aeronomie, Lindau, GFR, May 1978, 36 pp.
- UAG-66 SYNOPTIC RADIO MAPS OF THE SUN AT 3.3 MM 1970-1973, by Earle B. Mayfield and Fred I. Shimabukuro, Aerospace Corp., El Segundo, CA, May 1978, 30 pp.
- UAG-67 IONOSPHERIC D-REGION PROFILE DATA BASE, A COLLECTION OF COMPUTER-ACCESSIBLE EXPERIMENTAL PROFILES OF THE D AND LOWER E REGIONS, by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pp, \$1.50 (microfiche only).
- UAG-68 A COMPARATIVE STUDY OF METHODS OF ELECTRON DENSITY PROFILE ANALYSIS, by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, August 1978, 30 pp, \$1.50 (microfiche only).
- UAG-69 SELECTED DISTURBED D-REGION ELECTRON DENSITY PROFILES. THEIR RELATION TO THE UNDISTURBED D REGION, by L.F. McNamara, Ionospheric Prediction Service, Sydney, Australia, October 1978, 50 pp, \$1.50 (microfiche only).
- UAG-70 ANNOTATED ATLAS OF H-ALPHA SYNOPTIC CHARTS FOR SOLAR CYCLE 20 (1964-1974) CARRINGTON SOLAR ROTATIONS 1487-1616, by Patrick S. McIntosh, NOAA Space Environment Laboratory, Boulder, CO, February 1979, 327 pp, \$3.50.
- UAG-71 MAGNETIC POTENTIAL PLOTS OVER THE NORTHERN HEMISPHERE FOR 26-28 MARCH 1976, A.D. Richmond, NOAA Space Environment Laboratory, Boulder, CO; H.W. Kroehl, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; M.A. Henning, Lockheed Missiles and Space Co., Aurora, CO; and Y. Kamide, Kyoto Sangyo University, Kyoto, Japan, April 1979, 118 pp, \$1.50.
- UAG-72 ENERGY RELEASE IN SOLAR FLARES, PROCEEDINGS OF THE WORKSHOP ON ENERGY RELEASE IN FLARES, 26 FEBRUARY - 1 MARCH 1979, CAMBRIDGE, MASSACHUSETTS, U.S.A., edited by David M. Rust, American Science and Engineering, Inc., Cambridge, MA; and A. Gordon Emslie, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, July 1979, 68 pp, \$1.50 (micro-fiche only).

UAG SERIES OF REPORTS (Continued)

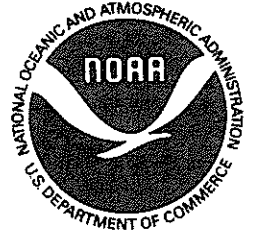
- UAG-73 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(11-12) FOR JANUARY - JUNE 1975, by Joe Haskell Allen, Carl C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1979, 114 pp, \$1.75 (microfiche only).
- UAG-74 ATS-6 RADIO BEACON ELECTRON CONTENT MEASUREMENTS AT OOTACAMUND, INDIA, OCTOBER - JULY 1976, by S.D. Bouwer, K. Davies, R.F. Donnelly, R.N. Grubb, J.E. Jones and J.H. Taylor, NOAA Space Environment Laboratory, Boulder, CO; and R.G. Rastogi, M.R. Deshpande, H. Chandra and G. Sethia, Physical Research Laboratory, Ahmedabad, India, March 1980, 58 pp, \$2.50.
- UAG-75 THE ALASKA IMS MERIDIAN CHAIN: MAGNETIC VARIATIONS FOR 9 MARCH - 27 APRIL 1978, by H.W. Kroehl and G.P. Kosinski, National Geophysical and Solar-Terrestrial Data Center, Boulder, CO; S.-I. Akasofu, G.J. Romick, C.E. Campbell and G.K. Corrick, University of Alaska, Fairbanks, AK; and C.E. Hornback and A.M. Gray, NOAA Space Environment Laboratory, Boulder, CO, June 1980, 107 pp, \$3.00.
- UAG-76 AURORAL ELECTROJET MAGNETIC ACTIVITY INDICES AE(12) FOR JULY - DECEMBER 1975, by Joe Haskell Allen, Carl C. Abston, J.E. Salazar and J.A. McKinnon, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, August 1980, 116 pp, \$2.50.
- UAG-77 SYNOPTIC SOLAR MAGNETIC FIELD MAPS FOR THE INTERVAL INCLUDING CARRINGTON ROTATIONS 1601-1680, MAY5, 1973 - APRIL 26, 1979, by J. Harvey, B. Gillespie, P. Miedaner and C. Slaughter, Kitt Peak National Observatory, Tucson, AZ, August 1980, 66 pp, \$2.50.
- UAG-78 THE EQUATORIAL LATITUDE OF AURORAL ACTIVITY DURING 1972-1977, by N.R. Sheeley, Jr. and R.A. Howard, E.O. Hulbert Center for Space Research, U.S. Naval Research Laboratory, Washington, DC and B.S. Dandekar, Air Force Geophysics Laboratory, Hanscom AFB, MA, October 1980, 61 pp, \$3.00.
- UAG-79 SOLAR OBSERVATIONS DURING SKYLAB, APRIL 1973 - FEBRUARY 1974, I. CORONAL X-RAY STRUCTURE, II. SOLAR FLARE ACTIVITY, by J.M. Hanson, University of Michigan, Ann Arbor, MI; and E.C. Roelof and R.E. Gold, The Johns Hopkins University, Laurel, MD, December 1980, 43 pp, \$2.50.
- UAG-80 EXPERIMENTAL COMPREHENSIVE SOLAR FLARE INDICES FOR 'MAJOR' AND CERTAIN LESSER FLARES, 1975-1979, compiled by Helen W. Dodson and E. Ruth Hedeman, The Johns Hopkins University, Laurel, MD, July 1981, 33 pp, \$2.00.
- UAG-81 EVOLUTIONARY CHARTS OF SOLAR ACTIVITY (CALCIUM PLAGES) AS FUNCTIONS OF HELIOGRAPHIC LONGITUDE AND TIME, 1964-1979, by E. Ruth Hedeman, Helen W. Dodson and Edmond C. Roelof, The Johns Hopkins University, Laurel, MD, August 1981, 103 pp, \$4.00.
- UAG-82 INTERNATIONAL REFERENCE IONOSPHERE - IRI 79, edited by J. Virginia Lincoln and Raymond O. Conkright, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, November 1981, 243 pp, \$4.50.
- UAG-83 SOLAR-GEOPHYSICAL ACTIVITY REPORTS FOR SEPTEMBER 7-24, 1977 AND NOVEMBER 22, 1977, Parts 1 and 2, compiled by John A. McKinnon and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, February 1982, 553 pp, \$10.00.
- UAG-84 CATALOG OF AURORAL RADIO ABSORPTION DURING 1976-1979 AT ABISKO, SWEDEN, by J.K. Hargreaves, C.M. Taylor and J.M. Penman, Environmental Sciences Department, University of Lancaster, Lancaster, UK, July 1982, 69 pp, \$3.00.
- UAG-85 [Superseded by UAG-91]
- UAG-86 [Superseded by UAG-92]
- UAG-87 CHANGES IN THE GLOBAL ELECTRIC FIELDS AND CURRENTS FOR MARCH 17-19, 1978, FROM SIX IMS MERIDIAN CHAINS OF MAGNETOMETERS, by Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO; and A.D. Richmond, NOAA Space Environment Laboratory, Boulder, CO, November 1982, 102 pp, \$3.50.
- UAG-88 NUMERICAL MODELING OF IONOSPHERIC PARAMETERS FROM GLOBAL IMS MAGNETOMETER DATA FOR THE CDW-6 INTERVALS, by Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO; and B.A. Hausman, National Geophysical Data Center, NOAA, Boulder, CO, November 1983, 197 pp, \$4.00.
- UAG-89 ATMOSPHERIC HANDBOOK: ATMOSPHERIC DATA TABLES AVAILABLE ON COMPUTER TAPE, by V.E. Derr, NOAA Environmental Research Laboratories, Boulder, CO, July 1984, 56 pp.
- UAG-90 EXPERIENCE WITH PROPOSED IMPROVEMENTS OF THE INTERNATIONAL REFERENCE IONOSPHERE (IRI): CONTRIBUTED PAPERS, MAINLY FROM THE URSI-COSPAR WORKSHOP HELD IN BUDAPEST IN 1980, edited by K. Rawer, University of Freiburg, Federal Republic of Germany, and C.M. Minnis, International Union of Radio Science (URSI), Brussels, Belgium, May 1984, 233 pp, \$6.00.

UAG SERIES OF REPORTS (Continued)

- UAG-91 COMBINED CATALOG OF IONOSPHERE VERTICAL SOUNDINGS DATA, compiled by Raymond O. Conkright and Marcus O. Ertle, National Geophysical Data Center, NOAA, Boulder, CO, December 1984, 174 pp.
- UAG-92 INTERNATIONAL CATALOG OF GEOMAGNETIC DATA, compiled by C.C. Abston, National Geophysical Data Center, NOAA, Boulder, CO; N.E. Papitashvili, Academy of Sciences of the USSR, World Data Center B2, Moscow, USSR; and V.O. Papitashvili, IZMIRAN, Moscow Region, USSR, August 1985, 291 pp. Supersedes UAG-35, 49, and 86.
- UAG-93 IONOGRAM ANALYSIS WITH THE GENERALIZED PROGRAM POLAN, by J.E. Titheridge, University of Auckland, New Zealand, December 1985, 194 pp.
- UAG-94 THE SOLAR MAGNETIC FIELD--1976 THROUGH 1985: AN ATLAS OF PHOTOSPHERIC MAGNETIC FIELD OBSERVATIONS AND COMPUTED CORONAL MAGNETIC FIELDS FROM THE JOHN M. WILCOX SOLAR OBSERVATORY AT STANFORD, by J. Todd Hoeksema and Philip H. Scherrer, Center for Space Science and Astrophysics, Stanford University, Stanford, CA, January 1986, 370 pp, \$9.00.
- UAG-95 SUNSPOT NUMBERS: 1610-1985, (based on THE SUNSPOT-ACTIVITY IN THE YEARS 1610-1960, by Prof. M. Waldmeier, Copyright 1961, Swiss Federal Observatory, Zurich, Switzerland), revised by John A. McKinnon, National Geophysical Data Center, NOAA, Boulder, CO, January 1987, 112 pp, \$10.00.
- UAG-96 SOLAR-GEOPHYSICAL ACTIVITY REPORTS FOR STIP INTERVAL XV, 12-21 February 1984 Ground Level Event, AND STIP INTERVAL XVI, 20 April - 4 May 1984 Forbush Decrease, compiled by Helen E. Coffey and Joe H. Allen, National Geophysical Data Center, NOAA, Boulder, CO, July 1987, 418 pp, \$15.00.
- UAG-97 NUMERICAL MODELING OF POLAR IONOSPHERIC ELECTRODYNAMICS FOR JULY 23-24, 1983, UTILIZING IONOSPHERIC CONDUCTANCES DEDUCED FROM DMSP X-RAY IMAGES, by B.-H. Ahn, Kyungpook National University, Taegu, Korea; E. Friis-Christensen, Division of Geophysics, Danish Meteorological Institute, Copenhagen, Denmark; D.J. Gorney, Space Sciences Laboratory, The Aerospace Corporation, Los Angeles, CA; Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; and H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO, April 1988, 133 pp, \$12.00.



WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS



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

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