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AUGUST 1988 NUMBER 528 - Part II

Solar-Geophysical Data comprehensive reports

Data for February 1988

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

NATIONAL GEOPHYSICAL DATA CENTER
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Boulder, Colorado

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

NUMBER 528

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

Published with partial support from ONR (N00014-86-F-0049).

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

CODE	KIND OF OBSERVATION	DEC 87	JAN 88	FEB	MAR	APR	MAY	JUN	JUL
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	522A 36	523A 34	524A 53	525A 46	526A 44	527A 56	528A 50	
A.2aa	Internat. Provisional Sunspot Numbers	521A 9	522A 9	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11
A.2c	American Sunspot Numbers	521A 9	522A 9	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11
A.3a	Mt. Wilson Magnetograms	522A 36	523A 34	524A 53	525A 46	526A 44	527A 56	528A 50	
A.3b	Mt. Wilson Sunspot Magnetic Class	522A 67	523A 65	524A 82	525A 77	526A 74	527A 87	528A 80	
A.3c	Kitt Peak Magnetograms	522A 36	523A 34	524A 53	525A 46	526A 44	527A 56	528A 50	
A.3d	Mean Solar Magnetic Field (Stanford)	521A 24	522A 28	523A 24	524A 39	525A 35	526A 34	527A 45	528A 40
A.3e	Stanford Magnetograms	522A 36	523A 34	524A 53	525A 46	526A 44	527A 56	528A 50	
A.4	H-alpha Filtergrams	522A 36	523A 34	524A 53	525A 46	526A 44	527A 56	528A 50	
A.5	Calcium Plage Photographs/Drawings	Oct 87 in 525A154							
A.5a	Calcium Plage Regions	Jun and Jul 87 in 523A 98; Aug-Oct 87 in 525A138							
A.5b	Daily Calcium Plage Indices	Jun and Jul 87 in 523A101; Aug-Oct 87 in 525A141							
A.6	H-alpha Synoptic Charts	522A 30	523A 28	524A 42	525A 38	526A 36	527A 56		
A.6b	Active Region Carte Synoptique (Paris)	526B 4	527B 4	528B 4					
A.6c	Stanford Solar Mag Field Synoptic Maps	522A 31	523A 29	524A 44	525A 39	526A 37	527A 49	528A 43	
A.6d	Kitt Peak " Mag Field Synoptic Maps	522A 34	523A 32	524A 50	525A 44	526A 42	527A 54	528A 48	
A.6e	Mass Ejections from the Sun	526B 32	527B 38	528B 29					
A.6f	Active Prominences and Filaments	526B 33	527B 39	528B 30					
A.6g	Sac Peak Coronal Line Synoptic Maps	522A 32	523A 34	524A 46	525A 40	526A 38	527A 50	528A 44	
A.7h	Coronal Line Emission (Sac Peak)	522A 36	523A 34	524A 53	525A 46	526A 44	527A 56	528A 50	
A.8aa	2800 MHz - Solar Flux (Ottawa)	521A 9	522A 9	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	521A 9	522A 9	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	521A 9	522A 9	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11
A.10a	Interferometric Chart (164 MHz) Nancay	521A 21	522A 25	523A 21	524A 35	---	526A 29		
A.10c	East-West Scans - 21 cm - Fleurs	521A 20	522A 24	523A 20	524A 33	525A 29	526A 27	527A 38	528A 35
A.10d	East-West Scans - 43 cm - Fleurs	---	---	---	524A 34	525A 30	526A 28	---	---
A.10e	East-West Scans - 10 cm - Ottawa	521A 19	522A 23	523A 19	524A 32	525A 28	526A 26	527A 37	528A 34
A.10f	East-West Scans - 3 cm - Toyokawa	521A 18	522A 22	523A 18	524A 31	525A 27	526A 25	527A 36	528A 33
A.11g	Solar X-ray GOES (graphs/event table)	526B 23	527B 29	528B 22					
A.12e	Solar Particles (IMP H & J)	May-Aug 85 in 510B 26; Sep 85-May 86 in 525B 60							
A.13e	Solar Plasma (IMP H & J)	May-Sep 87 in 523B 44; Oct 87-Jan 88 in 525B 56							
A.13f	Solar Wind (Pioneer 12)	Feb 84-Dec 87 in 525A114							
A.16a	SMM Solar Irradiance	1980-1985 in 515B 26							
A.16b	NIMBUS Solar Irradiance	Nov 78-Feb 87 in 523B 49							
A.17	Interplanetary Mag Field (Pioneer 12)	Jun 87 in 523A 96; Jul-Sep 87 in 524A112; Oct 87 in 526A112							
A.17c	Inferred Interplanetary Mag Field	Mar 87 in 512A 21; Feb 88 in 523A 25; Mar 88 in 524A 40							
B.	IONOSPHERIC RADIO PROPAGATION								
B.52	Field Strength Graphs-North Atlantic	522A 88	523A 92	524A108	525A110	527A126	527A122	528A128	
B.53	Quality Indices on Paths to Germany	522A 90	523A 91	524A107	525A109	528A132	527A121	528A130	
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	521A 14	522A 14	523A 14	524A 16	525A 16	526A 14	527A 16	528A 16
C.1ba	H-alpha Flare Groups	526B 6	527B 6	528B 6					
C.1d	Flare Patrol Observations	521A 17	522A 21	523A 17	524A 30	525A 26	526A 24	527A 35	528A 32
C.1d	Flare Patrol Observations	526B 12	527B 17	528B 13					
C.3	Radio Bursts Fixed Freq.	526B 14	527B 19	528B 15					
C.3	Radio Bursts Fixed Freq. Selected	521A 22	522A 26	523A 22	524A 36	525A 32	526A 30	527A 40	528A 37
C.4d	Radio Bursts Spectral (Culgoora)	522A 74	523A 78	524A 92	525A 95	526A 94	527A102	528A103	
C.4e	Radio Bursts Spectral (Weissenau)	522A 74	523A 78	524A 92	525A 95	526A 94	527A102		
C.4f	Radio Bursts Spectral (Sagamore Hill)	522A 74	523A 78	524A 92	525A 95	526A 94	527A102	528A103	
C.4i	Radio Bursts Spectral (Bleien)	---	---	---	---	---	---	---	
C.4k	Radio Bursts Spectral (Learmonth)	522A 74	523A 78	524A 92	525A 95	526A 94	527A102	528A103	
C.4l	Radio Bursts Spectral (Palehua)	522A 74	523A 78	524A 92	525A 95	526A 94	527A102	528A103	
C.6	Sudden Ionospheric Disturbances	522A 72	523A 76	524A 90	525A 91	526A 91	527A 99	528A 99	
D.	GEOMAGNETIC & MAGNETOSPHERIC EVENTS								
D.1a	Geomagnetic Indices	522A 83	523A 86	524A101	525A104	526A105	527A116	528A122	
D.1ba	27-day Chart of Kp Indices	522A 85	523A 88	524A103	525A106	526A107	527A118	528A124	
D.1cb	Monthly Mean aa Indices	522A 86	523A 89	524A104	525A107	526A108	527A119	528A125	
D.1d	Principal Magnetic Storms	522A 87	523A 90	524A105	525A108	526A109	527A120	528A126	
D.1f	Sudden Commencements/Flare Effects	523A 97	524A131	524A106	526A113	526A110	528A136	528A127	
D.1g	Equatorial Indices Dst	Jul 87 in 519A 99							
F.	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	527A146	527A147	527A148	527A149	527A150	527A115		
F.1b	Cosmic Ray Neutron Cts (Climax)	522A 82	523A 85	524A100	525A103	527A150	527A115	528A117	
F.1e	Cosmic Ray Neutron Cts (Alert)	527A146	527A147	527A148	527A149	527A150	527A115		
F.1h	Cosmic Ray Neutron Cts (Thule)	522A 82	523A 85	524A100	525A103	526A104	527A115	528A117	
F.1i	Cosmic Ray Neutron Cts (Kiel)	522A 82	523A 85	524A100	525A103	526A104	527A115	528A117	
F.1j	Cosmic Ray Neutron Cts (Tokyo)	522A 82	527A147	527A148	527A149	527A150	527A115	528A117	
F.1l	Cosmic Ray Neutron Cts (Huancayo)	Aug-Dec 87 in 527A 142				527A150	527A115	528A117	
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	521A 5	522A 4	523A 5	524A 4	525A 5	526A 4	527A 4	528A 5

The entry "522A 36" under Dec 1987, for example, means that the sunspot drawings for Dec 1987 appear in SOLAR-GEOPHYSICAL DATA No. 522, Part I, and that they begin on page 36. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

C O N T E N T S

Comprehensive Reports DATA FOR **FEBRUARY 1988** Number 528 Part II

C A R T E S Y N O P T I Q U E
A C T I V E R E G I O N S
CARRINGTON ROTATION 1798

(20 January to 16 February 1988)

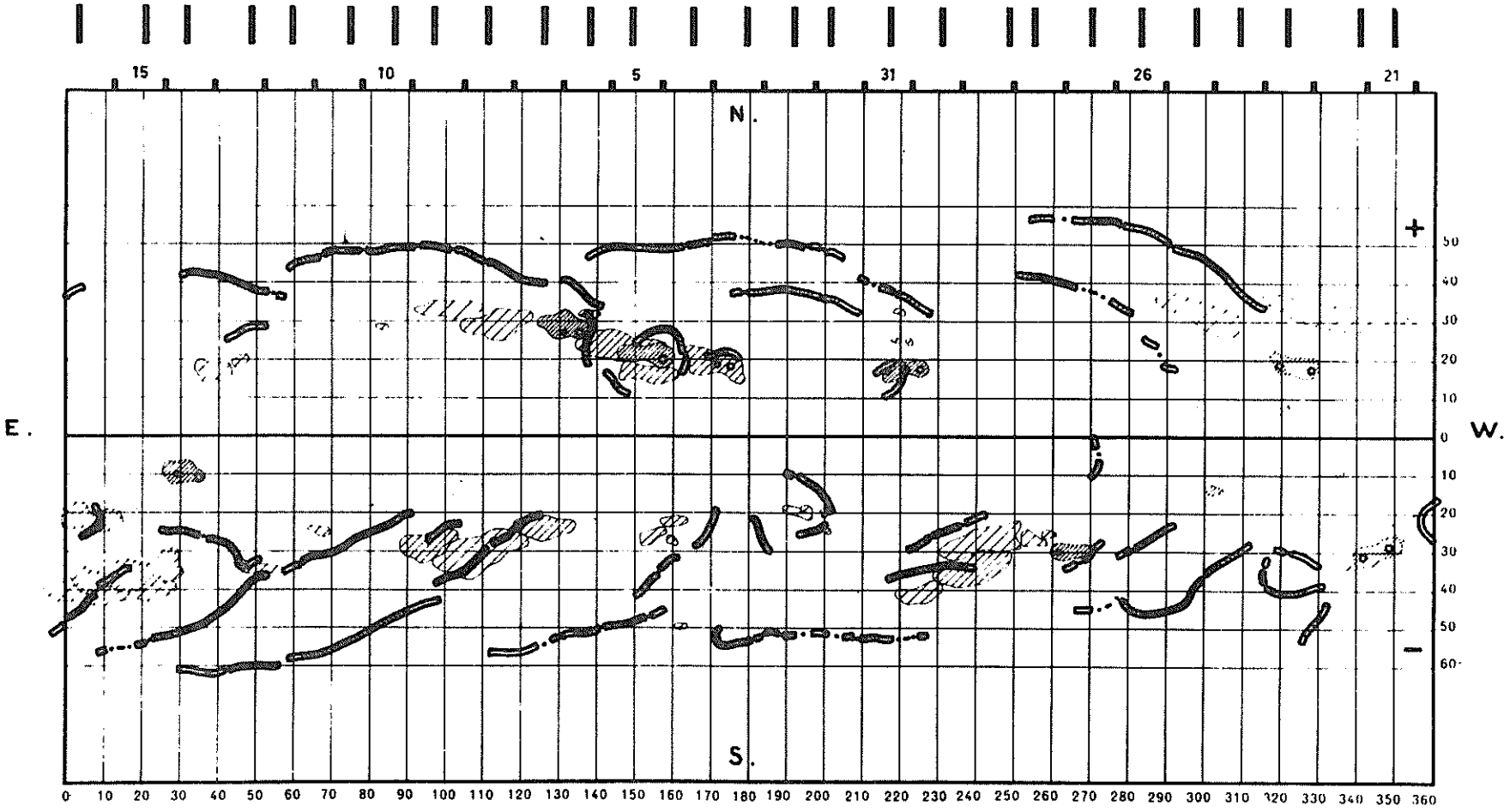
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1797	Activity at West Limb
1	25 S	352	1	>6	x		dispersed
2	29 S	346	3	>6			decreasing
3	35 S	339	1	>6	x		disappeared
4	18 N	324	3	-3			increasing
5	14 S	302	1	-3	x		stable
6	30 S	265	2	+2			decreasing
7	25 S	259	1	-3	x		decreasing
8	27 S	255	1	+5	x		dispersed
9	27 S	243	1	>6	x		dispersed
10	35 S	240	1	>6	x	6	decreasing
11	41 S	226	1	>6	x		dispersed
12	18 N	221	3	+3			decreasing
13	19 N	171	3	>6			decreasing
14	22 S	160	1	>6	x		disappeared
15	27 S	160	1	+4	x		disappeared
16	26 S	155	1	>6	x		disappeared
17	17 N	154	1	>6	x	17	decreasing
18	22 N	153	3	>6			decreasing
19	23 N	145	1	>6	x	18	decreasing
20	32 N	138	1	>6	x		disappeared
21	29 N	132	2	>6			decreasing
22	24 S	126	1	>6	x		decreasing
23	30 N	114	1	>6	x	20	dispersed
24	30 S	110	1	>6	x	23	dispersed
25	27 S	96	1	>6	x		decreasing
26	24 S	67	1	+4	x		disappeared
27	34 S	51	1	>6	x		disappeared
28	20 N	46	1	-3	x		stable
29	17 N	39	1	>6	x		disappeared
30	9 S	30	3	-4			increasing
31	35 S	17	1	>6	x	28	decreasing
32	40 S	13	1	>6	x	27+29	decreasing
33	21 S	7	1	>6	x	30	decreasing

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

CARRINGTON ROTATION NUMBER 1798
(20 January to 16 February 1988)

Meudon Observatory

January 1988



5 Feb 88

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

FEBRUARY 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	PALE	01	0214	0219	0233	N20	E60	4939	02	5.7	19	SF		3	C		14		
0002		01	0258	0301	0308	N19	W14	4937	01	31.0	10	SN					87	1.9	DHR
	LEAR	01	0258	0301	0307	N19	W14	4937	01	31.0	9	SF		3	C		13		H
	YUNN	01	0259E	0259U	0309	N19	W14	4937	01	31.0	10D	SB			P	0259	161	1.9	DR
0003	LEAR	01	0413	0413	0420	N22	E57	4939	02	5.5	7	SF		3	C		11		
0004	LEAR	01	0428	0441	0446	N22	E56	4939	02	5.5	18	SF	C 1.2	3	C		27		U
0005		01	0822	0825	0830	N20	E55	4939	02	5.5	8	SF					12		D
	KHAR	01	0822	0825	0828	N20	E55	4939	02	5.5	6	SF			P	0826			D
	LEAR	01	0822	0825	0831	N21	E55	4939	02	5.6	9	SF		3	C		12		
0006		01	08525	08562	0903	N18	W19	4937	01	31.0	11	SN							H
	KANZ	01	0852	0856	0903	N18	W19	4937	01	31.0	11	SF		2					
	KHAR	01	0857	0858	0903	N17	W19	4937	01	31.0	6	SN			V	0858			H
0007	KHAR	01	1050E	1053U	1057D	S34	E90		02	8.6	7D	SN			V	1053			H
		01	1555		1636	No Flare Patrol													
		01	1655		1741	No Flare Patrol													
		01	1812		1824	No Flare Patrol													
0008	PALE	01	2013	2013	2022	N27	E69	4943	02	7.2	9	SF		3	C		11		
0009	PALE	01	2029	2031	2044	N28	E72	4943	02	7.5	15	SF		3	C		13		H
0010	PALE	01	2132	2132	2137	N27	E70	4943	02	7.3	5	SF		3	C		16		
0011	PALE	01	2203	2208	2213	N27	E68	4943	02	7.2	10	SN		3	C		38		
		01	2237		2240	No Flare Patrol													
0012	LEAR	01	2244	2254	2301	N27	E70	4943	02	7.4	17	SF		3	C		22		
0013	LEAR	01	2303	2333	2342	N28	E65	4943	02	7.0	39	SF		3	C		25		H
0014	PALE	02	0049	0051	0053	N27	E70	4943	02	7.5	4	SF		3	C		18		
		02	0716		0734	No Flare Patrol													
0015		02	09144	09171	0926	N19	E34	4939	02	5.0	12	SN					91	1.4	DEU
	HTPR	02	0914	0917	0925	N22	E35	4939	02	5.1	11	SF			C	0917	70	0.8	E
	KHAR	02	0915E		0930D	N19	E33	4939	02	4.9	15D	SF			V	0915			D
	LEAR	02	0915	0917	0924	N18	E35	4939	02	5.0	9	SF		3	C		61		U
	CATA	02	0918	0918	0930	N18	E34	4939	02	5.0	12	SB		2	C	0918	141	1.9	
0016	KHAR	02	1058	1100	1107	N23	E40	4939	02	5.5	9	SF			V	1100			D
		02	1409		1411	No Flare Patrol													
		02	2308		2314	No Flare Patrol													
0017		03	02391	02421	0304	N21	E29	4939	02	5.3	25	SF	C 1.2				117	3.5	EFI
	VORO	03	0239	0246U	0300D	N22	E31	4939	02	5.5	21D	1F			C	0246	260	3.5	EI
	LEAR	03	0240	0242	0300	N19	E27	4939	02	5.2	20	SF	C 1.2	3	C		38		F
	PALE	03	0240	0243	0307	N22	E30	4939	02	5.4	27	SF	C 1.2	3	C		52		F
		03	0635		0636	No Flare Patrol													
0018		03	08582	09004	0912	N23	E27	4939	02	5.4	14	SN					65	1.8	EF
	HTPR	03	0858	0900	0915	N22	E26	4939	02	5.4	17	SN			C	0900	160	1.8	E
	SVTO	03	0900	0901	0907	N24	E26	4939	02	5.4	7	SF		4	C		13		
	LEAR	03	0900	0901	0912	N23	E27	4939	02	5.4	12	SF		3	C		21		F
	KANZ	03	0900	0904	0912	N23	E28	4939	02	5.5	12	SN		2					E
0019		03	12584	13028	1340	N22	E25	4939	02	5.5	42	1N	C 3.0				132	2.7	EFU
	HTPR	03	1258	1310	1340	N20	E27	4939	02	5.6	42	1B			C	1310	250	2.7	EU
	SVTO	03	1301	1302	1335	N24	E24	4939	02	5.4	34	SF	C 3.0	3	C		15		
	KANZ	03	1302	1310	1344	N22	E24	4939	02	5.4	42	1F		2					EF

H - ALPHA SOLAR FLARES

FEBRUARY 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0020	HTPR	03	1530	1534	1546	N21	E26	4939	02	5.6	16	SB			C	1534	20	0.2	E
		03	1642		1732	No Flare Patrol													
		03	1750		1752	No Flare Patrol													
0021	KAND	04	0805	0810	0830	N18	W56	4937	01	31.1	25	SF			P	0810	52	1.0	E
0022		04	09151	09161	0930	N24	E13	4939	02	5.4	15	SN					28	0.5	D
	KAND	04	0915	0917	0933	N24	E13	4939	02	5.4	18	SB			P	0917	42	0.5	D
	LEAR	04	0916	0916	0927	N23	E13	4939	02	5.4	11	SF		3	C		14		
0023	KAND	04	1024	1025	1032	N25	E15	4939	02	5.6	8	SN			P	1025	31	0.4	E
		04	1411		1425	No Flare Patrol													
		04	1443		1725	No Flare Patrol													
		05	0853		0857	No Flare Patrol													
0024	KANZ	05	1148E	1158	1324	N28	E13	4943	02	6.5	96D	1N		2					F
		05	1326		1330	No Flare Patrol													
		05	1342		1350	No Flare Patrol													
		05	1402		1417	No Flare Patrol													
		05	1429		1438	No Flare Patrol													
		05	1444		1446	No Flare Patrol													
		05	1453		1458	No Flare Patrol													
		05	1513		1527	No Flare Patrol													
		05	1539		1545	No Flare Patrol													
		05	1549		1721	No Flare Patrol													
		05	1948		2000	No Flare Patrol													
		05	2059		2117	No Flare Patrol													
		05	2152		2238	No Flare Patrol													
0025	VORO	06	0215	0218U	0224	N26	E06	4943	02	6.5	9	SF			C	0218	143	1.7	EIJT
0026		06	0231	0235	0243	N26	E06	4943	02	6.6	12	SN					54	1.2	F
	YUNN	06	0231	0235	0243	N25	E06	4943	02	6.6	12	SN			C		96	1.2	
	PALE	06	0235E	0235U	0239D	N27	E06	4943	02	6.6	4D	SF		3	C		13		F
		06	1533		1731	No Flare Patrol													
		06	1817		1845	No Flare Patrol													
		06	2102		2115	No Flare Patrol													
		06	2126		2130	No Flare Patrol													
		06	2146		2153	No Flare Patrol													
		06	2157		2227	No Flare Patrol													
0027		07	11479	1156	1200	N26	W06	4943	02	7.0	13	SN	C 1.0				76	1.7	F
	SVTO	07	1147	1156	1200	N26	W08	4943	02	6.9	13	SF	C 1.0	3	C		10		F
	CATA	07	1156	1156	1156D	N27	W05	4943	02	7.1	13D	SB		2	P	1156	141	1.7	
		07	1234		1247	No Flare Patrol													
		07	1253		1256	No Flare Patrol													
		07	1305		1356	No Flare Patrol													
		07	1401		1533	No Flare Patrol													
0028	HOLL	07	1617	1617	1628	N25	W09	4946	02	7.0	11	SF		3	C		12		
0029	HOLL	07	1644	1659	1709D	N27	W10	4946	02	6.9	25D	SF		3	C		39		
		07	1710		1728	No Flare Patrol													
0030		07	2018*	2048	2058	N28	W09	4946	02	7.1	40	SF					24		F
	HOLL	07	2018	2048	2059	N27	W07	4946	02	7.3	41	SF		3	C		37		
	PALE	07	2048	2048	2057	N28	W11	4946	02	7.0	9	SF		3	C		12		F
0031	HOLL	07	2156	2157	2207	S24	W77		02	2.0	11	SF		3	C		21		
0032	HOLL	07	2221	2222	2234	N27	W12	4946	02	7.0	13	SF		3	C		12		

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

FEBRUARY 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0033		07	2346	2347	2358	N22	W35	4939	02	5.3	12	SF					28		
	HOLL	07	2346	2347	2357	N22	W35	4939	02	5.3	11	SF		3	C		28		
	PALE	07	2346	2347	2358	N23	W35	4939	02	5.3	12	SF		3	C		29		
0034	PALE	08	0207	0209	0215	N28	W16	4946	02	6.8	8	SF		3	C		11		
		08	0646		0648	No Flare Patrol													
0035		08	0931	0931	0940	N28	W18	4946	02	7.0	9	1B					126	1.6	EFJW
	CATA	08	0931	0931	0935D	N28	W19	4946	02	6.9	4D	1B		2	P	0935	169	2.2	
	KAND	08	0931	0931	0940	N29	W18	4946	02	7.0	9	SB			P	0931	83	1.1	EFJW
0036	KAND	08	1016	1022	1028	S18	W90		02	1.6	12	SN			P				A
0037	KAND	08	1240		1320D	S18	W90		02	1.7	40D	SN			P				A
		08	1330		1411	No Flare Patrol													
		08	1603		1610	No Flare Patrol													
0038		09	0748	07482	0754	N25	W50	4939	02	5.4	6	SN					71	1.8	CE
	LEAR	09	0748	0748	0752	N24	W48	4939	02	5.6	4	SF		3	C		26		
	TACH	09	0750E		0756	N27	W52	4939	02	5.3	6D	SB			C	0750	76	1.4	CE
	CATA	09	0750E	0750	0755	N24	W49	4939	02	5.5	5D	1B		2	P	0750	112	2.1	
0039		09	08567	09012	0908	N22	W56	4939	02	5.1	12	SN					20	0.3	
	HTPR	09	0856	0901	0910	N23	W56	4939	02	5.0	14	SB			C	0901	20	0.3	
	KANZ	09	0903	0903	0907	N22	W55	4939	02	5.2	4	SF		2					
0040		09	09086	09182	0929	N24	W49	4939	02	5.6	21	SN					38	0.7	
	HTPR	09	0908	0918	0923	N24	W48	4939	02	5.7	15	SN			C	0918	20	0.3	
	CATA	09	0914	0920	0935	N23	W50	4939	02	5.5	21	SN		2	C	0920	56	1.1	
0041		09	09596	10041	1010	N24	W49	4939	02	5.6	11	SN					38	0.7	
	HTPR	09	0959	1004	1008D	N24	W48	4939	02	5.7	9D	SF			C	1004	20	0.3	
	CATA	09	1005	1005	1010	N23	W50	4939	02	5.6	5	SN		2	C	1005	56	1.1	
0042	CATA	09	1036	1036	1040D	N28	W33	4946	02	6.9	4D	1N		2	P	1036	146	2.2	
		09	1048		1055	No Flare Patrol													
0043		09	11202	1122	1127	N23	W58	4939	02	5.0	7	SB					38	0.8	
	HTPR	09	1120	1122	1128D	N23	W57	4939	02	5.1	8D	SN			C	1122	20	0.4	
	CATA	09	1122	1122	1127	N23	W58	4939	02	5.0	5	SB		2	C	1122	56	1.3	
0044	HOLL	09	1729	1729	1746	S36	E76	4947	02	15.8	17	SF		3	C		12		
0045	HOLL	10	1506	1509	1526	N17	E43		02	13.9	20	SF		3	C		16		
0046		11	02461	02501	0316	N28	W54	4946	02	6.9	30	SN	C 1.1				73		F
	PALE	11	0246	0250	0311	N29	W54	4946	02	6.9	25	SN	C 1.1	3	C		75		F
	LEAR	11	0247	0251	0321	N27	W54	4946	02	6.9	34	SF	C 1.1	3	C		71		F
0047		11	0935	09401	0953	S34	E30		02	13.8	18	SN					38	0.6	DG
	KAND	11	0935	0940	0953	S34	E30		02	13.8	18	SN			P	0940	21	0.3	DG
	CATA	11	0936E	0941	0941D	S34	E30		02	13.8	5D	SN		2	P	0941	56	0.8	
		11	1042		1043	No Flare Patrol													
		11	1419		1422	No Flare Patrol													
0048		11	20431	2044	2058	S34	E44	4947	02	15.4	15	SF					24		
	PALE	11	2043	2044	2100	S35	E46	4947	02	15.5	17	SF		3	C		35		
	HOLL	11	2044	2044	2057	S33	E42	4947	02	15.2	13	SF		3	C		14		
		12	1043		1102	No Flare Patrol													
		12	1354		1358	No Flare Patrol													
		12	2032		2046	No Flare Patrol													
		13	1109		1124	No Flare Patrol													

FEBRUARY 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0049		14	00272	0029	0043	S35	E20	4947	02	15.6	16	SF					62	1.2	DJ
	VORO	14	0027	0031U	0053	S36	E18	4947	02	15.5	26	SF			C	0031	99	1.2	DJ
	LEAR	14	0029	0029	0033	S34	E22	4947	02	15.8	4	SF		3	C		26		
0050	LEAR	14	0426	0440	0449	S15	E77	4950	02	20.0	23	SF		3	C		15		
0051	LEAR	14	0621	0627	0638	S15	E79	4950	02	20.2	17	SF		3	C		37		
0052	CATA	14	0845	0901	0907	S16	E78	4950	02	20.3	22	1N		2	C	0901	56		
		14	1156		1157	No Flare Patrol													
0053	RAMY	14	1312	1318	1335	S37	E13	4947	02	15.6	23	SF		4	C		69		FH
0054		15	01072	01101	0123	S36	E07	4947	02	15.6	16	SF					104	2.5	EGJ
	VORO	15	0107	0111U	0130	S36	E06	4947	02	15.5	23	1F			C	0112	215	2.5	EGJ
	LEAR	15	0109	0110	0116	S36	E07	4947	02	15.6	7	SF		3	C		33		
	PALE	15	0109	0111	0123	S36	E08	4947	02	15.7	14	SF		3	C		64		
0055	HTPR	16	0925	0930	0943	S35	W15		02	15.2	18	SF			C	0930	20	0.2	E
0056		16	09545	1000	1004	N20	E36	4949	02	19.2	10	SN					40	0.5	DEH
	KHAR	16	0954	1000	1004	N20	E36	4949	02	19.2	10	SF			V	1000			DH
	HTPR	16	0959	1000	1005	N20	E35	4949	02	19.1	6	SN			C	1000	40	0.5	E
0057	KHAR	16	1043E		1058D	N20	E36	4949	02	19.2	15D	SF			V	1043			DH
0058	HTPR	16	1148	1150	1200	N20	E34	4949	02	19.1	12	SF			C	1150	20	0.2	E
0059	HTPR	16	1208	1216	1231	N22	E32	4949	02	19.0	23	SF			C	1216	30	0.4	E
0060		16	1520	1521	1528	N20	E33	4949	02	19.2	8	SN					23	0.3	
	RAMY	16	1520	1521	1526	N20	E34	4949	02	19.2	6	SF		3	C		16		
	HTPR	16	1520	1521	1530	N20	E32	4949	02	19.1	10	SB			C	1521	30	0.3	
0061		16	2253	2318	2327	N25	E34	4949	02	19.6	34	SF					14		
	PALE	16	2253	2318	2328	N25	E34	4949	02	19.6	35	SF		3	C		16		
	HOLL	16	2317E	2318U	2326	N25	E34	4949	02	19.6	9D	SF		2	C		11		
0062	PALE	17	0225	0231	0243	S17	E44	4950	02	20.4	18	SF		3	C		20		
0063		17	08451	08452	0848	N23	E24	4949	02	19.2	3	SF					36	0.4	CD
	BUCA	17	0845	0845	0848	N23	E25	4949	02	19.3	3	SF			C	0845	43	0.6	CD
	HTPR	17	0846	0847	0848	N23	E23	4949	02	19.1	2	SF			C	0847	30	0.3	
0064	HOLL	17	2106E	2116U	2118D	N18	W58	4948	02	13.5	12D	SF		2	C		27		
		17	2146		2153	No Flare Patrol													
		17	2218		2227	No Flare Patrol													
0065	HOLL	17	2232E	2234	2236	N22	E24	4949	02	19.8	4D	SF		3	C		38		
		17	2322		2332	No Flare Patrol													
0066	HOLL	18	1612E	1619	1620	S10	W54	4951	02	14.6	8D	SF		4	C		34		
0067	RAMY	18	1838	1839	1849	S09	W55	4951	02	14.6	11	SF		3	C		20		
0068	RAMY	18	1914	1915	1928	S09	W55	4951	02	14.7	14	SF		3	C		37		
0069		18	20083	2012	2025	S11	W56	4951	02	14.6	17	SF					56		
	HOLL	18	2008	2012	2027D	S13	W58	4951	02	14.5	19D	SF		3	C		75		
	RAMY	18	2011	2012	2025	S09	W55	4951	02	14.7	14	SF		3	C		38		
0070	LEAR	19	0049	0050	0100	S10	W57	4951	02	14.7	11	SF		3	C		28		
0071	LEAR	19	0108	0110	0113	S10	W57	4951	02	14.8	5	SF		3	C		23		

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

FEBRUARY 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0072		19	08142	08151	0822	N22	E01	4949	02	19.4	8	SN					65	1.4	
	LEAR	19	0814	0815	0819	N21	E01	4949	02	19.4	5	SF		3	C		18		
	CATA	19	0816	0816	0826	N24	E01	4949	02	19.4	10	SN		2	C	0816	112	1.4	
		19	2006		2011	No Flare Patrol													
		19	2015		2041	No Flare Patrol													
		19	2122		2230	No Flare Patrol													
0073		20	0405	0414	0518	S08	W71	4951	02	14.8	73	1B	M 1.1				140		EUZ
	LEAR	20	0405	0414	0532	S08	W68	4951	02	15.1	87	1N	M 1.1	3	C		134		ZU
	PEKG	20	0413E	0416U	0505	S09	W74	4951	02	14.6	52D	1B	M 1.1		C	0416	147		E
0074	HTPR	20	1240	1248	1300	N38	W30		02	18.1	20	SF			C	1248	30	0.4	E
		20	1627		1631	No Flare Patrol													
0075	CATA	21	0943E	0943	0946D	S22	E90		02	28.3	3D	1N		2	P	0943	112		
0076		22	1442	1444	1458	S24	E25		02	24.5	16	SF					20		F
	SVTO	22	1442	1444	1455	S23	E25		02	24.5	13	SF		3	C		14		F
	RAMY	22	1444E	1444U	1500	S25	E25		02	24.5	16D	SF		1	C		25		
0077	RAMY	22	2102	2102	2109	N22	W42	4949	02	19.6	7	SF		4	C		12		
0078		22	21167	21195	2127	N21	W42	4949	02	19.7	11	SF					20		
	HOLL	22	2116	2119	2124	N21	W41	4949	02	19.7	8	SF		3	C		24		
	RAMY	22	2123	2124	2130	N21	W43	4949	02	19.6	7	SF		4	C		15		
0079	HTPR	23	1449	1450	1454	N25	E42		02	26.9	5	SN			C	1450	30	0.4	E
		23	1636		1650	No Flare Patrol													
		23	1655		1710	No Flare Patrol													
		23	1811		1815	No Flare Patrol													
		23	1829		1832	No Flare Patrol													
0080	HOLL	23	1851	1853	1901	S18	E70	4954	02	29.1	10	SF		3	C		20		U
		23	2133		2143	No Flare Patrol													
0081	HTPR	24	1128	1134	1145	S20	E58	4954	02	28.9	17	SF			C	1134	40	0.8	E
		24	1425		1607	No Flare Patrol													
		24	1655		1744	No Flare Patrol													
		24	2016		2024	No Flare Patrol													
		24	2039		2109	No Flare Patrol													
		24	2130		2250	No Flare Patrol													
0082	LEAR	25	0411	0414	0419	S19	E52	4954	02	29.1	8	SF		3	C		21		F
0083		25	10435	10506	1101	S18	E46	4954	02	28.9	18	SB					92	1.3	E
	HTPR	25	1043	1050	1100	S18	E44	4954	02	28.8	17	SB			C	1050	100	1.3	E
	CATA	25	1048	1056	1102	S19	E47	4954	02	29.0	14	SN		2	C	1056	84	1.3	
0084		25	12003	1205	1222	S18	E45	4954	02	28.9	22	SN					74	1.3	E
	HTPR	25	1200	1205	1220	S18	E44	4954	02	28.8	20	SB			C	1205	100	1.3	E
	RAMY	25	1203	1205	1225	S19	E46	4954	02	29.0	22	SF		3	C		48		
0085	HTPR	25	1451	1453	1459	S18	E43	4954	02	28.9	8	SF			C	1453	30	0.4	E
		25	1821		1836	No Flare Patrol													
		25	2011		2017	No Flare Patrol													
		25	2158		2257	No Flare Patrol													
		25	2311		2314	No Flare Patrol													
		26	1753		1840	No Flare Patrol													
		26	2057		2110	No Flare Patrol													
		26	2126		2133	No Flare Patrol													
		26	2139		2151	No Flare Patrol													
		26	2155		2207	No Flare Patrol													
		26	2224		2244	No Flare Patrol													

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

FEBRUARY 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0086	YUNN	27	0242	0246	0300	N17	E88	4957	03	4.8	18	1N			C		48		
0087	ABST	27	0539	0542	0600	N15	E90	4957	03	5.0	21	1N			C	0542	87		AD
0088	HTPR	27	0903	0915	0950	N18	E82	4957	03	4.6	47	SF			C	0915	40		E
0089	HTPR	27	1038	1042	1100	S23	E20	4954	02	29.0	22	SF			C	1042	20	0.2	
0090		27	11027	1104*	1126	S21	E20	4954	02	29.0	24	SN					96	1.0	E
	HTPR	27	1102	1104	1130	S20	E20	4954	02	29.0	28	SN			C	1104	100	1.0	E
	CATA	27	1108	1121	1121D	S19	E20	4954	02	29.0	13D	SN		2	P	1121	169	1.9	
	HTPR	27	1109	1113	1121	S23	E20	4954	02	29.0	12	SN			C	1113	20	0.2	
0091	HTPR	27	1200	1218	1300	N18	E80	4957	03	4.6	60	SN			C	1218	30		
0092	HTPR	27	1247	1254	1307	S22	E08		02	28.1	20	SF			C	1254	20	0.2	
		27	1706		1730	No Flare Patrol													
		27	2007		2012	No Flare Patrol													
		27	2020		2054	No Flare Patrol													
		27	2059		2105	No Flare Patrol													
0093		28	05182	05218	0626	S20	E12	4954	02	29.1	68	1N					268	5.0	FGHU
	MITK	28	0518	0529	0640	S20	E13	4954	02	29.2	82	1N			C	0529	460	5.0	GHU
	LEAR	28	0520	0521	0612	S20	E12	4954	02	29.1	52	SF		3	C		75		UF
0094	SVTO	28	0825	0830	0833	N17	E68	4957	03	4.5	8	SF		3	C		10		F
0095	HTPR	28	1055	1109	1130	N18	E63	4957	03	4.2	35	SF			C	1109	60	1.2	E
0096	HTPR	28	1518	1535	1546	S20	E44	4958	03	3.0	28	SF			C	1535	40	0.6	E
0097	RAMY	28	1527	1528	1537	N14	E63	4957	03	4.4	10	SF		3	C		12		
0098		28	15515	1559	1616	N18	E63	4957	03	4.4	25	SN	C 1.3				63	1.6	EFH
	RAMY	28	1551	1559	1618	N16	E63	4957	03	4.4	27	SF	C 1.3	3	C		70		H
	HTPR	28	1556		1603D	N18	E62	4957	03	4.4	7D	SB			C	1558	80	1.6	
	HOLL	28	1556	1559	1613	N20	E64	4957	03	4.5	17	SF	C 1.3	4	C		38		FE
0099		28	16363	16391	1646	N18	E62	4957	03	4.4	10	SF					14		
	RAMY	28	1636	1640	1643	N15	E62	4957	03	4.4	7	SF		3	C		16		
	HOLL	28	1639	1639	1649	N20	E63	4957	03	4.5	10	SF		4	C		11		
0100		28	17426	17491	1754	N18	E64	4957	03	4.6	12	SF					34		
	HOLL	28	1742	1750	1755	N18	E64	4957	03	4.6	13	SF		4	C		27		
	RAMY	28	1748	1749	1754	N18	E63	4957	03	4.5	6	SF		3	C		42		
0101	RAMY	28	1912	1919	1922	S22	E39	4958	03	2.8	10	SF		3	C		10		
0102		28	19337	1934*	1944	S21	E42	4958	03	3.0	11	SF					15		
	HOLL	28	1933	1934	1936	S21	E41	4958	03	2.9	3	SF		3	C		10		
	HOLL	28	1937	1944	1948	S21	E43	4958	03	3.1	11	SF		3	C		20		
	RAMY	28	1940	1944	1948	S22	E42	4958	03	3.0	8	SF		3	C		16		
0103		28	20351	20361	2042	S22	E42	4958	03	3.1	7	SF					20		
	HOLL	28	2035	2037	2041	S21	E43	4958	03	3.1	6	SF		3	C		12		
	RAMY	28	2036	2036	2043	S23	E42	4958	03	3.1	7	SF		3	C		29		
0104	KAND	29	0914	0933	1014	S21	E36	4958	03	3.1	60	SB			P	0933	83	1.0	EFJTV
		29	1103		1126	No Flare Patrol													
		29	1142		1211	No Flare Patrol													
		29	1215		1224	No Flare Patrol													
0105	RAMY	29	1250	1251	1302	S21	E31	4958	03	2.9	12	SF		3	C		10		
		29	1338		1355	No Flare Patrol													
0106	HOLL	29	1610	1611	1646	S22	E30	4958	03	3.0	36	SF		3	C		12		

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

FEBRUARY 1988

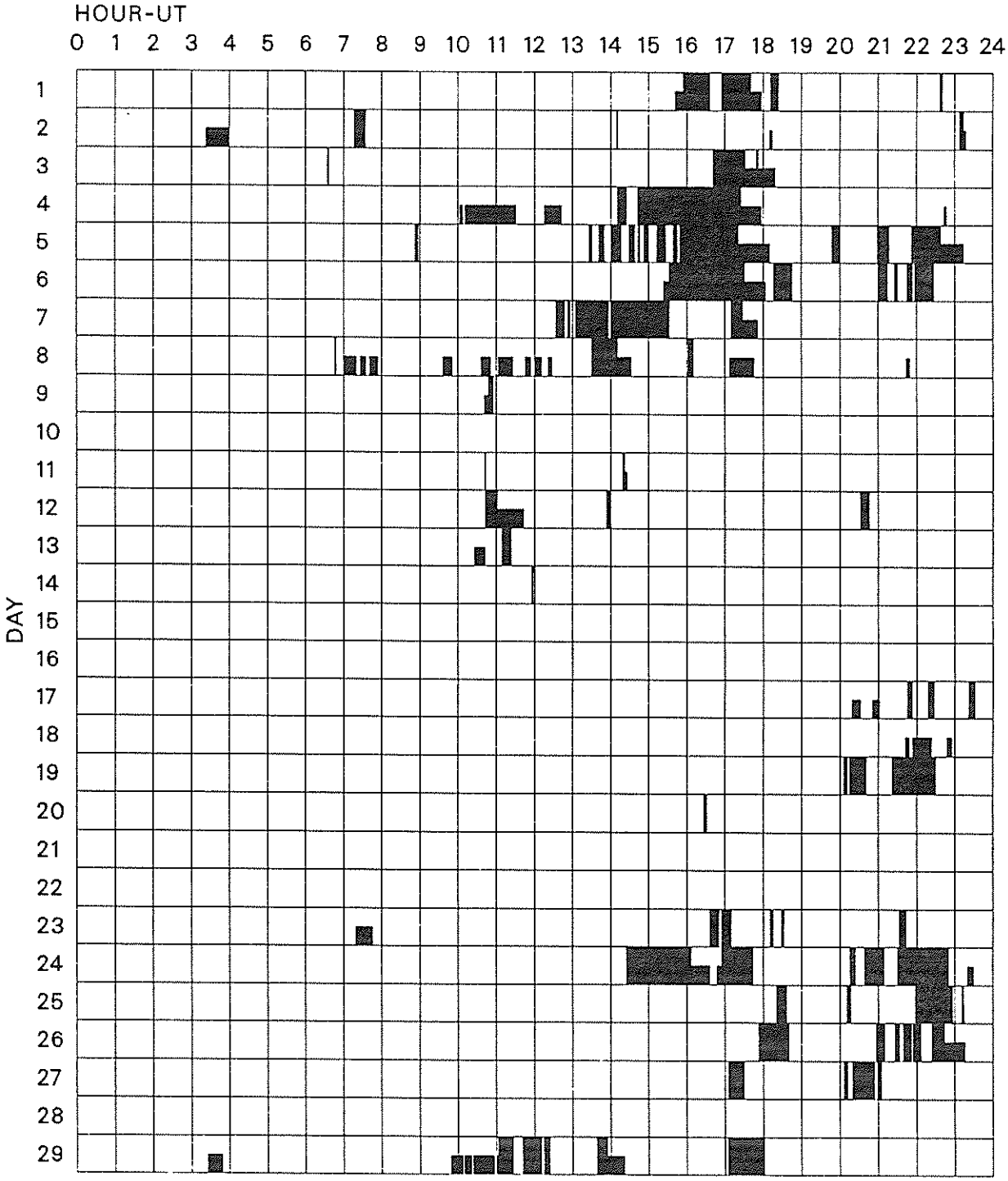
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		29	1705		1802	No Flare Patrol													
0107	HOLL	29	2109	2113	2127	N17	E49	4957	03	4.6	18	SF		3	C		19		
0108	RAMY	29	2115	2118	2126	S22	E26	4958	03	2.9	11	SF		2	C		12		

"Remarks"

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

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

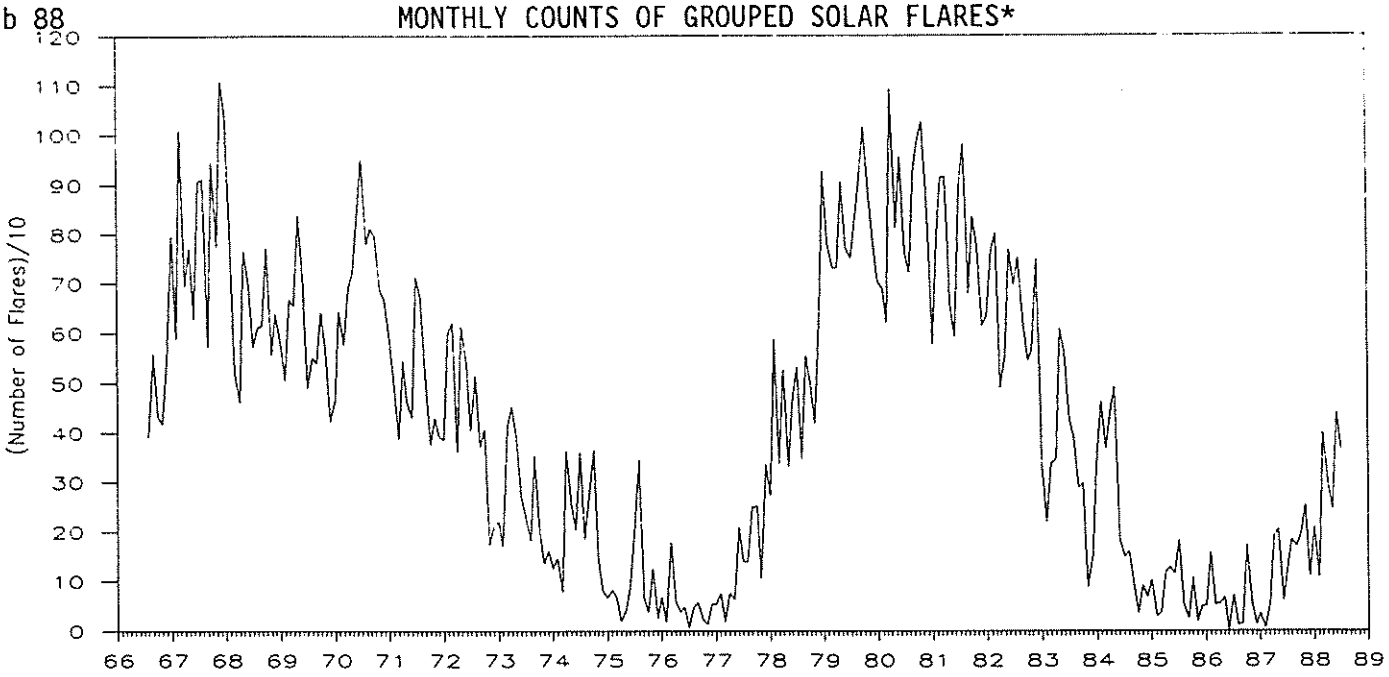
FEBRUARY 1988



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	Holloman	Kharkov	Mitaka	San Vito
Bucharest	Istanbul	Learmonth	Palehua	Tashkent
Catania	Kandilli	Lvov	Peking	Voroshilov
Haute Provence	Kanzelhoehe	Manila	Ramey	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	254	111	1604
1988	209	108	399	301	245	439	366						2067

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

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

FEBRUARY 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 (10^{-22} W/m^2 Hz)	Int	Remarks
01	200	GORK	44	NS	0608.0E		352.0D		5.0		
	245	SVTO	43	NS	0622.0	1314.0	561.0D	58.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	43	NS	0717.0		439.0		3.0		V=2
	260	ONDR	44	NS	0910.0E	1220.0U	310.0D				
	200	HIRA	44	NS	2140.0E	0653.0	580.0D	10.0	2.0		MR
	245	PALE	46	C	0008.0	0256.0		110.0			QL=5 ST=2 TYP=1
	245	LEAR	8	S	0016.0	0016.0	1.0	98.0			QL=5 ST=2 TYP=5
	245	PALE	48	C	0016.0	0016.0	1.0	120.0			QL=5 ST=2 TYP=8
	245	PALE	4	S/F	0024.0	0027.0	4.0	110.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0026.0	0027.0	1.0	94.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0048.0	0049.0	2.0	440.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0048.0	0049.0	1.0	440.0			QL=5 ST=2 TYP=5
	100	HIRA	46	C	0048.2	0049.5	2.1	920.0	340.0		
	200	HIRA	46	C	0048.3	0048.6	1.2	710.0	205.0		0
	245	PALE	8	S	0223.0	0224.0	1.0	230.0			QL=5 ST=2 TYP=5
	245	LEAR	4	S/F	0224.0	0224.0		230.0			QL=5 ST=2 TYP=5
	200	HIRA	42	SER	0228.0	0229.2	4.6	110.0			WR
	100	HIRA	42	SER	0228.8	0229.7	2.6	630.0			
	245	LEAR	8	S	0229.0	0229.0	1.0	200.0			QL=5 ST=2 TYP=5
	245	PALE	48	C	0229.0	0229.0	1.0	220.0			QL=5 ST=2 TYP=8
	500	HIRA	41	F	0255.5	0257.0	3.0	27.0			0
	200	HIRA	42	SER	0519.8	0542.2	24.0	1300.0			0
	245	LEAR	8	S	0520.0	0521.0	1.0	57.0			QL=5 ST=2 TYP=5
	100	HIRA	42	SER	0534.0	0542.2	10.6	1000.0D			
	245	LEAR	48	C	0542.0	0542.0	2.0	1100.0			QL=5 ST=2 TYP=8
	410	LEAR	4	S/F	0544.0	0544.0		99.0			QL=5 ST=2 TYP=5
	650	GORK	22	GRF	0815.0	0843.5	95.5	4.6			
	204	IZMI	41	F	0844.5	0855.6	19.0	270.0			
	29	UPIC	46	C	0852.1	0857.2	6.7				
	245	LEAR	4	S/F	0853.0	0853.0		66.0			QL=5 ST=2 TYP=5
	33	UPIC	46	C	0854.2	0856.8	4.7				
	245	LEAR	4	S/F	0856.0	0856.0		140.0			QL=5 ST=2 TYP=5
	536	ONDR	40	F	1123.4	1123.4	0.7	4.0			
	29	UPIC	42	SER	1145.0	1208.5	39.8				
	33	UPIC	42	SER	1145.2	1208.5	39.7				
	245	PALE	4	S/F	2016.0	2016.0		22.0			QL=5 ST=2 TYP=3
02	245	LEAR	44	NS	0000.0E	0934.0	653.0D	60.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	0005.0	0008.0	240.0D	39.0			QL=5 ST=2 TYP=1
	200	GORK	44	NS	0605.0E		355.0D		5.0		
	245	SVTO	43	NS	0621.0	0938.0	563.0D	86.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D	50.0			
	127	TORN	43	NS	0724.0		456.0		3.0		V=2
	260	ONDR	44	NS	0930.0E	1330.0U	300.0D				
	245	SGMR	43	NS	1220.0	1331.0	554.0D	86.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1919.0	1921.0	386.0D	16.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2223.0	0816.0	749.0D	21.0			QL=5 ST=2 TYP=1
	245	LEAR	8	S	0636.0	0636.0	1.0	65.0			QL=5 ST=2 TYP=5
	9300	KISV	4	S/F	0755.4	0756.1	2.0	43.0			
	2950	GORK	22	GRF	0822.6	0904.5	65.0	3.2			
	3100	CRIM	1	S	0903.8	0904.5	3.0	2.0	1.0		
	33	UPIC	1	S	0914.3	0914.4	0.3				
	29	UPIC	3	S	0914.6	0914.8	0.4				
	536	ONDR	42	SER	0950.0E	1313.4	280.0D	7.0			
	2950	GORK	1	S	1034.9	1035.2	1.4	1.0			
03	245	SVTO	43	NS	0620.0	1356.0	565.0D	29.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D	20.0			
	127	TORN	44	NS	0700.0E		480.0D		12.0		V=2
	100	GORK	44	NS	0823.0E		217.0D		5.0		
	200	GORK	44	NS	0823.0E		217.0D		5.0		
	410	SVTO	44	NS	0825.0E	1302.0	440.0D	30.0			QL=3 ST=2 TYP=1
	260	ONDR	44	NS	0900.0E	1350.0U	330.0D				
	245	PALE	43	NS	2100.0	2115.0	426.0D	40.0			QL=5 ST=2 TYP=1
	2950	GORK	20	GRF	0857.3	0900.2	42.5	2.4			
03	3100	CRIM	1	S	0859.1	0900.0	4.0	1.4	0.5		
	536	ONDR	42	SER	0950.0E	1202.6	280.0D	4.0			
04	200	GORK	44	NS	0603.0E		327.0D		5.0		

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

FEBRUARY 1988

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	204	IZMI	43	NS	0700.0		190.0	20.0			
	127	TORN	43	NS	0736.0	0942.8	414.0	165.0D	2.0		V=1
	245	SVTO	44	NS	0751.0E	0824.0	138.0D	170.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0903.0E	1039.0U	317.0D				
	245	LEAR	8	S	0824.0	0824.0	1.0	120.0			QL=5 ST=2 TYP=5
	536	ONDR	42	SER	0915.0E	1056.0U	295.0D	7.0			
05	127	TORN	43	NS	0720.0		460.0		2.0		V=1
	260	ONDR	44	NS	0850.0E	1140.0U	337.0D	2.0			
	650	GORK	4	S/F	0810.3	0812.0	3.3	7.0			
	650	GORK	23	GRF	1054.3		105.0D	4.0			
	9100	GORK	20	GRF	1103.3	1120.0	95.7	12.0			
	430	KRAK	49	GB	1116.3	1219.0U					
	430	KRAK	49	GB	1116.3	1214.0U					
	408	TRST	46	C	1116.3	1216.3	70.0	306.0			42R
	536	ONDR	49	GB	1116.3	1216.4	100.0	115.0			
	430	KRAK	49	GB	1116.3	1216.5U					
	650	GORK	47	GB	1116.3	1131.7	27.2	17.0			
	430	KRAK	49	GB	1116.3	1159.8	99.5	160.0	50.0		
	610	TRST	46	C	1116.6	1131.7	33.0	307.0			OR
	327	TRST	46	C	1119.0	1216.5	68.5	66.0			19R
	9500	POTS	20	GRF	1120.0	1248.5	88.5U	16.0			
	950	GORK	23	GRF	1123.8	1148.3	30.4	3.5			
	1470	POTS	21	GRF	1125.0	1229.0	180.0	9.0			
	2950	GORK	21	GRF	1127.7		70.0D				
	950	GORK	46	C	1127.8	1136.1		27.0			
	950	GORK	46	C	1127.8	1139.1		18.0			
	950	GORK	46	C	1127.8	1131.5	13.7	31.0			
	3100	CRIM	25	R	1128.0	1216.5		10.0			
	3000	POTS	21	GRF	1132.0	1241.9	158.0U	14.0			
	1470	POTS	42	SER	1132.5	1136.2	6.5	34.0			
	3000	POTS	1	S	1135.0	1136.0	1.5	7.0			
	3013	IZMI	1	S	1135.2	1136.5	1.4	5.0	2.5		
	29	UPIC	46	C	1135.4	1146.8	13.6				
	2950	GORK	1	S	1135.7	1136.0	0.7	3.2	1.6		
	3100	CRIM	1	S	1135.8	1136.3	0.7	2.0	0.7		
	950	GORK	3	S	1143.8	1145.5	4.4	4.7			
	610	TRST	46	C	1211.3	1216.5	15.0	87.0			15R
	650	GORK	46	C	1213.2	1221.1		8.5			
	650	GORK	46	C	1213.2	1216.5		14.0			
	650	GORK	46	C	1213.2	1213.5	9.1	9.0			
	650	GORK	4	S/F	1233.9	1236.0	3.3	38.0			
	408	TRST	46	C	1244.5	1247.1	11.5	78.0			46R
	327	TRST	46	C	1244.7	1247.0	12.0	27.0			11R
06	127	TORN	44	NS	0700.0E	1116.5	480.0D	85.0	2.0		V=1
	260	ONDR	44	NS	0950.0E	1116.5	340.0D	5.0			
	810	KRAK	8	S	0834.3	0834.4	0.2	0.5			
	536	ONDR	45	C	1008.2	1008.4	0.6	58.0			
	100	GORK	41	F	1115.2	1117.1	7.8	110.0			
	100	GORK	41	F	1115.2	1120.7		30.0			
	100	GORK	41	F	1115.2	1117.9		35.0			
	200	GORK	41	F	1116.0	1117.0	6.4	25.0			
	200	GORK	41	F	1116.0	1118.7		15.0			
	200	GORK	41	F	1116.0	1120.7		15.0			
	237	TRST	45	C	1116.5	1116.7	0.5	29.0			3R
	237	TRST	2	S/F	1120.2	1120.2	0.1	21.0			2R
	327	TRST	2	S/F	1120.2	1120.3	0.1	37.0			6R
	245	PALE	8	S	2006.0	2007.0	1.0	59.0			QL=5 ST=2 TYP=5
	245	LEAR	20	GRF	2337.0	0002.0	73.0	72.0			QL=1 ST=2 TYP=2
07	245	LEAR	44	NS	0245.0E	0335.0	435.0D	44.0			QL=5 ST=2 TYP=1
	127	TORN	43	NS	0957.0		275.0		1.0		V=1
	200	GORK	43	NS	1100.0		60.0D		5.0		
	100	GORK	43	NS	1115.0		45.0D		5.0		
	245	PALE	20	GRF	0014.0	0023.0	15.0	21.0			QL=5 ST=2 TYP=2
	260	ONDR	40	F	0850.0E	1115.0U	340.0D	9.0			
	2950	GORK	2	S/F	1104.9	1105.8	5.0	2.7			
	3100	CRIM	1	S	1105.1	1105.8	2.0	1.8	0.6		

FEBRUARY 1988

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08	234	POTS	4	S/F	0733.2	0735.1	2.9	66.0	60.0		
	30	POTS	4	S/F	0733.5	0735.0	3.0	1000.0	120.0		
	234	POTS	4	S/F	0827.9	0830.1	4.4	55.0	25.0		
	30	POTS	4	S/F	0828.0	0829.0	3.9	720.0	150.0		
	204	IZMI	41	F	0831.8	0835.0	5.0	440.0			
	245	LEAR	49	GB	0833.0	0834.0	2.0	580.0			QL=3 ST=2 TYP=6
	237	TRST	47	GB	0833.3	0834.9	2.2	1172.0			9L
	327	TRST	46	C	0833.4	0833.6	0.3	90.0			0L
	408	TRST	45	C	0833.4	0833.6	0.3	45.0			4R
	430	KRAK	8	S	0833.5	0833.5	0.3	22.0			
	9100	GORK	2	S/F	0833.8	0835.1	1.6	10.0	4.0		
	245	SVTO	49	GB	0834.0	0834.0	1.0	760.0			QL=5 ST=2 TYP=6
	410	SVTO	8	S	0834.0	0834.0	1.0	21.0			QL=5 ST=2 TYP=3
	2950	GORK	1	S	0834.0	0834.9	1.9	6.5	3.0		
	3013	IZMI	1	S	0834.4	0834.8	3.0	5.0	2.5		
	2840	PEKG	1	S	0834.7	0835.2	1.7	6.0			
	327	TRST	46	C	0834.7	0834.8	0.6	132.0			12L
	408	TRST	45	C	0834.7	0834.9	0.3	53.0			1R
	3100	CRIM	1	S	0834.8	0835.0	1.0	5.0	1.0		
	430	KRAK	8	S	0834.8	0835.0	0.4	18.0			
	260	ONDR	40	F	0910.0E	0928.0U	380.0D	12.0			
	245	SVTO	4	S/F	0927.0	0930.0	3.0	420.0			QL=5 ST=2 TYP=5
	237	TRST	46	C	0927.9	0928.4	1.3	321.0			3R
	245	LEAR	8	S	0928.0	0930.0	2.0	350.0			QL=3 ST=2 TYP=5
	204	IZMI	4	S/F	0928.0	0928.6	1.4	200.0	100.0		
	127	TORN	8	S	0928.3	0929.0	1.7	800.0	40.0		
	327	TRST	27	RF	0928.3	0928.6	1.4	43.0			1R
	29	UPIC	45	C	0928.4	0929.0	2.2				
	33	UPIC	45	C	0928.4	0928.8	2.1				
	2950	GORK	2	S/F	0928.6	0930.3	6.1	2.9			
	237	TRST	42	SER	0930.1	0930.2	2.0	2.0			0L
	327	TRST	42	SER	0930.4	0931.9	1.6	44.0			3L
	237	TRST	42	SER	1334.1	1334.5	1.0	37.0			0R
	8800	SGMR	49	GB	1341.0	1342.0	2.0	690.0			QL=5 ST=3 TYP=6
09	410	SVTO	8	S	0700.0	0700.0	1.0	230.0			QL=5 ST=2 TYP=5
	2840	PEKG	1	S	0859.6	0901.2	3.8	4.0			
	3100	CRIM	1	S	0900.0	0901.0	2.0	3.0	1.0		
	3100	CRIM	8	S	0900.0	0901.0	2.0	3.0			QL= ST= TYP=3
	810	KRAK	2	S/F	0900.0	0901.0	1.5	22.0	2.0		
	410	LEAR	8	S	0900.0	0900.0	1.0	55.0			QL=5 ST=2 TYP=5
	610	LEAR	8	S	0900.0	0900.0	1.0	58.0			QL=5 ST=2 TYP=5
	260	ONDR	41	F	0900.0E	1012.1	330.0D				
	610	TRST	46	C	0900.2	0900.8	0.8	236.0			7L
	2950	GORK	1	S	0900.3	0901.1	2.7	4.1	2.0		
	327	TRST	1	S	0900.8	0900.8	0.1	110.0			3R
	430	KRAK	8	S	0900.8	0900.9	0.2	45.0			
	245	LEAR	8	S	1012.0	1013.0	1.0	45.0			QL=3 ST=2 TYP=3
	204	IZMI	4	S/F	1012.9	1013.0	0.6	43.0	21.0		
	237	TRST	42	SER	1012.9	1012.9	0.4	118.0			1R
10	3100	CRIM	4	S/F	0754.0	0815.0	35.0	2.0			QL= ST= TYP=3
	3100	CRIM	20	GRF	0902.3	1110.0	217.0	3.0	1.0		
	9100	GORK	20	GRF	0945.0	1123.6	240.0	6.5			
	260	ONDR	40	F	1058.9E	1059.3	85.3D	6.0			
	9400	HUAN	1	S	1343.0	1344.3	3.5	3.0	0.9		
	9400	HUAN	2	S/F	1641.8	1645.8	6.8	7.3	4.7		
	9400	HUAN	1	S	1911.6	1913.2	2.7	4.4	1.8		
11	221	ABST	43	NS	0600.0	0711.0	240.0	10.0			QL= ST= TYP=1
	8800	PALE	8	S	0157.0	0157.0	2.0	120.0			QL=5 ST=2 TYP=5
	260	ONDR	40	F	0856.0E	1249.6	326.0D	13.0			
	33	UPIC	4	S/F	1247.6	1247.9	1.9				
	29	UPIC	4	S/F	1248.1	1248.4	2.2				
12	260	ONDR	40	F	0840.0E	0906.5	346.0D	13.0			
13	245	LEAR	8	S	0651.0	0651.0	1.0	140.0			QL=3 ST=2 TYP=5
	410	LEAR	8	S	0651.0	0651.0	1.0	7.0			QL=5 ST=2 TYP=3
	650	GORK	2	S/F	0714.6	0714.8	0.3	3.9			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

FEBRUARY 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 (10^{-22} W/m^2 Hz)	Int	Remarks
	430	KRAK	41	F	0815.7	0816.0	1.7	11.0	2.0		
	327	TRST	45	C	0815.7	0815.8	0.4	32.0			4R
	408	TRST	42	SER	0815.7	0815.9	1.5	59.0			2L
	260	ONDR	40	F	0905.0E	1301.0U	297.0U	2.0			
	9300	KISV	1	S	1015.9	1016.5	4.2	10.0			
	9300	KISV	1	S	1020.6	1025.5	6.0	7.0			
	9300	KISV	1	S	1048.5	1050.2	5.5	9.0			
14	15000	KISV	1	S	1005.3	1006.9	2.7	5.0			
	9400	HUAN	1	S	1637.7	1642.2	9.0	3.1	0.8		
	9400	HUAN	20	GRF	1744.3	1759.7	28.5	3.9	1.1		
	9400	HUAN	1	S	1923.6	1929.6	9.1	4.6	0.8		
15	260	ONDR	40	F	0750.0E	1120.9U	405.0D	10.0			
	536	ONDR	40	F	0944.0	1221.4U	291.0				
	204	IZMI	41	F	1107.0	1107.2	2.6	72.0			
	245	PALE	4	S/F	2011.0	2011.0	15.0	34.0			QL=5 ST=2 TYP=3
16	260	ONDR	40	F	0835.0E	1103.0	337.0D	9.0			
	29	UPIC	42	SER	0957.6	0958.0U	25.5				
	204	IZMI	41	F	0957.8	1005.2	9.4	52.0			
17	260	ONDR	44	NS	0840.0E	1232.7U	320.0D	11.0			
	245	PALE	4	S/F	0058.0	0058.0	15.0	64.0			QL=5 ST=2 TYP=5
	410	LEAR	8	S	0231.0	0231.0	1.0	72.0			QL=5 ST=2 TYP=5
	410	PALE	4	S/F	0231.0	0231.0		120.0			QL=5 ST=2 TYP=5
	430	KRAK	2	S/F	0845.5	0846.0	0.7	18.0	2.0		
	810	KRAK	2	S/F	0845.7	0845.8	0.7	7.0	1.0		
	204	IZMI	4	S/F	1029.4	1029.5	0.4	290.0	140.0		
	536	ONDR	4	S/F	1131.8	1132.6	1.0	27.0			
18	260	ONDR	44	NS	0855.0E	1224.8U	348.0D				
	127	TORN	43	NS	1020.0		280.0		1.0		V=1
	204	IZMI	41	F	0817.6	0819.6	7.8	57.0			
	3100	CRIM	24	R	1057.0	1105.0		3.0			
	204	IZMI	41	F	1140.5	1141.2	6.0	68.0			
	245	PALE	8	S	1912.0	1912.0	1.0	27.0			QL=5 ST=2 TYP=3
	2700	PENT	4	S/F	1953.3	1955.5	2.5	125.7	60.0		
	245	PALE	8	S	2052.0	2052.0	1.0	29.0			QL=5 ST=2 TYP=3
	200	HIRA	24	R	2200.0	0137.0	680.0D	5.0	2.0		WR
19	200	GORK	44	NS	0512.0E		409.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	15.0			
	260	ONDR	44	NS	0830.0E		370.0D	10.0U			
	127	TORN	43	NS	0936.0		324.0		3.0		V=1
	200	HIRA	44	NS	2124.0E	0120.0	650.0D	25.0	4.0		MR
	245	LEAR	8	S	0537.0	0537.0	1.0	370.0			QL=3 ST=2 TYP=5
	245	LEAR	8	S	0626.0	0626.0	1.0	69.0			QL=3 ST=2 TYP=5
	245	SVTO	8	S	0707.0	0707.0	1.0	70.0			QL=3 ST=2 TYP=5
	245	LEAR	8	S	0708.0	0708.0	1.0	77.0			QL=3 ST=2 TYP=5
	327	TRST	46	C	0815.3	0815.3	0.3	177.0			6R
	245	SVTO	8	S	0829.0	0829.0	1.0	180.0			QL=3 ST=3 TYP=5
	245	LEAR	8	S	0830.0	0831.0	1.0	120.0			QL=3 ST=2 TYP=5
	245	SVTO	8	S	0850.0	0850.0	1.0	34.0			QL=1 ST=2 TYP=3
	204	IZMI	4	S/F	0851.0	0851.4	1.0	100.0	50.0		
19	234	POTS	8	S	1010.8	1011.2	0.6	66.0	22.0		
	245	LEAR	8	S	1011.0	1012.0	1.0	230.0			QL=3 ST=2 TYP=5
	237	TRST	47	GB	1011.1	1011.1	0.2	881.0			6R
	204	IZMI	1	S	1011.2	1011.4	0.6	480.0	240.0		
	204	IZMI	41	F	1140.4	1141.2	1.4	100.0			
	430	KRAK	1	S	1209.0	1209.2	0.5	3.0	1.0		
20	100	GORK	44	NS	0524.0E		367.0D		5.0		
	200	GORK	44	NS	0525.0E		367.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0700.0E		480.0D		9.0		V=2
	260	ONDR	44	NS	0824.0E	1039.6U	357.0D	12.0U			
	200	HIRA	44	NS	2124.0E	0145.0	330.0D	14.0	2.0		MR
	245	LEAR	8	S	0027.5	0028.0	1.0	120.0			QL=5 ST=3 TYP=5

FEBRUARY 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 (10^{-22} W/m^2 Hz)	Int	Remarks
	500	HIRA	46	C	0403.8	0409.0	59.0	153.0	37.0		ML
	8800	PALE	8	S	0404.0	0404.0	2.0	15.0			QL=5 ST=2 TYP=3
	4995	PALE	8	S	0404.0	0404.0	2.0	20.0			QL=5 ST=2 TYP=3
	2695	PALE	49	GB	0404.0	0415.0	13.0	700.0			QL=5 ST=2 TYP=6
	2695	LEAR	20	GRF	0404.0	0423.0	46.0	430.0			QL=5 ST=2 TYP=2
	410	LEAR	4	S/F	0405.0	0408.0	37.0	290.0			QL=5 ST=2 TYP=5
	1415	LEAR	48	C	0405.0	0423.0	44.0	240.0			QL=5 ST=2 TYP=8
	200	HIRA	46	C	0405.3	0411.9	36.0	170.0	31.0		0
	610	PALE	20	GRF	0406.0	0407.0	6.0	72.0			QL=5 ST=2 TYP=2
	410	PALE	4	S/F	0406.0	0408.0	7.0	230.0			QL=5 ST=2 TYP=5
	1415	PALE	48	C	0406.0	0415.0	11.0	150.0			QL=5 ST=2 TYP=8
	610	LEAR	48	C	0406.0	0418.0	43.0	99.0			QL=5 ST=2 TYP=8
	100	HIRA	48	C	0406.6		42.0	1000.0D	130.0D		
	245	PALE	4	S/F	0409.0	0411.0	4.0	170.0			QL=5 ST=2 TYP=5
	245	LEAR	4	S/F	0409.0	0413.0	31.0	230.0			QL=5 ST=2 TYP=5
	4995	LEAR	20	GRF	0410.0	0423.0	39.0	380.0			QL=1 ST=2 TYP=2
	8800	LEAR	20	GRF	0410.0	0418.0	39.0	390.0			QL=5 ST=2 TYP=2
	15400	LEAR	20	GRF	0412.0	0418.0	37.0	220.0			QL=5 ST=2 TYP=2
	15400	PALE	8	S	0413.0	0414.0	2.0	410.0			QL=1 ST=2 TYP=5
	500	HIRA	42	SER	0503.5	0515.0	16.5	7.0			0
	650	GORK	4	S/F	0511.7	0512.4	2.3	18.0	5.0		
	950	GORK	3	S	0514.3	0515.4	2.2	5.5			
	500	HIRA	27	RF	0558.5	0609.5	20.0	5.0	2.0		0
	650	GORK	45	C	0558.7	0607.0		11.0			
	650	GORK	45	C	0558.7	0604.1	18.9	9.0			
	650	GORK	45	C	0558.7	0609.5		11.0			
	245	LEAR	4	S/F	0611.0	0611.0		190.0			QL=5 ST=2 TYP=5
	204	IZMI	4	S/F	0845.8	0846.0	0.6	340.0	170.0		
21	200	GORK	43	NS	0618.0		313.0D		5.0		
	204	IZMI	43	NS	0700.0		300.0	15.0			
	127	TORN	44	NS	0700.0E		480.0D		2.0		V=2
	260	ONDR	44	NS	0828.0E	1026.4U	374.0D	16.0U			
	100	GORK	43	NS	0928.0		124.0D		5.0		
	245	LEAR	8	S	0129.0	0130.0	1.0	33.0			QL=5 ST=2 TYP=3
	15400	LEAR	4	S/F	0135.0	0135.0		31.0			QL=5 ST=2 TYP=3
	204	IZMI	1	S	0752.4	0752.4	0.4	100.0	50.0		
	650	GORK	22	GRF	0823.2U	0850.1	40.0D	3.0			
	950	GORK	1	S	0851.4	0854.1	6.0	1.0			
	15000	KISV	1	S	0957.0	0958.0	2.0	44.0			
	9300	KISV	1	S	0957.0	0958.0	1.5	36.0			
	9100	GORK	3	S	0957.0	0957.6	2.6	34.0	10.0		
	9500	POTS	8	S	0957.0	0957.7	1.0	26.0			
	3100	CRIM	1	S	0957.1	0957.5	1.0	7.0	2.0		
	950	GORK	45	C	0957.2	0957.5	2.4	5.7			
	950	GORK	45	C	0957.2	0958.5		4.7			
	2950	GORK	3	S	0957.2	0957.6	0.7	11.9			
	1470	POTS	8	S	0957.3	0957.5	0.5	8.0			
	3000	POTS	8	S	0957.3U	0957.5U	0.7U	11.0			
	650	GORK	22	GRF	0957.4	1003.8	8.1	2.0			
	204	IZMI	5	S	0957.4	0957.8	2.0	31.0	15.0		
	1470	POTS	8	S	0958.3	0958.5	0.4	5.0			
21	200	HIRA	8	S	2320.5	2320.8	0.8	56.0			0
22	260	ONDR	44	NS	0750.0E	1235.0U	422.0D				
	500	HIRA	27	RF	0019.0	0117.0	200.0	6.0	3.0		0
	536	ONDR	41	F	0910.0		177.0				
	500	HIRA	42	SER	2354.0	0019.4	69.0	61.0			0
23	200	HIRA	43	NS	0254.0	0430.0	182.0	7.0	2.0		0
	245	LEAR	43	NS	0255.0	0845.0	466.0D	250.0			QL=5 ST=2 TYP=1
	410	LEAR	43	NS	0255.0	1029.0	466.0D	51.0			QL=5 ST=2 TYP=1
	245	PALE	44	NS	0305.0E	0416.0	72.0D	73.0			QL=5 ST=2 TYP=1
	200	GORK	44	NS	0524.0E		397.0D		5.0		
	410	SVTO	43	NS	0554.0	0753.0	617.0D	31.0			QL=1 ST=2 TYP=1
	245	SVTO	43	NS	0554.0	0903.0	617.0D	230.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0758.0E	0902.3U	439.0D	115.0U			
	430	KRAK	44	NS	0800.0E	1005.5	265.5D	83.0	3.0U		
	204	IZMI	43	NS	0819.0		71.0	40.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

FEBRUARY 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
	127	TORN	43	NS	0830.0	0952.9	310.0	40.0	1.0		V=0
	500	HIRA	27	RF	0234.0	0253.0	52.0	5.0	3.0		0
	245	PALE	8	S	0242.0	0242.0	1.0	57.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	0253.0	0254.0	1.0	19.0			QL=5 ST=3 TYP=3
	245	LEAR	8	S	0254.0	0254.0	1.0	110.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0254.0	0254.0	1.0	130.0			QL=5 ST=3 TYP=5
	245	PALE	4	S/F	0304.0	0304.0		66.0			QL=5 ST=2 TYP=5
	500	HIRA	27	RF	0329.0	0358.0	98.0	9.0	4.0		0
	410	PALE	8	S	0405.0	0405.0		86.0			QL=5 ST=2 TYP=5
	500	HIRA	24	R	0653.0	0728.0	70.0D	8.0	2.0		0 Sunset
	204	IZMI	41	F	0914.0	0918.5	25.0	270.0			
	810	KRAK	45	C	0917.0	0923.0	10.0	58.0	7.0		
	536	ONDR	41	F	0941.5	1206.4	318.5	33.0			
	245	PALE	4	S/F	2237.0	2237.0		44.0			QL=5 ST=2 TYP=3
24	410	PALE	44	NS	0211.0E	0212.0	70.0D	25.0			QL=5 ST=2 TYP=1
	260	ONDR	44	NS	0830.0E	1037.3	390.0D	50.0			
	500	HIRA	27	RF	0006.0	0216.0	275.0	6.0	3.0		0
	200	HIRA	46	C	0348.8	0414.5		21.0			MR
	200	HIRA	46	C	0348.8	0405.9	48.0	45.0	2.0		MR
	430	KRAK	46	C	1012.5	1027.8	32.5	41.0	5.0U		
	9400	HUAN	1	S	1642.5	1643.6	3.7	2.9	0.2		
	9400	HUAN	2	S/F	2006.7	2008.5	5.5	5.7	1.5		
	500	HIRA	24	R	2135.0E	2223.0	80.0D	7.0	3.0		0 Sunrise
25	260	ONDR	44	NS	0939.0E	1216.0U	325.0D				
	500	HIRA	27	RF	0033.0	0119.0	93.0	6.0	2.0		0
	500	HIRA	42	SER	0325.0	0330.0	138.0	6.0			0
	204	IZMI	1	S	0727.4	0727.5	0.4	52.0	26.0		
	237	TRST	2	S/F	0737.5	0737.6	0.2	233.0			2L
	204	IZMI	41	F	0741.4	0742.4	3.4	40.0			
	237	TRST	2	S/F	0747.3	0747.3	0.1	113.0			4R
	2950	GORK	2	S/F	1043.1	1049.9	8.7	1.6			
26	260	ONDR	44	NS	0815.0E	1127.0	463.0D	1.0			
	500	HIRA	46	C	0404.8	0408.1	13.0	5.0	1.0		0
	9300	KISV	22	GRF	0551.0E	0627.1	40.5D	3.0			
	9300	KISV	22	GRF	0655.0	0712.3	227.0	4.0			
	430	KRAK	8	S	1025.0	1025.0	0.1	10.0			
	430	KRAK	8	S	1148.5	1148.5	0.1	12.0			
27	260	ONDR	44	NS	0830.0E	1101.6	380.0D	40.0U			
	536	ONDR	40	F	0920.0	1307.4	280.0	24.0			
	810	CRAK	1	S	0945.2	0945.8	0.7	2.0	1.0		
	810	KRAK	2	S/F	0948.2	0948.5	1.8	17.0	4.0		
	810	KRAK	2	S/F	0950.5	0951.7	2.2	15.0	3.0		
	810	KRAK	46	C	0954.0	0954.7	5.0	47.0	12.0		
	234	POTS	42	SER	1057.6	1101.9	7.5	11.0			
	30	POTS	4	S/F	1101.0E	1102.0	5.0D	230.0U			
27	204	IZMI	4	S/F	1101.4	1101.7	0.8	33.0	16.0		
	33	UPIC	46	C	1101.5	1102.6	3.0				
	237	TRST	46	C	1101.5	1101.8	1.8	306.0			4R
	29	UPIC	46	C	1101.5	1101.8	3.5				
	327	TRST	2	S/F	1101.8	1102.1	0.5	38.0			5L
	237	TRST	45	C	1102.8	1103.1	0.4	37.0			6L
28	200	HIRA	43	NS	2330.0	0700.0	540.0D	12.0	5.0		WR
	610	PALE	8	S	0211.0	0211.0	1.0	99.0			QL=5 ST=2 TYP=5
	1415	PALE	8	S	0211.0	0211.0	1.0	130.0			QL=5 ST=2 TYP=5
	5900	KISV	1	S	0725.8	0726.3	0.8	1.0			
	15000	KISV	1	S	0726.7	0726.8	1.3	17.0			
	245	LEAR	4	S/F	0822.0	0822.0		180.0			QL=3 ST=2 TYP=5
	260	ONDR	40	F	0843.0	1122.4	379.0	2.0			
	245	LEAR	4	S/F	0849.0	0849.0		130.0			QL=5 ST=2 TYP=5
	2800	OTTA	1	S	1556.0	1558.0	5.0	10.0	6.0		
	410	PALE	4	S/F	2155.0	2155.0		12.0			QL=5 ST=2 TYP=3
	245	PALE	8	S	2155.0	2155.0	1.0	71.0			QL=5 ST=2 TYP=5
29	100	HIRA	43	NS	0130.0	0218.0	170.0	4.0	1.0		
	245	SVTO	43	NS	0545.0	1323.0	633.0D	93.0			QL=5 ST=2 TYP=1
	204	IZMI	44	NS	0700.0E		300.0D	50.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

FEBRUARY 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 (10^{-22} W/m^2 Hz)	Int	Remarks
29	127	TORN	44	NS	0920.0E		340.0D		7.0		V=2
	234	POTS	43	NS	1124.0	1318.0	202.0D	41.0U			
	245	PALE	44	NS	1711.0E	2002.0	409.0D	86.0			QL=5 ST=1 TYP=1
	245	PALE	43	NS	1905.0	0314.0	555.0D	150.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2109.0E	0600.0	680.0D	29.0	7.0		MR
	245	LEAR	43	NS	2237.0	0757.0	718.0D	180.0			QL=5 ST=3 TYP=1
	9300	KISV	21	GRF	0954.3	0954.9	10.0	6.0			
	3100	CRIM	1	S	0954.6	0954.9	3.6	2.7	1.0		
	2950	GORK	1	S	0954.7	0955.0	2.2	4.3			
	9100	GORK	1	S	0954.7	0954.9	2.0	5.6			
	5900	KISV	1	S	0954.7	0954.9	3.5	0.6			
	9100	GORK	20	GRF	1103.0	1248.6	120.0	8.0			
	9400	HUAN	2	S/F	1813.0	1814.7	5.5	4.6	1.5		
	9400	HUAN	20	GRF	1944.8	2009.9	41.2	9.1	4.2		

Reports are received routinely from the following observatories:

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

Explanation of Type Code:

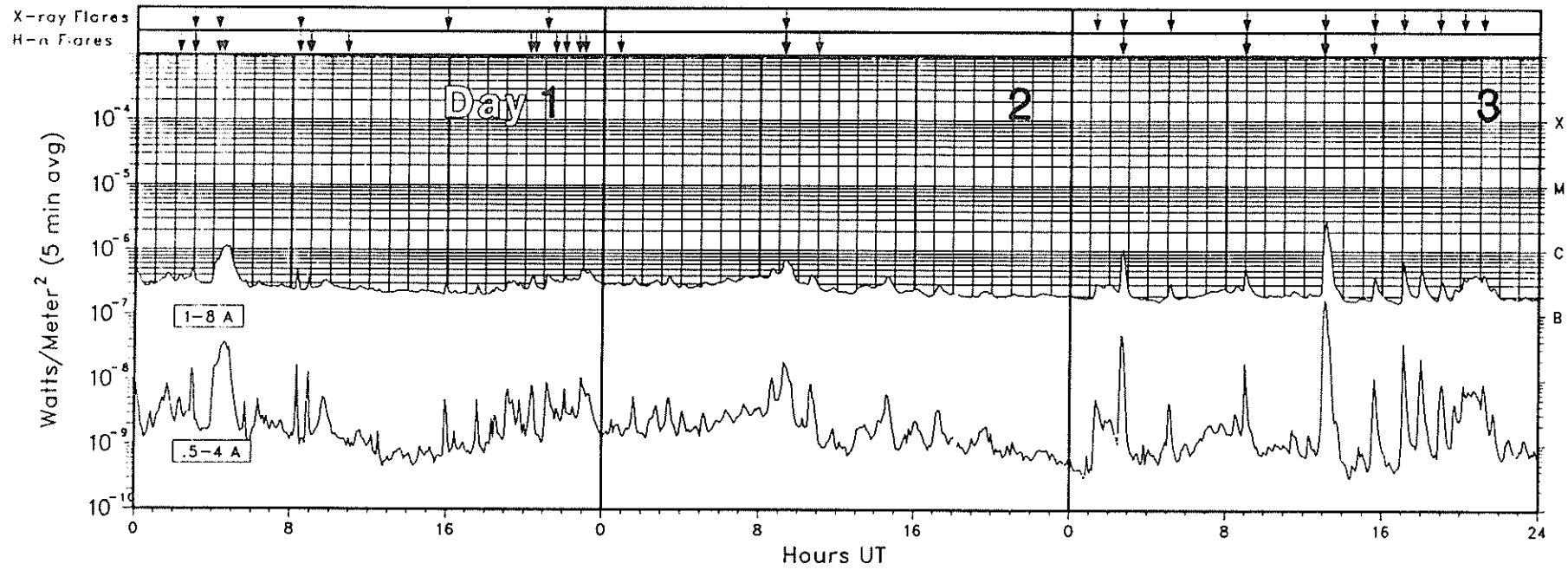
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precusor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
33 Absorption
40 Fluctuation
41 Group of Bursts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

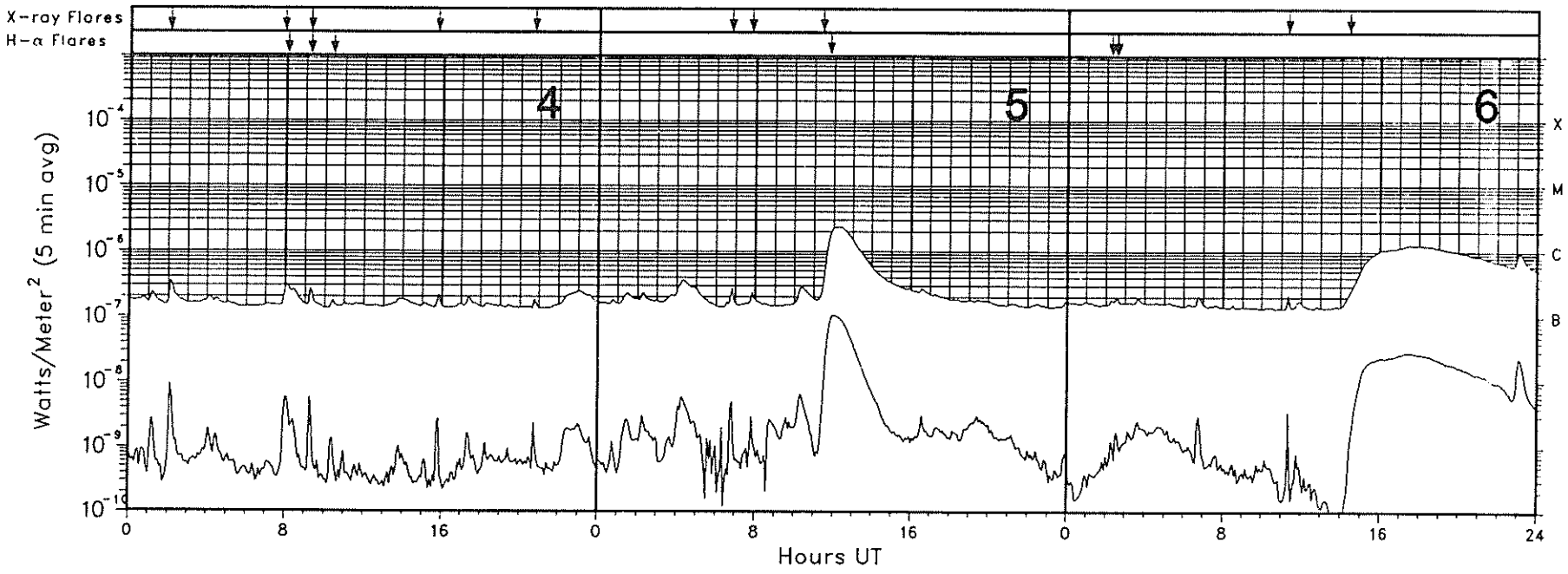
1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
40 Rise Only
40F Rise Only F
4P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

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

GOES-7 X-RAY DETECTOR

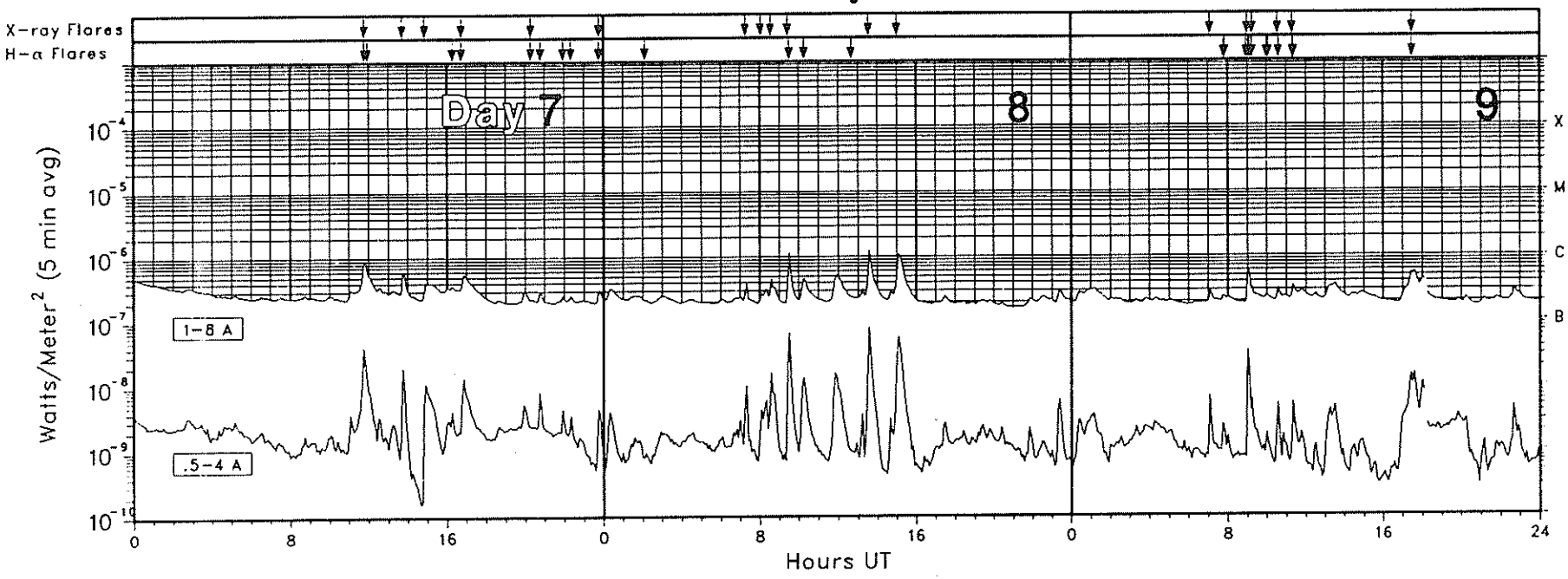
February 1988

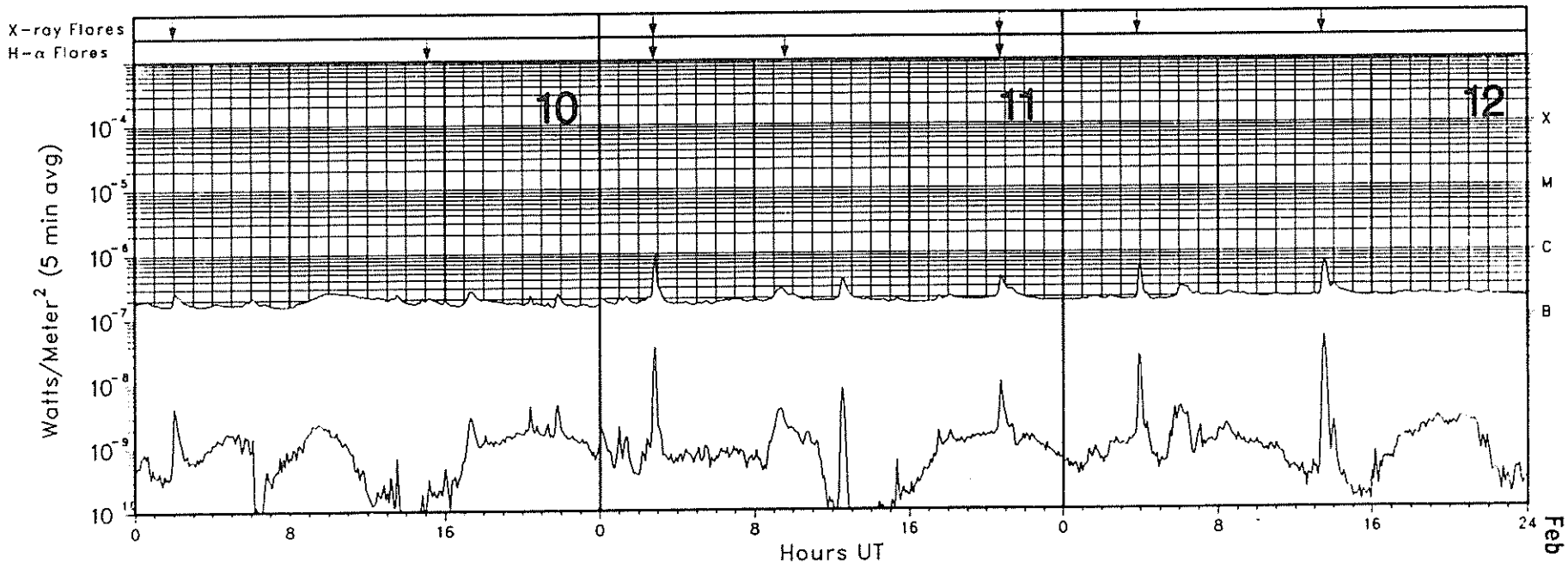




GOES-7 X-RAY DETECTOR

February 1988

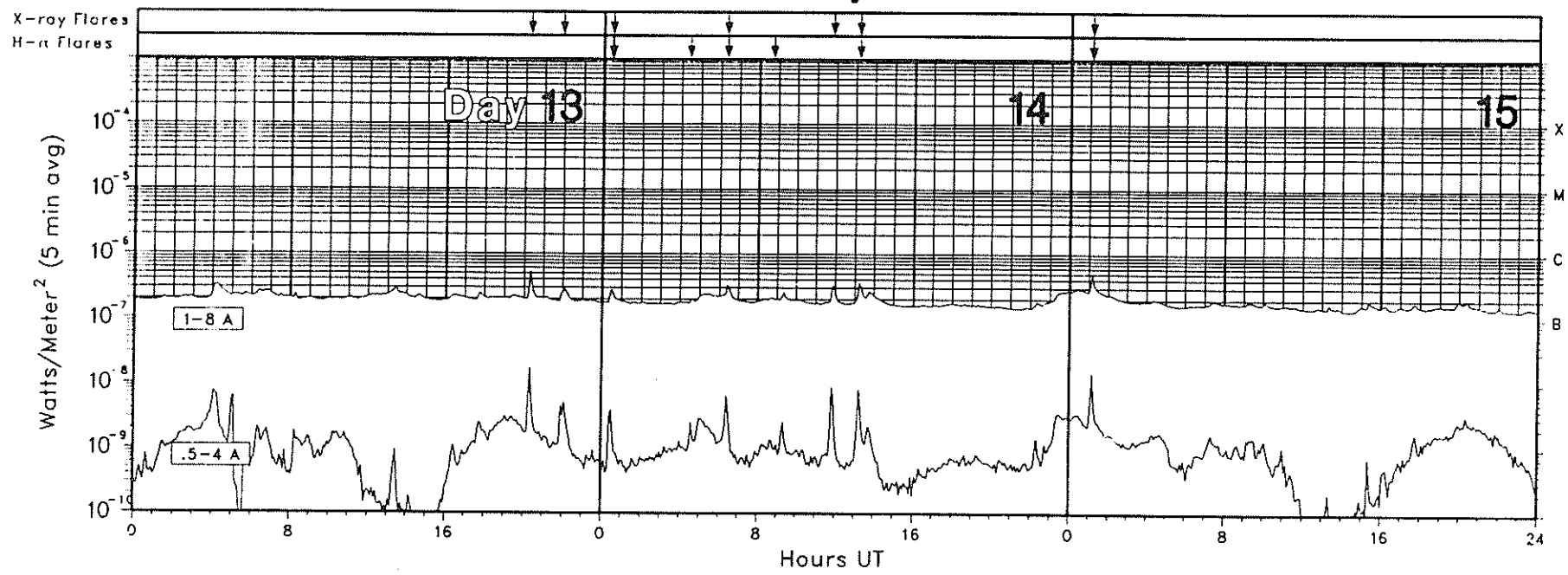


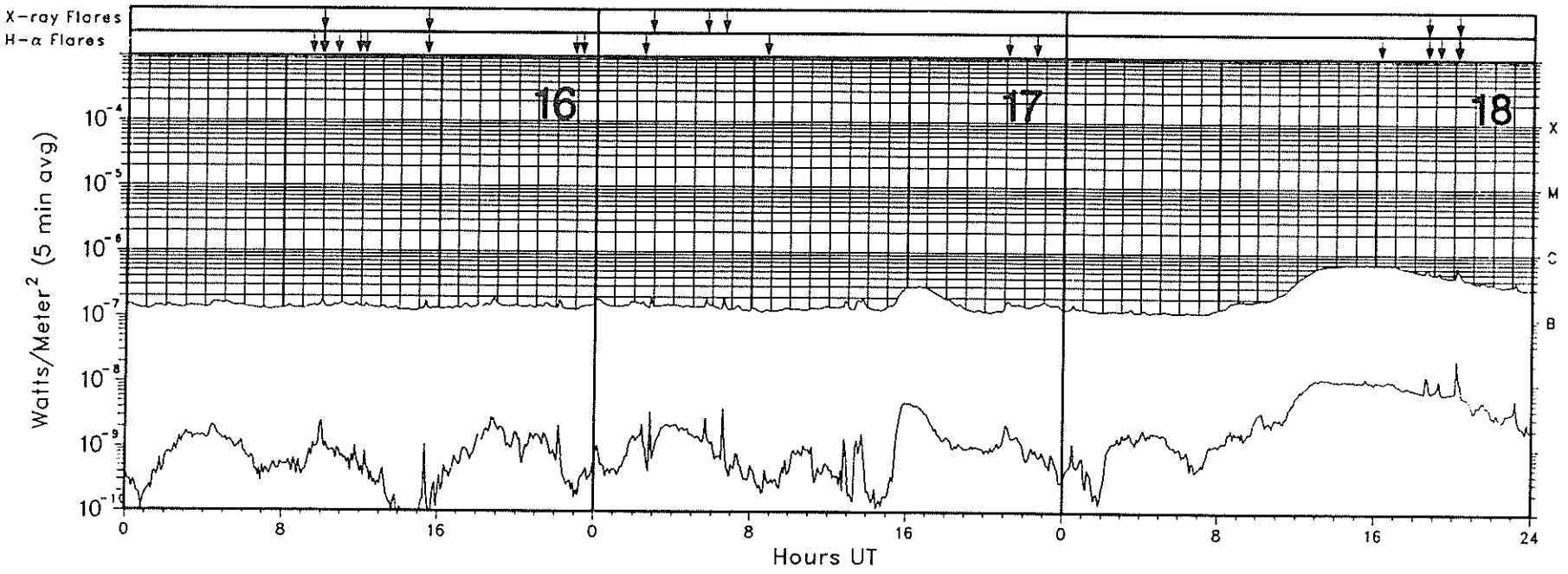


23 Feb 88

GOES-7 X-RAY DETECTOR

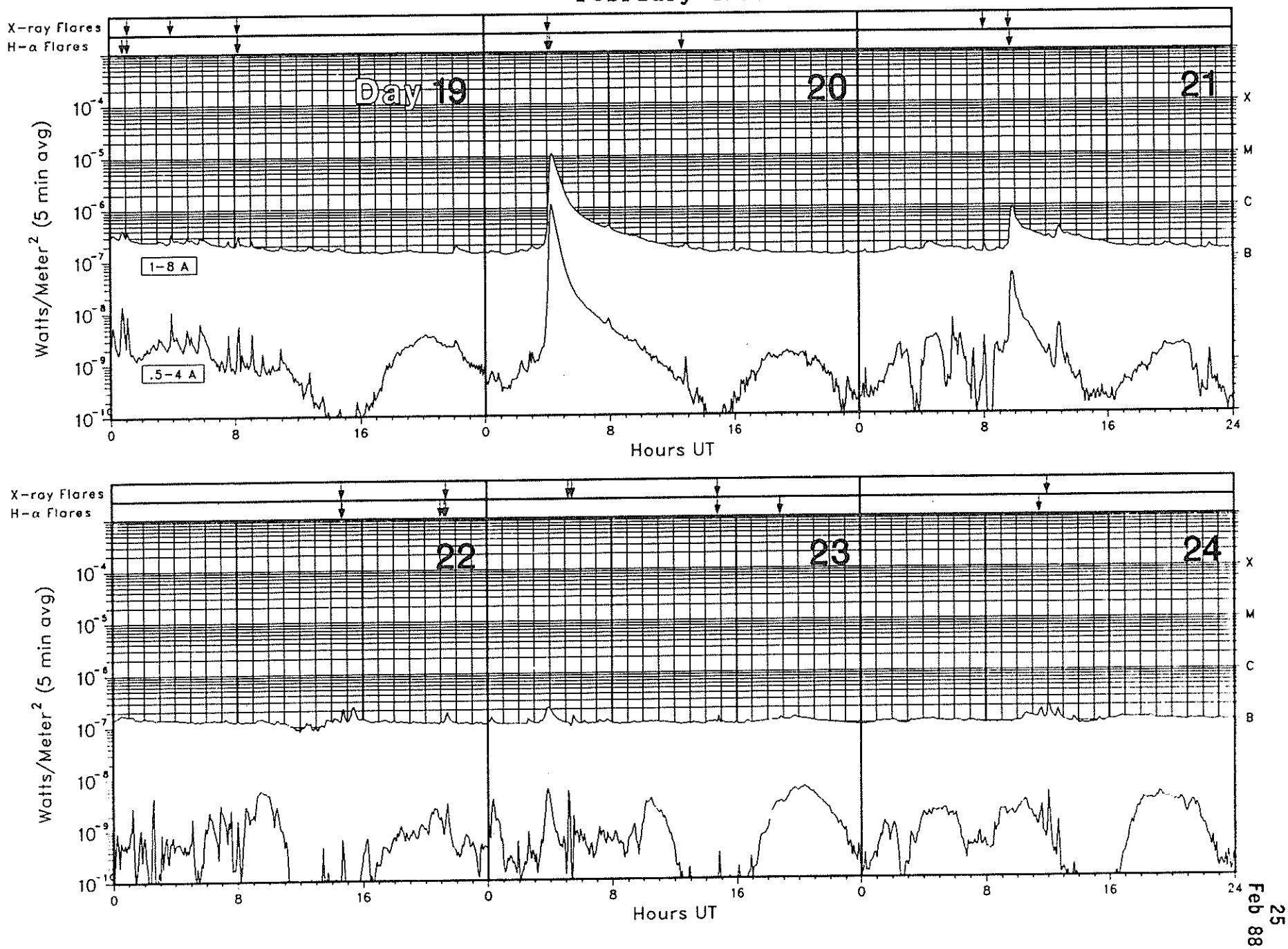
February 1988





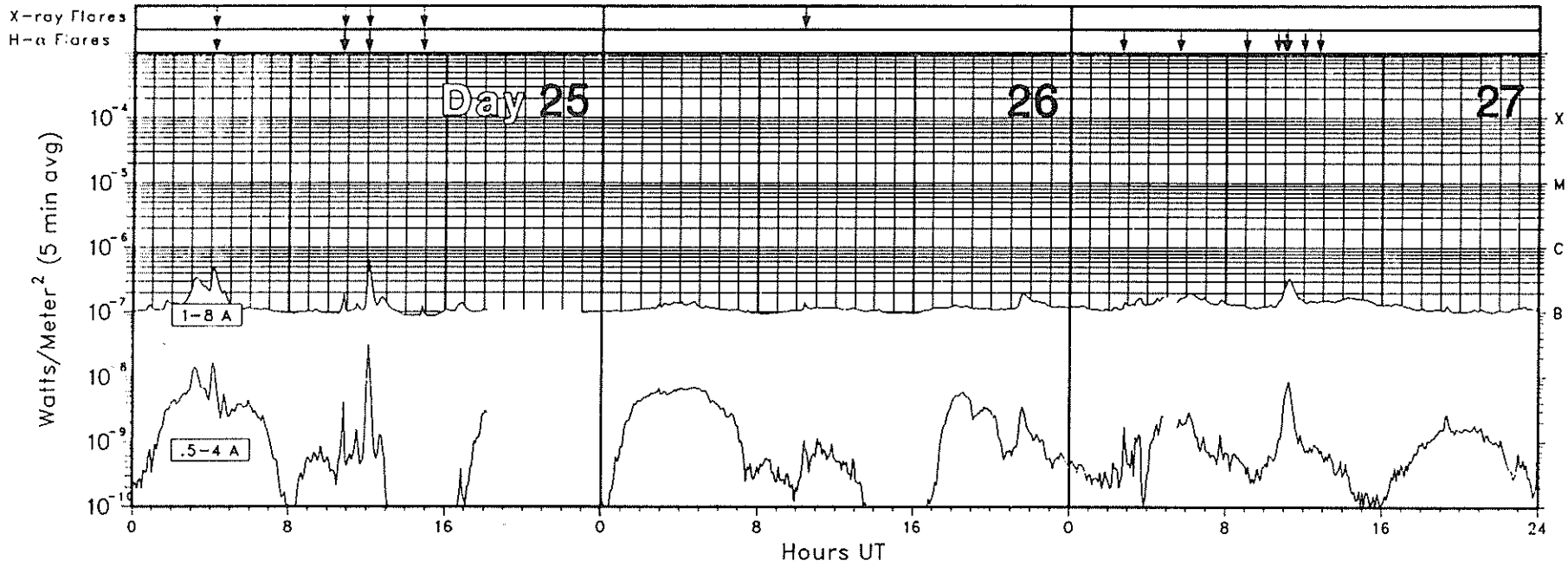
GOES-7 X-RAY DETECTOR

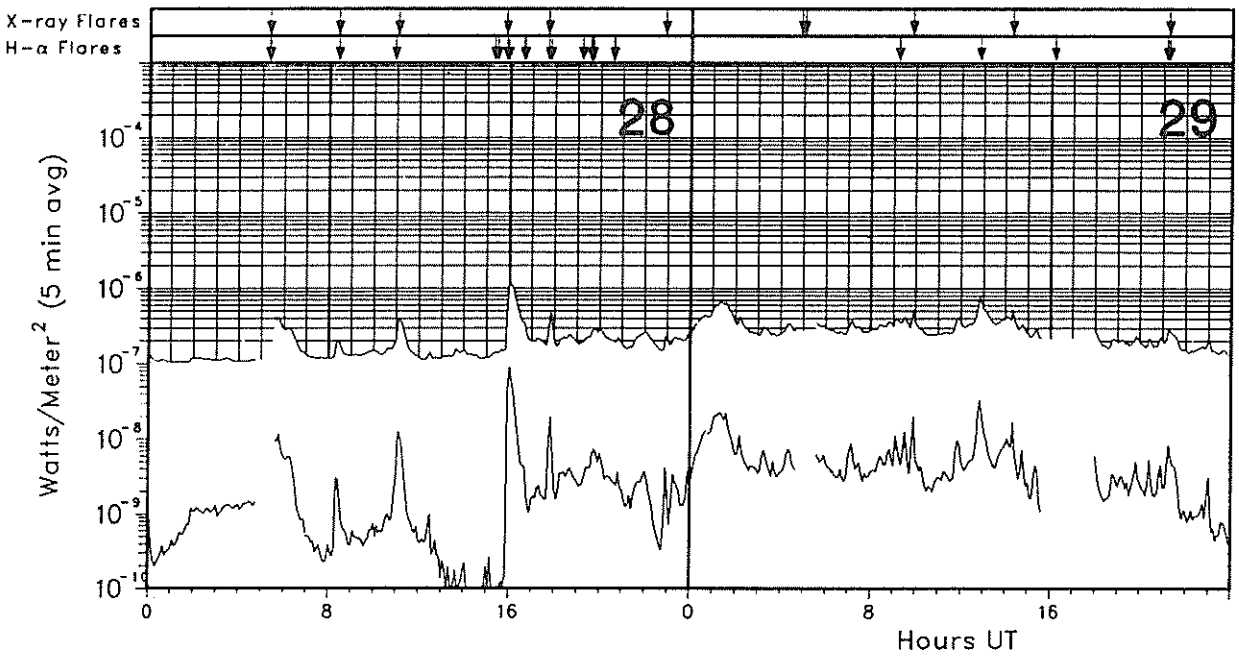
February 1988



GOES-7 X-RAY DETECTOR

February 1988





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

Preliminary Listing

February 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Imp Opt	Xray	NOAA/ USAF Region
01	0258	0301	0307	N19	W14	SF	B6.7	4937
01	0413	0441	0446	N22	E56	SF	C1.2	4939
01	0822	0825	0831	N21	E55	SF	B5.7	4939
01	1556	1600	1603				B3.3	
01	2107	2114	2131				B4.2	4943
02	0915	0917	0924	N18	E35	SF	B7.5	4939
03	0118	0124	0225				B3.1	
03	0240	0243	0307	N22	E30	SF	C1.2	4939
03	0505	0511	0516				B3.2	
03	0900	0901	0907	N24	E26	SF	B6.0	4939
03	1301	1302	1335	N24	E24	SF	C3.0	4939
03	1532	1539	1546				B4.3	
03	1703	1709	1713				B9.1	
03	1855	1905	1914				B3.6	
03	2010	2014	2019				B4.1	
03	2110	2114	2119				B4.7	
04	0203	0210	0217				B3.7	
04	0756	0808	0835				B3.0	
04	0916	0916	0927	N23	E13	SF	B2.9	4939
04	1546	1551	1554				B2.5	
04	2045	2049	2052				B2.0	
05	0646	0651	0655				B3.2	
05	0748	0752	0757				B2.4	
05	1125	1205	1305				C2.3	
06	1119	1122	1124				B2.5	
06	1425	1750	2225				C1.2	
07	1147	1156	1200	N26	W08	SF	C1.0	4943
07	1343	1348	1355				B6.9	
07	1452	1515	1538				B4.0	
07	1644	1659	1709D	N27	W10	SF	B5.6	4946
07	2018	2048	2059	N27	W07	SF	B3.6	4946
07	2346	2347	2358	N23	W35	SF	B3.3	4939
08	0716	0721	0730	N30	W15	SF	B5.2	4946
08	0803	0806	0809				B2.9	
08	0833	0836	0838				B6.6	
08	0926	0932	0935				C1.5	
08	1333	1338	1344				C1.3	
08	1500	1508	1520				C1.1	
09	0705	0710	0712				B3.7	
09	0859	0903	0907				C1.0	
09	0914	0917	0919				B3.8	4939
09	1033	1037	1041				B3.3	
09	1118	1122	1128				B3.7	
09	1729	1729	1746	S36	E76	SF	B5.9	4947
10	0159	0204	0215				B2.7	
11	0247	0251	0321	N27	W54	SF	C1.1	4946
11	2043	2044	2100	S35	E46	SF	B4.3	4947
12	0351	0402	0430	S35	E51	1N	B7.5	4947
12	1323	1334	1342				B7.1	
13	2017	2022	2027				B5.7	
13	2156	2200	2203				B3.0	
14	0029	0029	0033	S34	E22	SF	B3.1	4947
14	0621	0627	0638	S15	E79	SF	B3.4	4950
14	1150	1155	1200				B3.7	
14	1312	1318	1335	S37	E13	SF	B4.0	4947
15	0109	0111	0123	S36	E08	SF	B6.0	4947
16	0958	1001	1003				B2.1	
16	1520	1521	1526	N20	E34	SF	B1.9	4949
17	0250	0253	0255				B2.5	
17	0538	0542	0545				B2.0	
17	0634	0637	0641				B2.2	
18	1838	1839	1849	S09	W55	SF	B7.2	4951
18	2011	2012	2025	S09	W55	SF	B8.2	4951
19	0108	0110	0113	S10	W57	SF	B4.5	4951
19	0356	0400	0402				B5.5	
19	0814	0815	0819	N21	E11	SF	B3.7	4949
20	0405	0414	0532	S08	W68	1N	M1.1	4951
21	0801	0805	0808				B2.0	
21	0938	0952	1006				B9.5	
22	1442	1444	1455	S23	E25	SF	B2.4	4953
22	2123	2124	2130	N21	W43	SF	B1.9	4949
23	0514	0517	0519				B1.7	
23	0529	0533	0535				B2.8	
23	1449	1452	1454				B1.8	
24	1159	1204	1209				B2.5	
25	0411	0414	0419	S19	E52	SF	B4.9	4954
25	1048	1052	1054				B2.4	
25	1203	1205	1225	S19	E46	SF	B7.3	4954
25	1449	1453	1455				B1.7	
26	1023	1027	1029				B1.5	
28	0520	0521	0612	S20	E12	SF	B7.7	4954
28	0825	0830	0833	N17	E68	SF	B2.2	4957
28	1103	1110	1121				B4.2	
28	1551	1559	1618	N18	E64	SF	C1.3	4957
28	1742	1750	1755	N18	E64	SF	B5.5	4957
28	2254	2257	2305				B2.3	
29	0454	0458	0500				B5.9	
29	0503	0509	0515				B9.5	
29	0951	0956	0958				B6.7	
29	1418	1422	1425				B5.7	
29	2115	2118	2126				B3.0	

Preliminary GOES Satellite Data
Daily Average X-ray Background

March 1987 - February 1988

Day	1987 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1988 Jan	Feb
1	<A1.0	A1.1	A4.9	A4.8	---	B1.2	B1.1	A6.8	B2.2	A7.6	B2.0	B2.5
2	<A1.0	<A1.0	A5.0	A3.2	A1.7	B1.2	B1.3	A6.8	B3.8	A8.3	B1.4	B2.5
3	<A1.0	<A1.0	A8.8	A2.7	A1.4	B1.0	B1.3	A7.7	B3.4	A5.2	B4.6	B1.9
4	<A1.0	A2.2	A8.6	A2.7	A1.3	A6.7	B1.3	B1.2	B3.4	A4.8	B2.4	B1.5
5	<A1.0	A2.3	A8.1	A2.3	A1.2	A6.5	B1.4	B1.1	B2.1	A5.3	B2.3	B1.7
6	A2.6	B2.7	A8.0	A2.0	A1.3	A6.9	B1.4	B1.0	B2.1	A7.8	B2.5	B1.5
7	A4.1	---	A6.5	A1.9	A1.5	B1.7	B2.7	B1.1	B1.7	A8.5	B2.5	B2.4
8	A5.2	---	A5.9	A1.9	A5.0	B2.8	B2.2	B1.7	B1.2	A9.1	B2.7	B1.8
9	A3.1	---	A5.3	A2.8	A3.5	B2.1	B1.6	B2.1	A8.8	B1.4	B2.3	B1.8
10	A1.9	B2.2	A5.7	A6.3	A3.2	B2.3	B1.7	B2.0	A8.8	A9.4	B3.0	B1.5
11	A2.2	B1.9	A4.8	A8.5	A2.7	B2.9	B1.6	B1.8	B1.9	B2.3	B2.1	B1.6
12	A3.0	B1.6	A4.9	A8.7	A1.9	B2.9	B1.3	B1.7	B1.4	B3.2	B3.1	B1.8
13	A2.6	B1.4	A9.5	A8.8	A1.9	B2.6	B1.2	B2.3	B1.4	B1.8	--	B1.8
14	A5.3	B1.4	B1.8	A7.9	A3.3	B1.9	A9.5	B2.1	A8.2	B1.3	B4.0	B1.5
15	A1.9	B1.2	B2.0	A7.3	A4.3	B1.2	A7.1	B2.2	A9.7	B1.4	B3.9	B1.4
16	<A1.0	B2.2	B2.8	A7.1	A5.3	B1.4	A4.6	B2.6	B1.1	B1.2	B5.1	B1.2
17	<A1.0	B2.6	B1.9	A8.9	A4.0	B1.1	A5.2	B2.1	B1.1	A9.5	B3.6	B1.2
18	<A1.0	B2.9	B1.9	A8.6	A5.2	B1.1	A3.8	B2.6	B1.6	A8.9	B2.2	B1.6
19	A1.0	B2.2	B2.0	A7.4	B1.1	B1.2	A4.7	B2.4	B2.7	A7.3	B2.5	B1.4
20	A1.3	B1.5	B1.8	A6.4	B1.8	B1.3	A7.6	B1.7	B5.2	A7.1	B2.3	B1.2
21	A1.5	A7.2	B2.1	A7.7	B2.0	B1.6	A5.9	B1.5	B3.5	A9.8	B2.4	B1.3
22	A1.4	A3.5	B2.4	B1.2	---	B1.6	A5.0	B1.6	B3.6	B1.5	B2.0	A9.9
23	A1.7	A2.1	B1.6	A9.7	B3.9	B1.5	A3.4	B1.4	B3.0	B1.0	B2.0	B1.0
24	A5.3	A2.2	B3.1	B1.1	B3.5	B1.5	A3.7	B1.4	B2.9	B2.3	B3.1	A9.0
25	A4.2	A1.8	B4.9	A9.5	B3.4	B1.4	A3.0	B1.8	B2.9	B4.9	B1.9	A9.0
26	A3.8	A1.4	B3.6	A8.3	B3.6	B1.1	A2.7	B1.9	B2.9	B4.7	B2.2	B9.5
27	A3.2	A1.7	B2.3	A5.5	B3.7	B1.1	A7.6	B2.5	B2.0	B3.4	B4.6	B1.0
28	A2.2	A1.7	B2.3	A4.6	B3.2	A8.6	B1.0	B2.7	B1.7	B2.3	B5.1	B1.2
29	A1.2	A1.7	B1.4	A4.0	B2.2	A6.6	A9.8	B1.9	B1.7	B1.8	B4.4	B2.0
30	A1.2	A2.6	B1.4	A3.9	B1.6	A7.6	A7.0	B2.7	B1.1	B2.5	B2.7	
31	<A1.0		A6.7		B1.4	B1.3		B2.7		---	B2.1	

MASS EJECTIONS FROM THE SUN

FEBRUARY 1988

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R$_o$	Freq or Wavelength	Kind of Event
KHAR	Feb 01	0857 E	0901	0940	318-322	0.48-0.50	H-alpha	S
KHAR	Feb 01	1043	1050	1056	321	0.52	H-alpha	S
KHAR	Feb 01	1050 E		1130 D	124	1.00-1.03	H-alpha	S
WEIS	Feb 05	1138.3		1152.0			60-30 MHz	II Herringbone
KHAR	Feb 07	0950 E		1018 D	116	1.00-1.02	H-alpha	S
KHAR	Feb 07	1030		1043 D	116	1.00	H-alpha	S
ABST	Feb 08	1004 E	1023 U	1032 D	250	1.00	H-alpha	SP
ABST	Feb 13	0529 E	0603 U	0805 D	068	1.00	H-alpha	A
KHAR	Feb 15	0945 E		1025 D	055-057	0.87	H-alpha	S
KHAR	Feb 16	0958	1010	1035	054-056	0.70	H-alpha	S
KHAR	Feb 16	1043 E	1043 U	1103 D	055-056	0.70	H-alpha	S
KHAR	Feb 16	1125		1133 D	051-052	0.69	H-alpha	S
CULG	Feb 20	0411.5		0421.5			Meter	II
PALE	Feb 20	0415.0		0431.0			Meter	II
CULG	Feb 20	0421.5		0445.0			Meter; dekameter	II
LEAR	Feb 20	0421.0		0445.0			Meter	II

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

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

REPORTING STATIONS
- ABST = Abastumani
- CULG = Culgoora
- KHAR = Kharkov
- LEAR = Learmonth
- PALE = Palehua
- WEIS = Weissenau

ACTIVE PROMINENCES AND FILAMENTS

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
01	DSD	0053E	0404D	N18	W12	01	31.1		12	9	9	E	PALE	4937	
01	DSD	0054E	0214D	N18	W09	01	31.3		04	9	9	E	LEAR	4937	
01	AFS	0220E	0404D	S23	E50	02	4.9		01	8	8	E	PALE	4941	
01	DSD	0300E	0815D	N18	W12	01	31.2		03	9	9	E	LEAR	4937	
01	LPS	0850E	0855D	.15	131			1				P	MANI		
01	EPL	0850E	0855D	.15	212			1				P	MANI		
01	EPL	0850E	0855D	.20	308			1				P	MANI		
01	AFS	0850E	0855D	N28	E50	02	5.3	0				P	MANI		
01	AFS	0850E	0855D	N37	E10	02	2.2	0				P	MANI		
01	AFS	0850E	0855D	S17	E10	02	2.1	0				P	MANI		
01	AFS	0850E	0855D	S35	W15	01	31.2	0				P	MANI		
01	DSD	0857E	0940	N17	W20	01	30.9	1				V	KHAR		
01	DSD	0900E	0945D	N17	W18	01	31.0		06	9	9	E	LEAR	4937	
01	DSD	0906E	1136D	N16	W19	01	31.0		08	9	9	E	SVTO	4937	
01	ADF	1032	1115	N17	W18	01	31.1	1				V	KHAR		
01	DSD	1043	1056	N19	W21	01	30.9	1				V	KHAR		
01	APR	1050E	1124	S37	E90	02	8.7	1				V	KHAR		
01	BSL	1050E	1130D	S34	E90	02	8.6	1				V	KHAR		
01	BSL	1220E	1236D	N29	E90	02	8.6	1-				C	CATA		
01	DSD	1225E	1236D	N19	W23	01	30.9	1				C	CATA		
01	DSD	1230E	1526D	N17	W23	01	30.9		09	9	9	E	SVTO	4937	
01	BSD	1311E	1526D	N28	E70	02	7.0			9	9	E	SVTO		
01	DSD	1506E	0023D	N20	W17	01	31.3		08	9	9	E	HOLL	4937	
01	ASR	1637E	0023D	N19	E74	02	7.3			9	9	E	HOLL		
01	ASR	1742E	1758D	N27	E69	02	7.1			9	9	E	PALE		
01	ADF	1805E	0346D	N19	E43	02	5.0	1	05	9	9	E	PALE	4939	
01	DSD	1835E	0346D	N27	E69	02	7.1		04	9	9	E	PALE		
01	DSD	2219E	0050D	N14	W24	01	31.1		05	9	9	E	PALE	4937	
01	ASR	2226E	0556D	S14	W90	01	26.2	2		9	9	E	LEAR	4936	
01	AFS	2241E	1048D	N24	E64	02	6.9		02	9	9	E	LEAR	4943	
01	AFS	2242E	1033D	N19	E42	02	5.1		02	8	8	E	LEAR	4937	
01	AFS	2249E	1033D	N18	E38	02	4.8		03	9	9	E	LEAR	4939	
01	DSD	2310E	0220D	N28	E65	02	7.0		07	9	9	E	LEAR	4943	
01	AFS	2333E	1033D	N20	E25	02	3.9		03	9	9	E	LEAR	4938	
02	MDP	0809E	0823D	.10	245			0				P	MANI		
02	EPL	0809E	0823D	.20	142			1				P	MANI		
02	EPL	0809E	0823D	.20	225			1				P	MANI		
02	EPL	0809E	0823D	.20	317			1				P	MANI		
02	AFS	0809E	0823D	N16	W22	01	31.7	0				P	MANI		
02	AFS	0809E	0823D	N25	E37	02	5.2	0				P	MANI		
02	AFS	0809E	0823D	N39	E09	02	3.1	0				P	MANI		
02	AFS	0809E	0823D	N40	W10	02	1.5	0				P	MANI		
02	AFS	0809E	0823D	S12	W01	02	2.3	0				P	MANI		
02	AFS	0809E	0823D	S33	W27	01	31.2	0				P	MANI		
02	BSL	0852E	0905	N87	W90	01	25.0	1-				C	CATA		
02	BSL	0852E	0910	S86	W90	01	25.1	1-				C	CATA		
02	BSL	0926	0936D	S85	W90	01	25.1	1-				C	CATA		
02	BSL	1102	1220D	S85	W90	01	25.1	1				C	CATA		
02	BSL	1110	1120	N35	E90	02	9.7	1-				C	CATA		
02	BSL	1208	1217	N33	E90	02	9.6	1-				C	CATA		
02	AFS	1215E	1335D	N29	E57	02	7.0		03	9	9	E	SVTO	4943	
02	ADF	1216E	1335D	N28	E64	02	7.5	1	05	9	9	E	SVTO	4943	
02	AFS	1610E	1809D	N29	E57	02	7.1		02	9	9	E	HOLL	4943	
02	ADF	2140E	0359D	N23	E33	02	5.4	1	03	9	9	E	PALE	4939	
02	AFS	2140E	0359D	N28	E55	02	7.2		02	9	9	E	PALE	4943	
02	ASR	2228E	0359D	S28	E90	02	10.0			9	9	E	PALE		
02	AFS	2340E	0535D	N28	E54	02	7.2		02	9	9	E	LEAR	4943	
02	ASR	2344E	0535D	S27	E90	02	10.0			9	9	E	LEAR		
03	AFS	0001E	0540D	N19	E07	02	3.5		03	9	9	E	LEAR	4938	
03	AFS	0004E	0540D	N16	W39	01	31.0		03	9	9	E	LEAR	4937	
03	ADF	0004E	0540D	N18	W36	01	31.3	3	06	9	9	E	LEAR	4937	
03	APR	0119E	0300D	S50	E90	02	10.7	1				C	VORO		
03	AFS	0155E	0914D	N23	E30	02	5.4		02	9	9	E	LEAR	4939	
03	ADF	0450E	0914D	N19	E30	02	5.5	1	04	9	9	E	LEAR	4939	
03	AFS	0820E	1426D	N30	E48	02	7.1		02	8	8	E	SVTO	4943	
03	AFS	0917E	1409D	S25	W22	02	1.7		02	7	8	E	SVTO		

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
03	ADF	1208E	1426D	N22	E25	02	5.4		04	9	9	E	SVTO	4939	
03	ADF	1619E	2105D	N22	E02	02	3.8		03	6	9	E	HOLL	4939	
03	AFS	1850E	0017D	N22	E19	02	5.2		02	9	9	E	PALE	4939	
03	ADF	2000E	2105D	N38	E38	02	6.9	2	06	7	8	E	HOLL	4943	
03	AFS	2020E	0024D	N18	E22	02	5.5		04	5	9	E	HOLL	4939	
03	ADF	2021E	0024D	N26	E21	02	5.5	2	10	7	8	E	HOLL	4939	
03	ADF	2218E	0024D	S28	E76	02	9.9	1	03	8	9	E	HOLL		
04	AFS	0830E	1040D	N28	E35	02	7.1		02	9	9	E	LEAR	4943	
04	ADF	1929E	0143D	N29	E23	02	6.6	1	04	9	9	E	PALE	4943	
04	AFS	1929E	0143D	N29	E30	02	7.2		02	9	9	E	PALE	4943	
05	AFS	0001E	1033D	N28	E28	02	7.2		02	9	9	E	LEAR	4943	
05	DSD	0658E	0816D	N19	W01	02	5.2		03	9	9	E	LEAR	4939	
05	ADF	0837E	1033D	S28	E57	02	9.8	2	06	9	9	E	LEAR		
05	MDP	0838E	0853D	.05	43			0				P	MANI		
05	MDP	0838E	0853D	.05	327			0				P	MANI		
05	EPL	0838E	0853D	.15	130			1				P	MANI		
05	AFS	0838E	0853D	N25	E25	02	7.3	0				P	MANI		
05	AFS	0838E	0853D	N27	E01	02	5.4	0				P	MANI		
05	AFS	0838E	0853D	N48	E11	02	6.3	0				P	MANI		
05	AFS	0838E	0853D	S31	E49	02	9.2	0				P	MANI		
05	BSL	1006	1020D	S33	W90	01	29.4	1-				C	CATA		
05	AFS	1745E	0359D	N20	W06	02	5.3		03	9	9	E	PALE	4938	
05	ADF	1745E	0359D	N22	E10	02	6.5	1	12	9	7	E	PALE	4943	
05	AFS	1745E	0359D	N31	E14	02	6.8		03	9	9	E	PALE	4943	
06	ADF	0234E	1029D	N19	E04	02	6.4		14	9	9	E	LEAR	4943	
06	AFS	0450E	1029D	N28	E06	02	6.7		02	9	9	E	LEAR	4943	
06	APR	0703E	0919D	S68	E90	02	14.4	1				C	ABST		
06	ADF	0720E	1532D	S28	E31	02	8.7	1	12	9	9	E	SVTO		
06	ADF	0730E	1029D	S30	E30	02	8.7	1	11	9	9	E	LEAR		
06	DSD	0731E	1220D	N26	E03	02	6.5		07	9	9	E	SVTO	4943	
06	ADF	0735E	1532D	N30	E01	02	6.4	1	07	9	9	E	SVTO	4943	
06	ADF	0744E	1532D	N31	E11	02	7.2	1	05	9	9	E	SVTO	4943	
06	DSD	0753E	0905D	S19	W57	02	2.0		03	9	9	E	LEAR	4944	
06	ADF	0756E	1220D	N33	E15	02	7.5	1	03	9	9	E	SVTO	4943	
06	LPS	0809E	0834D	.15	142			1				P	MANI		
06	SPY	0809E	0834D	.30	160			1				P	MANI		
06	AFS	0809E	0834D	N27	W10	02	5.6	0				P	MANI		
06	AFS	0809E	0834D	N50	W00	02	6.3	0				P	MANI		
06	AFS	0809E	0834D	S09	E63	02	11.1	0				P	MANI		
06	AFS	0809E	0834D	S24	E66	02	11.4	0				P	MANI		
06	AFS	0809E	0834D	S33	E37	02	9.3	0				P	MANI		
06	AFS	0829E	0842D	N49	E29	02	8.8	0				P	MANI		
06	ADF	0900E	0939D	N34	E03	02	6.6	1	04	9	9	E	SVTO	4943	
06	ADF	0900E	1220D	N27	E11	02	7.2	1	04	9	9	E	SVTO	4943	
06	BSL	0939	0946	S86	W90	01	29.1	1-				C	CATA		
06	SDF	1020E	0739D	N41	E20	02	8.1	1				C	CATA		
06	BSL	1042	1101	N67	E90	02	14.5	1-				C	CATA		
06	BSL	1101	1113	N89	E90	02	14.9	1-				C	CATA		
06	BSL	1156	1200	S83	W90	01	29.2	1-				C	CATA		
06	EPL	1200	1240D	S68	E90	02	14.6	3				C	CATA		
06	AFS	1520E	1532D	N06	E50	02	10.4		02	9	9	E	SVTO		
06	ADF	1741E	0408D	N20	E00	02	6.7	1	09	8	9	E	PALE	4943	
06	ADF	1741E	0408D	N29	W03	02	6.5	1	12	9	7	E	PALE	4943	
06	AFS	1744E	0408D	N20	W33	02	4.2		02	9	9	E	PALE	4938	
06	DSD	1750E	0408D	N20	W23	02	5.0		02	9	9	E	PALE	4939	
06	ADF	1755E	0408D	S35	W31	02	4.3	2	14	9	9	E	PALE		
06	AFS	1940E	0408D	N22	W18	02	5.4		05	9	9	E	PALE	4939	
06	AFS	2303E	1007D	N28	W04	02	6.6		02	9	9	E	LEAR	4943	
06	ADF	2303E	1007D	N31	W06	02	6.5	2	10	9	9	E	LEAR	4943	
06	ADF	2304E	1007D	S29	E23	02	8.8	1	10	9	9	E	LEAR		
07	AFS	0100E	1007D	N29	E01	02	7.1		03	9	9	E	LEAR	4946	
07	AFS	0251E	0408D	N28	W03	02	6.9		02	9	9	E	PALE	4943	
07	DSD	0426E	0500D	N21	W31	02	4.8		03	9	9	E	LEAR	4939	
07	BSL	0705E	0727D	S46	E90	02	14.8	1				C	ABST		

ACTIVE PROMINENCES AND FILAMENTS

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
07	ADF	0839E	1400D	N23	W26	02	5.3	1	11	9	9	E	SVTO	4939	
07	ADF	0850E	1400D	N29	W13	02	6.3	1	11	8	9	E	SVTO	4943	
07	ADF	0850E	1400D	N31	E02	02	7.5	1	05	8	6	E	SVTO	4946	
07	ADF	0914E	1400D	S28	E16	02	8.6	1	14	9	9	E	SVTO		
07	BSL	0921	1030D	S37	E90	02	14.6	1-				C	CATA		
07	BSL	0925	0936	N80	W90	01	30.1	1-				C	CATA		
07	BSL	0950E	1018	S26	E90	02	14.4	1				V	KHAR		
07	ASR	1007E	1148D	S35	E90	02	14.6			9	9	E	SVTO		
07	BSL	1030	1043D	S26	E90	02	14.4	1				V	KHAR		
07	BSL	1041E	1145D	S37	E90	02	14.7	1				C	CATA		
07	ADF	1045E	1022D	N30	W04	02	7.1	1	05	9	9	E	LEAR	4946	
07	BSL	1116	1145D	S41	E90	02	14.8	2				C	CATA		
07	BSL	1130	1135D	S26	E90	02	14.5	1				V	KHAR		
07	DSD	1143E	1400D	N27	W09	02	6.8		03	9	9	E	SVTO	4943	
07	BSL	1156E	1156D	S41	E90	02	14.8	2				C	CATA		
07	BSL	1249E	1252D	S85	W90	01	30.2	1-				C	CATA		
07	AFS	1805E	0326D	N29	W10	02	7.0		03	9	9	E	PALE	4946	
07	ADF	1805E	0326D	S61	E90	02	15.7	1	59	9	9	E	PALE		
07	ASR	1850E	0326D	S36	E90	02	15.0			9	9	E	PALE		
07	ADF	1859E	0326D	N26	W18	02	6.4	1	09	9	9	E	PALE	4943	
07	AFS	1940E	0031D	N28	W10	02	7.0		03	7	9	E	HOLL	4946	
07	ASR	1957	2028D	S18	W81	02	1.7			9	9	E	PALE	4944	
07	ADF	2005E	0031D	S60	E90	02	15.7	2	23	8	9	E	HOLL		
07	DSD	2006E	0031D	S55	E50	02	12.1		09	7	9	E	HOLL		
07	ADF	2058E	0031D	N29	W19	02	6.4	2	01	6	9	E	HOLL	4943	
07	DSD	2107E	0031D	N35	W01	02	7.8		06	6	9	E	HOLL	4946	
08	ASR	0222E	0326D	S18	W86	02	1.5			9	9	E	PALE	4944	
08	AFS	0230E	1022D	N30	W10	02	7.3		02	9	9	E	LEAR	4946	
08	BSL	0818	0830	S43	W90	01	31.9	1-				C	CATA		
08	MDP	0829E	0842D	.02	135			0				P	MANI		
08	MDP	0829E	0842D	.04	45			0				P	MANI		
08	AFS	0829E	0842D	N52	E40	02	11.8	0				P	MANI		
08	AFS	0829E	0842D	S28	E53	02	12.5	0				P	MANI		
08	BSL	0837	0857	N48	E90	02	15.9	1-				C	CATA		
08	BSL	0913	0931	S41	E90	02	15.7	1-				C	CATA		
08	BSL	1004E	1032D	S20	W90	02	1.5	1				C	ABST		
08	SDF	1022E	2250D	S30	W48	02	4.6		09	0	0	E	LEAR		
08	BSL	1127E	1145	N85	W90	01	31.1	1-				C	CATA		
08	SDF	1252E	0735D	S29	W33	02	5.9	1				C	CATA		
08	SDF	1252E	0735D	S40	W10	02	7.7	1				C	CATA		
08	SDF	1252E	0735D	S43	W28	02	6.2	1				C	CATA		
08	ASR	1437E	1444D	S20	W89	02	1.8			9	9	E	HOLL	4945	
08	DSD	1447E	1502D	N19	W44	02	5.2		02	9	9	E	HOLL	4939	
08	AFS	1447E	2249D	N26	W22	02	6.9		01	7	8	E	HOLL	4946	
08	AFS	1734E	2059D	N28	W23	02	6.9		01	7	7	E	RAMY	4946	
08	ASR	1742E	2059D	S18	W90	02	1.9			8	9	E	RAMY	4945	
08	DSD	1833E	2154D	N30	W09	02	8.1		02	8	9	E	HOLL		
08	ASR	1940E	0210D	S17	W90	02	2.0			9	8	E	PALE		
08	ASR	2301E	0032D	S20	W90	02	2.1			9	9	E	HOLL	4944	
08	ASR	2310E	0230D	S20	W90	02	2.1			7	7	E	LEAR	4944	
09	SDF	0001	0130	S25	W90	02	2.0	1				C	VORO		
09	APR	0242	0300	N47	W90	02	1.6	1				C	VORO		
09	DSD	0600E	0626D	N27	W33	02	6.7		03	9	9	E	LEAR	4943	
09	BSL	0624E	0651D	N51	E90	02	16.9	1				C	ABST		
09	BSL	0649E	0945D	S56	E90	02	17.1	1				C	ABST		
09	MDP	0856E	0900D	.03	215			0				P	MANI		
09	MDP	0856E	0900D	.04	148			0				P	MANI		
09	LPS	0856E	0900D	.05	315			1				P	MANI		
09	AFS	0856E	0900D	N31	W34	02	6.7	0				P	MANI		
09	AFS	0856E	0900D	S29	E61	02	14.1	0				P	MANI		
09	AFS	0856E	0900D	S32	E45	02	12.9	0				P	MANI		
09	AFS	0856E	0900D	S51	E25	02	11.5	0				P	MANI		
09	DSD	0915E	1047D	N23	W50	02	5.5		04	9	9	E	LEAR	4939	
09	BSL	1010	1010D	N87	E90	02	17.8	1-				C	CATA		
09	BSL	1111	1122	S88	W90	02	1.0	1-				C	CATA		
09	BSL	1144	1151	S80	W90	02	1.1	1-				C	CATA		

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
09	ADF	1412E	1648D	N17	E57	02	13.9	2	02	9	9	E	RAMY		
09	DSD	1412E	1648D	N18	W58	02	5.2		02	9	9	E	RAMY	4939	
09	DSD	1412E	1648D	N27	W39	02	6.5		02	9	9	E	RAMY	4943	
09	ADF	1412E	1648D	N30	W41	02	6.4	2	09	9	9	E	RAMY	4943	
09	AFS	1412E	1648D	S35	E77	02	15.7		02	9	9	E	RAMY		
09	ADF	1412E	1648D	S37	W04	02	9.3	2	07	9	9	E	RAMY		
09	DSD	1510E	1620D	N23	W52	02	5.6		07	9	9	E	HOLL	4939	
09	AFS	1515E	0033D						03	9	9	E	HOLL		
09	APR	1630	1815D	S29	E90	02	16.7			8	9	E	HOLL		
09	SDF	1645	1710D	S29	E56	02	14.1		08	0	0	E	HOLL		
09	ADF	1720E	1807D	S28	E57	02	14.2	2	20	9	9	E	HOLL		
09	ADF	1807E	0033D	S27	E62	02	14.6	2	15	9	9	E	HOLL	4947	
09	SDF	1807E	1808D	S27	E62	02	14.6		05	0	0	E	HOLL		
09	ADF	1821E	0402D	N17	E55	02	13.9	1	02	9	8	E	PALE		
09	ADF	2245E	1035D	S26	W21	02	8.3	1	17	9	9	E	LEAR		
10	SDF	0055E	1451D	S41	W06	02	9.5		31	0	0	E	HOLL		
10	ADF	0106	0300D	N43	W90	02	2.6	1				C	VORO		
10	APR	0204	0300D	N51	W90	02	2.4	1				C	VORO		
10	SDF	0402E	1723D	S43	W10	02	9.3		50	0	0	E	PALE		
10	SDF	0633E	0746D	S45	E10	02	11.1		45	0	0	E	SVTO		
10	SDF	0650E	0655D	S71	E28	02	12.8	3	46	0	0	E	LEAR		
10	BSL	0835	0841	N65	E90	02	18.4	1-				C	CATA		
10	BSL	0841	0854	S48	E90	02	17.9	1-				C	CATA		
10	DSD	0904E	0948D	N30	W31	02	7.9		02	9	9	E	SVTO		
10	BSL	0922	0930	S48	E90	02	17.9	1-				C	CATA		
10	BSL	0935	0955	S33	E90	02	17.5	1-				C	CATA		
10	AFS	0935E	0935D	S41	E41	02	13.7	0				P	MANI		
10	BSL	1035E	1045	S46	W90	02	2.9	1-				C	CATA		
10	BSL	1051	1111	N82	W90	02	2.1	1-				C	CATA		
10	BSL	1205	1215	N53	E90	02	18.2	1-				C	CATA		
10	SDF	1231E	0742D	S54	E16	02	11.9	2				C	CATA		
10	ADF	1742E	2008	N27	W56	02	6.4	2	09	8	9	E	HOLL	4943	
10	ADF	1812E	0034D	S35	E35	02	13.5	2	05	8	8	E	HOLL		
10	ADF	1845E	0401D	N29	W49	02	6.9	1	04	9	9	E	PALE	4946	
10	AFS	2233E	0200D	N29	W47	02	7.2		03	9	9	E	LEAR	4946	
11	AFS	0200E	1011D	S32	E31	02	13.5		04	9	9	E	LEAR		
11	AFS	0200E	1011D	S37	E58	02	15.7		05	9	9	E	LEAR	4947	
11	ASR	0510E	0940D	N17	W80	02	5.1			9	9	E	LEAR	4939	
11	ADF	0740E	1600D	S36	E58	02	16.0		06	9	9	E	SVTO	4947	
11	ASR	0805E	0852D	N16	W90	02	4.5			9	9	E	SVTO	4939	
11	ASR	0931E	1411D	N16	W90	02	4.6			9	9	E	SVTO	4939	
11	AFS	1505E	1600D	S34	E56	02	16.1		02	9	9	E	SVTO	4947	
11	AFS	1618E	2249D	S33	E24	02	13.6		02	7	6	E	HOLL		
11	ADF	1620E	2249D	S29	W40	02	8.5	2	15	7	9	E	HOLL		
11	ADF	1905E	2251D	N26	W70	02	6.3	2	09	7	9	E	HOLL	4943	
11	ASR	2046E	2255D	N16	W88	02	5.2			9	9	E	HOLL	4939	
11	ASR	2050E	2200D	N18	W88	02	5.2			9	9	E	PALE	4939	
11	AFS	2233E	0200D	N29	W47	02	8.2		03	9	9	E	LEAR	4946	
12	ASR	0005E	1022D	N18	W90	02	5.1	2		9	9	E	LEAR	4939	
12	AFS	0307E	1022D	S36	E44	02	15.7		11	9	9	E	LEAR	4947	
12	EPL	0530E	0923D	S57	E90	02	20.1					C	ABST		
12	EPL	0614E	0923D	S60	E90	02	20.2					C	ABST		
12	BSL	0841	0845	N34	E90	02	19.5	1-				C	CATA		
12	BSL	1038	1042D	N32	E90	02	19.6	1-				C	CATA		
12	ADF	1324E	2031D	S33	E39	02	15.6	1	16	7	5	E	RAMY	4947	
12	ASR	1335E	2031D	S26	W90	02	5.6			9	9	E	RAMY	4943	
12	DSD	1518E	2145D	S32	E39	02	15.7		03	7	8	E	HOLL	4947	
12	ADF	1518E	2145D	S34	E38	02	15.7		05	7	6	E	HOLL	4947	
12	ADF	1540E	2147D	S23	W63	02	7.8		04	5	9	E	HOLL	4941	
12	DSD	1550E	2147D	S36	E24	02	14.6		02	8	9	E	HOLL		
12	ADF	1734E	2031D	S38	E40	02	16.0		08	9	9	E	RAMY	4947	
12	SDF	1843E	2055D	S58	E55	02	17.6		20	0	0	E	PALE		
12	ADF	1846E	0411D	S37	E41	02	16.1	1	05	9	8	E	PALE	4947	
12	ADF	1909E	2148D	S55	E22	02	14.7	2	17	9	9	E	HOLL		
12	ADF	2021E	2031D	S39	E08	02	13.5		15	9	9	E	RAMY		

ACTIVE PROMINENCES AND FILAMENTS

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMP CMD	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
12	SDF	2031E	1207D	S32	E27	02	15.0		11	0	0	E	RAMY	4947	
12	AFS	2301E	1042D	S36	E37	02	15.9	1	03	9	9	E	LEAR	4947	
13	APR	0115	0252D	N46	W90	02	5.5	1				C	VORO		
13	ASR	0230E	1042D	N20	E84	02	19.5			9	9	E	LEAR	4949	
13	ASR	0315E	0411D	N19	E90	02	20.0			8	9	E	PALE		
13	BSL	0529E	0805D	N13	E90	02	20.0	1				C	ABST		
13	BSL	0529E	0805D	N21	E90	02	20.1	1				C	ABST		
13	APR	0600E	0805D	S58	E90	02	21.1	1				C	ABST		
13	BSL	0913E	0916D	N80	E90	02	21.7	1-				C	CATA		
13	BSL	1010	1017	N19	E90	02	20.3	1-				C	CATA		
13	ASR	1210E	1803D	N26	W90	02	6.5			5	6	E	RAMY	4943	
13	ASR	1210E	2125D	N17	E90	02	20.3			9	9	E	RAMY	4949	
13	ASR	1210E	2125D	S16	E90	02	20.3			9	9	E	RAMY		
13	ADF	1224E	2125D	S49	E14	02	14.7	1	17	6	3	E	RAMY		
13	ADF	1316E	2125D	S40	E35	02	16.4	1	12	9	9	E	RAMY	4947	
13	ASR	1612E	1750D	N21	E87	02	20.3			6	8	E	HOLL	4949	
13	ADF	1619E	2241D	S35	E23	02	15.5		12	9	9	E	HOLL	4947	
13	ASR	1640E	0038D	S14	E84	02	20.0			6	9	E	HOLL		
13	ASR	1750E	2125D	S34	W90	02	6.6			5	5	E	RAMY		
13	ASR	1752E	0038D	N25	E87	02	20.5			9	9	E	HOLL	4949	
13	APR	1930E	2058D	N29	W86	02	7.1			7	9	E	HOLL	4943	
13	APR	2215E	0027D	N15	E88	02	20.6	1		9	9	E	PALE	4949	
13	AFS	2215E	0315D	S36	E20	02	15.5		03	9	9	E	PALE	4947	
13	AFS	2310E	0530D	S36	E20	02	15.6		02	9	9	E	LEAR	4947	
14	APR	0552E	1013D	S55	E90	02	22.0	1				C	ABST		
14	BSD	0603E	0615D	N23	E78	02	20.3		05	9	9	E	LEAR	4949	
14	BSL	0850	0907	S47	W90	02	6.8	1-				C	CATA		
14	BSL	0900	0907D	S13	W90	02	7.6	1-				C	CATA		
14	BSL	1046E	1115	N42	W90	02	7.1	1				C	CATA		
14	DSD	1145E	1607D	N18	E63	02	19.3		04	5	9	E	RAMY	4949	
14	ADF	1145E	2103D	N24	E64	02	19.4	2	10	8	7	E	RAMY	4949	
14	DSD	1321	1335	S38	E13	02	15.6		06	9	9	E	RAMY	4947	Flare Associated
15	ADF	0207E	0402D	N24	E58	02	19.6	1	02	9	9	E	PALE	4949	
15	APR	0610E	1005D	S28	E90	02	22.3	1				C	ABST		
15	APR	0610E	1005D	S52	E90	02	22.9	1				C	ABST		
15	BSL	0845	0853	N37	E90	02	22.6	1-				C	CATA		
15	DSD	0945	1025	N24	E53	02	19.5	1				V	KHAR		
15	BSL	1027	1035	N68	E90	02	23.6	1-				C	CATA		
15	BSL	1027	1043	N86	W90	02	7.0	1-				C	CATA		
15	BSL	1115	1125	N78	E90	02	23.8	1-				C	CATA		
15	AFS	1803E	0217D	N19	E55	02	19.9		03	8	7	E	PALE	4949	
15	ADF	2340E	0217D	S41	E05	02	16.4	2	10	8	9	E	PALE	4947	
15	ADF	2357E	0042D	S36	W06	02	15.5	1	12	9	9	E	HOLL	4947	
16	AFS	0029E	1030D	N21	W34	02	13.4		02	7	9	E	LEAR	4948	
16	BSL	0620E	1008D	S24	E90	02	23.2	1				C	ABST		
16	BSL	0620E	1008D	S30	W90	02	9.2	1				C	ABST		
16	DSD	0958	1035	N19	E37	02	19.2	1				V	KHAR		
16	DSD	1010E	1030D	N22	E36	02	19.2		04	9	9	E	LEAR	4949	
16	DSD	1043	1103D	N19	E37	02	19.3	1				V	KHAR		
16	DSD	1125	1133D	N22	E36	02	19.2	1				V	KHAR		
16	DSD	1145E	2037D	N19	E33	02	19.0		03	9	9	E	RAMY	4949	
16	DSD	1145E	2037D	N22	E35	02	19.2		06	9	9	E	RAMY	4949	
16	AFS	1145E	2037D	S16	E50	02	20.3		02	9	8	E	RAMY	4950	
16	DSD	1430E	2037D	N18	E36	02	19.3		05	9	9	E	RAMY	4949	
16	DSD	1530E	1740D	N20	E35	02	19.3		05	9	9	E	HOLL	4949	
16	DSD	1530E	1820D	N21	E34	02	19.2		05	9	9	E	HOLL	4949	
16	ADF	1940E	0354D	N18	E37	02	19.6	1	03	9	9	E	PALE	4949	
16	AFS	2011E	0354D	S15	E45	02	20.2		01	9	9	E	PALE	4950	
16	AFS	2255E	0946D	N20	E32	02	19.4		04	9	9	E	LEAR	4949	
16	AFS	2255E	0946D	S15	E47	02	20.5		02	8	8	E	LEAR	4950	
16	EPL	2334	0035	S30	E90	02	24.1	1				C	VORO		
16	APR	2334	0300D	S31	W90	02	9.9	1				C	VORO		
16	DSD	2339E	0037D	S15	E46	02	20.5		03	7	9	E	HOLL	4950	
17	DSD	0228	0322D	S16	E44	02	20.4		03	9	9	E	LEAR	4950	

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
17	APR	0729E	0957D	S26	W90	02	10.3	1				C	ABST		
17	BSL	0729E	0957D	S35	E90	02	24.5	1				C	ABST		
17	EPL	0837E	0916D	S29	W90	02	10.3	2				C	CATA		
17	DSD	1016E	1546D	N20	E24	02	19.3		04	9	9	E	SVTO	4949	
17	AFS	1026E	1546D	S14	E41	02	20.5		02	9	9	E	SVTO	4950	
17	ADF	1326E	1605D	S13	E40	02	20.6	1	05	9	9	E	RAMY		
17	DSD	1326E	2120D	N19	E24	02	19.4		06	8	9	E	RAMY	4949	
17	AFS	1326E	2120D	N21	W54	02	13.4		02	9	9	E	RAMY	4848	
17	AFS	1326E	2120D	S17	E38	02	20.4		02	9	9	E	RAMY	4950	
17	AFS	1410E	1546D	N18	W56	02	13.3		02	9	9	E	SVTO	4948	
17	AFS	1430E	2120D	S09	W40	02	14.6		02	9	9	E	RAMY		
17	DSD	1550E	2120D	N21	E25	02	19.6		05	9	9	E	RAMY	4949	
17	DSD	1550E	2120D	N23	E26	02	19.7		05	9	9	E	RAMY	4949	
17	DSD	1621E	1815D	N24	E21	02	19.3		04	9	9	E	HOLL	4949	
17	AFS	1752E	0405D	N21	W52	02	13.7		01	7	7	E	PALE	4948	
17	AFS	1752E	0405D	S09	W42	02	14.6		02	9	9	E	PALE		
17	AFS	1820E	2015D	S09	W42	02	14.6	1	02	9	9	E	HOLL		
18	AFS	0013E	1025D	N20	E19	02	19.5		04	9	9	E	LEAR	4949	
18	AFS	0013E	1025D	N22	W58	02	13.5		02	7	7	E	LEAR	4848	
18	BSD	0232E	0241	N23	E12	02	19.0		03	9	9	E	PALE	4949	
18	DSD	0240	0405D	N23	E12	02	19.0		04	9	9	E	PALE	4949	
18	AFS	0300E	1025D	S09	W46	02	14.7		02	9	9	E	LEAR		
18	DSD	0430E	1025D	N23	E12	02	19.1		03	9	9	E	LEAR	4949	
18	BSL	0658E	1012D	S26	W90	02	11.3	1				C	ABST		
18	LPS	0808E	0825D	.10	242			1				P	MANI		
18	LPS	0808E	0825D	.10	318			1				P	MANI		
18	AFS	0808E	0825D	S49	W50	02	14.1	0				P	MANI		
18	AFS	0808E	0825D	S59	E05	02	18.8	0				P	MANI		
18	BSL	0817E	1012D	N45	W90	02	10.9	1				C	ABST		
18	AFS	0928E	1438D	S11	W50	02	14.6	1	05	9	9	E	SVTO		
18	AFS	1134E	2153D	S09	W50	02	14.7		02	9	9	E	RAMY	4951	
18	AFS	1328E	2153D	S15	E23	02	20.3		02	9	9	E	RAMY	4950	
18	AFS	1539E	2153D	N04	W38	02	15.8		02	9	9	E	RAMY		
18	DSD	1930E	2234D	N26	E15	02	20.0		05	9	9	E	HOLL	4949	
18	AFS	1931E	2323D	S12	W58	02	14.4		05	9	9	E	HOLL	4951	
18	AFS	1942E	2323D	N35	W01	02	18.7		04	5	8	E	HOLL		
18	AFS	2236E	2323D	S17	E18	02	20.3		03	7	8	E	HOLL	4950	
18	AFS	2256E	0520D	N38	W10	02	18.1		03	9	9	E	LEAR		
18	AFS	2256E	1030D	S10	W58	02	14.6		03	9	9	E	LEAR	4951	
19	BSL	0745	0831D	S30	W90	02	12.2	1-				C	CATA		
19	DSD	0822	0830D	N25	E01	02	19.4	1-				C	CATA		
19	DSD	0822	0830D	N28	W01	02	19.3	1				C	CATA		
19	DSD	0826	0830D	N29	E02	02	19.5	1				C	CATA		
19	MDP	0853E	0910D	.05	35			0				P	MANI		
19	MDP	0853E	0910D	.10	242			0				P	MANI		
19	AFS	0853E	0910D	N29	E10	02	20.1	0				P	MANI		
19	AFS	0853E	0910D	S31	W14	02	18.3	0				P	MANI		
19	BSL	0855E	0925	S30	W90	02	12.3	1-				C	CATA		
19	BSL	0935	0940	N84	E90	02	27.8	1-				C	CATA		
19	AFS	1304E	1721D	S16	E10	02	20.3		02	7	4	E	RAMY	4950	
19	AFS	1304E	2121D	N22	E03	02	19.8		02	8	8	E	RAMY	4949	
19	ADF	1432E	2121D	N23	E02	02	19.7	2	06	9	9	E	RAMY	4949	
20	LPS	0450E	0531D	S08	W77	02	14.4			9	9	E	LEAR	4951	Flare Associated
20	APR	0628	0727D	S57	W90	02	12.4	1				C	ABST		
20	ADF	0824E	1434D	S11	W83	02	14.1	1	04	9	9	E	SVTO	4951	
20	MDP	0828E	0843D	.05	148			0				P	MANI		
20	LPS	0828E	0843D	.06	50			1				P	MANI		
20	LPS	0828E	0843D	.13	310			1				P	MANI		
20	AFS	0828E	0845D	N30	W02	02	20.2	0				P	MANI		
20	AFS	0828E	0845D	S20	W48	02	16.7	0				P	MANI		
20	ADF	0837E	1037D	S09	W77	02	14.6		03	9	9	E	LEAR	4951	
20	BSL	0851	0905D	S52	W90	02	12.7	1-				C	CATA		
20	ADF	1235E	2045D	N22	W09	02	19.8	1	03	9	9	E	RAMY	4949	
20	ADF	1235E	2045D	S10	E79	02	26.5	1	02	9	9	E	RAMY	4951	
20	ADF	1235E	2045D	S24	E52	02	24.5	2	03	9	9	E	RAMY		

ACTIVE PROMINENCES AND FILAMENTS

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
20	ADF	1235E	2045D	S34	W59	02	15.8	1	04	9	9	E	RAMY	4947	
20	ADF	2043E	0007D	N27	W17	02	19.5	2	04	9	9	E	HOLL	4949	
20	DSD	2048E	0007D	S10	W80	02	14.8		06	9	7	E	HOLL	4951	
21	BSL	0030E	0100	S26	E90	02	28.0	1				C	VORO		
21	BSL	0101	0142	S26	E90	02	28.0	1				C	VORO		
21	BSL	0206	0238	S26	E90	02	28.1	1				C	VORO		
21	ASR	0503E	0844D	S04	W90	02	14.5			9	9	E	LEAR	4951	
21	BSL	0737E	0746	S73	W90	02	13.1	1-				C	CATA		
21	MDP	0920E	0945D	.15	33			0				P	MANI		
21	AFS	0920E	0945D	N29	W16	02	20.1	0				P	MANI		
21	AFS	0920E	0945D	S21	W62	02	16.6	0				P	MANI		
21	ASR	1413E	1725D	S09	W90	02	14.8			9	9	E	RAMY	4951	
21	ADF	1422E	2129D	N21	W24	02	19.7	2	03	9	9	E	RAMY	4949	
21	ASR	1435E	1923D	S12	W90	02	14.8			9	9	E	HOLL	4951	
21	ADF	1610E	0041D	S23	E38	02	24.6	1	05	7	9	E	HOLL		
22	BSL	0738E	0811	S14	E90	02	29.1	2				C	CATA		
22	BSL	1005	1100D	S12	E90	02	29.2	2				C	CATA		
22	BSL	1035	1056	N28	E90	02	29.5	1				C	CATA		
22	BSL	1040	1046	N88	W90	02	14.0	1-				C	CATA		
22	MDP	1040E	1053D	.10	145			0				P	MANI		
22	MDP	1040E	1053D	.10	310			0				P	MANI		
22	LPS	1040E	1053D	.15	30			1				P	MANI		
22	AFS	1040E	1053D	N30	W28	02	20.2	0				P	MANI		
22	BSL	1110E	1133D	S12	E90	02	29.2	1				C	CATA		
22	BSL	1147E	1235D	S12	E90	02	29.3	1				C	CATA		
22	BSL	1227	1235	S50	E90	03	1.1	1-				C	CATA		
22	ASR	1241E	1351D	S18	E90	02	29.4			9	9	E	SVTO		
22	ADF	1424E	2219D	N21	W40	02	19.5	2	03	9	9	E	RAMY	4949	
22	DSD	1556E	1817D	N20	W39	02	19.7		03	9	9	E	HOLL	4949	
22	DSD	1658E	1744D	S25	E34	02	25.3		04	9	9	E	HOLL	4953	
22	AFS	1817E	2309D	N20	W40	02	19.7		02	7	7	E	HOLL	4949	
22	DSD	2016E	2221D	N23	E63	02	27.7		13	7	8	E	HOLL		
22	ADF	2033E	2309D	S24	E23	02	24.6		03	5	6	E	HOLL	4953	
22	DSD	2045E	2046D	N21	W41	02	19.7		04	9	9	E	HOLL	4949	
22	AFS	2146E	2309D	N21	W14	02	21.8		03	8	8	E	HOLL	4949	
22	DSD	2147E	2309D	N22	W43	02	19.6		05	9	9	E	HOLL	4949	
23	AFS	0505E	0706D	N18	W37	02	20.4		02	9	9	E	LEAR	4949	
23	MDP	0807E	0811D	.07	140			0				P	MANI		
23	LPS	0807E	0811D	.10	236			1				P	MANI		
23	AFS	0807E	0811D	N32	W40	02	20.2	0				P	MANI		
23	BSL	1001	1008	S64	E90	03	2.4	1-				C	CATA		
23	BSL	1016	1022	N75	E90	03	2.7	1-				C	CATA		
23	BSL	1022	1035	N78	W90	02	15.1	1-				C	CATA		
23	DSD	1045E	1102D	N16	W42	02	20.3		02	9	9	E	SVTO	4949	
23	BSL	1136	1148	N78	W90	02	15.1	1-				C	CATA		
23	BSL	1209	1215	N82	W90	02	15.1	1-				C	CATA		
23	ADF	1425E	1528D	S17	E72	02	29.1	1	05	9	9	E	SVTO		
23	ADF	1436E	1528D	N24	E46	02	27.2	2	06	9	9	E	SVTO		
23	DSD	2300E	2304D	N20	W55	02	19.7		03	6	6	E	HOLL	4949	
23	DSD	2310E	0215D	N20	W55	02	19.7		03	8	6	E	LEAR	4949	
23	ASR	2320E	0515D	N37	W82	02	17.4			6	6	E	LEAR	4952	
23	ASR	2320E	2327D	N37	W82	02	17.4			6	6	E	LEAR	4952	
24	APR	0010	0300D	S37	W90	02	16.7	1				C	VORO		
24	ADF	0340E	1035D	S18	E63	02	28.9	2	05	9	9	E	LEAR		
24	BSL	0920E	0930	S73	E90	03	3.6	1-				C	CATA		
24	BSL	0925	0940	N56	E90	03	3.2	1-				C	CATA		
24	BSL	0930	0940	N84	W90	02	16.0	1-				C	CATA		
24	BSL	0930	0947	S78	W90	02	16.1	1-				C	CATA		
24	BSL	1037	1050	N74	E90	03	3.7	1-				C	CATA		
24	MDP	1045E	1105D	.10	143			0				P	MANI		
24	LPS	1045E	1105D	.10	235			1				P	MANI		
24	BSL	1046	1056	S74	E90	03	3.7	1-				C	CATA		
24	AFS	1236E	1504D	N23	W64	02	19.6		02	9	9	E	RAMY	4949	
24	ASR	1236E	1940D	N39	W84	02	17.7			9	9	E	RAMY	4952	

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
24	ADF	1236E	1940D	S24	E65	02	29.5	1	12	9	9	E	RAMY		
24	ADF	1403E	1424D	S21	E64	02	29.5	1	12	9	9	E	SVTO		
24	AFS	1919E	2225D	N21	W65	02	19.8		05	5	8	E	HOLL	4949	
24	BSD	1923E	2225D	N22	W66	02	19.7		03	6	8	E	HOLL	4949	
24	DSD	2305E	0159D	S18	E51	02	28.8		05	9	9	E	LEAR	4954	
25	APR	0015	0220D	S33	W90	02	17.9	1				C	VORO		
25	APR	0126	0300	S43	W90	02	17.6	1				C	VORO		
25	ADF	0400E	1034D	S22	E56	02	29.5	2	11	9	9	E	LEAR	4954	
25	AFS	0758E	0805D	N33	W67	02	20.0	0				P	MANI		
25	AFS	0758E	0805D	S55	W37	02	22.1	0				P	MANI		
25	BSL	0946	1026	S61	W90	02	17.5	1-				C	CATA		
25	BSL	1005	1010	N75	E90	03	4.7	1-				C	CATA		
25	BSL	1005	1026	N63	E90	03	4.4	1-				C	CATA		
25	ASR	1200E	1505D	N26	W83	02	19.0			9	9	E	RAMY	4949	
25	ADF	1200E	2157D	S19	E46	02	29.0	1	08	9	9	E	RAMY	4954	
25	ADF	1200E	2157D	S24	E52	02	29.5	1	04	9	9	E	RAMY	4954	
26	ADF	0325E	1010D	S17	E34	02	28.7	1	12	9	9	E	LEAR	4954	
26	BSL	0523	1003D	S45	W90	02	18.7	1				C	ABST		
26	BSL	0924E	0924D	N15	E90	03	4.2	1-				C	CATA		
26	BSL	0959	1000D	N18	E90	03	4.3	1-				C	CATA		
26	BSL	0959	1000D	S88	E90	03	5.8	1-				C	CATA		
26	BSL	1034	1046	N17	W90	02	19.6	1-				C	CATA		
26	BSL	1040	1046D	N16	E90	03	4.3	1-				C	CATA		
26	BSL	1117	1121	N82	W90	02	18.1	1-				C	CATA		
26	ADF	1330E	2006D	S19	E32	02	29.0	1	05	9	9	E	RAMY	4954	
26	ASR	1936E	2223D	N16	E90	03	4.6			9	9	E	HOLL		
26	APR	2335	0235	N45	W90	02	19.5	1				C	VORO		
27	APR	0000	0244D	N30	W90	02	19.9	1				C	VORO		
27	APR	0105	0235	S56	W90	02	19.2	1				C	VORO		
27	ASR	0216E	1011D	N16	E81	03	4.2			9	9	E	LEAR		
27	BSL	0747	0757	S76	W90	02	19.0	1-				C	CATA		
27	AFS	0828E	0828D	N02	W06	02	26.9	0				P	MANI		
27	AFS	0828E	0828D	S28	E21	02	29.0	0				P	MANI		
27	MDP	0833E	0833D	.05	40			0				P	MANI		
27	MDP	0833E	0833D	.05	305			0				P	MANI		
27	BSL	0937	0955	N53	W90	02	19.7	1-				C	CATA		
27	BSL	0956	1015	N19	W90	02	20.5	1				C	CATA		
27	ADF	1050E	1108D	S21	E27	02	29.5	2	09	6	8	E	SVTO	4954	
27	BSL	1108	1121	N77	W90	02	19.1	1-				C	CATA		
27	BSL	1108	1121	S72	E90	03	6.7	1-				C	CATA		
27	BSL	1121	1121D	S54	E90	03	6.2	1-				C	CATA		
27	ADF	1259E	1603D	S22	E20	02	29.1	1	05	9	9	E	RAMY	4954	
27	AFS	1830E	0051D	N17	E75	03	4.5		02	9	9	E	HOLL	4957	
28	DSD	0523	0643D	S23	E13	02	29.2		07	9	9	E	LEAR	4954	
28	AFS	0730E	1150D	N21	E48	03	3.0		03	3	9	E	SVTO		
28	DSD	0735E	1033D	N22	E58	03	3.8		02	9	9	E	SVTO	4956	
28	DSD	1002E	1150D	N31	E38	03	2.4		02	9	9	E	SVTO	4955	
28	AFS	1005E	1005D	S22	E11	02	29.3	0				P	MANI		
28	MDP	1015E	1015D	.05	58			1				P	MANI		
28	BSL	1105	1120	S13	E90	03	6.2	1-				C	CATA		
28	BSL	1229E	1235D	N68	W90	02	20.4	1-				C	CATA		
28	DSD	1415E	2159D	N16	W64	02	23.7		03	9	9	E	RAMY	4957	
28	DSD	1415E	2159D	N17	W65	02	23.6		03	9	9	E	RAMY	4957	
28	ADF	1415E	2159D	S19	E06	02	29.0	2	13	6	9	E	RAMY	4954	
28	AFS	1415E	2159D	S22	E05	02	29.0		03	9	9	E	RAMY	4954	
28	DSD	1415E	2159D	S22	E45	03	3.0		03	9	9	E	RAMY	4958	
28	AFS	1415E	2159D	S23	E43	03	2.9		03	9	9	E	RAMY	4958	
28	AFS	1443E	0052D	N16	E63	03	4.4		01	9	5	E	HOLL	4957	
28	AFS	1454E	0052D	S21	E44	03	3.0		02	7	9	E	HOLL	4958	
28	DSD	1552	1602D	N19	E64	03	4.5		03	9	9	E	RAMY	4957	Flare Associated
28	AFS	1754E	0052D	N21	E51	03	3.6		02	9	9	E	HOLL	4956	
28	DSD	1955E	2245D	S22	E45	03	3.3		03	9	9	E	HOLL	4958	
29	AFS	0030E	0946D	S21	E38	03	2.9		03	9	9	E	LEAR	4958	

ACTIVE PROMINENCES AND FILAMENTS

FEBRUARY 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo	CMP Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
29	DSD	0121	0407D	S22	E39	03	3.0		07	9	9	E	LEAR	4958	
29	DSD	0134E	0156D	S22	E39	03	3.1		05	9	9	E	LEAR	4958	
29	AFS	0145E	0946D	N17	E54	03	4.2		05	9	9	E	LEAR	4957	
29	DSD	0505	0600D	S21	E37	03	3.0		03	9	9	E	LEAR	4958	
29	ADF	0620	0946D	S22	W01	02	29.2	2	05	9	9	E	LEAR	4958	
29	DSD	0655E	0817D	S22	E36	03	3.0		03	9	9	E	LEAR	4958	
29	AFS	0810E	1337D	S19	E35	03	3.0		02	9	9	E	SVTO	4958	
29	BSL	1058	1100D	N82	W90	02	21.1	1-				C	CATA		
29	AFS	1443E	0052D	N16	E63	03	5.4		01	9	5	E	HOLL	4957	
29	AFS	1454E	0052D	S21	E44	03	4.0		02	7	9	E	HOLL	4958	
29	AFS	1544E	0039D	S20	E03	02	29.9		02	7	9	E	HOLL		
29	AFS	1754E	0052D	N21	E51	03	4.6		02	9	9	E	HOLL	4956	
29	AFS	2024E	0039D	S21	E31	03	3.2		03	9	9	E	HOLL	4958	
29	AFS	2026E	0039D	S22	E30	03	3.1		02	6	9	E	HOLL	4958	
29	AFS	2227E	0039D	N15	E47	03	4.5		02	7	9	E	HOLL	4957	
29	AFS	2340E	0959D	S21	E24	03	2.8		03	9	9	E	LEAR	4958	
29	AFS	2350E	0959D	N17	E46	03	4.5		04	9	9	E	LEAR	4957	
29	DSD	2351E	0039D	N23	E52	03	5.0		07	5	8	E	HOLL	4957	

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

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

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

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

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

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

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