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Data for April 1988

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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 530

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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

CODE	KIND OF OBSERVATION	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	524A 53	525A 46	526A 44	527A 56	528A 50	529A 45	530A 51	
A.2aa	Internat. Provisional Sunspot Numbers	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11	529A 11	530A 13
A.2c	American Sunspot Numbers	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11	529A 11	530A 13
A.3a	Mt. Wilson Magnetograms	524A 53	525A 46	526A 44	527A 56	528A 50	529A 45	530A 51	
A.3b	Mt. Wilson Sunspot Magnetic Class	524A 82	525A 77	526A 74	527A 87	528A 80	529A 76	530A 82	
A.3c	Kitt Peak Magnetograms	524A 53	525A 46	526A 44	527A 56	528A 50	529A 45	530A 51	
A.3d	Mean Solar Magnetic Field (Stanford)	523A 24	524A 39	525A 35	526A 34	527A 45	528A 40	529A 34	530A 40
A.3e	Stanford Magnetograms	524A 53	525A 46	526A 44	527A 56	528A 50	529A 45	530A 51	
A.4	H-alpha Filtergrams	524A 53	525A 46	526A 44	527A 56	528A 50	529A 45	530A 51	
A.5	Calcium Plage Photographs/Drawings	Oct 87 in 525A154							
A.5a	Calcium Plage Regions	Aug-Oct 87 in 525A138							
A.5b	Daily Calcium Plage Indices	Aug-Oct 87 in 525A141							
A.6	H-alpha Synoptic Charts	524A 42	525A 38	526A 36	527A 56	528A 42	529A 36	530A 42	
A.6b	Active Region Carte Synoptique (Paris)	528B 4	529B 4	530B 4					
A.6c	Stanford Solar Mag Field Synoptic Maps	524A 44	525A 39	526A 37	527A 49	528A 43	529A 38	530A 44	
A.6d	Kitt Peak " Mag Field Synoptic Maps	524A 50	525A 44	526A 42	527A 54	528A 48	529A 44	530A 50	
A.6e	Mass Ejections from the Sun	528B 29	529B 62	530B 50					
A.6f	Active Prominences and Filaments	528B 30	529B 63	530B 51					
A.6g	Sac Peak Coronal Line Synoptic Maps	524A 46	525A 40	526A 38	527A 50	528A 44	529A 38	530A 46	
A.7h	Coronal Line Emission (Sac Peak)	524A 53	525A 46	526A 44	527A 56	528A 50	529A 45	530A 51	
A.8aa	2800 MHz - Solar Flux (Ottawa)	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11	529A 11	530A 13
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11	529A 11	530A 13
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	523A 9	524A 11	525A 11	526A 9	527A 11	528A 11	529A 11	530A 13
A.10a	Interferometric Chart (164 MHz) Nancay	523A 21	524A 35	---	526A 29	---	529A132	529A 30	530A 34
A.10c	East-West Scans - 21 cm - Fleurs	523A 20	524A 33	525A 29	526A 27	527A 38	528A 35	529A 28	530A 32
A.10d	East-West Scans - 43 cm - Fleurs	---	524A 34	525A 30	526A 28	---	---	529A 29	530A 33
A.10e	East-West Scans - 10 cm - Ottawa	523A 19	524A 32	525A 28	526A 26	527A 37	528A 34	529A 27	530A 31
A.10f	East-West Scans - 3 cm - Toyokawa	523A 18	524A 31	525A 27	526A 25	527A 36	528A 33	529A 26	530A 30
A.11g	Solar X-ray GOES (graphs/event table)	528B 22	529B 52	530B 42					
A.11k	Solar UV NOAA-9	May-Dec 86 in 529B 74							
A.12e	Solar Particles (IMP H & J)	Sep 85-May 86 in 525B 60							
A.13e	Solar Plasma (IMP H & J)	Oct 87-Jan 88 in 525B 56							
A.13f	Solar Wind (Pioneer 12)	Feb 84-Dec 87 in 525A114							
A.16a	SMM Solar Irradiance	Feb 80-Oct 87 in 530B 64							
A.16b	NIMBUS Solar Irradiance	Nov 78-Feb 87 in 523B 49							
A.17	Interplanetary Mag Field (Pioneer 12)	Oct 87 in 526A112							
A.17c	Inferred Interplanetary Mag Field	Mar 88 in 524A 40							
B.	IONOSPHERIC RADIO PROPAGATION								
B.52	Field Strength Graphs-North Atlantic	524A108	525A110	527A126	527A122	528A128	529A128	530A124	
B.53	Quality Indices on Paths to Germany	524A107	525A109	528A132	527A121	528A130	529A130	530A126	
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	523A 14	524A 16	525A 16	526A 14	527A 16	528A 16	529A 16	530A 18
C.1ba	H-alpha Flare Groups	528B 6	529B 6	530B 6					
C.1d	Flare Patrol Observations	523A 17	524A 30	525A 26	526A 24	527A 35	528A 32	529A 25	530A 29
C.1d	Flare Patrol Observations	528B 13	529B 25	530B 21					
C.3	Radio Bursts Fixed Freq.	528B 15	529B 27	530B 23					
C.3	Radio Bursts Fixed Freq. Selected	523A 22	524A 36	525A 32	526A 30	527A 40	528A 37	529A 31	530A 35
C.4d	Radio Bursts Spectral (Culgoora)	524A 92	525A 95	526A 94	527A102	528A103	529A101	530A107	
C.4e	Radio Bursts Spectral (Weissenau)	524A 92	525A 95	526A 94	527A102	530A128	529A101	530A107	
C.4f	Radio Bursts Spectral (Sagamore Hill)	524A 92	525A 95	526A 94	527A102	528A103	529A101	530A107	
C.4i	Radio Bursts Spectral (Bleien)	---	---	---	---	---	---	---	
C.4k	Radio Bursts Spectral (Learmonth)	524A 92	525A 95	526A 94	527A102	528A103	529A101	530A107	
C.4l	Radio Bursts Spectral (Palehua)	524A 92	525A 95	526A 94	527A102	528A103	529A101	530A107	
C.6	Sudden Ionospheric Disturbances	524A 90	525A 91	526A 91	527A 99	528A 99	529A 98	530A105	
D.	GEOMAGNETIC & MAGNETOSPHERIC EVENTS								
D.1a	Geomagnetic Indices	524A101	525A104	526A105	527A116	528A122	529A122	530A118	
D.1ba	27-day Chart of Kp Indices	524A103	525A106	526A107	527A118	528A124	529A124	530A120	
D.1cb	Monthly Mean aa Indices	524A104	525A107	526A108	527A119	528A125	529A125	530A121	
D.1d	Principal Magnetic Storms	524A105	525A108	526A109	527A120	528A126	529A126	530A122	
D.1f	Sudden Commencements/Flare Effects	524A106	526A113	526A110	528A136	528A127	529A127	530A123	
D.1g	Equatorial Indices Dst	Jul 87 in 519A 99							
F.	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	527A148	527A149	527A150	527A115	529A133			
F.1b	Cosmic Ray Neutron Cts (Climax)	524A100	525A103	527A150	527A115	528A117	529A119	530A116	
F.1e	Cosmic Ray Neutron Cts (Alert)	527A148	527A149	527A150	527A115	529A133			
F.1h	Cosmic Ray Neutron Cts (Thule)	524A100	525A103	526A104	527A115	528A117	529A119		
F.1i	Cosmic Ray Neutron Cts (Kiel)	524A100	525A103	526A104	527A115	528A117	529A119	530A116	
F.1j	Cosmic Ray Neutron Cts (Tokyo)	527A148	527A149	527A150	527A115	528A117			
F.1l	Cosmic Ray Neutron Cts (Huancayo)				527A150	527A115	528A117	530A116	
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	523A 5	524A 4	525A 5	526A 4	527A 4	528A 5	529A 5	530A 5

The entry "524A 53" under Feb 1988. for example, means that the sunspot drawings for Feb 1988 appear in SOLAR-GEOPHYSICAL DATA No. 524, Part I, and that they begin on page 53. "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 **APRIL 1988** Number 530 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 1800

(15 March to 11 April 1988)

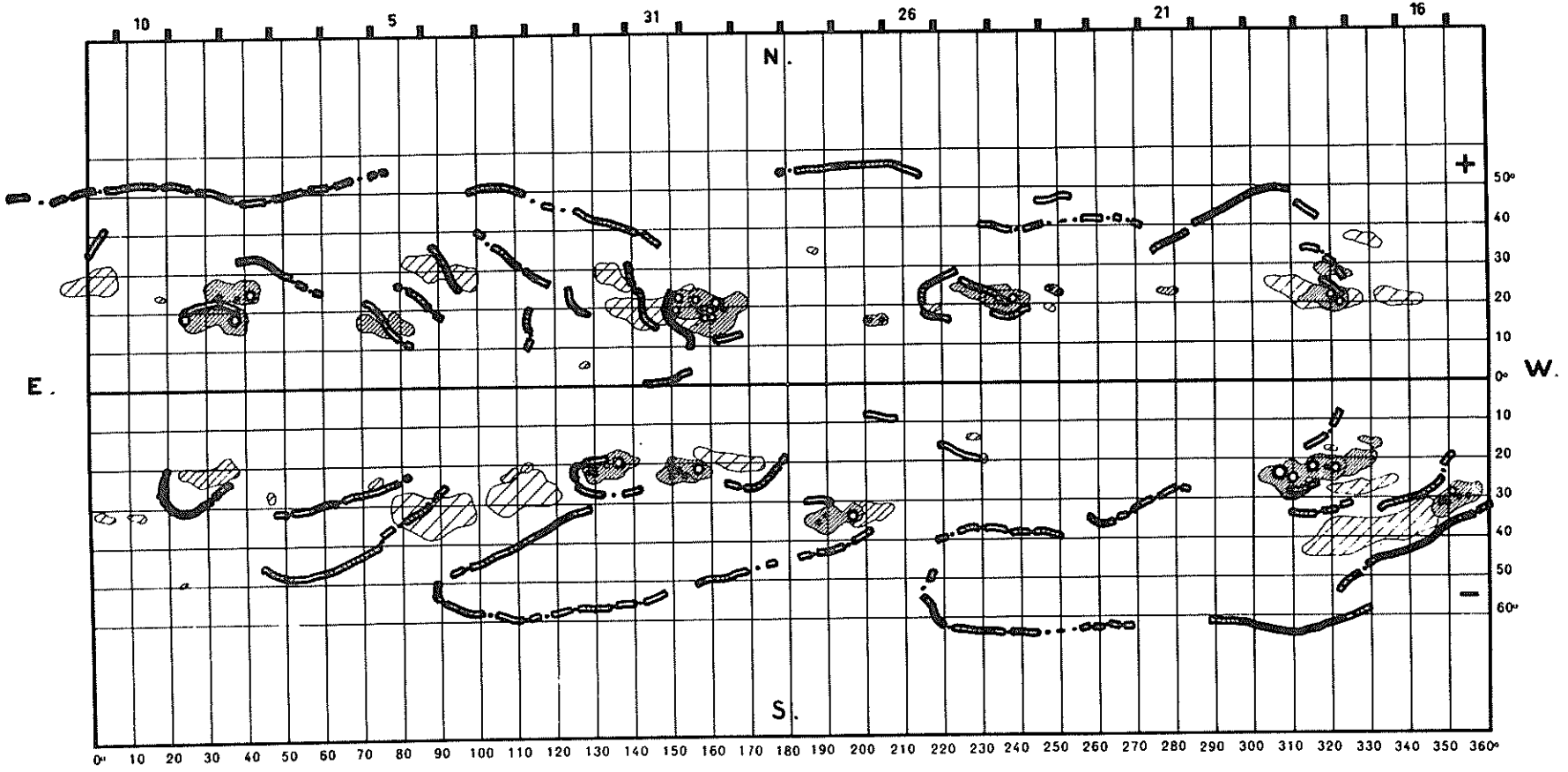
Region No.	Coordinates Lat.	Long.	Imp	Age at CMP (Days)	Spotless Region	Region No. in Rotation 1799	Activity at West Limb
1	30 S	352	3	+4			decreasing
2	38 S	334	1	>6	x		dispersed
3	16 S	330	1	+3	x		disappeared
4	27 S	329	1	>6	x		disappeared
5	21 S	327	1	>6	x		decreasing
6	28 N	320	1	+2	x		decreasing
7	21 N	319	3	>6			decreasing
8	22 N	317	1	>6	x	5	
9	24 S	313	5	>6			decreasing
10	23 N	278	1	+5	x		disappeared
11	23 N	249	2	-2			decreasing
12	20 N	237	3	>6			decreasing
13	23 N	230	1	>6	x		decreasing
14	14 S	228	1	+5	x		disappeared
15	24 N	224	1	-5	x		(?)
16	16 N	203	2	-3			increasing
17	33 S	201	1	>6	x	13	dispersed
18	34 S	192	3	>6			decreasing
19	18 N	159	5	>6			decreasing
20	22 N	158	3	-2			stable
21	21 S	154	3	-1			stable
22	23 S	151	2	+6			decreasing
23	19 N	146	1	>6	x		dispersed
24	28 N	135	1	>6	x		dispersed
25	21 S	134	3	>6			decreasing
26	23 S	108	1	0	x		disappeared
27	30 N	91	1	>6	x	27	decreasing
28	17 N	76	1	>6	x		decreasing
29	28 S	46	1	-5	x		(?)
30	25 N	37	3	+4			decreasing
31	19 N	32	4	>6			decreasing
32	22 S	31	1	>6	x		decreasing
33	28 N	1	1	>6	x		dispersed

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

CARRINGTON ROTATION NUMBER 1800
(15 March to 11 April 1988)

Meudon Observatory

March 1988



Heliographic Longitude

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

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	LEAR	01	0031	0032	0037	N21	W13	4975	03	31.0	6	SF			3	E		15		
0002	YUNN	01	0117E	0119U	0134	N20	W69	4979	03	26.9	17D	SN				P	0119	16		
0003		01	01556	0206	0215	N17	W68	4979	03	27.0	20	SN						26		
	YUNN	01	0155	0206	0218	N17	W71	4979	03	26.8	23	SN				C		32		
	LEAR	01	0201	0206	0212	N17	W66	4979	03	27.2	11	SF			3	E		19		
0004		01	02271	02291	0234	N20	W15	4975	03	31.0	7	SF	C	1.3				42		
	LEAR	01	0227	0229	0235	N20	W15	4975	03	31.0	8	SF	C	1.3	3	E		41		
	YUNN	01	0227	0230	0234	N22	W15	4975	03	31.0	7	SF	C	1.3		C		76		
	PALE	01	0228	0230	0234	N17	W15	4975	03	31.0	6	SF	C	1.3	2	E		10		
0005	LEAR	01	0237	0250	0253	N17	W68	4979	03	27.0	16	SF			3	E		13		
0006	YUNN	01	0344	0346	0356	N19	W76	4979	03	26.4	12	SN				C		48		
0007	YUNN	01	0411	0417	0445	N17	W78	4979	03	26.3	34	SN				C		32		
0008	HTPR	01	0658	0658	0704	N23	W22	4975	03	30.7	6	SN				C	0658	50	0.5	E
0009	KHAR	01	0705		0740U	N16	W70	4979	03	27.1	35U	SF			2	V	0706			D
0010	HTPR	01	0737	0741	0750	S22	W18	4977	03	31.0	13	SF				C	0741	20	0.2	E
0011	HTPR	01	0846	0846	0856	S34	W54	4974	03	28.2	10	SF				C	0846	10	0.2	
0012		01	09504	0957	1001	N22	W24	4975	03	30.7	11	SF						20	0.2	DH
	HTPR	01	0950	0957	1003	N23	W25	4975	03	30.6	13	SF				C	0957	20	0.2	
	KHAR	01	0954		0959	N22	W23	4975	03	30.7	5	SF			2	V	0954			DH
0013		01	1049*	11024	1200	S22	E04	4978	04	1.7	71	SN						30	0.3	DH
	HTPR	01	1049	1106	1200	S23	E05	4978	04	1.8	71	SN				C	1106	30	0.3	
	KHAR	01	1101	1102	1106D	S21	E02	4978	04	1.6	5D	SF			2	V	1102			DH
0014	HTPR	01	1522	1525	1533	S17	W05	4978	04	1.3	11	SF				C	1525	20	0.2	
		01	1715		1919	No Flare Patrol														
0015	SVTO	02	0538	0542	0548	S20	W34	4977	03	30.7	10	SF	C	1.3	3	E		20		H
0016	HTPR	02	1144	1151	1210	S18	W16	4978	04	1.3	26	SF				C	1151	20	0.2	E
		02	1214		1222	No Flare Patrol														
0017	HOLL	02	1346	1347	1416	N15	W43	4975	03	30.4	30	SF			3	E		28		F
0018		02	18223	18252	1836	S18	W17	4978	04	1.5	14	SF						14		
	PALE	02	1822	1827	1835	S18	W17	4978	04	1.5	13	SF			3	E		14		
	HOLL	02	1825	1825	1838	S18	W17	4978	04	1.5	13	SF			3	E		14		
0019	HOLL	02	2048	2050	2057	N21	E40	4980	04	5.9	9	SF			3	E		31		
0020	HOLL	02	2050	2100	2107	S21	W40	4977	03	30.9	17	SF			3	E		11		FH
0021	HOLL	02	2110	2116	2124	S21	W39	4977	03	31.0	14	SF			3	E		10		F
0022		02	2153*	2200*	2219	N19	W41	4975	03	30.9	26	SF	C	1.0				20		
	HOLL	02	2153	2200	2213	N19	W41	4975	03	30.9	20	SF	C	1.0	3	E		21		
	PALE	02	2153	2207	2220	N20	W40	4975	03	30.9	27	SF	C	1.0	3	E		25		
	HOLL	02	2220	2220	2224	N19	W41	4975	03	30.9	4	SF			3	E		13		
0023	HOLL	02	2346	2348	2406	S21	W40	4977	03	31.0	20	SF			3	E		12		
0024		03	01585	02036	0223	N20	W29		03	31.9	25	SF						139	4.8	FSU
	LEAR	03	0158	0204	0229	N18	W30		03	31.8	31	SF			3	E		42		
	YUNN	03	0200	0209	0224	N21	W30		03	31.8	24	1N				C		354	4.8	F
	PALE	03	0203	0203	0216	N20	W28		03	31.9	13	SF			3	E		20		US
0025	LEAR	03	0242	0246	0258	N18	W45	4975	03	30.8	16	SF			3	E		13		

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

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0026	PALE	03	0318	0325	0335	N19	E88	4981	04	9.8	17	SF			3	E		29		
0027	LEAR	03	0436	0441	0500	N18	W46	4975	03	30.8	24	SF	C	1.1	3	E		52		F
0028	LEAR	03	0658	0659	0706	N19	E77	4981	04	9.2	8	SF			3	E		36		
		03	0826		0852	No Flare Patrol														
		03	0903		1307	No Flare Patrol														
		03	1400		1405	No Flare Patrol														
0029	HOLL	03	1823	1823	1833	S22	W32	4978	04	1.3	10	SF			3	E		23		
0030	HOLL	03	1925	1925	1929	N18	W54	4975	03	30.8	4	SF			3	E		12		
0031	HOLL	03	1941	1941	1959	N18	W58	4975	03	30.5	18	SF			3	E		15		
0032	HOLL	03	2056	2056	2105	S19	W32	4978	04	1.4	9	SF			3	E		23		F
		04	0846		0908	No Flare Patrol														
		04	0912		0924	No Flare Patrol														
		04	0954		1305	No Flare Patrol														
0033		04	1607E	1616	1628	S20	W42	4978	04	1.4	21D	SF						38		
	RAMY	04	1607E	1607U	1624	S19	W42	4978	04	1.5	17D	SF			3	E		36		
	HOLL	04	1613E	1616	1633	S20	W42	4978	04	1.5	20D	SF			3	E		41		
0034	HOLL	04	1708	1708	1715	N16	W70	4975	03	30.5	7	SF			3	E		11		
0035	LEAR	05	0637	0639	0647	S20	W73	4977	03	30.8	10	SF			3	E		12		
0036		05	0827	0830	0836	S18	W52	4978	04	1.4	9	SF						60	1.4	DF
	LEAR	05	0827	0830	0836	S17	W52	4978	04	1.4	9	SF			3	E		32		F
	ABST	05	0838E	0838U	0901D	S19	W51	4978	04	1.5	23D	SF				P	0838	87	1.4	D
		05	0956		1037	No Flare Patrol														
0037		05	1712*	1716*	1734	S18	W56	4978	04	1.4	22	SF						23		FH
	RAMY	05	1712	1716	1720	S19	W56	4978	04	1.4	8	SF			3	E		20		FH
	RAMY	05	1724	1729	1742	S19	W55	4978	04	1.5	18	SF			3	E		31		FH
	PALE	05	1728E	1728U	1741	S17	W56	4978	04	1.5	13D	SF			2	E		24		F
	HOLL	05	1729	1730	1740D	S19	W58	4978	04	1.3	11D	SF			3	E		17		F
0038		05	2115	21171	2125	S18	W58	4978	04	1.5	10	SF						43		F
	RAMY	05	2115	2117	2124	S19	W59	4978	04	1.4	9	SF			2	E		39		F
	PALE	05	2115	2118	2126	S17	W58	4978	04	1.5	11	SF			3	E		47		
0039	PALE	05	2338	2344	2345	S32	E91	4983	04	13.2	7	SF			3	E		12		
0040		06	02033	0207	0212	S33	E88	4983	04	13.1	9	SF						26		
	PALE	06	0203	0207	0212	S32	E94	4983	04	13.5	9	SF			3	E		34		
	LEAR	06	0206	0207	0211	S34	E82	4983	04	12.6	5	SF			3	E		18		
0041	LEAR	06	0214	0219	0225	S34	E83	4983	04	12.7	11	SF			3	E		25		
0042	LEAR	06	0253	0255	0258	S34	E83	4983	04	12.7	5	SF			3	E		25		
0043	LEAR	06	0917	0923	0930	S32	E73	4983	04	12.2	13	SF			2	E		30		
		06	0958		1043	No Flare Patrol														
		06	1112		1118	No Flare Patrol														
0044	RAMY	06	1208	1209	1215	S36	E84	4983	04	13.2	7	SF	C	1.7	3	E		45		H
0045	VORO	06	2308	2318	2332D	S26	W27		04	4.9	24D	1F			2	C	2318	403	4.8	EIJT
0046		07	00408	0052	0106	N24	E24	4982	04	8.9	26	SF						28		F
	PALE	07	0040	0052	0109	N25	E24	4982	04	8.9	29	SF			3	E		35		F
	LEAR	07	0048	0052	0103	N24	E24	4982	04	8.9	15	SF			3	E		21		F

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

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0047		07	02081	0211	0221	S32	E76	4983	04	13.1	13	SF						28		
	LEAR	07	0208	0211	0222	S32	E74	4983	04	12.9	14	SF			3	E		21		
	PALE	07	0209	0211	0220	S31	E77	4983	04	13.2	11	SF			3	E		36		
0048	LEAR	07	0417	0425	0504	N24	E23	4982	04	8.9	47	SF			3	E		18		
0049	LEAR	07	0421	0425	0430	S33	E70	4983	04	12.7	9	SF			3	E		17		
0050	LEAR	07	0510	0537	0546	N26	E21	4982	04	8.8	36	SF			3	E		20		
0051	LEAR	07	0930	0933	0942	N24	E19	4982	04	8.9	12	SF			3	E		18		
0052		07	14574	1502	1513	N24	E16	4982	04	8.8	16	SF						12		
	RAMY	07	1457	1459U	1530D	N24	E17	4982	04	8.9	33D	SF			3	E		12		
	HOLL	07	1501	1502	1513	N24	E16	4982	04	8.9	12	SF			3	E		12		
0053	HOLL	07	1518	1519	1524	S32	E67	4983	04	12.9	6	SF			3	E		16		
*		07	1631		1707	No Flare Patrol														
0054	HOLL	07	1845	1848	1852	S23	W76	4978	04	1.9	7	SF	C	2.7	3	E		13		F
0055		07	1906*	1955	2040	N24	E13	4982	04	8.8	94	SF	C	2.4				57		
	RAMY	07	1906E	1955U	2018D	N23	E14	4982	04	8.9	72D	SF			3	E		65		
	HOLL	07	1906	1955	2051	N24	E12	4982	04	8.7	105	SF	C	2.4	3	E		68		
	PALE	07	1925	1955	2029	N25	E14	4982	04	8.9	64	SF	C	2.4	3	E		39		
0056	HOLL	07	2135	2139	2143	N15	E81	4986	04	14.0	8	SF			3	E		21		
0057	HOLL	07	2139	2140	2143	S34	E64	4983	04	13.0	4	SF			3	E		10		
0058		07	2311	23155	2411	N25	E12	4982	04	8.9	60	SF	C	3.9				71		F
	HOLL	07	2256E	2315	2355	N25	E11	4982	04	8.8	59D	SF	C	3.9	3	E		97		F
	PALE	07	2311	2319	2341	N25	E12	4982	04	8.9	30	SF	C	3.9	3	E		59		
	LEAR	07	2311E	2320	2457	N24	E12	4982	04	8.9	106D	SF	C	3.9	3	E		56		
0059		07	23153	2320	2324	N15	E80	4986	04	14.0	9	SF						34		
	HOLL	07	2315	2320	2324	N15	E79	4986	04	13.9	9	SF			3	E		32		
	PALE	07	2318	2320	2320D	N15	E82	4986	04	14.2	2D	SF			3	E		36		
0060	HOLL	08	0023	0025U	0039	S18	E90	4992	04	14.9	16	1B	C	7.8	3	E		180		
0061	LEAR	08	0047	0051	0057	N13	E75	4986	04	13.7	10	SF			3	E		15		
0062	LEAR	08	0102	0109	0112	N13	E77	4986	04	13.8	10	SF			3	E		19		
0063		08	0203	0237	0541	N15	E79	4986	04	14.1	218	SN						44		BDEKY
	LEAR	08	0203	0237	0433	N14	E76	4986	04	13.8	150	SF			3	E		28		
	TACH	08	0305E		0318D	N15	E80	4986	04	14.2	13D	SB				C	0310	18		BEY
	ABST	08	0407E	0407U	0649	N16	E80	4986	04	14.2	162D	1N				P	0407	87		DK
0064	TACH	08	0318E		0404D	N26	E07	4982	04	8.7	46D	SB				C	0353	14	0.2	EH
0065		08	06096	06148	0705	N26	E06	4982	04	8.7	56	1N	C	6.0				338	6.0	AEHRU
	ABST	08	0609	0622	0724	N26	E06	4982	04	8.7	75	1N				C	0622	393	4.8	AEHR
	SVTO	08	0614	0614	0702	N26	E04	4982	04	8.6	48	SF	C	6.0	3	E		32		UH
	PEKG	08	0615	0621	0650	N25	E07	4982	04	8.8	35	2N	C	6.0		P	0621	589	7.1	U
0066	ABST	08	0708	0738	0828	N18	E80	4986	04	14.4	80	1F				C	0738	87		D
0067	HTPR	08	0744E		0815D	N27	E12	4982	04	9.2	31D	SF				C	0749	20	0.2	
		08	1020		1026	No Flare Patrol														
		08	1033		1040	No Flare Patrol														
0068	RAMY	08	1138	1144	1207	N24	E03	4982	04	8.7	29	SF			3	E		16		
0069		08	1436	1438	1456	S32	E54	4983	04	12.9	20	SF						32		
	HOLL	08	1436	1438	1454	S31	E54	4983	04	12.9	18	SF			3	E		38		
	RAMY	08	1436	1438	1459	S32	E55	4983	04	13.0	23	SF			3	E		27		

H - ALPHA SOLAR FLARES

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		08	1542		1543	No Flare Patrol														
		08	1628		1633	No Flare Patrol														
		08	1955		2007	No Flare Patrol														
0070	YUNN	09	0305	0313	0325	S19	W85	4987	04	2.6	20	1N				C		32		
0071	ABST	09	0415E	0415D	0430	S30	E45	4983	04	12.7	15D	SN				P	0415	87	1.4	D
0072	ABST	09	0550	0600	0620	N20	E65	4986	04	14.2	30	SF				C	0600	87		D
0073	ABST	09	0610	0615	0635	N20	W03	4981	04	9.0	25	1N				C	0615	348	3.8	E
0074		09	06461	06492	0655	S18	W79	4987	04	3.3	9	SF						24		
	KANZ	09	0646	0649	0656	S18	W77	4987	04	3.4	10	SF			1					
	LEAR	09	0647	0651	0654	S19	W81	4987	04	3.1	7	SF			3	E		24		
0075	LEAR	09	0648	0700	0716	S14	E74	4989	04	14.9	28	SF			3	E		25		
0076	KANZ	09	0656	0700	0704	S21	E55		04	13.5	8	SF			1					
0077		09	1108	11091	1126	S31	E42	4983	04	12.8	18	SF	C	1.6				54		H
	SVTO	09	1108	1109	1125	S30	E43	4983	04	12.8	17	SF	C	1.6	3	E		53		
	RAMY	09	1108	1110	1126	S32	E42	4983	04	12.8	18	SF	C	1.6	3	E		54		H
0078	RAMY	09	1457	1502	1511	N20	W04	4981	04	9.3	14	SF			3	E		13		
0079		09	1644	16487	1710	S18	E60	4985	04	14.3	26	SF						50		
	HOLL	09	1644	1648	1700	S17	E58	4985	04	14.1	16	SF			3	E		24		
	RAMY	09	1644	1655	1721	S19	E63	4985	04	14.5	37	SF			3	E		75		
0080	PALE	09	2115	2118	2128	S19	E60	4985	04	14.5	13	SN			3	E		58		
0081	HOLL	09	2115	2119	2127	S12	E68	4989	04	15.0	12	1N	C	3.7	3	E		104		EH
0082	HOLL	09	2153	2153	2206	S30	E40	4983	04	13.0	13	SF			3	E		12		
0083	VORO	10	0051	0053	0056D	N17	E50	4986	04	13.8	5D	1F			2	C	0053	152	2.6	D
0084	VORO	10	0055	0058	0108	N25	W15	4982	04	8.9	13	1F			2	C	0058	233	2.9	EIJT
0085	KHAR	10	1013		1025U	S17	E62	4992	04	15.1	12U	SF			2	V	1013			EL
0086	KHAR	10	1030	1032	1034	S21	E62	4992	04	15.2	4	SN			2	V	1032			DL
		10	1036		1216	No Flare Patrol														
0087	RAMY	10	1217E	1222	1235	N23	W23	4982	04	8.7	18D	SF			3	E		18		
0088	RAMY	10	1435	1438	1445	N24	W24	4982	04	8.7	10	SF			3	E		15		
0089		11	0226	0228	0236	S18	E38	4985	04	14.0	10	SF						16		FU
	LEAR	11	0226	0228	0236	S18	E39	4985	04	14.1	10	SF			3	E		21		U
	PALE	11	0227E	0227U	0235D	S17	E36	4985	04	13.8	8D	SF			2	E		12		F
0090		11	0325	0329	0423	S18	E38	4985	04	14.0	58	SN						32	0.6	F
	LEAR	11	0325	0329	0355	S18	E37	4985	04	13.9	30	SF			3	E		15		F
	YUNN	11	0335E	0335U	0451	S18	E39	4985	04	14.1	76D	SN				P	0335	48	0.6	
0091	ABST	11	0511	0513	0521	N21	W27	4981	04	9.1	10	1N				C	0513	192	2.5	E
0092	LEAR	11	0538	0538	0542	N16	E34	4986	04	13.8	4	SF			3	E		22		
0093		11	08031	08043	0815	S19	E52	4992	04	15.3	12	SF						116	3.4	DY
	ABST	11	0803	0804	0823	S17	E54	4992	04	15.4	20	1N				C	0804	201	3.4	DY
	KANZ	11	0803	0807	0811	S21	E51	4992	04	15.2	8	SF			2					
	LEAR	11	0804	0804	0810	S19	E51	4992	04	15.2	6	SF			3	E		30		
0094	ABST	11	0808	0811	0824	N26	W36	4982	04	8.5	16	SF				C	0811	87	1.3	D

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

APRIL 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	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0095		11	1025	1028	1040	N17	E33	4986	04	13.9	15	SF	C 2.1				50		
	SVTO	11	1024E	1027U	1040	N18	E33	4986	04	13.9	16D	SF	C 2.1	2	E		50		
	KANZ	11	1025	1028	1040	N16	E33	4986	04	13.9	15	SF		2					
0096	KANZ	11	1051	1055	1059	N22	E85	4990	04	18.0	8	SN		2					
0097	KANZ	11	1145	1145	1152	N20	E73	4990	04	17.1	7	SN		2					
0098	KANZ	11	1225	1225	1232	N20	E75	4990	04	17.2	7	SN		2					
0099	KANZ	11	1334	1342	1401	N21	E77	4990	04	17.5	27	1N		2					
0100		11	13348	13424	1358	N16	E30	4986	04	13.8	24	SN					35		
	RAMY	11	1334	1342	1359	N16	E31	4986	04	13.9	25	SF		3	E		35		
	KANZ	11	1342	1346	1357	N16	E30	4986	04	13.8	15	SN		2					
0101		11	13368	1348	1358	N26	E85	4990	04	18.2	22	1N	C 5.0				128		
	RAMY	11	1336	1348	1402D	N23	E85	4990	04	18.1	26D	1N	C 5.0	3	E		165		
	SVTO	11	1340	1348	1355	N28	E87	4990	04	18.4	15	1F	C 5.0	3	E		103		
	HOLL	11	1344	1348	1400	N27	E84	4990	04	18.1	16	1N	C 5.0	3	E		115		
0102		11	1516	1519	1522	N22	E78	4990	04	17.6	6	SF					23		
	HOLL	11	1516	1519	1521	N23	E80	4990	04	17.8	5	SF		3	E		23		
	KANZ	11	1516	1519	1523	N21	E75	4990	04	17.4	7	SF		2					
0103		11	16112	16131	1638	N20	W33	4981	04	9.1	27	SF	C 1.3				66		F
	HOLL	11	1611	1613	1645	N20	W31	4981	04	9.3	34	SF	C 1.3	3	E		77		F
	KANZ	11	1611	1614	1618D	N21	W33	4981	04	9.1	7D	SF		2					
	SVTO	11	1613	1614	1630	N19	W35	4981	04	9.0	17	SF	C 1.3	3	E		55		F
0104		11	1740	1750	1804	S14	E40	4989	04	14.7	24	SF					18		F
	PALE	11	1740	1750	1757	S15	E40	4989	04	14.8	17	SF		3	E		24		F
	HOLL	11	1800E	1800U	1812	S14	E40	4989	04	14.8	12D	SF		3	E		13		
0105		11	18162	18201	1828	N24	E84	4990	04	18.2	12	SF	C 1.0				24		
	PALE	11	1816	1821	1831	N23	E85	4990	04	18.3	15	SF	C 1.0	3	E		28		
	HOLL	11	1818	1820	1825	N24	E83	4990	04	18.2	7	SF	C 1.0	3	E		19		
0106	PALE	11	1841	1849	1852	N23	E85	4990	04	18.3	11	SF		3	E		33		
0107		11	19196	19227	1953	N16	E28	4986	04	13.9	34	SF					18		F
	PALE	11	1919	1922	2006	N16	E28	4986	04	13.9	47	SF		3	E		18		F
	HOLL	11	1925	1929	1940	N16	E28	4986	04	13.9	15	SF		3	E		17		F
0108	PALE	11	1939	2008	2019	N25	E87	4990A	04	18.5	40	SF		3	E		35		
0109	HOLL	11	1949	1954	1959	N24	E83	4990	04	18.2	10	SF	C 2.0	3	E		25		
0110	PALE	11	2023	2025	2041D	N23	E85	4990	04	18.4	18D	SF		3	E		40		
		11	2042		2117	No Flare Patrol													
0111		11	2117	2118	2216	S18	E27	4985	04	13.9	59	SN	C 3.2				36		F
	PALE	11	2117	2118	2244	S19	E28	4985	04	14.0	87	SF	C 3.2	3	E		10		
	HOLL	11	2118E	2122U	2149	S18	E26	4985	04	13.9	31D	SN	C 3.2	2	E		61		F
0112		11	2118	2136	2307	N23	E80	4990	04	18.0	109	SN	C 3.2				41		E
	PALE	11	2118	2136	2307	N23	E82	4990	04	18.2	109	SF	C 3.2	3	E		50		
	HOLL	11	2151E	2159U	2234D	N23	E79	4990	04	18.0	43D	SN	C 3.2	2	E		32		E
0113	HOLL	11	2215E	2218U	2251D	S18	E26	4985	04	13.9	36D	SF		3	E		48		F
0114	HOLL	11	2337	2338	2344	N24	E77	4990	04	17.9	7	SF		3	E		22		F
0115	HOLL	11	2351		2412	N24	E77	4990	04	17.9	21	SF		3	E		17		F
0116	HOLL	12	0015	0022	0029	N24	E75	4990	04	17.8	14	SF	C 1.9	3	E		19		
0117	HOLL	12	0037	0040	0048	N23	E75	4990	04	17.8	11	SF		3	E		16		

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

APRIL 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
0118	PEKG	12	0336E	0336	0337D	N22	E90	4990A	04	19.1	1D	SF			C	0336	63		D
0119	PEKG	12	0401	0430	0445	N24	E90	4990A	04	19.1	44	SF	C 2.9		P	0430	126		D
0120		12	05182	05194	0527	N16	E27	4986	04	14.3	9	SF	C 1.0				17		D
	LEAR	12	0518	0519	0526	N17	E27	4986	04	14.3	8	SF	C 1.0	3	E		18		
	URUM	12	0520	0523	0528	N16	E27	4986	04	14.3	8	SF	C 1.0		C		16		D
0121		12	0548*	06093	0622	N17	E26	4986	04	14.2	34	SF					35	0.8	D
	LEAR	12	0548	0609	0614	N17	E27	4986	04	14.3	26	SF		3	E		20		
	KANZ	12	0607E	0612U	0619	N16	E26	4986	04	14.2	12D	SF		1					
	SVTO	12	0607	0612	0624	N18	E26	4986	04	14.2	17	SF		3	E		20		
	BUCA	12	0616E	0616U	0630	N17	E27	4986	04	14.3	14D	SF			C	0616	64	0.8	D
0122		12	06401	06412	0648	N16	E22	4986	04	13.9	8	SF					45		F
	LEAR	12	0640	0643	0648	N17	E23	4986	04	14.0	8	SF		3	E		45		F
	KANZ	12	0641	0641	0647	N15	E20	4986	04	13.8	6	SF		1					
0123	LEAR	12	0736	0738	0752	N25	W48	4982	04	8.6	16	SF		3	E		27		F
0124		12	0837	08392	0902	S18	E22	4985	04	14.0	25	SF	C 1.8				54		EFL
	KHAR	12	0813U		0830D	S18	E22	4985	04	14.0	17U	SF		2	V	0815			EL
	SVTO	12	0837	0839	0903	S18	E22	4985	04	14.0	26	SF	C 1.8	3	E		28		F
	KANZ	12	0837	0841	0902	S19	E21	4985	04	14.0	25	SN		2					
	URUM	12	0855E	0855U	0901	S18	E23	4985	04	14.1	6D	SF	C 1.8		C		80		E
0125	RAMY	12	1228	1229	1258	N23	E70	4990	04	17.9	30	SF		3	E		34		
0126		12	1414*	15022	1516	N24	E70	4990	04	18.0	62	SF	C 3.3				22		F
	RAMY	12	1414	1502	1523	N23	E70	4990	04	18.0	69	SF	C 3.3	3	E		23		
	HOLL	12	1459E	1502U	1517	N24	E69	4990	04	17.9	18D	SF	C 3.3	2	E		27		
	SVTO	12	1502	1504	1509	N26	E72	4990	04	18.2	7	SF	C 3.3	3	E		15		F
0127	HOLL	12	1707E	1708	1739	N24	E68	4990	04	18.0	32D	SN	M 1.4	3	E		60		E
0128	HOLL	12	1717E	1718U	1732	S20	E24	4985	04	14.5	15D	SF		3	E		30		U
0129	HOLL	12	1810	1810	1847	S31	W02	4983	04	12.6	37	SF		3	E		75		
0130		12	1829*	1832*	1914	N24	E68	4990	04	18.0	45	SF	C 2.4				63		
	HOLL	12	1829	1832	1851	N23	E64	4990	04	17.7	22	SF	C 2.4	3	E		57		
	PALE	12	1831	1832	1941D	N25	E70	4990	04	18.2	70D	SF	C 2.4	2	E		32		
	HOLL	12	1914	1924	1938	N24	E69	4990	04	18.1	24	SF		3	E		99		
0131		12	1935	19361	2004	N16	E16	4986	04	14.0	29	SF	C 1.5				31		F
	PALE	12	1935	1936	2006	N16	E17	4986	04	14.1	31	SF	C 1.5	4	E		30		F
	HOLL	12	1935	1937	2001	N17	E16	4986	04	14.0	26	SF	C 1.5	3	E		32		
		12	2215		2221	No Flare Patrol													
0132	HOLL	12	2223	2229	2310	N23	E63	4990	04	17.8	47	SF	C 2.6	3	E		42		
0133	HOLL	12	2323	2326	2349	S13	E24	4989	04	14.8	26	SF		3	E		35		F
0134	HOLL	13	0012	0012	0028	N23	E67	4990	04	18.2	16	SF	C 1.3	3	E		21		
0135	PALE	13	0339	0342	0348	S17	E09	4985	04	13.8	9	SF		2	E		15		F
0136		13	04085	0420	0444	N25	E68	4990A	04	18.4	36	1N	C 6.1				134		D
	TACH	13	0408	0420U	0502	N25	E70	4990A	04	18.6	54	1B			C	0420	230		D
	LEAR	13	0413	0420	0427	N25	E67	4990A	04	18.4	14	SF	C 6.1	3	E		38		
0137		13	05223	0529	0536	S14	E23	4989	04	15.0	14	SN					113	1.4	E
	TACH	13	0522		0539	S15	E23	4989	04	15.0	17	SB			C	0522	87	1.0	E
	ABST	13	0523E	0528U	0530D	S13	E23	4989	04	14.9	7D	SF			P	0528	157	1.8	E
	URUM	13	0525	0529	0534	S15	E22	4989	04	14.9	9	SN			C		96		E

H - ALPHA SOLAR FLARES

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0138		13	0715	07159	0731	N25	E68	4990A	04	18.6	16	SF						51		CD
	HTPR	13	0714E		0715D	N26	E70	4990A	04	18.7	1D	SF				C	0715	60		
	BUCA	13	0715	0715	0735	N24	E70	4990A	04	18.7	20	SN				C	0715	64		CD
	LEAR	13	0715	0724	0727	N24	E65	4990A	04	18.3	12	SF			3	E		29		
0139	HTPR	13	0817	0820	0830	S34	W03	4996	04	13.1	13	SF				C	0820	30	0.3	E
0140	HTPR	13	0920		0923D	N26	E69	4990A	04	18.7	3D	SF				C	0920	60	1.3	
0141	RAMY	13	1227	1229	1231	N23	W63	4982	04	8.7	4	SF			3	E		44		
0142	HTPR	13	1230	1240	1255	S15	E19	4989	04	14.9	25	SF				C	1240	70		E
0143	HTPR	13	1232	1234	1250	S35	W07	4996	04	13.0	18	SF				C	1234	40	0.5	E
0144		13	1300*	1340*	1423	S14	E17	4989	04	14.8	83	SF						50	0.6	EF
	HTPR	13	1300	1340	1435	S15	E18	4989	04	14.9	95	SN				C	1340	60	0.6	E
	RAMY	13	1339	1358	1418	S13	E16	4989	04	14.8	39	SF			3	E		51		F
	HOLL	13	1340	1347	1417	S13	E17	4989	04	14.8	37	SF			3	E		38		F
0145		13	15348	1534*	1549	N22	E55	4990	04	17.9	15	SF						18	0.3	
	HTPR	13	1534	1534	1550	N23	E57	4990	04	18.0	16	SN				C	1534	20	0.3	
	RAMY	13	1542	1543	1548	N22	E55	4990	04	17.9	6	SF			3	E		13		
	HOLL	13	1542	1545	1550	N22	E54	4990	04	17.8	8	SF			3	E		20		
0146		13	16041	16041	1612	N24	E60	4990	04	18.3	8	SN						32	0.5	
	HTPR	13	1604	1604	1610	N24	E58	4990	04	18.1	6	SN				C	1604	30	0.5	
	HOLL	13	1605	1605	1613	N23	E61	4990	04	18.4	8	SF			3	E		35		
0147		13	16123	1616	1620	N22	E55	4990	04	17.9	8	SN						22	0.5	
	HTPR	13	1612	1616	1620	N23	E57	4990	04	18.1	8	SN				C	1616	30	0.5	
	HOLL	13	1615	1616	1621	N22	E53	4990	04	17.7	6	SF			2	E		13		
0148		13	17407	1806	1830	S14	E15	4989	04	14.9	50	SF						23		
	PALE	13	1740	1806	1850	S14	E15	4989	04	14.9	70	SF			3	E		35		
	HOLL	13	1747	1806	1810	S14	E15	4989	04	14.9	23	SF			3	E		11		
0149	HOLL	13	1748	1803	1813	N23	E60	4990	04	18.4	25	SF			3	E		25		
0150	HOLL	13	1830	1836U	1840	N23	E90		04	20.7	10	SN	C	4.6	3	E		96		
		13	1916		1932	No Flare Patrol														
0151	PALE	13	1948	2035	2053	S15	E17	4989	04	15.1	65	SF	C	7.1	3	E		31		F
		13	1955		2033	No Flare Patrol														
0152	PALE	13	2032	2038	2107	N22	E58	4990	04	18.3	35	SF			3	E		60		F
		13	2047		2048	No Flare Patrol														
0153	PALE	13	2126	2126	2134	S15	E16	4989	04	15.1	8	SF			3	E		30		F
0154	VORO	13	2225U	2239	2249	N24	W68	4982	04	8.7	24U	1F			2	C	2239	125		BE
0155	VORO	13	2252	2254	2258	N24	E60	4990A	04	18.6	6	1N			2	C	2254	99	2.7	DIK
0156		13	2357*	2403*	2425	N23	E52	4990	04	18.0	28	1N	C	3.7				103	1.9	IK
	VORO	13	2357	2403	2416	N21	E48	4990	04	17.7	19	SF			2	C	2403	72	1.2	IK
	VORO	14	0012	0016	0027	N25	E53	4990	04	18.1	15	1N			2	C	0016	134	2.6	IK
	PALE	14	0013	0016	0033	N23	E54	4990	04	18.2	20	1N	C	3.7	3	E		103		
0157	PEKG	14	0133	0136	0150	S16	E14	4989	04	15.1	17	SN				C	0136	189	2.0	D
0158	LEAR	14	0304	0309	0312	S16	E13	4989	04	15.1	8	SF			3	E		20		

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

APRIL 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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0159		14	0310*	0310*	0341	N22	E50	4990	04	18.0	31	1N	C 6.5				132	5.0	CEF
	LEAR	14	0310	0310	0316	N22	E49	4990	04	17.9	6	SF		3	E		25		
	PALE	14	0310	0334	0354	N22	E50	4990	04	18.0	44	1N	C 6.5	3	E		128		
	LEAR	14	0325E	0334U	0357	N22	E51	4990	04	18.1	32D	1N	C 6.5	2	E		102		
	PEKG	14	0327	0330	0338	N23	E50	4990	04	18.0	11	1B	C 6.5		C	0330	273	5.0	CEF
0160		14	0334*	0352*	0434	S15	E09	4989	04	14.8	60	1N					263	3.6	CEFH
	PALE	14	0334	0346U	0410	S14	E10	4989	04	14.9	36	1F		3	E		113		
	MITK	14	0343	0406	0516	S15	E07	4989	04	14.7	93	1N			C	0406	340	3.6	EH
	PEKG	14	0345	0352	0415	S16	E11	4989	04	15.0	30	1N			C	0352	336	3.6	CEF
0161	KHAR	14	0640	0646U	0650	N25	E85	4995	04	20.9	10	SF		2	P	0647	20		DH
0162	HTPR	14	0647	0648	0700	N23	E50	4990	04	18.1	13	SF			C	0648	60	0.9	E
0163	HTPR	14	0700	0714	0727	N21	E42	4990	04	17.5	27	SF			C	0714	40	0.5	E
0164		14	07191	07231	0735	N19	W12	4986	04	13.4	16	SF					45	0.5	DEL
	HTPR	14	0719	0724	0738	N19	W12	4986	04	13.4	19	SN			C	0724	50	0.5	E
	KHAR	14	0720	0723	0736	N20	W12	4986	04	13.4	16	SF		2	P	0725	40	0.5	DL
	KANZ	14	0720	0724	0732	N18	W11	4986	04	13.5	12	SF		2					
0165	KHAR	14	0757U	0758	0805	S26	E17		04	15.6	8U	SF		2	V	0758			E
0166	KHAR	14	0816	0818U	0830	N24	E52	4990	04	18.4	14	SF		2	V	0818			DH
0167	HTPR	14	0918	0921	0926	N22	E40	4990	04	17.5	8	SF			C	0921	50	0.7	E
0168		14	09231	09243	0946	S16	E08	4989	04	15.0	23	SN					25	0.2	E
	HTPR	14	0923	0924	0930	S15	E05	4989	04	14.8	7	SF			C	0924	20	0.2	E
	HTPR	14	0923	0925	1000	S16	E10	4989	04	15.1	37	SN			C	0925	30	0.3	E
	KHAR	14	0923	0927U	0958	S15	E09	4989	04	15.1	35	SN		2	V	0927			E
	KANZ	14	0924	0927	0937	S16	E08	4989	04	15.0	13	SF		2					
0169	KHAR	14	0945U	0947U	0950	N30	E58		04	19.0	5U	SF		2	V				H
0170	HTPR	14	1021	1024	1031	N17	W08	4986	04	13.8	10	SF			C	1024	20	0.2	E
0171	HTPR	14	1104	1106	1115	N25	E54	4990	04	18.6	11	SB			C	1106	80	1.3	E
0172	HTPR	14	1206		1220D	N27	W07	4991	04	13.9	14D	SB			C	1211	70	0.7	E
0173	KANZ	14	1208	1211	1231	N18	W05	4986	04	14.1	23	SF		2					
0174	KANZ	14	1215	1215	1215	N21	E40	4990	04	17.6	23	SF		2					
0175	HTPR	14	1254	1256	1258	N24	E47	4990	04	18.2	4	SN			C	1256	30	0.4	E
0176	KANZ	14	1344	1348	1356	N21	E38	4990	04	17.5	12	SF		2					
0177	RAMY	14	1357	1358	1413D	N23	E46	4990	04	18.1	16D	SF	C 1.1	2	E		55		
0178	HTPR	14	1444	1446	1448	N22	E51	4990	04	18.5	4	SF			C	1446	30	0.5	
0179	HTPR	14	1444	1448	1454	S35	W25	4983	04	12.6	10	SF			C	1448	20	0.2	
0180		14	14581	14597	1520	S14	E04	4989	04	14.9	22	SN	C 2.6				90	1.4	EF
	SVTO	14	1458	1500	1524	S12	E04	4989	04	14.9	26	SF	C 2.6	3	E		67		F
	KANZ	14	1459	1459	1515	S13	E04	4989	04	14.9	16	SF		2					
	HOLL	14	1504E	1506	1508D	S15	E03	4989	04	14.8	4D	SN	C 2.6	2	E		62		F
	HTPR	14	1506E		1507D	S17	E03	4989	04	14.8	1D	SB			C	1507	140	1.4	E
0181	PALE	14	1718	1726	1754	N21	E37	4990	04	17.5	36	SF	C 1.7	3	E		36		
		14	1816		1826	No Flare Patrol													
0182	PALE	14	1934	1942	2017	N25	E37	4990	04	17.7	43	2B	X 1.2	3	E		402		YZ
		14	2212		2243	No Flare Patrol													

H - ALPHA SOLAR FLARES

APRIL 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	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0183	HOLL	14	2254	2254	2328	S15	E00	4989	04	14.9	34	SF	C	1.6	3	E		27		EF
0184	HOLL	15	0013	0020	0037	N20	E33	4990	04	17.5	24	SF			3	E		22		EF
0185	LEAR	15	0238	0242	0400	N25	E71	4995	04	20.6	82	SN	C	3.9	3	E		80		
0186	TACH	15	0354	0357U	0405	N25	E80	4995	04	21.4	11	SB				C	0357	25		D
0187		15	0523	0526	0541	N16	W17	4986	04	13.9	18	SN	C	1.3				68	1.2	EF
	TACH	15	0523		0547	N16	W15	4986	04	14.1	24	SB				C	0527	60	0.7	E
	SVTO	15	0526E	0526	0535	N15	W19	4986	04	13.8	9D	SF	C	1.3	2	E		14		F
	ABST	15	0533E	0533U	0547D	N17	W17	4986	04	13.9	14D	SN				P	0533	131	1.6	E
0188	ABST	15	0604E	0605U	0616D	N23	E70	4995	04	20.6	12D	1F				P	0605	105		DK
0189	HTPR	15	0635	0640	0650	N22	E31	4990	04	17.6	15	SF				C	0640	50	0.6	E
0190	HTPR	15	0803	0804	0820	N22	E30	4990	04	17.6	17	SF				C	0804	70	0.8	E
0191	HTPR	15	0848	0858	0905	N25	E65	4995	04	20.4	17	SN				C	0858	60	1.3	E
0192	HTPR	15	1049E		1102D	N23	E29	4990	04	17.7	13D	SF				C	1055	30	0.3	E
0193	HTPR	15	1209		1227D	N23	E27	4990	04	17.6	18D	SF				C	1218	30	0.3	EK
0194	HTPR	15	1257E		1300D	S31	W37	4983	04	12.6	3D	SF				C	1300	20	0.2	E
0195	HOLL	15	1336	1343	1349	N16	W21	4986	04	14.0	13	SF			3	E		11		
0196	HOLL	15	1451	1453	1459	S18	E05	4989	04	16.0	8	SF			3	E		60		F
0197	HOLL	15	1923	1923	1949	N22	E22	4990	04	17.5	26	SF	C	2.6	3	E		18		F
0198	HOLL	15	1951	2007	2039	S19	W15	4989	04	14.7	48	SF			3	E		50		
0199	HOLL	15	2000	2006	2110	S17	W08	4989	04	15.2	70	2B	M	1.5	4	E		255		FU
0200	PALE	15	2009E	2011	2043D	S02	E07		04	16.4	34D	1N			3	E		181		U
0201		15	2112	2122	2142	N23	E24	4990	04	17.7	30	1N	M	2.0				117		EF
	HOLL	15	2112	2122	2142	N23	E21	4990	04	17.5	30	1N	M	2.0	4	E		117		FE
	PALE	15	2128E	2129U	2133D	N23	E26	4990	04	17.9	5D	1F	M	2.0	3	E		117		
0202	HOLL	15	2136	2137	2155	N20	W18	4991	04	14.5	19	SF			3	E		26		
0203	HOLL	15	2301	2305	2313	N25	E61	4995	04	20.7	12	SF			3	E		28		
0204	PALE	16	0226E	0226U	0234	N23	E26	4990	04	18.1	8D	SF			2	E		12		
0205	LEAR	16	0408	0409	0427	S33	W31	4996	04	13.7	19	SF			3	E		33		
0206	ABST	16	0551	0555	0618	N20	E17	4990	04	17.5	27	SN				C	0555	87	1.0	D
		16	0948		1000	No Flare Patrol														
0207		16	12371	12424	1304	N22	E10	4990	04	17.3	27	SF	C	2.0				35		
	SVTO	16	1237	1246	1259	N22	E10	4990	04	17.3	22	SF	C	2.0	3	E		35		
	KANZ	16	1238	1242	1308	N21	E11	4990	04	17.4	30	SF			2					
0208		16	1259*	13173	1325	N23	E50	4995	04	20.4	26	SF						51		
	SVTO	16	1259	1320	1329	N24	E50	4995	04	20.4	30	SF			3	E		51		
	KANZ	16	1312	1317	1321	N22	E50	4995	04	20.4	9	SF			2					
0209		16	15242	15269	1541	N22	E52	4995	04	20.6	17	SF	C	1.8				18		
	SVTO	16	1524	1535	1548	N23	E52	4995	04	20.6	24	SF	C	1.8	3	E		18		
	KANZ	16	1526	1526	1534	N22	E52	4995	04	20.6	8	SF			2					
0210	PALE	16	1749	1750	1753	S13	W22	4989	04	15.1	4	SF			3	E		10		
0211	PALE	16	1805	1809	1833	N22	E08	4990	04	17.4	28	SF	C	6.3	3	E		54		

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

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0212	PALE	16	1944	2012	2012D	N22	E06	4990	04	17.3	28D	SF	C 9.1	3	E		32		
		16	1946		2009	No Flare Patrol													
		16	2013		2050	No Flare Patrol													
0213	HOLL	16	2122	2124	2149D	N25	E09	4990	04	17.6	27D	1B	M 1.2	3	E		140		
		16	2151		2159	No Flare Patrol													
0214	PALE	17	0121E	0131U	0138D	N21	E08	4990	04	17.7	17D	SF		2	E		55		F
		17	0205		0214	No Flare Patrol													
0215		17	04291	04316	0450	N24	E04	4990	04	17.5	21	SB	M 1.2				103	1.4	DEH
	LEAR	17	0429	0437	0503	N24	E05	4990	04	17.6	34	SB	M 1.2	3	E		41		EH
	PEKG	17	0430	0431	0439	N24	E04	4990	04	17.5	9	1B	M 1.2		C	0431	210	2.5	E
	URUM	17	0432E	0432	0435	N24	E04	4990	04	17.5	3D	SB	M 1.2		C		128		D
	YUNN	17	0437E	0439U	0502	N23	E03	4990	04	17.4	25D	SB			P	0442	32	0.4	
0216	LEAR	17	0435	0435	0451	S34	W42	4996	04	13.8	16	SF		3	E		22		
0217	LEAR	17	0437	0437	0507	N19	W08		04	16.6	30	SF		3	E		43		
0218		17	06473	0647	0658	N24	E05	4990	04	17.7	11	SN					161	1.9	E
	KANZ	17	0647	0647	0658	N23	E05	4990	04	17.7	11	SF		1					
	YUNN	17	0650	0650U	0654D	N25	E05	4990	04	17.7	4D	SB			P	0650	161	1.9	E
0219	KANZ	17	0921	0924	0944	N22	E43	4995	04	20.7	23	SN		2					EF
0220		17	1524*	1541*	1554	N21	W05	4990	04	17.2	30	SF	C 1.3				23		F
	RAMY	17	1524	1555	1615D	N20	W04	4990	04	17.3	51D	SF	C 1.3	3	E		33		
	HOLL	17	1536	1541	1547	N22	W05	4990	04	17.3	11	SF	C 1.3	3	E		13		F
	KANZ	17	1551	1555	1602	N22	W05	4990	04	17.3	11	SF		2					
0221		17	1716	1717	1736	N20	E13	4990	04	18.7	20	SF	C 2.5				18		EF
	RAMY	17	1716	1717	1737	N20	E13	4990	04	18.7	21	SF	C 2.5	3	E		19		FE
	PALE	17	1717E	1717U	1736	N21	E13	4990	04	18.7	19D	SF	C 2.5	3	E		17		F
0222		17	20122	20132	2024	N18	W50	4986	04	14.0	12	SF					34		F
	RAMY	17	2012	2013	2025	N17	W49	4986	04	14.1	13	SF		3	E		55		
	PALE	17	2014	2015	2023	N18	W51	4986	04	13.9	9	SF		3	E		13		F
0223		17	21578	2207	2349	N21	W07	4990	04	17.4	112	SN	C 7.9				56		F
	RAMY	17	2157	2206U	2206D	N20	W06	4990	04	17.4	9D	SF	C 7.9	3	E		63		
	PALE	17	2205	2207	2349	N22	W08	4990	04	17.3	104	SN	C 7.9	2	E		48		F
		17	2233		2239	No Flare Patrol													
		17	2247		2253	No Flare Patrol													
		17	2259		2304	No Flare Patrol													
0224		18	0107	0108	0116	S34	W55	4996	04	13.7	9	2N	M 3.1				254	4.1	EF
	PALE	18	0021E	0105U	0121D	S34	W53	4996	04	13.8	60D	2N	M 3.1	2	E		297		
	PEKG	18	0107	0108	0116	S33	W57	4996	04	13.5	9	1N	M 3.1		P	0108	210	4.1	EF
0225		18	02555	03051	0308	N20	W10	4990	04	17.3	13	1F	C 3.7				198	2.0	E
	PALE	18	0255	0306	0335D	N21	W10	4990	04	17.3	40D	1F	C 3.7	2	E		228		
	PEKG	18	0300	0305	0308	N20	W10	4990	04	17.4	8	SF	C 3.7		C	0305	168	2.0	E
0226		18	0509	0512*	0532	N20	W14	4990	04	17.1	23	1F	M 1.7				139		
	LEAR	18	0509	0512	0516	N21	W15	4990	04	17.1	7	SF		3	E		19		
	SVTO	18	0509	0528	0548	N20	W14	4990	04	17.1	39	2F	M 1.7	3	E		259		
0227	LEAR	18	0820	0821	0835	N21	W14	4990	04	17.3	15	SF		3	E		13		
0228	YUNN	18	0914	0927	0937D	N24	E32	4995	04	20.8	23D	1F			P		161	2.3	F
0229	SVTO	18	1106	1106	1133	N25	E29	4995	04	20.7	27	SF		3	E		11		

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

APRIL 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
0230		18	17531	17551	1804	N21	E00	4990A	04	18.7	11	SF	C 2.3				68		F
	PALE	18	1753	1755	1804	N21	E00	4990A	04	18.7	11	SF	C 2.3	3	E		56		F
	HOLL	18	1754	1756	1805	N21	E01	4990A	04	18.8	11	SF	C 2.3	3	E		80		F
0231	HOLL	18	1836	1838	1846	N16	W65	4986	04	13.8	10	SF		3	E		27		
0232		18	18382	1843	1857	N26	E26	4995	04	20.8	19	SF	C 1.2				28		F
	HOLL	18	1838	1843	1902	N27	E26	4995	04	20.8	24	SF	C 1.2	3	E		32		F
	PALE	18	1840	1843	1852	N26	E25	4995	04	20.7	12	SF	C 1.2	3	E		24		F
0233		18	19227	19228	1934	S18	W49	4989	04	15.1	12	SF					15		
	PALE	18	1922	1922	1933	S17	W51	4989	04	14.9	11	SF		3	E		13		
	HOLL	18	1929	1930	1936	S19	W47	4989	04	15.2	7	SF		3	E		17		
0234		18	2003	20051	2106	N22	W04	4990A	04	18.5	63	SN	C 2.4				68		EF
	HOLL	18	2003	2005	2114	N23	W04	4990A	04	18.5	71	SN	C 2.4	3	E		67		E
	PALE	18	2003	2006	2057	N22	W04	4990A	04	18.5	54	SF	C 2.4	3	E		69		F
0235		18	20121	20152	2036	N26	E24	4995	04	20.7	24	SF					48		F
	HOLL	18	2012	2017	2036	N27	E25	4995	04	20.8	24	SF		3	E		60		F
	PALE	18	2013	2015	2037	N26	E24	4995	04	20.7	24	SF		3	E		35		
0236		18	2040*	2109	2137	S32	W62	4996	04	13.9	57	1F					106		F
	HOLL	18	2040	2109	2149	S33	W63	4996	04	13.8	69	1F		3	E		135		F
	PALE	18	2055	2109	2125	S32	W61	4996	04	14.0	30	SF		3	E		77		F
0237		18	20496	20534	2111	N26	E23	4995	04	20.6	22	SF					24		
	HOLL	18	2049	2053	2114	N26	E23	4995	04	20.6	25	SF		3	E		28		
	PALE	18	2055	2057	2108	N26	E23	4995	04	20.6	13	SF		3	E		19		
0238	HOLL	18	2141	2145	2155	N29	E23	4995	04	20.7	14	SF		3	E		40		
0239	HOLL	18	2150	2152	2203	N16	W69	4986	04	13.7	13	SF		3	E		17		
0240	HOLL	18	2232	2234	2245	N14	W71	4986	04	13.6	13	SF		3	E		13		
0241	PALE	18	2344	2345	2350	S35	W66	4996	04	13.7	6	SF		3	E		16		
0242	YUNN	19	0120	0128	0137	N17	W66	4986	04	14.0	17	1N			C		16		
0243	LEAR	19	0131	0135	0142	S17	W71	4989	04	13.7	11	SF		3	E		12		
0244		19	02257	02382	0317	N22	W19	4990	04	17.6	52	1N	C 5.5				158	2.4	EF
	LEAR	19	0225	0240	0411	N22	W16	4990	04	17.9	106	1F	C 5.5	3	E		128		F
	URUM	19	0230	0239U	0247	N22	W23	4990	04	17.3	17	1B	C 5.5		C		193		E
	PALE	19	0231	0239	0321	N22	W14	4990	04	18.0	50	1F	C 5.5	3	E		121		F
	PEKG	19	0232	0238	0250	N21	W22	4990	04	17.4	18	1N	C 5.5		C	0238	189	2.4	EF
0245	LEAR	19	0348	0353	0358	N26	E20	4995	04	20.7	10	SF		3	E		17		
0246	LEAR	19	0353	0355	0401	S34	W66	4996	04	13.9	8	SF		3	E		18		
0247		19	0415	0417	0426	S34	W73	4996	04	13.3	11	SN					38		E
	LEAR	19	0415	0417	0425	S34	W71	4996	04	13.5	10	SF		3	E		26		
	TACH	19	0420E		0426	S33	W75	4996	04	13.2	6D	SB			C	0420	51		E
0248		19	04424	04481	0516	N22	W06	4990A	04	18.7	34	SN					85	1.2	EF
	LEAR	19	0442	0448	0519	N21	W07	4990A	04	18.6	37	SF		3	E		50		F
	YUNN	19	0444	0449	0502D	N22	W07	4990A	04	18.6	18D	SN			P		113	1.3	F
	TACH	19	0446	0452U	0514	N22	W05	4990A	04	18.8	28	SB			C	0452	92	1.1	E
0249	ABST	19	0727	0729	0735	N23	W22	4990	04	17.6	8	SF			C	0729	87	0.7	D
0250		19	08093	08121	0816	N23	W13	4990	04	18.3	7	SF					116	2.5	H
	YUNN	19	0809	0812	0815D	N23	W13	4990	04	18.3	6D	1N			P		209	2.5	
	KANZ	19	0812	0812	0815	N23	W12	4990	04	18.4	3	SF		2					
	SVTO	19	0812	0813	0818	N22	W13	4990	04	18.3	6	SF		3	E		24		H

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

APRIL 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0251		19	08391	08431	0849	N25	E17	4995	04	20.7	10	SF						12		
	LEAR	19	0839	0843	0851	N24	E15	4995	04	20.5	12	SF			3	E		12		
	KANZ	19	0840	0844	0847	N26	E19	4995	04	20.8	7	SF			2					
0252		19	08413	08422	0858	S18	W55	4989	04	15.2	17	SN						46	1.0	F
	LEAR	19	0841	0844	0901	S17	W56	4989	04	15.1	20	SF			3	E		45		F
	SVTO	19	0841	0844	0902	S20	W53	4989	04	15.3	21	SF			3	E		38		
	CATA	19	0842E	0842	0854	S16	W55	4989	04	15.2	12D	SB			2	P	0842	56	1.0	
	KANZ	19	0844	0844	0854	S17	W55	4989	04	15.2	10	SF			2					
0253		19	1027*	10352	1050	S16	W58	4989	04	15.0	23	SF						19		
	KANZ	19	1027	1035	1051	S16	W55	4989	04	15.3	24	SF			2					
	SVTO	19	1037	1037	1049	S17	W60	4989	04	14.9	12	SF			3	E		19		
0254		19	11534	1207*	1244	N21	W21	4990	04	17.9	51	SF						38		F
	RAMY	19	1153	1219	1246	N21	W21	4990	04	17.9	53	SF			3	E		32		F
	KANZ	19	1154	1207	1233	N22	W21	4990	04	17.9	39	SF			2					
	SVTO	19	1157	1217	1252	N21	W22	4990	04	17.8	55	SF			3	E		43		
0255	SVTO	19	1330	1331	1339	N22	W25	4990	04	17.6	9	SF	C	1.6	3	E		16		
0256		19	1552	1553*	1611	N26	E12	4995	04	20.6	19	SF						28		
	HOLL	19	1552	1553	1611	N28	E10	4995	04	20.4	19	SF			3	E		19		
	RAMY	19	1552	1603	1611	N23	E14	4995	04	20.7	19	SF			3	E		38		
0257	HOLL	19	1705	1736	1812	N22	W14	4990A	04	18.6	67	1F	C	1.4	3	E		108		U
		19	1706		1709	No Flare Patrol														
0258	HOLL	19	1846	1850	1858	S17	W65	4989	04	14.8	12	SF			3	E		36		F
0259	HOLL	19	2040	2041	2046	N22	W16	4990A	04	18.6	6	SF	C	4.7	3	E		21		
0260	HOLL	19	2104	2105	2128	N26	E10	4995	04	20.6	24	SF			3	E		22		
		19	2132		2143	No Flare Patrol														
0261	HOLL	19	2250	2253	2301	S18	W63	4989	04	15.1	11	SF			3	E		22		
0262		20	0114*	0119*	0211	N22	W30	4990	04	17.7	57	1F	C	2.2				159	2.7	DEFIJT
	VORO	20	0114	0121	0212D	N22	W30	4990	04	17.7	58D	1F			2	C	0121	206	2.7	EIJT
	HOLL	20	0116	0119	0128D	N22	W27	4990	04	18.0	12D	SF	C	2.2	2	E		49		
	LEAR	20	0117	0122	0128D	N21	W29	4990	04	17.8	11D	SF	C	2.2	3	E		47		
	YUNN	20	0118	0138	0218	N22	W29	4990	04	17.8	60	1N				C		193	2.6	
	PEKG	20	0130E	0133	0147D	N22	W28	4990	04	17.9	17D	1N				C	0133	168	2.2	E
	VORO	20	0140	0149	0212D	N23	W23	4990	04	18.3	32D	SF			2	C	0149	99	1.3	DIJT
	YUNN	20	0146	0200	0204	N23	W33	4990	04	17.5	18	1N				C		321	4.5	F
	VORO	20	0156	0202	0212	N22	W40	4990	04	17.0	16	1F			2	C	0202	188	2.8	EIJT
0263	ABST	20	0604E	0609	0627D	N23	W34	4990	04	17.6	23D	SF				P	0609	61	0.9	D
0264		20	10014	1021*	1135	N23	W37	4990	04	17.6	94	SN	M	1.0				129	3.3	EKU
	KANZ	20	1001	1021	1135	N24	W36	4990	04	17.6	94	SF			2					U
	SVTO	20	1002	1029	1140	N21	W40	4990	04	17.3	98	SF	M	1.0	3	E		48		U
	KHAR	20	1005		1050D	N24	W33	4990	04	17.9	45D	1F			1	P	1050	250	3.6	EK
	URUM	20	1019E	1025U	1034D	N22	W38	4990	04	17.5	15D	SN	M	1.0		C		113		E
	CATA	20	1031E	1031	1037D	N25	W37	4990	04	17.6	6D	1B			2	P	1031	197	3.0	
	RAMY	20	1050E	1050U	1129	N22	W37	4990	04	17.6	39D	SF	M	1.0	2	E		36		U
0265		20	13045	13138	1346	N22	W40	4990	04	17.5	42	1N	C	5.8				150	2.2	EF
	HTPR	20	1238E		1346D	N22	W35	4990	04	17.8	68D	1B				C	1314	180	2.2	EF
	RAMY	20	1304	1321	1348	N21	W43	4990	04	17.2	44	1N	C	5.8	3	E		160		F
	HOLL	20	1309	1313	1345	N22	W43	4990	04	17.2	36	1N	C	5.8	3	E		109		F
0266	HOLL	20	1416	1418	1445	N23	W37	4990	04	17.7	29	SF			3	E		20		
0267	HOLL	20	2128	2145	2150	N23	W44	4990	04	17.5	22	SF			4	E		22		F
0268	HOLL	20	2155	2158	2207	S17	W74	4989	04	15.3	12	SF	C	1.3	4	E		18		F

H - ALPHA SOLAR FLARES

APRIL 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
0269	HOLL	20	2259	2259	2307	N22	W49	4990	04	17.2	8	SF	C 1.1	4	E		24		F
0270		21	00071	00087	0024	N22	W50	4990	04	17.2	17	SF	C 1.3				45	1.2	DF
	HOLL	21	0007	0008	0027	N22	W50	4990	04	17.2	20	SF	C 1.3	4	E		43		F
	PALE	21	0008	0008	0023	N23	W51	4990	04	17.1	15	SF	C 1.3	3	E		30		
	PEKG	21	0014E	0015	0022	N22	W50	4990	04	17.2	8D	SN			C	0015	63	1.2	D
0271	TACH	21	0317	0323U	0335D	N21	W53	4990	04	17.1	18D	SB			C	0323	20	0.4	D
0272		21	04083	0412	0419	N21	W50	4990	04	17.3	11	1N					147	3.3	E
	URUM	21	0408	0412	0419	N21	W51	4990	04	17.3	11	1N			C		116		E
	TACH	21	0411	0414U	0434D	N21	W50	4990	04	17.3	23D	1N			C	0414	178	3.3	E
0273	ABST	21	0547	0551	0601	N21	W47	4990	04	17.6	14	SF			C	0551	87	1.5	D
0274		21	0715*	07237	0736	N23	W47	4990	04	17.7	21	SF	C 2.1				27	0.5	E
	HTPR	21	0715	0730	0743	N26	W48	4990	04	17.6	28	SF			C	0730	30	0.5	E
	LEAR	21	0721	0723	0724	N22	W47	4990	04	17.7	3	SF	C 2.1	3	E		27		
	LEAR	21	0727	0729	0741	N22	W47	4990	04	17.7	14	SF	C 2.1	3	E		23		
0275		21	07548	07591	0809	N25	W49	4990	04	17.5	15	SF	C 3.0				50	1.3	DEL
	HTPR	21	0754	0800	0810	N26	W48	4990	04	17.6	16	SF			C	0800	20	0.2	E
	ABST	21	0755	0800	0807	N27	W50	4990	04	17.4	12	1F			C	0800	114	2.4	E
	LEAR	21	0758	0759	0815D	N25	W48	4990	04	17.6	17D	SF	C 3.0	3	E		17		
	KHAR	21	0802		0810	N23	W49	4990	04	17.5	8	SF		2	V	0802			DL
0276	HTPR	21	0858	0859	0906	N27	W12	4995	04	20.4	8	SF			C	0859	30	0.3	E
0277		21	09142	09497	1014	N22	W52	4990	04	17.4	60	2B	M 2.3				331	6.6	EIU
	HTPR	21	0914		1016D	N23	W51	4990	04	17.4	62D	1B			C	0950	220	3.5	EIU
	SVTO	21	0916	0949	1024	N19	W52	4990	04	17.4	68	2N	M 2.3	3	E		267		U
	URUM	21	0947E	0949	1004	N22	W52	4990	04	17.4	17D	2B	M 2.3		C		332		U
	CATA	21	0956E	0956	1025D	N23	W51	4990	04	17.5	29D	2B		2	P	0956	506	9.6	
0278	RAMY	21	1203	1207	1228	N22	W47	4990	04	17.9	25	SF		3	E		39		
		21	1306		1310	No Flare Patrol													
0279		21	14161	14202	1431	N21	W48	4990	04	17.9	15	SN	C 4.2				125	1.8	EHIU
	RAMY	21	1416	1420	1434	N20	W48	4990	04	17.9	18	1N	C 4.2	3	E		166		H
	HTPR	21	1416	1422	1430	N22	W48	4990	04	17.9	14	SN			C	1422	120	1.8	EIU
	SVTO	21	1417	1422	1429	N20	W49	4990	04	17.8	12	SF	C 4.2	3	E		89		
0280	HOLL	21	1901	1903	1913	S23	E78	5000	04	27.8	12	SF	C 2.0	3	E		48		
0281	LEAR	22	0051	0052	0110	N24	W18	4995	04	20.6	19	SF		4	E		16		
0282		22	04562	05036	0528	N27	W23	4995	04	20.4	32	SN					112	1.6	EFJ
	LEAR	22	0456	0503	0536	N27	W23	4995	04	20.4	40	SF		3	E		91		
	TACH	22	0458	0502U	0521D	N28	W23	4995	04	20.4	23D	SB			C	0502	117	1.6	FJ
	URUM	22	0509E	0509	0520	N27	W22	4995	04	20.5	11D	SN			C		129		E
0283	LEAR	22	0536	0536	0546	N24	W21	4995	04	20.6	10	SF		3	E		15		
0284	HTPR	22	0653	0804	0823	S20	E80		04	28.4	90	SN			C	0804	40		AE
0285	LEAR	22	0731	0737	0741	S26	E67	5000	04	27.5	10	SF		3	E		17		
0286	HTPR	22	0835	0907	0930	S20	E80		04	28.5	55	SN			C	0907	40		AE
0287	HTPR	22	1319	1321	1322	S19	E80		04	28.6	3	SF			C	1321	20		
0288		22	14052	1417	1446	N21	W62	4990	04	17.8	41	1B	M 1.0				104	1.6	EF
	HTPR	22	1405		1432D	N21	W60	4990	04	18.0	27D	SB			C	1413	80	1.6	E
	RAMY	22	1407	1417	1446	N21	W64	4990	04	17.7	39	1N	M 1.0	3	E		129		FE
0289	PALE	22	1748	1750	1758	N28	W28	4995	04	20.5	10	SF	C 1.1	3	E		38		
0290	RAMY	23	1248	1250	1255	N20	W76	4990	04	17.7	7	SF		3	E		28		

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

APRIL 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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
		23	1328		1331	No Flare Patrol													
0291		23	1618	1623	1628	N24	W80	4990	04	17.5	10	SF					32		FH
	RAMY	23	1615E	1616U	1625	N23	W79	4990	04	17.6	10D	SF		2	E		38		
	HOLL	23	1618	1623	1632	N24	W80	4990	04	17.5	14	SF		4	E		26		FH
0292		23	16472	16492	1702	N22	W84	4990	04	17.2	15	SF	C 2.9				36		
	HOLL	23	1647	1651	1704	N21	W82	4990	04	17.4	17	SF	C 2.9	4	E		44		
	RAMY	23	1649	1649	1700	N22	W86	4990	04	17.1	11	SF	C 2.9	3	E		28		
0293	RAMY	24	1137	1138	1139	S23	E84	5002	04	30.9	2	SF		3	E		36		
0294	HOLL	24	1250E	1252	1259	S21	E66	5002	04	29.6	9D	SF		2	E		32		
0295	RAMY	24	1555	1555	1603	N20	W90	4990	04	17.8	8	SF		3	E				
0296	RAMY	24	1751	1752	1816	S22	E84	5002	05	1.2	25	SF		3	E		15		
0297	HOLL	24	2351	2354	2358	S21	E75	5002	04	30.7	7	SF		3	E		22		
0298	SVTO	25	1129	1130	1135	S20	E68	5002	04	30.7	6	SF		3	E		12		
0299		25	1252	1252	1257	S22	E69	5002	04	30.8	5	SF					26		
	HOLL	25	1250E	1252	1259	S21	E66	5002	04	30.6	9D	SF		2	E		32		
	RAMY	25	1252	1252	1255	S22	E72	5002	05	1.1	3	SF		3	E		20		
0300		25	13142	1316	1334	S22	E69	5002	04	30.8	20	SF					11		
	HOLL	25	1314	1316	1342	S21	E66	5002	04	30.6	28	SF		3	E		11		
	RAMY	25	1316	1316	1326	S22	E72	5002	05	1.1	10	SF		3	E		11		
0301	HOLL	25	1454	1455	1501	S20	E67	5002	04	30.7	7	SF		3	E		13		
0302	HOLL	25	1537	1537	1547	S21	E65	5002	04	30.6	10	SF		3	E		10		F
0303	HOLL	24	1555	1555	1603	N20	W88	4990	04	17.9	8	SF		3	E		62		
0304	HOLL	25	1555	1557	1602D	S22	E68	5002	04	30.9	7D	SF		3	E		68		F
0305		25	17416	17447	1756	S21	E63	5002	04	30.6	15	SF					14		
	RAMY	25	1741	1744	1745D	S21	E63	5002	04	30.6	4D	SF		3	E		18		
	HOLL	25	1747	1751	1756	S21	E63	5002	04	30.6	9	SF		3	E		11		
0306	HOLL	25	2005	2007	2034	S20	E64	5002	04	30.7	29	SF		3	E		23		F
0307	HOLL	25	2235	2240	2253	S22	E64	5002	04	30.8	18	SF		3	E		16		
0308		26	0325	0326	0330	S20	E60	5002	04	30.7	5	SN					41		F
	TACH	26	0325	0325U	0330	S20	E62	5002	04	30.9	5	SB			C	0325	61		F
	PALE	26	0325	0326	0331	S21	E57	5002	04	30.5	6	SF		3	E		21		F
0309	ABST	26	0445	0448	0452	S15	E60	5002	04	30.7	7	SN			C	0448	87	1.7	DI
0310		26	07572	0759	0802	S20	E58	5002	04	30.8	5	SF					16		H
	SVTO	26	0757	0759	0802	S20	E58	5002	04	30.8	5	SF		3	E		16		
	KHAR	26	0759	0759	0802	S19	E58	5002	04	30.7	3	SF		2	V	0759			H
0311		26	0956	1007	1041	S20	E56	5002	04	30.7	45	SF	C 2.2				50	1.1	E
	HTPR	26	0950E		1018D	S20	E57	5002	04	30.8	28D	SF			C	1011	60	1.1	E
	SVTO	26	0956	1007	1041	S19	E56	5002	04	30.7	45	SF	C 2.2	3	E		39		
0312	KANZ	26	1259	1259	1309	S19	E54	5002	04	30.7	10	SF		2					
0313		26	1548	1549	1612	S20	E54	5002	04	30.8	24	SF					14		
	RAMY	26	1548	1549	1606	S21	E54	5002	04	30.8	18	SF		3	E		14		
	HOLL	26	1548	1549	1618	S19	E55	5002	04	30.8	30	SF		3	E		14		
0314		26	1833*	1835*	1855	S19	E51	5002	04	30.7	22	SF					15		
	HOLL	26	1833	1835	1846	S19	E51	5002	04	30.7	13	SF		3	E		14		
	HOLL	26	1849	1850	1856	S19	E51	5002	04	30.7	7	SF		3	E		14		
	HOLL	26	1858	1859	1902	S18	E51	5002	04	30.7	4	SF		3	E		16		

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

APRIL 1988

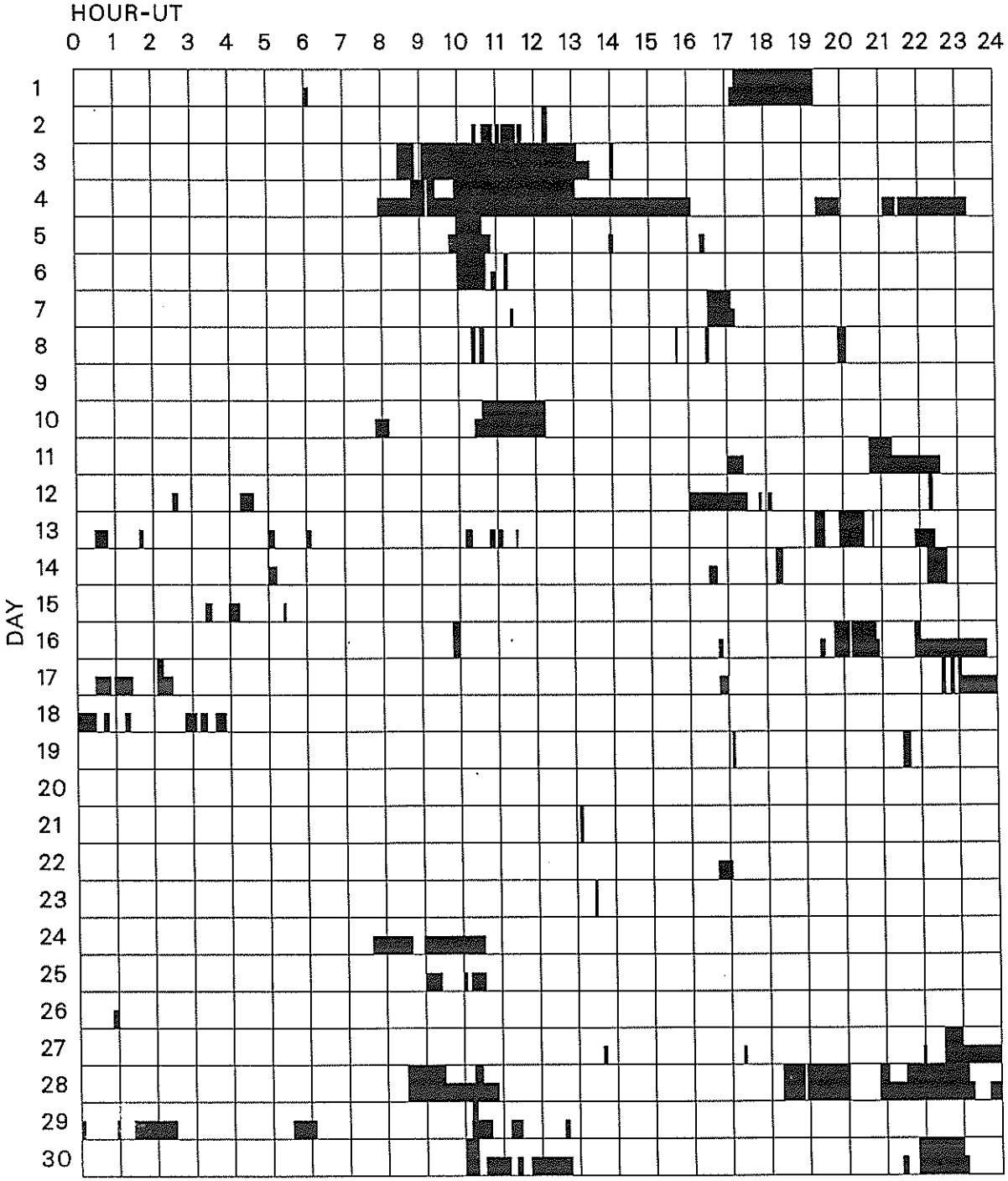
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0315	HOLL	26	1912	1919	1920	S20	E53	5002	04	30.8	8	SF	C	1.3	3	E		12		
0316	RAMY	27	1616	1620	1633	S19	E39	5002	04	30.6	17	SF			3	E		18		
		27	2231		2259	No Flare Patrol														
		28	0831		0929	No Flare Patrol														
		28	1016		1028	No Flare Patrol														
		28	1818		1852	No Flare Patrol														
		28	1856		2002	No Flare Patrol														
		28	2049		2104	No Flare Patrol														
		28	2131		2309	No Flare Patrol														
		29	1011		1019	No Flare Patrol														
0317	RAMY	29	1914	1915	1917	S20	E89	5004	05	6.6	3	SF	C	1.4	3	E		13		
0318	HOLL	29	2153	2154	2156	S20	E88	5004	05	6.6	3	SF			4	E		14		
0319	HOLL	29	2210	2211	2225	S21	E74	5004	05	5.6	15	SF			3	E		47		
0320	HOLL	29	2328	2328	2333	S21	E86	5004	05	6.6	5	SF			3	E		24		
0321		30	0635E	0635	0710	S20	E01	5002	04	30.3	35D	SN						94	1.0	
	CATA	30	0635E	0635	0640D	S20	E01	5002	04	30.3	5D	SB			2	P	0635	169	1.8	
	HTPR	30	0655E		0710	S20	E01	5002	04	30.4	15D	SF				C	0657	20	0.2	
0322	HTPR	30	0730	0738	0808	S20	E80	5004	05	6.4	38	SF				C	0738	30		
0323		30	0826	08371	0848	S18	E00	5002	04	30.3	22	SN						60	0.6	DE
	HTPR	30	0826	0837	0855	S19	W02	5002	04	30.2	29	SN				C	0837	60	0.6	E
	KHAR	30	0836E	0838	0842	S18	E02	5002	04	30.5	6D	SF			2	V	0838			D
		30	1001		1020	No Flare Patrol														
0324	RAMY	30	1026E	1028	1058	S20	E79	5004	05	6.5	32D	SF			2	E				
0325	HTPR	30	1255E		1335	S20	E80	5004	05	6.6	40D	SB				C	1318	120		AEKT
0326	HTPR	30	1515	1517	1526	N24	E65		05	5.6	11	SF				C	1517	20	0.4	E
0327	HOLL	30	1734	1736	1742	S23	W06	5005	04	30.3	8	SF			3	E		11		
0328		30	21011	2102	2114	S20	E76	5004	05	6.7	13	SN	C	6.2				47		E
	HOLL	30	2101	2108U	2118	S19	E74	5004	05	6.5	17	SN	C	6.2	3	E		67		E
	PALE	30	2102	2102	2109	S20	E79	5004	05	6.9	7	SF	C	6.2	3	E		27		
		30	2149		2258	No Flare Patrol														

"Remarks"

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

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

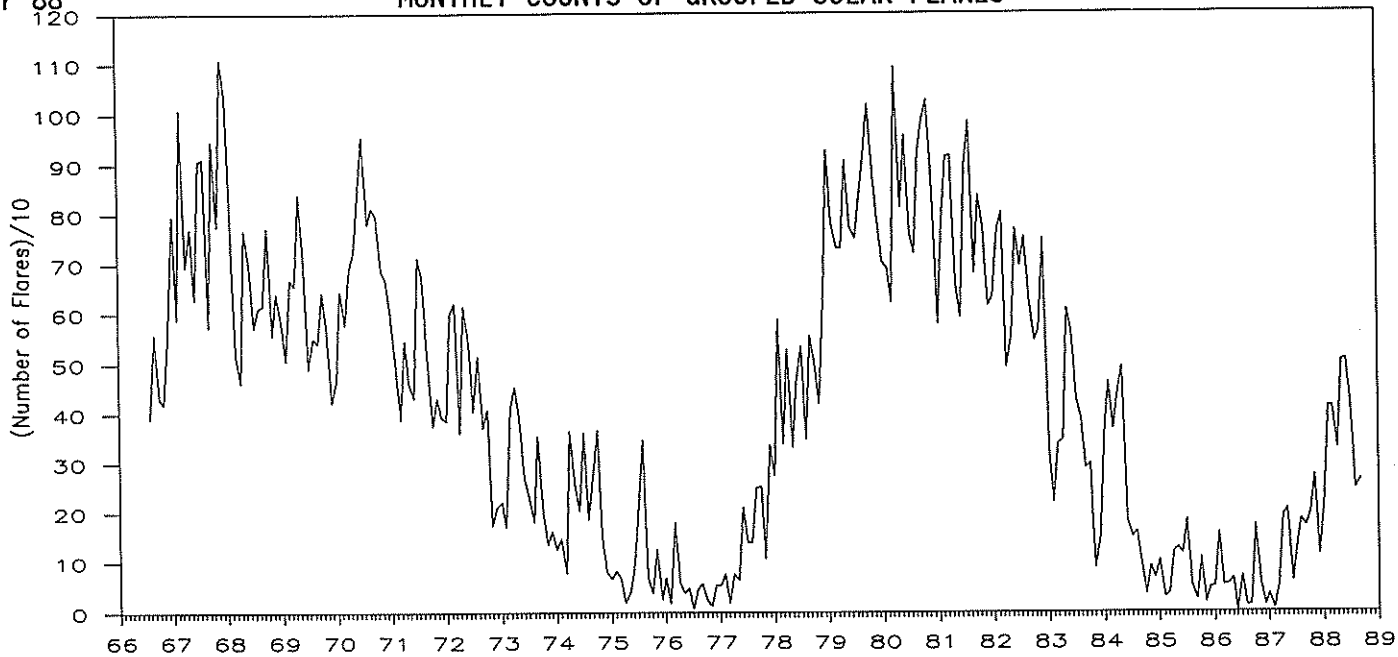
APRIL 1988



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	Haute Provence	Kharkov	Mitaka	San Vito
Athens	Holloman	Learmonth	Palehua	Tashkent
Bucharest	Istanbul	Lvov	Peking	Urumqi
Catania	Kanzelhoehe	Manila	Ramey	Voroshilov

MONTHLY COUNTS OF GROUPED SOLAR FLARES*



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1966								391	558	432	417	543	2341
1967	796	589	1009	694	771	629	907	911	573	946	775	1109	9709
1968	1037	773	519	460	768	697	573	611	616	772	556	640	8022
1969	581	504	669	655	839	694	489	551	540	643	566	422	7153
1970	466	646	578	688	722	836	954	780	811	797	687	667	8632
1971	598	505	387	546	461	430	713	673	518	375	431	394	6031
1972	384	599	621	361	614	541	404	515	371	408	175	210	5203
1973	221	171	410	453	388	270	232	182	353	201	136	163	3180
1974	127	148	79	364	255	204	360	187	270	366	153	81	2594
1975	68	82	69	19	42	85	196	346	68	38	127	25	1165
1976	69	18	180	60	38	48	6	47	57	23	13	55	614
1977	54	77	18	76	64	210	140	140	250	252	107	336	1724
1978	274	588	338	526	330	460	533	346	554	499	418	648	5514
1979	926	781	731	731	907	772	750	821	901	1018	888	786	10012
1980	703	689	621	1092	811	956	763	720	924	988	1027	838	10132
1981	578	782	914	915	658	592	893	982	680	836	773	615	9218
1982	631	766	803	490	553	769	696	753	615	544	564	748	7932
1983	332	220	337	346	609	561	427	389	289	298	88	152	4048
1984	353	461	366	440	492	185	151	161	95	36	92	69	2901
1985	104	29	38	119	129	116	185	53	25	108	19	50	975
1986	51	158	54	56	68	3	71	12	14	174	56	13	730
1987	36	7	52	192	205	61	132	185	171	198	273	114	1626
1988	209	412	412	328	502	506	413	246	265				3293

*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

APRIL 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	100	GORK	44	NS	0352.0E		482.0D		50.0		
	200	GORK	44	NS	0353.0E		481.0D		5.0		
	245	SVTO	43	NS	0508.0	1629.0	705.0D	180.0			QL=1 ST=3 TYP=1
	204	IZMI	43	NS	0600.0		360.0	15.0			
	260	ONDR	44	NS	0611.0E	1213.0U	469.0D	65.0U			
	127	TORN	44	NS	0620.0E		560.0D		60.0D		V=1 DISTURBED
	234	POTS	44	NS	0620.0E	1117.0U	500.0D	200.0			
	536	ONDR	43	NS	0630.0	1307.0U	450.0D	87.0			
	33	UPIC	43	NS	0815.1		458.1U				
	29	UPIC	43	NS	0815.2		468.1				
	430	KRAK	43	NS	1059.5	1232.5	141.5D	28.0	10.0		
	245	PALE	43	NS	1642.0	1746.0	709.0D	110.0			QL=5 ST=2 TYP=1
	100	HIRA	44	NS	2020.0E	2200.0	760.0D	110.0	44.0		
	200	HIRA	44	NS	2020.0E	2300.0	760.0D	86.0	69.0		MR
	245	LEAR	44	NS	2248.0E	2306.0	678.0D	110.0			QL=5 ST=2 TYP=1
	410	LEAR	8	S	0005.0	0005.0	60.0	160.0			QL=5 ST=2 TYP=5
	500	HIRA	41	F	0005.5	0006.5	2.0	26.0			0
	500	HIRA	6	S	0030.5	0031.0	1.0	14.0			0
	500	HIRA	8	S	0112.0	0115.0	6.0	18.0			QL= ST= TYP=3
	245	LEAR	8	S	0147.0	0147.0	5.0	200.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0147.0	0147.0	6.0	220.0			QL=5 ST=2 TYP=5
	500	HIRA	6	S	0227.6	0228.0	0.8	27.0			0
	410	PALE	8	S	0228.0	0228.0	1.0	39.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	0228.0	0228.0	60.0	53.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0229.0	0229.0	5.0	170.0			QL=5 ST=2 TYP=5
	2950	GORK	21	GRF	0603.0	0633.0	33.0U	2.9			
	204	IZMI	2	S/F	0645.6	0645.7	0.4	100.0	50.0		
	245	SVTO	8	S	0647.0	0647.0		270.0			QL=1 ST=2 TYP=5
	2950	GORK	1	S	0656.5	0656.7	0.5	2.3	1.1		
	9300	KISV	22	GRF	0704.0	0734.0	356.0D	5.0			
	245	LEAR	8	S	0715.0	0715.0	2.0	130.0			QL=5 ST=2 TYP=5
	245	SVTO	8	S	0715.0	0715.0	2.0	220.0			QL=1 ST=2 TYP=5
	15000	KISV	24	R	0800.0	1300.0	300.0D	78.0			
	9300	KISV	2	S/F	0803.8	0804.6	2.5	5.0			
	15000	KISV	1	S	0817.5	0819.6	5.4	6.0			
	950	GORK	20	GRF	1023.7	1030.5	11.8	3.6			
	950	GORK	21	GRF	1038.2	1121.0	82.0D	5.6			
	650	GORK	23	GRF	1045.9E	1147.1	66.0D	3.5			
	650	GORK	46	C	1046.5E	1053.3		3.5			
	650	GORK	46	C	1046.5E	1047.3	7.7D	8.7			
	950	GORK	4	S/F	1047.0	1047.4	1.1	12.0	4.0		
	200	GORK	27	RF	1059.7		55.0D				
	2950	GORK	20	GRF	1103.0	1157.0	60.0D	4.7			
	204	IZMI	25	R	1115.0		45.0	130.0	60.0		
	650	GORK	46	C	1128.6	1130.2	16.2	6.0			
	650	GORK	46	C	1128.6	1142.7		5.0			
	650	GORK	46	C	1128.6	1137.8		6.5			
	9100	GORK	22	GRF	1143.5	1150.3	16.5D	4.0			
	5900	KISV	22	GRF	1206.4	1212.8	54.0D	2.0			
	100	HIRA	41	F	2313.9	2316.1	3.2	870.0			
	500	HIRA	6	S	2315.9	2316.5	1.0	6.0			0
02	100	GORK	44	NS	0353.0E		400.0D		5.0		
	200	GORK	44	NS	0355.0E		398.0D		50.0		
	245	SVTO	43	NS	0451.0	1435.0	723.0D	260.0			QL=5 ST=2 TYP=1
	234	POTS	44	NS	0550.0E	1435.0U	526.0D	140.0			
	204	IZMI	44	NS	0600.0E		360.0D	340.0			
	127	TORN	44	NS	0630.0E		550.0D		57.0		V=1
	260	ONDR	44	NS	0650.0E	1231.0U	435.0D	32.0U			
	245	SGMR	44	NS	1044.0E	1158.0	796.0D	160.0			QL=1 ST=3 TYP=1
	245	PALE	43	NS	1641.0	1700.0	710.0D	310.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2020.0E	2200.0	760.0D	102.0	58.0		WR
	100	HIRA	44	NS	2020.0E	2307.0	760.0D	74.0	27.0		
	245	LEAR	44	NS	2249.0E	2307.0	676.0D	120.0			QL=5 ST=2 TYP=1
	100	HIRA	42	SER	0114.5	0115.2	8.0	1000.0D			
	500	HIRA	42	SER	0114.5	0119.8	6.7	27.0			0

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
02	610	LEAR	8	S	0115.0	0119.0	6.0	11.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	0115.0	0119.0	6.0	34.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0115.0	0118.0	3.0	50.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0121.0	0121.0	3.0	170.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0121.0	0121.0		180.0			QL=3 ST=2 TYP=5
	200	HIRA	8	S	0213.8	0214.1	0.4	1030.0			0
	245	LEAR	8	S	0214.0	0214.0	3.0	340.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0214.0	0214.0		410.0			QL=5 ST=2 TYP=5
	100	HIRA	8	S	0214.0	0214.1	0.9	920.0			
	500	HIRA	6	S	0311.0	0312.5	3.0	7.0			0
	200	HIRA	46	C	0327.2	0327.7	1.4	240.0			0
	100	HIRA	46	C	0327.4		2.0	1000.0D			
	245	LEAR	8	S	0328.0	0328.0	1.0	20.0			QL=5 ST=2 TYP=3
	245	SVTO	8	S	0526.0	0527.0	2.0	65.0			QL=1 ST=3 TYP=5
	200	GORK	41	F	0526.4	0555.0		30.0			
	200	GORK	41	F	0526.4	0551.0		130.0			
	200	GORK	41	F	0526.4	0527.1	29.3	130.0			
	200	GORK	41	F	0526.4	0542.2		50.0			
	200	GORK	41	F	0526.4	0553.4		25.0			
	200	GORK	41	F	0526.4	0538.6		55.0			
	245	LEAR	8	S	0527.0	0527.0	1.0	100.0			QL=5 ST=2 TYP=5
	100	GORK	41	F	0527.0	0527.1	40.7	210.0			
	100	GORK	41	F	0527.0	0551.2		1950.0			
	100	GORK	41	F	0527.0	0559.3		110.0			
	100	GORK	41	F	0527.0	0553.4		2440.0			
	100	GORK	41	F	0527.0	0536.4		40.0			
	950	GORK	21	GRF	0534.0	0539.7	13.0	2.4			
	500	HIRA	42	SER	0534.3	0551.9	21.0	25.0			0
	650	GORK	4	S/F	0534.6	0535.5	3.0	11.5	3.4		
	950	GORK	2	S/F	0534.9	0535.5	3.3	5.5			
	9100	GORK	20	GRF	0537.2	0544.2	10.5	3.2			
	650	GORK	29	PBI	0537.6	0537.6	8.8	1.0			
	650	GORK	21	GRF	0548.0	0553.6	8.7	3.0			
	950	GORK	21	GRF	0548.5	0557.2	9.1U	1.0			
	410	LEAR	8	S	0549.0	0552.0	5.0	30.0			QL=5 ST=3 TYP=3
	610	LEAR	8	S	0549.0	0551.0	5.0	19.0			QL=5 ST=2 TYP=3
	1415	LEAR	8	S	0549.0	0558.0	10.0	95.0			QL=1 ST=2 TYP=5
	100	HIRA	42	SER	0549.5	0551.0U	10.0	1000.0D			
	2695	LEAR	8	S	0550.0	0551.0	4.0	75.0			QL=5 ST=2 TYP=5
	8800	LEAR	8	S	0550.0	0551.0	1.0	33.0			QL=5 ST=2 TYP=3
	8800	SVTO	8	S	0550.0	0551.0	2.0	42.0			QL=5 ST=3 TYP=3
	1415	SVTO	8	S	0550.0	0551.0	4.0	42.0			QL=5 ST=3 TYP=3
	410	SVTO	8	S	0550.0	0551.0	2.0	23.0			QL=5 ST=3 TYP=3
	245	SVTO	8	S	0550.0	0551.0	2.0	45.0			QL=1 ST=3 TYP=3
	4995	SVTO	8	S	0550.0	0551.0	4.0	70.0			QL=5 ST=3 TYP=5
	2695	SVTO	8	S	0550.0	0551.0	4.0	72.0			QL=5 ST=3 TYP=5
	15400	SVTO	8	S	0550.0	0551.0	2.0	28.0			QL=3 ST=2 TYP=3
	2950	GORK	3	S	0550.0	0551.2	3.0	78.0			
	9100	GORK	3	S	0550.2	0551.3	3.8	42.0			
	650	GORK	3	S	0550.5	0551.2	2.1	18.6	8.0		
	5900	KISV	45	C	0550.5	0551.2	5.0	81.0			
	950	GORK	46	C	0550.5	0551.3	4.7	29.0			
	5900	KISV	45	C	0550.5	0553.5		7.0			
	950	GORK	46	C	0550.5	0553.8		9.0			
	9300	KISV	45	C	0550.6	0551.3	4.6	54.0			
	9300	KISV	45	C	0550.6	0553.5		5.0			
	15000	KISV	2	S/F	0550.7	0551.2	1.0	7.0			
	29	UPIC	45	C	0551.0	0551.5	1.8				
	33	UPIC	45	C	0551.0	0551.8	2.8				
	2950	GORK	30	PBI	0552.7	0552.7	7.7	5.9			
	2950	GORK	1	S	0553.0	0553.5	0.8	4.4	2.0		
	5900	KISV	2	S/F	0556.7	0557.3	1.0	2.0			
	9300	KISV	1	S	0556.9	0557.2	0.7	1.0			
	15400	LEAR	8	S	0557.0	0557.0		470.0			QL=3 ST=2 TYP=5
	2950	GORK	1	S	0557.0	0557.3	0.7	1.8	0.9		
	650	GORK	20	GRF	0652.2	0720.8	41.0	2.6			

APRIL 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
02	245	LEAR	8	S	0724.0	0725.0	3.0	220.0			QL=5 ST=3 TYP=5
	245	LEAR	8	S	0734.0	0734.0	1.0	65.0			QL=5 ST=2 TYP=5
	536	ONDR	42	SER	0810.0		355.0				
	650	GORK	22	GRF	0825.6	0911.7	70.0	27.0			
	9300	KISV	24	R	0905.4	1028.5	235.0D	8.0			
	9300	KISV	4	S/F	0941.3	0941.4	0.9	29.0			
	810	KRAK	8	S	1025.5	1025.5	0.1	4.0			
	430	KRAK	4	S/F	1100.5	1238.5	104.5D	21.0	8.0		
	5900	KISV	2	S/F	1136.3	1136.9	1.5	4.0			
	500	HIRA	6	S	2046.0	2046.7	1.5	15.0			0
	200	HIRA	41	F	2157.2	2208.6	23.0	640.0			ML
	200	HIRA	41	F	2343.5	2351.0	13.9	380.0			WL
03	200	GORK	44	NS	0353.0E		401.0D		10.0		
	100	GORK	44	NS	0353.0E		401.0D		5.0		
	245	SVTO	43	NS	0449.0	1617.0	726.0D	230.0			QL=5 ST=2 TYP=1
	221	ABST	43	NS	0500.0	0640.0	300.0	9.0			
	204	IZMI	43	NS	0600.0		360.0	15.0			
	234	POTS	44	NS	0600.0E	0935.0U	514.0D	60.0			
	127	TORN	44	NS	0620.0E		560.0D		52.0		V=1
	260	ONDR	44	NS	0650.0E	1435.0	490.0D				
	245	SGMR	43	NS	1043.0	1644.0	365.0D	220.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1640.0	2053.0	712.0D	240.0			QL=5 ST=2 TYP=1
	245	SGMR	43	NS	2011.0	2053.0	160.0D	310.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	2018.0E	2146.0	760.0D	56.0	31.0		WR
	245	LEAR	44	NS	2249.0E	0129.0	675.0D	120.0			QL=5 ST=2 TYP=1
	500	HIRA	8	S	0248.0	0249.0	1.5	24.0			WL
	245	LEAR	8	S	0248.0	0249.0	1.0	320.0			QL=5 ST=2 TYP=5
	610	LEAR	8	S	0248.0	0249.0	1.0	39.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	0248.0	0249.0	1.0	39.0			QL=5 ST=2 TYP=3
	245	PALE	8	S	0248.0	0249.0	1.0	350.0			QL=5 ST=2 TYP=5
	610	PALE	8	S	0248.0	0249.0	1.0	40.0			QL=5 ST=2 TYP=3
	410	PALE	8	S	0248.0	0249.0	1.0	19.0			QL=5 ST=2 TYP=3
	100	HIRA	6	S	0248.1	0248.8	1.8	415.0			
	200	HIRA	7	C	0248.2	0248.6	20.0	250.0	17.0		WL
	200	HIRA	7	C	0248.2	0252.8		200.0			WL
	1415	LEAR	8	S	0249.0	0249.0	2.0	16.0			QL=1 ST=2 TYP=3
	9100	GORK	1	S	0438.6	0439.2	2.3	5.0			
	245	SVTO	8	S	0453.0	0454.0	1.0	88.0			QL=1 ST=3 TYP=5
	200	HIRA	8	S	0453.2	0453.2	0.5	55.0			WR
	245	LEAR	8	S	0454.0	0454.0		92.0			QL=5 ST=2 TYP=5
	200	HIRA	42	SER	0504.4	0530.0	40.0	135.0			WL
	200	GORK	4	S/F	0529.3	0530.7	1.7	240.0			
	100	GORK	4	S/F	0530.3	0530.3	2.3	100.0			
	536	ONDR	42	SER	0700.0		267.0				
	650	GORK	1	S	0854.5	0855.7	2.6	1.1			
	200	HIRA	46	C	2307.9	2308.6	1.5	130.0			0
04	200	GORK	44	NS	0351.0E		491.0D		10.0		
	245	SVTO	43	NS	0448.0	0708.0	728.0D	81.0			QL=1 ST=2 TYP=1
	221	ABST	43	NS	0500.0	0735.0	300.0	8.0			QL= ST= TYP=1
	234	POTS	44	NS	0550.0E	1113.0	520.0D	48.0			
	204	IZMI	44	NS	0600.0E		360.0D	37.0			
	260	ONDR	44	NS	0700.0E	0752.0	420.0D				
	127	TORN	43	NS	0723.0		317.0		13.0		V=1
	245	PALE	43	NS	1732.0	1737.0	630.0D	34.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2018.0E		760.0D		6.0		
	200	HIRA	44	NS	2018.0E	2123.0	760.0D	28.0	16.0		WR
	245	LEAR	44	NS	2249.0E	0007.0	71.0D	61.0			QL=5 ST=1 TYP=1
	410	LEAR	8	S	0055.0	0055.0	1.0	19.0			QL=5 ST=2 TYP=3
	536	ONDR	42	SER	0700.0	0906.0	298.0	147.0U			
	430	KRAK	2	S/F	0936.5	0937.0	0.7	37.0	8.0		
	810	KRAK	8	S	0936.5	0936.5	0.1	15.0			
	650	GORK	8	S	0936.8	0937.1	0.5	13.0			
	650	GORK	21	GRF	1052.7	1056.3	8.0	2.0			
	9100	GORK	20	GRF	1054.0	1158.2	73.0D	15.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
04	650	GORK	5	S	1057.0	1057.4	1.9	9.0			
	3000	POTS	20	GRF	1114.0	1154.5	166.0U	14.0			
	1470	POTS	20	GRF	1115.0	1202.5	165.0	4.0			
	9500	POTS	20	GRF	1116.0	1159.8	164.0	10.0			
	2950	GORK	20	GRF	1117.3E	1205.0	50.0D	8.3			
	650	GORK	20	GRF	1118.0	1123.8	21.5	2.0			
	1415	SVTO	8	S	1605.0	1606.0	4.0	50.0			QL=5 ST=3 TYP=5
	410	SVTO	8	S	1605.0	1606.0	4.0	50.0			QL=1 ST=3 TYP=5
	245	SVTO	8	S	1605.0	1606.0	4.0	210.0			QL=1 ST=3 TYP=5
	2695	SVTO	8	S	1605.0	1606.0	2.0	10.0			QL=5 ST=3 TYP=3
	610	SVTO	8	S	1605.0	1606.0	2.0	65.0			QL=1 ST=3 TYP=5
	410	SGMR	8	S	1606.0	1607.0	3.0	77.0			QL=1 ST=1 TYP=5
	245	SGMR	8	S	1606.0	1607.0	5.0	320.0			QL=1 ST=2 TYP=5
	610	SGMR	8	S	1606.0	1607.0	4.0	71.0			QL=1 ST=2 TYP=5
	29	UPIC	45	C	1606.8	1607.2	2.1				
	33	UPIC	45	C	1606.8	1607.5	2.4				
05	200	GORK	44	NS	0342.0E		501.0D		10.0		
	245	SVTO	43	NS	0446.0	1051.0	731.0D	80.0			QL=1 ST=2 TYP=1
	204	IZMI	44	NS	0600.0E		360.0D	30.0			
	260	ONDR	44	NS	0600.0E	0829.0	480.0D	6.0U			
	234	POTS	44	NS	0630.0E	0818.0U	510.0D	30.0			
	127	TORN	43	NS	0721.0		499.0		7.0		V=1
	245	LEAR	43	NS	2249.0	0007.0	674.0D	61.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2250.0	2312.0	672.0D	37.0			QL=5 ST=2 TYP=1
	536	ONDR	42	SER	0627.0	1008.4	410.0U	57.0			
	234	POTS	42	SER	0824.6	0829.5	5.4	550.0			
	204	IZMI	41	F	0825.0	0825.6	2.0	50.0			
	127	TORN	45	C	0825.2	0826.0	4.0	180.0	90.0		
	30	POTS	42	SER	0825.2	0829.4	5.4	200.0			
	430	KRAK	41	F	0825.2	0826.5	1.5	4.0	2.0		
	430	KRAK	8	S	0828.5	0829.0	1.0	19.0			
	245	LEAR	8	S	0829.0	0829.0	71.0	300.0			QL=5 ST=2 TYP=5
	204	IZMI	4	S/F	0829.0	0829.4	0.8	150.0	70.0		
	127	TORN	7	C	0829.5	0830.4	1.6	200.0	100.0		
06	200	GORK	44	NS	0351.0E		444.0D		5.0		
	245	SVTO	43	NS	0444.0	1054.0	734.0D	58.0			QL=5 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0	30.0			
	260	ONDR	44	NS	0600.0E	1045.3	425.0D	110.0U			
	127	TORN	43	NS	0820.0		360.0		4.0		V=1
	200	HIRA	44	NS	2015.0E	0433.0	760.0D	5.0	3.0		WR
	245	LEAR	43	NS	2250.0	0556.0	672.0D	72.0			QL=5 ST=3 TYP=1
	245	PALE	8	S	0106.0	0107.0	1.0	51.0			QL=5 ST=2 TYP=5
	536	ONDR	42	SER	0810.0	1241.7	273.0	42.0			
07	200	GORK	44	NS	0408.0E		474.0D		5.0		
	245	SVTO	43	NS	0443.0	0724.0	736.0D	180.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0	32.0			
	260	ONDR	44	NS	0600.0E	1113.7	490.0D	125.0U			
	127	TORN	43	NS	0820.0		440.0		3.0		V=1
	410	SGMR	43	NS	1036.0	2006.0	739.0D	29.0			QL=5 ST=2 TYP=1
	245	SGMR	43	NS	1036.0	1946.0	739.0D	96.0			QL=5 ST=2 TYP=1
	430	KRAK	43	NS	1118.0		71.6	6.0	3.0		
	245	PALE	43	NS	1646.0	1946.0	707.0D	93.0			QL=5 ST=2 TYP=1
	410	PALE	43	NS	2002.0	2006.0	133.0D	22.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2015.0E		240.0D		3.0U		0
	245	LEAR	44	NS	2250.0E	0908.0	70.0D	110.0			QL=5 ST=2 TYP=1
	245	PALE	8	S	0211.0	0212.0	2.0	57.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0324.0	0324.0	2.0	58.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0535.0	0535.0	2.0	140.0			QL=5 ST=2 TYP=5
	245	SVTO	8	S	0535.0	0535.0	2.0	100.0			QL=1 ST=2 TYP=5
	245	LEAR	8	S	0616.0	0616.0		76.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0706.0	0706.0	2.0	150.0			QL=5 ST=2 TYP=5
	5900	KISV	25	R	0900.0	1022.0	240.0	7.0			
	650	GORK	22	GRF	1033.2	1153.8	87.0D	8.3			

APRIL 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
07	430	KRAK	2	S/F	1039.2	1039.8	1.5	7.0	3.0		
	430	KRAK	2	S/F	1104.0	1104.5	1.6	11.0	5.0		
	536	ONDR	42	SER	1144.9		43.8	15.0			
	9500	POTS	40	F	1307.0	1312.0	28.0	7.0			
	1470	POTS	40	F	1307.5	1309.0	5.5	4.0			
	3000	POTS	40	F	1308.0	1311.0	7.0U	6.0			
	2800	OTTA	22	GRF	1930.0	1950.0	160.0	3.5			
08	200	GORK	44	NS	0353.0E		487.0D		5.0		
	245	SVTO	43	NS	0441.0	0914.0	739.0D	98.0			QL=5 ST=2 TYP=1
	260	ONDR	44	NS	0555.0E	0921.4	495.0D	199.0U			
	204	IZMI	43	NS	0600.0		360.0	45.0			
	127	TORN	43	NS	0817.0		380.0		2.0		V=1
	245	SGMR	43	NS	1034.0	2216.0	742.0D	130.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1713.0	2216.0	680.0D	140.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2015.0E	2243.0	780.0D	29.0	2.0		MR
	245	LEAR	43	NS	2251.0	2321.0	669.0D	100.0			QL=5 ST=2 TYP=1
	15400	LEAR	8	S	0018.0	0019.0	5.0	28.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0018.0	0019.0	5.0	22.0			QL=5 ST=2 TYP=3
	1415	LEAR	8	S	0019.0	0020.0	1.0	10.0			QL=1 ST=3 TYP=3
	245	LEAR	8	S	0019.0	0019.0	1.0	58.0			QL=3 ST=3 TYP=5
	8800	LEAR	8	S	0019.0	0019.0	1.0	14.0			QL=3 ST=3 TYP=3
	15400	LEAR	8	S	0019.0	0019.0	1.0	16.0			QL=1 ST=3 TYP=3
	2695	LEAR	8	S	0019.0	0019.0	1.0	11.0			QL=3 ST=3 TYP=3
	9300	KISV	20	GRF	0600.0	0620.9	189.0	13.0			
	5900	KISV	25	R	0607.0	0648.0	413.0	15.0			
	2950	GORK	20	GRF	0608.0	0613.2	360.0D	6.4			
	9100	GORK	20	GRF	0610.5	0619.2	79.0	7.5			
	410	LEAR	8	S	0611.0	0611.0	1.0	24.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0611.0	0611.0	1.0	22.0			QL=5 ST=2 TYP=3
	950	GORK	1	S	0612.7	0613.0	1.4	2.5			
	650	GORK	4	S/F	0612.8	0613.0	0.4	14.5			
	204	IZMI	41	F	0852.0	0903.0	15.6	210.0			
	245	LEAR	8	S	0908.0	0908.0	1.0	190.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0914.0	0914.0	1.0	64.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0921.0	0921.0	1.0	330.0			QL=5 ST=2 TYP=5
	245	SVTO	8	S	0921.0	0921.0	1.0	430.0			QL= ST=2 TYP=5
	245	LEAR	8	S	0948.0	0948.0		94.0			QL=5 ST=2 TYP=5
	204	IZMI	41	F	0952.0	1011.0	20.6	140.0			
	536	ONDR	8	S	1116.9	1116.9	0.3	12.0			
	127	TORN	7	C	1354.7	1355.0	2.0	70.0D	30.0D		
	33	UPIC	45	C	1354.8	1355.5	2.7				
	29	UPIC	45	C	1355.0	1355.5	2.3				
	2800	OTTA	22	GRF	1500.0	1635.0	300.0	4.1	2.0		
	410	PALE	8	S	1733.0	1733.0		43.0			QL=5 ST=2 TYP=3
	245	PALE	8	S	1734.0	1734.0		79.0			QL=5 ST=2 TYP=5
	200	HIRA	42	SER	2142.0	2216.0	100.0	290.0			MR
	100	HIRA	42	SER	2148.4	2152.8	5.3	705.0			
09	200	GORK	44	NS	0400.0E		392.0D		5.0		
	245	SVTO	43	NS	0440.0	1356.0	741.0D	82.0			QL=5 ST=2 TYP=1
	260	ONDR	44	NS	0555.0E	1026.1	485.0D	127.0U			
	204	IZMI	43	NS	0641.0		319.0	25.0			
	29	UPIC	43	NS	0657.7	1024.3	602.3D				
	127	TORN	43	NS	0708.0		542.0		1.0		V=0 DISTURBED
	245	PALE	43	NS	1643.0	0416.0	710.0D	110.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2010.0E	0000.0	780.0D	4.0	2.0		0
	245	LEAR	43	NS	2251.0	0505.0	668.0D	140.0			QL=5 ST=2 TYP=1
	200	HIRA	46	C	0303.0	0304.0	2.5	94.0			MR
	245	SVTO	8	S	0651.0	0652.0	1.0	83.0			QL=1 ST=2 TYP=5
	5900	KISV	20	GRF	0913.5	0913.9	9.3	1.0			
	9300	KISV	1	S	0913.8	0916.5	5.4	3.0			
	200	GORK	41	F	1022.8	1024.4	5.1	230.0			
	200	GORK	41	F	1022.8	1027.6		70.0			
	200	GORK	41	F	1022.8	1025.9		95.0			
	100	GORK	41	F	1023.6	1026.0		800.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
09	100	GORK	41	F	1023.6	1024.5		840.0			
	204	IZMI	41	F	1023.6	1024.5	4.0	250.0			
	100	GORK	41	F	1023.6	1023.9	4.2	1800.0			
	5900	KISV	45	C	1106.9	1108.0	4.4	5.0			
	5900	KISV	45	C	1106.9	1108.9		5.0			
	3100	CRIM	45	C	1107.0	1109.0		6.0			
	3013	IZMI	7	C	1107.0	1109.0	8.2	7.0	3.0		
	3100	CRIM	45	C	1107.0	1108.2	4.0	6.0	2.0		
	3000	POTS	4	S/F	1107.0	1108.8	7.0	8.0			
	9300	KISV	20	GRF	1107.5	1121.6	29.0	4.0			
	5900	KISV	29	PBI	1111.3	1111.4	23.1	2.0			
	536	ONDR	41	F	1214.1	1248.9	35.6				
	234	POTS	4	S/F	1429.0	1429.8	10.0	880.0	200.0		
	2800	OTTA	22	GRF	1430.0	1700.0	440.0	5.4	2.0		
10	200	GORK	44	NS	0400.0E		391.0D		5.0		
	245	SVTO	43	NS	0438.0	0505.0	744.0D	160.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0650.0E	0926.0U	453.0D	202.0U			
	650	GORK	20	GRF	0558.2E	0715.7	131.1D	5.3			
	29	UPIC	2	S/F	0941.2	0941.3	1.1				
	33	UPIC	2	S/F	0941.2	0941.4	0.3				
	33	UPIC			0945.9	0946.0	0.3				
	29	UPIC	2	S/F	0946.0	0946.1	0.5				
	245	PALE	8	S	1700.0	1701.0	1.0D	140.0			QL=5 ST=2 TYP=5
11	200	GORK	44	NS	0353.0E		490.0D		5.0		
	260	ONDR	44	NS	0603.0E	1047.0U	477.0D	193.0U			
	245	SGMR	43	NS	1029.0	2118.0	750.0D	70.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	2114.0	2146.0	268.0D	80.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2252.0	0906.0	666.0D	12.0			QL=5 ST=2 TYP=1
	245	PALE	8	S	0048.0	0048.0	1.0D	80.0			QL=5 ST=2 TYP=5
	2950	GORK	22	GRF	0511.0	0511.5	53.0	4.6			
	2950	GORK	20	GRF	0710.4	0718.0	20.0	1.7			
	204	IZMI	41	F	0734.8	0735.4	2.0	25.0			
	2950	GORK	20	GRF	0803.0	0803.7	21.0	1.7			
	536	ONDR	41	F	1102.0	1105.4	61.5	42.0			
	2800	OTTA	40	F	1345.0	1745.0	480.0	5.7			
	410	PALE	8	S	1806.0	1806.0		25.0			QL=5 ST=2 TYP=3
	200	HIRA	8	S	2116.8	2116.9	0.3	210.0			0
	200	HIRA	46	C	2125.2	2125.5	1.6	250.0			ML
	200	HIRA	8	S	2328.4	2329.0	0.9	240.0			ML
12	200	GORK	44	NS	0350.0E		470.0D		5.0		
	245	SVTO	43	NS	0435.0	0523.0	749.0D	61.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0	20.0			
	260	ONDR	44	NS	0600.0E	1012.2	486.0D	69.0U			
	410	SVTO	43	NS	0635.0	1201.0	629.0D	77.0			QL=5 ST=2 TYP=1
	127	TORN	44	NS	0920.0E		360.0D		1.0		V=2
	410	SGMR	44	NS	1028.0E	1239.0	812.0D	56.0			QL=1 ST=3 TYP=1
	200	HIRA	44	NS	2007.0E	0525.0	780.0D	54.0	16.0		ML
	245	LEAR	43	NS	2252.0	0342.0	664.0D	210.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	2308.0	0326.0	326.0D	160.0			QL=5 ST=2 TYP=1
	410	PALE	43	NS	2323.0	2323.0	160.0D	10.0			QL=5 ST=2 TYP=1
	410	LEAR	8	S	0144.0	0144.0	1.0	25.0			QL=5 ST=2 TYP=3
	650	GORK	40	F	0510.1	0525.6		3.1			
	650	GORK	40	F	0510.1	0517.6		7.5			
	650	GORK	40	F	0510.1	0511.7	16.9	1.5			
	950	GORK	20	GRF	0515.0	0523.5	11.5	2.7			
	200	HIRA	42	SER	0520.5	0522.4	13.0	600.0			WL
	200	GORK	4	S/F	0557.3	0559.1	2.7	120.0			
	200	HIRA	8	S	0557.8	0557.8	0.4	150.0			0
	100	GORK	4	S/F	0558.6	0559.1	1.0	45.0			
	9100	GORK	20	GRF	0607.5	0614.3	13.5	3.4			
	950	GORK	2	S/F	0607.9	0608.6	0.7	6.5			
	650	GORK	4	S/F	0608.1	0608.2	1.7	38.0			
	2950	GORK	20	GRF	0642.5	1137.0	340.0D	7.5			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
12	245	SVTO	8	S	0837.0	0837.0	1.0	110.0			QL=1 ST=2 TYP=5
	245	LEAR	8	S	0837.0	0837.0	68.0	72.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0934.0	0935.0	1.0	110.0			QL=5 ST=2 TYP=5
	410	SGMR	8	S	1344.0	1345.0	1.0	120.0			QL=1 ST=2 TYP=5
	610	SGMR	8	S	1658.0	1659.0	2.0	220.0			QL=1 ST=2 TYP=5
	610	PALE	8	S	1659.0	1659.0	1.0	160.0			QL=5 ST=3 TYP=5
	2700	PENT	4	S/F	1659.0	1700.4	3.2	14.6	4.0		
	2700	PENT	22	GRF	1707.3	1810.0	110.0	5.4			
	2700	PENT	4	S/F	1707.3	1707.8	2.0	14.4	7.0		
	2700	PENT	29	PBI	1707.8	1707.8	13.0	2.8			
	245	PALE	8	S	1855.0	1855.0		56.0			QL=5 ST=2 TYP=5
13	100	HIRA	43	NS	0030.0	0352.0	510.0D	340.0	87.0		
	410	LEAR	43	NS	0222.0	0328.0	220.0D	150.0			QL=5 ST=2 TYP=1
	410	PALE	43	NS	0230.0	0328.0	124.0D	130.0			QL=5 ST=2 TYP=1
	610	LEAR	43	NS	0250.0	0350.0	134.0D	33.0			QL=5 ST=2 TYP=1
	100	GORK	44	NS	0351.0E		480.0D		35.0		
	200	GORK	44	NS	0351.0E		480.0D		15.0		
	245	SVTO	43	NS	0434.0	1232.0	751.0D	150.0			QL=1 ST=3 TYP=1
	410	SVTO	43	NS	0434.0	1346.0	751.0D	24.0			QL=5 ST=3 TYP=1
	260	ONDR	44	NS	0550.0E	1226.0U	504.0D	31.0U			
	234	POTS	44	NS	0550.0E	1226.0U	550.0D	280.0			
	204	IZMI	44	NS	0600.0E		360.0D	32.0			
	127	TORN	44	NS	0900.0E		400.0D		30.0		V=2
	245	SGMR	43	NS	1026.0	1721.0	756.0D	400.0			QL=5 ST=2 TYP=1
	410	SGMR	43	NS	1026.0	1604.0	756.0D	22.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1641.0	1721.0	714.0D	380.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2006.0E	2127.0	780.0D	71.0	14.0		SL
	245	LEAR	43	NS	2253.0	2258.0	662.0D	84.0			QL=5 ST=2 TYP=1
	500	HIRA	42	SER	0030.0	0032.0	3.0	25.0			0
	245	LEAR	8	S	0202.0	0202.0	1.0	59.0			QL=5 ST=2 TYP=5
	200	HIRA	42	SER	0208.6	0233.7	31.0	48.0			ML
	500	HIRA	22	GRF	0230.0	0343.0	300.0	26.0	9.0		WL
	200	HIRA	27	RF	0243.0	0343.0	100.0	150.0	47.0		SL
	9100	GORK	21	GRF	0345.0E		165.0D				
	950	GORK	21	GRF	0400.0E	0400.5	87.0D	6.4			
	650	GORK	23	GRF	0406.0E	0409.3	294.4D	7.5			
	2950	GORK	20	GRF	0414.5	0425.0	11.1	2.3			
	3100	CRIM	3	S	0418.0	0419.0	4.0	27.0	9.0		
	2950	GORK	3	S	0418.0	0419.0	3.1	40.0			
	9100	GORK	45	C	0418.0	0419.0	6.0	38.0			
	9100	GORK	45	C	0418.0	0419.5		2.5			
	650	GORK	4	S/F	0418.1	0418.3	0.4	34.0			
	3100	CRIM	1	S	0519.8	0520.5	2.0	2.3	0.7		
	2950	GORK	1	S	0520.2	0520.3	3.1	2.8	1.4		
	2950	GORK	1	S	0525.6	0527.0	6.2	2.0	1.0		
	950	GORK	1	S	0711.5	0712.0	0.7	3.4	1.5		
	810	KRAK	8	S	0711.5	0712.0	0.5	59.0			
	2950	GORK	21	GRF	0713.9	0725.0	22.1	1.4	0.5		
	3100	CRIM	1	S	0717.1	0718.0	1.5	2.3	0.7		
	2950	GORK	2	S/F	0717.2	0718.0	1.1	3.4	1.5		
	9100	GORK	20	GRF	0719.7	0723.7	21.0	8.3			
	5900	KISV	45	C	0720.1	0721.5	8.5	4.0			
	5900	KISV	45	C	0720.1	0723.6		11.0			
	9300	KISV	2	S/F	0720.7	0723.6	4.5	9.0			
	3100	CRIM	45	C	0721.0	0723.5		6.3			
	3100	CRIM	45	C	0721.0	0721.5	4.0	4.7	2.0		
	950	GORK	4	S/F	0721.1	0721.5	3.7	6.9			
	2950	GORK	1	S	0721.1	0721.5	1.2	5.1	2.5		
	810	KRAK	8	S	0721.2	0721.3	0.2	10.0			
	536	ONDR	40	F	0721.6	0721.7	0.8	13.0			
	2950	GORK	4	S/F	0723.3	0723.6	1.2	10.2			
	3100	CRIM	29	PBI	0725.0	0725.0	5.0	1.2	0.3		
	650	GORK	21	GRF	0915.5	0924.0	34.7	1.8			
	950	GORK	4	S/F	0917.7	0919.0	2.1	64.0			
	5900	KISV	20	GRF	0917.7	0920.3	10.0	3.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
13	3100	CRIM	45	C	0918.0	0919.4		3.2			
	3100	CRIM	45	C	0918.0	0918.5	2.0	3.2	1.0		
	2950	GORK	2	S/F	0918.1	0918.4	1.3	5.0			
	5900	KISV	1	S	0930.8	0931.5	3.5	3.0			
	33	UPIC	8	S	1244.6	1244.8	0.4				
	29	UPIC	8	S	1244.8	1244.9	0.3				
	2800	OTTA	22	GRF	1735.0	1800.0	80.0	2.6			
	245	PALE	8	S	1846.0	1847.0	2.0	130.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	1846.0	1846.0		110.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	2000.0	2000.0	2.0	140.0			QL=5 ST=2 TYP=5
	200	HIRA	27	RF	2355.0	0014.0	35.0	100.0	43.0		ML
	245	PALE	8	S	2358.0	2358.0	2.0	290.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	2358.0	2358.0	67.0	270.0			QL=5 ST=2 TYP=5
14	410	PALE	43	NS	0005.0	0011.0	56.0D	46.0			QL=5 ST=2 TYP=1
	200	GORK	44	NS	0348.0E		151.0D		15.0		
	100	GORK	44	NS	0348.0E		151.0D		5.0		
	245	SVTO	43	NS	0432.0	0923.0	754.0D	160.0			QL=1 ST=2 TYP=1
	410	SVTO	43	NS	0432.0	0930.0	754.0D	32.0			QL=5 ST=2 TYP=1
	234	POTS	44	NS	0550.0E	0935.0	550.0D	83.0			
	260	ONDR	44	NS	0550.0E	0927.8	490.0D	48.0U			
	204	IZMI	44	NS	0600.0E		360.0D	55.0			
	127	TORN	44	NS	0850.0E		410.0D		12.0		V=2
	430	KRAK	43	NS	0922.5		113.5	7.0	3.0		
	410	SGMR	43	NS	1024.0	1937.0	759.0D	77.0			QL=5 ST=2 TYP=1
	245	SGMR	43	NS	1024.0	2114.0	759.0D	510.0			QL=5 ST=2 TYP=1
	245	PALE	43	NS	1640.0	1715.0	715.0D	120.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2005.0E	0500.0	780.0D	8.0	5.0		0
	200	HIRA	46	C	0000.5	0001.2	0.9	330.0			0
	245	PALE	8	S	0001.0	0001.0	2.0	180.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0001.0	0001.0	67.0	180.0			QL=5 ST=2 TYP=5
	410	LEAR	8	S	0001.0	0001.0		18.0			QL=5 ST=2 TYP=3
	410	PALE	8	S	0001.0	0001.0		21.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	0011.0	0011.0	1.0	28.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0011.0	0011.0	1.0	150.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0037.0	0038.0	1.0	120.0			QL=5 ST=2 TYP=5
	410	LEAR	8	S	0038.0	0040.0	3.0	28.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0038.0	0038.0	1.0	96.0			QL=5 ST=2 TYP=5
	200	HIRA	46	C	0040.6	0041.6	2.1	270.0	130.0		0
	245	LEAR	8	S	0041.0	0042.0	2.0	76.0			QL=5 ST=2 TYP=5
	410	LEAR	8	S	0041.0	0041.0	3.0	32.0			QL=5 ST=2 TYP=3
	410	LEAR	48	C	0109.0	0113.0	7.0	140.0			QL=5 ST=2 TYP=8
	610	LEAR	8	S	0109.0	0109.0	5.0	29.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0109.0	0110.0	5.0	45.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0120.0	0120.0	1.0	30.0			QL=5 ST=2 TYP=3
	610	LEAR	8	S	0120.0	0120.0	1.0	45.0			QL=5 ST=2 TYP=3
	410	LEAR	8	S	0120.0	0120.0	1.0	57.0			QL=5 ST=2 TYP=5
	245	LEAR	8	S	0206.0	0207.0	3.0	180.0			QL=5 ST=2 TYP=5
	245	PALE	48	C	0207.0	0208.0	1.0	160.0			QL=5 ST=2 TYP=8
	2695	PALE	8	S	0329.0	0329.0	2.0	31.0			QL=5 ST=2 TYP=3
	4995	PALE	8	S	0329.0	0329.0	2.0	53.0			QL=5 ST=2 TYP=5
	8800	PALE	8	S	0329.0	0329.0	1.0	49.0			QL=5 ST=2 TYP=3
	17000	NOBE	1	S	0329.5	0329.9	0.7	15.0			0
	2950	GORK	21	GRF	0339.0E	0424.5	500.0D	10.2			
	9100	GORK	20	GRF	0339.0E	0435.9	212.0D	23.0			
	245	PALE	8	S	0357.0	0357.0	1.0	70.0			QL=5 ST=2 TYP=5
	950	GORK	21	GRF	0409.0		120.0				
	650	GORK	21	GRF	0409.0E	0418.9	109.3U	3.0			
	650	GORK	4	S/F	0421.0	0421.1	4.7	16.5			
	2950	GORK	4	S/F	0430.0	0436.0	6.0	10.8			
	3100	CRIM	22	GRF	0431.2	0436.0	10.0	4.5	2.0		
	950	GORK	46	C	0434.0	0437.4		24.0			
	950	GORK	46	C	0434.0	0436.8	4.7	12.0			
	650	GORK	2	S/F	0434.7	0434.8	1.8	6.0			
	245	LEAR	48	C	0535.0	0552.0	24.0	100.0			QL=5 ST=2 TYP=8
	410	LEAR	8	S	0536.0	0537.0	1.0	21.0			QL=5 ST=2 TYP=3

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
14	200	HIRA	42	SER	0715.2	0721.8	7.3	280.0			WL
	245	SVTO	8	S	0720.0	0721.0	1.0	350.0			QL=1 ST=2 TYP=5
	245	LEAR	8	S	0721.0	0722.0	1.0	230.0			QL=5 ST=2 TYP=5
	234	POTS	4	S/F	0721.3	0722.2	1.9	440.0	50.0		
	204	IZMI	21	GRF	0721.4	0722.0	1.8	200.0	100.0		
	2950	GORK	1	S	0721.5	0722.2	2.3	2.9	1.4		
	9300	KISV	2	S/F	0721.6	0722.4	2.5	5.0			
	5900	KISV	2	S/F	0721.6	0722.4	3.0	5.0			
	3100	CRIM	1	S	0721.8	0722.5	1.5	1.6	0.5		
	9100	GORK	1	S	0722.0	0722.0U	3.7	4.0			
	3013	IZMI	5	S	0722.0	0722.5	1.3	3.0	1.5		
	536	ONDR	42	SER	0824.5	1107.3	207.0	103.0			
	5900	KISV	20	GRF	0830.5	0834.2	13.5	6.0			
	9300	KISV	20	GRF	0831.5	0834.2	11.3	6.0			
	410	LEAR	8	S	0910.0	0910.0		16.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0911.0	0911.0	1.0	160.0			QL=5 ST=2 TYP=5
	5900	KISV	2	S/F	0918.9	0919.5	7.0	5.0			
	3100	CRIM	1	S	0921.0	0923.5	9.0	4.7	2.0		
	9500	POTS	29	PBI	0922.0	0923.5	38.0	7.0			
	5900	KISV	45	C	0922.3	0924.2		9.0			
	5900	KISV	45	C	0922.3	0923.6	2.7	9.0			
	9300	KISV	21	GRF	0922.3	0923.8	37.0	6.0			
	2950	GORK	1	S	0922.5	0923.5	2.9	4.0	2.0		
	9100	GORK	20	GRF	0923.0E	0923.8	15.7D	6.0			
	15000	KISV	1	S	0923.1	0923.8	4.0	5.0			
	5900	KISV	29	PBI	0925.0	0925.0	25.0	5.0			
	3100	CRIM	29	PBI	0930.0	0930.0	11.0	2.2	1.0		
	5900	KISV	20	GRF	1206.0	1217.2	32.0	5.0			
	9300	KISV	45	C	1212.0	1239.5	29.0	17.0			
	9500	POTS	29	PBI	1213.5	1214.0	6.5	15.0			
	15000	KISV	45	C	1213.8	1214.0	2.5	32.0			
	5900	KISV	45	C	1213.8	1214.4		3.0			
	5900	KISV	45	C	1213.8	1213.9	1.0	4.0			
	9500	POTS	1	S	1357.5	1357.9	1.0	4.0			
	234	POTS	4	S/F	1450.2	1451.2	1.5	275.0	90.0		
	245	SGMR	8	S	1451.0	1451.0		220.0			QL=1 ST=2 TYP=5
	2800	OTTA	20	GRF	1455.0	1457.0	36.0	5.2	3.0		
	2800	OTTA	45	C	1546.0	1550.0	23.0	10.4	2.0		
	2800	OTTA	3	S	1615.0	1618.0	15.0	9.1	3.0		
	2695	SVTO	8	S	1616.0	1617.0	3.0	11.0			QL=5 ST=2 TYP=3
	1415	SVTO	8	S	1617.0	1617.0	1.0	50.0			QL=5 ST=2 TYP=5
	2800	OTTA	4	S/F	1718.0	1724.0	10.0	8.2	5.0		
	610	PALE	48	C	1722.0	1723.0	2.0	51.0			QL=5 ST=2 TYP=8
	410	PALE	48	C	1723.0	1723.0	1.0	54.0			QL=5 ST=2 TYP=8
	245	PALE	8	S	1812.0	1812.0		200.0			QL=5 ST=2 TYP=5
	2800	OTTA	28	PRE	1845.0	1913.0	28.0	5.2	2.0		
	2800	OTTA	3	S	1913.0	1916.0	8.0	31.2	15.0		
	2800	OTTA	47	GB	1935.0	1939.0	15.0	1359.0	680.0		
	245	PALE	48	C	1937.0	1940.0	7.0	3700.0			QL=5 ST=2 TYP=8
	410	PALE	48	C	1937.0	1938.0	9.0	810.0			QL=5 ST=2 TYP=8
	245	SGMR	49	GB	1937.0	1940.0	7.0	3900.0			QL=5 ST=2 TYP=6
	410	SGMR	49	GB	1937.0	1939.0	6.0	1200.0			QL=5 ST=2 TYP=6
	610	SGMR	49	GB	1937.0	1939.0	9.0	1100.0			QL=5 ST=2 TYP=6
	610	PALE	48	C	1937.0	1939.0	11.0	820.0			QL=5 ST=2 TYP=8
	1415	SGMR	8	S	1941.0	1941.0	3.0	170.0			QL=5 ST=2 TYP=5
	2695	SGMR	8	S	1941.0	1941.0	3.0	190.0			QL=5 ST=2 TYP=5
	4995	SGMR	8	S	1941.0	1941.0	2.0	180.0			QL=5 ST=2 TYP=5
	8800	SGMR	8	S	1941.0	1941.0	271.0	130.0			QL=5 ST=2 TYP=5
	1415	PALE	8	S	1942.0E	1942.0U	4.0D	120.0			QL=3 ST=3 TYP=5
	2695	PALE	8	S	1942.0E	1942.0U	4.0D	150.0			QL=3 ST=3 TYP=5
	4995	PALE	8	S	1942.0E	1942.0U	4.0D	150.0			QL=3 ST=3 TYP=5
	2800	OTTA	31	ABS	1953.0	2015.0	60.0	-7.8	-3.0		
	410	PALE	8	S	2113.0E	2114.0	1.0D	80.0			QL=5 ST=2 TYP=5
	200	HIRA	42	SER	2113.8	2114.3	10.0	1500.0			0
	245	PALE	8	S	2114.0E	2114.0	263.0D	420.0			QL=5 ST=2 TYP=5
15	100	GORK	44	NS	0348.0E		276.0D		5.0		

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
15	200	GORK	44	NS	0349.0E		486.0D		5.0		
	245	SVTO	43	NS	0431.0	0434.0	756.0D	140.0			QL=1 ST=2 TYP=1
	410	SVTO	43	NS	0431.0	1507.0	756.0D	91.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0550.0E	0839.2U	505.0D	152.0U			
	127	TORN	44	NS	0720.0E		160.0D		17.0		V=1
	200	HIRA	44	NS	2003.0E	2207.0	780.0D	14.0	7.0		WR
	245	PALE	43	NS	2009.0	2018.0	506.0D	60.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2253.0	0311.0	661.0D	52.0			QL=5 ST=2 TYP=1
	245	LEAR	49	GB	0012.0E	0012.0	1.0D	8200.0			QL=5 ST=2 TYP=6
	410	PALE	8	S	0012.0E	0012.0	1.0D	150.0			QL=5 ST=2 TYP=5
	245	PALE	49	GB	0012.0E	0012.0	263.0D	8600.0			QL=5 ST=2 TYP=6
	410	LEAR	8	S	0012.0E	0012.0	1104.0D	140.0			QL=5 ST=2 TYP=5
	9100	GORK	20	GRF	0345.0E	0557.2	219.0D	6.6			
	245	LEAR	8	S	0357.0E	0357.0	1.0D	250.0			QL=5 ST=2 TYP=5
	2950	GORK	20	GRF	0429.0	0557.0	450.0D	10.7			
	536	ONDR	42	SER	0655.6	1315.8	429.4	27.0			
	204	IZMI	5	S	0843.0	0844.0	1.4	36.0	18.0		
	245	LEAR	8	S	0946.0E	0946.0	1.0D	150.0			QL=5 ST=2 TYP=5
	234	POTS	4	S/F	0946.5	0947.0	2.0	165.0	15.0		
	9500	POTS	1	S	1331.8	1332.9	2.2	6.0			
	1470	POTS	2	S/F	1333.2	1335.8	6.8	4.0			
	2800	OTTA	1	S	1741.0	1743.0	7.0	8.9	4.0		
	2800	OTTA	1	S	1816.5	1817.0	2.0	4.8	2.0		
	2800	OTTA	32	ABS	1829.0	1858.0	51.0	-2.5			
	2800	OTTA	1	S	1921.0	1923.0	4.0	7.6	3.0		
	2800	OTTA	28	PRE	1952.5	1957.5	9.0	5.0			
	2800	OTTA	4	S/F	2001.3	2005.2	11.0	142.0	56.0		
	4995	PALE	8	S	2002.0	2005.0	8.0	200.0			QL=5 ST=2 TYP=5
	2695	PALE	8	S	2003.0	2005.0	7.0	150.0			QL=5 ST=2 TYP=5
	1415	PALE	8	S	2004.0	2005.0	3.0	100.0			QL=5 ST=2 TYP=5
	610	PALE	8	S	2004.0	2006.0	3.0	140.0			QL=5 ST=2 TYP=5
	15400	PALE	8	S	2004.0	2005.0	6.0	78.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	2004.0	2005.0	3.0	60.0			QL=5 ST=2 TYP=5
	8800	PALE	8	S	2004.0	2005.0	6.0	130.0			QL=5 ST=2 TYP=5
	4995	SGMR	8	S	2004.0	2005.0	4.0	210.0			QL=5 ST=2 TYP=5
	8800	SGMR	8	S	2004.0	2005.0	4.0	130.0			QL=5 ST=2 TYP=5
	15400	SGMR	8	S	2004.0	2005.0	4.0	85.0			QL=5 ST=2 TYP=5
	2695	SGMR	8	S	2004.0	2005.0	3.0	140.0			QL=5 ST=2 TYP=5
	1415	SGMR	8	S	2004.0	2005.0	2.0	100.0			QL=5 ST=2 TYP=5
	100	HIRA	46	C	2004.8	2005.3	3.0	167.0			
	610	SGMR	8	S	2005.0	2006.0	1.0	140.0			QL=5 ST=2 TYP=5
	410	SGMR	8	S	2005.0	2005.0		64.0			QL=5 ST=2 TYP=5
	200	HIRA	46	C	2014.0U	2016.2	11.0U	150.0U	25.0U		WR SUNRISE
	2800	OTTA	4	S/F	2015.0	2016.5	18.0	68.0	24.0		
	2695	PALE	8	S	2016.0	2016.0	2.0	73.0			QL=5 ST=2 TYP=5
	4995	PALE	8	S	2016.0	2016.0		51.0			QL=5 ST=2 TYP=5
	2695	SGMR	8	S	2016.0	2016.0	1.0	70.0			QL=5 ST=2 TYP=5
	4995	SGMR	8	S	2016.0	2016.0		56.0			QL=5 ST=2 TYP=5
	100	HIRA	7	C	2019.8	2022.2	53.0	135.0	70.0		
	100	HIRA	7	C	2019.8	2047.5		120.0			
	2800	OTTA	4	S/F	2110.0	2114.0	6.0	37.5	18.0		
	2695	PALE	8	S	2112.0	2113.0	2.0	45.0			QL=5 ST=2 TYP=3
	200	HIRA	42	SER	2112.9	2120.9	9.5	110.0			WR
	1415	PALE	8	S	2113.0	2114.0	1.0	58.0			QL=5 ST=2 TYP=5
	1415	SGMR	8	S	2114.0	2114.0		58.0			QL=5 ST=2 TYP=5
	500	HIRA	46	C	2115.8	2116.3		64.0			0
	500	HIRA	46	C	2115.8	2121.5	8.0	160.0	26.0		0
	2800	OTTA	29	PBI	2116.0	2116.0	46.0	7.5	4.0		
	245	PALE	8	S	2121.0	2121.0	1.0	51.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	2121.0	2121.0	1.0	170.0			QL=5 ST=2 TYP=5
	610	PALE	8	S	2121.0	2121.0	1.0	140.0			QL=5 ST=2 TYP=5
	410	SGMR	8	S	2121.0	2121.0	1.0	150.0			QL=5 ST=2 TYP=5
	610	SGMR	8	S	2121.0	2121.0	1.0	150.0			QL=5 ST=2 TYP=5
	2800	OTTA	4	S/F	2121.0	2122.3	4.0	57.5	17.0		
	1415	PALE	8	S	2122.0	2122.0	1.0	120.0			QL=5 ST=2 TYP=5
	15400	PALE	8	S	2122.0	2122.0		45.0			QL=5 ST=2 TYP=3

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
15	100	HIRA	46	C	2122.4		6.1	1000.0D	500.0D		
16	200	GORK	44	NS	0341.0E		403.0D		5.0		
	100	GORK	44	NS	0342.0E		402.0D		5.0		
	245	SVTO	43	NS	0429.0	1612.0	759.0D	100.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0555.0E	1041.1	485.0D	139.0			
	204	IZMI	43	NS	0600.0		360.0	15.0			
	245	SGMR	44	NS	1021.0E	1612.0	764.0D	120.0			QL=1 ST= TYP=1
	245	SGMR	44	NS	1021.0E	1612.0	819.0D	120.0			QL=5 ST=1 TYP=1
	245	PALE	43	NS	1629.0	1748.0	727.0D	130.0			QL=5 ST=2 TYP=1
	100	HIRA	44	NS	2003.0E	2134.0	780.0D	205.0	44.0		
	200	HIRA	44	NS	2003.0E	0525.0	780.0D	81.0	41.0		MR
	245	LEAR	43	NS	2254.0	0629.0	659.0D	270.0			QL=5 ST=2 TYP=1
	410	LEAR	43	NS	2254.0	0442.0	659.0D	25.0			QL=5 ST=2 TYP=1
	17000	NOBE	1	S	0100.8	0100.9	1.0	18.0			0
	17000	NOBE	1	S	0106.6	0106.8	0.6	12.0			0
	9100	GORK	21	GRF	0339.0E	0409.7	285.0D	10.0			
	245	LEAR	8	S	0343.0	0343.0	1.0	260.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0343.0	0343.0	1.0	300.0			QL=5 ST=2 TYP=5
	2950	GORK	20	GRF	0356.5	0731.0	410.0D	10.0			
	9100	GORK	1	S	0409.1	0409.2	0.3	10.0	5.0		
	5900	KISV	21	GRF	0551.0	0552.5	10.5	5.0			
	9300	KISV	22	GRF	0551.0	0724.5	165.0	7.0			
	950	GORK	2	S/F	0643.2	0644.5	2.1	2.0			
	234	POTS	4	S/F	0711.4	0712.0	2.4	170.0	15.0		
	650	GORK	4	S/F	0920.6	0930.6	15.6U	12.5			
	950	GORK	21	GRF	0923.3	0948.0	48.7	2.5			
	430	KRAK	2	S/F	0930.0	0930.4	1.0	7.0	2.0		
	810	KRAK	41	F	0930.2	0930.6	0.5	4.0			
	536	ONDR	4	S/F	0930.2	0930.7	1.8	3.0			
	950	GORK	2	S/F	0930.3	0931.0	1.1	6.0			
	204	IZMI	4	S/F	1035.8	1036.0	0.8	150.0	75.0		
	3100	CRIM	1	S	1153.3	1201.0	7.7	3.2	1.0		
	5900	KISV	1	S	1239.8	1240.5	1.5	7.0			
	3000	POTS	3	S	1342.0	1343.0	3.0	12.0			
	9500	POTS	1	S	1342.5	1343.0	1.5	6.0			
	2800	OTTA	22	GRF	1746.0	1804.5	85.0	21.0	6.0		
	2695	PALE	8	S	1803.0	1804.0	2.0	21.0			QL=5 ST=2 TYP=3
	4995	PALE	8	S	1803.0	1804.0	2.0	27.0			QL=5 ST=2 TYP=3
	8800	PALE	8	S	1804.0	1804.0		37.0			QL=5 ST=2 TYP=3
	2800	OTTA	22	GRF	1924.0	1956.0	125.0	11.4	5.0		
	500	HIRA	27	RF	2106.0	2142.0	262.0	9.0	2.0		0
	2800	OTTA	4	S/F	2121.0	2123.0	4.0	57.0	25.0		
	610	PALE	8	S	2121.0	2123.0	2.0	140.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	2121.0	2122.0	1.0	70.0			QL=5 ST=3 TYP=5
	4995	SGMR	8	S	2121.0	2122.0	3.0	50.0			QL=1 ST=3 TYP=5
	8800	SGMR	8	S	2121.0	2121.0	3.0	50.0			QL=1 ST=3 TYP=5
	500	HIRA	7	C	2121.8	2122.0	13.5	290.0	34.0		WR
	500	HIRA	7	C	2121.8	2128.8		130.0			MR
	2695	PALE	8	S	2122.0	2123.0	1.0	56.0			QL=5 ST=2 TYP=5
	1415	PALE	8	S	2122.0	2123.0	1.0	200.0			QL=5 ST=2 TYP=5
	4995	PALE	8	S	2122.0	2123.0	1.0	35.0			QL=5 ST=2 TYP=3
	610	SGMR	8	S	2122.0	2123.0	1.0	130.0			QL=1 ST=3 TYP=5
	410	SGMR	8	S	2122.0	2122.0		200.0			QL=1 ST=3 TYP=5
	1415	SGMR	8	S	2122.0	2123.0	1.0	210.0			QL=1 ST=3 TYP=5
	2695	SGMR	8	S	2123.0	2123.0		55.0			QL=1 ST=3 TYP=5
	2800	OTTA	29	PBI	2125.0	2125.0	22.0	7.0	3.0		
	410	PALE	8	S	2126.0	2128.0	4.0	58.0			QL=5 ST=2 TYP=5
	610	PALE	8	S	2128.0	2129.0	1.0	50.0			QL=5 ST=2 TYP=5
17	100	GORK	44	NS	0342.0E		382.0D		1.0		
	200	GORK	44	NS	0351.0E		373.0D		20.0		
	245	SVTO	44	NS	0432.0E	0629.0	757.0D	210.0			QL=1 ST=2 TYP=1
	410	SVTO	44	NS	0432.0E	0731.0	757.0D	58.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0555.0E	1125.4	495.0D	91.0U			
	204	IZMI	44	NS	0600.0E		360.0D	150.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
17	234	POTS	44	NS	0600.0E	0626.0	510.0D	190.0			
	127	TORN	44	NS	0700.0E		420.0D		7.0		V=2 DISTURBED
	430	KRAK	44	NS	0708.0E	1122.0	345.0D	17.0	2.0		
	245	SGMR	43	NS	1020.0	2018.0	766.0D	450.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1628.0	2018.0	728.0D	550.0			QL=5 ST=2 TYP=1
	410	PALE	43	NS	1735.0	1831.0	527.0D	100.0			QL=5 ST=2 TYP=1
	410	SGMR	43	NS	1737.0	1900.0	329.0D	86.0			QL=1 ST=2 TYP=1
	610	SGMR	43	NS	1812.0	1900.0	294.0D	28.0			QL=1 ST=2 TYP=1
	610	PALE	43	NS	1830.0	1900.0	203.0D	50.0			QL=5 ST=3 TYP=1
	100	HIRA	44	NS	2000.0E	2250.0	780.0D	350.0	130.0		
	200	HIRA	44	NS	2000.0E	2040.0	780.0D	160.0	58.0		MR
	245	LEAR	43	NS	2254.0	0543.0	658.0D	200.0			QL=5 ST=2 TYP=1
	410	LEAR	43	NS	2254.0	2335.0	658.0D	56.0			QL=5 ST=2 TYP=1
	245	LEAR	48	C	0000.0	0010.0	36.0	110.0			QL=5 ST=3 TYP=8
	245	PALE	8	S	0010.0	0010.0	1.0	110.0			QL=5 ST=2 TYP=5
	500	HIRA	42	SER	0101.3	0101.4	4.0	11.0			WR
	245	PALE	8	S	0120.0	0120.0	1.0	83.0			QL=5 ST=2 TYP=5
	500	HIRA	27	RF	0130.0	0150.0	37.0	12.0	5.0		0
	245	PALE	8	S	0152.0	0152.0	1.0	150.0			QL=5 ST=2 TYP=5
	500	HIRA	20	GRF	0233.0	0535.0	270.0	13.0	4.0		WR
	245	PALE	8	S	0245.0	0245.0	1.0	80.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0317.0	0319.0	2.0	190.0			QL=5 ST=2 TYP=5
	9100	GORK	21	GRF	0335.0E	0415.3	125.0D	9.8			
	2950	GORK	21	GRF	0354.7	0418.5	47.0	10.4			
	650	GORK	23	GRF	0410.8	0540.3	165.9	9.0			
	650	GORK	4	S/F	0412.3	0414.0	3.1	77.0			
	650	GORK	5	S	0424.0	0424.1	0.2	7.0			
	650	GORK	46	C	0426.5	0427.0	11.0	54.0			
	650	GORK	46	C	0426.5	0431.3		400.0			
	950	GORK	21	GRF	0426.6	0434.7	16.2	2.0			
	9100	GORK	46	C	0428.5	0430.3		24.0			
	9100	GORK	46	C	0428.5	0429.3	7.1	37.0			
	9100	GORK	46	C	0428.5	0431.5		23.0			
	500	HIRA	46	C	0428.5	0431.5	7.0	430.0	65.0		WL
	2950	GORK	46	C	0428.9	0431.4		90.0			
	2950	GORK	46	C	0428.9	0430.5		22.0			
	2950	GORK	46	C	0428.9	0429.5	6.5	28.0			
	950	GORK	46	C	0429.0	0431.0		93.0			
	2695	LEAR	8	S	0429.0	0431.0	3.0	60.0			QL=3 ST=2 TYP=5
	410	PALE	8	S	0429.0	0431.0	3.0	430.0			QL=5 ST=2 TYP=5
	610	SVTO	8	S	0429.0	0431.0	2.0	470.0			QL=1 ST=2 TYP=5
	410	SVTO	8	S	0429.0	0431.0	3.0	460.0			QL=5 ST=2 TYP=5
	1415	SVTO	49	GB	0429.0	0431.0	3.0	660.0			QL=5 ST=2 TYP=6
	3100	CRIM	3	S	0429.0	0431.5	8.0	35.0	12.0		
	950	GORK	46	C	0429.0	0429.5	5.7	91.0			
	200	HIRA	46	C	0429.0	0430.5	2.2	310.0			WR
	100	GORK	41	F	0429.3	0436.6		390.0			
	100	GORK	41	F	0429.3	0430.6	7.8	1250.0			
	100	HIRA	46	C	0429.7	0430.0	3.3	980.0			
	200	GORK	41	F	0429.8	0431.3		420.0			
	200	GORK	41	F	0429.8	0436.7		710.0			
	200	GORK	41	F	0429.8	0429.9	7.2	590.0			
	245	LEAR	8	S	0430.0	0431.0	3.0	200.0			QL=3 ST=2 TYP=5
	610	LEAR	8	S	0430.0	0431.0	2.0	260.0			QL=3 ST=2 TYP=5
	245	PALE	8	S	0430.0	0430.0	2.0	290.0			QL=5 ST=2 TYP=5
	245	SVTO	8	S	0430.0	0430.0	1.0	280.0			QL=1 ST=2 TYP=5
	410	LEAR	8	S	0431.0	0431.0	1.0	380.0			QL=3 ST=2 TYP=5
	610	PALE	8	S	0431.0	0431.0		280.0			QL=5 ST=1 TYP=5
	3100	CRIM	31	ABS	0437.0	0445.0	26.0	3.8	1.0		
	2950	GORK	21	GRF	0457.8	0918.0	260.2D	9.8			
	3100	CRIM	25	R	0556.0	0711.0		4.0			
	5900	KISV	21	GRF	0557.6	0559.3	16.9	4.0			
	9100	GORK	45	C	0558.5	0559.3	1.3	16.0			
	9100	GORK	45	C	0558.5	0559.6		14.0			
	9300	KISV	21	GRF	0558.6	0559.2	18.0	17.0			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
17	15000	KISV	46	C	0558.7	0559.2	5.0	17.0			
	9100	GORK	29	PBI	0559.8	0559.8	17.7	10.0			
	9100	GORK	21	GRF	0639.7	0650.3	32.3	10.0			
	15400	LEAR	8	S	0646.0	0647.0	2.0	140.0			QL=1 ST=3 TYP=5
	15400	SVTO	8	S	0646.0	0646.0	2.0	140.0			QL=5 ST=2 TYP=5
	8800	SVTO	8	S	0646.0	0646.0	1.0	73.0			QL=5 ST=2 TYP=5
	15000	KISV	4	S/F	0646.1	0647.0	5.0	149.0			
	5900	KISV	1	S	0646.3	0647.0	3.0	20.0			
	9300	KISV	3	S	0646.4	0647.0	2.8	73.0			
	9100	GORK	3	S	0646.5	0647.0	2.4	65.0			
	35000	NOBE	1	S	0646.6	0647.0	3.0	94.0			15R
	17000	NOBE	3	S	0646.6	0647.0	3.5	141.0			15R
	9300	KISV	29	PBI	0649.1	0649.1	21.4	6.0			
	5900	KISV	29	PBI	0649.3	0649.3	16.4	3.0			
	950	GORK	46	C	0729.5	0831.4		7.0			
	950	GORK	46	C	0729.5	0830.7	65.0	11.0			
	650	GORK	21	GRF	0806.4		135.3	2.0			
	9500	POTS	20	GRF	0810.0	0926.0	220.0	12.0			
	3000	POTS	20	GRF	0820.0	0921.1	220.0	12.0			
	1470	POTS	20	GRF	0825.0	0958.5	220.0	4.0			
	536	ONDR	41	F	0828.7	0831.2	108.5	24.0			
	9100	GORK	20	GRF	0829.4	0924.7	90.6	13.0			
	650	GORK	4	S/F	0829.6	0830.5	2.2	11.0			
	810	KRAK	2	S/F	0830.3	0830.6	1.5	8.0	3.0		
	5900	KISV	21	GRF	0851.9	0920.9	71.0	10.0			
	2950	GORK	1	S	0919.8	0920.9	2.8	4.6			
	3100	CRIM	1	S	0920.0	0920.9	1.5	3.0	1.0		
	5900	KISV	2	S/F	1254.0	1254.7	4.3	3.0			
	2800	OTTA	22	GRF	1712.0	1716.0	90.0	10.5	4.0		
	410	PALE	8	S	1804.0	1804.0	356.0	84.0			QL=5 ST=3 TYP=5
	245	SGMR	49	GB	1806.0E	1806.0	1.0D	1800.0			QL=1 ST=2 TYP=6
	245	PALE	49	GB	1806.0E	1806.0	354.0D	1900.0			QL=5 ST=3 TYP=6
	500	HIRA	22	GRF	2000.0E	2053.0	100.0D	29.0	12.0		MR
	2800	OTTA	4	S/F	2200.0	2219.0	40.0	34.0	8.0		
	500	HIRA	27	RF	2200.0	2253.0	155.0	26.0	10.0		0
	500	HIRA	46	C	2210.0	2215.3	7.5	43.0	24.0		MR
	100	HIRA	46	C	2210.6	2214.7	11.0	240.0	65.0		
	2695	PALE	8	S	2213.0	2213.0	2.0	41.0			QL=5 ST=2 TYP=3
	245	PALE	8	S	2214.0	2214.0	1.0	150.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	2214.0	2215.0	2.0	79.0			QL=5 ST=2 TYP=5
	4995	PALE	8	S	2214.0	2214.0	1.0	23.0			QL=5 ST=2 TYP=3
	610	PALE	8	S	2215.0	2215.0		36.0			QL=5 ST=2 TYP=3
18	200	GORK	44	NS	0345.0E		498.0D		25.0		
	100	GORK	44	NS	0345.0E		498.0D		20.0		
	245	SVTO	43	NS	0426.0	0557.0	764.0D	150.0			QL=1 ST=2 TYP=1
	410	SVTO	43	NS	0426.0	0912.0	764.0D	52.0			QL=5 ST=2 TYP=1
	234	POTS	44	NS	0550.0E	0712.0U	550.0D	80.0			
	204	IZMI	44	NS	0600.0E		360.0D	70.0			
	260	ONDR	44	NS	0600.0E	1130.5U	486.0D	836.0U			
	127	TORN	44	NS	0710.0E		260.0D		8.0		V=2 DISTURBED
	245	SGMR	43	NS	1018.0	1248.0	769.0D	120.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1639.0	2305.0	717.0D	65.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	2000.0E	2232.0	780.0D	40.0	18.0		WR
	245	LEAR	43	NS	2255.0	2309.0	656.0D	79.0			QL=5 ST=2 TYP=1
	2700	PENT	4	S/F	0053.0	0102.0		93.7			
	2695	LEAR	8	S	0056.0	0101.0	9.0	98.0			QL=1 ST=3 TYP=5
	500	HIRA	46	C	0056.8	0101.7	13.0	21.0	8.0		0
	610	LEAR	8	S	0059.0	0101.0	3.0	30.0			QL=5 ST=3 TYP=3
	15400	LEAR	8	S	0100.0	0101.0	4.0	61.0			QL=1 ST=3 TYP=5
	17000	NOBE	7	C	0100.2	0101.0	40.0	40.0			0
	35000	NOBE	20	GRF	0101.3E	0108.4	18.0D	30.0			0
	500	HIRA	27	RF	0242.0	0345.0	135.0	12.0	4.0		WR
	17000	NOBE	7	C	0300.2E	0300.3	6.0D	16.0			0
	245	LEAR	8	S	0318.0	0318.0	1.0	110.0			QL=5 ST=3 TYP=5
	15400	LEAR	8	S	0324.0	0324.0	1.0	60.0			QL=1 ST=3 TYP=5

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
18	17000	NOBE	7	C	0324.3	0324.5	3.0	72.0			0
	9100	GORK	20	GRF	0336.0E	0523.4	387.0D	28.0			
	650	GORK	23	GRF	0508.0	0542.8	412.0D	14.0			
	9300	KISV	21	GRF	0518.0	0544.0	59.0	16.0			
	5900	KISV	23	GRF	0518.0	0523.2	60.4	19.0			
	2950	GORK	20	GRF	0520.5	0522.3	40.0	6.5			
	650	GORK	46	C	0521.6	0523.5	7.2	9.0			
	650	GORK	46	C	0521.6	0524.9	10.5				
	500	HIRA	46	C	0522.0	0545.0	62.0	20.0	9.0		0
	950	GORK	2	S/F	0522.2	0523.5	6.4	10.4			
	100	GORK	41	F	0522.4	0525.3		1440.0			
	200	HIRA	42	SER	0522.4	0526.4	5.3	530.0			MR
	100	GORK	41	F	0522.4	0522.5	7.1	80.0			
	200	GORK	41	F	0522.8	0523.6	5.6	280.0			
	200	GORK	41	F	0522.8	0526.9		570.0			
	245	LEAR	8	S	0523.0	0524.0	1.0	240.0			QL=5 ST=3 TYP=5
	245	SVTO	8	S	0523.0	0524.0	1.0	180.0			QL=5 ST=2 TYP=5
	950	GORK	22	GRF	0532.4	0542.4	35.0	5.0			
	500	HIRA	29	PBI	0624.0	0706.0	150.0D	6.0	3.0		WR
	2950	GORK	20	GRF	0730.3	0845.0	270.0D	5.2			
	245	SVTO	8	S	1022.0	1022.0	1.0	210.0			QL=1 ST=2 TYP=5
	536	ONDR	42	SER	1042.1	1055.9	71.5U	32.0U			
	810	KRAK	8	S	1244.0	1244.3	0.3	6.0			
	2700	PENT	4	S/F	2000.0	2005.5	18.0	10.8	4.0		
19	100	GORK	44	NS	0402.0E		480.0D		5.0		
	200	GORK	44	NS	0402.0E		480.0D		5.0		
	245	SVTO	43	NS	0425.0	1404.0	766.0D	290.0			QL=1 ST=2 TYP=1
	221	ABST	43	NS	0500.0	0810.0	300.0	11.0			
	204	IZMI	44	NS	0600.0E		360.0D	40.0			
	260	ONDR	44	NS	0650.0E	1403.5	448.0D	1007.0U			
	234	POTS	43	NS	1312.0	1425.0	106.0D	78.0			
	410	SGMR	43	NS	1352.0	1605.0	556.0D	78.0			QL=1 ST=2 TYP=1
	610	SGMR	43	NS	1352.0	1411.0	556.0D	54.0			QL=1 ST=2 TYP=1
	245	SGMR	43	NS	1352.0	1407.0	556.0D	300.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1638.0	0001.0	719.0D	150.0			QL=5 ST=2 TYP=1
	100	HIRA	44	NS	2000.0E	2200.0	180.0D	370.0	100.0		
	200	HIRA	44	NS	2000.0E	0048.0	780.0D	65.0	17.0		ML
	245	LEAR	44	NS	2255.0E	0001.0	65.0D	130.0			QL=5 ST=1 TYP=1
	9100	GORK	20	GRF	0454.0E	0507.2	192.0D	13.0			
	204	IZMI	41	F	0600.2	0603.0	4.6	190.0			
	2950	GORK	20	GRF	0654.0	0731.0	71.0	4.1			
	9500	POTS	20	GRF	0710.0	0730.5	60.0	7.0			
	5900	KISV	22	GRF	0724.9	0730.8	15.0	8.0			
	430	KRAK	2	S/F	0750.0	0750.0	0.5	10.0	1.0		
	5900	KISV	2	S/F	0815.2	0816.0	2.5	3.0			
	2950	GORK	1	S	0926.5	0926.7	7.1	2.9	1.4		
	8400	BERN	3	S	0938.0	0949.0	50.0	52.0			
	11800	BERN	3	S	0938.0	0949.0	50.0	46.0			
	5200	BERN	3	S	0938.0	0949.0	50.0	87.0			
	5900	KISV	22	GRF	1011.9	1028.5	41.5	6.0			
	9100	GORK	20	GRF	1019.1	1030.2	34.0	5.6			
	536	ONDR	42	SER	1024.4	1153.4	121.5U	51.0			
	650	GORK	1	S	1025.8	1026.7	4.9	4.0			
	950	GORK	5	S	1026.0	1027.0	4.7	4.6			
	1470	POTS	4	S/F	1026.4	1027.0	3.6U	7.0			
	200	GORK	2	S/F	1026.6	1027.0	1.6	15.0			
	2950	GORK	20	GRF	1138.3	1158.0	25.0D	7.3			
	5900	KISV	20	GRF	1150.5	1159.3	33.5	6.0			
	9100	GORK	20	GRF	1151.2	1204.0U	12.9D	7.0			
	650	GORK	4	S/F	1155.5	1157.2	3.2	8.7			
	950	GORK	2	S/F	1157.0	1157.6	0.7	1.3			
	8800	SGMR	8	S	1329.0	1329.0	1.0	78.0			QL=1 ST=2 TYP=5
	8800	SVTO	8	S	1329.0	1329.0	1.0	64.0			QL=5 ST=2 TYP=5
	9500	POTS	29	PBI	1329.4	1329.8	31.0	49.0			
	2800	OTTA	4	S/F	1840.0	1909.0	34.0	149.0	30.0		

APRIL 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
19	4995	PALE	8	S	1900.0	1900.0	1.0	23.0			QL=5 ST=2 TYP=3
	2695	PALE	8	S	1900.0	1900.0		25.0			QL=5 ST=2 TYP=3
	4995	PALE	8	S	1907.0	1908.0	4.0	180.0			QL=5 ST=2 TYP=5
	8800	PALE	8	S	1907.0	1908.0	4.0	120.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	1907.0	1908.0	2.0	51.0			QL=5 ST=2 TYP=5
	2695	PALE	8	S	1907.0	1908.0	4.0	130.0			QL=5 ST=2 TYP=5
	2695	SGMR	8	S	1907.0	1908.0	3.0	130.0			QL=1 ST=2 TYP=5
	4995	SGMR	8	S	1907.0	1908.0	3.0	170.0			QL=1 ST=2 TYP=5
	15400	PALE	8	S	1908.0	1908.0	3.0	47.0			QL=5 ST=2 TYP=3
	1415	PALE	8	S	1908.0	1908.0	1.0	44.0			QL=5 ST=2 TYP=3
	610	PALE	8	S	1908.0	1908.0	1.0	69.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	1908.0	1908.0	1.0	130.0			QL=5 ST=2 TYP=5
	410	SGMR	8	S	1908.0	1908.0	1.0	110.0			QL=1 ST=2 TYP=5
	610	SGMR	8	S	1908.0	1908.0	1.0	65.0			QL=1 ST=2 TYP=5
	8800	SGMR	8	S	1908.0	1908.0	1.0	110.0			QL=1 ST=2 TYP=5
	2800	OTTA	4	S/F	1920.0	1932.0	23.0	224.0	65.0		
	245	PALE	8	S	1921.0	1921.0	4.0	120.0			QL=5 ST=2 TYP=5
	2695	PALE	8	S	1921.0	1921.0		36.0			QL=5 ST=2 TYP=3
	610	PALE	8	S	1924.0	1924.0		21.0			QL=5 ST=2 TYP=3
	1415	PALE	20	GRF	1925.0	1930.0	5.0	59.0			QL=5 ST=2 TYP=2
	2695	SGMR	8	S	1928.0	1931.0	9.0	200.0			QL=1 ST=2 TYP=5
	4995	SGMR	8	S	1929.0	1931.0	9.0	140.0			QL=1 ST=2 TYP=5
	1415	SGMR	8	S	1929.0	1932.0	6.0	84.0			QL=1 ST=2 TYP=5
	2695	PALE	8	S	1930.0	1931.0	7.0	200.0			QL=5 ST=2 TYP=5
	15400	PALE	8	S	1930.0	1934.0	8.0	51.0			QL=5 ST=2 TYP=5
	1415	PALE	8	S	1930.0	1932.0	5.0	83.0			QL=5 ST=2 TYP=5
	4995	PALE	8	S	1930.0	1931.0	8.0	150.0			QL=5 ST=2 TYP=5
	8800	PALE	8	S	1930.0	1931.0	7.0	70.0			QL=5 ST=2 TYP=5
	15400	SGMR	8	S	1931.0	1933.0	4.0	45.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1931.0	1931.0	5.0	61.0			QL=1 ST=2 TYP=5
	610	PALE	8	S	1932.0	1933.0	1.0	28.0			QL=5 ST=2 TYP=3
	245	PALE	8	S	1932.0	1932.0	1.0	140.0			QL=5 ST=2 TYP=5
	2800	OTTA	29	PBI	1943.0	1943.0	107.0	14.0	7.0		
	500	HIRA	22	GRF	2330.0	0029.0	98.0	8.0	3.0		WL
	200	HIRA	41	F	2355.0	0018.0	36.0	805.0			SL
20	100	GORK	44	NS	0359.0E		484.0D		10.0		
	200	GORK	44	NS	0359.0E		484.0D		5.0		
	245	SVTO	43	NS	0423.0	1048.0	769.0D	150.0			QL=1 ST=2 TYP=1
	260	ONDR	44	NS	0550.0E	1043.2	490.0D	1184.0U			
	204	IZMI	44	NS	0600.0E		360.0D	24.0			
	245	SGMR	44	NS	1015.0E	1034.0	825.0D	78.0			QL=1 ST=3 TYP=1
	410	SGMR	43	NS	1342.0	1343.0	567.0D	78.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1638.0	1935.0	719.0D	140.0			QL=5 ST=3 TYP=1
	200	HIRA	44	NS	2000.0E	0142.0	780.0D	45.0	14.0		ML
	245	LEAR	44	NS	2255.0E	0001.0	65.0D	130.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2255.0	0510.0	654.0D	200.0			QL=5 ST=2 TYP=1
	234	POTS	4	S/F	0709.0	0710.4	2.6	200.0	10.0		
	650	GORK	20	GRF	0713.1	0727.7	24.6	2.0			
	245	LEAR	8	S	0719.0E	0720.0	2.0D	240.0			QL=5 ST=2 TYP=5
	650	GORK	4	S/F	0745.0	0745.2	0.7	20.0			
	9500	POTS	20	GRF	0950.0	1037.0	160.0	18.0			
	3000	POTS	21	GRF	0950.0U	1017.4	160.0U	17.0			
	2950	GORK	21	GRF	0951.0	1056.0	120.0D	8.1			
	650	GORK	28	PRE	0951.3	0953.4	4.8	2.0			
	9100	GORK	20	GRF	0954.7	1015.6	115.0D	16.0			
	1470	POTS	21	GRF	0955.0	1016.0	145.0	15.0			
	650	GORK	21	GRF	1000.0		120.0D	4.0			
	204	IZMI	41	F	1000.0	1039.0	75.0	250.0			
	650	GORK	45	C	1003.0	1004.2		2.0			
	650	GORK	45	C	1003.0	1003.3	2.0	4.4			
	950	GORK	21	GRF	1003.0	1015.3	103.0	5.0			
	9300	KISV	23	GRF	1008.0	1015.8	69.0	13.0			
	650	GORK	46	C	1009.4	1016.0		4.6			
	650	GORK	46	C	1009.4	1011.4	15.4	3.7			
	810	KRAK	41	F	1010.0	1013.2	8.0	5.0	1.0		

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
20	950	GORK	2	S/F	1010.0	1010.8	1.9	5.0			
	950	GORK	2	S/F	1012.9	1013.3	1.2	5.0			
	15000	KISV	23	GRF	1013.0	1035.0	37.5	10.0			
	3100	CRIM	3	S	1013.0	1016.3	9.0	10.0	3.0		
	5900	KISV	23	GRF	1013.0	1015.9	54.0	10.0			
	2950	GORK	3	S	1013.1	1016.0	7.5	12.4			
	3013	IZMI	5	S	1014.0	1016.0	6.0	11.0	5.0		
	33	UPIC	46	C	1026.0	1027.6	6.3				
	29	UPIC	46	C	1026.0	1027.7	5.5				
	3100	CRIM	1	S	1048.0	1050.0	7.5	6.0	2.0		
	3013	IZMI	5	S	1048.0	1049.0	6.0	8.0	4.0		
	2950	GORK	3	S	1048.0	1048.7	6.0	8.7			
	9500	POTS	20	GRF	1308.0	1315.2	42.0	7.0			
	33	UPIC	4	S/F	1311.6	1311.8	0.9				
	29	UPIC	2	S/F	1312.0	1312.3	0.6				
	9500	POTS	3	S	1416.0	1417.2	5.0	11.0			
	245	PALE	8	S	1736.0	1737.0	1.0	60.0			QL=5 ST=2 TYP=5
	410	PALE	8	S	1838.0	1838.0	292.0	81.0			QL=5 ST=2 TYP=5
21	100	GORK	44	NS	0351.0E		485.0D		5.0		
	200	GORK	44	NS	0351.0E		495.0D		15.0		
	245	SVTO	43	NS	0422.0	0510.0	771.0D	230.0			QL=1 ST=2 TYP=1
	234	POTS	44	NS	0550.0E	0731.0U	520.0D	60.0			
	204	IZMI	44	NS	0600.0E		360.0D	52.0			
	260	ONDR	44	NS	0600.0E	1003.0	485.0D	897.0U			
	245	SGMR	43	NS	1014.0	1807.0	619.0D	130.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1638.0	0027.0	719.0D	120.0			QL=5 ST=2 TYP=1
	245	LEAR	43	NS	2256.0	0009.0	653.0D	290.0			QL=5 ST=2 TYP=1
	200	HIRA	43	NS	2353.0	0021.0	54.0	6.0	2.0		WL
	500	HIRA	22	GRF	0000.0	0133.0	170.0	7.0	3.0		WL
	245	PALE	8	S	0140.0	0140.0	1.0	110.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0144.0	0144.0	1.0	130.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0214.0	0214.0	1.0	120.0			QL=5 ST=2 TYP=5
	500	HIRA	6	S	0308.0	0309.5	2.5	7.0			WL
	500	HIRA	22	GRF	0340.0	0748.0	320.0D	14.0	6.0		WL
	9100	GORK	21	GRF	0342.0E	0952.0	370.0D	36.0			
	245	PALE	8	S	0353.0	0353.0	1.0	91.0			QL=5 ST=2 TYP=5
	650	GORK	23	GRF	0354.0E	0743.7	296.0D	17.0			
	2950	GORK	22	GRF	0404.6	0409.0	16.2	5.2			
	100	GORK	4	S/F	0405.3	0408.0	6.6	240.0			
	3100	CRIM	1	S	0405.9	0409.0	7.0	3.0	1.0		
	200	GORK	2	S/F	0407.7	0408.0	1.1	20.0			
	950	GORK	1	S	0408.0	0409.3	1.7	3.0			
	650	GORK	4	S/F	0408.0	0409.3	2.6	10.0	5.0		
	2950	GORK	21	GRF	0451.0	1000.0	350.0	9.9			
	950	GORK	22	GRF	0455.5	0548.7	74.5	6.7			
	3100	CRIM	1	S	0547.6	0548.5	2.5	2.0	1.0		
	950	GORK	22	GRF	0642.5	0728.5	97.0	9.0			
	810	KRAK	40	F	0704.0E	0729.0	62.0D	4.0	1.0		
	430	KRAK	27	RF	0704.0E	0758.0	96.0D	40.0	5.0		
	3100	CRIM	20	GRF	0705.0	0716.0	45.0	4.0	1.0		
	610	LEAR	8	S	0728.0	0728.0	3.0	10.0			QL=5 ST=3 TYP=3
	410	LEAR	8	S	0728.0	0728.0	3.0	9.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0729.0	0729.0	65.0D	150.0			QL=5 ST=2 TYP=5
	204	IZMI	23	GRF	0731.5	0732.0	1.4	480.0	240.0		
	9500	POTS	28	PRE	0751.0	0755.0	34.0	20.0			
	3000	POTS	3	S	0752.5	0755.0	7.5U	12.0			
	3100	CRIM	1	S	0753.0	0755.4	7.0	8.0	3.0		
	5900	KISV	4	S/F	0753.0	0754.7	3.5	32.0			
	3013	IZMI	45	C	0753.0	0755.8	6.0	11.0	5.0		
	9300	KISV	29	PBI	0753.2	0756.4	12.0	7.0			
	9300	KISV	4	S/F	0753.2	0754.7	3.0	17.0			
	2950	GORK	4	S/F	0753.3	0755.0	5.3	9.1			
	9100	GORK	1	S	0753.3	0754.7	4.3	16.0			
	8800	SVTO	8	S	0754.0	0754.0	1.0	18.0			QL=5 ST=2 TYP=3

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
21	4995	SVTO	8	S	0754.0	0754.0	4.0	22.0			QL=5 ST=2 TYP=3
	15000	KISV	2	S/F	0754.1	0754.9	2.5	7.0			
	650	GORK	4	S/F	0754.3	0754.3	0.3	37.0			
	5900	KISV	29	PBI	0756.3	0756.3	21.5	10.0			
	3100	CRIM	29	PBI	0800.0	0800.0	10.0	3.0	1.0		
	430	KRAK	40	F	0855.5	0858.5	7.0	9.0	2.0		
	1470	POTS	28	PRE	0920.0	0949.0	100.0	14.0			
	650	GORK	41	F	0921.5	0949.7		18.0			
	650	GORK	41	F	0921.6	0933.8		6.5			
	650	GORK	41	F	0921.6	0922.8	33.4	1.5			
	33	UPIC	42	SER	0922.9	0946.8	31.1				
	29	UPIC	42	SER	0923.0	0946.9	31.0				
	5900	KISV	28	PRE	0930.0	0946.0	16.6	16.0			
	9500	POTS	21	GRF	0930.0	0949.0	90.0	37.0			
	9300	KISV	28	PRE	0930.0	0947.4	17.5	24.0			
	3100	CRIM	28	PRE	0932.7	0936.5	10.0	5.0	2.0		
	950	GORK	23	GRF	0933.4	0954.0	89.0	5.0			
	2950	GORK	2	S/F	0933.5	0936.3	6.4	5.2			
	3013	IZMI	45	C	0935.0	0949.0	25.0	52.0	26.0		
	3000	POTS	4	S/F	0940.0U	0949.0	25.0U	57.0			
	15000	KISV	23	GRF	0941.3	0949.2	43.0	37.0			
	3100	CRIM	3	S	0943.0	0949.1	17.0	36.5	12.0		
	2950	GORK	46	C	0943.8	0949.0	15.0	53.0			
	2950	GORK	46	C	0943.8	0952.6		15.7			
	5900	KISV	4	S/F	0946.1	0949.0	4.5	79.0			
	430	KRAK	4	S/F	0946.5	0948.5	7.3	28.0	9.0		
	2695	LEAR	8	S	0947.0	0949.0	2.0	46.0			QL=1 ST=3 TYP=3
	8800	SVTO	8	S	0947.0	0948.0	6.0	37.0			QL=5 ST=2 TYP=3
	2695	SVTO	8	S	0947.0	0948.0	3.0	45.0			QL=5 ST=2 TYP=3
	4995	SVTO	8	S	0947.0	0948.0	3.0	57.0			QL=5 ST=2 TYP=5
	9300	KISV	4	S/F	0947.4	0949.0	4.7	53.0			
	9100	GORK	3	S	0947.6	0949.0	3.6	21.0			
	950	GORK	4	S/F	0948.0	0949.0	5.3	9.0			
	4995	LEAR	8	S	0948.0	0949.0	1.0	46.0			QL=1 ST=3 TYP=3
	15400	SVTO	20	GRF	0948.0	0953.0	9.0	29.0			QL=5 ST=2 TYP=2
	810	KRAK	41	F	0948.0	0948.8	6.0	5.0	2.0		
	410	LEAR	8	S	0949.0	0949.0	3.0	24.0			QL=5 ST=3 TYP=3
	410	SVTO	8	S	0949.0E	0949.0	1.0D	29.0			QL=5 ST=2 TYP=3
	245	LEAR	48	C	0949.0	0953.0	65.0	130.0			QL=5 ST=3 TYP=8
	5900	KISV	29	PBI	0951.2	0951.2	57.0	30.0			
	9300	KISV	29	PBI	0951.9	0951.9	54.0	40.0			
	204	IZMI	41	F	1002.0	1018.0	18.2	150.0			
	536	ONDR	42	SER	1040.7	1040.7	47.2	57.0			
	430	KRAK	40	F	1233.5	1237.5	6.7	7.0	2.0		
	5200	BERN	3	S	1329.1	1329.4	2.0	13.0			
	8400	BERN	3	S	1329.1	1329.4	2.0	97.0			
	11800	BERN	3	S	1329.1	1329.4	2.0	84.0			
	19600	BERN	3	S	1329.1	1329.4	2.0	32.0			
	1470	POTS	1	S	1415.5	1417.4	3.0	3.0			
	245	PALE	8	S	1807.0E	1807.0	1.0D	120.0			QL=5 ST=2 TYP=5
	500	HIRA	22	GRF	2245.0	0013.0	150.0	9.0	3.0		WL
22	260	ONDR	44	NS	0610.0E	1254.1	500.0D	991.0U			
	127	TORN	44	NS	0830.0E		210.0D		2.0		V=1 DISTURBED
	245	SGMR	43	NS	1012.0	1839.0	779.0D	120.0			QL=1 ST=2 TYP=1
	245	PALE	43	NS	1819.0	1839.0	419.0D	110.0			QL=5 ST=2 TYP=1
	200	HIRA	44	NS	1955.0E	0740.0	780.0D	16.0	5.0		WL
	245	LEAR	43	NS	2256.0	0300.0	652.0D	72.0			QL=5 ST=2 TYP=1
	240	SYDN	8	S	0002.0	0028.0	47.0	250.0			QL= ST= TYP=5
	245	PALE	8	S	0008.0	0009.0	1.0	270.0			QL=5 ST=2 TYP=5
	100	GORK	8	S	0735.5	0735.7	0.4	30.0D			
	29	UPIC	8	S	0735.7	0735.8	0.6				
	33	UPIC	4	S/F	0735.9	0735.9	0.6				
	650	GORK	22	GRF	0747.1	0755.0	13.0	3.0			
	950	GORK	22	GRF	0747.5	0750.2	9.4	4.0			
	960	GORK	22	GRF	0838.2	0900.2	22.2D	4.0U			

SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
22	650	GORK	22	GRF	0838.2	0857.7	63.0	4.0			
	536	ONDR	42	SER	1037.0U	1306.0	143.0U	89.0			
	234	POTS	4	S/F	1133.9	1134.5	2.6	140.0	15.0		
	234	POTS	4	S/F	1250.5	1252.9	3.4	140.0	5.0		
	9500	POTS	20	GRF	1405.0	1412.7	30.0	13.0			
	1470	POTS	3	S	1407.5	1413.5	10.0	16.0			
	3000	POTS	3	S	1410.0	1412.5	7.5	13.0			
	33	UPIC	46	C	1411.0	1412.0	4.5				
	8400	BERN	3	S	1411.0	1412.5	4.0	22.0			
	5200	BERN	3	S	1411.0	1412.5	4.0	18.0			
	3200	BERN	3	S	1411.0	1412.5	4.0	12.0			
	29	UPIC	46	C	1411.3	1412.3	3.7				
23	100	GORK	44	NS	0351.0E		402.0D		5.0		
	200	GORK	44	NS	0354.0E		399.0D		5.0		
	410	SVTO	43	NS	0419.0	0803.0	776.0D	12.0			QL=5 ST=2 TYP=1
	245	SVTO	43	NS	0419.0	1027.0	776.0D	82.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	0600.0		360.0	40.0			
	260	ONDR	44	NS	0630.0E	1032.3U	465.0D	941.0			
	245	SGMR	43	NS	1011.0	1107.0	781.0D	120.0			QL=1 ST=2 TYP=1
	410	SGMR	44	NS	1052.0E	1115.0	33.0D	7.0			QL=1 ST=2 TYP=1
	2800	OTTA	4	S/F	0112.8	0115.2	8.0	42.5	21.0		
	245	PALE	8	S	0257.0	0257.0		54.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0300.0E	0300.0		61.0			QL=5 ST=2 TYP=5
	204	IZMI	5	S	1143.2	1143.3	0.3	260.0	130.0		
	536	ONDR	4	S/F	1318.2	1318.3	0.6	24.0			
24	260	ONDR	44	NS	0620.0E	1235.5	465.0D	14.0			
	1415	SYDN	8	S	0112.0	0115.0	8.0	81.0			QL= ST= TYP=5
	4995	LEAR	48	C	0113.0	0117.0	6.0	84.0			QL=1 ST=2 TYP=8
	2695	LEAR	8	S	0113.0	0115.0	6.0	48.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0113.0	0115.0	2.0	44.0			QL=5 ST=2 TYP=3
	4995	PALE	8	S	0113.0	0117.0	5.0	100.0			QL=5 ST=2 TYP=5
	8800	LEAR	48	C	0113.0	0117.0	12.0	130.0			QL=1 ST=2 TYP=8
	35000	NOBE	20	GRF	0113.1	0117.1	15.0	44.0			0
	17000	NOBE	20	GRF	0113.1	0117.1	20.0	81.0			0
	15400	LEAR	8	S	0114.0	0117.0	8.0	100.0			QL=1 ST=2 TYP=5
	8800	PALE	8	S	0114.0	0117.0	4.0	170.0			QL=1 ST=2 TYP=5
	500	HIRA	46	C	0114.5	0115.3		5.0			0
	500	HIRA	46	C	0114.5	0119.4	11.0	13.0	3.0		0
	1415	PALE	8	S	0115.0	0115.0	1.0	61.0			QL=1 ST=2 TYP=5
	15400	PALE	8	S	0115.0	0117.0	4.0	98.0			QL=5 ST=2 TYP=5
	610	LEAR	8	S	0118.0	0119.0	3.0	1.0			QL=5 ST=3 TYP=3
	610	PALE	8	S	0118.0	0119.0	1.0	33.0			QL=5 ST=2 TYP=3
	245	PALE	8	S	0341.0	0344.0	4.0	67.0			QL=5 ST=2 TYP=5
	430	KRAK	1	S	0837.0	0837.2	0.5	2.0	1.0		
	536	ONDR	42	SER	1001.2	1324.5	204.9U	54.0			
25	200	GORK	44	NS	0357.0E		484.0D		5.0		
	200	HIRA	43	NS	0400.0	0744.0	315.0D	5.0	1.0		0
	260	ONDR	44	NS	0600.0E	1139.8U	480.0D	94.0			
	204	IZMI	43	NS	0700.0		300.0	10.0			
	245	SGMR	44	NS	1008.0E	1423.0	787.0D	110.0			QL=1 ST=2 TYP=1
	410	SGMR	44	NS	1008.0E	1852.0	787.0D	13.0			QL=1 ST=2 TYP=1
	200	HIRA	44	NS	1950.0E	2030.0U	86.0D	13.0	5.0		WL
	204	IZMI	41	F	1037.0	1037.2	1.0	53.0			
	234	POTS	41	F	1251.5	1253.0	2.6	140.0	5.0		
	9300	KISV	2	S/F	1252.8	1255.9	6.0	4.0			
	5900	KISV	45	C	1254.0	1255.9	10.0	4.0			
26	260	ONDR	44	NS	0605.0E	0943.4	480.0D	562.0U			
	200	HIRA	44	NS	1950.0E	2046.0	130.0D	4.0	1.0		WL
	245	LEAR	43	NS	2258.0	0127.0	647.0D	20.0			QL=5 ST=2 TYP=1
	204	IZMI	1	S	0614.6	0614.8	0.4	9.0	5.0		
	9100	GORK	1	S	0637.1	0637.3	0.3	1.5	0.7		
	3100	CRIM	1	S	0652.4	0652.6	2.0	4.4	1.0		

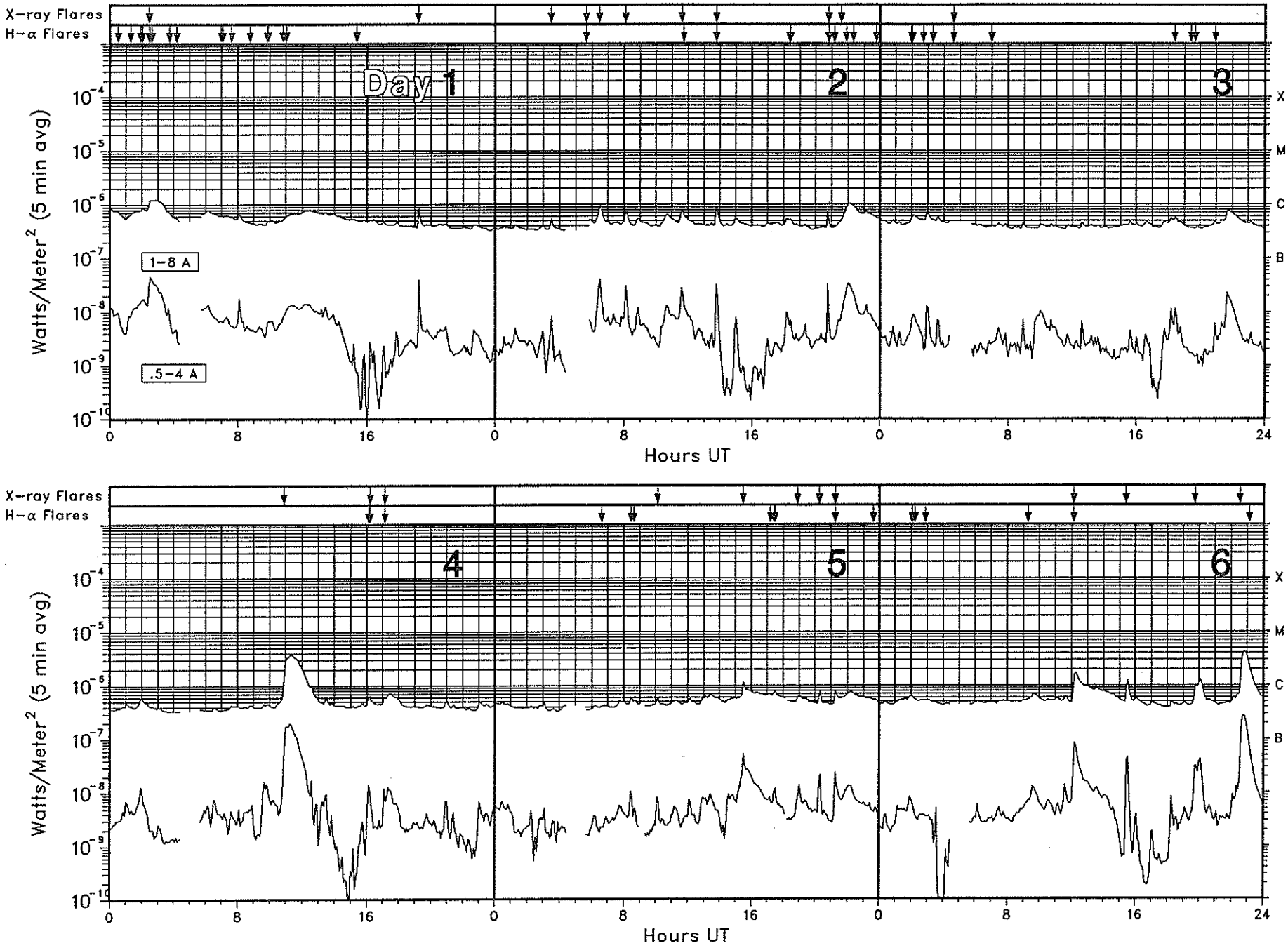
SOLAR RADIO EMISSION--OUTSTANDING OCCURRENCES

APRIL 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
26	2950	GORK	1	S	0652.4	0652.6	1.3	6.8	3.0		
	9100	GORK	1	S	0652.5	0652.6	0.3	5.0			
	3100	CRIM	1	S	0756.0	0756.2	2.0	7.4	2.0		
	9100	GORK	1	S	0756.0	0756.2	0.4	1.9			
	9300	KISV	1	S	0756.0	0756.2	0.5	5.0			
	5900	KISV	1	S	0756.0	0756.3	0.8	10.0			
	2950	GORK	3	S	0756.0	0756.4U	3.1	11.4			
	3013	IZMI	5	S	0756.2	0756.5	1.8	9.0	4.0		
	2950	GORK	20	GRF	0951.0	1019.5	120.0D	5.4			
	9300	KISV	22	GRF	0952.0	1009.0	40.0	7.0			
	5900	KISV	22	GRF	0952.0	1008.9	40.0	8.0			
	9100	GORK	20	GRF	0957.3	1009.0	61.0	6.5			
	9100	GORK	20	GRF	1103.0	1111.5	52.0	4.8			
	245	PALE	8	S	2343.0E	2344.0	1.0D	130.0			QL=5 ST=2 TYP=5
27	221	ABST	43	NS	0500.0	0742.0	300.0	8.0			QL= ST= TYP=1
	260	ONDR	44	NS	0610.0E	1318.2U	482.0D	121.0U			
	500	HIRA	27	RF	0055.0	0109.0	45.0	4.0	1.0		WL
	245	LEAR	8	S	0622.0	0623.0	1.0	140.0			QL=5 ST=2 TYP=5
	410	LEAR	8	S	0622.0	0623.0	1.0	28.0			QL=5 ST=2 TYP=3
	245	SVTO	8	S	0622.0	0623.0	1.0	170.0			QL=5 ST=3 TYP=5
	204	IZMI	4	S/F	0622.8	0623.0	0.6	210.0	105.0		
	234	POTS	4	S/F	0622.8	0623.1	0.7	200.0	70.0		
	30	POTS	4	S/F	0622.9	0623.1	0.9	280.0	30.0		
	204	IZMI	41	F	0927.8	0939.7	22.2	60.0			
28	260	ONDR	44	NS	0550.0E	0819.3	490.0D	448.0U			
	127	TORN	43	NS	0806.0		360.0		3.0		V=0
	29	UPIC	2	S/F	0940.0	0940.4	0.6				
	33	UPIC	2	S/F	0940.1	0940.4	0.6				
	536	ONDR	42	SER	1033.4	1101.5	98.0	89.0			
29	260	ONDR	44	NS	0550.0E	0911.6U	495.0D	291.0			
	127	TORN	43	NS	0832.0		208.0		4.0		V=0
	204	IZMI	1	S	0641.2	0641.4	0.7	35.0	17.0		
	536	ONDR	42	SER	1035.6	1138.4	114.5	37.0			
	245	SVTO	8	S	1346.0	1346.0	1.0	150.0			QL=1 ST=2 TYP=5
	410	SVTO	8	S	1346.0	1346.0	1.0	35.0			QL=1 ST=2 TYP=3
30	100	GORK	44	NS	0335.0E		356.0D		5.0		
	200	GORK	44	NS	0335.0E		356.0D		5.0		
	245	SVTO	43	NS	0410.0	1547.0	792.0D	100.0			QL=5 ST=2 TYP=1
	260	ONDR	44	NS	0700.0E	1256.3U	431.0D	530.0U			
	127	TORN	43	NS	0720.0	0942.3	446.0	140.0	6.0		V=1
	245	SGMR	43	NS	1001.0	2314.0	799.0D	410.0			QL=1 ST=2 TYP=1
	204	IZMI	43	NS	1030.0		90.0	30.0			
	245	PALE	43	NS	1634.0	2317.0	726.0D	490.0			QL=5 ST=2 TYP=1
	100	HIRA	43	NS	2225.0	2332.0	480.0	74.0	20.0		
	200	HIRA	43	NS	2235.0	2336.0	640.0D	410.0	73.0		SL
	245	LEAR	43	NS	2300.0	2339.0	642.0D	580.0			QL=5 ST=2 TYP=1
	200	HIRA	24	R	0038.0E	0407.0	480.0D	5.0	2.0		0
	500	HIRA	27	RF	0338.0	0405.0	53.0	4.0	2.0		WL
	245	PALE	8	S	0412.0	0412.0	1.0	57.0			QL=5 ST=2 TYP=5
	245	PALE	8	S	0419.0	0419.0	1.0	53.0			QL=5 ST=2 TYP=5
	500	HIRA	27	RF	0500.0	0523.0	70.0	5.0	2.0		WL
	204	IZMI	4	S/F	0642.2	0642.4	0.6	250.0	125.0		
	204	IZMI	41	F	1057.2	1057.6	2.0	190.0			
	245	PALE	8	S	1653.0	1654.0	1.0	150.0			QL=5 ST=2 TYP=5
	200	HIRA	24	R	1945.0E	2133.0U	160.0D	9.0U	3.0U		WL
	500	HIRA	20	GRF	2239.0	0108.0	400.0	6.0	2.0		WL
	245	SGMR	49	GB	2240.0	2246.0	23.0	1200.0			QL=1 ST=2 TYP=6
	245	PALE	49	GB	2248.0E	2248.0	1.0D	980.0			QL=5 ST=2 TYP=6
	245	PALE	49	GB	2338.0E	2339.0	1.0D	680.0			QL=5 ST=2 TYP=6

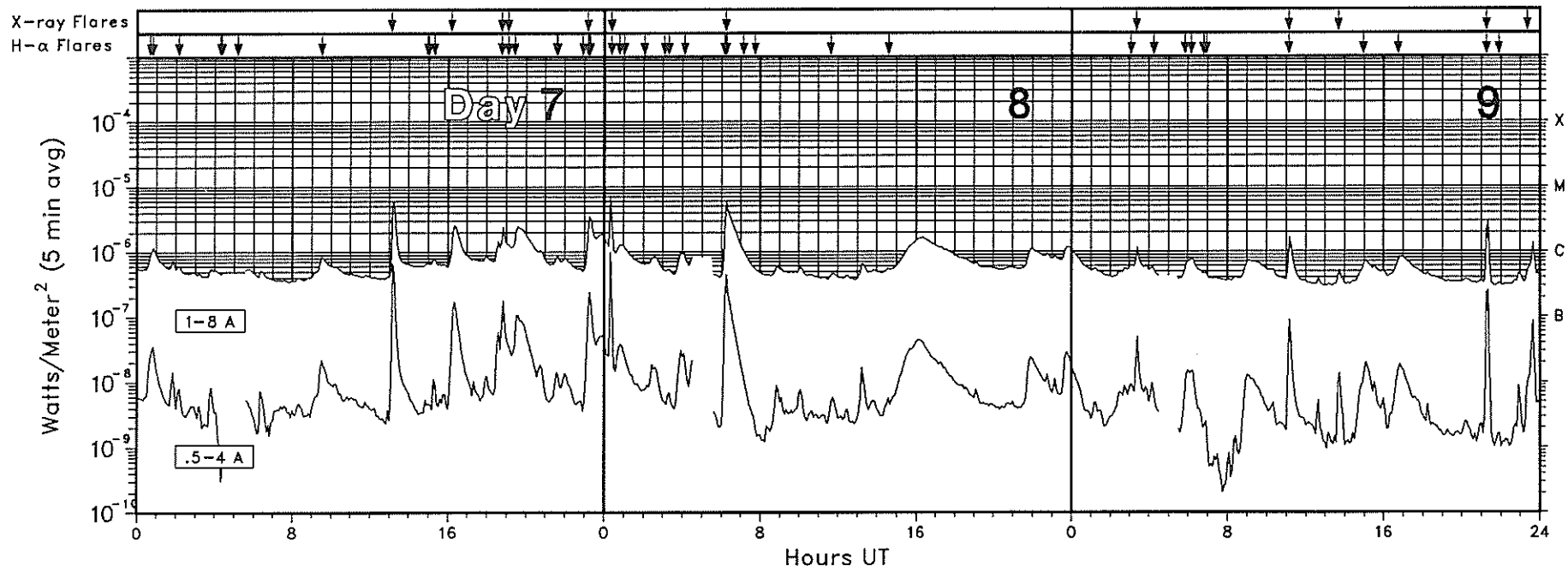
GOES-7 X-RAY DETECTOR

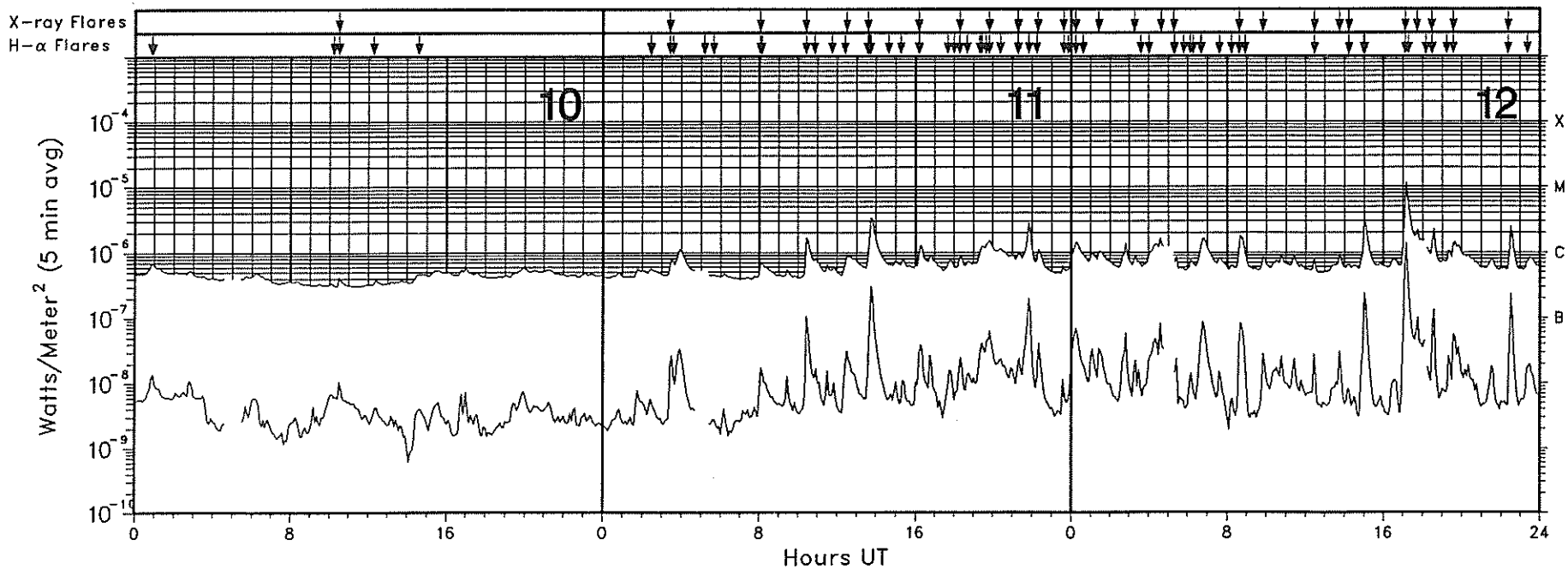
April 1988



GOES-7 X-RAY DETECTOR

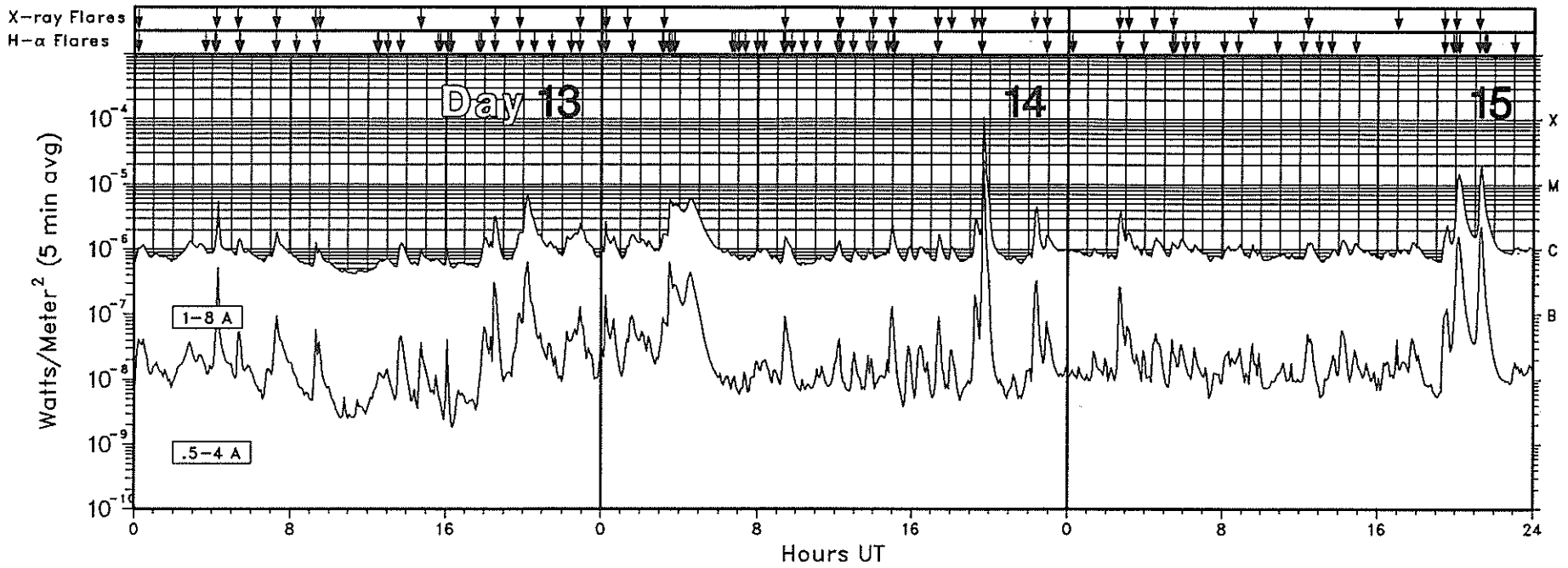
April 1988

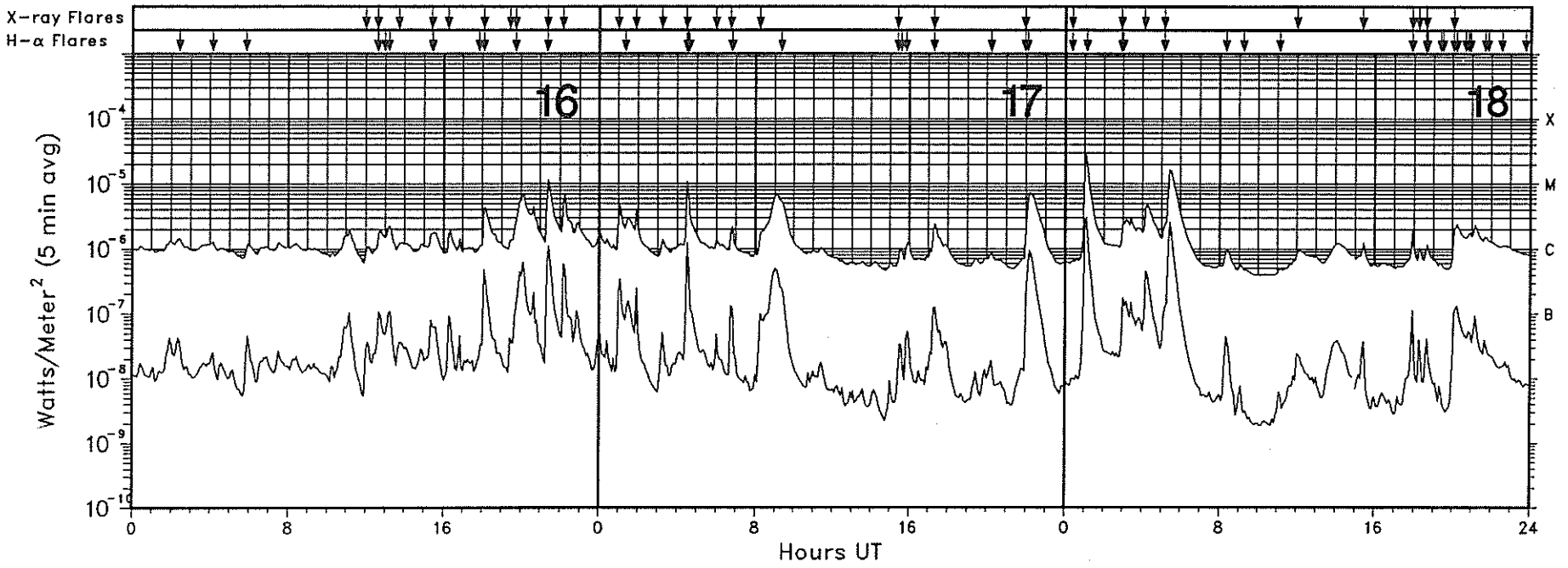




GOES-7 X-RAY DETECTOR

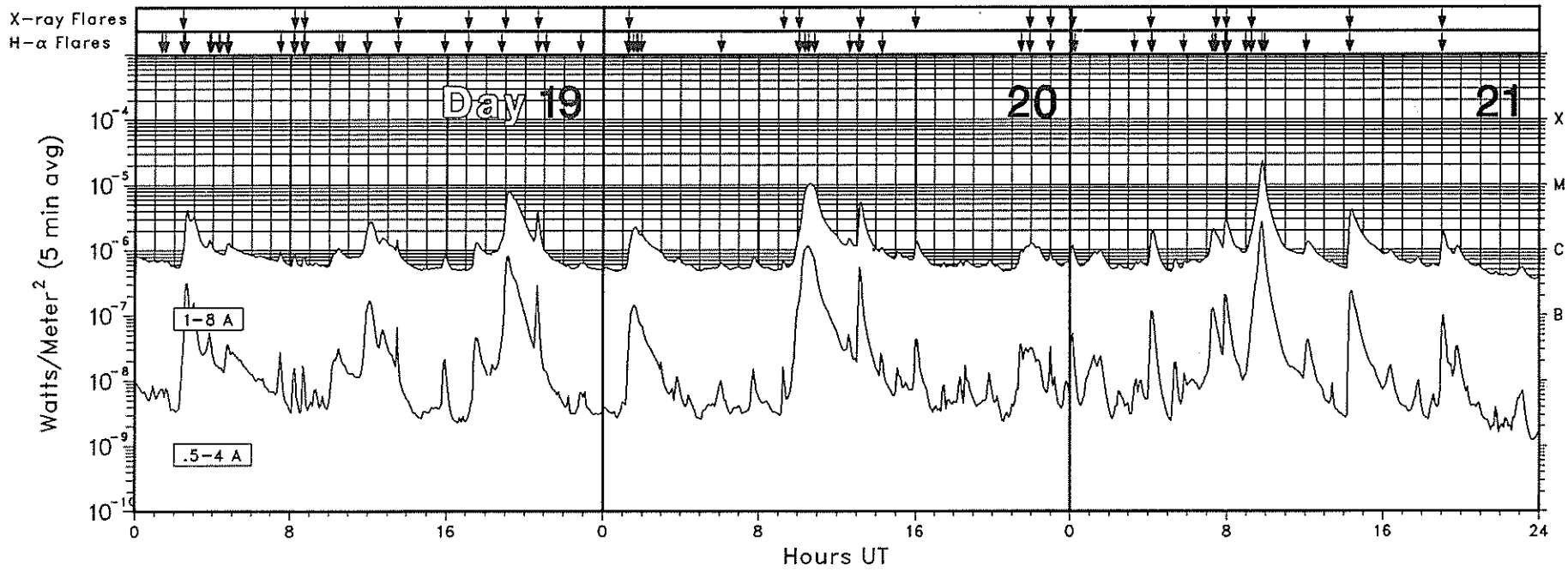
April 1988

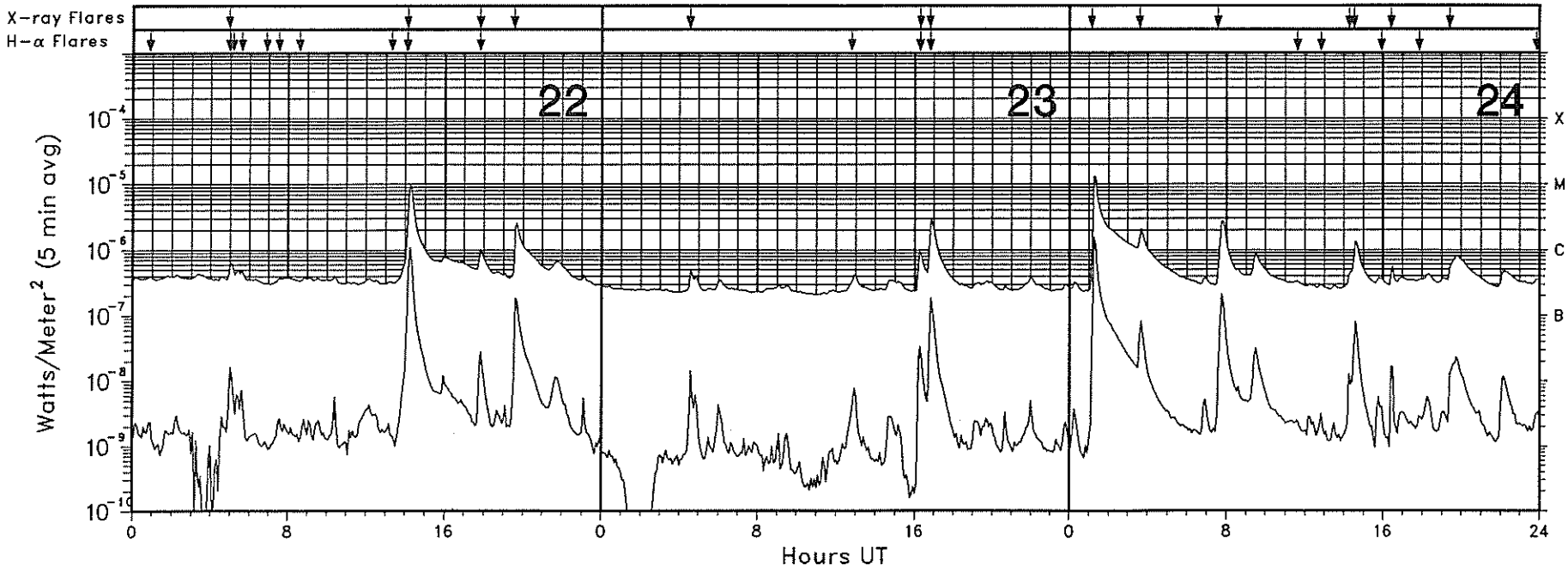




GOES-7 X-RAY DETECTOR

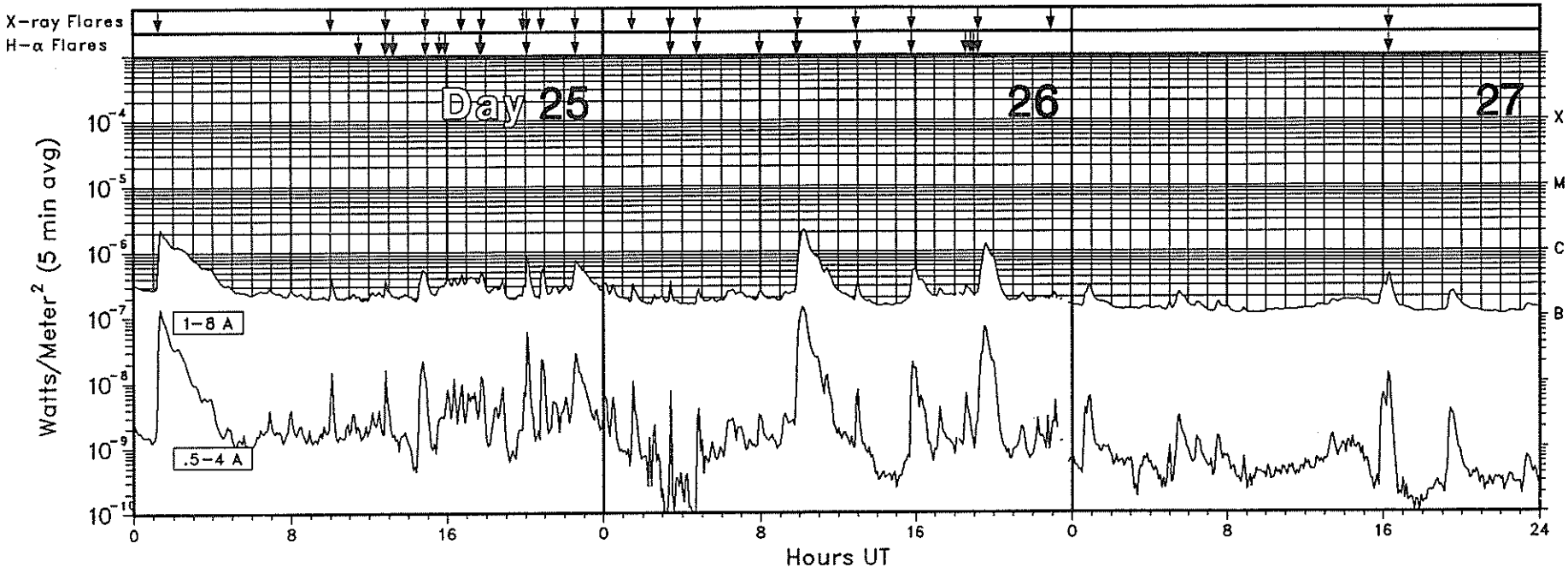
April 1988

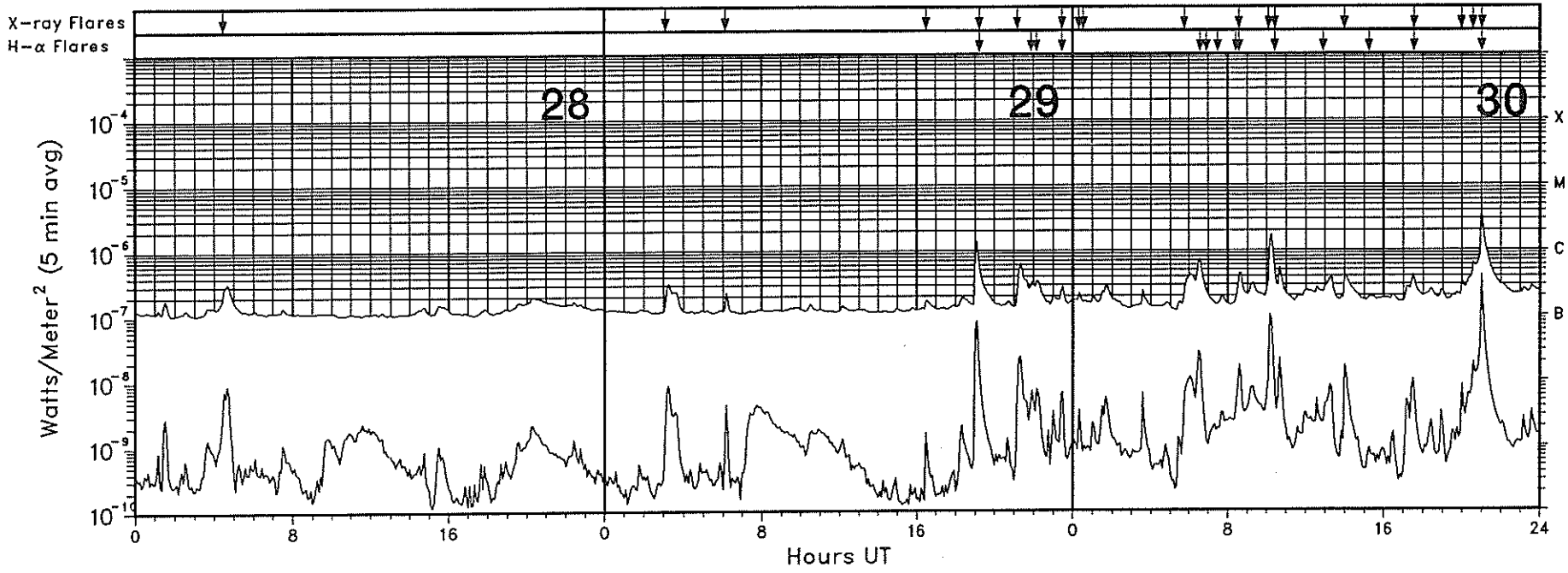




GOES-7 X-RAY DETECTOR

April 1988





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

Preliminary Listing

April 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp Xray	NOAA/ USAF Region
01	0227	0229	0235	N20	W15	SF	C1.3	4975
01	1913	1917	1921				C1.0	
02	0327	0331	0335				B5.8	
02	0538	0542	0548	S20	W34	SF	C1.3	4977
02	0627	0633	0639				C1.0	
02	0805	0810	0814				B8.8	
02	1136	1140	1144				B9.1	
02	1346	1347	1416	N15	W43	SF	B9.7	4975
02	2048	2050	2057	N21	E40	SF	B9.5	4980
02	2135	2206	2244	N19	W41	SF	C1.0	4975
03	0436	0441	0500	N18	W46	SF	C1.1	4975
04	1054	1123	1158				C3.8	4975
04	1613E	1616	1633	S20	W42	SF	B7.6	4978
04	1708	1708	1715	N16	W70	SF	B7.5	4975
05	1007	1010	1014				B6.7	
05	1529	1533	1537				C1.2	
05	1853	1856	1858				B7.3	
05	2016	2021	2025				B9.1	
05	2115	2118	2126	S17	W58	SF	B8.9	4978
06	1208	1209	1215	S36	E84	SF	C1.7	4983
06	1524	1531	1537				C1.4	
06	1944	2007	2016				C1.3	
06	2232	2253	2311				C4.3	
07	1307	1316	1321				C7.4	
07	1611	1624	1638				C2.6	
07	1845	1848	1852	S23	W76	SF	C2.7	4978
07	1906	1955	2051	S23	W76	SF	C2.4	4982
07	2311	2319	2341	N25	E12	SF	C3.9	4982
08	0023	0025D	0039	S18	E90	1B	C7.8	4985
08	0614	0614	0702	N26	E04	SF	C6.0	4982
09	0322	0326	0330				C1.3	
09	1108	1110	1126	S32	E42	SF	C1.6	4983
09	1341	1346	1349				B6.2	
09	2115	2119	2127	S12	E68	1N	C3.7	4985
09	2322	2343	2347				C1.4	
10	1029	1033	1038				B4.5	
11	0325	0329	0355	S18	E37	SF	B8.5	4985
11	0804	0804	0810	S19	E51	SF	B7.3	4989
11	1024E	1027U	1040	N18	E33	SF	C2.1	4986
11	1231	1231	1243	N23	E83	SF	C1.2	4990
11	1336	1348	1402D	N23	E85	1N	C5.0	4990
11	1611	1613	1645	N20	W31	SF	C1.3	4982
11	1818	1820	1825	N24	E83	SF	C1.0	4990
11	1949	1954	1959	N24	E83	SF	C2.0	4990
11	2117	2118	2244	S19	E28	SF	C3.2	4985
11	2118	2136	2307	N23	E82	SF	C3.2	4990
11	2219	2223	2227				C1.3	
11	2337	2338	2344	N24	E77	SF	B7.1	4990
12	0015	0022	0029	N24	E75	SF	C1.9	4990
12	0126	0129	0138				C1.2	
12	0317	0321	0325				C1.0	
12	0438E	0439	0451	N23	E73	SF	C2.9	4990
12	0518	0519	0526	N17	E27	SF	C1.0	4986
12	0837	0839	0903	S18	E22	SF	C1.8	4985
12	0950	0954	0959				B9.4	
12	1228	1229	1258	N23	E70	SF	B9.5	4990
12	1345	1350	1353				B9.8	
12	1414	1502	1523	N23	E70	SF	C3.3	4990
12	1707E	1708	1739	N24	E68	SN	M1.4	4990
12	1743	1746	1749				C2.5	
12	1829	1832	1851	N23	E64	SF	C2.4	4990
12	1935	1936	2006	N16	E17	SF	C1.5	4986
12	2223	2229	2310	N23	E63	SF	C2.6	4990
13	0012	0012	0028	N23	E67	SF	C1.3	4990
13	0413	0420	0427	N25	E67	SF	C6.1	4990
13	0519	0529	0534				C1.5	
13	0716	0723	0727				C1.9	
13	0917	0922	0927				C1.3	
13	0931	0934	0938				C1.0	
13	1442	1447	1451				C1.1	
13	1830	1836U	1840	N23	E90	SN	C4.6	4995
13	1948	2035	2053	S15	E17	SF	C7.1	4989
13	2252	2257	2300				C2.6	
14	0013	0016	0033	N23	E54	1N	C3.7	4990
14	0118	0140	0203				C1.7	
14	0310	0334	0354	N22	E50	1N	C6.5	4990
14	0922	0929	0940				C1.5	
14	1212	1215	1218				C1.8	
14	1357	1358	1413D	N23	E46	SF	C1.1	4990
14	1458	1500	1524	S12	E04	SF	C2.6	4989
14	1718	1726	1754	N21	E37	SF	C1.7	4990
14	1800	1807	1817				C1.1	
14	1911	1922	1930				C3.0	
14	1934	1942	2017	N25	E37	2B	X1.2	4990
14	2216	2228	2324				C4.9	
14	2254	2254	2328	S15	W00	SF	C1.6	4989
15	0238	0242	0400	N25	E71	SN	C3.9	4995
15	0306	0310	0319				C1.9	
15	1224	1227	1231				C1.3	
15	0425	0437	0454				C1.6	
15	0526	0526	0535	N15	W19	SF	C1.3	4986
15	0932	0937	0940				C1.3	
15	1700	1703	1706				C1.2	
15	1923	1923	1949	N22	E22	SF	C2.6	4990
15	2000	2006	2110	S17	W08	2B	M1.5	4992
15	2112	2122	2142	N23	E21	1N	M2.0	4990
16	1200	1210	1219				C1.2	
16	1237	1246	1259	N22	E10	SF	C2.0	4990
16	1342	1346	1416				C1.3	
16	1524	1535	1548	N23	E52	SF	C1.8	4995
16	1614	1621	1627				C2.1	
16	1805	1809	1833	N22	E08	SF	C6.3	4990

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

Preliminary Listing

April 1988

Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Opt	Imp	Xray	NOAA/ USAF Region
16	1926	1929	1932					C1.9	
16	1944	2012	2012D	N22	E06	SF		C9.1	4990
16	2122	2124	2149D	N25	E09	1B		M1.2	4990
16	2209	2216	2220					C9.0	
17	0100	0106	0113					C5.3	
17	0153	0156	0200					C4.6	
17	0313	0319	0325					C1.3	
17	0429	0437	0503	N24	E05	SB		M1.2	4990
17	0559	0602	0607					C1.5	
17	0645	0651	0655					C2.7	
17	0814	0909	0933					C6.9	
17	1524	1555	1615D	N20	W04	SF		C1.3	4990
17	1716	1717	1737	N20	E13	SF		C2.5	4990
17	2157	2206U	2206D	N20	W06	SF		C7.9	4990
18	0021E	0105U	0149	S34	W56	2N		M3.1	4996
18	0255	0306	0335D	N21	W10	1F		C3.7	4990
18	0407	0416	0430					C4.9	
18	0509	0528	0548	N20	W14	2F		M1.7	4990
18	1201	1205	1226					C1.0	
18	1522	1526	1531					C1.3	
18	1754	1756	1805	N21	E01	SF		C2.3	4990
18	1814	1819	1823					C1.1	
18	1838	1843	1902	N27	E26	SF		C1.2	4995
18	2003	2005	2114	N23	W04	SN		C2.4	4990
19	0225	0240	0411	N22	W16	1F		C5.5	4990
19	0812	0813	0818	N22	W13	SF		B9.8	4990
19	0841	0844	0902	S20	W53	SF		B9.4	4989
19	1330	1331	1339	N22	W25	SF		C1.6	4990
19	1705	1736	1812	N22	W14	1F		C1.4	4990
19	1858	1912	1942					C8.1	
19	2040	2041	2046	N22	W16	SF		C4.7	4990
20	0117	0122	0128D	N21	W29	SF		C2.2	4990
20	0915	0919	0923					B7.8	
20	1002	1029	1140	N21	W40	SF		M1.0	4990
20	1309	1313	1345	N22	W33	1N		C5.8	4990
20	1559	1606	1615					C1.4	
20	2155	2158	2207	S17	W74	SF		C1.3	4989
20	2259	2259	2307	N22	W49	SF		C1.1	4990
21	0007	0008	0027	N22	W50	SF		C1.3	4990
21	0407	0416	0428					C2.0	4990
21	0727	0729	0741	N22	W47	SF		C2.1	4990
21	0758	0759	0815D	N25	W48	SF		C3.0	4990
21	0916	0949	1024	N19	W52	2N		M2.3	4990
21	1416	1420	1434	N20	W48	1N		C4.2	4990
21	1901	1903	1913	S23	E78	SF		C2.0	5000
22	0456	0503	0536	N27	W23	SF		B7.0	4995
22	1407	1417	1446	N21	W64	1N		M1.0	4990
22	1748	1750	1758	N28	W28	SF		C1.1	4995
22	1932	1941	1953					C2.7	
23	0433	0439	0444					B5.5	
23	1618	1623	1632	N24	W80	SF		B9.6	4990
23	1647	1651	1704	N21	W82	SF		C2.9	4990
24	0108	0120	0133					M1.7	4990
24	0336	0340	0349					C2.3	5002
24	0734	0750	0801					C3.0	4990
24	1416	1419	1425					B5.6	
24	1431	1440	1448					C1.3	
24	1625	1631	1634					B7.0	
24	1925	1950	2016					B8.3	
25	0114	0123	0156					C2.2	
25	1002	1007	1012					B4.2	
25	1252	1252	1255	S22	E72	SF		B5.6	5002
25	1454	1455	1501	S20	E67	SF		B5.5	5002
25	1644	1647	1649					B5.6	
25	1747	1751	1756	S21	E63	SF		B5.4	5002
25	1954	1959	2002					B3.4	
25	2005	2007	2034	S20	E64	SF		B9.2	5002
25	2050	2055	2103					B7.1	
25	2235	2240	2253	S22	E64	SF		B7.5	5002
26	0128	0134	0138					B3.6	
26	0325	0326	0331	S21	E57	SF		B5.0	5002
26	0446	0451	0455	S20	E59	SF		B3.1	5002
26	0956	1007	1041	S19	E56	SF		C2.2	5002
26	1255	1301	1306					B3.9	
26	1548	1549	1606	S21	E54	SF		B5.6	5002
26	1912	1924	1927	S18	E51	SF		C1.3	5002
26	2255	2258	2301					B2.6	
27	1616	1620	1633	S19	E39	SF		B4.9	5002
28	0428	0445	0451					B3.5	
29	0306	0317	0331					B3.2	
29	0609	0613	0618					B2.8	
29	1631	1634	1642					B1.9	
29	1914	1915	1917	S20	E89	SF		C1.4	5004
29	2111	2123	2131					B6.6	
29	2328	2328	2333	S21	E86	SF		B3.9	5004
30	0020	0024	0026					B2.5	
30	0034	0037	0039					B3.4	
30	0545	0635	0643					B7.9	
30	0835	0840	0844					B5.1	
30	1007	1016	1022					C2.0	
30	1026E	1028	1058	S20	E79	SF		B6.1	5004
30	1400	1404	1409					B5.8	
30	1734	1736	1742	S23	W06	SF		B4.7	5005
30	1959	2004	2008					B3.6	
30	2035	2039	2042					B7.2	
30	2102	2102	2109	S20	E79	SF		C6.2	5004

Preliminary GOES Satellite Data
Daily Average X-ray Background

May 1987 - April 1988

Day	1987 May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1988 Jan	Feb	Mar	Apr
1	A4.9	A4.8	---	B1.2	B1.1	A6.8	B2.2	A7.6	B2.0	B2.5	B1.0	B4.4
2	A5.0	A3.2	A1.7	B1.2	B1.3	A6.8	B3.8	A8.3	B1.4	B2.5	A8.5	B3.5
3	A8.8	A2.7	A1.4	B1.0	B1.3	A7.7	B3.4	A5.2	B4.6	B1.9	B1.1	B3.7
4	A8.6	A2.7	A1.3	A6.7	B1.3	B1.2	B3.4	A4.8	B2.4	B1.5	B1.8	B3.5
5	A8.1	A2.3	A1.2	A6.5	B1.4	B1.1	B2.1	A5.3	B2.3	B1.7	B1.6	B4.2
6	A8.0	A2.0	A1.3	A6.9	B1.4	B1.0	B2.1	A7.8	B2.5	B1.5	B1.4	B4.3
7	A6.5	A1.9	A1.5	B1.7	B2.7	B1.1	B1.7	A8.5	B2.5	B2.4	B1.6	B3.8
8	A5.9	A1.9	A5.0	B2.8	B2.2	B1.7	B1.2	A9.1	B2.7	B1.8	B1.6	B3.9
9	A5.3	A2.8	A3.5	B2.1	B1.6	B2.1	A8.8	B1.4	B2.3	B1.8	B1.6	B3.2
10	A5.7	A6.3	A3.2	B2.3	B1.7	B2.0	A8.8	A9.4	B3.0	B1.5	B1.8	B3.1
11	A4.8	A8.5	A2.7	B2.9	B1.6	B1.8	B1.9	B2.3	B2.1	B1.6	B2.8	B4.5
12	A4.9	A8.7	A1.9	B2.9	B1.3	B1.7	B1.4	B3.2	B3.1	B1.8	B3.4	B5.5
13	A9.5	A8.8	A1.9	B2.6	B1.2	B2.3	B1.4	B1.8	--	B1.8	B3.4	B4.4
14	B1.8	A7.9	A3.3	B1.9	A9.5	B2.1	A8.2	B1.3	B4.0	B1.5	B2.5	B6.0
15	B2.0	A7.3	A4.3	B1.2	A7.1	B2.2	A9.7	B1.4	B3.9	B1.4	B6.0	B7.4
16	B2.8	A7.1	A5.3	B1.4	A4.6	B2.6	B1.1	B1.2	B5.1	B1.2	B6.9	B9.2
17	B1.9	A8.9	A4.0	B1.1	A5.2	B2.1	B1.1	A9.5	B3.6	B1.2	B4.6	B5.3
18	B1.9	A8.6	A5.2	B1.1	A3.8	B2.6	B1.6	A8.9	B2.2	B1.6	B3.0	B3.9
19	B2.0	A7.4	B1.1	B1.2	A4.7	B2.4	B2.7	A7.3	B2.5	B1.4	B3.3	B5.5
20	B1.8	A6.4	B1.8	B1.3	A7.6	B1.7	B5.2	A7.1	B2.3	B1.2	B4.4	B5.1
21	B2.1	A7.7	B2.0	B1.6	A5.9	B1.5	B3.5	A9.8	B2.4	B1.3	B3.8	B4.7
22	B2.4	B1.2	---	B1.6	A5.0	B1.6	B3.6	B1.5	B2.0	A9.9	B3.7	B3.1
23	B1.6	A9.7	B3.9	B1.5	A3.4	B1.4	B3.0	B1.0	B2.0	B1.0	B6.0	B2.2
24	B3.1	B1.1	B3.5	B1.5	A3.7	B1.4	B2.9	B2.3	B3.1	A9.0	B6.8	B2.6
25	B4.9	A9.5	B3.4	B1.4	A3.0	B1.8	B2.9	B4.9	B1.9	A9.0	B6.1	B2.0
26	B3.6	A8.3	B3.6	B1.1	A2.7	B1.9	B2.9	B4.7	B2.2	B9.5	B4.5	B1.5
27	B2.3	A5.5	B3.7	B1.1	A7.6	B2.5	B2.0	B3.4	B4.6	B1.0	B4.0	B1.1
28	B2.3	A4.6	B3.2	A8.6	B1.0	B2.7	B1.7	B2.3	B5.1	B1.2	B3.5	B1.1
29	B1.4	A4.0	B2.2	A6.6	A9.8	B1.9	B1.7	B1.8	B4.4	B2.0	B3.5	B1.1
30	B1.4	A3.9	B1.6	A7.6	A7.0	B2.7	B1.1	B2.5	B2.7		B3.3	B1.6
31	A6.7		B1.4	B1.3		B2.7		---	B2.1		B4.2	

MASS EJECTIONS FROM THE SUN

APRIL 1988

Sta	Day	Observed UT Start	Max	End	Location RA^{o}	R/R_{o}	Freq or Wavelength	Kind of Event
KHAR	Apr 01	0954 E		1018	320-330	0.56-0.61	H-alpha	S
CULG	Apr 02	0553.5		0611.0			Meter	II
LEAR	Apr 02	0558.0		0606.0			Meter	II
KHAR	Apr 10	0829 E		0836	058	0.83	H-alpha	S
KHAR	Apr 10	0925 E		0930 D	063	0.81	H-alpha	S
KHAR	Apr 10	1005		1035 D	107	0.87	H-alpha	SP
KHAR	Apr 12	0736 E		0815 D	061-059	1.00-1.03	H-alpha	S
KHAR	Apr 14	0640		0715	054	0.80	H-alpha	S
KHAR	Apr 14	0640		0705	063	1.00-1.02	H-alpha	S
KHAR	Apr 14	0656 E		0728	118	0.18	H-alpha	S
KHAR	Apr 14	0755		0808	062	1.00-1.02	H-alpha	S
KHAR	Apr 14	0802		0836	053	0.80	H-alpha	S
KHAR	Apr 14	0814 E		0830	118	0.18	H-alpha	S
KHAR	Apr 14	0900 E		0907	054	0.74	H-alpha	S
KHAR	Apr 14	0900 E		0926 D	053	0.79	H-alpha	S
KHAR	Apr 14	0947 E		1003 D	053	0.90	H-alpha	
SGMR	Apr 15	2011.0		2016.0			Meter	II
SGMR	Apr 15	2016.0		2027.0			Meter	IV
PALE	Apr 15	2016.0		2027.0			Meter	IV
CULG	Apr 15	2032.0		2122.0			Meter	IV Small Group
PALE	Apr 15	2121.0		2135.0			Meter	II
CULG	Apr 15	2122.0		2136.0			Meter; dekameter	II
SGMR	Apr 15	2122.0		2135.0			Meter	II
SGMR	Apr 16	2131.0		2134.0			Meter	II
PALE	Apr 16	2132.0		2136.0			Meter	II
KHAR	Apr 26	0801		0810	108	0.86	H-alpha	S
KHAR	Apr 30	0646 E		0717	170	0.17-0.20	H-alpha	S
KHAR	Apr 30	0818 E		0832 D	179-180	0.23-0.25	H-alpha	S
KHAR	Apr 30	0948 E		0955 D	170	0.17-0.20	H-alpha	S

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

REPORTING STATIONS
- CULG = Culgoora
- KHAR = Kharkov
- LEAR = Learmonth
- PALE = Palehua
- SGMR = Sagamore Hill

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

ACTIVE PROMINENCES AND FILAMENTS

APRIL 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	SDF	0103E	1435D	S33	W61	03	27.3		06	0	0	E	HOLL	4974	
01	AFS	0200E	1002D	S22	W15	03	31.0		03	9	9	E	LEAR	4977	
01	AFS	0630E	1417D	S22	W18	03	31.0		03	9	9	E	SVTO	4977	
01	APR	0705E	0755	N25	W90	03	25.4	1				V	KHAR		
01	ADF	0714E	0733	S17	W01	04	1.2	1				V	KHAR		
01	APR	0800E	1106D	N25	W90	03	25.5	1				V	KHAR		
01	DSD	0915E	0932D	N23	W18	03	31.0		04	9	9	E	SVTO	4975	
01	DSD	0954E	1018	N26	W17	03	31.1	1				V	KHAR		
01	DSD	1001E	1022D	N23	W21	03	30.9		05	9	9	E	SVTO	4975	
01	AFS	1115	1417D	N14	W74	03	27.0		02	9	9	E	SVTO	4979	
01	DSD	1418E	0118D	S19	W05	04	1.2		04	9	9	E	HOLL	4978	
01	AFS	1420E	0118D	S21	W22	03	31.0		03	9	9	E	HOLL	4977	
01	AFS	1815E	1819D	N17	W07	04	1.2	0				P	MANI		
01	AFS	1815E	1819D	N42	E07	04	2.3	0				P	MANI		
01	AFS	1815E	1819D	S34	W55	03	28.5	0				P	MANI		
01	AFS	1815E	1819D	S39	E29	04	4.1	0				P	MANI		
01	AFS	2034E	0421D	S22	W25	03	31.0		02	8	9	E	PALE	4977	
01	ADF	2119E	0421D	S18	W07	04	1.3	1	02	4	9	E	PALE	4978	
01	AFS	2311E	0250D	N18	W31	03	30.7		03	9	9	E	LEAR	4975	
01	DSD	2320E	0250D	S19	W09	04	1.3		04	9	9	E	LEAR	4978	
01	AFS	2325E	0250D	S21	W27	03	31.0		03	9	9	E	LEAR	4977	
02	DSD	0542	0638D	S22	W34	03	30.7		09	9	9	E	SVTO	4977	Flare Associated
02	DSD	0615E	1237D	S18	W13	04	1.3		04	9	9	E	SVTO	4978	
02	DSD	0638E	0747D	S22	W29	03	31.0		03	9	9	E	SVTO	4977	
02	DSD	0638E	0747D	S22	W34	03	30.8		05	9	9	E	SVTO	4977	
02	AFS	0939E	1645D	S23	W32	03	31.0		02	9	9	E	SVTO	4977	
02	DSD	1231E	1645D	S20	W36	03	30.9		04	9	9	E	SVTO	4975	
02	AFS	1350E	0114D	S22	W36	03	30.9		03	9	9	E	HOLL	4977	
02	AFS	1542E	1743D	N18	W19	04	1.2	0				P	MANI		
02	AFS	1542E	1743D	S38	E16	04	3.9	0				P	MANI		
02	DSD	1605E	2210D	N21	W35	03	31.0		07	9	9	E	HOLL	4975	
02	ASR	1725E	0114D	N18	E90	04	9.6			8	8	E	HOLL		
02	ASR	1741E	0431D	N17	E90	04	9.6			7	7	E	PALE		
02	AFS	1741E	0431D	S22	W38	03	30.9		02	9	9	E	PALE	4977	
02	ASR	1746E	0050D	N17	W90	03	27.0			8	8	E	PALE	4979	
02	DSD	2052E	2325D	S21	W41	03	30.8		04	8	8	E	HOLL	4977	Flare Associated
02	DSD	2225E	0114D	N13	W39	03	31.0		05	7	7	E	HOLL	4975	
02	ASR	2247E	0902D	N19	E90	04	9.8			9	9	E	LEAR		
02	AFS	2247E	0902D	S21	W22	04	1.3		05	9	9	E	LEAR	4977	
02	AFS	2247E	0902D	S21	W38	03	31.0		02	9	9	E	LEAR	4978	
02	DSD	2259E	0114D	S20	W22	04	1.3		05	8	9	E	HOLL	4978	
03	SDF	0054	0058	N20	W28	03	31.9		08	0	0	E	PALE		
03	SDF	0431E	0352D	S35	E28	04	5.4		06	0	0	E	PALE		
03	SDF	0431E	0352D	S46	E10	04	4.0		04	0	0	E	PALE		
03	SDF	0431E	0352D	S53	E20	04	4.9		08	0	0	E	PALE		
03	SDF	0431E	0352D	S60	E00	04	3.2		06	0	0	E	PALE		
03	SDF	1340E	1340D	N22	W20	04	2.0		08	0	0	E	HOLL		
03	ASR	1343	1619D	N23	E80	04	9.7			9	9	E	HOLL	4981	
03	ASR	1420E	1458D	S31	W90	03	27.6			9	9	E	HOLL	4974	
03	SDF	1509E	1321D	S47	E70	04	9.5		40	0	0	E	HOLL		
03	ASR	1840E	2329D	N18	E83	04	10.1			6	9	E	HOLL	4981	
03	DSD	2024E	2327D	N16	W53	03	30.9		03	5	9	E	HOLL	4975	
03	ADF	2025E	2350D	N15	E24	04	5.7		04	9	9	E	HOLL	4980	
03	DSD	2026E	2325D	N16	E24	04	5.7		05	8	8	E	HOLL	4980	
03	AFS	2058E	2350D	S21	W50	03	31.0		06	9	9	E	HOLL	4977	
03	ASR	2127E	2350D	S34	W80	03	28.6			6	7	E	HOLL	4974	
03	DSD	2330E	2350D	S21	W35	04	1.3		08	7	9	E	HOLL	4978	
03	AFS	2334E	0426D	S20	W53	03	31.0		01	8	9	E	PALE	4977	
03	ADF	2337E	0426D	S17	W31	04	1.6	1	02	5	7	E	PALE	4978	
03	ADF	2357E	0426D	N15	E23	04	5.7	1	04	8	9	E	PALE	4980	
04	SDF	0028E	0108D	S53	E80	04	10.9		60	0	0	E	PALE		
04	AFS	0050E	0911D	S21	W54	03	31.0		01	9	6	E	LEAR	4977	
04	AFS	0101E	0426D	N18	W57	03	30.8		02	8	9	E	PALE	4975	
04	DSD	0130E	0211D	S19	W61	03	30.5		04	9	9	E	PALE	4977	
04	ADF	0250E	0911D	N16	E20	04	5.6	2	03	9	9	E	LEAR	4980	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMP	Mo	Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
04	AFS	1727E	1742D	N16	E21	04	6.3	0				P	MANI		
04	AFS	1727E	1742D	N20	W46	04	1.2	0				P	MANI		
04	AFS	1727E	1742D	N30	W08	04	4.1	0				P	MANI		
04	AFS	1727E	1742D	S36	W18	04	3.3	0				P	MANI		
04	DSD	1740E	2125D	S23	W60	03	31.1		02	9	9	E	PALE	4977	
04	DSD	1800E	1822D	N22	W65	03	30.8		04	9	9	E	HOLL	4975	
04	DSD	1807E	1830D	N23	W62	03	31.0		04	9	9	E	PALE	4975	
04	DSD	1947E	2045D	S21	W40	04	1.7		02	9	9	E	HOLL	4977	
04	ADF	2035E	2129D	N16	E12	04	5.8	2	08	9	8	E	RAMY	4980	
04	DSD	2125E	2220D	N26	E50	04	8.8		03	9	9	E	HOLL	4981	
04	DSD	2125E	0429D	N23	E52	04	8.9		03	9	9	E	PALE	4981	
05	ADF	0250E	0429D	N21	W63	03	31.3	1	02	8	9	E	PALE	4975	
05	SDF	0429E	1856D	S33	E06	04	5.7		04	0	0	E	PALE		
05	ADF	0922E	0933D	N20	W67	03	31.3	1	06	9	9	E	SVTO	4975	
05	DSD	1125E	1345D	N16	W63	03	31.7		02	9	8	E	RAMY	4975	
05	ADF	1125E	2050D	N20	W66	03	31.4	2	06	8	8	E	RAMY	4975	
05	DSD	1133E	1345D	S19	W51	04	1.6		03	9	9	E	RAMY	4978	
05	DSD	1140E	2208D	N16	E43	04	8.7		02	9	9	E	RAMY	4981	
05	DSD	1345E	1813D	N25	E42	04	8.8		03	9	9	E	RAMY		
05	ADF	1345E	2208D	N22	E46	04	9.1	1	04	9	9	E	RAMY	4981	
05	AFS	1716E	1720D	N15	E54	04	9.8	0				P	MANI		
05	AFS	1716E	1720D	N29	W22	04	4.0	0				P	MANI		
05	AFS	1716E	1720D	S20	W47	04	2.1	0				P	MANI		
05	AFS	1716E	1720D	S36	W28	04	3.5	0				P	MANI		
05	DSD	1718E	1813D	S19	W59	04	1.2		04	9	9	E	RAMY	4978	Flare Associated
05	DSD	1750E	1810D	S18	W58	04	1.3		06	8	8	E	PALE	4978	
05	DSD	1947E	2045D	S21	W40	04	2.7		02	9	9	E	HOLL	4977	
05	ASR	2024E	2354D	N20	W90	03	30.1			8	9	E	HOLL	4975	
05	ASR	2025E	2208D	N21	W90	03	30.0			9	9	E	RAMY	4975	
05	DSD	2125E	2220D	N26	E50	04	9.8		03	9	9	E	HOLL	4981	
05	AFS	2305E	0957D	N16	E43	04	9.2		03	9	9	E	LEAR	4981	
05	ASR	2326E	0957D	N79	W23	04	3.8	1		9	9	E	LEAR	4975	
06	AFS	0045	0432D	N25	E38	04	9.0		03	9	9	E	PALE	4982	
06	AFS	0120E	0957D	N23	E38	04	9.0		02	9	9	E	LEAR	4982	
06	DSD	1137E	1800D	N18	E39	04	9.4		03	9	9	E	RAMY	4981	
06	ADF	1137E	2156D	N21	W04	04	6.2	1	08	9	9	E	RAMY	4980	
06	DSD	1137E	2156D	S33	E80	04	12.8		02	9	9	E	RAMY		
06	AFS	1200E	2156D	N24	E30	04	8.8		02	9	9	E	RAMY	4982	
06	ASR	1208E	1312D	S36	E84	04	13.2			9	9	E	RAMY		Flare Associated
06	AFS	1710E	1720D	N15	W02	04	6.6	0				P	MANI		
06	AFS	1710E	1720D	S27	E47	04	10.4	0				P	MANI		
06	AFS	1710E	1720D	S40	W36	04	3.8	0				P	MANI		
06	AFS	1754E	0115D	N25	E27	04	8.8		05	9	6	E	HOLL	4982	
06	AFS	1809E	0432D	N24	E28	04	8.9		02	9	9	E	PALE	4982	
06	ASR	1815E	0432D	S22	W90	03	30.9			8	8	E	PALE	4977	
06	ASR	1822E	0432D	S20	E90	04	13.6			9	9	E	PALE		
06	ASR	1830E	0432D	S33	E90	04	13.9			9	9	E	PALE		
06	ASR	1837E	2156D	S20	E90	04	13.6			9	9	E	RAMY		
06	DSD	1930E	2000D	N20	E27	04	8.9		02	9	9	E	RAMY	4981	
06	AFS	1938E	0432D	N31	E61	04	11.6		01	9	9	E	PALE		
06	DSD	2000E	2156D	N30	E59	04	11.5		01	9	9	E	RAMY		
06	ASR	2015E	2156D	S23	W90	03	31.0			9	9	E	RAMY	4977	
06	ASR	2044E	0432D	N23	W90	03	31.0			8	8	E	PALE	4975	
06	DSD	2110E	2156D	N18	E33	04	9.4		03	7	4	E	RAMY	4981	
06	ASR	2120E	0115D	S25	W90	03	31.0			9	9	E	HOLL	4977	
06	DSD	2125E	0432D	N18	E38	04	9.8		05	9	9	E	PALE	4981	
06	AFS	2125E	0432D	S21	W36	04	4.1		01	8	8	E	PALE		
06	ASR	2134E	0115D	S18	E90	04	13.7			9	9	E	HOLL		
06	CAP	2250E	0432D	N22	W90	03	31.0		01	7	7	E	PALE	4975	
06	AFS	2300E	0956D	N24	E25	04	8.9		03	9	9	E	LEAR	4982	
06	ASR	2305E	0956D	S22	E82	04	13.3			9	9	E	LEAR		
06	LPS	2315E	0030D	S20	E90	04	13.8			8	8	E	PALE		
06	LPS	2319E	0055D	S22	E84	04	13.4			9	9	E	LEAR		
06	LPS	2322E	0115D	S18	E90	04	13.8			9	9	E	HOLL		
07	AFS	0115E	0956D	N29	E55	04	11.4		02	9	9	E	LEAR		

APRIL 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	0345E	0812D	S34	E73	04	13.0	2	15	9	9	E	LEAR	4983	
07	APR	0756E	0956D	N19	W90	03	31.5			9	9	E	LEAR	4975	
07	AFS	0914E	1610D	N27	E19	04	8.9		03	9	9	E	SVTO	4982	
07	AFS	0919E	1610D	N34	E51	04	11.4		02	9	9	E	SVTO		
07	ASR	1010E	1610D	N19	E90	04	14.3			9	9	E	SVTO		
07	ADF	1030E	1040D	S22	W19	04	6.0	1	08	9	9	E	SVTO		
07	SDF	1030E	1040D	S22	W19	04	6.0	2	08	9	9	E	SVTO		
07	ASR	1240E	2018D	N17	E88	04	14.2			9	9	E	RAMY		
07	ADF	1304E	2018D	N20	W19	04	6.1	2	07	9	9	E	RAMY	4980	
07	AFS	1304E	2018D	N25	E19	04	9.0		03	9	9	E	RAMY	4982	
07	DSD	1304E	2018D	N25	E21	04	9.2		04	9	9	E	RAMY	4982	
07	AFS	1304E	2018D	N30	E50	04	11.5		02	8	6	E	RAMY	4984	
07	AFS	1426E	0100D	N25	E15	04	8.8		07	7	6	E	HOLL	4982	
07	ASR	1433E	0100D	S17	E86	04	14.1			9	6	E	HOLL	4985	
07	BSD	1858E	1909	S34	E67	04	13.1		06	9	7	E	HOLL	4983	
07	AFS	2100E	0100D	N25	E11	04	8.7		02	9	9	E	HOLL	4982	
07	ASR	2130E	0100D	N18	E90	04	14.7			9	9	E	HOLL		
07	APR	2327	0216D	N20	W90	04	1.1			9	9	E	LEAR	4975	
07	APR	2343	0030D	N20	W90	04	1.1			9	9	E	HOLL	4975	
07	APR	2350E	2354D	N22	W87	04	1.3			9	9	E	PALE	4975	
08	BSL	0027E	0115D	S16	E90	04	14.8			9	9	E	LEAR	4985	
08	ASR	0115E	0439D	S16	E90	04	14.9			9	9	E	LEAR	4985	
08	DSD	0600E	0618D	N29	E06	04	8.7		07	9	9	E	SVTO	4982	
08	ADF	0630E	1600D	S16	E73	04	13.8	1	04	9	9	E	SVTO	4985	
08	ADF	0750E	1600D	N26	E02	04	8.5	1	07	9	9	E	SVTO	4982	
08	ADF	0845E	1600D	N21	E07	04	8.9	1	05	9	9	E	SVTO	4982	
08	ADF	0845E	1600D	N25	E08	04	9.0	1	06	9	9	E	SVTO	4982	
08	AFS	0855E	1600D	N18	E84	04	14.8		03	9	9	E	SVTO	4986	
08	ADF	1114E	1855D	N21	E07	04	9.0	1	04	9	9	E	RAMY	4982	
08	AFS	1114E	1855D	N24	E03	04	8.7		02	9	9	E	RAMY	4982	
08	ADF	1114E	1855D	N25	E06	04	8.9	1	06	9	9	E	RAMY	4982	
08	ADF	1127E	1855D	S20	E75	04	14.2	1	06	9	9	E	RAMY	4985	
08	ASR	1127E	1855D	S21	W88	04	1.7			9	9	E	RAMY	4978	
08	ASR	1237E	1855D	N16	E90	04	15.3			9	9	E	RAMY	4985	
08	ADF	1304E	1855D	N21	W32	04	6.1	1	08	9	9	E	RAMY	4980	
08	ADF	1415E	2305D	S38	E70	04	14.2		07	9	9	E	HOLL	4983	
08	ASR	1417E	2305D	S24	W90	04	1.6			8	9	E	HOLL	4978	
08	ADF	1450E	2305D	S18	E72	04	14.1		13	9	9	E	HOLL	4985	
08	ADF	1502E	1855D	S40	E74	04	14.6	1	05	9	9	E	RAMY	4983	
08	AFS	1610E	1614D	N35	W23	04	6.8	0				P	MANI		
08	AFS	1610E	1614D	S28	E28	04	10.9	0				P	MANI		
08	AFS	1610E	1614D	S34	E61	04	13.5	0				P	MANI		
08	LPS	1637E	2038D	N26	E90	04	15.7			9	9	E	HOLL	4986	
08	LPS	1637E	1855D	N24	E90	04	15.6			9	9	E	RAMY	4986	
08	AFS	1712E	0402D	N24	E00	04	8.7		02	6	5	E	PALE	4982	
08	ADF	1713E	0402D	N23	E02	04	8.9	1	04	7	9	E	PALE	4982	
08	ADF	1759E	0059D	N20	E23	04	10.5		03	9	9	E	PALE	4981	
08	ASR	1759E	0059D	S17	E90	04	15.6			8	5	E	PALE		
08	ADF	1902E	0402D	S19	E75	04	14.5	1	12	9	9	E	PALE	4985	
08	ADF	1950E	0402D	S19	W77	04	2.9	1	03	9	9	E	PALE		
08	AFS	2056E	0059D	N25	E11	04	9.7		02	7	9	E	PALE	4982	
08	APR	2350E	0059D	N22	W87	04	2.3			9	9	E	PALE	4975	
09	ADF	0010E	0842D	N24	W05	04	8.6	1	05	9	9	E	LEAR	4982	
09	AFS	0010E	0842D	N26	W04	04	8.7		01	9	7	E	LEAR	4982	
09	ADF	0020E	0842D	S19	E65	04	14.0	1	13	9	9	E	LEAR	4985	
09	ADF	0020E	0842D	S39	E72	04	14.8	1	14	9	9	E	LEAR	4983	
09	ADF	0035E	0842D	N16	E59	04	13.5	1	14	9	9	E	LEAR	4986	
09	AFS	0050E	0842D	N30	E31	04	11.5		01	9	9	E	LEAR	4984	
09	ADF	0615E	1605D	S15	E69	04	14.5	1	12	9	9	E	SVTO	4985	
09	AFS	0725E	1605D	S22	W81	04	3.1		02	9	9	E	SVTO		
09	SDF	0745E	0855D	S04	E50	04	13.1		06	0	0	E	SVTO		
09	SDF	0745E	0855D	S13	E45	04	12.7		03	0	0	E	SVTO		
09	DSD	0802E	0842D	N17	E54	04	13.4		03	9	9	E	LEAR	4986	
09	APR	0855E	0940D	N23	E90	04	16.3	2		9	9	E	SVTO		
09	ADF	1124E	1605D	S31	E43	04	12.9	1	04	9	9	E	SVTO	4983	
09	DSD	1125E	1341D	S34	E42	04	12.8		02	9	9	E	RAMY	4983	Flare Associated

ACTIVE PROMINENCES AND FILAMENTS

APRIL 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	AFS	1125E	1732D	N24	W10	04	8.7		02	9	9	E	RAMY	4982	
09	ADF	1125E	1732D	S40	E66	04	14.8	1	24	9	9	E	RAMY	4983	
09	DSD	1140E	1732D	N17	E54	04	13.6		03	9	9	E	RAMY	4986	
09	ADF	1140E	1732D	N17	E62	04	14.2	1	02	9	9	E	RAMY	4986	
09	ADF	1140E	1732D	S20	E59	04	14.0	1	13	9	9	E	RAMY	4985	
09	ADF	1325E	1732D	N22	W46	04	6.0	2	06	8	9	E	RAMY	4980	
09	AFS	1357E	1715D	S29	E24	04	11.5		01	9	9	E	RAMY	4984	
09	AFS	1417E	0054D	N24	W12	04	8.7		02	9	9	E	HOLL	4982	
09	ADF	1420E	0054D	S28	E43	04	12.9	1	08	8	9	E	HOLL	4983	
09	ADF	1424E	0054D	S16	E65	04	14.5	2	06	9	9	E	HOLL	4985	
09	DSD	1425E	1753D	N19	E53	04	13.6		04	9	9	E	HOLL	4986	
09	ASR	1427E	1753D	N20	E90	04	16.5			9	7	E	HOLL		
09	ADF	1655E	1732D	N23	W10	04	8.9	1	05	9	9	E	RAMY	4982	
09	ADF	1724E	0424D	N23	W11	04	8.9	1	04	7	9	E	PALE	4982	
09	ADF	1724E	0424D	S32	E38	04	12.7	1	02	8	8	E	PALE	4983	
09	DSD	1724E	2358D	S18	E67	04	14.8		08	9	9	E	PALE	4985	
09	SDF	1732E	1217D	N16	W66	04	4.7		04	0	0	E	RAMY	4980	
09	AFS	1916E	0424D	N30	E20	04	11.4		01	9	9	E	PALE	4984	
09	DSD	2117	2150D	S13	E67	04	14.9		24	9	9	E	HOLL	4985	Flare Associated
09	DSD	2123E	2205D	S12	E75	04	15.5		03	9	9	E	PALE	4985	
09	DSD	2329E	0215D	S19	E58	04	14.4		06	9	9	E	PALE	4985	
10	AFS	0630E	0939D	N24	W20	04	8.7		02	9	9	E	LEAR	4982	
10	AFS	0633E	0939D	S15	E70	04	15.6		01	9	9	E	LEAR	4989	
10	ADF	0633E	0939D	S16	E65	04	15.2	2	11	9	9	E	LEAR	4989	
10	AFS	0650E	0939D	N18	E50	04	14.1		02	8	8	E	LEAR	4986	
10	ADF	0812E	0823	N14	E58	04	14.7	1				V	KHAR		
10	DSD	0829E	0836	N21	E52	04	14.3	1				V	KHAR		
10	DSD	0925E	0930D	N14	E53	04	14.4	1				V	KHAR		
10	ADF	1005	1035D	S17	E61	04	15.0	1				V	KHAR		
10	DSD	1225E	2018D	N16	W21	04	8.9		03	9	9	E	RAMY	4981	
10	DSD	1225E	2018D	N26	W29	04	8.3		02	9	9	E	RAMY	4982	
10	AFS	1225E	2110D	N23	W22	04	8.8		03	6	9	E	RAMY	4982	
10	ADF	1240E	2110D	S48	E79	04	17.2	1	45	9	9	E	RAMY		
10	AFS	1245E	1615D	N23	W24	04	8.7		02	9	9	E	SVTO	4982	
10	ADF	1255E	2110D	S17	E49	04	14.3	1	23	9	9	E	RAMY	4989	
10	AFS	1305E	2110D	S13	E56	04	14.8		02	7	8	E	RAMY	4989	
10	ADF	1310E	2110D	N14	E54	04	14.6	2	06	6	8	E	RAMY	4986	
10	ASR	1329E	1615D	N25	E90	04	17.5			9	9	E	SVTO		
10	AFS	1400E	1505D	N25	W31	04	8.2		02	9	9	E	HOLL	4982	
10	ADF	1403E	1833D	S15	E61	04	15.2	1	08	9	9	E	HOLL	4989	
10	DSD	1404E	1433D	N25	W30	04	8.3		06	9	9	E	HOLL	4982	
10	DSD	1408E	1445D	N24	W31	04	8.2		07	9	9	E	SVTO	4982	
10	DSD	1505E	1831D	N17	W23	04	8.9		03	9	9	E	HOLL	4981	
10	DSD	1759E	0434D	N18	W25	04	8.8		03	9	9	E	PALE	4981	
10	ADF	1800E	0434D	N23	W25	04	8.8	1	04	9	9	E	PALE	4982	
10	ADF	1803E	0434D	S18	E53	04	14.8	1	11	9	9	E	PALE	4985	
10	ADF	1805E	0434D	S17	E60	04	15.3	1	05	8	8	E	PALE	4989	
10	ADF	1807E	0434D	S30	E28	04	12.9	1	07	9	9	E	PALE	4983	
10	DSD	1807E	2345D	S32	E31	04	13.2		01	9	9	E	PALE	4983	
10	ASR	1808E	0434D	N21	E90	04	17.6			9	9	E	PALE		
10	APR	1810E	0434D	S19	E90	04	17.6	1		9	9	E	PALE		
10	AFS	1820E	0434D	N16	E41	04	13.9		02	9	9	E	PALE	4986	
10	AFS	1826E	0121D	N17	E40	04	13.8		02	9	9	E	HOLL	4986	
10	AFS	1827E	0434D	N25	W27	04	8.7		02	9	9	E	PALE	4982	
10	ADF	1838E	0121D	S17	E53	04	14.8		12	9	9	E	HOLL	4989	
10	DSD	1926E	2203D	N22	W25	04	8.9		05	6	8	E	HOLL	4982	
10	AFS	2103E	2110D	S19	E40	04	13.9		02	6	9	E	RAMY	4985	
10	DSD	2120E	0121D	N15	E47	04	14.4		05	9	6	E	HOLL	4986	
10	DSD	2205E	0121D	N18	W19	04	9.5		02	9	6	E	HOLL	4981	
10	ASR	2222E	0121D	N20	E81	04	17.1			7	9	E	HOLL		
10	DSD	2223E	0434D	N26	W35	04	8.2		05	9	9	E	PALE	4982	
11	BSD	0012E	0046D	S13	E51	04	14.8		06	6	4	E	HOLL	4989	
11	ASR	0015E	0935D	N20	E80	04	17.1			9	9	E	LEAR		
11	AFS	0015E	0935D	N25	W29	04	8.8		03	6	8	E	LEAR	4982	
11	ADF	0020E	0935D	N14	E46	04	14.5	2	04	7	8	E	LEAR	4986	
11	ADF	0020E	0935D	S19	E38	04	13.9	1	12	9	9	E	LEAR	4985	

APRIL 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
11	SDF	0434E	1700D	N40	W31	04	8.7		18	0	0	E	PALE		
11	SDF	0434E	1700D	S20	E13	04	12.2		06	0	0	E	PALE		
11	SDF	0434E	1922D	S29	W40	04	8.0		06	0	0	E	PALE		
11	SDF	0434E	1922D	S45	W34	04	8.4		08	0	0	E	PALE		
11	AFS	0445E	0935D	N18	E38	04	14.1		03	6	8	E	LEAR	4986	
11	ASR	0605E	1701D	N25	E90	04	18.2			9	9	E	SVTO		
11	ADF	0605E	1701D	S15	E42	04	14.4	1	15	9	9	E	SVTO	4989	
11	ADF	0740E	1701D	N21	W34	04	8.7	1	07	9	9	E	SVTO	4982	
11	ADF	0740E	1701D	S41	E51	04	15.5	1	40	9	9	E	SVTO		
11	ASR	1333E	0121D	N23	E80	04	17.7			9	9	E	HOLL	4990	
11	ADF	1337E	0121D	N23	W36	04	8.8	1	04	9	9	E	HOLL	4982	
11	ADF	1340E	0121D	S17	E44	04	14.9	1	08	9	9	E	HOLL	4989	
11	AFS	1346E	0121D	N18	E32	04	14.0		02	9	9	E	HOLL	4986	
11	ADF	1346E	0121D	N20	E33	04	14.1	1	04	9	9	E	HOLL	4986	
11	AFS	1528E	1701D	S24	E05	04	12.0		02	9	9	E	SVTO		
11	AFS	1530E	0121D	S24	E04	04	11.9		02	9	9	E	HOLL		
11	DSD	1602E	1701D	S34	E16	04	12.9		03	9	9	E	SVTO	4983	
11	ASR	1653E	0312D	N21	E90	04	18.6			9	9	E	PALE	4990	
11	ADF	1655E	0312D	S13	E49	04	15.4	2	19	9	9	E	PALE	4989	
11	ADF	1658E	0312D	S39	E54	04	16.1	1	17	9	9	E	PALE		
11	ADF	1700E	0312D	N23	W38	04	8.8	1	04	9	9	E	PALE	4982	
11	AFS	1745E	0312D	N17	E28	04	13.9		01	9	9	E	PALE	4986	
11	ADF	1745E	0312D	N24	E35	04	14.4	1	05	9	9	E	PALE	4986	
11	BSD	2236E	2301D	S19	E27	04	14.0		03	6	5	E	HOLL	4985	
11	AFS	2307E	0121D	N26	W42	04	8.7		03	9	7	E	HOLL	4982	
11	ADF	2329E	0121D	N24	W40	04	8.9		03	9	5	E	HOLL	4982	
11	AFS	2329E	0312D	S19	E26	04	14.0		04	9	9	E	PALE	4985	
12	ASR	0230E	0813D	N23	E78	04	18.1	2		9	9	E	LEAR	4990	
12	AFS	0250E	0813D	N17	E26	04	14.1		02	9	9	E	LEAR	4986	
12	ADF	0250E	0813D	N23	E36	04	14.9	2	06	9	9	E	LEAR	4986	
12	SDF	0312E	2000	N02	E23	04	13.8		02	0	0	E	PALE		
12	SDF	0312E	2000	S37	E55	04	16.6		04	0	0	E	PALE		
12	ADF	0510E	0813D	S18	E35	04	14.9	2	07	9	9	E	LEAR	4989	
12	ASR	0510E	1500D	N27	E74	04	18.0			9	9	E	SVTO	4990	
12	ADF	0534E	1613D	S16	E32	04	14.6	2	06	9	9	E	SVTO	4989	
12	ADF	0606E	1215D	S25	W03	04	12.0	1	04	9	9	E	SVTO	4985	
12	AFS	0610E	1613D	N24	W48	04	8.5		02	9	9	E	SVTO	4982	
12	ADF	0706E	1613D	S38	E31	04	14.8	1	13	9	9	E	SVTO		
12	ADF	0706E	1613D	S51	E90	04	19.9	1	42	9	9	E	SVTO		
12	BSL	0736E	0815D	N29	E90	04	19.4	1				V	KHAR		
12	ADF	0742E	0830D	S17	E30	04	14.6	2				V	KHAR		
12	ADF	1200E	1803D	N16	W43	04	9.2	1	08	5	7	E	RAMY	4981	
12	DSD	1210E	1613D	S12	E32	04	14.9		04	9	9	E	SVTO	4989	
12	ADF	1242E	1803D	N23	W43	04	9.2	2	09	9	9	E	RAMY	4982	
12	DSD	1242E	1803D	N24	W54	04	8.3		05	9	9	E	RAMY	4982	
12	AFS	1242E	1803D	N25	W49	04	8.7		03	9	9	E	RAMY	4982	
12	ADF	1728E	0028D	S18	E29	04	14.9	2	06	9	9	E	HOLL	4985	
12	AFS	2314E	0028D	S13	E25	04	14.8		03	8	9	E	HOLL	4989	
13	SDF	0411E	1642	S39	E11	04	14.1		20	0	0	E	PALE		
13	BSD	0413	0653D	N25	E68	04	18.4		12	9	9	E	LEAR	4990	
13	AFS	0654E	0929D	S14	E22	04	14.9		02	9	9	E	LEAR	4989	
13	APR	0700E	0900D	S43	W90	04	5.9					V	ATHN		
13	DSD	1153E	1857D	N20	E52	04	17.5		02	9	9	E	RAMY	4990	
13	ADF	1153E	1857D	N23	E58	04	18.0	1	03	9	9	E	RAMY	4990	
13	DSD	1153E	1857D	N25	W63	04	8.6		02	9	9	E	RAMY	4982	
13	ADF	1153E	1857D	N26	E22	04	15.2	1	09	9	9	E	RAMY	4991	
13	ADF	1250E	1857D	N23	W55	04	9.3	1	07	9	9	E	RAMY	4982	
13	AFS	1250E	1857D	S15	E19	04	15.0		02	9	9	E	RAMY	4989	
13	ADF	1250E	1857D	S34	W09	04	12.8	1	04	9	9	E	RAMY	4983	
13	ADF	1300E	1857D	S27	E25	04	15.5	1	11	9	9	E	RAMY		
13	AFS	1332E	1627D	S12	E17	04	14.8		04	9	9	E	SVTO	4989	
13	ADF	1418E	2251D	S15	E21	04	15.2	2	10	9	8	E	HOLL	4992	
13	ASR	1433E	1510D	S23	E82	04	19.9			9	9	E	HOLL	4990	
13	BSD	1450E	1540D	N26	E64	04	18.6		07	8	9	E	HOLL	4990	
13	BSD	1452E	1857D	N24	E65	04	18.6		06	9	9	E	RAMY	4990	
13	ASR	1510E	2251D	N23	E90	04	20.6			8	8	E	HOLL		

ACTIVE PROMINENCES AND FILAMENTS

APRIL 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
13	AFS	1559E	2251D	S13	E16	04	14.9	1	02	9	9	E	HOLL	4989	
13	AFS	1637E	1649D	N24	W51	04	9.7	0				P	MANI		
13	AFS	1637E	1649D	N29	E26	04	15.7	0				P	MANI		
13	AFS	1637E	1649D	S16	E27	04	15.7	0				P	MANI		
13	AFS	1637E	1649D	S26	W36	04	10.9	0				P	MANI		
13	AFS	1637E	1649D	S30	E33	04	16.3	0				P	MANI		
13	AFS	1637E	1649D	S40	E25	04	15.7	0				P	MANI		
13	ADF	1650E	0426D	N19	W61	04	9.0	1	15	7	9	E	PALE	4981	
13	DSD	1708E	0426D	N21	E56	04	18.0		03	9	9	E	PALE	4990	
13	AFS	1708E	0426D	N22	E58	04	18.2		03	9	8	E	PALE	4990	
13	ASR	1741E	0426D	N22	E90	04	20.6			9	9	E	PALE	4995	
13	AFS	1745E	0426D	S15	E16	04	14.9		04	9	9	E	PALE	4989	
13	DSD	1833E	0426D	N18	E08	04	14.4		02	9	9	E	PALE	4986	
13	LPS	2144E	2240D	N22	E90	04	20.8			9	9	E	PALE		
13	LPS	2148E	2223	N23	E90	04	20.8			9	9	E	HOLL		
13	ASR	2340E	0354D	S23	E80	04	20.1			9	9	E	LEAR	4995	
14	DSD	0354E	0411	S16	E09	04	14.8		04	9	9	E	PALE	4989	
14	SDF	0426E	1649D	S34	E28	04	16.4		06	0	0	E	PALE		
14	SDF	0426E	1649D	S35	W50	04	10.2		09	0	0	E	PALE		
14	SDF	0426E	1649D	S47	E35	04	17.1		04	0	0	E	PALE		
14	SDF	0426E	1649D	S55	E70	04	20.2		08	0	0	E	PALE		
14	BSL	0640	0705	N26	E90	04	21.3	1				V	KHAR		
14	DSD	0640	0715	N26	E47	04	17.9	1				V	KHAR		
14	DSD	0656E	0728	S12	E10	04	15.0	1				V	KHAR		
14	ADF	0710E	0740D	N14	W13	04	13.3	1				V	KHAR		
14	BSL	0755	0808	N27	E90	04	21.3	1				V	KHAR		
14	DSD	0802	0836	N26	E46	04	17.9	1				V	KHAR		
14	DSD	0814E	0830	S12	E10	04	15.1	1				V	KHAR		
14	DSD	0900E	0907	N23	E41	04	17.5	1				V	KHAR		
14	DSD	0900E	0926D	N26	E43	04	17.7	1				V	KHAR		
14	SDF	0929E	0026D	S36	E46	04	18.1	3	19	0	0	E	LEAR		
14	DSD	0947E	1003D	N31	E57	04	18.9	1				V	KHAR		
14	ADF	0950E	1003D	N14	W10	04	13.6	1				V	KHAR		
14	SDF	1314E	1530D	S32	E11	04	15.4		06	0	0	E	RAMY		
14	ADF	1328E	1526D	N19	W05	04	14.2	1	04	9	9	E	RAMY	4986	
14	ADF	1328E	1526D	N23	W72	04	9.0	1	03	9	9	E	RAMY	4982	
14	ADF	1328E	1526D	N24	E02	04	14.7	1	06	9	9	E	RAMY	4991	
14	AFS	1328E	1526D	S14	E04	04	14.9		02	9	9	E	RAMY	4989	
14	DSD	1328E	1526D	S15	E08	04	15.2		03	9	9	E	RAMY	4989	
14	AFS	1328E	1526D	S20	E39	04	17.5		02	9	9	E	RAMY	4990	
14	ADF	1328E	1526D	S24	E46	04	18.1	1	03	9	9	E	RAMY	4990	
14	ADF	1328E	1526D	S26	E54	04	18.7	2	05	9	9	E	RAMY	4990	
14	AFS	1418E	0117D	N19	E41	04	17.7		02	9	9	E	HOLL	4990	
14	DSD	1418E	1558D	S15	E04	04	14.9		03	9	9	E	HOLL	4989	
14	AFS	1549E	1556D	N17	E32	04	17.1	0				P	MANI		
14	AFS	1549E	1556D	N44	W46	04	10.8	0				P	MANI		
14	AFS	1549E	1556D	S21	E06	04	15.1	0				P	MANI		
14	AFS	1549E	1556D	S60	E06	04	15.2	0				P	MANI		
14	SDF	1650E	1650D	S24	W58	04	10.2		19	0	0	E	HOLL		
14	AFS	1749E	2211D	S33	W12	04	13.8		03	9	9	E	PALE		
14	LPS	1934E	2021D	N21	E41	04	17.9			9	9	E	PALE	4990	Flare Associated
14	SDF	1942E	2015D	S35	E08	04	15.5		14	0	0	E	PALE		
14	AFS	2320E	0539D	N15	W17	04	13.7		02	9	9	E	LEAR	4986	
14	AFS	2320E	0539D	N21	E30	04	17.3		04	9	9	E	LEAR	4990	
14	AFS	2320E	0539D	S32	W29	04	12.7		01	9	9	E	LEAR	4983	
14	AFS	2320E	0539D	S34	W17	04	13.6		01	9	9	E	LEAR		
14	AFS	2330E	0117D	S34	W15	04	13.8		03	9	9	E	HOLL		
15	SDF	0354E	0245D	S52	E78	04	21.8		53	0	0	E	LEAR		
15	AFS	0710E	1703D	N22	E42	04	18.5		02	9	9	E	SVTO	4990	
15	AFS	0710E	1703D	S34	W19	04	13.8		02	9	9	E	SVTO	4996	
15	DSD	0835E	1440D	S14	W03	04	15.1		06	9	9	E	SVTO	4989	
15	DSD	1427E	1754D	N22	E25	04	17.5		02	9	9	E	HOLL	4990	
15	AFS	1427E	2320D	N21	E24	04	17.4		04	9	9	E	HOLL	4990	
15	DSD	1520E	1845D	N22	E39	04	18.6		06	9	9	E	HOLL	4990	
15	DSD	1548E	1703D	N22	E36	04	18.4		05	9	9	E	SVTO	4990	
15	AFS	1742E	0402D	N20	E24	04	17.6		02	9	9	E	PALE	4990	

APRIL 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
15	ADF	1819E	0402D	N20	W17	04	14.5	1	04	9	9	E	PALE	4991	
15	ADF	1822E	0402D	S17	W16	04	14.5	1	03	9	9	E	PALE	4989	
15	ASR	1848E	1920	N25	W83	04	9.3			9	9	E	HOLL	4982	
15	AFS	1925E	1928D	N31	E07	04	16.4	0				P	MANI		
15	AFS	1925E	1928D	S17	W00	04	15.8	0				P	MANI		
15	AFS	1925E	1928D	S36	E49	04	19.7	0				P	MANI		
15	ASR	2123	2236D	N18	W88	04	9.2			9	9	E	HOLL	4981	
15	DSD	2131	2238D	S14	W13	04	14.9		04	9	9	E	HOLL	4989	
16	AFS	0400E	0938D	N22	E31	04	18.5		02	9	9	E	LEAR	4990	
16	AFS	0400E	0938D	S33	W30	04	13.8		01	7	8	E	LEAR	4996	
16	SDF	0402E	1846D	S35	E08	04	16.8		06	0	0	E	PALE		
16	SDF	0402E	1846D	S45	W02	04	16.0		03	0	0	E	PALE		
16	SDF	0402E	1846D	S45	W02	04	16.0		03	0	0	E	PALE		
16	SDF	0402E	1846D	S48	E07	04	16.7		02	0	0	E	PALE		
16	DSD	0415E	0938D	N23	E17	04	17.5		02	9	8	E	LEAR	4990	
16	BSL	0542E	0907D	N35	E90	04	23.4	1				C	ABST		
16	AFS	0553E	1649D	N22	E14	04	17.3		03	9	9	E	SVTO	4990	
16	AFS	0553E	1649D	N22	E30	04	18.5		02	9	9	E	SVTO	4990	
16	AFS	0603E	1649D	S34	W31	04	13.8		02	8	8	E	SVTO	4996	
16	BSL	0653E	0803D	S24	W90	04	9.3	1				C	ABST		
16	DSD	0840E	0938D	S13	W17	04	15.1		05	9	9	E	LEAR	4989	
16	DSD	0843E	0943D	S13	W16	04	15.1		05	9	9	E	SVTO	4989	
16	DSD	1440E	1649D	N17	W39	04	13.6		04	9	9	E	SVTO	4986	
16	ADF	1732E	0340D	N22	E52	04	20.7	1	04	9	9	E	PALE	4995	
16	AFS	1732E	0340D	N23	E10	04	17.5		02	8	5	E	PALE	4990	
17	SDF	0105E	1307D	N30	W23	04	15.2		45	0	0	E	HOLL		
17	SDF	0340E	1648D	N55	E27	04	19.5		28	0	0	E	PALE		
17	DSD	0429	0456D	N24	E04	04	17.5		12	9	9	E	LEAR	4990	
17	ADF	1224E	1655D	N19	W02	04	17.4	1	03	9	9	E	SVTO	4990	
17	ADF	1231E	1655D	N22	E42	04	20.7	1	06	9	9	E	SVTO	4995	
17	DSD	1244E	1705D	N19	W50	04	13.7		03	9	9	E	RAMY	4986	
17	ADF	1244E	2206D	N17	W47	04	13.9	1	04	9	9	E	RAMY	4986	
17	DSD	1258E	1720D	S14	W31	04	15.2		03	9	9	E	RAMY	4992	
17	AFS	1258E	2206D	S15	W36	04	14.8		03	7	8	E	RAMY	4989	
17	DSD	1330E	1825D	N21	E15	04	18.7		02	9	9	E	RAMY	4990	
17	ADF	1330E	2206D	N20	W07	04	17.0	2	06	9	9	E	RAMY	4990	
17	ADF	1330E	2206D	N21	W04	04	17.2	1	06	9	9	E	RAMY	4990	
17	AFS	1330E	2206D	N22	W01	04	17.5		04	6	8	E	RAMY	4990	
17	ADF	1330E	2206D	N23	W09	04	16.9	1	05	9	9	E	RAMY	4990	
17	DSD	1349E	1828D	S21	W76	04	11.7		02	9	9	E	RAMY	4993	
17	DSD	1400E	1831D	N24	E39	04	20.6		02	9	9	E	RAMY	4995	
17	AFS	1400E	2206D	N24	E41	04	20.7		02	9	9	E	RAMY	4995	
17	ADF	1400E	2206D	N26	E46	04	21.1	1	14	9	9	E	RAMY	4995	
17	ADF	1410E	2206D	S36	W52	04	13.4	1	04	9	9	E	RAMY	4996	
17	AFS	1605E	1715D	N16	W37	04	14.9	0				P	MANI		
17	AFS	1605E	1715D	N20	E24	04	19.5	0				P	MANI		
17	AFS	1605E	1715D	S31	W17	04	16.3	0				P	MANI		
17	SSB	1728		433	W54	04	14.9			0	0	E	PALE		
17	ADF	1825E	0335D	N20	W04	04	17.5	1	04	9	9	E	PALE	4990	
17	ADF	1825E	0335D	N24	E36	04	20.5	1	09	9	9	E	PALE	4995	
17	DSD	1935E	0335D	N20	W09	04	17.1		06	9	9	E	PALE	4990	
17	DSD	2045E	2206D	S28	W23	04	16.1		03	9	9	E	RAMY		
18	SDF	0335E	0135D	N20	W13	04	17.1		06	0	0	E	PALE		
18	SDF	0335E	0135D	S41	W31	04	15.6		14	0	0	E	PALE		
18	AFS	0353E	0938D	N25	E32	04	20.6		02	9	9	E	LEAR	4995	
18	DSD	0358E	0529D	N21	W10	04	17.4		03	8	7	E	LEAR	4990	
18	AFS	0358E	0938D	N21	W11	04	17.3		03	9	9	E	LEAR	4990	
18	AFS	0610E	1702D	N24	E30	04	20.6		02	9	9	E	SVTO	4995	
18	ADF	0611E	1702D	N20	E34	04	20.8	1	06	9	9	E	SVTO	4995	
18	ADF	0936E	1702D	N17	W61	04	13.8	1	08	9	9	E	SVTO	4986	
18	AFS	1456E	1702D	S02	W12	04	17.7		01	9	9	E	SVTO		
18	ADF	1547E	1735D	N19	W15	04	17.5	1	07	9	6	E	RAMY	4990	
18	ADF	1547E	1735D	N20	E32	04	21.1	1	08	9	9	E	RAMY	4995	
18	DSD	1547E	1735D	N23	E26	04	20.7		04	9	9	E	RAMY	4995	
18	ADF	1547E	1735D	S19	W46	04	15.1	1	06	9	8	E	RAMY	4989	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 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
18	AFS	1633E	1728D	N01	E41	04	21.7	0				P	MANI		
18	AFS	1633E	1728D	N18	E11	04	19.5	0				P	MANI		
18	AFS	1633E	1728D	N35	W24	04	16.8	0				P	MANI		
18	AFS	1633E	1728D	S02	W41	04	15.6	0				P	MANI		
18	AFS	1633E	1728D	S16	W39	04	15.7	0				P	MANI		
18	AFS	1633E	1728D	S17	W63	04	13.9	0				P	MANI		
18	DSD	1657E	0329D	N27	E25	04	20.6		06	9	9	E	PALE	4995	
18	ADF	1657E	0436D	N23	E24	04	20.5	1	08	9	9	E	PALE	4995	
18	SSB	1710		428	W63	04	16.2			0	0	E	PALE		
18	ADF	1725E	0436D	N22	W11	04	17.9	1	11	9	9	E	PALE	4990	
18	ADF	1725E	1735D	N21	W01	04	18.6	2	05	9	9	E	RAMY	4990	
19	ADF	0001E	0020D	N22	W07	04	18.5	1	06	9	9	E	HOLL	4990	
19	SDF	0135E	2338D	N50	E00	04	19.1		12	0	0	E	PALE		
19	ADF	0537E	1658D	S19	W54	04	15.1	1	08	9	9	E	SVTO	4989	
19	ADF	0543E	0920D	S16	W51	04	15.4	1	06	9	9	E	LEAR	4989	
19	ADF	0550E	0726D	N20	W03	04	19.0	1	04	9	9	E	SVTO	4990	
19	BSL	0731	0806	N20	E90	04	26.2	1-				C	CATA		
19	BSL	0810	0832D	N20	E90	04	26.2	1-				C	CATA		
19	DSD	0817E	0833D	N22	W13	04	18.3		03	9	9	E	SVTO	4990	
19	BSL	0842E	0905	N20	E90	04	26.2	1-				C	CATA		
19	BSL	0956	1010	N20	E90	04	26.3	1-				C	CATA		
19	SDF	1051E	0852D	N45	W02	04	19.3	1				C	CATA		
19	SDF	1051E	0852D	S17	E29	04	21.6	1				C	CATA		
19	ADF	1208E	1646D	N20	W21	04	17.9	2	07	9	9	E	RAMY	4990	
19	ADF	1208E	1646D	N21	E20	04	21.0	2	05	9	9	E	RAMY	4995	
19	ADF	1208E	1646D	N22	W22	04	17.8	2	07	9	9	E	RAMY	4990	
19	ADF	1208E	1646D	N28	E14	04	20.6	2	03	9	9	E	RAMY	4995	
19	AFS	1700E	1703D	N08	E22	04	21.3	0				P	MANI		
19	AFS	1700E	1703D	N44	E05	04	20.1	0				P	MANI		
19	AFS	1700E	1703D	S12	W29	04	17.5	0				P	MANI		
19	AFS	1700E	1703D	S27	W70	04	14.2	0				P	MANI		
19	DSD	1930E	2303D	N29	E10	04	20.6		03	9	9	E	HOLL	4995	Flare Associated
19	SDF	2338E	0013D	S18	E27	04	22.0		08	0	0	E	PALE		
20	ADF	0656E	1431D	N21	W36	04	17.5	1	07	9	9	E	SVTO	4990	
20	ADF	0657E	1431D	N25	E03	04	20.5	1	08	9	9	E	SVTO	4995	
20	ADF	0750E	0758	N27	W31	04	17.9	1				V	KHAR		
20	APR	0810E	1020	S36	W90	04	13.1	1				V	KHAR		
20	ADF	0823E	0935	N26	E03	04	20.6	1				V	KHAR		
20	AFS	0926E	1431D	S14	E06	04	20.8		04	9	9	E	SVTO		
20	ADF	1018	1048D	N27	W31	04	18.0	1				V	KHAR		
20	DSD	1126E	1808D	N22	W35	04	17.8		02	9	9	E	RAMY	4990	
20	ADF	1145E	1808D	N19	E07	04	21.0	1	03	9	9	E	RAMY	4995	
20	AFS	1145E	1808D	N24	E04	04	20.8		02	8	6	E	RAMY	4995	
20	ADF	1145E	1808D	N26	E03	04	20.7	2	05	9	9	E	RAMY	4995	
20	AFS	1359E	1808D	S04	E15	04	21.7		02	9	9	E	RAMY		
20	AFS	1640E	1655D	S30	W64	04	15.7	0				P	MANI		
20	AFS	1640E	1655D	S31	W11	04	19.8	0				P	MANI		
20	AFS	1640E	1655D	S38	E40	04	23.9	0				P	MANI		
20	AFS	1640E	1655D	S51	W42	04	17.1	0				P	MANI		
20	ADF	1725E	1808D	N19	W39	04	17.7	1	08	9	9	E	RAMY	4990	
20	ADF	1725E	1808D	N21	W45	04	17.3	1	12	7	9	E	RAMY	4990	
20	ADF	2159E	0131D	N22	W40	04	17.8	2	05	9	9	E	HOLL	4990	
20	ADF	2159E	0131D	N28	W04	04	20.6	2	07	9	9	E	HOLL	4995	
20	DSD	2207E	2239	S16	W75	04	15.2		06	9	9	E	HOLL	4989	
20	ADF	2330	0131D	S28	W17	04	19.6	2	05	9	9	E	HOLL	4997	
20	ADF	2335E	0409D	N21	W45	04	17.5	1	05	9	9	E	PALE	4990	
20	ADF	2350E	0409D	N21	W02	04	20.8	1	04	9	9	E	PALE	4995	
21	ADF	0008E	0409D	S33	W21	04	19.3	1	04	9	9	E	PALE	4997	
21	SDF	0013E	1748D	S30	W24	04	19.1		08	0	0	E	PALE	4997	
21	SDF	0131E	2207D	S33	W26	04	19.0		11	0	0	E	HOLL		
21	ADF	0255E	0409D	N30	W08	04	20.5	1	05	8	9	E	PALE	4995	
21	ADF	0515E	0918D	N26	W06	04	20.7	1	06	9	9	E	LEAR	4995	
21	ADF	0540E	1639D	N22	W46	04	17.7	1	08	9	9	E	SVTO	4990	
21	ADF	0540E	1639D	N24	W46	04	17.7	1	05	9	9	E	SVTO	4990	
21	AFS	0550E	1639D	S14	W05	04	20.9		04	3	4	E	SVTO	4999	

APRIL 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
21	BSL	0634E	0820D	S23	E90	04	28.2	1				C	ABST		
21	ADF	0726E	0736	S48	E42	04	24.8	1				V	KHAR		
21	ADF	0742	0850D	N22	W52	04	17.3	1				V	KHAR		
21	ADF	1206E	2211D	N20	W46	04	18.0	1	04	9	9	E	RAMY	4990	
21	ADF	1206E	2211D	N21	W31	04	19.1	1	05	9	9	E	RAMY	4990	
21	ASR	1206E	2211D	S17	W83	04	15.2			9	9	E	RAMY	4989	
21	DSD	1428E	1523D	N21	W49	04	17.8		05	9	9	E	RAMY	4990	Flare Associated
21	ASR	1428E	2140D	S34	W90	04	14.4			9	9	E	RAMY	4996	
21	ASR	1548E	2211D	S24	E90	04	28.6			9	9	E	RAMY		
21	ASR	1644E	1940D	S22	E90	04	28.6			9	9	E	HOLL	5000	
21	ADF	1703E	0134D	N29	W16	04	20.4	1	04	9	9	E	PALE	4995	
21	ADF	1707E	0134D	N20	W56	04	17.4	1	05	9	9	E	PALE	4990	
21	ADF	1707E	0134D	N23	W57	04	17.3	1	04	9	9	E	PALE	4990	
21	ADF	1715E	2211D	N27	W13	04	20.7	2	08	9	9	E	RAMY	4995	
22	SDF	0134E	1855D	S52	W46	04	18.1		19	0	0	E	PALE		
22	AFS	0610	0815D	N24	W23	04	20.5		03	9	9	E	LEAR	4995	
22	BSL	0744E	0746D	S27	W90	04	15.3	2				C	CATA		
22	ASR	0810	0931D	S22	E78	04	28.3			9	9	E	LEAR	5000	
22	ADF	0815E	0931D	N20	W24	04	20.5	2	06	9	9	E	LEAR	4995	
22	ADF	0848E	1633D	N21	W63	04	17.5	1	07	9	9	E	SVTO	4990	
22	ADF	0848E	1633D	N23	W57	04	18.0	1	05	9	9	E	SVTO	4990	
22	ADF	0938E	1633D	N22	W20	04	20.9	1	06	9	9	E	SVTO	4995	
22	ADF	1145E	2219D	N20	W65	04	17.5	1	08	9	9	E	RAMY	4990	
22	ADF	1145E	2219D	N21	W58	04	18.0	1	10	9	9	E	RAMY	4990	
22	ADF	1145E	2219D	N23	W23	04	20.7	1	10	9	9	E	RAMY	4995	
22	ADF	1145E	2219D	N30	W26	04	20.4	1	07	9	9	E	RAMY	4995	
22	AFS	1157E	1201D	N28	W06	04	22.0	0				P	MANI		
22	AFS	1157E	1201D	N40	W45	04	18.8	0				P	MANI		
22	AFS	1157E	1201D	S16	E73	04	28.0	0				P	MANI		
22	AFS	1157E	1201D	S49	W07	04	21.9	0				P	MANI		
22	BSD	1322	1337	S20	E85	04	29.0		05	4	8	E	RAMY		
22	SDF	1633E	0705D	S56	W57	04	17.7		15	0	0	E	SVTO		
22	ADF	1703E	0134D	N29	W16	04	21.4	1	04	9	9	E	PALE	4995	
22	ADF	1707E	0134D	N20	W56	04	18.4	1	05	9	9	E	PALE	4990	
22	ADF	1707E	0134D	N23	W57	04	18.3	1	04	9	9	E	PALE	4990	
22	ADF	1715E	0331D	N21	W27	04	20.6	1	06	9	9	E	PALE	4995	
22	ADF	1715E	0331D	N31	W30	04	20.3	1	04	8	9	E	PALE	4995	
22	BSD	1956	2041D	N25	W68	04	17.6		04	7	8	E	HOLL	4990	
22	AFS	2100E	2219D	S16	W19	04	21.4		02	9	8	E	RAMY	4999	
22	DSD	2217	2332D	N25	W55	04	18.7		08	9	9	E	PALE	4990	
22	DSD	2222E	2255	N23	W53	04	18.8		11	9	9	E	HOLL	4990	
22	ADF	2320E	0710D	N20	W30	04	20.7	1	06	8	9	E	LEAR	4995	
23	ASR	0320E	0700D	N23	W85	04	16.6			9	9	E	LEAR	4990	
23	SDF	0331E	1852D	N25	E19	04	24.6		18	0	0	E	PALE		
23	SDF	0331E	1852D	N30	W05	04	22.7		04	0	0	E	PALE		
23	SDF	0331E	1852D	S08	E66	04	28.1		09	0	0	E	PALE		
23	BSL	0531E	0712D	N23	E90	04	30.2	1				C	ABST		
23	BSL	0542E	0712D	S50	W90	04	15.6	1				C	ABST		
23	BSL	0601E	0712D	S34	E90	04	30.4	1				C	ABST		
23	APR	0601E	0712D	S55	E90	05	1.0	1				C	ABST		
23	BSL	0720E	0730	N73	E90	05	1.5	1				C	CATA		
23	ADF	0832E	1302D	N28	W38	04	20.4	1	04	9	9	E	SVTO	4995	
23	ADF	0832E	1558D	N26	W30	04	21.0	3	04	9	9	E	SVTO		
23	BSL	0903	0916	N21	W90	04	16.5	1-				C	CATA		
23	BSL	0903	0916	N24	W90	04	16.4	1-				C	CATA		
23	APR	0903E	1302D	N17	E90	04	30.2	2		9	9	E	SVTO		
23	SDF	0917E	2328D	N35	W24	04	21.5		12	0	0	E	LEAR		
23	DSD	0926E	1302D	N19	W78	04	17.4		03	9	9	E	SVTO	4990	
23	BSL	0931	1000	N21	W90	04	16.5	1-				C	CATA		
23	DSD	1136E	2040D	N21	W55	04	19.3		03	9	9	E	RAMY	4990	
23	ADF	1136E	2050D	N22	W76	04	17.6	1	08	9	9	E	RAMY	4990	
23	ADF	1140E	2225D	N29	W39	04	20.4	2	07	9	9	E	RAMY	4995	
23	AFS	1156E	2225D	S27	E51	04	27.5		03	8	8	E	RAMY	5000	
23	APR	1303E	1627D	S19	E90	04	30.4	2		9	9	E	SVTO		
23	ADF	1330E	2225D	S26	E53	04	27.7	2	06	9	9	E	RAMY	5000	
23	SDF	1346E	1346D	N26	E09	04	24.3		08	0	0	E	HOLL		

ACTIVE PROMINENCES AND FILAMENTS

APRIL 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
23	SDF	1346E	1346D	N27	E00	04	23.6		06	0	0	E	HOLL		
23	DSD	1525E	1646D	S21	E68	04	28.8		02	9	9	E	RAMY	5001	
23	DSD	1600E	0005D	N27	W40	04	20.5	1	11	9	9	E	HOLL	4995	
23	ASR	1600E	0134D	S20	E90	04	30.5			9	9	E	HOLL		
23	ADF	1600E	1627D	N31	W45	04	20.1	2	08	9	9	E	SVTO	4995	
23	APR	1605E	1627D	N24	W90	04	16.7	2		9	9	E	SVTO	4990	
23	DSD	1618	1704D	N24	W76	04	17.8	1	04	9	9	E	HOLL	4990	Flare Associated
23	ASR	1648	1756D	N21	W90	04	16.8			6	7	E	PALE	4990	
23	ASR	1730E	2225D	S23	E90	04	30.7			9	9	E	RAMY		
23	ASR	1740E	2225D	N21	W90	04	16.8			7	4	E	RAMY	4990	
23	ASR	1740E	2225D	N30	W90	04	16.6			9	9	E	RAMY	4990	
23	AFS	1750E	1753D	N26	W27	04	21.6	0				P	MANI		
23	AFS	1750E	1753D	N47	E08	04	24.4	0				P	MANI		
23	AFS	1750E	1753D	S21	E70	04	29.1	0				P	MANI		
23	DSD	1755E	1802	N02	E01	04	23.8		02	9	9	E	RAMY		
23	APR	1800E	1948D	S21	E90	04	30.6			9	9	E	PALE		
23	ASR	1945E	0438D	S21	E90	04	30.7			9	9	E	PALE		
23	ASR	2309E	0857D	S20	E82	04	30.2			9	9	E	LEAR		
24	ASR	0020E	0134D	N22	W87	04	17.3			9	9	E	HOLL	4990	
24	LPS	0112E	0145	N25	W88	04	17.2			9	9	E	LEAR	4990	
24	EPL	0114	0134D	N30	W87	04	17.2			9	9	E	HOLL	4990	
24	EPL	0122E	0203	N28	W87	04	17.2			9	9	E	PALE	4990	
24	EPL	0145E	0256D	N25	W88	04	17.2			9	9	E	LEAR	4990	
24	ASR	0330E	0857D	N22	W88	04	17.4			8	8	E	LEAR	4990	
24	BSL	0552E	0712D	N20	E90	05	1.1	1				C	ABST		
24	BSL	0552E	0712D	S37	E90	05	1.5	1				C	ABST		
24	BSL	0552E	0712D	S49	W90	04	16.6	1				C	ABST		
24	ASR	0556E	0703D	S19	E90	05	1.1			9	9	E	SVTO		
24	ASR	0618E	0703D	N21	W90	04	17.4			9	9	E	SVTO	4990	
24	APR	0624E	0712D	S44	E90	05	1.7	1				C	ABST		
24	ASR	1130E	1847D	N21	W90	04	17.6			9	5	E	RAMY	4990	
24	ASR	1137E	1847D	S23	E85	05	1.0			9	9	E	RAMY	5002	
24	ADF	1151E	1723D	S19	E55	04	28.7	2	05	6	9	E	RAMY	5001	
24	ADF	1257E	1847D	S39	E19	04	26.1	1	08	7	5	E	RAMY		
24	AFS	1345E	1723D	N20	E39	04	27.5		02	6	7	E	RAMY		
24	DSD	1600E	0005D	N27	W40	04	21.5	1	11	9	9	E	HOLL	4995	
24	ASR	1630E	0135D	N26	W88	04	17.8			9	9	E	HOLL	4990	
24	ASR	1750E	0438D	N26	W88	04	17.9			9	9	E	PALE	4990	
24	AFS	1759E	0438D	S22	E88	05	1.5		02	9	9	E	PALE	5002	
24	AFS	1850E	1910D	N24	W43	04	21.5	0				P	MANI		
24	AFS	1850E	1910D	S16	E39	04	27.7	0				P	MANI		
24	AFS	1850E	1910D	S46	W04	04	24.4	0				P	MANI		
25	ADF	1118E	1745D	S33	W03	04	25.2	1	18	8	5	E	RAMY		
25	ASR	1145E	1745D	N22	W90	04	18.6			9	9	E	RAMY	4990	
25	ADF	1152E	1745D	S18	E46	04	29.0	1	04	7	4	E	RAMY	5001	
25	DSD	1330E	2202D	S20	E71	05	1.0		03	9	9	E	HOLL	5002	
25	ASR	1442E	0136D	N17	W81	04	19.4			8	9	E	HOLL	4990	
25	DSD	1552E	1745D	S21	E76	05	1.5		09	9	9	E	RAMY	5002	
25	ASR	1651E	0439D	N17	W88	04	19.0			8	7	E	PALE	4990	
25	DSD	1718E	0102D	S18	E30	04	28.0		03	7	9	E	PALE	5001	
25	APR	1720E	0136D	N18	W85	04	19.2			7	9	E	HOLL	4990	
25	AFS	1733E	1745D	N23	W56	04	21.4	0				P	MANI		
25	AFS	1733E	1745D	S21	E40	04	28.8	0				P	MANI		
25	AFS	1733E	1745D	S37	E11	04	26.6	0				P	MANI		
25	AFS	1733E	1745D	S47	W16	04	24.4	0				P	MANI		
25	APR	1740E	1745D	N09	W82	04	19.6			8	9	E	RAMY	4990	
25	SDF	1844E	2312D	S12	E25	04	27.7		07	0	0	E	PALE		
26	ADF	0702E	1701D	S23	E53	04	30.4	1	06	9	9	E	SVTO	5002	
26	BSL	0708	0725	N02	W90	04	19.6	1-				C	CATA		
26	BSL	0720	0733	S72	E90	05	4.5	1-				C	CATA		
26	DSD	0801	0810	S18	E60	04	30.9	1				V	KHAR		
26	BSL	0911	0924	S52	E90	05	4.1	1-				C	CATA		
26	BSL	0940	0945	S88	W90	04	18.0	1-				C	CATA		
26	BSL	1006	1021	S80	E90	05	4.8	1-				C	CATA		
26	DSD	1058E	1526D	S20	E54	04	30.6		02	9	9	E	RAMY	5002	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 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
26	ASR	1058E	1724D	N20	W90	04	19.6			9	9	E	RAMY	4990	
26	ADF	1058E	1724D	S43	W01	04	26.4	2	14	8	9	E	RAMY		
26	ADF	1411E	1724D	S19	E53	04	30.6	1	03	9	9	E	RAMY	5002	
26	AFS	1923E	1940D	N42	W32	04	24.2	0				P	MANI		
26	AFS	1923E	1940D	S32	W45	04	23.2	0				P	MANI		
26	AFS	1923E	1940D	S65	E10	04	27.7	0				P	MANI		
26	ADF	2201E	0136D	S17	E16	04	28.1	2	08	8	9	E	HOLL		
26	ADF	2346E	0434D	S17	E23	04	28.7	1	08	9	9	E	PALE		
27	AFS	0010E	0548D	S36	W14	04	25.9		02	9	9	E	LEAR		
27	BSL	0601E	0802D	N50	W90	04	19.6	1				C	ABST		
27	BSL	0741E	0802D	S44	W90	04	19.9	1				C	ABST		
27	ADF	1215	1615	S20	W50	04	23.7	3	09	9	9	E	HOLL		
27	ADF	1529E	2216D	S17	E18	04	29.0	2	03	9	9	E	RAMY	5001	
27	SDF	1600E	2216D	S32	W32	04	25.1		16	6	6	E	RAMY		
27	AFS	1638E	1656D	S28	E04	04	28.0	0				P	MANI		
27	AFS	1638E	1656D	S32	W54	04	23.4	0				P	MANI		
27	AFS	1638E	1656D	S59	E00	04	27.7	0				P	MANI		
27	DSD	1724E	0111D	S18	E48	05	1.4		04	9	9	E	HOLL	5002	
27	SDF	1933E	1802D	S30	E00	04	27.8		10	0	0	E	PALE		
28	SDF	0418E	1835D	S45	W12	04	27.2		05	0	0	E	PALE		
28	AFS	0637E	0700D	S21	E32	04	30.7		02	9	9	E	LEAR	5002	
28	DSD	1100E	1255D	S25	E02	04	28.6		05	9	7	E	RAMY		
28	AFS	1100E	2130D	S24	E01	04	28.5		03	7	8	E	RAMY		
28	DSD	1120E	1416D	S19	E24	04	30.3		04	9	9	E	RAMY	5002	
28	AFS	1522E	1531D	S13	W00	04	28.6	0				P	MANI		
28	AFS	1522E	1531D	S50	E32	05	1.3	0				P	MANI		
28	AFS	1522E	1531D	S51	W62	04	23.4	0				P	MANI		
29	SDF	0122E	1725D	S15	W02	04	28.9		06	0	0	E	PALE	5002	
29	SDF	0122E	1725D	S38	W12	04	28.1		08	0	0	E	PALE		
29	SDF	0122E	1725D	S47	W23	04	27.1		04	0	0	E	PALE		
29	EPL	0703E	0716D	N05	E90	05	6.0	1-				C	CATA		
29	ADF	1131E	1433D	S17	W07	04	28.9	1	05	9	9	E	RAMY	5001	
29	DSD	1138E	2011D	S16	E12	04	30.4		03	9	9	E	RAMY	5002	
29	ADF	1138E	2011D	S21	E18	04	30.9	1	06	9	8	E	RAMY	5002	
29	ADF	1145E	2011D	S27	W16	04	28.2	2	08	9	9	E	RAMY	5003	
29	AFS	1603E	1618D	N25	W63	04	24.8	0				P	MANI		
29	AFS	1603E	1618D	S12	W15	04	28.5	0				P	MANI		
29	AFS	1603E	1618D	S41	E41	05	3.0	0				P	MANI		
29	AFS	1603E	1618D	S53	E29	05	2.1	0				P	MANI		
29	ASR	1725E	0247D	S21	E87	05	6.4			9	9	E	PALE		
29	ASR	1901	0131D	S20	E90	05	6.7			9	9	E	HOLL	5004	
29	ASR	1914E	2011D	S20	E90	05	6.7			9	9	E	RAMY		
29	AFS	2000E	2011D	S22	E06	04	30.3		02	9	9	E	RAMY	5002	
29	AFS	2039E	0247D	S21	E05	04	30.2		02	9	9	E	PALE	5002	
29	ADF	2053E	2209D	S11	E18	05	1.2		06	8	9	E	HOLL	5002	
29	AFS	2137E	0131D	S21	E06	04	30.4		03	6	9	E	HOLL	5002	
29	ASR	2204	2255D	N20	E88	05	6.6			7	9	E	HOLL		
30	DSD	0646E	0717	S15	E03	04	30.5	1				V	KHAR		
30	DSD	0818E	0832D	S18	E01	04	30.4	1				V	KHAR		
30	BSL	0837E	0952	S38	E90	05	7.6	2				C	CATA		
30	DSD	0948E	0955	S15	E03	04	30.6	1				V	KHAR		
30	BSL	1021E	1031D	N12	E90	05	7.2	1-				C	CATA		
30	ASR	1033E	2002D	S20	E79	05	6.5			9	9	E	RAMY	5004	
30	ADF	1135E	2002D	S19	E04	04	30.8	1	07	9	9	E	RAMY	5002	
30	BSL	1136E	1142D	S57	W90	04	22.6	1-				C	CATA		
30	ASR	1315E	1530D	S19	E80	05	6.6			9	9	E	HOLL	5004	
30	DSD	1615E	1758D	S19	E77	05	6.5		03	9	9	E	HOLL	5004	
30	AFS	1647E	1651D	S23	W24	04	28.8	0				P	MANI		
30	AFS	1647E	1651D	S40	E29	05	3.1	0				P	MANI		
30	SDF	1730E	2148D	S21	W35	04	28.0		06	0	0	E	PALE	5003	
30	ASR	1819E	0224D	S29	E90	05	7.8			9	9	E	PALE		
30	AFS	1819E	2036D	S22	W06	04	30.3		02	9	9	E	PALE	5002	
30	SDF	1945E	2041D	S12	W43	04	27.6		15	0	0	E	HOLL	5003	
30	AFS	2020E	0138D	S20	W07	04	30.3		03	9	9	E	HOLL	5005	

ACTIVE PROMINENCES AND FILAMENTS

APRIL 1988

Day	Event Type	Start (UT)	End (UT)	Lat	CMD	CMP Mo Day	Imp	Extent	Blue Shift (.1 A)	Red Shift (.1 A)	Obs Type	Sta	NOAA/ USAF Reg#	Remarks
30	AFS	2036E	0224D	S22	W06	04 30.4		02	9	9	E	PALE	5005	

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.

C O N T E N T S

Comprehensive Reports **MISCELLANEOUS DATA** Number 530 Part II

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1980

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	---	---	8.997	8.610	8.305	8.385	8.466	8.501	7.057	8.472	8.247	8.389
02	---	---	8.768	8.672	8.303	8.269	8.553	8.465	---	8.691	8.136	8.078
03	---	---	8.807	8.723	7.741	8.297	8.415	8.611	6.630	8.904	7.784	8.357
04	---	---	8.819	8.610	7.889	8.358	8.306	8.678	6.642	8.936	7.443	8.777
05	---	---	8.801	8.174	8.229	8.472	8.284	8.667	7.196	8.781	7.185	8.790
06	---	---	8.612	7.396	8.467	8.496	8.410	8.581	7.828	8.887	6.953	8.867
07	---	---	8.617	6.664	8.737	8.506	8.407	8.546	8.339	8.885	6.838	9.140
08	---	---	8.594	6.331	8.926	8.550	8.341	8.490	8.744	8.835	6.644	9.232
09	---	---	8.427	6.528	9.083	8.726	---	8.549	9.052	8.369	6.720	9.238
10	---	---	8.651	6.837	8.960	8.569	8.343	8.607	8.934	8.072	6.836	8.673
11	---	---	8.608	---	---	8.631	8.303	8.662	9.032	7.485	6.852	8.596
12	---	---	8.808	7.186	8.428	8.516	8.152	8.857	8.921	7.336	7.072	---
13	---	---	8.756	7.521	8.354	8.539	7.950	8.817	8.753	7.327	7.245	---
14	---	---	8.829	7.736	8.268	8.484	7.935	8.873	8.621	7.433	---	---
15	---	---	8.662	8.150	8.802	8.365	8.182	9.144	8.461	8.208	---	7.638
16	---	7.776	8.782	8.521	8.886	8.467	8.166	9.050	8.557	8.729	---	5.609
17	---	7.898	8.850	8.966	8.725	8.670	8.126	8.762	8.647	9.026	---	6.500
18	---	8.060	8.911	9.171	8.670	8.957	8.050	8.625	8.625	8.930	8.051	6.260
19	---	---	8.897	9.299	8.562	9.074	8.022	8.599	8.790	8.514	8.203	6.422
20	---	8.202	8.853	9.216	8.389	8.923	8.198	8.407	8.572	8.061	8.213	---
21	---	8.383	8.645	8.828	8.197	8.683	8.205	8.478	8.417	7.840	8.442	6.225
22	---	8.305	8.714	8.428	7.909	8.389	8.336	8.646	8.278	7.503	8.568	5.267
23	---	8.227	8.730	8.331	7.592	8.143	8.618	8.579	7.896	7.545	---	6.567
24	---	7.995	8.690	8.311	7.322	8.110	8.781	8.422	7.994	7.814	---	7.565
25	---	7.973	9.046	8.494	7.219	8.223	9.380	8.360	8.119	8.312	---	8.187
26	---	8.293	9.096	8.628	7.240	8.375	9.488	8.285	8.563	8.322	---	---
27	---	8.500	9.112	8.708	7.449	8.519	9.324	8.276	8.809	8.515	---	8.023
28	---	8.798	9.042	8.774	7.673	8.619	9.120	8.141	8.734	8.571	---	7.658
29	---	8.984	8.905	8.655	7.971	8.476	9.146	8.128	8.492	8.515	---	7.576
30	---		8.597	8.577	8.339	8.347	---	7.721	8.609	8.577	---	8.067
31	---		8.428		8.465		8.583	7.203		8.219		8.189

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1981

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	8.489	---	7.582	8.503	8.271	8.092	7.102	7.350	8.489	8.529	7.731	8.529
02	8.924	7.668	8.214	8.820	9.053	7.193	6.765	7.550	8.385	8.417	7.425	8.523
03	8.161	7.827	8.107	8.889	8.603	8.056	7.665	7.484	8.260	8.679	7.226	8.778
04	9.102	8.468	7.885	8.862	8.032	8.731	7.889	7.152	7.888	8.381	7.083	---
05	8.205	8.450	8.397	8.750	7.955	8.192	8.438	7.201	7.702	8.443	7.671	---
06	9.178	6.387	7.959	8.131	7.417	---	8.377	7.113	7.017	6.983	8.105	8.471
07	9.491	7.985	7.621	8.078	7.968	8.274	7.970	6.937	7.136	7.861	8.164	7.397
08	---	7.839	7.712	7.926	7.908	8.144	7.852	6.719	5.404	8.263	8.385	7.168
09	---	8.043	8.027	7.912	8.163	8.487	8.068	6.747	7.490	8.051	8.504	6.420
10	9.526	7.793	8.033	7.237	8.061	7.948	8.184	7.117	7.928	8.072	7.516	6.771
11	9.300	8.162	8.103	7.552	7.479	8.026	7.758	7.064	---	7.463	8.060	7.485
12	---	7.886	8.259	6.721	---	7.871	8.140	7.905	7.433	7.012	7.753	7.768
13	---	8.221	8.449	6.768	7.934	8.055	7.729	8.429	---	6.559	7.354	8.161
14	8.863	7.703	8.235	7.318	8.492	7.839	7.747	8.524	8.050	6.105	8.042	8.402
15	---	7.959	7.275	7.864	7.591	7.602	7.851	7.903	8.315	6.193	8.298	8.315
16	8.125	7.587	8.016	8.177	---	7.579	7.392	7.743	8.030	6.088	8.541	8.281
17	9.408	7.958	8.237	7.315	---	7.501	7.743	7.466	8.184	6.062	8.702	7.925
18	9.255	7.407	8.489	7.439	7.910	7.854	6.146	7.607	7.617	6.382	8.040	8.346
19	8.905	8.339	7.881	8.099	---	8.184	7.417	6.911	7.620	6.723	8.052	8.267
20	8.054	8.314	8.024	8.068	7.093	8.396	6.996	7.334	8.196	7.217	8.233	8.146
21	8.763	8.469	7.301	8.189	---	8.017	7.106	7.987	8.467	7.863	8.340	8.138
22	9.171	7.659	7.543	8.144	8.148	8.100	6.040	7.786	8.034	8.532	8.157	8.524
23	8.898	7.519	8.042	7.572	7.932	7.907	5.339	7.472	8.017	8.580	8.733	8.151
24	---	8.524	8.158	7.883	---	7.569	5.113	7.484	8.604	8.468	9.172	7.881
25	8.311	7.850	7.703	8.367	8.841	7.545	4.933	7.556	8.712	8.551	7.938	8.038
26	8.875	7.245	8.074	8.704	8.268	7.952	5.176	7.213	8.578	8.833	8.286	7.970
27	8.566	7.861	7.945	8.489	7.978	7.285	---	7.335	8.992	8.711	8.499	8.030
28	8.820	7.613	7.853	8.331	8.019	7.418	---	7.977	8.231	8.987	8.488	8.334
29	8.862		8.159	8.344	8.391	7.504	---	7.986	7.952	8.719	7.845	---
30	8.369		8.263	8.573	8.497	7.491	---	8.277	8.177	8.664	8.067	---
31	---		8.702		7.735		---	8.152		8.445		---

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1982

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	8.741	6.724	7.087	8.300	7.915	8.404	7.786	8.375	8.286	7.401	8.784	7.789
02	8.455	6.918	6.742	8.382	7.984	8.009	8.233	7.971	8.076	7.743	9.317	7.347
03	8.446	7.512	7.676	8.586	7.793	7.615	8.835	7.784	7.832	8.276	8.406	7.323
04	8.714	7.505	7.705	8.272	7.825	8.008	8.257	7.563	7.998	8.801	8.813	7.278
05	8.447	7.932	7.579	8.057	7.550	7.638	7.858	7.270	7.973	8.883	8.436	7.146
06	8.631	7.473	8.080	8.041	7.567	6.732	8.241	7.475	8.549	8.552	7.737	7.580
07	8.635	6.925	8.225	8.245	7.390	6.628	8.311	7.275	8.438	8.423	8.362	---
08	8.201	6.109	8.347	8.504	7.520	6.110	7.228	7.107	8.375	8.177	8.501	8.193
09	8.586	6.340	8.221	8.043	7.906	6.627	7.916	7.479	8.405	8.029	8.205	7.812
10	8.069	5.540	8.244	7.837	7.335	6.710	7.642	7.477	---	8.181	8.347	7.907
11	8.537	5.872	8.031	7.487	8.059	7.032	7.216	7.868	8.355	8.177	7.712	7.605
12	8.627	6.535	7.932	7.479	8.187	7.184	6.826	8.138	8.061	8.117	7.310	7.503
13	7.982	6.808	7.887	7.401	8.013	6.756	6.621	8.166	8.137	7.668	6.953	7.029
14	8.283	7.104	7.707	7.292	7.664	6.469	6.100	8.132	7.779	7.702	---	6.738
15	7.786	7.349	5.411	7.878	7.585	6.232	6.433	7.641	---	7.695	---	7.296
16	7.833	7.187	4.479	7.824	7.565	6.275	6.053	7.459	7.404	7.554	7.703	7.399
17	8.075	6.567	4.982	7.761	7.492	5.551	6.418	8.163	7.812	7.779	7.468	8.507
18	8.105	7.266	4.846	8.030	7.448	5.483	7.305	7.193	7.082	7.686	8.042	8.901
19	8.451	6.849	5.938	7.571	7.717	6.277	8.355	7.479	7.722	7.630	7.438	8.426
20	8.702	7.492	6.704	7.493	7.824	5.936	8.820	6.920	6.974	8.088	7.688	8.524
21	8.676	7.661	7.109	7.712	7.728	6.560	8.402	7.470	7.960	8.016	8.458	8.218
22	8.601	7.881	7.453	7.979	7.636	6.771	8.606	6.953	7.939	8.007	7.018	8.015
23	8.876	8.216	7.306	7.264	8.209	7.311	8.354	7.133	8.422	8.517	7.045	7.895
24	8.499	8.275	6.819	7.244	8.102	7.399	7.873	7.034	7.600	7.891	7.314	---
25	8.779	8.344	6.977	7.162	8.430	7.674	7.785	6.882	7.864	7.949	8.045	8.087
26	8.727	8.459	6.863	7.510	7.948	8.178	7.802	6.669	8.353	7.987	8.127	---
27	8.781	8.161	6.792	7.917	7.979	9.076	7.887	6.980	7.716	7.880	8.311	---
28	8.275	7.639	6.757	8.704	8.015	7.665	7.472	7.302	7.255	8.685	7.981	7.466
29	6.916		7.412	8.567	7.628	7.307	7.607	7.395	7.322	8.602	7.595	7.929
30	6.659		7.578	8.156	7.955	7.926	7.604	7.842	7.498	8.515	7.092	---
31	5.715		7.554		7.756		7.972	7.972		8.010		7.817

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1983

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	---	7.946	8.002	7.564	7.171	7.612	7.066	7.270	7.895	---	---	---
02	8.778	8.061	7.309	6.925	7.982	7.629	7.444	7.123	7.640	---	6.996	---
03	7.769	8.013	7.902	6.485	7.738	7.072	7.147	6.648	7.860	7.592	8.032	---
04	7.682	8.234	6.621	7.432	7.987	6.908	7.809	7.182	7.680	7.874	---	7.711
05	7.379	7.450	7.030	7.902	8.064	6.500	7.791	7.709	7.763	7.765	---	---
06	8.553	7.457	7.119	8.159	7.609	6.341	7.785	7.743	7.174	7.222	---	---
07	8.206	6.871	7.551	6.986	7.594	6.584	7.813	7.793	---	7.357	---	---
08	7.129	7.459	6.026	7.041	7.857	6.403	7.503	8.177	7.784	6.662	---	---
09	7.865	8.156	7.683	7.293	7.104	6.639	6.949	7.964	7.745	7.661	---	---
10	8.518	8.380	7.947	7.619	7.066	7.178	7.849	7.031	7.824	7.648	---	---
11	7.506	8.495	7.850	7.297	6.812	6.992	7.433	7.777	8.213	7.725	---	---
12	7.836	8.331	7.727	7.610	6.195	---	7.462	7.438	8.166	7.901	---	---
13	8.595	8.760	7.604	7.090	6.720	6.913	7.620	7.539	7.614	7.886	---	---
14	8.171	8.036	7.213	8.167	6.832	8.089	7.522	7.769	7.768	8.079	---	---
15	7.452	8.191	6.495	7.772	7.090	7.808	7.489	7.973	7.724	---	---	---
16	7.298	7.913	---	7.512	7.034	7.901	7.638	7.153	7.443	---	---	---
17	7.652	7.351	7.973	6.936	7.649	8.029	6.667	8.295	7.704	7.896	---	---
18	6.998	6.964	7.560	7.326	8.771	7.516	8.137	8.156	7.618	7.324	---	---
19	7.244	6.278	7.629	7.726	7.248	7.507	8.104	8.044	6.810	6.980	---	---
20	7.236	7.985	7.628	7.681	7.911	8.180	8.219	---	7.828	7.556	---	7.859
21	7.204	6.351	7.347	7.906	6.761	7.888	7.864	7.623	7.992	7.243	---	8.404
22	7.842	8.285	7.319	7.443	6.609	4.530	7.597	7.816	8.064	7.841	---	---
23	7.385	8.116	8.393	7.981	7.016	7.746	7.716	7.419	---	7.592	---	---
24	8.164	7.973	8.106	7.733	7.560	---	7.855	8.227	---	7.027	---	---
25	8.338	7.859	8.567	7.149	7.441	7.749	7.565	7.848	---	7.257	---	7.966
26	8.137	7.176	8.242	7.505	7.844	7.952	7.674	7.381	---	7.008	---	---
27	7.809	7.356	7.164	7.601	7.718	8.177	8.065	7.845	---	7.669	---	---
28	7.751	7.517	8.001	7.520	8.140	7.610	7.609	7.682	---	7.389	---	---
29	7.885		7.532	7.513	8.414	7.490	7.658	7.578	---	7.079	---	---
30	7.714		6.748	---	8.443	7.408	7.608	7.686	---	7.527	---	---
31	7.872		7.588		8.341		7.248	7.551		7.854		---

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1984

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	---	---	---	---	6.245	7.212	7.470	7.568	---	7.382	7.177	7.337
02	---	---	---	---	---	7.463	7.588	7.609	---	7.405	7.200	7.390
03	---	---	---	---	7.257	7.563	7.525	7.576	---	7.369	7.217	7.347
04	---	---	---	---	7.505	7.704	7.624	7.606	---	7.401	7.216	7.250
05	---	---	---	---	7.538	7.754	7.672	7.626	---	7.373	7.272	7.219
06	---	---	---	---	7.519	7.755	7.671	7.660	7.575	7.356	7.295	7.233
07	---	---	---	---	7.317	7.669	7.646	7.560	7.557	7.387	7.269	7.197
08	---	---	---	---	6.980	7.665	7.626	7.470	7.551	7.343	7.164	7.208
09	---	---	---	---	6.559	7.680	7.593	7.389	7.518	7.252	7.191	7.230
10	---	---	---	---	6.186	7.786	7.505	7.375	7.600	7.191	7.179	7.234
11	---	---	---	---	6.000	7.822	7.473	7.456	7.597	7.210	7.211	7.129
12	---	---	---	---	6.086	7.836	7.543	7.524	7.350	7.179	7.234	7.090
13	---	---	---	---	---	7.726	7.637	7.580	7.265	7.198	6.855	7.125
14	6.746	---	---	---	6.653	7.618	7.620	7.547	7.184	7.201	7.260	7.144
15	---	---	---	---	---	7.459	7.606	7.448	7.186	7.129	---	7.196
16	6.851	---	---	---	7.522	7.485	7.549	7.350	7.192	7.088	7.283	7.095
17	---	---	---	---	7.647	7.527	7.512	7.296	7.223	7.060	7.283	7.140
18	---	7.485	---	---	7.792	7.460	7.467	7.243	7.241	7.137	7.316	7.183
19	---	---	---	---	7.757	7.276	7.456	7.189	7.290	7.133	7.355	7.243
20	---	7.211	---	---	7.718	7.245	7.448	7.174	7.237	7.137	7.291	7.260
21	---	6.498	---	---	7.591	7.347	7.386	7.200	7.270	7.195	7.219	7.204
22	---	6.676	---	---	7.432	7.351	7.366	7.213	7.248	7.225	7.183	7.205
23	---	---	---	---	7.254	7.301	7.351	7.187	7.316	7.273	7.104	---
24	5.774	---	---	---	7.137	7.297	7.350	7.203	7.336	7.291	7.044	7.128
25	5.846	---	---	---	7.173	---	7.376	7.156	7.318	7.285	6.886	7.147
26	---	---	---	4.903	7.366	---	7.376	7.214	7.352	7.250	6.780	7.216
27	---	---	---	---	7.618	7.194	7.364	7.265	7.335	7.262	6.763	7.200
28	---	---	---	---	7.762	7.263	7.380	7.223	7.337	7.236	6.907	---
29	---	---	---	---	7.663	7.373	7.418	7.162	7.381	7.171	7.093	7.217
30	---		---	---	7.524	7.438	7.496	---	7.379	7.195	7.223	---
31	---		---		7.235		7.548	---		7.197		7.250

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1985

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	7.358	7.052	7.090	7.036	7.196	7.002	7.128	7.185	7.156	7.592	6.992	---
02	7.420	6.964	7.184	7.110	7.199	6.995	7.192	7.182	7.344	6.913	7.058	---
03	7.312	7.090	7.040	6.993	7.087	7.023	6.999	7.240	7.106	6.938	6.967	6.767
04	7.381	7.220	6.999	6.965	7.105	7.037	7.010	7.210	7.048	6.918	6.955	6.901
05	7.366	7.178	7.006	6.994	7.067	7.034	6.895	7.236	6.992	6.867	6.926	6.946
06	---	7.172	7.034	7.048	7.005	7.024	6.709	7.257	7.022	6.918	6.888	6.979
07	7.328	7.148	7.003	6.971	7.017	6.928	6.503	7.240	7.013	6.951	6.924	7.003
08	---	7.172	7.026	6.996	6.910	7.068	6.531	7.181	6.966	6.929	6.949	7.032
09	7.237	7.257	7.048	6.988	6.882	6.873	6.638	7.035	6.985	6.901	6.938	7.134
10	7.172	7.291	7.086	7.010	6.796	6.800	6.783	6.983	7.005	---	6.986	7.253
11	7.156	7.246	7.026	6.965	6.658	6.823	7.007	6.927	6.991	6.954	7.024	7.224
12	7.167	7.226	7.068	6.962	6.618	7.043	7.063	6.917	6.979	6.952	7.066	7.195
13	7.067	7.186	7.073	6.986	6.569	7.143	7.050	6.896	7.045	6.894	7.142	7.181
14	7.005	7.163	7.078	6.989	6.592	---	7.005	6.944	7.007	6.934	7.072	7.164
15	7.006	7.158	7.039	6.982	6.695	7.269	6.963	6.964	6.996	6.956	6.963	7.111
16	6.969	7.148	7.056	7.009	6.881	7.281	6.972	6.949	6.986	7.076	---	7.011
17	6.961	7.158	7.044	7.077	4.331	7.245	6.984	6.923	6.960	7.052	6.991	7.030
18	7.061	7.200	7.096	7.028	4.357	7.166	6.977	6.879	6.943	7.017	7.034	7.132
19	7.006	7.196	7.113	7.061	7.100	7.114	6.969	6.908	6.971	6.916	7.089	7.210
20	6.742	7.178	7.118	7.094	6.969	7.079	7.022	6.882	6.989	6.803	7.137	7.149
21	6.700	7.132	7.144	7.034	6.917	7.046	7.014	6.967	7.071	6.689	7.210	7.105
22	6.851	7.090	7.136	6.787	6.946	7.043	6.968	6.950	7.072	6.459	7.255	7.036
23	7.092	7.092	7.138	6.529	6.996	6.913	6.967	7.038	7.076	---	---	7.005
24	7.155	7.059	7.088	6.344	7.038	6.952	6.952	7.084	---	6.703	7.133	6.874
25	7.121	7.024	6.978	6.290	7.069	6.908	6.995	7.115	7.027	6.997	7.093	6.898
26	7.077	7.012	6.933	6.300	7.098	6.922	7.052	7.129	7.021	7.141	---	6.935
27	7.071	7.011	6.897	6.494	7.099	6.878	7.181	7.142	6.915	7.137	---	6.984
28	7.096	7.063	6.873	6.752	7.033	6.903	7.215	7.127	7.005	7.073	---	6.997
29	7.060		6.915	6.856	6.956	6.944	7.281	7.138	6.983	6.999	---	6.991
30	7.070		6.936	6.961	6.942	7.056	7.242	7.148	7.018	6.926	---	6.989
31	7.071		7.010		7.158		7.253	7.127		6.928		6.979

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1986

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	6.958	7.089	7.295	7.150	7.028	---	6.877	6.792	6.879	7.137	6.868	7.230
02	6.988	6.959	7.391	7.089	7.155	7.051	7.043	6.819	7.089	6.977	6.887	7.262
03	7.111	6.668	7.132	7.034	7.336	7.000	7.267	6.933	6.865	7.045	6.917	7.193
04	7.112	6.613	7.033	7.079	7.030	6.848	7.205	6.857	6.918	6.932	7.180	7.188
05	7.197	6.622	6.911	7.062	7.017	6.820	7.159	6.995	6.921	7.316	6.993	7.069
06	7.261	6.710	6.864	7.010	7.203	6.912	6.854	6.930	6.943	6.990	7.051	7.155
07	7.334	6.896	6.899	7.013	6.904	7.066	6.942	7.056	6.982	7.157	7.101	7.018
08	7.433	6.988	6.988	7.022	6.960	6.901	6.874	7.005	6.924	8.357	7.041	7.014
09	---	7.031	7.112	7.020	6.916	7.073	6.895	6.977	6.937	7.097	6.999	6.940
10	---	6.951	7.154	6.903	6.968	6.948	6.816	6.970	6.946	7.015	6.909	6.933
11	---	6.828	7.169	6.941	7.058	6.938	6.782	7.046	6.946	7.053	6.925	6.950
12	---	6.805	7.076	6.905	7.148	---	6.929	7.023	6.941	7.036	6.931	6.967
13	---	6.983	6.947	6.877	6.969	6.968	6.921	7.042	6.955	6.950	---	6.982
14	---	7.042	---	6.999	6.939	7.115	6.940	7.064	7.124	6.907	6.991	7.083
15	---	6.983	6.874	7.042	6.974	7.048	7.011	7.000	6.970	6.874	7.096	7.051
16	---	6.999	6.895	7.097	7.035	7.173	7.128	6.879	6.926	7.060	7.204	7.119
17	---	7.011	6.879	7.067	6.996	7.410	7.128	6.946	6.941	7.000	7.134	7.054
18	---	7.002	6.870	7.012	7.026	7.112	7.038	6.927	6.964	6.997	7.164	7.020
19	---	6.905	6.890	6.933	7.084	7.169	7.165	6.950	6.927	6.903	7.122	7.018
20	---	6.981	6.948	6.907	7.155	7.130	7.001	6.914	6.999	6.861	7.139	7.056
21	---	6.985	6.964	6.908	7.215	7.175	6.986	6.889	6.978	6.845	7.188	7.075
22	6.901	7.029	6.959	6.951	7.343	7.094	6.962	6.908	6.997	6.811	7.172	6.993
23	6.900	7.008	6.965	6.820	7.193	7.135	6.948	6.904	6.996	6.827	7.194	7.024
24	6.907	7.003	6.948	---	7.109	7.066	6.920	7.069	7.092	6.776	7.276	7.094
25	6.945	7.011	6.988	---	7.070	7.002	6.935	6.912	7.043	6.917	7.272	7.000
26	6.886	7.022	6.998	---	7.052	6.920	6.942	7.006	6.983	7.054	7.244	6.978
27	6.890	7.057	7.019	---	7.026	6.904	6.899	6.835	6.989	7.151	7.216	6.957
28	6.864	7.110	7.066	---	7.074	6.894	6.892	6.799	6.930	7.144	7.241	6.980
29	6.849		7.139	---	7.050	6.959	6.898	6.820	6.941	7.197	7.215	6.915
30	6.959		7.150	---	6.994	7.109	6.877	6.943	7.017	7.118	7.235	6.931
31	7.060		7.128	---	6.926		8.302	6.837		7.059		---

SOLAR IRRADIANCE (Daily Mean)
SOLAR MAXIMUM MISSION (ACRIM I)
Jet Propulsion Laboratory
Base = 1360 Watts/m2
1987

DAY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	6.852	6.897	6.924	7.129	6.920	6.994	7.127	7.094	7.146	7.232		
02	7.060	6.964	7.129	6.808	6.998	7.087	7.261	7.057	7.200	---		
03	6.861	6.871	6.925	7.110	6.941	7.057	7.084	7.141	7.176	---		
04	6.914	6.824	7.249	6.708	7.092	7.078	7.085	7.066	7.181	---		
05	6.923	6.962	6.920	6.820	7.296	7.073	7.101	7.056	7.088	---		
06	6.999	6.869	6.823	6.751	7.150	7.098	7.033	7.006	7.142	7.118		
07	6.951	6.838	6.811	6.540	7.163	7.127	7.024	6.966	6.878	---		
08	6.873	7.005	6.839	7.126	7.143	7.143	6.964	7.177	6.766	8.740		
09	6.939	7.004	6.831	6.543	7.188	7.129	6.988	6.853	6.920			
10	6.921	6.936	6.827	7.566	7.251	7.109	6.970	7.101	7.116			
11	6.981	6.949	6.815	7.118	7.228	7.128	6.952	7.188	7.232			
12	6.996	7.023	6.823	6.545	7.292	7.160	6.985	7.106	---			
13	7.224	6.950	6.821	6.703	7.363	7.240	6.997	7.010	7.305			
14	7.045	6.998	6.832	7.193	7.281	7.229	7.050	6.982	7.400			
15	7.114	7.042	6.881	6.841	7.314	7.282	7.055	6.871	7.265			
16	7.170	7.027	6.906	6.930	7.280	7.277	7.112	6.821	7.246			
17	7.153	7.061	6.883	7.036	7.044	7.119	7.128	6.917	7.338			
18	7.149	6.961	6.900	7.138	6.977	---	7.138	6.943	7.326			
19	7.333	6.980	6.920	7.211	6.844	7.174	7.258	6.972	7.318			
20	7.201	6.953	6.921	7.078	6.698	7.188	7.143	7.095	7.299			
21	7.065	6.977	7.095	6.947	7.155	7.230	7.162	7.164	7.223			
22	7.021	6.971	6.917	7.023	6.525	7.112	7.149	7.180	7.123			
23	7.185	6.905	6.917	7.109	6.882	7.008	7.066	7.391	7.134			
24	6.999	6.932	6.934	6.981	6.957	6.986	7.057	7.292	7.082			
25	6.966	6.872	6.948	6.961	6.915	7.042	7.132	7.246	7.088			
26	6.933	6.942	6.971	6.981	7.032	7.061	7.137	7.136	7.154			
27	6.861	7.008	7.008	6.900	6.950	7.175	7.123	7.190	7.093			
28	6.846	7.075	6.926	6.856	6.798	7.172	7.153	7.142	---			
29	6.866		6.922	6.887	6.962	7.122	7.291	7.290	---			
30	6.829		6.713	6.948	6.817	---	7.252	7.154	---			
31	6.858		6.821		6.883		7.192	---				

NOAA Space Environment Services Center

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

Preliminary Listing

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

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

PARTICLE EVENT							ASSOCIATED FLARE AND ACTIVE REGION					
Start		Maximum		Satellite Proton Flux* $(cm^2-s-sr)^{-1}$	Riometer Absorption decibels		Maximum		Importance		Disk Location	NOAA/ USAF Region Number
Date	Time UT	Date	Time UT				Date	Time UT	X-ray	Optical	°Lat °Long	
						1983						
Feb 03	1200	Feb 04	1620	340	3.9		Feb 02	0619	X4	3B	S19 W08	4077
June 15	0435	June 15	1800	18	0.0		June 14	---	---	--	S09 W90	4201
						1984						
Feb 16	0915	Feb 16	1005	660	0.8		Feb 16	---	---	--	S12 W95	4408
Feb 19	1310	Feb 21	1415	55	0.5		Feb 17	2301	X2	2B	N16 E82	4421
Mar 13	1440	Mar 13	1450	10	0.0		---	---	---	--	---	---
Mar 14	0405	Mar 14	0505	100	0.0		Mar 14	0334	M2	2B	S12 W42	4433
Apr 25	1330	Apr 26	1420	2500	17.0		Apr 24	0005	X13	3B	S12 E43	4474
May 24	1045	May 24	1140	31	0.0		May 24	1503	M6	2B	S09 E24	4492
May 31	1315	May 31	1415	15	0.0		May 31	1142	M1	--	S09 W90	492
						1985						
Jan 22	0415	Jan 31	0550	14	0.0		Jan 21	2350	X4	2B	S08 W38	4617
Apr 25	1430	Apr 26	0600	160	1.1		Apr 24	0935	X1	3B	N06 E27	4647
July 09	0235	July 09	0325	140	0.0		July 09	0204	M2	1B	S16 W36	4671
						1986						
Feb 06	0825	Feb 07	1730	130	1.1		Feb 06	0625	X1	3B	S04 W06	4711
Feb 14	1155	Feb 15	0400	130	2.3		Feb 14	0929	M6	1B	N01 W76	4713
May 04	1255	May 04	1320	16	0.0		May 04	1007	M1	---	N06 W90	4727
						1987						
Nov 08	0200	Nov 08	0940	120	---		Nov 07	2014	M1	--	N31 W90	4875
						1988						
Jan 02	2325	Jan 03	0835	92	-0.5		Jan 02	2145	X1	3B	S34 W18	4912
Mar 25	2225	Mar 25	2330	58	---		Mar 25	2145	---	EPL	N22 W90	4965
June 30	1055	June 30	1140	21	---		June 30	0906	M9	2B	S16 E22	5060
Aug 26	0000	Aug 26	0045	42	---		Aug 22	1800	M2	EPL	N24 E90	5125

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

WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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