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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
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MARCH 1991 NUMBER 559 - Part I

Solar-Geophysical Data prompt reports

Data for February, January 1991 and Late Data

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NATIONAL GEOPHYSICAL DATA CENTER
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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 559

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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

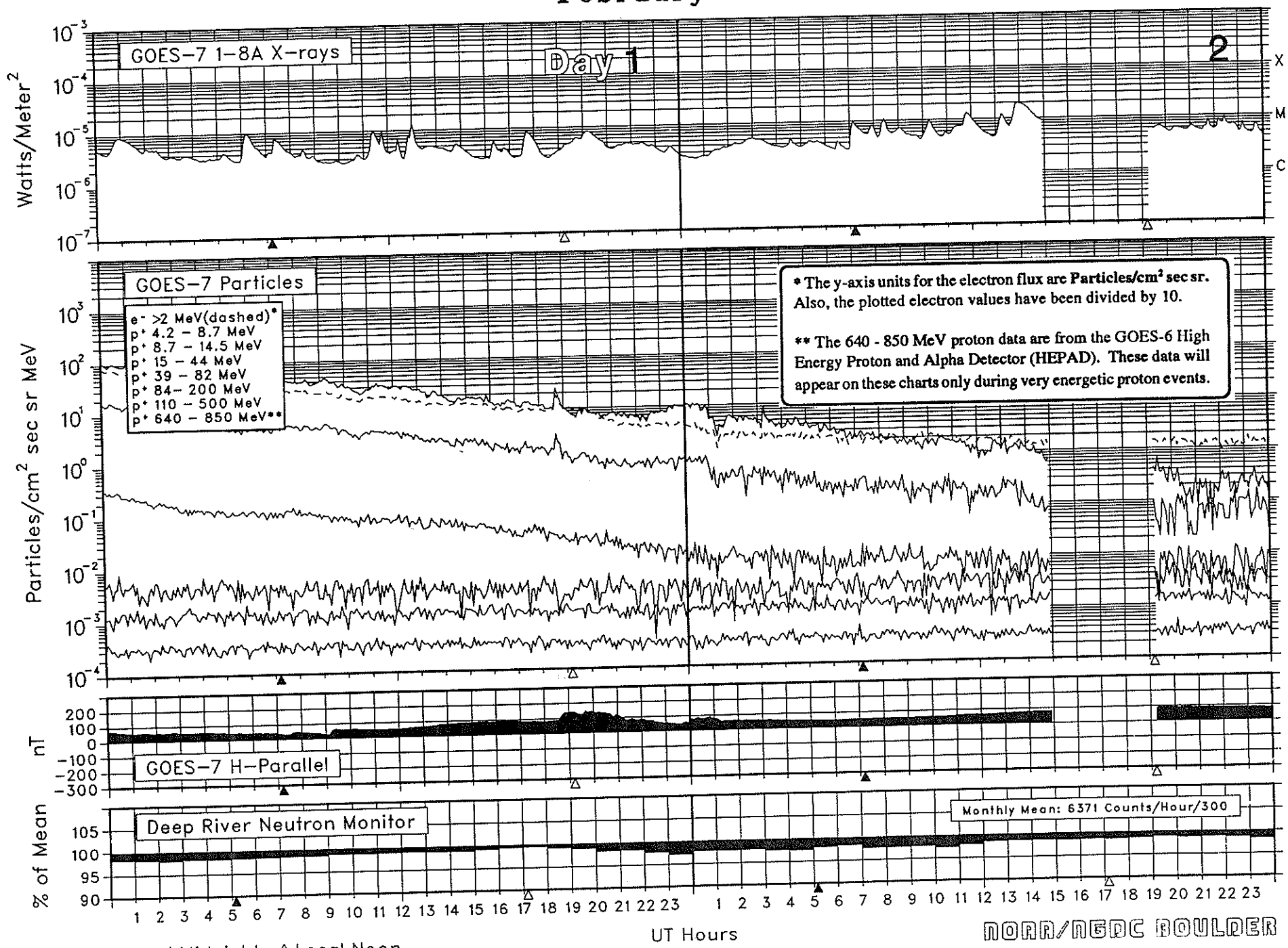
CODE	KIND OF OBSERVATION	JUL 90	AUG	SEP	OCT	NOV	DEC	JAN 91	FEB
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	553A 64	554A 56	555A 60	556A 60	557A 72	558A 64	559A 58	
A.2aa	Internat. Provisional Sunspot Numbers	552A 29	553A 29	554A 27	555A 29	556A 27	557A 29	558A 29	559A 27
A.2c	American Sunspot Numbers	552A 29	553A 29	554A 27	555A 29	556A 27	557A 29	558A 29	559A 27
A.3a	Mt. Wilson Magnetograms	553A 64	554A 56	555A 60	556A 60	557A 72	558A 64	559A 58	
A.3b	Sunspot Mag Class and Regions	553A 95	554A 87	555A 90	556A 91	557A102	558A 95	559A 89	
A.3c	Kitt Peak Magnetograms	553A 64	554A 56	555A 60	556A 60	557A 72	558A 64	559A 58	
A.3d	Mean Solar Magnetic Field (Stanford)	552A 49	553A 53	554A 45	555A 49	556A 49	557A 53	558A 53	559A 47
A.3e	Stanford Magnetograms	553A 64	554A 56	555A 60	556A 60	557A 72	558A 64	559A 58	
A.4	H-alpha Filtergrams	553A 64	554A 56	555A 60	556A 60	557A 72	558A 64	559A 58	
A.6	H-alpha Synoptic Charts	553A 56	554A 48						
A.6b	Active Region Carte Synoptique (Paris)	Sep-Oct 89 in 550B 86; Nov-Dec 89 in 555B 96							
A.6c	Stanford Solar Mag Field Synoptic Maps	553A 58	554A 50	555A 54	556A 54	557A 60	558A 58	559A 52	
A.6d	Kitt Peak " Mag Field Synoptic Maps	553A 57	554A 49	555A 53	556A 53	557A 58	558A 57	559A 51	
A.6e	Mass Ejections from the Sun	557B 67	558B 85	559B 53					
A.6f	Active Prominences and Filaments	557B 68	558B 86	559B 54					
A.6g	Sac Peak Coronal Line Synoptic Maps	553A 60	554A 52	555A 56	556A 56	557A 64	558A 60	559A 54	
A.7h	Coronal Line Emission (Sac Peak)	553A 64	554A 56	555A 60	556A 60	557A 72	558A 64	559A 58	
A.8aa	2800 MHz - Solar Flux (Ottawa)	552A 29	553A 29	554A 27	555A 29	556A 27	557A 29	558A 29	559A 27
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	552A 29	553A 29	554A 27	555A 29	556A 27	557A 29	558A 29	559A 27
A.8g	Adjusted Daily Solar Fluxes (Palehua)	552A 29	553A 29	554A 27	555A 29	556A 27	557A 29	558A 29	559A 27
A.10a	Interferometric Chart (164 MHz) Nancay	552A 46	553A 49	554A 42	555A 45	---	---	---	---
A.10e	East-West Scans - 10 cm - Ottawa	552A 43	553A 47	554A 41	555A 44	556A 45	557A 48	558A47	559A 42
A.11g	Solar X-ray GOES (graphs/event table)	557B 58	558B 76	559B 45					
A.11k	Solar UV NOAA-9	May 86-Dec 87 in 541B178							
A.11l	Solar UV NIMBUS7	Nov 78-Oct 84 in 542B 82							
A.12e	Solar Particles (IMP H & J)	Jul 86-Aug 87 in 539B112; Sep 87-Mar 88 & May-Nov 88 in 546B124							
A.13e	Solar Plasma (IMP H & J)	557B 57	558B 75	559B 44					
A.13f	Solar Wind (Pioneer 12)	Jan-Dec 89 in 549A148; Jan-Oct 90 in 558A157							
A.16a	SMM Solar Irradiance	Feb 80-Oct 87 in 530B 64							
A.16b	NIMBUS Solar Irradiance	Nov 78-Jul 89 in 534B114							
A.16c	ERBS, NOAA-9&-10 Solar Irradiance	1984-88 in 538B101; 1989 in 551B 78							
A.17	Interplanetary Mag Field (Pioneer 12)	Jan-Jun 88 in 533A130; Jul 88 in 536A152							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989 in 548A154							
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	552A 32	553A 33	554A 31	555A 32	556A 30	557A 32	558A 32	559A 31
C.1ba	H-alpha Flare Groups	557B 4	558B 4	559B 4					
C.1d	Flare Patrol Observations	552A 42	553A 46	554A 40	555A 43	556A 44	557A 47	558A 46	559A 41
C.1d	Flare Patrol Observations	557B 26	558B 38	559B 25					
C.3	Radio Bursts Fixed Freq.	557B 28	558B 40	559B 27					
C.3	Radio Bursts Fixed Freq. Selected	552A 47	553A 50	554A 43	555A 46	556A 46	557A 49	558A 48	559A 43
C.4d	Radio Bursts Spectral (Culgoora)	555A146	555A151				558A130	559A121	
C.4e	Radio Bursts Spectral (Weissenau)	554A162	554A128	555A126				559A121	
C.4f	Radio Bursts Spectral (Sagamore Hill)	553A129	554A128	555A126	556A123	557A135	558A130	559A121	
C.4i	Radio Bursts Spectral (Bleien)	553A129	554A128		556A123	557A135	558A130		
C.4k	Radio Bursts Spectral (Learmonth)	553A129	554A128	555A126	556A123	557A135	558A130	559A121	
C.4l	Radio Bursts Spectral (Palehua)	553A129	554A128	555A126	556A123	557A135	558A130	559A121	
C.4m	Radio Bursts Spectral (Ondrejov)	553A129	554A128			557A135	558A130	559A121	
C.4n	Radio Bursts Spectral (Potsdam)	554A162	554A128	555A126	556A123		558A130	559A121	
C.4o	Radio Bursts Spectral (San Vito)	553A129	554A128	555A126	556A123	557A135	558A130	559A121	
C.6	Sudden Ionospheric Disturbances	553A125	554A124	555A122	556A118	557A129	558A124	559A115	
D.	GEOMAGNETIC & MAGNETOSPHERIC EVENTS								
D.1a	Geomagnetic Indices	554A175	555A157	556A148	556A139	557A150	558A150	559A145	
D.1ba	27-day Chart of Kp Indices	553A150	554A157	555A142	556A141	557A152	558A152	559A147	
D.1cb	Monthly Mean aa Indices	553A151	556A142	556A142	556A142	559A148	559A148	559A148	
D.1d	Principal Magnetic Storms	553A152	554A159	555A144	556A143	557A154	558A154	559A150	
D.1f	Sudden Commencements/Flare Effects	Jul 90 in 554A178							
D.1g	Equatorial Indices Dst	Jan-Aug 89 in 555A158; Sep 89-May 90 in 557A163							
F	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	553A143	554A154	555A135	556A138	557A145	558A145	559A144	
F.1b	Cosmic Ray Neutron Cts (Climax)	554A171	554A154	555A135	556A138	557A145	558A145	559A144	
F.1h	Cosmic Ray Neutron Cts (Thule)	557A156	557A157	557A158	557A159	557A145			
F.1i	Cosmic Ray Neutron Cts (Kiel)	553A143	554A154	555A135	556A138	557A145	558A145	559A144	
F.1j	Cosmic Ray Neutron Cts (Tokyo)	553A143	554A154	555A135	556A138	557A145	558A145	559A144	
F.1l	Cosmic Ray Neutron Cts (Huancayo)	554A171	556A146	557A158	557A159				
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	552A 20	553A 20	554A19	555A 20	556A 19	557A 20	558A 20	559A 18

The entry "553A 64" under Jul 1990, for example, means that the sunspot drawings for Jul 1990 appear in SOLAR-GEOPHYSICAL DATA No. 553, Part I, and that they begin on page 64. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

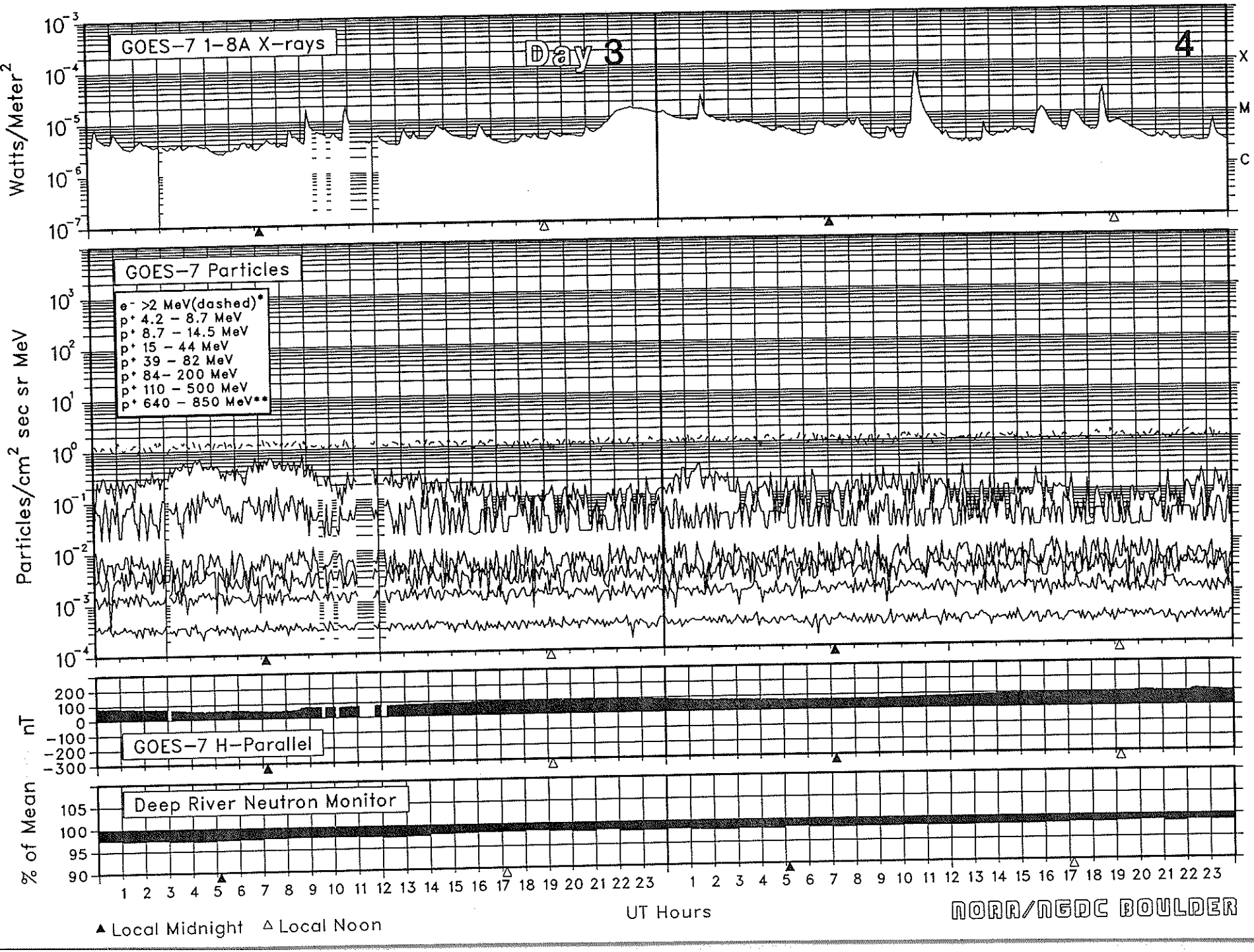
C O N T E N T S

Prompt Reports DATA FOR **FEBRUARY 1991** Number 559 Part I

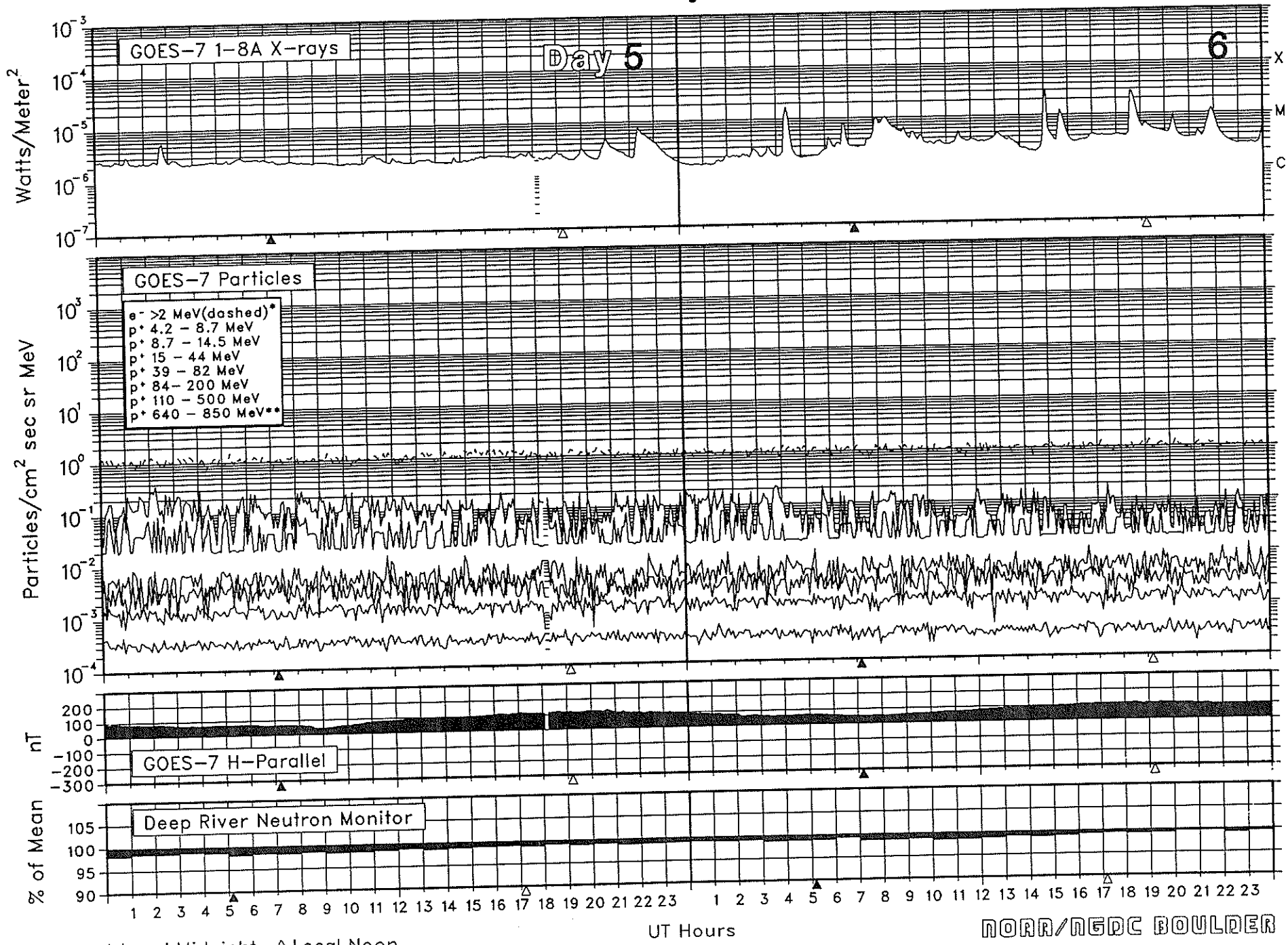
SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



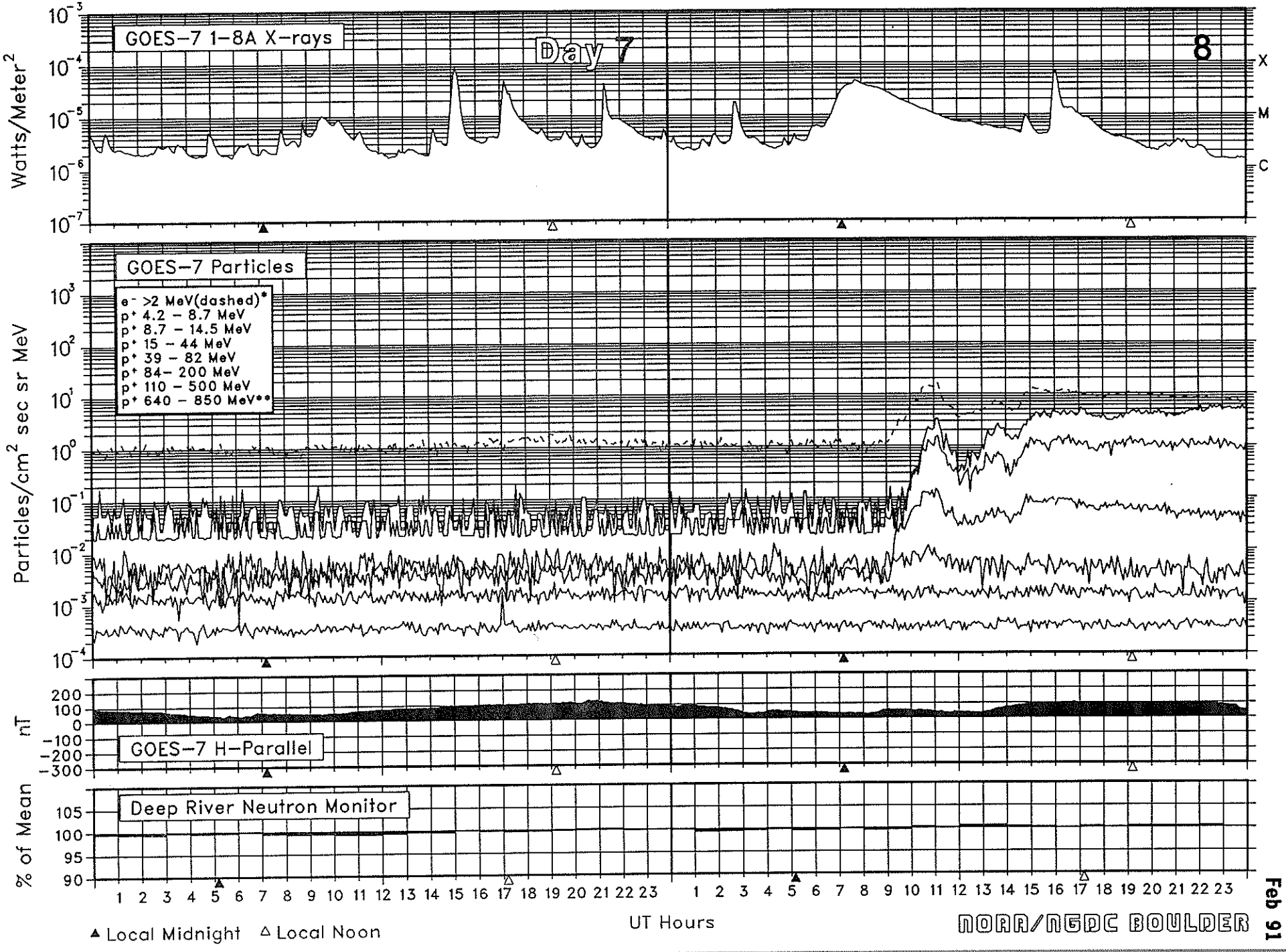
SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



NOAA/NGDC BOULDER

7 Feb 91

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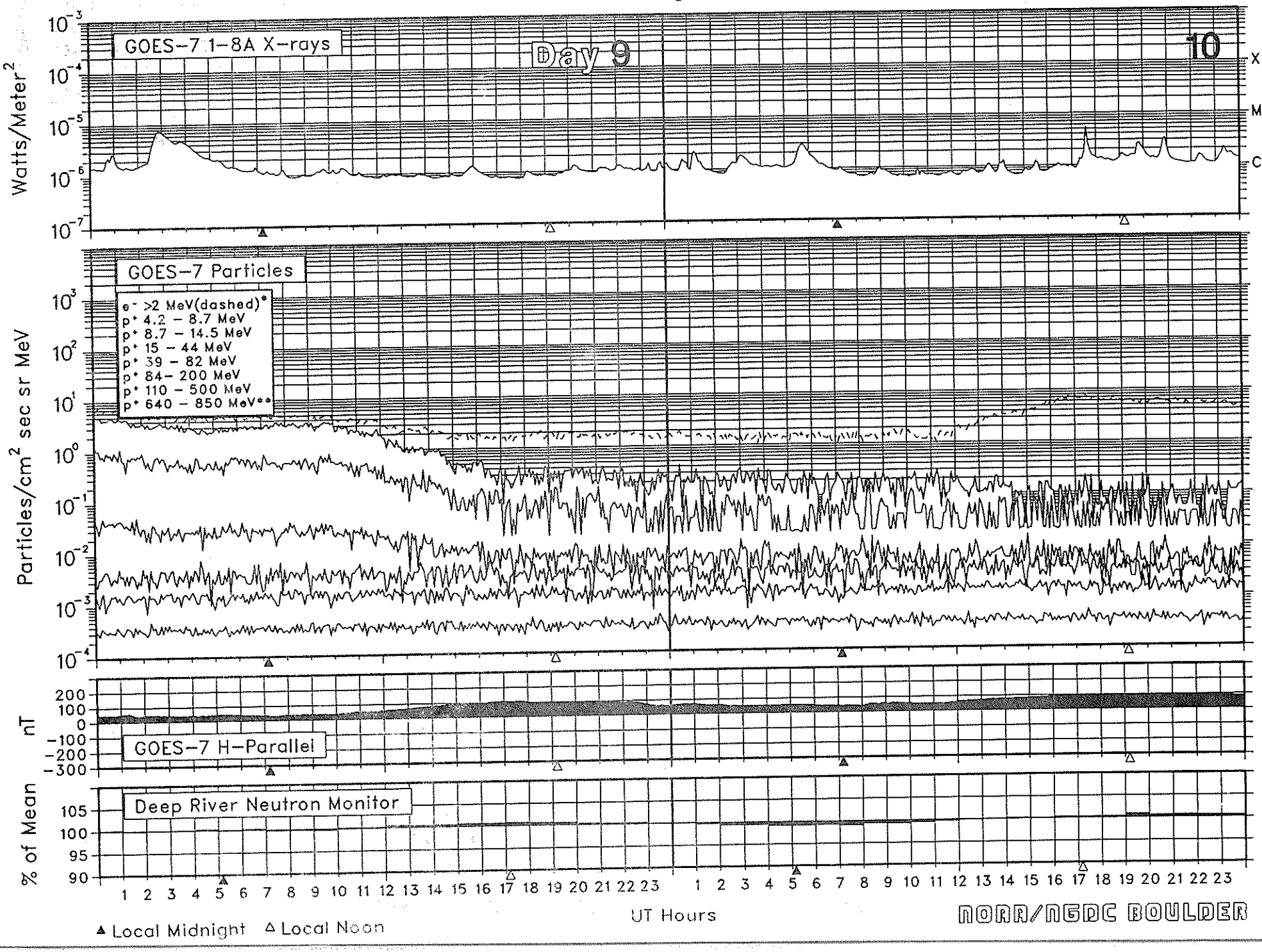
February 1991



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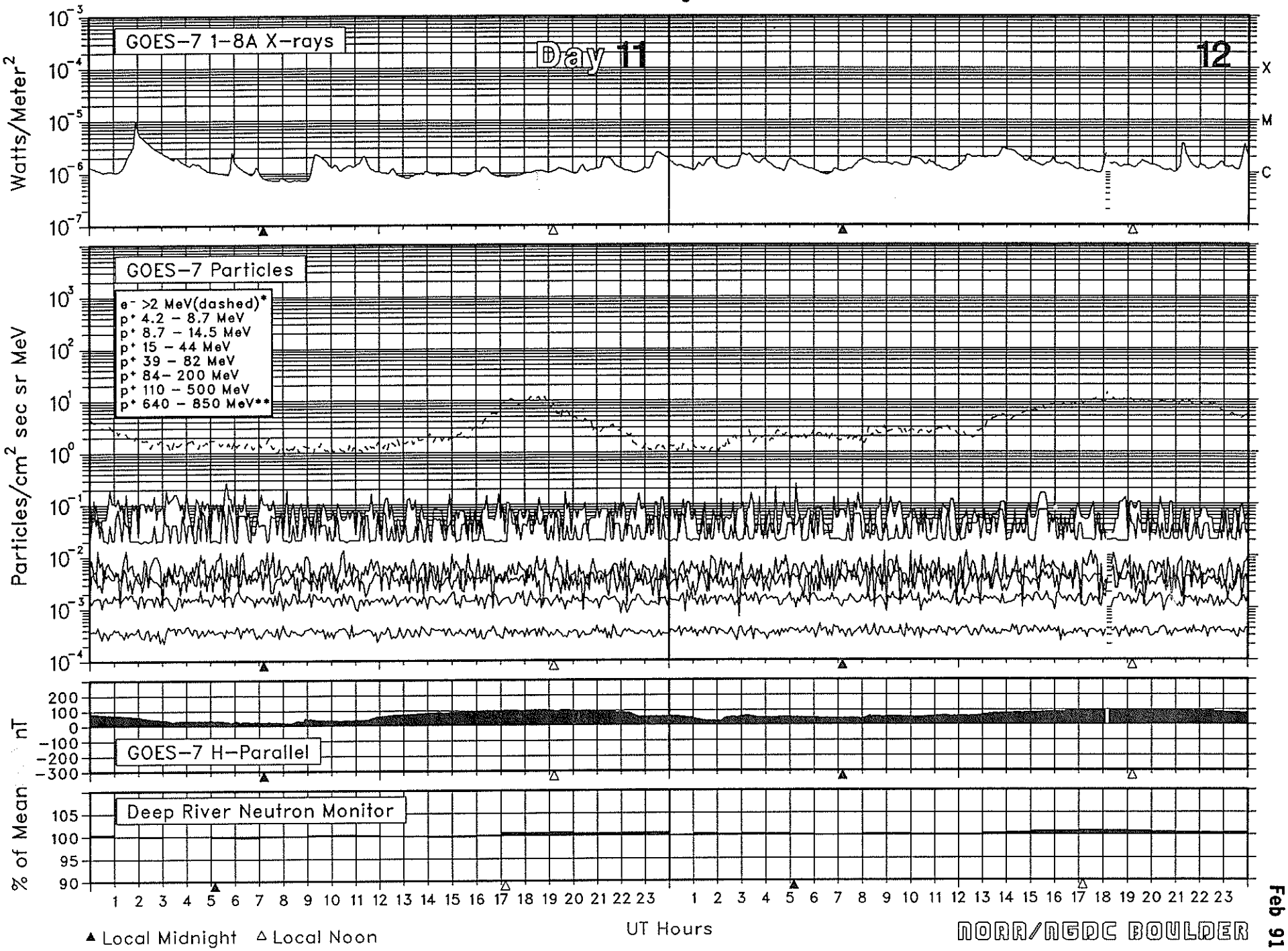
February 1991

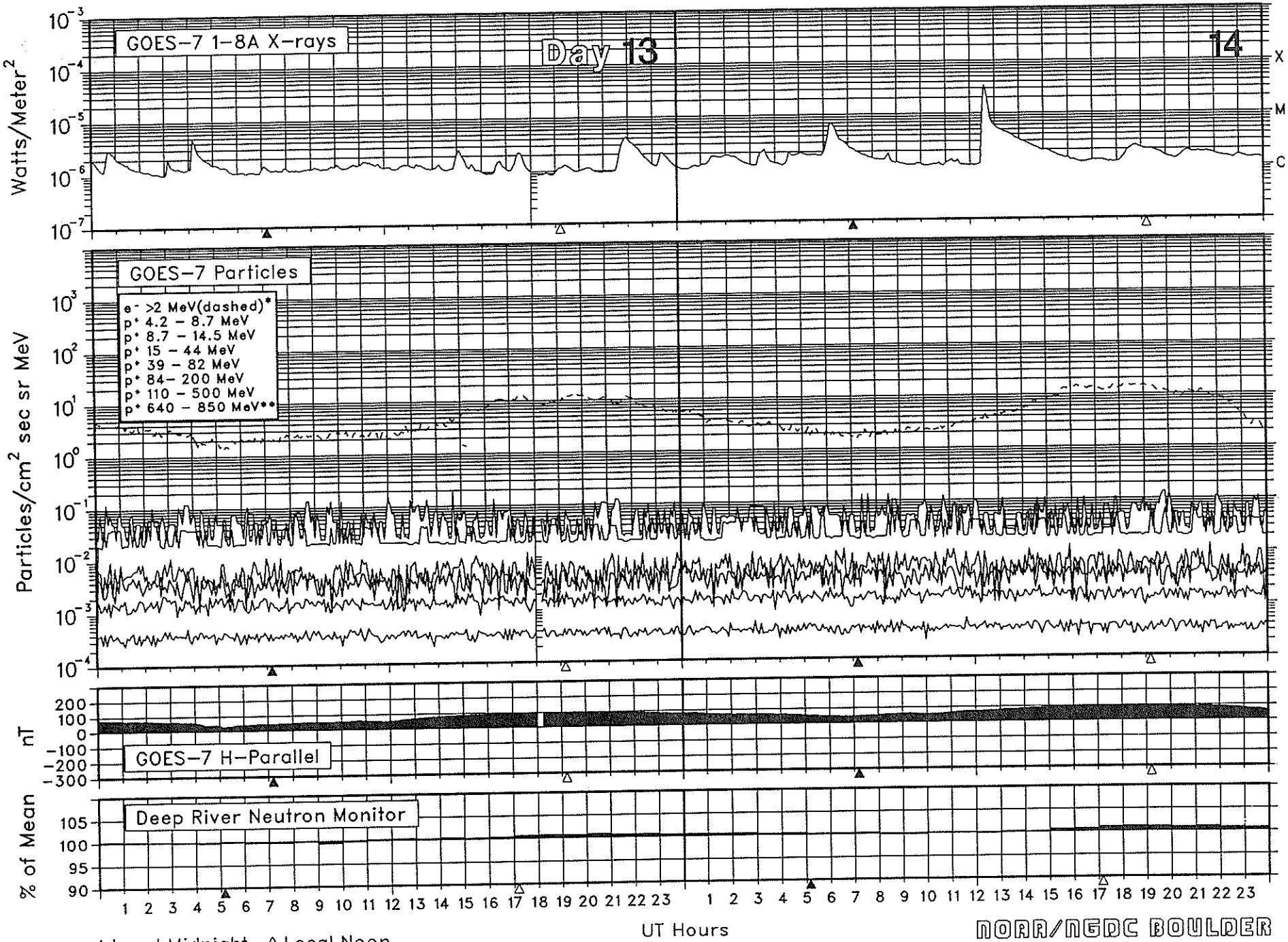


NOAA/NGDC BOULDER

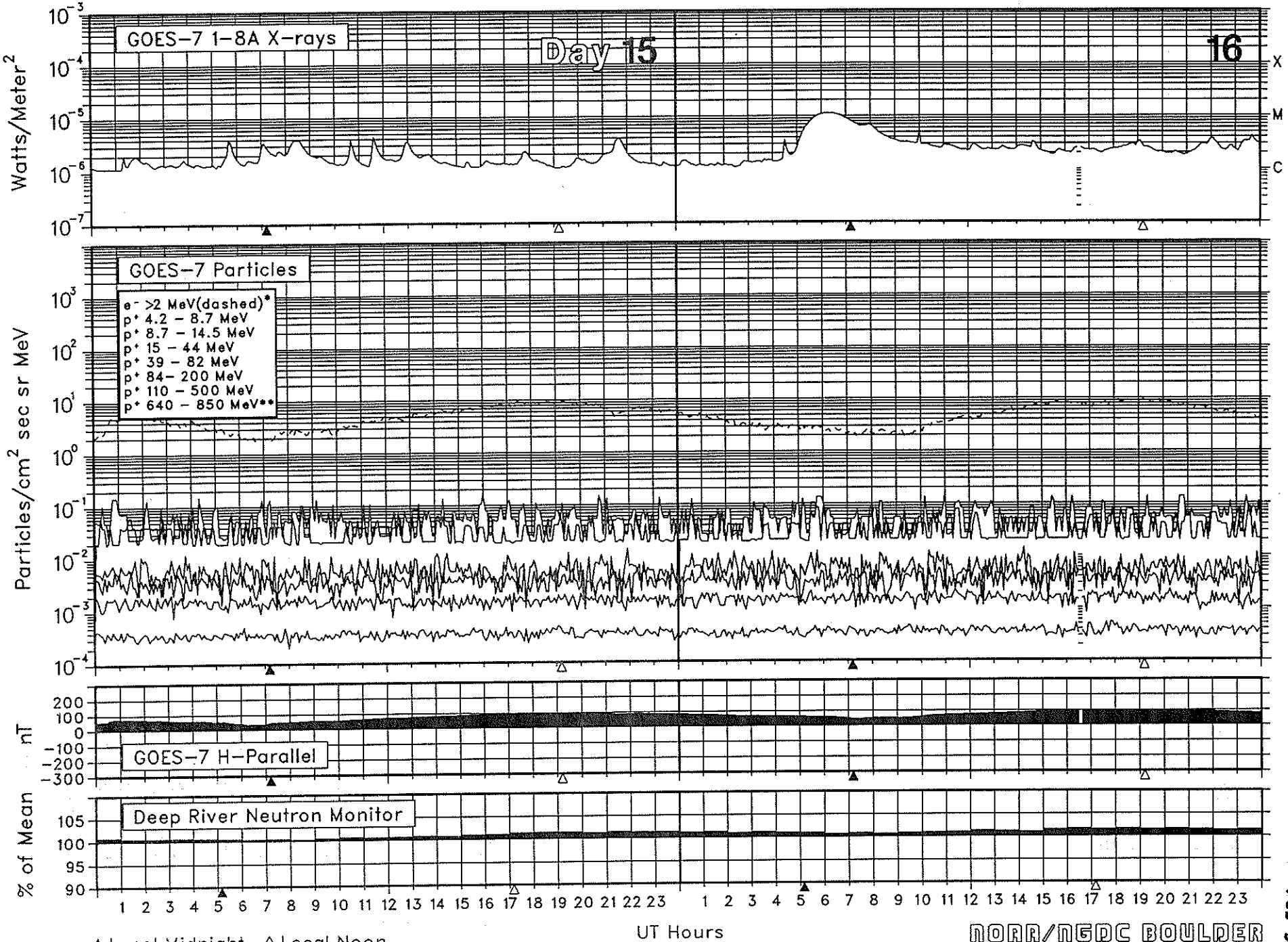
9 Feb 91

SOLAR-TERRESTRIAL ENVIRONMENT
February 1991

10 Feb 91



SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



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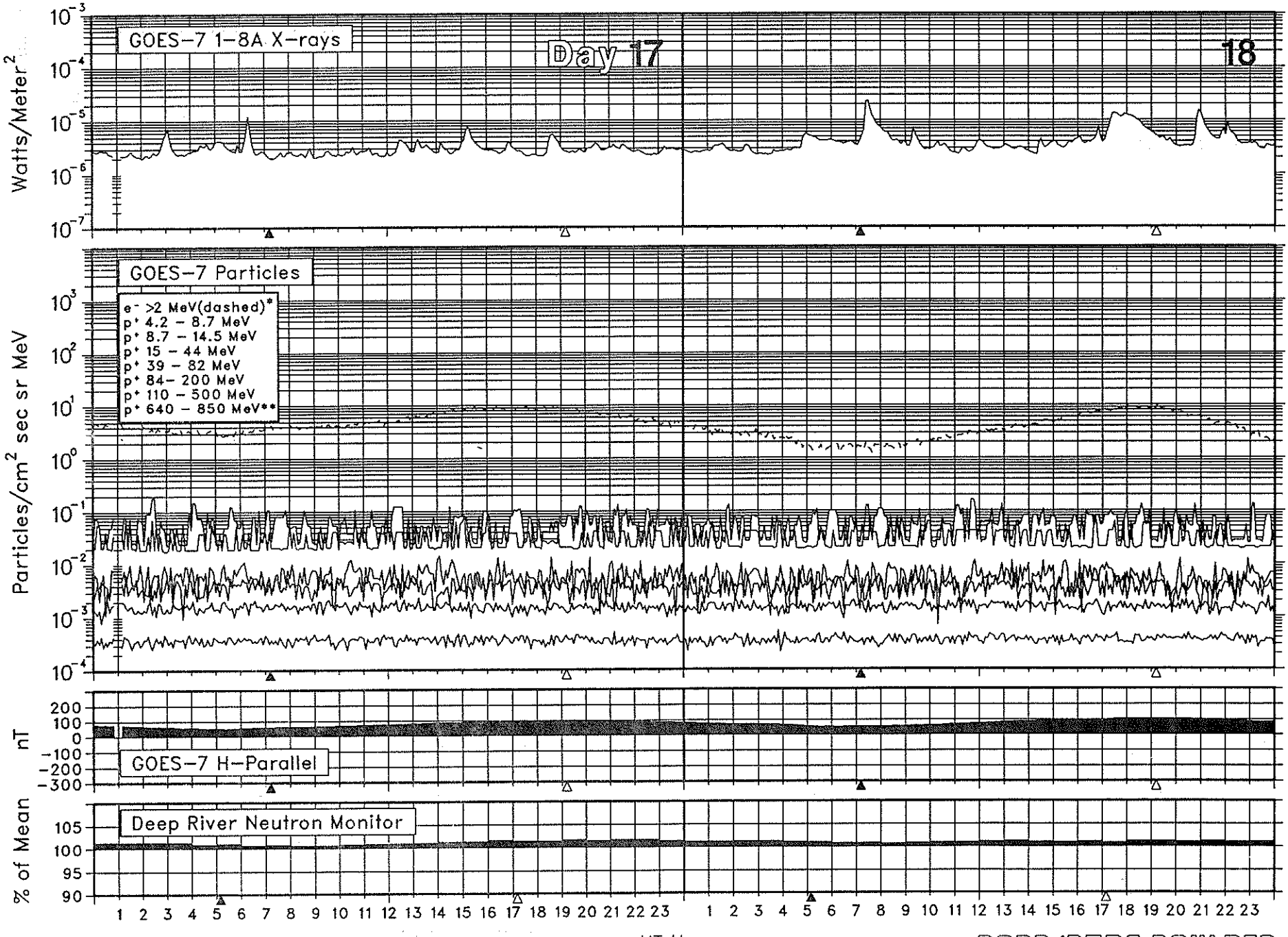
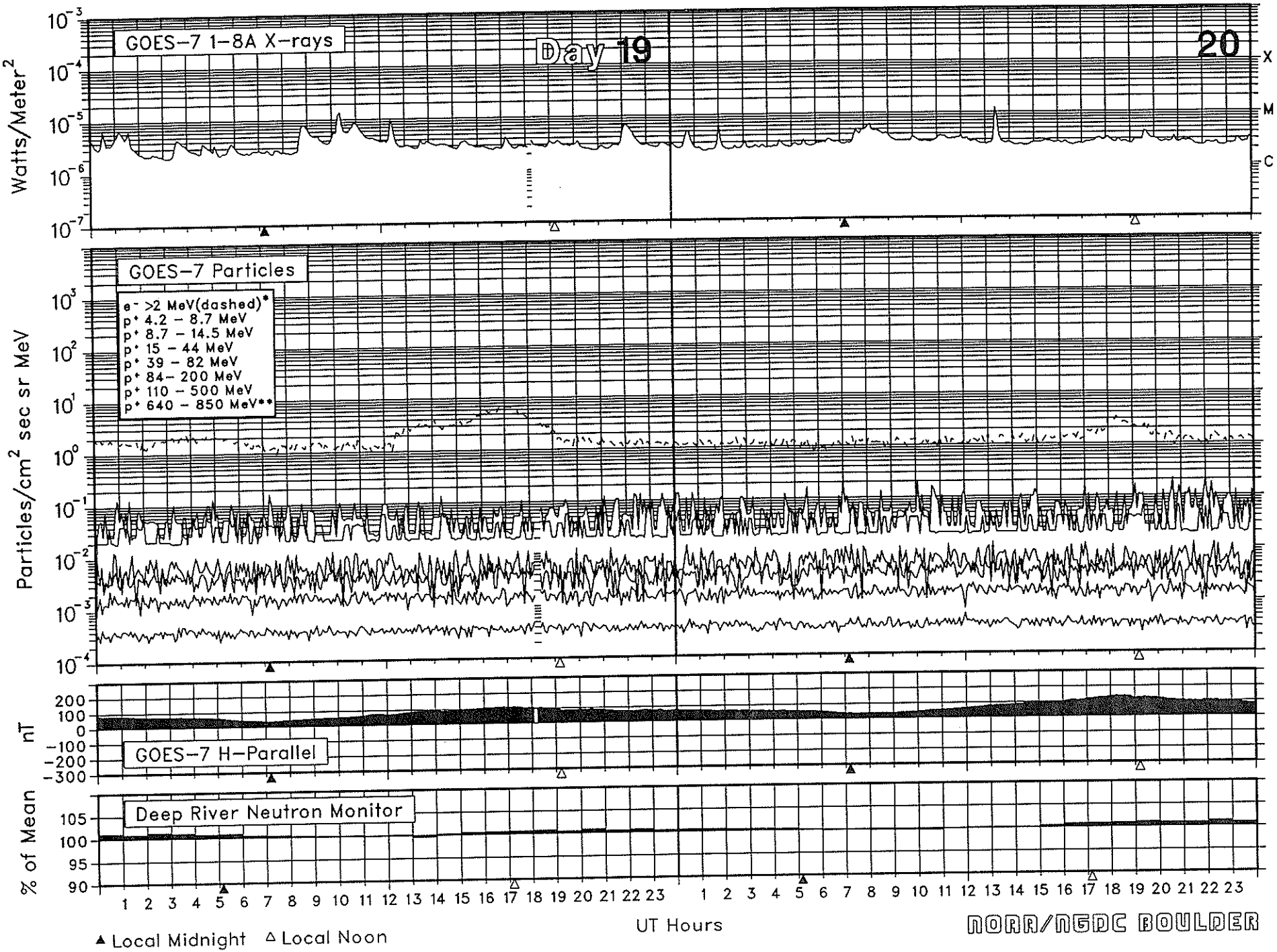
February 1991



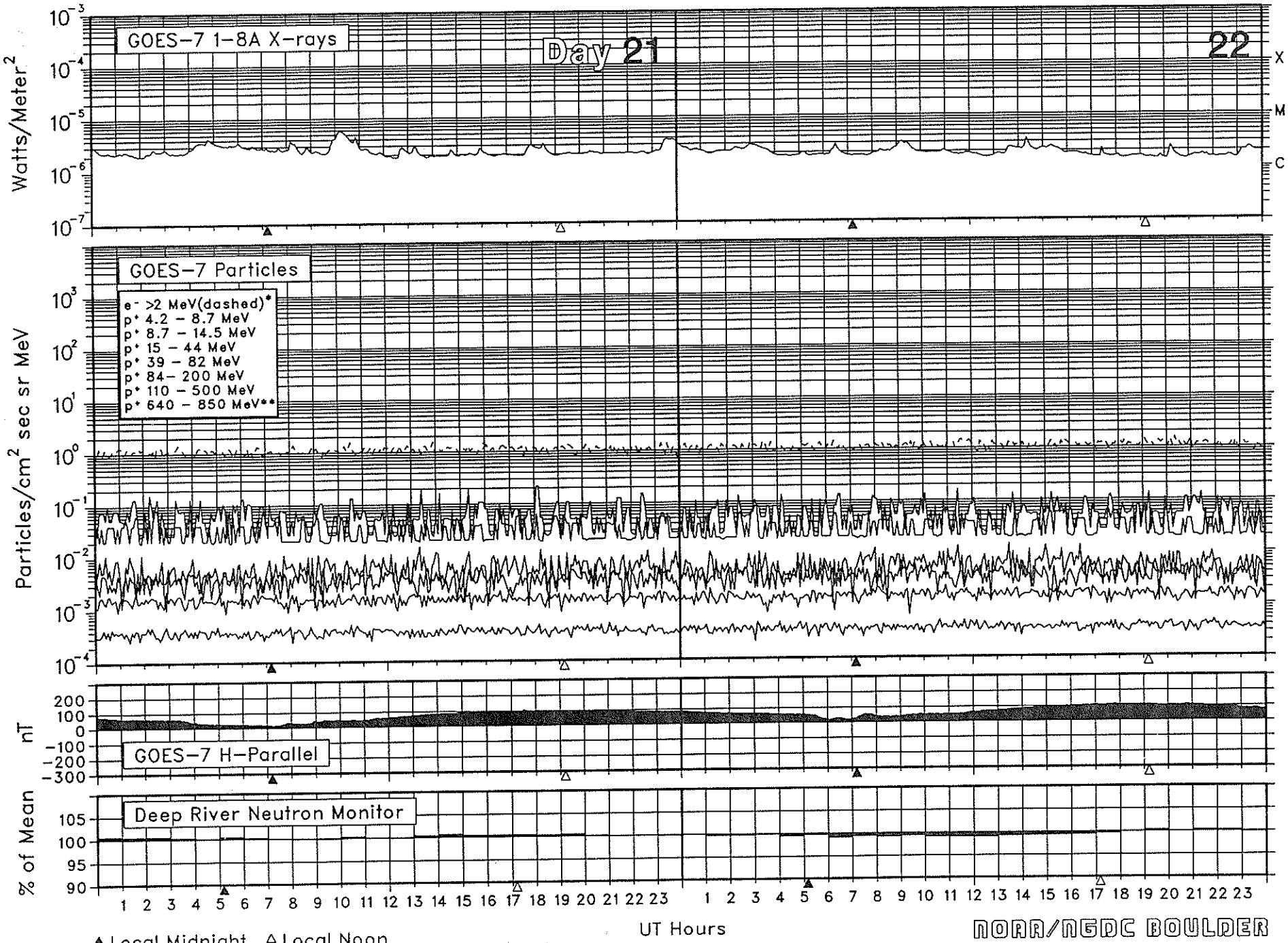
NOAA/NGDC BOULDER

SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



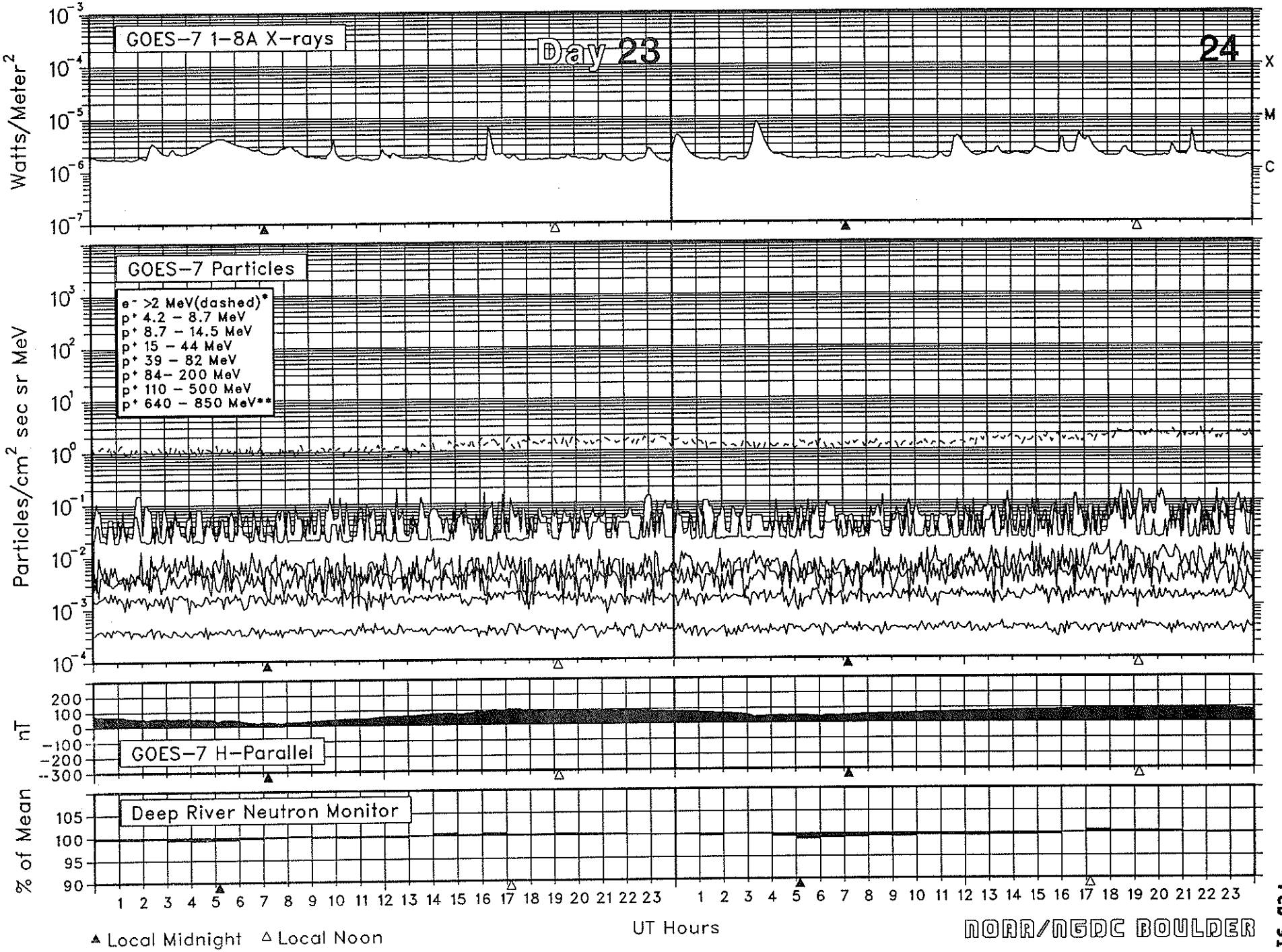
SOLAR-TERRESTRIAL ENVIRONMENT
February 1991

14 Feb 91



NOAA/NGDC BOULDER

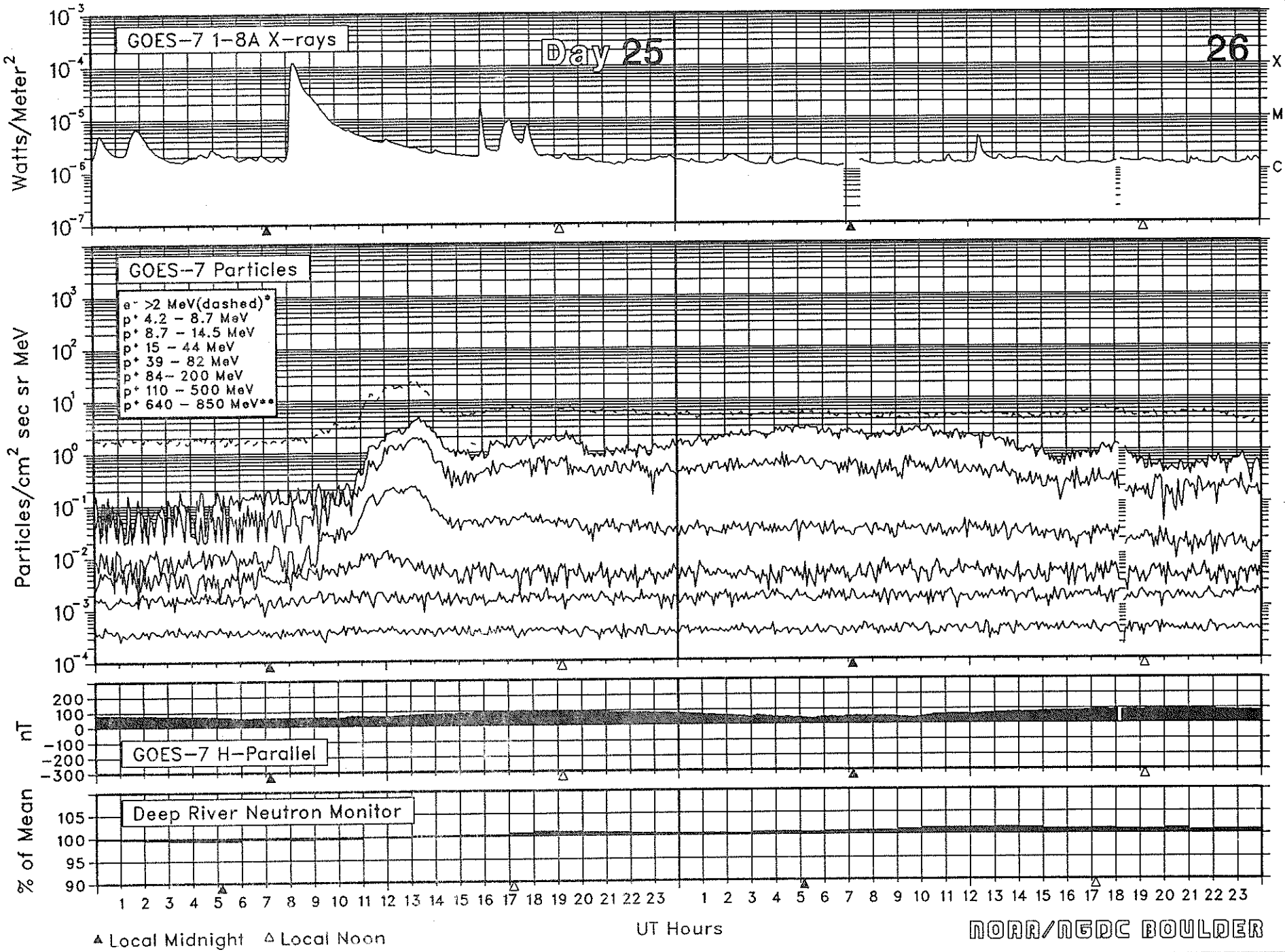
SOLAR-TERRESTRIAL ENVIRONMENT
February 1991



15 Feb 91

SOLAR-TERRESTRIAL ENVIRONMENT
February 1991

16 Feb 91



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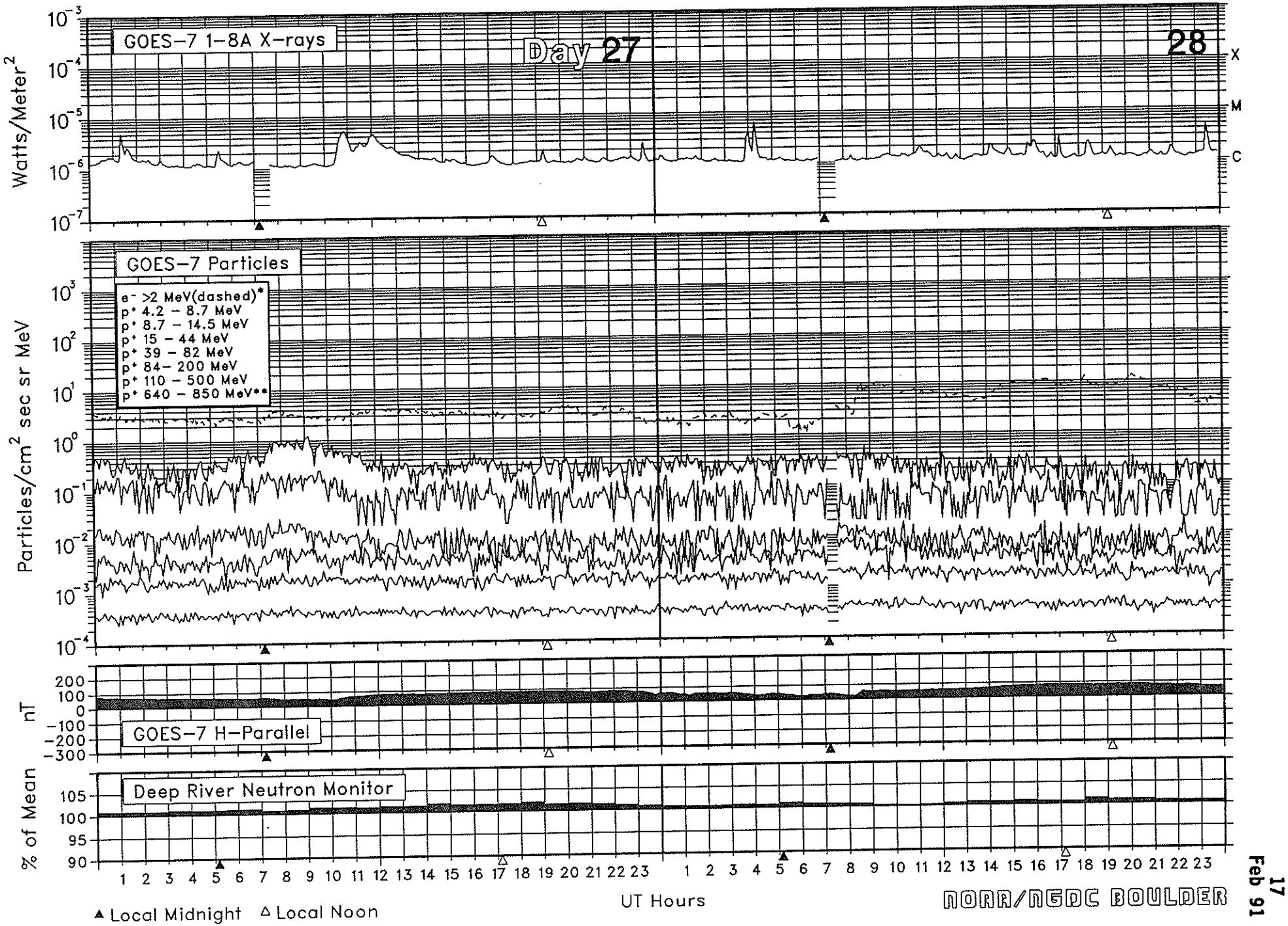
February 1991



ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
032	01	31	366	357	016	S18 W57	3	0	0	01	S18 W57	A	Solalert, 01/XX,
						N09 W68	0	0	0		N09 W68	Q	Magalert, 02/XX, Flare.
						S09 W53	5	0	0		S09 W53	A	
						S13 W40	4	0	1		S13 W40	A	
						S12 E02	3	0	0		S12 E02	A	
						N12 W43	1	0	0		N12 W43	Q	
						S14 E17	0	0	0		S14 E17	Q	
						S11 W31	0	0	0		S11 W31	Q	
						S16 W07	0	0	0		S16 W07	Q	
						N20 E30	3	0	0		N20 E30	E	
						S17 E24	0	0	0		S17 E24	Q	
						N05 E35	1	0	0		N05 E35	Q	
		Presto:[2]	Boulder	X-ray event X1/2B S11 W35 31/0153 UT duration 102 minutes.									
			Toyokawa	Tenflare 570 flux units 31/0153 UT in progress.									
			Boulder	Tenflare 600 flux units 31/0155 UT duration 128 minutes.									
			Boulder	Proton event began 31/1130 UT, maximum of 220 particles-cm^{-2}-s-ster at greater than 10 MeV 31/1615 UT, in progress.									
033	02	01	320	314	026	S17 W69	6	0	0	02	S17 W69	A	Solalert 02/XX,
						N09 W78	0	0	0		N09 W78	Q	Magalert 02/03.
						S09 W67	4	0	0		S09 W67	A	
						S13 W52	9	1	0		S13 W52	A	
						S12 W11	1	0	0		S12 W11	A	
						N11 W57	0	0	0		N11 W57	Q	
						S14 E05	0	0	0		S14 E05	Q	
						S16 W19	0	0	0		S16 W19	Q	
						N20 E17	1	0	0		N20 E17	E	
						S16 E11	0	0	0		S16 E11	Q	
						N05 E22	0	0	0		N05 E22	Q	
						S09 E71	0	0	0		S09 E71	Q	
						S21 E75	0	0	0		S21 E75	Q	
034	03	02	308	293	008	S18 W83	2	2	0	03	S18 W83	A	Solalert 03/XX, Magnil.
						S09 W81	0	0	0		S09 W81	A	
						S13 W66	12	4	0		S13 W66	A	
						S12 W25	2	0	0		S12 W25	A	
						N11 W73	0	0	0		N11 W73	Q	
						S14 W09	0	0	0		S14 W09	Q	
						S15 W36	0	0	0		S15 W36	Q	
						N20 E02	2	0	0		N20 E02	Q	
						S16 W03	0	0	0		S16 W03	Q	
						N04 E07	2	0	0		N04 E07	Q	
						S10 E58	2	0	0		S10 E58	Q	
						S22 E62	4	0	0		S22 E62	Q	
						N07 W64	0	0	0		N07 W64	Q	
035	04	03	277	265	005	S19 W90	0	0	0	04	S19 W90	E	Solalert 04/XX,
						S10 W93	1	0	0		S10 W93	Q	Magquiet.
						S13 W79	25	4	0		S13 W79	A	
						S12 W37	3	0	0		S12 W37	E	
						S14 W21	0	0	0		S14 W21	Q	
						S14 W51	0	0	0		S14 W51	Q	
						N21 W09	2	0	0		N21 W09	Q	
						S16 W16	0	0	0		S16 W16	Q	
						N05 W03	0	0	0		N05 W03	Q	
						S10 E42	1	0	0		S10 E42	Q	
						S22 E51	1	0	0		S22 E51	Q	
						S25 W33	0	0	0		S25 W33	Q	
						N15 E74	0	0	0		N15 E74	Q	
						N17 W22	0	0	0		N17 W22	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
036	05	04	213	245	004	S12 W91	12	4	0	05	S12 W91	E	Solalert, Magquiet.
						S12 W51	8	0	0		S12 W51	Q	
						S14 W35	2	0	0		S14 W35	Q	
						N21 W20	2	0	0		N21 W20	Q	
						S16 W29	0	0	0		S16 W29	Q	
						N05 W16	0	0	0		N05 W16	Q	
						S10 E28	0	0	0		S10 E28	Q	
						S22 E38	0	0	0		S22 E38	Q	
						S25 W45	0	0	0		S25 W45	Q	
						N15 E62	0	0	0		N15 E62	Q	
						N18 W35	0	0	0		N18 W35	Q	
037	06	05	194	222	007	S12 W65	8	0	0	06	S12 W65	E	Solalert 06/XX, Magquiet.
						S14 W48	0	0	0		S14 W48	Q	
						N22 W33	1	0	0		N22 W33	Q	
						S17 W44	1	0	0		S17 W44	Q	
						S10 E11	0	0	0		S10 E11	E	
						S22 E26	0	0	0		S22 E26	Q	
						N14 E50	0	0	0		N14 E50	Q	
						N18 W46	0	0	0		N18 W46	Q	
						S10 E18	0	0	0		S10 E18	Q	
						N14 E70	0	0	0		N14 E70	Q	
038	07	06	178	205	005	S12 W78	14	4	0	07	S12 W78	E	Solalert 07/XX, Magquiet.
						S14 W61	0	0	0		S14 W61	Q	
						N22 W47	0	0	0		N22 W47	Q	
						S17 W56	0	0	0		S17 W56	Q	
						S10 W03	1	0	0		S10 W03	Q	
						S22 E13	0	0	0		S22 E13	Q	
						N14 E37	1	0	0		N14 E37	Q	
						N18 W60	0	0	0		N18 W60	Q	
						S09 E05	0	0	0		S09 E05	Q	
						N15 E55	8	2	0		N15 E55	E	
		Presto:[2]	Boulder	Tenflare 350 flux units 06/0645 UT duration 9 minutes.									
			Toyokawa	Tenflare 320 flux units 06/0645 UT duration 11 minutes.									
039	08	07	174	208	009	S13 W92	6	1	0	08	S13 W92	E	Solalert 08/XX, Magquiet.
						S14 W75	0	0	0		S14 W75	Q	
						N22 W58	0	0	0		N22 W58	Q	
						S17 W70	0	0	0		S17 W70	Q	
						S10 W15	0	0	0		S10 W15	Q	
						S22 E01	0	0	0		S22 E01	Q	
						N14 E25	0	0	0		N14 E25	Q	
						N20 W66	0	0	0		N20 W66	Q	
						S09 W08	0	0	0		S09 W08	Q	
						N15 E40	2	1	0		N15 E40	E	
						S14 E72	0	0	0		S14 E72	Q	
		Presto:	Boulder	Tenflare 1900 flux units 07/2120 UT duration 7 minutes.									
040	09	08	161	200	015	S14 W86	0	0	0	09	S14 W86	Q	Solalert, Magquiet.
						N23 W67	0	0	0		N23 W67	Q	
						S17 W81	0	0	0		S17 W81	Q	
						S10 W28	3	0	0		S10 W28	Q	
						S21 W11	0	0	0		S21 W11	Q	
						N13 E12	2	0	0		N13 E12	Q	
						S09 W21	0	0	0		S09 W21	Q	
						N15 E28	8	0	0		N15 E28	A	
						S14 E58	0	0	0		S14 E58	Q	
						S11 E68	0	0	0		S11 E68	Q	
		Presto:	Boulder	Tenflare 160 flux units 08/0247 UT duration 5 minutes.									
			Boulder	Tenflare 200 flux units 08/0652 UT duration 68 minutes.									

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
041	10	09	225	179	014	S17 W92	0	0	0	10	S17 W92	Q	Solalert 10/XX, Magquiet.
						S10 W44	0	0	0		S10 W44	Q	
						S23 W25	0	0	0		S23 W25	Q	
						N14 W01	0	0	0		N14 W01	Q	
						S09 W35	0	0	0		S09 W35	Q	
						N14 E14	5	0	0		N14 E14	E	
						S15 E45	0	0	0		S15 E45	Q	
						S12 E54	0	0	0		S12 E54	Q	
						S07 E24	0	0	0		S07 E24	E	
						S05 E65	0	0	0		S05 E65	Q	
						S13 E13	0	0	0		S13 E13	Q	
						S21 E20	0	0	0		S21 E20	Q	
042	11	10	192	175	008	S11 W58	0	0	0	11	S11 W58	Q	Solnil, Magquiet.
						S23 W38	0	0	0		S23 W38	Q	
						N14 W15	0	0	0		N14 W15	Q	
						N14 E02	8	0	0		N14 E02	E	
						S15 E32	0	0	0		S15 E32	Q	
						S12 E40	0	0	0		S12 E40	Q	
						S07 E11	0	0	0		S07 E11	E	
						S05 E53	0	0	0		S05 E53	Q	
						S21 E08	0	0	0		S21 E08	Q	
						N22 E13	0	0	0		N22 E13	Q	
043	12	11	183	180	014	S11 W71	0	0	0	12	S11 W71	Q	Solquiet, Magquiet.
						N14 W28	3	0	0		N14 W28	Q	
						N14 W13	5	1	0		N14 W13	E	
						S15 E17	0	0	0		S15 E17	Q	
						S12 E27	2	0	0		S12 E27	Q	
						S07 W02	0	0	0		S07 W02	Q	
						S05 E40	0	0	0		S05 E40	Q	
						S21 W05	0	0	0		S21 W05	Q	
						N22 W00	0	0	0		N22 W00	Q	
						S10 E36	0	0	0		S10 E36	Q	
044	13	12	222	185	015	S11 W83	0	0	0	13	S11 W83	Q	Solquiet, Magquiet.
						N13 W39	4	0	0		N13 W39	E	
						N14 W25	0	0	0		N14 W25	E	
						S15 E05	0	0	0		S15 E05	Q	
						S10 E18	0	0	0		S10 E18	Q	
						S07 W17	0	0	0		S07 W17	Q	
						S06 E32	0	0	0		S06 E32	Q	
						S12 W24	1	0	0		S12 W24	Q	
						S21 W20	0	0	0		S21 W20	Q	
						N21 W13	0	0	0		N21 W13	Q	
						S09 E30	0	0	0		S09 E30	E	
						N26 E56	3	0	0		N26 E56	E	
045	14	13	259	185	010	N12 W53	4	0	0	14	N12 W53	E	Solquiet, Magquiet.
						N15 W38	2	0	0		N15 W38	E	
						S11 E04	0	0	0		S11 E04	Q	
						S08 W25	0	0	0		S08 W25	Q	
						S06 E14	0	0	0		S06 E14	Q	
						S13 W38	5	0	0		S13 W38	Q	
						S09 E08	0	0	0		S09 E08	Q	
						N27 E40	0	0	0		N27 E40	E	
						S14 E67	2	0	0		S14 E67	Q	
						N24 W45	0	0	0		N24 E45	Q	
						S07 W48	0	0	0		S07 W48	Q	
						S06 E25	0	0	0		S06 E25	Q	
						S11 W14	0	0	0		S11 W14	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
046	15	14	251	188	005	N12 W66	4	0	0	15	N12 W66	E	Solquiet, Magquiet.
						N14 W51	1	1	0		N14 W51	E	
						S11 W09	0	0	0		S11 W09	Q	
						S06 E03	0	0	0		S06 E03	Q	
						S12 W52	3	0	0		S12 W52	E	
						S06 W03	0	0	0		S06 W03	Q	
						N28 E27	1	0	0		N28 E27	Q	
						S14 E57	2	0	0		S14 E57	Q	
						N24 E33	1	0	0		N24 E33	Q	
						S06 E11	0	0	0		S06 E11	Q	
						S10 W28	0	0	0		S10 W28	Q	
						S13 W31	0	0	0		S13 W31	Q	
						S19 W24	0	0	0		S19 W24	Q	
047	16	15	265	194	006	N12 W81	3	0	0	16	N12 W81	E	Solquiet, Magquiet.
						N15 W64	1	0	0		N15 W64	E	
						S11 W23	0	0	0		S11 W23	Q	
						S07 W10	0	0	0		S07 W10	Q	
						S12 W67	2	0	0		S12 W67	E	
						S04 W17	1	0	0		S04 W17	Q	
						N28 E16	0	0	0		N28 E16	Q	
						S14 E45	1	0	0		S14 E45	Q	
						N24 E20	1	0	0		N24 E20	Q	
						S06 W02	2	0	0		S06 W02	Q	
						S10 W42	0	0	0		S10 W42	Q	
						S14 W45	0	0	0		S14 W45	Q	
						S19 W37	0	0	0		S19 W37	Q	
						S16 E76	1	0	0		S16 E76	E	
048	17	16	259	207	005	N12 W93	2	0	0	17	N12 W93	E	Solquiet, Magquiet.
						N15 W78	6	0	0		N15 W78	E	
						S12 W39	0	0	0		S12 W39	Q	
						S11 W35	0	0	0		S11 W35	Q	
						S07 W23	0	0	0		S07 W23	Q	
						S12 W82	0	0	0		S12 W82	E	
						S05 W30	0	0	0		S05 W30	Q	
						N28 E06	0	0	0		N28 E06	Q	
						S15 E36	0	0	0		S15 E36	Q	
						N23 E08	1	0	0		N23 E08	Q	
						S07 W15	0	0	0		S07 W15	Q	
						S09 W56	0	0	0		S09 W56	Q	
						S14 W59	3	0	0		S14 W59	Q	
						S20 W49	0	0	0		S20 W49	Q	
						S16 E63	3	0	0		S16 E63	E	
049	18	17	255	214	003	N13 W88	1	0	0	18	N13 W88	E	Solalert 18/XX,
						S12 W52	0	0	0		S12 W52	Q	Magquiet.
						S12 W93	0	0	0		S12 W93	Q	
						S05 W43	0	0	0		S05 W43	Q	
						N28 W07	0	0	0		N28 W07	Q	
						S11 E16	1	0	0		S11 E16	Q	
						N24 W05	2	0	0		N24 W05	E	
						S08 W68	3	0	0		S08 W68	E	
						S13 W71	0	0	0		S13 W71	Q	
						S16 E51	0	0	0		S16 E51	E	
						S13 E28	1	0	0		S13 E28	Q	
						N29 E48	2	0	0		N29 E48	Q	
						S04 E57	0	0	0		S04 E57	Q	
						S12 E80	0	0	0		S12 E80	Q	
						S20 E81	9	0	0		S20 E81	A	
						S17 E23	0	0	0		S17 E23	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
050	19	18	301	267	003	S12 W66	0	0	0	19	S12 W66	Q	Solalert 19/XX,
						S09 W57	0	0	0		S09 W57	Q	Magquiet.
						S04 W57	0	0	0		S04 W57	Q	
						N28 W22	0	0	0		N28 W22	Q	
						S11 E03	0	0	0		S11 E03	E	
						N24 W18	0	0	0		N24 W18	Q	
						S09 W82	6	0	0		S09 W82	E	
						S13 W86	0	0	0		S13 W86	Q	
						S16 E36	3	2	0		S16 E36	E	
						S12 E15	2	0	0		S12 E15	Q	
						N29 E39	1	0	0		N29 E39	Q	
						S04 E44	0	0	0		S04 E44	Q	
						S12 E71	1	0	0		S12 E71	E	
						S20 E70	1	0	0		S20 E70	A	
						S17 E10	0	0	0		S17 E10	Q	
						S23 W79	1	0	0		S23 W79	E	
051	20	19	330	267	008	S11 W79	0	0	0	20	S11 W79	Q	Solalert 20/XX,
						S03 W68	4	1	0		S03 W68	Q	Magquiet.
						S11 W10	1	0	0		S11 W10	Q	
						N24 W33	0	0	0		N24 W33	Q	
						S10 W95	1	1	0		S10 W95	Q	
						S15 E23	7	0	0		S15 E23	E	
						S13 E04	0	0	0		S13 E04	Q	
						N29 E26	0	0	0		N29 E26	Q	
						S04 E30	1	0	0		S04 E30	E	
						S13 E61	2	0	0		S13 E61	E	
						S21 E56	6	0	0		S21 E56	A	
						S15 W03	0	0	0		S15 W03	Q	
						S23 W91	3	0	0		S23 W91	Q	
						S08 W49	0	0	0		S08 W49	Q	
						N12 E66	0	0	0		N12 E66	Q	
						N17 E78	0	0	0		N17 E78	Q	
						N08 W20	0	0	0		N08 W20	Q	
052	21	20	303	286	009	S03 W83	1	1	0	21	S03 W83	E	Solalert 21/XX,
						S12 W23	3	0	0		S12 W23	E	Magquiet.
						N24 W46	0	0	0		N24 W46	Q	
						S16 E10	1	0	0		S16 E10	E	
						S12 W09	0	0	0		S12 W09	Q	
						N29 E13	1	0	0		N29 E13	Q	
						S03 E17	1	0	0		S03 E17	Q	
						S13 E49	3	0	0		S13 E49	E	
						S21 E44	2	0	0		S21 E44	E	
						S18 W16	0	0	0		S18 W16	Q	
						S07 W61	0	0	0		W07 W61	Q	
						N13 E55	2	0	0		N13 E55	Q	
						N17 E64	1	0	0		N17 E64	Q	
						N07 W32	0	0	0		N07 W32	Q	
053	22	21	325	302	011	S12 W36	2	0	0	22	S12 W36	E	Solalert, Magquiet.
						N24 W60	0	0	0		N24 W60	Q	
						S16 W03	4	0	0		S16 W03	E	
						N29 W00	0	0	0		N29 W00	Q	
						S03 E01	1	0	0		S03 E01	Q	
						S13 E38	4	0	0		S13 E38	E	
						S21 E31	4	0	0		S21 E31	E	
						S17 W29	0	0	0		S17 W29	Q	
						S07 W77	0	0	0		S07 W77	Q	
						N12 E41	0	0	0		N12 E41	Q	
						N17 E54	0	0	0		N17 E54	Q	
						N07 W47	0	0	0		N07 W47	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
053	22	21				S11 E77	0	0	0	22	S11 E77	Q	
						S12 E25	0	0	0		S12 E25	Q	
054	23	22	418	302	010	S12 W49	0	0	0	23	S12 W49	E	Solalert 23/XX,
						N24 W74	4	0	0		N24 W74	Q	Magquiet.
						S15 W17	1	0	0		S15 W17	E	
						S14 W35	0	0	0		S14 W35	Q	
						N30 W13	1	0	0		N30 W13	Q	
						S03 W13	1	0	0		S03 W13	Q	
						S13 E25	1	0	0		S13 E25	E	
						S21 E19	1	0	0		S21 E19	E	
						S06 W94	1	0	0		S06 W94	Q	
						N13 E27	0	0	0		N13 E27	Q	
						N18 E41	2	0	0		N18 E41	Q	
						N07 W60	2	0	0		N07 W60	Q	
						S11 E63	1	0	0		S11 E63	Q	
						S12 E14	0	0	0		S12 E14	Q	
						S19 E66	1	0	0		S19 E66	Q	
055	24	23	323	306	015	S12 W63	4	0	0	24	S12 W63	E	Solalert 24/XX,
						S16 W27	1	0	0		S16 W27	E	Magquiet.
						N29 W26	0	0	0		N29 W26	Q	
						S03 W26	2	0	0		S03 W26	Q	
						S13 E14	0	0	0		S13 E14	E	
						S21 E06	3	0	0		S21 E06	E	
						N12 E14	0	0	0		N12 E14	Q	
						N17 E27	0	0	0		N17 E27	Q	
						N08 W74	0	0	0		N08 W74	Q	
						S10 E49	1	1	0		S10 E49	E	
						S12 E01	1	0	0		S12 E01	Q	
						S18 E52	0	0	0		S18 E52	Q	
056	25	24	397	311	005	S11 W77	6	0	0	25	S11 W77	E	Solalert 25/XX,
						S15 W40	4	0	0		S15 W40	E	Magquiet.
						N30 W38	1	0	0		N30 W38	Q	
						S03 W37	2	0	0		S03 W37	Q	
						S13 W00	1	0	0		S13 W00	E	
						S20 W08	1	0	0		S20 W08	E	
						N12 E02	1	0	0		N12 E02	Q	
						N18 E13	1	0	0		N18 E13	Q	
						N08 W88	0	0	0		N08 W88	Q	
						S09 E35	1	0	0		S09 E35	E	
						S11 W13	1	0	0		S11 W13	Q	
						S20 E42	0	0	0		S20 E42	Q	
						S14 W24	0	0	0		S14 W24	Q	
						N17 E61	1	0	0		N17 E61	Q	
057	26	25	337	310	007	S11 W90	1	0	1	26	S11 W09	A	Solalert 26/XX,
						S16 W53	5	1	0		S16 W53	E	Magquiet.
						N29 W52	0	0	0		N29 W52	Q	
						S05 W48	2	0	0		S05 W48	Q	
						S14 W14	0	0	0		S14 W14	E	
						S20 W22	1	0	0		S20 W22	E	
						N12 W11	3	0	0		N12 W11	Q	
						N18 W00	1	0	0		N18 W00	Q	
						S07 E19	1	0	0		S07 E19	E	
						S11 W25	1	1	0		S11 W25	Q	
						S17 E33	0	0	0		S17 E33	Q	
						N17 E47	0	0	0		N17 E47	Q	
						S12 E01	1	0	0		S12 E01	Q	
						N27 W01	0	0	0		N27 W01	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — FEBRUARY 1991

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						°Lat °Long	Total	M	X		°Lat °Long		
057	26	25				N04 E53	1	0	0	26	N04 E53	Q	
						S10 E29	0	0	0		S10 E29	E	
		Presto:[2]	Boulder	X-ray event X1/3N S19 W85 25/0806 UT duration 26 minutes.									
			Boulder	Tenflare 1400 flux units 25/0808 UT duration 42 minutes.									
			Boulder	Proton event began 25/1210 UT, maximum of 11 particles-cm^{-2}-s-ster at greater than 10 MeV 25/1215 UT, in progress.									
058	27	26	347	274	007	S16 W64	1	0	0	27	S16 W64	E	Solnil, Magquiet
						N29 W66	0	0	0		N29 W66	Q	
						S14 W26	3	0	0		S14 W26	E	
						S20 W33	2	0	0		S20 W33	Q	
						N13 W27	0	0	0		N13 W27	Q	
						N18 W13	0	0	0		N18 W13	Q	
						S07 E05	1	0	0		S07 E05	Q	
						S12 W39	0	0	0		S12 W39	Q	
						S11 E20	0	0	0		S11 E20	Q	
						S12 W12	1	0	0		S12 W12	Q	
						N28 W14	0	0	0		N28 W14	Q	
						N04 E39	0	0	0		N04 E39	Q	
						S11 E15	1	0	0		S11 E15	Q	
059	28	27	301	251	011	S16 W77	4	0	0	28	S16 W77	E	Solquiet, Magquiet.
						N28 W79	4	0	0		N28 W79	Q	
						S14 W39	6	0	0		S14 W39	E	
						S22 W45	2	0	0		S22 W45	Q	
						N16 W43	3	0	0		N16 W43	Q	
						N17 W26	1	0	0		N17 W26	Q	
						S07 W08	2	0	0		S07 W08	Q	
						N18 E22	0	0	0		N18 E22	Q	
						S11 W28	0	0	0		S11 W28	Q	
						N28 W27	1	0	0		N28 W27	Q	
						N04 E25	0	0	0		N04 E25	Q	
						S11 E02	1	0	0		S11 E02	Q	
						S18 E08	0	0	0		S18 E08	Q	
						S16 W05	0	0	0		S16 W05	Q	
060	01	28	248	233	016	S16 W91	1	0	0	01	S16 W91	Q	Solquiet, Magquiet.
						S14 W53	5	0	0		S14 W53	E	
						S22 W58	1	0	0		S22 W58	Q	
						N16 W58	1	0	0		N16 W58	Q	
						N18 W40	0	0	0		N18 W40	Q	
						S07 W21	0	0	0		S07 W21	Q	
						S13 W04	0	0	0		S13 W04	Q	
						N18 E08	0	0	0		N18 E08	Q	
						S11 W43	0	0	0		S11 W43	Q	
						N28 W38	0	0	0		N28 W38	Q	
						N04 E10	0	0	0		N04 E10	Q	
						S11 W14	0	0	0		S11 W14	Q	
						S16 W18	0	0	0		S16 W18	Q	

[1] Q = quiet, E = eruptive, A = active, P = proton.

[2] Presto message is a rapid report of a major event.

STRATWARM ALERTS

01 February Stratwarm exists. Warming over the Aleutian area and over central Siberia today.
02 February Stratwarm exists. Minor warming continues over Siberia and south of Greenland.
03 February Stratwarm exists. Minor warming continues over Siberia and south of Greenland.
04 February Stratwarm exists. Warming over Siberia and Greenland–Labrador continues, warm air spreading polewards. In the lower stratosphere temperature gradient reversed between 60° North and the pole. Mean zonal wind at 60° North continuously weakening in the whole stratosphere. Major warming in progress.
05 February Stratwarm exists. Warm regions over Siberia and southern Greenland continue. In the lower and middle stratosphere, temperature gradient reversed between 60° North and the pole and mean zonal wind at 60° North continuously weakening. major warming in progress.
06 February Stratwarm exists. Warm region over Siberia continues, over southern Greenland weakening. in the lower and middle stratosphere temperature gradient reversed between 60° North and the pole and mean zonal wind at 60° North continuously weakening. Major warming in progress.
07 February Stratwarm exists. Warming over Siberia continues, spreading polewards in the lower and middle stratosphere. Temperature gradient reversed between 60° North and the pole. Weak mean zonal wind at 60° North from the west. Major warming in progress.
08 February Stratwarm exists. Warming over Siberia spreads further polewards. Temperature gradient between pole and 60° North reversed in the lower and middle stratosphere. Major warming in progress.
09 February Stratwarm exists. Warming over Siberia and the Siberian Arctic continues, spreading northeastwards. In the lower and middle stratosphere temperature gradient reversed between 60° North and the pole. Major warming in progress.
10 February Stratwarm exists. Warming over Siberia and the adjacent Arctic continues. A new warming over the Atlantic spreading northwards. Temperature gradient reversed between 60° North and the pole in the whole stratosphere. Weak westerly zonal mean wind at 60° North decreasing at 10 HPA. Major warming in progress.
11 February Stratwarm exists. Warming over Siberia and the Siberian and Canadian Arctic and over the Atlantic continues. Temperature gradient further reversed between 60° North and the pole in the whole stratosphere and weak westerly zonal mean wind at 60° North continues. Major warming in progress.
12 February Stratwarm exists. Warming over Siberia and the Siberian and Canadian Arctic and over the Atlantic continue. Temperature gradient further reversed between 60° North and the pole in the whole stratosphere and weak westerly zonal mean wind at 60° North continues. Major warming in progress.
13 February Stratwarm exists. Warming over Siberia and the Siberian and Canadian Arctic continues, warming over southwestern Europe and the Atlantic weakening. temperature gradient further reversed between 60° North and the pole in the lower and middle stratosphere and weak westerly zonal mean wind at 60° North continues. Major warming in progress.
14 February Stratwarm exists. Warming over Siberia and the Siberian and Canadian Arctic continues, slowly weakening.Temperature gradient reversed between 60° North and the pole from the lower stratosphere up to nearly 4 HPA. Weak westerly zonal mean wind at 60° North slowly decreasing at 10 HPA. Major warming in progress.
15 February Stratwarm exists. In the middle stratosphere polar region warmer than zonal mean at 60° North mean westerly wind component at 60° North lower than 10 ms^{-1}. Major warming in progress.
16 February Stratwarm exists. Further weakening of zonal mean flow (less than 10 ms^{-1} from west in the middle stratosphere) and reversed meridional temperature gradient between pole and 60° North with weak longitudinal temperature gradients. Major warming in progress.
17 February Stratwarm exists. Mean zonal flow at 60° North in the middle stratosphere very weak from west with reversed meridional temperature gradient towards the pole. Major warming in progress.
18 February Stratwarm exists. Major warming nearly finished and return to late winter conditions.

INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Mar 90	Apr	May	Jun	Jul	Aug	Sep	Oct†	Nov†	Dec†	Jan 91†	Feb†
01	173	103	70	96	272	146	120	115	77	127	139	205
02	171	114	59	80	253	175	116	117	81	160	79	209
03	163	113	61	73	264	151	126	140	108	171	93	180
04	126	127	86	77	241	137	134	134	146	186	95	140
05	98	132	80	79	213	128	118	123	154	167	100	127
06	104	138	106	101	186	124	118	124	197	169	119	117
07	105	128	132	107	173	120	112	135	209	182	105	119
08	88	128	138	99	135	136	112	141	208	177	99	118
09	71	88	133	87	102	145	113	148	188	176	94	134
10	80	82	116	107	88	160	121	153	163	157	97	136
11	73	88	126	126	106	161	116	195	167	157	106	140
12	85	77	146	115	110	167	124	192	151	138	113	153
13	83	123	144	122	114	192	142	201	129	117	145	166
14	90	142	141	118	118	215	178	202	106	98	119	163
15	110	171	144	102	98	229	162	227	107	88	114	173
16	129	170	157	110	95	232	156	192	95	99	133	159
17	123	199	167	100	87	269	137	182	103	112	154	142
18	167	203	170	83	57	270	136	181	97	121	127	191
19	202	213	187	79	61	290	151	181	104	134	119	206
20	217	206	187	68	81	295	145	169	98	124	91	192
21	211	212	193	57	123	278	150	136	102	125	107	223
22	195	207	187	71	143	262	141	140	125	99	106	214
23	206	174	160	64	165	281	117	134	114	91	127	200
24	209	157	158	88	201	276	101	131	118	95	135	192
25	204	160	146	94	204	263	94	125	110	98	149	194
26	188	118	134	103	196	220	93	102	111	91	179	187
27	168	124	139	140	177	188	77	104	109	104	220	175
28	129	103	121	184	165	176	113	114	134	111	237	134
29	132	94	118	203	144	186	119	98	152	109	248	
30	133	114	90	230	117	181	115	87	153	103	239	
31	115		101		142	155		77		96	256	
Mean	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.2	130.5	128.5	136.9	167.5

† = preliminary. The preliminary yearly mean sunspot number equals 142.4 for 1990.

Algonquin Radio Observatory — OTTAWA 2800 MHz (10.7 cm) SOLAR FLUX — Adjusted to 1 AU

Day	Mar 90	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 91	Feb
01	200.0	159.2	129.0	140.6	248.3	199.0	171.4	160.5	141.6*	172.6	180.6	307.3
02	192.7	153.3	129.2	141.2	267.6	208.6	168.9	162.8	138.5	178.0	175.8	289.3
03	176.3*	151.6	125.2	146.1	253.8	192.4	162.6	177.4*	150.2	187.6	170.0	258.4
04	168.9	148.6*	123.6	148.1	238.3*	191.2	158.2*	186.8	154.7	199.3	170.2	239.2
05	161.7	156.5	130.6	153.7	231.6	180.8	157.5	170.0	169.7	207.0*	172.9	216.5
06	163.8*	150.2	151.0	161.4	221.8	174.6	157.6	170.0	196.4	221.0	179.7*	198.7
07	168.1	155.0	155.5	183.6	215.7	172.1	165.1	169.3	214.3	222.0	199.6	192.7
08	157.1*	152.3	170.7	195.5	189.6	184.8	163.5	175.9*	211.8	223.6	207.9	192.7
09	150.9*	146.8	174.6	203.9*	170.9	183.2	170.4	183.9	201.2	230.3	209.1	174.0
10	149.0	149.3	195.4	207.5*	164.0	186.3	171.2	194.7	191.1	233.4	214.6	169.5
11	142.5	160.8	205.4*	217.2	160.2	187.1	180.6	205.1	195.0	233.4	209.4	176.5
12	146.1	169.9	215.2	221.8*	160.9	188.2	193.3	200.6	191.0	228.0	201.6	181.6
13	146.3	195.5*	225.8	208.8	161.5	192.5	198.0	209.4	181.5	219.5	190.5	182.2
14	149.8*	215.7	224.2*	206.8	155.4	188.2*	209.4*	220.6	198.0	195.3	184.5	184.0
15	164.2*	222.9	246.6	196.3	149.1	199.6	207.3	231.6	207.3	193.2	184.6	191.9
16	178.1	226.3*	251.5	189.9	146.5	211.0	205.2	224.6	207.3	186.2	181.8	200.4
17	182.0	236.7*	248.9	187.5	147.6	228.4	210.7	193.7	217.1	192.5	202.0	210.2
18	196.4	243.0	271.8	169.5	144.7	246.1	207.5	198.2	198.9	201.6	196.8	259.6
19	216.3	244.2*	280.0	163.5	145.3	268.0*	213.8	214.2*	191.2	191.2	192.3	269.8
20	223.9*	257.1	272.5	161.2	154.0	288.7	204.0	201.7	186.8	181.6	197.5	283.8
21	227.6	239.6	259.2	155.8	159.2	298.3	203.2	188.7	177.6	185.8	195.9	299.2
22	243.1*	232.8	250.0	145.2	166.0*	322.8*	195.3	167.9	177.4	178.1	217.5*	302.6
23	245.3	226.3	239.5	139.1	180.4	322.7	185.4	164.0	171.7	185.6	216.0	311.5
24	231.3	217.4	209.2	143.8	186.6	329.2	178.7	157.5	167.2	184.9	236.8	313.1*
25	223.9*	198.3	189.1	149.3	213.6	303.9	167.1	161.8	162.3	185.0	260.9	288.4*
26	226.9	188.9*	186.3	154.5	209.9	285.1*	159.6	153.5	153.2	188.1	276.9	271.8
27	215.1	169.8	164.6	173.4*	197.2	269.2	152.6	162.5	155.0	191.9	293.8J	248.7
28	206.0	152.7	159.3	187.7	193.1	250.2	152.1	150.9	167.1	192.4	313.8	228.0
29	184.1	140.9	144.8	210.8	180.3	225.2	150.1	155.9	163.2	195.5	344.5	
30	186.5E	136.9	142.5*	226.6	188.3	210.4	157.8	151.1*	169.6	189.6	359.2	
31	172.8		142.5*		183.4	182.9*		141.6		180.6	348.6	
Mean	187.0	186.6	194.0	176.3	186.6	228.1	179.3	180.9	180.3	198.5	222.1	237.2

* = corrected for burst in progress; E = corrected for snow on antenna; J = no calibration due to burst.

DAILY SOLAR INDICES

February 1991

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Amer	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit — SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
01	32	18	205	212	316.5	636	454	408	307.3	323	192	110	71	37
02	33	19	209	192	297.9	632	293	352	289.3	279	175	96	58	37
03	34	20	180	167	265.9	623	359	321	258.4	245	160	96	68	69
04	35	21	140	149	246.1	616	350	300	239.2	231	149	92	51	33
05	36	22	127	131	222.7	583	313	265	216.5	215	153	92	55	40
06	37	23	117	122	204.4	564	296	242	198.7	193	136	90	53	35
07	38	24	119	118	198.1	423	283	240	192.7	201	137	80	45	25
08	39	25	118	113	198.0	583	309	251	192.7	193	128	80	43	20
09	40	26	134	129	178.7	555	291	223	174.0	181	133	78	41	17
10	41	27	136	136	174.0	550	287	216	169.5	177	129	77	40	15
11	42	1	140	136	181.1	561	280	217	176.5	171	120	80	41	18
12	43	2	153	151	186.4	569	286	224	181.6	176	122	83	42	18
13	44	3	166	179	186.8	560	284	216	182.2	175	123	73	42	19
14	45	4	163	187	188.6	526	262	204	184.0	179	125	70	38	18
15	46	5	173	176	196.6	561	291	224	191.9	184	125	77	42	18
16	47	6	159	167	205.3	591	304	244	200.4	192	128	84	45	20
17	48	7	142	150	215.2	593	327	265	210.2	205	132	81	44	19
18	49	8	191	191	265.7	626	373	322	259.6	245	151	89	47	38
19	50	9	206	213	276.0	597	367	339	269.8	257	159	89	47	28
20	51	10	192	216	290.2	585	380	370	283.8	273	165	95	51	48
21	52	11	223	230	305.8	612	375	362	299.2	284	173	96	49	37
22	53	12	214	219	309.2	608	356	355	302.6	280	177	97	48	--
23	54	13	200	210	318.1	611	385	376	311.5	318	209	109	53	48
24	55	14	192	188	319.6*	603	358	347	313.1*	291	193	109	49	24
25	56	15	194	201	294.3*	603	354	326	288.4*	278	188	104	47	17
26	57	16	187	187	277.2	593	341	306	271.8	259	177	101	48	18
27	58	17	175	179	253.6	588	334	280	248.7	249	176	96	47	20
28	59	18	134	160	232.3	593	321	269	228.0	221	151	92	45	20
Mean			167.5	171.8	243.0	584	329	288	237.2	231	153	90	48	28

The International numbers shown above are preliminary values; the American numbers are final.

The observed and the adjusted Ottawa fluxes tabulated here are the "Series C" daily values reported by the Algonquin Radio Observatory, Ottawa, Ontario, Canada. Numbers in parentheses in the column headings denote frequencies in MHz. Qualifiers after an entry have the following meaning:

* = corrected for burst in progress.

Equipment problems produced any gaps in the Air Weather Service's Sagamore Hill (SGMR) observations.

SMOOTHED (OBSERVED AND PREDICTED) SUNSPOT NUMBERS: CYCLES 21 AND 22

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	120	117	115	109	101	96	95	95
1983	93	90	86	82	77	70	66	66	68	68	67	64
1984	60	56	53	50	48	46	44	40	34	29	25	22
1985	20	20	19	18	18	18	17	17	17	17	17	15
1986	14	13	13	14	14	14	14	13	12*	13	15	16
1987	18	20	22	24	26	28	31	35	39	44	47	51
1988	58	65	71	78	84	94	104	114	121	125	130	138
1989	142	145	150	154	157	158	159	158	157	157	158	154
1990	151	153	152	149	147	144	140	140	138	134	131	129
									(5)	(9)	(9)	(8)
1991	129	127	126	125	125	123	121	118	115	114	114	113
	(10)	(12)	(15)	(21)	(22)	(19)	(18)	(17)	(14)	(13)	(15)	(17)
1992	112	109	106	103	100	98	96	93	91	87	83	77
	(17)	(14)	(9)	(6)	(9)	(6)	(9)	(12)	(13)	(14)	(19)	(24)

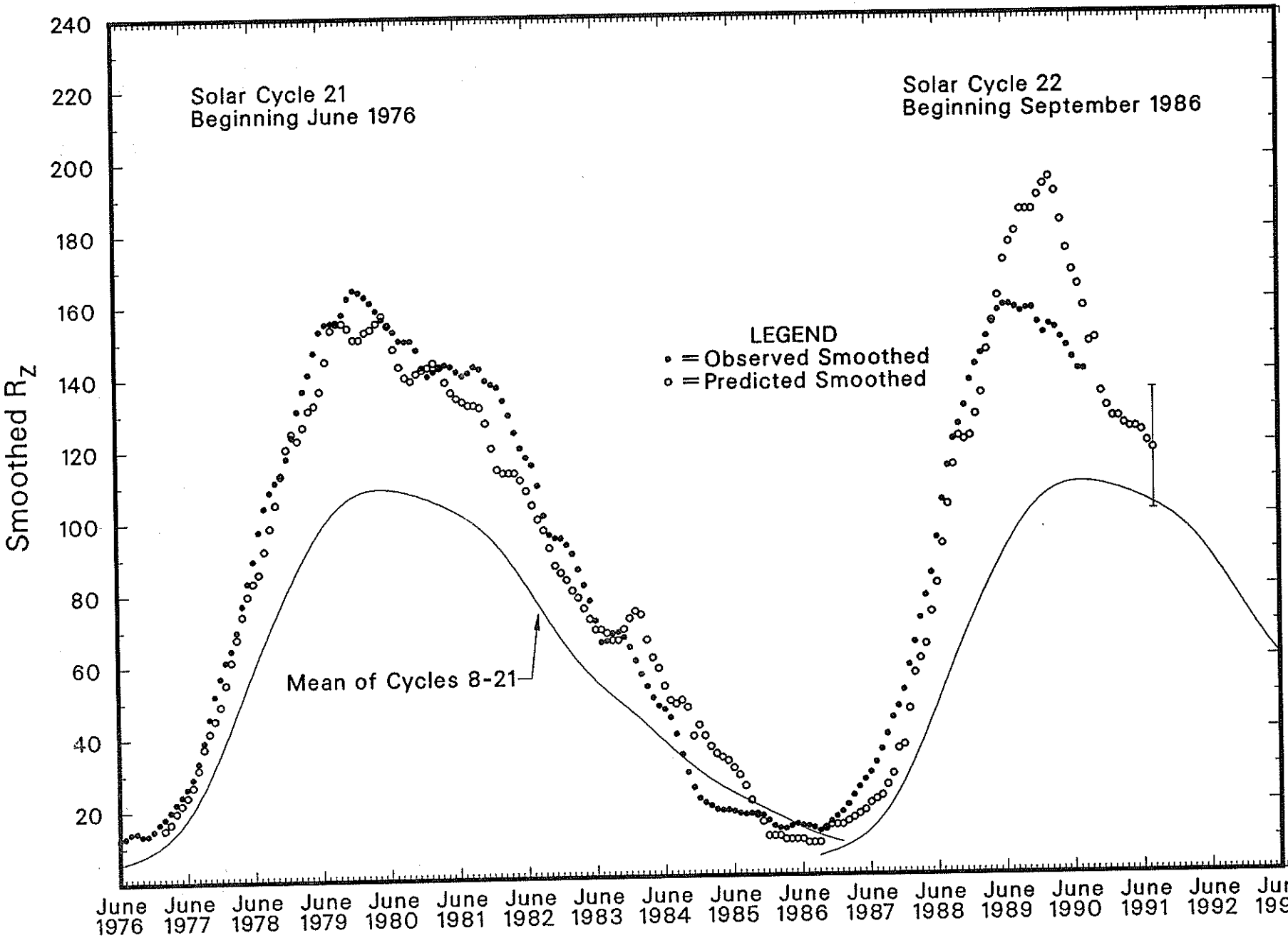
*September 1986 marks the onset of Sunspot Cycle 22.

For the end of Solar Cycle 21, and the beginning of 22, the table gives observed smoothed sunspot numbers up to the one calculated from the most recently available monthly mean. These smoothed observed values are based on final, monthly means through September 1990 and on provisional numbers thereafter.

Table entries, with numbers in parentheses below them, denote predictions by the McNish-Lincoln method. (See page 9 in the July 1987 supplement to *Solar-Geophysical Data*.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number from the predicted value generates the lower limit. Consider, for example, the August 1991 prediction. There exists a 90% chance that in August 1991 the actual smoothed sunspot number will fall somewhere between 101 and 135.

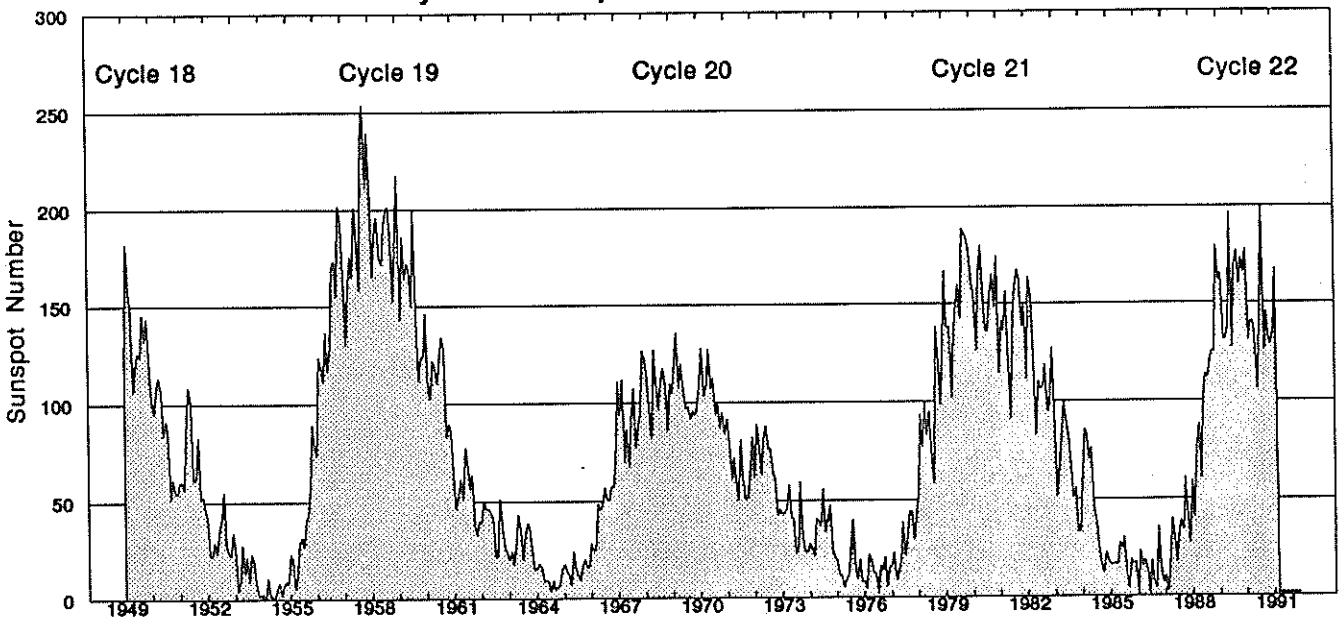
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED, MONTHLY MEAN SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles used in the computation. Moreover, the method is very sensitive to the data defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. The new cycle predictions tabulated above are based on the minimum value of 12.3 that occurred in September 1986.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SUNSPOT NUMBERS



29 Feb 91

Monthly Mean Sunspot Numbers Jan 1949 – Feb 1991



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6	134.7	
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9	
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4	
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5	
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9	
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4	m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0	
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7	
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2	M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8	
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0	
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	112.3	
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9	
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6	
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9	
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2	m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1	
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0	
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8	
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	103.8	105.9	M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5	
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5	
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6	
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9	
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0	
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5	
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5	
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6	m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5	
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5	
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4	M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6	
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4	
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9	
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6	
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9	
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9	
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4	m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.4	
1988	59.0	40.0	76.2	88.0	60.1	101.8	113.8	111.6	120.1	125.1	125.1	179.2	100.2	
1989	161.3	165.1	131.4	130.6	138.5	196.2	126.9	168.9	176.7	159.4	173.0	165.5	157.6	
1990	177.3	130.5	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.2	130.5	128.5	142.1	
1991	136.9	167.5											152.2	

Monthly values are preliminary since Oct 1990. For the yearly means, each "M" marks a sunspot cycle maximum and each "m" a minimum.

Hα S O L A R F L A R E S

FEBRUARY 1991

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
PALE	01	0036E	0052U	0311D	S04	W55	6466	01	28.0	155D	SF	C 9.2	3	E		85		
GOES		0511	0516	0525						14		C 4.3						
LEAR		0527	0535	0602	S13	E00	6471	02	1.2	35	SF		3	E		80		F
LEAR		0604	0606	0702	S04	W58	6466	01	28.0	58	SF		3	E		63		F
LEAR		0606	0608	0616	S16	W43	6469	01	29.1	10	SF	M 1.0	3	E		12		F
LEAR		0623	0643	0652	S17	W40	6469	01	29.3	29	SF		3	E		40		
GOES		0720E	0723	0732D						12D		C 8.4						
SVTO		0831	0831	0842	S12	W39	6469	01	29.5	11	SF	C 5.0	3	E		22		F
GOES		1118	1147	1154						36		M 1.1						
GOES		1224	1229	1231						7		C 8.3						
GOES		1246	1303	1320						34		M 1.4						
SVTO		1441	1447	1508	S16	W48	6469	01	29.1	27	SF	C 5.4	2	E		20		F
HOLL		1453E	1457U	1504	S15	W46	6469	01	29.2	11D	SF		2	E		18		F
RAMY		1613	1621	1646	S15	W49	6469	01	29.1	33	SF		2	E		34		
HOLL		1618	1618	1633	S15	W47	6469	01	29.2	15	SN	C 6.2	3	E		28		F
HOLL		1644	1645	1650	S19	W65	6462	01	27.8	6	SF	C 4.3	3	E		32		F
RAMY		1735	1737	1807	S17	W64	6462	01	28.0	32	SF	C 8.7	3	E		38		
HOLL		1739	1741	1750	S16	W68	6462	01	27.7	11	SF		3	E		40		F
HOLL		1858	1904	1911	S15	W51	6469	01	29.0	13	SF		3	E		47		F
RAMY		1911	1917	1930	S19	W58	6462	01	28.5	19	SF		2	E		25		
PALE		1912	1914U	1954	S20	W59	6462	01	28.4	42	SF		3	E		85		
RAMY		1913	1917	1926	S15	W50	6469	01	29.1	13	SF		2	E		24		
HOLL		1934	1946	2002	S18	W60	6462	01	28.3	28	SF		2	E		42		F
HOLL		1942	2002	2043	S15	W51	6469			61	SF	C 8.1		E		35		K
HOLL		1942	2013	2043	S15	W51	6469	01	29.0	61	SF		3	E		74		F
PALE		1952E	2004U	2025	S16	W49	6469	01	29.2	33D	SF		3	E		41		
PALE		1956	2002U	2005	S18	W65	6462	01	28.0	9	SF		3	E		35		
RAMY		2002	2004	2016	S15	W51	6469	01	29.1	14	SF		3	E		28		
PALE		2007	2027	2039	S19	W63	6462	01	28.1	32	SF		3	E		78		
RAMY		2014	2022	2036	S19	W58	6462	01	28.5	22	SF		3	E		43		
HOLL		2017	2021	2032	S19	W61	6462	01	28.3	15	SF		3	E		58		F
PALE		2027	2044	2112	S10	W68	6466	01	27.8	45	SF		3	E		56		
HOLL		2045	2050	2106D	S10	W63	6466	01	28.2	21D	SF		3	E		40		F
LEAR		2332	2334	2407	S12	W63	6466	01	28.3	35	SF	C 4.0	3	E		77		
PALE		2333	2334	2404	S13	W64	6466	01	28.2	31	SF	C 4.0	3	E		27		
LEAR	02	0122	0133	0212D	N15	E09	6476	02	2.7	50D	SF		3	E		62		F
LEAR		0132	0138	0145	S10	E66	6480	02	7.0	13	SF		3	E		36		
PALE		0136	0137	0143	S09	E66	6480	02	7.0	7	SF		3	E		18		
PALE		0228	0247	0257	S09	E67	6480	02	7.1	29	SF		3	E		73		
PALE		0322	0332	0339	N03	E22	6479	02	3.8	17	SF		3	E		25		
LEAR		0358	0359	0405	N04	E20	6479	02	3.7	7	SF		3	E		29		F
LEAR		0429	0438	0442	S15	W56	6469	01	29.0	13	SF		3	E		50		
LEAR		0623	0709	0821	S15	W58	6469	01	29.0	118	1N	C 4.7	3	E		126		FE
GOES		0705E	0708	0722D						17D		M 1.0						
LEAR		0745	0754	0807	S22	E81	6481	02	8.5	22	1F		3	E		234		
LEAR		0815	0824	0834	S18	W76	6462	01	27.6	19	1F	M 1.1	3	E		119		F
LEAR		0828	0834	0845	S15	W60	6469	01	28.9	17	SF		3	E		29		F
LEAR		1002	1009	1029	S15	W59	6469	01	29.0	27	SF	M 1.0	3	E		49		F
SVTO		1004	1012	1036	S15	W59	6469	01	29.0	32	SF		3	E		65		
SVTO		1032	1116	1222	S15	W20	6471	01	31.9	110	SF		3	E		77		F
SVTO		1046	1100	1129	S18	W63	6469	01	28.7	43	SF		3	E		68		
SVTO		1141	1153	1204	S23	E76	6481	02	8.3	23	SF		3	E		48		
SVTO		1143	1146	1220	S16	W62	6469	01	28.9	37	1N	M 1.3	3	E		119		F
SVTO		1146	1149	1151	N20	E06	6476	02	2.9	5	SF		3	E		10		F
SVTO		1216	1218	1224	S21	E74	6481	02	8.2	8	SF		3	E		30		
SVTO		1259	1314	1350	S18	W60	6469	01	29.1	51	1F		3	E		132		F
RAMY		1318E	1320	1338D	S14	W57	6469	01	29.3	20D	2N	M 1.2	3	E		302		
SVTO		1339	1352	1433	S19	W80	6462	01	27.6	54	SF	M 2.0	3	E				
SVTO		1552	1554	1629	S15	W62	6469	01	29.1	37	SF		3	E				
HOLL		1817E	1823U	1828D	S15	W66	6469	01	28.9	11D	SF		1	E		47		
HOLL		1818E	1819U	1828D	S13	W22	6471	02	1.1	10D	SF		1	E		22		
RAMY		1852	1853	1920	S14	W63	6469	01	29.1	28	SF		3	E		11		
HOLL		1902	1904U	1921	S14	W64	6469	01	29.0	19	SF		2	E		33		FH
RAMY		1923	1939	1950	S14	W63	6469	01	29.1	27	SF		2	E		27		F
GOES		2146E	2149	2157D						11D		C 9.6						
GOES		2224E	2228	2238D						14D		M 1.1						
GOES		2308E	2311	2318D						10D		C 8.3						

Hα S O L A R F L A R E S

FEBRUARY 1991

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
LEAR	02	2328	2334	2345	S22	E70	6481	02	8.3	17	SF		3	E		42		F
GOES		2343	2344U	2345						2		C 8.1						
LEAR	03	0017	0021	0031	S16	W65	6469	01	29.2	14	SB	M 1.1	3	E		91		
LEAR		0102	0105	0128	S16	W69	6469	01	28.9	26	SF	C 6.8	3	E		64		
LEAR		0118	0118	0124	S24	E65	6481	02	8.1	6	SF		3	E		37		F
GOES		0156E	0215	0301D						65D		C 5.3						
LEAR		0230	0234	0301	N20	E10	6476	02	3.9	31	SF		3	E		24		F
LEAR		0611	0613	0617	S14	W68	6469	01	29.2	6	SF		3	E		32		F
GOES		0628E	0635	0640D						12D		C 4.5						
SVTO		0701	0701	0709	S18	W80	6469	01	28.3	8	SF		2	E		54		
LEAR		0720	0726	0731	S14	W68	6469	01	29.3	11	SF		3	E		42		F
LEAR		0731	0738	0744	S14	W68	6469	01	29.3	13	SF		3	E		52		F
SVTO		0734	0811	1010D	S16	W74	6469			156D	SN			E		39		K
SVTO		0734	0922	1010D	S16	W74	6469	01	28.8	156D	SF		3	E		89		
SVTO		0812	0813	0825	S16	W33	6471	01	31.8	13	SF		3	E		24		
LEAR		0842	0849	0855	S14	W69	6469	01	29.2	13	SF	M 1.1	3	E		21		F
LEAR		0915	0916	0948	S14	W69	6469	01	29.3	33	SN	M 2.2	3	E		49		
GOES		1022	1025	1029						7		C 7.3						
SVTO		1051E	1053	1142D	S17	W74	6469	01	28.9	51D	1N	M 2.7	3	E		166		H
RAMY		1148	1153	1156	S15	W75	6469	01	28.9	8	SF		3	E		22		
SVTO		1151	1207	1228	S17	W74	6469	01	29.0	37	SF		2	E		53		
RAMY		1202	1207	1217	S14	W71	6469	01	29.2	15	SF	C 5.8	3	E		33		F
SVTO		1205	1208	1226	N20	E03	6476	02	3.7	21	SF		2	E		43		
RAMY		1205	1208	1228	N20	E04	6476	02	3.8	23	SF		3	E		17		F
RAMY		1218	1225	1254	S15	W75	6469			36	SF			E		30		K
RAMY		1218	1233	1254	S15	W75	6469	01	28.9	36	SF		3	E		28		FH
RAMY		1308	1345	1354	S16	W77	6469	01	28.8	46	SF	C 6.7	3	E		67		F
SVTO		1311E	1319	1325D	S16	W78	6469	01	28.7	14D	SF		2	E		56		
GOES		1316	1322	1329						13		C 6.9						
RAMY		1436	1509	1524	S15	W79	6469	01	28.7	48	SF	C 8.3	3	E		16		
RAMY		1526	1534	1609	S15	W72	6469	01	29.3	43	SF		3	E		17		
HOLL		1529	1535	1540	S15	W79	6469	01	28.8	11	SF		3	E		25		
RAMY		1618	1628	1646	S14	W79	6469	01	28.8	28	1F	C 7.9	3	E		102		
HOLL		1625	1627	1651	S15	W80	6469	01	28.7	26	SN	C 7.9	3	E		67		H
HOLL		1721	1722	1726	S09	W86	6466	01	28.4	5	SF		3	E		22		
HOLL		1811	1812	1830	S15	W80	6469	01	28.8	19	SF		3	E		29		
RAMY		1812	1812	1817	S14	W82	6469	01	28.7	5	SF		3	E		21		
RAMY		1827	1827	1843	S07	W41	6471	01	31.7	16	SF		3	E		18		
RAMY		1829	1851	1900	S14	W78	6469	01	29.0	31	SF		3	E		25		
HOLL		1831	1854	1903	S14	W80	6469	01	28.8	32	SF		3	E		34		F
HOLL		1943	1943	1949	S14	W77	6469	01	29.1	6	SF		3	E		14		
HOLL		2001	2003	2014	S14	W80	6469	01	28.9	13	SF		3	E		34		F
HOLL		2056	2103	2113	S14	W81	6469	01	28.8	17	1N	C 6.9	2	E		129		
RAMY		2056	2103	2119D	S14	W82	6469	01	28.8	23D	SF	C 6.9	3	E		69		
HOLL		2158	2209	2214D	S14	W81	6469	01	28.9	16D	1F	M 1.6	3	E		124		F
LEAR		2253	2255	2306	S12	W80	6469	01	29.0	13	SF		3	E		28		
LEAR	04	0019	0021	0027	S12	W80	6469	01	29.1	8	SF		3	E		26		F
LEAR		0142	0151	0213	S12	W81	6469	01	29.1	31	SN	M 2.8	3	E		94		FE
LEAR		0238	0243	0336	S13	W78	6469			58	SN			E		44		K
LEAR		0238	0258	0336	S13	W78	6469	01	29.3	58	SN		3	E		69		F
GOES		0632	0649	0710						38		C 7.4						
GOES		0805	0808	0810						5		C 8.8						
GOES		0816	0829	0831						15		M 1.0						
SVTO		0839	0839	0843	S13	W43	6471	02	1.1	4	SF		3	E		13		F
GOES		0939	0944	0951						12		C 5.6						
SVTO		1024	1024	1031	S17	W88	6469	01	28.8	7	SF		3	E		14		
SVTO		1047	1051	1113	S19	W88	6462	01	28.8	26	1N	M 6.8	3	E		178		
SVTO		1047	1051	1117	S17	W87	6469	01	28.9	30	1N	M 6.8	3	E		204		
SVTO		1127	1127U	1137D	S13	W44	6471	02	1.1	10D	SF		2	E		23		
RAMY		1142	1157	1159	S16	W87	6469	01	29.0	17	SF	C 4.8	3	E		61		
GOES		1343	1348	1351						8		C 7.8						
HOLL		1507	1507	1537	S15	W92	6469	01	28.8	30	SF		3	E		30		
HOLL		1507	1542	1638	S12	W51	6471			91	1F			E		130		K
HOLL		1507	1611	1638	S12	W51	6471	01	31.8	91	SF		3	E		75		FH
HOLL		1551	1607	1703	S15	W92	6469			72	SF			E		61		K
HOLL		1551	1649	1703	S15	W92	6469	01	28.8	72	1F	M 1.2	3	E		194		F

Hα S O L A R F L A R E S

FEBRUARY 1991

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	04	1713	1728	1751						38		M 1.0						
HOLL		1715	1718	1724	N10	E70		02	10.0	9	SF		3	E		21		
RAMY		1738	1738	1744	S15	W87	6469	01	29.2	6	SF		3	E		28		
RAMY		1745	1747	1752	S14	W89	6469	01	29.1	7	SF		3	E		48		
HOLL		1749	1749	1759	S12	W51	6471	01	31.9	10	SF		3	E		14		F
HOLL		1828	1842	1923	S15	W89	6469	01	29.1	55	1N	M 3.6	3	E		235		F
RAMY		1838	1844	1903	S15	W88	6469	01	29.2	25	1F	M 3.6	3	E		104		
RAMY		1857	1859	1905	S12	W54	6471	01	31.7	8	SF		3	E		39		
HOLL		1857	1900	1906	S13	W53	6471	01	31.8	9	SF		3	E		91		F
HOLL		2006	2008	2012	N17	W28	6476	02	2.7	6	SF		3	E		31		
HOLL		2027	2028	2038	N21	W13	6476	02	3.8	11	SF		3	E		33		F
HOLL		2111	2121	2139	S13	W90	6469	01	29.2	28	SF		3	E		35		
HOLL		2219	2228	2246	S11	W55	6471	01	31.8	27	SF		3	E		25		
LEAR		2314	2319	2338	S13	W51	6471	02	1.1	24	SF		2	E		38		
LEAR		2322	2323	2337	S17	W82	6469	01	29.8	15	SF		2	E		30		
GOES		2322E	2326	2331D						9D		C 7.5						
LEAR		2348	2357	2404	S13	W51	6471	02	1.1	16	SF		2	E		25		
GOES	05	0115E	0118	0122D						7D		C 3.8						
GOES		0239	0246	0251						12		C 6.6						
RAMY		1152	1156	1200	S12	W58	6471	02	1.1	8	SF		3	E		26		
RAMY		1215	1217	1225	S09	W57	6471	02	1.2	10	SF		3	E		27		
SVTO		1252	1343	1434	S11	W59	6471	02	1.1	102	SF		3	E		49		F
SVTO		1438	1445	1510	S12	W60	6471	02	1.1	32	SF	C 2.7	3	E		64		F
RAMY		1444	1446	1456	S09	W58	6471	02	1.3	12	SF		3	E		36		
RAMY		1549	1553	1559	S09	W60	6471	02	1.1	10	SF		3	E		28		
HOLL		1719	1729	1807	S09	W67	6471			48	SF			E		27		K
HOLL		1719	1749	1807	S09	W67	6471	01	31.7	48	SF	C 3.3	3	E		55		
RAMY		1749	1749	1756	S09	W61	6471	02	1.2	7	SF		3	E		18		F
HOLL		1841	1841	1854	S22	W36	6477	02	3.0	13	SF		3	E		42		F
RAMY		1959	1959	2007	S09	W62	6471	02	1.2	8	SF	C 3.4	3	E		28		F
GOES		2048	2101	2113						25		C 5.2						
HOLL		2141	2142	2157	N21	W27	6476	02	3.8	16	SF		3	E		24		F
HOLL		2219	2219	2227	S10	W67	6471	01	31.9	8	SF	C 7.9	3	E		12		F
LEAR	06	0157	0159	0223	S13	W68	6471	01	31.9	26	SF		3	E		26		
LEAR		0225	0239	0335	S16	W61	6471			70	SF			E		42		K
LEAR		0225	0249	0335	S16	W61	6471	02	1.5	70	SF		3	E		30		F
LEAR		0337	0340	0401	S10	W65	6471	02	1.3	24	SF	C 3.2	3	E		49		
LEAR		0403	0408	0418	N14	E60	6487	02	10.7	15	SF		3	E		27		
LEAR		0412	0426	0444	S11	W63	6471	02	1.4	32	1N	M 1.9	3	E		108		E
LEAR		0606	0611	1003D	S10	W65	6471			237D	SN			E		80		KT
LEAR		0606	0646	1003D	S10	W65	6471	02	1.4	237D	1N	C 5.3	3	E		176		ET
LEAR		0606	0833	1003D	S10	W65	6471			237D	1N			E		189		KT
LEAR		0624	0635	0656	N15	E63	6487	02	11.0	32	SF		3	E		16		
GOES		0644	0650	0656						12		M 1.0						
LEAR		0657	0813	0837	N14	E58	6487			100	SN			E		36		K
LEAR		0657	0823	0837	N14	E58	6487	02	10.7	100	SF		3	E		57		F
SVTO		0702E	0735	0747	S10	W70	6471	02	1.0	45D	SF		3	E		24		F
SVTO		0749	0805	1054	S11	W67	6471	02	1.3	185	SF		3	E		45		F
SVTO		0749	0821	0938	N15	E62	6487	02	11.0	109	SF	M 1.1	3	E		66		
SVTO		0749	0920	1054	S11	W67	6471			185	1B			E		97		K
LEAR		0843	0857	0946	N14	E58	6487	02	10.7	63	SF		3	E		43		F
SVTO		0938	0949	1003	N15	E62	6487	02	11.1	25	SF		3	E		56		
LEAR		0947	0950	1003	N14	E57	6487	02	10.7	16	SF		3	E		84		F
GOES		1127	1131	1136						9		C 5.8						
SVTO		1338E	1339U	1346	S11	W71	6471	02	1.2	8D	SF		2	E		36		
HOLL		1449	1501	1513	S09	W71	6471	02	1.3	24	1N	M 4.0	3	E		200		H
HOLL		1456	1507	1537	N15	E57	6487	02	10.9	41	1F		3	E		121		
GOES		1534	1543	1600						26		M 1.2						
PALE		1727	1729	1735	S13	W76	6471	02	1.0	8	SF		2	E		41		F
PALE		1744	1746	1756	S13	W90	6471	01	31.0	12	SF		3	E		49		F
HOLL		1835	1835	1858	S07	W81	6471	01	31.7	23	SF		3	E		45		
RAMY		1835	1836	1856	S08	W76	6471	02	1.1	21	SF	M 3.1	3	E		48		F
PALE		1835	1837	1848	S09	W75	6471	02	1.1	13	SF	M 3.1	3	E		35		F
HOLL		1835	1848	1858	S07	W81	6471			23	SN			E		41		K
HOLL		1938	1938	1943	N16	E57	6487	02	11.1	5	SF		3	E		14		
HOLL		1946	1948	2000	S09	W75	6471	02	1.2	14	SF		3	E		46		

Hα SOLAR FLARES

FEBRUARY 1991

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
RAMY	06	1947	1949	2003	S09	W72	6471	02	1.4	16	SF		3	E		33		
PALE		1948	1949	2002	S11	W71	6471	02	1.5	14	SF		3	E		43		
HOLL		2001	2006	2031	S09	W75	6471			30	SF			E		47		K
HOLL		2001	2022	2031	S09	W75	6471	02	1.2	30	SF	M 1.0	3	E		66		FH
PALE		2003E	2009U	2031	S11	W71	6471	02	1.5	28D	SF		3	E		37		
RAMY		2005	2007	2033	S09	W73	6471			28	SF			E		34		K
RAMY		2005	2021	2033	S09	W73	6471	02	1.3	28	SF	M 1.0	3	E		32		
RAMY		2120	2121	2135	S09	W72	6471	02	1.5	15	SF		3	E		27		F
PALE		2120	2123	2133	S10	W71	6471	02	1.5	13	SF		3	E		53		
RAMY		2129	2139	2157D	N11	E54	6487	02	10.9	28D	1F		3	E		116		F
HOLL		2130	2158	2213D	N15	E53	6487	02	10.9	43D	1N	M 1.3	3	E		209		UF
HOLL		2148	2151	2213D	N16	E43	6484	02	10.2	25D	SF		3	E		23		
PALE		2204E	2204U	2234	N16	E55	6487	02	11.1	30D	SF		3	E		56		
HOLL		2328	2328	2337	S09	W01	6480	02	6.9	9	SF		3	E		26		
GOES		2357	2402	2406						9		C 6.6						
GOES	07	0035	0042	0050						15		C 5.4						
LEAR		0246	0247	0258	N16	E51	6487	02	11.0	12	SF		3	E		34		F
GOES		0336	0340	0347						11		C 3.5						
GOES		0453	0459	0509						16		C 6.0						
LEAR		0752	0757	0820	S12	W78	6471	02	1.4	28	1N		3	E		106		
SVTO		0755	0757	0808	S10	W82	6471	02	1.2	13	SN	C 6.9	4	E		78		
LEAR		0839	0940	1010	S10	W80	6471	02	1.3	91	SF		3	E		97		
LEAR		0848	0852	0913	N13	E49	6487	02	11.1	25	1N	M 1.0	3	E		175		FE
SVTO		0848	0852	0915D	N14	E49	6487	02	11.1	27D	1N	M 1.0	4	E		130		
GOES		0929	0941	1048						79		M 1.1						
GOES		1411	1416	1423						12		C 6.9						
HOLL		1456	1502	1535	S10	W86	6471	02	1.2	39	1F	M 8.8	3	E		156		YF
RAMY		1500	1506	1550	S10	W88	6471	02	1.0	50	SF	M 8.8	3	E		73		
RAMY		1500	1525	1550	S10	W88	6471			50	SF			E		32		K
GOES		1703	1712	1832						89		M 4.9						
HOLL		1959	2000	2004	S12	W88	6471	02	1.2	5	SF	C 5.2	3	E		21		
GOES		2023	2027	2030						7		C 4.9						
HOLL		2042	2043	2046	S09	W91	6471	02	1.0	4	SF		3	E		27		
GOES		2114E	2116	2134D						20D		M 5.3						
LEAR		2347	2351	2402	S10	W83	6471	02	1.7	15	1N		3	E		129		E
PALE		2350	2352U	2450D	S12	W87	6471	02	1.4	60D	1N	C 6.7	3	E		174		
HOLL		2350	2354	2402	S12	W90	6471	02	1.2	12	1F		3	E		125		
LEAR	08	0013	0016	0038	S10	W14	6480	02	6.9	25	SN	C 4.4	3	E		89		EH
PALE		0017	0017	0031	S10	W14	6480	02	6.9	14	SF		3	E		55		
GOES		0121	0132	0140						19		C 3.6						
LEAR		0155	0157	0207	S10	W15	6480	02	6.9	12	SF	C 4.6	3	E		22		
LEAR		0244	0245	0252	S13	W86	6471	02	1.6	8	SN	M 2.1	3	E		67		E
PALE		0245	0247	0252	S13	W84	6471	02	1.8	7	SF	M 2.1	3	E		72		
GOES		0448	0453	0458						10		C 3.8						
LEAR		0515	0517	0521	S11	W86	6471	02	1.7	6	SF	C 4.8	3	E		24		
LEAR		0524	0554	0721	N14	E36	6487			117	SF			E		67		K
LEAR		0524	0643	0721	N14	E36	6487	02	10.9	117	SF		3	E		46		F
GOES		0629	0748	0911						162		M 4.7						
LEAR		0630	0646	0654	N13	E23	6484	02	10.0	24	SF		3	E		33		F
LEAR		0804	0805	0818	S10	W18	6480	02	7.0	14	SF		3	E		46		FE
GOES		1445	1453	1505						20		C 9.9						
RAMY		1531	1533	1554	N11	E29	6487	02	10.8	23	SF		3	E		12		
RAMY		1615	1615	1622	S12	W90	6471	02	1.9	7	SF	M 7.2	3	E		50		
RAMY		1623	1630	1801	N11	E30	6487	02	10.9	98	SF		3	E		68		F
RAMY		1623	1703	1801	N11	E30	6487			98	SF			E		87		K
RAMY		1703	1703	1712	N15	E18	6484	02	10.1	9	SF		3	E		19		F
HOLL		2001	2003	2005	N10	E31	6487	02	11.2	4	SF		3	E		52		
HOLL		2009E	2128U	2233D	N14	E27	6487	02	10.9	144D	SF	C 3.3	3	E		95		F
RAMY		2055	2126	2212	N13	E28	6487			77	SF			E		34		K
RAMY		2055	2143	2212	N13	E28	6487	02	11.0	77	SF		3	E		39		F
LEAR		2337	2350	2424	N11	E29	6487	02	11.2	47	SF		3	E		40		F
LEAR	09	0041	0056	0121	N11	E28	6487	02	11.1	40	SF	C 3.0	3	E		80		F
PALE		0047	0100	0111	N13	E28	6487	02	11.1	24	SF		3	E		39		
LEAR		0147	0156	0210	N14	E25	6487	02	11.0	23	SF		3	E		24		F
GOES		0226	0254	0332						66		C 7.5						

Hα SOLAR FLARES

FEBRUARY 1991

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
PALE	09	2011	2014	2024	N15	E17	6487	02	11.1	13	SF		3	E		10		
PALE		2203	2205	2223D	N13	E15	6487	02	11.0	20D	SF		3	E		17		F
GOES		2318	2321	2323						5		C 1.8						
PALE		2348	2348	2353	N13	E14	6487	02	11.0	5	SF	C 2.1	3	E		20		F
PALE	10	0043	0047	0051	N13	E14	6487	02	11.1	8	SF		3	E		32		F
LEAR		0043	0052	0104	N11	E12	6487	02	10.9	21	SF	C 1.7	3	E		26		F
PALE		0113	0113	0125	N13	E14	6487	02	11.1	12	SF	C 2.7	3	E		44		F
GOES		0522	0546	0603						41		C 2.9						
SVTO		1035	1036	1053	N13	E10	6487	02	11.2	18	SF	C 1.2	3	E		17		F
SVTO		1108	1111	1122	N13	E08	6487	02	11.1	14	SF		3	E		17		
GOES		1358	1402	1406						8		C 1.2						
SVTO		1401	1411	1420	N15	E05	6487	02	11.0	19	SF	C 1.5	3	E		20		
GOES		1531	1534	1537						6		C 1.6						
GOES		1716	1738	1741						25		C 6.8						
RAMY		1905	1909	1911	N13	E04	6487	02	11.1	6	SF		3	E		13		
PALE		1944	1949	2012	N14	E04	6487	02	11.1	28	SF	C 3.1	3	E		30		
RAMY		1947	1948	2003	N13	E03	6487	02	11.0	16	SF	C 3.1	3	E		51		F
RAMY		2040	2050U	2111D	N13	E02	6487	02	11.0	31D	SF	C 3.7	3	E		28		F
PALE		2047E	2048U	2105D	N13	E03	6487	02	11.1	18D	SF	C 3.7	3	E		22		F
GOES		2217	2221	2233						16		C 1.8						
LEAR		2311	2341	2436	N13	E01	6487	02	11.0	85	SF		3	E		96		F
LEAR	11	0039	0054	0105	N13	E02	6487	02	11.2	26	SF		3	E		26		F
PALE		0128E	0144U	0211D	N13	W13	6484	02	10.1	43D	SF		3	E		39		F
LEAR		0131	0148	0209	N13	W13	6484	02	10.1	38	SF		3	E		15		
PALE		0159E	0200U	0229D	N14	E01	6487	02	11.1	30D	SF	M 1.1	3	E		62		F
PALE		0336E	0336U	0341	N14	E00	6487	02	11.2	5D	SF		3	E		13		
LEAR		0553	0556	0605	N13	W01	6487	02	11.2	12	SF	C 2.7	3	E		46		
LEAR		0652	0655	0712	S10	E45		02	14.7	20	SF		3	E		35		
LEAR		0659	0659	0709	S12	E37	6489	02	14.1	10	SF	C 1.3	3	E		14		
LEAR		0910	0915	0944	N14	W21	6484	02	9.8	34	SF		3	E		15		F
LEAR		0913	0916	1002	N11	W04	6487	02	11.1	49	SF	C 2.3	3	E		94		F
LEAR		1007	1010	1029	S10	E43		02	14.6	22	SF		3	E		36		
GOES		1115	1126	1130						15		C 2.2						
PALE		2115E	2116	2154D	N14	W27	6484	02	9.8	39D	SF	C 2.0	3	E		26		F
GOES		2312	2334	2342						30		C 2.5						
LEAR	12	0050	0052	0104	N24	E73		02	17.7	14	SF		3	E		27		
LEAR		0107	0147	0200	N14	W30	6484	02	9.8	53	SF		3	E		43		
LEAR		0233	0243	0246	N25	E73		02	17.8	13	SF		3	E		24		F
LEAR		0329	0359	0502	N09	W30	6484	02	9.9	93	SF		3	E		58		FH
GOES		0452	0502	0523						31		C 1.8						
LEAR		0600	0617	0626	N27	E64		02	17.2	26	SF		3	E		25		
LEAR		0743	0754	0825	N10	W32	6484	02	9.9	42	SF		3	E		42		
LEAR		0750	0756	0812	S13	W16	6492	02	11.1	22	SF		3	E		45		
GOES		1001	1005	1025						24		C 2.1						
GOES		1552	1556	1558						6		C 2.6						
GOES		1801	1807	1818						17		C 2.4						
GOES		2113	2119	2126						13		C 4.2						
GOES		2342	2352	2359						17		C 3.8						
GOES	13	0036	0045	0105						29		C 3.1						
GOES		0307	0312	0316						9		C 2.3						
GOES		0409	0413	0417						8		C 7.3						
GOES		0701	0706	0718						17		C 1.5						
RAMY		1459	1508	1523	S11	W35	6492	02	11.0	24	SF	C 2.8	3	E		24		F
HOLL		1503E	1503U	1530D	S04	W67	6481	02	8.6	27D	SF		1	E		48		F
SVTO		1510	1510	1521	S11	W37	6492	02	10.8	11	SF		3	E		25		F
SVTO		1511	1514	1522	N09	W51	6484	02	9.8	11	SF		3	E		14		F
RAMY		1536	1541	1545	S10	W35	6492	02	11.0	9	SF		3	E		15		F
HOLL		1538E	1538U	1553	S11	W37	6492	02	10.9	15D	SF		3	E		69		
HOLL		1634	1646	1708	S11	W37	6492	02	10.9	34	SF	C 1.7	3	E		32		
HOLL		1715	1725	1821	N10	W52	6484	02	9.8	66	SF	C 2.3	3	E		63		
HOLL		1859	1902	1934	S11	W39	6492	02	10.8	35	SF		3	E		19		
HOLL		1900	1910	1946	N11	W33	6487	02	11.3	46	SF		3	E		53		
HOLL		1919	1922	1926	N10	W53	6484	02	9.8	7	SF	C 1.3	3	E		28		
HOLL		2004	2130	2239	S15	E75	6497	02	19.5	155	SF		3	E		32		

Hα SOLAR FLARES

FEBRUARY 1991

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
HOLL	13	2134	2149	2246	S11	W41	6492	02	10.8	72	SF	C	4.4	3	E		54		F
PALE		2141E		2228D	N11	W32	6487	02	11.5	47D	SF			3	E		60		F
LEAR		2315	2319	2348	N12	W52	6484	02	10.0	33	SF	C	2.2	3	E		62		F
HOLL		2318	2319	2332	N13	W53	6484	02	10.0	14	SF	C	2.2	3	E		28		F
HOLL		2347	2350	2352	S15	E72	6497	02	19.4	5	SF			3	E		26		
LEAR		2348	2349	2354	S15	E71	6497	02	19.4	6	SF			3	E		30		
PALE	14	0325	0329	0340	S15	W43	6492	02	10.9	15	SF	C	2.5	3	E		20		
GOES		0430E	0434	0443D						13D		C	2.1						
GOES		0605E	0613	0636D						31D		C	7.1						
GOES		0838	0841	0844						6		C	2.1						
RAMY		1231	1233	1320	N10	W45	6487	02	11.1	49	2B	M	3.6	3	E		273		F
RAMY		1236	1236	1252	N17	W55	6484	02	10.3	16	SF			3	E		74		F
PALE		1833	1837	1933	N28	E34	6496	02	17.4	60	SF	C	2.4	3	E		32		F
HOLL		1909E	1910U	2042D	N10	W66	6484	02	9.8	93D	SF			3	E		50		F
HOLL		1909	1920	2010	N27	E34	6496	02	17.4	61	SF			3	E		62		
HOLL		1928	1939	1949	S11	E58	6497	02	19.2	21	SF			3	E		21		
HOLL		2012	2013	2021	N23	E36	6498	02	17.6	9	SF			3	E		15		
GOES		2033	2056	2115						42		C	2.0						
HOLL		2140	2141	2205	S10	W39	6490	02	12.0	25	SF			3	E		14		
HOLL		2151	2155	2213	N10	W68	6484	02	9.8	22	SF			3	E		36		
GOES	15	0119	0123	0125						6		C	2.7						
GOES		0134	0154	0206						32		C	2.0						
LEAR		0341	0342	0359	S06	E10	6500	02	15.9	18	SF			3	E		27		
LEAR		0531	0540	0603	N12	W69	6484	02	10.0	32	1F	C	4.7	3	E		129		
GOES		0700	0707	0718						18		C	3.5						
LEAR		0724	0731	0933	S11	W59	6492			129	SF				E		51		K
LEAR		0724	0836	0933	S11	W59	6492	02	10.9	129	1F	C	3.9	3	E		102		
LEAR		0732	0741	0743	N12	W70	6484	02	10.0	11	SF			3	E		47		
LEAR		0820	0836	0857	S18	E88		02	22.0	37	SF			3	E		36		
GOES		1037	1042	1049						12		C	3.9						
SVTO		1146E	1146U	1151D	N09	W60	6487	02	11.0	5D	SF	C	4.6	1	E		56		
GOES		1246	1300	1309						23		C	3.7						
HOLL		1550	1552	1604	S12	W63	6492	02	10.9	14	SF			2	E		10		
HOLL		1606	1608	1628	N22	E25	6498	02	17.6	22	SF			3	E		28		F
HOLL		1736	1739	1750	S06	E02	6500	02	15.9	14	SF	C	2.3	3	E		34		F
PALE		1737	1739	1748	S07	E01	6500	02	15.8	11	SF	C	2.3	3	E		24		F
RAMY		2056	2057	2131	S05	W17	6495	02	14.6	35	SF			3	E		46		F
PALE		2056	2057	2132	S06	W17	6495	02	14.6	36	SF			3	E		48		F
HOLL		2059E	2102U	2128	S05	W16	6495	02	14.7	29D	SF			2	E		65		F
HOLL		2126E	2134U	2204D	S12	E44	6497	02	19.2	38D	SF	C	4.0	2	E		56		FE
PALE		2128	2135	2200	S11	E44	6497	02	19.2	32	SF	C	4.0	3	E		41		H
RAMY		2130	2139	2156	S12	E43	6497	02	19.1	26	SF			3	E		62		F
PALE		2331	2332	2336	N11	W64	6484	02	11.2	5	SF			3	E		13		
LEAR	16	0021	0026	0042	N13	W63	6487	02	11.3	21	SF			3	E		36		
LEAR		0109	0126	0141	N12	W64	6487	02	11.2	32	SF			3	E		29		
PALE		0116	0128	0140	N10	W79	6484	02	10.1	24	SF			3	E		24		
LEAR		0247	0249	0255	S17	E73	6504	02	21.7	8	SF			3	E		23		
LEAR		0342	0343	0347	N13	W65	6487	02	11.2	5	SF			3	E		36		
LEAR		0424	0431	0447	N10	W81	6484	02	10.1	23	1N	C	4.0	3	E		115		
LEAR		0500	0506	0528	N10	W66	6487	02	11.2	28	SF			3	E		63		
GOES		0533	0622	0653						80		M	1.1						
SVTO		0736	0757	0808	S15	W49	6502	02	12.6	32	SF			4	E		43		F
LEAR		0741	0753	0838	S14	W49	6502	02	12.6	57	SF			3	E		62		F
SVTO		0748	0800	0805	N11	W71	6487	02	11.0	17	SF			4	E		44		
SVTO		0810	0814	0854	S15	W49	6502	02	12.6	44	SF			4	E		47		F
SVTO		0917	0919	0938D	S11	E72	6504	02	21.8	21D	SF			4	E		17		H
LEAR		0955	1002	1009	S16	E68	6504	02	21.6	14	SN	C	6.4	3	E		93		
SVTO		1001E	1003U	1014D	S11	E71	6504	02	21.7	13D	SF			2	E		71		H
LEAR		2329	2357	2430	N23	E10	6498	02	17.7	61	SF			3	E		32		
LEAR	17	0030	0033	0043	N30	E65		02	22.1	13	SF			3	E		29		
PALE		0031	0033	0038	N30	E65		02	22.1	7	SF			3	E		16		
LEAR		0243	0245	0253	N11	W76	6487	02	11.4	10	SF			3	E		50		
GOES		0252	0307	0312						20		C	7.7						
PALE		0329	0330	0339	S10	W59	6501	02	12.7	10	SF			3	E		28		

Hα S O L A R F L A R E S

FEBRUARY 1991

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
LEAR	17	0355	0358	0408	S10	W59	6501	02	12.7	13	SF		3	E		35		
LEAR		0436	0438	0448	S13	E39		02	20.1	12	SF		3	E		26		
LEAR		0543	0544	0548	S13	E28	6497	02	19.3	5	SF		3	E		41		
LEAR		0553	0556	0603	N29	E62		02	22.1	10	SF	C 4.6	3	E		36		
GOES		0616	0622	0631						15		M 1.5						
GOES		1227	1232	1250						23		C 4.6						
GOES		1310	1317	1322						12		C 4.6						
GOES		1410	1414	1416						6		C 4.7						
RAMY		1505	1505	1526	S21	E89		02	24.4	21	SF	C 8.0	3	E		64		
GOES		1651	1655	1701						10		C 4.2						
RAMY		1800	1801	1805	S19	E89		02	24.5	5	SF		3	E		28		
RAMY		1826	1835	1838	S20	E88		02	24.5	12	SF	C 5.6	3	E		98		
HOLL		1847E	1848	1851	S21	E87		02	24.4	4D	SF		2	E		25		F
HOLL		1934E	1934U	1936D	S23	E86		02	24.4	2D	SF		1	E		31		
RAMY		2033	2033	2042	S20	E87		02	24.5	9	SF		3	E		20		
HOLL		2050E	2052U	2057	N24	W01	6498	02	17.8	7D	SF		2	E		16		
HOLL		2103	2105	2108	S21	E85		02	24.4	5	SF		3	E		16		F
HOLL		2109	2111	2117	S22	E89	6509	02	24.7	8	SF		4	E		85		
GOES	18	0449	0503	0532						43		C 5.6						
LEAR		0633	0730	0739D	S18	E48	6504	02	21.9	66D	1N	M 2.6	3	E		189		FE
GOES		0917	0922	0927						10		C 7.7						
RAMY		1149	1153	1209	S08	W70	6501	02	13.2	20	SF		3	E		53		
RAMY		1210	1211	1215	S10	E87	6508	02	25.0	5	SF		3	E		18		
RAMY		1303	1314	1324	S08	W72	6501	02	13.1	21	SF		3	E		37		
RAMY		1428	1429	1516D	S09	W74	6501	02	13.0	48D	SF	C 5.4	3	E		22		
RAMY		1626	1631	1640	S24	W71		02	13.2	14	SF		3	E		28		
RAMY		1635	1649	1704	S18	E43	6504	02	22.0	29	1F	C 8.1	3	E		100		F
GOES		1705	1729	1849						104		M 1.4						
RAMY		1706	1727	1743	S08	W73	6501	02	13.2	37	SF		3	E		23		
PALE		1754	1757	1809	S22	E75	6509	02	24.5	15	SN		3	E		57		
RAMY		2046	2052	2057	S08	W74	6501	02	13.3	11	SF		3	E		22		
GOES		2047	2057	2131						44		M 1.5						
RAMY		2051	2052	2102D	S14	E17	6505	02	20.1	11D	SF		3	E		25		F
HOLL		2201E	2208U	2246	S17	E42	6504	02	22.1	45D	SF	M 1.0	2	E		99		F
GOES	19	0001E	0003	0015D						14D		C 4.7						
GOES		0028	0033	0038						10		C 7.2						
LEAR		0101	0116	0154	S15	E41	6504	02	22.1	53	SF	C 7.1	3	E		46		F
GOES		0131E	0133	0142D						11D		C 8.3						
GOES		0330	0339	0348						18		C 4.5						
GOES		0436E	0443	0505D						29D		C 4.1						
GOES		0513E	0514	0517D						4D		C 4.0						
SVTO		0836	0846	1054	S03	E40	6507	02	22.3	138	1N	C 8.1	3	E		208		F
GOES		1002	1006	1012						10		C 6.2						
SVTO		1014	1019	1058	S04	W90	6501	02	12.7	44	SF	M 1.5	3	E		77		H
SVTO		1047	1053	1134	S12	E64	6508	02	24.3	47	SF	C 9.0	2	E		57		F
SVTO		1102	1103	1125	S12	E29	6504	02	21.6	23	SF		2	E		20		
GOES		1221	1229	1237						16		M 1.0						
GOES		1338	1342	1346						8		C 4.2						
HOLL		1517E	1520U	1540	S22	E59	6509	02	24.2	23D	SF		2	E		23		F
HOLL		1605	1615	1643	S17	E29	6504	02	21.9	38	SF		3	E		20		F
HOLL		1613	1622	1629	S01	W66	6495	02	14.7	16	SF		3	E		26		
PALE		1813E	1813	1822	S03	W68	6495	02	14.7	9D	SN	M 1.0	3	E		61		E
PALE		1859	1859	1911	S17	E27	6504	02	21.8	12	SF		3	E		20		F
RAMY		1859	1905	1911	S18	E28	6504	02	21.9	12	SF		3	E		18		F
PALE		1920	1923	1932	S17	E27	6504	02	21.8	12	SF		3	E		17		
HOLL		1922E	2010U	2020	S21	E60	6509	02	24.4	58D	SF		3	E		45		F
PALE		1928	1929	1936	S26	W89	6511	02	12.9	8	SF		3	E		24		
PALE		2005	2006	2011	S20	E61	6509	02	24.5	6	SF		3	E		23		
PALE		2104	2106	2120	S15	E31	6504	02	22.2	16	SF		3	E		15		
PALE		2156	2206U	2256D	S18	E60	6509	02	24.5	60D	1F	C 7.2	3	E		124		F
HOLL		2211E	2211U	2252D	S21	E60	6509	02	24.5	41D	1F		3	E		10		F
PALE		2225	2226	2234	S03	W69	6495	02	14.8	9	SF		3	E		16		
HOLL		2323	2332	2349	S25	W76	6511	02	14.1	26	SF		3	E		23		
PALE		2345	2345	2354	S03	W71	6495	02	14.7	9	SF		3	E		16		
HOLL		2346	2346	2353	S01	W70	6495	02	14.8	7	SF		3	E		55		
PALE		2359	2401	2404	S27	W94	6511	02	12.7	5	SF		3	E		35		

Hα SOLAR FLARES

FEBRUARY 1991

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
PALE	20	0022	0025	0046	S26	W93	6511	02	12.8	24	SF	C 5.8	3	E		50		
GOES		0157	0202	0205						8		C 7.4						
GOES		0302	0305	0307						5		C 3.6						
GOES		0430	0433	0437						7		C 3.4						
GOES		0530	0533	0535						5		C 3.7						
SVTO		1222	1226	1247	S12	E28	6504	02	22.6	25	SN		3	E		57		F
RAMY		1323	1328	1337	S02	W73	6495	02	15.1	14	SF	M 1.4	4	E		40		H
SVTO		1325	1329	1343	S03	W79	6495	02	14.6	18	SF		3	E		36		F
HOLL		1530	1530	1536	S12	W19	6497	02	19.2	6	SF		3	E		21		
HOLL		1542	1556	1602	S12	E51	6508	02	24.5	20	SF		3	E		30		F
HOLL		1846	1846U	1854	S05	E24	6507	02	22.6	8	SF		3	E		17		F
RAMY		1846	1849	1854	S03	E24	6507	02	22.6	8	SF		3	E		13		
HOLL		1911	1913	1928	N16	E30	6506	02	23.1	17	SF		4	E		22		F
GOES		1935	1939	1946						11		C 4.5						
HOLL		2043	2051	2108	S23	E48	6509	02	24.6	25	SF	C 3.9	4	E		58		F
RAMY		2045	2045	2115	S22	E48	6509	02	24.5	30	SF	C 3.9	3	E		26		
HOLL		2101	2105	2222	N12	E58	6513			81	SF			E		35		K
HOLL		2101	2124	2222	N12	E58	6513	02	25.2	81	SF		4	E		88		F
RAMY		2123	2128	2138	N12	E58	6514	02	25.3	15	SF		3	E		21		
HOLL		2206	2213	2248	S21	E47	6509			42	SF			E		39		K
HOLL		2206	2234	2248	S21	E47	6509	02	24.5	42	SF		3	E		55		
HOLL		2211	2213	2218	S14	E41		02	24.0	7	SF		4	E		17		H
HOLL		2213	2307	2339	S12	W23	6497	02	19.2	86	SF		3	E		23		F
HOLL		2321	2328	2354	S12	E49	6508	02	24.7	33	1N	C 4.3	3	E		131		FH
HOLL		2344	2347	2424	S11	W24	6497	02	19.2	40	SF		3	E		24		F
HOLL		2354		2432	N11	E55	6513	02	25.1	38	SF		3	E		30		
LEAR	21	0002E	0005	0035	S15	E13	6504	02	22.0	33D	SF		3	E		20		
HOLL		0007	0007	0030	S15	E13	6504	02	22.0	23	SF		3	E		11		
LEAR		0108	0111	0116	S12	E52	6508	02	25.0	8	SF		3	E		25		
LEAR		0219	0219	0223	S12	E52	6508	02	25.0	4	SF		3	E		24		
LEAR		0230	0234	0248	S20	E44	6509	02	24.5	18	SF		3	E		86		F
LEAR		0302	0304	0321	S15	E11	6504	02	21.9	19	SF		3	E		38		F
LEAR		0407	0416	0425	S12	E51	6508	02	25.0	18	SF		3	E		24		
LEAR		0810	0812	0911	S13	E47	6508	02	24.9	61	SF	C 4.2	3	E		16		F
LEAR		0811	0812	0816	S18	E42	6509	02	24.5	5	SF		3	E		18		
GOES		1002	1012	1028						26		C 5.9						
GOES		1047	1053	1055						8		C 5.2						
GOES		1241	1246	1258						17		C 2.9						
HOLL		1437	1446	1454	S22	E38	6509	02	24.5	17	SF	C 2.8	2	E		45		F
HOLL		1457	1457	1512	S14	E31		02	24.0	15	SF		3	E		12		
HOLL		1535	1536	1541	S14	E00	6504	02	21.6	6	SF		3	E		15		
RAMY		1554	1554	1558	S13	W01	6504	02	21.6	4	SF	C 3.0	3	E		20		
HOLL		1554	1555	1559	S13	W01	6504	02	21.6	5	SN	C 3.0	4	E		39		E
HOLL		1557	1558	1612	S21	E36	6509	02	24.4	15	SF		3	E		20		F
RAMY		1822	1823	1847	S11	W33	6497	02	19.3	25	SF		3	E		28		
PALE		1824E	1828U	1853D	S12	W35	6497	02	19.1	29D	SF		3	E		35		F
HOLL		2015	2019	2030	S06	E09	6507	02	22.5	15	SF		3	E		22		FH
PALE		2332E	2336U	2354D	S18	E32	6509	02	24.4	22D	SF		3	E		19		
HOLL		2357	2402	2425	S11	W37	6497	02	19.2	28	SF		3	E		59		F
LEAR	22	0546	0549	0601	N28	W05	6506	02	21.8	15	SF		3	E		32		
LEAR		0550	0552	0556	N23	W63	6498	02	17.4	6	SF		3	E		35		F
LEAR		0619	0631	0703	S15	W05	6504	02	21.9	44	SF		3	E		60		
LEAR		0704	0733	0752	N15	E46	6514	02	25.8	48	SF		3	E		31		
LEAR		0900	0916	0936	S03	W01	6507	02	22.3	36	1F	C 3.2	3	E		124		
SVTO		0910	0916	0922	S05	E00	6507	02	22.4	12	SF	C 3.2	2	E		36		U
RAMY		1337	1337	1343	N22	W63	6498	02	17.7	6	SF		3	E		14		H
RAMY		1419	1419	1435	N16	E43	6514	02	25.8	16	SF		3	E		34		
RAMY		1419	1421	1427	N23	W62	6498	02	17.8	8	SF	C 3.6	3	E		32		
HOLL		1421E	1421U	1427D	N22	W65	6498	02	17.6	6D	SF		2	E		11		
HOLL		1725	1726	1744	N23	W67	6498	02	17.6	19	SF	C 2.8	3	E		34		F
HOLL		1803	1806	1813	N07	W57	6515	02	18.5	10	SF		3	E		18		
RAMY		2013	2013	2021	S11	E66	6516	02	27.8	8	SF	C 2.5	3	E		23		F
HOLL		2308	2309	2338	S13	E25	6508	02	24.8	30	SF		3	E		17		
HOLL		2308	2310	2321	S20	E19	6509			13	SF			E		23		K
HOLL		2308	2318	2321	S20	E19	6509	02	24.4	13	SF		3	E		19		
PALE		2326	2326	2333	N08	W62	6515	02	18.3	7	SF		3	E		19		

Hα SOLAR FLARES

FEBRUARY 1991

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
HOLL	22	2326	2328	2334	N09	W60	6515	02	18.5	8	SF		3	E		18		
HOLL		2340	2342	2346	S19	E66	6518	02	28.0	6	SF		3	E		20		
PALE	23	0226	0226	0234	S13	E16	6517	02	24.3	8	SF		3	E		29		F
PALE		0227	0239	0319D	S05	W07	6507	02	22.6	52D	SF	C 3.4	3	E		64		F
PALE		0323	0323	0335	S06	W09	6507	02	22.5	12	SF	C 2.8	3	E		66		F
GOES		1002	1007	1011						9		C 4.5						
SVTO		1014E	1050U	1102D	S10	W58	6497	02	19.1	48D	SF		2	E		37		
SVTO		1202E	1205U	1211D	S21	E13	6509	02	24.5	9D	SF		2	E		10		F
RAMY		1203	1205	1214	S18	E15	6509	02	24.6	11	SF	C 2.7	3	E		29		F
RAMY		1231	1238	1251	S09	W57	6497	02	19.2	20	SF	C 2.3	3	E		35		
GOES		1555	1558	1600						5		C 2.3						
RAMY		1625	1628	1655	S10	E53	6516	02	27.7	30	SF	M 1.0	3	E		52		FE
RAMY		1714	1723	1729	S15	W25	6504	02	21.8	15	SF		3	E		23		F
PALE		2302	2305	2327	S18	E07	6509	02	24.5	25	SF	C 2.6	3	E		22		F
PALE		2321	2323	2327	S10	W67	6497	02	18.9	6	SF		3	E		16		
PALE		2345	2346	2350	S10	W67	6497	02	18.9	5	SF		3	E		27		
GOES		2357	2414	2435						38		C 4.7						
PALE	24	0007E	0013U	0042D	N16	E26	6514	02	26.0	35D	SF		3	E		36		F
PALE		0007E	0029U	0054D	S03	W23	6507	02	22.3	47D	SF		3	E		34		F
PALE		0226	0229	0239	S11	E54	6516	02	28.2	13	SF		3	E		17		
PALE		0315	0318	0325	S13	E03	6517	02	24.4	10	SF		3	E		40		F
GOES		0320E	0325	0348D						28D		C 8.4						
PALE		0326	0332	0349	S11	W64	6497	02	19.3	23	SF		3	E		11		
SVTO		0817	0823	0830	S11	W67	6497	02	19.3	13	SF		4	E		13		
SVTO		0832	0832	0843	S16	E12	6508	02	25.3	11	SF	C 2.0	4	E		21		F
LEAR		0832	0832	0846	S13	E08	6508	02	24.9	14	SF		3	E		37		F
GOES		1104	1108	1112						8		C 2.2						
SVTO		1138	1156	1207	S12	W70	6497	02	19.2	29	SF	C 4.3	3	E		23		F
RAMY		1149	1156	1207	S10	W68	6497	02	19.4	18	SF		3	E		33		
SVTO		1327	1327	1334	N30	W35	6506	02	21.8	7	SF	C 2.8	3	E		28		
RAMY		1603	1610	1621	S16	W32	6504	02	22.2	18	SF	C 6.8	3	E		41		E
HOLL		1603	1610	1629	S17	W33	6504	02	22.2	26	SN	C 6.8	4	E		41		E
HOLL		1642	1649	1703	S09	E39	6516	02	27.6	21	1N	C 5.8	4	E		128		FE
RAMY		1645	1648	1701D	S09	E40	6516	02	27.7	16D	SF	C 5.8	3	E		70		F
HOLL		1654	1655	1705	S12	W71	6497	02	19.3	11	SF		4	E		17		F
HOLL		1834	1837	1842D	N19	E65	6520	03	1.7	8D	SF		4	E		22		FS
GOES		1835	1845	1849						14		C 2.7						
HOLL		2022	2024	2037	S17	W35	6504	02	22.2	15	SF		3	E		16		
GOES		2036	2042	2048						12		C 3.0						
HOLL		2107	2113	2145	S17	W36	6504			38	SB			E		27		K
HOLL		2107	2133	2145	S17	W36	6504	02	22.1	38	SB	C 9.8	3	E		78		
RAMY		2119		2125D	S05	W32	6507	02	22.5	6D	SF		3	E				F
HOLL		2220	2226	2236	S09	W77	6497	02	19.1	16	SF	C 2.2	3	E		39		
GOES	25	0013	0022	0032						19		C 5.1						
PALE		0131E	0142	0251	N16	E04	6513	02	25.4	80D	SF	C 6.8	3	E		78		UH
PALE		0133	0142	0201	N17	E10	6514	02	25.8	28	SF		3	E		18		
LEAR		0451	0456	0519	S24	W12	6509	02	24.3	28	SF	C 2.8	3	E		53		F
LEAR		0603	0612	0621	S15	W46	6504	02	21.8	18	SF		2	E		53		
SVTO		0809	0817U	0817D	S18	W92	6510	02	18.3	8D	3N		3	E		624		
SVTO		0809	0822	0930	S16	W80	6497	02	19.3	81	2N	X 1.2	3	E		500		YH
LEAR		0828E	0833U	0841D	S15	W90	6497	02	18.5	13D	2N		2	E		380		
SVTO		1203	1209	1222	S18	W44	6504	02	22.1	19	SF	C 4.5	3	E		27		F
SVTO		1319	1319	1327	S11	E03	6521	02	25.8	8	SF		3	E		17		F
SVTO		1409	1411	1431	S17	W46	6504	02	22.1	22	SF	C 2.7	3	E		22		F
SVTO		1558	1600	1616D	S17	W46	6504	02	22.2	18D	SF	M 2.8	2	E		81		
RAMY		1601	1601	1609	S17	W45	6504	02	22.2	8	1F	M 2.8	3	E		115		H
HOLL		1604E	1604U	1620	S15	W49	6504	02	21.9	16D	1F		2	E		110		
HOLL		1646	1652	1757	S11	E31	6516	02	28.0	71	SF		3	E		90		F
HOLL		1651	1704	1735	S15	W23	6517			44	SF			E		39		K
HOLL		1651	1716	1735	S15	W23	6517	02	24.0	44	SF	M 1.0	3	E		69		H
PALE		1748	1752	1756	N14	W07	6513	02	25.2	8	SF		3	E		89		
HOLL		1754	1754	1849D	N16	W04	6513	02	25.4	55D	1F	C 8.5	3	E		249		FEU
RAMY		1759E	1759U	1831	N15	W05	6513	02	25.4	32D	SF		3	E		20		F
PALE		1818	1821	1826	N11	W08	6513	02	25.2	8	SF		3	E		17		
PALE		1831	1837	1849	S03	W47	6507	02	22.2	18	SF		3	E		24		

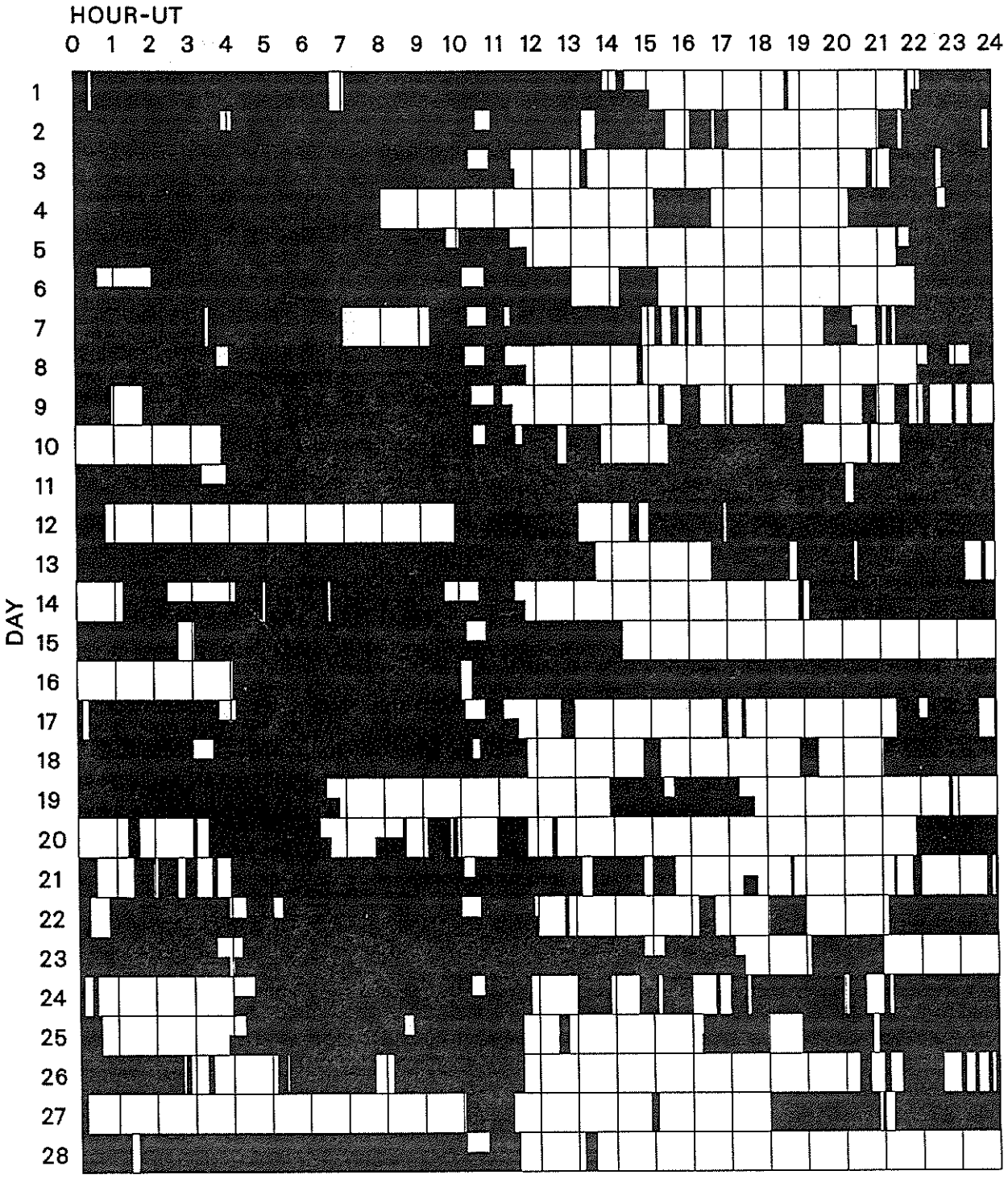
Hα SOLAR FLARES

FEBRUARY 1991

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
HOLL	25	2138	2140	2154	S14	W53	6504	02	21.9	16	SF		3	E		21		F
HOLL		2150	2155	2206	N03	E54	6523	03	1.9	16	SF		3	E		22		F
PALE		2318	2320	2330	S05	W49	6507	02	22.3	12	SF		3	E		22		F
LEAR	26	0348	0353	0420	S13	E26	6524	02	28.1	32	SF	C 1.9	3	E		57		F
PALE		0353	0354	0402	S11	E24	6524	02	28.0	9	SF		3	E		15		F
SVTO		1111	1117	1123	S12	W08	6521	02	25.9	12	SF	C 2.0	3	E		20		
RAMY		1112E		1127	S12	W07	6521	02	25.9	15D	SF	C 2.0	2	E				H
RAMY		1220	1226	1243	S17	W55	6504	02	22.3	23	SF	C 5.2	3	E		56		F
RAMY		1316	1322	1332	S15	W17	6508	02	25.3	16	SF	C 1.9	3	E		36		F
RAMY		1343	1344	1348	S08	E13	6516	02	27.5	5	SF		3	E		12		F
HOLL		1513	1514	1525	S24	W31	6509	02	24.2	12	SF		3	E		21		F
HOLL		1537	1542	1551	S16	W19	6508	02	25.2	14	SF	C 1.8	3	E		25		UF
RAMY		2041	2112	2116	S10	W25	6508	02	25.0	35	SF	C 1.8	3	E		39		
PALE	27	0120	0121	0131	S16	W63	6504	02	22.3	11	SF	C 5.7	3	E		88		
PALE		0135	0136	0155	S14	W25	6508	02	25.2	20	SF	C 3.0	3	E		31		F
LEAR		0216	0218	0233	S12	E12	6524	02	28.0	17	SF		3	E		44		
LEAR		0222	0232	0253	S13	W25	6508	02	25.2	31	SF		3	E		74		
LEAR		0301	0304	0311	S17	W25	6508	02	25.2	10	SF	C 1.7	3	E		49		
PALE		0303	0303	0308	S13	W28	6508	02	25.0	5	SF		3	E		24		
LEAR		0528	0529	0551	S17	W65	6504	02	22.3	23	SN	C 3.1	3	E		60		
SVTO		1030	1051	1128	S19	W30	6508	02	25.1	58	SF	C 5.2	4	E		85		F
SVTO		1104	1120	1231	N20	W22	6514	02	25.8	87	SF	C 4.5	4	E		56		F
SVTO		1104	1203	1231	N20	W22	6514			87	1F			E		167		K
RAMY		1120	1132	1219	N19	W18	6514	02	26.1	59	SF		3	E		94		F
SVTO		1408	1408	1415	N29	W80	6506	02	21.3	7	SF		3	E		23		
HOLL		1455	1500	1503	S09	W01	6516	02	27.5	8	SF		3	E		21		F
HOLL		1505	1511	1532	S09	W02	6516	02	27.5	27	SF		3	E		51		UF
SVTO		1510	1512	1525	S08	W02	6516	02	27.5	15	SF		3	E		39		
RAMY		1511	1512	1522	S08	W01	6516	02	27.5	11	SF		3	E		18		F
HOLL		1705	1710	1741	S16	W33	6508	02	25.2	36	SF		3	E		33		F
HOLL		1708	1711	1733	S21	W34	6509	02	25.1	25	SF		3	E		18		F
HOLL		1711	1742	1751	S09	W03	6516	02	27.5	40	SF		3	E		13		F
HOLL		1759	1759	1805	N15	W40	6513	02	24.7	6	SF		3	E		19		
HOLL		1916E	1916U	1932D	N14	W36	6513	02	25.1	16D	SF	C 2.3	3	E		16		H
HOLL		2019	2021	2027	S14	W36	6508	02	25.1	8	SF		3	E		22		
HOLL		2042	2042	2105	N27	W23	6522	02	26.1	23	SF		3	E		35		
HOLL		2042	2048	2056	S16	W73	6504	02	22.3	14	SF		3	E		25		
HOLL		2120	2121	2125	N30	W76	6506	02	21.9	5	SF		3	E		34		
HOLL		2127E	2152U	2234D	S17	W75	6504	02	22.2	67D	SF		3	E		41		
PALE		2326	2329	2347	N16	W42	6513	02	24.8	21	SN		3	E		39		E
LEAR		2326	2332	2351	N15	W41	6513	02	24.9	25	SN		3	E		81		E
HOLL		2327	2332	2450D	N15	W44	6513	02	24.6	83D	SN	C 3.0	3	E		95		H
LEAR		2357	2357	2404	S08	W09	6516	02	27.3	7	SF		3	E		19		
LEAR	28	0355	0359	0436	S12	W39	6508	02	25.2	41	2N	C 5.4	3	E		250		FE
GOES		0414	0418	0422						8		C 8.1						
GOES		1414	1419	1426						12		C 2.2						
RAMY		1550	1556	1559	S12	W44	6508	02	25.3	9	SF	C 2.3	3	E		25		F
GOES		1602	1610	1615						13		C 2.5						
RAMY		1709	1709	1717	S14	W46	6508	02	25.2	8	SF	C 3.7	3	E		26		F
RAMY		1821	1826	1836	S16	W54	6509	02	24.7	15	SF	C 3.0	3	E		35		H
PALE		1822	1829	1839	S16	W53	6508	02	24.7	17	SF		3	E		33		
PALE		2050	2056	2102	S16	W90	6504	02	22.0	12	SF		3	E		32		
LEAR		2323	2325	2344	S15	W49	6508	02	25.3	21	1N	C 5.1	3	E		102		FE
PALE		2325		2349D	S15	W49	6508	02	25.3	24D	SF		3	E		82		F
PALE		2334E	2334U	2359D	S07	W11	6516	02	28.1	25D	SF		3	E		15		

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

FEBRUARY 1991



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.

Holloman Learmonth Palehua Ramey San Vito

EAST – WEST SOLAR SCANS

** 3dB attenuator in.

FEBRUARY 1991

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan Beam with 1.5 minutes of arc
E – W Resolution

Data unavailable at time of publication.

S O L A R R A D I O E M I S S I O N
Selected Fixed Frequency Events

FEBRUARY 1991

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
01	8800	LEAR	4	S/F	0603.0E	0606.0	7.0D	110.0			QL=2 ST=2 TYP=3
	2695	LEAR	4	S/F	0603.0E	0607.0	7.0D	85.0			QL=2 ST=2 TYP=3
	2695	SVTO	4	S/F	0638.0E	0639.0	5.0D	67.0			QL=2 ST=2 TYP=3
	2695	LEAR	8	S	0639.0E	0639.0	1.0D	28.0			QL=2 ST=3 TYP=3
	8800	SVTO	8	S	0639.0E	0639.0	U	38.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0801.0E	0801.0	U	19.0			QL=2 ST=3 TYP=3
	8800	SVTO	4	S/F	1119.0E	1120.0	5.0D	210.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1126.0E	1126.0	1.0D	45.0			QL=4 ST=2 TYP=3
	8800	SVTO	49	GB	1144.0E	1145.0	3.0D	570.0			QL=2 ST=2 TYP=6
	2695	SVTO	4	S/F	1144.0E	1145.0	3.0D	2.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1247.0E	1248.0	1.0D	31.0			QL=2 ST=2 TYP=3
	2695	SGMR	8	S	1247.0E	1247.0	U	32.0			QL=2 ST=2 TYP=3
	8800	SGMR	8	S	1258.0E	1300.0	2.0D	230.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1259.0E	1300.0	2.0D	170.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	2322.0E	2322.0	1.0D	62.0			QL=2 ST=2 TYP=3
	8800	PALE	4	S/F	2322.0E	2322.0	3.0D	130.0			QL=4 ST=2 TYP=3
02	8800	LEAR	8	S	0010.0E	0010.0	U	14.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0705.0E	0707.0	8.0D	35.0			QL=2 ST=2 TYP=3
03	8800	LEAR	4	S/F	0914.0E	0916.0	9.0D	360.0			QL=2 ST=2 TYP=5
	8800	SVTO	4	S/F	0914.0E	0916.0	8.0D	420.0			QL=4 ST=3 TYP=5
	2695	SVTO	4	S/F	0914.0E	0916.0	8.0D	190.0			QL=4 ST=3 TYP=5
	2695	LEAR	4	S/F	0914.0E	0916.0	11.0D	210.0			QL=2 ST=2 TYP=5
	8800	SVTO	8	S	1052.0E	1053.0	2.0D	160.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1053.0E	1053.0	U	59.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2138.0E	2139.0	4.0D	29.0			QL=4 ST=2 TYP=3
	2695	PALE	20	GRF	2139.0E	2150.0	19.0D	54.0			QL=4 ST=2 TYP=2
04	8800	LEAR	8	S	0149.0E	0149.0	1.0D	55.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	0149.0E	0149.0	U	71.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1047.0E	1048.0	6.0D	90.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1450.0E	1450.0	1.0D	77.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1450.0E	1450.0	U	63.0			QL=4 ST=2 TYP=3
06	8800	LEAR	8	S	0610.0E	0610.0	2.0D	110.0			QL=2 ST=2 TYP=3
	2695	LEAR	8	S	0610.0E	0611.0	2.0D	68.0			QL=2 ST=2 TYP=3
	2695	LEAR	4	S/F	0645.0E	0646.0	9.0D	350.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0645.0E	0646.0	7.0D	340.0			QL=2 ST=2 TYP=3
	8800	SVTO	4	S/F	0645.0E	0646.0	3.0D	300.0			QL=2 ST=2 TYP=3
	2695	SVTO	4	S/F	0646.0E	0646.0	5.0D	290.0			QL=2 ST=2 TYP=3
	8800	SVTO	8	S	0936.0E	0937.0	2.0D	63.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1501.0E	1502.0	3.0D	180.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1501.0E	1502.0	2.0D	190.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1501.0E	1502.0	2.0D	170.0			QL=2 ST=2 TYP=3
	2695	SVTO	4	S/F	1501.0E	1502.0	3.0D	180.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	1834.0E	1835.0	1.0D	90.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1834.0E	1835.0	4.0D	120.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2015.0E	2017.0	4.0D	65.0			QL=4 ST=2 TYP=3
07	2695	LEAR	8	S	0455.0E	0456.0	2.0D	69.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0455.0E	0456.0	2.0D	96.0			QL=2 ST=2 TYP=3
	8800	SGMR	49	GB	1110.0E	1510.0	770.0D	610.0			QL=2 ST=1 TYP=6
	8800	SVTO	4	S/F	1459.0E	1501.0	8.0D	410.0			QL=2 ST=2 TYP=3
	2695	SVTO	4	S/F	1500.0E	1502.0	8.0D	110.0			QL=4 ST=2 TYP=3
	8800	SVTO	49	GB	1508.0E	1511.0	8.0D	620.0			QL=2 ST=3 TYP=6
	8800	SVTO	49	GB	1510.0E	1511.0	6.0D	620.0			QL=2 ST=2 TYP=6
	8800	PALE	49	GB	2119.0E	2122.0	10.0D	2100.0			QL=2 ST=2 TYP=7
	2695	PALE	49	GB	2119.0E	2122.0	20.0D	1900.0			QL=4 ST=2 TYP=7
	2695	SGMR	49	GB	2120.0E	2122.0	7.0D	2000.0			QL=4 ST=3 TYP=6
	8800	SGMR	49	GB	2120.0E	2122.0	9.0D	2900.0			QL=4 ST=3 TYP=6
08	2695	LEAR	8	S	0241.0E	0241.0	1.0D	28.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0247.0E	0248.0	2.0D	120.0			QL=2 ST=2 TYP=3
	2695	LEAR	4	S/F	0247.0E	0248.0	3.0D	180.0			QL=2 ST=2 TYP=3
	2695	PALE	8	S	0247.0E	0248.0	2.0D	130.0			QL=4 ST=3 TYP=3
	8800	PALE	8	S	0247.0E	0248.0	2.0D	110.0			QL=4 ST=3 TYP=3
	2695	SVTO	20	GRF	0737.0E	0743.0	17.0D	200.0			QL=4 ST=2 TYP=2
	8800	SVTO	20	GRF	0737.0E	0743.0	14.0D	130.0			QL=2 ST=2 TYP=2

S O L A R R A D I O E M I S S I O N
Selected Fixed Frequency Events

FEBRUARY 1991

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
08	2695	LEAR	4	S/F	0739.0E	0743.0	24.0D	260.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0739.0E	0743.0	24.0D	140.0			QL=2 ST=2 TYP=5
	8800	SVTO	49	GB	1117.0E	1117.0	U	1200.0			QL=2 ST=2 TYP=6
09	8800	LEAR	8	S	2318.0E	2318.0	1.0D	52.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	2318.0E	2318.0	1.0D	52.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	2347.0E	2347.0	1.0D	74.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	2347.0E	2347.0	1.0D	70.0			QL=2 ST=2 TYP=3
10	8800	SGMR	8	S	1735.0E	1735.0	2.0D	70.0			QL=4 ST=2 TYP=3
11	8800	LEAR	4	S/F	0152.0E	0153.0	4.0D	92.0			QL=2 ST=2 TYP=3
	8800	PALE	4	S/F	0153.0E	0153.0	3.0D	110.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0155.0E	0156.0	1.0D	24.0			QL=4 ST=2 TYP=3
12	8800	LEAR	8	S	2328.0E	2329.0	1.0D	19.0			QL=2 ST=2 TYP=3
14	2695	LEAR	4	S/F	0613.0E	0615.0	4.0D	18.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0615.0E	0615.0	U	13.0			QL=2 ST=2 TYP=3
	2695	SGMR	4	S/F	1230.0E	1233.0	690.0D	84.0			QL=4 ST=1 TYP=3
	2695	SGMR	4	S/F	1231.0E	1233.0	4.0D	99.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1231.0E	1233.0	6.0D	80.0			QL=4 ST=2 TYP=3
17	8800	SGMR	4	S/F	1828.0E	1835.0	9.0D	57.0			QL=4 ST=2 TYP=5
	8800	PALE	4	S/F	1832.0E	1835.0	3.0D	49.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	2353.0E	2353.0	1.0D	12.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	2353.0E	2353.0	1.0D	31.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	2353.0E	2353.0	1.0D	49.0			QL=4 ST=2 TYP=3
18	8800	LEAR	4	S/F	0228.0E	0229.0	5.0D	150.0			QL=2 ST=2 TYP=3
	8800	PALE	4	S/F	0228.0E	0229.0	3.0D	160.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0724.0E	0726.0	6.0D	45.0			QL=2 ST=2 TYP=3
	2695	SVTO	4	S/F	0724.0E	0726.0	4.0D	51.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0724.0E	0727.0	16.0D	71.0			QL=2 ST=3 TYP=3
	8800	LEAR	4	S/F	0724.0E	0727.0	16.0D	44.0			QL=2 ST=3 TYP=3
19	8800	LEAR	8	S	0923.0E	0923.0	U	17.0			QL=2 ST=2 TYP=3
	8800	SVTO	8	S	0923.0E	0923.0	U	57.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1222.0E	1222.0	2.0D	85.0			QL=2 ST=2 TYP=3
	2695	SVTO	8	S	1222.0E	1222.0	2.0D	84.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1812.0E	1813.0	1.0D	42.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	1812.0E	1813.0	1.0D	47.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1812.0E	1813.0	1.0D	45.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2156.0E	2205.0	13.0D	36.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	2158.0E	2159.0	2.0D	45.0			QL=4 ST=2 TYP=3
20	8800	LEAR	8	S	0330.0E	0330.0	1.0D	57.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	0330.0E	0330.0	1.0D	40.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0730.0E	0730.0	U	11.0			QL=2 ST=2 TYP=3
21	8800	SGMR	8	S	1445.0E	1445.0	U	31.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1445.0E	1445.0	U	24.0			QL=4 ST=2 TYP=3
23	8800	LEAR	8	S	0657.0E	0657.0	2.0D	150.0			QL=2 ST=2 TYP=3
	8800	SVTO	8	S	0657.0E	0658.0	1.0D	120.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0746.0E	0747.0	6.0D	66.0			QL=2 ST=2 TYP=3
	8800	SVTO	4	S/F	0746.0E	0747.0	10.0D	77.0			QL=2 ST=2 TYP=3
	8800	SGMR	8	S	1625.0E	1626.0	2.0D	61.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1625.0E	1626.0	2.0D	34.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	2201.0E	2201.0	1.0D	95.0			QL=4 ST=2 TYP=3
24	2695	PALE	8	S	0324.0E	0324.0	1.0D	27.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0324.0E	0325.0	3.0D	58.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1607.0E	1607.0	U	52.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1607.0E	1607.0	U	76.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	1842.0E	1844.0	3.0D	49.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	2131.0E	2131.0	3.0D	100.0			QL=4 ST=2 TYP=3
	2695	PALE	20	GRF	2133.0E	2133.0	31.0D	55.0			QL=2 ST=2 TYP=2

S O L A R R A D I O E M I S S I O N
Selected Fixed Frequency Events

FEBRUARY 1991

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	2695	LEAR	49	GB	0808.0E	0828.0	86.0D	1600.0			QL=2 ST=2 TYP=7
	2695	SVTO	49	GB	0808.0E	0828.0	952.0D	1400.0			QL=4 ST=1 TYP=7
	8800	SVTO	49	GB	0809.0E	0813.0	39.0D	1400.0			QL=4 ST=2 TYP=6
	8800	LEAR	49	GB	0809.0E	0813.0	71.0D	1600.0			QL=2 ST=2 TYP=6
	2695	SVTO	8	S	1600.0E	1600.0	2.0D	66.0			QL=2 ST=2 TYP=3
	8800	SGMR	4	S/F	1655.0E	1656.0	4.0D	76.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1656.0E	1656.0	1.0D	62.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1703.0E	1704.0	3.0D	34.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	1714.0E	1714.0	U	34.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1715.0E	1715.0	1.0D	44.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1715.0E	1715.0	1.0D	50.0			QL=4 ST=2 TYP=3
27	2695	LEAR	8	S	0119.0E	0120.0	2.0D	50.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0120.0E	0120.0	U	32.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0134.0E	0135.0	3.0D	100.0			QL=2 ST=2 TYP=3
	8800	PALE	4	S/F	0134.0E	0135.0	3.0D	100.0			QL=4 ST=2 TYP=3
28	2695	LEAR	8	S	0505.0E	0505.0	2.0D	50.0			QL=2 ST=2 TYP=3
	2695	SGMR	8	S	1414.0E	1414.0	U	32.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1414.0E	1414.0	586.0D	74.0			QL=4 ST=1 TYP=3
	8800	SVTO	4	S/F	1414.0E	1414.0	586.0D	66.0			QL=2 ST=1 TYP=3
	8800	SGMR	8	S	1549.0E	1550.0	1.0D	81.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1549.0E	1550.0	1.0D	59.0			QL=2 ST=2 TYP=3
	8800	SGMR	8	S	1708.0E	1709.0	1.0D	69.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	2324.0E	2325.0	2.0D	180.0			QL=2 ST=2 TYP=3
	8800	PALE	8	S	2324.0E	2325.0	2.0D	220.0			QL=4 ST=2 TYP=3

Reports are received routinely from the following observatories:

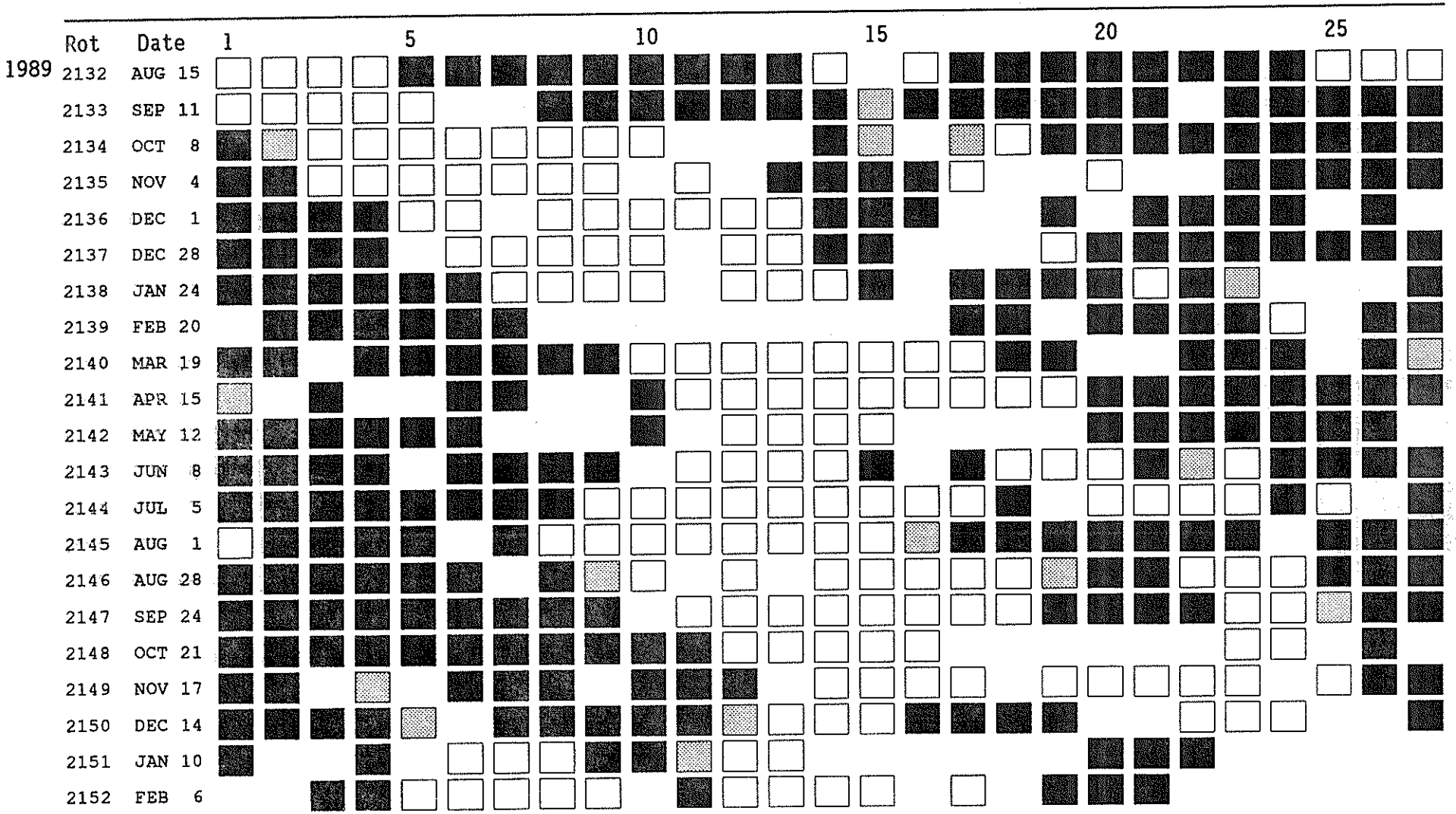
BERN = Berne LEAR = Learmonth PALE = Palehua SGMR = Sagamore Hill
OTTA = Ottawa PENT = Penticton SVTO = San Vito

Explanation of Type Code:

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

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

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity: □ = field > 2 microT; ▒ = -2 microT ≤ field ≤ 2 microT

■ = field <-2 microT; No box = no data available

Observations are taken at 2000 UT. Rotation numbers given are the Bartels series, but the dates are not; these dates mark times of occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	1990 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	1991 Feb
1	.	84	35	-9	-4	14	-75	-80	3	57	-55	.
2	.	47	19	-8	-13	-29	-77	-49	25	58	.	.
3	.	33	23	-5	-34	-27	.	.	45	34	.	.
4	.	4	-18	-34	-42	-38	-44	22	45	.	26	.
5	.	-8	-24	-33	-36	-25	-2	44	29	11	74	.
6	.	-29	-25	-33	-36	.	19	57	.	7	94	.
7	.	.	-27	.	-45	-13	.	51	.	47	.	.
8	-28	.	-38	-26	-34	3	68	36	.	58	.	-99
9	-23	-29	-33	-52	-12	26	.	41	.	82	-108	-54
10	.	-36	-15	-86	-11	43	60	33	.	.	-168	7
11	-25	-34	-4	-83	-10	94	43	8	.	46	.	72
12	-23	.	-9	.	-15	137	41	-10	68	-7	.	97
13	-11	-8	-47	-88	17	76	14	-25	52	-83	-27	73
14	-15	0	-80	-58	32	25	5	-43	.	-126	.	27
15	2	-2	-82	-31	78	3	-1	-9	-4	-62	58	.
16	.	.	-80	-10	95	1	-17	24	.	-51	46	-6
17	-10	-20	-88	.	57	-34	-9	12	-46	-20	35	26
18	-45	.	.	47	10	-33	30	0	-8	0	-7	89
19	-63	.	.	44	26	-27	35	-62	.	.	-21	142
20	-108	-105	.	43	41	-22	23	-91	-1	-9	0	175
21	.	-99	-29	11	20	-30	-20	-89	.	-23	23	.
22	-150	.	.	-4	-12	-15	-78	-87	-24	-41	60	85
23	-124	.	25	.	.	-16	-96	-69	-47	-55	.	.
24	-113	-21	33	-12	7	.	-112	-56	-50	-37	.	-11
25	-74	23	16	7	25	-83	-121	-44	.	-1	.	-93
26	-62	57	3	13	50	-82	-107	-52	-69	36	.	-134
27	-34	75	.	42	10	-89	-90	-54	-56	45	.	.
28	9	65	.	-7	-13	-107	-82	-65	-11	31	.	.
29	45	50	.	-2	39	-131	-86	-66	.	-18	-69	
30	103	50	.	8	.	-128	-103	-54	48	-59	-53	
31	94		-4		-67	-90		-31		-48	-15	

Dot symbol indicates no data available for the day.
Note: Data from 21 June to 15 August 1990 are of poorer quality due to instrument problems.

C O N T E N T S

Prompt Reports DATA FOR **JANUARY 1991** Number 559 Part I

P R E L I M I N A R Y H - ALPHA S O L A R S Y N O P T I C C H A R T

CARRINGTON ROTATION NUMBER 1837
(19 December 1990 to 15 January 1991)

Dates of Observations Below Days of Year:

EDITOR'S NOTE: There continues to be no H-alpha synoptic chart. This will continue to be the case until computer software conversion is complete and a new assistant becomes available. For more information, please contact Patrick McIntosh, NOAA R/E/SE, 325 Broadway, Boulder, CO 80303 USA (Phone: (303)497-3795; e-mail: SOLAR::PMCINTOSH on SPAN.).

Heliographic Longitude

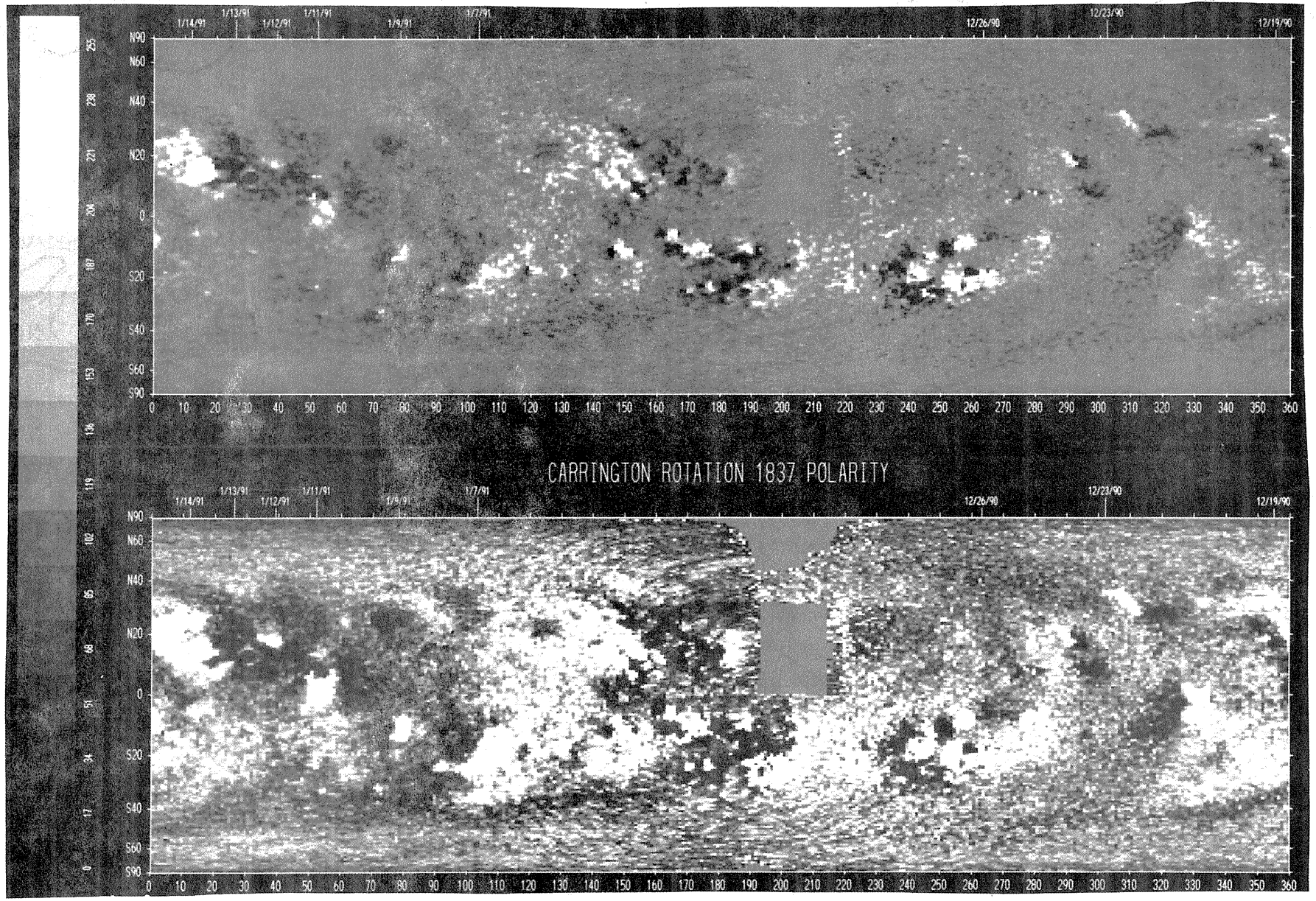
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1837

(19 December 1990 to 15 January 1991)

National Solar Observatory/Kitt Peak

Dates of Observation

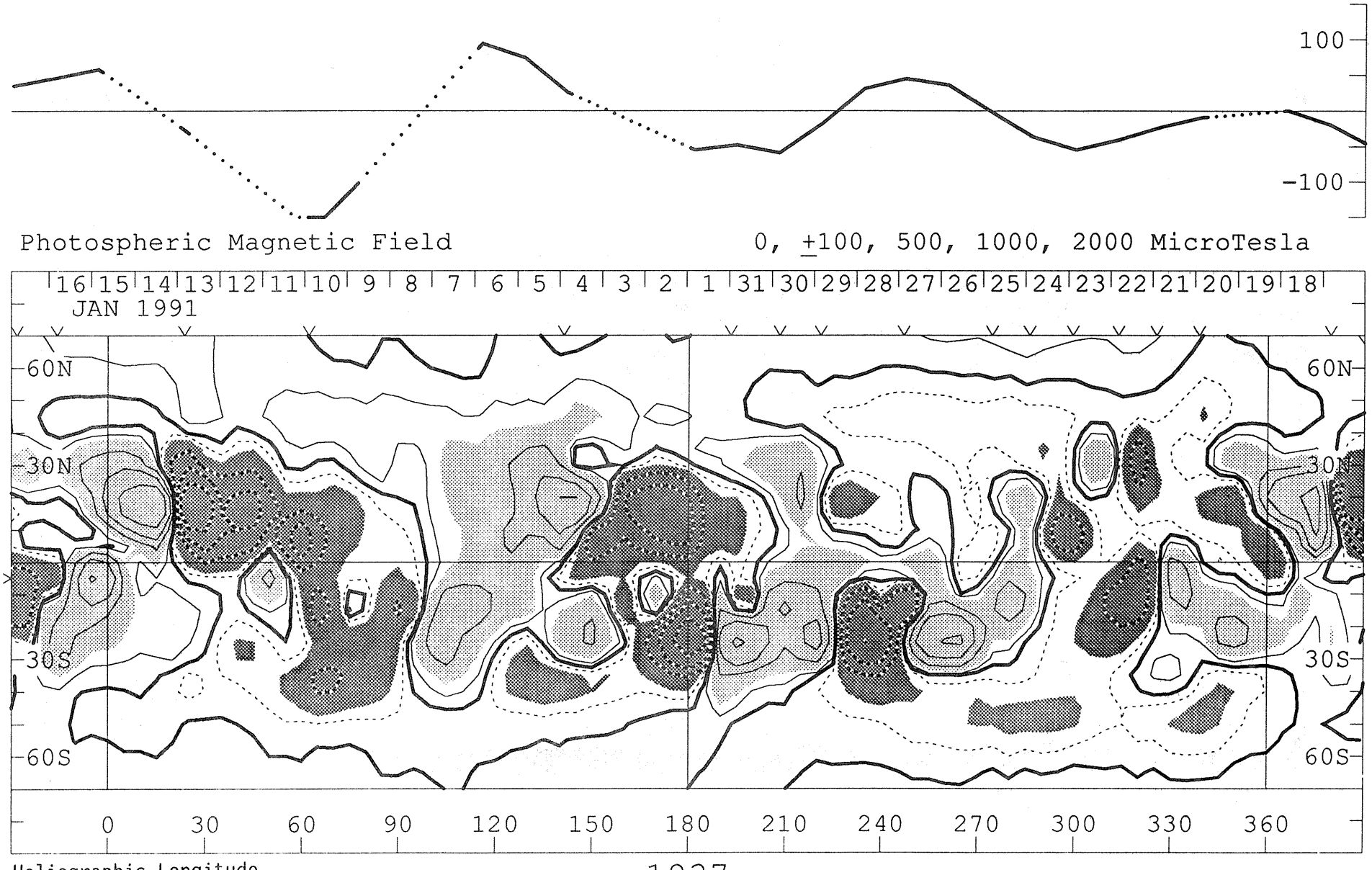


Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1837
(19 December 1990 to 15 January 1991)

WILCOX SOLAR OBSERVATORY



SOLAR MAGNETIC FIELD SYNOPTIC CHART

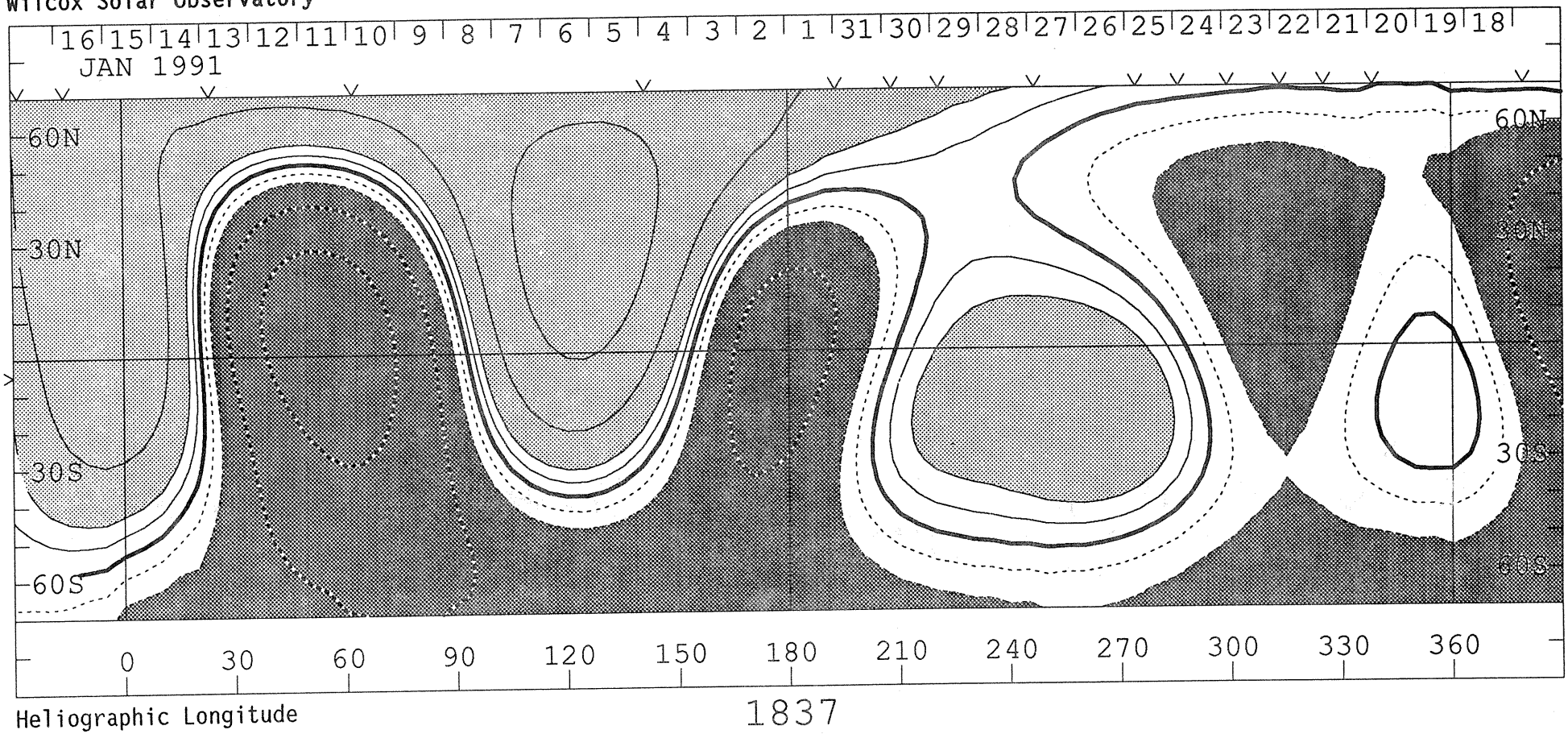
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1837

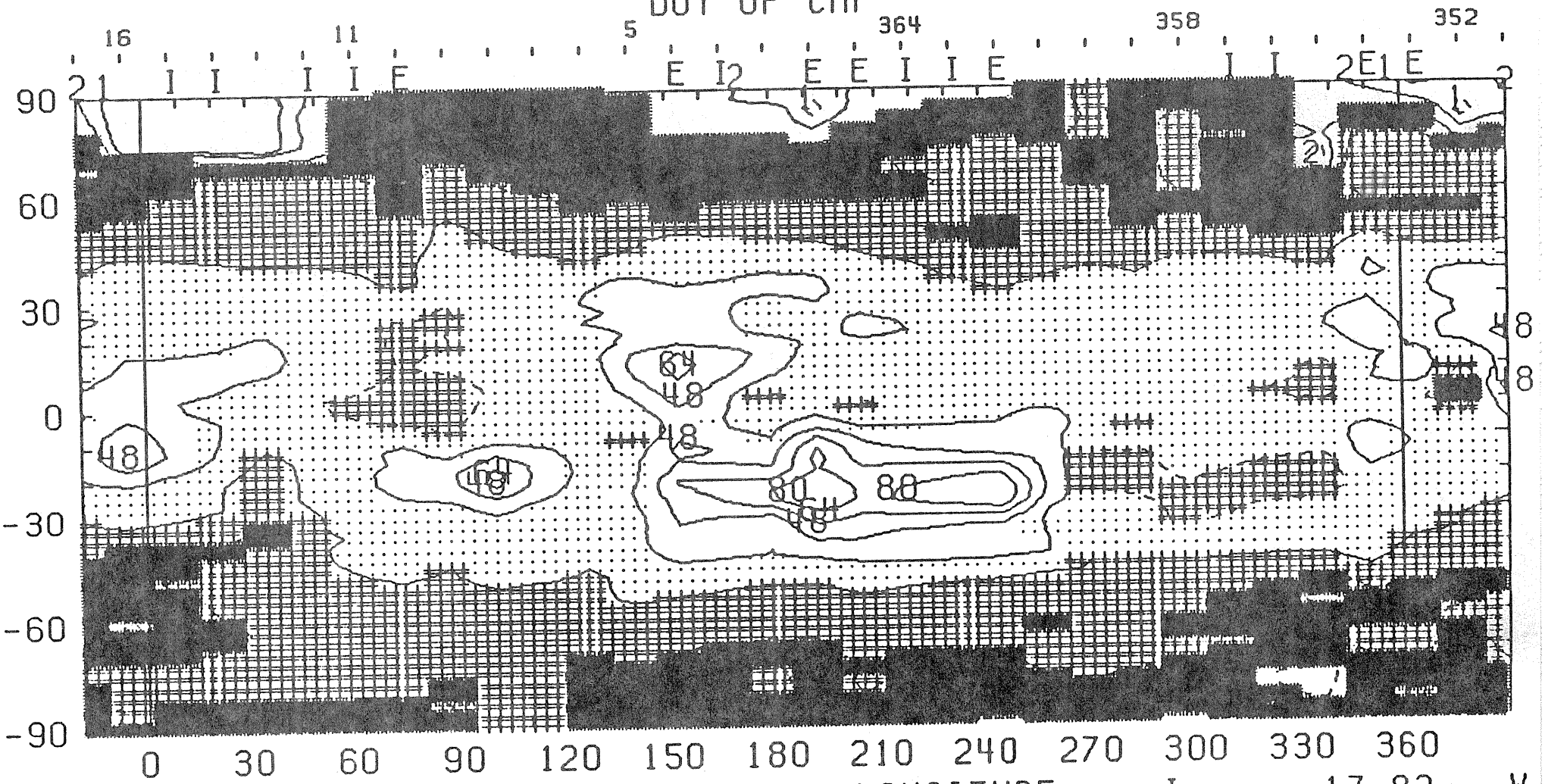
(19 December 1990 to 15 January 1991)

Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla



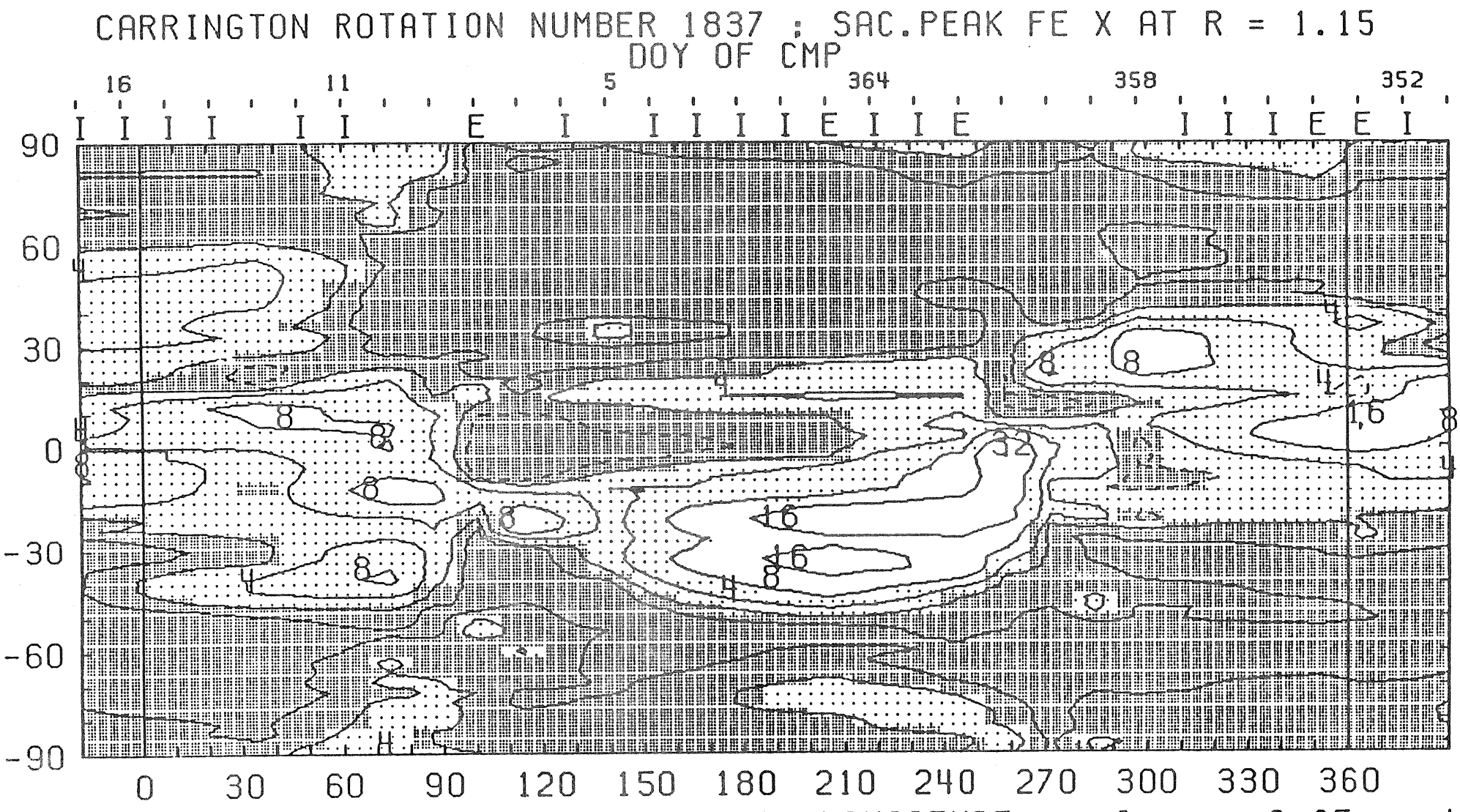
CARRINGTON ROTATION NUMBER 1837 ; SAC.PEAK FE XIV AT R = 1.15

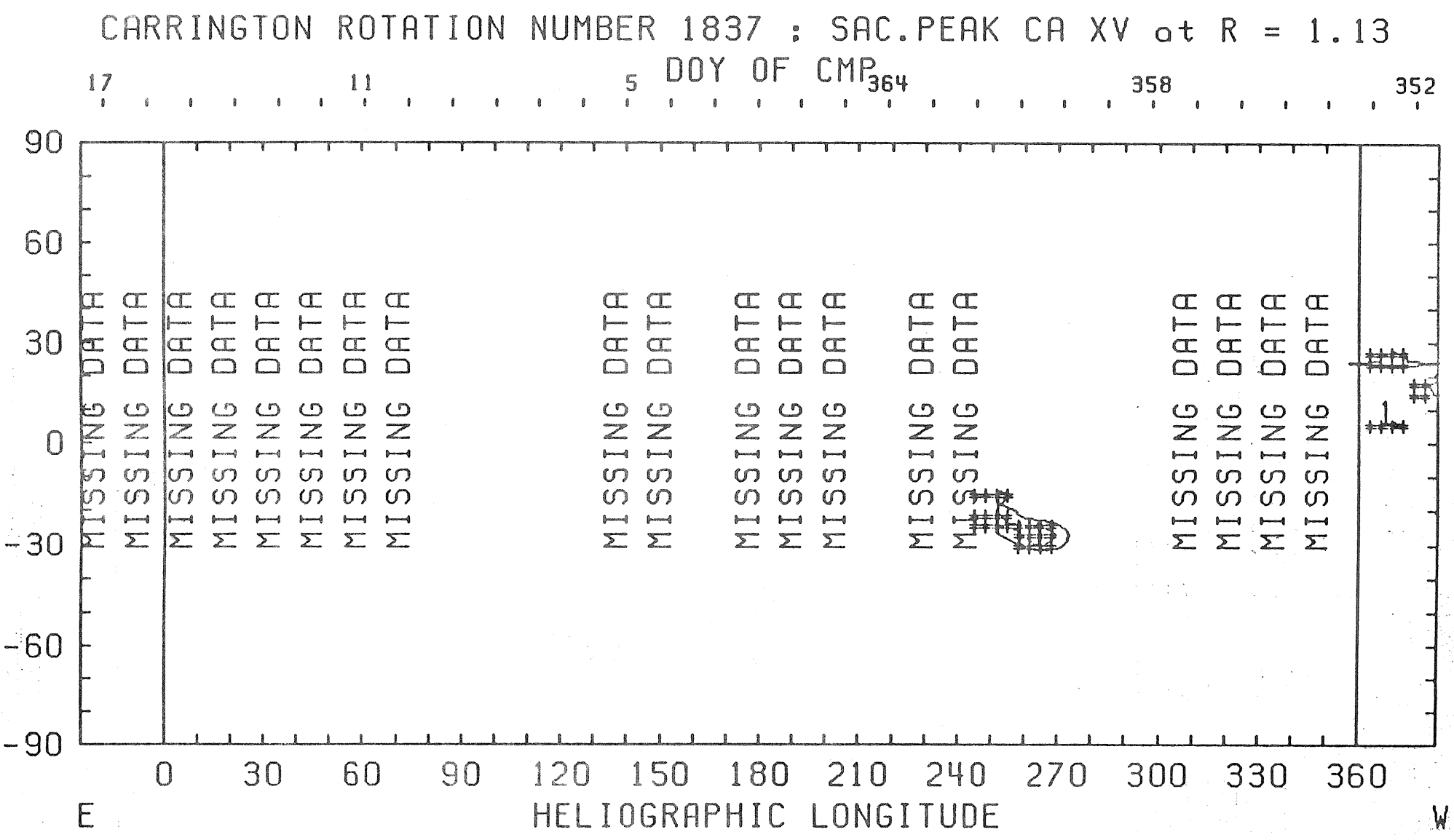


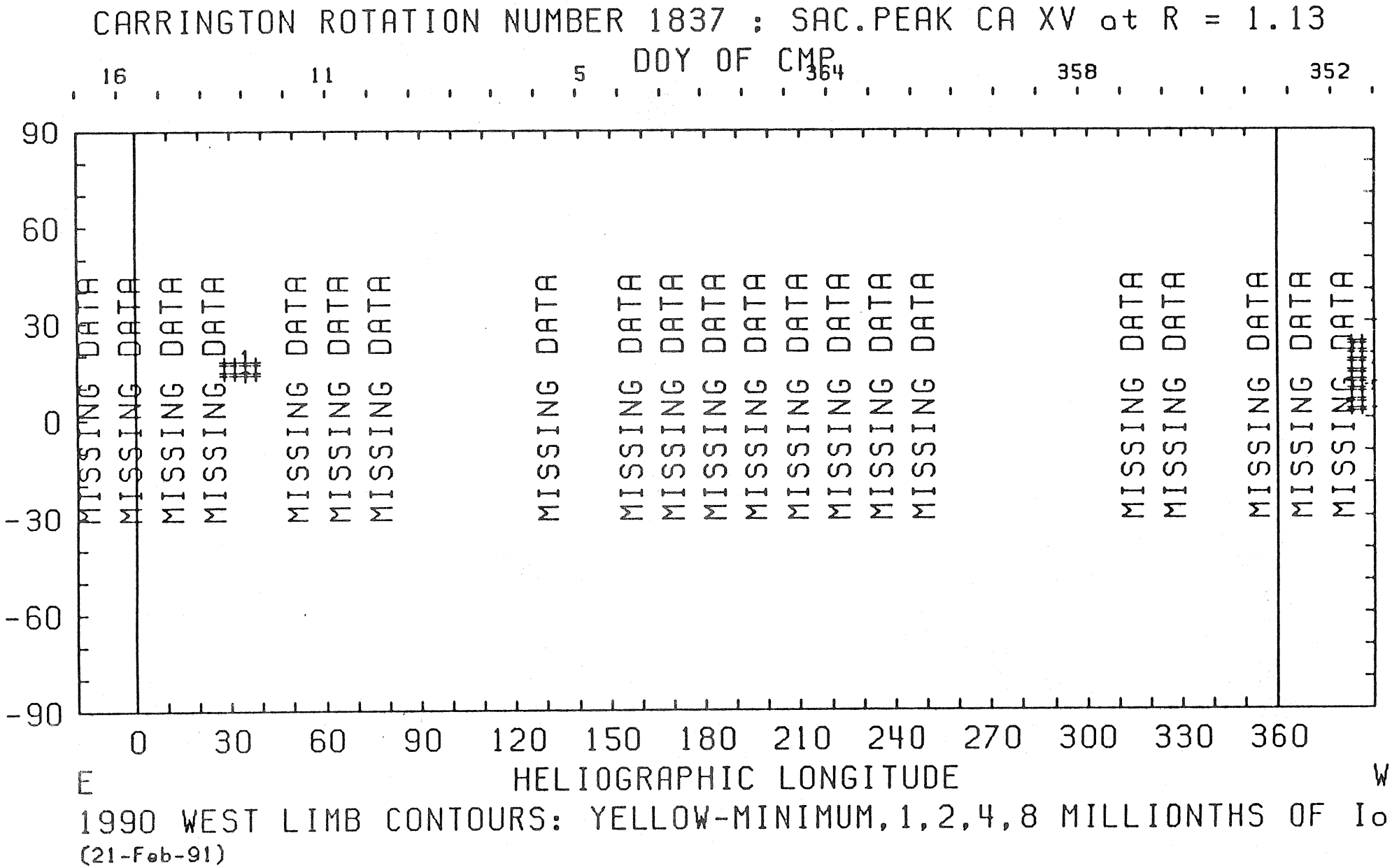
Iave = 17.82μ

1991 W+E LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io

(20-Feb-91) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK


CARRINGTON ROTATION NUMBER 1837 : SAC.PEAK FE X AT R = 1.15
DOY OF CMP
16
11
5
364
358
352
90
60
30
0
-30
-60
-90
0
30
60
90
120
150
180
210
240
270
300
330
360
E
HELIOGRAPHIC LONGITUDE
Iave = 2.65μ
W
1991 W+E LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io
(20-Feb-91)

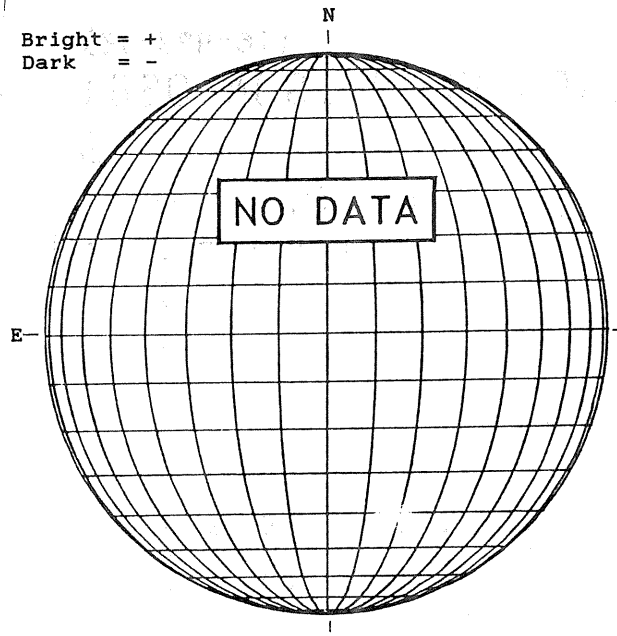

CARRINGTON ROTATION NUMBER 1837 : SAC.PEAK CA XV at R = 1.13
DOY OF CMP
17
11
5
364
358
352
90
60
30
0
-30
-60
-90
MISSING DATA
0
30
60
90
120
150
180
210
240
270
300
330
360
E
HELIOGRAPHIC LONGITUDE
W
1990 EAST LIMB CONTOURS: YELLOW-MINIMUM,1,2,4,8 MILLIONTHS OF
(20-Feb-91)


CARRINGTON ROTATION NUMBER 1837 : SAC.PEAK CA XV at R = 1.13
DOY OF CMP
16
11
5
364
358
352
90
60
30
0
-30
-60
-90
MISSING DATA
0
30
60
90
120
150
180
210
240
270
300
330
360
E
HELIOGRAPHIC LONGITUDE
W
1990 WEST LIMB CONTOURS: YELLOW-MINIMUM,1,2,4,8 MILLIONTHS OF Io
(21-Feb-91)

JANUARY 1, 1991 (P= 2.26, B_o =-2.98, $_o$ = 192.47)

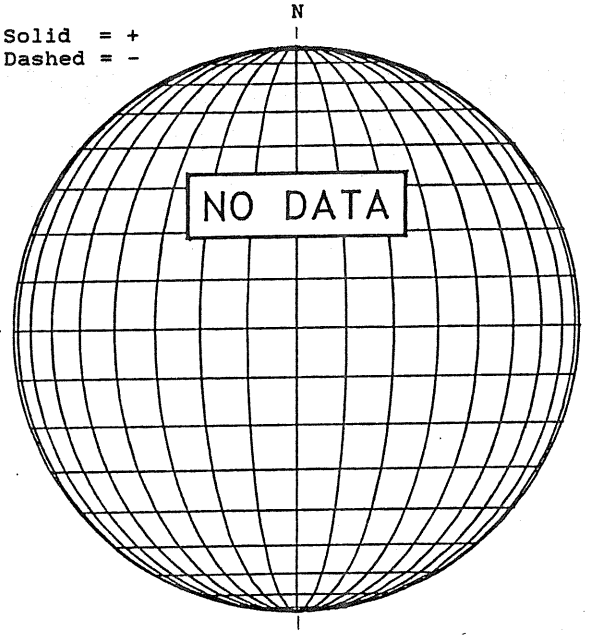
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



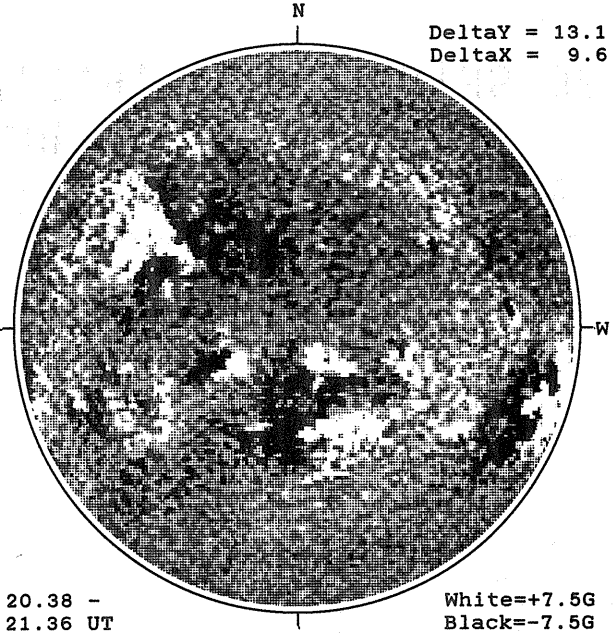
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

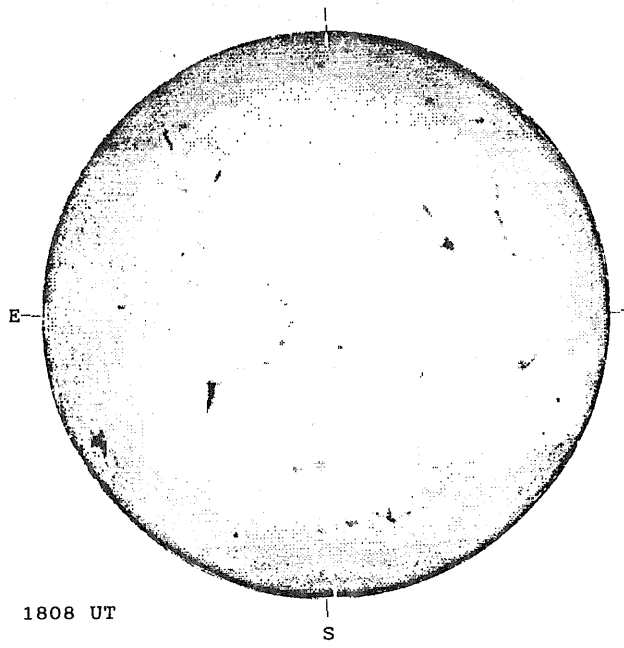
DeltaY = 13.1
DeltaX = 9.6



20.38 -
21.36 UT

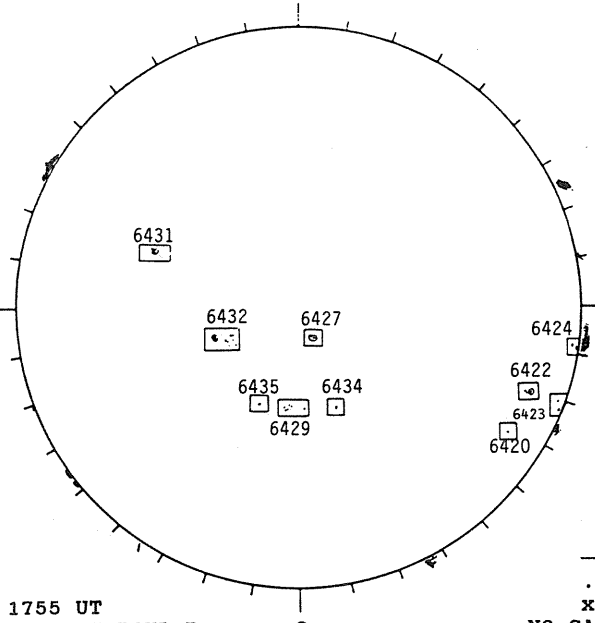
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



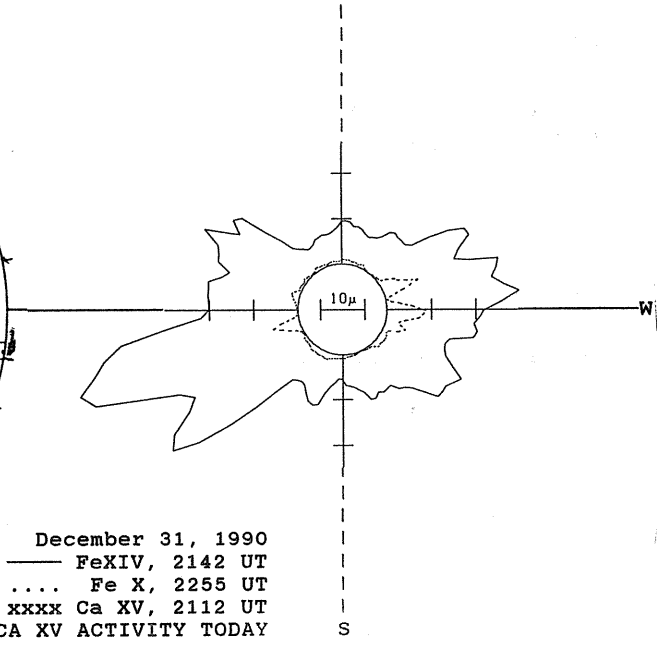
1808 UT

BOULDER SUNSPOT



1755 UT
1808 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

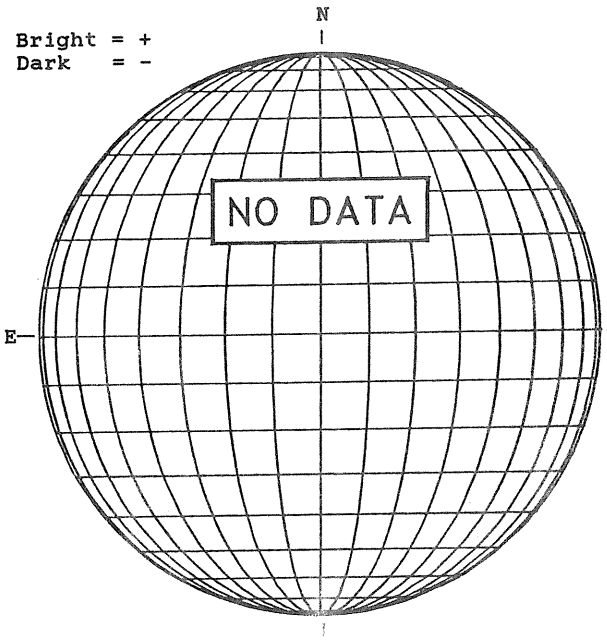


December 31, 1990
—— FeXIV, 2142 UT
.... Fe X, 2255 UT
xxxx Ca XV, 2112 UT
NO CA XV ACTIVITY TODAY

JANUARY 2, 1991 (P= 1.78, B_o =-3.10, L_o = 179.30)

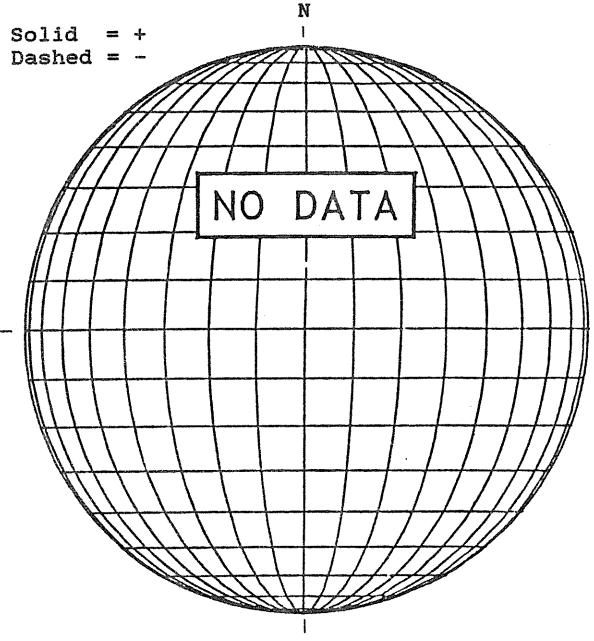
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



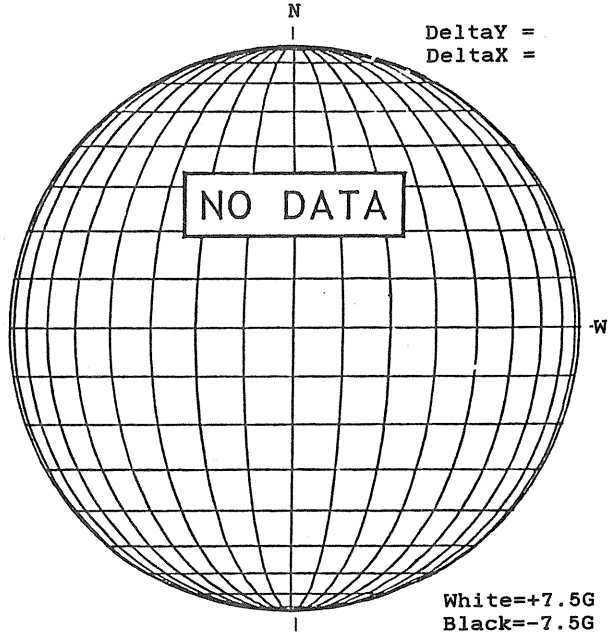
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



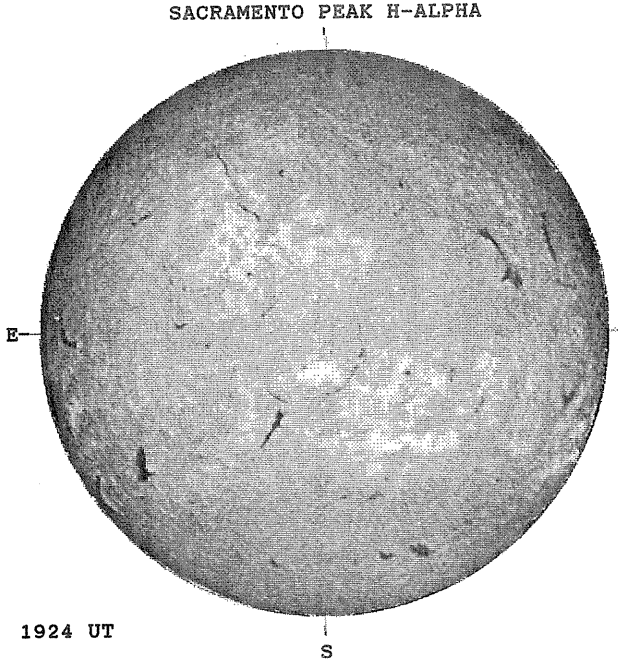
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



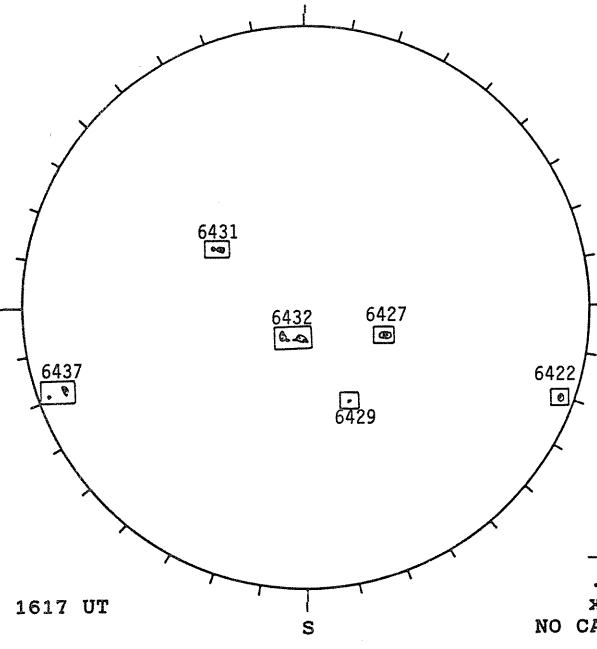
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



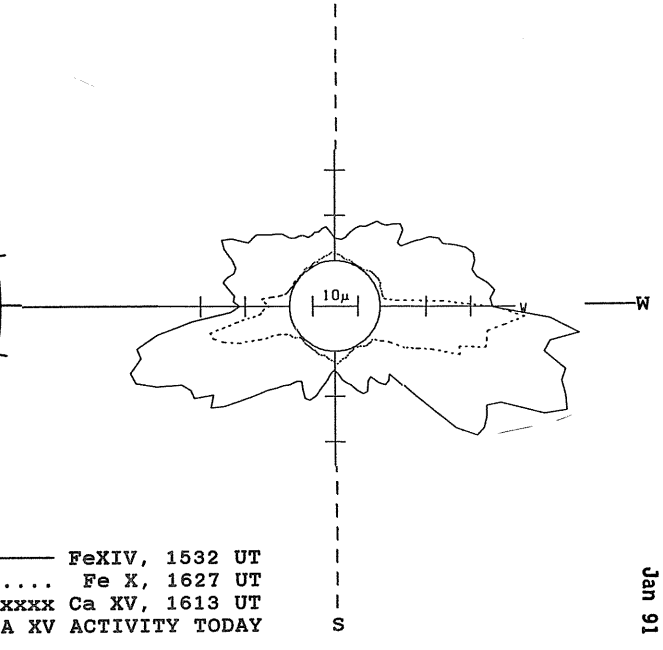
1924 UT

BOULDER SUNSPOT



1617 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



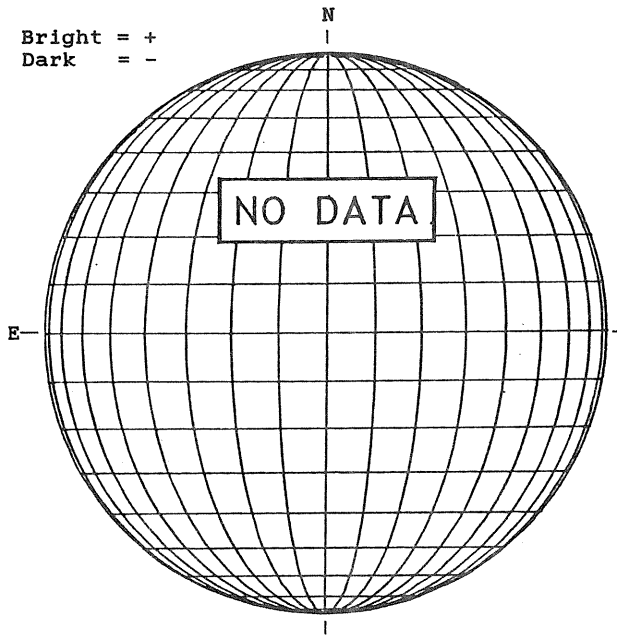
—— FeXIV, 1532 UT
.... Fe X, 1627 UT
xxxx Ca XV, 1613 UT
NO CA XV ACTIVITY TODAY

59
Jan 91

JANUARY 3, 1991 (P= 1.29, B_o =-3.21, L_o = 166.13)

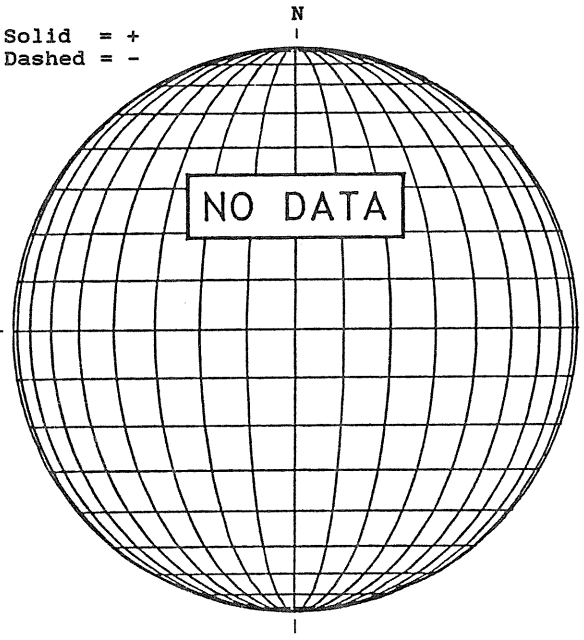
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



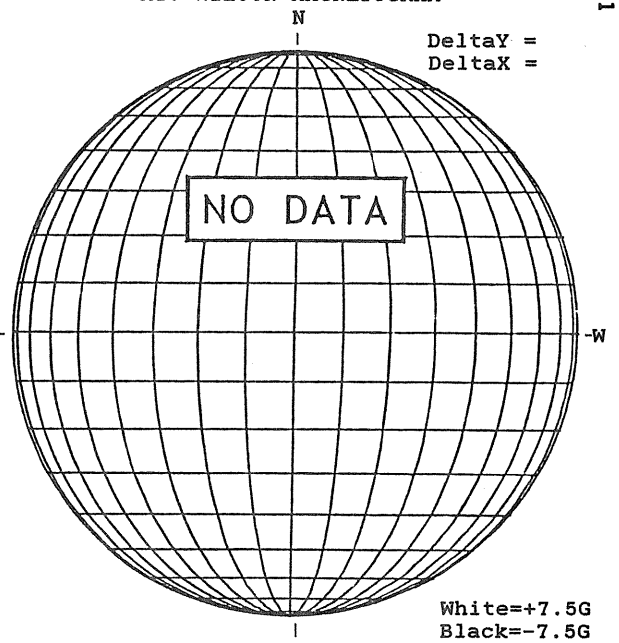
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



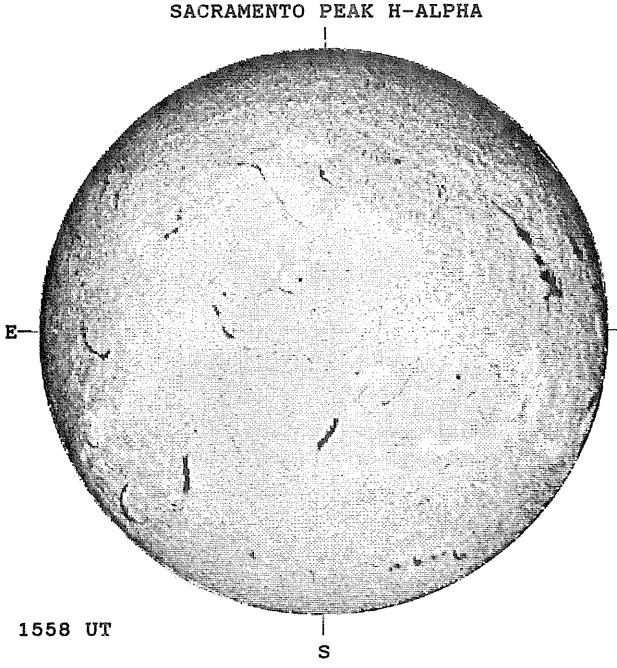
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



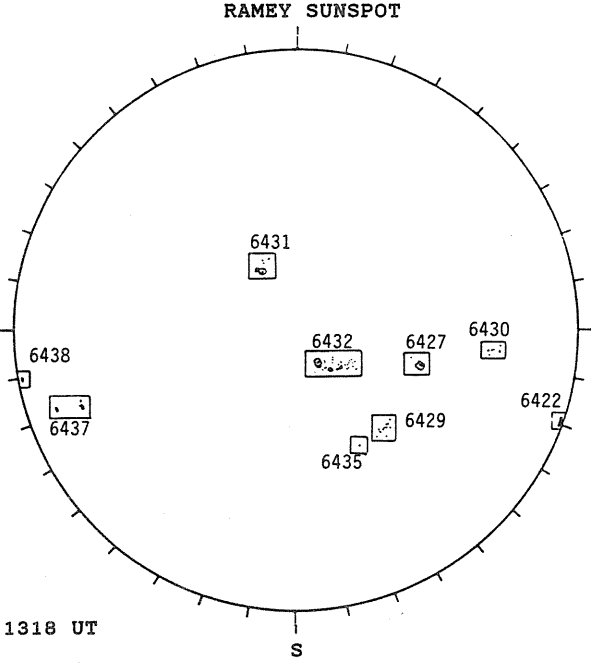
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



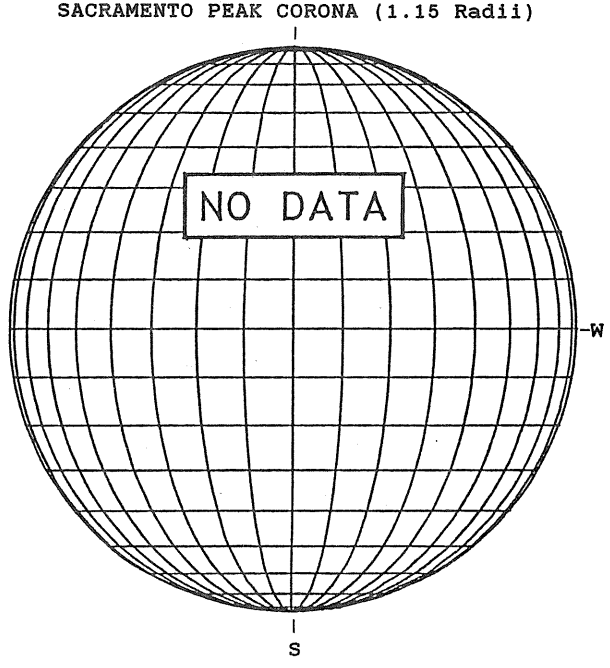
1558 UT

RAMEY SUNSPOT



1318 UT

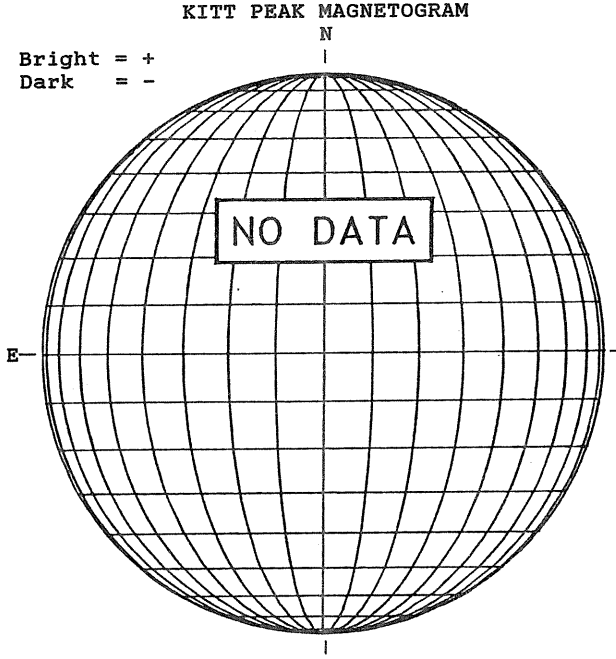
SACRAMENTO PEAK CORONA (1.15 Radii)



JANUARY 4, 1991 (P= 0.81, B_o =-3.33, L_o = 152.96)

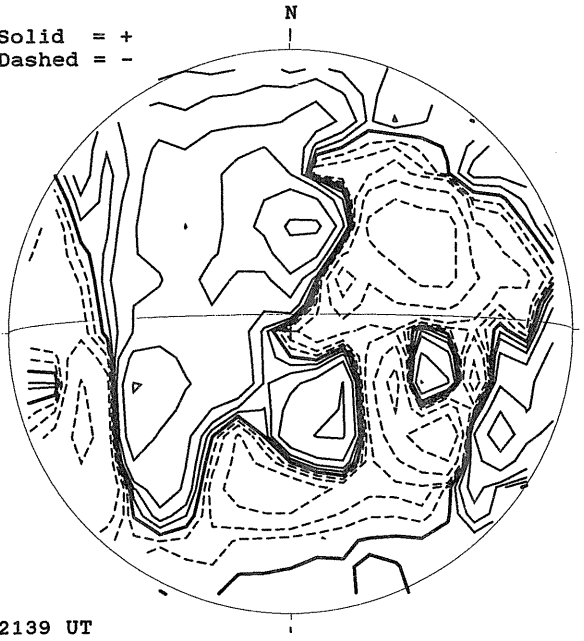
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



STANFORD MAGNETOGRAM

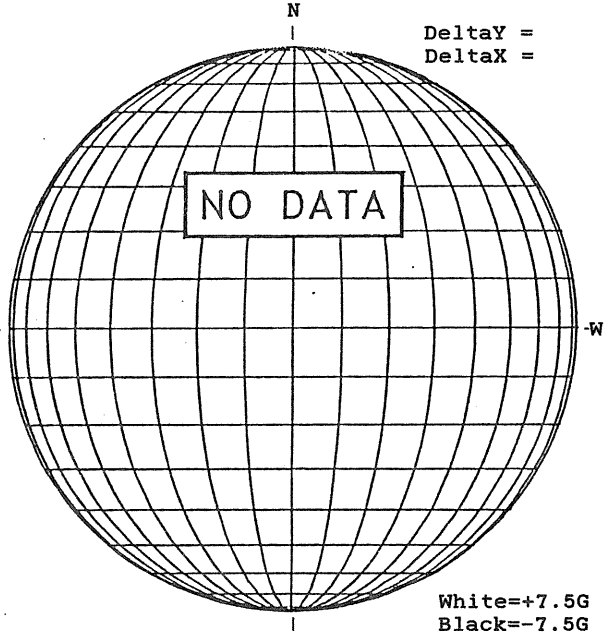
Solid = +
Dashed = -



2139 UT

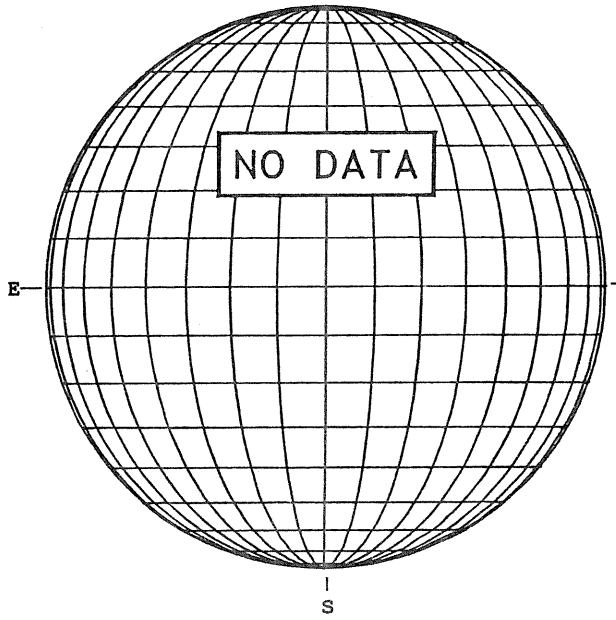
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

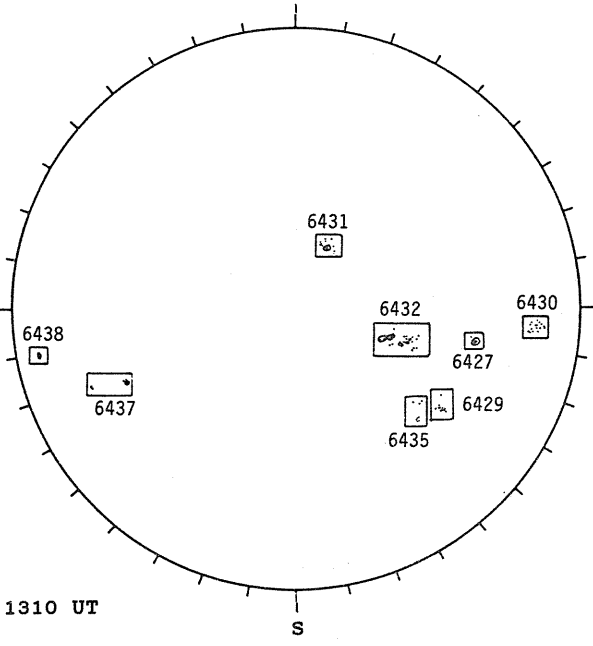


White=+7.5G
Black=-7.5G

BOULDER H-ALPHA

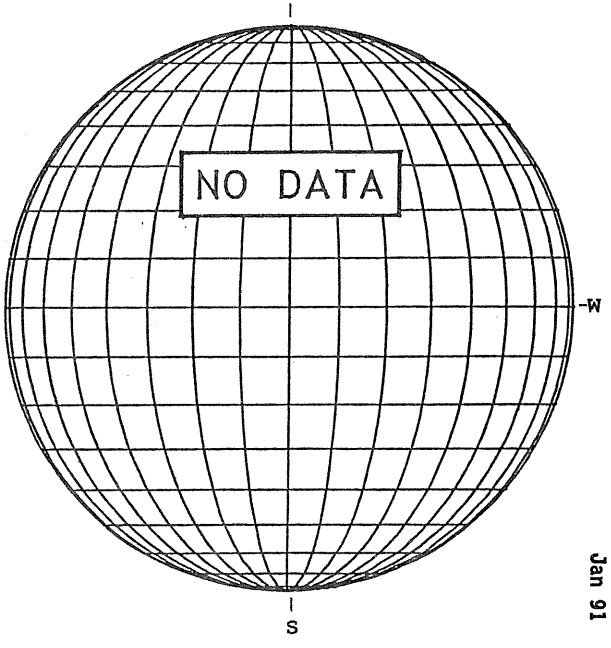


RAMEY SUNSPOT



1310 UT

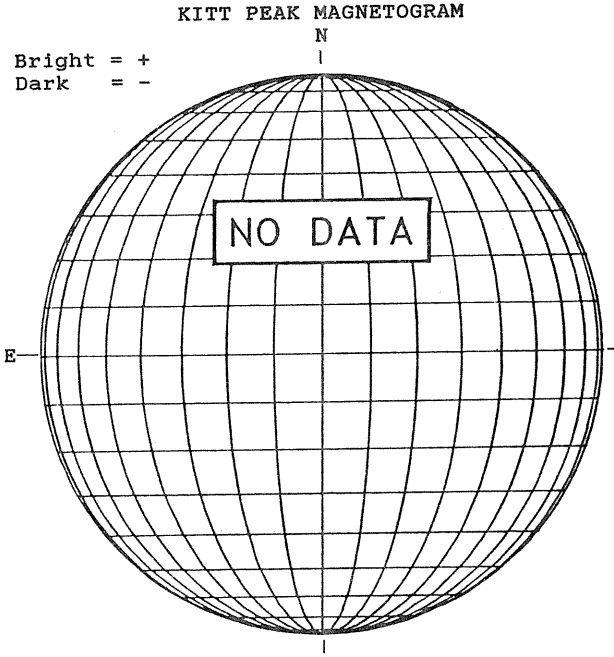
SACRAMENTO PEAK CORONA (1.15 Radii)



JANUARY 5, 1991 (P= 0.32, B_o =-3.44, L_o = 139.79)

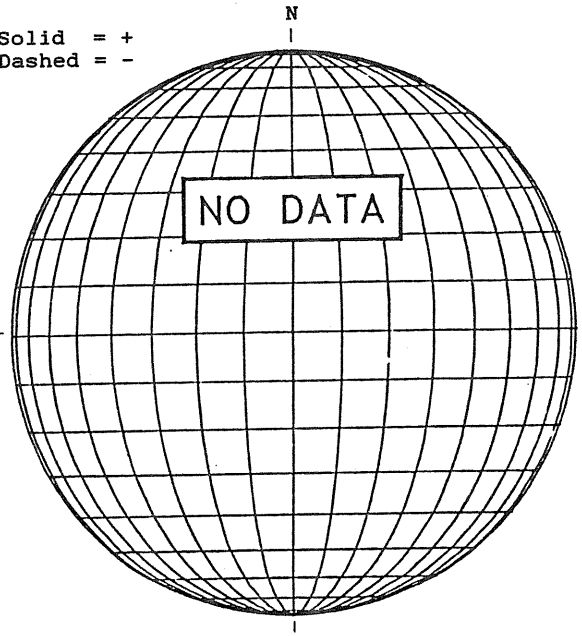
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



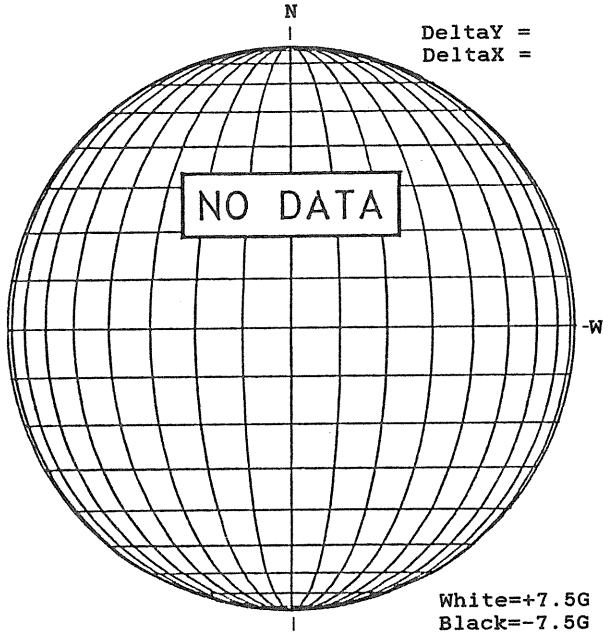
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



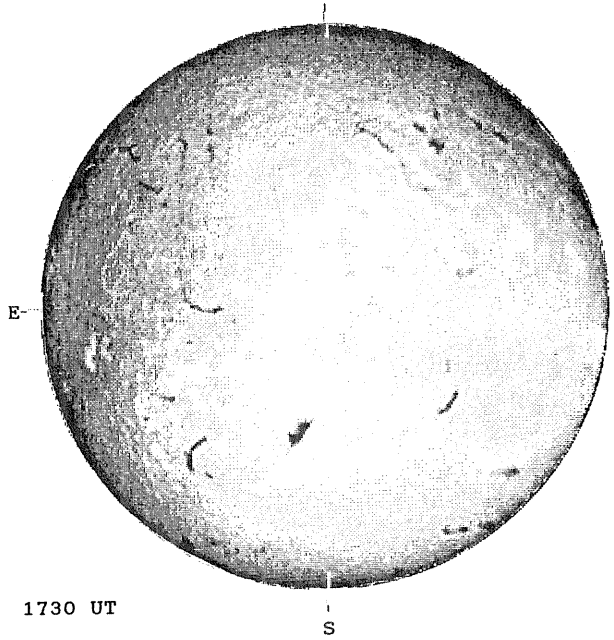
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



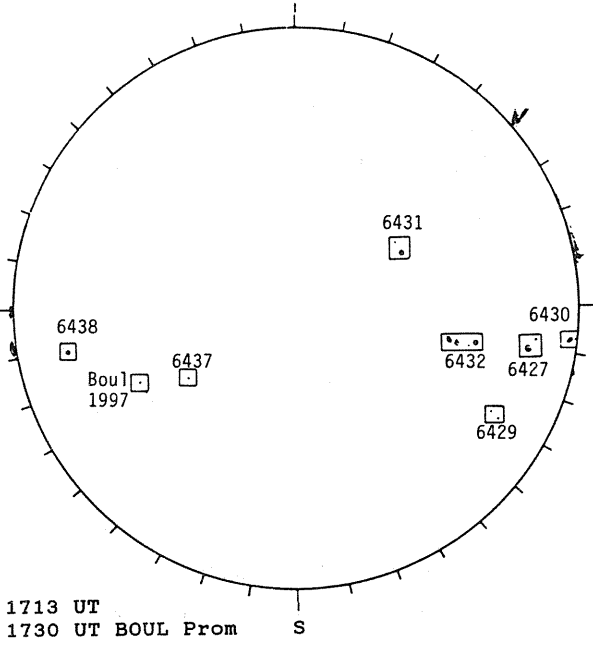
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



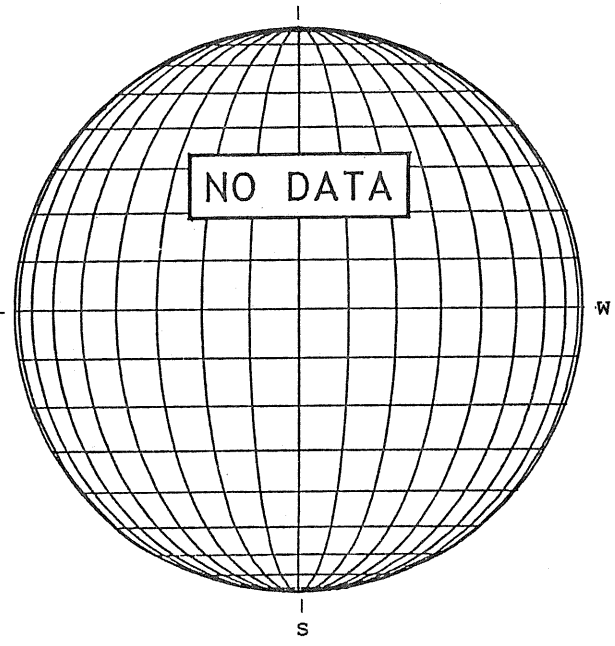
1730 UT

BOULDER SUNSPOT



1713 UT
1730 UT BOUL Prom

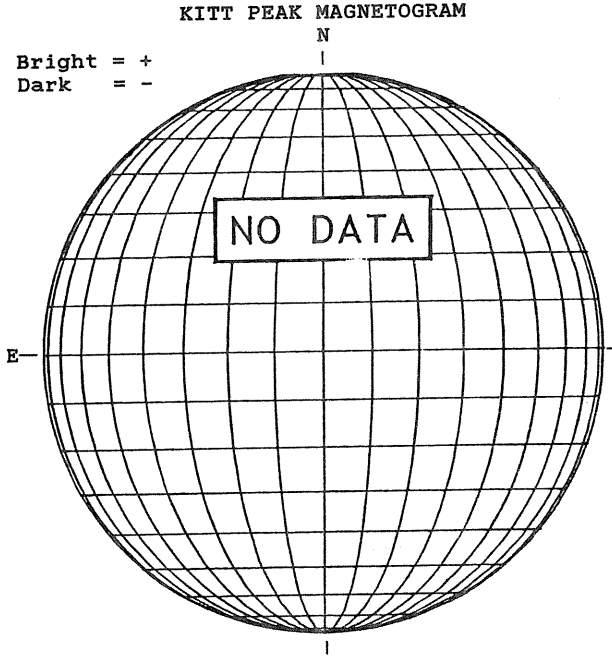
SACRAMENTO PEAK CORONA (1.15 Radii)



JANUARY 6, 1991 (P= -0.16, B_o =-3.55, L_o = 126.62)

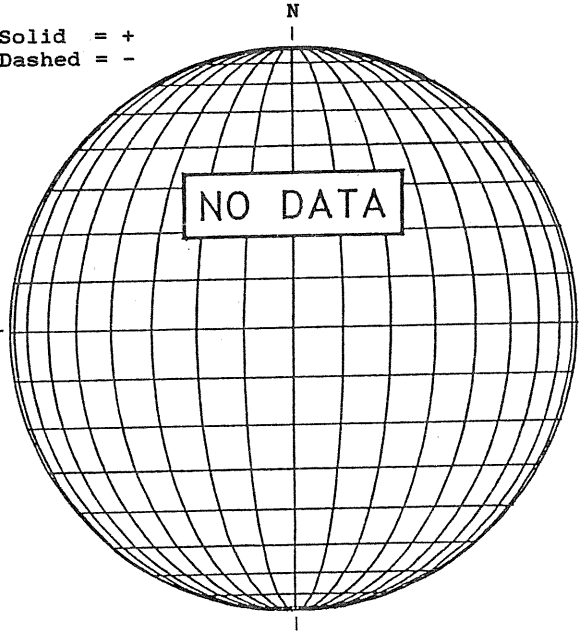
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



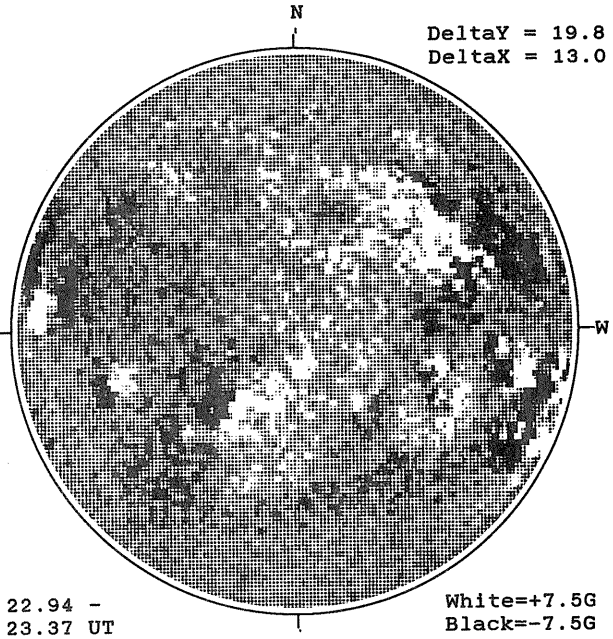
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

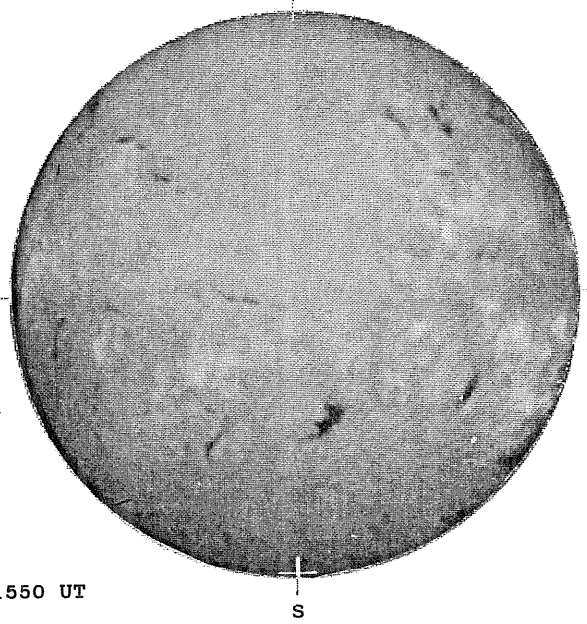
DeltaY = 19.8
DeltaX = 13.0



22.94 -
23.37 UT

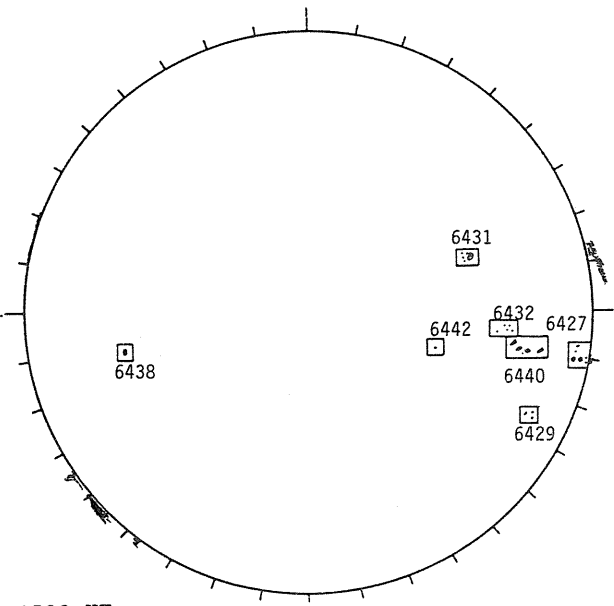
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



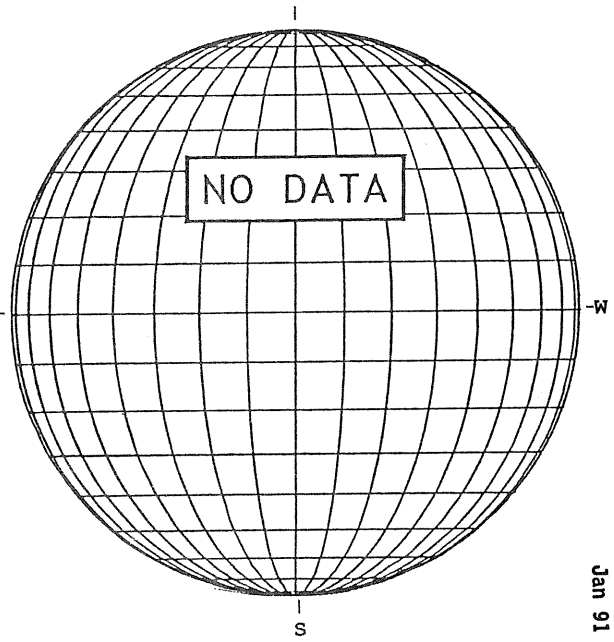
1550 UT

BOULDER SUNSPOT



1530 UT
1550 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

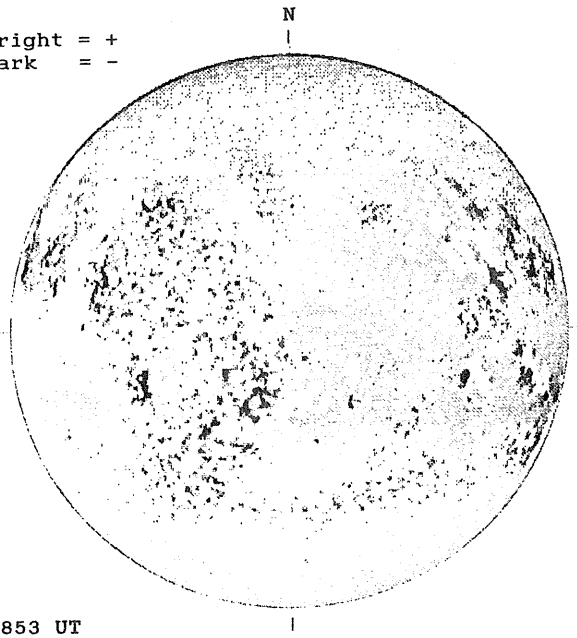


63
Jan 91

JANUARY 7, 1991 (P= -0.64, B_o =-3.66, L_o = 113.45)

KITT PEAK MAGNETOGRAM

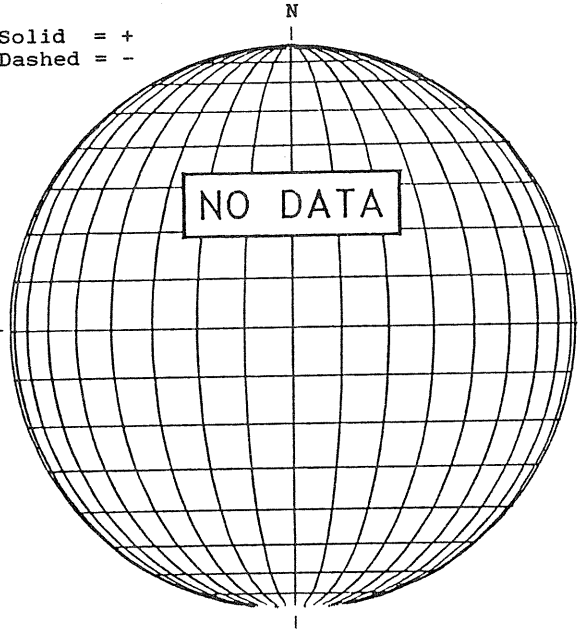
Bright = +
Dark = -



1853 UT

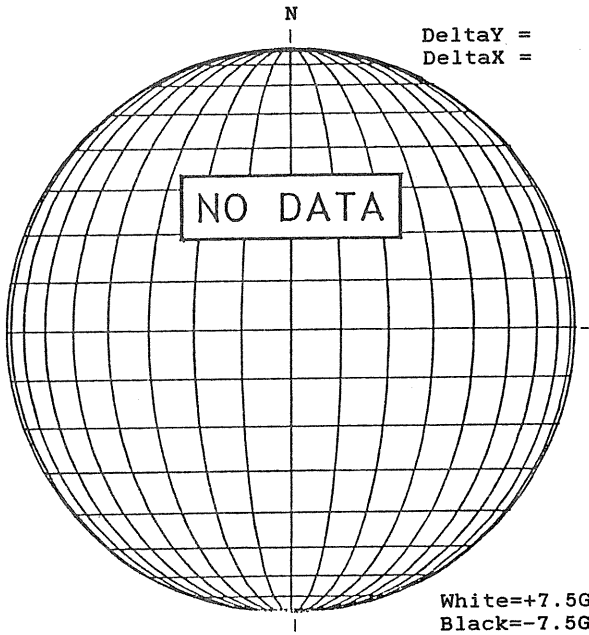
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



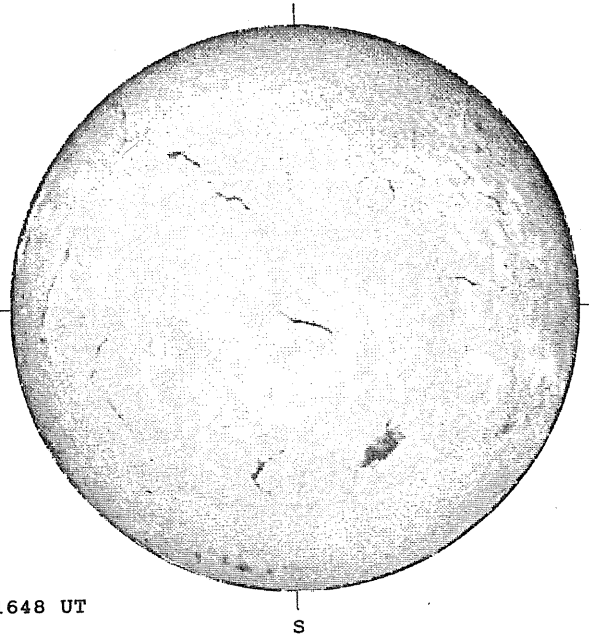
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



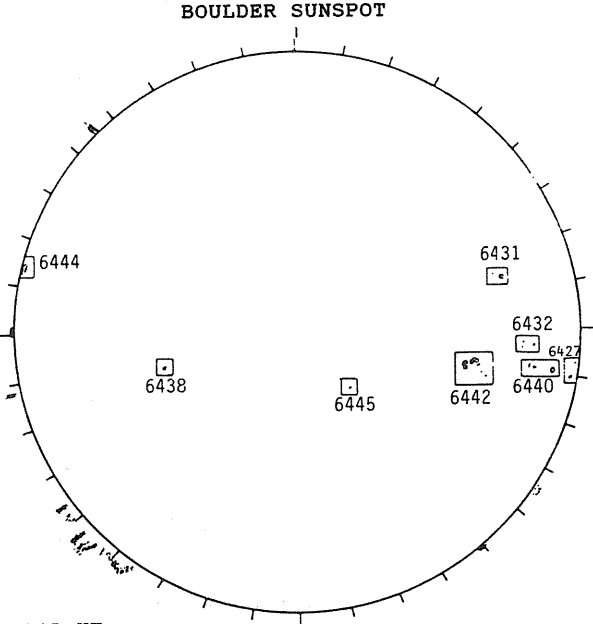
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



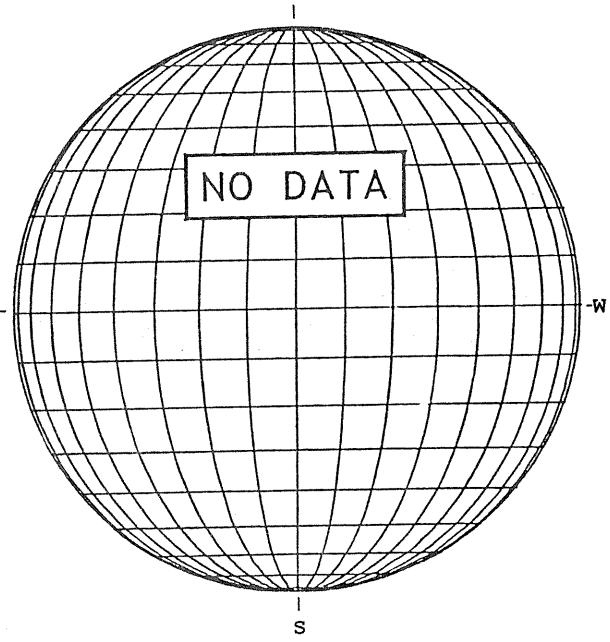
1648 UT

BOULDER SUNSPOT



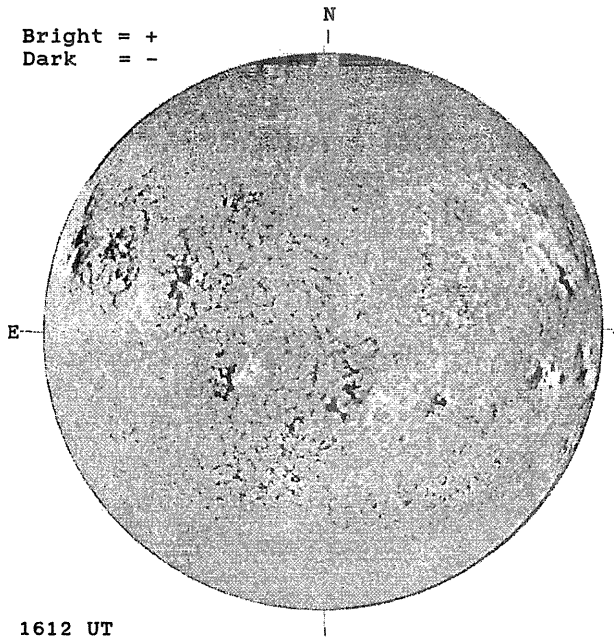
1545 UT
1613 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

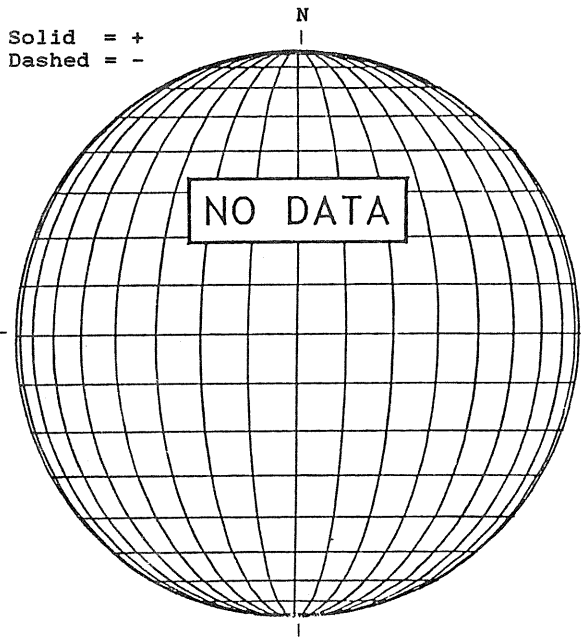


JANUARY 8, 1991 (P= -1.13, B_o =-3.78, L_o = 100.28)

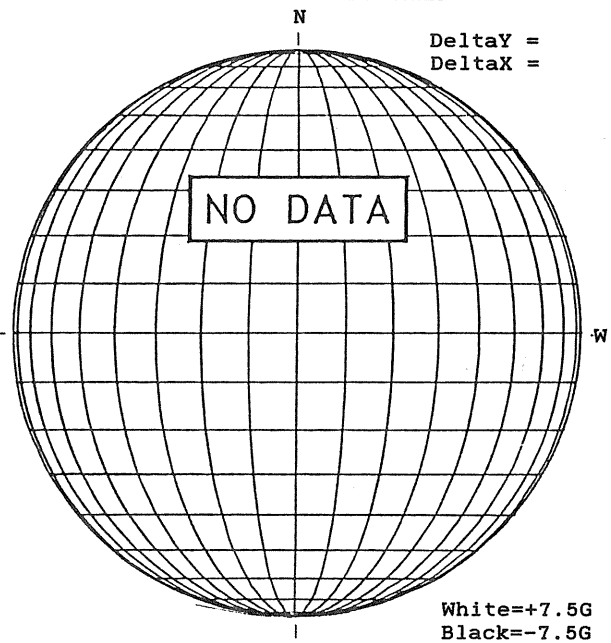
KITT PEAK MAGNETOGRAM



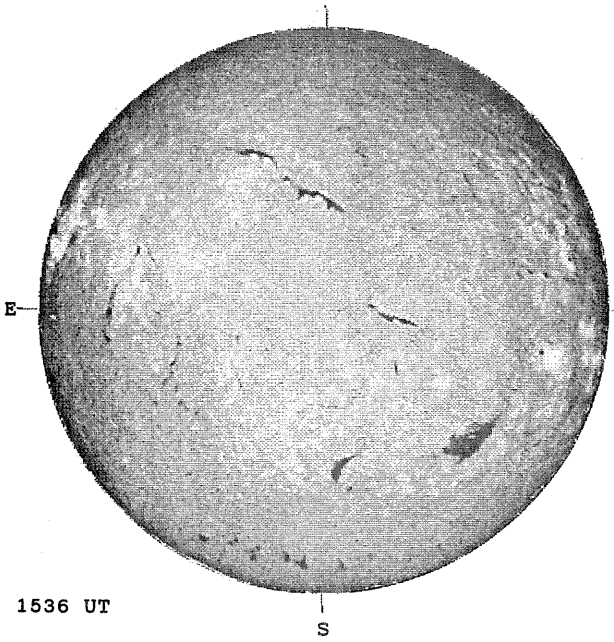
STANFORD MAGNETOGRAM



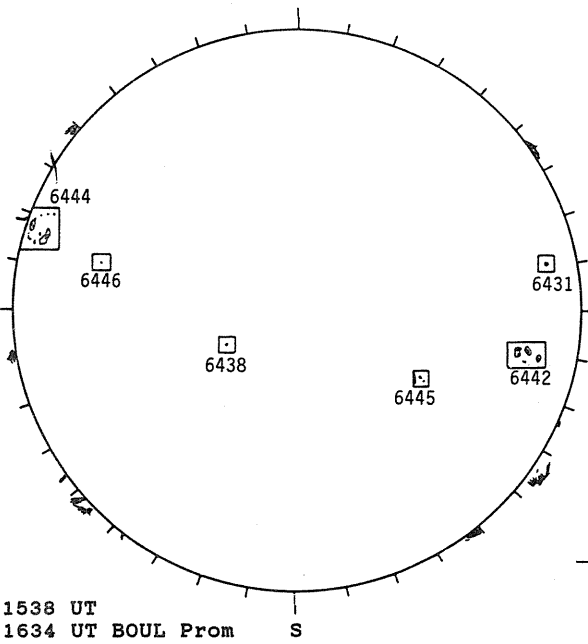
MT. WILSON MAGNETOGRAM



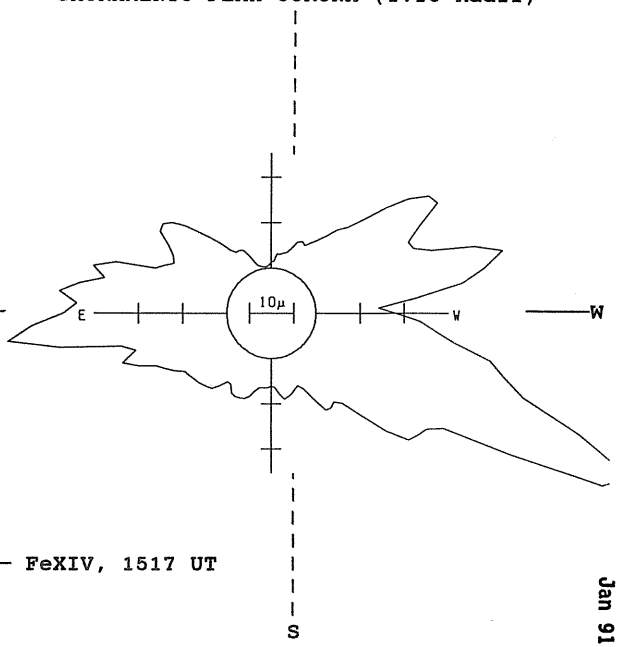
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

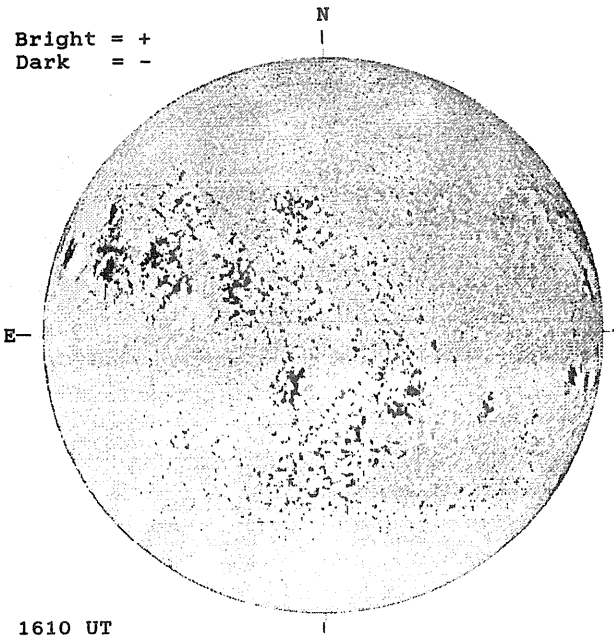


JANUARY 9, 1991 (P= -1.61, B_o =-3.88, L_o = 87.11)

Jan 91 66

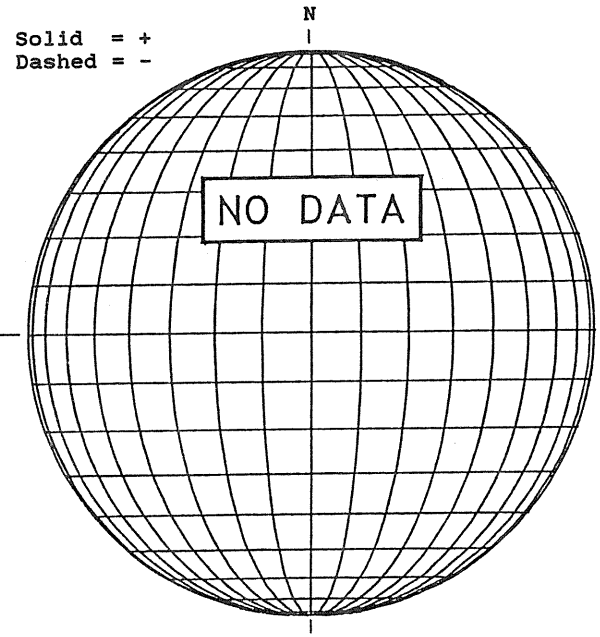
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



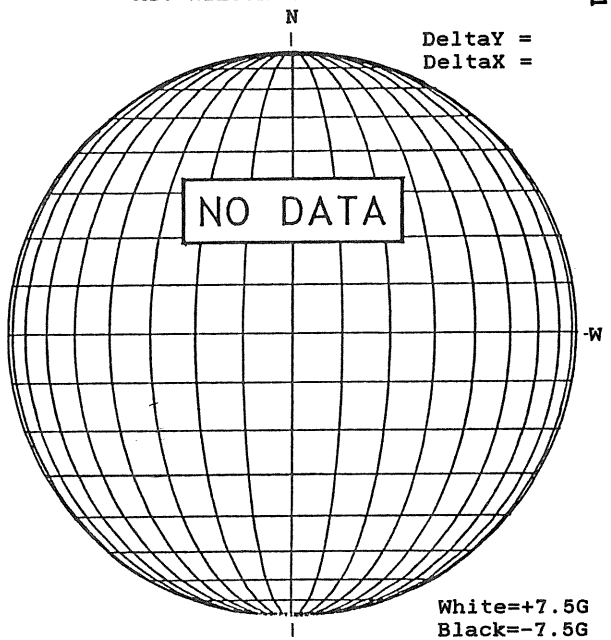
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



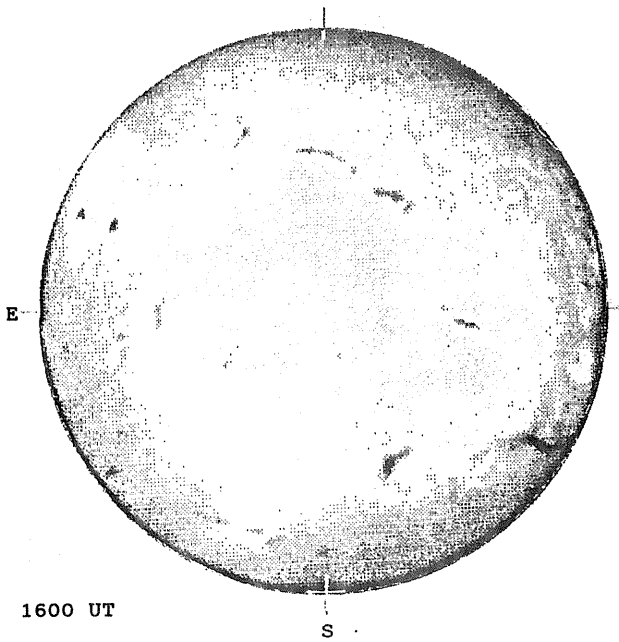
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

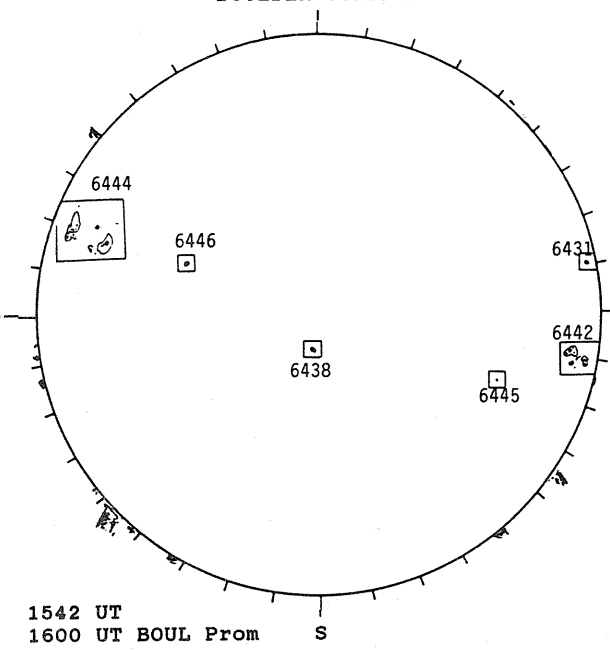


White=+7.5G
Black=-7.5G

BOULDER H-ALPHA

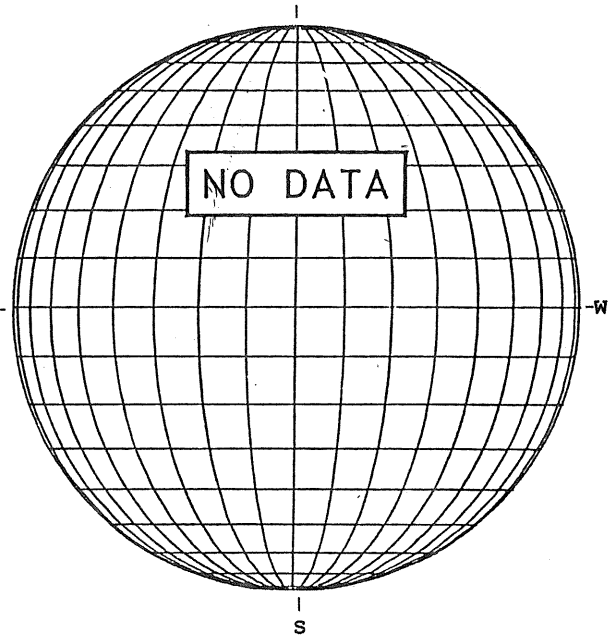


BOULDER SUNSPOT



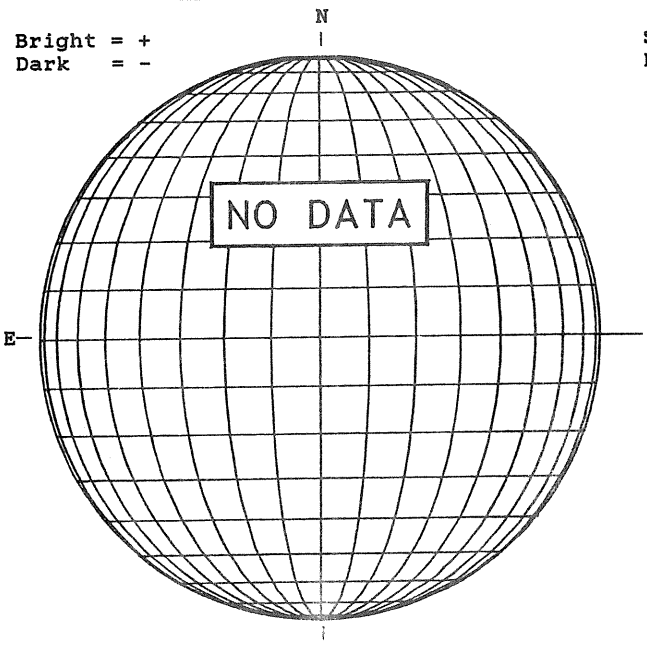
1542 UT
1600 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

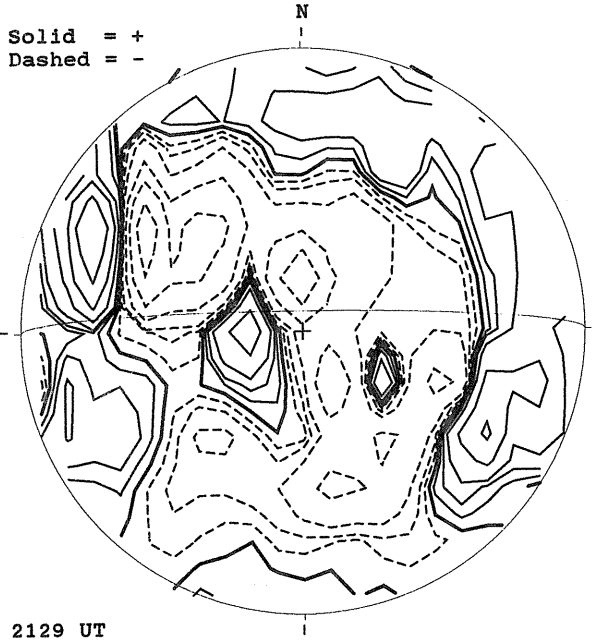


JANUARY 10, 1991 (P= -2.09, B_o =-3.99, L_o = 73.95)

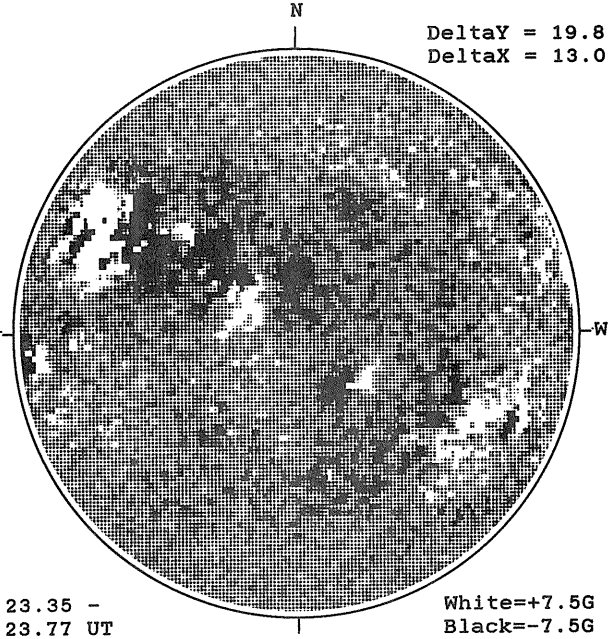
KITT PEAK MAGNETOGRAM



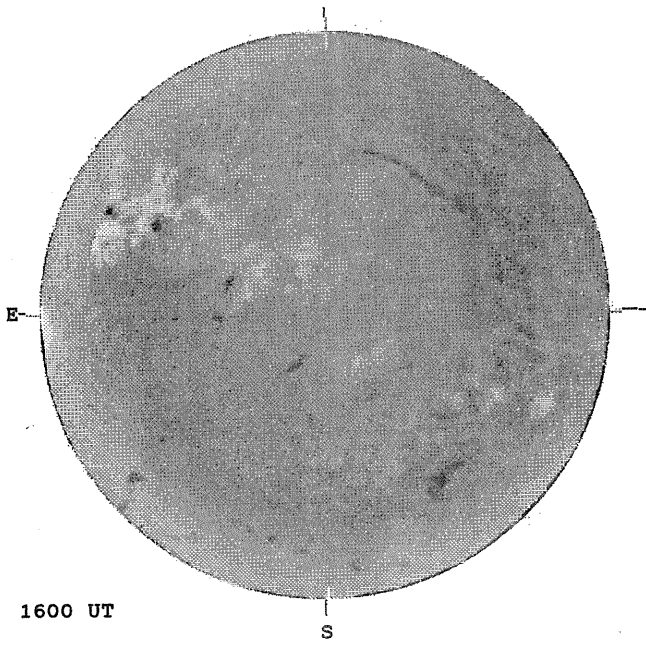
STANFORD MAGNETOGRAM



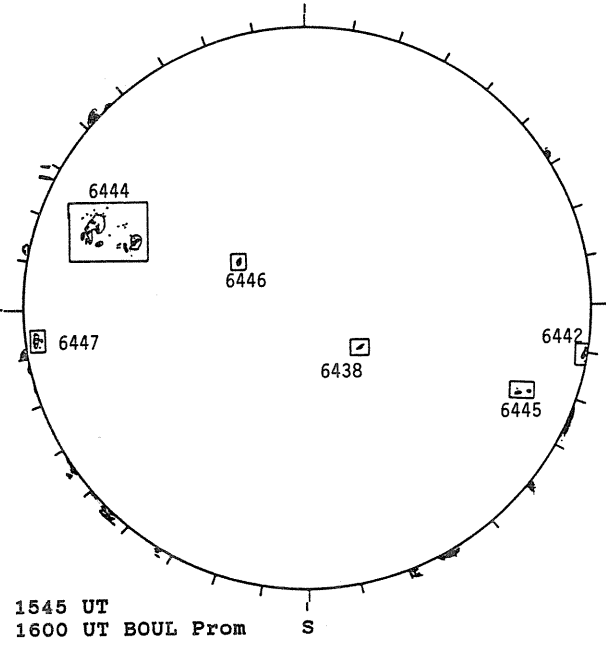
MT. WILSON MAGNETOGRAM



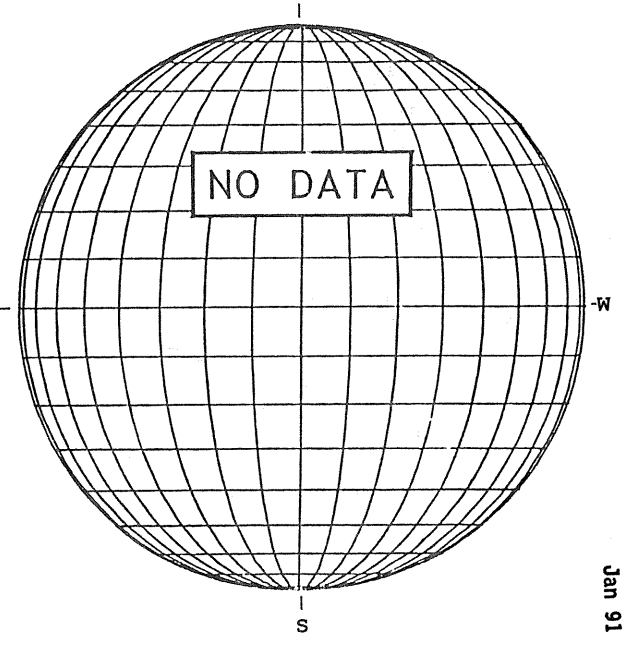
BOULDER H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

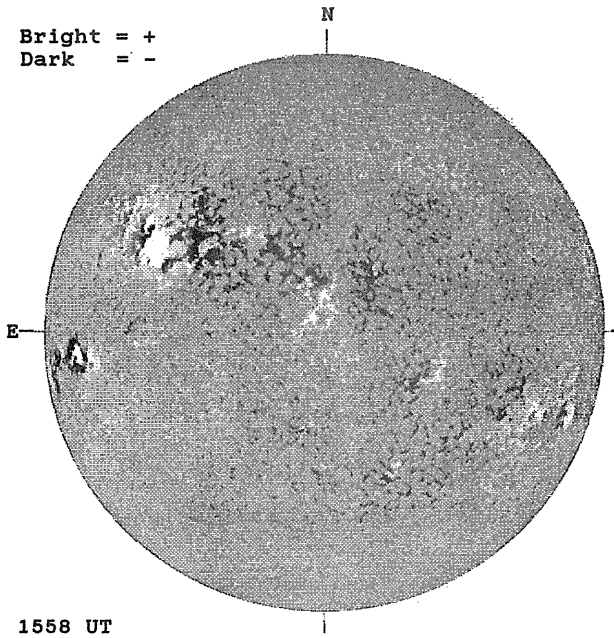


67
Jan 91

JANUARY 11, 1991 (P= -2.57, B_o =-4.10, L_o = 60.78)

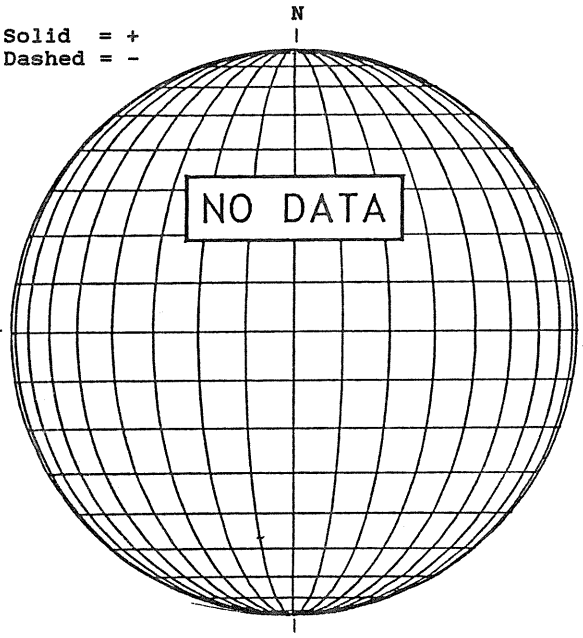
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



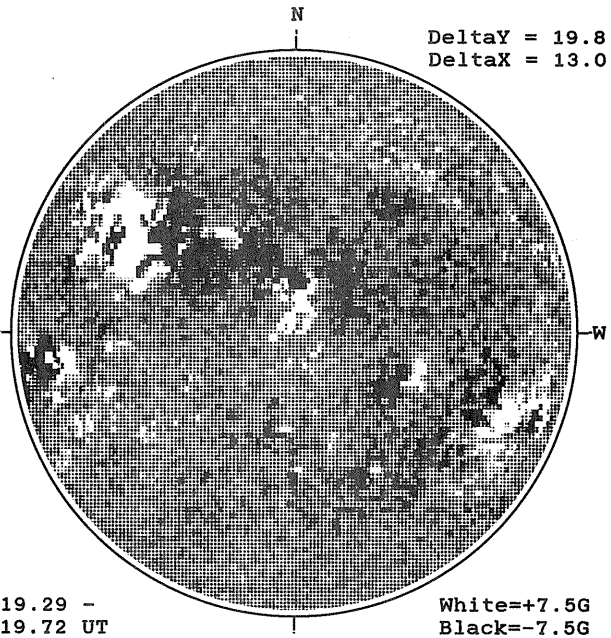
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

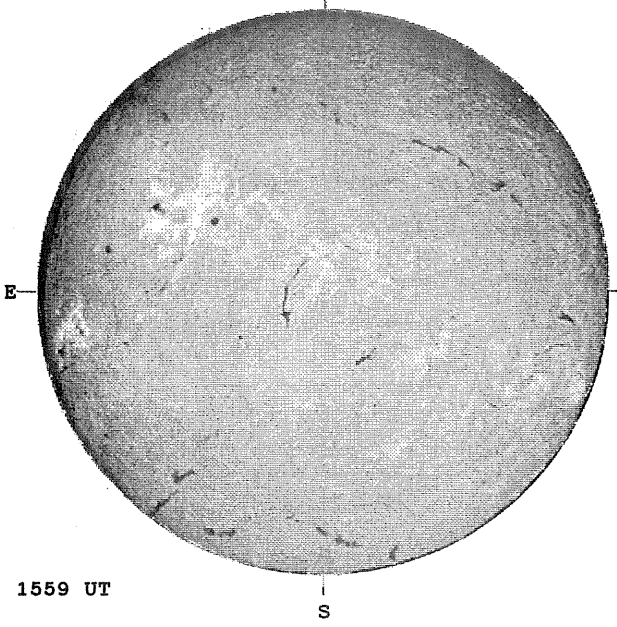


MT. WILSON MAGNETOGRAM

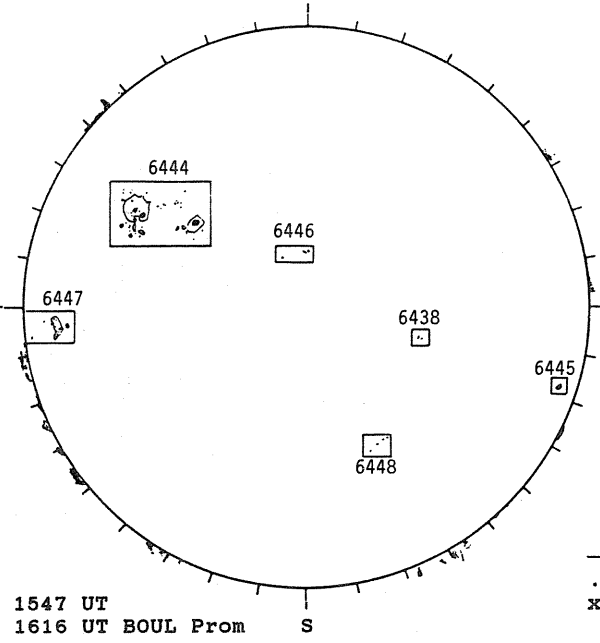
DeltaY = 19.8
DeltaX = 13.0



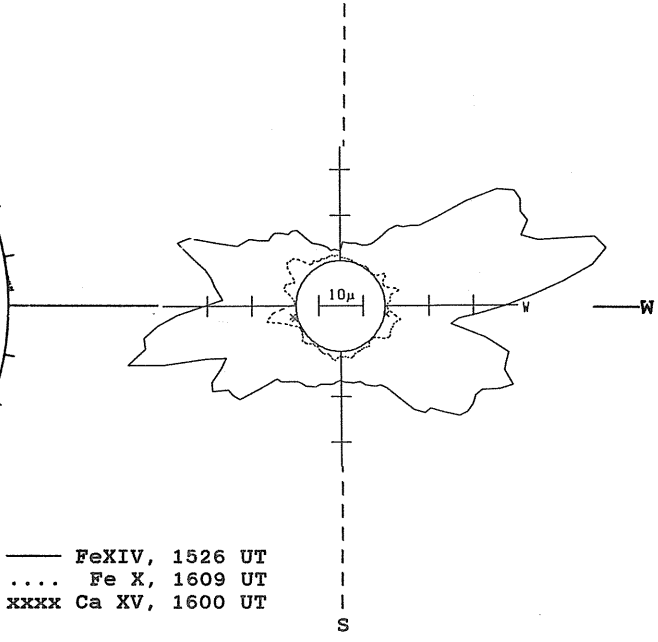
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

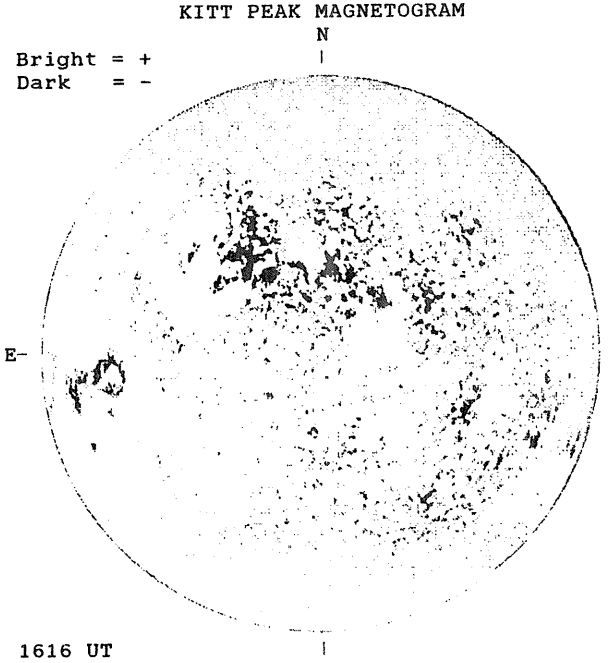


—— FeXIV, 1526 UT
.... Fe X, 1609 UT
xxxx Ca XV, 1600 UT

JANUARY 12, 1991 (P= -3.05, B_O =-4.20, L_O = 47.61)

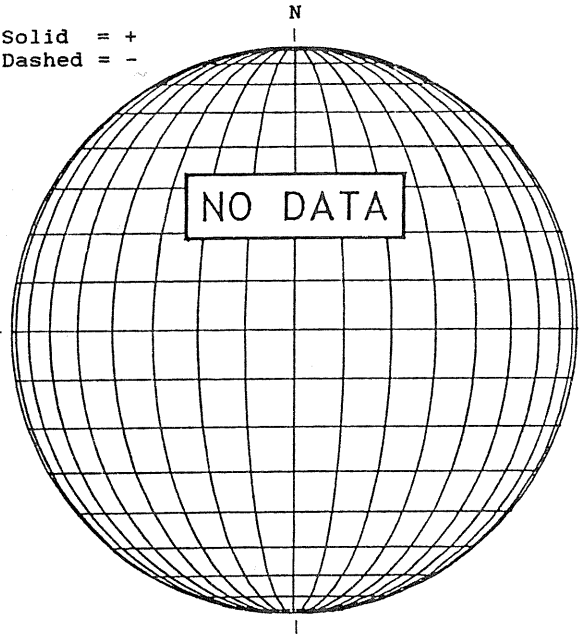
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



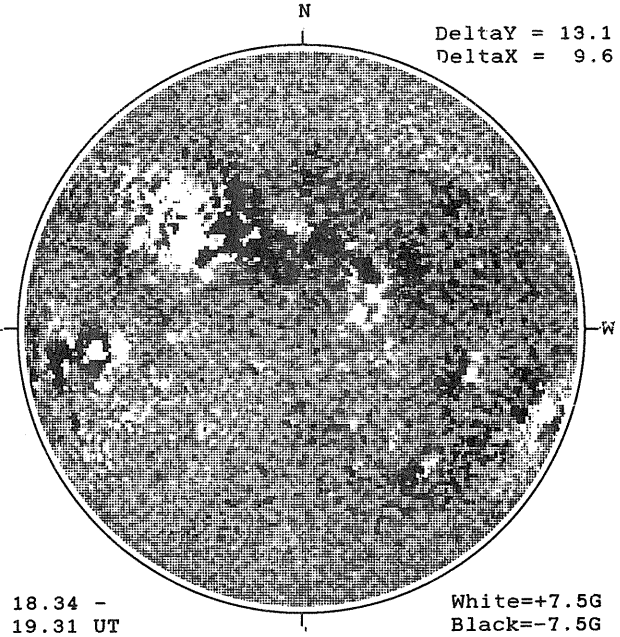
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

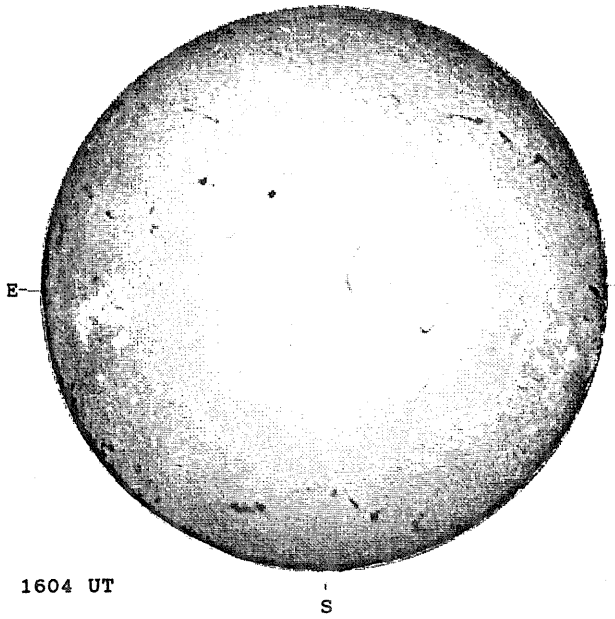


MT. WILSON MAGNETOGRAM

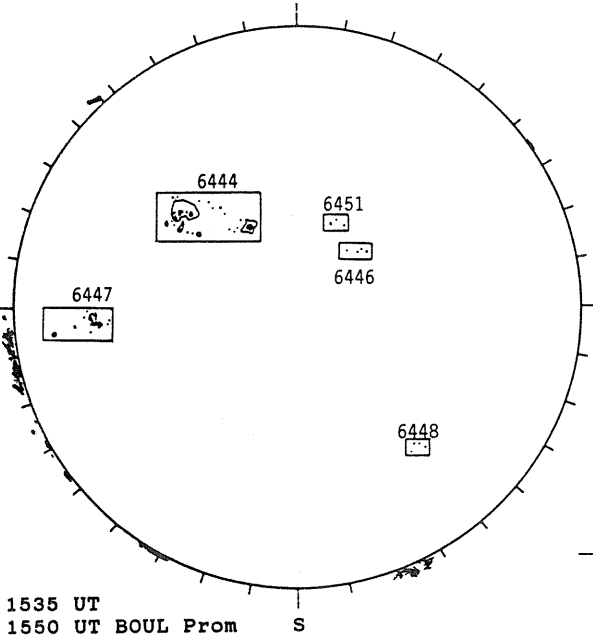
DeltaY = 13.1
DeltaX = 9.6



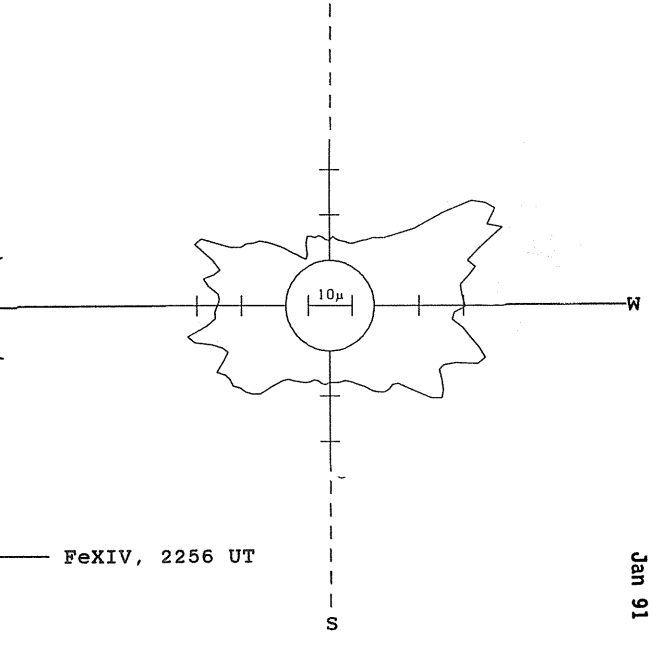
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

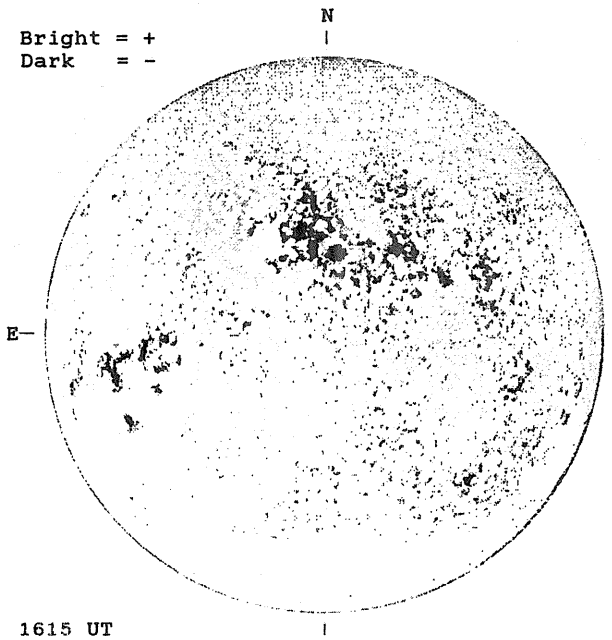


69
Jan 91

JANUARY 13, 1991 (P= -3.52, B_o =-4.31, L_o = 34.44)

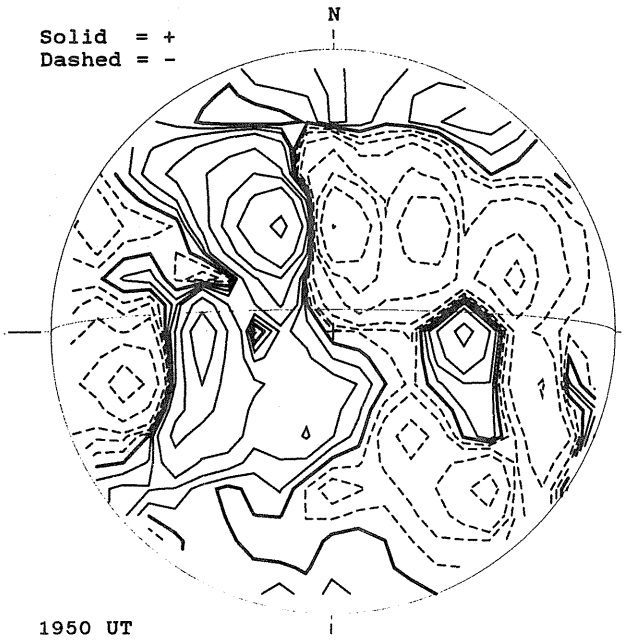
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



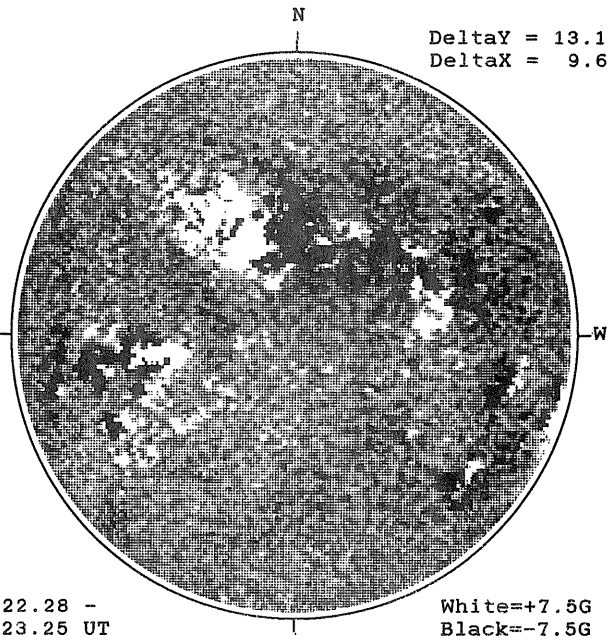
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

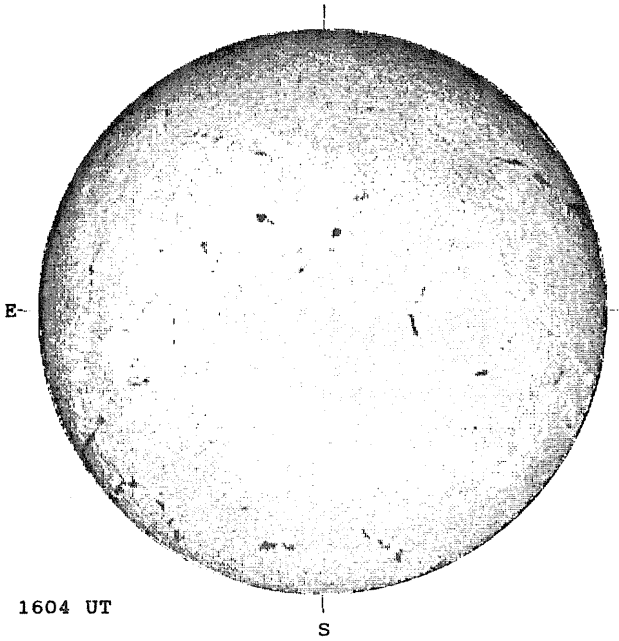


MT. WILSON MAGNETOGRAM

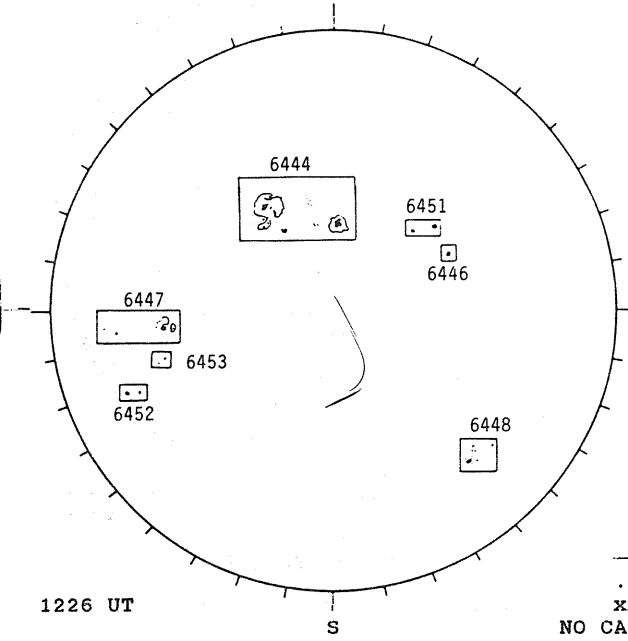
DeltaY = 13.1
DeltaX = 9.6



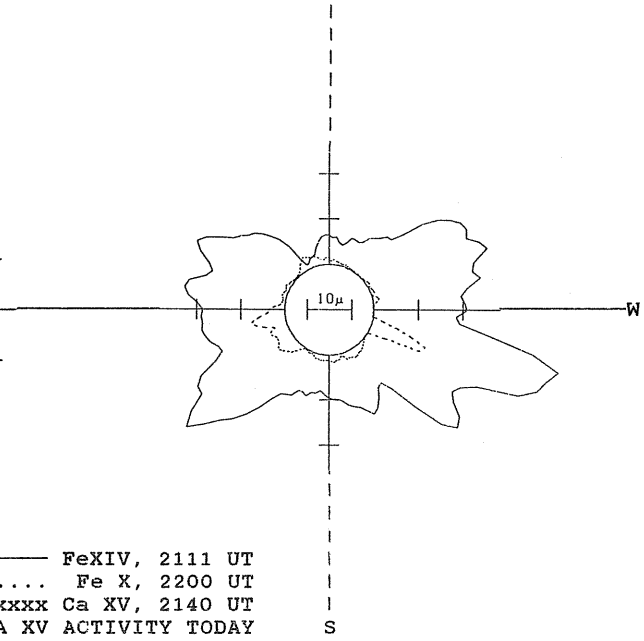
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

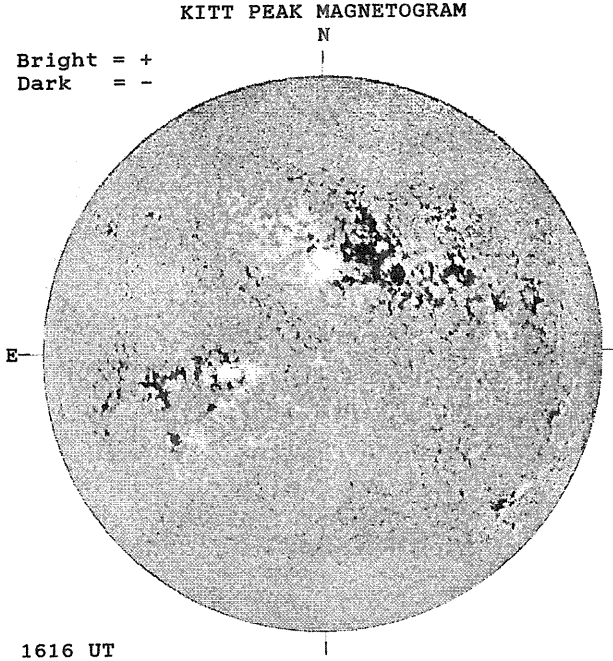


—— FeXIV, 2111 UT
.... Fe X, 2200 UT
xxxx Ca XV, 2140 UT
NO CA XV ACTIVITY TODAY

JANUARY 14, 1991 (P= -3.99, B_o =-4.41, L_o = 21.27)

KITT PEAK MAGNETOGRAM

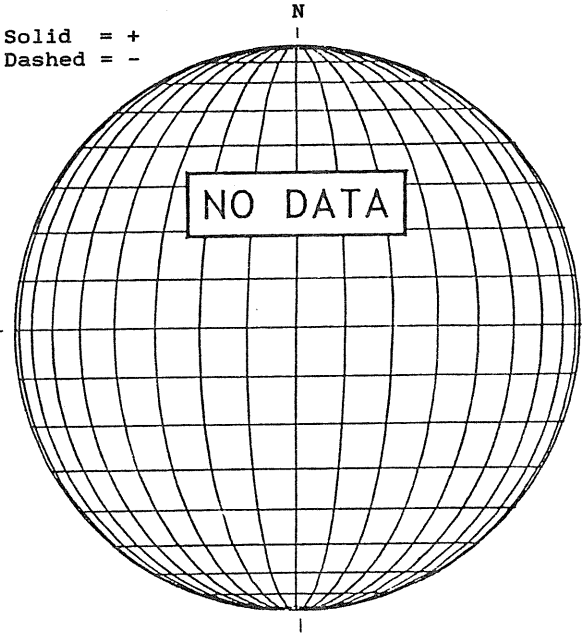
Bright = +
Dark = -



1616 UT

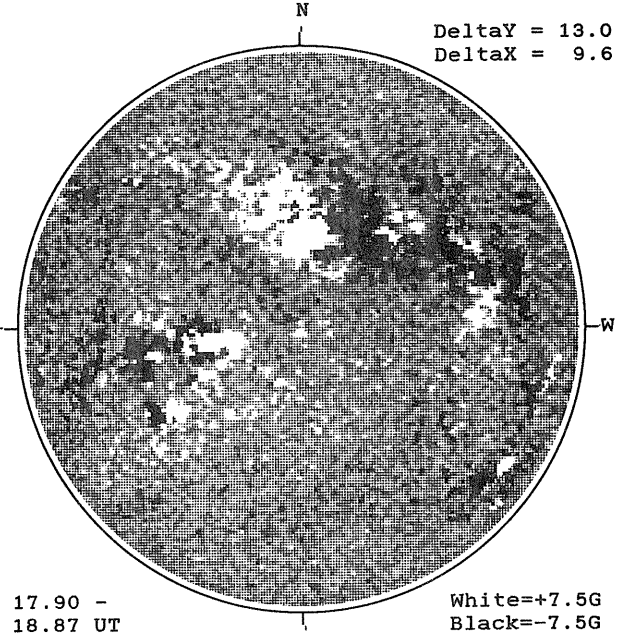
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

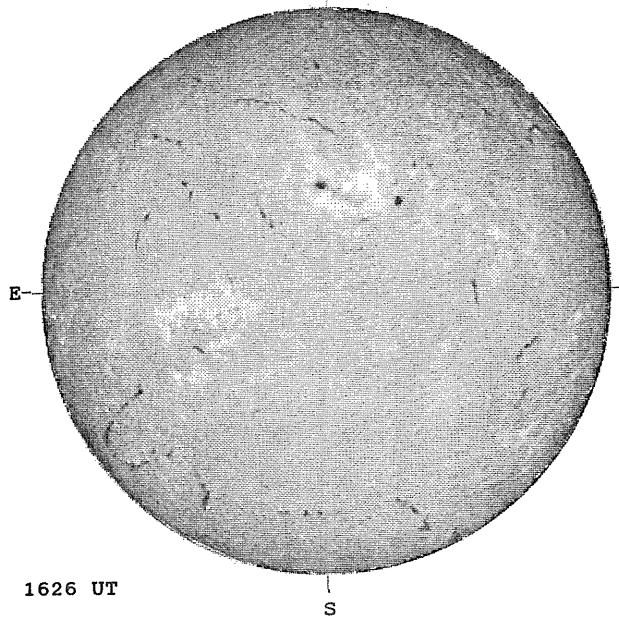
DeltaY = 13.0
DeltaX = 9.6



17.90 -
18.87 UT

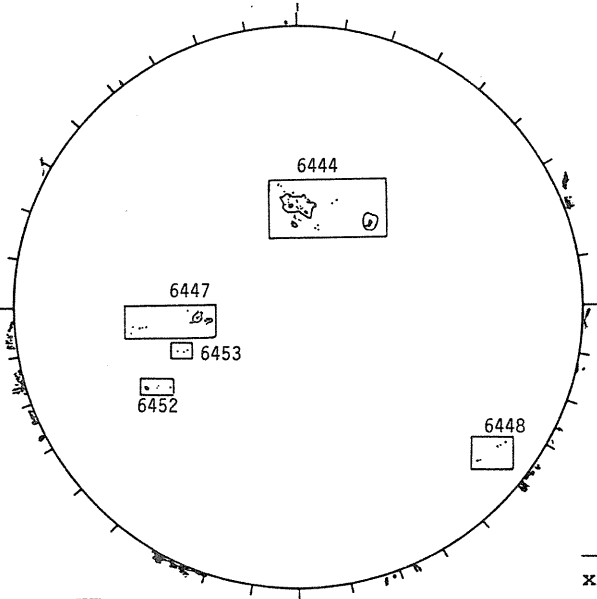
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



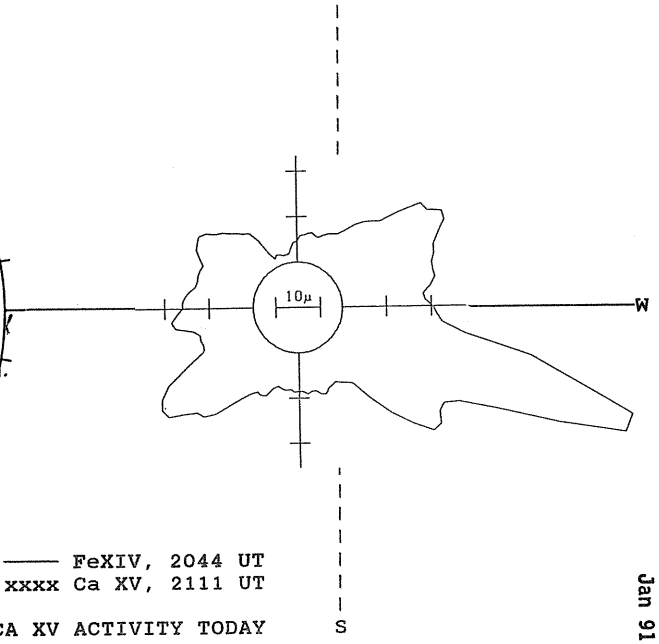
1626 UT

BOULDER SUNSPOT



1613 UT
1626 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



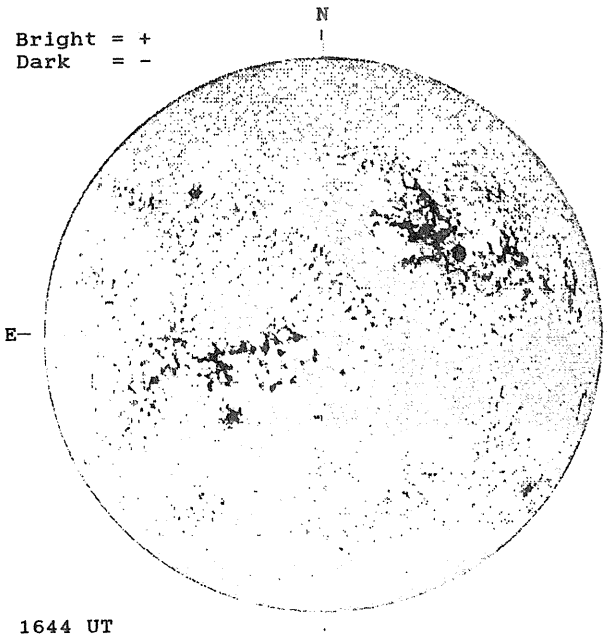
—— FeXIV, 2044 UT
xxxx Ca XV, 2111 UT

NO CA XV ACTIVITY TODAY

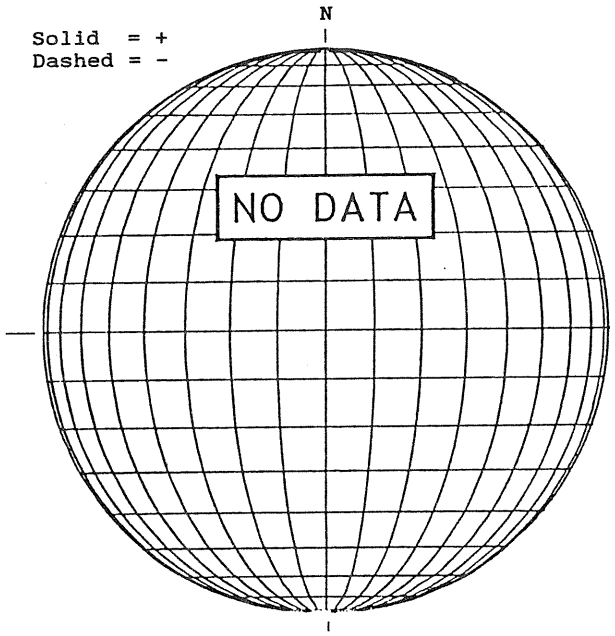
71
Jan 91

JANUARY 15, 1991 (P= -4.47, B_o =-4.51, L_o = 8.11)

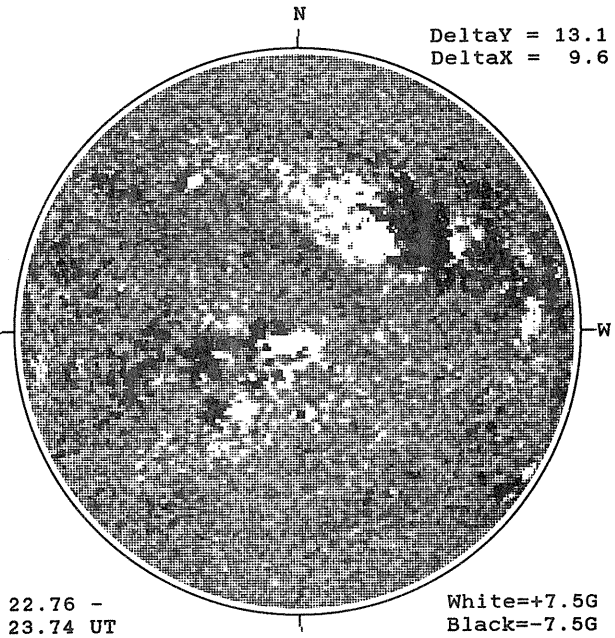
KITT PEAK MAGNETOGRAM



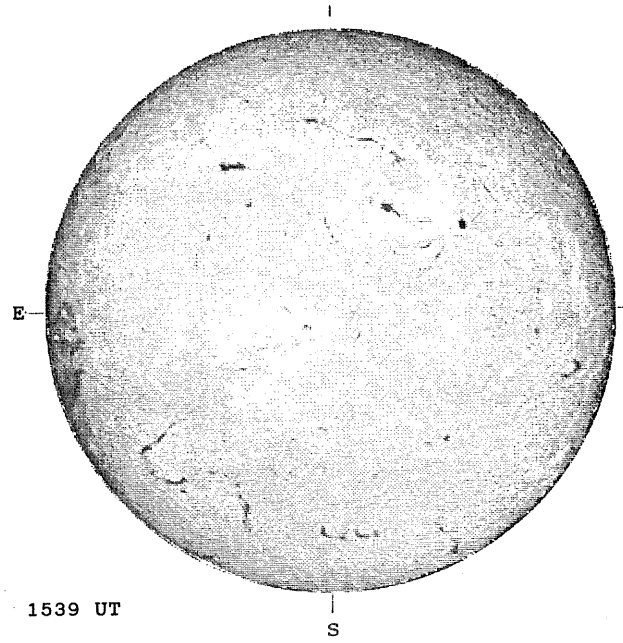
STANFORD MAGNETOGRAM



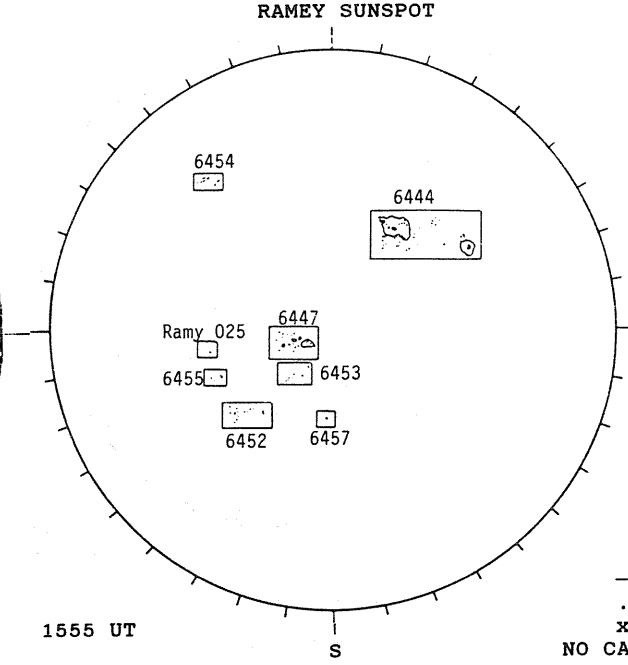
MT. WILSON MAGNETOGRAM



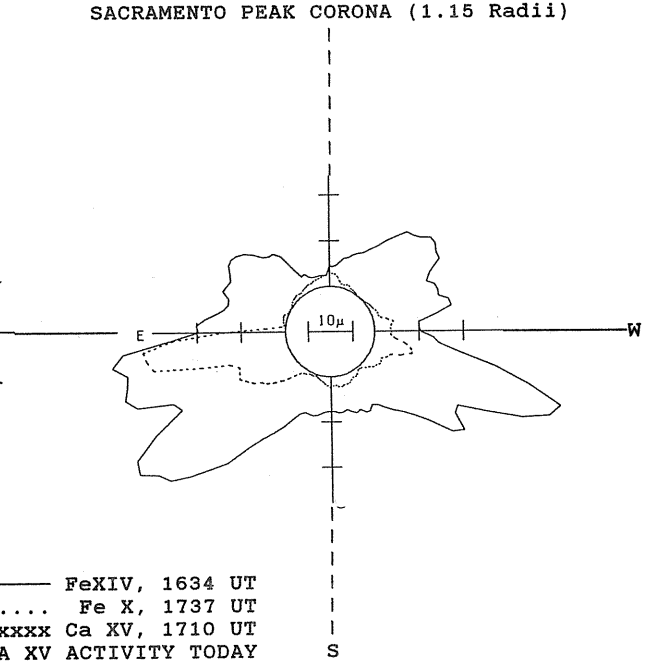
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

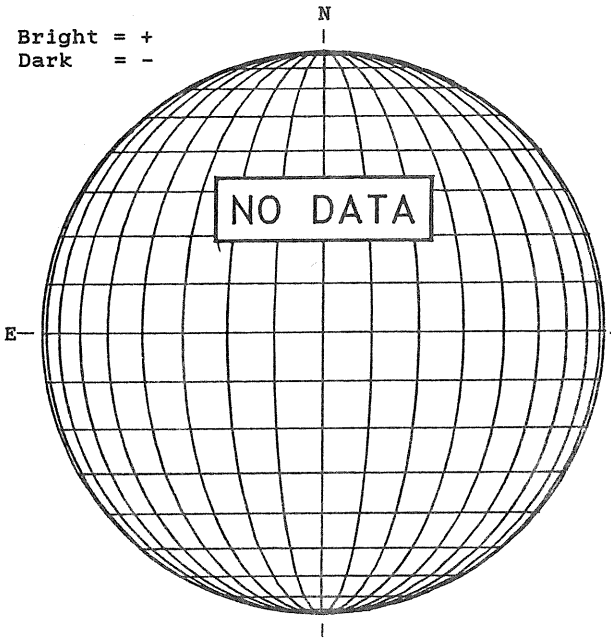


—— FeXIV, 1634 UT
.... Fe X, 1737 UT
xxxx Ca XV, 1710 UT
NO CA XV ACTIVITY TODAY

JANUARY 16, 1991 (P= -4.93, B_o =-4.61, L_o = 354.94)

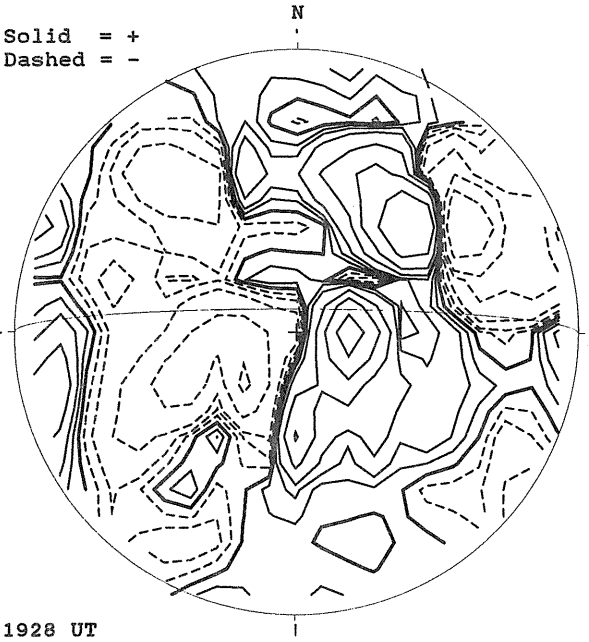
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



STANFORD MAGNETOGRAM

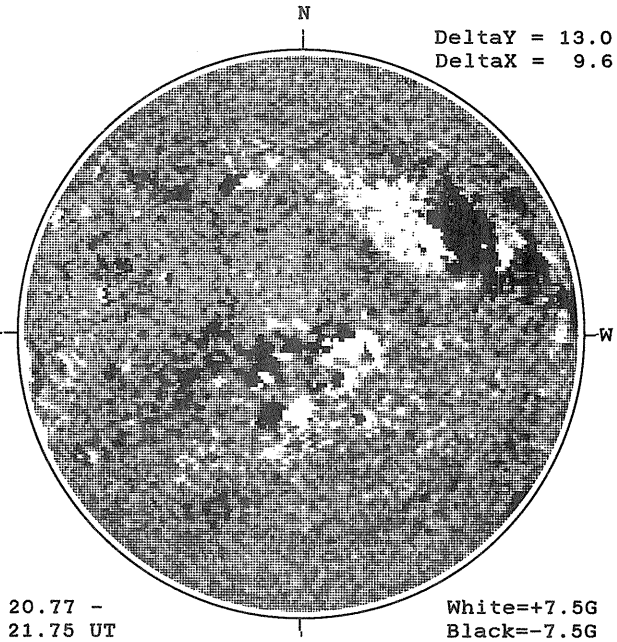
Solid = +
Dashed = -



1928 UT

MT. WILSON MAGNETOGRAM

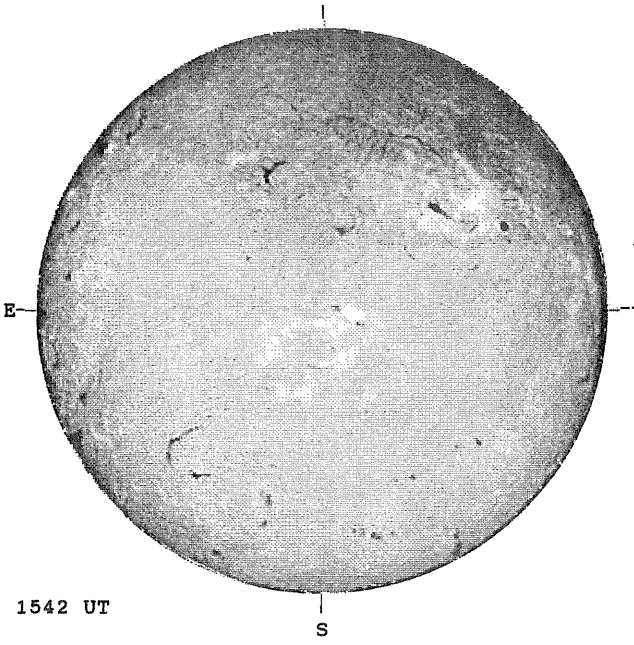
DeltaY = 13.0
DeltaX = 9.6



20.77 -
21.75 UT

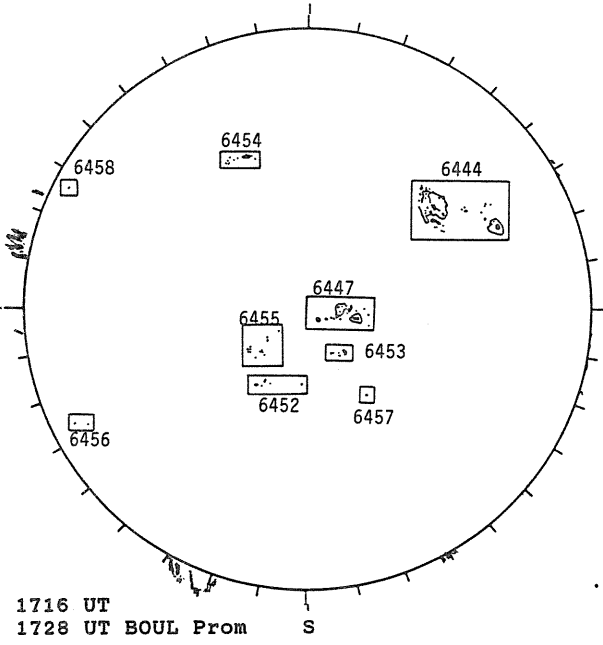
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



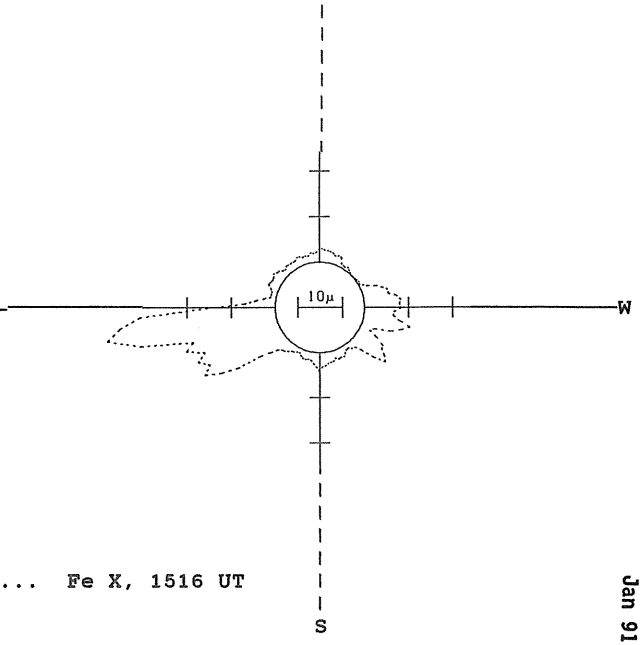
1542 UT

BOULDER SUNSPOT



1716 UT
1728 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

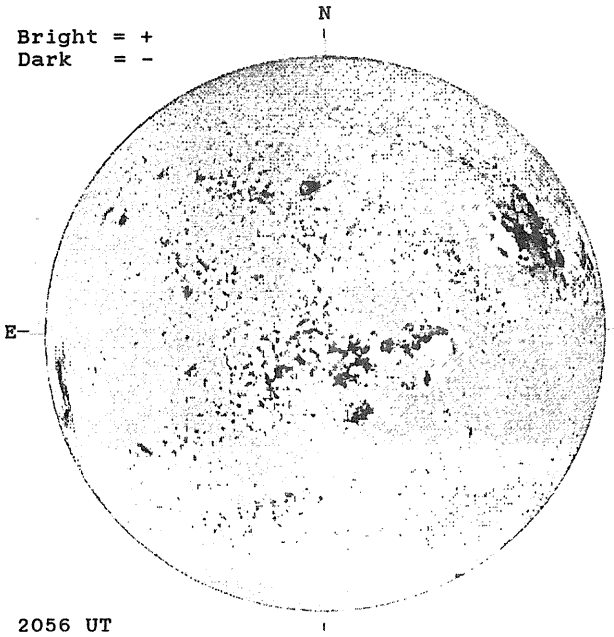


.... Fe X, 1516 UT

JANUARY 17, 1991 (P= -5.40, B_o =-4.71, L_o = 341.77)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -

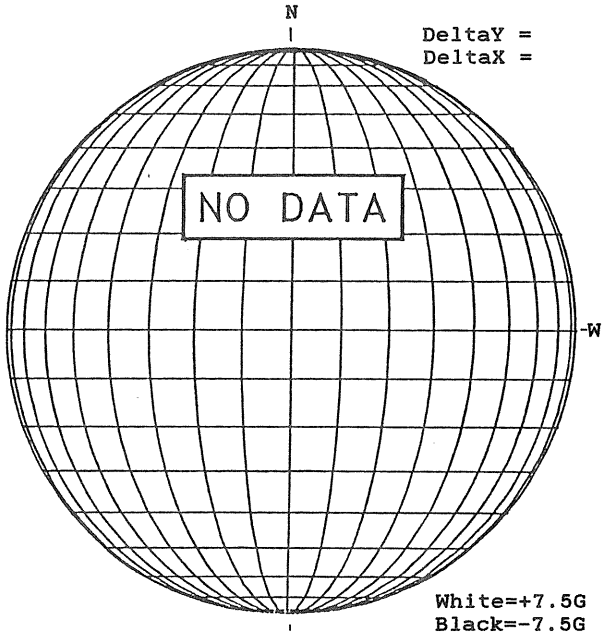


STANFORD MAGNETOGRAM

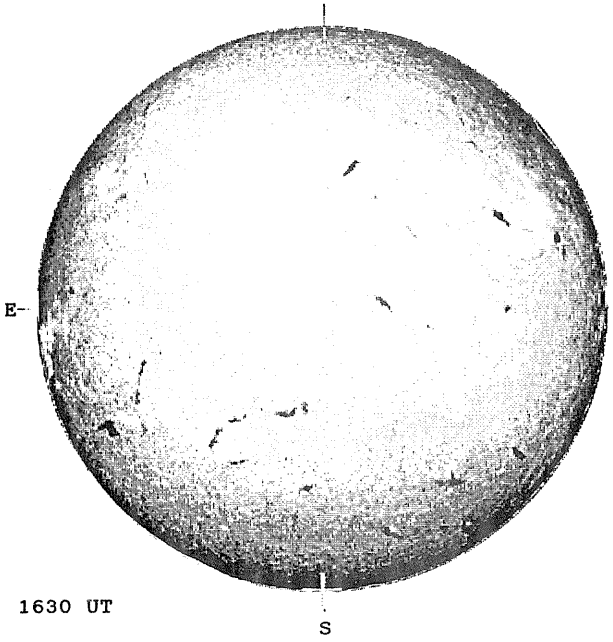
Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM

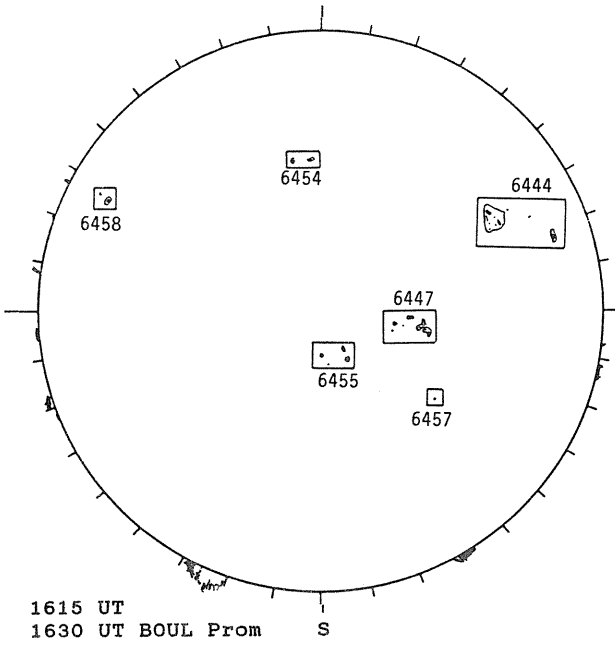
DeltaY =
DeltaX =



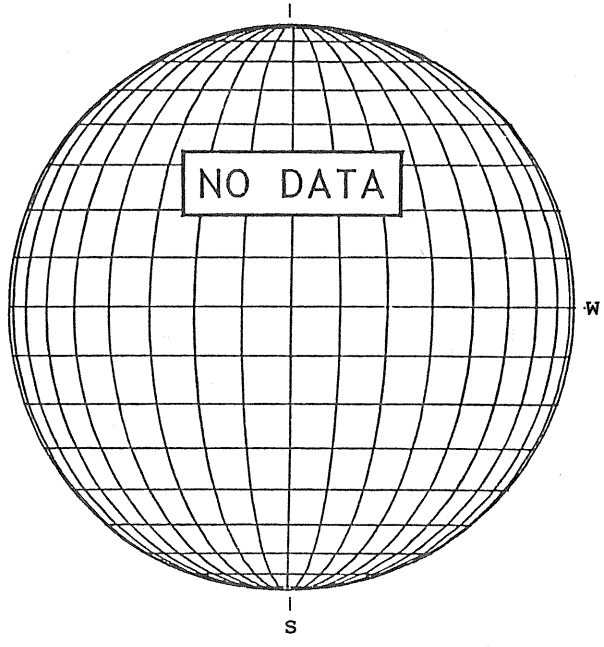
BOULDER H-ALPHA



BOULDER SUNSPOT



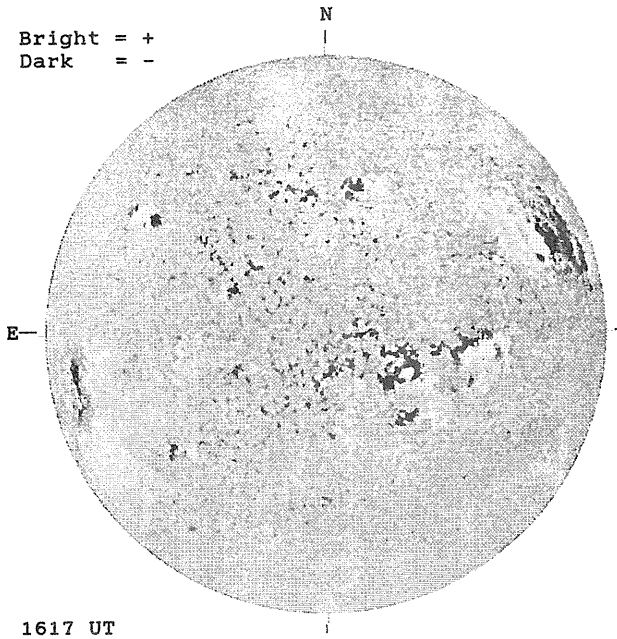
SACRAMENTO PEAK CORONA (1.15 Radii)



JANUARY 18, 1991 (P= -5.86, B_o =-4.81, L_o = 328.60)

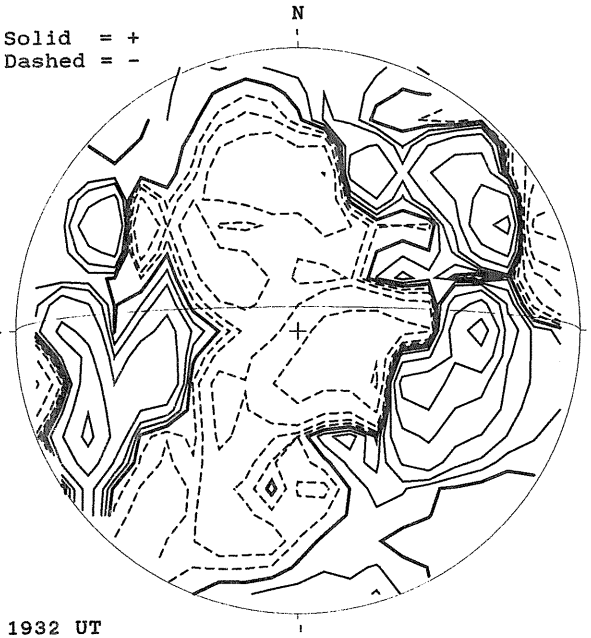
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



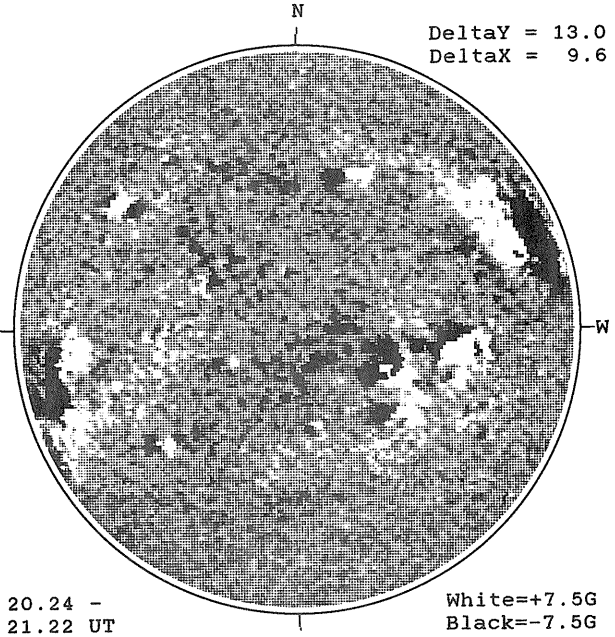
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

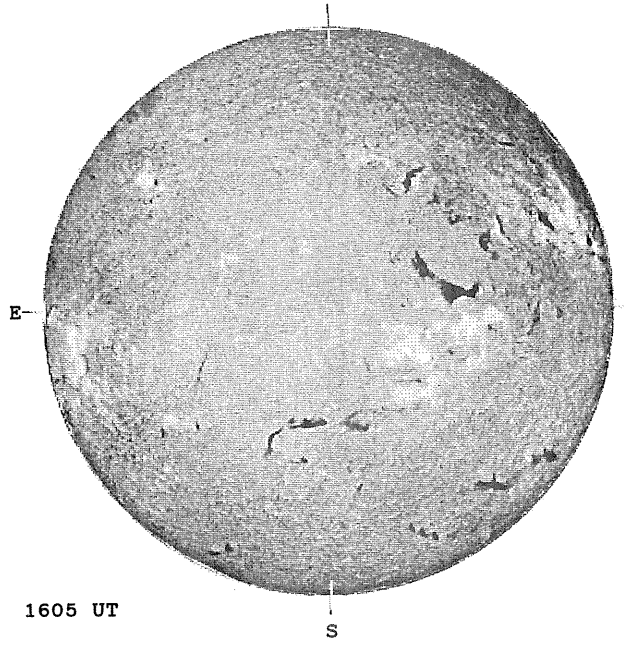


MT. WILSON MAGNETOGRAM

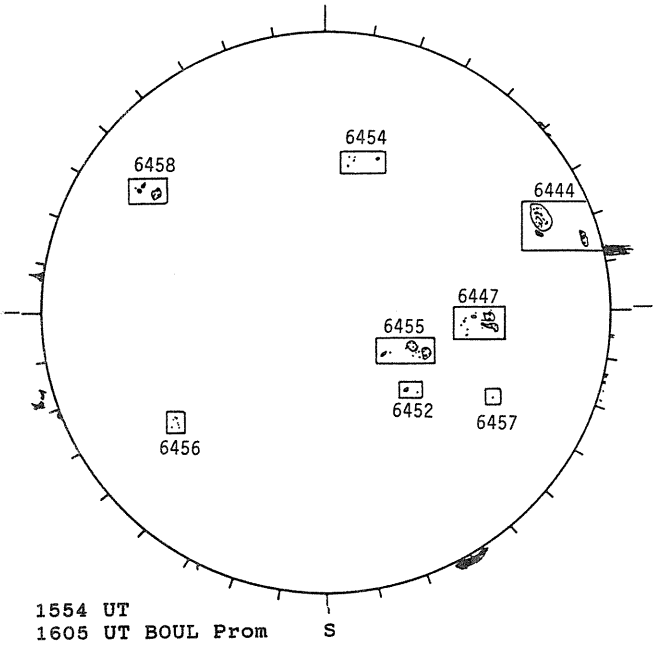
DeltaY = 13.0
DeltaX = 9.6



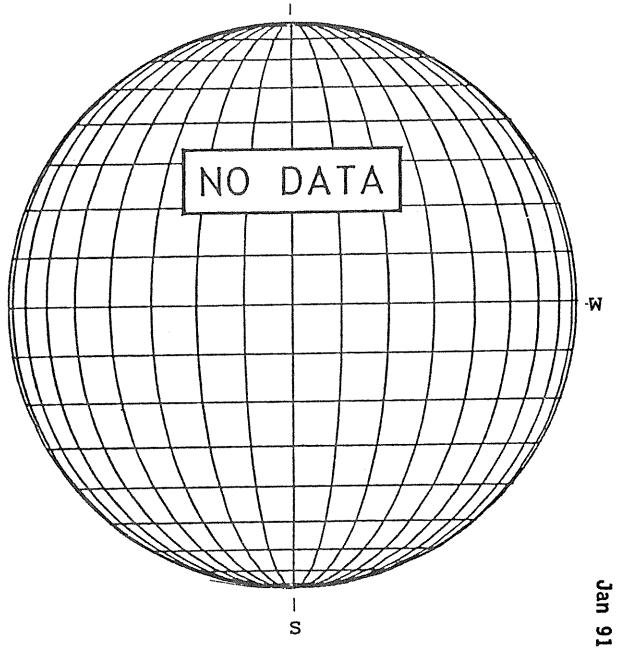
BOULDER H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

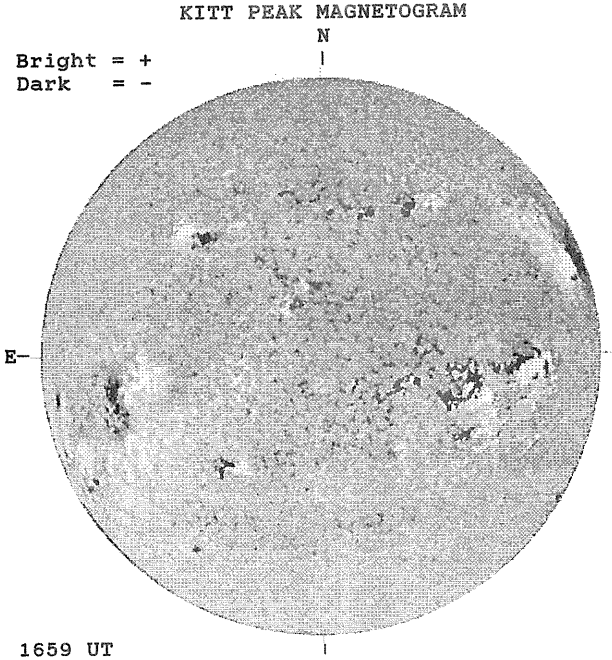


75
Jan 91

JANUARY 19, 1991 (P= -6.33, B_o =-4.90, L_o = 315.44)

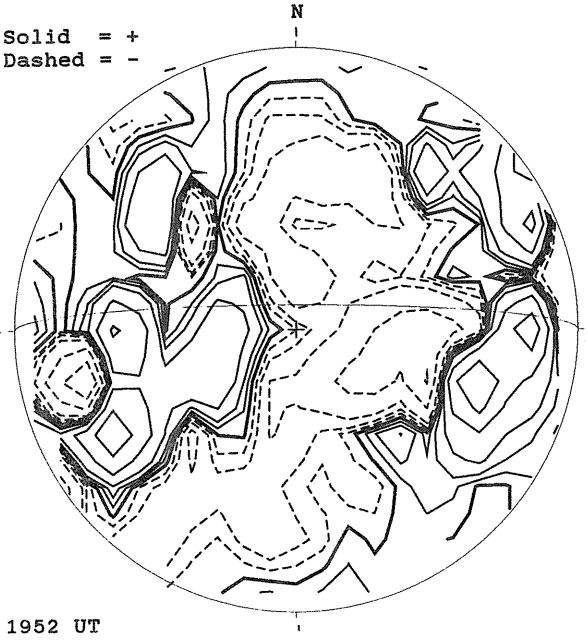
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



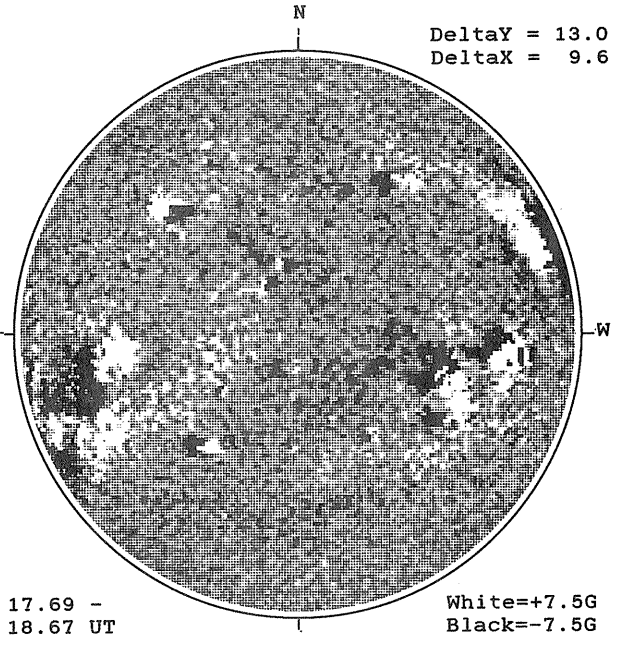
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

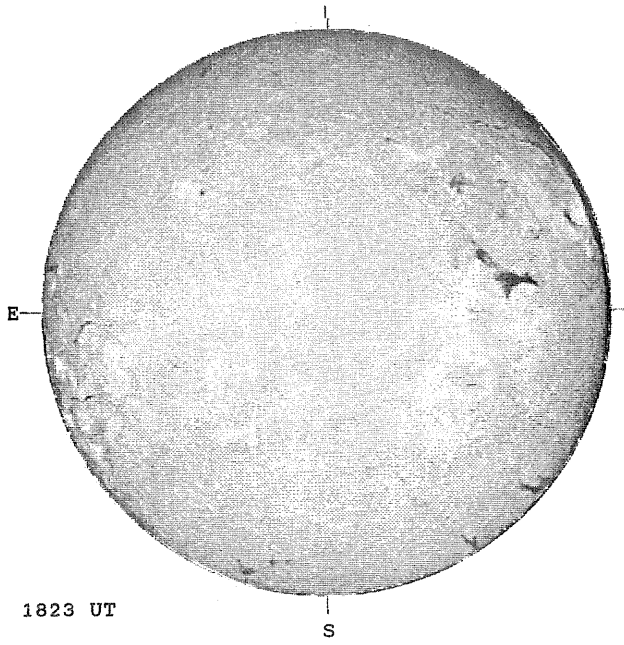


MT. WILSON MAGNETOGRAM

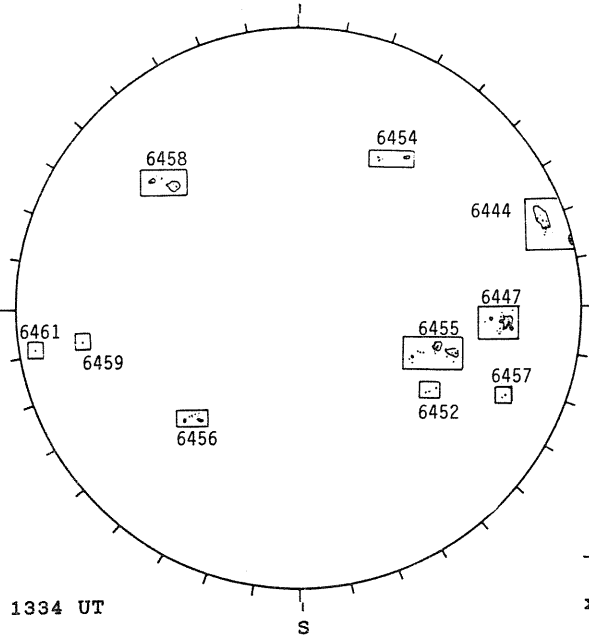
DeltaY = 13.0
DeltaX = 9.6



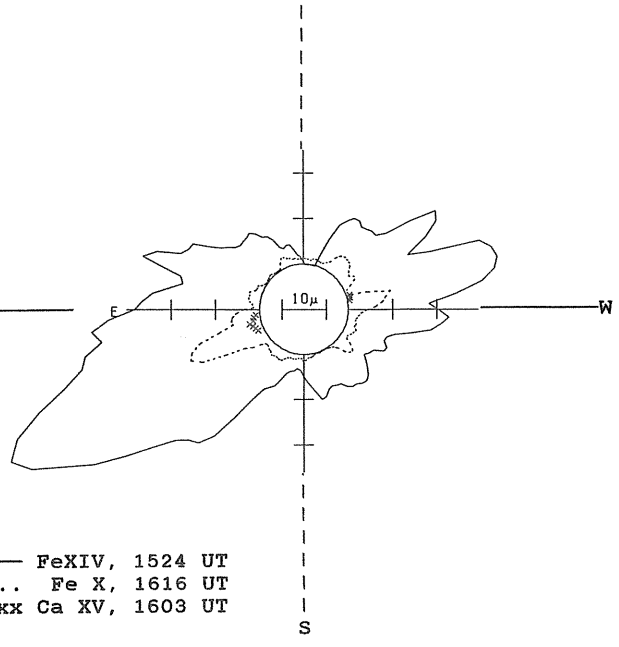
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

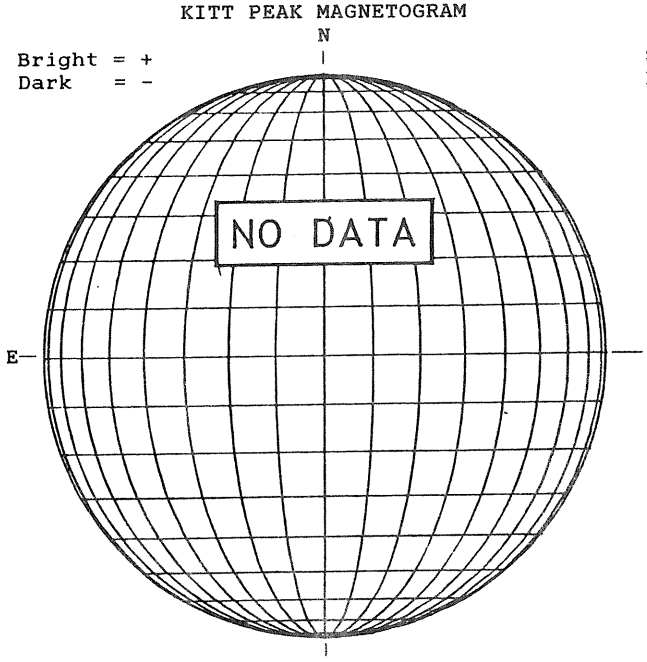


—— FeXIV, 1524 UT
.... Fe X, 1616 UT
xxxx Ca XV, 1603 UT

JANUARY 20, 1991 (P= -6.78, B_o =-5.00, L_o = 302.27)

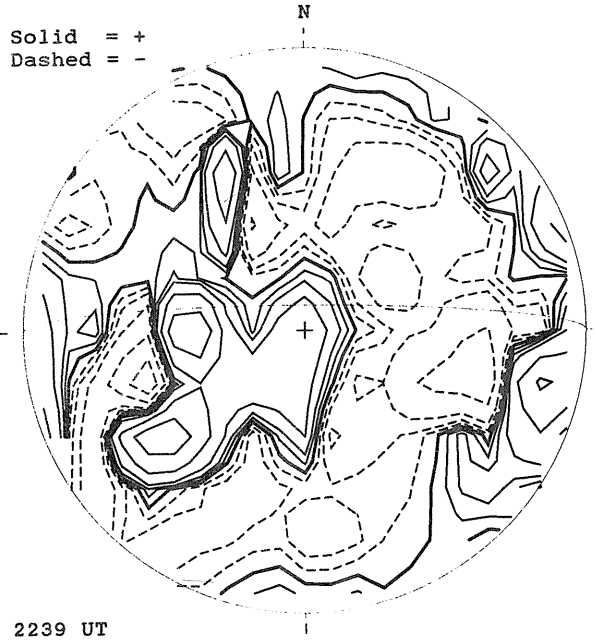
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



STANFORD MAGNETOGRAM

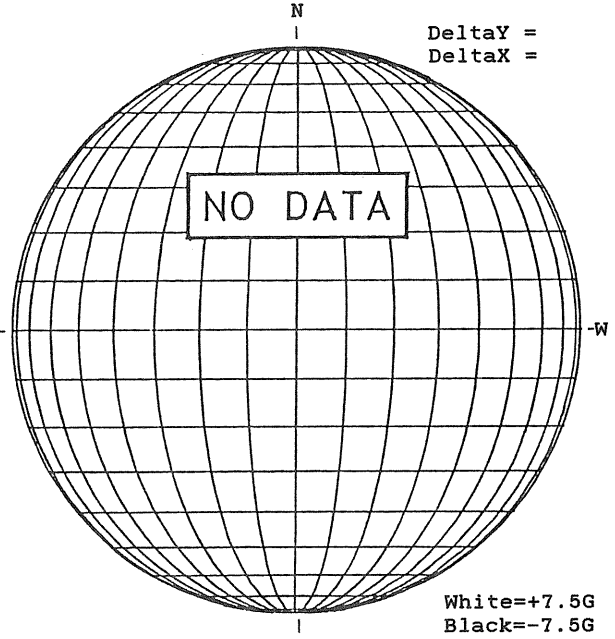
Solid = +
Dashed = -



2239 UT

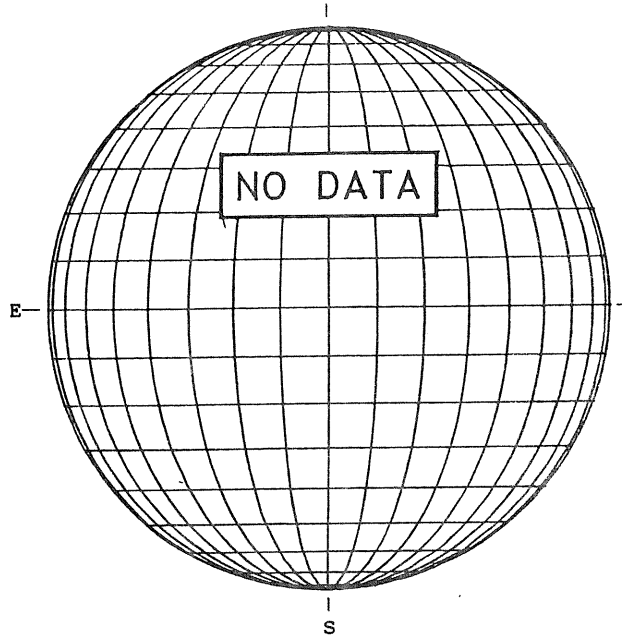
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

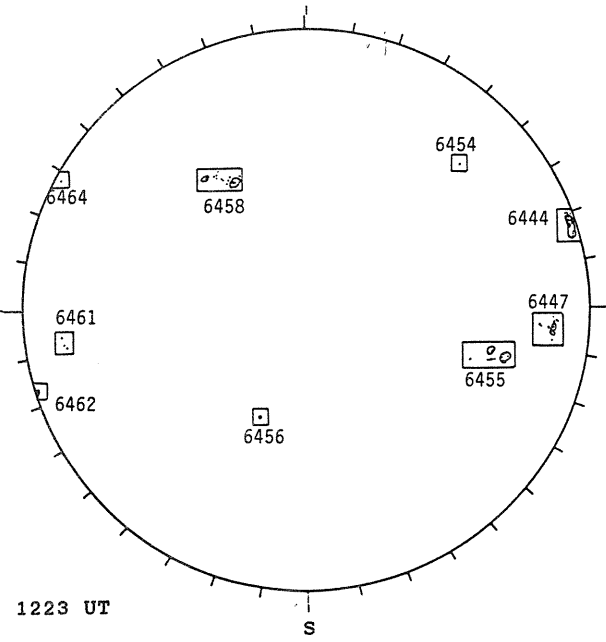


White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA

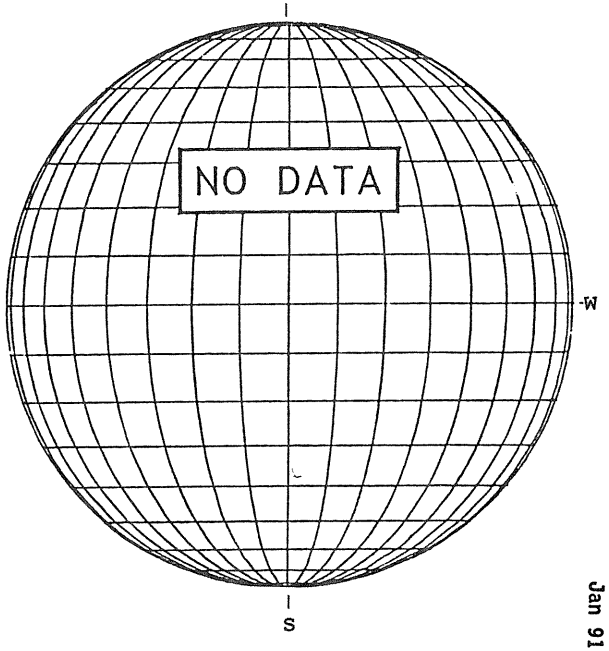


RAMEY SUNSPOT



1223 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

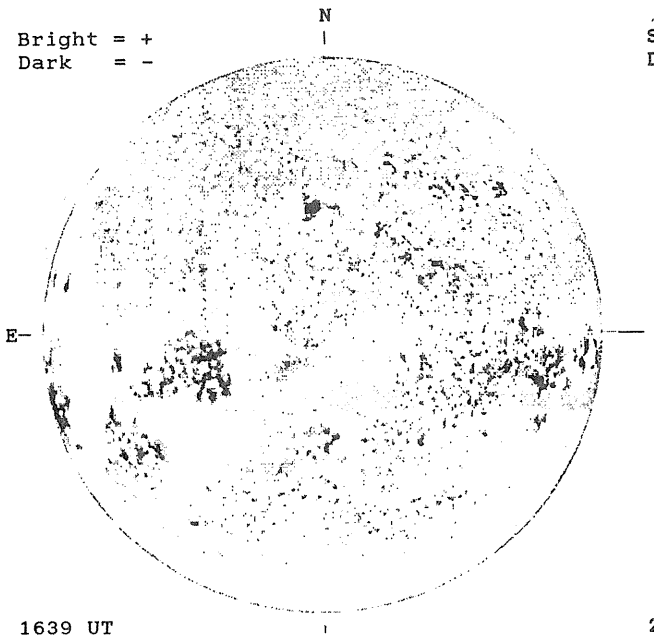


77
Jan 91

JANUARY 21, 1991 (P= -7.24, B_o =-5.09, L_o = 289.10)

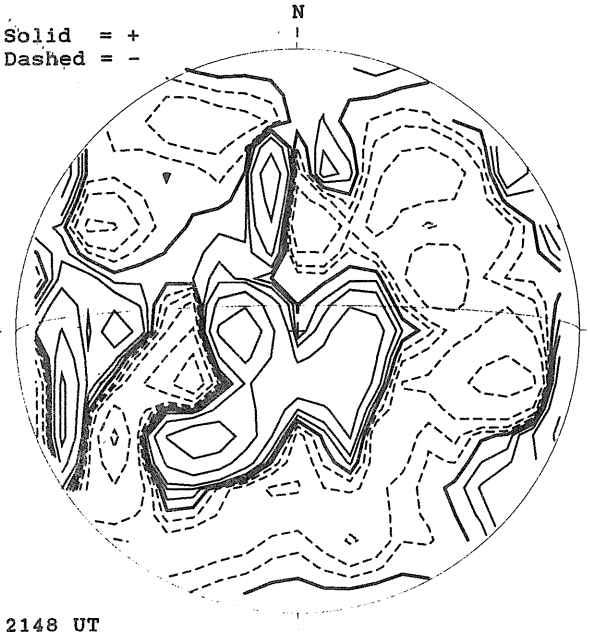
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



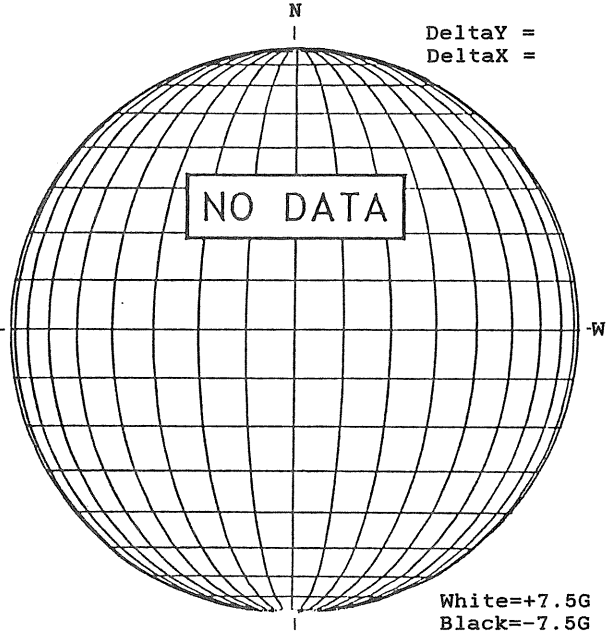
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

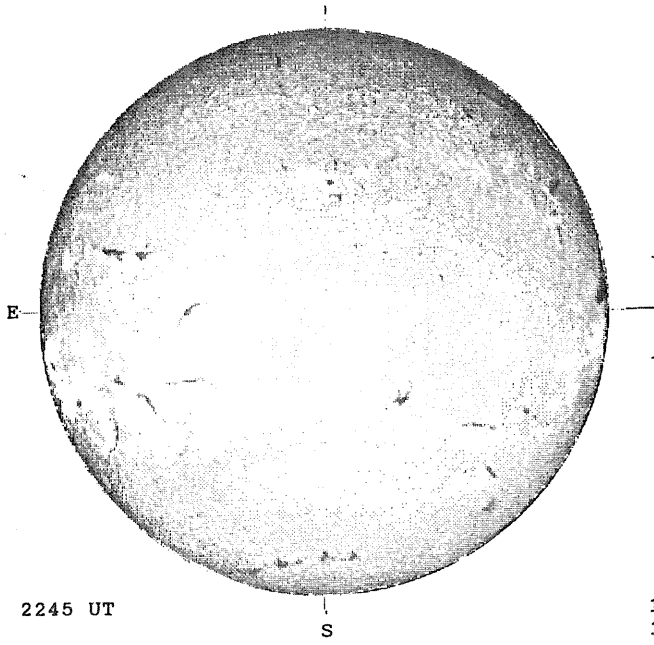


MT. WILSON MAGNETOGRAM

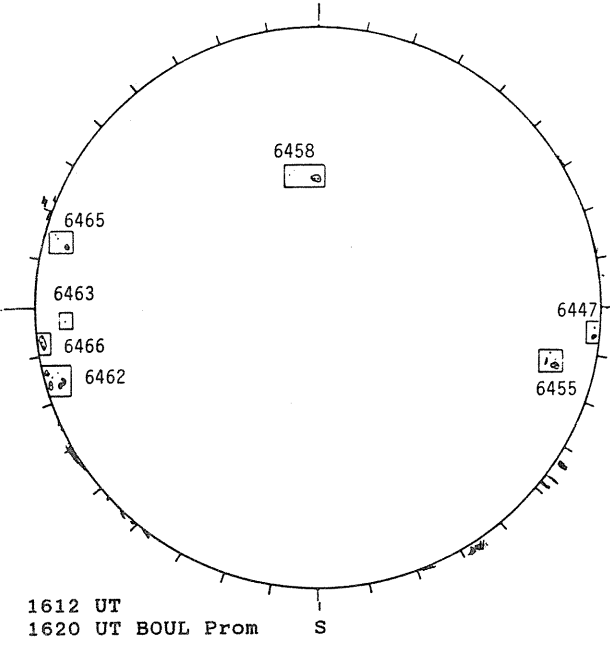
DeltaY =
DeltaX =



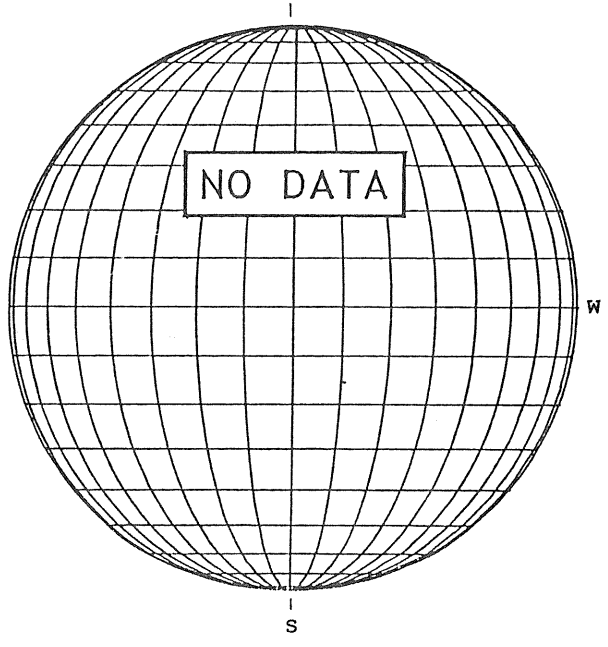
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT

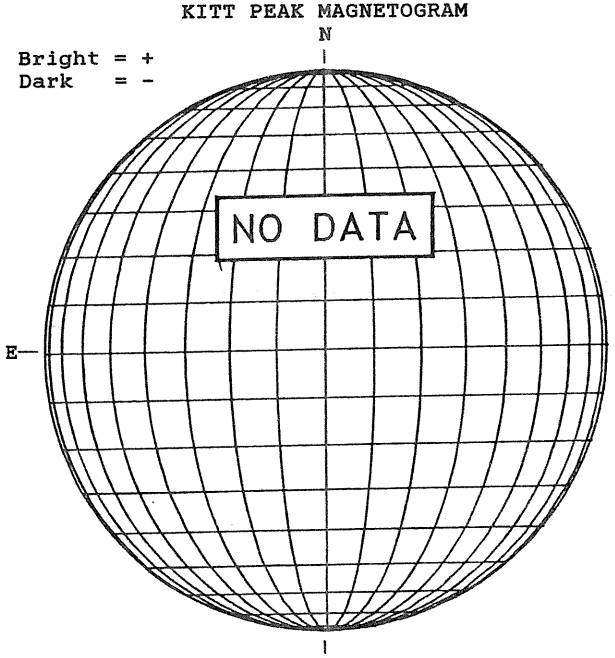


SACRAMENTO PEAK CORONA (1.15 Radii)

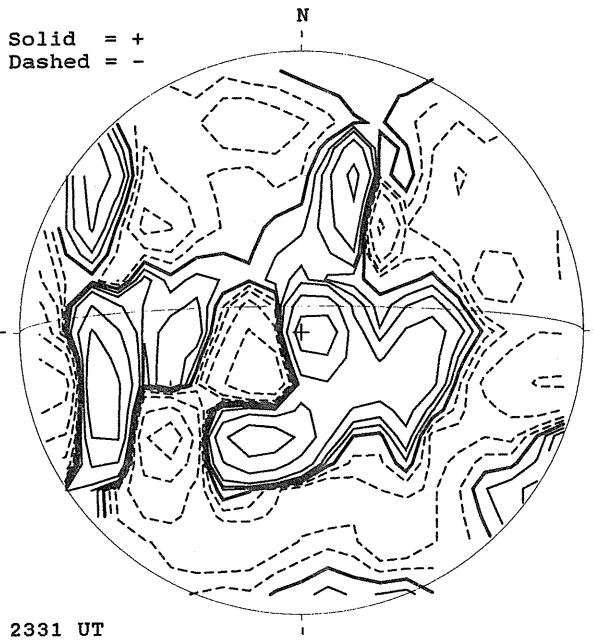


JANUARY 22, 1991 (P= -7.69, B_o =-5.18, L_o = 275.94)

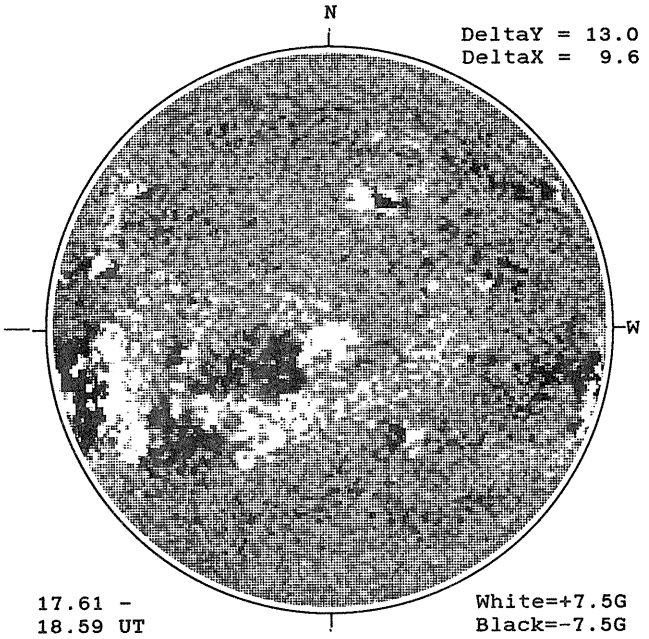
KITT PEAK MAGNETOGRAM



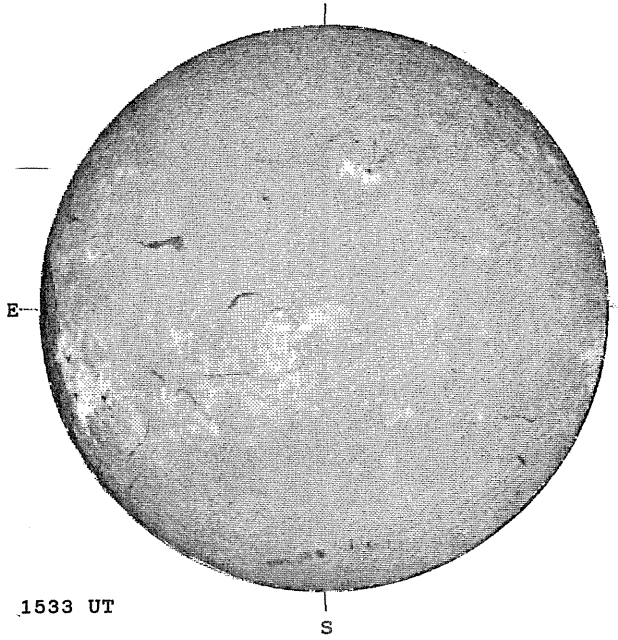
STANFORD MAGNETOGRAM



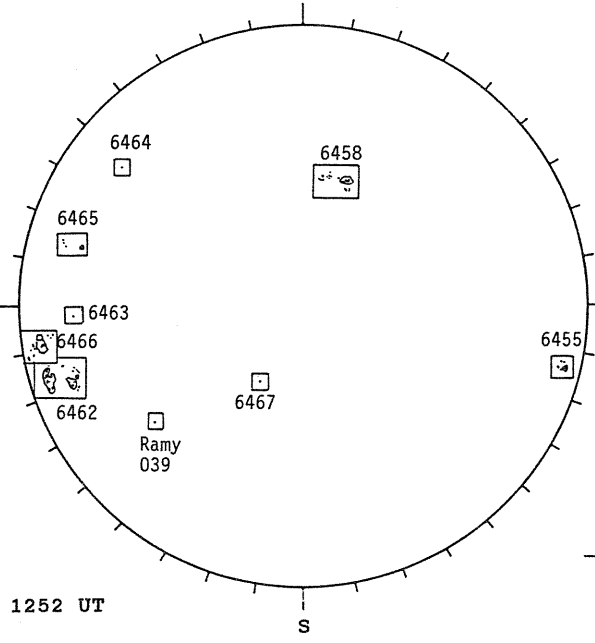
MT. WILSON MAGNETOGRAM



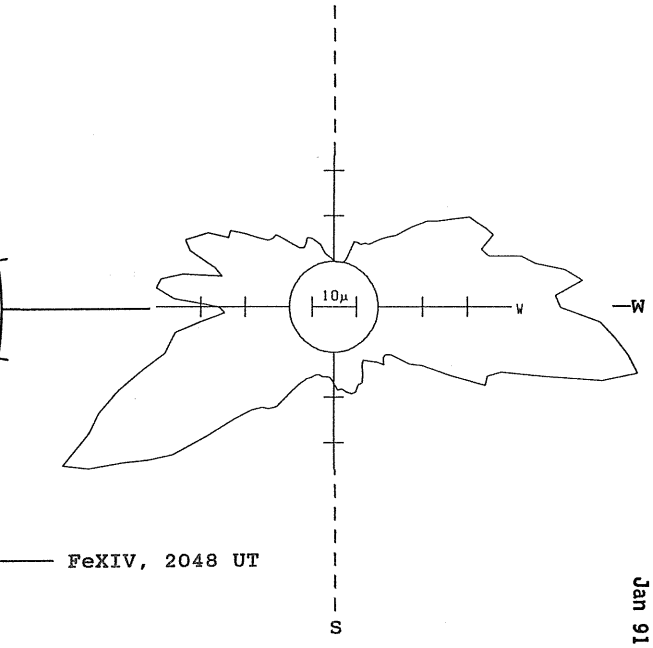
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



—— FeXIV, 2048 UT

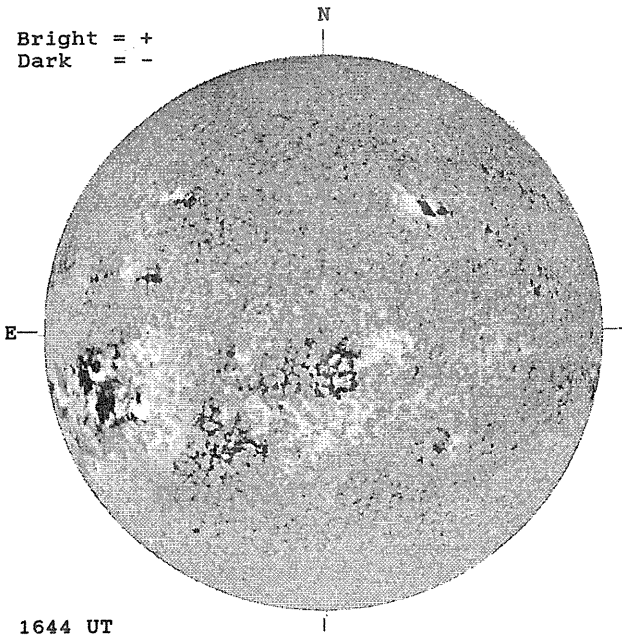
79
Jan 91

JANUARY 23, 1991 (P= -8.14, B_o =-5.27, L_o = 262.77)

80
Jan 91

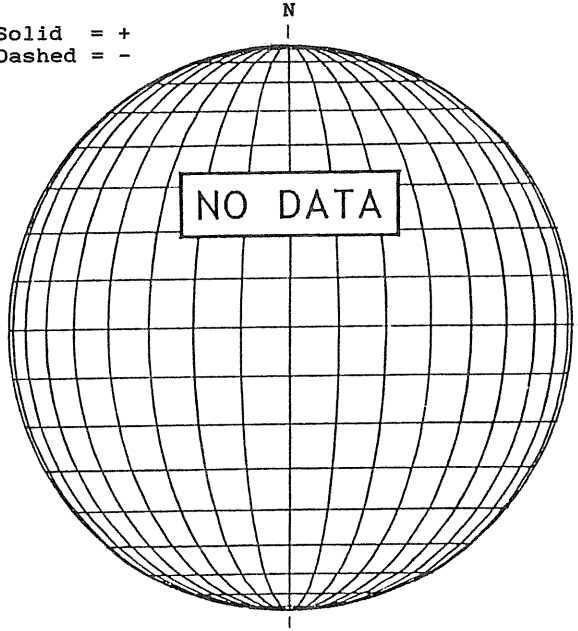
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



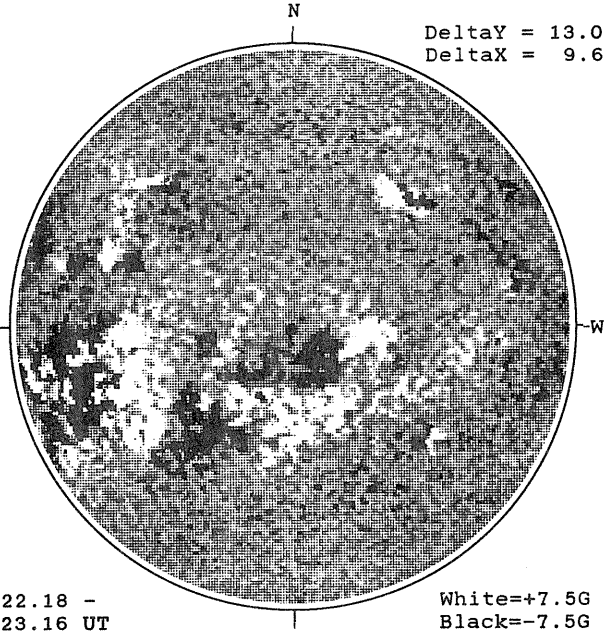
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

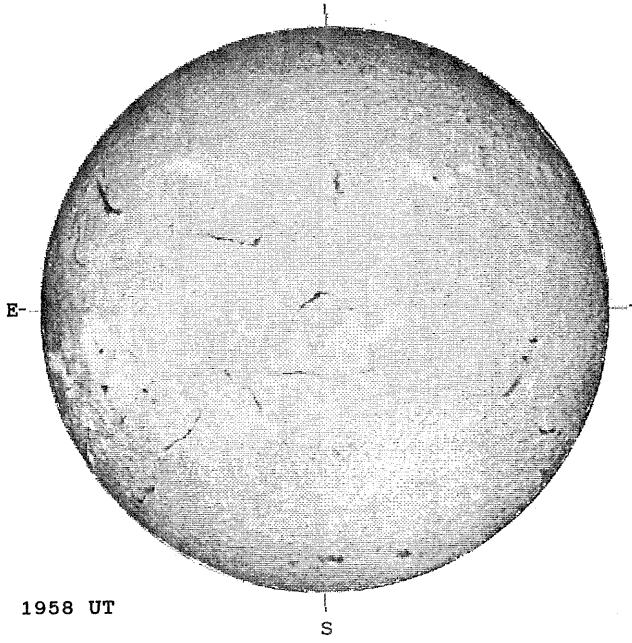


MT. WILSON MAGNETOGRAM

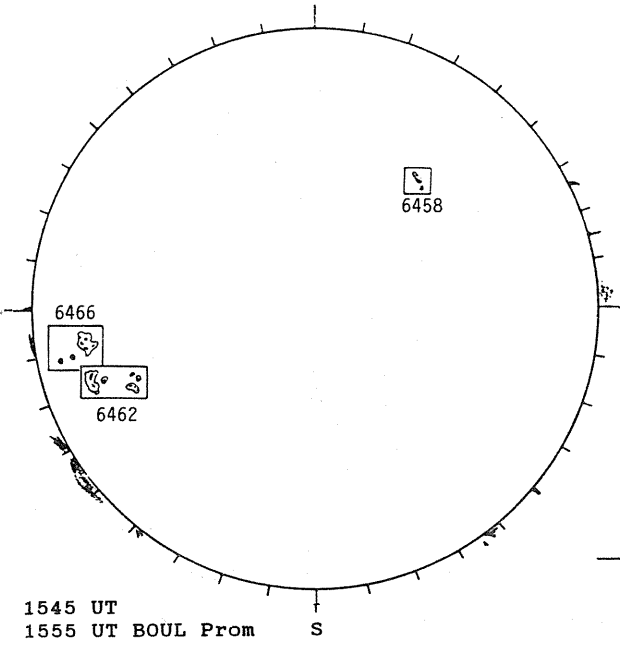
DeltaY = 13.0
DeltaX = 9.6



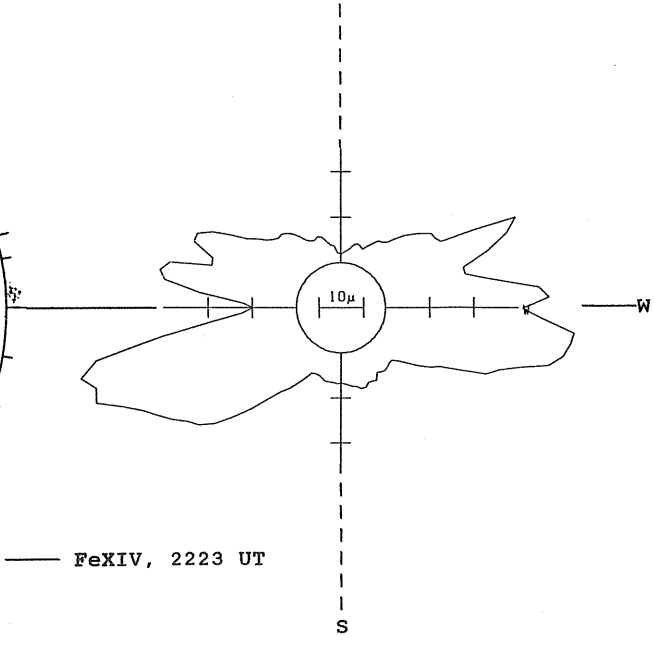
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT

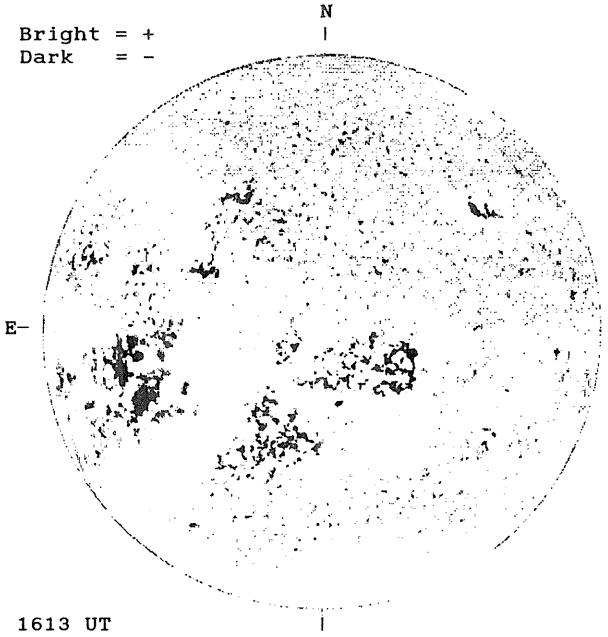


SACRAMENTO PEAK CORONA (1.15 Radii)

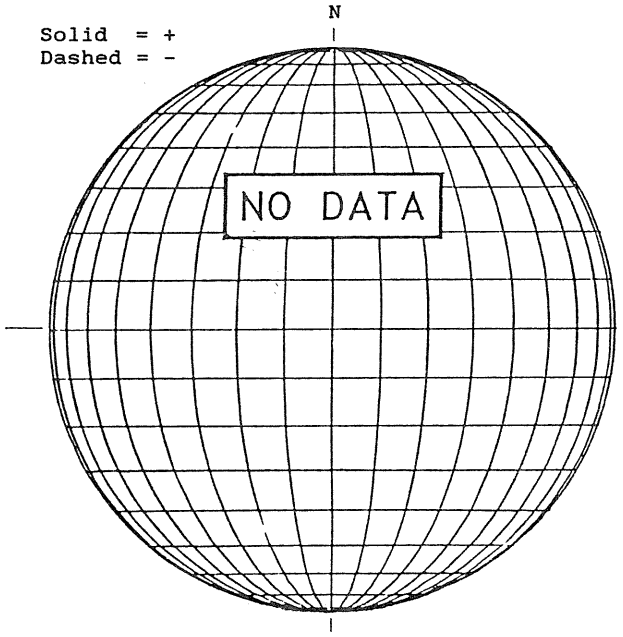


JANUARY 24, 1991 (P= -8.58 B_o =-5.35, L_o = 249.60)

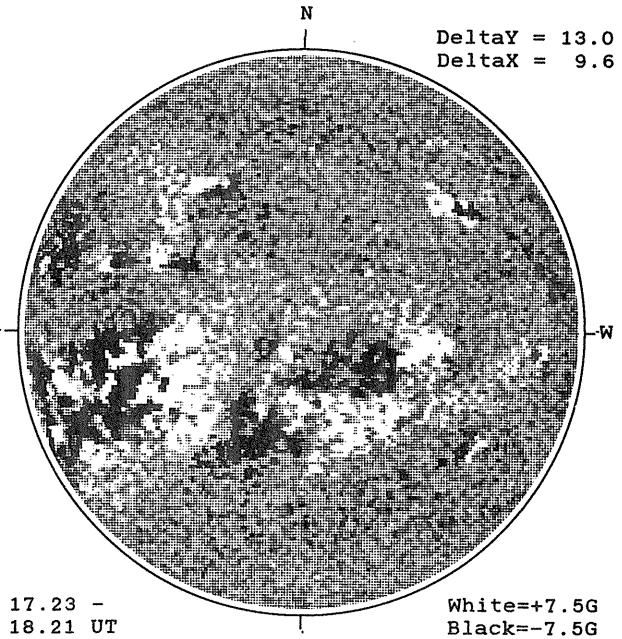
KITT PEAK MAGNETOGRAM



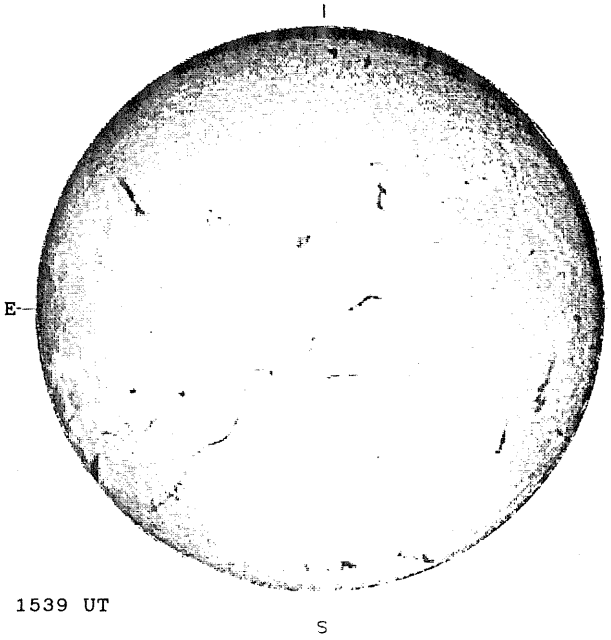
STANFORD MAGNETOGRAM



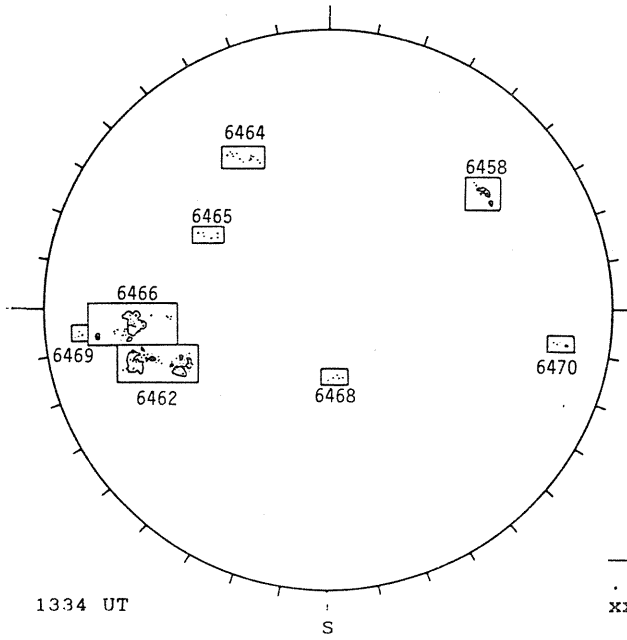
MT. WILSON MAGNETOGRAM



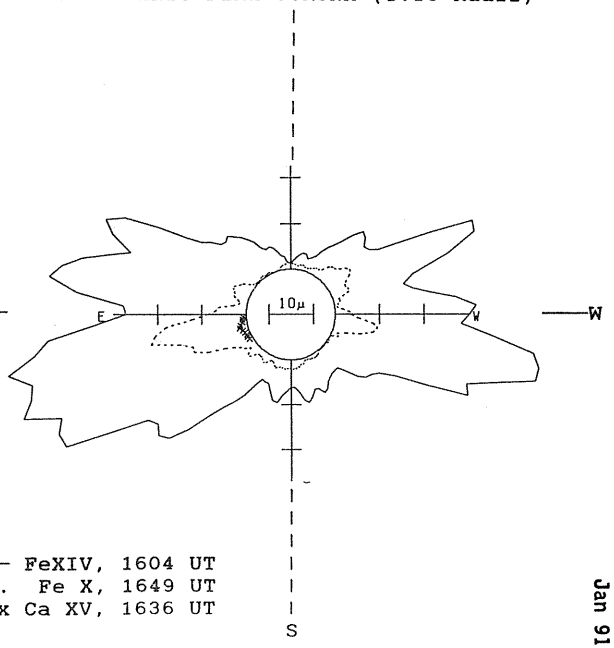
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

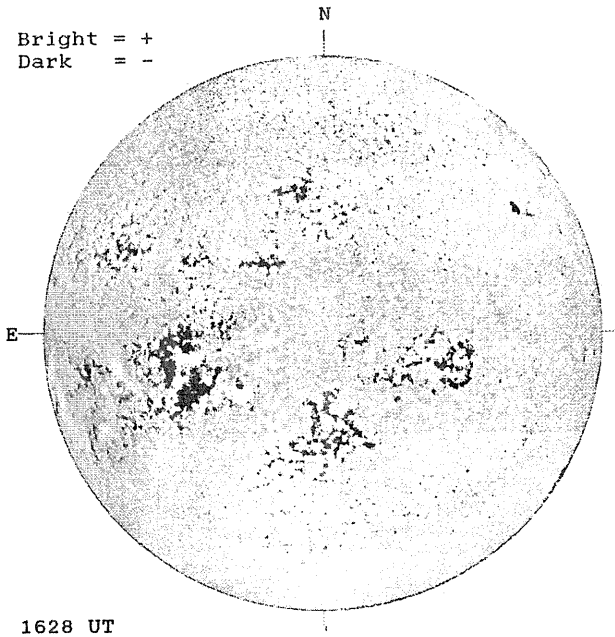


81
Jan 91

JANUARY 25, 1991 (P= -9.02, B_o =-5.44, L_o = 236.44)

KITT PEAK MAGNETOGRAM

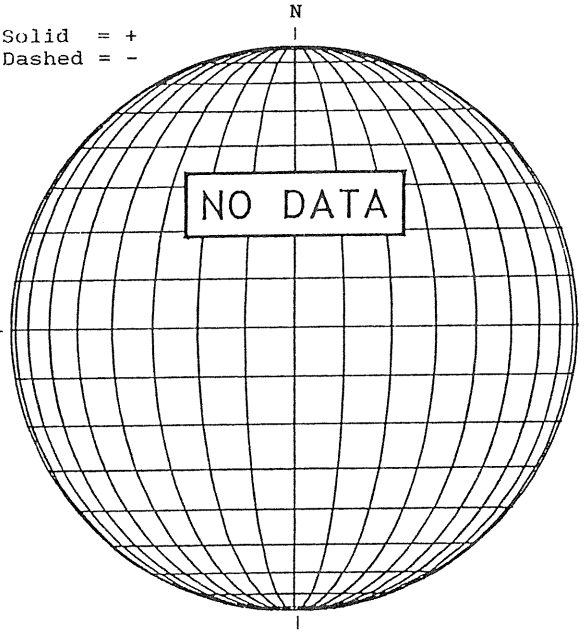
Bright = +
Dark = -



1628 UT

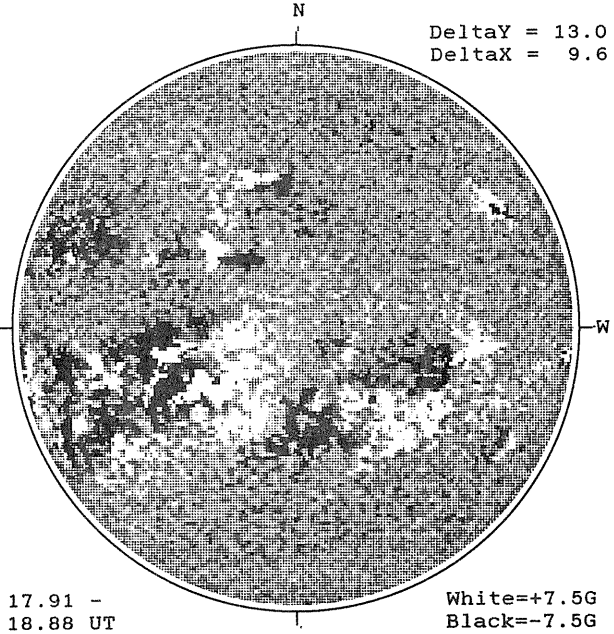
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

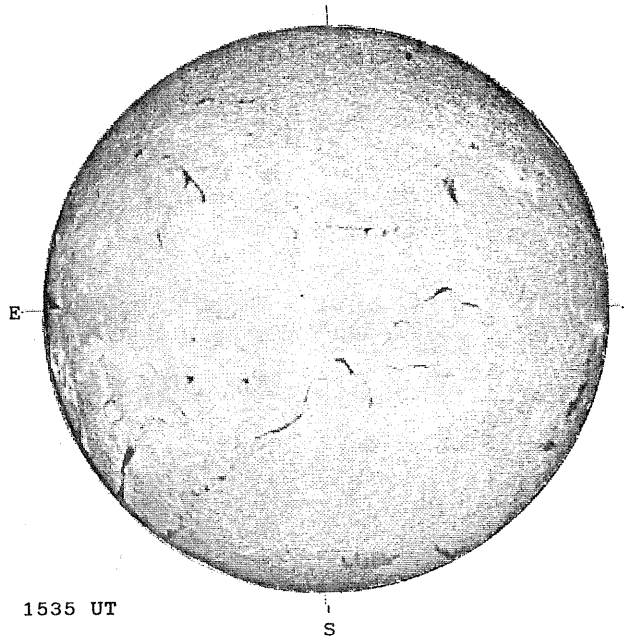
DeltaY = 13.0
DeltaX = 9.6



17.91 -
18.88 UT

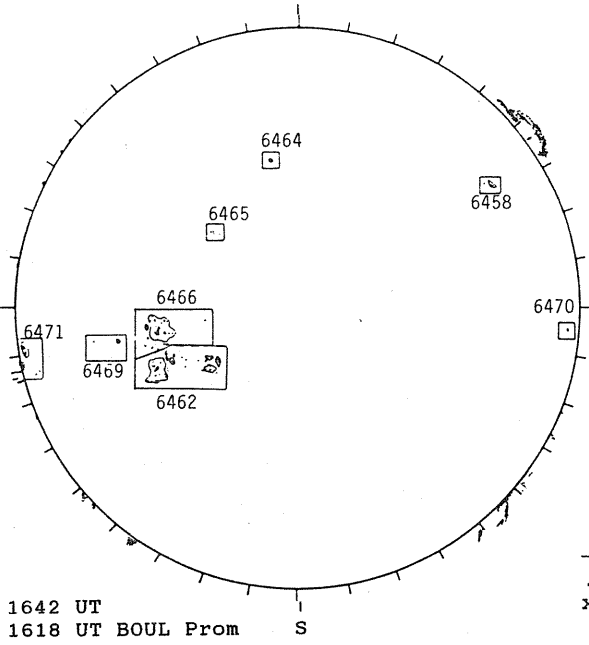
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



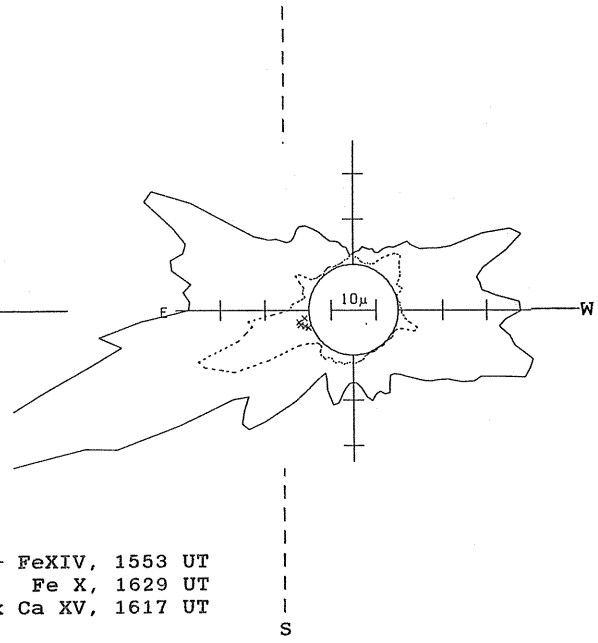
1535 UT

BOULDER SUNSPOT



1642 UT
1618 UT BOUL Prom

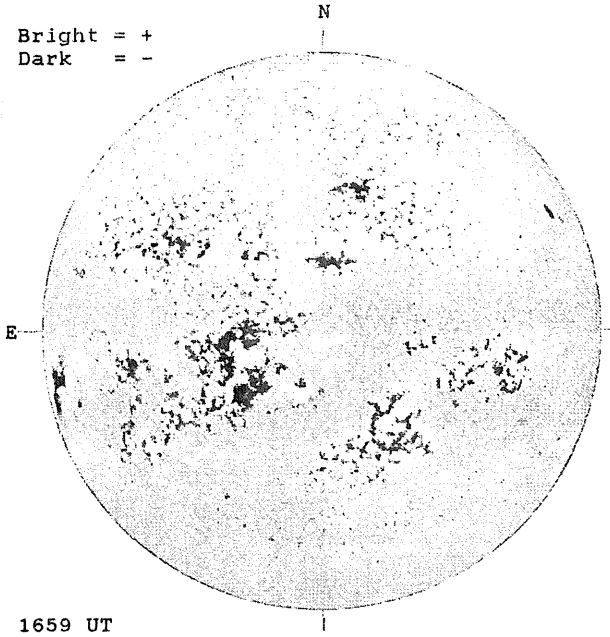
SACRAMENTO PEAK CORONA (1.15 Radii)



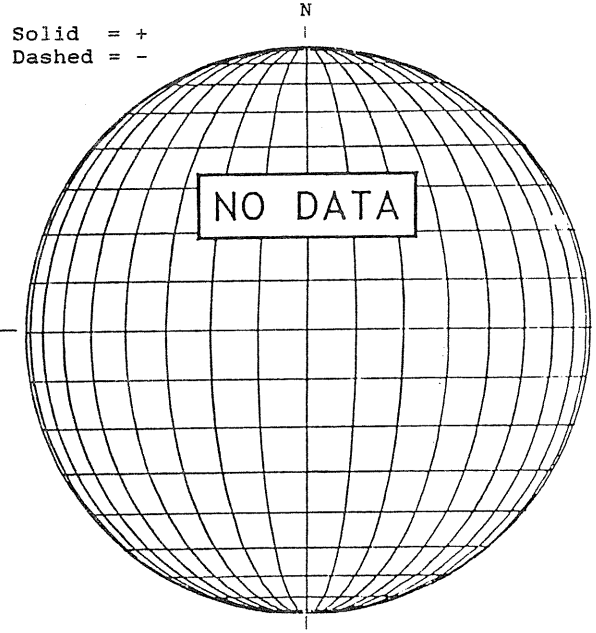
—— FeXIV, 1553 UT
.... Fe X, 1629 UT
xxxx Ca XV, 1617 UT

JANUARY 26, 1991 (P= -9.46, B_o =-5.52, L_o = 223.27)

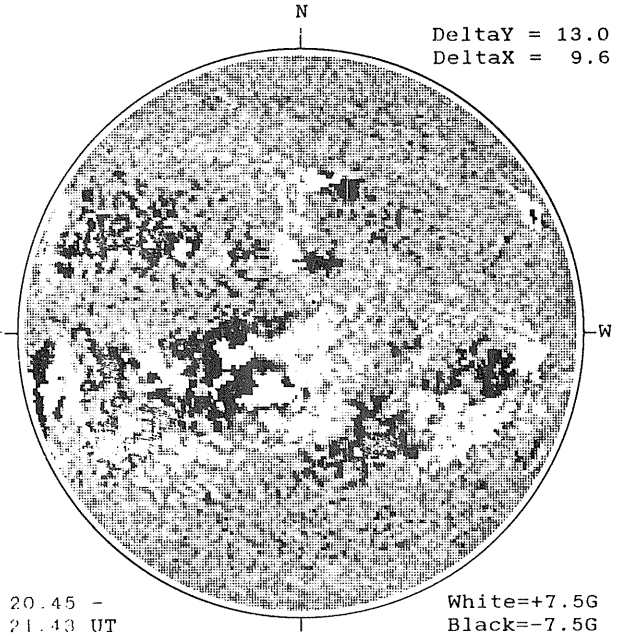
KITT PEAK MAGNETOGRAM



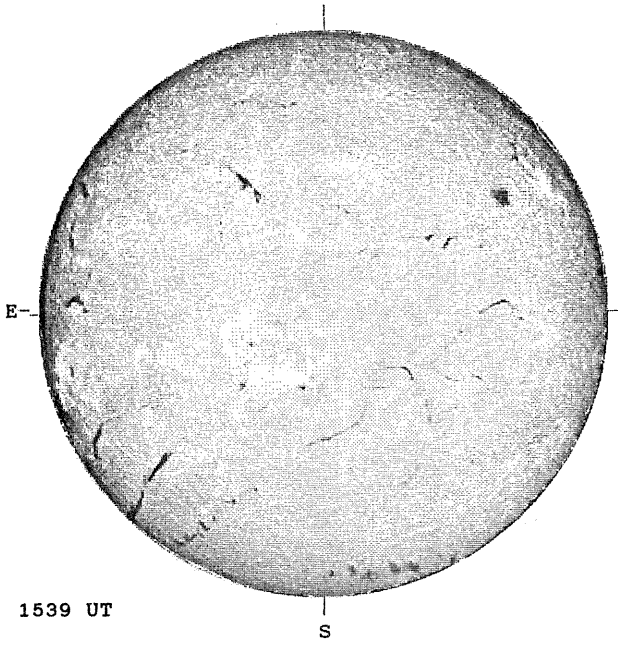
STANFORD MAGNETOGRAM



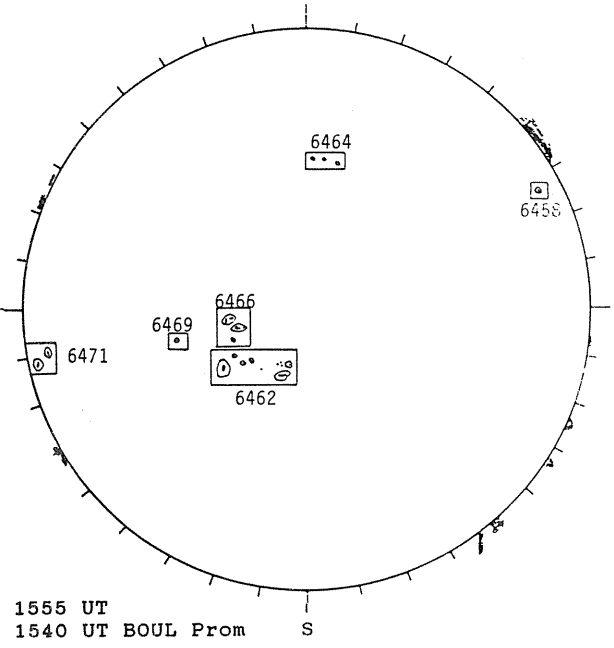
MT. WILSON MAGNETOGRAM



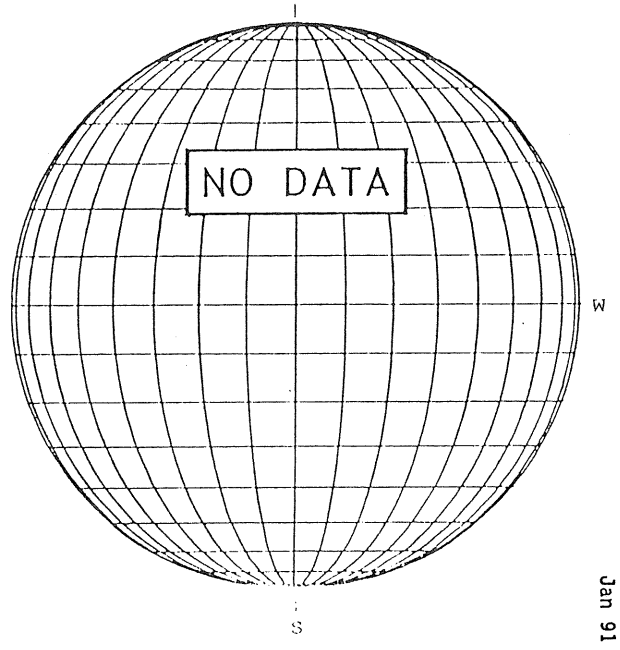
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

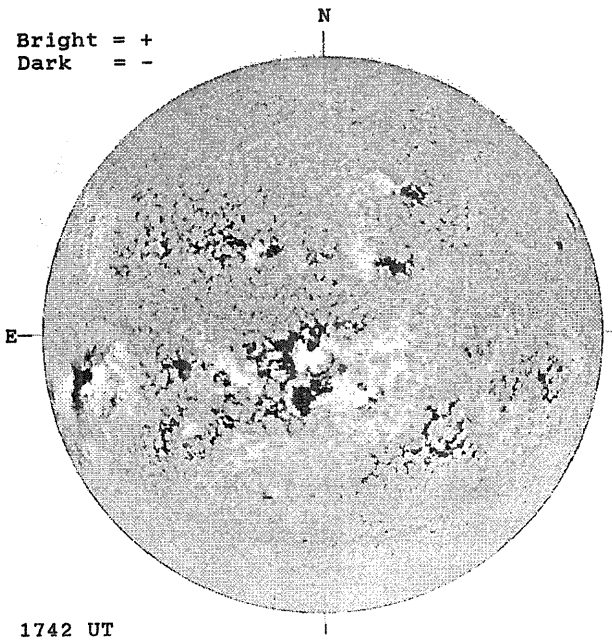


83
Jan 91

JANUARY 27, 1991 (P= -9.89, B_o =-5.61, L_o = 210.10)

KITT PEAK MAGNETOGRAM

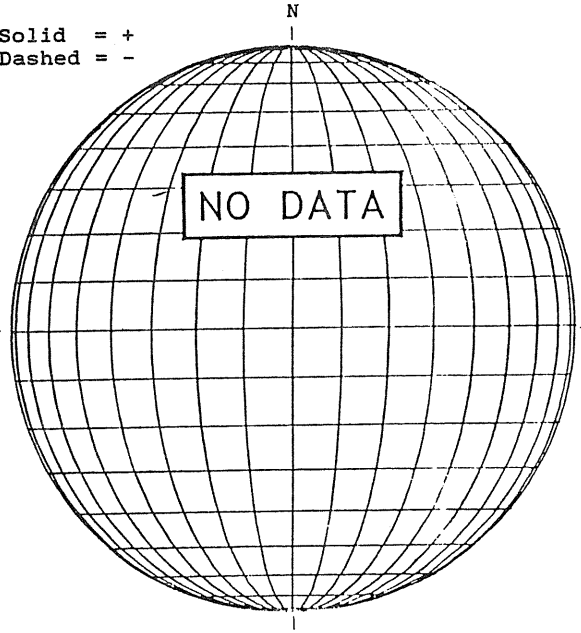
Bright = +
Dark = -



1742 UT

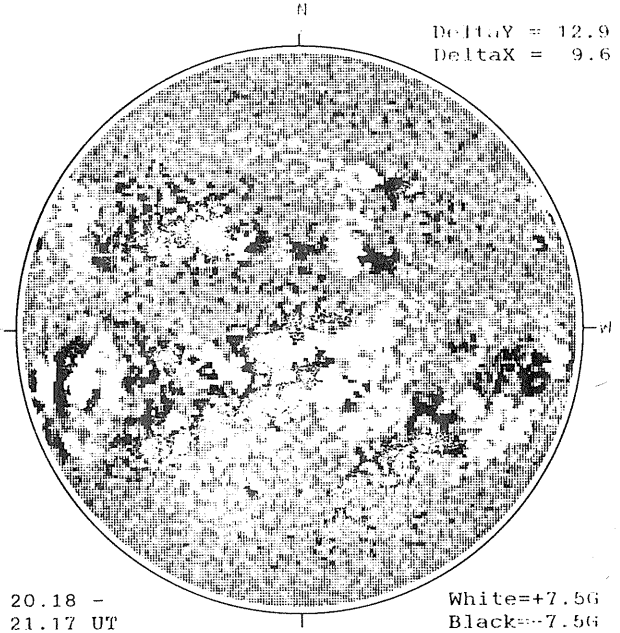
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



NIT MAGNETOGRAM

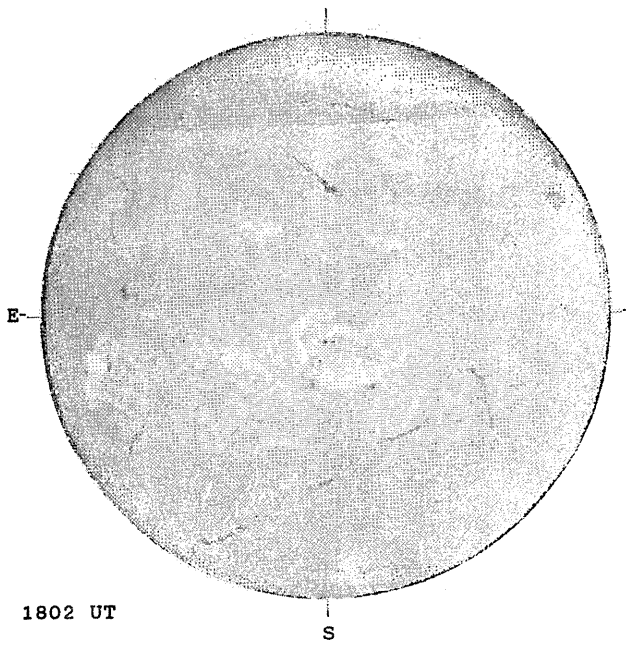
DeltaY = 12.9
DeltaX = 9.6



20.18 -
21.17 UT

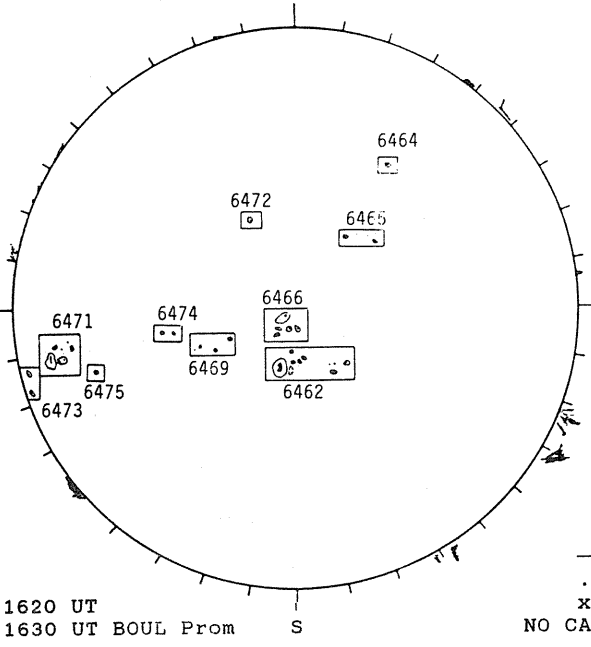
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



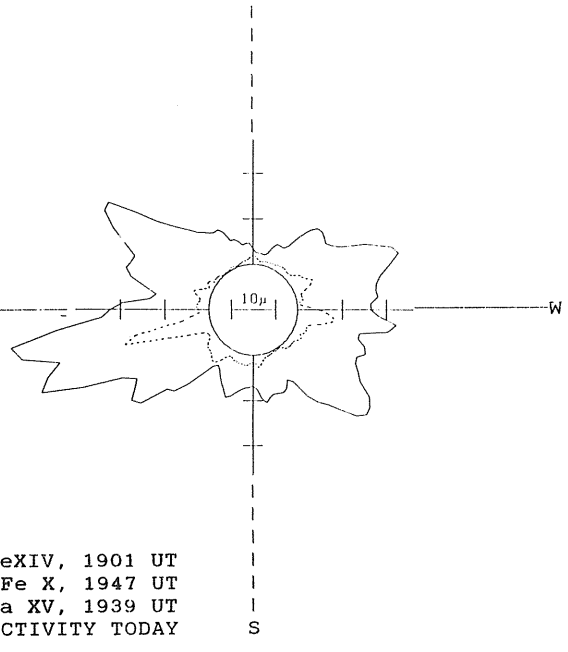
1802 UT

BOULDER SUNSPOT



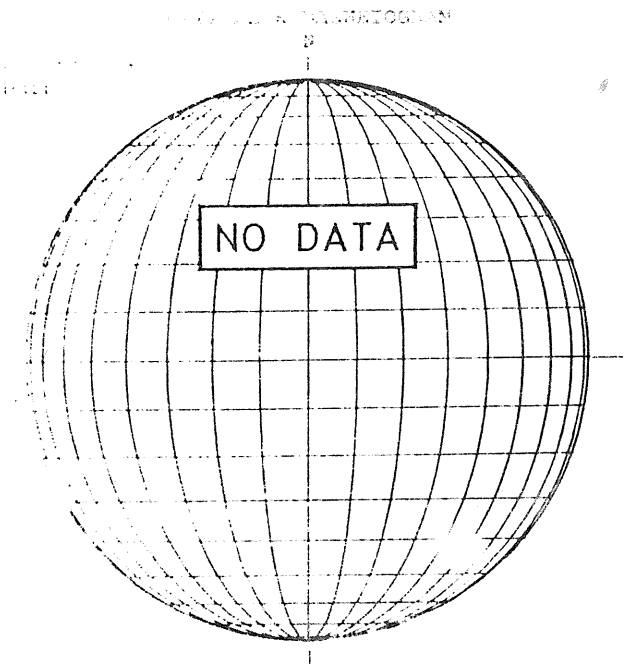
1620 UT
1630 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

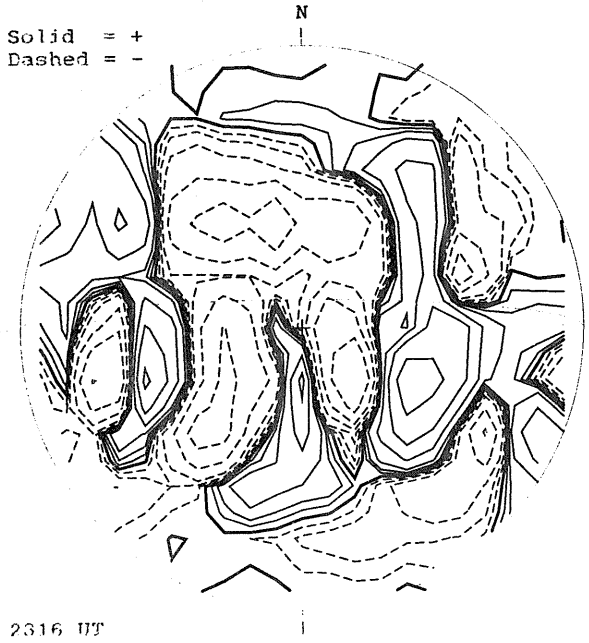


—— FeXIV, 1901 UT
.... Fe X, 1947 UT
xxxx Ca XV, 1939 UT
NO CA XV ACTIVITY TODAY

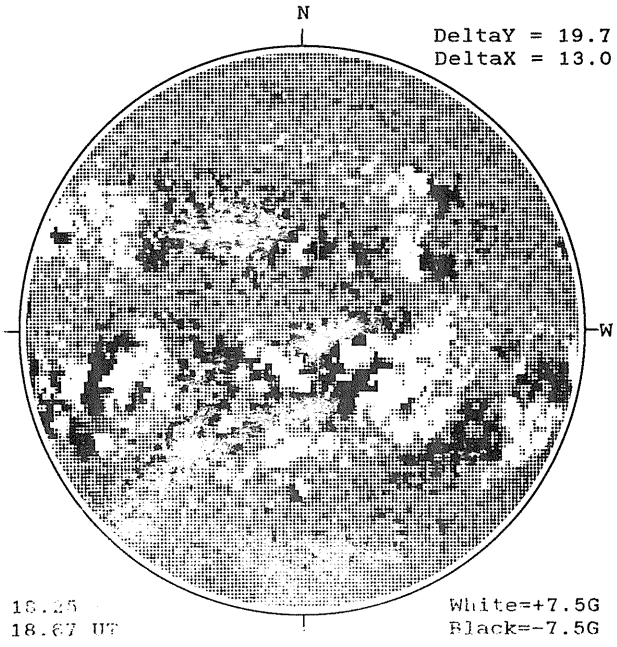
JANUARY 28, 1991 (P=-10.32 B_o =-5.69, L_o = 196.94)



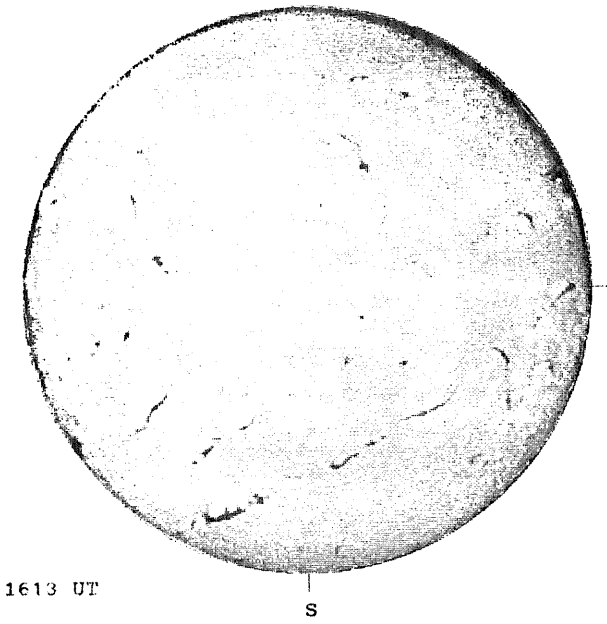
STANFORD MAGNETOGRAM



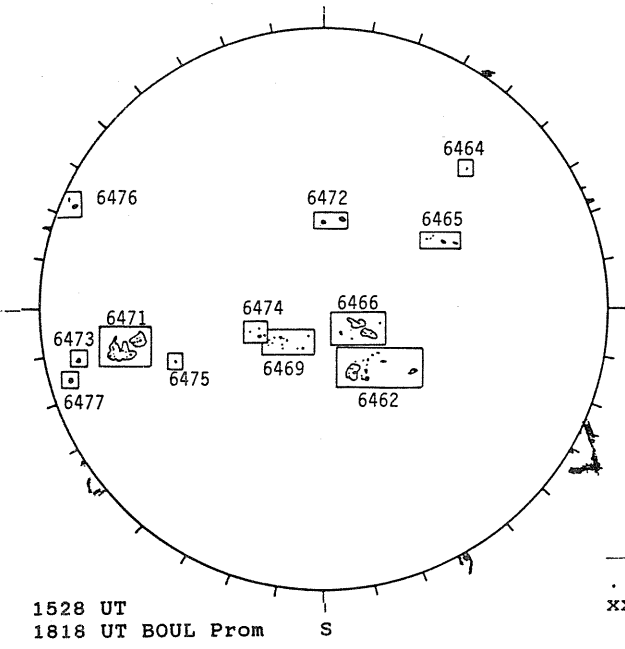
MT. WILSON MAGNETOGRAM



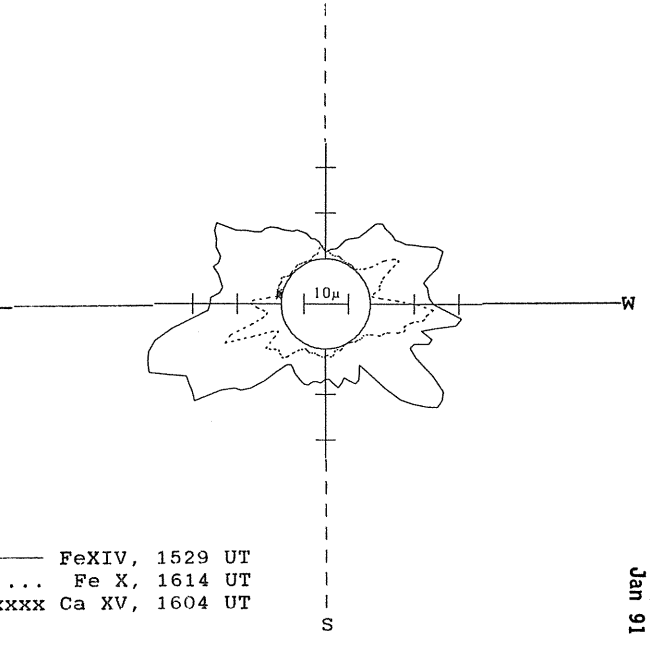
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



85
Jan 91

JANUARY 29, 1991 (P=-10.75, B_o =-5.76, L_o = 183.77)

86
Jan 91

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -

N

E

NO DATA

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

N

2124 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 12.9
DeltaX = 9.6

W

20.30 -
21.28 UT

White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA

E

1917 UT

S

BOULDER SUNSPOT

6476
6472
6465
6479
6466
6471
6474
6473
6469
6475
6477
6462

1513 UT
1637 UT BOUL Prom

S

SACRAMENTO PEAK CORONA (1.15 Radii)

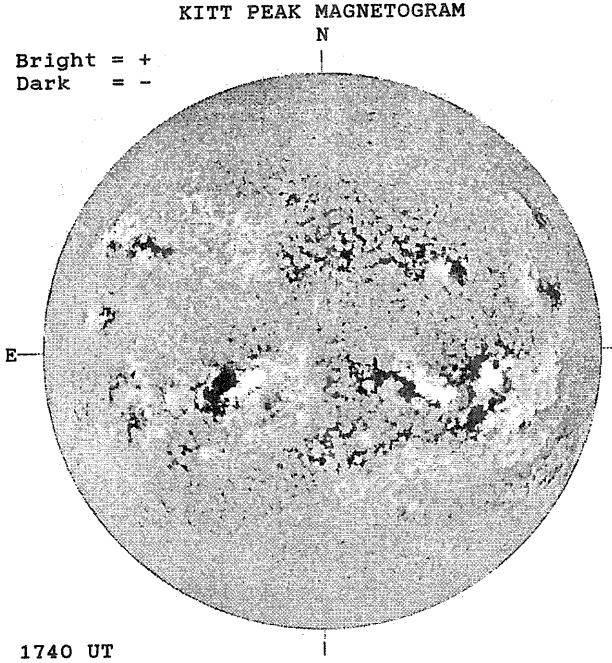
NO DATA

W

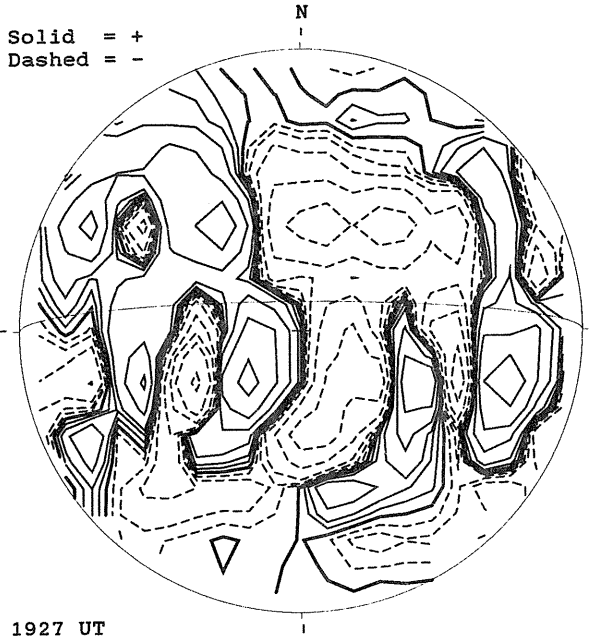
S

JANUARY 30, 1991 (P=-11.17, B_o =-5.84, L_o = 170.60)

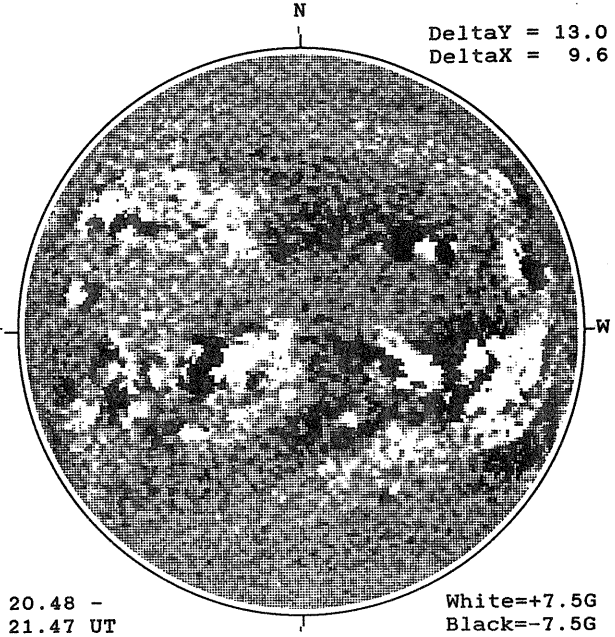
KITT PEAK MAGNETOGRAM



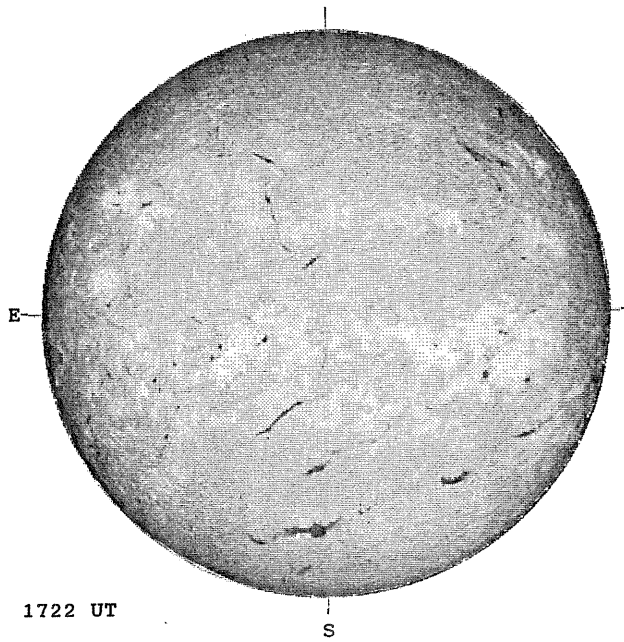
STANFORD MAGNETOGRAM



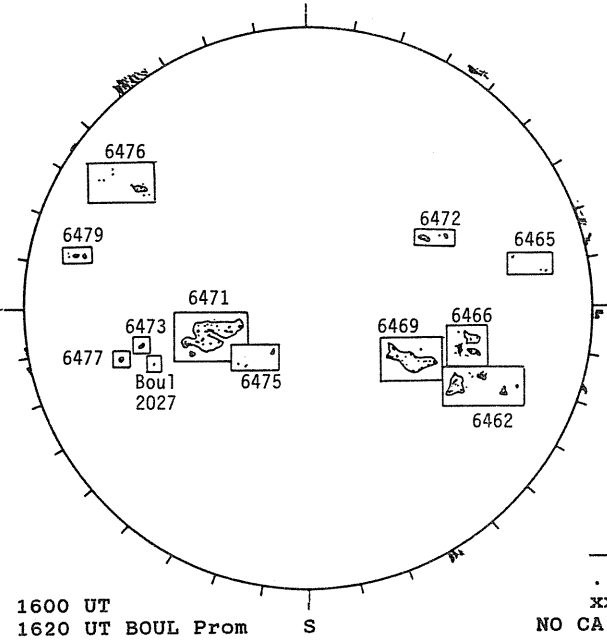
MT. WILSON MAGNETOGRAM



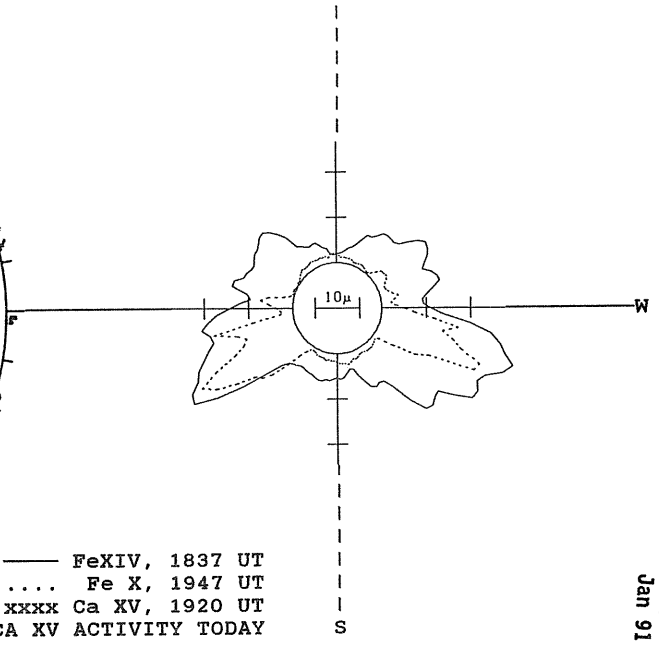
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

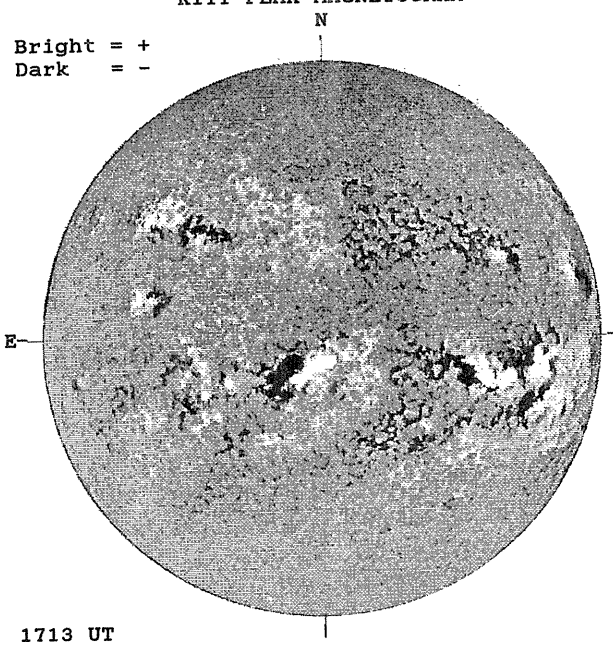


87
Jan 91

JANUARY 31, 1991 (P=-11.59, B_o =-5.92, L_o = 157.44)

KITT PEAK MAGNETOGRAM

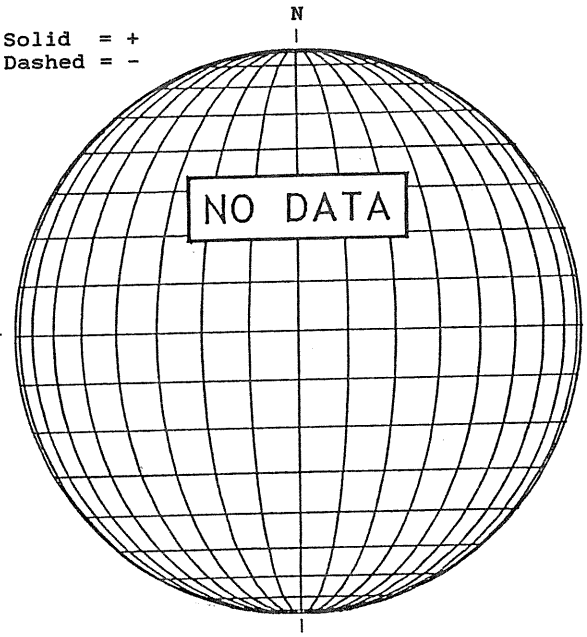
Bright = +
Dark = -



1713 UT

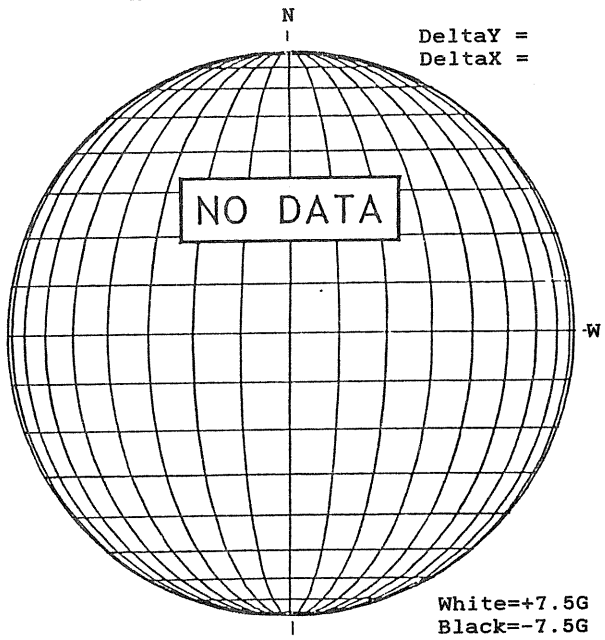
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



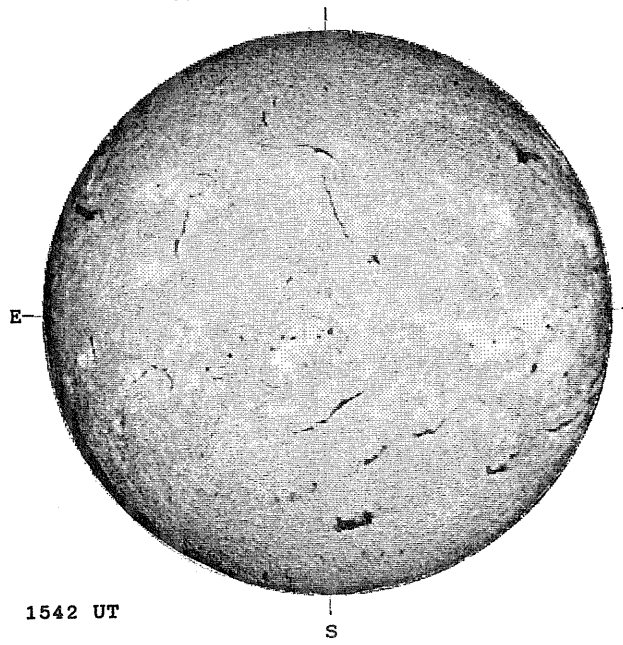
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



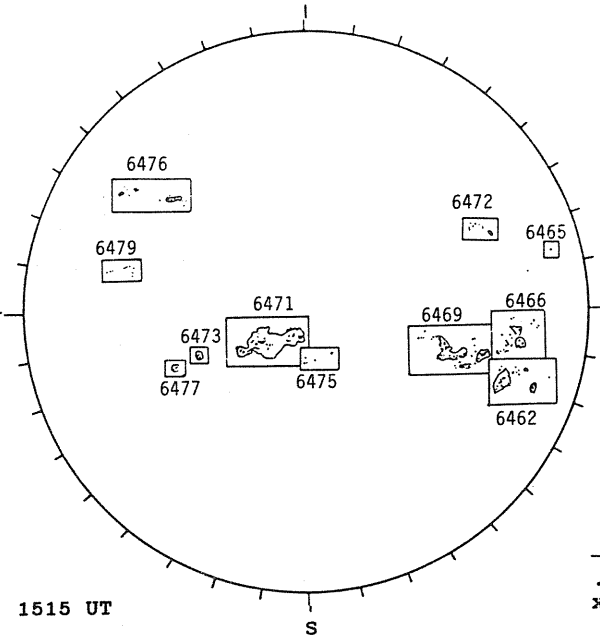
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



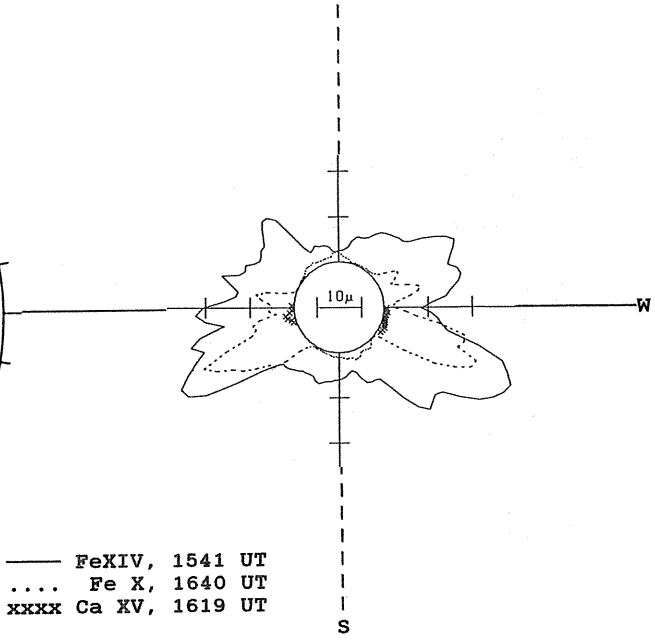
1542 UT

HOLLOMAN SUNSPOT



1515 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



—— FeXIV, 1541 UT
.... Fe X, 1640 UT
xxxx Ca XV, 1619 UT

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6434		CULG	12 31	0040	S23 E13	01 1.0		A	AX	10	4	3	2
6434		RAMY	12 31	1309	S23 E08	01 1.2		B	BXO	10	7	3	3
6434	26500	MWIL	12 31	1545	S25 E06	01 1.1	3	(AP)					
6434		HOLL	12 31	1656	S24 E06	01 1.2		B	BXO		2	3	4
6434		PALE	12 31	1830	S24 E03	01 1.0		B	BXO		2	3	4
6434		LEAR	01 01	0039	S19 E02	01 1.2		A	AX	10	1	1	3
6434		CULG	01 01	0040	S24 E01	01 1.1		B	BXO		3	1	3
6434		RAMY	01 01	1235	S24 W06	01 1.1		B	BXO	10	4	3	3
6434		HOLL	01 01	1715	S23 W08	01 1.1		A	AX	10	2	1	3
6434		BOUL	01 01	1755	S23 W08	01 1.1		A	AX		1		1
6434	26500	MWIL	01 01	1900	S24 W08	01 1.2	4	(AP)					
6434		PALE	01 01	2017	S24 W11	01 1.0		A	AX		3	2	2
6434		LEAR	01 02	0017	S23 W11	01 1.2		A	AX		1	1	3
6434		CULG	01 02	0040	S23 W16	12 31.8		A	AX		3		2
6439		PALE	01 04	2055	N09 W50	01 1.1		B	BXO		2	3	3
6439		LEAR	01 06	0017	N08 W66	01 1.1		B	BXO	50	3	4	3
6439		SVTO	01 06	1155	N08 W75	12 31.9		B	BXO	30	5	6	3
6439	26506	MWIL	01 06	1730	N09 W78	12 31.9	2	X					
6439		PALE	01 06	1840	N09 W78	12 31.9		B	BXO	10	2	4	4
6439A		SVTO	01 04	0855	N10 W44	01 1.1		A	AX		1		2
6439A		RAMY	01 06	1225	N09 W70	01 1.3		B	CAO	60	5	3	4
6427		RAMY	12 26	1318	S11 E80	01 1.6		B	CAO	180	6	8	3
6427	26490	MWIL	12 26	1600	S10 E76	01 1.4	5	(AP)					
6427		BOUL	12 26	1645	S12 E74	01 1.3		A	HS	120	1	2	2
6427		LEAR	12 27	0020	S12 E70	01 1.3		B	CSO	110	4	3	3
6427		CULG	12 27	0115	S08 E69	01 1.2		A	HS	110	1	1	3
6427		RAMY	12 27	1228	S11 E61	01 1.1		B	CAO	1430	10	8	2
6427		HOLL	12 27	1616	S11 E61	01 1.3		B	CSO	120	10	8	3
6427		PALE	12 27	2013	S11 E61	01 1.4		B	CAO	80	3	5	3
6427	26490	MWIL	12 27	2030	S10 E62	01 1.5	5	(AP)					
6427		LEAR	12 28	0010	S12 E59	01 1.4		B	CSO	150	2	3	3
6427		CULG	12 28	0035	S08 E59	01 1.4		A	EA	160	2	2	2
6427		RAMY	12 28	1345	S11 E53	01 1.6		B	CAO	150	10	10	1
6427		BOUL	12 28	1540	S12 E49	01 1.3		A	HA	140	1	2	1
6427	26490	MWIL	12 28	1600	S11 E50	01 1.4	5	(AP)					
6427		PALE	12 28	1830	S11 E50	01 1.5		B	CSO	150	8	4	4
6427		CULG	12 29	0010	S11 E46	01 1.5		B	CSO	150	4	4	3
6427		LEAR	12 29	0025	S12 E46	01 1.5		B	CSO	150	5	5	2
6427		SVTO	12 29	0845	S11 E41	01 1.4		A	HS	140	2	3	3
6427		RAMY	12 29	1527	S13 E37	01 1.4		B	CKO	170	9	6	3
6427		PALE	12 29	1810	S12 E36	01 1.5		B	CSO	130	6	6	3
6427		LEAR	12 30	0008	S14 E31	01 1.3		B	CSO	200	4	6	3
6427		CULG	12 30	0038	S11 E32	01 1.4		B	CSO	120	8	7	2
6427		SVTO	12 30	0801	S11 E28	01 1.4		B	CSO	120	3	4	3
6427		RAMY	12 30	1225	S11 E27	01 1.5		B	CAO	200	7	4	3
6427	26490	MWIL	12 30	1545	S11 E24	01 1.5	5	(AP)					
6427		HOLL	12 30	1615	S10 E24	01 1.5		B	CSO	130	4	3	3
6427		PALE	12 30	1925	S11 E22	01 1.5		B	CSO	150	8	3	4
6427		LEAR	12 31	0009	S11 E20	01 1.5		B	DAO	100	6	4	3
6427		CULG	12 31	0040	S10 E20	01 1.5		A	HS	140	2	3	2
6427		SVTO	12 31	0738	S12 E16	01 1.5		B	CSO	110	4	6	2
6427		RAMY	12 31	1309	S11 E12	01 1.4		B	DKO	230	9	5	3
6427		BOUL	12 31	1540	S10 E11	01 1.5		A	HA	60	1	2	1
6427	26490	MWIL	12 31	1545	S11 E12	01 1.5	5	(BP)					
6427		HOLL	12 31	1656	S12 E12	01 1.6		B	CSO	150	6	6	4
6427		PALE	12 31	1830	S12 E11	01 1.6		B	CSO	120	12	7	4
6427		CULG	01 01	0040	S12 E07	01 1.5		B	CAO	110	8	7	3
6427		RAMY	01 01	1235	S11 E01	01 1.6		B	CSO	160	7	11	3
6427		HOLL	01 01	1715	S11 W01	01 1.6		B	CSO	130	2	6	3
6427		BOUL	01 01	1755	S10 W05	01 1.4		B	HA	80	3	2	1
6427	26490	MWIL	01 01	1900	S11 W05	01 1.4	4	(AP)					
6427		PALE	01 01	2017	S11 W05	01 1.5		B	CSO	100	2	6	2
6427		LEAR	01 02	0017	S10 W06	01 1.6		B	CAO	100	2	2	3
6427		CULG	01 02	0040	S11 W07	01 1.5		B	CSO	90	4	5	2
6427		SVTO	01 02	0846	S10 W11	01 1.5		B	CSO	130	4	4	2
6427		RAMY	01 02	1225	S10 W11	01 1.7		B	CAO	190	11	8	4

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6427		HOLL	01 02 1600	S10 W15	01 1.5		A	HS	190	1	2	2
6427		BOUL	01 02 1617	S08 W17	01 1.4		A	HS	100	1	2	1
6427		PALE	01 02 1928	S10 W16	01 1.6		A	HS	80	2	2	3
6427		LEAR	01 03 0008	S10 W19	01 1.6		A	HA	120	1	2	3
6427		CULG	01 03 0152	S11 W19	01 1.6		A	HS	120	1	2	3
6427		SVTO	01 03 0850	S10 W25	01 1.5		A	HS	90	1	2	4
6427		RAMY	01 03 1318	S10 W25	01 1.7		A	HS	60	2	4	3
6427		HOLL	01 03 1542	S10 W28	01 1.5		A	HS	110	1	2	3
6427		LEAR	01 04 0018	S10 W33	01 1.5		A	HS	110	1	2	3
6427		SVTO	01 04 0855	S11 W38	01 1.5		A	HS	110	1	2	2
6427		RAMY	01 04 1310	S09 W38	01 1.7		A	HS	70	2	3	4
6427		PALE	01 04 2055	S10 W44	01 1.6		A	HS	100	1	2	3
6427		LEAR	01 05 0031	S10 W46	01 1.6		A	HS	140	1	2	3
6427		BOUL	01 05 1713	S10 W56	01 1.5		B	CSO	80	2	4	1
6427		LEAR	01 06 0017	S09 W59	01 1.6		B	DAO	170	6	4	3
6427		CULG	01 06 0210	S11 W64	01 1.3		B	CSO	120	5	2	3
6427		SVTO	01 06 1155	S10 W65	01 1.6		B	DAO	150	7	5	3
6427		RAMY	01 06 1225	S09 W66	01 1.6		B	DAO	110	9	6	4
6427		BOUL	01 06 1530	S10 W75	01 1.0		B	ESO	150	6	11	3
6427	26490	MWIL	01 06 1730	S08 W69	01 1.5	5	(AP)					
6427		PALE	01 06 1840	S09 W69	01 1.6		B	DAO	270	10	5	4
6427		HOLL	01 06 2130	S09 W70	01 1.6		B	DSO	180	7	5	3
6427		LEAR	01 07 0135	S07 W72	01 1.7		B	DAO	150	3	3	3
6427		CULG	01 07 0245	S10 W74	01 1.5			DSO	150	4	6	2
6427		SVTO	01 07 0803	S11 W78	01 1.5		B	DAO	180	5	5	5
6427		RAMY	01 07 1233	S09 W82	01 1.4		B	DAO	150	7	10	4
6427		BOUL	01 07 1545	S08 W79	01 1.7		B	CSO	60	2	3	2
6427		HOLL	01 07 1620	S10 W85	01 1.3		B	CSO	100	4	5	3
6427	26490	MWIL	01 07 1630	S09 W80	01 1.7	5	AP					
6427		PALE	01 07 2100	S08 W86	01 1.4		A	HA	30	1	2	3
6427A		HOLL	01 01 1715	S30 E02	01 1.9		A	AX	10	3	2	3
6427A	26504	MWIL	01 01 1900	S30 E01	01 1.9	3	(B)					
6429		RAMY	12 27 1228	S25 E66	01 1.6		B	BXO	20	5	3	2
6429		HOLL	12 27 1616	S25 E69	01 2.0		A	AX	10	2	2	3
6429		RAMY	12 28 1345	S25 E60	01 2.2		B	BXO	20	4	3	1
6429	26494	MWIL	12 28 1600	S26 E57	01 2.1	4	(AF)					
6429		PALE	12 28 1830	S26 E56	01 2.1		A	AX	20	2	1	4
6429		RAMY	12 29 1527	S26 E44	01 2.1		B	CRO	30	6	4	3
6429		PALE	12 29 1810	S27 E43	01 2.1		A	AX		2	1	3
6429		LEAR	12 30 0008	S25 E35	01 1.7		B	BXO	70	8	9	3
6429		CULG	12 30 0038	S25 E38	01 2.0		B	BXO	10	12	8	2
6429		SVTO	12 30 0801	S25 E35	01 2.0		B	BXO	20	10	5	3
6429		RAMY	12 30 1225	S24 E31	01 1.9		B	DAO	40	3	5	3
6429	26494	MWIL	12 30 1545	S25 E29	01 1.9	4	(AF)					
6429		HOLL	12 30 1615	S23 E29	01 1.9		B	BXO	20	11	3	3
6429		PALE	12 30 1925	S24 E26	01 1.8		B	CAO	50	24	6	4
6429		LEAR	12 31 0009	S24 E26	01 2.0		B	BXO	20	25	7	3
6429		CULG	12 31 0040	S25 E25	01 2.0		B	BXO	10	20	5	2
6429		SVTO	12 31 0738	S24 E20	01 1.9		B	DRO	50	18	6	2
6429		RAMY	12 31 1309	S24 E18	01 1.9		B	DAO	70	18	6	3
6429		BOUL	12 31 1540	S23 E15	01 1.8		B	CSO	30	3	4	1
6429	26494	MWIL	12 31 1545	S25 E16	01 1.9	5	(B)					
6429		HOLL	12 31 1656	S25 E17	01 2.0		B	BXO	50	24	7	4
6429		PALE	12 31 1830	S25 E14	01 1.8		B	DRO	40	32	6	4
6429		LEAR	01 01 0039	S20 E12	01 1.9		B	DAO	120	16	6	3
6429		CULG	01 01 0040	S23 E12	01 1.9		B	DSI	40	25	6	3
6429		HOLL	01 01 1715	S24 E04	01 2.0		B	BXO	30	25	10	3
6429		BOUL	01 01 1755	S24 E02	01 1.9		B	BXO	20	7	9	1
6429	26494	MWIL	01 01 1900	S24 E02	01 1.9	5	(B)					
6429		PALE	01 01 2017	S24 E01	01 1.9		B	CAO	20	9	5	2
6429		LEAR	01 02 0017	S23 W01	01 1.9		B	DAO	50	16	3	3
6429		CULG	01 02 0040	S23 W03	01 1.8		B	CSO	60	10	1	2
6429		SVTO	01 02 0846	S24 W07	01 1.8		B	CAO	60	9	7	2
6429		RAMY	01 02 1225	S23 W07	01 2.0		B	BXO	60	34	5	4
6429		HOLL	01 02 1600	S25 W05	01 2.3		B	BXO	40	19	7	2
6429		BOUL	01 02 1617	S22 W10	01 1.9		A	HA	30	1	1	1
6429		PALE	01 02 1928	S25 W09	01 2.1		B	BXO	20	10	6	3

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6429		LEAR	01	03	0008	S23	W12	01	2.1		B	CRO	20	5	4	3
6429		CULG	01	03	0152	S25	W09	01	2.4		B	BXO	60	6	10	3
6429		SVTO	01	03	0850	S24	W18	01	2.0		B	BXO	20	12	4	4
6429		RAMY	01	03	1318	S23	W19	01	2.1		A	AX	10	12	3	3
6429		HOLL	01	03	1542	S25	W18	01	2.2		B	BXO	10	5	7	3
6429		LEAR	01	04	0018	S24	W26	01	2.0		B	BXO	50	7	4	3
6429		SVTO	01	04	0855	S24	W33	01	1.8		B	CAO	50	12	3	2
6429		RAMY	01	04	1310	S23	W33	01	2.0		A	AX	10	15	4	4
6429		PALE	01	04	2055	S24	W35	01	2.2		B	CSO	50	18	10	3
6429		LEAR	01	05	0031	S24	W39	01	2.0		B	DSO	80	6	4	3
6429		BOUL	01	05	1713	S24	W49	01	1.9		B	BXO	20	2	3	1
6429		LEAR	01	06	0017	S25	W52	01	2.0		B	BXO	30	5	4	3
6429		CULG	01	06	0210	S24	W55	01	1.8		B	DAO	80	8	4	3
6429		SVTO	01	06	1155	S25	W55	01	2.2		B	CAO	50	9	8	3
6429		RAMY	01	06	1225	S24	W61	01	1.8		B	BXO	10	7	4	4
6429		BOUL	01	06	1530	S24	W58	01	2.2		B	BXO	20	3	4	3
6429		HOLL	01	06	2130	S23	W58	01	2.4		B	BXO	10	3	3	3
6429		SVTO	01	07	0803	S24	W64	01	2.4		B	BXO	20	4	4	5
6429		RAMY	01	07	1233	S23	W74	01	1.8		B	BXO	10	4	3	4
6435		RAMY	01	01	1235	S23	E12	01	2.4		B	BXO	10	5	3	3
6435		BOUL	01	01	1755	S23	E08	01	2.4		A	AX		1		1
6435	26501	MWIL	01	01	1900	S23	E08	01	2.4	4	(AP)					
6435		PALE	01	01	2017	S23	E08	01	2.5		A	AX		1		2
6435		RAMY	01	02	1225	S23	W01	01	2.4		B	BXO	10	6	4	4
6435		PALE	01	02	1928	S26	W01	01	2.7		B	BXO		4	3	3
6435		RAMY	01	03	1318	S27	W14	01	2.5		A	AX		1		3
6435		RAMY	01	04	1310	S23	W27	01	2.5		B	BXO	10	9	4	4
6435		LEAR	01	05	0031	S22	W33	01	2.5		B	BX	20	3	4	3
6435		LEAR	01	06	0017	S23	W46	01	2.5		B	BXO	40	3	4	3
6435		RAMY	01	06	1225	S22	W53	01	2.4		B	DAO	60	7	5	4
6435	26501	MWIL	01	06	1730	S23	W57	01	2.3	4	(B)					
6435		PALE	01	06	1840	S23	W57	01	2.4		B	CAO	40	6	3	4
6435		SVTO	01	07	0803	S24	W64	01	2.4		B	BXO	20	4	4	5
6435		RAMY	01	07	1233	S23	W67	01	2.4		B	CRO	30	4	4	4
6429A		RAMY	12	31	1309	S25	E29	01	2.8		B	BXO	10	3	3	3
6429A	26501	MWIL	12	31	1545	S25	E26	01	2.7	3	(AP)					
6429A		PALE	12	31	1830	S25	E25	01	2.7		B	BXO	10	6	3	4
6432		RAMY	12	29	1527	S09	E61	01	3.2		A	AX		1	1	3
6432		LEAR	12	30	0008	S09	E57	01	3.3		A	AX	20	1	1	3
6432		CULG	12	30	0038	S08	E58	01	3.4		A	AX		1		2
6432		SVTO	12	30	0801	S09	E49	01	3.0		B	BXO	10	5	5	3
6432		RAMY	12	30	1225	S10	E47	01	3.0		B	CRO	30	5	6	3
6432	26497	MWIL	12	30	1545	S10	E44	01	3.0	4	(B)					
6432		HOLL	12	30	1615	S09	E42	01	2.8		B	BXO	10	6	4	3
6432		PALE	12	30	1925	S10	E42	01	3.0		B	BXO	10	5	4	4
6432		LEAR	12	31	0009	S10	E40	01	3.0		B	BXO	10	5	5	3
6432		CULG	12	31	0040	S10	E40	01	3.0		B	BXO	10	6	5	2
6432		SVTO	12	31	0738	S09	E35	01	2.9		B	BXO	20	10	7	2
6432		RAMY	12	31	1309	S10	E31	01	2.9		B	DAO	60	22	4	3
6432		BOUL	12	31	1540	S09	E30	01	2.9		B	DAO	80	3	4	1
6432	26497	MWIL	12	31	1545	S10	E32	01	3.1	5	(B)					
6432		HOLL	12	31	1656	S10	E30	01	2.9		B	BXO	50	21	7	4
6432		PALE	12	31	1830	S10	E30	01	3.0		B	CRO	40	22	7	4
6432		LEAR	01	01	0039	S07	E26	01	3.0		B	DAO	110	16	9	3
6432		CULG	01	01	0040	S09	E27	01	3.0		B	DAO	50	17	8	3
6432		RAMY	01	01	1235	S09	E18	01	2.9		B	DAO	130	28	7	3
6432		HOLL	01	01	1715	S10	E16	01	2.9		B	CSO	100	28	6	3
6432		BOUL	01	01	1755	S09	E16	01	2.9		B	CAI	120	13	7	1
6432	26497	MWIL	01	01	1900	S09	E16	01	3.0	5	(BF)					
6432		PALE	01	01	2017	S09	E16	01	3.0		B	DAO	110	12	6	2
6432		LEAR	01	02	0017	S09	E12	01	2.9		B	DAO	180	29	6	3
6432		SVTO	01	02	0846	S10	E07	01	2.9		B	DAI	130	18	8	2
6432		RAMY	01	02	1225	S10	E06	01	3.0		B	DAO	160	32	7	4
6432		HOLL	01	02	1600	S10	E04	01	3.0		B	DSI	250	37	7	2
6432		BOUL	01	02	1617	S09	E02	01	2.8		B	DAO	220	6	6	1
6432		PALE	01	02	1928	S11	E01	01	2.9		B	DAI	160	26	7	3

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6432		LEAR	01 03 0008	S10 E01	01 3.1		B	DAO	160	23	8	3
6432		CULG	01 03 0152	S09 E02	01 3.2		B	DAI	200	14	7	3
6432		SVTO	01 03 0850	S10 W05	01 3.0		B	DAO	130	30	9	4
6432		RAMY	01 03 1318	S10 W08	01 2.9		B	DAO	140	29	9	3
6432		HOLL	01 03 1542	S10 W09	01 3.0		B	DAI	170	24	8	3
6432		LEAR	01 04 0018	S10 W13	01 3.0		B	DAI	260	21	7	3
6432		SVTO	01 04 0855	S10 W21	01 2.8		B	EAI	140	38	11	2
6432		RAMY	01 04 1310	S09 W22	01 2.9		B	DAO	250	23	10	4
6432		PALE	01 04 2055	S10 W25	01 3.0		B	DAO	210	28	9	3
6432		LEAR	01 05 0031	S10 W28	01 2.9		B	DAO	290	11	8	3
6432		BOUL	01 05 1713	S09 W36	01 3.0		B	DSO	190	4	7	1
6432		LEAR	01 06 0017	S10 W40	01 3.0		B	DAO	180	8	7	3
6432		CULG	01 06 0210	S10 W45	01 2.7		B	DAI	260	17	9	3
6432		SVTO	01 06 1155	S12 W47	01 2.9		B	DAO	100	7	9	3
6432		RAMY	01 06 1225	S10 W49	01 2.8		B	DAO	180	12	9	4
6432	26497	MWIL	01 06 1730	S09 W51	01 2.9	5	(B)					
6432		PALE	01 06 1840	S10 W51	01 2.9		B	DSO	140	11	10	4
6432		HOLL	01 06 2130	S10 W52	01 3.0		B	DAO	150	8	10	3
6432		LEAR	01 07 0135	S08 W55	01 2.9		B	DAO	100	3	10	3
6432		CULG	01 07 0245	S10 W55	01 3.0			DSO	20	3	2	2
6432		SVTO	01 07 0803	S11 W59	01 2.9		B	DAO	130	6	10	5
6432		RAMY	01 07 1233	S10 W61	01 2.9		B	EAO	140	11	12	4
6432		BOUL	01 07 1545	S10 W61	01 3.1		B	DSO	110	3	10	2
6432		HOLL	01 07 1620	S11 W62	01 3.0		B	CSO	130	8	11	3
6432	26497	MWIL	01 07 1630	S10 W64	01 2.9	4	(B)					
6432		PALE	01 07 2100	S06 W63	01 3.1		B	DSO	90	4	10	3
6432		LEAR	01 08 0029	S10 W67	01 3.0		B	DAO	160	3	5	2
6432		RAMY	01 08 1144	S09 W70	01 3.2		A	AX	30	5	3	2
6432		HOLL	01 08 1740	S10 W71	01 3.4		A	AX	10	3	3	3
6432		PALE	01 08 1956	S11 W71	01 3.5		A	AX		2		3
6428		LEAR	12 28 0010	N19 E78	01 2.9		A	AX		1	1	3
6428		RAMY	12 28 1345	N19 E71	01 3.0		A	HS	30	1	1	1
6428	26495	MWIL	12 28 1600	N19 E70	01 3.0	4	(AP)					
6428		PALE	12 28 1830	N18 E68	01 2.9		A	AX	20	1	1	4
6428		CULG	12 29 0010	N19 E65	01 3.0		A	AX		2		3
6428		LEAR	12 29 0025	N18 E66	01 3.0		B	BXO	10	2	1	2
6428		SVTO	12 29 0845	N18 E61	01 3.0		A	AX		2	1	3
6428		RAMY	12 29 1527	N19 E58	01 3.1		A	AX	10	2	1	3
6428		PALE	12 29 1810	N18 E58	01 3.2		A	AX	10	1	1	3
6428		LEAR	12 30 0008	N18 E53	01 3.0		A	AX	20	1	1	3
6428		CULG	12 30 0038	N21 E55	01 3.2		A	AX		1		2
6428		SVTO	12 30 0801	N19 E48	01 3.0		A	AX		1		3
6428		RAMY	12 30 1225	N19 E45	01 2.9		A	HR	20	1	1	3
6428	26495	MWIL	12 30 1545	N19 E45	01 3.1	4	(AP)					
6428		HOLL	12 30 1615	N20 E44	01 3.0		A	AX	10	2	1	3
6428		PALE	12 30 1925	N19 E42	01 3.0		A	AX		1		4
6428		CULG	12 31 0040	N20 E41	01 3.2		A	AX		1		2
6440		LEAR	01 06 0017	S06 W33	01 3.5		B	BXO	30	4	4	3
6440		CULG	01 06 0210	S05 W38	01 3.2		B	CSO	50	8	3	3
6440		SVTO	01 06 1155	S07 W39	01 3.6		B	DSO	40	6	5	3
6440		RAMY	01 06 1225	S06 W40	01 3.5		B	DAO	40	7	5	4
6440	26507	MWIL	01 06 1730	S05 W43	01 3.5	4	(B)					
6440		PALE	01 06 1840	S06 W43	01 3.5		B	CRO	30	7	5	4
6440		HOLL	01 06 2130	S06 W45	01 3.5		B	CAO	40	7	6	3
6440		LEAR	01 07 0135	S03 W46	01 3.6		B	DAO	40	5	6	3
6440		CULG	01 07 0245	S07 W48	01 3.5			CRO	60	3	6	2
6440		SVTO	01 07 0803	S07 W52	01 3.4		B	DRO	60	7	4	5
6440		RAMY	01 07 1233	S05 W56	01 3.3		B	DAO	70	9	6	4
6440		BOUL	01 07 1545	S06 W54	01 3.6		B	CSO	20	3	3	2
6440		HOLL	01 07 1620	S06 W56	01 3.5		B	CRO	60	7	7	3
6440	26507	MWIL	01 07 1630	S05 W56	01 3.5	5	(B)					
6440		PALE	01 07 2100	S02 W58	01 3.5		B	BXO	20	5	4	3
6440		LEAR	01 08 0029	S07 W59	01 3.6		B	BXO	60	3	4	2
6440		CULG	01 08 0245	S07 W62	01 3.5			BXO	40	4	5	2
6440		RAMY	01 08 1144	S05 W68	01 3.4		B	BXO	20	4	4	2
6431		PALE	12 28 1830	N08 E83	01 4.0		A	HS	60	1	3	4

SUNSPOT GROUPS
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6431		CULG	12 29 0010	N09 E80	01 4.0		A	HS	80	1	2	3
6431		LEAR	12 29 0025	N07 E80	01 4.0		A	HA	30	1	2	2
6431		SVTO	12 29 0845	N08 E76	01 4.1		A	HS	90	1	3	3
6431		RAMY	12 29 1527	N08 E72	01 4.0		A	HA	100	1	2	3
6431		LEAR	12 30 0008	N07 E67	01 4.0		A	HS	100	2	2	3
6431		CULG	12 30 0038	N10 E70	01 4.3		A	HA	60	3	3	2
6431		SVTO	12 30 0801	N08 E64	01 4.1		B	CAO	110	6	5	3
6431		RAMY	12 30 1225	N08 E59	01 3.9		B	CAO	100	6	4	3
6431	26498	MWIL	12 30 1545	N08 E58	01 4.0	5	(AP)					
6431		HOLL	12 30 1615	N09 E58	01 4.0		A	HS	100	3	2	3
6431		PALE	12 30 1925	N08 E58	01 4.1		B	CSO	90	6	5	4
6431		LEAR	12 31 0009	N08 E54	01 4.0		B	DAO	90	2	3	3
6431		CULG	12 31 0040	N08 E55	01 4.1		A	HA	70	3	2	2
6431		SVTO	12 31 0738	N09 E50	01 4.1		B	CAO	110	5	5	2
6431		RAMY	12 31 1309	N09 E47	01 4.1		B	DAO	110	5	8	3
6431		BOUL	12 31 1540	N08 E45	01 4.0		A	HA	60	1	2	1
6431	26498	MWIL	12 31 1545	N08 E46	01 4.1	5	(AP)					
6431		HOLL	12 31 1656	N08 E46	01 4.1		B	CAO	120	5	4	4
6431		PALE	12 31 1830	N08 E44	01 4.1		B	CAO	110	5	4	4
6431		LEAR	01 01 0039	N13 E40	01 4.0		B	CSO	90	10	3	3
6431		CULG	01 01 0040	N10 E41	01 4.1		B	CAO	80	6	3	3
6431		RAMY	01 01 1235	N09 E35	01 4.1		B	CAO	160	14	7	3
6431		HOLL	01 01 1715	N08 E32	01 4.1		B	CAO	140	9	3	3
6431		BOUL	01 01 1755	N08 E31	01 4.1		B	CAI	90	11	5	1
6431	26498	MWIL	01 01 1900	N08 E31	01 4.1	6	(AP)					
6431		PALE	01 01 2017	N09 E31	01 4.2		B	CAO	80	5	3	2
6431		LEAR	01 02 0017	N08 E28	01 4.1		B	DAO	110	6	3	3
6431		CULG	01 02 0040	N09 E28	01 4.1		B	CAO	80	8	4	2
6431		SVTO	01 02 0846	N09 E23	01 4.1		B	CAO	170	7	4	2
6431		RAMY	01 02 1225	N09 E22	01 4.2		B	CAO	130	10	6	4
6431		HOLL	01 02 1600	N10 E19	01 4.1		B	CAO	100	5	5	2
6431		BOUL	01 02 1617	N09 E18	01 4.0		B	DSO	100	2	3	1
6431		PALE	01 02 1928	N10 E19	01 4.2		B	CAO	70	8	4	3
6431		LEAR	01 03 0008	N09 E15	01 4.1		B	CSO	130	6	6	3
6431		CULG	01 03 0152	N11 E17	01 4.3		B	CSO	100	5	4	3
6431		SVTO	01 03 0850	N09 E10	01 4.1		B	CAO	90	7	5	4
6431		RAMY	01 03 1318	N10 E08	01 4.1		A	HA	100	4	3	3
6431		HOLL	01 03 1542	N09 E06	01 4.1		B	CSO	90	5	3	3
6431		LEAR	01 04 0018	N09 E01	01 4.1		B	CSO	100	7	4	3
6431		SVTO	01 04 0855	N08 E04	01 4.7		B	CSO	90	7	3	2
6431		RAMY	01 04 1310	N10 W06	01 4.1		A	HS	70	15	3	4
6431		PALE	01 04 2055	N09 W10	01 4.1		B	CSO	70	13	4	3
6431		LEAR	01 05 0031	N09 W12	01 4.1		B	CSO	80	4	4	3
6431		BOUL	01 05 1713	N09 W22	01 4.1		B	CSO	50	2	2	1
6431		LEAR	01 06 0017	N09 W24	01 4.2		B	CSO	110	9	4	3
6431		CULG	01 06 0210	N09 W28	01 4.0		B	CSO	40	12	3	3
6431		SVTO	01 06 1155	N08 W32	01 4.1		B	DAO	80	8	5	3
6431		BOUL	01 06 1530	N08 W34	01 4.1		B	CAO	60	5	3	3
6431	26498	MWIL	01 06 1730	N08 W35	01 4.1	5	(B)					
6431		PALE	01 06 1840	N09 W34	01 4.2		B	DSO	100	8	4	4
6431		HOLL	01 06 2130	N08 W37	01 4.1		B	DSO	90	8	4	3
6431		LEAR	01 07 0135	N10 W38	01 4.2		B	DAO	50	4	3	3
6431		CULG	01 07 0245	N09 W37	01 4.3			CSO	100	5	4	2
6431		SVTO	01 07 0803	N07 W43	01 4.1		B	CSO	70	6	4	5
6431		RAMY	01 07 1233	N08 W44	01 4.2		B	DAO	80	12	5	4
6431		BOUL	01 07 1545	N08 W45	01 4.3		B	CSO	60	2	3	2
6431	26498	MWIL	01 07 1630	N08 W48	01 4.1	4	(AP)					
6431		PALE	01 07 2100	N12 W48	01 4.2		B	CSO	60	4	3	3
6431		LEAR	01 08 0029	N08 W51	01 4.2		A	HA	100	1	2	2
6431		CULG	01 08 0245	N09 W52	01 4.2			CSO	60	2	6	2
6431		RAMY	01 08 1144	N09 W58	01 4.1		B	CSO	90	3	3	2
6431		BOUL	01 08 1538	N07 W62	01 4.0		A	HS	40	1	2	1
6431	26498	MWIL	01 08 1700	N08 W62	01 4.0	5	AP					
6431		HOLL	01 08 1740	N08 W62	01 4.1		A	HS	60	1	2	3
6431		PALE	01 08 1956	N07 W63	01 4.1		A	HS	80	1	1	3
6431		LEAR	01 09 0006	N08 W64	01 4.2		A	HS	40	2	2	3
6431		CULG	01 09 0110	N09 W67	01 4.0		A	HS	20	1	1	2
6431		SVTO	01 09 1102	N08 W72	01 4.1		A	HA	60	1	2	2
6431		RAMY	01 09 1512	N08 W73	01 4.2		A	HA	60	2	2	4

SUNSPOT GROUPS
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6431		BOUL	01	09	1542	N08	W73	01	4.2		A	HS	60	1	2	1
6431		PALE	01	09	1927	N07	W76	01	4.1		A	HS	60	1	1	2
6431		LEAR	01	10	0005	N05	W77	01	4.2		A	HA	40	1	1	2
6431		CULG	01	10	0050	N09	W81	01	3.9		A	HS	10	1	2	2
6443		SVTO	01	06	1155	N18	W27	01	4.4		A	AX		2	2	3
6443		PALE	01	06	1840	N19	W30	01	4.5		A	AX		2	1	4
6443		PALE	01	07	2100	N21	W46	01	4.3		A	AX		2		3
6431A		HOLL	01	03	1542	S10	E12	01	4.5		A	AX		1		3
6442		LEAR	01	06	0017	S16	W18	01	4.6		A	AX	10	1	1	3
6442		CULG	01	06	0210	S16	W21	01	4.5		A	HS		8	2	3
6442		SVTO	01	06	1155	S11	W24	01	4.7		B	CSO	10	6	4	3
6442		RAMY	01	06	1225	S11	W23	01	4.8		B	CAO	20	4	3	4
6442		BOUL	01	06	1530	S11	W27	01	4.6		A	AX	10	1	1	3
6442	26508	MWIL	01	06	1730	S10	W28	01	4.6	5	(B)					
6442		PALE	01	06	1840	S11	W28	01	4.7		B	CAO	30	11	3	4
6442		HOLL	01	06	2130	S11	W30	01	4.6		B	DAO	70	9	4	3
6442		LEAR	01	07	0135	S09	W32	01	4.7		B	DAO	50	4	4	3
6442		CULG	01	07	0245	S11	W31	01	4.8			DAO	260	6	5	2
6442		SVTO	01	07	0803	S12	W37	01	4.5		B	DAO	170	13	5	5
6442		RAMY	01	07	1233	S12	W39	01	4.6		B	DAO	230	27	8	4
6442		BOUL	01	07	1545	S11	W39	01	4.7		B	DAO	200	7	6	2
6442		HOLL	01	07	1620	S11	W41	01	4.6		B	DSO	210	15	7	3
6442	26508	MWIL	01	07	1630	S11	W41	01	4.6	5	(D)					
6442		PALE	01	07	2100	S07	W43	01	4.6		B	DKO	330	9	7	3
6442		LEAR	01	08	0029	S11	W45	01	4.6		B	DKO	350	12	6	2
6442		CULG	01	08	0245	S10	W47	01	4.6			EKC	600	11	11	2
6442		RAMY	01	08	1144	S11	W52	01	4.6		B	DAO	410	15	9	2
6442		BOUL	01	08	1538	S11	W54	01	4.6		B	DKO	440	6	9	1
6442	26508	MWIL	01	08	1700	S11	W55	01	4.6	5	B					
6442		HOLL	01	08	1740	S12	W56	01	4.5		B	DAI	440	27	9	3
6442		PALE	01	08	1956	S11	W56	01	4.6		B	DAI	390	14	8	3
6442		LEAR	01	09	0006	S12	W58	01	4.6		B	DKI	440	16	9	3
6442		CULG	01	09	0110	S11	W60	01	4.5		B	EAI	500	19	11	2
6442		SVTO	01	09	1102	S12	W65	01	4.6		B	DKI	770	14	9	2
6442		RAMY	01	09	1512	S11	W68	01	4.5		B	DKO	460	17	9	4
6442		BOUL	01	09	1542	S12	W67	01	4.6		B	EAO	410	10	14	1
6442		PALE	01	09	1927	S11	W69	01	4.6		B	DAO	330	10	10	2
6442		LEAR	01	10	0005	S15	W68	01	4.8		B	DKI	540	7	9	2
6442		CULG	01	10	0050	S11	W74	01	4.5		B	DKI	190	8	9	2
6442		SVTO	01	10	1105	S11	W81	01	4.4		B	EKI	300	9	12	4
6442		RAMY	01	10	1408	S10	W79	01	4.6		B	DKO	350	9	8	3
6442		BOUL	01	10	1545	S12	W83	01	4.4		B	DAO	120	3	7	3
6442	26508	MWIL	01	10	1600	S11	W80	01	4.6	4	B)					
6442		HOLL	01	10	1640	S11	W80	01	4.7		B	DAO	170	7	7	4
6442		PALE	01	10	1905	S10	W83	01	4.5		B	DAO	180	5	9	3
6442		LEAR	01	11	0009	S16	W78	01	5.1		A	HA	60	1	2	2
6442		CULG	01	11	0035	S09	W83	01	4.8		A	HR	60	2	5	3
6443A		RAMY	01	02	1225	S30	E26	01	4.6		A	AX	10	4	2	4
6442A		RAMY	01	06	1225	N17	W19	01	5.1		A	AX	10	2	1	4
6445		SVTO	01	07	0803	S17	W09	01	6.6		A	AX		1		5
6445		RAMY	01	07	1233	S17	W10	01	6.8		B	CAO	10	1	3	4
6445		BOUL	01	07	1545	S15	W11	01	6.8		A	AX	10	1		2
6445		HOLL	01	07	1620	S18	W13	01	6.7		A	AX	10	2	2	3
6445	26510	MWIL	01	07	1630	S17	W14	01	6.6	4	(AP)					
6445		PALE	01	07	2100	S15	W16	01	6.7		A	AX		1		3
6445		LEAR	01	08	0029	S18	W18	01	6.6		B	CSO	20	2	3	2
6445		CULG	01	08	0245	S16	W19	01	6.7			BXO	20	2	2	2
6445		RAMY	01	08	1144	S17	W24	01	6.7		B	BXO	20	6	4	2
6445		BOUL	01	08	1538	S17	W27	01	6.6		B	CSO	30	2	3	1
6445	26510	MWIL	01	08	1700	S17	W29	01	6.5	4	AP					
6445		HOLL	01	08	1740	S17	W27	01	6.7		B	CRO	40	12	5	3
6445		PALE	01	08	1956	S18	W28	01	6.7		B	BXO	20	6	3	3
6445		LEAR	01	09	0006	S18	W30	01	6.7		B	BXO	20	10	6	3

S U N S P O T G R O U P S
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6445		CULG	01	09	0110	S18	W31	01	6.7		B	BXO	10	10	4	2
6445		SVTO	01	09	1102	S18	W37	01	6.6		B	DRO	40	5	6	2
6445		RAMY	01	09	1512	S17	W38	01	6.7		B	BXO	30	10	6	4
6445		BOUL	01	09	1542	S17	W41	01	6.5		A	AX	10	1	1	1
6445		PALE	01	09	1927	S17	W45	01	6.4		A	AX	10	5	1	2
6445		CULG	01	10	0050	S18	W46	01	6.5		A	AX	10	4	2	2
6445		SVTO	01	10	1105	S18	W53	01	6.4		B	BXO	10	4	2	4
6445		RAMY	01	10	1408	S17	W52	01	6.6		B	BXO	20	10	5	3
6445		BOUL	01	10	1545	S21	W53	01	6.6		B	CAO	90	3	5	3
6445	26510	MWIL	01	10	1600	S20	W54	01	6.5	4	(B)					
6445		HOLL	01	10	1640	S20	W52	01	6.7		B	BXO	20	5	4	4
6445		PALE	01	10	1905	S20	W54	01	6.7		B	CAO	20	5	3	3
6445		LEAR	01	11	0009	S24	W58	01	6.5		B	CAO	40	5	4	2
6445		CULG	01	11	0035	S19	W59	01	6.5		B	CSO	10	4	4	3
6445		SVTO	01	11	0915	S19	W64	01	6.5		B	CSO	50	5	5	2
6445		RAMY	01	11	1213	S18	W63	01	6.7		B	BXO	20	11	6	3
6445		BOUL	01	11	1547	S18	W69	01	6.4		A	HA	30	2	2	3
6445		HOLL	01	11	1620	S20	W67	01	6.5		A	HR	20	2	1	3
6445	26510	MWIL	01	11	1730	S18	W70	01	6.4	4	(AP)					
6445		LEAR	01	12	0017	S18	W70	01	6.7		A	HA	30	1	1	3
6445		RAMY	01	12	1226	S20	W78	01	6.5		B	BXO	10	4	3	3
6445	26510	MWIL	01	12	1600	S21	W78	01	6.7	3	(AP)					
6445		HOLL	01	12	1845	S22	W76	01	6.9		A	AX	10	1	1	3
6445A		SVTO	01	07	0803	S27	W03	01	7.1		A	AX		1		5
6437		RAMY	01	01	1235	S18	E76	01	7.3		B	BXO	30	6	4	3
6437		HOLL	01	01	1715	S17	E78	01	7.6		B	BXO	30	4	6	3
6437	26505	MWIL	01	01	1900	S18	E77	01	7.6	4	(AP)					
6437		LEAR	01	02	0017	S18	E75	01	7.7		B	DAO	90	7	10	3
6437		CULG	01	02	0040	S19	E75	01	7.7		B	BXO	30	3	10	2
6437		SVTO	01	02	0846	S17	E75	01	8.1		B	ESO	240	3	11	2
6437		RAMY	01	02	1225	S18	E70	01	7.8		B	DAO	90	5	10	4
6437		HOLL	01	02	1600	S17	E69	01	7.9		B	DSO	160	3	10	2
6437		BOUL	01	02	1617	S19	E67	01	7.8		B	EAO	240	2	11	1
6437		PALE	01	02	1928	S19	E67	01	7.9		B	DAO	120	2	10	3
6437		LEAR	01	03	0008	S17	E65	01	7.9		B	EAO	110	5	11	3
6437		CULG	01	03	0152	S15	E65	01	8.0		B	CSO	100	1	1	3
6437		SVTO	01	03	0850	S17	E60	01	7.9		B	DAO	80	6	11	4
6437		RAMY	01	03	1318	S17	E57	01	7.9		B	DAO	70	5	10	3
6437		HOLL	01	03	1542	S16	E54	01	7.7		B	DAO	50	4	10	3
6437		LEAR	01	04	0018	S17	E52	01	8.0		B	ESO	110	5	11	3
6437		SVTO	01	04	0855	S18	E46	01	7.9		B	EAO	60	8	12	2
6437		RAMY	01	04	1310	S17	E44	01	7.9		B	DSO	40	6	10	4
6437		PALE	01	04	2055	S18	E40	01	7.9		B	ESO	70	5	12	3
6437		LEAR	01	05	0031	S18	E38	01	7.9		B	DSO	70	3	10	3
6437		BOUL	01	05	1713	S16	E23	01	7.5		A	AX	10	1		1
6437		LEAR	01	06	0017	S18	E26	01	8.0		B	BXO	40	6	11	3
6437		CULG	01	06	0210	S18	E22	01	7.8		B	DAO	80	5	10	3
6437		SVTO	01	06	1155	S18	E18	01	7.9		B	BXO	10	5	11	3
6437		RAMY	01	06	1225	S19	E19	01	8.0		B	EAO	30	6	12	4
6437	26505	MWIL	01	06	1730	S18	E11	01	7.6	4	(AP)					
6437		PALE	01	06	1840	S19	E14	01	7.8		B	BXO	10	7	12	4
6437		HOLL	01	06	2130	S18	E08	01	7.5		A	AX	10	2	2	3
6437		CULG	01	07	0245	S18	E10	01	7.9			BX	20	2	5	2
6437		SVTO	01	07	0803	S19	E13	01	8.3		B	BXO	10	5	5	5
6437		RAMY	01	07	1233	S19	E10	01	8.3		B	CAO	30	6	9	4
6437		HOLL	01	07	1620	S18	E09	01	8.4		B	BXO	20	5	5	3
6437	26511	MWIL	01	07	1630	S18	E07	01	8.2	4	(AF)					
6437		PALE	01	07	2100	S15	E05	01	8.2		B	BXO	10	9	5	3
6437		LEAR	01	08	0029	S19	E03	01	8.2		A	AX	10	2	1	2
6437		RAMY	01	08	1144	S17	W03	01	8.3		A	AX	10	3	2	2
6437		PALE	01	08	1956	S19	W15	01	7.7		A	AX		3	1	3
6437A	26518	MWIL	01	12	1600	S13	W58	01	8.3	3	(AF)					
6437A		PALE	01	12	1820	S11	W59	01	8.3		A	AX	10	1	1	4
6437A		HOLL	01	12	1845	S13	W58	01	8.4		A	AX	10	1	1	3
6437A		CULG	01	13	0120	S17	W65	01	8.1		A	AX		1		3

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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6438		SVTO	01 03 0850	S11 E85	01 9.8		A	AX	20	1	1	4
6438		RAMY	01 03 1318	S10 E80	01 9.6		A	HA	60	1	1	3
6438		HOLL	01 03 1542	S10 E79	01 9.6		A	HA	30	1	2	3
6438		LEAR	01 04 0018	S11 E76	01 9.7		A	HS	90	1	2	3
6438		SVTO	01 04 0855	S08 E72	01 9.8		A	HA	40	1	2	2
6438		RAMY	01 04 1310	S11 E78	01 10.4		A	HA	50	1	2	4
6438		PALE	01 04 2055	S11 E65	01 9.8		A	HS	40	1	2	3
6438		LEAR	01 05 0031	S10 E62	01 9.7		A	HS	80	1	1	3
6438		BOUL	01 05 1713	S10 E54	01 9.8		A	HS	30	1	1	1
6438		LEAR	01 06 0017	S11 E49	01 9.7		A	HS	40	1	2	3
6438		SVTO	01 06 1155	S10 E43	01 9.7		A	HS	30	1	1	3
6438		RAMY	01 06 1225	S12 E42	01 9.7		A	HA	60	1	1	4
6438		BOUL	01 06 1530	S11 E39	01 9.6		A	HS	30	1	1	3
6438	26509	MWIL	01 06 1730	S12 E41	01 9.8	5	(AP)					
6438		PALE	01 06 1840	S11 E41	01 9.9		B	CSO	30	5	3	4
6438		HOLL	01 06 2130	S12 E37	01 9.7		A	HS	50	1	2	3
6438		LEAR	01 07 0135	S13 E36	01 9.8		A	HS	20	1	1	3
6438		CULG	01 07 0245	S11 E36	01 9.8			HS	50	1	1	2
6438		SVTO	01 07 0803	S11 E32	01 9.7		A	HS	20	1	1	5
6438		RAMY	01 07 1233	S12 E29	01 9.7		A	HA	40	1	2	4
6438		BOUL	01 07 1545	S11 E28	01 9.8		A	HS	20	1	1	2
6438		HOLL	01 07 1620	S11 E28	01 9.8		A	HS	20	1	1	3
6438	26509	MWIL	01 07 1630	S12 E28	01 9.8	5	(AP)					
6438		PALE	01 07 2100	S10 E25	01 9.7		A	HS	20	1	1	3
6438		LEAR	01 08 0029	S11 E23	01 9.7		A	HS	40	1	1	2
6438		CULG	01 08 0245	S10 E21	01 9.7			HS	50	1	1	2
6438		RAMY	01 08 1144	S12 E18	01 9.8		A	HS	20	1	2	2
6438		BOUL	01 08 1538	S11 E14	01 9.7		A	HS	20	1	1	1
6438	26509	MWIL	01 08 1700	S12 E14	01 9.8	5	AP					
6438		HOLL	01 08 1740	S12 E13	01 9.7		A	HS	50	1	2	3
6438		PALE	01 08 1956	S12 E14	01 9.9		A	AX	10	1		3
6438		LEAR	01 09 0006	S12 E11	01 9.8		A	HS	20	2	2	3
6438		CULG	01 09 0110	S11 E09	01 9.7		A	HS	10	2	1	2
6438		SVTO	01 09 1102	S12 E04	01 9.8		A	HR	20	1	1	2
6438		RAMY	01 09 1512	S12 E07	01 10.2		B	CAO	30	5	7	4
6438		BOUL	01 09 1542	S11 E02	01 9.8		A	HA	40	1	1	1
6438		PALE	01 09 1927	S12 E01	01 9.9		A	AX	10	1		2
6438		LEAR	01 10 0005	S12 W02	01 9.8		A	HR	10	1	1	2
6438		CULG	01 10 0050	S12 W03	01 9.8		A	HS	10	1	1	2
6438		SVTO	01 10 1105	S12 W09	01 9.8		A	HR	10	2		4
6438		RAMY	01 10 1408	S11 W11	01 9.8		A	AX	10	2	2	3
6438		BOUL	01 10 1545	S12 W10	01 9.9		A	HR	10	1	1	3
6438	26509	MWIL	01 10 1600	S12 W11	01 9.8	4	(AP)					
6438		HOLL	01 10 1640	S11 W11	01 9.9		A	AX	10	2		4
6438		PALE	01 10 1905	S11 W13	01 9.8		A	HS	20	1	1	3
6438		LEAR	01 11 0009	S13 W15	01 9.9		A	HR	10	1	1	2
6438		CULG	01 11 0035	S10 W14	01 10.0		A	HA	10	3	1	3
6438		SVTO	01 11 0915	S11 W21	01 9.8		A	AX		1		2
6438		RAMY	01 11 1213	S11 W22	01 9.8		A	AX	10	1	1	3
6438		BOUL	01 11 1547	S11 W23	01 9.9		A	AX	10	2	1	3
6438		HOLL	01 11 1620	S11 W24	01 9.9		A	AX	10	1	1	3
6438	26509	MWIL	01 11 1730	S11 W26	01 9.8	4	(AP)					
6438		LEAR	01 12 0017	S12 W28	01 9.9		A	HA	10	1	1	3
6438		CULG	01 12 0110	S11 W32	01 9.6		A	AX		1		3
6438		RAMY	01 12 1226	S12 W35	01 9.9		A	AX	10	1	1	3
6438	26509	MWIL	01 12 1600	S11 W37	01 9.9	3	(AP)					
6438		PALE	01 12 1820	S11 W39	01 9.8		A	AX		1		4
6438		HOLL	01 12 1845	S12 W38	01 9.9		A	AX	10	1	1	3
6448		SVTO	01 11 0915	S33 W13	01 10.3		B	BXO	10	3	4	2
6448		RAMY	01 11 1213	S33 W13	01 10.5		B	BXO	10	4	4	3
6448		BOUL	01 11 1547	S33 W17	01 10.3		B	BXO	20	4	3	3
6448		HOLL	01 11 1620	S34 W16	01 10.4		B	BXO	20	4	5	3
6448	26515	MWIL	01 11 1730	S32 W19	01 10.2	4	(B)					
6448		LEAR	01 12 0017	S33 W21	01 10.3		B	BXO	10	4	4	3
6448		CULG	01 12 0110	S33 W24	01 10.1		B	CSO	20	3	3	3
6448		RAMY	01 12 1226	S34 W27	01 10.4		B	DAO	40	6	5	3
6448		BOUL	01 12 1535	S33 W30	01 10.3		B	BXO	30	4	4	2
6448	26515	MWIL	01 12 1600	S33 W29	01 10.4	4	(B)					

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JANUARY 1991

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6448		PALE	01 12 1820	S34 W29	01 10.4		B	BXO	30	9	5	4
6448		HOLL	01 12 1845	S32 W30	01 10.4		B	BXO	20	8	5	3
6448		LEAR	01 13 0018	S35 W31	01 10.5		B	CSO	60	6	6	3
6448		CULG	01 13 0120	S33 W32	01 10.5		B	CSO	30	4	5	3
6448		RAMY	01 13 1226	S33 W39	01 10.4		B	DAO	50	9	7	3
6448	26515	MWIL	01 13 1545	S32 W44	01 10.2	3	(AP)					
6448	26520	MWIL	01 13 1545	S35 W38	01 10.6	4	(AF)					
6448		HOLL	01 13 1800	S33 W42	01 10.4		B	CAO	40	5	7	3
6448		PALE	01 13 1923	S34 W41	01 10.5		B	BXO	20	6	7	3
6448		CULG	01 14 0010	S33 W46	01 10.3		B	CRO	10	5	7	2
6448		LEAR	01 14 0017	S33 W45	01 10.4		B	BXO	70	7	9	3
6448		RAMY	01 14 1502	S34 W51	01 10.6		B	DAO	50	6	7	2
6448	26515	MWIL	01 14 1545	S32 W56	01 10.2	3	(AP)					
6448	26520	MWIL	01 14 1545	S35 W50	01 10.6	4	(AF)					
6448		BOUL	01 14 1613	S34 W55	01 10.3		B	BXO	20	5	9	2
6448		HOLL	01 14 1645	S33 W53	01 10.5		B	BXO	10	8	7	2
6448		PALE	01 14 1912	S35 W55	01 10.4		B	BXO	10	6	8	3
6448		LEAR	01 15 0016	S35 W56	01 10.5		B	BXO	60	4	5	3
6448		CULG	01 15 0115	S33 W64	01 10.0		A	AX	10	1	1	1
6446		RAMY	01 07 1233	N06 E60	01 12.0		A	AX	10	1	1	4
6446	26512	MWIL	01 07 1630	N06 E59	01 12.1	4	(AP)					
6446		PALE	01 07 2100	N06 E57	01 12.1		A	AX		1		3
6446		LEAR	01 08 0029	N08 E54	01 12.1		A	AX	20	2	2	2
6446		RAMY	01 08 1144	N06 E49	01 12.1		B	BXO	30	3	4	2
6446		BOUL	01 08 1538	N07 E44	01 11.9		A	AX		1		1
6446	26512	MWIL	01 08 1700	N06 E44	01 12.0	4	AP					
6446		HOLL	01 08 1740	N07 E45	01 12.1		B	CSO	10	3	6	3
6446		PALE	01 08 1956	N07 E42	01 12.0		A	AX	10	1	1	3
6446		LEAR	01 09 0006	N07 E39	01 11.9		A	HS	30	2	2	3
6446		CULG	01 09 0110	N07 E40	01 12.0		B	CSO	10	4	6	2
6446		SVTO	01 09 1102	N07 E32	01 11.8		A	HR	20	1	1	2
6446		RAMY	01 09 1512	N07 E28	01 11.7		A	HA	20	1	1	4
6446		BOUL	01 09 1542	N07 E28	01 11.7		A	HS	20	1	1	1
6446		PALE	01 09 1927	N07 E27	01 11.8		A	AX	10	1		2
6446		LEAR	01 10 0005	N09 E23	01 11.7		A	HR	10	1	1	2
6446		CULG	01 10 0050	N07 E23	01 11.7		A	HS	10	1	1	2
6446		SVTO	01 10 1105	N05 E16	01 11.6		A	AX	10	3	1	4
6446		BOUL	01 10 1545	N06 E14	01 11.7		A	HA	40	1	2	3
6446	26512	MWIL	01 10 1600	N07 E15	01 11.8	3	(AP)					
6446		HOLL	01 10 1640	N08 E13	01 11.7		A	AX	10	2		4
6446		PALE	01 10 1905	N08 E13	01 11.8		A	HS	20	2	1	3
6446		LEAR	01 11 0009	N08 E08	01 11.6		A	HR	10	1	1	2
6446		CULG	01 11 0035	N09 E09	01 11.7		A	HA	10	7	3	3
6446		SVTO	01 11 0915	N07 E06	01 11.8		B	BXO	20	9	5	2
6446		RAMY	01 11 1213	N07 E05	01 11.9		B	BXO	10	9	6	3
6446		BOUL	01 11 1547	N06 E03	01 11.9		B	CAO	20	4	5	3
6446		HOLL	01 11 1620	N08 E02	01 11.8		B	BXO	20	5	6	3
6446	26512	MWIL	01 11 1730	N08 E01	01 11.8	4	(B)					
6446		LEAR	01 12 0017	N08 W04	01 11.7		B	CAO	10	4	4	3
6446		CULG	01 12 0110	N09 W03	01 11.8		B	CAO	30	4	7	3
6446		RAMY	01 12 1226	N07 W09	01 11.8		B	DAO	30	14	7	3
6446		BOUL	01 12 1535	N08 W13	01 11.7		B	BXO	20	4	5	2
6446	26512	MWIL	01 12 1600	N07 W11	01 11.8	4	(B)					
6446		PALE	01 12 1820	N07 W12	01 11.9		B	BXO	10	10	6	4
6446		HOLL	01 12 1845	N07 W12	01 11.9		B	BXO	20	8	6	3
6446		LEAR	01 13 0018	N08 W15	01 11.9		B	BXO	30	4	5	3
6446		CULG	01 13 0120	N09 W17	01 11.8		B	CAO	10	3	5	3
6446		RAMY	01 13 1226	N08 W23	01 11.8		B	CAO	20	4	3	3
6446	26512	MWIL	01 13 1545	N07 W26	01 11.7	3	(AP)					
6446		HOLL	01 13 1800	N07 W27	01 11.7		A	AX	10	2	2	3
6446		PALE	01 13 1923	N07 W27	01 11.8		A	AX	10	6	2	3
6446		CULG	01 14 0010	N09 W30	01 11.7		A	AX	10	2	1	2
6446		LEAR	01 14 0017	N08 W31	01 11.7		A	AX	20	2	2	3
6446		RAMY	01 14 1502	N08 W38	01 11.8		B	BXO	10	3	3	2
6446	26512	MWIL	01 14 1545	N07 W39	01 11.7	3	(AP)					
6446		PALE	01 14 1912	N06 W41	01 11.7		A	AX	10	4	1	3
6446A		SVTO	01 11 0915	S24 E08	01 12.0		B	BXO		2	1	2

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Quat
6446A		RAMY	01	11	1213	S23	E06	01	12.0		A	AX	10	3	2	3
6446A		HOLL	01	11	1620	S22	E03	01	11.9		A	AX	10	2	2	3
6446A	26516	MWIL	01	11	1730	S23	E02	01	11.9	4	(AP)					
6451		RAMY	01	11	1213	N16	E13	01	12.5		B	BXO	10	9	4	3
6451		HOLL	01	11	1620	N15	E09	01	12.4		A	BX	10	4	4	3
6451		RAMY	01	12	1226	N13	W05	01	12.1		B	DAO	30	7	4	3
6451	26519	MWIL	01	12	1600	N14	W07	01	12.1	4	(B)					
6451		PALE	01	12	1820	N13	W09	01	12.1		B	BXO	20	7	3	4
6451		HOLL	01	12	1845	N13	W08	01	12.2		B	BXO	30	5	4	3
6451		LEAR	01	13	0018	N15	W12	01	12.1		B	DSO	70	8	6	3
6451		CULG	01	13	0120	N15	W14	01	12.0		B	CSO	20	3	6	3
6451		RAMY	01	13	1226	N12	W19	01	12.1		B	DAO	30	10	7	3
6451	26519	MWIL	01	13	1545	N13	W20	01	12.1	3	(B)					
6451		HOLL	01	13	1800	N14	W20	01	12.2		B	BXO	40	14	8	3
6451		PALE	01	13	1923	N13	W22	01	12.1		B	BXO	20	4	5	3
6451		CULG	01	14	0010	N14	W25	01	12.1		B	BXO	10	5	6	2
6451		LEAR	01	14	0017	N13	W25	01	12.1		B	BXO	30	5	6	3
6451		RAMY	01	14	1502	N12	W34	01	12.1		B	CAO	20	5	5	2
6451	26519	MWIL	01	14	1545	N13	W35	01	12.0	3	(B)					
6451		HOLL	01	14	1645	N13	W35	01	12.0		B	BXO	10	4	5	2
6451		PALE	01	14	1912	N12	W36	01	12.1		B	BXO		2	3	3
6451		CULG	01	15	0115	N14	W39	01	12.1		A	AX	10	2	1	1
6450		PALE	01	12	1820	N14	W03	01	12.5		A	AX		3	2	4
6450		PALE	01	13	1923	N13	W16	01	12.6		A	AX		4	2	3
6444		SVTO	01	07	0803	N13	E79	01	13.3		A	HK	270	3	3	5
6444		RAMY	01	07	1233	N13	E78	01	13.4		A	HK	420	1	3	4
6444		BOUL	01	07	1545	N13	E81	01	13.8		A	HA	240	1	3	2
6444		HOLL	01	07	1620	N13	E79	01	13.6		B	CHO	450	7	8	3
6444	26513	MWIL	01	07	1630	N13	E79	01	13.6	5	(AP					
6444		PALE	01	07	2100	N12	E77	01	13.7		B	CKO	440	10	7	3
6444		LEAR	01	08	0029	N14	E75	01	13.7		B	DKO	100	5	10	2
6444		CULG	01	08	0245	N13	E71	01	13.5			HK	900	1	5	2
6444		RAMY	01	08	1144	N14	E77	01	14.3		B	FKO	1540	10	25	2
6444		BOUL	01	08	1538	N15	E69	01	13.9		B	FKO	880	11	16	1
6444	26513	MWIL	01	08	1700	N14	E70	01	14.0	6	B					
6444		HOLL	01	08	1740	N14	E69	01	13.9		B	FKO	1310	37	18	3
6444		PALE	01	08	1956	N15	E70	01	14.1		B	FKO	800	17	18	3
6444		LEAR	01	09	0006	N15	E68	01	14.1		B	FKO	1170	27	22	3
6444		CULG	01	09	0110	N16	E64	01	13.9		B	FKO	1010	32	20	2
6444		SVTO	01	09	1102	N14	E58	01	13.8		B	FKO	1790	29	19	2
6444		RAMY	01	09	1512	N15	E59	01	14.1		B	FKO	1850	39	20	4
6444		BOUL	01	09	1542	N16	E56	01	13.9		B	FKO	820	21	21	1
6444		PALE	01	09	1927	N16	E55	01	14.0		B	FKO	1140	26	18	2
6444		CULG	01	10	0050	N17	E51	01	13.9		B	FKO	1410	59	24	2
6444		SVTO	01	10	1105	N15	E47	01	14.0		B	FKO	1620	66	20	4
6444		RAMY	01	10	1408	N15	E47	01	14.1		BG	FKO	1990	55	21	3
6444		BOUL	01	10	1545	N15	E44	01	14.0		B	FKO	1460	37	20	3
6444	26513	MWIL	01	10	1600	N15	E46	01	14.1	6	(D)					
6444		HOLL	01	10	1640	N15	E45	01	14.1		BG	FKI	1600	60	21	4
6444		PALE	01	10	1905	N15	E44	01	14.1		B	FKO	1510	63	20	3
6444		LEAR	01	11	0009	N18	E38	01	13.9		B	FKO	1570	44	20	2
6444		CULG	01	11	0035	N16	E41	01	14.1		B	FKO	1360	76	21	3
6444		SVTO	01	11	0915	N15	E36	01	14.1		BG	FKI	1650	60	21	2
6444		RAMY	01	11	1213	N15	E35	01	14.1		BG	FKO	1880	56	21	3
6444		BOUL	01	11	1547	N16	E33	01	14.2		B	FKI	1920	55	21	3
6444		HOLL	01	11	1620	N14	E32	01	14.1		BG	FKI	1410	52	21	3
6444	26513	MWIL	01	11	1730	N15	E32	01	14.1	6	(BG)					
6444		LEAR	01	12	0017	N15	E28	01	14.1		BG	FKO	1560	63	21	3
6444		CULG	01	12	0110	N17	E22	01	13.7		B	FKO	1570	55	20	3
6444		RAMY	01	12	1226	N16	E20	01	14.0		BG	FKO	1950	80	22	3
6444		BOUL	01	12	1535	N15	E19	01	14.1		B	FKO	1260	26	22	2
6444	26513	MWIL	01	12	1600	N14	E20	01	14.2	6	(BG)					
6444		PALE	01	12	1820	N15	E17	01	14.0		BG	FKI	1590	91	21	4
6444		HOLL	01	12	1845	N15	E17	01	14.1		BG	FKI	1570	79	22	3
6444		LEAR	01	13	0018	N15	E14	01	14.1		BG	FKO	1640	42	22	3
6444		CULG	01	13	0120	N12	E18	01	14.4		B	FKO	1590	55	20	3

S U N S P O T G R O U P S
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6444		RAMY	01	13	1226	N15	E05	01	13.9		BG	FKO	2670	94	22	3
6444	26513	MWIL	01	13	1545	N15	E06	01	14.1	6	(BG)					
6444		HOLL	01	13	1800	N16	E06	01	14.2		B	FKO	1470	84	22	3
6444		PALE	01	13	1923	N17	E06	01	14.3		BG	FKI	1620	93	22	3
6444		CULG	01	14	0010	N17	E01	01	14.1		BG	FKO	1490	60	21	2
6444		LEAR	01	14	0017	N17	E02	01	14.2		B	FKO	1460	45	20	3
6444		RAMY	01	14	1502	N15	W07	01	14.1		BG	FKO	1670	60	22	2
6444	26513	MWIL	01	14	1545	N15	W06	01	14.2	6	(D)					
6444		BOUL	01	14	1613	N16	W05	01	14.3		B	FKO	910	30	21	2
6444		HOLL	01	14	1645	N17	W08	01	14.1		BG	FKO	1600	76	23	2
6444		PALE	01	14	1912	N16	W10	01	14.0		BG	FKI	1400	80	21	3
6444		LEAR	01	15	0016	N17	W12	01	14.1		B	FKO	1600	45	21	3
6444		CULG	01	15	0115	N16	W13	01	14.1		BG	FKO	1570	41	21	1
6444		RAMY	01	15	1555	N16	W20	01	14.1		BG	FKO	1590	63	23	2
6444		HOLL	01	15	1600	N15	W21	01	14.1		BG	FKO	1440	58	21	3
6444	26513	MWIL	01	15	1615	N15	W21	01	14.1	6	(BG)					
6444		PALE	01	15	1950	N17	W22	01	14.1		BG	FKO	1210	59	21	3
6444		CULG	01	16	0105	N16	W27	01	14.0		BG	FKO	1430	60	22	1
6444		LEAR	01	16	0805	N13	W28	01	14.2		B	FKO	1400	36	21	2
6444		RAMY	01	16	1410	N16	W32	01	14.2		BG	FKO	1870	42	20	3
6444		HOLL	01	16	1630	N16	W30	01	14.4		BG	FKO	1500	43	24	2
6444		BOUL	01	16	1716	N16	W34	01	14.1		B	FKC	1790	71	20	3
6444	26513	MWIL	01	16	1800	N15	W34	01	14.2	5	(BG)					
6444		PALE	01	16	1840	N16	W34	01	14.2		BG	FKO	1620	68	22	4
6444		LEAR	01	17	0418	N15	W38	01	14.3		B	FKO	370	26	22	3
6444		RAMY	01	17	1320	N16	W45	01	14.1		B	FKO	1840	25	20	3
6444		BOUL	01	17	1615	N16	W48	01	14.0		B	FKO	1280	10	22	2
6444	26513	MWIL	01	17	1700	N15	W46	01	14.2	5	(BG)					
6444		PALE	01	17	2030	N14	W47	01	14.3		B	FKO	1640	39	22	3
6444		LEAR	01	18	0050	N14	W50	01	14.2		B	FKO	560	11	20	2
6444		SVTO	01	18	0745	N15	W54	01	14.2		B	FKO	1800	25	22	3
6444		RAMY	01	18	1414	N16	W59	01	14.1		B	FKO	1980	9	22	3
6444		BOUL	01	18	1554	N15	W59	01	14.2		B	FKO	1370	24	21	2
6444	26513	MWIL	01	18	1615	N15	W58	01	14.3	6	(BG)					
6444		PALE	01	18	1815	N14	W60	01	14.2		B	FKO	1400	29	21	3
6444		HOLL	01	18	2030	N15	W60	01	14.3		B	FKO	1500	23	24	3
6444		CULG	01	19	0035	N15	W63	01	14.2		BG	FKO	1250	9	22	2
6444		LEAR	01	19	0100	N14	W65	01	14.1		BG	FKO	1150	10	21	3
6444		SVTO	01	19	0910	N15	W69	01	14.1		B	FKO	1110	12	24	3
6444		RAMY	01	19	1334	N13	W72	01	14.1		B	FKO	1560	17	20	3
6444	26513	MWIL	01	19	1600	N15	W70	01	14.4	6	(BG)					
6444		HOLL	01	19	1720	N14	W72	01	14.3		B	FKO	1150	9	25	3
6444		PALE	01	19	1944	N13	W69	01	14.6		B	CKO	630	6	6	1
6444		CULG	01	20	0100	N15	W79	01	14.1		B	CKO	1020	5	8	2
6444		LEAR	01	20	0100	N17	W77	01	14.2		A	HK	700	4	5	2
6444		SVTO	01	20	0820	N16	W77	01	14.5		B	CKI	600	7	6	4
6444		RAMY	01	20	1223	N15	W81	01	14.4		B	CKO	720	16	17	3
6444	26513	MWIL	01	20	1630	N16	W78	01	14.8	5	B)					
6444		PALE	01	20	1938	N15	W79	01	14.8		A	HA	120	2	1	1
6444		LEAR	01	21	0015	N17	W80	01	14.9		A	HA	180	1	3	3
6444		CULG	01	21	0110	N12	W90	01	14.3		B	CKO	180	1	1	3
6444A		CULG	01	08	0245	N12	E90	01	14.9			HK	300	1	4	2
6457		RAMY	01	15	1555	S21	E02	01	15.8		B	CRO	10	3	2	2
6457		HOLL	01	15	1600	S22	E01	01	15.7		A	AX	10	4	2	3
6457	26525	MWIL	01	15	1615	S22	E01	01	15.7	4	(AP)					
6457		PALE	01	15	1950	S22	W01	01	15.7		A	AX		1		3
6457		CULG	01	16	0105	S22	W01	01	16.0		A	AX	10	4	3	1
6457		LEAR	01	16	0805	S21	W07	01	15.8		B	CRO	10	3	3	2
6457		RAMY	01	16	1410	S22	W11	01	15.7		A	AX	10	1	1	3
6457		HOLL	01	16	1630	S22	W12	01	15.8		A	AX	10	1	1	2
6457		BOUL	01	16	1716	S23	W13	01	15.7		A	AX	10	1	1	3
6457	26525	MWIL	01	16	1800	S22	W14	01	15.7	3	(AP)					
6457		PALE	01	16	1840	S22	W13	01	15.8		A	AX	10	1	1	4
6457		RAMY	01	17	1320	S22	W24	01	15.7		A	AX		1	1	3
6457		BOUL	01	17	1615	S22	W25	01	15.7		A	AX	10	1	1	2
6457	26525	MWIL	01	17	1700	S23	W26	01	15.7	4	(AP)					
6457		PALE	01	17	2030	S25	W31	01	15.4		B	BXO	10	2	6	3

S U N S P O T G R O U P S
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6457		LEAR	01 18 0050	S23 W29	01 15.8		A	HR	20	1	1	2
6457		SVTO	01 18 0745	S22 W34	01 15.7		A	HR	20	1	1	3
6457		RAMY	01 18 1414	S22 W37	01 15.7		A	AX		1	1	3
6457		BOUL	01 18 1554	S22 W39	01 15.7		A	AX	10	1	1	2
6457	26525	MWIL	01 18 1615	S22 W39	01 15.7	4	(AP)					
6457		HOLL	01 18 2030	S21 W41	01 15.7		A	AX	10	2	1	3
6457		CULG	01 19 0035	S23 W43	01 15.7		A	AX		1		2
6457		LEAR	01 19 0100	S23 W44	01 15.6		A	AX	10	1	1	3
6457		SVTO	01 19 0910	S22 W49	01 15.6		A	AX		1		3
6457		RAMY	01 19 1334	S22 W50	01 15.7		A	AX	10	2	2	3
6457	26525	MWIL	01 19 1600	S22 W52	01 15.7	4	(AP)					
6457		HOLL	01 19 1720	S22 W53	01 15.6		A	AX	10	1		3
6447		RAMY	01 09 1512	S06 E86	01 16.1		A	HS	30	1	2	4
6447		LEAR	01 10 0005	S04 E80	01 16.0		B	CAO	60	2	3	2
6447		CULG	01 10 0050	S06 E81	01 16.1		B	DSO	40	2	7	2
6447		SVTO	01 10 1105	S07 E76	01 16.1		B	DSO	110	4	6	4
6447	26514	MWIL	01 10 1600	S07 E75	01 16.3	5	(AP)					
6447		HOLL	01 10 1640	S07 E71	01 16.0		B	DKO	280	6	6	4
6447		PALE	01 10 1905	S08 E71	01 16.1		B	DKO	210	8	6	3
6447		LEAR	01 11 0009	S03 E70	01 16.2		B	DKO	260	8	15	2
6447		CULG	01 11 0035	S06 E69	01 16.2		B	EKO	180	5	11	3
6447		SVTO	01 11 0915	S07 E70	01 16.6		BG	FKI	190	11	20	2
6447		RAMY	01 11 1213	S06 E69	01 16.7		B	FKO	510	11	18	3
6447		BOUL	01 11 1547	S06 E68	01 16.7		B	FKO	430	14	20	3
6447		HOLL	01 11 1620	S08 E64	01 16.5		B	CKO	470	15	16	3
6447	26514	MWIL	01 11 1730	S07 E60	01 16.2	5	(BP)					
6447		LEAR	01 12 0017	S08 E59	01 16.4		B	FKO	180	18	17	3
6447		CULG	01 12 0110	S07 E56	01 16.2		B	EKO	340	7	11	3
6447		RAMY	01 12 1226	S06 E56	01 16.7		B	FKO	340	28	23	3
6447		BOUL	01 12 1535	S06 E51	01 16.5		B	FKO	250	11	19	2
6447	26514	MWIL	01 12 1600	S07 E48	01 16.3	5	(BG)					
6447		PALE	01 12 1820	S07 E51	01 16.6		B	CKO	290	37	21	4
6447		HOLL	01 12 1845	S07 E52	01 16.7		BG	DAI	360	33	22	3
6447		LEAR	01 13 0018	S08 E49	01 16.7		B	EKO	340	25	12	3
6447		CULG	01 13 0120	S07 E48	01 16.6		B	EAO	200	18	13	3
6447		RAMY	01 13 1226	S06 E43	01 16.7		B	FAO	390	31	24	3
6447	26514	MWIL	01 13 1545	S06 E36	01 16.3	4	(BG)					
6447		HOLL	01 13 1800	S07 E41	01 16.8		BG	CAO	300	37	21	3
6447		PALE	01 13 1923	S07 E40	01 16.8		B	CAO	200	26	20	3
6447		CULG	01 14 0010	S06 E36	01 16.7		B	CAO	200	36	24	2
6447		LEAR	01 14 0017	S07 E35	01 16.6		B	FKO	430	26	21	3
6447		RAMY	01 14 1502	S07 E28	01 16.7		B	FKO	390	21	20	2
6447	26514	MWIL	01 14 1545	S07 E21	01 16.2	5	(D)					
6447		BOUL	01 14 1613	S06 E27	01 16.7		B	FKO	350	19	19	2
6447		HOLL	01 14 1645	S08 E27	01 16.7		BG	FKO	480	30	20	2
6447		PALE	01 14 1912	S07 E24	01 16.6		BG	FKO	380	34	18	3
6447		LEAR	01 15 0016	S07 E18	01 16.3		B	FKO	400	31	20	3
6447		CULG	01 15 0115	S06 E20	01 16.5		B	FAO	250	31	17	1
6447		RAMY	01 15 1555	S06 E08	01 16.3		B	DAI	280	41	7	2
6447		HOLL	01 15 1600	S08 E08	01 16.3		B	DAI	270	42	8	3
6447	26514	MWIL	01 15 1615	S07 E06	01 16.1	5	(BG)					
6447		PALE	01 15 1950	S08 E12	01 16.7		B	FKO	190	43	23	3
6447		CULG	01 16 0105	S08 E10	01 16.8		B	FAO	240	48	22	1
6447		LEAR	01 16 0805	S06 E08	01 16.9		B	FKO	460	37	19	2
6447		RAMY	01 16 1410	S06 W05	01 16.2		B	DKI	300	25	7	3
6447		HOLL	01 16 1630	S07 W07	01 16.2		BD	DKI	520	25	8	2
6447		BOUL	01 16 1716	S06 W07	01 16.2		B	EKI	410	34	12	3
6447	26514	MWIL	01 16 1800	S07 W07	01 16.2	5	(BP)					
6447		PALE	01 16 1840	S07 W07	01 16.2		B	DKI	370	49	10	4
6447		LEAR	01 17 0418	S07 W12	01 16.3		B	DKO	1340	26	9	3
6447		RAMY	01 17 1320	S06 W17	01 16.3		B	DKI	230	27	8	3
6447		BOUL	01 17 1615	S07 W18	01 16.3		B	DKO	180	9	9	2
6447	26514	MWIL	01 17 1700	S07 W20	01 16.2	5	(B)					
6447		PALE	01 17 2030	S08 W22	01 16.2		B	DAI	270	31	9	3
6447		LEAR	01 18 0050	S08 W25	01 16.2		B	DAO	300	11	9	2
6447		SVTO	01 18 0745	S07 W28	01 16.2		B	DAI	400	35	9	3
6447		RAMY	01 18 1414	S06 W31	01 16.3		B	DKI	280	28	10	3
6447		BOUL	01 18 1554	S07 W34	01 16.1		B	DKI	390	25	9	2

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6447	26514	MWIL	01 18	1615	S07 W33	01 16.2	5	(BP)					
6447		PALE	01 18	1815	S08 W35	01 16.1		B	DAI	250	36	10	3
6447		HOLL	01 18	2030	S06 W34	01 16.3		B	DKO	280	20	8	3
6447		CULG	01 19	0035	S07 W36	01 16.3		B	DAI	210	18	8	2
6447		LEAR	01 19	0100	S07 W38	01 16.2		B	DAO	280	14	9	3
6447		SVTO	01 19	0910	S07 W44	01 16.1		B	CAO	200	12	8	3
6447		RAMY	01 19	1334	S07 W45	01 16.2		B	DKO	310	27	9	3
6447	26514	MWIL	01 19	1600	S07 W47	01 16.1	5	(BP)					
6447		HOLL	01 19	1720	S06 W48	01 16.1		B	DKO	220	21	8	3
6447		PALE	01 19	1944	S10 W50	01 16.1		B	CAO	140	9	6	1
6447		LEAR	01 20	0100	S06 W53	01 16.1		B	CAO	220	12	7	2
6447		CULG	01 20	0100	S07 W54	01 16.0		B	DAO	240	8	7	2
6447		SVTO	01 20	0820	S07 W57	01 16.1		B	DAI	150	11	7	4
6447		RAMY	01 20	1223	S08 W57	01 16.2		B	DKO	210	12	7	3
6447	26514	MWIL	01 20	1630	S07 W63	01 16.0	5	(AP)					
6447		PALE	01 20	1938	S08 W65	01 15.9		B	CAO	90	2	3	1
6447		LEAR	01 21	0015	S08 W61	01 16.4		B	CAO	200	8	9	3
6447		CULG	01 21	0110	S08 W69	01 15.9		B	DAO	150	2	7	3
6447		RAMY	01 21	1207	S07 W71	01 16.2		B	DAO	170	13	9	2
6447		SVTO	01 21	1320	S05 W70	01 16.3		B	EAI	180	10	11	3
6447		BOUL	01 21	1612	S07 W76	01 16.0		B	CAO	130	3	3	1
6447	26514	MWIL	01 21	1930	S07 W77	01 16.0	4	(B)					
6447		PALE	01 21	2343	S05 W87	01 15.5		B	BXO	40	4	8	3
6447		LEAR	01 22	0029	S09 W88	01 15.4		A	HS	180	1	3	2
6453		RAMY	01 13	1226	S13 E38	01 16.4		B	CAO	20	5	3	3
6453	26521	MWIL	01 13	1545	S14 E36	01 16.4	3	(B)					
6453		HOLL	01 13	1800	S13 E34	01 16.3		A	AX	10	2	1	3
6453		PALE	01 13	1923	S13 E34	01 16.4		A	AX		1		3
6453		CULG	01 14	0010	S13 E33	01 16.5		A	AX	10	2	2	2
6453		LEAR	01 14	0017	S13 E31	01 16.3		B	BXO	20	2	3	3
6453		RAMY	01 14	1502	S13 E22	01 16.3		B	CRO	20	4	4	2
6453	26521	MWIL	01 14	1545	S14 E24	01 16.5	4	(B)					
6453		BOUL	01 14	1613	S13 E24	01 16.5		B	BXO	10	3	3	2
6453		HOLL	01 14	1645	S13 E23	01 16.4		B	BXO	10	4	3	2
6453		LEAR	01 15	0016	S14 E16	01 16.2		B	BXO	20	2	4	3
6453		CULG	01 15	0115	S13 E17	01 16.3		B	BXO	10	2	3	1
6453		RAMY	01 15	1555	S13 E08	01 16.3		B	CAO	20	7	5	2
6453		HOLL	01 15	1600	S14 E08	01 16.3		B	CAO	10	6	4	3
6453	26521	MWIL	01 15	1615	S13 E07	01 16.2	4	(BG)					
6453		PALE	01 15	1950	S13 E06	01 16.3		B	BXO	10	4	4	3
6453		CULG	01 16	0105	S13 E05	01 16.4		B	CSO	10	8	5	1
6453		LEAR	01 16	0805	S13 W02	01 16.2		B	CRO	10	4	3	2
6453		RAMY	01 16	1410	S13 W05	01 16.2		B	CAO	40	7	4	3
6453		HOLL	01 16	1630	S14 W07	01 16.1		B	BXO	20	6	3	2
6453		BOUL	01 16	1716	S14 W07	01 16.2		B	CAO	30	6	4	3
6453	26521	MWIL	01 16	1800	S13 W08	01 16.1	3	(B)					
6453		PALE	01 16	1840	S13 W08	01 16.2		B	CAO	30	6	4	4
6453		RAMY	01 17	1320	S13 W13	01 16.6		B	BXO	10	6	4	3
6453	26521	MWIL	01 17	1700	S13 W22	01 16.0	3	(AP)					
6453		PALE	01 17	2030	S14 W24	01 16.0		A	AX		1		3
6453		SVTO	01 18	0745	S13 W30	01 16.0		A	AX	10	2	2	3
6452		PALE	01 12	1820	S21 E58	01 17.2		B	BXO	10	4	3	4
6452		HOLL	01 12	1845	S21 E57	01 17.1		B	BXO	20	4	3	3
6452		LEAR	01 13	0018	S21 E53	01 17.1		B	BXO	60	5	4	3
6452		CULG	01 13	0120	S16 E57	01 17.4		B	CSO	40	4	3	3
6452		RAMY	01 13	1226	S20 E47	01 17.1		B	DAO	60	10	5	3
6452	26523	MWIL	01 13	1545	S20 E46	01 17.2	4	(B)					
6452		HOLL	01 13	1800	S21 E44	01 17.1		B	DAO	100	12	6	3
6452		PALE	01 13	1923	S21 E43	01 17.1		B	CAO	50	8	6	3
6452		CULG	01 14	0010	S20 E42	01 17.2		B	DAO	50	8	7	2
6452		LEAR	01 14	0017	S20 E40	01 17.1		B	DAO	60	5	7	3
6452		RAMY	01 14	1502	S21 E32	01 17.1		B	DAO	70	8	7	2
6452	26523	MWIL	01 14	1545	S21 E32	01 17.1	5	(B)					
6452		BOUL	01 14	1613	S21 E32	01 17.1		B	CAO	40	6	5	2
6452		HOLL	01 14	1645	S20 E31	01 17.1		B	CSO	60	4	8	2
6452		LEAR	01 15	0016	S21 E27	01 17.1		B	DSO	70	3	8	3
6452		CULG	01 15	0115	S20 E28	01 17.2		B	DAO	30	6	8	1

SUNSPOT GROUPS
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6452		RAMY	01 15 1555	S20 E19	01 17.1		B	DAO	60	17	8	2
6452		HOLL	01 15 1600	S21 E18	01 17.0		B	CAO	40	15	8	3
6452	26523	MWIL	01 15 1615	S20 E19	01 17.1	5	(B)					
6452		PALE	01 15 1950	S21 E18	01 17.2		B	CAO	60	8	8	3
6452		CULG	01 16 0105	S20 E16	01 17.3		B	DAO	20	10	9	1
6452		LEAR	01 16 0805	S21 E13	01 17.3		B	DAO	50	4	3	2
6452		RAMY	01 16 1410	S21 E06	01 17.0		B	CAO	50	9	9	3
6452		HOLL	01 16 1630	S21 E06	01 17.1		B	BXO	20	8	9	2
6452		BOUL	01 16 1716	S21 E06	01 17.2		B	DAO	40	7	9	3
6452	26523	MWIL	01 16 1800	S20 E06	01 17.2	3	(BF)					
6452		PALE	01 16 1840	S21 E05	01 17.2		B	CAO	40	9	9	4
6452		LEAR	01 17 0418	S21 E02	01 17.3		B	BXO	20	6	3	3
6452		RAMY	01 17 1320	S21 W03	01 17.3		B	BXO	10	5	3	3
6452	26523	MWIL	01 17 1700	S21 W04	01 17.4	4	(AF)					
6452		PALE	01 17 2030	S22 W07	01 17.3		B	BXO	10	5	4	3
6452		SVTO	01 18 0745	S22 W14	01 17.2		A	HS	40	5	2	3
6452		RAMY	01 18 1414	S21 W18	01 17.2		B	CAO	30	5	3	3
6452		BOUL	01 18 1554	S21 W19	01 17.2		B	CAO	30	2	3	2
6452	26523	MWIL	01 18 1615	S21 W20	01 17.1	4	(B)					
6452		PALE	01 18 1815	S22 W22	01 17.1		B	CRO	20	5	4	3
6452		HOLL	01 18 2030	S21 W21	01 17.2		A	AX	10	4	2	3
6452		CULG	01 19 0035	S21 W22	01 17.3		A	AX		2	1	2
6452		RAMY	01 19 1334	S22 W29	01 17.3		A	AX	10	3	2	3
6452		HOLL	01 19 1720	S21 W32	01 17.3		B	BXO	10	2	3	3
6452A		CULG	01 11 0035	S08 E82	01 17.2		A	AX	10	1	1	3
6452A	26517	MWIL	01 11 1730	S09 E71	01 17.0	4	AF					
6452A	26517	MWIL	01 12 1600	S08 E63	01 17.4	4	(AF)					
6452A	26517	MWIL	01 13 1545	S08 E49	01 17.3	4	(B)					
6452A	26517	MWIL	01 14 1545	S08 E34	01 17.2	3	(B)					
6452A		RAMY	01 15 1555	S07 E26	01 17.6		A	AX	10	4	2	2
6452A		HOLL	01 15 1600	S09 E25	01 17.5		A	AX		3	1	3
6452A	26517	MWIL	01 15 1615	S07 E25	01 17.5	4	(AF)					
6452A		PALE	01 16 1840	S09 E09	01 17.4		A	AX		1		4
6452A		RAMY	01 17 1320	S07 W03	01 17.3		A	AX		2	1	3
6452B		CULG	01 12 0110	S02 E75	01 17.6		A	AX		1		3
6452B		CULG	01 13 0120	S02 E60	01 17.5		B	BXO		2		3
6455		LEAR	01 14 0017	S13 E45	01 17.4		A	AX	10	1	1	3
6455		RAMY	01 15 1555	S13 E24	01 17.5		B	BXO	10	3	3	2
6455		HOLL	01 15 1600	S13 E25	01 17.5		A	AX		3	2	3
6455	26526	MWIL	01 15 1615	S13 E24	01 17.5	3	(AP)					
6455		LEAR	01 16 0805	S13 E16	01 17.5		B	BXO	20	5	5	2
6455		RAMY	01 16 1410	S13 E12	01 17.5		B	DAO	50	9	4	3
6455		HOLL	01 16 1630	S15 E11	01 17.5		B	BXO	20	7	3	2
6455		BOUL	01 16 1716	S13 E09	01 17.4		B	BXI	40	15	7	3
6455	26526	MWIL	01 16 1800	S13 E10	01 17.5	4	(B)					
6455		PALE	01 16 1840	S12 E09	01 17.4		B	DAO	50	16	5	4
6455		RAMY	01 17 1320	S13 W01	01 17.5		B	CAI	70	20	7	3
6455		BOUL	01 17 1615	S14 W03	01 17.4		B	DAO	90	4	6	2
6455	26526	MWIL	01 17 1700	S13 W04	01 17.4	5	(BG)					
6455		PALE	01 17 2030	S14 W06	01 17.4		B	DAI	170	23	9	3
6455		LEAR	01 18 0050	S14 W07	01 17.5		B	DAO	120	15	10	2
6455		SVTO	01 18 0745	S14 W13	01 17.3		B	EAI	290	25	11	3
6455		RAMY	01 18 1414	S13 W17	01 17.3		B	EAO	240	21	11	3
6455		BOUL	01 18 1554	S13 W17	01 17.4		B	EAI	290	21	11	2
6455	26526	MWIL	01 18 1615	S13 W18	01 17.3	5	(D)					
6455		PALE	01 18 1815	S14 W18	01 17.4		B	DAO	310	27	10	3
6455		HOLL	01 18 2030	S13 W19	01 17.4		BG	CKO	180	17	11	3
6455		CULG	01 19 0035	S14 W21	01 17.4		BG	EAI	240	19	11	2
6455		LEAR	01 19 0100	S14 W23	01 17.3		BG	EKI	380	20	11	3
6455		SVTO	01 19 0910	S13 W27	01 17.3		BGD	EAI	310	23	12	3
6455		RAMY	01 19 1334	S13 W28	01 17.4		BG	EAO	280	25	12	3
6455	26526	MWIL	01 19 1600	S13 W32	01 17.2	6	(D)					
6455		HOLL	01 19 1720	S13 W32	01 17.3		BG	EKI	430	27	12	3
6455		PALE	01 19 1944	S15 W31	01 17.5		B	EAO	170	12	12	1
6455		CULG	01 20 0100	S14 W35	01 17.4		B	EAI	1320	23	12	2
6455		LEAR	01 20 0100	S14 W36	01 17.3		B	EAO	240	8	12	2

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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6455		SVTO	01 20 0820	S13 W40	01 17.3		BG	EAI	250	18	11	4
6455		RAMY	01 20 1223	S14 W41	01 17.4		B	EKO	290	11	11	3
6455	26526	MWIL	01 20 1630	S13 W45	01 17.3	5	(D)					
6455		PALE	01 20 1938	S14 W47	01 17.3		B	DAO	150	3	5	1
6455		LEAR	01 21 0015	S13 W48	01 17.4		BG	EAO	260	10	11	3
6455		CULG	01 21 0110	S13 W51	01 17.2		B	EKO	150	10	13	3
6455		RAMY	01 21 1207	S14 W56	01 17.3		B	DAO	200	12	6	2
6455		SVTO	01 21 1320	S12 W57	01 17.3		BG	DKI	320	10	7	3
6455		BOUL	01 21 1612	S14 W57	01 17.4		B	DAO	190	6	5	1
6455	26526	MWIL	01 21 1930	S13 W61	01 17.2	5	(AP)					
6455		PALE	01 21 2343	S12 W64	01 17.2		B	DAO	120	5	6	3
6455		LEAR	01 22 0029	S15 W61	01 17.4		B	DSO	320	2	4	2
6455		CULG	01 22 0125	S13 W67	01 17.0		B	DAO	220	5	9	3
6455		SVTO	01 22 0925	S13 W68	01 17.3		BG	DAI	170	9	6	3
6455		RAMY	01 22 1252	S13 W69	01 17.3		B	DAO	130	9	6	4
6455	26526	MWIL	01 22 1600	S14 W72	01 17.2	5	(AP)					
6455		HOLL	01 22 2100	S12 W76	01 17.1		B	CSO	90	8	6	2
6455		LEAR	01 23 0035	S17 W77	01 17.2		A	HS	60	1	2	3
6455		SVTO	01 23 0750	S14 W80	01 17.3		A	HA	60	1	2	3
6455		RAMY	01 23 1324	S14 W87	01 17.0		A	HS	30	1	1	3
6454	26524	MWIL	01 14 1545	N28 E43	01 18.0	3	(AF)					
6454		HOLL	01 14 1645	N28 E43	01 18.0		A	AX	10	2	1	2
6454		LEAR	01 15 0016	N27 E38	01 18.0		B	BXO	30	2	3	3
6454		CULG	01 15 0115	N29 E37	01 17.9		A	AX	10	4	3	1
6454		RAMY	01 15 1555	N28 E29	01 17.9		B	DAO	70	11	6	2
6454		HOLL	01 15 1600	N28 E29	01 17.9		B	CAO	40	12	5	3
6454	26524	MWIL	01 15 1615	N29 E31	01 18.1	5	(DB)					
6454		PALE	01 15 1950	N28 E29	01 18.1		B	CAO	60	7	6	3
6454		CULG	01 16 0105	N30 E25	01 18.0		B	DAO	30	9	6	1
6454		LEAR	01 16 0805	N28 E19	01 17.8		B	CAO	40	7	5	2
6454		RAMY	01 16 1410	N28 E18	01 18.0		B	DAO	50	9	7	3
6454		HOLL	01 16 1630	N27 E18	01 18.1		B	CAO	30	9	7	2
6454		BOUL	01 16 1716	N27 E16	01 18.0		B	CAO	60	10	7	3
6454	26524	MWIL	01 16 1800	N29 E15	01 17.9	4	(AF)					
6454		PALE	01 16 1840	N28 E17	01 18.1		B	CAO	50	12	7	4
6454		RAMY	01 17 1320	N28 E07	01 18.1		B	CAO	30	6	6	3
6454		BOUL	01 17 1615	N28 E05	01 18.1		B	CAO	60	2	5	2
6454	26524	MWIL	01 17 1700	N29 E03	01 17.9	4	(B)					
6454		PALE	01 17 2030	N27 E03	01 18.1		B	CAO	30	7	7	3
6454		LEAR	01 18 0050	N28 W02	01 17.9		B	DSO	60	3	6	2
6454		SVTO	01 18 0745	N27 W04	01 18.0		B	CRO	40	2	7	3
6454		RAMY	01 18 1414	N28 W07	01 18.0		B	CAO	30	4	7	3
6454		BOUL	01 18 1554	N27 W08	01 18.0		B	CSO	40	5	8	2
6454	26524	MWIL	01 18 1615	N28 W09	01 18.0	5	(B)					
6454		PALE	01 18 1815	N27 W10	01 18.0		B	CRO	20	4	8	3
6454		HOLL	01 18 2030	N28 W11	01 18.0		B	CSO	20	4	7	3
6454		CULG	01 19 0035	N28 W14	01 17.9		B	CRO	10	2	7	2
6454		LEAR	01 19 0100	N27 W15	01 17.9		B	BXO	20	3	6	3
6454		SVTO	01 19 0910	N27 W20	01 17.8		B	BXO	10	3	7	3
6454		RAMY	01 19 1334	N27 W20	01 18.0		B	CAO	40	4	8	3
6454	26524	MWIL	01 19 1600	N27 W24	01 17.8	4	(B)					
6454		HOLL	01 19 1720	N27 W27	01 17.6		A	AX	10	1		3
6454		PALE	01 19 1944	N25 W28	01 17.6		A	AX	10	2	1	1
6454		LEAR	01 20 0100	N28 W31	01 17.6		A	HR	10	1	1	2
6454		CULG	01 20 0100	N28 W38	01 17.1		B	HS	20	2	1	2
6454		SVTO	01 20 0820	N27 W36	01 17.5		A	AX	10	1	1	4
6454		RAMY	01 20 1223	N27 W36	01 17.7		B	CRO	20	4	3	3
6454	26524	MWIL	01 20 1630	N27 W38	01 17.7	4	(AF)					
6454		LEAR	01 21 0015	N27 W45	01 17.5		A	AX		1	1	3
6454		CULG	01 21 0110	N28 W49	01 17.2		A	AX		1	1	3
6454		RAMY	01 21 1207	N25 W50	01 17.6		A	AX	10	1	1	2
6460		RAMY	01 18 1414	S24 E00	01 18.6		A	AX	10	8	2	3
6460	26528	MWIL	01 18 1615	S25 W02	01 18.5	4	(B)					
6460		PALE	01 18 1815	S26 W03	01 18.5		B	BXO	10	3	3	3
6460		HOLL	01 18 2030	S23 W05	01 18.5		A	AX	10	1	1	3
6460		CULG	01 19 0035	S24 W06	01 18.6		A	AX		1		2
6460		LEAR	01 19 0100	S24 W08	01 18.4		A	AX	10	1	1	3

SUNSPOT GROUPS
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6460B	26531	MWIL	01	20	1630	S28	W12	01	19.7	4	(AP)					
6460B		LEAR	01	21	0015	S27	W15	01	19.8		B	BXO	10	2	3	3
6460B		CULG	01	21	0110	S28	W17	01	19.7		B	BXO		2	1	3
6460A		RAMY	01	17	1320	N05	E36	01	20.2		B	BXO		3	4	3
6460A		PALE	01	17	2030	N04	E29	01	20.0		A	AX		1		3
6460A		CULG	01	22	0125	N06	W33	01	19.6		B	BXO		3	2	3
6460C		RAMY	01	24	1332	S10	W56	01	20.3		B	BXO	10	4	4	4
6460C		RAMY	01	25	1402	S10	W70	01	20.3		A	AX	10	2	1	3
6470		SVTO	01	24	0800	S06	W53	01	20.4		B	BXO	20	4	4	2
6470	26544	MWIL	01	24	1545	S07	W58	01	20.3	4	(B)					
6470		HOLL	01	24	1720	S07	W58	01	20.4		B	CRO	20	4	4	3
6470		PALE	01	24	2130	S07	W62	01	20.2		A	HA	20	1	2	2
6470		LEAR	01	25	0016	S07	W63	01	20.3		A	HS	20	1	2	3
6470		CULG	01	25	0200	S07	W69	01	19.9		A	AX	10	2	1	3
6470		SVTO	01	25	0935	S07	W70	01	20.1		A	HS	30	1	1	2
6470	26544	MWIL	01	25	1550	S07	W76	01	20.0	4	(AP)					
6470		HOLL	01	25	1620	S07	W76	01	20.0		A	AX	10	2	2	4
6470		BOUL	01	25	1642	S06	W74	01	20.1		A	AX	30	1	1	2
6470		PALE	01	25	1939	S07	W73	01	20.3		A	AX		1		3
6470	26544	MWIL	01	26	1545	S07	W87	01	20.1	4	AP					
6456		LEAR	01	16	0805	S27	E64	01	21.3		B	BXO	20	3	4	2
6456		RAMY	01	16	1410	S27	E60	01	21.3		B	BXO	10	2	4	3
6456		HOLL	01	16	1630	S28	E60	01	21.4		B	BXO	20	2	3	2
6456		BOUL	01	16	1716	S27	E62	01	21.5		B	BXO	20	2	5	3
6456		PALE	01	16	1840	S28	E59	01	21.4		B	BXO	10	4	5	4
6456		RAMY	01	17	1320	S27	E49	01	21.4		B	BXO		3	4	3
6456		PALE	01	17	2030	S28	E45	01	21.4		B	BXO	10	3	6	3
6456		SVTO	01	18	0745	S29	E40	01	21.4		B	CRO	40	5	7	3
6456		RAMY	01	18	1414	S27	E36	01	21.4		B	BXO	10	8	7	3
6456		BOUL	01	18	1554	S27	E37	01	21.5		B	BXO	30	7	3	2
6456	26529	MWIL	01	18	1615	S28	E36	01	21.5	4	(BG)					
6456		PALE	01	18	1815	S28	E36	01	21.6		B	BXO	10	7	4	3
6456		HOLL	01	18	2030	S27	E35	01	21.6		B	BXO	20	7	3	3
6456		CULG	01	19	0035	S28	E32	01	21.5		B	DRO	30	6	4	2
6456		LEAR	01	19	0100	S27	E32	01	21.5		B	BXO	50	7	4	3
6456		SVTO	01	19	0910	S28	E29	01	21.6		B	BXO	20	5	4	3
6456		RAMY	01	19	1334	S28	E26	01	21.6		B	DAO	40	11	5	3
6456	26529	MWIL	01	19	1600	S28	E24	01	21.5	4	(B)					
6456		HOLL	01	19	1720	S28	E24	01	21.6		B	BXO	20	6	5	3
6456		PALE	01	19	1944	S28	E24	01	21.7		B	CAO	20	5	3	1
6456		LEAR	01	20	0100	S27	E18	01	21.4		B	CRO	30	3	2	2
6456		CULG	01	20	0100	S27	E18	01	21.4		B	CRO	10	4	1	2
6456		SVTO	01	20	0820	S28	E13	01	21.4		A	AX		1	1	4
6456		RAMY	01	20	1223	S28	E12	01	21.4		B	CAO	20	3	4	3
6456	26529	MWIL	01	20	1630	S28	E08	01	21.3	4	(AP)					
6456		LEAR	01	21	0015	S27	E03	01	21.2		B	BXO	10	3	2	3
6456		CULG	01	21	0110	S27	E03	01	21.3		B	BXO		3	2	3
6458		RAMY	01	16	1410	N23	E68	01	21.8		A	AX	10	1	1	3
6458		HOLL	01	16	1630	N22	E68	01	21.9		A	AX	20	1	1	2
6458		BOUL	01	16	1716	N24	E68	01	22.0		A	AX	20	1	1	3
6458		PALE	01	16	1840	N23	E69	01	22.1		A	AX	10	1	1	4
6458		RAMY	01	17	1320	N23	E59	01	22.1		B	CRI	50	12	6	3
6458		BOUL	01	17	1615	N22	E55	01	21.9		B	CAO	100	2	5	2
6458	26527	MWIL	01	17	1700	N23	E55	01	21.9	5	(B)					
6458		PALE	01	17	2030	N22	E53	01	21.9		B	DAO	100	10	7	3
6458		LEAR	01	18	0050	N26	E51	01	22.0		B	DAO	140	7	5	2
6458		SVTO	01	18	0745	N22	E48	01	22.0		B	DAO	470	12	8	3
6458		RAMY	01	18	1414	N22	E45	01	22.0		B	DAO	230	11	8	3
6458		BOUL	01	18	1554	N22	E42	01	21.9		B	DAO	240	11	8	2
6458	26527	MWIL	01	18	1615	N22	E43	01	22.0	5	(B)					
6458		PALE	01	18	1815	N22	E43	01	22.1		B	DSO	290	17	9	3
6458		HOLL	01	18	2030	N22	E42	01	22.1		B	DKO	290	13	8	3
6458		CULG	01	19	0035	N24	E38	01	22.0		B	DAO	260	12	8	2

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6458		LEAR	01 19	0100	N22 E38	01 22.0		BG	DKO	350	12	8	3
6458		SVTO	01 19	0910	N21 E34	01 22.0		B	DSO	180	13	8	3
6458		RAMY	01 19	1334	N22 E32	01 22.0		B	DKO	310	10	9	3
6458	26527	MWIL	01 19	1600	N22 E30	01 22.0	5	(B)					
6458		HOLL	01 19	1720	N22 E29	01 21.9		B	DHO	290	17	9	3
6458		PALE	01 19	1944	N24 E28	01 22.0		B	DSO	120	4	8	1
6458		LEAR	01 20	0100	N22 E26	01 22.0		B	DAO	220	12	8	2
6458		CULG	01 20	0100	N25 E23	01 21.8		B	DAO	200	21	9	2
6458		SVTO	01 20	0820	N22 E22	01 22.0		B	DAI	220	12	8	4
6458		RAMY	01 20	1223	N22 E18	01 21.9		B	DAO	220	13	8	3
6458	26527	MWIL	01 20	1630	N22 E17	01 22.0	5	(B)					
6458		PALE	01 20	1938	N22 E17	01 22.1		B	DSO	110	6	8	1
6458		LEAR	01 21	0015	N22 E13	01 22.0		B	DAO	200	15	9	3
6458		CULG	01 21	0110	N24 E07	01 21.6		B	DAO	200	25	9	3
6458		RAMY	01 21	1207	N22 E06	01 22.0		B	DAO	290	21	9	2
6458		SVTO	01 21	1320	N23 E06	01 22.0		B	DSI	240	25	7	3
6458		BOUL	01 21	1612	N23 E04	01 22.0		B	CAO	130	4	6	1
6458	26527	MWIL	01 21	1930	N22 E03	01 22.0	5	(BP)					
6458		PALE	01 21	2343	N22 E02	01 22.1		B	CKI	200	21	7	3
6458		LEAR	01 22	0029	N22 W01	01 21.9		BG	EKO	300	4	11	2
6458		CULG	01 22	0125	N24 W06	01 21.6		B	DAO	200	20	8	3
6458		SVTO	01 22	0925	N24 W06	01 21.9		B	DSI	270	20	7	3
6458		RAMY	01 22	1252	N22 W07	01 22.0		B	DAO	240	15	9	4
6458	26527	MWIL	01 22	1600	N23 W09	01 22.0	5	(BG)					
6458		HOLL	01 22	2100	N22 W11	01 22.0		B	DAO	200	14	7	2
6458		LEAR	01 23	0035	N22 W16	01 21.8		B	DKO	150	6	6	3
6458		SVTO	01 23	0750	N22 W17	01 22.0		B	DAO	170	9	6	3
6458		RAMY	01 23	1324	N22 W20	01 22.0		B	DAO	160	9	5	3
6458		BOUL	01 23	1545	N23 W23	01 21.9		B	DKO	160	3	2	1
6458	26527	MWIL	01 23	1615	N23 W23	01 21.9	5	(BG)					
6458		HOLL	01 23	1830	N22 W22	01 22.1		B	CAO	180	12	7	2
6458		LEAR	01 24	0020	N22 W27	01 21.9		B	DSO	130	5	5	3
6458		SVTO	01 24	0800	N20 W35	01 21.6		B	DAO	160	8	4	2
6458		RAMY	01 24	1332	N21 W34	01 21.9		B	CAO	180	7	6	4
6458	26527	MWIL	01 24	1545	N23 W35	01 21.9	5	(BF)					
6458		HOLL	01 24	1720	N22 W37	01 21.9		B	CAO	200	9	5	3
6458		PALE	01 24	2130	N22 W37	01 22.0		B	CKO	140	6	5	2
6458		LEAR	01 25	0016	N21 W39	01 22.0		B	DAO	140	5	5	3
6458		CULG	01 25	0200	N23 W43	01 21.8		B	CKO	110	5	4	3
6458		SVTO	01 25	0935	N21 W44	01 22.0		B	CAO	120	8	5	2
6458		RAMY	01 25	1402	N20 W48	01 21.9		B	CAO	140	4	3	3
6458	26527	MWIL	01 25	1550	N22 W48	01 22.0	4	(BF)					
6458		HOLL	01 25	1620	N21 W48	01 22.0		B	CSO	90	5	6	4
6458		BOUL	01 25	1642	N22 W47	01 22.1		B	CAO	70	2	3	2
6458		PALE	01 25	1939	N22 W49	01 22.0		B	CAO	110	6	3	3
6458		LEAR	01 26	0115	N18 W52	01 22.1		B	DAO	90	3	4	3
6458		RAMY	01 26	1250	N22 W57	01 22.1		B	CAO	100	8	3	3
6458	26527	MWIL	01 26	1545	N22 W60	01 22.0	5	(AP)					
6458		BOUL	01 26	1555	N21 W62	01 21.9		A	HS	90	1	3	1
6458		HOLL	01 26	1615	N22 W60	01 22.1		B	CAI	110	8	5	2
6458		PALE	01 26	2000	N20 W61	01 22.2		B	CAO	50	6	3	3
6458		CULG	01 27	0010	N21 W65	01 22.0		B	CAO	50	7	4	3
6458		LEAR	01 27	0030	N22 W62	01 22.2		A	HA	90	2	2	3
6458		RAMY	01 27	1256	N22 W71	01 22.1		A	HA	100	2	2	4
6458	26527	MWIL	01 27	1530	N22 W72	01 22.1	4	(AP)					
6458		LEAR	01 28	0027	N21 W76	01 22.2		A	HS	60	1	2	3
6458		CULG	01 28	0130	N21 W80	01 21.9		B	BXO	10	3	9	3
6458A		RAMY	01 28	1240	N11 W76	01 22.8		B	BXO	20	6	6	4
6459		RAMY	01 18	1414	S09 E57	01 22.9		A	AX		1		3
6459		PALE	01 18	1815	S10 E57	01 23.0		A	AX		1		3
6459		CULG	01 19	0035	S10 E53	01 23.0		A	AX		1		2
6459		LEAR	01 19	0100	S09 E50	01 22.8		A	AX	20	1	1	3
6459		RAMY	01 19	1334	S09 E51	01 23.4		A	AX	10	2	1	3
6459		RAMY	01 23	1324	S08 W06	01 23.1		B	BXO	20	10	10	3
6459		HOLL	01 23	1830	S07 W13	01 22.8		A	AX	10	3	2	2
6459		RAMY	01 26	1250	S12 W37	01 23.7		A	AX		2	2	3

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

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6459A	26532	MWIL	01 20 1630	S19 E34	01 23.3	4	(AP)					
6459A	26532	MWIL	01 21 1930	S19 E18	01 23.2	3	(AP)					
6459A		LEAR	01 22 0029	S20 E16	01 23.2		A	HS	30	2	2	2
6459A		SVTO	01 22 0925	S21 E11	01 23.2		A	AX		1		3
6459A		RAMY	01 22 1252	S20 E09	01 23.2		A	AX		1		4
6459B		CULG	01 21 0110	S17 E30	01 23.3		B	BXO		4	1	3
6459B		CULG	01 22 0125	S16 E15	01 23.2		A	AX		1		3
6459C		RAMY	01 27 1256	N15 W57	01 23.2		B	BXO	10	2	2	4
6459C	26551	MWIL	01 27 1530	N15 W60	01 23.1	3	(AP)					
6459C		LEAR	01 28 0027	N16 W65	01 23.1		A	HA		1	1	3
6459C		HOLL	01 28 1612	N16 W74	01 23.1		B	BXO	20	5	8	3
6459C		ALE	01 28 2100	N15 W75	01 23.2		B	XO	20	3	7	P
6459D		CULG	01 25 0200	S14 W24	01 23.3		A	AX	10	4	3	3
6459F	26547	MWIL	01 26 1545	S12 W39	01 23.7	4	(AF)					
6459E		RAMY	01 23 1324	S26 E03	01 23.8		A	AX		2	1	3
6468		SVTO	01 23 0750	S19 E14	01 24.4		A	AX		1		3
6468		RAMY	01 23 1324	S19 E11	01 24.4		B	BXO		2	2	3
6468		HOLL	01 23 1830	S20 E07	01 24.3		B	BXO	10	3	3	2
6468		LEAR	01 24 0020	S19 E05	01 24.4		B	BXO	40	4	4	3
6468		SVTO	01 24 0800	S19 E00	01 24.3		B	BXO	10	4	3	2
6468		RAMY	01 24 1332	S19 W02	01 24.4		B	BXO	10	7	3	4
6468		HOLL	01 24 1720	S19 W05	01 24.3		B	BXO	10	5	4	3
6468		PALE	01 24 2130	S19 W07	01 24.4		B	BXO	10	3	3	2
6468		LEAR	01 25 0016	S18 W08	01 24.4		B	BXO	30	5	4	3
6468		CULG	01 25 0200	S19 W09	01 24.4		A	AX	10	5	3	3
6468		SVTO	01 25 0935	S19 W12	01 24.5		B	BXO	20	5	8	2
6468		RAMY	01 25 1402	S19 W15	01 24.4		B	BXO	10	3	3	3
6468		HOLL	01 25 1620	S20 W18	01 24.3		B	BXO		3	3	4
6468		PALE	01 25 1939	S20 W18	01 24.4		B	BXO		3	3	3
6468		LEAR	01 26 0115	S21 W21	01 24.4		B	BXO	10	2	3	3
6461		SVTO	01 19 0910	S10 E78	01 25.2		A	AX		2	1	3
6461		RAMY	01 19 1334	S09 E71	01 24.9		A	AX	10	5	1	3
6461	26530	MWIL	01 19 1600	S09 E71	01 25.0	4	(B)					
6461		HOLL	01 19 1720	S10 E70	01 25.0		A	AX	20	2	1	3
6461		LEAR	01 20 0100	S09 E65	01 24.9		B	BXO	20	3	5	2
6461		SVTO	01 20 0820	S10 E63	01 25.1		B	BXO	10	3	4	4
6461		RAMY	01 20 1223	S08 E59	01 24.9		B	BXO	10	5	3	3
6461	26530	MWIL	01 20 1630	S10 E58	01 25.0	4	(AP)					
6461		LEAR	01 21 0015	S10 E52	01 24.9		B	BXO	10	2	2	3
6461		SVTO	01 21 1320	S10 E46	01 25.0		B	BXO	10	3	3	3
6461	26530	MWIL	01 22 1600	S08 E32	01 25.1	4	(AP)					
6461		RAMY	01 23 1324	S08 E20	01 25.0		B	BXO	10	2	3	3
6461A	26538	MWIL	01 22 1600	S27 E34	01 25.3	4	(AF)					
6461A		RAMY	01 23 1324	S28 E26	01 25.6		B	BXO	10	3	6	3
6461A	26538	MWIL	01 23 1615	S27 E21	01 25.3	4	(AF)					
6461A		HOLL	01 23 1830	S29 E19	01 25.3		A	AX		1		2
6461A	26538	MWIL	01 25 1550	S29 W04	01 25.3	3	(AF)					
6461B		PALE	01 25 1939	S16 W06	01 25.4		A	AX		2	1	3
6464		RAMY	01 20 1223	N26 E77	01 26.5		B	BXO	10	2	3	3
6464	26533	MWIL	01 20 1630	N25 E75	01 26.5	3	X					
6464		LEAR	01 21 0015	N27 E68	01 26.3		A	AX	10	1	1	3
6464		RAMY	01 21 1207	N27 E62	01 26.3		B	BXO	10	4	3	2
6464		SVTO	01 21 1320	N28 E61	01 26.3		A	AX		1		3
6464		PALE	01 21 2343	N24 E56	01 26.3		A	AX		1		3
6464		CULG	01 22 0125	N27 E57	01 26.5		B	CAI	10	5	6	3
6464		SVTO	01 22 0925	N26 E48	01 26.1		A	AX		1		3
6464		RAMY	01 22 1252	N26 E46	01 26.1		A	AX		1		4
6464		LEAR	01 23 0035	N28 E42	01 26.3		A	HS	20	1	1	3
6464		SVTO	01 23 0750	N26 E39	01 26.3		B	CRO	20	4	5	3

S U N S P O T G R O U P S
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JANUARY 1991

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6464		RAMY	01	23	1324	N27	E35	01	26.3		B	CRO	30	8	5	3
6464	26542	MWIL	01	23	1615	N27	E35	01	26.4	4	(B)					
6464		HOLL	01	23	1830	N25	E33	01	26.3		B	BXO	40	17	7	2
6464		LEAR	01	24	0020	N26	E29	01	26.3		B	BXO	50	9	7	3
6464		SVTO	01	24	0800	N25	E27	01	26.4		B	DRI	50	8	8	2
6464		RAMY	01	24	1332	N27	E21	01	26.2		B	BXO	20	15	9	4
6464	26542	MWIL	01	24	1545	N26	E22	01	26.4	4	(BG)					
6464		HOLL	01	24	1720	N26	E20	01	26.3		B	CRO	30	9	9	3
6464		PALE	01	24	2130	N25	E18	01	26.3		B	CRO	20	5	9	2
6464		LEAR	01	25	0016	N27	E14	01	26.1		B	BXO	40	4	4	3
6464		CULG	01	25	0200	N28	E16	01	26.3		B	BXO	10	7	9	3
6464		SVTO	01	25	0935	N26	E08	01	26.0		B	BXO	10	3	4	2
6464		RAMY	01	25	1402	N27	E06	01	26.0		B	BXO	10	3	3	3
6464	26542	MWIL	01	25	1550	N27	E07	01	26.2	4	(B)					
6464		HOLL	01	25	1620	N26	E08	01	26.3		B	BXO	10	5	5	4
6464		BOUL	01	25	1642	N26	E06	01	26.2		A	HS	20	1	1	2
6464		PALE	01	25	1939	N27	E06	01	26.3		B	BXO	30	8	6	3
6464		LEAR	01	26	0115	N27	E00	01	26.0		B	DAO	60	5	4	3
6464		RAMY	01	26	1250	N27	W04	01	26.2		B	DAO	70	13	6	3
6464	26542	MWIL	01	26	1545	N27	W05	01	26.3	5	(B)					
6464		BOUL	01	26	1555	N26	W04	01	26.3		B	DSO	50	3	6	1
6464		HOLL	01	26	1615	N25	W05	01	26.3		B	DSO	30	6	7	2
6464		PALE	01	26	2000	N25	W09	01	26.1		B	CSO	40	5	6	3
6464		CULG	01	27	0010	N26	W11	01	26.1		B	CRO	10	9	6	3
6464		LEAR	01	27	0030	N26	W10	01	26.2		B	CAO	30	6	6	3
6464		RAMY	01	27	1256	N27	W15	01	26.4		B	CAO	50	12	10	4
6464	26542	MWIL	01	27	1530	N25	W20	01	26.1	4	(B)					
6464		BOUL	01	27	1620	N25	W21	01	26.0		A	HS	20	1	1	1
6464		LEAR	01	28	0027	N25	W25	01	26.1		B	CSO	30	4	5	3
6464		CULG	01	28	0130	N27	W26	01	26.0		B	CSO	30	3	5	3
6464		RAMY	01	28	1240	N22	W34	01	25.9		A	AX	10	4	1	4
6464		BOUL	01	28	1528	N24	W34	01	26.0		A	AX	10	1		1
6464		HOLL	01	28	1612	N25	W34	01	26.0		A	AX	10	1		3
6464	26542	MWIL	01	28	1630	N25	W34	01	26.0	5	(AP)					
6464		PALE	01	28	2100	N25	W37	01	26.0		A	AX	10	3	2	2
6464		LEAR	01	29	0047	N24	W38	01	26.1		A	AX	30	2	2	4
6464		CULG	01	29	0150	N27	W41	01	25.9		B	BXO	40	2	1	3
6464		RAMY	01	29	1320	N21	W48	01	25.9		A	AX	20	3	1	4
6464	26542	MWIL	01	29	1630	N25	W47	01	26.0	4	(AP)					
6464		HOLL	01	29	1715	N25	W46	01	26.1		A	AX		1		2
6464		PALE	01	29	1830	N25	W49	01	26.0		A	AX	20	3	2	3
6464		CULG	01	30	0015	N27	W52	01	25.9		A	AX	20	1		3
6464		LEAR	01	30	0020	N24	W51	01	26.1		A	AX	180	1	1	4
6461C		CULG	01	25	0200	S27	E18	01	26.5		A	AX	10	1		3
6463		LEAR	01	21	0015	S06	E70	01	26.2		A	AX	10	1	1	3
6463		CULG	01	21	0110	S05	E71	01	26.3		B	BXO	10	3	6	3
6463		RAMY	01	21	1207	S06	E64	01	26.3		A	AX	10	1	1	2
6463		SVTO	01	21	1320	S06	E65	01	26.4		A	AX		1		3
6463		BOUL	01	21	1612	S05	E64	01	26.5		A	AX		1		1
6463	26535	MWIL	01	21	1930	S07	E61	01	26.4	4	(AP)					
6463		PALE	01	21	2343	S08	E60	01	26.5		A	AX		1		3
6463		LEAR	01	22	0029	S06	E58	01	26.4		A	AX	20	2	1	2
6463		CULG	01	22	0125	S03	E55	01	26.2		A	AX		1		3
6463		RAMY	01	22	1252	S04	E54	01	26.6		A	AX		1		4
6463		LEAR	01	23	0035	S06	E46	01	26.5		B	CSO	50	2	3	3
6463		SVTO	01	23	0750	S07	E44	01	26.6		B	BXO	10	8	5	3
6463		RAMY	01	23	1324	S06	E40	01	26.5		B	BXO	10	3	4	3
6463	26543	MWIL	01	23	1615	S08	E39	01	26.6	4	(B)					
6463		HOLL	01	23	1830	S08	E38	01	26.6		B	BXO	10	3	3	2
6463	26543	MWIL	01	24	1545	S07	E25	01	26.5	3	(AP)					
6463		LEAR	01	25	0016	S07	E20	01	26.5		A	AX	10	1	1	3
6463		CULG	01	25	0200	S05	E21	01	26.6		B	BXO	10	9	4	3
6463		LEAR	01	26	0115	S07	E13	01	27.0		A	AX	10	1	1	3
6463		CULG	01	27	0010	S07	W04	01	26.7		B	BXO	10	4	5	3
6465		LEAR	01	21	0015	N09	E73	01	26.5		A	AX	30	2	1	3
6465		RAMY	01	21	1207	N09	E69	01	26.7		B	DRO	80	8	5	2

SUNSPOT GROUPS
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6465		SVTO	01 21 1320	N09 E70	01 26.8		B	DAO	60	6	6	3
6465		BOUL	01 21 1612	N13 E69	01 26.9		B	CSO	90	4	9	1
6465	26536	MWIL	01 21 1930	N09 E65	01 26.7	4	(B)					
6465		PALE	01 21 2343	N07 E65	01 26.8		B	CAO	50	7	8	3
6465		LEAR	01 22 0029	N10 E60	01 26.5		B	DAO	100	3	5	2
6465		SVTO	01 22 0925	N09 E58	01 26.7		B	DAO	600	6	7	3
6465		RAMY	01 22 1252	N11 E56	01 26.7		B	DAO	40	4	8	4
6465	26536	MWIL	01 22 1600	N10 E54	01 26.7	5	(B)					
6465		HOLL	01 22 2100	N10 E51	01 26.7		B	CAO	50	3	9	2
6465		LEAR	01 23 0035	N12 E49	01 26.7		B	CSO	30	2	7	3
6465		SVTO	01 23 0750	N10 E46	01 26.8		B	CAO	20	4	8	3
6465	26536	MWIL	01 23 1615	N10 E41	01 26.7	5	(B)					
6465		HOLL	01 23 1830	N08 E39	01 26.7		B	BXO	20	8	8	2
6465		LEAR	01 24 0020	N09 E34	01 26.6		B	BXO	40	3	4	3
6465		RAMY	01 24 1332	N11 E25	01 26.4		B	BXO	10	6	5	4
6465	26536	MWIL	01 24 1545	N09 E25	01 26.5	4	(AP)					
6465		HOLL	01 24 1720	N09 E26	01 26.7		B	BXO	20	9	7	3
6465		PALE	01 24 2130	N09 E20	01 26.4		A	AX	10	2	1	2
6465		LEAR	01 25 0016	N09 E22	01 26.7		B	BXO	40	4	9	3
6465		CULG	01 25 0200	N11 E22	01 26.7		B	BXO	10	5	10	3
6465		SVTO	01 25 0935	N08 E14	01 26.4		B	BXO	10	2	3	2
6465		RAMY	01 25 1402	N12 E18	01 26.9		B	BXO	10	10	3	3
6465	26536	MWIL	01 25 1550	N10 E18	01 27.0	4	(B)					
6465		HOLL	01 25 1620	N10 E17	01 26.9		B	BXO	10	7	3	4
6465		BOUL	01 25 1642	N09 E17	01 27.0		B	BXO	20	4	2	2
6465		PALE	01 25 1939	N10 E13	01 26.8		B	BXO	10	13	8	3
6465		LEAR	01 26 0115	N11 E11	01 26.9		B	DSO	40	2	3	3
6465		RAMY	01 26 1250	N11 E05	01 26.9		B	DRO	60	15	5	3
6465	26536	MWIL	01 26 1545	N10 E03	01 26.9	4	(B)					
6465		HOLL	01 26 1615	N09 E03	01 26.9		B	BXO	40	9	6	2
6465		PALE	01 26 2000	N10 W01	01 26.7		B	BXO	30	10	15	3
6465		CULG	01 27 0010	N10 W02	01 26.8		B	BXO	10	17	7	3
6465		LEAR	01 27 0030	N10 W02	01 26.9		B	CAO	40	8	7	3
6465		RAMY	01 27 1256	N09 W09	01 26.9		B	DAO	70	25	8	4
6465	26536	MWIL	01 27 1530	N09 W12	01 26.7	5	(BG)					
6465		LEAR	01 28 0027	N09 W17	01 26.7		B	DAO	50	19	9	3
6465		CULG	01 28 0130	N10 W20	01 26.5		B	DSO	30	20	10	3
6465		RAMY	01 28 1240	N08 W23	01 26.8		B	EAO	60	34	11	4
6465		BOUL	01 28 1528	N09 W25	01 26.8		B	CRO	60	5	7	1
6465		HOLL	01 28 1612	N09 W26	01 26.7		B	BXO	30	29	10	3
6465	26536	MWIL	01 28 1630	N09 W25	01 26.8	5	(B)					
6465		PALE	01 28 2100	N09 W28	01 26.8		B	DAO	110	19	9	2
6465		LEAR	01 29 0047	N08 W30	01 26.8		B	DAO	180	17	10	4
6465		CULG	01 29 0150	N10 W33	01 26.6		B	DAO	50	10	10	3
6465		RAMY	01 29 1320	N06 W37	01 26.8		B	DAO	60	19	10	4
6465		BOUL	01 29 1513	N09 W36	01 26.9		B	CSI	50	9	9	1
6465	26536	MWIL	01 29 1630	N09 W38	01 26.8	4	(B)					
6465		HOLL	01 29 1715	N09 W38	01 26.9		B	CRO	40	16	11	2
6465		PALE	01 29 1830	N09 W40	01 26.8		B	CAO	70	26	11	3
6465		CULG	01 30 0015	N10 W44	01 26.7		B	DAO	40	11	10	3
6465		LEAR	01 30 0020	N09 W43	01 26.8		B	BXO	100	14	10	4
6465		SVTO	01 30 1001	N09 W47	01 26.9		B	ESO	90	12	12	2
6465		RAMY	01 30 1539	N09 W52	01 26.7		B	BXO	20	10	11	2
6465		BOUL	01 30 1600	N05 W52	01 26.8		B	BXO	20	3	11	1
6465	26536	MWIL	01 30 1630	N09 W51	01 26.8	4	(B)					
6465		HOLL	01 30 1640	N09 W52	01 26.8		B	BXO	30	11	13	3
6465		PALE	01 30 2240	N09 W58	01 26.6		B	BRO	30	11	13	4
6465		CULG	01 31 0110	N09 W57	01 26.8		B	BXO	100	9	11	3
6465		LEAR	01 31 0125	N08 W55	01 26.9		B	BXO	20	7	10	3
6465		HOLL	01 31 1515	N09 W62	01 27.0		A	AX		1		3
6465		PALE	01 31 1952	N10 W66	01 26.9		B	BXO		3	5	3
6465		PALE	02 01 2003	N09 W76	01 27.2		A	AX		1		3
6462		SVTO	01 20 0820	S18 E89	01 27.1		A	HR	60	1	2	4
6462		RAMY	01 20 1223	S18 E87	01 27.1		A	HK	120	1	3	3
6462	26534	MWIL	01 20 1630	S18 E84	01 27.1	5	(B					
6462		PALE	01 20 1938	S19 E78	01 26.8		A	HA	60	1	1	1
6462		LEAR	01 21 0015	S17 E75	01 26.7		B	DAO	240	4	6	3
6462		CULG	01 21 0110	S14 E80	01 27.1		B	DAI	70	2	5	3

S U N S P O T G R O U P S
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6462		RAMY	01 21	1207	S13 E81	01 27.6		B	FKO	1440	21	22	2
6462		SVTO	01 21	1320	S17 E76	01 27.3		BG	FKI	600	21	20	3
6462		BOUL	01 21	1612	S17 E74	01 27.3		B	FAI	600	7	20	1
6462	26534	MWIL	01 21	1930	S17 E75	01 27.5	5	(B)					
6462		PALE	01 21	2343	S20 E72	01 27.5		B	FKI	510	20	16	3
6462		LEAR	01 22	0029	S19 E68	01 27.2		B	DKO	940	8	9	2
6462		CULG	01 22	0125	S16 E64	01 26.9		B	EAI	490	10	14	3
6462		SVTO	01 22	0925	S17 E65	01 27.3		B	FKI	880	40	16	3
6462		RAMY	01 22	1252	S17 E62	01 27.2		B	FKO	1060	29	16	4
6462	26534	MWIL	01 22	1600	S17 E63	01 27.4	5	(B)					
6462		HOLL	01 22	2100	S18 E60	01 27.4		B	FKO	1400	34	18	2
6462		LEAR	01 23	0035	S15 E57	01 27.3		B	FKO	940	21	17	3
6462		SVTO	01 23	0750	S18 E52	01 27.3		B	FKO	1000	45	16	3
6462		RAMY	01 23	1324	S16 E50	01 27.3		B	FKO	1330	32	16	3
6462	26534	MWIL	01 23	1615	S17 E50	01 27.5	6	(D)					
6462		HOLL	01 23	1830	S18 E48	01 27.4		B	FKO	1450	67	18	2
6462		LEAR	01 24	0020	S17 E46	01 27.5		B	FKO	1200	62	18	3
6462		RAMY	01 24	1332	S15 E38	01 27.4		B	FKO	1380	42	18	4
6462	26534	MWIL	01 24	1545	S18 E37	01 27.5	5	(D)					
6462		HOLL	01 24	1720	S17 E36	01 27.4		BG	FKI	1180	87	19	3
6462		PALE	01 24	2130	S17 E34	01 27.5		BG	FKI	1260	46	18	2
6462		LEAR	01 25	0016	S17 E33	01 27.5		BG	FKO	1460	50	20	3
6462		CULG	01 25	0200	S16 E34	01 27.7		BG	FKI	1220	89	20	3
6462		SVTO	01 25	0935	S17 E27	01 27.4		BG	FKI	1150	55	20	2
6462		RAMY	01 25	1402	S15 E27	01 27.6		B	FKO	1360	42	18	3
6462	26534	MWIL	01 25	1550	S16 E25	01 27.5	6	(BG)					
6462		HOLL	01 25	1620	S18 E24	01 27.5				960	73	21	4
6462		BOUL	01 25	1642	S17 E25	01 27.6		BG	FKI	1200	43	18	2
6462		PALE	01 25	1939	S16 E19	01 27.2		BG	FKI	1120	54	23	3
6462		LEAR	01 26	0115	S17 E21	01 27.6		BG	FKI	1160	40	18	3
6462		RAMY	01 26	1250	S17 E13	01 27.5		B	FKO	1370	80	21	3
6462	26534	MWIL	01 26	1545	S16 E13	01 27.6	5	(D)					
6462		BOUL	01 26	1555	S18 E12	01 27.6		BG	FHO	710	9	16	1
6462		HOLL	01 26	1615	S19 E11	01 27.5		BG	FKI	1340	80	19	2
6462		PALE	01 26	2000	S19 E09	01 27.5		BG	FKI	1120	88	22	3
6462		CULG	01 27	0010	S17 E07	01 27.5		BGD	FKI	1180	97	19	3
6462		LEAR	01 27	0030	S18 E08	01 27.6		BGD	FKI	1110	60	18	3
6462		RAMY	01 27	1256	S17 E01	01 27.6		B	FKO	1390	95	18	4
6462	26534	MWIL	01 27	1530	S18 W00	01 27.6	5	(D)					
6462		BOUL	01 27	1620	S18 W03	01 27.4		BG	FHO	580	11	16	1
6462		LEAR	01 28	0027	S18 W05	01 27.6		BG	FKI	1050	58	18	3
6462		CULG	01 28	0130	S17 W08	01 27.4		B	FKI	1100	71	19	3
6462		RAMY	01 28	1240	S19 W10	01 27.8		B	FKO	1110	71	19	4
6462		BOUL	01 28	1528	S17 W14	01 27.6		B	FKO	550	17	17	1
6462		HOLL	01 28	1612	S17 W15	01 27.5		B	FKI	1300	81	18	3
6462	26534	MWIL	01 28	1630	S18 W13	01 27.7	5	(BG)					
6462		PALE	01 28	2100	S17 W18	01 27.5		B	FKI	1230	73	19	2
6462		LEAR	01 29	0047	S18 W18	01 27.7		BG	FKI	1100	69	19	4
6462		CULG	01 29	0150	S17 W18	01 27.7		B	FKI	900	45	18	3
6462		RAMY	01 29	1320	S20 W25	01 27.6		B	FKO	1250	59	20	4
6462		BOUL	01 29	1513	S17 W26	01 27.6		B	FKO	460	18	17	1
6462	26534	MWIL	01 29	1630	S18 W26	01 27.7	5	(D)					
6462		HOLL	01 29	1715	S18 W29	01 27.5		B	FKI	860	59	21	2
6462		PALE	01 29	1830	S17 W30	01 27.5		B	FKI	850	74	20	3
6462		CULG	01 30	0015	S17 W31	01 27.6		B	FKI	1020	32	18	3
6462		LEAR	01 30	0020	S19 W31	01 27.6		B	FKO	1200	43	19	4
6462		SVTO	01 30	1001	S19 W38	01 27.5		B	FKI	1240	32	18	2
6462		RAMY	01 30	1539	S17 W40	01 27.6		B	FKO	1080	27	18	2
6462		BOUL	01 30	1600	S21 W42	01 27.4		B	FKO	640	16	20	1
6462	26534	MWIL	01 30	1630	S18 W38	01 27.8	6	(BG)					
6462		HOLL	01 30	1640	S17 W40	01 27.6		BD	FKI	1170	58	20	3
6462		PALE	01 30	2240	S16 W42	01 27.7		B	FKI	1160	39	21	4
6462		CULG	01 31	0110	S18 W46	01 27.5		B	FKI	780	43	19	3
6462		LEAR	01 31	0125	S18 W44	01 27.7		B	FKI	830	29	19	3
6462		SVTO	01 31	1358	S17 W51	01 27.7		B	FKI	1140	28	16	2
6462		HOLL	01 31	1515	S18 W52	01 27.7		B	EKI	880	26	14	3
6462	26534	MWIL	01 31	1800	S18 W51	01 27.9	5	BG					
6462		PALE	01 31	1952	S18 W56	01 27.6		B	FKI	620	23	18	3
6462		CULG	02 01	0045	S18 W57	01 27.8		B	FKI	720	26	18	2

SUNSPOT GROUPS
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JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6462		LEAR	02 01 0616	S17 W58	01 27.9		B	EKO	810	14	14	2
6462		SVTO	02 01 0900	S16 W61	01 27.8		B	EKO	820	13	15	2
6462	26534	MWIL	02 01 1630	S18 W63	01 28.0	5	(D)					
6462		RAMY	02 01 1705	S17 W67	01 27.7		B	EAO	840	23	13	2
6462		PALE	02 01 2003	S18 W68	01 27.7		B	EKO	460	19	15	3
6462		LEAR	02 02 0026	S18 W70	01 27.8		B	FKO	810	19	18	4
6462		CULG	02 02 0110	S17 W70	01 27.8		BGD	EKO	630	17	15	2
6462		SVTO	02 02 0920	S18 W74	01 27.8		B	EHO	620	10	14	2
6462	26534	MWIL	02 02 1715	S18 W76	01 28.0	5	BG					
6462		RAMY	02 02 1755	S17 W79	01 27.8		B	DAO	420	10	10	2
6462		LEAR	02 03 0010	S18 W76	01 28.3		B	DKO	420	5	8	4
6462		SVTO	02 03 0815	S18 W82	01 28.2		B	DKI	390	4	9	3
6462		RAMY	02 03 1303	S19 W85	01 28.1		A	HK	150	2	4	4
6462		HOLL	02 03 1540	S19 W86	01 28.2		B	CHO	240	5	4	4
6462	26534	MWIL	02 03 1630	S18 W89	01 28.0	5	AF					
6466		SVTO	01 21 1320	S09 E85	01 27.9		A	HK	390	1	6	3
6466	26537	MWIL	01 21 1930	S09 E80	01 27.8	5	B					
6466		PALE	01 21 2343	S12 E77	01 27.8		B	CKO	540	9	8	3
6466		LEAR	01 22 0029	S09 E75	01 27.6		A	HK	570	2	4	2
6466		CULG	01 22 0125	S09 E75	01 27.7		A	HK	390	6	5	3
6466		SVTO	01 22 0925	S10 E72	01 27.8		B	EKI	730	15	12	3
6466		RAMY	01 22 1252	S08 E71	01 27.8		B	FKO	520	23	17	4
6466	26539	MWIL	01 22 1600	S08 E62	01 27.3	4	(AP)					
6466	26537	MWIL	01 22 1600	S09 E69	01 27.8	5	(D)					
6466		HOLL	01 22 2100	S10 E68	01 28.0		B	FKO	1000	20	23	2
6466		LEAR	01 23 0035	S07 E65	01 27.9		B	EKO	750	8	13	3
6466		SVTO	01 23 0750	S10 E58	01 27.7		B	EKO	950	30	15	3
6466		RAMY	01 23 1324	S12 E60	01 28.1		BGD	FKO	1150	22	20	3
6466		BOUL	01 23 1545	S10 E60	01 28.2		B	FKO	930	7	18	1
6466	26539	MWIL	01 23 1615	S09 E48	01 27.3	4	(AP)					
6466	26537	MWIL	01 23 1615	S09 E57	01 27.9	6	(D)					
6466		HOLL	01 23 1830	S11 E53	01 27.7		B	EKO	1010	37	15	2
6466		LEAR	01 24 0020	S09 E53	01 28.0		BD	EKI	850	27	11	3
6466		SVTO	01 24 0800	S04 E48	01 27.9		B	FKI	1090	32	21	2
6466		RAMY	01 24 1332	S08 E44	01 27.9		BGD	FKO	1240	32	16	4
6466	26539	MWIL	01 24 1545	S08 E33	01 27.1	5	(AP)					
6466	26537	MWIL	01 24 1545	S09 E43	01 27.9	5	(D)					
6466		HOLL	01 24 1720	S10 E40	01 27.7		BGD	FKC	940	58	17	3
6466		PALE	01 24 2130	S10 E36	01 27.6		BD	FKC	860	24	19	2
6466		LEAR	01 25 0016	S09 E36	01 27.7		BD	FKI	920	33	17	3
6466		CULG	01 25 0200	S07 E36	01 27.8		BD	FKI	1170	65	17	3
6466		SVTO	01 25 0935	S09 E31	01 27.7		BD	FKO	730	39	17	2
6466		RAMY	01 25 1402	S07 E27	01 27.6		BGD	EKO	1190	21	14	3
6466	26539	MWIL	01 25 1550	S08 E19	01 27.1	4	(AP)					
6466	26537	MWIL	01 25 1550	S09 E30	01 27.9	6	(D)					
6466		HOLL	01 25 1620	S10 E26	01 27.6				820	46	18	4
6466		BOUL	01 25 1642	S10 E26	01 27.6		BGD	EKI	810	26	14	2
6466		PALE	01 25 1939	S09 E23	01 27.5		BGD	EKC	670	33	15	3
6466		LEAR	01 26 0115	S08 E25	01 27.9		BGD	EKI	840	24	11	3
6466		RAMY	01 26 1250	S08 E16	01 27.7		BGD	FKO	890	70	16	3
6466	26539	MWIL	01 26 1545	S08 E06	01 27.1	3	(AP)					
6466	26537	MWIL	01 26 1545	S09 E17	01 27.9	5	(D)					
6466		BOUL	01 26 1555	S10 E15	01 27.8		B	DAO	340	5	6	1
6466		HOLL	01 26 1615	S10 E15	01 27.8		BD	FKC	1080	44	17	2
6466		PALE	01 26 2000	S09 E09	01 27.5		BD	FKC	680	45	22	3
6466		CULG	01 27 0010	S08 E11	01 27.8		BD	FKI	840	62	17	3
6466		LEAR	01 27 0030	S08 E12	01 27.9		BGD	EKI	810	34	10	3
6466		RAMY	01 27 1256	S08 E07	01 28.1		BGD	EKO	1030	50	14	4
6466	26539	MWIL	01 27 1530	S07 W07	01 27.1	3	(AP)					
6466	26537	MWIL	01 27 1530	S10 E03	01 27.9	5	(D)					
6466		BOUL	01 27 1620	S10 E02	01 27.8		B	DKO	370	7	6	1
6466		LEAR	01 28 0027	S09 W02	01 27.9		BD	EKC	660	40	12	3
6466		CULG	01 28 0130	S08 W03	01 27.8		B	EKI	780	41	10	3
6466		RAMY	01 28 1240	S10 W06	01 28.1		B	EKI	620	74	12	4
6466		BOUL	01 28 1528	S10 W07	01 28.1		BG	DKO	390	10	8	1
6466		HOLL	01 28 1612	S09 W09	01 28.0		BD	EKC	700	59	12	3
6466	26537	MWIL	01 28 1630	S10 W10	01 27.9	6	(D)					
6466		PALE	01 28 2100	S10 W12	01 28.0		BD	EKC	560	41	12	2

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

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6466		LEAR	01 29 0047	S10 W14	01 28.0		BD	EKI	650	45	12	4
6466		CULG	01 29 0150	S08 W14	01 28.0		B	EKI	610	28	13	3
6466		RAMY	01 29 1320	S10 W19	01 28.1		B	EKI	570	45	13	4
6466		BOUL	01 29 1513	S10 W22	01 28.0		BG	DKO	270	11	5	1
6466	26537	MWIL	01 29 1630	S10 W23	01 27.9	5	(D)					
6466		HOLL	01 29 1715	S09 W24	01 27.9		BD	EKC	530	30	13	2
6466		PALE	01 29 1830	S10 W24	01 28.0		BD	EKC	660	57	12	3
6466		CULG	01 30 0015	S09 W27	01 28.0		BD	DKI	470	28	8	3
6466		LEAR	01 30 0020	S09 W28	01 27.9		BD	DKI	570	30	10	4
6466		SVTO	01 30 1001	S09 W32	01 28.0		BD	DAI	640	21	8	2
6466		RAMY	01 30 1539	S09 W34	01 28.1		B	DKI	630	32	9	2
6466		BOUL	01 30 1600	S13 W35	01 28.0		B	DKO	430	11	7	1
6466	26537	MWIL	01 30 1630	S09 W37	01 27.9	6	(D)					
6466		PALE	01 30 2240	S10 W38	01 28.1		BD	DKC	570	34	9	4
6466		CULG	01 31 0110	S09 W40	01 28.0		BD	DKI	490	33	9	3
6466		LEAR	01 31 0125	S10 W40	01 28.0		BD	DKI	550	23	10	3
6466		SVTO	01 31 1358	S08 W47	01 28.0		BD	DKI	650	23	7	2
6466		HOLL	01 31 1515	S10 W48	01 28.0		B	DAI	430	23	10	3
6466	26537	MWIL	01 31 1800	S09 W51	01 27.9	5	D *					
6466		PALE	01 31 1952	S09 W51	01 28.0		BD	DKI	490	16	6	3
6466		CULG	02 01 0045	S09 W53	01 28.1		BD	DKI	440	19	10	2
6466		LEAR	02 01 0616	S08 W58	01 28.0		B	DAI	490	10	5	2
6466		SVTO	02 01 0900	S09 W60	01 28.0		B	CAO	360	11	5	2
6466	26537	MWIL	02 01 1630	S09 W64	01 28.0	5	(D)					
6466		RAMY	02 01 1705	S09 W63	01 28.1		B	DAO	450	9	4	2
6466		PALE	02 01 2003	S10 W66	01 28.0		B	DAO	200	9	6	3
6466		LEAR	02 02 0026	S10 W67	01 28.1		B	DAO	480	10	9	4
6466		CULG	02 02 0110	S09 W69	01 28.0		B	DAO	290	6	6	2
6466		SVTO	02 02 0920	S10 W73	01 28.0		B	DSO	310	7	5	2
6466	26537	MWIL	02 02 1715	S08 W78	01 28.0	5	D *					
6466		RAMY	02 02 1755	S08 W78	01 28.0		B	DAO	420	4	6	2
6466		LEAR	02 03 0010	S10 W78	01 28.2		B	DKO	300	2	5	4
6466		SVTO	02 03 0815	S10 W86	01 28.0		B	CAO	120	3	6	3
6472		RAMY	01 26 1250	N13 E29	01 28.7		B	DAO	40	9	6	3
6472	26549	MWIL	01 26 1545	N13 E27	01 28.7	5	(B)					
6472		HOLL	01 26 1615	N12 E27	01 28.7		B	CAO	40	10	4	2
6472		PALE	01 26 2000	N12 E24	01 28.6		B	BXO	30	11	4	3
6472		CULG	01 27 0010	N14 E22	01 28.7		B	BXO	10	12	6	3
6472		LEAR	01 27 0030	N12 E22	01 28.7		B	DRO	30	13	6	3
6472		RAMY	01 27 1256	N13 E15	01 28.7		B	DAO	110	20	6	4
6472	26549	MWIL	01 27 1530	N13 E13	01 28.6	5	(B)					
6472		BOUL	01 27 1620	N13 E10	01 28.4		A	HS	40	1	1	1
6472		LEAR	01 28 0027	N12 E08	01 28.6		B	CAO	120	13	7	3
6472		CULG	01 28 0130	N14 E06	01 28.5		B	DRO	80	18	7	3
6472		RAMY	01 28 1240	N12 E00	01 28.5		B	CAO	110	32	8	4
6472		BOUL	01 28 1528	N13 W02	01 28.5		B	DSO	80	5	6	1
6472		HOLL	01 28 1612	N12 E00	01 28.7		B	CAO	160	22	7	3
6472	26549	MWIL	01 28 1630	N12 W02	01 28.5	5	(B)					
6472		PALE	01 28 2100	N11 W04	01 28.6		B	DAO	200	17	7	2
6472		LEAR	01 29 0047	N11 W06	01 28.6		B	DSO	220	15	6	4
6472		CULG	01 29 0150	N13 W06	01 28.6		B	CAO	110	14	6	3
6472		RAMY	01 29 1320	N11 W13	01 28.6		B	DAO	130	17	7	4
6472		BOUL	01 29 1513	N12 W13	01 28.6		B	CSO	40	5	6	1
6472	26549	MWIL	01 29 1630	N12 W15	01 28.5	5	(B)					
6472		HOLL	01 29 1715	N11 W13	01 28.7		B	CSO	70	11	6	2
6472		CULG	01 30 0015	N13 W19	01 28.6		B	CSO	90	16	6	3
6472		LEAR	01 30 0020	N11 W18	01 28.6		B	DAO	170	13	7	4
6472		SVTO	01 30 1001	N12 W24	01 28.6		B	DAI	180	13	7	2
6472		RAMY	01 30 1539	N11 W25	01 28.8		B	CAO	110	18	12	2
6472		BOUL	01 30 1600	N09 W27	01 28.6		B	DAO	150	5	6	1
6472	26549	MWIL	01 30 1630	N12 W27	01 28.6	5	(BG)					
6472		HOLL	01 30 1640	N12 W25	01 28.8		B	CSO	90	18	11	3
6472		PALE	01 30 2240	N11 W29	01 28.8		B	DAO	190	11	7	4
6472		CULG	01 31 0110	N12 W31	01 28.7		B	EAO	60	17	11	3
6472		LEAR	01 31 0125	N11 W29	01 28.9		B	CAO	50	11	8	3
6472		SVTO	01 31 1358	N12 W39	01 28.6		B	DAO	70	4	7	2
6472		HOLL	01 31 1515	N12 W39	01 28.7		B	CRO	40	11	6	3
6472	26549	MWIL	01 31 1800	N12 W41	01 28.7	4	B					

S U N S P O T G R O U P S
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JANUARY 1991

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6472		PALE	01 31 1952	N13 W41	01 28.7		B	CAO	50	15	7	3
6472		CULG	02 01 0045	N12 W45	01 28.7		B	CSO	20	7	7	2
6472		LEAR	02 01 0616	N12 W48	01 28.7		B	CRO	40	4	6	2
6472		SVTO	02 01 0900	N13 W50	01 28.7		B	CRO	20	4	7	2
6472	26549	MWIL	02 01 1630	N12 W54	01 28.7	4	(BP)					
6472		RAMY	02 01 1705	N09 W50	01 29.0		B	CSO	30	4	11	2
6472		PALE	02 01 2003	N11 W56	01 28.7		B	CAO	40	2	3	3
6472		LEAR	02 02 0026	N11 W59	01 28.7		A	HS	40	1	2	4
6472		CULG	02 02 0110	N11 W61	01 28.5		B	CAO	20	2	3	2
6472		SVTO	02 02 0920	N12 W65	01 28.6		B	BXO	10	2	6	2
6472	26549	MWIL	02 02 1715	N12 W70	01 28.5	4	AP					
6472		RAMY	02 02 1755	N10 W69	01 28.7		A	AX	10	1		2
6472		LEAR	02 03 0010	N12 W71	01 28.7		A	AX	30	1	1	4
6472A	26548	MWIL	01 26 1545	S39 E23	01 28.5	3	(B)					
6472A		RAMY	01 27 1256	S38 E14	01 28.7		A	AX		2	2	4
6472A	26548	MWIL	01 27 1530	S39 E13	01 28.7	3	(AP)					
6469	26540	MWIL	01 22 1600	S11 E81	01 28.8	5	AP					
6469		SVTO	01 23 0750	S11 E71	01 28.7		A	HA	60	1	2	3
6469		RAMY	01 23 1324	S11 E78	01 29.4		A	AX	10	2	2	3
6469	26540	MWIL	01 23 1615	S11 E70	01 28.9	5	(AP)					
6469		HOLL	01 23 1830	S13 E70	01 29.0		B	CSO	60	4	10	2
6469		LEAR	01 24 0020	S12 E65	01 28.9		B	CSO	90	3	7	3
6469		SVTO	01 24 0800	S07 E65	01 29.2		A	HR	30	3	2	2
6469		RAMY	01 24 1332	S08 E62	01 29.2		B	BXO	10	6	3	4
6469	26540	MWIL	01 24 1545	S12 E58	01 29.0	5	(AP)					
6469		HOLL	01 24 1720	S12 E56	01 28.9		B	CSO	50	4	8	3
6469		PALE	01 24 2130	S11 E52	01 28.8		A	HS	50	2	2	2
6469		LEAR	01 25 0016	S11 E53	01 29.0		B	CSO	70	5	8	3
6469		CULG	01 25 0200	S10 E55	01 29.2		B	CSO	10	7	9	3
6469		SVTO	01 25 0935	S12 E48	01 29.0		B	DAO	60	10	9	2
6469		RAMY	01 25 1402	S08 E45	01 28.9		B	CSO	40	9	8	3
6469	26540	MWIL	01 25 1550	S12 E45	01 29.0	5	(BP)					
6469		HOLL	01 25 1620	S13 E45	01 29.1		B	DAO	70	11	9	4
6469		BOUL	01 25 1642	S12 E44	01 29.0		B	CAO	40	3	8	2
6469		PALE	01 25 1939	S12 E42	01 29.0		B	BXO	30	5	7	3
6469		LEAR	01 26 0115	S09 E40	01 29.0		B	CSO	50	5	7	3
6469		RAMY	01 26 1250	S12 E33	01 29.0		B	DAO	90	10	8	3
6469	26540	MWIL	01 26 1545	S13 E32	01 29.1	5	(BP)					
6469		BOUL	01 26 1555	S12 E28	01 28.8		A	HS	50	1	2	1
6469		PALE	01 26 2000	S12 E29	01 29.0		B	CAO	40	6	5	3
6469		CULG	01 27 0010	S11 E28	01 29.1		B	CAO	20	10	6	3
6469		LEAR	01 27 0030	S12 E25	01 28.9		B	CSO	50	5	6	3
6469		RAMY	01 27 1256	S12 E21	01 29.1		B	DAO	90	16	9	4
6469	26540	MWIL	01 27 1530	S13 E19	01 29.1	4	(BP)					
6469		BOUL	01 27 1620	S13 E17	01 29.0		B	DSO	80	4	9	1
6469		LEAR	01 28 0027	S13 E15	01 29.1		B	DAO	60	18	10	3
6469		CULG	01 28 0130	S11 E12	01 29.0		B	DSO	20	20	10	3
6469		RAMY	01 28 1240	S11 E10	01 29.3		B	EAO	110	43	11	4
6469		BOUL	01 28 1528	S13 E07	01 29.2		B	CRI	90	12	9	1
6469		HOLL	01 28 1612	S12 E08	01 29.3		B	CSO	40	45	11	3
6469	26540	MWIL	01 28 1630	S13 E07	01 29.2	5	(BG)					
6469		PALE	01 28 2100	S12 E05	01 29.2		B	DAO	110	43	10	2
6469		LEAR	01 29 0047	S14 E02	01 29.2		B	DAO	230	29	10	4
6469		CULG	01 29 0150	S11 E02	01 29.2		B	DAO	70	26	10	3
6469		RAMY	01 29 1320	S13 W03	01 29.3		B	EAO	350	50	11	4
6469		BOUL	01 29 1513	S13 W09	01 28.9		B	DAI	130	10	4	1
6469	26540	MWIL	01 29 1630	S14 W06	01 29.2	5	(BG)					
6469		HOLL	01 29 1715	S14 W07	01 29.2		B	EAI	250	41	12	2
6469		PALE	01 29 1830	S13 W08	01 29.2		B	EAI	320	62	12	3
6469		CULG	01 30 0015	S13 W13	01 29.0		B	DAO	170	15	7	3
6469		LEAR	01 30 0020	S13 W13	01 29.0		BD	DKI	500	40	9	4
6469		SVTO	01 30 1001	S13 W16	01 29.2		B	EAI	610	70	13	2
6469		RAMY	01 30 1539	S14 W18	01 29.3		BG	FKI	910	41	17	2
6469		BOUL	01 30 1600	S16 W22	01 29.0		B	EKC	1110	18	11	1
6469	26540	MWIL	01 30 1630	S14 W22	01 29.0	5	(BG)					
6469		HOLL	01 30 1640	S15 W21	01 29.1		BG	EKC	830	96	15	3
6469		PALE	01 30 2240	S13 W23	01 29.2		B	FAI	650	73	18	4

S U N S P O T G R O U P S
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JANUARY 1991

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6469		CULG	01 31	0110	S14 W27	01 29.0		BG	EKI	760	67	12	3
6469		LEAR	01 31	0125	S14 W28	01 28.9		BG	EKI	650	64	15	3
6469		SVTO	01 31	1358	S13 W35	01 28.9		BG	FKI	1390	55	19	2
6469		HOLL	01 31	1515	S13 W35	01 29.0		BD	FKC	1050	60	19	3
6469	26540	MWIL	01 31	1800	S14 W35	01 29.1	5	BG					
6469		PALE	01 31	1952	S13 W38	01 29.0		BG	FKI	1050	57	18	3
6469		CULG	02 01	0045	S13 W40	01 29.1		BG	EKI	1010	58	15	2
6469		LEAR	02 01	0616	S13 W41	01 29.3		BG	FKC	1040	53	17	2
6469		SVTO	02 01	0900	S13 W44	01 29.1		BGD	FKI	1570	42	17	2
6469	26540	MWIL	02 01	1630	S14 W48	01 29.1	6	(D)					
6469		RAMY	02 01	1705	S13 W47	01 29.3		BGD	FKI	1670	42	16	2
6469		PALE	02 01	2003	S14 W52	01 29.0		BG	EKI	1040	31	15	3
6469		LEAR	02 02	0026	S13 W52	01 29.2		BGD	FKI	1380	51	16	4
6469		CULG	02 02	0110	S13 W54	01 29.1		BGD	FKI	1010	47	16	2
6469		SVTO	02 02	0920	S14 W59	01 29.0		BG	FKI	960	29	16	2
6469	26540	MWIL	02 02	1715	S13 W61	01 29.2	6	BG					
6469		RAMY	02 02	1755	S14 W61	01 29.2		B	EKI	1140	21	13	2
6469		LEAR	02 03	0010	S13 W65	01 29.2		BGD	EKI	1170	32	14	4
6469		CULG	02 03	0010	S13 W65	01 29.2		BGD	FKI	510	24	18	3
6469		SVTO	02 03	0815	S13 W72	01 29.0		BGD	FKI	1200	27	16	3
6469		RAMY	02 03	1303	S13 W72	01 29.2		B	EKI	550	23	14	4
6469		HOLL	02 03	1540	S12 W74	01 29.2		BGD	FKI	780	29	20	4
6469		BOUL	02 03	1605	S14 W75	01 29.1		B	FSI	930	12	22	3
6469	26540	MWIL	02 03	1630	S14 W74	01 29.2	4	B)					
6469		LEAR	02 04	0025	S13 W80	01 29.1		B	FKI	870	15	20	3
6469		SVTO	02 04	0900	S12 W81	01 29.4		BGD	EKI	510	8	12	2
6469		RAMY	02 04	1230	S12 W85	01 29.2		B	EKO	240	11	11	4
6469		BOUL	02 04	1550	S12 W89	01 29.0		B	DSI	140	6	8	1
6469		HOLL	02 04	1620	S13 W85	01 29.4		B	CAI	210	17	8	3
6469	26540	MWIL	02 04	1630	S13 W85	01 29.4	4	B					
6469		CULG	02 05	0010	S13 W86	01 29.6		B	DAO	50	3	4	3
6472B		LEAR	01 28	0027	N12 E18	01 29.4		A	AX		1	1	3
6472B		RAMY	01 29	1320	N12 W03	01 29.3		B	BXO		3	4	4
6472B		SVTO	01 30	1001	N13 W17	01 29.1		B	BXO	10	3	3	2
6482	26557	MWIL	02 01	1630	N06 W45	01 29.4	5	(B)					
6482		PALE	02 01	2003	N06 W47	01 29.4		B	BXO	10	2	4	3
6482		LEAR	02 02	0026	N07 W50	01 29.4		B	BXO	50	4	6	4
6482		CULG	02 02	0110	N06 W51	01 29.3		B	BXO		4	4	2
6482		SVTO	02 02	0920	N07 W58	01 29.1		A	AX	10	2	2	2
6482	26557	MWIL	02 02	1715	N08 W61	01 29.2	4	AP					
6482		RAMY	02 02	1755	N08 W60	01 29.3		A	AX	10	1		2
6482		LEAR	02 03	0010	N07 W64	01 29.3		A	AX	20	1	1	4
6474	26550	MWIL	01 26	1545	S09 E43	01 29.9	4	(B)					
6474		PALE	01 26	2000	S09 E41	01 29.9		B	BXO		4	3	3
6474		CULG	01 27	0010	S07 E39	01 29.9		A	AX	10	9	4	3
6474		LEAR	01 27	0030	S10 E37	01 29.8		B	BXO	10	5	4	3
6474		RAMY	01 27	1256	S09 E32	01 29.9		B	CAO	400	10	5	4
6474	26550	MWIL	01 27	1530	S10 E29	01 29.8	4	(B)					
6474		BOUL	01 27	1620	S10 E28	01 29.8		B	DSO	50	2	3	1
6474		LEAR	01 28	0027	S11 E23	01 29.7		B	DAO	40	6	5	3
6474		CULG	01 28	0130	S07 E22	01 29.7		B	BXO	10	9	5	3
6474		RAMY	01 28	1240	S09 E19	01 29.9		B	BXO	20	15	5	4
6474		BOUL	01 28	1528	S10 E13	01 29.6		B	CRO	30	4	4	1
6474		HOLL	01 28	1612	S11 E19	01 30.1		B	BXO	20	10	6	3
6474	26550	MWIL	01 28	1630	S11 E17	01 30.0	4	(AF)					
6474		PALE	01 28	2100	S11 E15	01 30.0		B	BXO	10	11	9	2
6474		LEAR	01 29	0047	S11 E11	01 29.9		B	BXO	80	15	10	4
6474		CULG	01 29	0150	S11 E13	01 30.0		B	BXO		6	9	3
6474		RAMY	01 29	1320	S10 E05	01 29.9		B	BXO	10	9	3	4
6474		BOUL	01 29	1513	S12 W02	01 29.5		B	BXO	10	6	4	1
6474		HOLL	01 29	1715	S11 E03	01 29.9		B	BXO	10	5	3	2
6474		CULG	01 30	0015	S11 W05	01 29.6		B	BXO	10	23	4	3
6474		LEAR	01 30	0020	S11 W06	01 29.6		B	BXO	50	9	4	4
6474		SVTO	01 30	1001	S11 W08	01 29.8		B	BXO	10	8	5	2
6474		HOLL	01 30	1640	S11 W11	01 29.9		B	BXO	10	9	3	3
6474		CULG	01 31	0110	S11 W18	01 29.7		B	BXO	20	17	6	3

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)

JANUARY 1991

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max N	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
6474B	26558	MWIL	02 01 1630	N15 W32	01 30.4	4	(AP)					
6474A		PALE	01 31 1952	S21 W14	01 30.7		B	BXO		3	3	3
6475	26545	MWIL	01 25 1550	S16 E73	01 31.2	4	(AP)					
6475	26545	MWIL	01 26 1545	S15 E60	01 31.2	5	(AP)					
6475		CULG	01 27 0010	S13 E57	01 31.3		A	AX	10	1	1	3
6475	26545	MWIL	01 27 1530	S16 E47	01 31.2	5	(AP)					
6475		BOUL	01 27 1620	S16 E48	01 31.3		A	HS	20	1	1	1
6475		CULG	01 28 0130	S13 E41	01 31.1		A	HS	10	1	1	3
6475		RAMY	01 28 1240	S12 E35	01 31.2		B	CAO	20	3	3	4
6475		BOUL	01 28 1528	S15 E44	02 1.0		A	AX		1		1
6475		HOLL	01 28 1612	S16 E33	01 31.2		A	AX	10	1	1	3
6475	26545	MWIL	01 28 1630	S16 E33	01 31.2	5	(AP)					
6475		PALE	01 28 2100	S16 E30	01 31.1		A	AX	10	1	1	2
6475		LEAR	01 29 0047	S16 E28	01 31.1		A	AX	20	1	1	4
6475		CULG	01 29 0150	S13 E30	01 31.3		A	AX		1		3
6475		RAMY	01 29 1320	S12 E22	01 31.2		B	CAO	40	4	3	4
6475		BOUL	01 29 1513	S15 E21	01 31.2		A	HS	20	1	1	1
6475	26545	MWIL	01 29 1630	S16 E21	01 31.3	4	(AP)					
6475		HOLL	01 29 1715	S15 E21	01 31.3		B	CSO	20	3	3	2
6475		CULG	01 30 0015	S13 E17	01 31.3		B	BXO		2	1	3
6475		LEAR	01 30 0020	S16 E16	01 31.2		B	CSO	30	2	3	4
6475		SVTO	01 30 1001	S16 E12	01 31.3		B	CRO	30	4	6	2
6475		RAMY	01 30 1539	S16 E11	01 31.5		B	CAO	10	3	7	2
6475		BOUL	01 30 1600	S16 E11	01 31.5		B	CAO	30	3	8	1
6475	26545	MWIL	01 30 1630	S16 E09	01 31.4	4	(BP)					
6475		HOLL	01 30 1640	S17 E10	01 31.4		B	CRO	20	3	7	3
6475		CULG	01 31 0110	S16 E05	01 31.4		B	CSO	10	3	6	3
6475		LEAR	01 31 0125	S15 E05	01 31.4		B	CAO	20	3	7	3
6475		SVTO	01 31 1358	S16 W02	01 31.4		B	CRO	20	4	6	2
6475		HOLL	01 31 1515	S16 W02	01 31.5		B	BXO	10	5	6	3
6475	26545	MWIL	01 31 1800	S16 W04	01 31.4	4	BP					
6475		PALE	01 31 1952	S16 W05	01 31.4		B	BXO	10	6	6	3
6475		CULG	02 01 0045	S16 W08	01 31.4		B	CRO	10	6	6	2
6475		LEAR	02 01 0616	S14 W15	01 31.1		A	AX		1	1	2
6475		SVTO	02 01 0900	S15 W12	01 31.5		B	BXO	10	3	7	2
6475	26545	MWIL	02 01 1630	S15 W19	01 31.2	5	(AP)					
6475		RAMY	02 01 1705	S15 W18	01 31.3		A	AX		1	1	2
6475		PALE	02 01 2003	S17 W10	02 1.1		A	AX		3	2	3
6475		LEAR	02 02 0026	S15 W24	01 31.2		A	AX	10	1	1	4
6475		CULG	02 02 0110	S16 W24	01 31.2		B	BXO		2	3	2
6475		SVTO	02 02 0920	S15 W26	01 31.4		B	BXO	10	3	7	2
6475	26545	MWIL	02 02 1715	S14 W33	01 31.2	4	AP					
6475		RAMY	02 02 1755	S14 W33	01 31.2		A	AX		1		2
6475		LEAR	02 03 0010	S14 W37	01 31.2		A	AX	10	1	1	4
6475		SVTO	02 03 0815	S14 W43	01 31.1		A	AX		0	1	3
6475		RAMY	02 03 1303	S13 W45	01 31.1		A	AX		1		4
6475A		RAMY	01 29 1320	N30 E30	01 31.9		A	AX		2	2	4

Stations reporting:

BOUL = Boulder
CULG = Culgoora
HOLL = Holloman
LEAR = Learmonth
MWIL = Mt. Wilson
PALE = Palehua
RAMY = Ramey
SVTO = San Vito

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1991

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
01	0821	0830	0837	1-	1					1	0829		6424
02	1440	1445	1455	1-	1					1	1441		6432
04	0433	0445	0506	1-	1			1			0431	C2.4	6431
04	0547	0552	0610	1-	1			1			No flare		
04	0704	0710	0743	1-	5			1		1	0705	C4.1	6429
04	0814	0820	0839	1-	1			1			No flare		
04	1005	1010	1025	1	1		1				No flare		
04	1125E	1127	1135	1-	1					1	1126		6429
04	1332	1337	1346	1-	1					1	No flare		
04	1810	1813	1823	1-	3					5	1810	C2.0	
05	1152	1201	1215	1	5					2	1149	C2.5	
05	1453	1455	1518	1	1		1				*		
05	1955	2000	2016	1	3					2	1951	C2.8	6427
06	0420	0429	0445D	1-	1			1			No flare		
06	0445E	0452	0514	1-	1			1			0447	C2.6	6430
06	0604	0608	0621	1-	1			1			0602	C2.2	
06	0911	0915	0917	1-	1					1	0911	C1.9	
06	1603	1615	1719	2+	3					3	1603E	C5.7	
06	1700	1706	1715U	1-	1					1	1704		6430
06	1734	1735	1756	1	1					1	1734	C2.6	
07	0115	0128	0149	1-	1			1			0122E	C2.7	
07	0857	0927	0940	1	1		1				No flare		
07	1018	1033	1056	1	1		1				1015	C3.2	
07	1108	1129	1206	1	1		1				No flare		
07	1254	1315	1412	2+	1					1	No flare		
07	1327	1334	1346	1	1					1	No flare		
07	1400E	1415	1445	2	1					1	No flare		
07	1736	1741	1750	1-	1					1	No flare		
07	1915	1919	1936	1	1					1	1919		6442
08	0009	0021	0050	1-	1			1			0023		6432
08	0215	0225	0324D	1	3	1		1			0211	C5.9	
08	0324E	0331	0339	1-	1			1			0326		6442
08	0413	0439	0651D	3	5	1		1		1	0409	M1.8	6442
08	0651E	0702	0800	2	5		1	1		1	0623	M1.1	6442
08	1119	1130	1305	1	5		3	1	1	2	1124E	M1.2	6442
08	1350	1353	1422	1	1		1				*		
08	1600	1607	1622	1	1					1	1556		6444
08	1753	1759	1805	1-	1					1	1731		6442
08	1813	1815	1857	2	1					1	1815	C7.5	
08	1816	1830	1920	2	3					6	1815	C7.5	
08	2025	2034	2054	1+	1					1	*		
08	2146	2203U	2257	2+	1					1	2144		6444
09	0129	0134	0146	1-	1			1			No flare		
09	0240	0244	0256	1-	1			1			0240		6442
09	0632	0639	0710	1-	5			1		1	0630	C5.0	
09	0806	0813	0827	1-	5			1		1	0806	C5.2	6442
09	1132	1139	1230	1-	5	1		1	1		1127	C5.3	
09	1334	1336	1355	1	1					1	1336		6442
10	0039	0058	0200	1	1			1			0037	C6.2	
10	0312	0332	0410	1-	1			1			0313	C3.1	6444
10	0445	0451	0509D	1-	5	1		1		1	0447	C6.8	6444
10	0509E	0520	0632	2+	5	2		1			0510	M1.0	6444
10	0700	0705	0734	1-	5		1	1		1	0700	C3.6	
10	0823	0834	0911	1-	1			1			No flare		
10	0948E	0957	1024	1-	5		1	1		1	No flare		
10	1408	1414	1429	1	5					4	1409	C4.8	6444
10	1521	1525	1540	1-	3					5	1524		6444
10	1707	1714	1726	1	3					2	1710	C3.4	6447

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1991

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
11	0505	0521	0549	1-	5			1		1	0506		6447
11	0650	0659	0749D	2	5			1		1	0650E	C9.5	
11	0749E	0753	0831	1-	5			1		2	0748	C5.0	6444
11	0853	0905	1005	2+	5	2	1	1	1	3	0851		6447
11	1032	1047	1137	1	1		1				*		
11	1311	1320	1338	1	1		1				1315		6447
11	1524	1529	1540	1-	5	1	1		1	9	1521	M4.6	6447
11	1544	1544	1745	3	1					1	1521	M4.6	6447
11	1826	1828	1909	2	3					9	1819	M1.0	6444
11	1923	1924	1933	1-	1					1	1924E		6444
11	2007	2009	2019	1-	1					1	2007		6444
11	2021	2027	2044	1-	5			1		4	2017E	C3.7	6444
11	2321	2328	2349	1-	1			1			2321	C2.3	6444
12	0009	0023	0055	1-	1			1			0026		6444
12	0216	0219	0248	1-	1			1			0214	C2.5	6447
12	0524	0539	0603	1-	1			1			0527E	C2.0	
12	0708	0721	0811D	1	5			1		1	0702	C4.6	6447
12	0811E	0818	0922	2-	5	1		1	1	2	0807	C7.9	6447
12	1231	1245	1300	1+	1					1	1239		6447
12	1409	1413	1420U	1-	1					1	1412	C1.4	6447
12	1428	1438	1454	1+	1					1	1426	C3.8	6447
12	1603	1613	1621	1-	5			—		3	1602	C1.5	6447
12	1906	1912	1937	1+	3					2	1906	C2.5	6447
12	2059	2107	2123	1	3					2	2100	C4.6	6447
12	2212	2218	2247	1-	5			1		3	2207	C9.4	6447
13	0046	0050	0059	1-	1			1			0041	C2.0	6447
13	0215	0221	0247	1-	3	1		1			0213	C2.7	6447
13	0717	0723	0748	1-	1			1			0713	C2.0	6447
13	1229	1236	1305	1	1		1				1224		6447
13	1731	1734	1752	1	3					2	1731	C1.9	6444
13	2053	2100	2121	1	3					4	2052	C3.4	6444
14	0702	0708	0723	1-	1			1			*		
14	0800	0807	0828	1-	5		1	1		1	0758	C2.0	6447
14	1000	1040	1123	2+	1		1				0955	C1.2	
14	1710	1713	1721	1-	1					1	1710	C1.5	6444
14	1730E	1736	1802	1+	1					1	1735		6447
14	1837	1839	1848	1-	1					1	1837	C1.4	
14	2219	2227	2251	1-	1			1			2223	C1.9	6447
15	0537	0542	0558	1-	1			1			0543	C1.6	
15	0750	0802	0818D	1-	5		1	1		1	0757	C2.2	
15	0818E	0824	0848	1-	5			1		1	0818	C2.6	6447
15	0841	0846	0925	2+	1		1				0849		6446
15	1011	1013	1028	1-	5			1		1	1008	C2.0	
15	1422	1426	1441	1-	5					2	1422E	C1.5	
15	1738	1738	1746	1-	1					1	*		
15	2203	2209	2233	1-	5			1		1	2205	C2.7	6444
16	0047	0053	0108	1-	1			1			0047	C1.4	6444
16	2023	2025	2045	1	1					1	2023	C1.9	6444
16	2239	2259	2327	1-	5			1		1	2241	C2.4	
16	2349	2402	2424	1-	1			1			2345	C1.8	
17	0841	0845	0850	1-	1					1	0845	C1.3	6444
17	1226	1228	1238	1-	1					1	1226	C1.6	
17	1300	1302	1304	0	5	1	2		1	3	1301	C3.3	6444
17	1415	1416	1420	1-	3					2	1415E	C2.5	6444
17	1420	1434	1458	1	1		1				1415E	C2.5	6444
17	1457	1506	1605	3	5	2	3		1	10	1457	M6.9	6455
17	1503	1517	1531	1+	3	1	1				1457	M6.9	6455
17	1846	1854	1905	1	1					1	1849		6455
17	2114	2118	2130	1-	3					3	2116E	C2.0	
17	2306	2311	2324	1-	1			1			2304	C2.9	6447

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1991

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	LF-SES	Flare (UT)	X-ray Class	NOAA Region
18	0007	0047	0056D	2-	1			1			*		
18	0107	0150	0356D	3	3	1		1			0046	M2.3	6447
18	0232	0243	0300	1	1	1					*		
18	0356E	0414	0606	3-	5	1		1		1	0414	M1.1	6455
18	0823	0828	0848	1	1					1	0824	C2.9	6455
18	0838	0847	0913	1-	1			1			*		
18	0950	0955	1045	1-	5			1	1	2	0945	C3.9	6455
18	1303	1307	1326	1-	5	1	3	1	1	3	1300	C7.7	6444
18	1403	1408	1415	1-	1				1		1406	C3.0	6447
18	1405	1421	1503	2-	5		1			1	No flare		
18	1542	1548	1603	1	5					6	1530	C5.9	6444
19	0112	0117	0143	1-	1			1			0112		6455
19	0232	0236	0336	1-	1			1			0228	C5.7	6444
19	0523	0537	0558	1-	1			1			*		
19	1038	1043	1059	1-	1			1			1038	C3.1	6444
19	1130	1139	1217	1-	5		2	1	1	1	1130	C4.2	
19	1319	1323	1335	1-	5				1	2	1314	C5.4	6456
19	1342	1347	1414	1+	1					1	*		
19	1431	1437	1450	1-	5		1		1	10	1443	C4.5	6447
19	1557	1607	1617	1	5					2	1559	C2.2	6447
19	1753	1757	1813	1	3					2	*		
19	1843	1849	1926	2	3					8	1842	C3.2	
19	1952	1956	2012	1-	3					2	1950	C2.9	6455
19	2033	2039	2048	1-	5			1		7	2033	C4.7	
19	2144	2152	2210	1-	5			1		2	2144	C3.7	
19	2342	2358	2523	2-	5			1		1	2341	C4.5	
20	0129	0140	0148D	1-	1			1			0143	C6.5	6458
20	0148E	0214	0306D	2-	1			1			*		
20	0308E	0314	0413	1-	1			1			*		
20	0713	0727	0903	3	5	2	1	1		2	0713	C8.4	
20	0920	0930	1039	1	5		1	1	1	2	0921	C6.3	6455
20	1248	1250	1300	1-	1					1	*		
20	1335	1345	1401	1+	1					1	*		
20	1531	1537	1552	1	1					1	No flare		
20	2044	2100	2207	1	5			1		6	2042	C6.5	6455
20	2247	2253	2318	1-	5			1		1	2251	C6.0	
21	0015	0030	0217	3	5	1		1		1	0020E	M6.1	6455
21	0125	0132	0144	1+	1	1					*		
21	0553	0611	0627D	1-	1			1			0551	C2.9	
21	0627E	0647	0823D	3	5	2	1	1		2	0632	M2.7	
21	0809	0819	0838	1+	3		1			2	0818	C5.9	6455
21	0823E	0827	0847	1-	1			1			0818	C5.9	6455
21	0915	0919	0946	1-	5			1	1	1	0915	C3.7	
21	0941	1100	1200	3+	1		1				*		
21	1107	1118	1142	2-	3		1			1	1056	C5.4	6462
21	1155	1159	1223	1-	5		2	1	1	2	1155	C6.5	6462
21	1231	1237	1249D	1-	5		1	1		1	1223	C4.0	6462
21	1249E	1254	1324	1-	5	1	4	1	1	2	1247	C8.4	6455
21	1351	1354	1402	1	3					3	1345	C2.6	6462
21	1500	1505	1522	1	5					3	1457	C2.6	6447
21	1530	1533	1553	1	5					7	1529	C2.8	
21	1652	1659	1717	1	1						1652		6462
21	1730	1733	1747	1-	3					4	1727	C2.2	6462
21	1851	1858	1932	2-	3					8	1851	C4.9	
21	2017	2023	2034	1-	5			1		6	2014	C3.9	6462
21	2113	2119	2202	1-	5			1		7	2112	C9.3	6455
21	2128	2132	2230	2+	1					1	2122E		
22	0151	0156	0211D	1-	1			1			*		
22	0209E	0215	0252	2-	3	1		1			0210E	C8.1	
22	0312E	0321	0340D	1-	1			1			0309	C4.1	
22	0338E	0346	0412	1-	1			1			0337	C4.2	
22	0543	0553	0728	3	5	2	5	1	1	2	0546	M3.4	
22	0740	0754	0841	2	5			1		1	0744	C5.3	6462

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1991

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
22	0950	1008	1033	1+	1		1				No flare		
22	1038	1052	1110D	1-	1			1			1043		6455
22	1110E	1115	1151	1-	5		4	1	1		1110	C8.3	6455
22	1206	1213	1227	1	3		2				1201		6455
22	1315	1319	1352	1-	5	2	4	1	1	7	1313	M2.4	6455
22	1521	1527	1550	2	5	1	4		1	7	1522	M3.2	6462
22	1755	1806	1834	2-	3					6	1758E	C9.8	6466
22	1946	1957	2038	1+	5			1		9	1946	M2.7	6455
23	0127	0139	0211D	1	3	1		1			0124	C7.0	6455
23	0211E	0214	0242	1-	1			1			No flare		
23	0611	0618	0655	1-	1			1			0611	C2.6	
23	0812	0823	0903	2	5	1	1	1	1	2	0812	C7.4	6466
23	1040	1042	1050	1-	1				1		1040E	C3.1	6466
23	1113	1116	1130U	1-	1					1	1113	C3.1	
23	1128	1139	1216	1	1		1				*		
23	1316	1321	1336	1	1					1	1321		6462
23	1431	1442	1458	1	5		1			6	1433	C5.0	
23	1505	1510	1528	1-	5					3	1510	C3.4	6462
23	1736	1742	1800	1	1					1	1736	C2.2	
23	1815	1820	1838	1	3					7	1819E	C2.9	6462
23	1858	1901	1912	1-	1					1	1857	C2.4	6464
24	0111	0114	0125	1-	1			1			0111		6466
24	0219	0232	0249	1-	1			1			0227		6466
24	0317	0341	0758	3	5	1		1		3	0329	M3.2	6462
24	0810	0815	0821	1-	1					1	0812		6462
24	1225	1228	1240	1-	3				1	1	1224	C4.5	6466
24	1447	1449	1503	1-	3					4	1448E	C3.9	6462
25	0006	0015	0050	1-	1			1			*		
25	0120	0153	0229D	2+	3	1		1			0120	M1.3	
25	0229E	0252	0358D	3	5	1		1		1	0228	M1.6	
25	0358E	0403	0454D	1-	1			1			0355		6462
25	0454E	0501	0607	1-	5			1		2	0455	C5.1	6462
25	0534	0538	0604	1-	1			1			*		
25	0620	0636	1106D	3	5	2	1	1		2	0630	X10.0	
25	1106E	1117	1206	1	5	1	4	1	1	1	1039	M1.4	6466
25	1227	1230	1304	1-	5		3	1	1		1126E		6466
25	1316	1320U	1400	1-	5	1	3	1	1	7	1317	M2.4	6466
25	1442	1445	1504	1	1					1	1443		6462
25	1717	1725	1802	2	3					2	*		
25	1859	1901	1915	1-	3					2	1824		6462
25	1935	1938	2008	1	3					8	1934E	C4.6	6466
25	2008	2010	2032	1	1					1	2007		6469
26	0024	0036	0100	1-	1			1			0026		6462
26	0230	0239	0251	1-	1			1			No flare		
26	0400	0420	0518	1-	1			1			0358		6462
26	0551	0600	0615D	1-	1			1			No flare		
26	0615E	0635	0722	1-	1			1			0621		6469
26	0807	0815	0844D	1-	1			1			0801	C8.3	6462
26	0844E	0850	0956	1+	5		3	1	1	4	0858		6471
26	0902	0908	0915	1-	1					1	0906		6462
26	1010	1013	1025	1-	3	1			1		1002	C3.8	6462
26	1038	1041	1114	1-	5	1		1	1		1035	C4.6	
26	1135	1137	1145	1-	1		1		1		1130		6462
26	1150	1153	1153D	1-	1				1		1148	C4.5	6462
26	1212	1216	1225	1-	1				1		*		
26	1255	1258	1310	1-	3	1			1		*		
26	1335	1342	1353	1-	1					1	1337		6464
26	1404	1412	1425	1	5	1	2		1	4	1405		6462
26	1511	1514	1529	1-	5					5	1510	C5.4	
26	1713	1718	1744	1+	3					9	1711	C6.2	6462
26	1846	1849	1906	1	3					8	1843	C4.4	6466
26	1917	1927	1952	1+	3					10	1923	C6.1	6472
26	2111	2122	2206	1	5			1		4	2114	C7.8	6471
26	2338	2355	2448	1-	5			1		1	2335		6462

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1991

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	LF-SES	Flare (UT)	X-ray Class	NOAA Region
27	0106	0107	0130U	1	1					1	0111		6465
27	0130	0138	0213	1-	1			1			0129	C5.2	6469
27	0301	0306	0323D	1-	1			1			0256		6466
27	0323E	0335	0353D	1-	5			1		1	0307		6466
27	0353E	0358	0433	1-	1			1			No flare		
27	0521	0541	0702	1+	5			1		2	0526	C5.5	6471
27	0812	0820	0838	1-	5			1		2	0810		6462
27	0853	0857	0906	1-	5			1	1	2	0852	C3.6	
27	0916	0920	0937	1-	1			1			*		
27	1003	1008	1037	1-	5	1		1	1	1	1004	C4.1	6471
27	1006	1033	1111	1	1		1				1004	C4.1	6471
27	1053	1102	1116	1-	1			1			*		
27	1148E	1152	1215	1+	1					1	1138		6465
27	1441	1451	1451D	3	5	3	5		1	11	1440	X1.9	6471
27	1525	1543	1605	2	5	1	1		1	5	1449		6472
27	2322	2326	2343	1-	1			1			2318		6471
27	2351	2356	2407	1-	1			1			2351		6466
28	0130	0155	0312D	2+	3	1		1			0130	M1.7	6466
28	0313E	0319	0419	1-	1			1			0313		
28	0521	0526	0541	1-	1			1			0522		6471
28	0643	0650	0732	1-	1			1			*		
28	0752	0758	0835	1-	5		1	1	1	2	0738	C7.2	6465
28	0911	0921	0934	1	1					1	0911	C5.1	6466
28	1122	1130	1144	1-	5		1	1	1		1120	C4.5	
28	1234	1251	1305	1-	5		1	1		2	1240	M1.1	6471
28	1359	1406	1415	1-	3					2	1359	C4.7	6471
28	1529	1543	1553	1	1					1	1525		6471
28	1624	1630	1650	1	3					6	1630	C4.8	6476
28	1702	1706	1717	1-	3					2	1707	C7.8	6469
28	1733	1735	1800	1	3					10	1707	C7.8	6469
28	1753	1758	1829	2-	3					9	1751	M1.1	6471
28	1828	1830	1844	1-	3					7	*		
28	1844	1846	1915	1+	1					1	1845		6469
28	1950	1958	2024	1	5			1		10	1950	M1.2	6471
28	2056	2102	2139D	1+	5			1		9	2057	M1.1	
28	2139E	2145	2209	1-	5			1		4	2140	C4.0	6471
28	2200	2206	2232	1+	1					1	2200		6469
29	0058	0105	0134	1-	1			1			0056		6462
29	0150	0158	0242	1	3	1		1			0152	C5.9	6471
29	0406	0424	0440D	1-	1			1			0414		6469
29	0440E	0458	0511D	1-	1			1			0449		6462
29	0511E	0515	0541	1-	1			1			0509		6469
29	0604	0613	0638	1-	1			1			0605		6471
29	0651	0658	0741D	2+	5	1		1		2	0651	C9.9	6471
29	0749	0749E	0820	1	5			1		2	0741		6469
29	0944	0955	1008D	1-	1			1			0946	M1.2	6471
29	1008E	1019	1151	2	5		4	1	1	3	0946	M1.2	6471
29	1014	1042	1048	3	1	1					1024		6469
29	1215	1218	1230	1-	5		1	1	1	2	1214	C4.3	
29	1309	1315	1325	1-	5			1	1	1	*		
29	1348	1351	1405	1-	5		1		1	7	1347	C6.1	6465
29	1419	1423	1423D	1-	5				1	6	1416	C8.7	6469
29	1430	1435	1448D	1-	1					1	1416	C8.7	6469
29	1445	1455	1525	2-	3					4	*		
29	1556	1608	1639	2	5					8	1558	C6.8	6476
29	1718	1722	1737	1-	3					7	1723E	C6.6	6469
29	1745	1755	1830	2	3					8	1744	C7.2	6476
29	1841	1845	1915	2-	3					8	1840		6469
29	2007	2008	2029	1	1					1	2007		6476
29	2200	2207	2215	1-	1					1	2203	C3.9	6462
29	2223	2236	2245	1	1					1	2229		6466
30	0049	0111	0224	1-	5			1		1	0103	C6.3	6462
30	0112	0136	0155	1-	1	1					0103	C6.3	6462

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1991

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
30	0349	0356	0412D	1-	1			1			0343		6469
30	0412E	0421	0454	1-	3	1		1			0412E	C4.9	
30	0707	0713	0727	1-	1			1			0709	C3.2	6465
30	0801	0808	0826	1-	1			1			0738	C4.9	6466
30	0848	0907	1205	3	5	3	5	1	1	3	0849	X1.0	6466
30	1041	1045	1055	1-	3	1			1		1029		6471
30	1244	1247	1301	1-	5			1	1		1243	C5.9	
30	1347	1352	1352D	1-	5		1		1	2	1350	M1.2	6462
30	1418	1422	1422D	1-	5		1		1	9	1419	M1.0	6471
30	1445	1448	1455	1-	1		1		1		1419	M1.0	6471
30	1508	1520	1530	1-	5	1	1		1	8	1508		6471
30	1553	1559	1612	1-	3					7	1553		6471
30	1609	1616	1644	2-	3					7	1611		6462
30	1659	1704	1732	1+	3					8	1700	C7.9	6462
30	1755	1757	1828	2-	3					9	1756	M1.0	6469
30	1911	1915	1925	1-	3					3	1911	C6.4	6462
30	1948	1956	2027	2-	3					7	1948	C6.4	6462
30	2214	2222	2249D	1	5			1		2	2215	M1.0	6469
30	2237	2238	2245U	1-	1					1	2237	C6.1	6462
30	2249E	2300	2331	1-	5			1		1	2237	C6.1	6462
30	2317	2322	2326	1-	1	1					2314		6469
31	0002	0009	0021	1-	1			1			0005		6479
31	0050	0055	0104	1-	1			1			0038		6462
31	0154	0227	0443D	3	1	1		1			0158	X1.3	6469
31	0258	0313	0355	1+	1	1					No flare		
31	0443E	0453	0716	2+	1			1			*		
31	0956	1008	1102	1-	1			1			0953	C5.4	
31	1147	1159	1300	1+	5	3	2	1	1	2	1147	M1.4	
31	1328	1332	1346	1-	5					3	1326	C5.1	
31	1607	1614	1641	1+	5					9	1559	C5.7	6469
31	1758	1802	1837	2-	3					10	1758	C6.4	
31	1939	1944	1946	1-	1					1	1936		6469
31	2023	2029	2104	2-	3					7	2017	C8.4	6469
31	2125	2132	2139	1-	5			1		1	2124	C5.5	6471
31	2316	2323	2330D	1-	1			1			2322	C5.0	6462
31	2325E	2339	2355D	1-	1			1			2322	C5.0	6462
31	2346E	2404	2430D	2	1			1			*		

* = no flare patrol.

OBSERVATORIES REPORTING FOR JANUARY 1991

Amherst, New Hampshire, USA	SES	Kuhlungsborn, Germany	SEA, SPA
Athens, Georgia, USA	SES	LaCrescenta, California, USA	SES
Boksburg, Rep of S. Africa	SES	Latrobe, Pennsylvania, USA	SES
Cleveland, Ohio, USA	SES	Locust Grove, Georgia, USA	SES
Cypress, Texas, USA	SES	Madison, Wisconsin, USA	SES
Darmstadt, Germany	SWF	Manahawkin, New Jersey, USA	SES
Edenvale, Rep of S. Africa	SES	Maui, Hawaii, USA	SWF
Euclid, Ohio, USA	SES	Nerja, Spain	SES
Hiraiso, Japan	SWF	Panska Ves, Czechoslovakia	SES, SEA, SWF
Houston, Texas, USA	SES	Paterson, New Jersey, USA	SES
Hudson, Ohio, USA	SES	Rochester, New Hampshire,USA	SES
Humain, Belgium	SEA	San Francisco, California, USA	SES
Inubo, Japan	SPA	Shaker Heights, Ohio, USA	SES
Johannesburg, Rep of S. Africa	SES	Upice, Czechoslovakia	SEA
Juliusruh, Germany	SWF	Vlasim, Czechoslovakia	SEA
Kandilli, Turkey	SEA		

Observations are not necessarily continuous.

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

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0734	CULG				0622.0	0624.0	1				IIIG
	0659	1405	POTS				0728.0	1130.0	1				I,S,DC
	0800	1514	WEIS										
	0837	1332	ONDR										
			SGMR				1605.0	1605.0	1				III
	2035	2400	CULG										
02	0000	0735	CULG				0132.0	0132.0	1				IIIB
			LEAR				0132.0	0133.0	1				III
			LEAR				0258.0	0300.0	1				III
			CULG				0435.0	0435.0	2	0435.0	0435.0	1	IIIG
			LEAR				0436.0	0441.0	2				III
			CULG				0541.0	0541.0	1				IIIB
			CULG				0548.0	0550.0	2				IIIG
			LEAR				0548.0	0550.0	2				III
	0712	1429	POTS										
	0758	0946	WEIS										
	0836	1334	ONDR										
			POTS				0942.0	0954.0	1				I,S
	1002	1515	WEIS										
			POTS				1245.5	1245.6	1				UNCLF
	2036	2400	CULG										
03	0000	0736	CULG				0014.0	0014.0	1				IIIB
			LEAR				0014.0	0014.0	1				III
	0658	1431	POTS										
	0758	1514	WEIS										
	0836	1335	ONDR										
	2036	2400	CULG										
			PALE				2151.0	2151.0	1				III
04	0000	0737	CULG				0415.0	0418.0	1				IIIG
			LEAR				0604.0	0605.0	2				III
			CULG				0604.5	0606.0	2				IIIG
	0649	1245	POTS										
			LEAR				0705.0	0705.0	1				III
	0800	1519	WEIS										
			POTS				0816.0	0903.0	1				I,S
			LEAR				0833.0	0835.0	2				III
	0836	1337	ONDR										
			POTS				0907.5	0907.7	1				IIIG
			WEIS				1103.4	1103.7	1				IIIG
			POTS				1140.0	1155.0	1				I,S
			WEIS				1204.3	1204.6	1				IIIG
			SVTO				1209.0	1209.0	2				III
			POTS				1209.3	1209.5	2				IIIG
			WEIS				1209.3	1209.5	2				IIIG
			SVTO				1239.0	1239.0	2				III
	1307	1415	POTS										
			POTS				1338.0	1341.0	1				I,S,DC
	2037	2400	CULG										
05	0000	0737	CULG										
			LEAR				0143.0	0146.0	1				III
	0706	1413	POTS										
	0757	1421	WEIS										
	0836	1338	ONDR										
			POTS				0906.1	0906.2	1				IIIB
			POTS				0954.8	0956.4	1				IIIG
			POTS				1205.5	1206.5	3				IIIG
			POTS				1247.9	1248.1	1				IIIG
			POTS				1314.8	1315.0	1				IIIG
			POTS				1328.8	1330.0	1				UNCLF
	1504	1518	WEIS										
	2037	2400	CULG				2221.0	2221.0	1				IIIB
06	0000	0737	CULG				0114.0	0123.0	1				IS
			CULG				0423.0	0719.0	1				IS
	0656	1407	POTS										

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

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
06	0757	1516	WEIS										
	0834	1339	ONDR										
			POTS				0914.4	0914.7	2				UNCLF
			POTS				1017.3	1017.6	2				U,IIIB
			POTS				1017.9	1018.0	1				IIIB
			POTS				1056.7	1056.8	1				IIIB,RS
			POTS				1215.5	1221.0	1				I,S
			SGMR				1445.0	1445.0	1				III
			SGMR				1457.0	1457.0	1				III
			WEIS				1457.3	1457.4	2				IIIB
			PALE				1943.0	1943.0	1				III
	2037	2400	CULG										
07	0000	0738	CULG										
	0705	1423	POTS				0705.0E	0752.0	1				I,S
	0759	1521	WEIS										
			POTS				0828.9	0829.6	2				IIIG
			POTS				0845.0	1423.0U	2				I,S,DC
			POTS				0907.8	0908.3	1				IIIG
			POTS				1002.2	1002.3	1				IIIB
			POTS				1111.9	1113.1	3				IIIG,U
	0834	1341	ONDR				1112.0	1112.1	1				IIIG
			WEIS				1112.1	1113.0	2				IIIG
			SVTO				1113.0	1114.0	2				III
			POTS				1150.8	1150.9	1				IIIB
			WEIS				1213.2	1213.3	1				IIIG
			POTS				1227.3	1227.4	2				IIIB
			POTS				1316.0	1316.1	1				IIIB
			WEIS				1323.4	1323.7	1				IIIG
			PALE				2147.0	2147.0	2				III
	2038	2400	CULG				2237.0	2237.0	1				IIIB
08			LEAR				0451.0	0452.0	1				III
			LEAR				0519.0	0730.0	1				CONT
	0000	0739	CULG				0533.0	0533.0	2				IIIB
			LEAR				0533.0	0534.0	2				III
			LEAR				0640.0	0641.0	2				III
			CULG				0641.0	0641.0	1				IIIB
	0721	1421	POTS				0721.0E	1421.0U	2				I,S,DC
	0756	1522	WEIS										
			LEAR				0810.0	0811.0	3				III
			SVTO				0810.0	0811.0	2				III
			POTS				0810.3	0810.7	3				IIIG
			WEIS				0810.4	0810.8	3				IIIGG
			POTS				0825.1	0825.5	1				UNCLF
	0832	1344	ONDR										
			POTS				0942.6	0942.7	2				RS
			POTS				0950.2	0950.3	3				IIIB
			POTS				1008.3	1008.6	1				IIIG,U
			POTS				1031.7	1031.9	1				IIIG
			POTS				1125.5	1125.6	1				IIIB
			POTS				1151.3	1151.4	1				IIIB
			POTS				1204.3	1204.5	1				IIIG
			POTS				1215.1	1215.2	1				IIIB
			POTS				1223.7	1223.9	2				RS
			POTS				1242.4	1242.7	3				IIIG
			POTS				1257.1	1329.3	2				IIIGG
			POTS				1304.0	1304.2	1				U
			POTS				1350.8	1351.6	2				IIIG
			WEIS				1351.6	1351.9	1				IIIB
			POTS				1415.3	1416.5	2			II	?
			SGMR				1419.0	1420.0	1				III
			WEIS				1519.7	1519.9	2				IIIB
			SGMR				1835.0	1848.0	2			II	
			PALE				1836.0	1848.0	1			II	
			PALE				1947.0	1947.0	1				III
			PALE				2021.0	2023.0	2				III
			SGMR				2021.0	2023.0	1				III
			SGMR				2022.0	2024.0	1				III

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

JANUARY 1991

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
08 2039	2400	CULG										
		LEAR				2352.0	0000.0	2				III
09 0000	0739	CULG				0102.0	0103.0	2				IIIB
		LEAR				0102.0	0103.0	2				III
		PALE				0102.0	0103.0	1				III
		CULG				0114.0	0114.0	1				IIIPAIR
		LEAR				0114.0	0114.0	1				III
		CULG				0130.0	0131.0	1				IIIG
		LEAR				0130.0	0132.0	2				III
		CULG				0358.0	0435.0	1				IIIS
		LEAR				0359.0	0400.0	2				III
		LEAR				0400.0	0537.0	2				CONT
		CULG				0435.0	0535.0	1				IIIS
		CULG				0504.0	0508.0	1				IIIG
		CULG				0535.0	0739.0	1				IIIN
		CULG				0553.0	0554.0	1				IIIG
		LEAR				0553.0	0600.0	2				III
		CULG				0614.0	0614.0	1				IIIB
0700	1432	POTS				0700.0E	1432.0U	2				I,S,DC
		CULG				0720.0	0720.0	1				IIIB
		LEAR				0720.0	0722.0	2				III
0756	1522	WEIS										
		LEAR				0812.0	0814.0	1				III
0832	1344	ONDR										
		POTS				1020.4	1020.8	2				RS
		LEAR				1036.0	1037.0	2				III
		SVTO				1036.0	1037.0	2				III
		POTS				1036.6	1037.6	3				IIIG
		WEIS				1036.8	1037.2	2				IIIG
		POTS				1047.5	1047.7	1				IIIG
		POTS				1057.0	1057.1	2				IIIB
		POTS				1059.8	1059.9	1				IIIB
		SVTO				1110.0	1111.0	2				V
		POTS				1110.4	1111.6	1				IIIG
		POTS				1148.4	1148.5	2				IIIB
		POTS				1207.4	1209.6	1				IIIG
		WEIS	1257.2	1304.3	1							I
		POTS				1304.3	1304.5	1				IIIG,RS
		WEIS				1304.4	1304.6	2				U
		POTS				1312.8	1312.9	2				IIIB
		POTS				1348.7	1349.3	1				IIIGG
		POTS				1351.4	1351.7	3				IIIG
		WEIS				1351.4	1351.7	3				IIIG
		PALE				1843.0	1845.0	1				III
		PALE				1913.0	1945.0	1				III
2039	2400	CULG										
10 0000	0739	CULG				0037.0	0037.0	1				IIIB
		LEAR				0037.0	0037.0	1				III
		LEAR				0049.0	0051.0	2				III
		CULG				0126.0	0127.0	1				IIIB
		LEAR				0126.0	0127.0	2				III
		LEAR				0152.0	0153.0	2				III
		CULG				0253.0	0253.0	1				IIIB
		CULG				0318.0	0318.0	1				IIIB
		CULG				0335.0	0339.0	1				IIIG
		LEAR				0335.0	0340.0	1				III
		CULG				0606.0	0606.0	1				IIIB
		CULG				0643.0	0643.0	1				IIIPAIR
0646	1409	POTS										
		POTS				0740.0	1409.0U	1				I,S,C,DC
0758	1400	WEIS										
		POTS				0823.5	1359.0U	1				IIIGG
0831	1346	ONDR										
		POTS				0842.5	0842.6	1				IIIB
		POTS				0927.6	0927.7	2				RS
		WEIS	0944.7	0945.0	1							RS
		WEIS	1149.01	2330.0	1							I

SOLAR RADIO EMISSION
Spectral Observations

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
10			SGMR				1417.0	1418.0	1				III
	1417	1525	WEIS				1417.8	1418.2	1				IIIG
	2040	2400	CULG				2253.0	2258.0	1				IIIGG
			LEAR				2254.0	2257.0	1				III
11	0000	0740	CULG				0037.0	0039.0	1				IIIN
			LEAR				0038.0	0039.0	1				III
			CULG				0154.0	0251.0	1				IIIN
			LEAR				0154.0	0155.0	1				III
			PALE				0230.0	0231.0	1				III
			LEAR				0340.0	0341.0	1				III
			CULG				0341.0	0342.0	1				IIIG
			CULG				0449.0	0449.0	1				IIIG
			CULG				0504.0	0509.0	1				IIIGG
			LEAR				0504.0	0509.0	1				III
			CULG				0625.0	0625.0	1				IIIB
			LEAR				0625.0	0625.0	1				III
	0702	1408	POTS										
			POTS				0719.1	0720.1	2				IIIG
			LEAR				0744.0	0745.0	1				III
	0755	1526	WEIS										
			POTS				0809.8	0810.2	1				IIIG
			LEAR				0818.0	0824.0	2				III
			POTS				0818.0	0821.9	1				IIIG,V
			POTS				0832.2	0832.3	1				IIIB
			POTS				0916.5	0922.4	1				IIIGG
			POTS				0933.5	0933.6	1				IIIB
			POTS				0941.2	0941.3	1				UNCLF
			POTS				0949.3	0950.9	2				IIIG,RS
			LEAR				0952.0	0952.0	1				III
			SVTO				0952.0	0952.0	2				III
			POTS				1008.2	1008.3	1				RS
			POTS				1042.8	1043.5	2				IIIG
			POTS				1057.4	1057.5	1				RS
	0831	1124	ONDR	1059.3	1059.4	1	1059.3	1059.4	1				IIIG
			POTS				1059.3	1059.5	2				UNCLF
			POTS				1107.2	1110.7	1				IIIGG
	1124	1259	ONDR										
			POTS				1145.7	1152.4	1				IIIG
			POTS				1201.2	1201.3	1				UNCLF
			POTS				1202.0	1202.2	1				U
			POTS				1204.4	1237.0	2				IIIGG
			POTS				1205.5	1325.0	1				I,S,DC
			WEIS				1210.5	1210.7	3				IIIB
			POTS				1238.9	1239.1	3				U
			POTS				1243.0	1324.5	3				IIIGG,V
	1259	1348	ONDR										
			WEIS				1315.3	1316.6	3				IIIG
			SVTO				1316.0	1316.0	3				III
			WEIS				1434.7	1435.6	3				IIIG
			SGMR				1524.0	1529.0	2				III
			WEIS				1524.1	1526.2	3				II IIIGG,RS
			SGMR				1756.0	1756.0	1				III
	2040	2400	CULG				2251.0	2251.0	1				IIIG
12			LEAR				0001.0	0002.0	1				III
	0000	0740	CULG				0002.0	0002.0	1				IIIG
			PALE				0002.0	0002.0	1				III
			LEAR				0130.0	0131.0	1				III
			LEAR				0140.0	0143.0	2				III
			CULG				0141.0	0141.0	1				IIIG
			CULG				0143.0	0143.0	1				IIIG
			CULG				0150.0	0151.0	1				IIIG
			LEAR				0150.0	0151.0	2				III
			LEAR				0225.0	0234.0	3				III
			CULG				0255.0	0740.0	2	0255.0	0740.0	1	IIIN
			LEAR				0308.0	0314.0	2				III
			LEAR				0320.0	0322.0	3				III
			LEAR				0339.0	0344.0	2				III

SOLAR RADIO EMISSION
Spectral Observations

JANUARY 1991

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
12			LEAR				0355.0	0355.0	2				III
			LEAR				0401.0	0402.0	3				III
			LEAR				0414.0	0415.0	2				III
			LEAR				0419.0	0518.0	2				S
			LEAR				0522.0	0528.0	2				III
			LEAR				0533.0	0537.0	3				III
			LEAR				0553.0	0557.0	2				III
			LEAR				0602.0	0603.0	1				III
			LEAR				0609.0	0616.0	2				III
			LEAR				0629.0	0630.0	1				III
			LEAR				0639.0	0640.0	3				III
			LEAR				0703.0	0712.0	3				III
			LEAR				0715.0	0716.0	1				III
			LEAR				0736.0	0818.0	3				S
			SVTO				0739.0	0741.0	2				III
	0754	1526	WEIS										
	0805	1403	POTS				0808.4	0824.5	2				IIIGG
			WEIS				0818.6	0818.7	2				IIIB
			POTS				0835.3	0835.6	1				IIIG
			LEAR				0838.0	0839.0	1				III
			POTS				0840.6	0840.8	2				UNCLF
			WEIS	0840.6	0840.7	2							IIIG
	0828	1350	ONDR	0840.7	0840.9	1							IIIG
			POTS				0842.9	0843.6	1				IIIG
			LEAR				0844.0	0850.0	1				MWB
			POTS				0845.2	1403.0U	1				I,S,DC
			POTS				0851.5	0905.3	1				IIIGG
			LEAR				0904.0	0905.0	2				III
			WEIS				0905.7	0905.8	1				IIIGG
			POTS				0918.9	0922.2	1				IIIG
			POTS				0939.3	1008.0	2				IIIG
			SVTO				0956.0	0956.0	2				III
			LEAR				1006.0	0956.0	2				III
			POTS				1018.6	1051.6	2				IIIGG
			POTS				1101.5	1403.0U	2				IIIGG
			SVTO				1121.0	1122.0	2				III
			WEIS				1121.8	1122.6	1				IIIG
			WEIS	1127.0	1130.0	1							I
			ONDR	1127.8	1127.9	1							IIIG
			ONDR	1129.5	1129.6	1	1129.5	1129.6	1				IIIG
			WEIS				1345.1	1345.2	1				IIIB,U
			WEIS	1428.7	1432.1	1							CONT
			SGMR				1429.0	1430.0	1				V
			SGMR				1429.0	1437.0	1				V
			WEIS				1429.6	1429.9	2				IIIG
			SVTO				1430.0	1437.0	2				III
			WEIS				1435.7	1437.3	3				IIIG
			SGMR				1439.0	1632.0	1				CONT
			SGMR				1601.0	1602.0	2				III
			SGMR				1619.0	1620.0	2				V
			SGMR				1631.0	1631.0	1				V
			SGMR				1659.0	1700.0	1				III
			PALE				1818.0	1819.0	1				III
			SGMR				1818.0	1819.0	1				V
			PALE				1922.0	1922.0	1				III
			PALE				2033.0	2042.0	2				III
			PALE				2127.0	2128.0	1				III
	2040	2400	CULG				2210.0	2215.0	2	2210.0	2215.0	2	IIIGG
			PALE				2210.0	2214.0	3				III
			LEAR				2254.0	2254.0	1				III
			LEAR				2307.0	2314.0	1				III
			LEAR				2324.0	2324.0	1				III
			CULG				2351.0	2352.0	1				IIIG
			LEAR				2351.0	0000.0	2				III
			PALE				2351.0	0000.0	2				III
			CULG				2359.0	2359.0	2				IIIG
13	0000	0740	CULG				0027.0	0048.0	1				IIIG
			LEAR				0038.0	0048.0	2				III

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

JANUARY 1991

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1–3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1–3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1–3)	Spectral Type
13		LEAR				0128.0	0136.0	2				III
		CULG				0136.0	0136.0	2				IIIG
		CULG				0212.0	0212.0	2				IIIG
		LEAR				0212.0	0217.0	3				III
		CULG				0216.0	0217.0	2				IIIG
		PALE				0216.0	0217.0	1				III
		CULG				0234.0	0234.0	1				IIIB
		CULG				0310.0	0311.0	2				IIIG
		LEAR				0402.0	0404.0	3				III
		CULG				0403.0	0413.0	2				IIIGG
		LEAR				0405.0	0414.0	2				III
		CULG				0449.0	0654.0	2				IIIN
		LEAR				0449.0	0449.0	2				III
		CULG				0720.0	0721.0	2				IIIG
	0755	1529 WEIS										
	0801	1405 POTS				0801.0E	1405.0U	3				I,S,C,DC
		WEIS				0811.0	1311.0	2				I,N,DC
		POTS				0821.3	1405.0U	3				IIIGG
	0828	1352 ONDR	0849.9	1352.0	2	0849.9	1352.0	2				I,N
		ONDR				0901.6	0901.8	2				IIIG
		WEIS				0903.9	0904.5	3				IIIG
		LEAR				0904.0	0904.0	2				III
		ONDR				0906.3	0906.6	3				IIIGG
		POTS	0913.8	0914.0	2							DCIM
		WEIS				1142.2	1142.8	2				IIIG
		ONDR				1147.8	1147.9	3				IIIG
		SVTO				1200.0	1202.0	3				V
		WEIS				1200.4	1202.4	3				IIIGG
		SVTO				1221.0	1225.0	2				III
		WEIS				1221.4	1225.6	1				IIIGG
		SGMR				1319.0	1919.0	1				III
		SVTO				1320.0	1320.0	2				III
		WEIS				1320.0	1320.3	3				IIIB
		POTS	1354.4	1354.6	2							DCIM
		WEIS				1403.2	1404.2	3				IIIG
		SGMR				1433.0	1433.0	1				III
		SGMR				1732.0	1738.0	2				III
		PALE				1736.0	1737.0	1				III
	2041	2400 CULG				2051.0	2104.0	1	2051.0	2104.0	1	IIIN
		CULG				2052.0	2112.0	2	2052.0	2112.0	1	IIIN
		PALE				2052.0	2056.0	2				V
		SGMR				2053.0	2054.0	1				V
		PALE				2104.0	2112.0	2				III
		CULG				2247.0	2342.0	1				IIIN
		CULG				2304.0	2309.0	2	2304.0	2309.0	1	IIIN
		LEAR				2304.0	2309.0	3				III
		PALE				2304.0	2309.0	2				V
		LEAR				2329.0	2336.0	2				III
		PALE				2329.0	2329.0	1				III
14		LEAR				0006.0	0007.0	2				III
		PALE				0006.0	0007.0	1				III
	0000	0741 CULG				0007.0	0007.0	2				IIIB
		CULG				0046.0	0046.0	1				IIIB
		LEAR				0046.0	0046.0	2				III
		PALE				0046.0	0046.0	1				III
		LEAR				0113.0	1009.0	1				CONT
		CULG				0116.0	0119.0	1				IIIG
		LEAR				0119.0	0119.0	2				III
		CULG				0132.0	0134.0	2	0132.0	0134.0	1	IIIG
		PALE				0132.0	0134.0	1				III
		LEAR				0134.0	0134.0	2				III
		CULG				0157.0	0741.0	1				IIIN
		LEAR				0221.0	0242.0	2				S
		CULG				0236.0	0238.0	2				IIIG
		CULG				0241.0	0242.0	1				IIIG
		CULG				0317.0	0319.0	3	0318.0	0319.0	2	IIIG
		LEAR				0317.0	0323.0	3				III
		PALE				0318.0	0318.0	1				III

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

JANUARY 1991

Observation Start Day (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
14		CULG				0322.0	0323.0	2				IIIG
		CULG				0351.0	0352.0	2				IIIG
		LEAR				0351.0	0352.0	2				III
		CULG				0358.0	0434.0	1				IIIN
		LEAR				0422.0	0422.0	2				III
		CULG				0443.0	0448.0	3	0443.0	0448.0	1	IIIG
		LEAR				0443.0	0448.0	3				III
		CULG				0615.0	0619.0	2				IIIG
		LEAR				0615.0	0621.0	2				III
0705	1437	POTS				0705.0E	1437.0U	2				I,S,C,DC
		LEAR				0751.0	0801.0	2				III
		SVTO				0751.0	0800.0	2				III
		POTS				0751.6	0854.2	3				IIIGG
0753	1530	WEIS										
		LEAR				0811.0	0824.0	2				S
		WEIS				0811.7	0811.8	1				IIIB
		SVTO				0813.0	0841.0	3				S
		WEIS				0813.7	0814.2	3				IIIG
		WEIS				0817.2	0817.3	1				IIIB
		WEIS				0819.2	0819.5	3				IIIG
		WEIS				0822.7	0823.6	3				IIIG,U
		LEAR				0830.0	0831.0	2				III
		WEIS				0830.7	0830.9	2				IIIG
		LEAR				0839.0	0840.0	3				III
		WEIS				0839.1	0841.7	3				IIIG
		WEIS				0856.0	1305.0	1				I,N
		POTS				0935.1	0941.7	2				IIIG
		POTS				1003.6	1007.1	2				IIIGG
		POTS				1029.2	1029.8	3				U
		LEAR				1051.0	1051.0	2				III
		POTS				1051.1	1051.7	2				IIIG
		WEIS				1051.7	1053.4	3				IIIG
		WEIS				1059.0	1100.2	2				IIIG
		POTS				1100.0	1103.6U	1				IIIG
		WEIS				1102.3	1105.1	3				IIIGG,DP
		ONDR	1124.8	1124.9	1							IIIG
0827	1354	ONDR	1124.8	1354.0	1	1124.8	1354.0	1				I,N
		SVTO				1128.0	1135.0	2				III
		POTS				1128.5	1129.5	3				IIIG
		WEIS				1128.6	1129.4	2				IIIG
		POTS				1132.9	1133.0	1				IIIB
		POTS				1211.3	1211.5	1				IIIG
		POTS				1226.4	1226.6	1				IIIG
		POTS				1328.4	1328.5	1				IIIB
		SGMR				1340.0	1340.0	1				III
		WEIS				1406.8	1407.8	3				IIIG
		POTS				1407.0	1407.5	2				IIIG
		SVTO				1407.0	1407.0	2				III
		POTS				1412.8	1412.9	2				IIIB
		WEIS				1412.8	1412.9	2				IIIB
		SGMR				1423.0	1431.0	2				III
		WEIS				1423.7	1426.1	2				IIIGG
		SVTO				1424.0	1426.0	3				III
		POTS				1424.5	1428.6	2				IIIG
		WEIS				1427.8	1428.4	3				IIIGG
		WEIS				1431.2	1431.4	3				IIIG
		SGMR				1442.0	1444.0	1				III
		SVTO				1452.0	1453.0	2				III
		WEIS				1452.2	1453.6	3				IIIGG
		SGMR				1557.0	1558.0	2				V
		SGMR				1726.0	1726.0	2				III
		SGMR				1744.0	1744.0	1				III
		PALE				1827.0	1828.0	1				III
		SGMR				1827.0	1828.0	2				III
		PALE				2015.0	2019.0	1				III
		SGMR				2018.0	2019.0	1				III
		PALE				2033.0	2034.0	2				III
		SGMR				2033.0	2034.0	1				III
2041	2400	CULG				2046.0	2400.0E	1				IIIN

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

JANUARY 1991

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
14		PALE				2138.0	2138.0	1				III
		LEAR				2218.0	2223.0	2				III
		LEAR				2240.0	2240.0	1				III
		LEAR				2322.0	2322.0	1				III
		CULG				2332.0	2400.0E	1				IC,DC
		LEAR				2332.0	2333.0	2				III
15		CULG				0000.0D	0741.0E	1				IIIN
	0000	0741 CULG				0000.0D	0207.0	1				IC,DC
		LEAR				0007.0	0553.0	2				CONT
		CULG				0120.0	0122.0	2	0120.0	0122.0	1	IIIG
		LEAR				0120.0	0122.0	2				III
		CULG				0131.0	0133.0	2	0131.0	0133.0	1	IIIG
		LEAR				0131.0	0139.0	3				III
		CULG				0136.0	0138.0	3	0136.0	0138.0	1	V
		LEAR				0144.0	0146.0	3				III
		LEAR				0153.0	0158.0	2				III
		LEAR				0206.0	0217.0	2				S
		CULG				0207.0	0417.0	1				IC,DC
		CULG				0216.0	0233.0	2				IIIN
		LEAR				0232.0	0233.0	2				III
		CULG				0313.0	0317.0	2				IIIG
		LEAR				0313.0	0317.0	2				III
		CULG				0417.0	0602.0	1				IC,DC
		CULG				0453.0	0459.0	2	0453.0	0459.0	1	IIIN
		LEAR				0453.0	0459.0	2				III
		CULG				0624.0	0631.0	2				IIIN
		LEAR				0624.0	0630.0	2				III
		LEAR				0628.0	0947.0	1				CONT
		LEAR				0640.0	0641.0	2				III
		LEAR				0648.0	0653.0	3				III
		CULG				0649.0	0650.0	2	0649.0	0650.0	1	IIIG
		SVTO				0649.0	0650.0	2				III
	0701	0951 POTS				0701.0E	1339.0	1				I,S,C,DC
		CULG				0720.0	0722.0	3				IIIG
		LEAR				0720.0	0722.0	3				III
		SVTO				0721.0	0722.0	3				III
		POTS				0721.3	0721.6	1				IIIG
		LEAR				0733.0	0748.0	2				S
		POTS				0735.8	0736.0	1				IIIG
		SVTO				0744.0	0744.0	1				III
	0752	1227 WEIS										
		WEIS				0757.0	1020.0	2				I,N,DC
		POTS				0757.9	0758.0	1				IIIB
		LEAR				0804.0	0812.0	3				III
		SVTO				0804.0	0811.0	3				III
		WEIS				0804.1	0804.3	2				IIIG
		POTS				0809.5	0811.2	3				IIIGG
		WEIS				0809.6	0811.4	2				IIIGG
	0825	1356 ONDR	0825.0	1019.0	1	0825.0	1019.1	1				I,N
		POTS				0828.2	0828.3	2				IIIB
		LEAR				0835.0	0843.0	2				III
		POTS				0842.3	0842.4	3				IIIB
		LEAR				0907.0	0909.0	2				III
		POTS				0907.4	0909.0	2				IIIG
		WEIS				0907.5	0907.6	1				IIIB
		POTS				0918.1	0919.7	2				IIIG
		WEIS				0919.5	0919.6	1				IIIB
		LEAR				0927.0	0929.0	2				III
		POTS				0927.1	0928.8	3				IIIG
		SVTO				0928.0	0929.0	2				III
		WEIS				0928.7	0928.9	2				IIIG
		SVTO				0942.0	0943.0	2				III
	1023	1439 POTS										
		POTS				1047.2	1047.3	1				IIIB
		WEIS				1107.7	1109.7	3				IIIGG
		POTS				1107.8	1109.7	3				IIIGG
		ONDR	1107.9	1108.3	3	1107.9	1108.3	3				IIIGG,U
		SVTO				1108.0	1109.0	2				III

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

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
15			ONDR				1109.3	1109.4	2				IIIG
			POTS				1131.1	1131.5	1				IIIG
			POTS				1135.7	1135.8	1				IIIB
			POTS				1146.2	1152.5	2				IIIG
			SVTO				1147.0	1147.0	2				III
			WEIS				1147.3	1147.7	3				IIIG
			POTS				1158.9	1159.8	2				IIIG
			SVTO				1159.0	1200.0	2				III
			WEIS				1159.1	1159.8	3				IIIG
			POTS				1201.4	1202.8	3				IIIG
			POTS				1214.6	1217.2	2				IIIG
			WEIS				1217.1	1217.2	1				IIIB
			POTS				1237.3	1241.1	2				IIIG
			ONDR	1238.0	1238.0	3	1238.0	1238.0	3				IIIB
	1253	1530	WEIS										
			POTS				1255.7	1310.9	2				IIIGG
			WEIS				1255.7	1255.8	1				IIIB
			WEIS				1306.7	1307.2	1				IIIB,U
			WEIS				1310.8	1310.9	1				IIIB
			SGMR				1329.0	1330.0	1				III
			SVTO				1329.0	1330.0	2				III
			POTS				1329.6	1329.8	1				IIIG
			WEIS				1329.7	1330.0	3				IIIG
			POTS				1338.6	1346.8	1				IIIGG
			POTS				1355.0	1355.1	1				IIIB
			SGMR				1448.0	1500.0	1				S
			WEIS				1500.2	1500.3	1				IIIB
			SGMR				1554.0	1604.0	2				S
			SGMR				1744.0	1746.0	1				V
			SGMR				1816.0	1816.0	1				III
			SGMR				1854.0	1901.0	1				III
			PALE				2036.0	2037.0	3				III
			SGMR				2036.0	2037.0	2				III
	2041	2400	CULG				2232.0	2321.0	1				IIIN
			CULG				2238.0	2256.0	1				IIIN
			LEAR				2311.0	2320.0	1				MWB
16	0000	0741	CULG				0012.0	0014.0	2	0012.0	0014.0	1	IIIG
			LEAR				0012.0	0016.0	2				III
			PALE				0013.0	0013.0	1				III
			CULG				0015.0	0741.0E	1				IIIS
			LEAR				0057.0	0057.0	2				III
			CULG				0116.0	0116.0	2				IIIB
			LEAR				0116.0	0117.0	2				III
			PALE				0116.0	0117.0	1				III
			LEAR				0121.0	1055.0	1				CONT
			LEAR				0227.0	0242.0	3				S
			CULG				0228.0	0231.0	3	0228.0	0231.0	1	IIIG
			PALE				0228.0	0241.0	3				V
			CULG				0236.0	0242.0	3	0236.0	0242.0	1	IIIG
			LEAR				0314.0	0318.0	2				III
			CULG				0317.0	0318.0	2	0317.0	0318.0	1	IIIG
			LEAR				0442.0	0450.0	3				III
			CULG				0446.0	0449.0	2	0446.0	0449.0	1	IIIG
			LEAR				0540.0	0543.0	2				III
			CULG				0542.0	0543.0	2	0542.0	0543.0	1	IIIB
			LEAR				0612.0	0614.0	2				III
			CULG				0613.0	0614.0	2				IIIB
			CULG				0621.0	0623.0	3	0621.0	0623.0	1	IIIG
			LEAR				0656.0	0657.0	2				III
	0700	1449	POTS										
			POTS				0712.7	0712.8	1				RS
			POTS				0730.0	1449.0U	2				I,S,C,P
			POTS				0734.9	0735.0	1				IIIB
			POTS				0738.1	0738.2	1				IIIB
	0753	1533	WEIS										
			LEAR				0809.0	0810.0	2				III
			WEIS				0809.8	0810.0	1				U
			SVTO				0828.0	0828.0	2				III

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

JANUARY 1991

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
16		LEAR				0831.0	0832.0	2				III
		LEAR				0845.0	0852.0	2				III
		POTS	0845.2	0846.4	3							DCIM
		POTS				0846.4	0858.3	3				IIIG
		WEIS				0846.4	0846.5	2				IIIB
		WEIS				0851.9	0852.1	1				U
		POTS	0853.4	0853.9	2							DCIM
		LEAR				0858.0	0859.0	3				III
		SVTO				0858.0	0858.0	2				III
		WEIS				0858.1	0858.6	3				IIIB
		WEIS				0904.3	0904.4	2				IIIB
		POTS				0932.5	0935.7U	3				IIIG
		WEIS				0932.5	0932.6	1				IIIB
		WEIS				0934.3	0935.7	2				IIIG
		LEAR				1016.0	1017.0	3				III
		SVTO				1016.0	1017.0	3				III
		SVTO				1016.0	1017.0	3				V
		POTS				1016.1	1016.8	3				IIIG
		WEIS				1016.2	1017.5	3				IIIG
		POTS				1107.6	1108.5	3				IIIG
		POTS				1119.0	1120.1	2				IIIG
		POTS				1119.3	1119.4	2				U
		WEIS				1119.3	1120.1	3				IIIG
		POTS				1130.1	1130.6	2				IIIG
		POTS				1144.3	1153.1	2				IIIGG
		WEIS				1144.3	1145.2	2				IIIG
		SVTO				1145.0	1146.0	1				III
		WEIS				1221.8	1222.2	1				IIIG
		POTS				1222.4	1222.5	2				IIIB
		POTS				1244.0	1244.1	1				IIIB
		POTS				1420.9	1428.0	3				IIIGG
		WEIS				1421.3	1421.4	2				IIIG
		SGMR				1425.0	1425.0	1				III
		SVTO				1425.0	1426.0	2				III
		WEIS				1425.2	1526.4	3				IIIG
		SGMR				1447.0	1447.0	1				III
		WEIS				1455.2	1455.4	1				IIIB
		WEIS				1456.9	1457.3	3				RS
		WEIS	1501.9	1502.0	2							RS
		SGMR				1800.0	1808.0	1				III
		PALE				2102.0	2106.0	2				III
	2042	2400 CULG				2235.0	2236.0	3				IIIPAIR
		LEAR				2235.0	2236.0	2				III
		PALE				2235.0	2243.0	2				III
		CULG				2241.0	2244.0	3	2242.0	2244.0	1	III/V
		LEAR				2348.0	2348.0	1				III
17	0000	0741 CULG				0009.0	0011.0	2	0009.0	0011.0	1	IIIG
		PALE				0009.0	0010.0	2				V
		LEAR				0049.0	0053.0	2				III
		PALE				0051.0	0053.0	1				III
		CULG				0052.0	0053.0	2				IIIG
		LEAR				0102.0	0109.0	1				III
		CULG				0104.0	0246.0	1				IIIN
		LEAR				0121.0	0121.0	1				III
		LEAR				0127.0	1016.0	1				CONT
		LEAR				0213.0	0222.0	2				III
		PALE				0216.0	0216.0	1				III
		LEAR				0245.0	0245.0	1				III
		LEAR				0300.0	0304.0	3				III
		CULG				0301.0	0302.0	1				IIIG
		CULG				0302.0	0304.0	2	0302.0	0302.0	1	IIIV
		PALE				0302.0	0303.0	2				III
		CULG				0522.0	0523.0	1				IIIG
		LEAR				0523.0	0526.0	2				III
	0747	1445 POTS				0747.0E	1445.0U	1				I,S,C,DC
	0750	1535 WEIS										
	0907	1332 ONDR										
		POTS				1026.9	1037.2	1				IIIG

SOLAR RADIO EMISSION
Spectral Observations

JANUARY 1991

Observation Start Day (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
17		POTS	1033.8	1035.1	3							DCIM
		POTS				1100.9	1101.8	2				UG
		WEIS				1101.2	1101.7	2				IIIB,U
		POTS	1226.5	1228.0	3							IIIG,DCIM
		POTS				1319.4	1319.7	1				IIIG
		POTS	1414.2	1415.4	3							DCIM
		POTS				1415.2	1415.4	2				IIIG
		POTS	1418.7	1418.9	2							IIIB,RS
		WEIS	1505.7	1508.0	1							CONT
		WEIS				1507.9	1514.5	3				II H
		SGMR				1508.0	1518.0	2				II
		WEIS	1509.3	1509.4	2							IIIB,RS
		WEIS				1511.1	1511.4	2				IIIG
	2042	2400 CULG										
18		LEAR				0003.0	0932.0	2				CONT
	0000	0742 CULG				0035.0	0421.0	1				IIIN
		CULG				0050.0	0109.0	1				IS
		LEAR				0132.0	0154.0	2				S
		CULG				0141.0	0144.0	2				IIIG
		LEAR				0302.0	0303.0	3				III
		CULG				0350.0	0742.0E	1				IS
	0704	1443 POTS				0704.0E	1443.0U	3				I,S,C,DC
	0749	1535 WEIS										
		SVTO				0802.0	0803.0	2				III
		WEIS				0802.4	0802.7	2				U
		POTS				0836.0	0854.4	3				IIIGG
		WEIS				0836.4	0837.5	3				IIIGG
		WEIS				0839.7	0839.9	2				IIIG
		LEAR				0843.0	0858.0	3				S
		SVTO				0843.0	0856.0	2				S
		WEIS				0843.4	0844.7	3				IIIG
		WEIS				0847.2	0847.3	2				IIIG
		WEIS				0852.3	0855.4	3				IIIGG
		WEIS				0857.8	0858.0	2				IIIB
		WEIS				0909.9	0910.0	1				IIIB
		LEAR				1021.0	1028.0	2				III
		POTS				1021.0	1026.0U	3				IIIG
		SVTO				1021.0	1026.0	2				III
		WEIS				1021.1	1026.8	3				IIIGG
		POTS				1143.4	1143.7	2				IIIB,V
		WEIS				1143.5	1143.7	2				IIIG
		SVTO				1208.0	1209.0	3				III
		WEIS				1208.4	1209.6	3				IIIG,U
		SVTO				1215.0	1221.0	3				V
		WEIS				1215.7	1221.2	3				IIIGG,U
		POTS				1233.4	1233.5	2				IIIB
		POTS	1301.0	1311.2	3							IV
		WEIS	1302.6	1303.8	2							IIIG,U
		WEIS				1327.8	1330.9	3				IIIG
		POTS				1327.9	1330.9	3				IIIG
		SGMR				1328.0	1331.0	2				V
		SVTO				1328.0	1329.0	3				III
		WEIS				1335.3	1335.4	2				IIIG
		WEIS				1336.9	1337.1	1				IIIB
		SVTO				1341.0	1344.0	3				III
		POTS				1341.5	1352.0	3				IIIGG
		WEIS				1341.6	1344.9	3				IIIGG,U
		SGMR				1342.0	1416.0	1				II
		WEIS				1347.7	1348.4	2				IIIG
		POTS	1403.1	1421.6	3							II HARM
		POTS	1403.1	1421.6	3							IV
		SVTO				1412.0	1413.0	2				V
		WEIS				1412.0	1414.8	2				II
		SVTO				1415.0	1423.0	2				II
		WEIS				1417.0	1421.8	2				II IIIG
		SGMR				1419.0	1420.0	1				III
		SGMR				1434.0	1435.0	1				III
		SGMR				1545.0	1550.0	2				V

SOLAR RADIO EMISSION
Spectral Observations

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
18			SGMR				1748.0	1749.0	1				III
			PALE				2010.0	2011.0	2				III
			SGMR				2010.0	2011.0	1				III
	2042	2400	CULG				2125.0	2354.0	1				IIIN
			LEAR				2306.0	2307.0	1				III
			PALE				2306.0	2306.0	1				III
			LEAR				2353.0	2354.0	1				III
19			LEAR				0127.0	0129.0	3				III
	0000	0743	CULG				0128.0	0129.0	2				IIIG
			PALE				0128.0	0128.0	2				III
			LEAR				0131.0	0132.0	1				III
			LEAR				0148.0	0148.0	1				III
			CULG				0259.0	0300.0	1				IIIG
			LEAR				0259.0	0300.0	2				III
			CULG				0402.0	0402.0	1				IIIB
			LEAR				0402.0	0402.0	1				III
			CULG				0407.0	0409.0	1				IIIG
			LEAR				0407.0	0409.0	2				III
			LEAR				0425.0	0425.0	1				III
			LEAR				0552.0	0552.0	1				III
	0711	1427	POTS										
			LEAR				0719.0	0719.0	1				III
			CULG				0735.0	0736.0	1				IIIPAIR
			LEAR				0735.0	0736.0	2				III
	0750	1538	WEIS										
			LEAR				0947.0	0948.0	1				III
			POTS	1005.8	1006.4	2							DCIM
			POTS	1118.2	1120.0	3							DCIM
			POTS	1327.8	1328.8	3							DCIM
			SGMR				1549.0	1552.0	2				V
			PALE				1816.0	1817.0	1				III
			PALE				2021.0	2022.0	1				III
	2043	2400	CULG										
			PALE				2057.0	2058.0	1				V
			PALE				2122.0	2122.0	2				III
			PALE				2205.0	2208.0	2				V
			PALE				2330.0	2330.0	1				III
20	0000	0743	CULG				0035.0	0051.0	1				IIIG
			LEAR				0035.0	0040.0	3				III
			PALE				0035.0	0039.0	2				III
			LEAR				0050.0	0053.0	2				III
			PALE				0051.0	0052.0	2				V
			LEAR				0102.0	0103.0	2				III
			PALE				0102.0	0103.0	1				III
			LEAR				0310.0	0310.0	1				III
			LEAR				0328.0	0328.0	2				III
	0705	1455	POTS										
			LEAR				0720.0	0722.0	1				III
	0747	1017	WEIS										
			LEAR				0826.0	0826.0	1				III
			LEAR				0847.0	0847.0	1				III
			POTS				0847.1	0847.8	1				UNCLF
			LEAR				0916.0	0916.0	1				III
			WEIS				0916.3	0916.4	1				IIIB
			WEIS	0920.3	0921.7	1							IIIG,RS
			POTS	0922.0	0922.4	2							U,RS,DCIM
			LEAR				0924.0	0924.0	1				III
			POTS				1027.9	1030.4	1				UNCLF
			LEAR				1029.0	1032.0	2				III
	1102	1539	WEIS										
	1050	1403	ONDR	1240.5	1241.0	3	1240.5	1241.0	3				IIIGG
			WEIS				1240.5	1241.3	3				IIIG,Spikes
			POTS	1240.7	1240.9	3							IIIG
			SGMR				1329.0	1331.0	1				III
			POTS				1329.8	1330.7	2				IIIG
			WEIS				1329.8	1331.7	3				IIIG
			SVTO				1330.0	1331.0	2				III

SOLAR RADIO EMISSION
Spectral Observations

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
20			SGMR				1502.0	1502.0	1				III
			WEIS				1502.2	1502.4	1				SG
	2043	2400	CULG				2104.0	2106.0	1				IIIG
			PALE				2105.0	2105.0	1				III
			PALE				2117.0	2119.0	1				III
			PALE				2140.0	2141.0	1				III
21	0000	0743	CULG				0018.0	0018.0	1				IIIB
			LEAR				0018.0	0019.0	2				III
			LEAR				0124.0	0124.0	1				III
	0659	1445	POTS										
	0746	1540	WEIS										
			LEAR				1000.0	1001.0	1				III
			POTS	1002.5	1002.9	3							IIIGG
			WEIS	1002.5	1002.7	2							IIIG
			POTS	1047.3	1047.8	2							DCIM
			WEIS				1054.2	1054.3	2				IIIB
			POTS				1056.1	1058.8	2				IIIG
			WEIS				1056.2	1058.8	2				IIIG
			SVTO				1057.0	1101.0	2				III
			SVTO				1203.0	1205.0	2				III
			POTS				1203.2	1205.4	2				IIIG
			WEIS				1203.3	1205.8	3				IIIG,U
	0817	1402	ONDR				1204.0	1204.2	1				IIIGG
			WEIS				1300.3	1301.8	2				IIIG
			POTS				1300.7	1301.2	1				IIIG
			SGMR				1514.0	1515.0	1				III
			WEIS				1515.0	1515.2	1				IIIB
			SGMR				1722.0	1722.0	1				III
			PALE				1900.0	1900.0	1				III
			SGMR				2006.0	2016.0	1				III
			PALE				2007.0	2016.0	2				III
			PALE				2129.0	2137.0	2				III
	2043	2400	CULG				2137.0	2137.0	1				IIIG
			LEAR				2347.0	2347.0	2				III
22			LEAR				0042.0	0042.0	1				III
			LEAR				0120.0	0120.0	2				III
			PALE				0120.0	0120.0	1				III
			LEAR				0201.0	0202.0	2				III
			LEAR				0246.0	0247.0	2				III
			LEAR				0305.0	0305.0	1				III
	0000	0743	CULG				0431.0	0433.0	1	0431.0	0433.0	1	IIIG
			LEAR				0431.0	0434.0	3				III
			LEAR				0505.0	0507.0	3				III
			LEAR				0552.0	0555.0	3				III
			LEAR				0653.0	0654.0	1				III
	0701	1433	POTS										
			LEAR				0704.0	0705.0	1				III
			SVTO				0728.0	0732.0	2				III
			LEAR				0729.0	0729.0	1				III
			LEAR				0732.0	0737.0	2				III
			POTS				0732.4	0732.6	2				IIIB
	0747	1542	WEIS										
			LEAR				0817.0	0818.0	2				III
			POTS				0818.1	0818.3	1				IIIB
			LEAR				0827.0	0828.0	1				III
			WEIS				0828.7	0829.3	3				IIIG,U
	0815	1402	ONDR				0828.8	0829.1	3				IIIGG,U
			LEAR				0829.0	0830.0	3				III
			POTS				0829.0	0829.3	3				IIIB
			SVTO				0829.0	0829.0	3				III
			LEAR				0842.0	0842.0	2				III
			POTS				0842.4	0842.7	1				IIIB
			LEAR				0858.0	0858.0	2				III
			WEIS				0858.2	0858.4	1				IIIB
			LEAR				0905.0	0905.0	2				III
			POTS				0905.2	0905.7	1				IIIG
			WEIS				0905.2	0905.6	1				IIIG

SOLAR RADIO EMISSION
Spectral Observations

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
22			LEAR				0928.0	0928.0	1				III
			POTS				0942.9	0943.2	1				IIIB
			WEIS				0942.9	0943.3	2				IIIG
			LEAR				0943.0	0943.0	2				III
			ONDR				0943.0	0943.1	1				IIIG
			SVTO				0943.0	0943.0	2				III
			LEAR				0958.0	0958.0	1				III
			POTS				0958.1	0958.3	1				IIIB
			WEIS				0958.3	0958.4	1				IIIB
			WEIS				1021.0	1022.7	1				IIIG
			POTS				1021.8	1029.8	2				IIIG
			LEAR				1022.0	1030.0	1				III
			WEIS				1026.8	1027.6	2				IIIG
			WEIS				1029.7	1029.9	2				IIIB
			SVTO				1104.0	1105.0	2				III
			WEIS				1104.6	1105.3	3				IIIG
			POTS				1156.9	1157.1	1				IIIB
			WEIS				1445.8	1146.0	3				IIIG
			SGMR				1720.0	1722.0	1				III
	2044	2400	CULG										
23	0000	0744	CULG										
			LEAR				0105.0	0106.0	2				III
			LEAR				0110.0	0113.0	2				III
			LEAR				0152.0	0156.0	2				III
			LEAR				0528.0	0529.0	1				III
			LEAR				0612.0	0612.0	1				III
	0700	1449	POTS										
			LEAR				0713.0	0718.0	2				III
	0744	1544	WEIS										
			LEAR				0812.0	0812.0	2				III
			LEAR				0841.0	0842.0	2				III
			LEAR				0851.0	0853.0	3				III
	0814	1403	ONDR				0851.7	0852.3	2				IIIGG
			WEIS				0851.7	0852.7	3				IIIGG,U
			POTS				0851.8	0852.2	3				IIIB
			SVTO				0852.0	0852.0	2				III
			LEAR				0931.0	0932.0	1				III
			LEAR				0935.0	0936.0	2				III
			SVTO				0935.0	0935.0	2				III
			POTS				0935.4	0935.5	2				IIIB
			WEIS				0935.4	0935.9	3				IIIG
			LEAR				0955.0	0958.0	2				III
			POTS				0955.0	0957.1	2				IIIG
			SVTO				0955.0	0955.0	2				III
			WEIS				0955.0	0957.2	2				IIIG
			LEAR				1012.0	1018.0	2				III
			SVTO				1012.0	1022.0	2				III
			POTS				1012.5	1021.9	2				IIIG,V
			WEIS				1012.5	1014.6	3				IIIG
			ONDR				1016.6	1016.8	3				IIIGG
			WEIS				1016.6	1017.3	3				IIIG
			WEIS				1021.8	1022.0	1				IIIB
			LEAR				1022.0	1022.0	1				III
			LEAR				1035.0	1036.0	2				III
			SVTO				1035.0	1041.0	3				III
			POTS				1035.4	1040.4	3				IIIG,V
			WEIS				1035.4	1036.0	3				IIIG
			LEAR				1040.0	1040.0	1				III
			WEIS				1040.2	1040.5	2				IIIG
			SGMR				1233.0	1234.0	3				III
			SVTO				1233.0	1234.0	3				III
			WEIS				1233.4	1234.3	3				IIIG
			WEIS				1439.4	1439.6	1				IIIB
			WEIS				1451.7	1451.9	2				IIIB
			WEIS				1529.2	1529.4					IIIB
			SGMR				1553.0	1554.0	1				V
			PALE				1816.0	1816.0	1				III
			PALE				1917.0	1918.0	1				V

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

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
23			SGMR				1917.0	1917.0	1				III
			PALE				2100.0	2101.0	1				V
			SGMR				2100.0	2100.0	1				III
			PALE				2144.0	2144.0	1				III
			PALE				2202.0	2204.0	1				III
	2044	2400	CULG				2202.5	2203.5	1				IIIG
24			LEAR				0322.0	0328.0	2				III
	0000	0744	CULG				0322.5	0324.0	1				IIIG
			CULG				0323.0	0342.0	1				II
			LEAR				0330.0	0421.0	2				IV
			LEAR				0610.0	0611.0	1				III
	0705	1441	POTS										
	0743	1348	WEIS										
			WEIS				0757.2	0757.4	2				IIIG
			LEAR				0805.0	0813.0	2				III
			POTS				0805.5	0816.1	3				IIIG,C
			WEIS				0812.6	0812.7	1				IIIB
			LEAR				0814.0	0816.0	3				III
			SVTO				0814.0	0816.0	3				III
			WEIS				0814.1	0815.8	3				IIIGG
			POTS	0840.7	0841.0	2							DCIM
			WEIS				0933.3	0933.4	1				IIIB
			SVTO				1141.0	1146.0	3				V
			POTS				1141.1	1144.4	3				IIIG
			WEIS				1141.1	1141.4	3				U
	0812	1403	ONDR				1142.3	1143.2	3				IIIGG
			WEIS				1142.4	1144.1	3				IIIGG
			WEIS				1145.7	1146.9	1				IIIG
	1357	1544	WEIS										
			WEIS				1438.7	1440.5	1				IIIG
			SGMR				1439.0	1443.0	2				III
			SVTO				1443.0	1448.0	2				III
			WEIS				1443.0	1443.4	3				IIIG
			SGMR				1446.0	1449.0	2				V
			WEIS				1446.4	1448.5	3				IIIGG
	2044	2400	CULG				2203.0	2210.0	2	2208.0	2210.0	1	IIIGG
			LEAR				2207.0	2212.0	2				III
			PALE				2207.0	2211.0	2				V
			CULG				2250.0	2250.0	1				IIIB
			LEAR				2250.0	2250.0	1				III
25	0000	0744	CULG				0304.0	0304.0	1				IIIB
			CULG				0354.0	0402.0	2				IIIGG
			LEAR				0358.0	0403.0	2				III
			CULG				0631.0	0636.0	3	0631.0	0636.0	1	IIIGG
			LEAR				0631.0	0637.0	3				III
			SVTO				0632.0	0635.0	2				III
			CULG				0637.0	0659.0	3				II
			LEAR				0637.0	0644.0	2				II
			CULG				0644.0	0724.0	2				IV C
			LEAR				0644.0	0749.0	3				IV
			SVTO				0652.0	0700.0	2				II
			SVTO				0700.0	0720.0	2				IV
	0707	1449	POTS										
	0744	1547	WEIS										
	0810	1402	ONDR										
			LEAR				0841.0	0841.0	1				III
			POTS				0846.9	0847.8	3				IIIG,HARM
			WEIS				0846.9	0847.7	3				IIIGG,U
			SVTO				0847.0	0848.0	2				III
			POTS	0857.9	0858.4	3							DCIM,RS
			SVTO				0858.0	0858.0	2				III
			POTS				0858.1	0858.4	2				IIIB
			WEIS				0858.1	0858.3	2				IIIB
			LEAR				0917.0	0917.0	1				III
			WEIS				0917.2	0917.3	1				IIIB
			POTS	1012.8	1013.8	2							DCIM
			LEAR				1014.0	1017.0	1				III

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

JANUARY 1991

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
25		SVTO				1014.0	1017.0	2				III
		POTS				1014.6	1023.0	3				IIIG,C
		WEIS				1014.7	1014.9	1				IIIG
		WEIS				1017.3	1017.6	3				IIIB
		SVTO				1020.0	1027.0	2				III
		LEAR				1021.0	1023.0	3				III
		SVTO				1021.0	1023.0	3				V
		WEIS				1021.3	1023.4	3				IIIG,V
		WEIS				1026.9	1027.2	1				IIIB
		POTS				1027.0	1027.2	1				IIIB
		SVTO				1027.0	1027.0	2				III
		SVTO				1117.0	1117.0	2				III
		POTS				1117.3	1117.6	1				IIIB
		WEIS				1117.3	1117.8	2				IIIG,U
		POTS	1315.0	1321.5	2							DCIM,RS
		POTS				1347.0	1349.8	2				IIIG
		SVTO				1347.0	1350.0	2				III
		WEIS				1347.0	1347.4	3				IIIG
		WEIS				1349.7	1349.9	3				IIIG
		SVTO				1400.0	1401.0	2				III
		POTS				1400.7	1401.3	2				IIIG
		WEIS				1400.7	1401.1	2				IIIG,U
		SGMR				1559.0	1600.0	2				V
		SGMR				1843.0	1843.0	2				V
		SGMR				1925.0	1926.0	2				V
		SGMR				1936.0	1936.0	2				V
	2044	2400 CULG				2040.0	2124.0	1				IIIN
		PALE				2043.0	2043.0	1				III
		CULG				2150.0	2150.0	1	2150.0	2150.0	1	IIIG
		CULG				2317.0	2317.0	1				IIIB
		CULG				2321.0	2323.0	1	2321.0	2323.0	1	IIIG
		LEAR				2321.0	2323.0	2				III
		LEAR				2347.0	2348.0	1				III
26	0000	0744 CULG				0017.0	0020.0	1				IIIG
		LEAR				0017.0	0017.0	1				III
		CULG				0157.0	0158.0	2	0157.0	0158.0	1	IIIB
		LEAR				0157.0	0158.0	2				III
		PALE				0157.0	0157.0	1				III
		CULG				0218.0	0220.0	2	0218.0	0220.0	1	IIIB
		LEAR				0218.0	0220.0	2				III
		PALE				0218.0	0219.0	2				III
		LEAR				0228.0	0229.0	2				III
		CULG				0229.0	0229.0	1				IIIB
		LEAR				0253.0	0254.0	1				III
		CULG				0254.0	0254.0	1				IIIB
		CULG				0333.0	0334.0	2	0333.0	0334.0	1	IIIB
		LEAR				0333.0	0334.0	3				III
		PALE				0333.0	0333.0	1				III
		LEAR				0600.0	0600.0	1				III
		SVTO				0652.0	0656.0	2				III
	0708	1451 POTS										
	0740	1549 WEIS										
		LEAR				0843.0	0843.0	2				III
		POTS	0843.7	0844.3	2							DCIM
		POTS				1111.3	1112.4	2				UNCLF
		WEIS				1230.8	1231.6	3				IIIG
	0809	1402 ONDR				1230.9	1231.6	3				IIIGG
		SGMR				1434.0	1434.0	2				V
		WEIS				1434.0	1434.2	1				IIIB
		WEIS	1441.8	1442.0	2							IIIG
		SGMR				1616.0	1616.0	2				III
		SGMR				1815.0	1815.0	2				III
		PALE				1952.0	1952.0	1				III
		PALE				2021.0	2022.0	2				V
		SGMR				2021.0	2022.0	2				III
		PALE				2038.0	2038.0	1				III
	2045	2400 CULG				2056.0	2057.0	1	2056.0	2057.0	1	IIIG
		PALE				2056.0	2110.0	1				S

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

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
26			CULG				2103.0	2109.0	1				IIIN
			CULG				2239.0	2243.0	1				IIIN
27	0000	0745	CULG				0026.0	0026.0	1				IIIB
			LEAR				0055.0	0056.0	2				III
			CULG				0056.0	0056.0	1	0056.0	0056.0	1	IIIB
			PALE				0056.0	0056.0	1				III
			CULG				0110.0	0154.0	1				IIIN
			LEAR				0129.0	0131.0	1				III
			PALE				0129.0	0129.0	1				III
			CULG				0146.0	0148.0	2	0146.0	0148.0	1	IIIG
			LEAR				0147.0	0157.0	3				S
			PALE				0147.0	0153.0	1				V
			LEAR				0226.0	0227.0	2				III
			PALE				0226.0	0227.0	1				III
			CULG				0227.0	0227.0	2	0227.0	0227.0	1	IIIB
			CULG				0248.0	0248.0	1				IIIB
			CULG				0314.0	0457.0	1				IIIN
			LEAR				0339.0	0425.0	3				S
			CULG				0349.0	0511.0	2	0349.0	0511.0	1	IIIN
			PALE				0349.0	0349.0	1				III
			LEAR				0414.0	0425.0	2				S
			LEAR				0435.0	0437.0	2				III
			LEAR				0457.0	0458.0	1				III
			LEAR				0508.0	0513.0	2				III
			CULG				0541.0	0542.0	1				IIIG
			LEAR				0541.0	0542.0	2				III
			CULG				0629.0	0640.0	2	0629.0	0640.0	1	IIIN
			LEAR				0629.0	0640.0	3				S
			SVTO				0635.0	0637.0	2				III
			LEAR				0659.0	0710.0	3				S
	0703	1455	POTS										
			CULG				0705.0	0708.0	1				IIIG
			LEAR				0705.0	0707.0	2				III
			CULG				0724.0	0734.0	2	0724.0	0734.0	1	IIIN
			LEAR				0724.0	0734.0	3				S
			SVTO				0724.0	0734.0	2				S
			POTS				0734.0	0734.2	1				IIIB
	0739	1551	WEIS										
			LEAR				0816.0	0816.0	2				III
			POTS				0816.0	0816.3	1				IIIG
			WEIS				0816.0	0816.4	2				IIIG
			LEAR				0824.0	0827.0	1				III
			POTS				0824.1	0824.2	1				UNCLF
			POTS				0827.2	0827.3	1				UNCLF
			LEAR				0838.0	0838.0	1				III
	0807	1326	ONDR	0910.4	0910.5	1	0910.4	0910.5	1				IIIG
			WEIS				0910.4	0910.8	2				IIIG
			LEAR				1029.0	1029.0	2				III
			SVTO				1029.0	1032.0	2				III
			POTS				1029.1	1029.7	2				IIIG
			WEIS				1029.2	1029.7	3				IIIG
			WEIS				1156.7	1157.0	1				IIIG
			WEIS				1159.2	1159.3	1				IIIB
			POTS				1211.7	1211.9	1				IIIB
			WEIS				1211.8	1213.2	2				IIIG
			SVTO				1212.0	1213.0	2				III
			POTS				1400.7	1401.5	2				IIIG
			WEIS				1400.8	1401.9	2				IIIGG
			SGMR				1401.0	1402.0	1				V
			SGMR				1543.0	1710.0	1				IV
			WEIS				1543.6	1550.7	2				II H
			WEIS				1544.5	1548.7	2				Spikes
	2045	2400	CULG				2253.0	2253.0	1				IIIB
28			LEAR				0140.0	0218.0	1				CONT
	0000	0745	CULG				0146.0	0333.0	1				IIIN
			LEAR				0247.0	0249.0	1				III
			LEAR				0312.0	0314.0	1				III

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

JANUARY 1991

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
28			LEAR				0316.0	0333.0	1				S
			CULG				0423.0	0423.0	1				IIIB
			LEAR				0423.0	0423.0	2				III
			LEAR				0447.0	1000.0	1				CONT
			CULG				0615.0	0745.0	1				IIIN
	0707	1240	POTS										
	0742	1552	WEIS										
	0807	1403	ONDR				0815.8	1403.0	1				I,N
			SVTO				0825.0	0825.0	1				III
			ONDR				0900.2	0900.3	2				IIIG
			POTS				1113.5	1113.8	1				IIIB
	1307	1447	POTS										
			SVTO				1337.0	1337.0	2				III
			SGMR				1346.0	1347.0	1				III
			WEIS				1346.7	1347.3					IIIG
			ONDR	1346.8	1347.0	3	1346.8	1347.0	3				IIIG
			POTS	1346.8	1347.0	1							UNCLF
			POTS				1346.9	1347.2	3				IIIB
			SVTO				1347.0	1347.0	2				III
	2045	2400	CULG										
29	0000	0745	CULG										
	0708	1453	POTS										
	0736	0859	WEIS										
	0951	1554	WEIS										
			WEIS				1136.0	1212.0	2				I,N
	0803	1402	ONDR				1247.9	1248.0	1				IIIG
	2045	2400	CULG				2212.0	2213.0	1				IIIG
30	0000	0745	CULG				0104.0	0104.0	1				IIIB
	0701	1505	POTS										
	0735	1554	WEIS										
			WEIS				0909.4	0909.7	1				IIIG
	0802	1402	ONDR	0909.5	0909.8	1	0908.3	0909.8	1				IIIGG
			LEAR				0913.0	0926.0	1				MWB
			POTS	0926.4	0926.5	2							DCIM
			ONDR				0957.5	1400.0	1				I,N
			WEIS				1049.0	1405.0	1				I,N
			WEIS				1146.0	1146.4	1				IIIG
	2045	2400	CULG										
31			LEAR				0201.0	0207.0	3				III
			PALE				0201.0	0208.0	2				V
	0000	0745	CULG				0202.0	0207.0	3	0202.0	0206.0	1	IIIGG
			CULG				0207.0	0227.0	2				II
			LEAR				0207.0	0226.0	2				II
			PALE				0207.0	0403.0	2				IV
			LEAR				0226.0	0413.0	2				IV
			CULG				0227.0	0311.0	2				IV
			CULG				0316.0	0338.0	1				IIIN
			LEAR				0558.0	0600.0	2				III
			CULG				0559.0	0600.0	1				IIIG
	0659	1455	POTS										
	0735	1557	WEIS										
	0802	1403	ONDR										
			POTS				1146.0	1149.6	2				IIIG
			SVTO				1149.0	1149.0	2				III
			WEIS				1149.4	1150.6	2				IIIG
			POTS				1227.6	1235.0	2				IIIGG
			WEIS				1227.7	1234.4	2				IIIGG
			SVTO				1228.0	1234.0	3				III
			SGMR				1231.0	1242.0	1				S
			POTS				1335.5	1335.6	1				IIIB
			WEIS				1523.4	1523.9	2				IIIG
			WEIS				1536.2	1536.3	1				IIIG
			WEIS	1538.0	1551.0	1							I
			WEIS				1538.4	1539.7	2				IIIGG
			SGMR				1832.0	1833.0	1				III
	2045	2400	CULG										

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

JANUARY 1991

Observation Start Day (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
31		LEAR				2332.0	2335.0	2				III

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

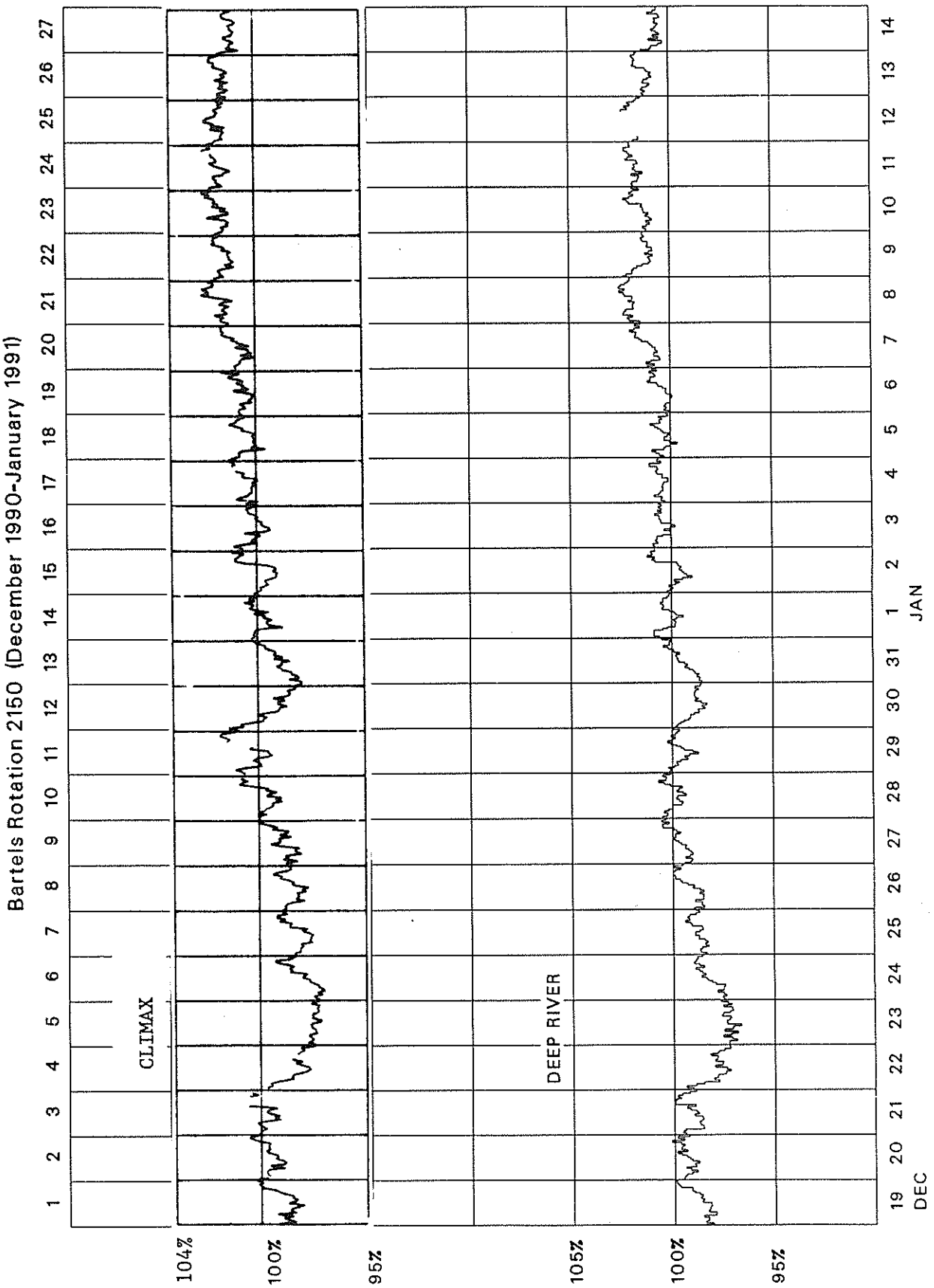
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

Stations Reporting:

BLEN = Bleien
CULG = Culgoora
LEAR = Learmonth
ONDR = Ondrejov
PALE = Palehua
POTS = Potsdam
SGMR = Sagamore Hill
SVTO = San Vito
WEIS = Weissenau

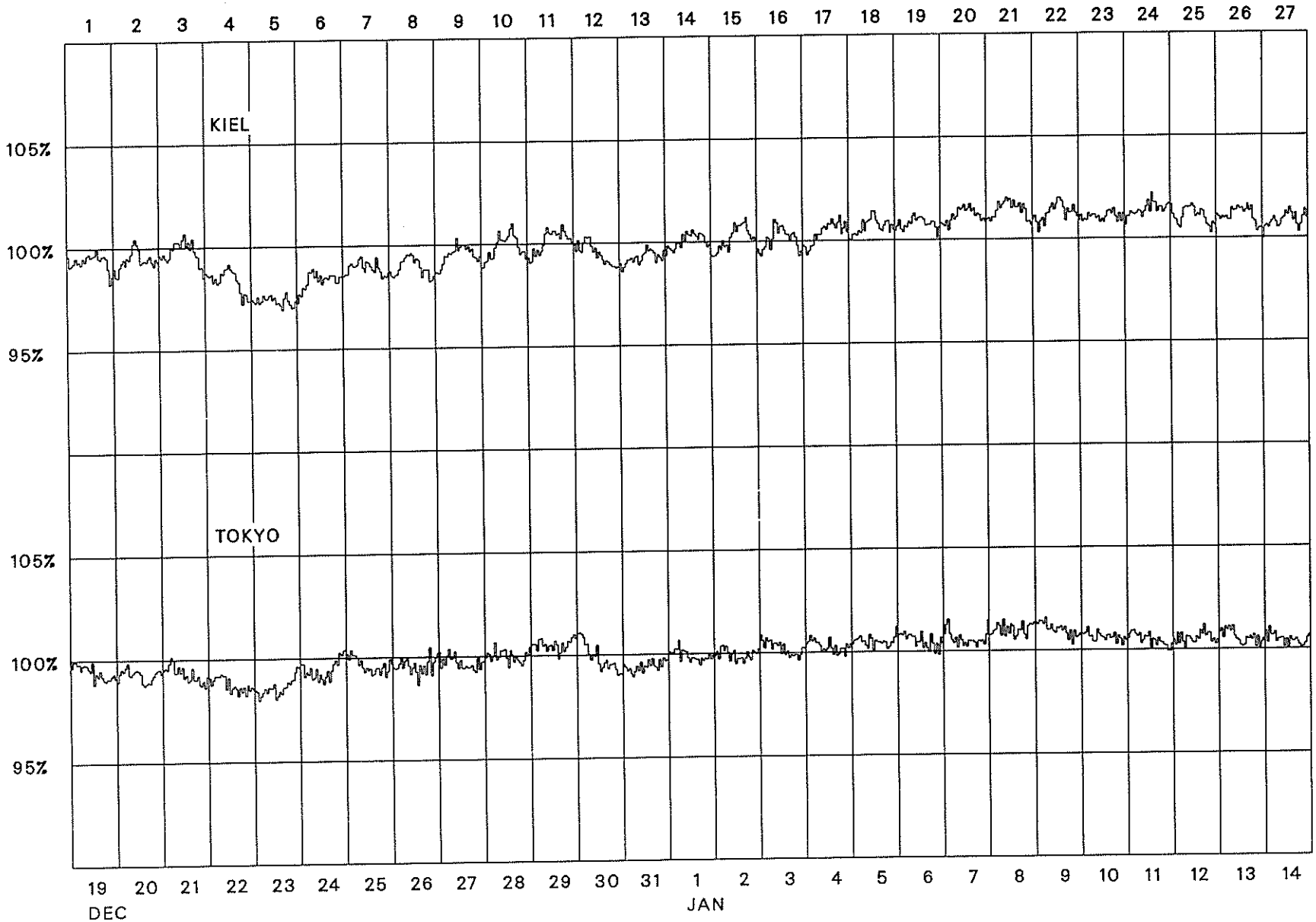
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2150 (December 1990-January 1991)



COSMIC RAY INDICES
(Neutron Monitor)

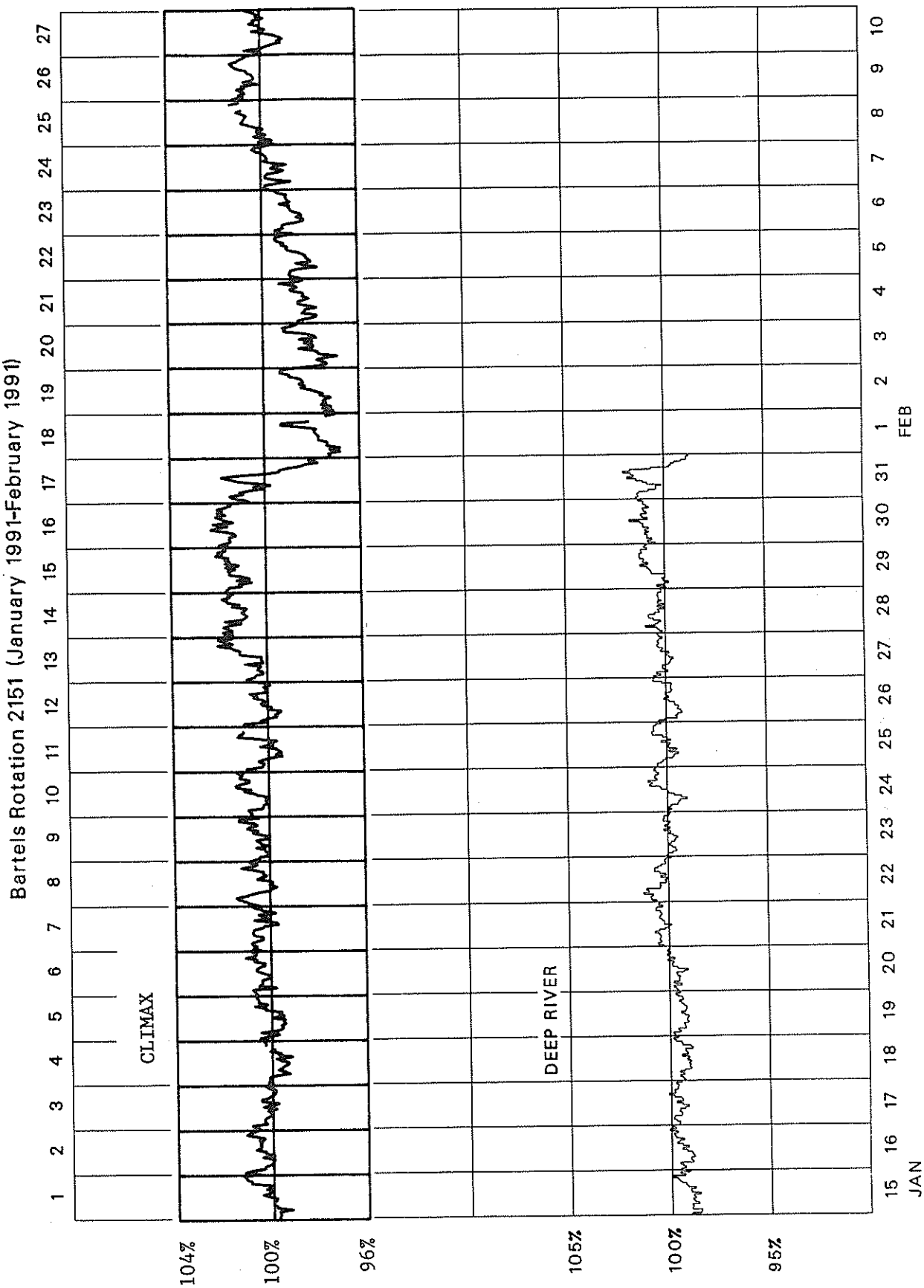
Bartels Rotation 2150 (December 1990-January 1991)



141
Jan 91

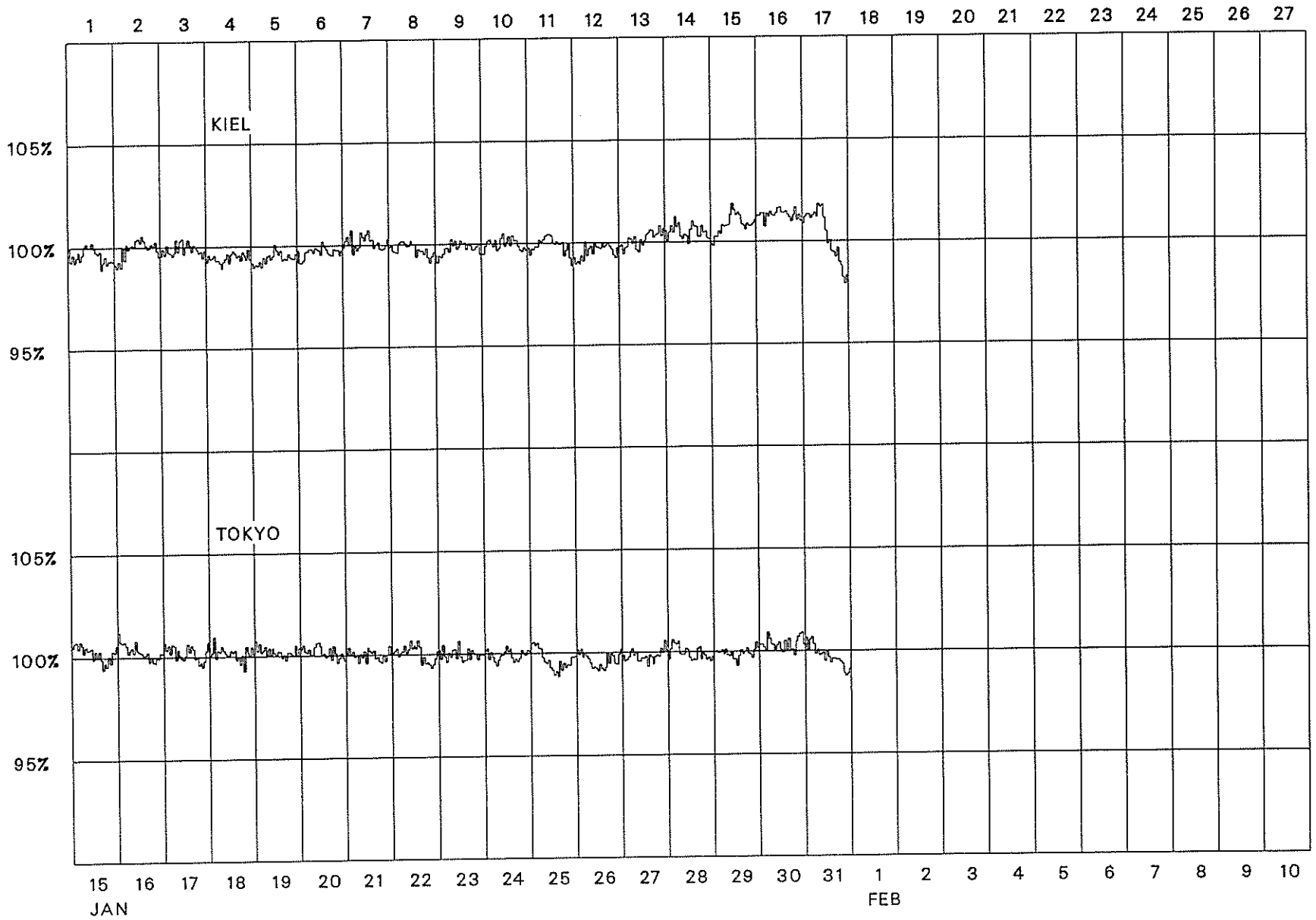
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2151 (January 1991-February 1991)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2151 (January 1991-February 1991)



143
Jan 91

COSMIC RAY INDICES
(Neutron Monitor)

JANUARY 1991

Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1		6306.0	5629.4	3618.0	3503.3	
2		6297.1	5635.4	3616.6	3504.3	
3		6321.8	5631.7	3624.8	3514.0	
4		6325.2	5647.7	3636.2	3516.1	
5		6316.2	5663.7	3639.3	3523.9	
6		6318.7	5670.6	3644.0	3524.3	
7		6365.7	5692.0	3652.8	3527.4	
8		6421.6	5706.9	3682.7	3542.2	
9		6374.8	5698.6	3674.8	3542.0	
10		6383.2	5686.2	3681.9	3528.5	
11		6405.9	5704.6	3685.9	3522.7	
12		6406.6(11)	5686.3	3684.2	3525.2	
13		6376.0	5688.4	3677.9	3526.6	
14		6333.0	5672.3	3661.6	3522.2	
15		6321.5	5690.0	3676.0	3528.2	
16		6344.0	5705.8	3687.5	3529.6	
17		6355.6	5704.9	3677.4	3526.5	
18		6333.2	5680.2	3662.5	3525.2	
19		6339.1	5677.8	3670.1	3527.5	
20		6362.2	5693.5	3687.5	3525.5	
21		6404.9	5718.9	3685.5	3520.0	
22		6410.7	5698.9	3689.3	3521.5	
23		6372.8	5699.5	3687.8	3518.9	
24		6387.3	5709.6	3696.8	3517.2	
25		6390.0	5705.5	3679.0	3508.5	
26		6368.0	5688.4	3675.6	3507.2	
27		6388.8	5719.7	3702.1	3514.1	
28		6404.3	5740.9	3720.5	3518.2	
29		6423.7	5759.2	3724.1	3517.4	
30		6442.2	5786.8	3733.2	3532.1	
31		6417.6	5728.1	3673.3	3510.2	
Mean		6368.4	5694.2	3674.6	3521.6	

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.
* = A&B includes only hours when both A&B sections are available.

GEOMAGNETIC ACTIVITY INDICES

January 1991

Day		Kp Three-Hourly Indices 1 2 3 4	5 6 7 8	Sum	Ap	Cp	Km Three-Hourly Indices 1 2 3 4	5 6 7 8	Am	aa Provisional N	S	M	
1		4 3- 1+ 1	1 1 0+ 0+	12-	8	0.4	3+ 2- 1+ 1	1 1 0+ 1-	10	10	8	13	4 C
2		3- 4- 2+ 2	2+ 2 2+ 2	19+	10	0.6	2- 3- 2 2	2 2- 2 2	15	16	15	17	14
3		2+ 3 3 3+	3 1+ 1- 2	19-	11	0.6	2- 2+ 3- 3+	3- 1+ 1+ 2+	18	16	19	21	13
4		2+ 3+ 2 1+	1+ 1+ 1+ 2+	15+	8	0.4	3- 3- 2 1+	1+ 2- 2- 2	14	15	20	22	13
5		2+ 2+ 1+ 2-	3 1 2 2	16-	8	0.4	2 2- 2- 2	3- 1 2 2-	14	15	19	16	18
6	Q2	1 2- 1- 1-	1- 0+ 1- 1	7-	4	0.1	1+ 2- 1+ 1	1 1- 1- 1+	8	6	9	9	6 CC
7	Q1	1+ 0+ 0+ 0+	1- 1- 0+ 1	5	3	0.1	1 1- 1- 1-	1- 1- 1- 1+	5	5	4	3	6 CK
8		2+ 2- 2+ 2	3 1+ 2+ 2	17	8	0.5	2- 1 2+ 2+	3 2+ 2+ 2-	16	17	22	17	23
9		1+ 3- 2 2	1+ 1 2- 3+	15+	8	0.4	1+ 2- 2- 2-	1+ 1+ 2 3	13	13	21	11	23
10		3 1 2- 2	3- 3- 1+ 3-	17	9	0.5	2 1+ 2- 2	2+ 2+ 1+ 2+	14	20	18	15	23
11		1+ 2 1 2+	3- 2+ 2- 2-	15	7	0.4	1- 1+ 1 3-	3- 2 2 2-	13	14	15	11	18
12	D2*	4 3- 5 3-	2 4- 3 2+	25+	19	1.0	3 2+ 4 3	2- 4- 3- 2+	29	36	34	42	29
13		3 4 3 2-	2- 2 3 1+	20-	12	0.7	3- 3 2+ 1+	1+ 2 3- 1+	17	20	12	18	14
14	Q3	1 1- 1- 0+	1 1+ 1+ 1-	7	4	0.1	1+ 1- 1- 1-	1 1+ 1+ 1-	6	7	6	7	7 CC
15	D5*	3+ 3- 2 2	2+ 1 4- 3+	20+	12	0.7	3- 2 2+ 2	2+ 1 3 3-	18	27	15	18	25
16		2- 1- 2- 2	3- 1+ 2- 3-	14+	7	0.4	1 1- 2- 2+	2 2- 2 3-	13	16	16	12	20
17		3- 2- 1 2+	3 4- 2+ 3-	19+	11	0.6	2+ 2- 1+ 3	3 3 2+ 3-	21	25	23	18	30
18		3- 2 1+ 2-	2+ 3+ 3- 3	19	10	0.6	2+ 2- 2- 2-	2+ 3 3- 2+	17	25	19	17	26
19	Q4	0+ 0+ 0+ 1	1- 1+ 2- 1	7-	4	0.1	1- 1 1- 1+	1 2- 2- 1-	7	7	5	4	8 CK
20	Q9	2- 1- 1- 1+	1- 2+ 2 0+	10-	5	0.2	1+ 1 1- 1+	1- 2+ 2 1-	9	11	8	7	12 CC
21	Q8	0+ 3- 0+ 1	1 0+ 0+ 2	8	4	0.2	1- 2+ 1- 1+	1+ 0+ 0+ 2-	7	8	9	9	8 CC
22	Q5	2 2- 1- 0+	1- 1- 0+ 1	7+	4	0.1	2 2- 1 1	1 1- 1- 2-	9	7	12	12	7 CC
23		1 1- 1+ 1+	1 1 2 3	11+	6	0.3	1- 1 2+ 2-	1+ 1+ 2 3	13	12	17	11	17
24	D1	5- 3+ 3+ 4	3- 4 4- 3-	28+	22	1.1	4- 3- 3- 3+	3- 4 3 3	35	40	58	49	49
25	D4*	2- 2 2 2+	2- 3+ 5- 3	21-	13	0.8	2+ 2+ 3- 3-	2- 3 4+ 3	27	28	33	22	40
26		3- 4- 2+ 2	2 2- 1 3+	19-	11	0.6	2+ 3 2+ 2	2 2- 1+ 3-	17	26	23	28	22
27		0+ 1+ 1 2-	2 1+ 2+ 3	13	7	0.3	1- 1+ 1+ 1	2- 1+ 2+ 2+	11	16	13	8	21
28	Q10	1 2- 1+ 1+	1- 2- 1 2	11-	5	0.2	1 2- 1+ 1+	1+ 2- 1+ 2	10	13	13	12	14 C
29	Q7	2 1- 1+ 2-	1- 0+ 0+ 2-	9-	4	0.1	2- 1+ 1+ 1+	1+ 0+ 1- 1+	8	9	12	15	7 CC
30	Q6	0+ 0+ 0+ 1-	1+ 2 2 1	8	4	0.1	1- 1 1 1+	1+ 2 3- 1+	10	11	11	7	15 C
31	D3*	2+ 3 3+ 2	2 3 3- 4	22+	14	0.8	3- 3 4- 2+	2 3 3- 4	30	26	41	30	37
Mean					8	0.43			14.7	16.7	17.8	17.2	

Day	Kn Three-Hourly Indices 1 2 3 4	5 6 7 8	An	Ks Three-Hourly Indices 1 2 3 4	5 6 7 8	As	Sa	Prov Ri	Ra	Rs	IMF
1	3+ 2- 1 1-	1 1+ 0+ 0+	10	3+ 1+ 1+ 1	1 1 0 1	10	180.6	139	140	133	
2	2 3- 2 2	3- 2 2+ 2	17	2- 3- 2 2	2- 1+ 2 2	14	175.8	79	111	128	
3	2- 2 3- 4-	3 1+ 1 2-	19	2- 3- 2+ 3	2+ 1+ 2- 3-	17	170.0	93	105	122	
4	2 3- 2- 1+	1+ 2- 1+ 2-	12	3 3 2+ 1+	1+ 1+ 2- 2	17	170.2	95	101	122	
5	2- 2- 1 2-	3- 1 2- 2-	12	3- 2 2 2+	3- 1+ 2+ 2	17	172.9	100	105	125	
6	1 1+ 1 1-	1- 0+ 1- 1	6	2- 2+ 2- 1+	1 1- 1 2-	10	179.7*	119	129	132	
7	1 0+ 0+ 0	1- 1 1- 1	4	1+ 1 1 1	1- 1- 1- 2-	7	199.6	105	118	154	
8	2- 1 2 3-	3 2- 2+ 1+	15	2- 1+ 2+ 2	3 3- 2+ 2-	17	207.9	99	105	163	
9	1 2- 2- 2	1+ 1+ 1+ 3-	12	2- 2- 2- 2-	1+ 1+ 3- 3	15	209.1	94	90	164	
10	2+ 1 1+ 2	3- 3- 1+ 2+	15	2 1+ 2 2	2- 2 1+ 2+	14	214.6	97	104	170	
11	1- 1+ 1 3-	3 2 2 2-	14	1- 1+ 1 2+	2+ 2 2+ 2-	13	209.4	106	119	164	
12	3 2 4- 3	2- 4 3- 2+	29	3+ 3- 4+ 3-	2- 3 2+ 2	28	201.6	113	123	156	
13	3- 3+ 3- 1	2- 2+ 3 1+	19	3- 3- 2+ 1+	1+ 2- 2+ 1+	15	190.5	145	142	144	
14	1+ 1- 0+ 0+	1 1+ 1 1-	6	1+ 1- 1- 1	1+ 1 1+ 1	7	184.5	119	122	137	
15	3- 2 2- 2	2 1 3+ 3	19	2+ 2 3- 2	2+ 1 3- 2+	18	184.6	114	129	137	
16	1 1 2- 2+	2+ 2- 2- 3-	14	1 1- 2- 2	2- 1+ 2+ 3	14	181.8	133	140	134	
17	2 1+ 1+ 3	3 3+ 2+ 3-	21	3- 2 1+ 3	3 3- 2+ 3-	21	202.0	154	124	156	
18	2 1+ 1+ 1+	2+ 3 3 2+	17	3- 2- 2- 2-	2+ 3- 2 2+	18	196.8	127	132	151	
19	0+ 1- 0+ 1+	1 2- 2- 1-	7	1 1 1 1	1 2- 2- 0+	8	192.3	119	108	146	
20	1 1- 0+ 2-	1 2+ 2 0+	8	2- 1 1+ 1+	1- 2+ 2 1	10	197.5	91	95	151	
21	0+ 2 0+ 1	1+ 0+ 0+ 2-	6	1- 2+ 1 1+	1+ 0+ 1- 2	9	195.9	107	112	150	
22	2- 2- 1 0+	1- 1 1- 1+	7	2+ 2 1+ 2-	1 1- 1 2-	10	217.5*	106	101	173	
23	1- 1+ 2- 2-	1 1+ 2 3-	11	1- 1 3- 2-	1+ 1 2+ 3+	15	216.0	127	127	171	
24	4- 3- 3- 3+	3- 4+ 3+ 3-	36	4- 3- 3- 4-	3 4 3- 3+	34	236.8	135	143	194	
25	2- 2 2+ 2+	2- 3 4+ 3	25	3- 2+ 3 3-	2- 3 4+ 3+	30	260.9	149	154	220	
26	2+ 3 2 2-	2 2 1 3	17	2+ 3 3- 2+	2 1 1+ 3-	17	276.9	179	195	237	
27	0+ 1 1+ 1	2 2- 2+ 3-	12	1+ 1+ 1+ 1	2- 1+ 3- 2	12	293.8A	220	225	255	
28	1- 1+ 1 1	1 2 1+ 2	9	1+ 2 2- 2-	1+ 1+ 2- 2	11	313.8	237	231	277	
29	2- 1+ 1+ 2-	1+ 0+ 1- 1	7	2- 1+ 1+ 1+	1 1- 1- 1+	8	344.5	248	247	310	
30	0+ 1- 1- 1-	1+ 2+ 2 1	8	1+ 1+ 1+ 2-	1+ 2 3 2-	13	359.2	239	253	326	
31	2+ 3- 3+ 2+	2+ 3+ 3- 4-	27	3 3+ 4 2+	2- 3 3- 4+	34	348.6	256	232	314	
Mean			14.2			15.6	222.1	136.9	140.7	177.9	

DAILY AVERAGE INDICES Ap

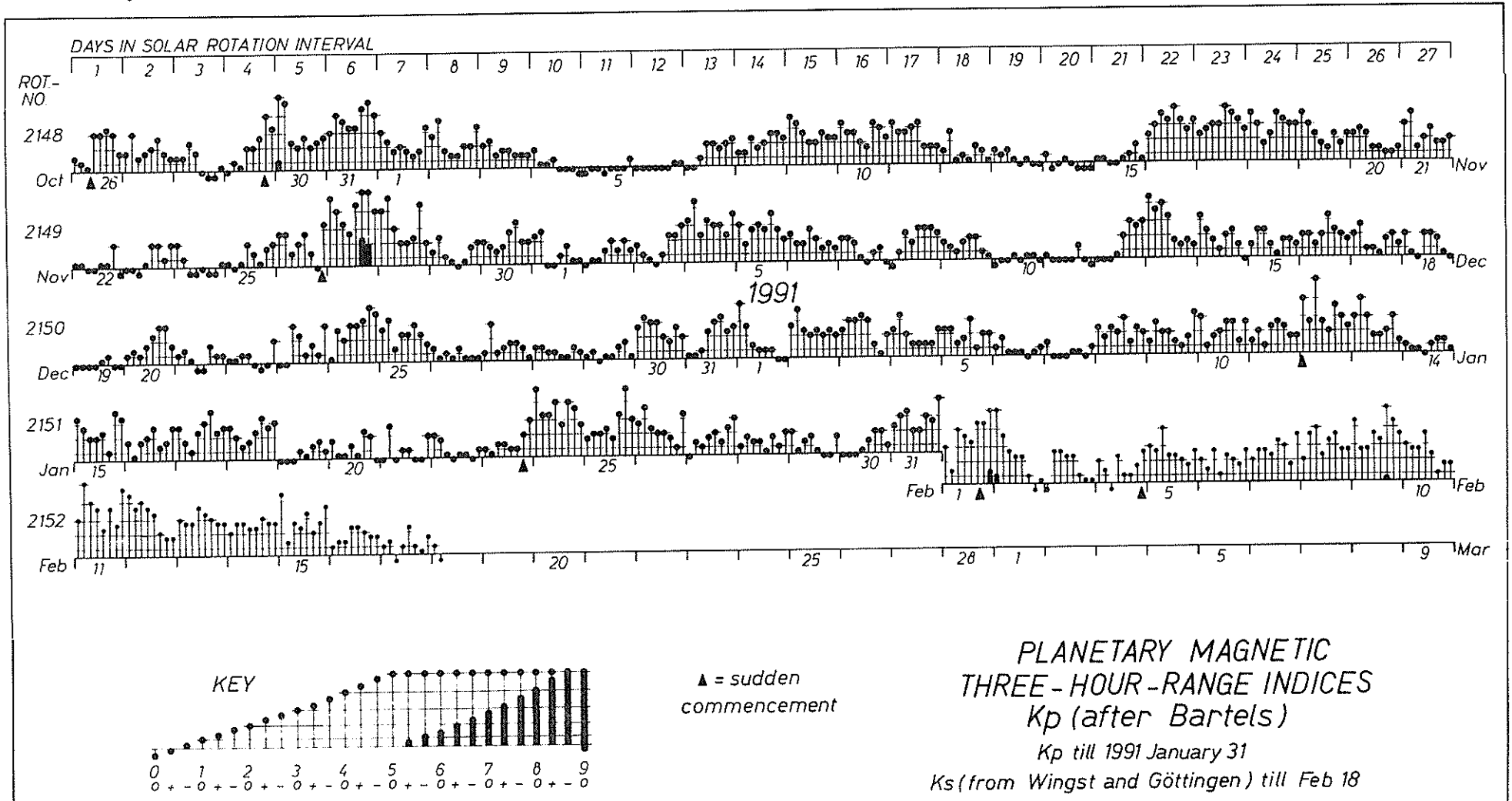
February 1990 to January 1991

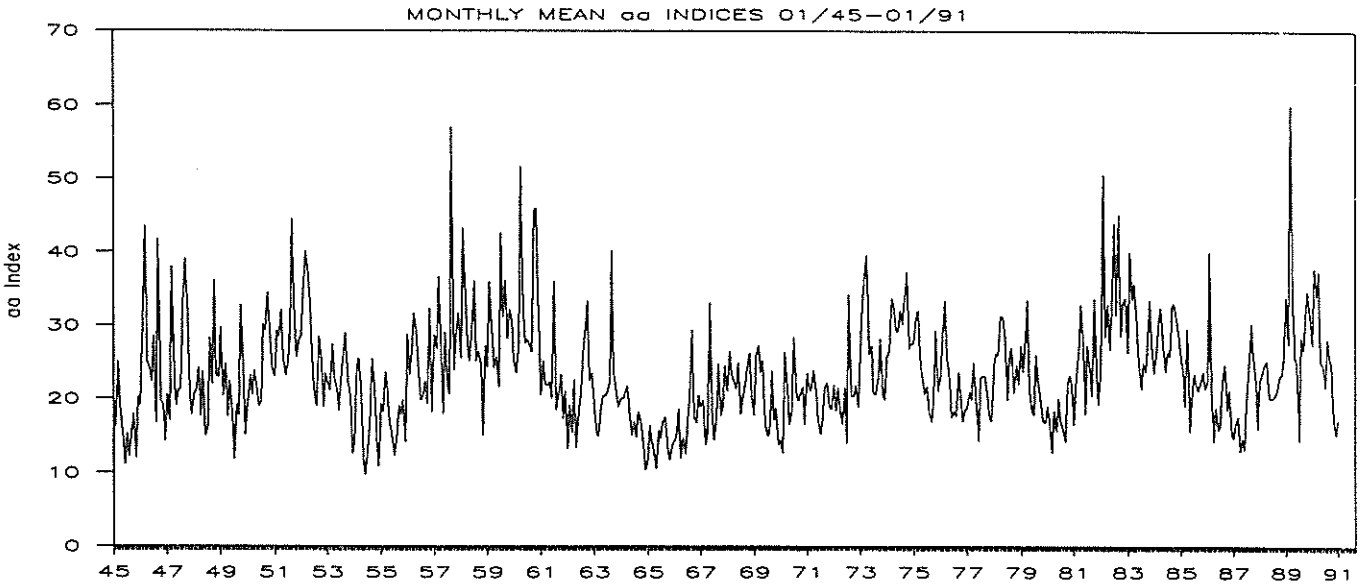
DAY	1990 FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1991 JAN
1	22	20	6	8	10	5	26	26	2	9	5	8
2	25	14	11	10	6	6	9	2	5	10	5	10
3	8	10	17	18	6	7	11	4	10	6	6	11
4	28	6	10	12	5	8	6	8	16	3	17	8
5	24	11	10	10	5	10	5	11	10	2	13	8
6	10	21	7	5	10	7	9	12	12	2	7	4
7	25	8	8	7	22	6	7	14	8	6	4	3
8	8	10	6	11	16	10	6	8	4	8	8	8
9	7	8	34	16	32	5	5	10	12	12	5	8
10	8	8	124	33	17	14	6	11	48	12	2	9
11	10	14	64	24	11	7	9	25	42	12	2	7
12	6	42	99	7	89	8	7	19	31	5	7	19
13	9	29	38	11	70	13	12	19	16	3	15	12
14	30	26	45	3	79	12	19	19	17	1	8	4
15	36	11	24	5	9	8	26	22	26	3	6	12
16	50	7	10	3	5	7	25	23	10	17	8	7
17	33	3	40	4	3	6	15	12	5	16	6	11
18	23	35	24	31	10	8	12	19	5	15	5	10
19	33	16	9	18	6	16	14	16	9	10	2	4
20	38	30	18	20	2	16	19	16	23	7	8	5
21	16	76	13	22	5	7	38	15	11	10	3	4
22	21	28	16	32	6	6	49	20	10	3	3	4
23	36	29	37	11	7	4	77	13	10	4	7	6
24	29	18	30	8	8	4	24	13	25	2	15	22
25	29	39	19	20	7	4	6	11	9	4	10	13
26	19	41	16	47	7	14	63	12	10	9	4	11
27	26	34	15	45	12	9	15	8	8	45	6	7
28	31	24	20	7	7	102	6	9	4	18	4	5
29		27	30	10	8	75	11	7	10	5	4	4
30		69	19	23	4	12	26	5	20	8	12	4
31		7		11		6	16		25		9	14
MEAN	23	23	27	16	16	14	19	14	15	9	7	8

PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

University of Göttingen

Kp through January 31, 1991





Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1945	16.1	16.4	25.0	19.1	15.4	11.1	15.3	12.1	15.6	17.9	12.0	20.2	16.3
1946	19.2	30.2	43.5	25.0	24.1	22.3	28.6	16.7	41.7	19.6	19.3	14.3	25.4
1947	20.6	17.1	37.9	23.3	19.1	21.1	21.4	32.9	39.1	31.3	20.7	17.9	25.2
1948	20.8	21.0	24.2	17.7	23.7	15.0	16.2	28.3	22.0	36.1	23.1	23.0	22.6
1949	29.8	20.4	24.7	17.6	22.4	17.9	11.8	19.2	17.8	32.7	24.6	15.1	21.2
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.0	17.3	12.7	18.4	15.6	20.0	17.0	15.9	14.2	21.9	23.3	21.7	18.1
1981	16.5	23.1	26.6	32.8	26.9	18.0	27.2	24.0	20.4	33.7	24.1	19.3	24.4
1982	24.2	50.6	28.5	32.9	26.7	32.1	43.9	31.4	45.1	28.5	33.0	33.8	34.2
1983	26.2	40.0	33.6	35.7	31.6	24.9	21.3	24.9	23.7	28.3	33.5	26.0	29.1
1984	23.5	26.7	30.7	32.5	27.2	23.7	26.4	25.8	32.6	33.1	31.0	29.0	28.5
1985	25.7	24.1	19.0	29.5	15.6	19.9	23.4	22.0	21.2	22.2	23.7	21.4	22.3
1986	22.4	40.0	21.1	14.3	18.8	15.9	16.3	22.3	24.7	18.6	21.2	15.3	20.9
1987	14.8	16.6	17.6	12.9	14.7	13.2	19.3	24.3	30.3	25.8	22.4	16.0	19.0
1988	22.4	23.4	24.8	25.2	20.5	20.0	20.2	20.6	21.4	23.2	23.3	25.5	22.5
1989	33.9	27.5	60.1	32.8	25.7	24.9	14.4	28.4	26.7	31.4	34.7	31.4	31.0
1990	27.4	37.8	33.9	37.4	25.1	24.6	21.6	28.2	25.1	25.1	17.4	15.2	26.6
1991	17.2												

R9	Rot-No		C9
	19	J18	
	87	F14	
		M13	
	2100	A 9	
	01	M 6	
	02	J 2	
	03	J29	
	04	J26	
	05	A22	
	06	S18	
	07	O15	
	08	N11	
	2109	O 8	
	19	J 4	
	88	J31	
		F27	
	2113	M25	
	14	A21	
	15	M18	
	16	J14	
	17	J11	
	18	A 7	
	19	S 3	
	2120	S30	
	21	O27	
	22	N23	
	2123	O20	
	19	J16	
		F12	
	89	M11	
	2127	A 7	
	28	M 4	
	29	M31	
	2130	J27	
	31	J24	
	32	A20	
	33	S16	
	34	O13	
	35	N 9	
	2136	O 6	
	19	J 2	
	90	J29	
		F25	
	2140	M24	
	41	A20	
	42	M17	
	43	J13	
	44	J10	
	45	A 6	
	46	S 2	
	47	S29	
	48	O26	
	49	N22	
	2150	O19	
	19	J15	
	91	F11	
		M10	

preliminary

Symbol						5	6	7	8	9
R =	0	1-15	16-30	31-45	46-60	61-80	81-100	101-130	131-170	171
R9,C9 =	0	1	2	3	4	5	6	7	8	9
Cp =	0	0-01	02-03	04-05	06-07	08-09	10-11	12-14	15-18	19	20-25

DAILY GEOMAGNETIC CHARACTER FIGURES C9 AND 3-DAY MEAN SUNSPOT NUMBERS R9

(after Bartels)

Editor: Institut für Geophysik, Postfach 2341, D-3400 Göttingen, F.R. Germany

P R I N C I P A L M A G N E T I C S T O R M S

JANUARY 1991

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges K	D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYD	07.6N	12	0151	SC	- .3	18	- 1	12(3)	5	4	117	23	13	19
GUA	04.0N	12	0610	SC	.4	16	- 6	12(3)	5	10	130	30	12	20
GUA	04.0N	12	0151	SC*	.4	37	- 11		-	--	--	--	--	--
ETT	00.6S	12	0610	SC*	1.0	35	25		-	--	--	--	--	--
ETT	00.6S	12	0151	SC	- .8	25	19		-	4	223	96	13	20
HER	33.7S	12	0149	SC	* 3 *	22	20	12(3)	5	21	68	51	12	13
KGL	56.5S	12	0150	..	..	..	..	12(2,3)	4	23	64	32	13	09
HYD	07.6N	15	0500	..	..	..	..	15(7)	4	3	105	16	17	24
KGL	56.5S	17	0900	..	..	..	..	17(4,5,6) 18(2)	3	19	92	52	18	08
KGL	56.5S	18	1647	SC	- 0	8	0	18(6,8)	3	11	136	52	18	24
KGL	56.5S	21	2139	SC	1	- 8	0	21(8) 22(2)	2	6	16	8	22	04
FRD	49.6N	23	2030	SC*	- .5	9	- 2.5	24(1)	4	14	124	32	25	--
HYD	07.6N	23	2028	SC	- .2	9	- 1	24(4,6) 25(6,7)	5	4	145	34	26	09
GUA	04.0N	23	2029	..	..	..	..	24(1)	5	--	140	30	24	14
ETT	00.6S	23	2028	SC	- .2	8	8		-	3	176	76	26	23
KGL	56.5S	23	2057	SC	- 12	2	8	25(7)	7	39	384	116	26	23
GUA	04.0N	24	17--	..	..	..	..	24(6)	5	--	110	40	25	11
GUA	04.0N	30	23--	..	..	..	..	31(3)	5	--	180	30	31	10
HYD	07.6N	30	2100	..	..	..	..	31 (1,2,3,6,8)	4	6	99	19	01	10
GUA	04.0N	31	21--	..	..	..	..	31(8)	5	--	110	30	01	14
ETT	00.6S	31	0030	..	..	..	..		-	--	--	--	--	--

Stations:

ABG = ALIBAG
ANN = ANNAMALAINAGAR
API = APIA
BJI = BEIJING
CNB = CANBERRA
COL = COLLEGE
ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HON = HONOLULU
HYB = HYDERABAD
JAI = JAIPUR
KAK = KAKIOKA
KNY = KANOYA
KGL = KERGUELEN
KRC = KARACHI
MMB = MEMAMBETSU
PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN

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."