U.S. DEPARTMENT OF COMMERCE
Robert A. Mosbacher, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
John A. Knauss, Under Secretary for Oceans and Atmosphere

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Thomas N. Pyke, Jr., Assistant Administrator

NOVEMBER 1990 NUMBER 555 - Part I

Solar-Geophysical Data prompt reports

Data for October, September 1990, and Late Data

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

NATIONAL GEOPHYSICAL DATA CENTER
Michael A. Chinnery, Director
Boulder, Colorado

Subscription information is on the inside back cover.

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

NUMBER 555

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Joe H. Allen
Solar-Terrestrial Physics Division

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

C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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

CODE	KIND OF OBSERVATION	MAR 90	APR	MAY	JUN	JUL	AUG	SEP	OCT
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	549A 60	550A 66	551A 60	552A 60	553A 64	554A 56	555A 60	
A.2aa	Internat. Provisional Sunspot Numbers	548A 29	549A 27	550A 29	551A 27	552A 29	553A 29	554A 27	555A 29
A.2c	American Sunspot Numbers	548A 29	549A 27	550A 29	551A 27	552A 29	553A 29	554A 27	555A 29
A.3a	Mt. Wilson Magnetograms	549A 60	550A 66	551A 60	552A 60	553A 64	554A 56	555A 60	
A.3f	SOON Sunspot Mag Class and Regions	549A 91	550A 96	551A 91	552A 90	553A 95	554A 87	555A 90	
A.3c	Kitt Peak Magnetograms	549A 60	550A 66	551A 60	552A 60	553A 64	554A 56	555A 60	
A.3d	Mean Solar Magnetic Field (Stanford)	548A 51	549A 49	550A 55	551A 50	552A 49	553A 53	554A 45	555A 49
A.3e	Stanford Magnetograms	549A 60	550A 66	551A 60	552A 60	553A 64	554A 56	555A 60	
A.4	H-alpha Filtergrams	549A 60	550A 66	551A 60	552A 60	553A 64	554A 56	555A 60	
A.6	H-alpha Synoptic Charts	549A 52	550A 58	551A 52	552A 52	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	549A 54	550A 60	551A 54	552A 54	553A 58	554A 50	555A 54	
A.6d	Kitt Peak " Mag Field Synoptic Maps	549A 53	550A 59	551A 53	552A 53	553A 57	554A 49	555A 53	
A.6e	Mass Ejections from the Sun	553B 84	554B 63	555B 78					
A.6f	Active Prominences and Filaments	553B 85	554B 64	555B 80					
A.6g	Sac Peak Coronal Line Synoptic Maps	549A 56	550A 62	551A 56	552A 56	553A 60	554A 52	555A 56	
A.7h	Coronal Line Emission (Sac Peak)	549A 60	550A 66	551A 60	552A 60	553A 64	554A 56	555A 60	
A.8aa	2800 MHz - Solar Flux (Ottawa)	548A 29	549A 27	550A 29	551A 27	552A 29	553A 29	554A 27	555A 29
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	548A 29	549A 27	550A 29	551A 27	552A 29	553A 29	554A 27	555A 29
A.8g	Adjusted Daily Solar Fluxes (Palehua)	548A 29	549A 27	550A 29	551A 27	552A 29	553A 29	554A 27	555A 29
A.10a	Interferometric Chart (164 MHz) Nancay	549A144	549A 45	550A 49	551A 44	552A 46	553A 49	554A 42	555A 45
A.10c	East-West Scans - 21 cm - Fleurs	---	549A 43	550A 47	551A 42	552A 44	553A 48	---	---
A.10d	East-West Scans - 43 cm - Fleurs	---	549A 44	550A 48	551A 43	552A 45	---	---	---
A.10e	East-West Scans - 10 cm - Ottawa	548A 45	549A 42	550A 46	551A 41	552A 43	553A 47	554A 41	555A 44
A.11g	Solar X-ray GOES (graphs/event table)	553B 74	554B 55	555B 69					
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)	552B 57	553B 73						
A.13f	Solar Wind (Pioneer 12)	Jan-Dec 88 in 536A153; Jan-Dec 89 in 549A148							
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	548A 32	549A 31	550A 32	551A 30	552A 32	553A 33	554A 31	555A 32
C.1ba	H-alpha Flare Groups	553B 4	554B 4	555B 4					
C.1d	Flare Patrol Observations	548A 44	549A 41	550A 45	551A 40	552A 42	553A 46	554A 40	555A 43
C.1d	Flare Patrol Observations	553B 38	554B 26	555B 31					
C.3	Radio Bursts Fixed Freq.	553B 40	554B 28	555B 33					
C.3	Radio Bursts Fixed Freq. Selected	548A 47	549A 46	550A 50	551A 45	552A 47	553A 50	554A 43	555A 46
C.4d	Radio Bursts Spectral (Culgoora)			551A118	552A116	555A146	555A151		
C.4e	Radio Bursts Spectral (Weissenau)	552A140	550A123	551A118	552A116	554A162	554A128	555A126	
C.4f	Radio Bursts Spectral (Sagamore Hill)	549A123	550A123	551A118	552A116	553A129	554A128	555A126	
C.4i	Radio Bursts Spectral (Bleien)	549A123	550A123	551A118	553A154	553A129	554A128		
C.4k	Radio Bursts Spectral (Learmonth)	549A123	550A123	551A118	552A116	553A129	554A128	555A126	
C.4l	Radio Bursts Spectral (Palehua)	549A123	550A123	551A118	552A116	553A129	554A128	555A126	
C.4m	Radio Bursts Spectral (Ondrejov)	549A123	550A123	551A118	553A154	553A129	554A128		
C.4n	Radio Bursts Spectral (Potsdam)	---	---	551A118	552A116	554A162	554A128	555A126	
C.4o	Radio Bursts Spectral (San Vito)	549A123	550A123	551A118	552A116	553A129	554A128	555A126	
C.6	Sudden Ionospheric Disturbances	549A117	550A119	551A113	552A112	553A125	554A124	555A122	
D.	GEOMAGNETIC & MAGNETOSPHERIC EVENTS								
D.1a	Geomagnetic Indices	549A137	550A140	554A173	554A174	554A175	555A157	555A140	
D.1ba	27-day Chart of Kp Indices	549A139	550A142	551A140	552A135	553A150	554A157	555A142	
D.1cb	Monthly Mean aa Indices	549A140	550A143	553A151	553A151	553A151			
D.1d	Principal Magnetic Storms	549A141	550A144	551A142	552A137	553A152	554A159	555A144	
D.1f	Sudden Commencements/Flare Effects	551A145	551A146	554A176	554A177	554A178			
D.1g	Equatorial Indices Dst	May-Dec 88 in 554A179; Jan-Aug 89 in 555A158							
F	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	549A131	550A135	551A133	552A132	553A143	554A154	555A135	
F.1b	Cosmic Ray Neutron Cts (Climax)	549A131	550A135		552A132	554A171	554A154	555A135	
F.1h	Cosmic Ray Neutron Cts (Thule)	549A131	550A135	551A133	552A132				
F.1i	Cosmic Ray Neutron Cts (Kiel)	549A131	550A135	551A133	552A132	553A143	554A154	555A135	
F.1j	Cosmic Ray Neutron Cts (Tokyo)	549A131	550A135	551A133	552A132	553A143	554A154	555A135	
F.1l	Cosmic Ray Neutron Cts (Huancayo)		552A142	552A143	553A156	554A171			
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	548A 20	549A 19	550A 20	551A 19	552A 20	553A 20	554A19	555A 20

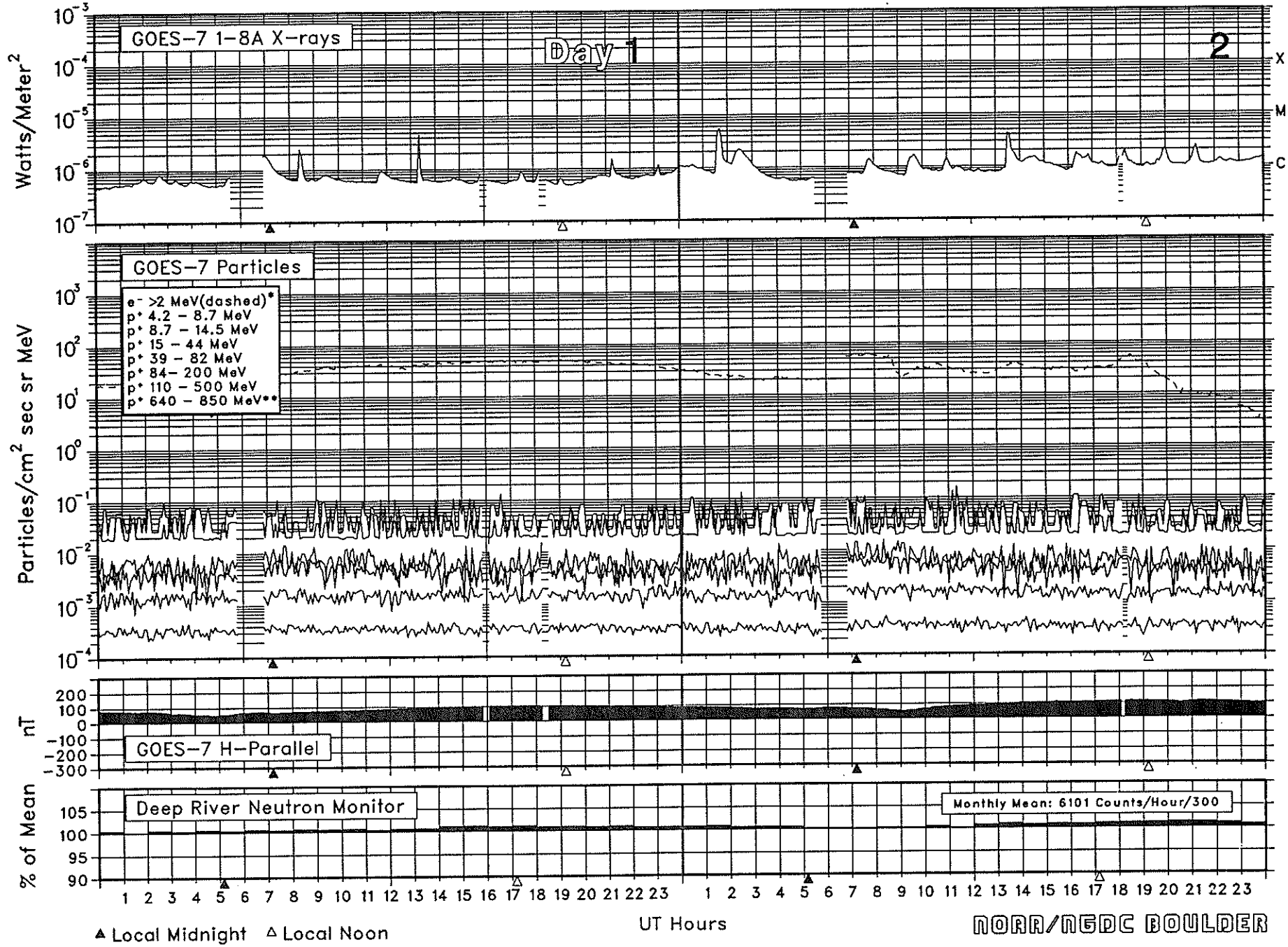
The entry "549A 60" under Mar 1990, for example, means that the sunspot drawings for Mar 1990 appear in SOLAR-GEOPHYSICAL DATA No. 549, Part I, and that they begin on page 60. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

C O N T E N T S

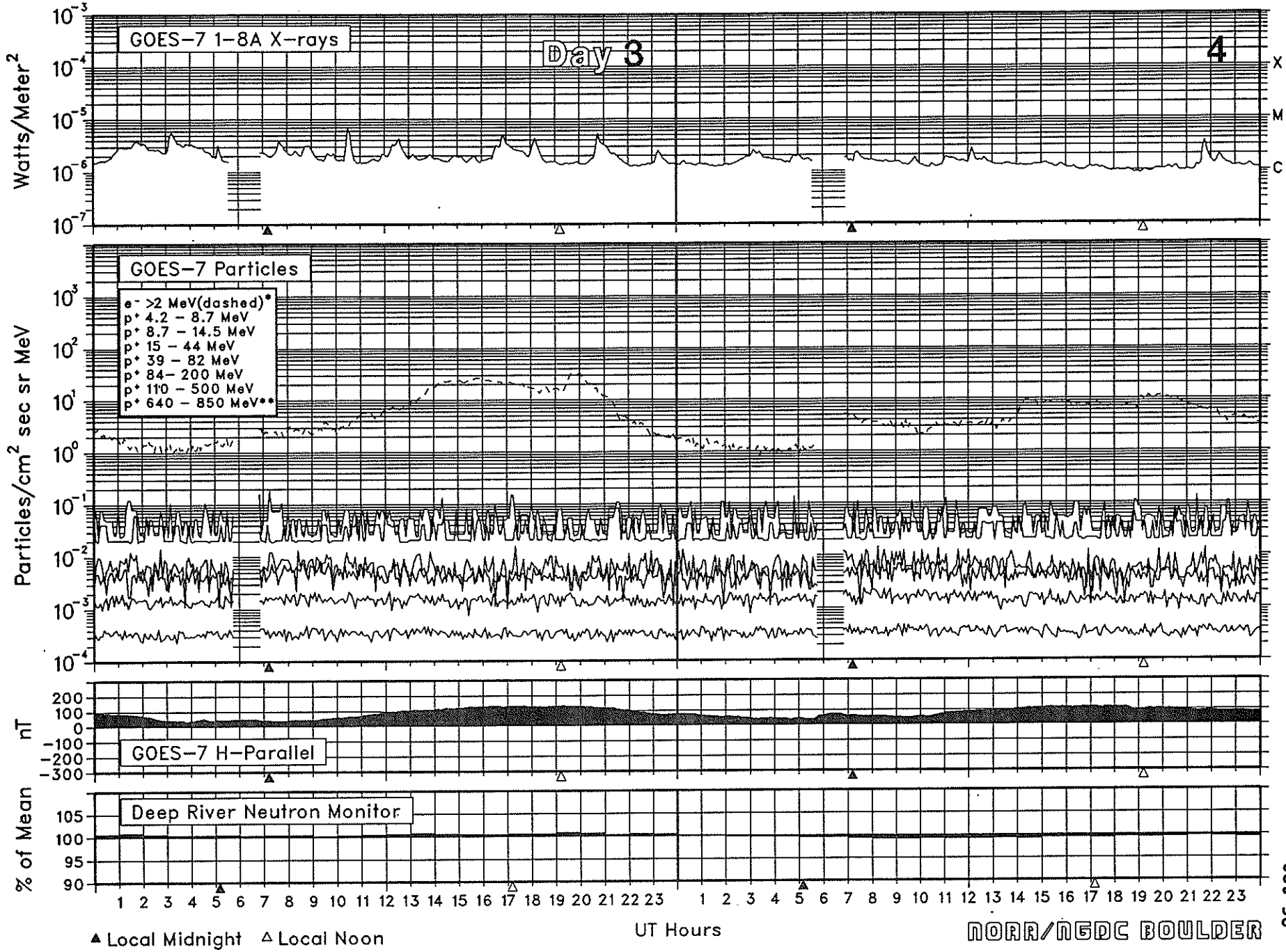
Prompt Reports DATA FOR **OCTOBER 1990** Number 555 Part I

SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

4 Oct 90

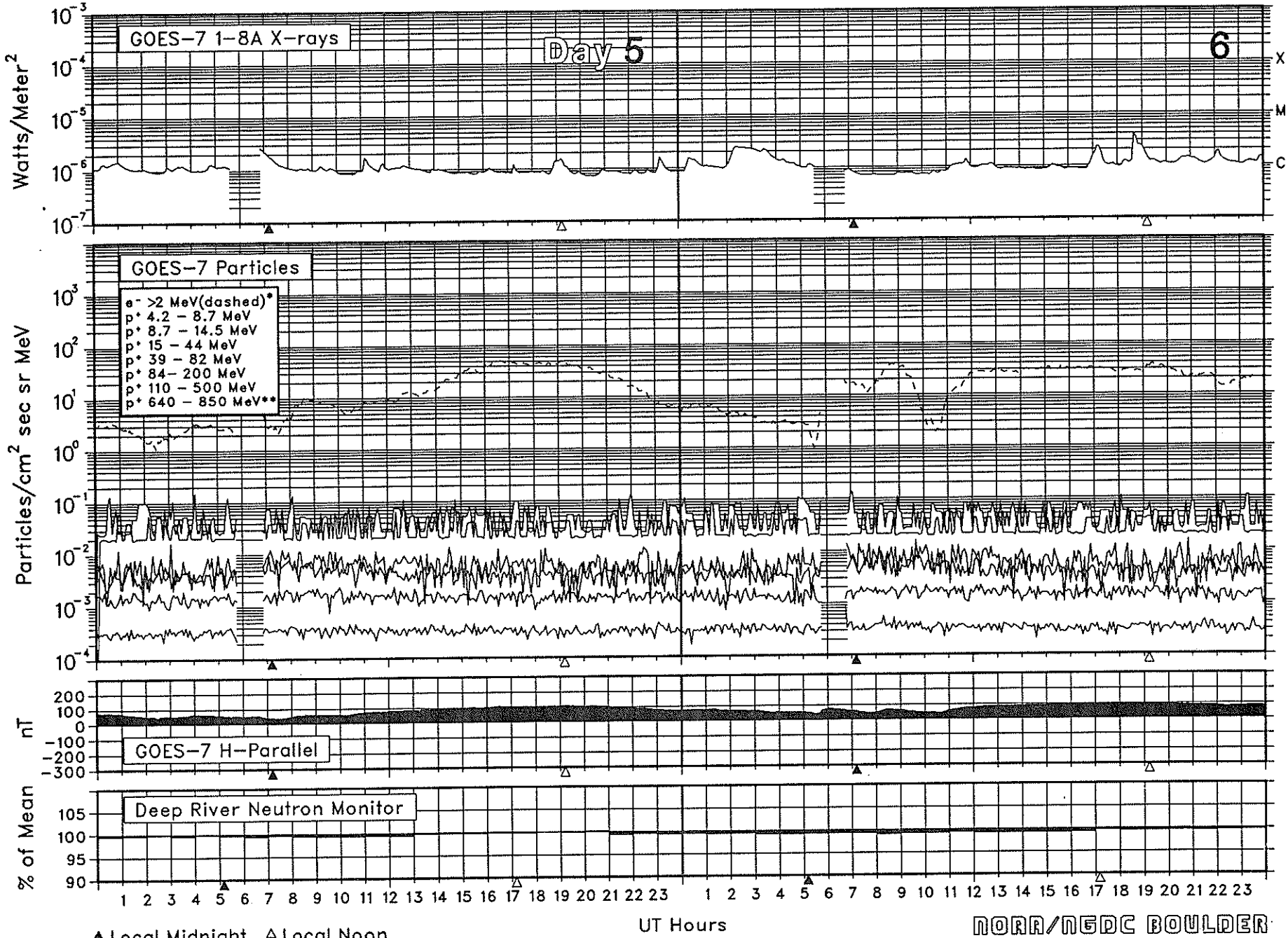


SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

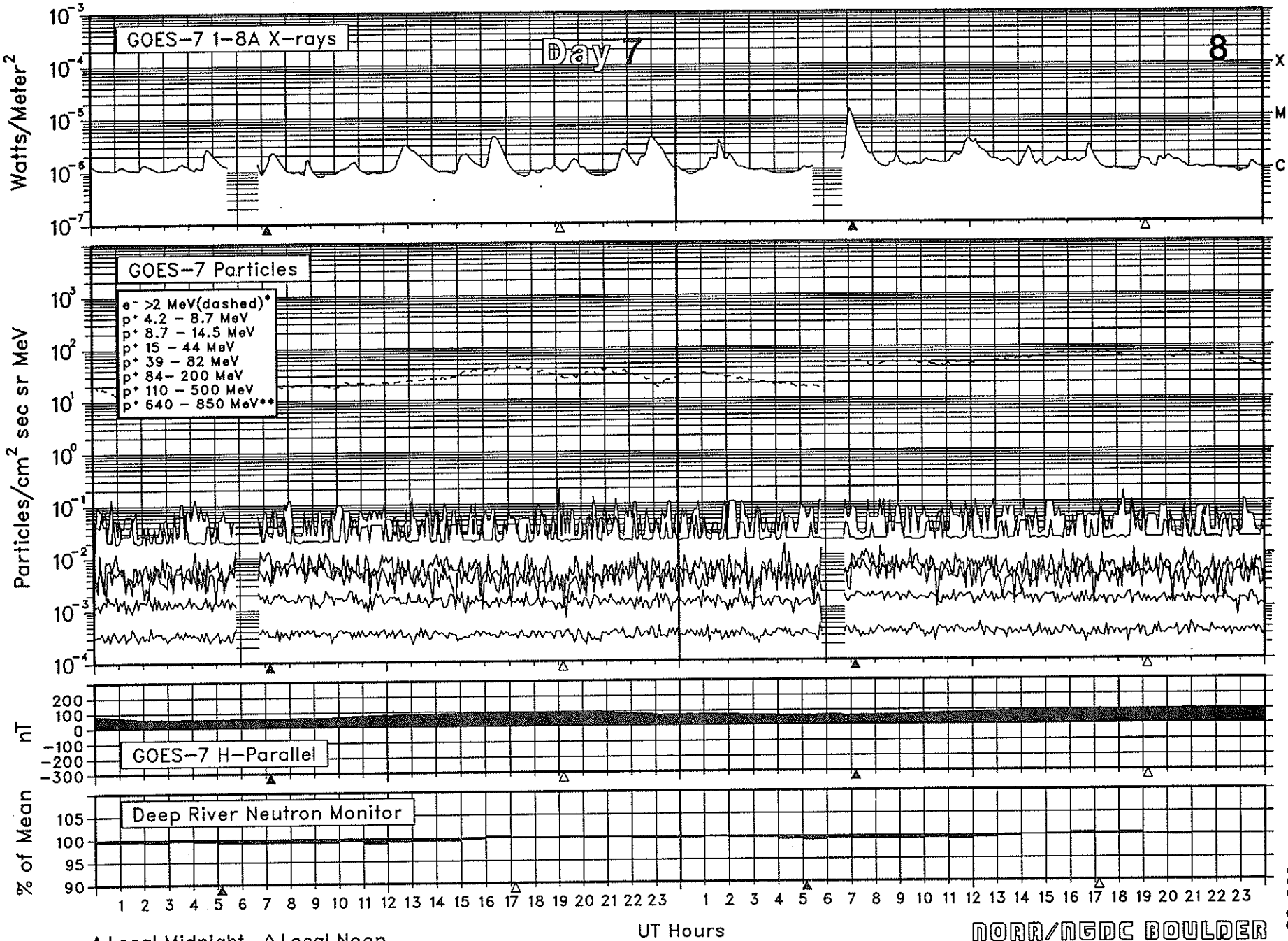


SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

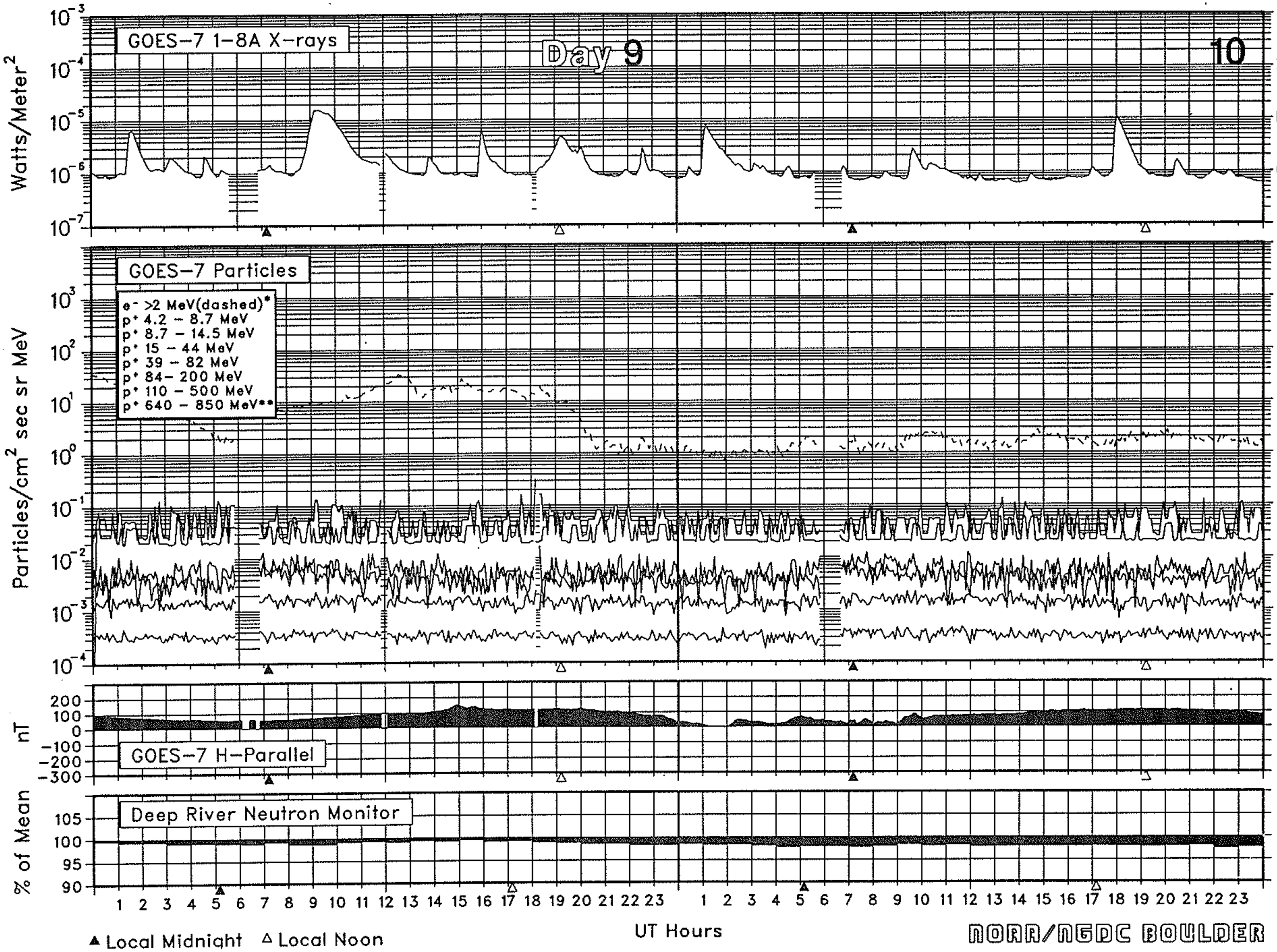
oct 90
6



SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

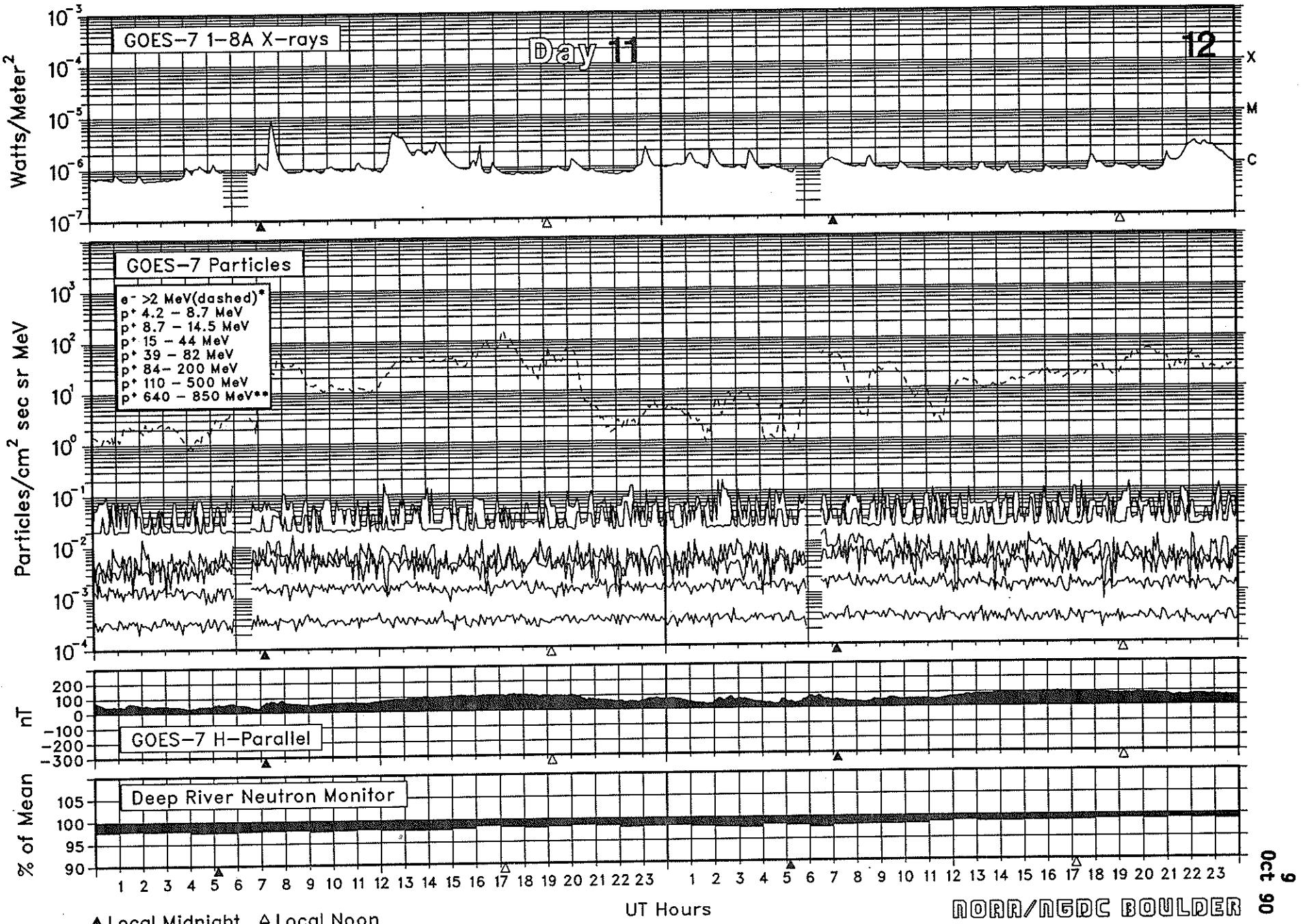


SOLAR-TERRESTRIAL ENVIRONMENT
October 1990



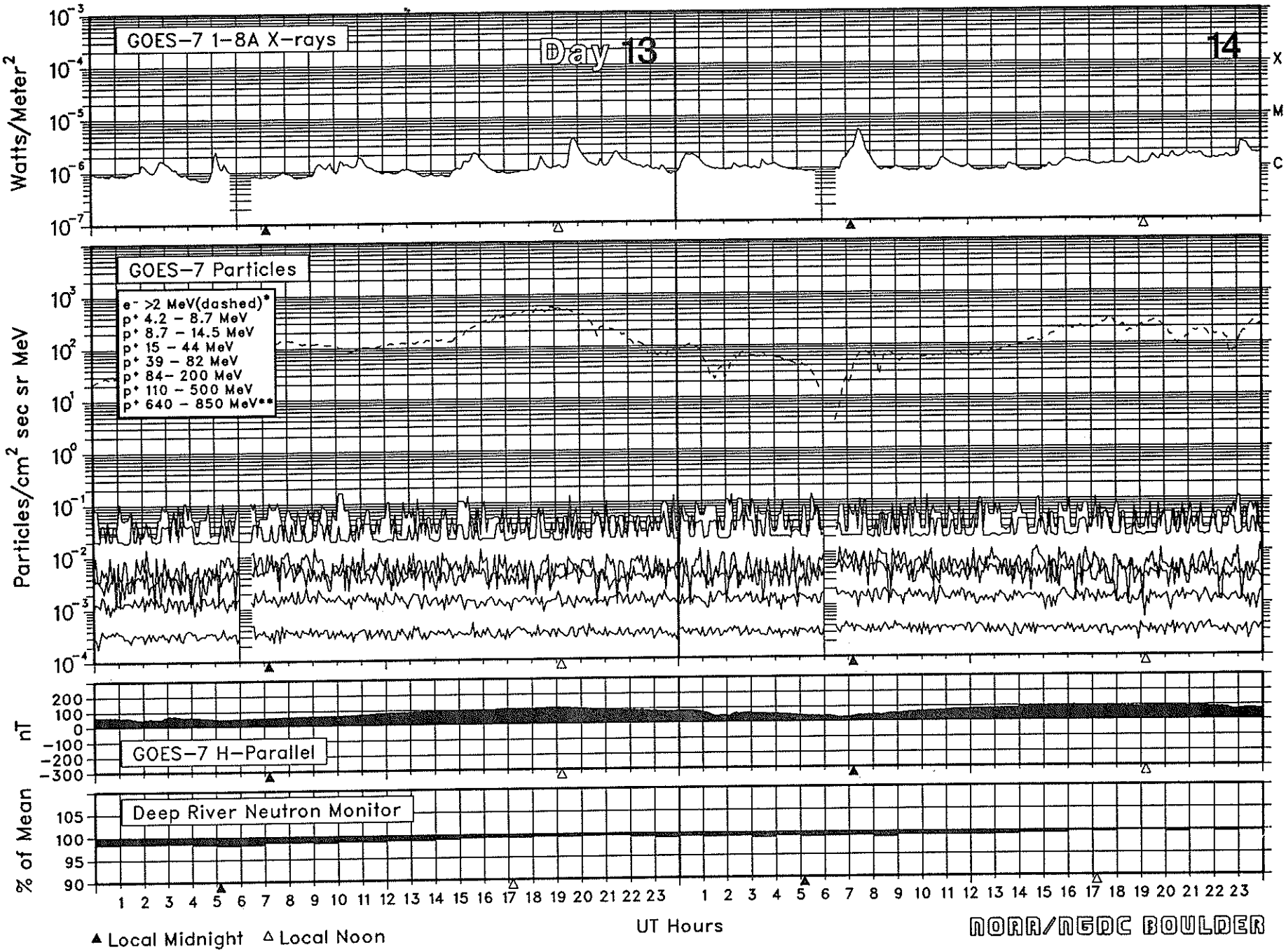
NOAA/NGDC BOULDER

SOLAR-TERRESTRIAL ENVIRONMENT
October 1990



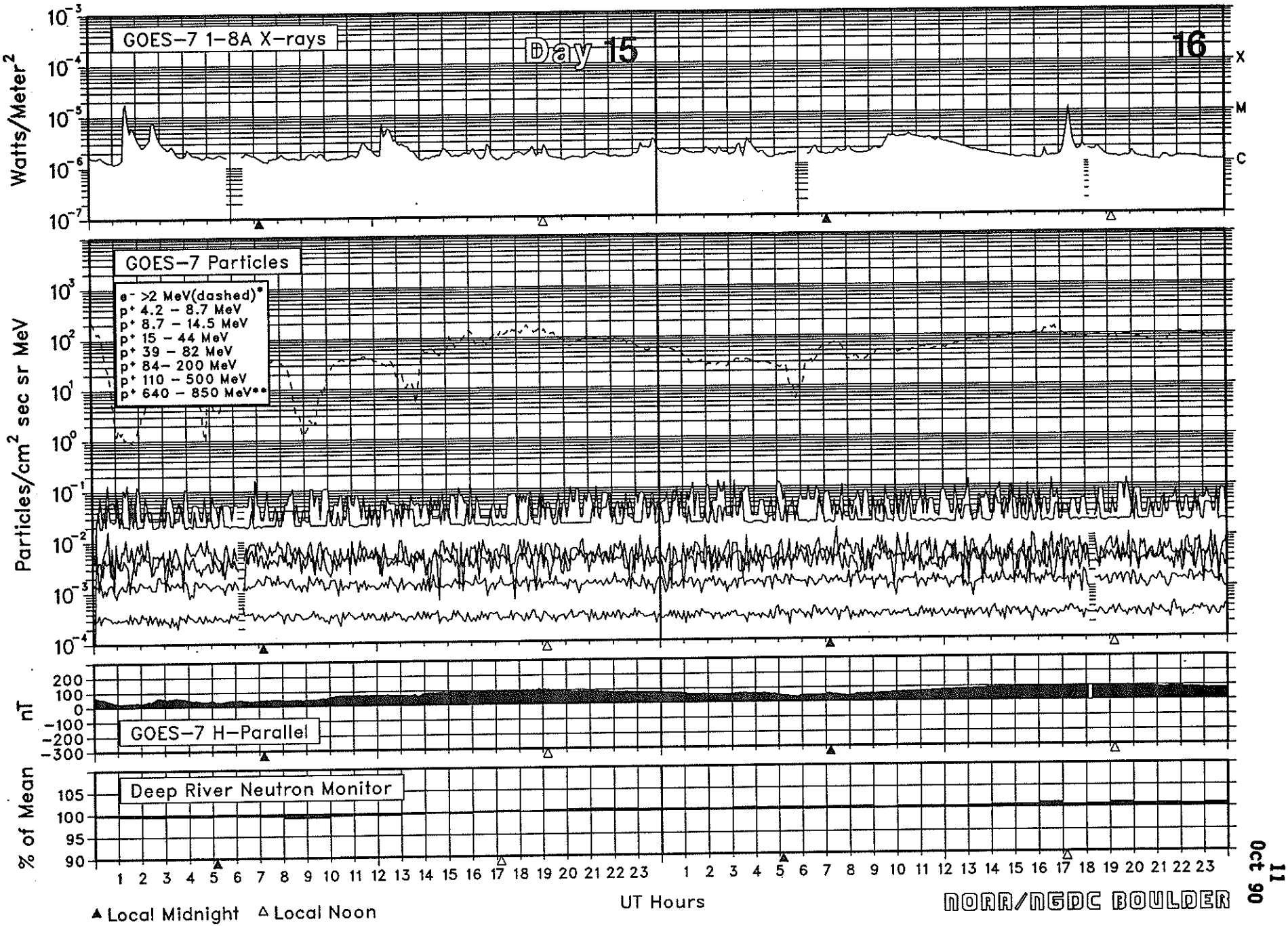
SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

10 oct 90



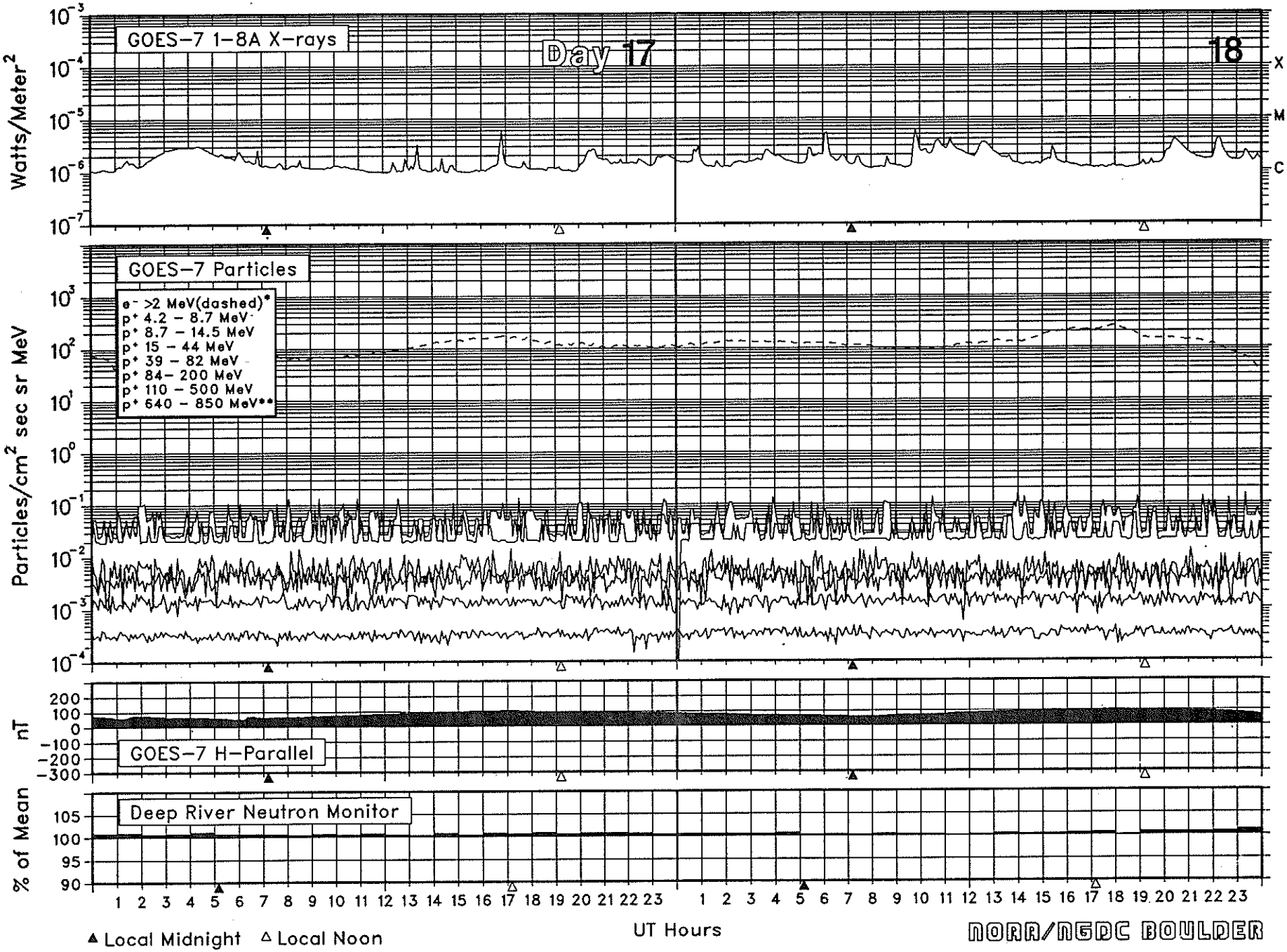
NOAA/NGDC BOULDER

SOLAR-TERRESTRIAL ENVIRONMENT
October 1990



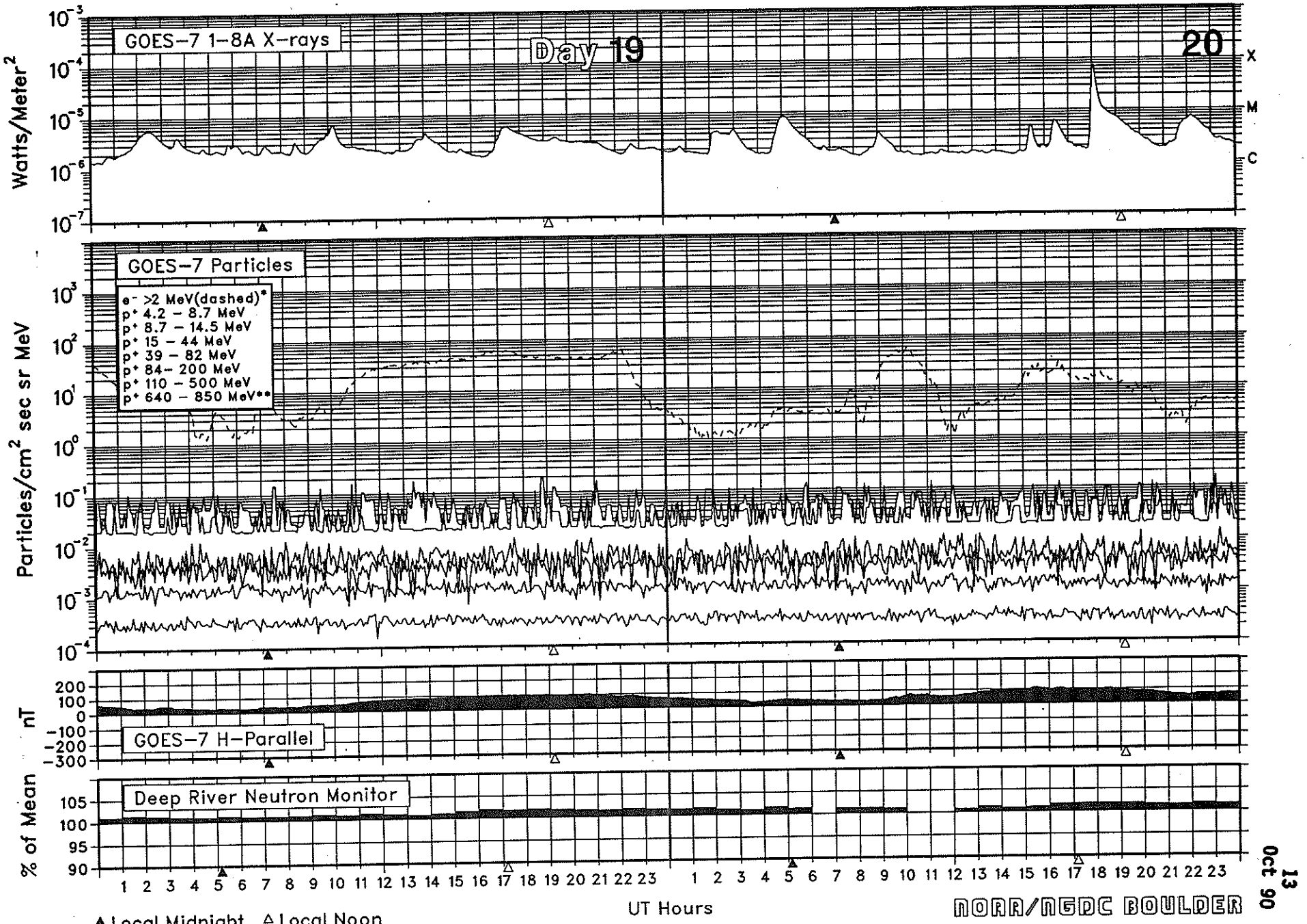
SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

12 Oct 90



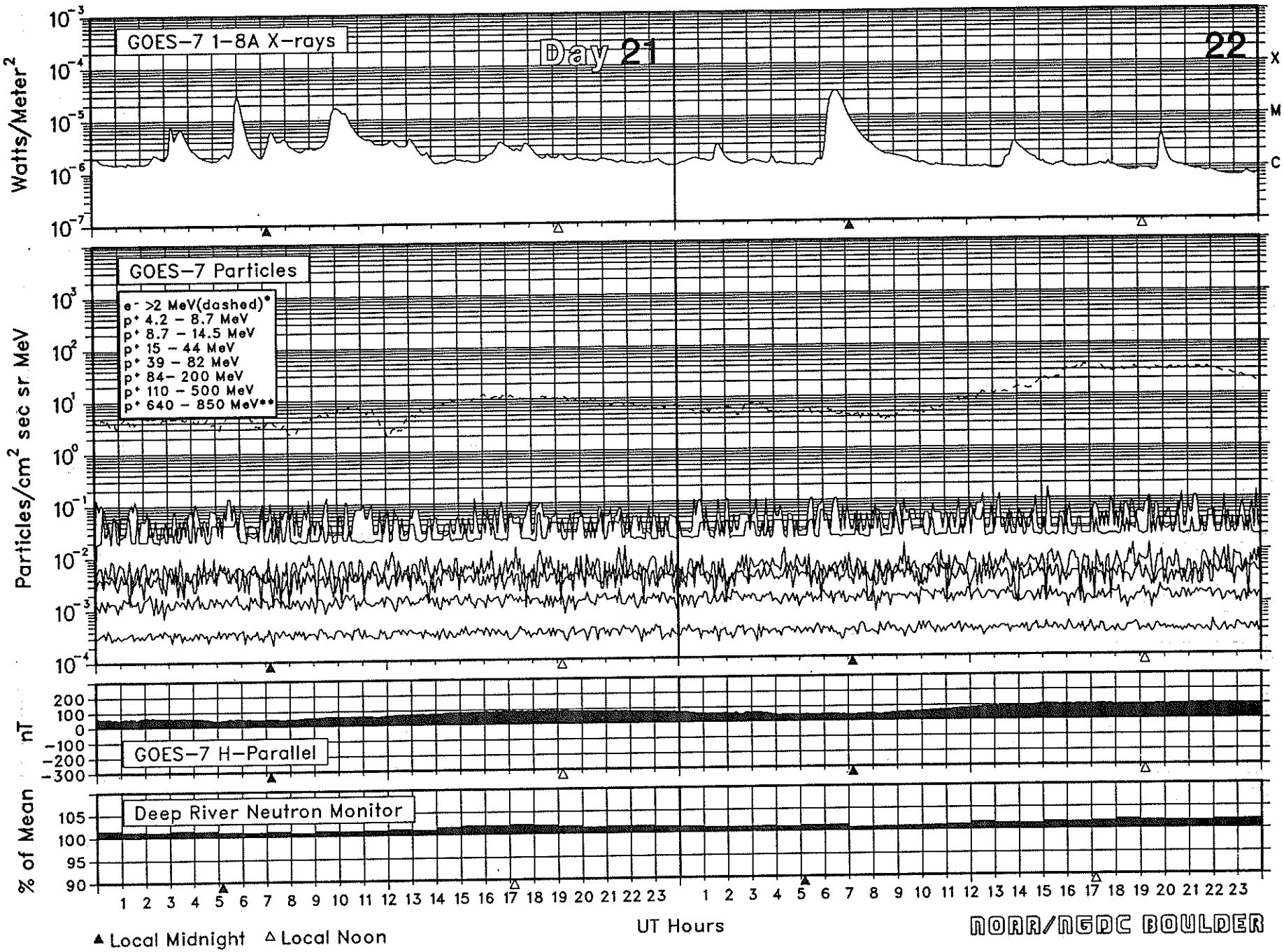
NOAA/NGDC BOULDER

SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

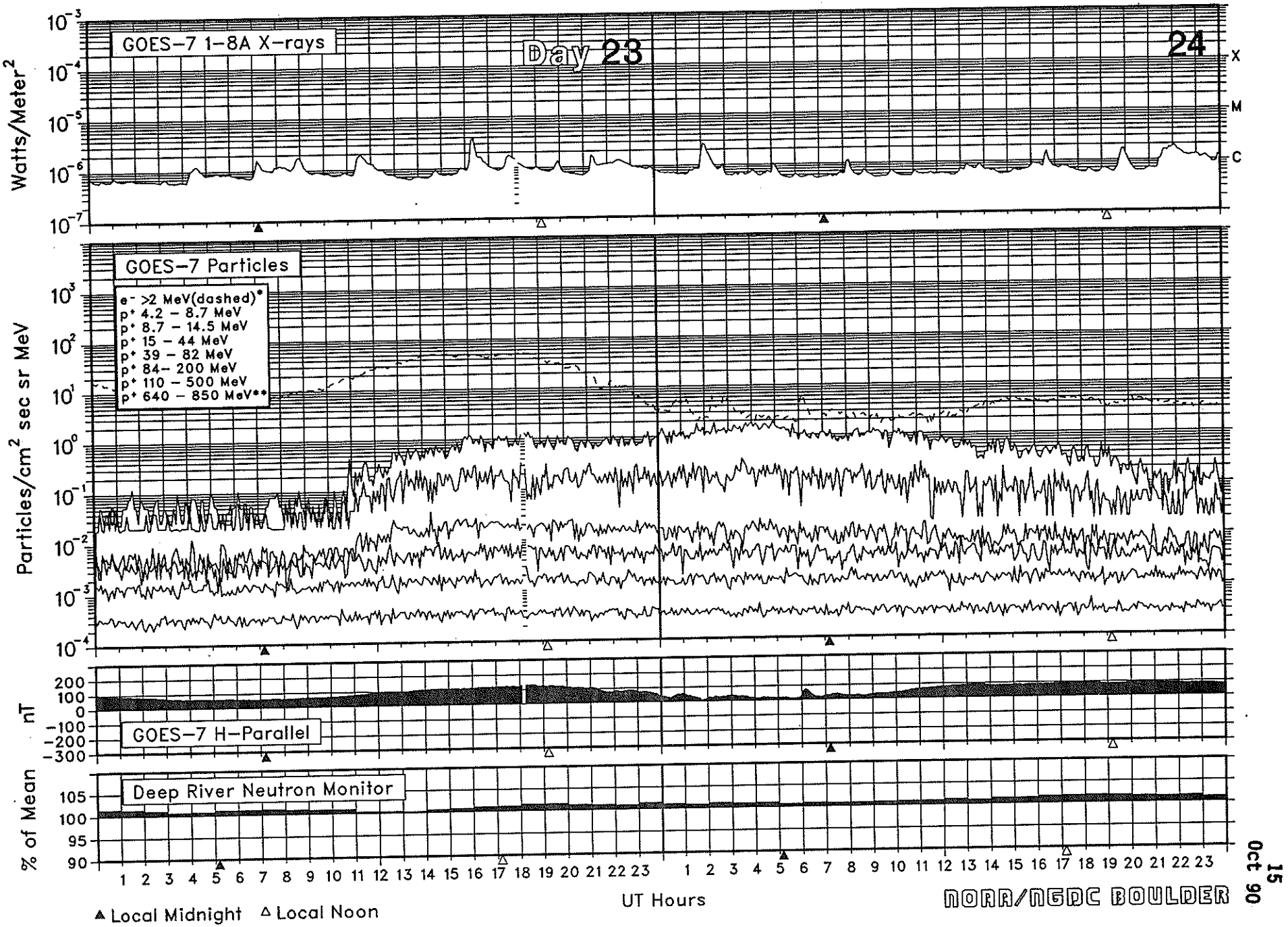


SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

14 Oct 90

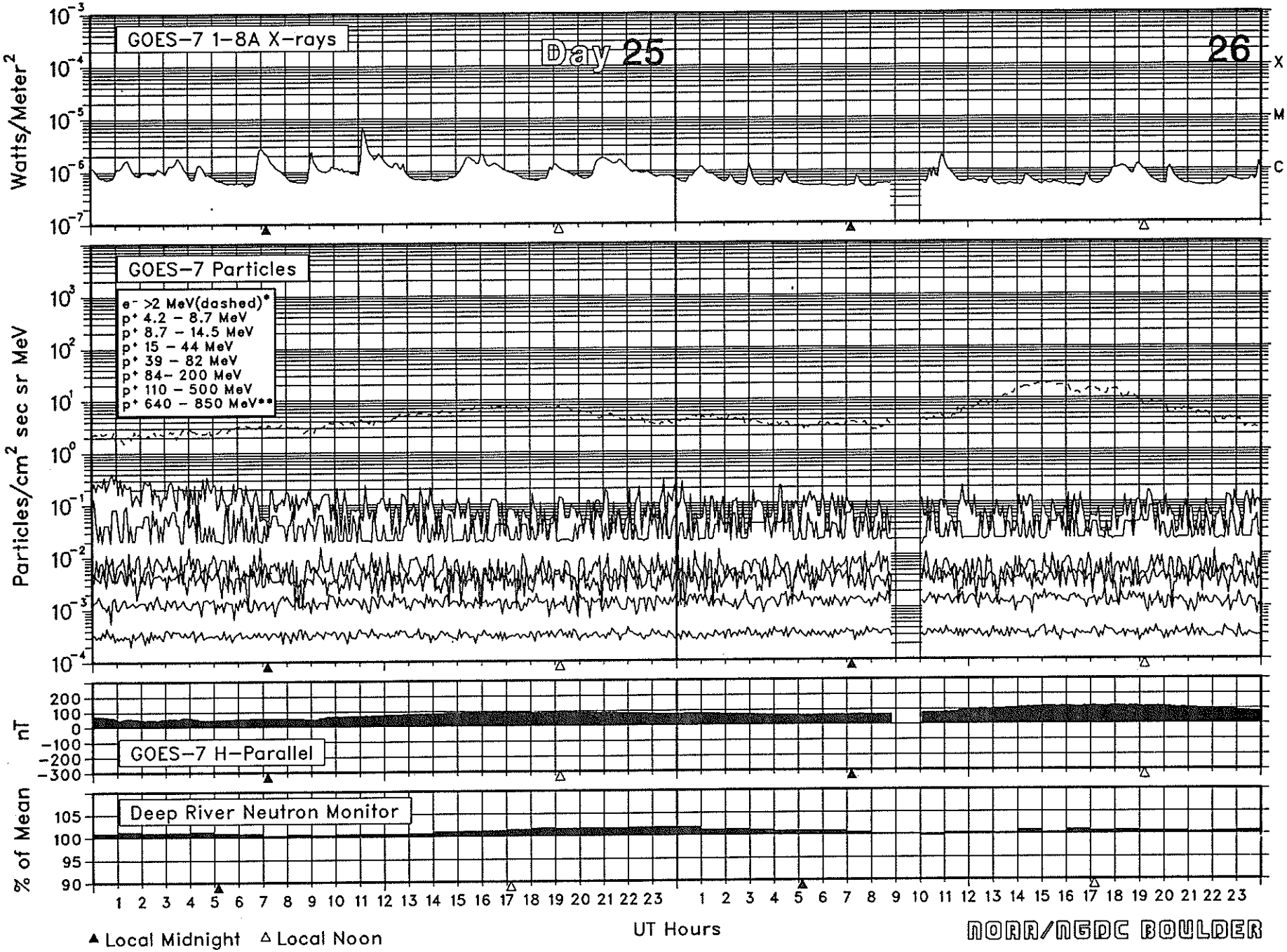


SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

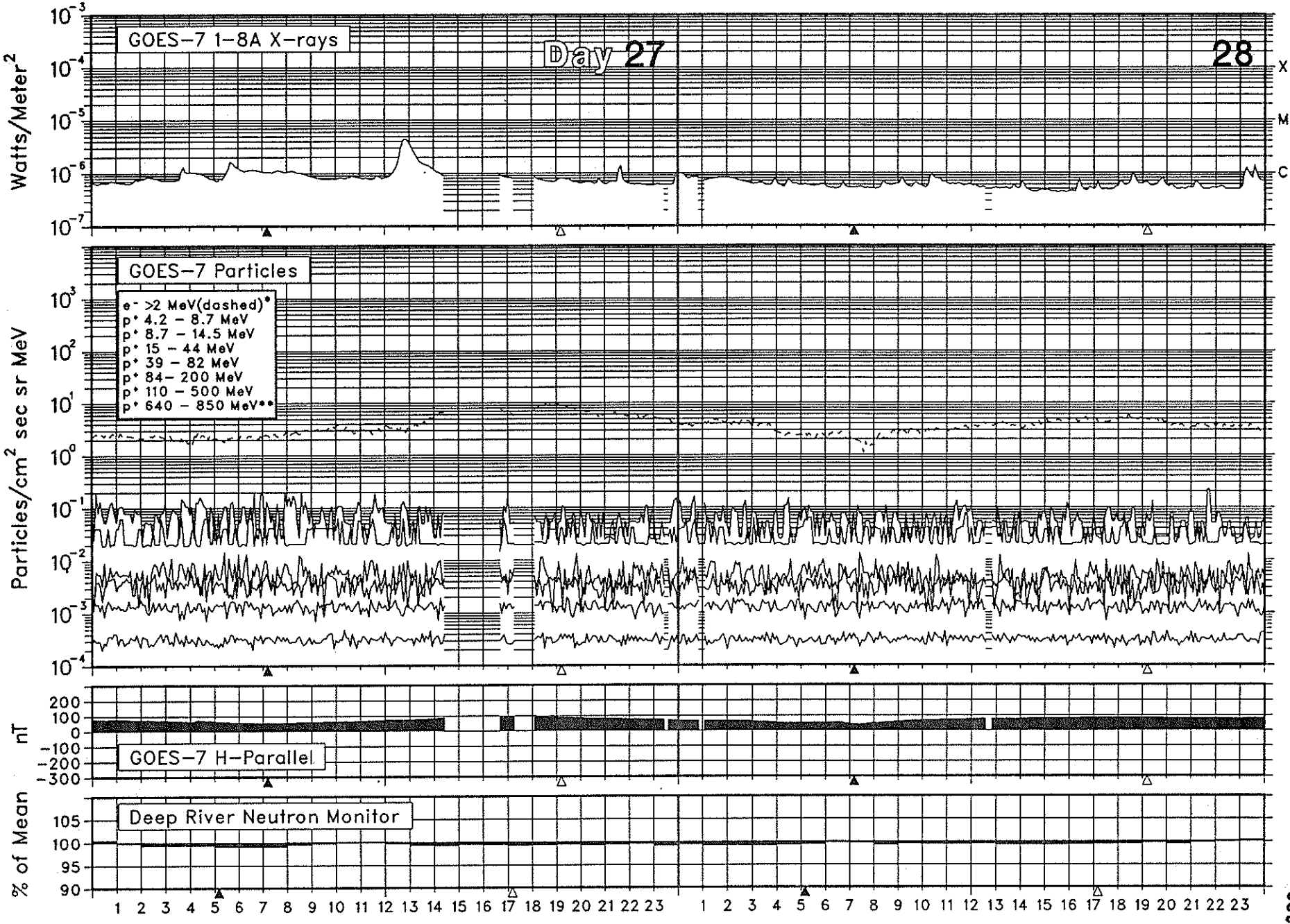


SOLAR-TERRESTRIAL ENVIRONMENT
October 1990

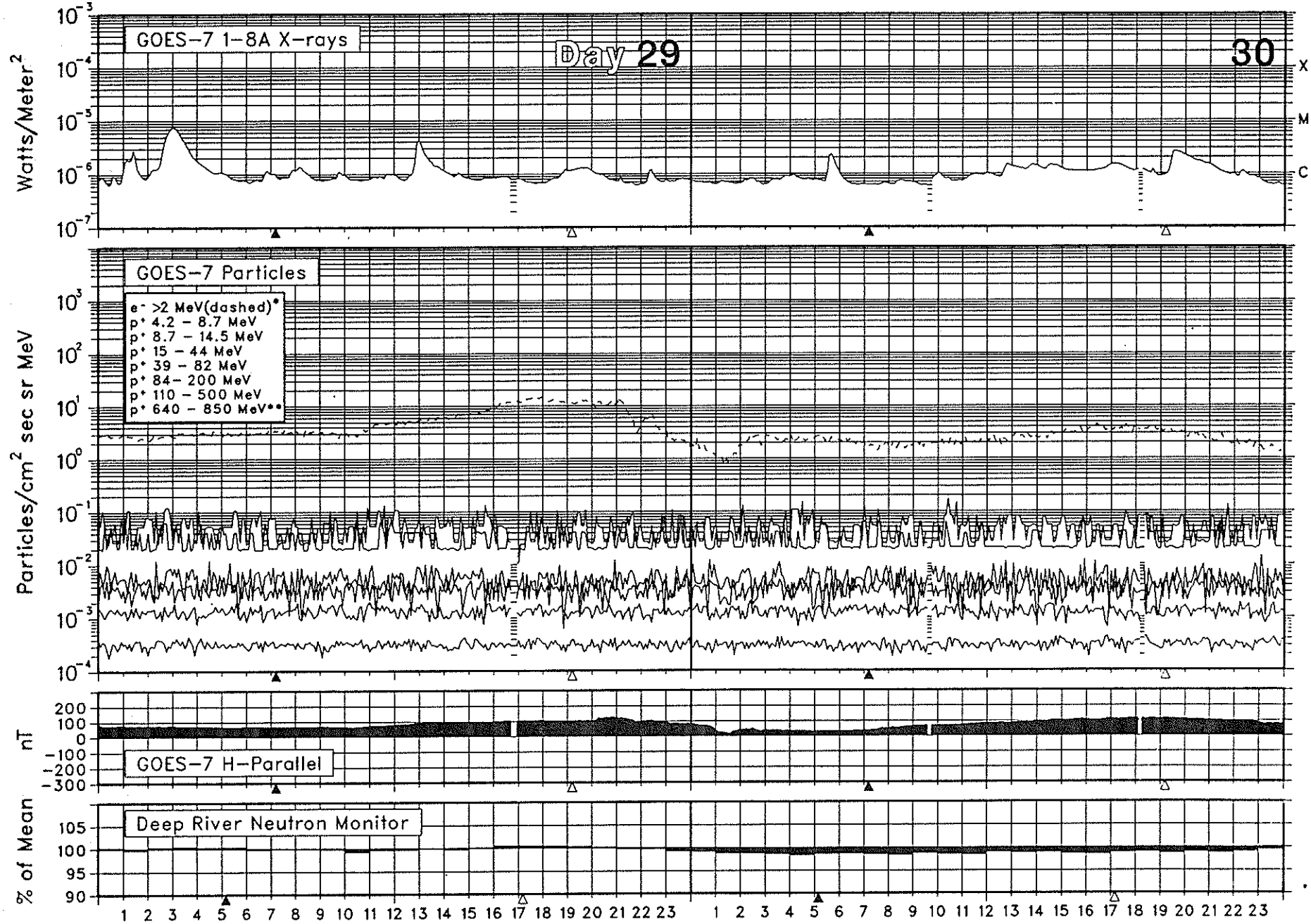
Oct 90 16



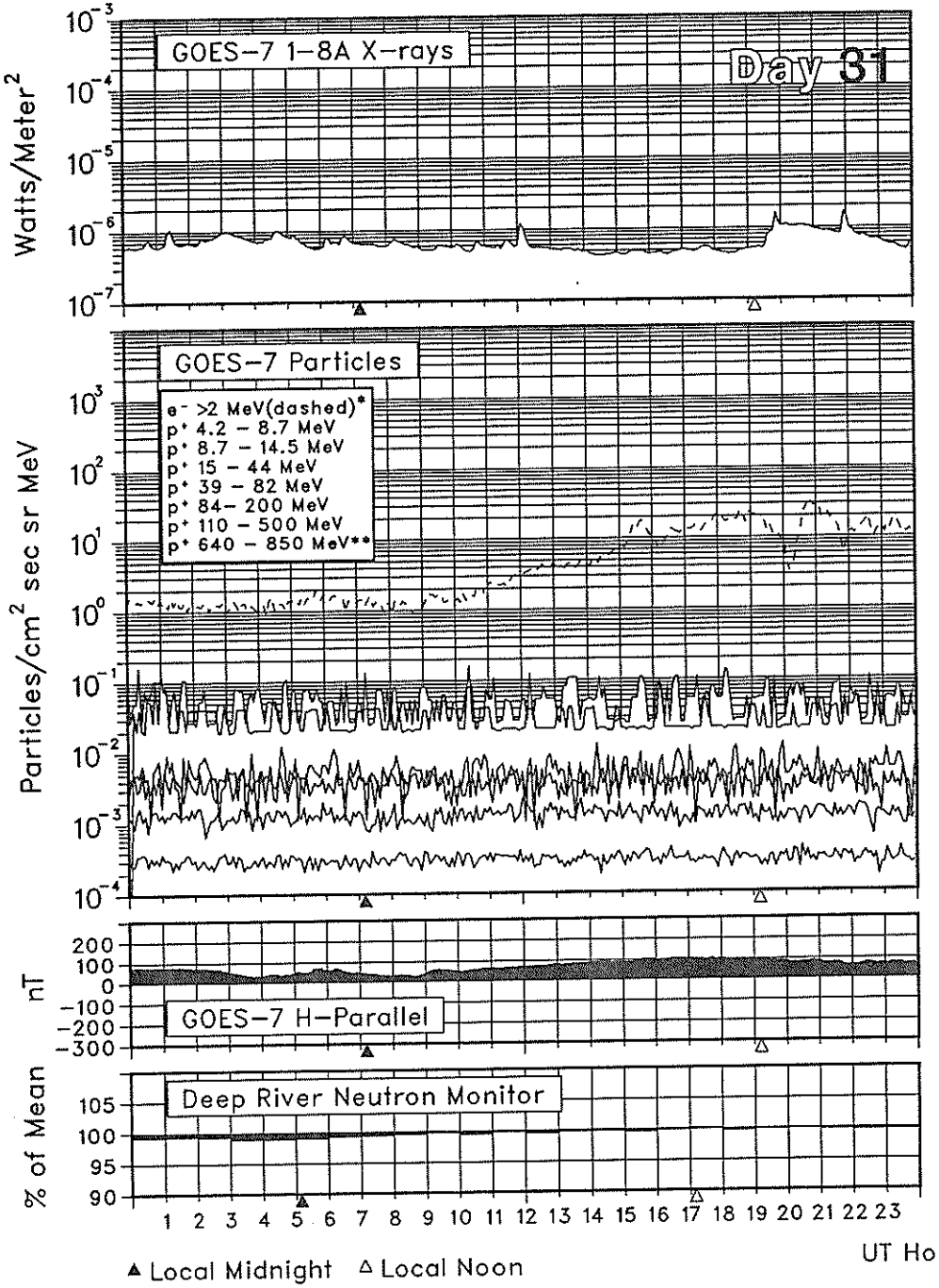
SOLAR-TERRESTRIAL ENVIRONMENT
October 1990



SOLAR-TERRESTRIAL ENVIRONMENT
October 1990



SOLAR-TERRESTRIAL ENVIRONMENT
October 1990



* The y-axis units for the electron flux are **Particles/cm² sec sr.** Also, the plotted electron values have been divided by 10.

** The 640 - 850 MeV proton data are from the GOES-6 High Energy Proton and Alpha Detector (HEPAD). These data will appear on these charts only during very energetic proton events.

NOAA/NGDC BOULDER Oct 90

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **OCTOBER 1990**

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	M	X	Date of Forecast	Location °Lat °Long	Region Forecast [1]	Geoalerts
274	01	30	182	156	004	S24 W87	0	0	0	01	S24 W87	Q	Solquiet, Magquiet.
						N15 W65	1	0	0		N15 W65	Q	
						S07 W30	4	0	0		S07 W30	E	
						S12 W18	0	0	0		S12 W18	Q	
						S14 W63	2	0	0		S14 W63	Q	
						N11 W18	0	0	0		N11 W18	Q	
						S17 E43	0	0	0		S17 E43	Q	
						N07 W64	0	0	0		N07 W64	Q	
						S04 E10	8	0	0		S04 E10	E	
						S20 W28	0	0	0		S20 W28	Q	
		Presto:[2]	Boulder	Tenflare 200 flux units 30/0736 UT duration 14 minutes.									
275	02	01	169	158	003	N15 W78	0	0	0	02	N15 W78	Q	Solquiet, Magquiet.
						S07 W44	4	0	0		S07 W44	E	
						S12 W30	0	0	0		S12 W30	Q	
						S15 W75	1	0	0		S15 W75	Q	
						N11 W33	0	0	0		N11 W33	Q	
						S16 E30	0	0	0		S16 E30	E	
						S04 W03	2	0	0		S04 W03	E	
						N32 E54	0	0	0		N32 E54	Q	
						N21 E62	2	0	0		N21 E62	Q	
276	03	02	182	161	007	S08 W56	3	0	0	03	S08 W56	E	Solquiet, Magquiet.
						S13 W42	0	0	0		S13 W42	Q	
						S16 E14	0	0	0		S16 E14	Q	
						S04 W17	10	0	0		S04 W17	E	
						N34 E40	0	0	0		N34 E40	Q	
						N20 E47	1	0	0		N20 E47	Q	
						N18 W72	7	0	0		N18 W72	E	
						S14 W15	0	0	0		S14 W15	Q	
						N12 E73	1	0	0		N12 E73	Q	
277	04	03	208	177	012	S07 W71	2	0	0	04	S07 W71	E	Solquiet, Magquiet.
						S16 E03	0	0	0		S16 E03	Q	
						S05 W30	9	0	0		S05 W30	E	
						N34 E27	0	0	0		N34 E27	Q	
						N20 E34	2	0	0		N20 E34	Q	
						N17 W85	8	0	0		N17 W85	E	
						S17 W27	0	0	0		S17 W27	Q	
						N13 E61	0	0	0		N13 E61	Q	
						N12 E50	1	0	0		N12 E50	Q	
						S14 E74	0	0	0		S14 E74	Q	
						N24 W75	0	0	0		N24 W75	E	
278	05	04	214	184	017	S07 W84	0	0	0	05	S07 W84	E	Solquiet, Magquiet.
						S16 W12	0	0	0		S16 W12	Q	
						S05 W44	0	0	0		S05 W44	E	
						N34 E16	0	0	0		N34 E16	Q	
						N20 E22	2	0	0		N20 E22	E	
						N18 W92	0	0	0		N18 W92	Q	
						N13 E47	7	0	0		N13 E47	E	
						N12 E37	0	0	0		N12 E37	Q	
						S15 E61	1	0	0		S15 E61	Q	
						N24 W86	1	0	0		N24 W86	Q	
						S14 E20	2	0	0		S14 E20	Q	
						N18 E39	3	0	0		N18 E39	Q	
279	06	05	181	169	013	S16 W27	1	0	0	06	S16 W27	Q	Solquiet, Magquiet.
						S05 W57	3	0	0		S05 W57	E	
						N33 E04	0	0	0		N33 E04	Q	
						N20 E09	1	0	0		N20 E09	E	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — OCTOBER 1990

Julian Day	Date of Issue	Date of Observation	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		
279	06	05				N12 E32	3	0	0	06	N12 E32	E	
						S16 E48	0	0	0		S16 E48	Q	
						S15 E06	2	0	0		S15 E06	E	
						N17 E27	0	0	0		N17 E27	Q	
						S23 E65	0	0	0		S23 E65	Q	
280	07	06	208	169	017	S16 W40	0	0	0	07	S16 W40	Q	Solquiet, Magquiet.
						S05 W69	1	0	0		S05 W69	Q	
						N32 W09	0	0	0		N32 W09	Q	
						N20 W05	0	0	0		N20 W05	E	
						N12 E18	1	0	0		N12 E18	E	
						N12 E09	0	0	0		N12 E09	Q	
						S16 E36	1	0	0		S16 E36	Q	
						S15 W07	3	0	0		S15 W07	E	
						N17 E14	0	0	0		N17 E14	Q	
						S23 E55	0	0	0		S23 E55	Q	
						S11 E66	1	0	0		S11 E66	Q	
						S08 E53	0	0	0		S08 E53	Q	
281	08	07	215	168	005	S18 W53	0	0	0	08	S18 W53	Q	Solquiet, Magquiet.
						S04 W83	2	0	0		S04 W83	Q	
						N20 W18	0	0	0		N20 W18	Q	
						N12 E03	1	0	0		N12 E03	E	
						S16 E23	3	0	0		S16 E23	Q	
						S15 W21	1	0	0		S15 W21	E	
						N18 W01	0	0	0		N18 W01	Q	
						S25 E42	1	0	0		S25 E42	Q	
						S12 E54	0	0	0		S12 E54	Q	
						S09 E39	1	0	0		S09 E39	Q	
						N12 E74	1	0	0		N12 E74	E	
						S09 E14	0	0	0		S09 E14	Q	
						N16 E82	0	0	0		N16 E82	Q	
282	09	08	229	179	003	N20 W30	0	0	0	09	N20 W30	Q	Solquiet, Magquiet.
						N12 W10	1	0	0		N12 W10	E	
						S16 E10	1	0	0		S16 E10	E	
						S15 W35	0	0	0		S15 W35	E	
						S25 E29	3	0	0		S25 E29	Q	
						S12 E42	0	0	0		S12 E42	Q	
						S09 E26	1	0	0		S09 E26	E	
						N11 E59	2	0	0		N11 E59	E	
						N14 E67	3	0	0		N14 E67	Q	
						N10 E73	0	0	0		N10 E73	E	
						S13 E75	0	0	0		S13 E75	Q	
						S18 E76	0	0	0		S18 E76	E	
						S06 W73	0	0	0		S06 W73	Q	
283	10	09	224	182	009	N20 W44	0	0	0	10	N20 W44	Q	Solquiet, Magalert 10/10.
						N12 W24	3	0	0		N12 W24	Q	
						S17 W01	0	0	0		S17 W01	E	
						S14 W52	0	0	0		S14 W52	Q	
						S25 E17	1	0	0		S25 E17	E	
						S12 E28	0	0	0		S12 E28	Q	
						S08 E12	1	0	0		S08 E12	E	
						N11 E45	1	0	0		N11 E45	E	
						N14 E54	2	0	0		N14 E54	Q	
						N10 E61	0	0	0		N10 E61	Q	
						S15 E62	0	0	0		S15 E62	Q	
						S18 E62	8	1	0		S18 E62	E	
						S07 W87	0	0	0		S07 W87	Q	
						N17 E25	0	0	0		N17 E25	Q	
						S11 W30	0	0	0		S11 W30	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — OCTOBER 1990

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat	Location °Long	Flares Total	Flares M	Flares X	Date of Forecast	Location °Lat	Location °Long	Region Forecast [1]	Geoalerts
284	11	10	216	192	036	N20	W57	0	0	0	11	N20	W57	Q	Solquiet,
						N13	W39	0	0	0		N13	W39	Q	Magalert 11/XX.
						S17	W15	0	0	0		S17	W15	E	
						S24	E03	1	0	0		S24	E03	E	
						S12	E14	0	0	0		S12	E14	Q	
						S08	W02	1	0	0		S08	W02	Q	
						N12	E32	1	0	0		N12	E32	Q	
						N15	E40	1	0	0		N15	E40	E	
						N10	E46	1	0	0		N10	E46	E	
						S14	E50	0	0	0		S14	E50	Q	
						S18	E53	11	1	0		S18	E53	E	
						N17	E12	0	0	0		N17	E12	Q	
						S15	W00	2	0	0		S15	W00	Q	
285	12	11	278	202	038	N21	W72	0	0	0	12	N21	W72	Q	Solalert 12/XX,
						N13	W53	1	0	0		N13	W53	Q	Magalert 12/12.
						S17	W27	0	0	0		S17	W27	E	
						S25	W10	0	0	0		S25	W10	Q	
						S12	E02	0	0	0		S12	E02	Q	
						S08	W20	0	0	0		S08	W20	Q	
						N12	E19	0	0	0		N12	E19	Q	
						N15	E26	1	0	0		N15	E26	E	
						N10	E32	6	1	0		N10	E32	E	
						S13	E35	0	0	0		S13	E35	Q	
						S18	E40	3	0	0		S18	E40	E	
						N17	W01	1	0	0		N17	W01	E	
						S16	W13	1	0	0		S16	W13	Q	
						S25	E35	0	0	0		S25	E35	Q	
						N05	W67	0	0	0		N05	W67	Q	
286	13	12	267	200	031	N14	W67	1	0	0	13	N14	W67	Q	Solalert 13/XX,
						S16	W43	1	0	0		S16	W43	E	Magalert 13/13.
						S24	W24	3	0	0		S24	W24	Q	
						S12	W11	0	0	0		S12	W11	Q	
						S08	W33	0	0	0		S08	W33	Q	
						N12	E05	2	0	0		N12	E05	Q	
						N15	E13	3	0	0		N15	E13	E	
						N10	E18	2	0	0		N10	E18	E	
						S14	E23	0	0	0		S14	E23	Q	
						S18	E26	5	0	0		S18	E26	E	
						N18	W15	0	0	0		N18	W15	E	
						S15	W27	1	0	0		S15	W27	Q	
						S26	E23	0	0	0		S26	E23	Q	
						N06	W80	1	0	0		N06	W80	Q	
						S25	E63	2	0	0		S25	E63	Q	
287	14	13	297	207	011	N14	W79	0	0	0	14	N14	W79	Q	Solnil, Magnil.
						S16	W55	0	0	0		S16	W55	Q	
						S24	W38	1	0	0		S24	W38	Q	
						S12	W25	0	0	0		S12	W25	Q	
						S08	W46	0	0	0		S08	W46	Q	
						N12	W07	1	0	0		N12	W07	Q	
						N15	W00	2	0	0		N15	W00	E	
						N10	E05	1	0	0		N10	E05	E	
						S14	E10	0	0	0		S14	E10	Q	
						S18	E13	8	0	0		S18	E13	E	
						N17	W26	0	0	0		N17	W26	Q	
						S15	W40	0	0	0		S15	W40	Q	
						S25	E11	0	0	0		S25	E11	Q	
						S23	E51	4	0	0		S23	E51	Q	
						S07	E62	3	0	0		S07	E62	Q	
						N20	E30	0	0	0		N20	E30	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — OCTOBER 1990

Julian Day	Date of Issue	Date of Observation	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		
288	15	14	287	220	013	S17 W69	3	0	0	15	S17 W69	Q	Solquiet, Magquiet.
						S23 W51	0	0	0		S23 W51	Q	
						S13 W37	0	0	0		S13 W37	Q	
						S07 W60	1	0	0		S07 W60	Q	
						N12 W21	0	0	0		N12 W21	Q	
						N15 W13	4	0	0		N15 W13	E	
						N11 W08	3	0	0		N11 W08	E	
						S13 W04	0	0	0		S13 W04	Q	
						S17 E01	1	0	0		S17 E01	E	
						N18 W39	2	0	0		N18 W39	Q	
						S26 W01	0	0	0		S26 W01	Q	
						S24 E37	4	0	0		S24 E37	Q	
						S07 E49	4	0	0		S07 E49	E	
						N19 E18	0	0	0		N19 E18	Q	
289	16	15	368	232	032	S17 W83	1	0	0	16	S17 W83	Q	Solalert 16/XX,
						S23 W64	0	0	0		S23 W64	Q	Magalert 16.
						S13 W52	0	0	0		S13 W52	Q	
						S08 W73	0	0	0		S08 W73	Q	
						N11 W34	0	0	0		N11 W34	Q	
						N15 W29	6	0	0		N15 W29	E	
						N10 W22	9	0	0		N10 W22	E	
						S13 W16	0	0	0		S13 W16	Q	
						S18 W14	0	0	0		S18 W14	E	
						N17 W52	5	0	0		N17 W52	E	
						S15 W69	0	0	0		S15 W69	Q	
						S24 W17	0	0	0		S24 W17	Q	
						S23 E25	10	1	0		S23 E25	E	
						S07 E35	5	0	0		S07 E35	E	
						N19 E08	0	0	0		N19 E08	Q	
						N08 E06	0	0	0		N08 E06	Q	
						S13 E55	0	0	0		S13 E55	Q	
290	17	16	361	226	009	S17 W94	1	0	0	17	S17 W94	Q	Solalert 17/XX,
						S23 W77	0	0	0		S23 W77	Q	Magnil.
						S13 W66	0	0	0		S13 W66	Q	
						S08 W87	0	0	0		S08 W87	Q	
						N12 W49	3	0	0		N12 W49	Q	
						N15 W40	1	0	0		N15 W40	E	
						N10 W35	6	1	0		N10 W35	E	
						S13 W30	0	0	0		S13 W30	Q	
						S19 W27	0	0	0		S19 W27	E	
						N17 W68	2	0	0		N17 W68	E	
						S15 W83	0	0	0		S15 W83	Q	
						S23 W28	0	0	0		S23 W28	Q	
						S23 E10	4	0	0		S23 E10	E	
						S07 E21	5	0	0		S07 E21	E	
						N20 W02	0	0	0		N20 W02	Q	
						N08 W08	0	0	0		N08 W08	Q	
						S12 E43	0	0	0		S12 E43	Q	
						S25 E68	0	0	0		S25 E68	Q	
						N19 E76	3	0	0		N19 E76	Q	
						N06 E74	0	0	0		N06 E74	Q	
291	18	17	283	193	005	N11 W61	3	0	0	18	N11 W61	Q	Solnil, Magquiet.
						N15 W51	1	0	0		N15 W51	E	
						N10 W47	2	0	0		N10 W47	E	
						S13 W42	0	0	0		S13 W42	Q	
						S18 W39	0	0	0		S18 W39	E	
						N18 W81	2	0	0		N18 W81	E	
						S23 W41	0	0	0		S23 W41	Q	
						S23 W01	1	0	0		S23 W01	E	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **OCTOBER 1990**

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat	Location °Long	Flares Total	Flares M	Flares X	Date of Forecast	Location °Lat	Location °Long	Region Forecast [1]	Geoalerts
291	18	17				S07	E08	17	0	0	18	S07	E08	E	
						N20	W18	0	0	0		N20	W18	Q	
						N09	W21	0	0	0		N09	W21	Q	
						S13	E27	0	0	0		S13	E27	Q	
						S24	E55	0	0	0		S24	E55	Q	
						N19	E67	0	0	0		N19	E67	E	
						N06	E60	0	0	0		N06	E60	Q	
						S07	W12	0	0	0		S07	W12	Q	
292	19	18	260	195	005	N12	W73	1	0	0	19	N12	W73	Q	Solquiet, Magquiet.
						N15	W65	0	0	0		N15	W65	Q	
						N10	W61	0	0	0		N10	W61	Q	
						S13	W56	0	0	0		S13	W56	Q	
						S18	W57	1	0	0		S18	W57	Q	
						N19	W93	0	0	0		N19	W93	Q	
						S24	W15	0	0	0		S24	W15	Q	
						S08	W05	9	0	0		S08	W05	E	
						S24	E43	0	0	0		S24	E43	Q	
						N19	E56	3	0	0		N19	E56	Q	
						N07	E48	0	0	0		N07	E48	Q	
						S07	W25	0	0	0		S07	W25	Q	
						N18	E19	0	0	0		N18	E19	Q	
						N17	E73	0	0	0		N17	E73	Q	
		Presto:	Boulder	Tenflare	250	flux units	18/0605	UT	duration	4	minutes.				
293	20	19	257	221	009	N11	W89	0	0	0	20	N11	W89	Q	Solquiet, Magquiet.
						N15	W78	9	0	0		N15	W78	E	
						N10	W74	0	0	0		N10	W74	Q	
						S14	W69	0	0	0		S14	W69	Q	
						S19	W70	0	0	0		S19	W70	Q	
						S24	W29	2	0	0		S24	W29	Q	
						S08	W19	9	0	0		S08	W19	E	
						N10	W47	0	0	0		N10	W47	Q	
						S13	E04	0	0	0		S13	E04	Q	
						S25	E29	0	0	0		S25	E29	Q	
						N17	E42	4	0	0		N17	E42	E	
						N07	E34	0	0	0		N07	E34	Q	
						S06	W42	0	0	0		S06	W42	Q	
						N18	E06	0	0	0		N18	E06	Q	
						N17	E61	0	0	0		N17	E61	Q	
294	21	20	276	200	019	N16	W91	3	1	0	21	N16	W91	E	Solquiet, Magquiet.
						N10	W87	0	0	0		N10	W87	Q	
						S13	W82	0	0	0		S13	W82	Q	
						S19	W83	1	0	0		S19	W83	E	
						S25	W82	0	0	0		S25	W82	Q	
						S26	W44	0	0	0		S26	W44	Q	
						S08	W33	2	0	0		S08	W33	E	
						N11	W61	0	0	0		N11	W61	Q	
						S13	W09	0	0	0		S13	W09	Q	
						S25	E17	0	0	0		S25	E17	Q	
						N18	E30	2	0	0		N18	E30	E	
						N06	E20	0	0	0		N06	E20	Q	
						N18	W08	0	0	0		N18	W08	Q	
						N17	E46	0	0	0		N17	E46	Q	
						S06	E61	0	0	0		S06	E61	Q	
						N23	E63	0	0	0		N23	E63	Q	
		Presto:	Boulder	Tenflare	150	flux units	20/0630	UT	duration	13	minutes.				
			Boulder	Tenflare	390	flux units	20/1759	UT	duration	5	minutes.				

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — OCTOBER 1990

Julian Day	Date of Issue	Date of Observation	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		
295	22	21	185	187	010	S23 W52	1	0	0	22	S23 W52	Q	Solquiet, Magquiet.
						S08 W46	0	0	0		S08 W46	Q	
						S26 E04	0	0	0		S26 E04	Q	
						N18 E16	5	1	0		N18 E16	E	
						N05 E07	0	0	0		N05 E07	Q	
						N18 W21	0	0	0		N18 W21	Q	
						N17 E33	2	0	0		N17 E33	E	
						S05 E49	2	0	0		S05 E49	Q	
						N24 E51	2	0	0		N24 E51	E	
						S11 E47	1	0	0		S11 E47	Q	
						N16 E60	1	0	0		N16 E60	Q	
296	23	22	196	169	010	S07 W60	2	1	0	23	S07 W60	E	Solalert 23/XX,
						S13 W38	0	0	0		S13 W38	Q	Magquiet.
						S26 W09	0	0	0		S26 W09	Q	
						N19 E04	1	0	0		N19 E04	E	
						N06 W05	0	0	0		N06 W05	Q	
						N19 E24	3	0	0		N19 E24	E	
						S07 E35	0	0	0		S07 E35	Q	
						N24 E38	2	0	0		N24 E38	Q	
						S12 E34	0	0	0		S12 E34	Q	
						N15 E46	0	0	0		N15 E46	Q	
						S19 W10	0	0	0		S19 W10	Q	
						S15 E68	5	0	0		S15 E68	Q	
297	24	23	181	164	009	S08 W79	0	0	0	24	S08 W79	E	Solnil, Magquiet.
						S09 W48	2	0	0		S09 W48	Q	
						S26 W21	0	0	0		S26 W21	Q	
						N18 W10	2	0	0		N18 W10	E	
						N06 W19	0	0	0		N06 W19	Q	
						N18 E10	3	0	0		N18 E10	E	
						S07 E21	0	0	0		S07 E21	Q	
						N24 E24	2	0	0		N24 E24	Q	
						N16 E33	0	0	0		N16 E33	Q	
						S20 W23	0	0	0		S20 W23	Q	
						S14 E55	4	0	0		S14 E55	E	
						S06 E60	0	0	0		S06 E60	Q	
298	25	24	180	157	022	S08 W95	1	0	0	25	S08 W95	Q	Solquiet, Magquiet.
						S09 W62	0	0	0		S09 W62	Q	
						S26 W33	0	0	0		S26 W33	Q	
						N19 W21	3	0	0		N19 W21	E	
						N07 W27	0	0	0		N07 W27	Q	
						N18 W01	3	0	0		N18 W01	Q	
						N16 E19	0	0	0		N16 E19	Q	
						S14 E43	4	0	0		S14 E43	E	
						S06 E47	0	0	0		S06 E47	Q	
						S38 W10	1	0	0		S38 W10	Q	
299	26	25	183	163	010	S10 W75	1	0	0	26	S10 W75	Q	Solquiet, Magquiet.
						S26 W46	0	0	0		S26 W46	Q	
						N20 W34	9	0	0		N20 W34	E	
						N03 W37	0	0	0		N03 W37	Q	
						N18 W15	6	0	0		N18 W15	Q	
						N17 E06	0	0	0		N17 E06	Q	
						S14 E29	4	0	0		S14 E29	E	
						S28 W56	0	0	0		S28 W56	Q	
						N06 E39	0	0	0		N06 E39	Q	

ALERT PERIODS

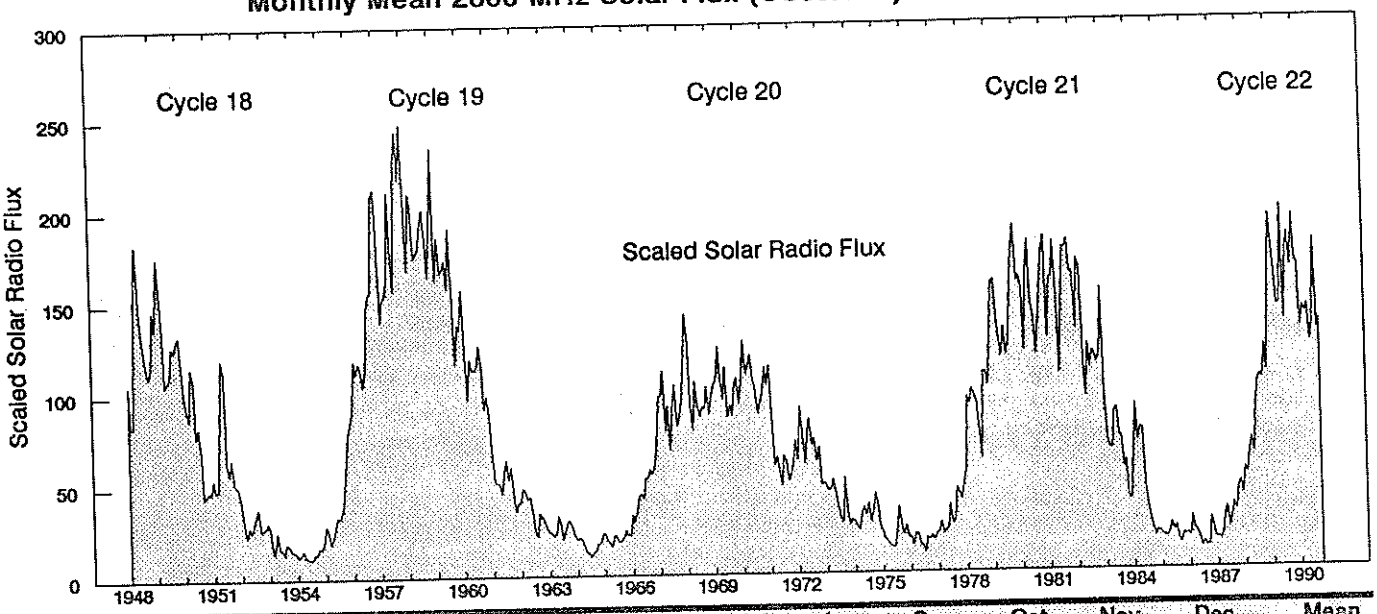
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — OCTOBER 1990

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat	Location °Long	Flares Total	Flares M	Flares X	Date of Forecast	Location °Lat	Location °Long	Region Forecast [1]	Geoalerts
300	27	26	171	154	007	S09	W87	0	0	0	27	S09	W87	Q	Solquiet, Magquiet.
						S26	W59	0	0	0		S26	W59	Q	
						N20	W47	10	0	0		N20	W47	E	
						N19	W26	3	0	0		N19	W26	Q	
						N12	W05	0	0	0		N12	W05	Q	
						S14	E16	3	0	0		S14	E16	E	
						N06	E27	0	0	0		N06	E27	Q	
						N23	E54	0	0	0		N23	E54	Q	
						N09	E70	0	0	0		N09	E70	Q	
301	28	27	139	164	006	S26	W71	0	0	0	28	S26	W71	Q	Solquiet, Magquiet.
						N20	W61	4	0	0		N20	W61	E	
						N18	W42	2	0	0		N18	W42	Q	
						S14	E04	1	0	0		S14	E04	Q	
						N07	E13	0	0	0		N07	E13	Q	
						N22	E42	0	0	0		N22	E42	Q	
						N08	E59	0	0	0		N08	E59	Q	
						S21	W23	0	0	0		S21	W23	Q	
302	29	28	158	152	003	S25	W82	0	0	0	29	S25	W82	Q	Solquiet, Magquiet.
						N20	W75	6	0	0		N20	W75	E	
						N19	W61	0	0	0		N19	W61	Q	
						S14	W10	1	0	0		S14	W10	Q	
						N07	E44	2	0	0		N07	E44	E	
						S20	W38	0	0	0		S20	W38	Q	
						S06	E74	0	0	0		S06	E74	Q	
						S15	E46	0	0	0		S15	E46	Q	
303	30	29	155	156	007	N19	W87	6	0	0	30	N19	W87	E	Solquiet,
						N18	W75	0	0	0		N18	W75	Q	Magalert 30/30.
						S14	W22	3	0	0		S14	W22	Q	
						N06	W14	0	0	0		N06	W14	Q	
						N08	E31	0	0	0		N08	E31	Q	
						S21	W54	0	0	0		S21	W54	Q	
						S05	E60	0	0	0		S05	E60	Q	
						S14	E32	0	0	0		S14	E32	Q	
		Presto:	Sydney			Sudden Commencement of 13 nanoteslas observed 29/2012 UT.									
304	31	30	126	154	020	N18	W86	1	0	0	31	N18	W86	Q	Solquiet, Magnil.
						S14	W36	2	0	0		S14	W36	E	
						N06	W29	0	0	0		N06	W29	Q	
						N08	E17	0	0	0		N08	E17	Q	
						S21	W65	1	0	0		S21	W65	Q	
						S04	E48	2	0	0		S04	E48	Q	
						S18	E76	4	0	0		S18	E76	Q	
305	01	31	109	143	021	S15	W49	5	0	0	01	S15	W49	Q	Solquiet, Magquiet.
						N07	E03	0	0	0		N07	E03	Q	
						S21	W76	0	0	0		S21	W76	Q	
						S05	E35	2	0	0		S05	E35	Q	
						S19	E64	3	0	0		S19	E64	Q	
						S28	W17	0	0	0		S28	W17	Q	

[1]Q = quiet, E = eruptive, A = active, P = proton.
[2]Presto message is a rapid report of a major event.

Monthly Mean 2800 MHz Solar Flux (Observed) Jan 1948 – Oct 1990



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1948	155.7	134.3	135.5	208.1	226.5	195.5	182.8	172.8	163.7	159.1	165.4	193.3	174.4
1949	183.5	220.2	203.9	182.5	154.9	157.5	159.9	175.2	172.5	178.2	180.4	165.2	177.8
1950	150.7	143.3	137.8	164.3	157.1	128.7	134.1	120.9	98.6	99.9	101.9	101.1	128.2
1951	107.9	101.9	102.5	127.1	168.6	161.7	116.3	109.8	117.8	106.0	104.4	102.4	118.9
1952	95.4	86.2	78.5	84.0	80.9	84.8	88.8	93.3	81.5	82.8	83.4	85.7	85.4
1953	83.2	72.8	70.4	81.0	72.5	73.0	69.8	75.5	74.3	71.9	71.4	70.8	73.9
1954	68.7	69.2	71.9	68.7	68.0	67.3	67.7	69.9	70.1	73.2	72.6	75.5	70.2
1955	84.3	82.0	74.8	77.3	82.8	88.8	87.3	90.7	91.1	111.8	130.0	134.6	95.0
1956	141.2	167.2	160.6	165.9	163.4	154.0	162.8	193.8	200.9	201.6	250.4	253.7	184.6
1957	231.2	186.7	197.8	200.0	208.5	252.1	218.0	202.3	267.1	283.1	259.2	286.5	232.7
1958	251.5	212.2	251.5	245.9	218.6	220.5	224.1	237.0	243.5	228.0	209.2	238.2	231.7
1959	274.5	207.9	229.2	210.6	212.7	217.5	203.0	234.2	194.3	165.1	184.8	182.2	209.7
1960	202.6	170.9	146.8	167.6	162.7	161.9	163.9	174.4	164.5	142.3	148.9	138.1	162.0
1961	122.0	106.4	104.8	105.0	99.3	109.9	116.5	106.2	112.7	96.7	90.3	94.8	105.4
1962	94.9	102.2	100.3	96.2	97.9	91.0	80.7	77.3	89.5	87.8	84.9	82.0	90.4
1963	79.5	79.7	77.8	79.5	87.8	83.5	75.9	80.9	85.1	85.1	81.7	78.4	81.2
1964	75.4	76.8	75.9	72.6	69.5	69.0	67.0	69.3	70.2	73.4	73.7	78.8	72.6
1965	78.6	75.2	74.1	72.0	78.2	77.0	74.3	74.8	76.6	80.2	77.7	77.8	76.4
1966	87.9	84.2	90.3	97.2	98.5	96.3	106.7	106.6	110.9	108.6	113.3	124.6	102.1
1967	147.7	147.0	160.6	129.9	143.0	120.2	140.3	153.7	132.1	136.1	145.3	163.0	143.2
1968	189.1	173.2	142.6	129.5	154.9	142.3	137.2	142.2	141.0	152.5	138.5	148.4	149.3
1969	152.7	155.2	172.3	155.5	145.4	162.2	136.6	143.0	137.3	154.0	156.7	143.6	151.2
1970	158.3	175.4	158.4	162.0	168.4	154.9	152.0	138.2	143.2	148.3	162.0	152.8	156.2
1971	162.6	137.8	111.9	116.7	109.9	101.7	117.4	114.1	104.0	107.2	114.0	124.5	118.5
1972	114.8	141.8	128.5	112.9	129.6	135.4	122.0	125.7	113.6	121.1	101.6	102.9	120.8
1973	102.2	98.7	100.4	105.0	97.0	91.2	84.5	82.9	105.6	87.7	81.5	84.2	93.4
1974	83.1	80.9	79.2	86.1	90.6	86.3	92.5	83.0	87.8	97.6	90.3	81.1	86.5
1975	77.5	74.2	72.4	70.7	70.1	69.7	77.2	90.4	79.6	75.7	80.8	74.6	76.1
1976	74.7	70.5	76.7	76.3	70.6	70.6	67.5	74.8	73.1	75.9	72.9	76.7	73.4
1977	77.4	82.3	76.6	77.6	79.6	91.5	81.1	84.3	99.9	96.9	93.7	102.1	86.9
1978	109.6	145.4	141.8	149.4	146.5	142.2	131.1	114.0	157.9	158.2	151.5	175.5	143.6
1979	203.0	204.1	185.6	173.8	165.2	180.3	165.9	172.7	200.2	217.9	231.7	203.5	192.0
1980	206.2	200.0	168.1	207.9	224.0	193.2	184.8	166.2	183.9	204.2	218.1	225.8	198.5
1981	174.6	204.5	205.3	223.2	194.6	156.9	191.9	220.6	219.5	224.3	207.8	207.8	202.6
1982	179.0	214.2	210.5	161.8	144.7	171.9	159.6	167.9	165.3	161.9	167.4	199.4	175.3
1983	142.3	122.6	118.6	118.9	137.1	138.6	125.0	124.4	109.0	112.4	92.5	93.4	119.6
1984	116.1	140.6	122.0	128.7	128.3	100.3	89.3	83.7	78.1	73.5	76.3	75.9	101.1
1985	74.5	73.7	73.3	75.1	80.2	76.1	78.7	71.5	69.5	74.7	74.2	74.8	74.7
1986	73.2	83.6	77.0	75.1	72.6	67.6	70.2	68.4	68.7	83.0	77.1	72.6	74.1
1987	72.5	71.5	74.0	84.9	87.8	77.9	84.2	90.0	86.1	98.1	101.2	94.4	85.3
1988	108.0	105.0	114.9	122.7	115.2	139.4	152.7	154.2	152.5	169.8	156.2	199.8	141.0
1989	235.4	222.4	205.1	189.6	190.1	239.6	181.9	217.1	225.9	208.7	235.1	213.0	231.7
1990	210.1	178.3	188.8	185.3	189.7	170.9	180.7	222.6	177.4	182.0			188.6*

*Preliminary

Graph shows EFFECTIVE sunspot numbers: fluxes scaled by linear regression equation (1.08Flux – 62).

INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Nov 89	Dec	Jan 90	Feb	Mar	Apr	May	Jun	Jul†	Aug†	Sep†	Oct†
01	153	198	186	171	173	103	70	96	272	146	126	115
02	160	182	176	161	171	114	59	80	253	175	116	117
03	191	203	166	124	163	113	61	73	245	151	131	140
04	216	182	174	113	126	127	86	77	229	137	134	134
05	228	192	164	97	98	132	80	79	202	128	118	123
06	245	184	144	80	104	138	106	101	186	124	118	124
07	233	217	129	82	105	128	132	107	173	120	103	135
08	215	167	138	95	88	128	138	99	135	136	112	141
09	214	161	125	103	71	88	133	87	102	145	113	148
10	203	148	134	79	80	82	116	107	88	160	121	153
11	179	104	164	75	73	88	126	126	106	161	116	195
12	173	99	172	80	85	77	146	115	110	160	124	192
13	153	107	179	85	83	123	144	122	114	192	142	201
14	140	100	147	75	90	142	141	118	118	215	178	202
15	132	84	157	78	110	171	144	102	98	229	162	227
16	124	101	152	64	129	170	157	110	95	232	156	192
17	124	120	164	54	123	199	167	100	87	269	142	182
18	134	123	177	77	167	203	170	83	57	270	136	181
19	124	131	199	107	202	213	187	79	61	278	151	181
20	141	127	236	134	217	206	187	68	81	295	135	169
21	159	111	217	159	211	212	193	57	123	278	139	136
22	162	150	208	191	195	207	187	71	143	262	130	140
23	157	201	200	239	206	174	160	64	165	281	110	134
24	160	191	191	249	209	157	158	88	194	276	101	131
25	175	209	206	245	204	160	146	94	194	263	101	125
26	184	221	203	234	188	118	134	103	186	214	93	102
27	183	240	211	217	168	124	139	140	177	188	77	104
28	183	249	193	187	129	103	121	184	159	170	113	114
29	164	213	185		132	94	118	203	144	186	119	98
30	182	214	198		133	114	90	230	117	196	124	87
31		201	201		115		101		142	161		77
Mean	173.0	165.5	177.3	130.5	140.3	140.3	132.2	105.4	147.0	199.9	124.7	145.2

† = preliminary. The yearly mean sunspot number equaled 157.6 for 1989.

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

Day	Nov 89	Dec	Jan 90	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
01	211.4	223.7*	209.3	200.8	200.0	159.2	129.0	140.6	248.3	199.0	171.4	160.5
02	216.0	213.7	208.6	177.8	192.7	153.3	129.2	141.2	267.6	208.6	168.9	162.8
03	217.6	205.6	192.5	157.9	176.3*	151.6	125.2	146.1	253.8	192.4	162.6	177.4*
04	223.9	212.9	189.2*	154.8	168.9	148.6*	123.6	148.1	238.3*	191.2	158.2*	186.8
05	235.4	209.7	187.1	150.9	161.7	156.5	130.6	153.7	231.6	180.8	157.5	170.0
06	255.3	209.7	180.9	147.5	163.8*	150.2	151.0	161.4	221.8	174.6	157.6	170.0
07	207.3*	221.5	177.1	144.3	168.1	155.0	155.5	183.6	215.7	172.1	165.1	169.3
08	270.9	203.6	170.9	142.2	157.1*	152.3	170.7	195.5	189.6	184.8	163.5	175.9*
09	257.2	194.6	160.6	142.0	150.9*	146.8	174.6	203.9*	170.9	183.2	170.4	183.9
10	246.3*	177.1	167.2	148.5	149.0	149.3	195.4	207.5*	164.0	186.3	171.2	194.7
11	249.1	171.7	169.5	134.9	142.5	160.8	205.4*	217.2	160.2	187.1	180.6	205.1
12	253.5	164.9	170.0	140.0	146.1	169.9	215.2	221.8*	160.9	188.2	193.3	200.6
13	240.3	163.2	167.0	142.8	146.3	195.5*	225.8	208.8	161.5	192.5	198.0	209.4
14	243.0	161.8	165.9	149.5	149.8*	215.7	224.2*	206.8	155.4	188.2*	209.4*	220.6
15	216.5	165.5	184.9	148.8	164.2*	222.9	246.6	196.3	149.1	199.6	207.3	231.6
16	216.2	164.1	187.6	148.8	178.1	226.3*	251.5	189.9	146.5	211.0	205.2	224.6
17	215.0	176.0	186.8	151.6	182.0	236.7*	248.9	187.5	147.6	228.4	210.7	193.7
18	221.6J	185.9	217.2	161.1	196.4	243.0	271.8	169.5	144.7	246.1	207.5	198.2
19	229.2	188.2	233.1	180.3	216.3	244.2*	280.0	163.5	145.3	268.0*	213.8	214.2*
20	223.7	189.3	238.2	189.5	223.9*	257.1	272.5	161.2	154.0	288.7	204.0	201.7
21	229.4	189.9	250.8*	211.9	227.6	239.6	259.2	155.8	159.2	298.3	203.2	188.7
22	222.0	199.9	233.7	215.7	243.1*	232.8	250.0	145.2	166.0*	322.8*	195.3	167.9
23	213.4	213.8	233.6	216.6	245.3	226.3	239.5	139.1	180.4	322.7	185.4	164.0
24	208.8	231.0	239.8	231.5	231.3	217.4	209.2	143.8	186.6	329.2	178.7	157.5
25	216.0	248.0*	234.6	225.3	223.9*	198.3	189.1	149.3	213.6	303.9	167.1	161.8
26	234.3	252.6	238.8	213.3	226.9	188.9*	186.3	154.5	209.9	285.1*	159.6	153.5
27	239.4	274.8	232.2	224.1	215.1	169.8	164.6	173.4*	197.2	269.2	152.6	162.5
28	231.3	246.4	230.1	222.0	206.0	152.7	159.3	187.7	193.1	250.2	152.1	150.9
29	215.1	242.7*	227.8		184.1	140.9	144.8	210.8	180.3	225.2	150.1	155.9
30	240.9	258.2*	211.4		186.5E	136.9	142.5*	226.6	188.3	210.4	157.8	151.1*
31		236.7	209.3		172.8		142.5*		183.4	182.9*		141.6
Mean	230.0	206.3	203.4	174.1	187.0	186.6	194.0	176.3	186.6	228.1	179.3	180.9

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

DAILY SOLAR INDICES

October 1990

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit — PALE (15400)	PALE (8800)	PALE (4995)	Ottawa (2800)	PALE (2695)	PALE (1415)	PALE (610)	PALE (410)	PALE (245)
01	274	3	115	120	160.2	531	356	199	160.5	143	102	67	52	53
02	275	4	117	130	162.6	515	283	221	162.8	165	116	67	48	54
03	276	5	140	146	177.3*	550	276	216	177.4*	172	109	65	48	30
04	277	6	134	147	186.7	538	317	227	186.8	173	111	60	43	29
05	278	7	123	130	170.0	532	266	204	170.0	162	123	72	46	28
06	279	8	124	136	170.1	534	270	208	170.0	166	112	66	44	34
07	280	9	135	150	169.5	539	266	209	169.3	165	124	72	56	--
08	281	10	141	155	176.2*	531	281	223	175.9*	176	130	75	44	20
09	282	11	148	156	184.4	536	281	227	183.9	181	123	69	45	31
10	283	12	153	173	195.3	543	283	233	194.7	190	129	67	45	30
11	284	13	195	199	205.8	542	288	239	205.1	198	140	70	--	20
12	285	14	192	190	201.5	543	289	242	200.6	200	136	70	40	21
13	286	15	201	207	210.4	542	281	247	209.4	200	135	81	40	20
14	287	16	202	208	221.8	534	295	247	220.6	213	135	74	44	31
15	288	17	227	221	232.9	559	310	273	231.6	224	147	76	45	22
16	289	18	192	193	226.0	549	304	264	224.6	217	146	66	45	27
17	290	19	182	190	195.0	554	286	251	193.7	209	137	69	43	19
18	291	20	181	185	199.7	552	302	255	198.2	213	137	72	42	20
19	292	21	181	173	216.0*	552	290	243	214.2*	200	144	75	45	19
20	293	22	169	152	203.4	539	295	237	201.7	193	130	71	43	20
21	294	23	136	141	190.4	532	292	216	188.7	180	145	67	41	19
22	295	24	140	143	169.5	532	289	199	167.9	161	129	70	41	28
23	296	25	134	137	165.7	513	279	198	164.0	160	122	68	41	20
24	297	26	131	132	159.3	522	290	197	157.5	155	115	66	46	26
25	298	27	125	130	163.7	526	300	198	161.8	154	115	62	--	31
26	299	1	102	111	155.4	517	284	191	153.5	148	102	54	38	18
27	300	2	104	110	164.5	519	282	195	162.5	152	119	62	42	24
28	301	3	114	107	152.9	519	290	193	150.9	146	98	62	--	25
29	302	4	98	108	158.1	524	274	195	155.9	146	93	55	39	24
30	303	5	87	89	153.2*	525	289	196	151.1*	144	106	55	38	19
31	304	6	77	84	143.8	520	293	190	141.6	136	98	54	36	17
Mean			145.2	150.1	182.0	534	290	220	180.9	176	123	67	44	26

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 Palehua (PALE) 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	153
1990	151	153	152	149	147 (1)	145 (5)	143 (12)	142 (17)	139 (19)	135 (21)	131 (20)	129 (18)
1991	128 (20)	126 (20)	124 (23)	124 (27)	124 (28)	123 (24)	120 (21)	118 (19)	115 (16)	114 (15)	114 (16)	114 (17)
1992	113 (18)	110 (14)	107 (8)	105 (7)	101 (10)	99 (7)	96 (9)	94 (12)	92 (13)	89 (15)	84 (19)	78 (24)

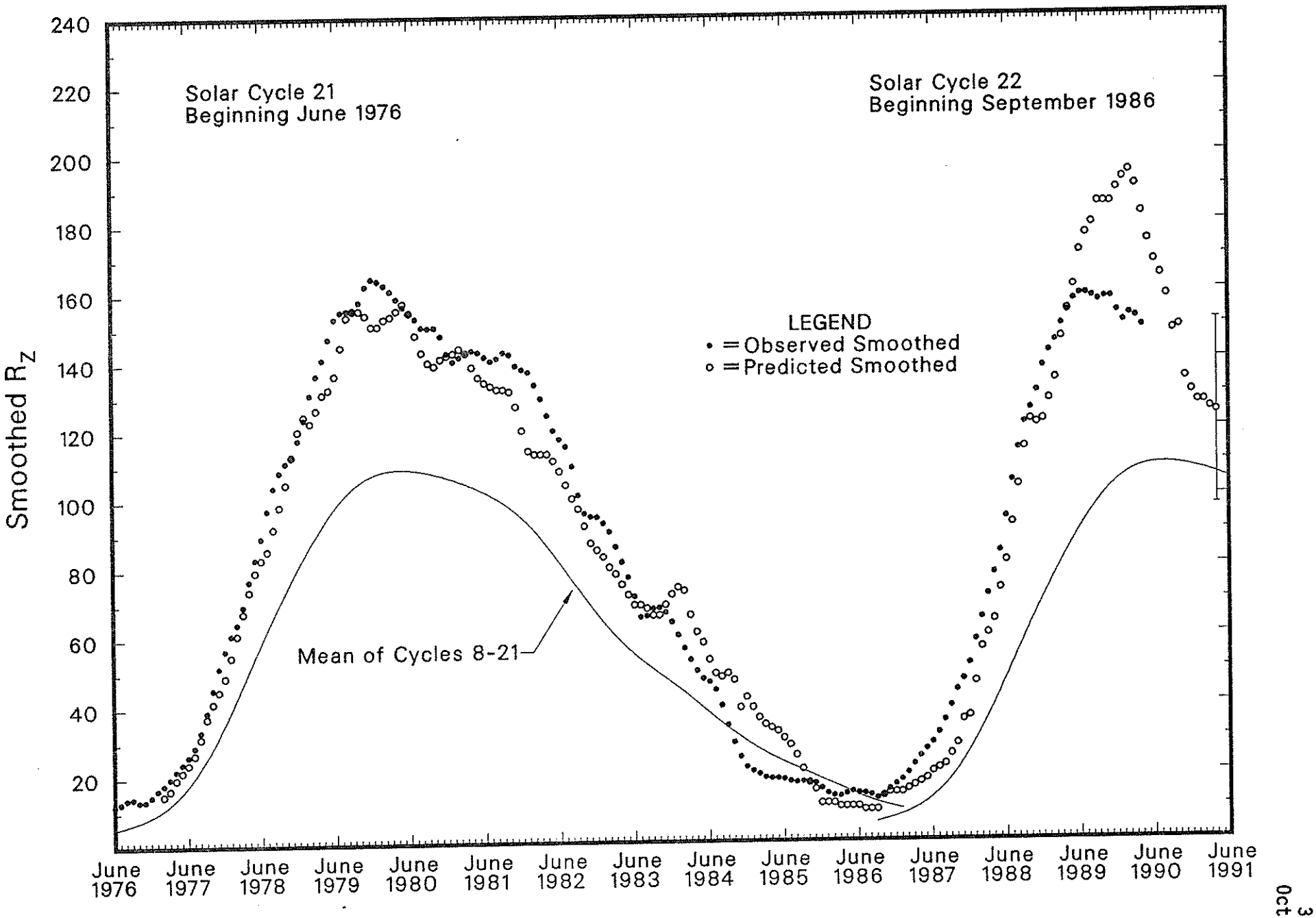
*September 1986 marks the onset of Sunspot Cycle 22.

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 June 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 April 1991 prediction. There exists a 90% chance that in April 1991 the actual smoothed sunspot number will fall somewhere between 97 and 151.

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



31 Oct 90

Hα S O L A R F L A R E S

OCTOBER 1990

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
PALE	01	0128	0130	0141	S07	W32	6283	09	28.8	13	SF		3	E		19		
PALE		0151	0153	0206	S15	E01	6291	10	1.1	15	SF		3	E		17		F
LEAR		0826	0827	0843	S09	W35	6283	09	28.8	17	SF		3	E		78		F
SVTO		0826	0829	0844	S11	W35	6283	09	28.8	18	SN	C 4.0	4	E		63		F
SVTO		1319	1320	1331	S19	W77	6287	09	25.8	12	SF		3	E		89		H
RAMY		1320	1320	1328	S15	W71	6287	09	26.3	8	SF		3	E		32		
RAMY		1553	1555	1604	S05	E00	6294	10	1.7	11	SF		3	E		19		F
PALE		1727	1732	1746	S10	W39	6283	09	28.9	19	SF		3	E		27		
RAMY		1729	1730	1742	S10	W39	6283	09	28.9	13	SF		3	E		16		
PALE		1907	1915	1919	S09	W40	6283	09	28.9	12	SF	B 8.1	3	E		55		F
PALE		1915	1916	1918	N20	E67		10	6.9	3	SF		3	E		36		
PALE		2114	2118	2214	S04	W02	6294	10	1.7	60	1F	C 1.9	3	E		107		F
PALE		2117	2119	2126	S13	W12	6291	10	1.0	9	SF		3	E		40		
PALE		2210	2210	2219	N20	E65		10	6.9	9	SF		3	E		17		
GOES		2308	2311	2317D						9D		C 1.9						
PALE	02	0123	0124	0207	S05	W04	6294			44	SF			E		70		K
PALE		0123	0144	0207	S05	W04	6294	10	1.7	44	SF		3	E		40		F
LEAR		0134	0135	0208	S11	W48	6283	09	28.5	34	1N	C 5.5	3	E		200		FE
LEAR		0134	0144	0208	S11	W48	6283			34	1N			E		96		K
LEAR		0209	0230	0307	S12	W50	6283			58	SF			E		20		K
LEAR		0209	0239	0307	S12	W50	6283	09	28.4	58	SF		3	E		30		
PALE		0216	0221	0228	S10	W45	6283	09	28.8	12	SF		3	E		20		
PALE		0258	0306	0308	S10	W46	6283	09	28.8	10	SF		3	E		44		F
SVTO		0906	0907	0923	N23	E58		10	6.8	17	SF		3	E		38		
SVTO		1056	1058	1109	N15	W67		09	27.5	13	SF		3	E		63		
RAMY		1112	1139	1151	N19	W71		09	27.1	39	SF		3	E		29		F
RAMY		1212	1220	1227	N17	W69		09	27.4	15	SF		3	E		77		F
SVTO		1219	1222	1227	N13	W69		09	27.4	8	SF		3	E		64		
GOES		1329	1335	1339						10		C 6.6						
GOES		1616	1621	1637						21		C 1.9						
RAMY		1649	1651	1701	S05	W13	6294	10	1.7	12	SF		3	E		22		F
RAMY		1706	1706	1715	S05	W13	6294	10	1.7	9	SF		3	E		20		F
RAMY		1722	1722	1731	S05	W14	6294	10	1.7	9	SF		3	E		20		F
PALE		1738	1741	1746	N15	W69	6298	09	27.6	8	SF		3	E		14		
PALE		1756	1859	1907	N15	W69	6298	09	27.6	71	SF		3	E		78		
HOLL		1759E	1808	1915D	S05	W13	6294			76D	SN			E		60		K
HOLL		1759E	1821	1915D	S05	W13	6294	10	1.8	76D	SF		2	E		78		
HOLL		1800E	1815	1824	N17	W67	6298	09	27.7	24D	SF		2	E		36		
PALE		1806	1808	1836	S05	W13	6294			30	SN			E		51		K
PALE		1806	1820	1836	S05	W13	6294	10	1.8	30	SN		3	E		67		F
RAMY		1807	1808	1821D	S05	W14	6294			14D	SN			E		38		K
RAMY		1807	1821U	1821D	S05	W14	6294	10	1.7	14D	SF	C 2.2	3	E		51		F
PALE		1837	1837	1914	S04	W14	6294	10	1.7	37	SF		3	E		17		
HOLL		1941E	1959U	2050D	S04	W15	6294	10	1.7	69D	SF	C 2.4	3	E		47		F
HOLL		2109E	2117U	2139D	S04	W16	6294	10	1.7	30D	SF	C 2.7	3	E		69		
LEAR	03	0055	0055	0058	N17	W73	6298	09	27.6	3	SF		3	E		19		
LEAR		0142	0207	0218	S05	W18	6294	10	1.7	36	SF	C 3.9	3	E		22		F
LEAR		0211	0242	0357	N18	W73	6298	09	27.6	106	1F		3	E		134		
GOES		0307	0315	0327						20		C 6.4						
LEAR		0406	0412	0418	N16	W74	6298	09	27.6	12	SF		3	E		25		F
LEAR		0414	0417	0419	S06	W24	6294	10	1.4	5	SF		3	E		20		F
LEAR		0508	0512	0525	S05	W19	6294	10	1.8	17	SF	C 3.4	3	E		64		F
LEAR		0633	0636	0654	S05	W20	6294	10	1.8	21	SF	C 3.9	3	E		74		
SVTO		0633	0649	0709	N16	W73	6298	09	27.8	36	SF		3	E		58		H
SVTO		0724	0728	0731	S12	W68	6283	09	28.3	7	SF		3	E		19		
LEAR		0735	0741	0751	S04	W20	6294	10	1.8	16	SF	C 4.2	3	E		89		
SVTO		0741E	0746	0751	S06	W21	6294	10	1.7	10D	SF		3	E		34		
SVTO		0741E	0748	0750	N12	W74	6298	09	27.8	9D	SF		3	E		14		H
SVTO		0856	0857	0909	S07	W22	6294	10	1.7	13	SF		3	E		34		
SVTO		0954	0955	1001	S05	W21	6294	10	1.8	7	SF		3	E		24		
SVTO		1030E	1031U	1034	N16	W79	6298	09	27.5	4D	SF	C 7.5	3	E		61		YH
GOES		1216	1236	1243						27		C 4.6						
HOLL		1443	1445	1451	N20	E41	6297	10	6.7	8	SF		3	E		14		
HOLL		1503	1514	1529	N16	W81	6298	09	27.6	26	SF		3	E		47		
RAMY		1621	1621	1627	S05	W27	6294	10	1.7	6	SF		3	E		14		
RAMY		1630	1633	1650	N12	E58		10	8.0	20	SF		3	E		25		F

Hα S O L A R F L A R E S

OCTOBER 1990

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	03	1650	1651	1655	N16	W85	6298	09	27.3	5	SF	C 5.4	3	E		14		
RAMY		2046	2046	2054	N16	W83	6298	09	27.7	8	SF	C 6.0	3	E		40		
HOLL		2248	2249	2300	S06	W31	6294	10	1.6	12	SF		3	E		17		F
HOLL		2256	2308	2314	N19	E37	6297	10	6.8	18	SF		3	E		10		F
GOES		2310	2317	2326						16		C 2.5						
HOLL		2334	2336	2344	S06	W69	6283	09	28.9	10	SF		3	E		20		
GOES	04	0307	0310	0334						27		C 2.6						
LEAR		0448	0449	0501	N12	E56	6300	10	8.4	13	SF	C 2.4	3	E		47		F
LEAR		0558	0602	0606	N18	E34	6297	10	6.8	8	SF		3	E		29		
LEAR		0641	0642	0646	N12	E54	6300	10	8.3	5	SF		3	E		22		
LEAR		0712	0723	0744	N12	E53	6300	10	8.3	32	SF		3	E		53		
SVTO		0712E	0725	0746	N12	E56	6300	10	8.5	34D	SF	C 2.6	3	E		76		
SVTO		0750	0804	0819	N14	E55	6300	10	8.5	29	SF		3	E		68		
LEAR		0940	0949	0958	N12	E52	6300	10	8.3	18	SF		2	E		66		
SVTO		0948	0950	0956	N14	E55	6300	10	8.6	8	SF	C 2.7	4	E		24		
SVTO		1032	1034	1038	S15	E74	6302	10	10.0	6	SF		4	E		17		
SVTO		1103	1105	1109	N14	E52	6300	10	8.4	6	SF		4	E		15		
SVTO		1202	1209	1229	N19	E46		10	8.0	27	SF	C 2.8	4	E		64		
RAMY		1206	1209	1224	N17	E46		10	8.0	18	SF	C 2.8	3	E		57		
GOES		1230	1241	1252						22		C 1.8						
SVTO		1316	1316	1324	N21	E25	6297	10	6.5	8	SF		3	E		15		
HOLL		1605E	1605U	1628	N13	E52	6300	10	8.6	23D	SF		3	E		31		
HOLL		1618	1622	1635	N18	E44	6305	10	8.0	17	SF		4	E		18		
HOLL		1717	1718	1728	S14	E24	6304	10	6.5	11	SF		4	E		18		
RAMY		1720E	1734U	1743	S15	E22	6304	10	6.4	23D	SF		2	E		18		
HOLL		1729	1733	1741	S14	E23	6304	10	6.5	12	SF		4	E		29		F
HOLL		2124	2128	2136	N18	E42	6305	10	8.1	12	SF		3	E		29		
GOES		2140	2146	2152						12		C 3.9						
GOES		2221E	2223	2232						11D		C 2.1						
HOLL	05	0021E	0022U	0038D	N15	E41	6300	10	8.1	17D	SF		1	E		34		F
LEAR		0022	0023	0048	N15	E42	6300	10	8.2	26	SF		3	E		33		F
PALE		0026E	0031	0052	N16	E42	6300	10	8.2	26D	SF		3	E		18		
PALE		0301	0303	0313	N13	E49	6300	10	8.8	12	SF		3	E		35		
LEAR		0301	0305	0309	N11	E50	6300	10	8.9	8	SF		3	E		55		F
LEAR		0526	0528	0538	S14	E17	6304	10	6.5	12	SF		3	E		21		
LEAR		0627	0631	0646	N17	E19	6297	10	6.7	19	1N	C 6.6	3	E		114		
SVTO		0628E	0634	0705	N18	E20	6297	10	6.8	37D	SF		2	E		62		F
LEAR		0919	0920	0929	S05	W51	6294	10	1.6	10	SF		3	E		16		
LEAR		0930	0932	0937	S04	W48	6294	10	1.8	7	SF		3	E		22		
GOES		1109	1114	1119						10		C 1.8						
GOES		1150	1154	1201						11		C 1.4						
RAMY		1717	1717	1722	N12	E38	6300	10	8.6	5	SF	C 1.6	3	E		20		
RAMY		1857	1857	1907	S16	W21	6292	10	4.2	10	SF		3	E		27		F
RAMY		1911	1916	1933	S04	W56	6294	10	1.6	22	SF	C 1.5	3	E		19		F
LEAR		2314	2323	2328	S14	E03	6304	10	6.2	14	SF	C 1.6	3	E		13		
GOES	06	0022	0030	0051						29		C 1.5						
GOES		0145	0221	0349						124		C 2.4						
RAMY		1148	1149	1155	S06	W66	6294	10	1.5	7	SF		3	E		15		F
HOLL		1649	1701	1731	S09	E59		10	11.1	42	SF		3	E		60		F
HOLL		1658	1720	1802	N11	E17	6300	10	8.0	64	SN	C 2.3	3	E		44		F
RAMY		1659	1701	1711	S09	E57		10	11.0	12	SF		3	E		18		F
RAMY		1704	1712	1742	N11	E17	6300	10	8.0	38	SF		3	E		12		F
PALE		1745	1750	1753	S15	W03	6304	10	6.5	8	SF		3	E		15		
PALE		1814	1814	1828	S15	W03	6304	10	6.5	14	SF		3	E		14		
HOLL		1816	1821	1939	S14	W03	6304			83	SN			E		31		K
HOLL		1816	1841	1939	S14	W03	6304	10	6.5	83	1N	C 4.5	3	E		109		FE
HOLL		1821	1822	1829	S13	E40	6302	10	9.8	8	SF		3	E		23		F
PALE		1830	1843	1919	S15	W04	6304	10	6.5	49	SN		3	E		80		F
RAMY		1839	1842	1909	S15	W05	6304	10	6.4	30	SF		3	E		31		UF
HOLL		2153	2208	2219	N09	E87		10	13.4	26	1F	C 2.2	3	E		163		F
PALE		2203E	2208	2220D	S10	E86		10	13.4	17D	SF		3	E		47		
LEAR	07	0334	0334	0343	N11	E15	6300	10	8.3	9	SF		2	E		16		
GOES		0438	0447	0506						28		C 2.7						
LEAR		0612	0612	0616	S08	W78	6294	10	1.4	4	SF	C 1.4	3	E		27		

Hα SOLAR FLARES

OCTOBER 1990

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	07	0646	0648	0700	S09	W80	6294	10	1.3	14	SF	C 1.5	3	E		23		
GOES		0708	0730	0746						38		C 2.3						
LEAR		0851	0851	0856	N08	E76	6309	10	13.1	5	SF	C 1.8	3	E		55		F
LEAR		0956	0959	1003	S26	E47	6306	10	11.1	7	SF		3	E		16		
SVTO		1030E	1049U	1054D	S14	W12	6304	10	6.5	24D	SF	C 1.5	2	E		16		
SVTO		1041E	1052U	1126D	S12	E26	6302	10	9.4	45D	SF		2	E		34		
GOES		1232	1254	1322						50		C 3.2						
GOES		1501	1516	1604						63		C 2.1						
GOES		1618	1633	1651						33		C 4.5						
HOLL		1833	1837	1855	S08	E43	6308	10	11.0	22	SF		3	E		49		
RAMY		1858	1858	1912	S13	E23	6302	10	9.5	14	SF		3	E		35		F
PALE		1858	1859	1908	S12	E25	6302	10	9.7	10	SF		3	E		22		F
PALE		1934	1950	1956	S16	E32	6302	10	10.2	22	SF		3	E		41		
RAMY		1937	1941	2013D	S14	E27	6302	10	9.8	36D	SF	C 1.6	3	E		36		F
HOLL		1953E	1953U	2106D	S15	E28	6302	10	9.9	73D	SF		3	E		89		F
GOES		2137	2153	2209						32		C 2.5						
GOES		2250	2300	2317						27		C 4.3						
LEAR	08	0144	0146	0201	N08	E72	6309	10	13.5	17	SF	C 3.8	3	E		84		F
LEAR		0149	0153	0158	S25	E42	6306	10	11.3	9	SF		3	E		17		F
GOES		0652	0706	0729						37		M 1.5						
GOES		0858	0906	0910						12		C 1.8						
LEAR		0912	0919	0926	N09	E65	6309	10	13.3	14	SF		3	E		55		F
SVTO		1025	1037	1053	N18	E73	6311	10	14.0	28	SF		2	E		18		
SVTO		1107E	1158	1305D	S06	E35	6308	10	11.1	118D	1F	C 3.7	2	E		105		
RAMY		1144	1155	1236	S07	E33	6308	10	11.0	52	SF		3	E		50		F
RAMY		1148	1150	1209	N16	E73	6311	10	14.0	21	SF		3	E		27		
SVTO		1157E	1158	1305D	S06	E35	6308	10	11.1	68D	1F		2	E		105		
RAMY		1210	1211	1218	N15	E72	6311	10	13.9	8	SF		3	E		13		
RAMY		1212	1215	1241	S25	E38	6306	10	11.4	29	SF		3	E		26		F
GOES		1423	1426	1433						10		C 2.7						
SVTO		1431E	1457U	1535D	S24	E38	6306	10	11.5	64D	SF		2	E		27		
HOLL		1451	1452	1503	S24	E35	6306	10	11.3	12	SF	C 1.6	3	E		20		
RAMY		1452E	1452U	1505	S26	E35	6306	10	11.3	13D	SF	C 1.6	2	E		21		
HOLL		1509	1509	1530	S23	E37	6306	10	11.5	21	SF		3	E		16		
RAMY		1525	1527	1531	S25	E33	6306	10	11.2	6	SF		3	E		17		
HOLL		1610	1616	1643	S14	E10	6302	10	9.4	33	SF		3	E		20		
RAMY		1614	1621	1656	S16	E15	6302	10	9.8	42	SF		3	E		14		
HOLL		1632	1636	1647	S18	W59	6292	10	4.2	15	SF		3	E		31		
HOLL		1648	1652	1704	S18	W59	6292	10	4.2	16	SF		3	E		23		
HOLL		1651	1652	1704	N16	E67	6311	10	13.8	13	SN	C 3.4	3	E		60		F
RAMY		1653	1653	1700	N15	E68	6311	10	13.8	7	SF		3	E		52		F
HOLL		1944	1948	2031	N12	W08	6300	10	8.2	47	SF		3	E		45		F
PALE		1949	1950	2012	N12	W09	6300	10	8.1	23	SF	C 1.7	3	E		22		F
LEAR	09	0133	0144	0151	S18	E72	6314	10	14.5	18	SF	C 6.6	3	E		15		F
LEAR		0240	0246	0248	N12	W13	6300	10	8.1	8	SF		3	E		13		F
LEAR		0305	0305	0310	N14	E58	6309	10	13.5	5	SF	C 2.0	3	E		20		
GOES		0436E	0442	0500D						24D		C 2.2						
LEAR		0451	0451	0501	N14	E64	6311	10	14.0	10	SF		3	E		28		
LEAR		0518	0520	0532	N11	W12	6300	10	8.3	14	SF		3	E		19		F
LEAR		0602	0603	0613	S17	E79	6314	10	15.2	11	SF		3	E		18		
LEAR		0853	0909	0945D	S18	E71	6314	10	14.8	52D	1F	M 1.6	3	E		101		F
LEAR		0853	0945	0945D	S18	E71	6314			52D	1B			E		76		K
GOES		1157	1205	1218						21		C 2.5						
HOLL		1349	1352U	1408	S23	E25	6306	10	11.5	19	SF	C 2.0	2	E		28		F
HOLL		1411	1412	1417	S15	E69	6314	10	14.8	6	SF		2	E		11		
HOLL		1558	1558	1627	S19	E74	6314	10	15.3	29	SF	C 7.6	3	E		79		
GOES		1832	1914	1947						75		C 4.8						
RAMY		1840	1841	1845	S06	E12	6308	10	10.7	5	SF		3	E		10		F
HOLL		1840	1841	1849	S07	E15	6308	10	10.9	9	SF		3	E		22		
HOLL		1858	1911	1941	S17	E70	6314	10	15.1	43	SF		3	E		64		F
HOLL		1903	1910	1927	N12	W23	6300	10	8.1	24	SF		3	E		40		F
RAMY		1908	1916	1920	N13	W23	6300	10	8.1	12	SF		4	E		19		F
RAMY		1915	1918	1923	S17	E67	6314	10	14.9	8	SF		4	E		17		
HOLL		2227	2237	2255	S19	E64	6314	10	14.8	28	1N	C 3.4	3	E		123		FE
LEAR		2237E	2238	2251	S17	E59	6314	10	14.4	14D	SF		2	E		64		F
LEAR		2306	2313	2318	N14	E54	6311	10	14.0	12	SF		2	E		71		F

Hα SOLAR FLARES

OCTOBER 1990

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	10	0028	0029	0033	S08	E14	6308	10	11.1	5	SF	C 1.2	2	E		15		F
LEAR		0104	0119	0139	S17	E68	6314	10	15.2	35	SF	C 7.9	3	E		79		F
LEAR		0152	0155	0200	S21	E58	6314	10	14.5	8	SF		3	E		30		F
LEAR		0331	0331	0337	S18	E61	6314	10	14.8	6	SF		3	E		23		F
LEAR		0358	0406	0414	S17	E69	6314	10	15.4	16	SF		3	E		26		F
LEAR		0652	0652	0658	S17	E54	6314	10	14.4	6	SF		3	E		73		F
SVTO		0652	0655	0705	S15	E56	6314	10	14.5	13	SF	C 1.4	3	E		12		
SVTO		0805	0817	0828	S16	E66	6314	10	15.3	23	SF		3	E		29		
LEAR		0910	0911	0916	S17	E60	6314	10	14.9	6	SF		3	E		21		
LEAR		0928	0939	0956	S17	E64	6314	10	15.2	28	SF	C 2.7	3	E		24		F
HOLL		1701	1702	1716	S17	E62	6314	10	15.4	15	SF		3	E		34		
HOLL		1702	1707	1716	N10	E51	6312	10	14.5	14	SF		3	E		11		
HOLL		1702	1713	1716	N15	E43	6311	10	14.0	14	SF		3	E		16		
HOLL		1755	1801	1835	S17	E60	6314	10	15.3	40	SN	M 1.1	4	E		74		F
HOLL		1755	1807	1835	S17	E60	6314			40	SN			E		62		K
PALE		1811E	1820U	1833	S14	E63	6314	10	15.5	22D	SF		3	E		28		F
PALE		1834	1838	1845	S15	E64	6314	10	15.6	11	SF		3	E		16		
HOLL		2025	2027	2032	N12	E37	6309	10	13.6	7	SF	C 1.6	3	E		22		
HOLL		2154	2154	2213	S29	E54		10	15.1	19	SF		3	E		12		
HOLL		2201	2204	2217	S14	E03	6318	10	11.1	16	SF		3	E		10		
HOLL		2224	2242	2251	S25	E03	6306	10	11.2	27	SF		3	E		39		F
HOLL		2235	2237	2247	N16	E15	6316	10	12.1	12	SF		3	E		10		
HOLL		2304	2304	2309	S15	E02	6318	10	11.1	5	SF		3	E		11		
GOES	11	0403	0408	0416						13		C 1.1						
GOES		0427		0429						2		C 1.3						
LEAR		0514	0514	0521	N09	E46	6312	10	14.7	7	SF	C 1.4	3	E		20		
GOES		0706	0711	0724						18		C 1.3						
LEAR		0736	0739	0816	N09	E44	6312	10	14.6	40	1N	M 1.0	3	E		156		F
SVTO		0737E	0739U	0806	N10	E44	6312	10	14.6	29D	SF	M 1.0	2	E		93		F
LEAR		0956	0956	1007D	N16	W43	6300	10	8.1	11D	SF		2	E		12		
SVTO		0957	1000	1012	N14	W44	6300	10	8.1	15	SF		3	E		14		
SVTO		1115E	1120U	1146	N10	E40	6312	10	14.5	31D	SF	C 1.4	3	E		29		F
SVTO		1302	1308	1340	N10	E40	6312	10	14.5	38	SF	C 4.8	3	E		41		F
HOLL		1324E	1326U	1338	N10	E39	6312	10	14.5	14D	SF		2	E		30		F
SVTO		1345	1351	1451	S17	E50	6314	10	15.4	66	SF	C 3.2	3	E		33		F
HOLL		1350E	1352	1515	S17	E50	6314			85D	SF	C 3.2		E		23		K
HOLL		1350E	1435	1515	S17	E50	6314	10	15.4	85D	SF		3	E		70		F
HOLL		1601	1609	1632	S15	W09	6318	10	11.0	31	SF	C 4.1	4	E		42		F
HOLL		1655	1700	1708	N10	E37	6312	10	14.5	13	SF	C 1.4	3	E		22		F
HOLL		2007	2016	2019	S18	E45	6314	10	15.3	12	SF		3	E		13		F
HOLL		2013	2014	2052	N13	E32	6311	10	14.2	39	SF	C 1.4	3	E		30		FE
PALE		2014	2014	2023	N15	E33	6311	10	14.3	9	SF	C 1.4	4	E		21		
HOLL		2105	2105	2119	N09	E35	6312	10	14.5	14	SF		3	E		14		F
HOLL		2140	2143	2151	N05	W64		10	7.1	11	SF		3	E		10		
HOLL		2309	2309	2326	S15	E53		10	16.0	17	SF		3	E		22		F
HOLL		2314	2321	2357	S17	E43	6314	10	15.2	43	SF	C 2.4	3	E		35		F
PALE		2316	2319	2326	S16	E44	6314	10	15.3	10	SF	C 2.4	3	E		20		
LEAR	12	0109E	0109U	0117	S19	E38	6314	10	14.9	8D	SF	C 1.8	3	E		23		F
GOES		0202	0207	0215						13		C 2.1						
LEAR		0339E	0340U	0350	S19	E37	6314	10	15.0	11D	SF	C 2.1	3	E		41		F
GOES		0650E	0653	0702D						12D		C 1.3						
SVTO		0839	0843U	0904	S26	W11	6306	10	11.5	25	SF		2	E		67		
LEAR		0840	0841	0855	S25	W15	6306	10	11.2	15	SF	C 1.5	2	E		48		
SVTO		1148	1148	1154	N15	E19	6311	10	13.9	6	SF		3	E		16		
SVTO		1155	1201	1224	N13	W59	6300	10	8.0	29	SF		3	E		15		H
RAMY		1317	1323	1335	N13	E21	6311	10	14.1	18	SF	C 1.1	3	E		78		
SVTO		1318	1330	1339	N15	E18	6311	10	13.9	21	SF		3	E		55		F
SVTO		1320	1322	1324	S06	E77		10	18.3	4	SF		3	E		27		
SVTO		1417	1430	1434	S19	W33	6302	10	10.1	17	SF	C 1.1	3	E		23		
RAMY		1427	1430	1433	S17	W35	6302	10	9.9	6	SF		3	E		17		F
HOLL		1505	1505	1510	S23	W19	6306	10	11.2	5	SF		3	E		12		
HOLL		1535	1540	1610	N10	E24	6312	10	14.4	35	SF		3	E		34		
HOLL		1605	1607	1613	S22	E73		10	18.3	8	SF		3	E		39		
HOLL		1611	1615	1621	S19	E30	6314	10	15.0	10	SF		3	E		12		
HOLL		1755	1759	1831	S14	W23	6318	10	11.0	36	SF		3	E		54		F
PALE		1758	1759	1830D	S15	W24	6318	10	10.9	32D	SF		3	E		27		

Hα S O L A R F L A R E S

OCTOBER 1990

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	12	1800	1806	1812	S25	W20	6306	10	11.2	12	SF	C	1.5	3	E		13		F
HOLL		2108	2110	2124	S18	E31	6314	10	15.2	16	SF	C	1.8	3	E		28		F
HOLL		2127	2128	2141	N13	E07	6309	10	13.4	14	SF			3	E		27		F
HOLL		2155	2305	2351	S23	E65	6321	10	17.9	116	SF	C	3.0	3	E		29		F
HOLL		2156	2200	2215	S06	E79		10	18.8	19	SF			3	E		82		F
HOLL		2216	2219	2225	N11	E19	6312	10	14.3	9	SN			3	E		75		FE
HOLL		2219	2220	2230	N15	E16	6311	10	14.1	11	SF			3	E		19		F
HOLL		2223	2224	2234	N19	W83	6297	10	6.6	11	SF			3	E		22		
HOLL		2258	2259	2308	N04	W77	6320	10	7.2	10	SF			3	E		24		
HOLL		2329	2333	2335	S18	E30	6314	10	15.3	6	SF			3	E		10		F
LEAR	13	0207	0209	0217	S19	E28	6314	10	15.2	10	SF	C	1.6	3	E		21		F
LEAR		0246	0250	0304	S18	E28	6314	10	15.2	18	SF	C	1.7	3	E		24		F
LEAR		0506	0507	0528	S19	E27	6314	10	15.3	22	SF	C	2.8	3	E		40		
LEAR		0517	0521	0523	S23	E64	6321	10	18.1	6	SF			3	E		19		
LEAR		0733	0734	0742	S23	E63	6321	10	18.2	9	SF			3	E		18		H
LEAR		0814	0816	0822	S19	E25	6314	10	15.2	8	SF			3	E		13		
LEAR		0913	0914	0925	S07	E69	6322	10	18.5	12	SF			3	E		18		
LEAR		0922	0923	0926	N19	W70	6297	10	8.0	4	SF			3	E		17		
GOES		1502	1550	1604						62		C	2.2						
HOLL		1730	1730	1742	S25	W30	6306	10	11.4	12	SF			3	E		16		
HOLL		1738	1810	1958	N15	E05	6311			140	SN				E		42		K
HOLL		1738	1833	1958	N15	E05	6311	10	14.1	140	1F	C	1.8	3	E		105		F
PALE		1819	1832	1946D	N16	E03	6311	10	14.0	87D	SF			3	E		42		F
RAMY		1829	1830	1846	N16	E03	6311	10	14.0	17	SF			2	E		31		F
HOLL		1929	1931	2035	S19	E18	6314			66	SB				E		12		K
HOLL		1929	1942	2035	S19	E18	6314	10	15.2	66	SF			3	E		90		F
HOLL		1944	1945	1959	S07	E70	6322	10	19.1	15	SF	C	4.0	3	E		25		F
HOLL		2054	2057	2107	S20	E23	6314	10	15.6	13	SF	C	1.7	3	E		42		F
HOLL		2118	2120	2203	N14	E01	6311			45	SF				E		25		K
HOLL		2118	2129	2203	N14	E01	6311	10	14.0	45	SF			3	E		27		F
HOLL		2126	2132	2135	S23	E53	6321	10	18.0	9	SF			3	E		14		F
HOLL		2132	2133	2137	S07	E68	6322	10	19.0	5	SF	C	2.5	3	E		23		
HOLL		2159	2327	2358	N12	E08	6312	10	14.5	119	SF			3	E		59		F
LEAR		2322	2327	2354	N12	E07	6312	10	14.5	32	SF			3	E		37		F
PALE		2338E	2340	2344	N10	E08	6312	10	14.6	6D	SF			3	E		37		F
LEAR	14	0012	0013	0040	S14	W40	6318	10	11.0	28	SF			3	E		47		
PALE		0012	0014	0102D	S15	W41	6318	10	10.9	50D	SF			3	E		30		F
LEAR		0023	0027	0032	S08	E64	6322	10	18.8	9	SF	C	2.0	3	E		36		
PALE		0025	0026	0040	S07	E63	6322	10	18.7	15	SF	C	2.0	3	E		20		
GOES		0333	0336	0345						12		C	1.5						
LEAR		0500	0501	0509	S08	E58	6322	10	18.5	9	SF			3	E		16		
LEAR		0651	0652	0701	S04	E64	6322	10	19.1	10	SF			3	E		23		
LEAR		0658	0738	0823	N14	W06	6311	10	13.8	85	1F			3	E		132		
GOES		0722	0724	0737						15		C	5.5						
GOES		1030	1059	1117						47		C	1.6						
HOLL		1337E	1338U	1349	N10	E01	6312	10	14.6	12D	SF			2	E		19		F
HOLL		1348E	1348U	1358	S07	E58	6322	10	18.9	10D	SF			2	E		13		
HOLL		1752	1800	1819	N12	W11	6311	10	13.9	27	SF			3	E		56		
HOLL		1755	1757	1828	N18	W37	6316	10	11.9	33	SF			3	E		12		
HOLL		1828	1831	1918	N12	W03	6312	10	14.5	50	SF			3	E		25		F
HOLL		1905	1905	1915	S21	E45	6321	10	18.2	10	SF			3	E		13		
HOLL		1926	1927	1941	S21	E45	6321	10	18.2	15	SF			3	E		11		
HOLL		1953	1955	2014	S18	W56	6302	10	10.6	21	SF			4	E		25		F
HOLL		1955	1957	2028	S19	E03	6314	10	15.0	33	SF			4	E		15		
HOLL		1959	2000	2018	N19	W37	6316	10	12.0	19	SF			3	E		33		
HOLL		2003	2024	2103	S21	E44	6321			60	SF				E		53		K
HOLL		2003	2038	2103	S21	E44	6321	10	18.2	60	SF			3	E		25		
PALE		2035	2039	2040	S19	E45	6321	10	18.3	5	SF			3	E		17		F
HOLL		2038	2040	2049	S17	W62	6302	10	10.1	11	SF			3	E		10		
HOLL		2057	2059	2115	S17	W56	6302	10	10.6	18	SF			4	E		63		
PALE		2059	2059	2108	S19	W56	6302	10	10.6	9	SF			3	E		25		
HOLL		2138	2138	2143	N13	W11	6311	10	14.1	5	SF			4	E		11		F
LEAR		2237	2237	2248	N10	W07	6312	10	14.4	11	SF			3	E		24		
HOLL		2237	2237	2251	N10	W06	6312	10	14.5	14	SF			4	E		10		
LEAR		2306	2312	2420	S21	E42	6321	10	18.2	74	SF			3	E		32		
HOLL		2308	2310	2342	S10	W52	6308	10	11.0	34	SF			4	E		26		F

Hα S O L A R F L A R E S

OCTOBER 1990

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
PALE	14	2309	2310	2346	S20	E44	6321	10	18.3	37	SF		3	E		17		F
PALE		2310	2313	2325	S11	W51	6318	10	11.1	15	SF	C 2.9	3	E		13		F
HOLL		2311	2319	2344	S22	E43	6321	10	18.3	33	SF		4	E		12		
LEAR		2346	2347	2353	N14	W14	6311	10	13.9	7	SF		3	E		29		F
HOLL		2347	2347	2352	N13	W12	6311	10	14.1	5	SF		4	E		19		
PALE		2357	2401	2405	S19	E43	6321	10	18.3	8	SF		3	E		12		
HOLL	15	0001	0002	0005	S21	E42	6321	10	18.2	4	SF		3	E		10		
LEAR		0026	0027	0043	N10	W08	6312	10	14.4	17	SF		3	E		13		
LEAR		0125	0135	0224	S21	E41	6321	10	18.2	59	1N	M 2.8	3	E		144		F
PALE		0127	0134	0205	S19	E43	6321	10	18.3	38	1N		3	E		101		FE
LEAR		0133	0139	0144	N13	W11	6311	10	14.2	11	SF		3	E		23		
LEAR		0150	0152	0206	N13	W12	6311	10	14.2	16	SF	C 6.7	3	E		61		F
LEAR		0220	0221	0227	S15	W63	6302	10	10.3	7	SF		3	E		24		
LEAR		0225	0228	0345	S23	E37	6321			80	SN			E		38		K
LEAR		0225	0240U	0345	S23	E37	6321	10	17.9	80	1N		3	E		202		F
PALE		0228	0236	0247	S16	W61	6302	10	10.5	19	SF		3	E		30		F
PALE		0238	0242	0309	S21	E36	6321	10	17.9	31	1N	C 8.3	3	E		162		FE
PALE		0331	0332	0351D	S20	E41	6321	10	18.3	20D	SF	C 2.6	3	E		20		F
LEAR		0411	0412	0422	S07	E46	6322	10	18.6	11	SF	C 2.5	3	E		23		
LEAR		0601	0601	0606	N13	W14	6311	10	14.2	5	SF		3	E		33		
GOES		1126	1141	1152						26		C 3.0						
SVTO		1224	1226	1251	N16	W45	6316	10	12.1	27	SF	C 9.5	3	E		92		FH
SVTO		1228	1250	1324	N14	W22	6311	10	13.8	56	SF	C 5.7	3	E		80		F
HOLL		1345E	1346U	1353	N09	W15	6312	10	14.4	8D	SF		2	E		15		
SVTO		1418	1420	1432	N16	W46	6316	10	12.1	14	SF		3	E		23		
HOLL		1429	1431	1516	S24	E30	6321			47	SF			E		77		K
HOLL		1429	1501	1516	S24	E30	6321	10	17.9	47	SF		3	E		19		F
HOLL		1443	1448	1452	N19	W40	6316	10	12.6	9	SF		3	E		35		
RAMY		1445	1449	1453	N19	W43	6316	10	12.3	8	SF		3	E		19		
HOLL		1453	1458	1553	N13	W22	6311	10	14.0	60	SF		3	E		37		F
RAMY		1456	1506	1528	N13	W20	6311	10	14.1	32	SF		3	E		57		F
HOLL		1500	1503	1517	N11	W15	6312	10	14.5	17	SF	C 2.3	3	E		16		
HOLL		1518	1521	1526	S23	E30	6321	10	17.9	8	SF		3	E		18		
HOLL		1535	1535	1544	S05	E41	6322	10	18.7	9	SF		3	E		17		
HOLL		1545	1545	1553	N18	W45	6316	10	12.2	8	SF		3	E		15		
HOLL		1548	1555	1610	N10	W15	6312	10	14.5	22	SF		3	E		26		F
HOLL		1551	1558	1620	S06	E42	6322	10	18.8	29	SF		3	E		22		
HOLL		1612	1612	1623	S23	E29	6321	10	17.9	11	SF	C 2.3	3	E		16		
HOLL		1612	1620	1632	N10	W17	6312	10	14.4	20	SF		3	E		48		F
HOLL		1643	1650	1710	N18	W46	6316	10	12.2	27	SN	C 2.8	3	E		65		F
PALE		1648	1650	1704	N19	W45	6316	10	12.3	16	SF	C 2.8	2	E		45		
RAMY		1649	1651	1704	N19	W45	6316	10	12.3	15	SF		3	E		32		
RAMY		1654	1655	1714	N10	W15	6312	10	14.6	20	SF		3	E		26		F
HOLL		1654	1655	1805	N10	W16	6312	10	14.5	71	SF		3	E		38		F
PALE		1654	1656	1712	N09	W18	6312	10	14.3	18	SF		2	E		30		F
HOLL		1654	1730	1805	N10	W16	6312			71	SF			E		23		K
RAMY		1808	1808	1814	S20	E31	6321	10	18.1	6	SF		3	E		10		F
HOLL		1808	1808	1814	S23	E28	6321	10	17.9	6	SF		3	E		14		
HOLL		1835	1838	1902	N11	W17	6312			27	SN			E		27		K
HOLL		1835	1845	1902	N11	W17	6312	10	14.5	27	SF		3	E		31		
HOLL		1844	1847	1855	S07	E40	6322	10	18.8	11	SF		3	E		17		
HOLL		1903	1903	1925	S20	E31	6321	10	18.2	22	SF	C 1.9	3	E		27		F
HOLL		1903	1917	1925	S20	E31	6321			22	SB			E		86		K
RAMY		1915E	1915U	1926	S21	E30	6321	10	18.1	11D	SF	C 2.7	3	E		22		F
HOLL		2115	2129	2135	N10	W19	6312	10	14.4	20	SF		3	E		21		F
HOLL		2137	2154	2209	N10	W20	6312	10	14.4	32	SF		3	E		14		
LEAR		2302	2306	2310	N11	W20	6312	10	14.4	8	SF		3	E		19		F
HOLL		2312	2326	2337D	S05	E37	6322	10	18.7	25D	SF	C 2.7	3	E		36		
LEAR		2317	2351	2429	S22	E29	6321	10	18.2	72	SF		3	E		79		
HOLL		2326	2333	2352D	S21	E30	6321	10	18.3	26D	SF		3	E		31		F
PALE		2350	2350	2408	S19	E30	6321	10	18.3	18	SF		3	E		27		F
LEAR		2352	2358	2403	N13	W27	6311	10	13.9	11	SF	C 3.3	3	E		17		
LEAR	16	0222	0223	0228	N10	W22	6312	10	14.4	6	SF		3	E		23		
LEAR		0237	0239	0301	S20	E25	6321	10	18.0	24	SF	C 2.4	3	E		60		
PALE		0238	0240	0245	S19	E27	6321	10	18.2	7	SF		3	E		27		F
LEAR		0325	0332	0342	N10	W22	6312	10	14.5	17	SF		3	E		24		

Hα SOLAR FLARES

OCTOBER 1990

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	16	0347	0348	0359	S06	E35	6322	10	18.8	12	SF	C 3.7	3	E		27		
LEAR		0427	0427	0436	S20	E24	6321	10	18.0	9	SF		3	E		23		
LEAR		0736	0736	0746	N13	W31	6311	10	14.0	10	SF		3	E		14		
LEAR		0741	0742	0800	N10	W25	6312	10	14.4	19	SF		3	E		32		
SVTO		0803	0810	0819	N07	W22	6312	10	14.7	16	SF		3	E		16		F
SVTO		0807	0810	0821	S06	E31	6322	10	18.6	14	SF		3	E		14		F
GOES		0931	0952	1146						135		C 3.6						
SVTO		1156	1157	1210	S06	E29	6322	10	18.7	14	SF		3	E		23		
SVTO		1234	1234	1301D	N15	W59	6316	10	12.0	27D	SF		3	E		17		
HOLL		1626E	1628U	1636D	S10	E28	6322	10	18.8	10D	SF		3	E		17		
RAMY		1627	1627	1631	S07	E27	6322	10	18.7	4	SF	C 2.1	3	E		14		F
HOLL		1710E	1712U	1719D	N08	W29	6312	10	14.5	9D	SF		2	E		21		F
GOES		1716	1728	1733						17		M 1.4						
PALE		1717	1720	1736	N10	W31	6312			19	SF			E		46		K
PALE		1717	1726	1736	N10	W31	6312	10	14.4	19	SF		3	E		32		F
HOLL		1948	1948	2007	N19	E82		10	23.1	19	SF		3	E		27		F
HOLL		2024	2039	2102	N19	E80		10	22.9	38	SF		3	E		39		F
HOLL		2038	2038	2231	N09	W48	6309	10	13.2	113	SF		3	E		21		F
HOLL		2123	2126	2135	N10	W31	6312	10	14.6	12	SF		3	E		22		F
HOLL		2315	2315	2320	N19	E82	6327	10	23.2	5	SF		3	E		38		F
LEAR	17	0122	0123	0137	N09	W47	6309			15	SF			E		23		K
LEAR		0122	0129	0137	N09	W47	6309	10	13.5	15	SF		3	E		31		
GOES		0208	0428	0504						176		C 1.0						
LEAR		0522	0524	0526	N09	W51	6309	10	13.4	4	SF		3	E		12		
LEAR		0602	0613	0624	N10	W36	6312	10	14.5	22	SF	C 2.7	3	E		23		F
LEAR		0649	0650	0658	S07	E18	6322	10	18.6	9	SF	C 3.8	3	E		89		
LEAR		0743	0743	0753	N10	W36	6312	10	14.6	10	SF		3	E		20		F
LEAR		0834	0836	0842	S09	E11	6322	10	18.2	8	SF	C 1.9	3	E		52		F
RAMY		1226	1227	1239	S06	E11	6322	10	18.3	13	SF	C 1.9	3	E		23		
RAMY		1257	1258U	1306D	S09	E06	6322	10	18.0	9D	SF	C 2.2	3	E		25		
RAMY		1323	1324U	1407D	S11	E07	6322	10	18.1	44D	SF	C 4.8	3	E		74		F
HOLL		1328E	1329	1434	S10	E10	6322			66D	SN			E		24		K
HOLL		1328E	1426	1434	S10	E10	6322	10	18.3	66D	1N		2	E		148		FH
GOES		1423	1428	1430						7		C 2.3						
HOLL		1450	1458	1517	S06	E08	6322	10	18.2	27	SF		3	E		40		
HOLL		1550	1552	1555	N15	W44	6311	10	14.3	5	SF		3	E		14		
HOLL		1642	1651	1706	S09	E07	6322	10	18.2	24	1N	C 6.8	3	E		133		H
HOLL		1650	1658	1707	S23	E04	6321	10	18.0	17	SF		3	E		15		F
HOLL		1735	1745	1755	S07	E13	6322	10	18.7	20	SF		3	E		52		F
HOLL		1813	1816	1834	S08	E06	6322	10	18.2	21	SF		3	E		12		F
HOLL		1845	1848	1914	S08	E06	6322			29	SN			E		17		K
HOLL		1845	1859	1914	S08	E06	6322	10	18.2	29	SF		3	E		33		FH
HOLL		1933	1936	1938	S08	E06	6322	10	18.3	5	SF		3	E		10		F
HOLL		2000	2001	2126	S07	E11	6322			86	SF			E		11		K
HOLL		2000	2040	2126	S07	E11	6322	10	18.6	86	1F	C 3.0	3	E		109		FH
HOLL		2112	2117	2123	N18	W78	6316	10	11.9	11	SF		3	E		22		F
HOLL		2145	2147	2151	N19	W79	6316	10	11.9	6	SF		3	E		15		F
HOLL		2213	2213	2217	S09	E04	6322	10	18.2	4	SF		3	E		10		F
HOLL		2213	2222	2235	S07	W10		10	17.2	22	SF		3	E		12		F
HOLL		2229	2230	2301	S07	E10	6322	10	18.7	32	SF		3	E		18		FH
HOLL		2313	2321	2328	S09	E06	6322	10	18.4	15	SF		3	E		28		F
LEAR		2318	2321	2323	S08	E02	6322	10	18.1	5	SF		3	E		11		
HOLL		2335	2342	2350	N13	W53	6309	10	14.0	15	SF		3	E		25		F
GOES	18	0045E	0047	0057D						12D		C 3.0						
GOES		0053	0057	0100						7		C 3.2						
PALE		0055	0057	0111	S09	E03	6322	10	18.3	16	1F		3	E		133		
LEAR		0515E	0533U	0605	N12	W60	6309	10	13.7	50D	1B	C 3.2	2	E		122		F
LEAR		0610	0612	0700D	S07	E06	6322	10	18.7	50D	1B	C 6.5	2	E		212		F
GOES		0841E	0841	0859D						18D		C 2.2						
LEAR		0956E	0956U	1008	S12	W05	6322	10	18.0	12D	SF	C 6.1	2	E		70		F
RAMY		1113	1117	1132	S09	W02	6322	10	18.3	19	SF	C 4.3	3	E		16		FH
RAMY		1224	1227	1306	N19	E65	6327	10	23.5	42	SF		3	E		84		F
SVTO		1228E	1229U	1314	N19	E65	6327	10	23.5	46D	SF		2	E		76		F
GOES		1525	1529	1532						7		C 3.7						
HOLL		1909	1912	1916	S06	W08	6322	10	18.2	7	SF		4	E		22		F
GOES		1930	1933	1935						5		C 2.0						

Hα S O L A R F L A R E S

OCTOBER 1990

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
HOLL	18	1940	1942	2005	S18	W50	6314	10	15.0	25	SF		3	E		22		
HOLL		2001	2008	2048	S12	W07	6322			47	SF			E		90		K
HOLL		2001	2026	2048	S12	W07	6322	10	18.3	47	SF	C 3.8	4	E		35		FH
PALE		2011	2025U	2115D	S12	W05	6322	10	18.5	64D	SF		3	E		11		F
HOLL		2204	2205	2235	N20	E58	6327	10	23.3	31	SF		3	E		49		F
PALE		2205	2208	2225	N22	E60	6327	10	23.5	20	SF	C 4.1	3	E		31		F
HOLL		2319	2321	2329	N19	E53	6327	10	23.0	10	SF	C 2.3	3	E		21		
HOLL		2348	2349	2349D	S08	W13	6322	10	18.0	1D	SF		2	E		46		F
GOES	19	0100	0231	0301						121		C 5.8				28		F
LEAR		0338	0339	0351	N19	E53	6327	10	23.2	13	SF	C 4.2	3	E		29		F
LEAR		0537	0539	0544	S05	W06	6322	10	18.8	7	SF		3	E		57		F
LEAR		0545	0547	0631	N20	E52	6327	10	23.2	46	SF	C 3.5	3	E		31		F
SVTO		0720	0723	0734	N20	E54	6327	10	23.4	14	SF	C 3.0	3	E		86		
SVTO		0829	0835	0854	S12	W12	6322	10	18.4	25	SF	C 3.4	4	E		21		F
SVTO		0913	0928	0958	S13	W13	6322	10	18.4	45	SF		3	E		27		
SVTO		0953	0957	1009	N11	W67	6311	10	14.4	16	SF		2	E		82		F
SVTO		0959	1010U	1042D	S10	W13	6322	10	18.4	43D	SN	C 7.3	2	E		20		
SVTO		1204E	1205U	1214D	N12	W69	6311	10	14.3	10D	SF		2	E		23		
SVTO		1340	1340	1344	N11	W68	6311	10	14.4	4	SF		2	E		18		
HOLL		1343E	1344U	1354	S12	W15	6322	10	18.4	11D	SF		2	E		14		
SVTO		1345	1346	1354	S12	W16	6322	10	18.4	9	SF		2	E		43		
SVTO		1350	1403	1418	N12	W70	6311	10	14.3	28	SF	C 4.9	2	E		26		
HOLL		1402	1403	1421D	N14	W68	6311	10	14.4	19D	SF		2	E		42		F
HOLL		1436	1438	1445	S07	W12	6322	10	18.7	9	SF		3	E		15		F
HOLL		1643	1644	1651	S21	W27	6321	10	17.6	8	SF		3	E		37		F
PALE		1658	1659	1721D	N10	E41	6327	10	22.8	23D	SN		3	E		44		
HOLL		1658	1701	1750	N20	E44	6327	10	23.1	52	SF	C 6.1	3	E		24		K
HOLL		1658	1732	1750	N20	E44	6327			52	SF			E		40		
HOLL		1708	1709	1719	N17	W70	6311	10	14.4	11	SF		3	E		24		
HOLL		1715	1717	1720	S20	W27	6321	10	17.6	5	SF		3	E		22		
HOLL		1717	1718	1732	S11	W18	6322	10	18.4	15	SF		3	E		32		
HOLL		1737	1740	1750	S10	W18	6322	10	18.4	13	SF		3	E		81		F
PALE		1752	1759	1829	N14	W74	6311	10	14.1	37	SF		3	E		61		
HOLL		1753	1758	1806	N17	W72	6311	10	14.3	13	SF		3	E		35		F
HOLL		1900	1903	1923	S10	W19	6322	10	18.4	23	SF		3	E		25		
HOLL		1925	1926	1933	N13	W72	6311	10	14.4	8	SF		3	E		44		
PALE		1925	1927	1942	N15	W74	6311	10	14.2	17	SF		3	E		34		
HOLL		1935	1936	1940	N16	W74	6311	10	14.2	5	SF		3	E		93		
HOLL		2021E	2030	2223D	N17	W73	6311	10	14.3	122D	SF		2	E		83		K
HOLL		2021E	2058	2223D	N17	W73	6311			122D	SF			E		24		
PALE		2159E	2201U	2216D	N15	W75	6311	10	14.2	17D	SF		3	E				
GOES	20	0203	0302	0316						73		C 4.8				35		
LEAR		0452	0453	0458	N18	W78	6311	10	14.3	6	SF		3	E		35		F
LEAR		0500	0502	0518	N18	W79	6311	10	14.2	18	SF	C 8.4	3	E		32		
LEAR		0557	0602	0617	N17	W79	6311	10	14.2	20	SF		3	E		37		Y
LEAR		0617	0621	0628	N16	W70	6311	10	14.9	11	SF		3	E				
GOES		0843	0905	0920						37		C 4.0						
GOES		1520	1531	1536						16		C 5.6						
RAMY		1631E	1633	1637	S21	W79	6314	10	14.6	6D	SF	C 6.4	3	E		22		
HOLL		1632E	1632U	1639	S24	W75	6314	10	14.9	7D	SF		2	E		20		
HOLL		1759	1810	1821	N15	W82	6311	10	14.5	22	1N	M 8.5	3	E		147		FE
PALE		1803E	1810	1821	N17	W86	6311	10	14.2	18D	1F	M 8.5	2	E		140		F
HOLL		1926	1927	1941	N21	E28	6327	10	22.9	15	SF		3	E		30		F
HOLL		2225	2225	2228	N17	E31	6327	10	23.3	3	SF	C 7.4	3	E		17		F
GOES	21	0313E	0321	0330D						17D		M 1.0						
GOES		0328	0342	0351						23		C 7.1						
LEAR		0556	0557	0605	N15	W91	6311	10	14.3	9	SF	M 3.0	3	E		21		
SVTO		0556E	0559U	0656D	N14	W89	6311	10	14.5	60D	SF	M 3.0	3	E		62		H
SVTO		0711	0721U	0721D	N26	E58	6333	10	25.8	10D	1F	C 6.3	4	E		110		F
SVTO		0716	0724	0750	N18	E57	6331	10	25.6	34	SF		4	E		18		
LEAR		0717	0722	0753	N24	E57	6333	10	25.7	36	SF		3	E		83		F
SVTO		0821E	0850	0854	N10	W90	6312	10	14.6	33D	SF		3	E		19		
LEAR		0847	0851	0855	N09	W92	6312	10	14.5	8	SF		3	E		42		
SVTO		0911E	0929U	1019D	N22	E22	6327	10	23.1	68D	SF		2	E		49		F
LEAR		0924	0932	0947	N18	E23	6327	10	23.1	23	SF	M 1.7	3	E		22		F

Hα SOLAR FLARES

OCTOBER 1990

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	21	1444	1447	1451	N18	E49		10	25.3	7	SF		3	E		10		
HOLL		1503	1505	1519	S09	E51	6332	10	25.4	16	SF		3	E		29		F
HOLL		1620	1623	1633	N17	E22	6327	10	23.3	13	SF		3	E		25		F
HOLL		1634	1635	1646	N18	E19	6327	10	23.1	12	SF	C 3.6	3	E		18		
HOLL		1714	1721	1734	N17	E22	6327	10	23.4	20	SF		3	E		27		F
HOLL		1742	1753	1835	N27	E55	6333	10	26.0	53	1F	C 3.4	3	E		128		F
HOLL		2043	2045	2049	S11	E48	6334	10	25.5	6	SF		3	E		14		
HOLL		2317	2317	2326	S28	W50	6321	10	18.1	9	SF		3	E		10		
GOES	22	0139	0148	0158						19		C 3.1						
GOES		0351E	0353	0411D						20D		C 1.9						
GOES		0704	0706	0714D						10D		M 2.9						
LEAR		0801	0806	0814	S09	W51	6322	10	18.5	13	SF		3	E		25		
HOLL		1351	1353	1428	N25	E41	6333	10	25.7	37	SF	C 3.3	2	E		28		F
HOLL		1402	1405	1454	N16	E70		10	27.9	52	SF		2	E		45		F
SVTO		1424E	1424U	1436	N19	E42	6333	10	25.8	12D	SF		3	E		20		
SVTO		1424E	1425U	1436	S15	E69		10	27.8	12D	SF		3	E		20		
HOLL		1730	1731	1736	S13	E75		10	28.4	6	SF		3	E		18		
HOLL		1751	1752	1807	S13	E73		10	28.2	16	SF		3	E		31		
HOLL		1954	2001	2037	N19	E34	6331	10	25.4	43	1F	C 4.3	4	E		107		U
PALE		1956	1958	2015	N19	E35	6331	10	25.5	19	SF		3	E		62		
HOLL		2049	2051	2123	N18	E33	6331	10	25.4	34	SF		3	E		12		
HOLL		2052	2052	2055	S23	W61	6321	10	18.2	3	SF		3	E		14		
HOLL		2137	2140	2149	N18	E33	6331	10	25.4	12	SF		3	E		10		
HOLL		2319	2332	2352	S14	E70	6337	10	28.3	33	SF		3	E		17		
GOES	23	0415	0435	0455						40		C 1.3						
SVTO		0706	0712	0725	N19	E26	6331	10	25.3	19	SF		3	E		40		F
LEAR		0707	0710	0717	N17	E27	6331	10	25.3	10	SF		3	E		24		F
GOES		0712		0716						4		C 1.6						
SVTO		0840	0853U	0918D	N20	E26	6331	10	25.3	38D	SF	C 1.8	3	E		32		F
SVTO		0849	0850	0858	S12	E63	6337	10	28.1	9	SF		3	E		14		
LEAR		0852	0857	0911	N16	E17	6331	10	24.6	19	SF		3	E		48		F
SVTO		0854	0856U	0917D	N19	E09	6327	10	24.0	23D	SF		3	E		20		
SVTO		1120	1130	1207	N33	E30	6333	10	25.8	47	SN	C 1.9	3	E		72		F
HOLL		1443E	1444U	1453	S18	E60	6337	10	28.2	10D	SF	B 9.5	2	E		54		F
HOLL		1518	1531	1539	S10	W43	6325	10	20.4	21	SF		3	E		15		
HOLL		1527	1530	1536	S13	E62	6337	10	28.3	9	SF		3	E		12		
HOLL		1533	1534	1541	N27	E30	6333	10	26.0	8	SF		3	E		19		
HOLL		1611	1612	1628	N19	W05	6327	10	23.3	17	SF		3	E		20		
HOLL		1612	1619	1702	N19	E23	6331	10	25.4	50	1N	C 4.6	3	E		168		F
HOLL		1612	1641	1702	N19	E23	6331			50	SN			E		65		K
HOLL		1633	1641	1650	S14	E57	6337	10	28.0	17	SF	C 1.7	3	E		25		
GOES		1731	1750	1823						52		C 1.8						
HOLL		1733	1735	1742	S11	W46	6325	10	20.3	9	SF		3	E		11		
GOES		1937	1959	2004						27		C 1.4						
GOES		2117E		2132D						15D		C 1.9						
GOES	24	0200	0211	0220						20		C 2.7						
GOES		0253E	0255	0305D						12D		C 1.2						
GOES		0504	0508	0514						10		C 1.1						
GOES		0808	0815	0821						13		C 1.3						
HOLL		1605E	1605U	1630D	S38	W06		10	24.2	25D	SF		2	E		25		F
HOLL		1636E	1637U	1730D	N18	E08	6331	10	25.3	54D	SF	C 2.3	2	E		20		
HOLL		1824	1824	1835	S13	E47	6337	10	28.3	11	SF		3	E		11		
PALE		1835	1835	1841	S09	W86	6322	10	18.3	6	SF		3	E		16		
PALE		1938	2000	2009	S13	E45	6337	10	28.2	31	SF		3	E		21		FH
HOLL		1939E	1955	2045	S13	E45	6337	10	28.2	66D	SF	C 1.7	3	E		47		F
HOLL		2134	2134	2143	S16	E48	6337	10	28.5	9	SF		3	E		14		F
HOLL		2141	2151	2409	N23	W16	6327	10	23.7	148	SF		3	E		72		F
HOLL		2141	2245	2409	N23	W16	6327			148	SF			E		28		K
PALE		2151	2155	2208	N23	W19	6327	10	23.4	17	SF		3	E		36		F
HOLL		2154	2201	2226	S17	E49	6337	10	28.6	32	SF	C 1.9	4	E		23		F
PALE		2201	2202	2209	S15	E48	6337	10	28.5	8	SF		3	E		45		F
LEAR		2224E	2224U	2230	N22	W20	6327	10	23.4	6D	SF		3	E		19		
LEAR		2240	2304	2348	N23	W17	6327	10	23.6	68	SF		3	E		31		F
PALE		2300	2303	2332	N19	W22	6327	10	23.3	32	SF		3	E		20		F
LEAR		2355	2356	2356D	S15	E43	6337	10	28.2	1D	SF	C 1.3	3	E		17		F

Hα S O L A R F L A R E S

OCTOBER 1990

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	24	2356	2358	2403	N22	W22	6337	10	23.3	7	SF		3	E		67		F
PALE	25	0003	0004	0009	N23	W21	6327	10	23.4	6	SF		3	E		17		
GOES		0116	0129	0138						22		C 1.7						
PALE		0308	0318	0323	S12	E41	6337	10	28.2	15	SF		3	E		17		F
GOES		0332	0337	0344						12		C 1.9						
GOES		0416	0429	0445						29		C 1.4						
LEAR		0650	0658	0733	S13	E00	6334	10	25.3	43	1F	C 2.8	3	E		134		F
LEAR		0659	0702	0717	N20	W26	6327	10	23.3	18	SF		3	E		18		
LEAR		0708	0716	0731	S15	E41	6337	10	28.4	23	SF		3	E		22		F
LEAR		0902	0902	0914	N17	W01	6331	10	25.3	12	SF	C 3.0	3	E		28		F
LEAR		0902	0902	0914	S12	W01	6334	10	25.3	12	SF		3	E		13		F
LEAR		0902	0905	0924	S11	W68	6325	10	20.3	22	SF		3	E		89		
SVTO		1104	1112	1237	N17	W05	6331	10	25.1	93	1N	C 7.5	3	E		181		F
SVTO		1136E	1149U	1232	S11	E39	6337	10	28.4	56D	SF		2	E		30		
SVTO		1249	1251	1254	N17	W06	6331	10	25.1	5	SF		2	E		18		
SVTO		1252	1252	1257	N20	W29	6327	10	23.3	5	SF		2	E		22		
GOES		1501	1529	1557						56		C 1.9						
HOLL		1558	1601	1635	N19	W05	6331	10	25.3	37	SF		3	E		64		
RAMY		1559	1611	1616	N17	W04	6331	10	25.4	17	SF	C 2.2	3	E		16		F
HOLL		1628	1629	1633	S13	E35	6337	10	28.3	5	SF		3	E		17		
HOLL		1758	1759	1803	S15	E35	6337	10	28.4	5	SF		3	E		17		
PALE		1848	1914	1930	N21	W32	6327	10	23.3	42	SF	C 1.3	3	E		23		UF
HOLL		1853	1855	1858	N19	W06	6331	10	25.3	5	SF		3	E		16		F
HOLL		1913	1914	1924	N19	W27	6327	10	23.7	11	SF		3	E		17		F
PALE		1957	1957	2001	N19	W09	6331	10	25.1	4	SF		3	E		13		F
HOLL		1957	1957	2015	N19	W07	6331	10	25.3	18	SF		3	E		24		F
HOLL		2040	2044	2217	N22	W31	6327			97	SF			E		21		K
HOLL		2040	2146	2217	N22	W31	6327	10	23.5	97	SF	C 1.8	3	E		47		F
PALE		2056	2105	2120	N21	W27	6327	10	23.8	24	SF		3	E		26		F
PALE		2120	2120	2125	N18	W29	6327	10	23.7	5	SF		3	E		14		F
HOLL		2218	2220	2229	N22	W33	6327	10	23.4	11	SF		3	E		15		F
LEAR	26	0105	0109	0124	S13	E36	6337	10	28.8	19	SF		3	E		19		
LEAR		0258	0300	0318	S38	W26	6339	10	24.0	20	SF		3	E		61		
PALE		0258	0301	0314	S37	W23	6339	10	24.3	16	1F	C 1.4	3	E		101		
LEAR		0724	0725	0735	N17	W29	6327	10	24.1	11	SF	B 8.4	3	E		19		F
SVTO		1024	1028	1032	N17	W30	6327	10	24.1	8	SF	C 1.0	3	E		30		F
SVTO		1035	1038	1041	N16	W29	6327	10	24.2	6	SF	C 1.2	2	E		46		F
GOES		1049	1058	1107						18		C 1.9						
HOLL		1428	1429	1453	N18	W21	6331	10	25.0	25	SF	B 7.9	3	E		47		F
HOLL		1649	1652	1701	S12	E18	6337	10	28.0	12	SF		3	E		73		H
RAMY		1650	1653	1701	S14	E21	6337	10	28.3	11	SF	C 1.0	3	E		29		FH
HOLL		1708	1709	1717	N21	W43	6327	10	23.4	9	SF		4	E		14		
HOLL		1731	1741	1828	S14	E21	6337	10	28.3	57	SF		3	E		24		F
PALE		1750	1800	1843	N20	W34	6327	10	24.1	53	SF		4	E		43		F
HOLL		1753	1800	1828	N20	W32	6327	10	24.3	35	SF		3	E		27		F
HOLL		1846	1853	1931	N18	W24	6331	10	24.9	45	SF		3	E		32		F
RAMY		1849	1855	1903	N17	W22	6331	10	25.1	14	SF		3	E		16		F
HOLL		1854	1857	1900	N18	W41	6327	10	23.7	6	SF		3	E		18		F
HOLL		1901	1901	1908	N21	W36	6327	10	24.0	7	SF		3	E		10		F
RAMY		2012	2013	2025	N18	W20	6331	10	25.3	13	SF	C 1.3	3	E		30		F
PALE		2016	2016	2029	N18	W22	6331	10	25.2	13	SF	C 1.3	4	E		13		F
HOLL		2018	2018	2044	N18	W24	6331	10	25.0	26	SF	C 1.3	3	E		53		F
HOLL		2337	2338	2343	N20	W58	6327	10	22.5	6	SF		3	E		32		F
LEAR		2338	2338	2343	N21	W58	6327	10	22.5	5	SF		3	E		17		
LEAR		2354	2355	2407	N19	W59	6327	10	22.5	13	SF		3	E		76		
PALE		2356	2358	2419D	N19	W61	6327	10	22.3	23D	SF	C 1.4	4	E		32		F
PALE		2356	2359	2419D	S21	W09		10	26.3	23D	SF		4	E		47		
LEAR	27	0341	0341	0359	N18	W27	6331	10	25.1	18	SF	C 1.4	3	E		29		
LEAR		0532	0541	0614	S14	E16	6337	10	28.4	42	SF		3	E		73		F
RAMY		1232	1304	1307	N24	W52	6327	10	23.5	35	SF		3	E		33		
PALE		1753	1755	1803	N19	W48	6327	10	24.1	10	SF		4	E		14		F
HOLL		1753	1802	1810	N18	W46	6327	10	24.2	17	SF		3	E		27		F
HOLL		2137	2138	2148	N18	W70	6327	10	22.6	11	SF	C 1.8	3	E		57		F
HOLL		2222	2225	2234	N16	W17	6335	10	26.6	12	SF		3	E		14		F
GOES		2354	2401	2423						29		C 1.0						

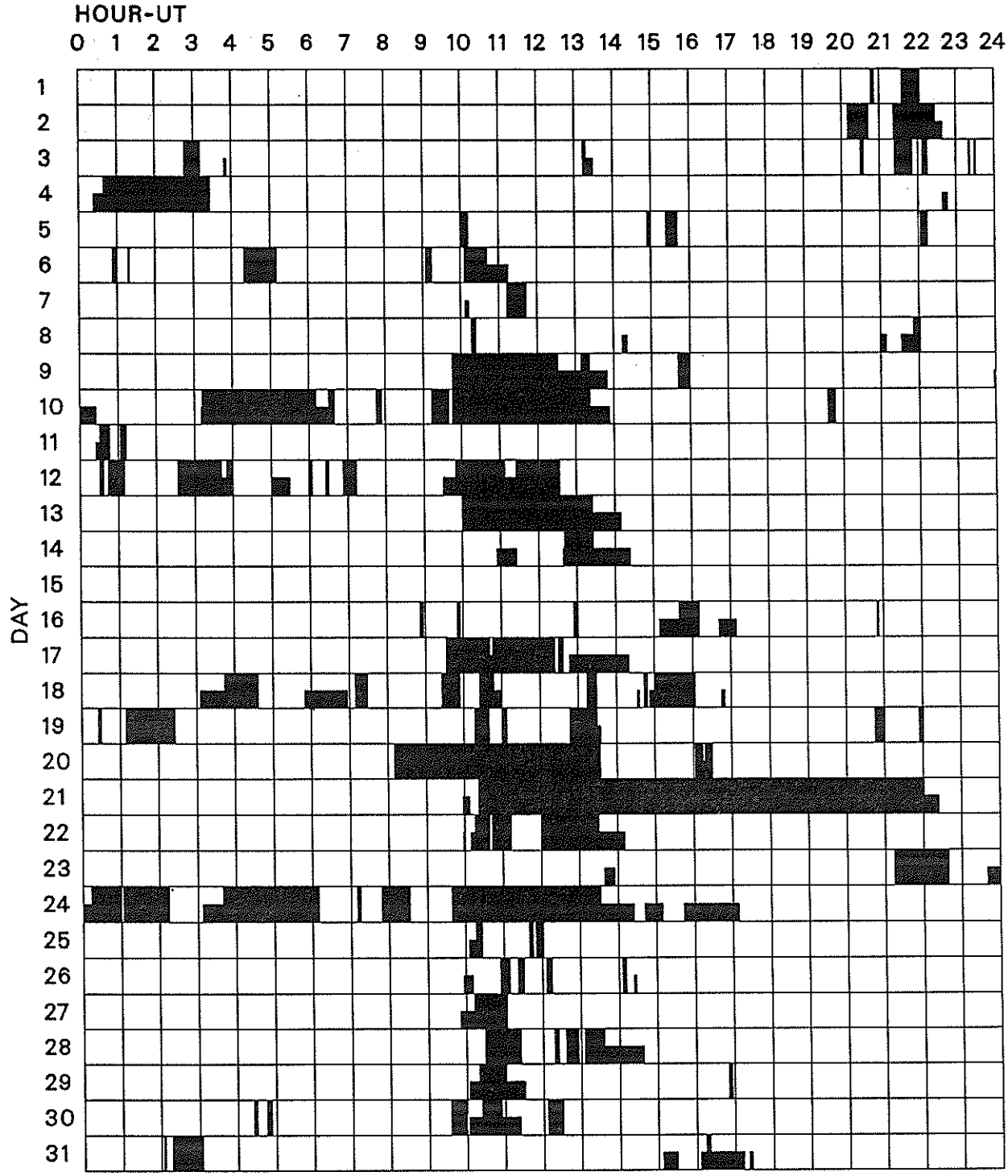
Hα S O L A R F L A R E S

OCTOBER 1990

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	28	0643	0646	0648						5		B 8.6						
LEAR		0828	0833	0855	N09	E53	6343	11	1.3	27	SF		3	E		17		
SVTO		0905E	0905U	1017	N08	E55	6343	11	1.5	72D	SF		3	E		39		
LEAR		0910	0911	0916	N20	W71	6327	10	22.9	6	SF		3	E		31		
HOLL		1454	1455	1505	N16	W26	6335	10	26.6	11	SF		3	E		56		F
GOES		1621	1627	1632						11		B 7.9						
GOES		1708	1711	1715						7		B 7.3						
HOLL		1719	1720	1724	N17	W63	6327	10	23.9	5	SF		3	E		10		
HOLL		1803	1808	1815	N18	W65	6327	10	23.8	12	SF		3	E		14		
HOLL		2309	2312	2331	N17	W57	6327	10	24.6	22	SF	C 1.2	3	E		43		F
PALE		2309	2315U	2333	N17	W58	6327	10	24.5	24	SF	C 1.2	3	E		66		F
LEAR		2311	2324	2324	N18	W58	6327	10	24.5	13	SF		3	E		36		F
PALE		2333	2334	2346	N18	W70	6327	10	23.6	13	SF	C 1.6	3	E		34		
LEAR		2336	2337	2345	S16	W10	6337	10	28.2	9	SF		3	E		17		F
PALE		2336	2337	2347	S17	W08	6337	10	28.4	11	SF		3	E		26		F
LEAR	29	0038	0040	0044	N18	W68	6327	10	23.8	6	SF		3	E		16		
GOES		0100	0128	0134						34		C 2.9						
LEAR		0101	0102	0123	S17	W11	6337	10	28.2	22	SF		3	E		31		F
LEAR		0243	0310	0341	N15	W68	6327	10	24.0	58	SF	C 7.7	3	E		47		F
PALE		0308	0320	0331	N16	W68	6327	10	24.0	23	SF		1	E		34		F
LEAR		0647	0657	0702	N19	W72	6327	10	23.8	15	SF	C 1.2	3	E		19		F
LEAR		0709	0710	0714	S16	W14	6337	10	28.2	5	SF	C 1.1	3	E		16		F
LEAR		0947	0948	0958	N18	W74	6327	10	23.8	11	SF	C 1.3	3	E		19		
RAMY		1253	1256	1300	N18	W75	6327	10	23.8	7	SF	C 4.5	3	E		16		
GOES		1807	1941	2020						133		C 1.6						
HOLL		2109	2110	2120	S15	W21	6337	10	28.3	11	SF	B 9.2	3	E		28		F
PALE		2111E	2114	2117	S17	W21	6337	10	28.3	6D	SF		3	E		20		F
PALE		2301	2301U	2309	N20	W70	6327	10	24.6	8	SF		3	E		13		
HOLL		2303	2304	2306	N19	W69	6327	10	24.7	3	SF	B 8.2	3	E		17		
LEAR	30	0411	0412	0418	S15	W26	6337	10	28.2	7	SF		3	E		56		F
GOES		0529	0540	0552						23		C 2.4						
GOES		0939	1003	1014						35		C 1.1						
GOES		1102	1200	1222						80		C 1.1						
GOES		1236	1251	1303						27		C 1.5						
GOES		1340	1352	1411						31		C 1.5						
GOES		1424	1435	1455						31		C 1.5						
HOLL		1521	1541	1602	S16	W34	6337	10	28.1	41	SF		3	E		12		
HOLL		1522	1522	1531	S16	E82		11	5.8	9	SF		3	E		34		
HOLL		1522	1541	1602	S16	W34	6337	10	28.1	40	SF		3	E		12		
HOLL		1652	1652	1702	S03	E52	6345	11	3.6	10	SF		3	E		12		F
HOLL		1738	1741	1748	S23	W61	6344	10	26.0	10	SF		3	E		13		
GOES		1918	1932	2117						119		C 2.7						
HOLL		1955	2002	2021	S17	E79	6347	11	5.8	26	SF		4	E		18		
HOLL		2036	2036	2045	S04	E57	6345	11	4.1	9	SF		4	E		12		F
HOLL		2128	2130	2133	S18	E77	6347	11	5.7	5	SF		4	E		17		
HOLL		2142	2144	2149	S18	E77	6347	11	5.8	7	SF		4	E		16		
HOLL		2157	2159	2203	N21	W79	6331	10	24.8	6	SF		4	E		21		
GOES	31	0121	0126	0130						9		C 1.1						
GOES		0611	0615	0617						6		C 1.0						
SVTO		1125	1125	1130	S16	W48	6337	10	27.8	5	SF		3	E		14		
RAMY		1205	1206	1221	S06	E39	6345	11	3.4	16	SF	C 1.3	3	E		11		F
HOLL		1458	1459	1550D	S14	W50	6337	10	27.8	52D	SF		2	E		13		
RAMY		1734	1735	1750	S18	E66	6347	11	5.7	16	SF		3	E		15		
PALE		1735	1745	1750	S17	E71	6347	11	6.1	15	SF		3	E		23		
HOLL		1904	1907	1909	S15	W46	6337	10	28.3	5	SF		3	E		14		
HOLL		1938	1942	2005	S18	E68	6347			27	SB			E		39		K
HOLL		1938	1949	2005	S18	E68	6347	11	6.0	27	SF		3	E		65		
PALE		1938	1953	2007	S18	E71	6347	11	6.2	29	SF	C 1.6	3	E		64		
RAMY		1948	1950	2000	S18	E67	6347	11	5.9	12	SF		3	E		42		
HOLL		2129	2129	2138	S08	E34	6345	11	3.4	9	SF		3	E		12		
HOLL		2154	2155	2212	S18	W47	6337	10	28.3	18	SN		3	E		74		U
PALE		2158	2159	2207	S15	W48	6337	10	28.3	9	SF	C 1.8	3	E		34		F
HOLL		2246	2259	2317	S21	E66	6347	11	6.0	31	SF		3	E		42		F
HOLL		2257	2300	2308	S14	W54	6337	10	27.9	11	SF		3	E		13		

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1990



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.

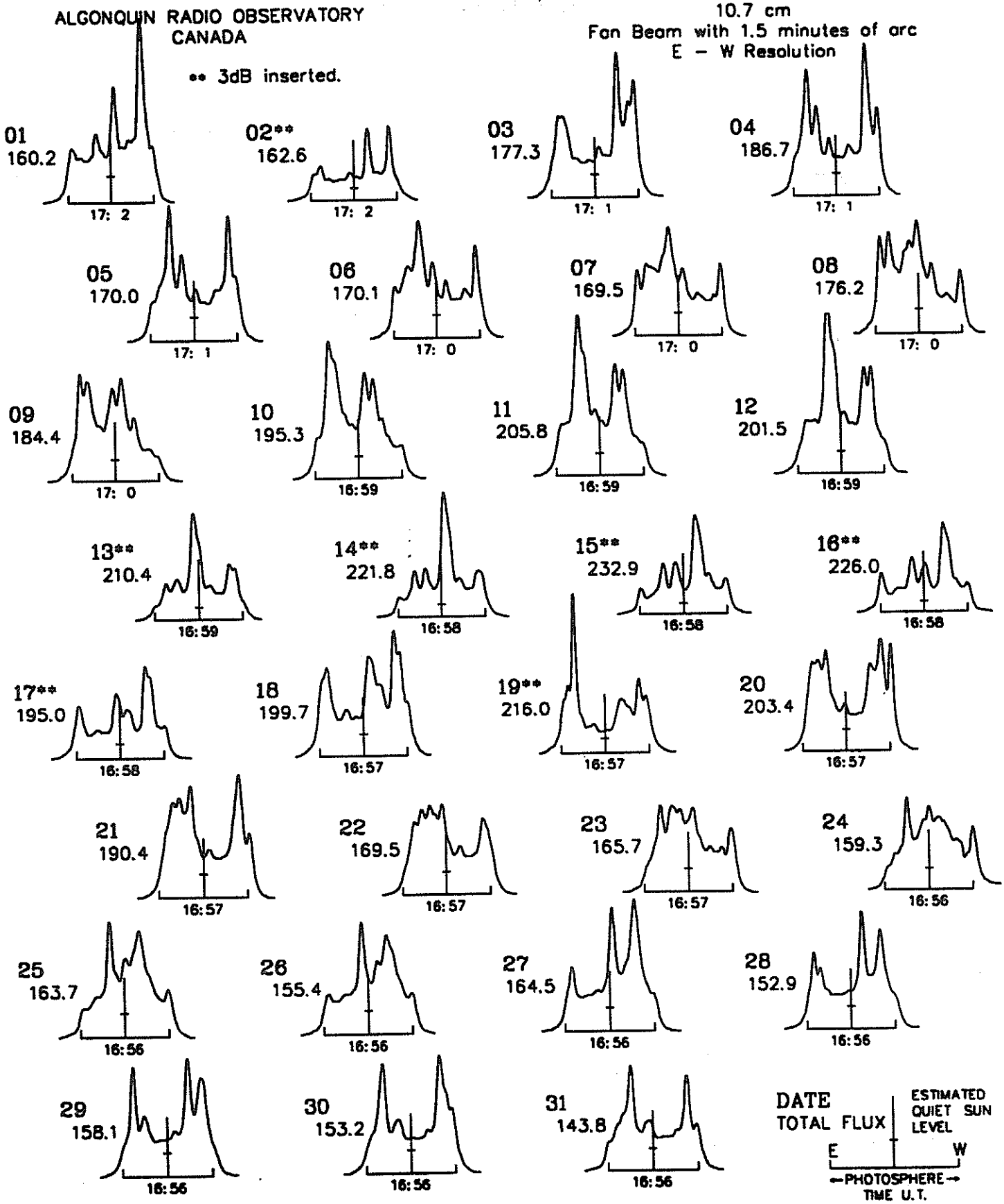
Holloman Learmonth Palehua Ramey San Vito

EAST – WEST SOLAR SCANS
OCTOBER 1990

ALGONQUIN RADIO OBSERVATORY
CANADA

** 3dB inserted.

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

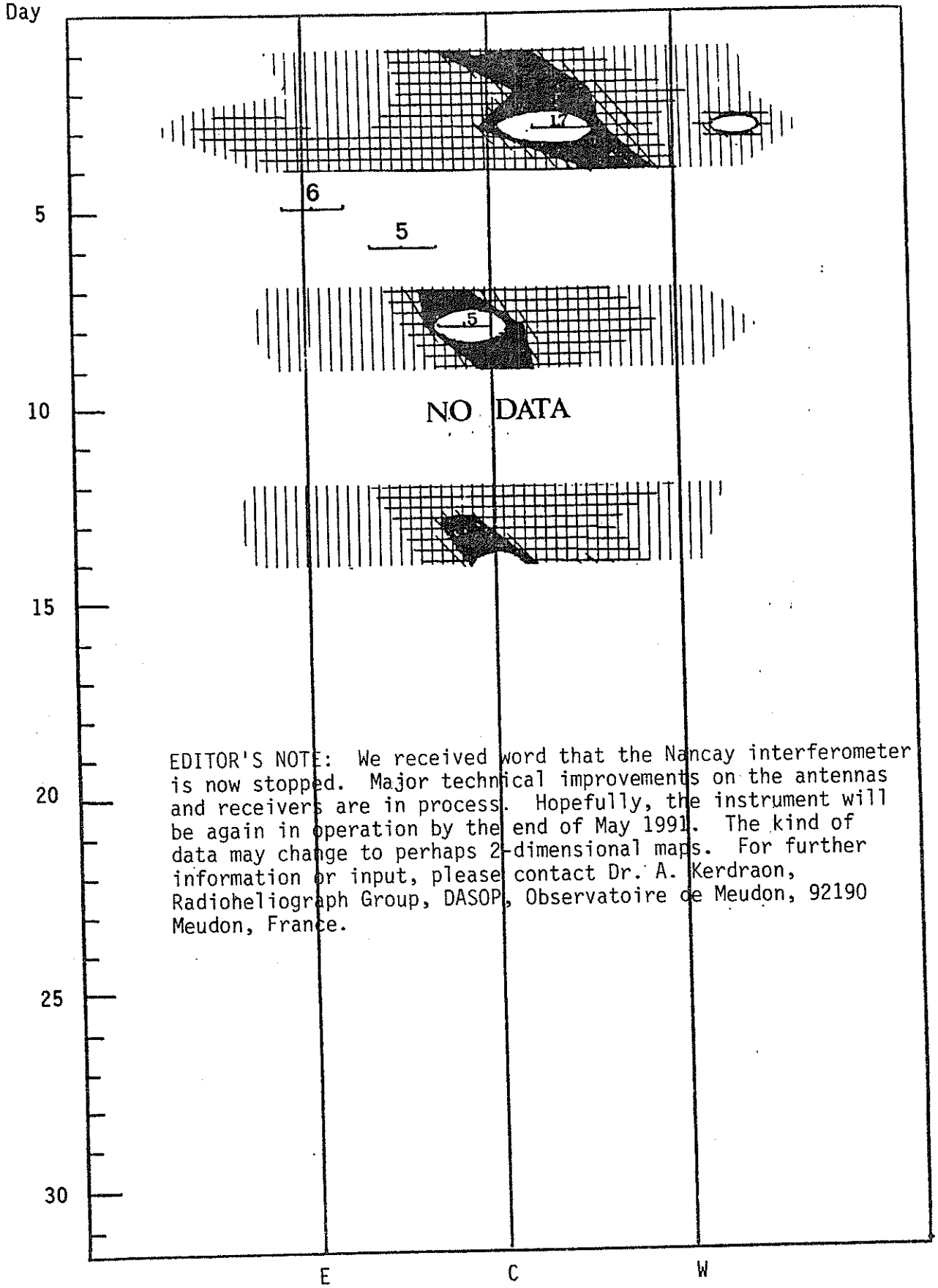


SOLAR INTERFEROMETRIC OBSERVATIONS

OCTOBER 1990

Nancay

164 MHz



EDITOR'S NOTE: We received word that the Nancay interferometer is now stopped. Major technical improvements on the antennas and receivers are in process. Hopefully, the instrument will be again in operation by the end of May 1991. The kind of data may change to perhaps 2-dimensional maps. For further information or input, please contact Dr. A. Kerdraon, Radioheliograph Group, DASOP, Observatoire de Meudon, 92190 Meudon, France.

SOLAR RADIO EMISSION
Selected Fixed Frequency Events

OCTOBER 1990

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	8800	SGMR	8	S	1319.0E	1320.0	1.0D	31.0			QL=2 ST=2 TYP=3
	2695	SGMR	8	S	1319.0E	1320.0	1.0D	82.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1319.0E	1320.0	1.0D	29.0			QL=4 ST=2 TYP=3
	2800	OTTA	4	S/F	2115.5	2116.1	1.8	25.8	7.0		
	2695	PENT	3	S	2306.7	2307.6	1.6	17.9	4.0		
	2695	PENT	4	S/F	2317.0	2317.2	1.9	37.6	8.0		
02	2695	LEAR	8	S	0133.0E	0134.0	2.0D	52.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0133.0E	0134.0	2.0D	42.0			QL=2 ST=2 TYP=3
	2800	OTTA	24	R	1911.0	2330.0	350.0D	15.3	7.0		
03	2800	OTTA	20	GRF	1627.5	1633.0	80.0	6.3	3.0		
06	2800	OTTA	20	GRF	1837.0	1841.0	59.0	3.7	1.0		
	2800	OTTA	3	S	1853.0	1856.0	10.1	9.2	3.0		
07	2800	OTTA	3	S	1857.1	1858.0	5.0	29.6	6.0		
08	2695	LEAR	8	S	0144.0E	0144.0	1.0D	13.0			QL=4 ST=2 TYP=3
	2800	OTTA	20	GRF	1553.0	1652.0	120.0	8.8	4.0		
09	2800	OTTA	20	GRF	1809.0	1914.0	195.0	17.1	8.0		
10	2800	OTTA	20	GRF	1753.5	1757.5	115.0	12.3	6.0		
11	8800	SVTO	8	S	1317.0E	1317.0	U	60.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1622.9	1623.3	2.0	12.2	3.0		
	2800	OTTA	3	S	2012.5	2014.1	7.7	41.1	8.0		
13	2800	OTTA	20	GRF	1938.0	1940.5	61.0	17.1	7.0		
15	2695	LEAR	4	S/F	0237.0E	0238.0	7.0D	110.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	0237.0E	0238.0	7.0D	100.0			QL=2 ST=2 TYP=3
	8800	LEAR	4	S/F	0238.0E	0239.0	1282.0D	26.0			QL=4 ST=1 TYP=3
16	2695	LEAR	8	S	0347.0E	0347.0	1.0D	44.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0347.0E	0347.0	1.0D	47.0			QL=4 ST=2 TYP=3
17	8800	LEAR	8	S	0649.0E	0650.0	1.0D	82.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1250.0E	1257.0	8.0D	40.0			QL=4 ST=3 TYP=3
	2800	OTTA	4	S/F	1323.3	1324.4	3.8	15.6	3.0		
18	8800	LEAR	8	S	0053.0E	0053.0	1.0D	34.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0053.0E	0053.0	1.0D	19.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0605.0E	0606.0	2.0D	150.0			QL=4 ST=2 TYP=3
	8800	SVTO	49	GB	0605.0E	0606.0	4.0D	850.0			QL=4 ST=2 TYP=6
	2695	SVTO	8	S	0605.0E	0606.0	2.0D	170.0			QL=4 ST=2 TYP=3
	8800	LEAR	49	GB	0606.0E	0606.0	2.0D	820.0			QL=4 ST=2 TYP=6
	8800	LEAR	4	S/F	0947.0E	0948.0	3.0D	110.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0947.0E	0947.0	1.0D	25.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0947.0E	0948.0	2.0D	30.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0947.0E	0948.0	4.0D	120.0			QL=4 ST=2 TYP=3
	2800	OTTA	20	GRF	1505.0	1515.0	51.0	3.8	2.0		
	2800	OTTA	3	S	1526.0	1527.8	5.4	15.9	3.0		
	8800	SGMR	8	S	1527.0E	1527.0	U	80.0			QL=4 ST=3 TYP=3
	2800	OTTA	4	S/F	2006.3	2007.7	2.8	10.6	2.0		
19	2800	OTTA	20	GRF	1246.0	1358.5	150.0	8.7	4.0		
	8800	SGMR	8	S	1403.0E	1403.0	U	60.0			QL=4 ST=2 TYP=3
	2800	OTTA	3	S	1657.2	1658.0	1.6	35.1	14.0		
	2800	OTTA	29	PBI	1658.8	1658.8	150.0	8.2	4.0		
	2800	OTTA	3	S	1706.9	1713.6	14.1	25.3	8.0		
	2695	SGMR	4	S/F	1710.0E	1713.0	4.0D	40.0			QL=2 ST=2 TYP=5
20	2695	LEAR	8	S	0204.0E	0206.0	2.0D	36.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0446.0E	0452.0	11.0D	170.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0447.0E	0451.0	11.0D	120.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0916.0E	0916.0	U	51.0			QL=4 ST=2 TYP=3
	8800	PALE	49	GB	1757.0E	1801.0	14.0D	1300.0			QL=2 ST=2 TYP=7

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

OCTOBER 1990

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
20	2800	OTTA	3	S	1757.6	1801.8	8.4	374.0	112.0		
	8800	SGMR	49	GB	1758.0E	1801.0	9.0D	1400.0			QL=4 ST=2 TYP=6
	2695	SGMR	4	S/F	1759.0E	1801.0	5.0D	390.0			QL=2 ST=2 TYP=3
	2695	PALE	4	S/F	1759.0E	1801.0	11.0D	370.0			QL=2 ST=2 TYP=5
	2800	OTTA	29	PBI	1806.0	1806.0	160.0	25.2	12.0		
	2800	OTTA	3	S	1806.1	1808.0	7.2	122.0	36.0		
	2695	SGMR	8	S	1807.0E	1807.0	2.0D	100.0			QL=2 ST=2 TYP=3
	8800	SGMR	4	S/F	1807.0E	1807.0	5.0D	350.0			QL=4 ST=2 TYP=3
21	8800	SVTO	4	S/F	0554.0E	0556.0	9.0D	150.0			QL=2 ST=2 TYP=3
22	2695	LEAR	4	S/F	0616.0E	0622.0	8.0D	46.0			QL=4 ST=2 TYP=3
	2800	OTTA	22	GRF	1956.0	1956.5	43.0	28.0	6.0		
23	2695	LEAR	4	S/F	0802.0E	0805.0	6.0D	60.0			QL=2 ST=2 TYP=3
	2695	SVTO	8	S	0805.0E	0805.0	1.0D	45.0			QL=4 ST=2 TYP=3
	2800	OTTA	22	GRF	1608.0	1619.0	48.0	13.0	4.0		
24	2800	OTTA	8	S	1305.9	1306.1	0.7	12.4	4.0		
	2800	OTTA	3	S	1636.8	1637.7	3.8	5.5	2.0		
25	2800	OTTA	3	S	1557.4	1559.2	8.9	11.2	2.0		
30	2800	OTTA	20	GRF	1621.5	1727.5	120.0	4.4	2.0		
	2800	OTTA	3	S	1838.7	1839.2	2.5	3.3	1.0		

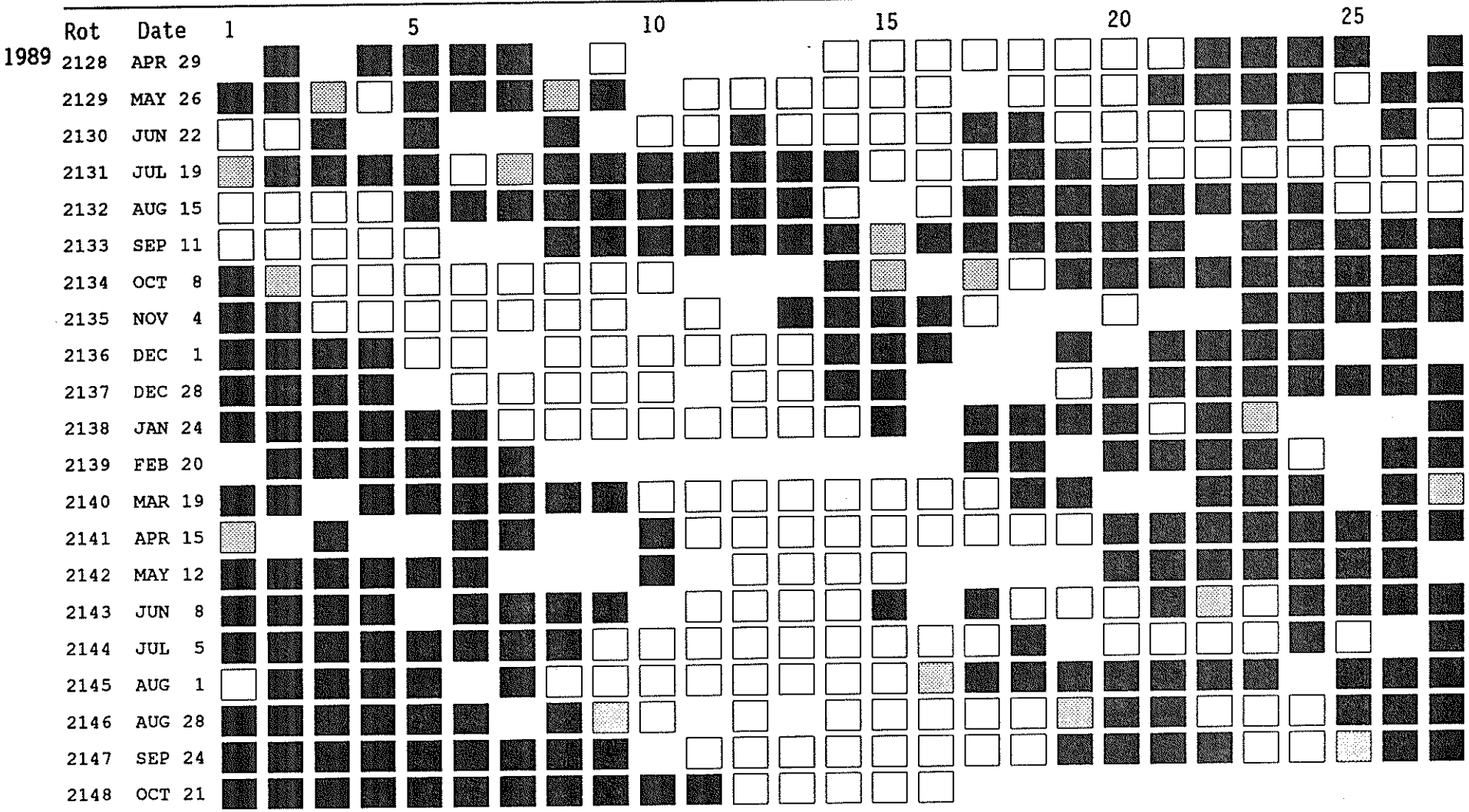
Reports are received routinely from the following observatories:
BERN = Berne LEAR = Learmonth OTTA = Ottawa PALE = Palehua PENT = Penticton SGMR = Sagamore Hill SVTO = San Vito

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	1989 Nov	Dec	1990 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct
1	-111	-113	.	128	.	84	35	-9	-4	14	-75	-80
2	-125	-79	22	150	.	47	19	-8	-13	-29	-77	-49
3	-111	-46	70	344	.	33	23	-5	-34	-27	.	.
4	-75	-11	106	99	.	4	-18	-34	-42	-38	-44	22
5	-11	43	132	69	.	-8	-24	-33	-36	-25	-2	44
6	44	60	129	23	.	-29	-25	-33	-36	.	19	49
7	54	.	.	-11	.	.	-27	.	-45	-13	.	51
8	86	84	58	.	-28	.	-38	-26	-34	3	68	36
9	97	126	23	-15	-23	-29	-33	-52	-12	26	.	41
10	103	115	-7	-8	.	-36	-15	-86	-11	43	60	33
11	107	79	-41	-14	-25	-34	-4	-83	-10	94	43	8
12	95	47	.	-9	-23	.	-9	.	-15	137	41	-10
13	.	7	.	4	-11	-8	-47	-88	17	76	14	-25
14	13	-35	.	-12	-15	0	-80	-58	32	25	5	-43
15	.	-59	5	-2	2	-2	-82	-31	78	3	-1	-9
16	-70	-62	-11	.	.	.	-80	-10	95	1	-17	24
17	-79	.	-14	.	-10	-20	-88	.	57	-34	-9	12
18	-86	.	-58	.	-45	.	.	47	10	-33	30	0
19	-38	-4	-86	-78	-63	.	.	44	26	-27	35	-62
20	4	.	-84	.	-108	-105	.	43	41	-22	23	-91
21	.	-32	-76	-142	.	-99	-29	11	20	-30	-20	-89
22	.	-70	-88	-193	-150	.	.	-4	-12	-15	-78	-87
23	17	-101	-124	-167	-124	.	25	.	.	-16	-96	-69
24	.	-103	-152	-133	-113	-21	33	-12	7	.	-112	-56
25	.	.	-184	-102	-74	23	16	7	25	-83	-121	-44
26	-52	-103	-203	-41	-62	57	3	13	50	-82	-107	-52
27	-78	.	-200	.	-34	75	.	42	10	-89	-90	-54
28	-76	-130	-140	.	9	65	.	-7	-13	-107	-82	-65
29	-92	-108	-62		45	50	.	-2	39	-131	-86	-66
30	-110	-106	3		103	50	.	8	.	-128	-103	-54
31		-94	46		94		-4		-67	-90		-31

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 **SEPTEMBER 1990** Number 555 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 1832
(4 August to 1 September 1990)

ates of Observations Below Days of Year:

Data unavailable at time of publication.

leliographic Longitude

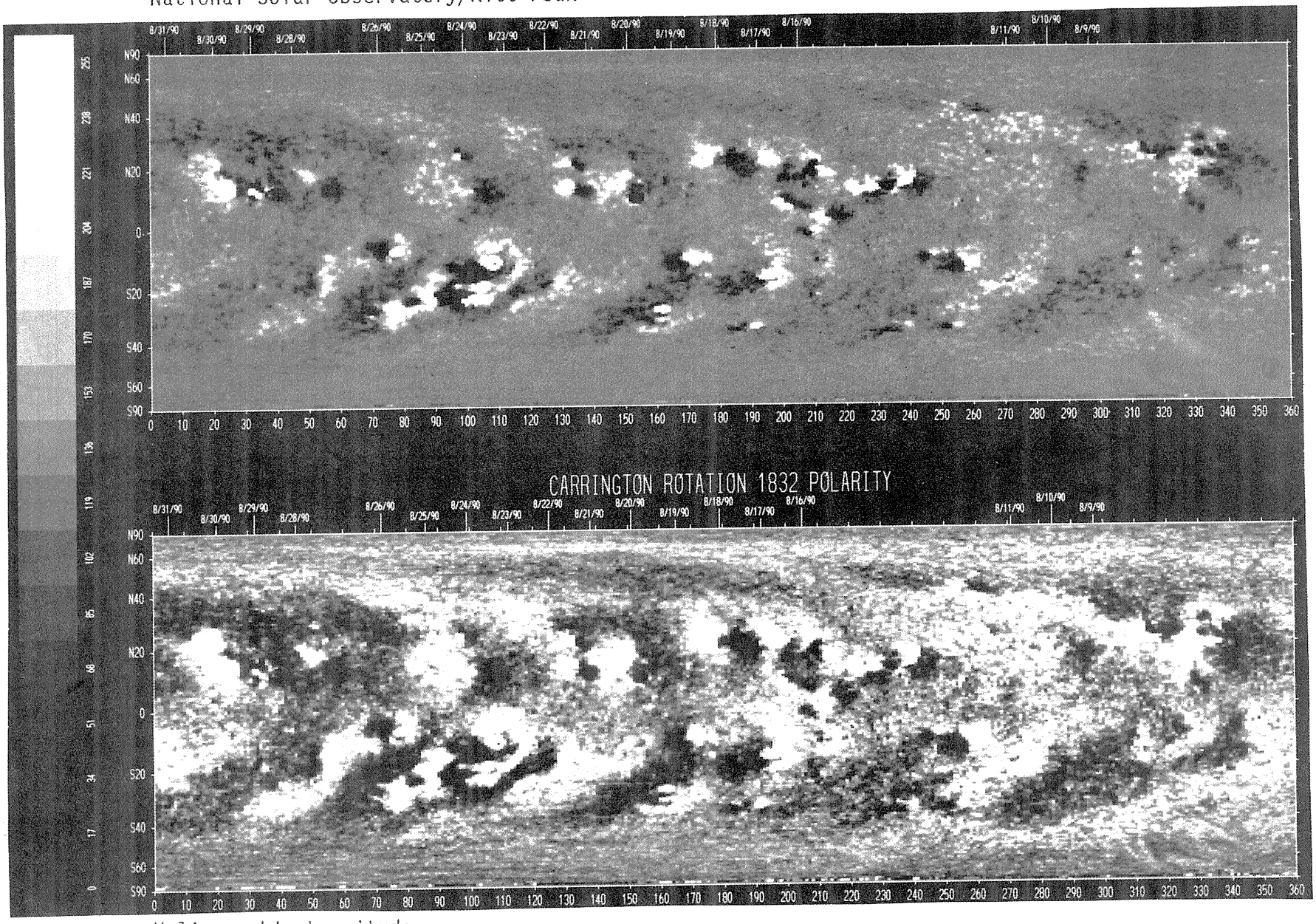
S O L A R M A G N E T I C F I E L D S Y N O P T I C C H A R T

CARRINGTON ROTATION NUMBER 1832

(4 August to 1 September 1990)

National Solar Observatory/Kitt Peak

Dates of Observation



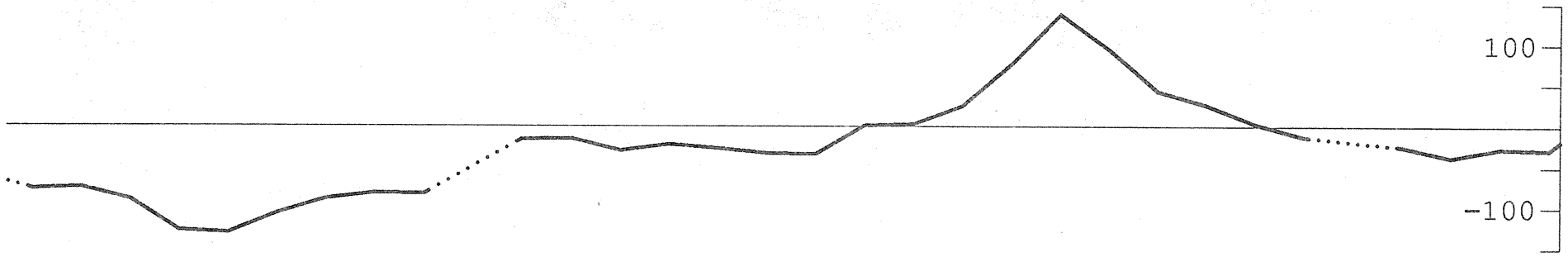
Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1832
(4 August to 1 September 1990)

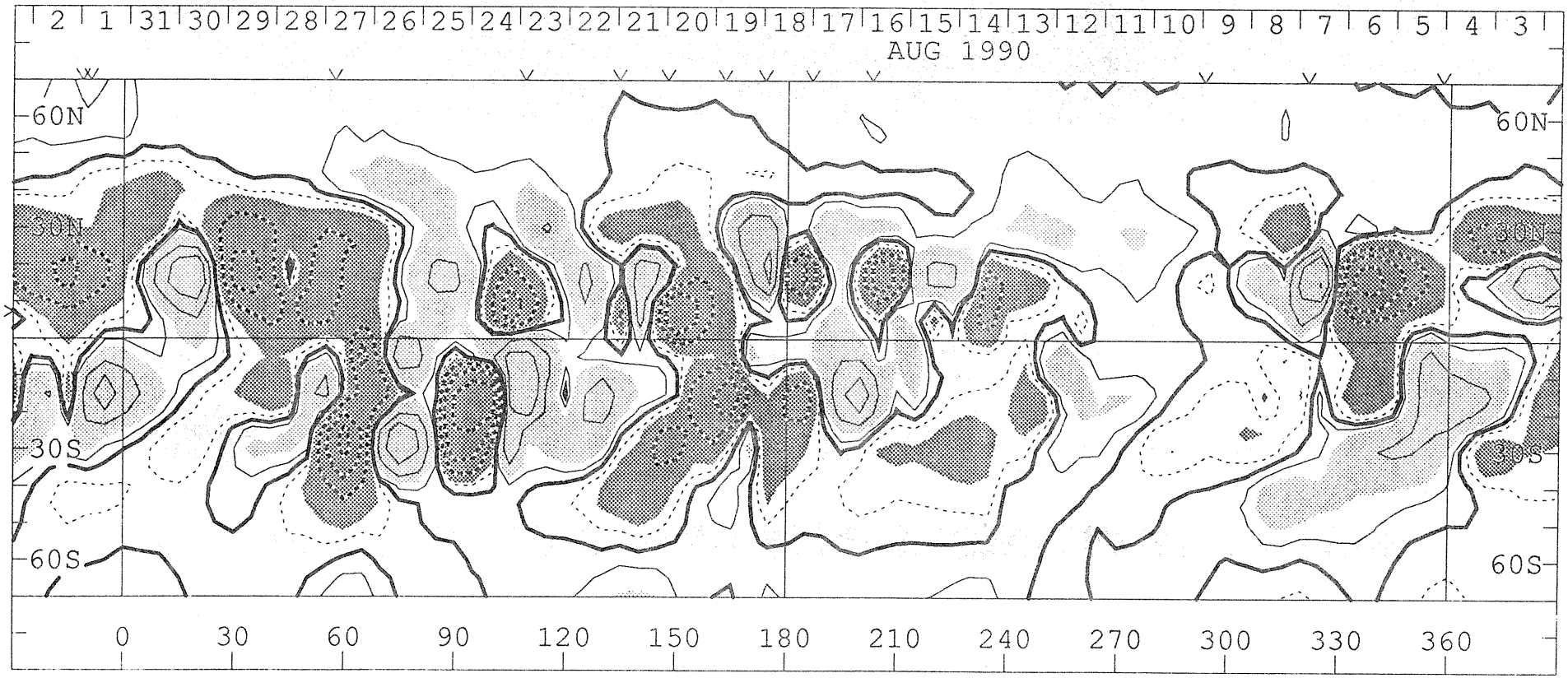
WILCOX SOLAR OBSERVATORY

Mean Field



Photospheric Magnetic Field

0, ±100, 500, 1000, 2000 MicroTesla



Heliographic Longitude

1832

SOLAR MAGNETIC FIELD SYNOPTIC CHART

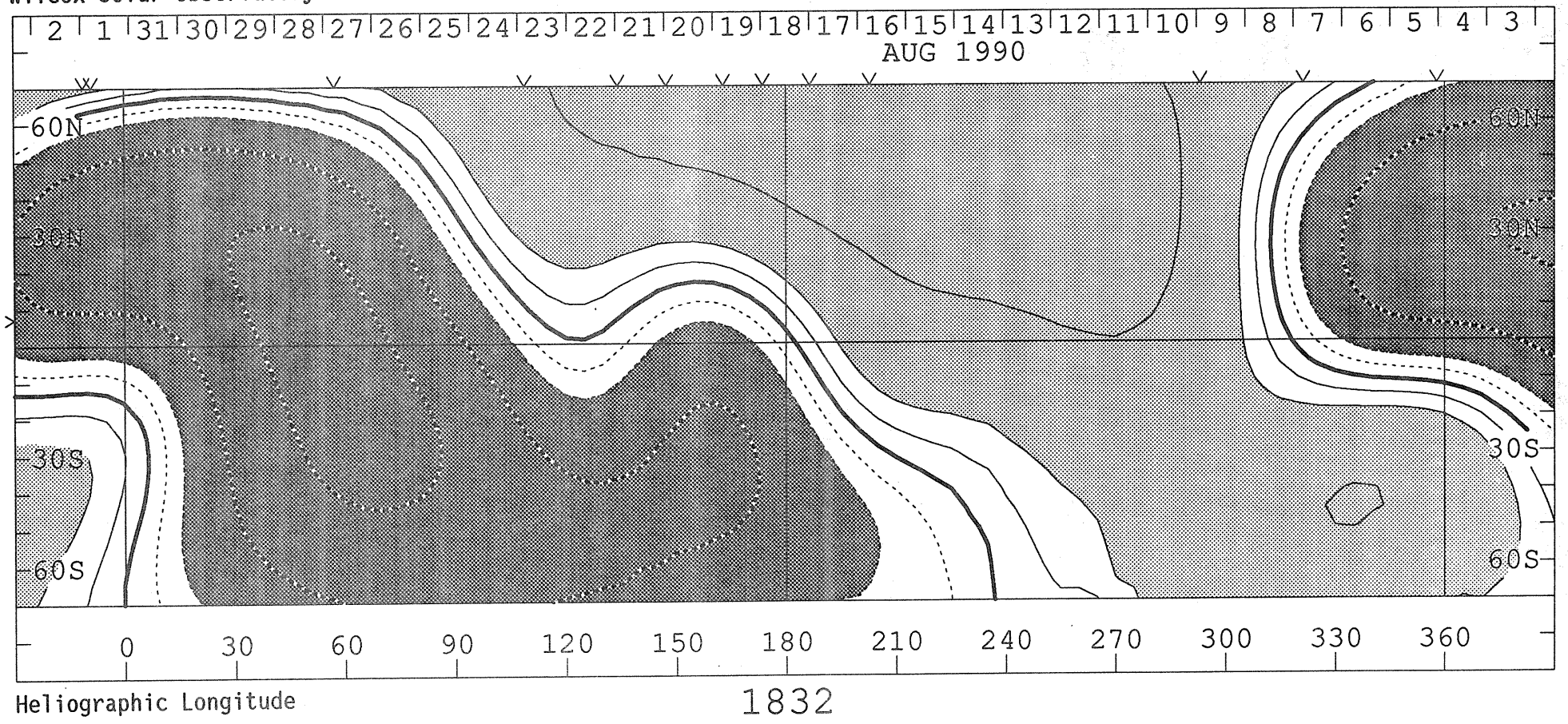
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1832

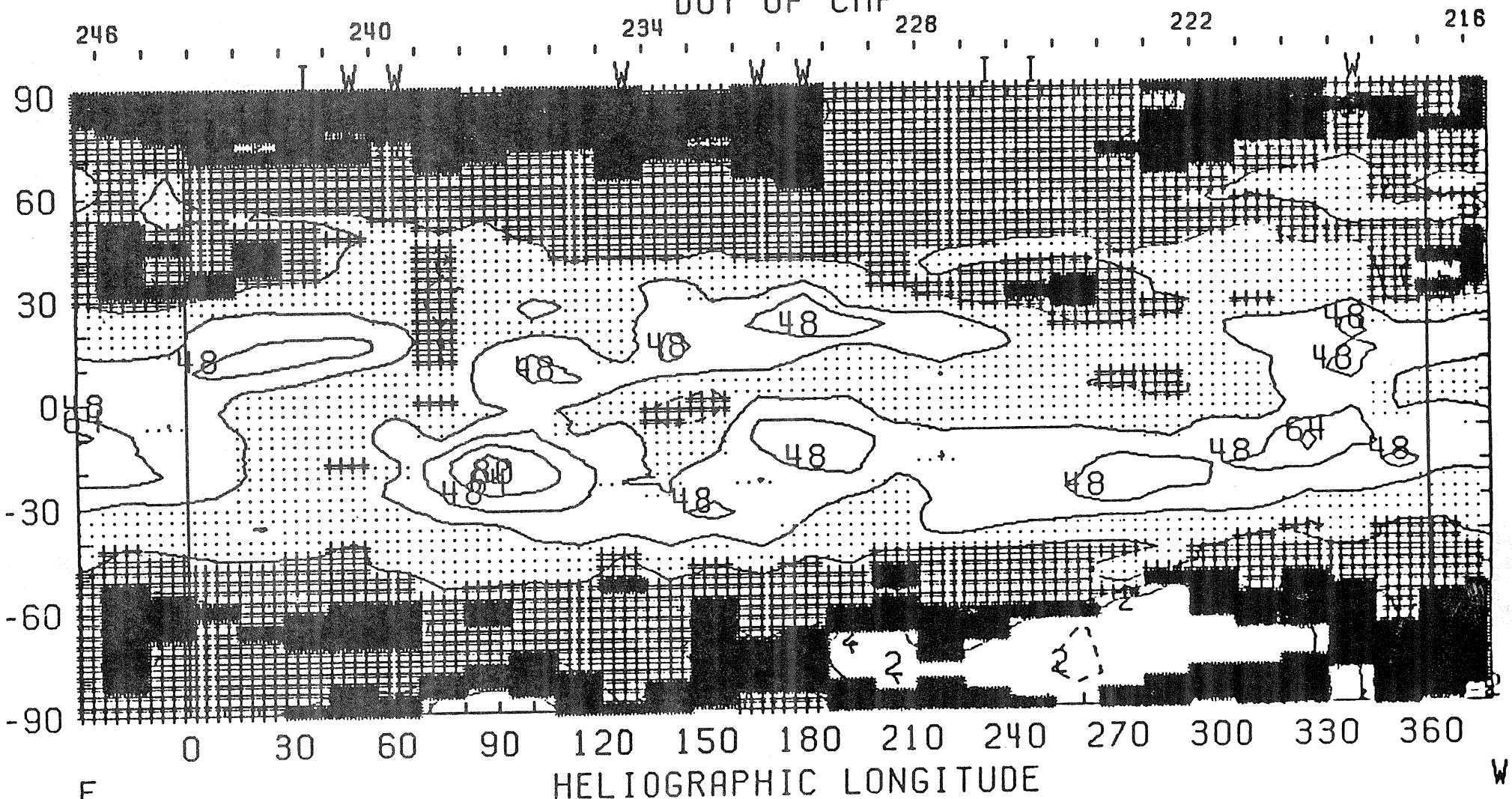
(4 August to 1 September 1990)

Wilcox Solar Observatory

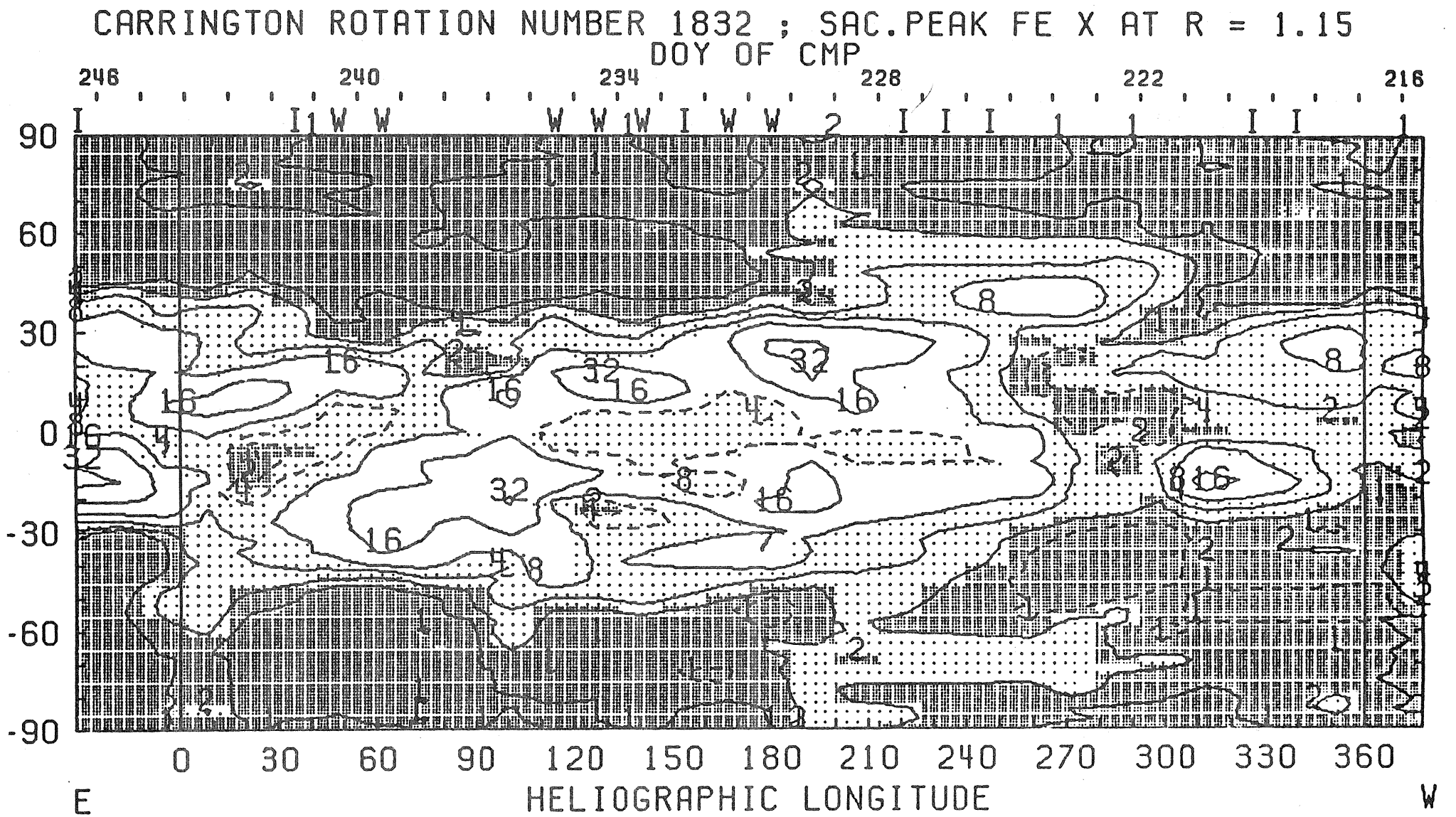
0, ±1, 2, 5, 10, 20 microTesla



CARRINGTON ROTATION NUMBER 1832 ; SAC.PEAK FE XIV AT R = 1.15



1990 E+W LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io
(13-Nov-90) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK


CARRINGTON ROTATION NUMBER 1832 ; SAC.PEAK FE X AT R = 1.15
DOY OF CMP
246
240
234
228
222
216
90
60
30
0
-30
-60
-90
0
30
60
90
120
150
180
210
240
270
300
330
360
E
HELIOGRAPHIC LONGITUDE
W
1990 E+W LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io
(13-Nov-90)

CARRINGTON ROTATION NUMBER 1832 ; SAC.PEAK CA XV at R = 1.13

DOY OF CMP

246 240 234 228 222 216

90 60 30 0 -30 -60 -90

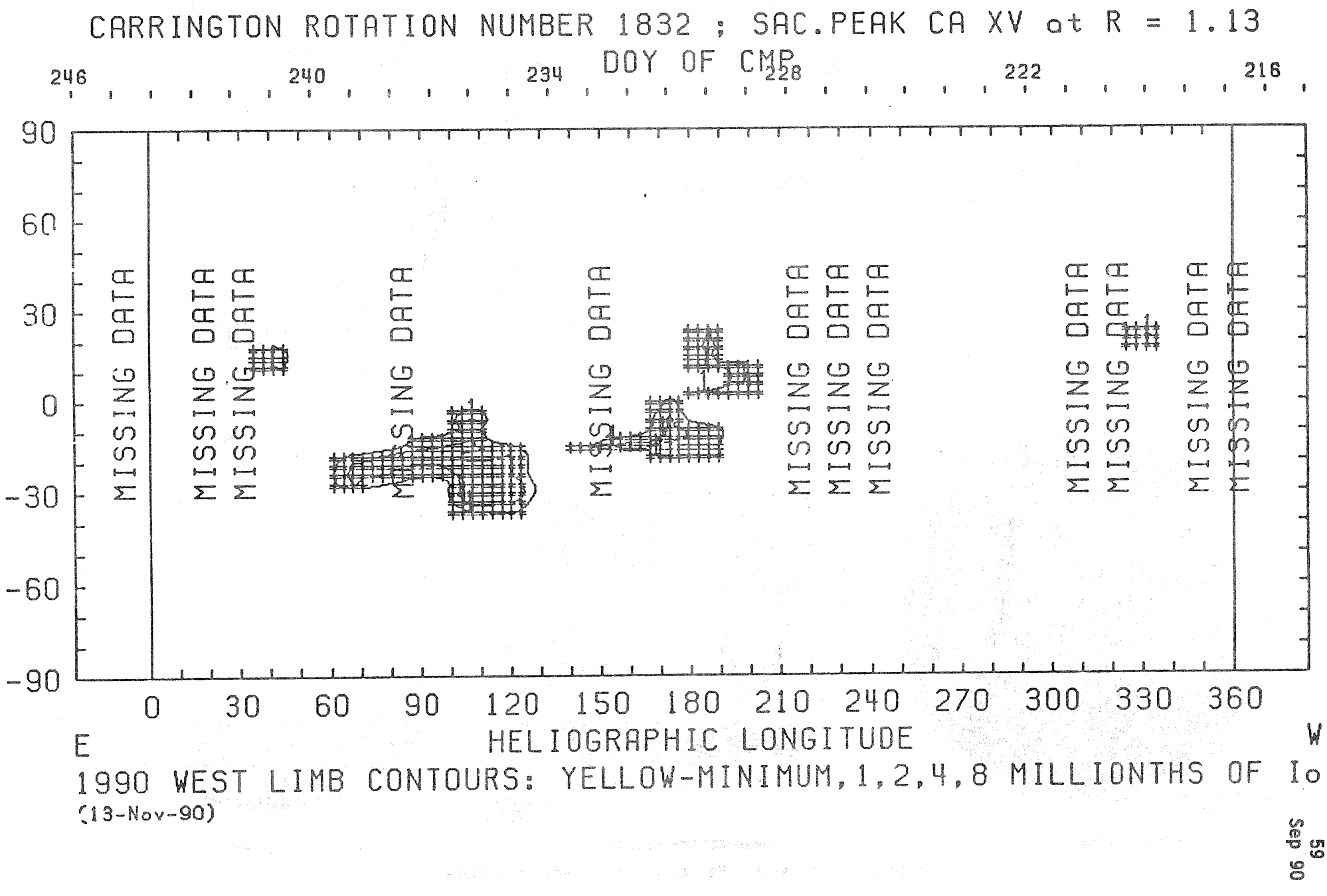
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA

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 Io

(13-Nov-90)


CARRINGTON ROTATION NUMBER 1832 ; SAC.PEAK CA XV at R = 1.13
DOY OF CMP
246
240
234
228
222
216
90
60
30
0
-30
-60
-90
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
MISSING DATA
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
(13-Nov-90)
59
Sep 90

SEPTEMBER 1, 1990 (P= 21.02, B_o = 7.18, L_o = 1.35)

sep 90

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -

N

E

NO DATA

S

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

N

2256 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.0
DeltaX = 9.6

W

16.94 -
17.87 UT

White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA

E

1553 UT

S

RAMEY SUNSPOT

6244 6239 Ramy 488 6233

6228

Ramy 487 6241 6238 6237

6242

6230

1352 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

E 10μ W

W

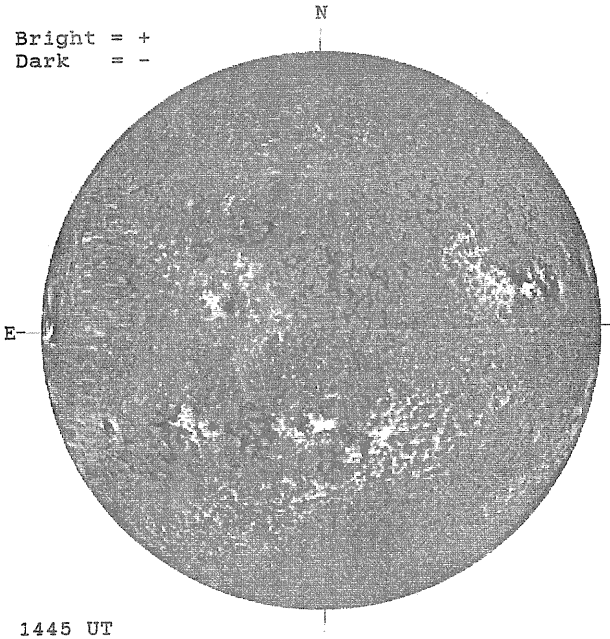
FeXIV, 2230 UT

S

SEPTEMBER 2, 1990 (P= 21.27, B_o = 7.19, L_o = 348.14)

KITT PEAK MAGNETOGRAM

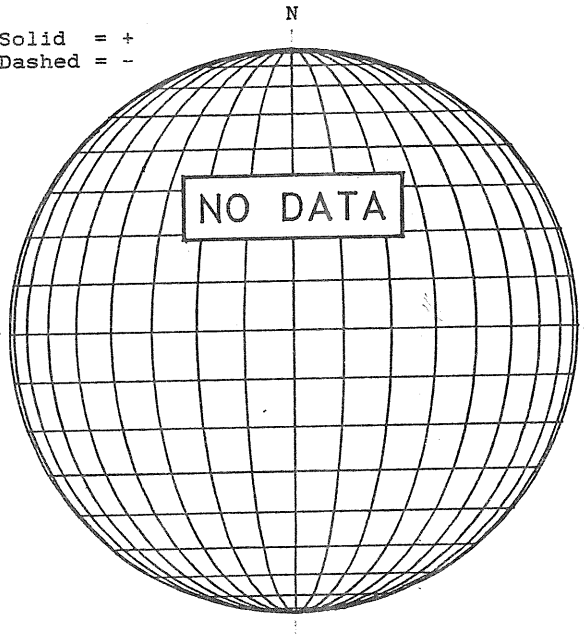
Bright = +
Dark = -



1445 UT

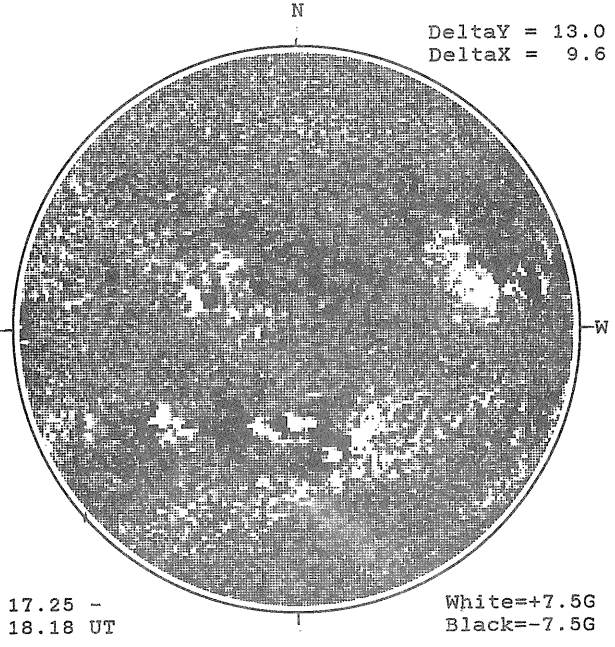
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

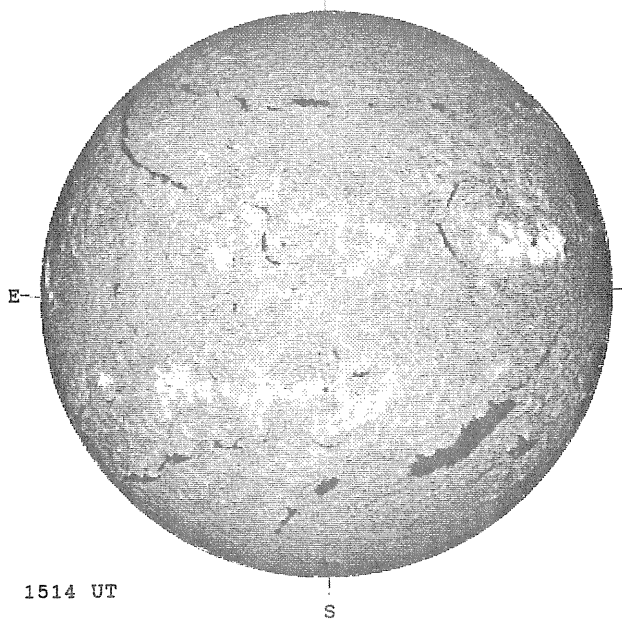
DeltaY = 13.0
DeltaX = 9.6



17.25 -
18.18 UT

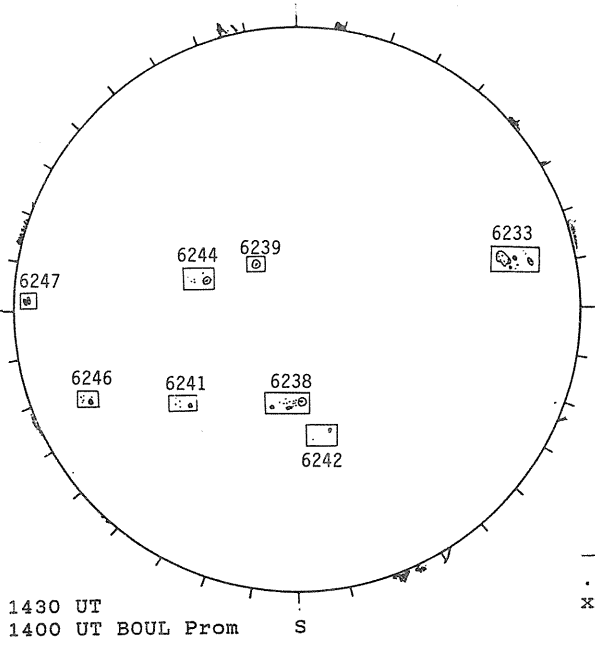
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



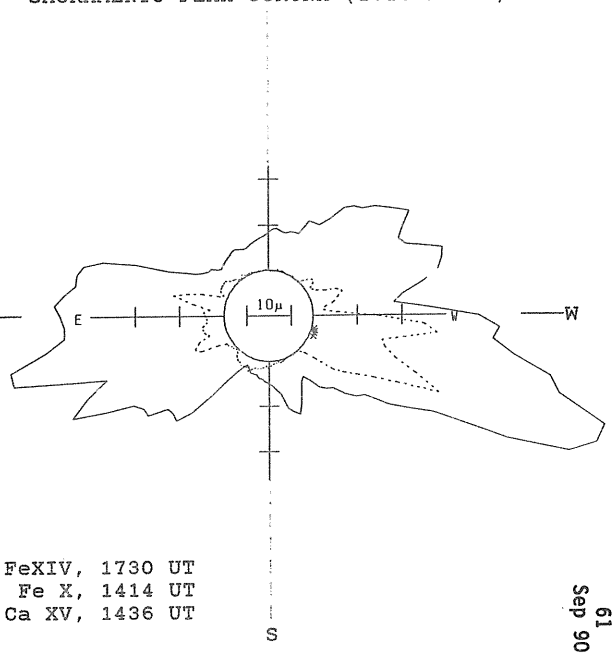
1514 UT

BOULDER SUNSPOT



1430 UT
1400 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

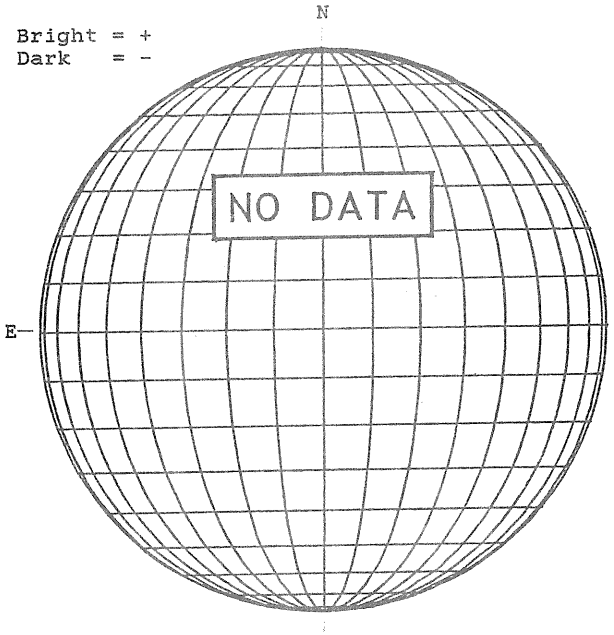


—— FeXIV, 1730 UT
.... Fe X, 1414 UT
xxxx Ca XV, 1436 UT

SEPTEMBER 3, 1990 (P= 21.52, B_o = 7.20, L_o = 334.93)

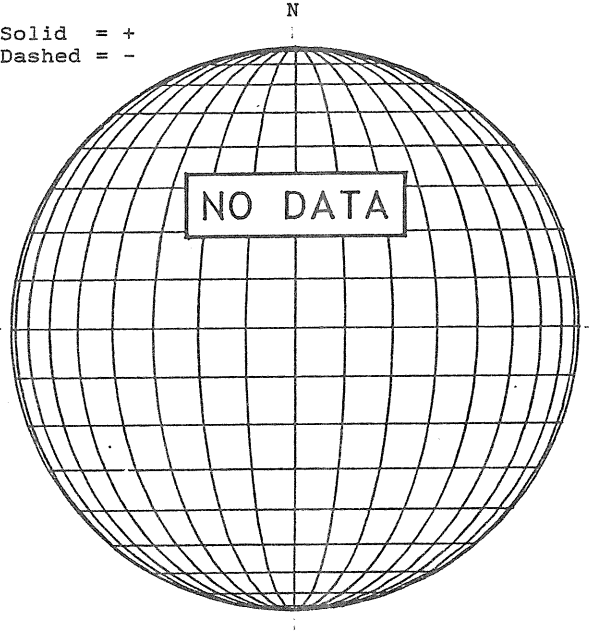
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



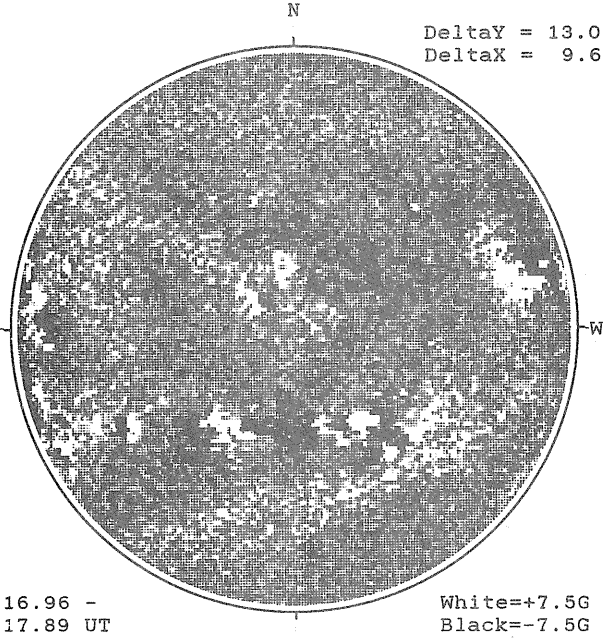
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

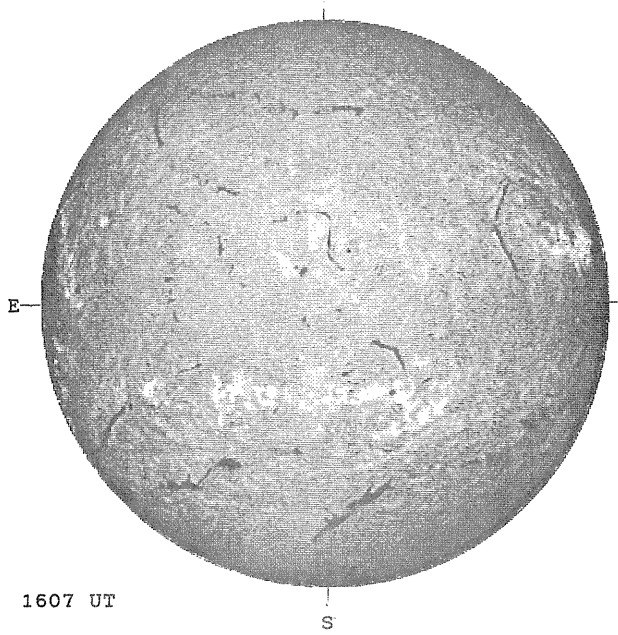
DeltaY = 13.0
DeltaX = 9.6



16.96 -
17.89 UT

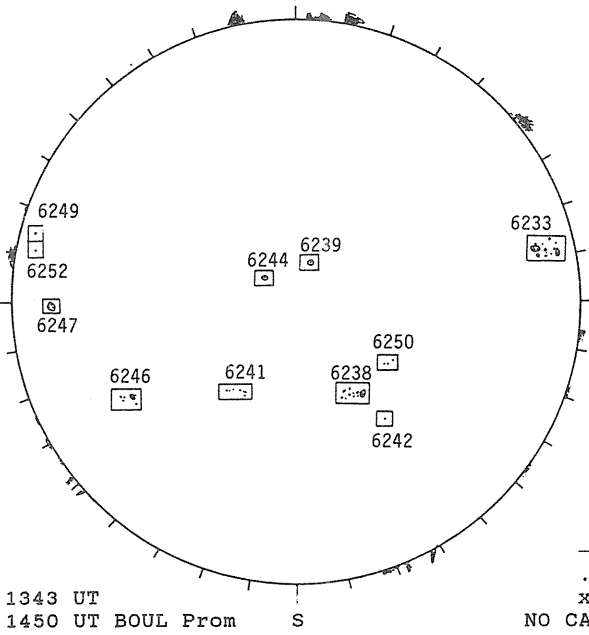
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



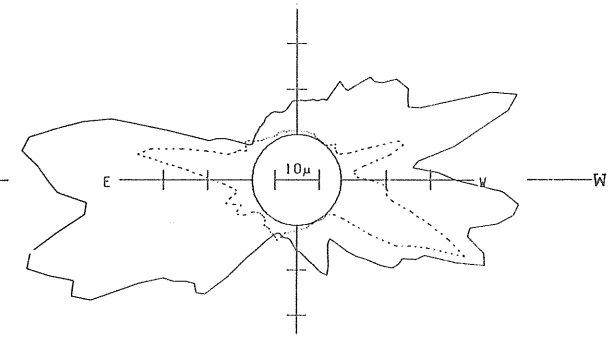
1607 UT

BOULDER SUNSPOT



1343 UT
1450 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



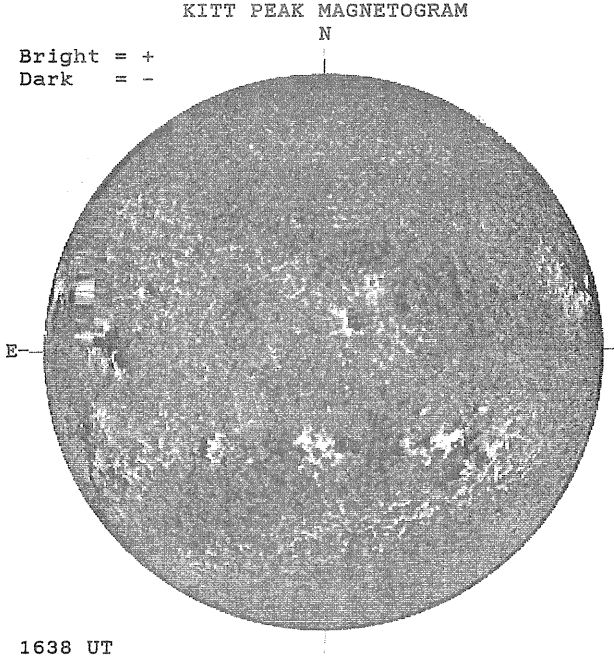
—— FeXIV, 1411 UT
.... Fe X, 1447 UT
xxxx Ca XV, 1431 UT
NO CA XV ACTIVITY TODAY

S

SEPTEMBER 4, 1990 (P= 21.76, B_o = 7.21, L_o = 321.72)

KITT PEAK MAGNETOGRAM

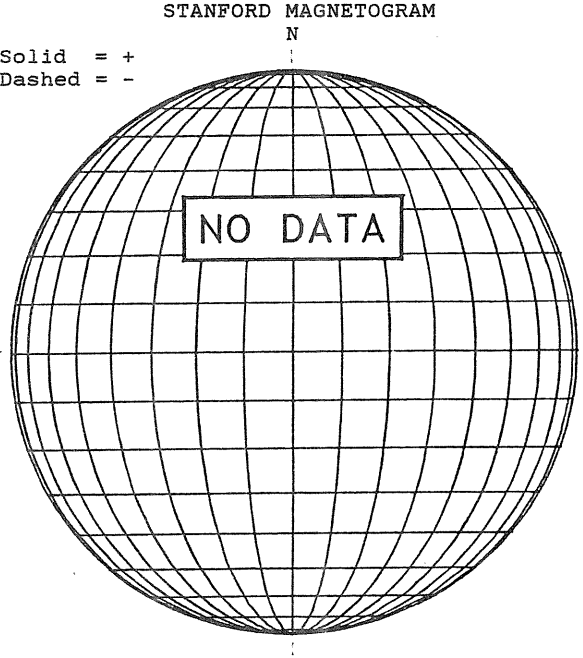
Bright = +
Dark = -



1638 UT

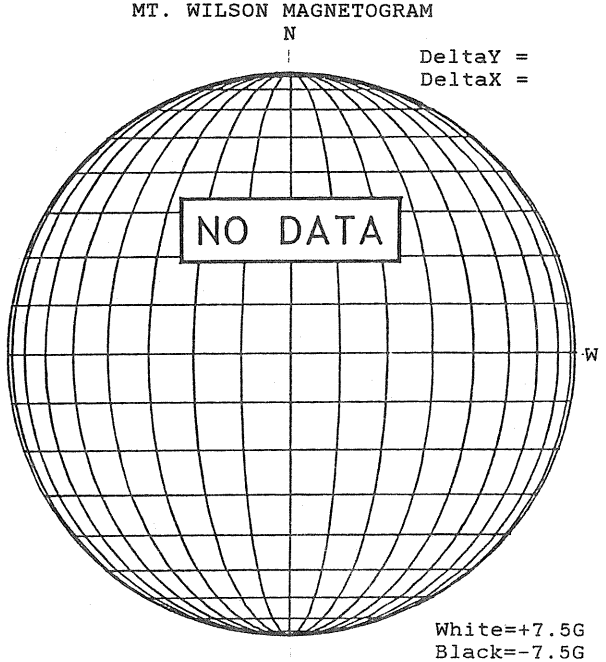
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



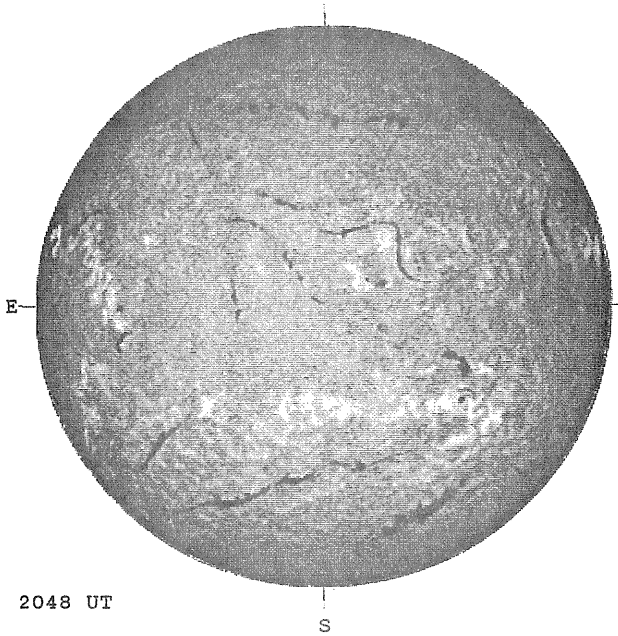
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



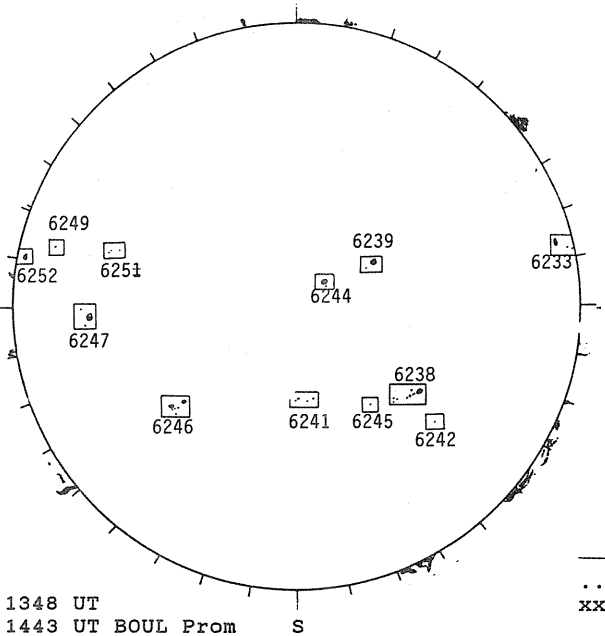
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



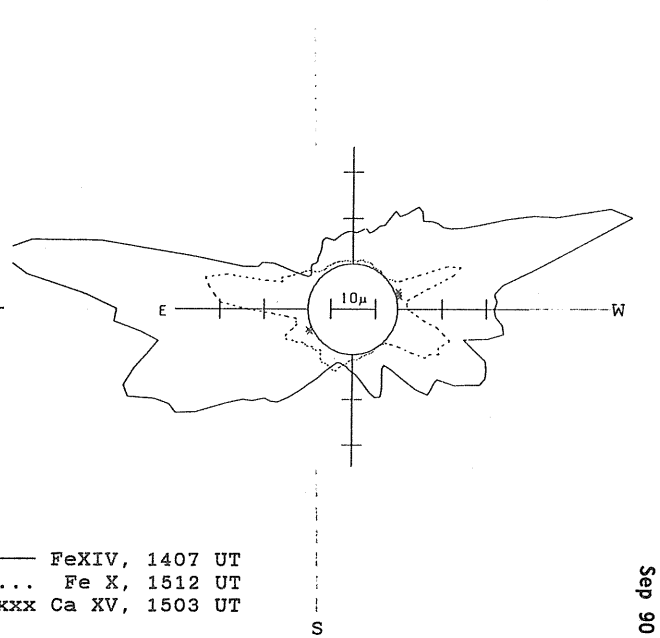
2048 UT

BOULDER SUNSPOT



1348 UT
1443 UT BOUL Prom

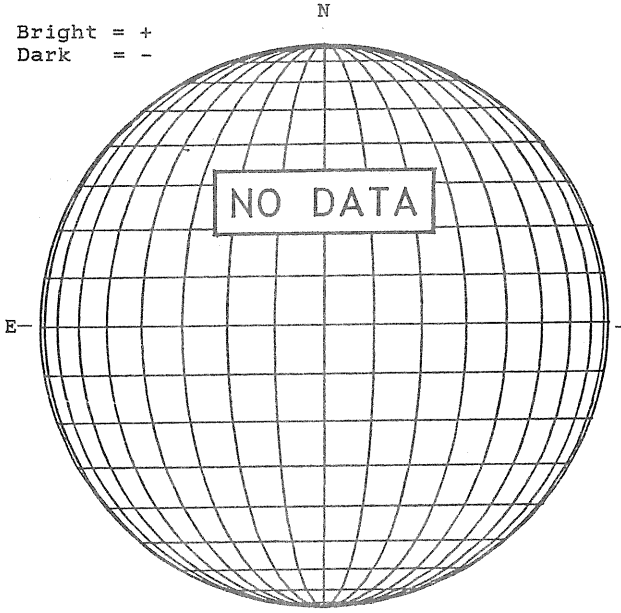
SACRAMENTO PEAK CORONA (1.15 Radii)



—— FeXIV, 1407 UT
.... Fe X, 1512 UT
xxxx Ca XV, 1503 UT

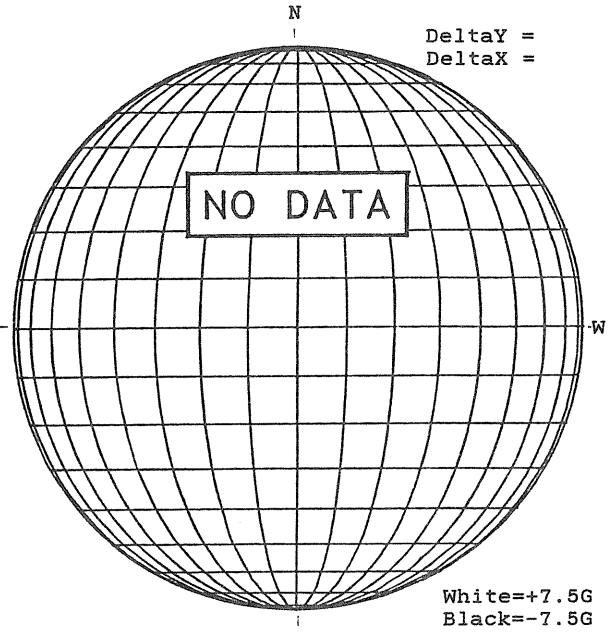
SEPTEMBER 5, 1990 (P= 21.99, B_o = 7.22, L_o = 308.51)

KITT PEAK MAGNETOGRAM

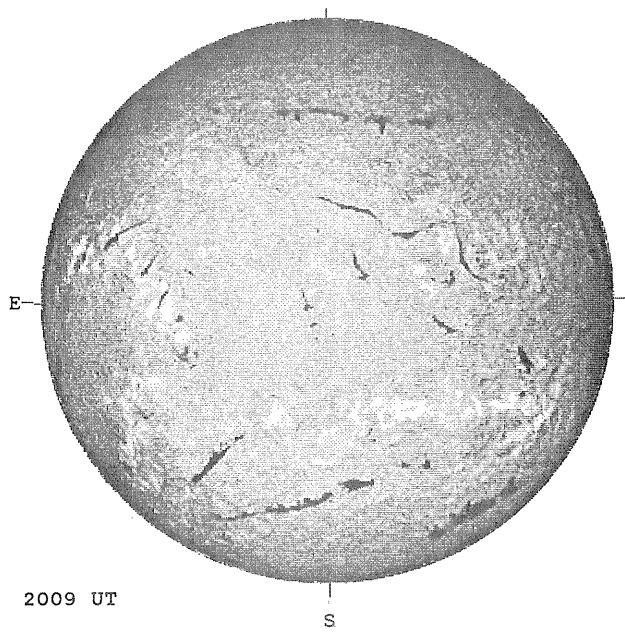


STANFORD MAGNETOGRAM

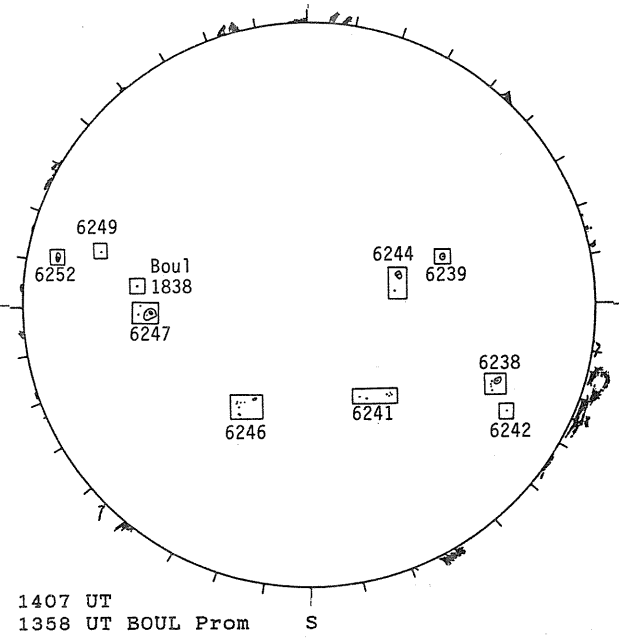
MT. WILSON MAGNETOGRAM



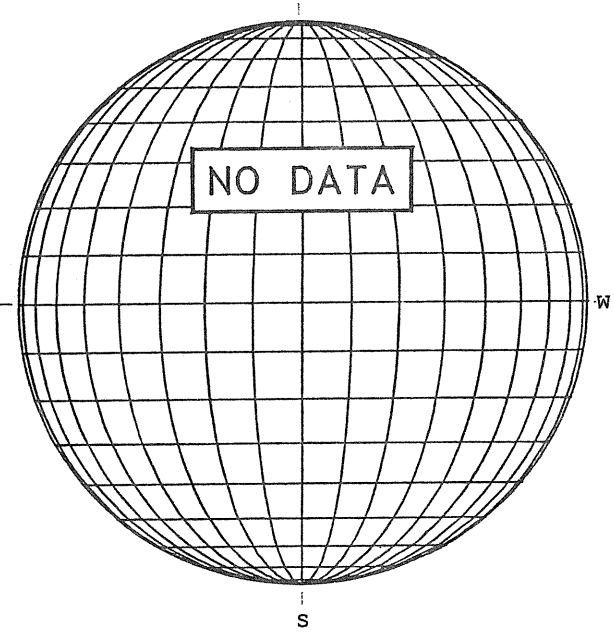
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



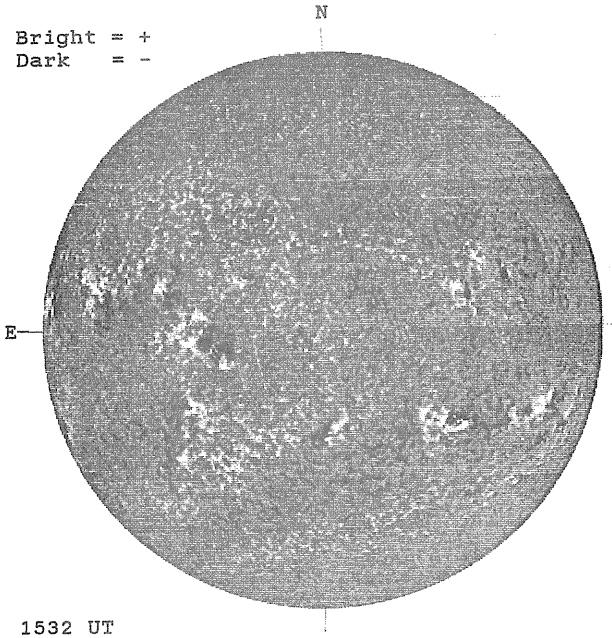
SACRAMENTO PEAK CORONA (1.15 Radii)



SEPTEMBER 6, 1990 (P= 22.22, B_o = 7.23, L_o = 295.30)

KITT PEAK MAGNETOGRAM

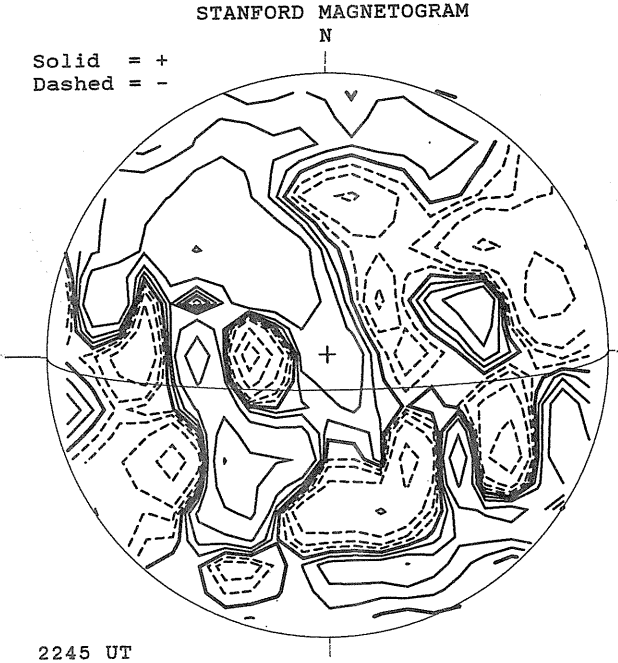
Bright = +
Dark = -



1532 UT

STANFORD MAGNETOGRAM

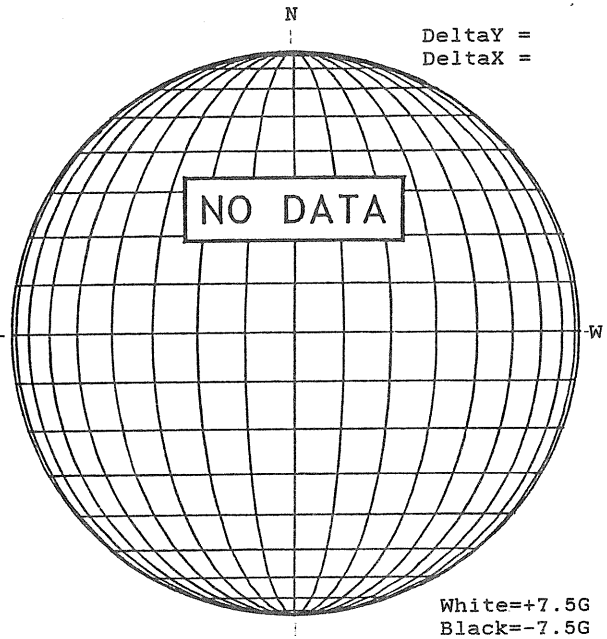
Solid = +
Dashed = -



2245 UT

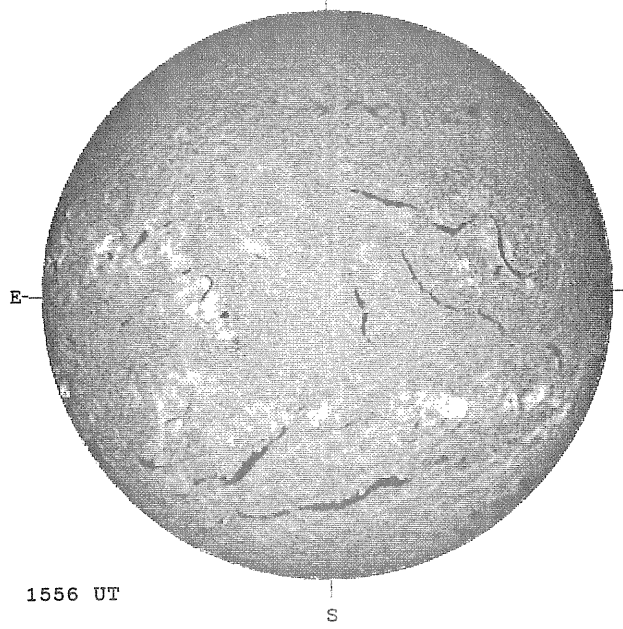
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



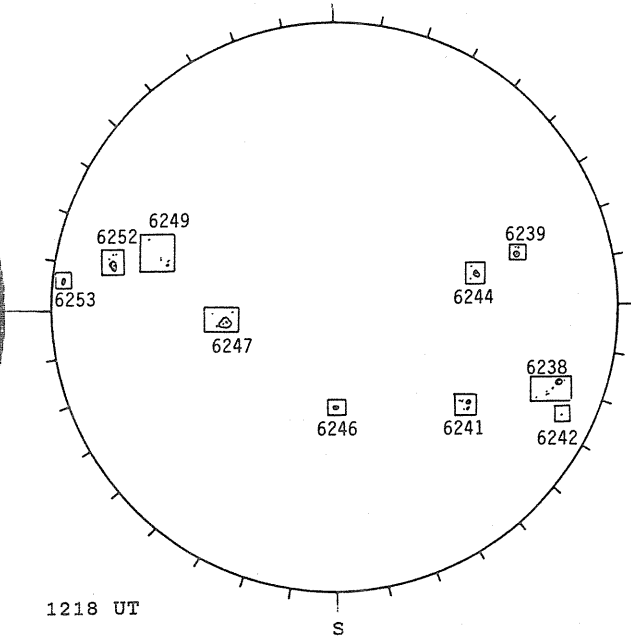
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



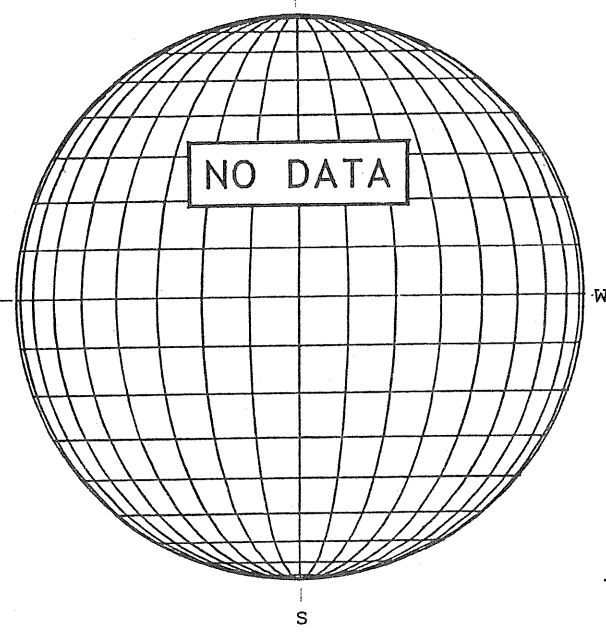
1556 UT

RAMEY SUNSPOT



1218 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

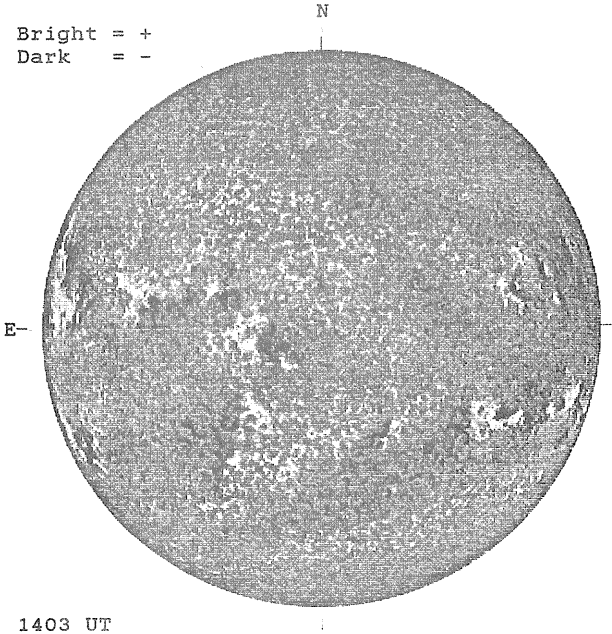


65
Sep 90

SEPTEMBER 7, 1990 (P= 22.45, B_o = 7.23, L_o = 282.10)

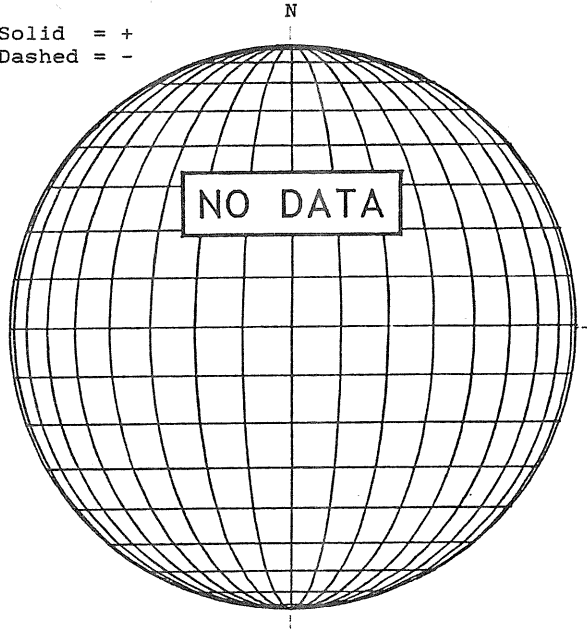
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



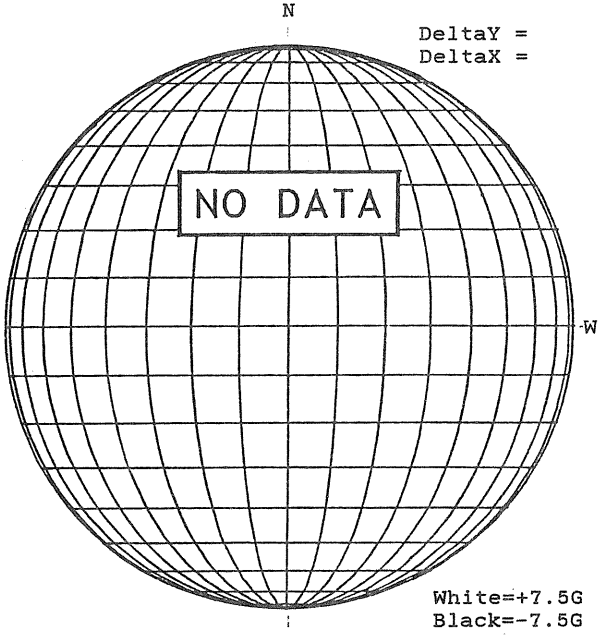
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



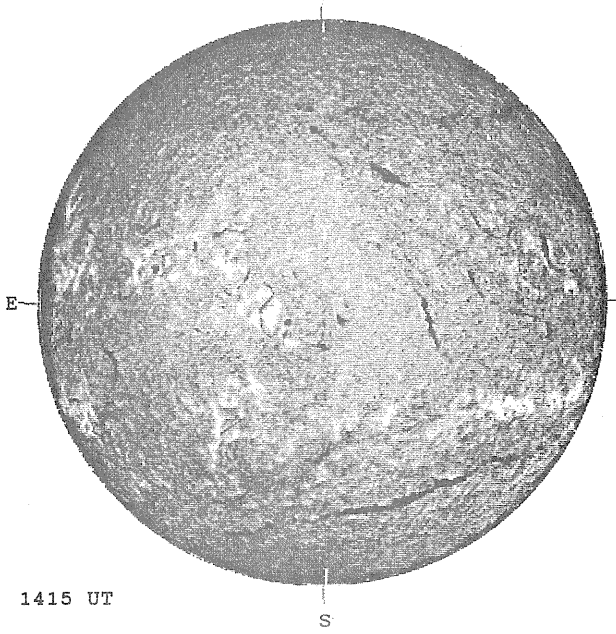
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

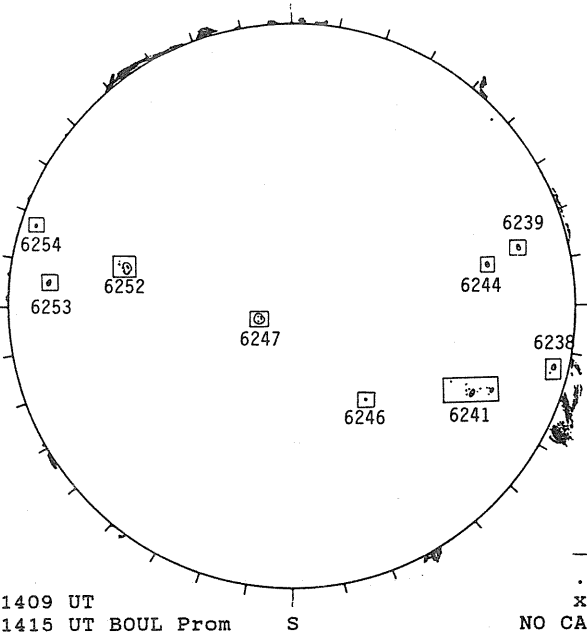


White=+7.5G
Black=-7.5G

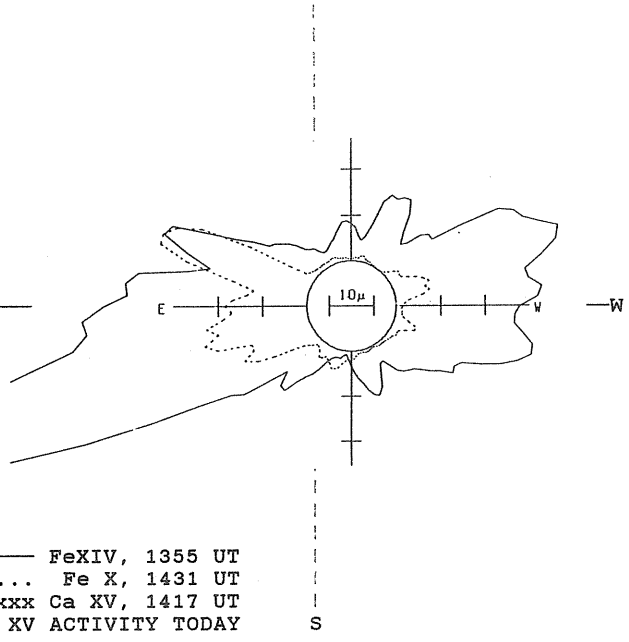
BOULDER H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

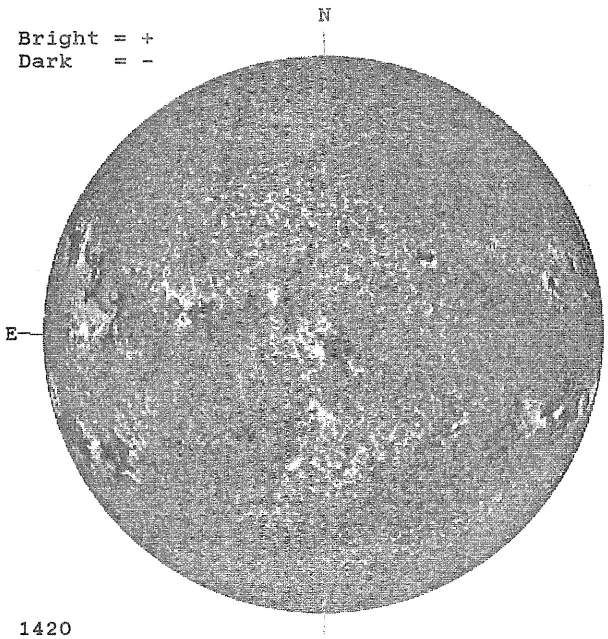


—— FeXIV, 1355 UT
.... Fe X, 1431 UT
xxxx Ca XV, 1417 UT
NO CA XV ACTIVITY TODAY

SEPTEMBER 8, 1990 (P= 22.66, B_o = 7.23, L_o = 268.89)

KITT PEAK MAGNETOGRAM

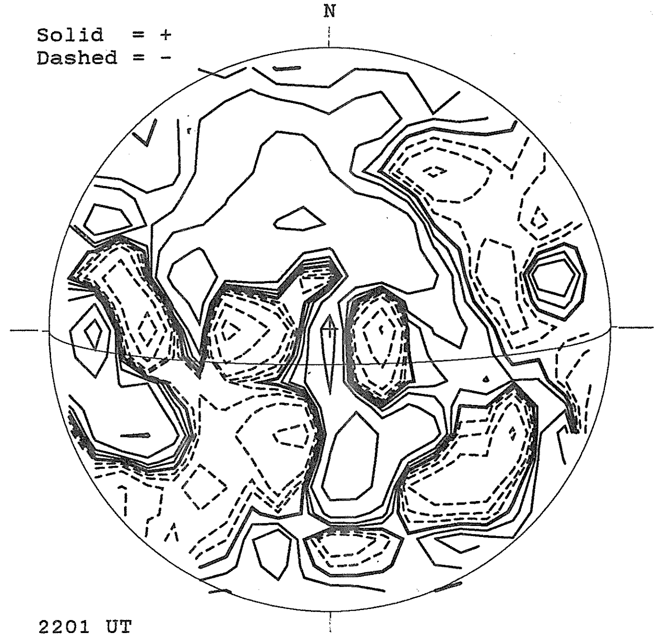
Bright = +
Dark = -



1420

STANFORD MAGNETOGRAM

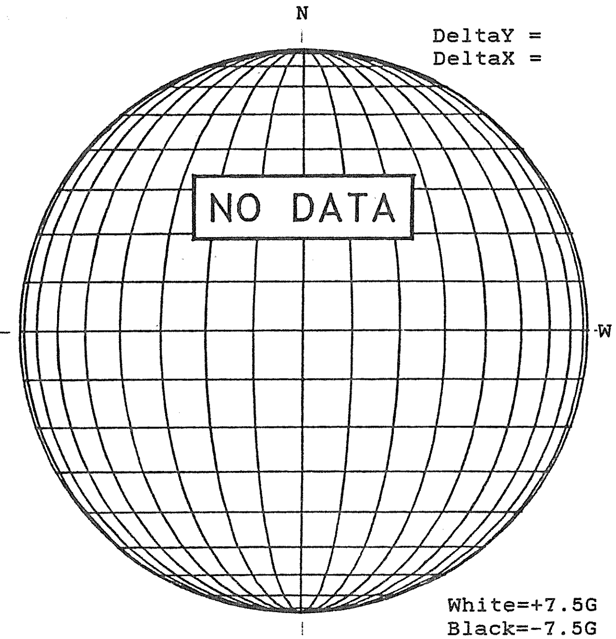
Solid = +
Dashed = -



2201 UT

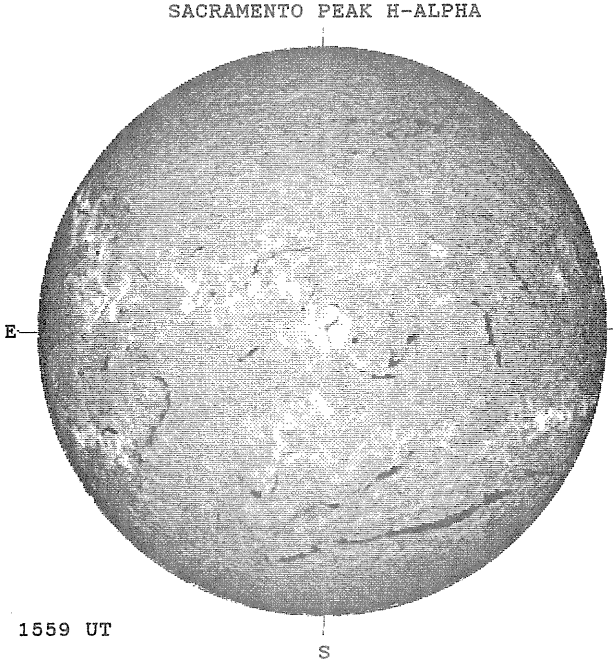
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



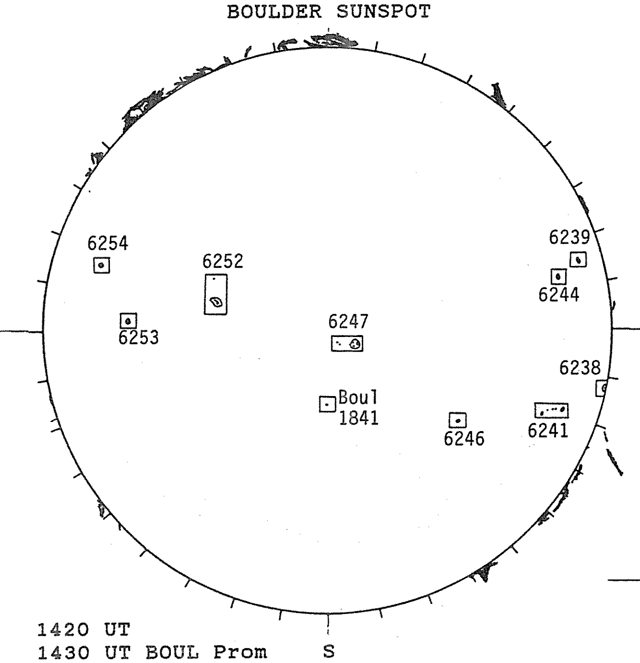
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



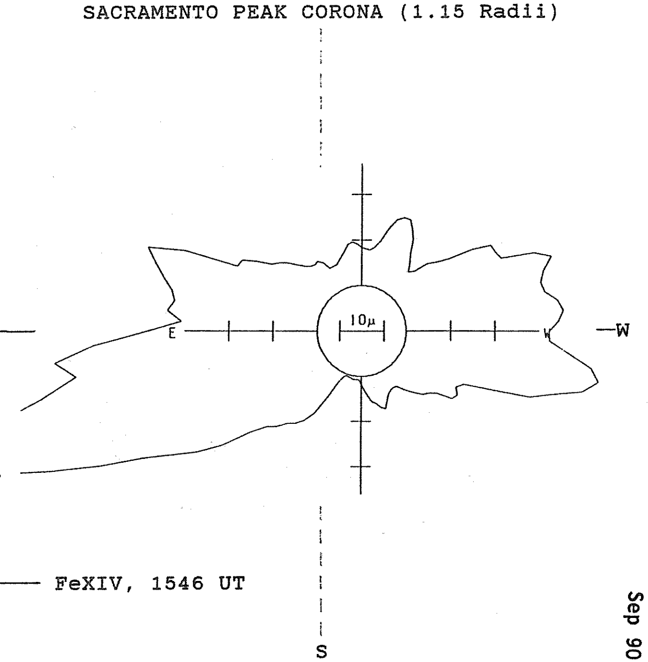
1559 UT

BOULDER SUNSPOT



1420 UT
1430 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

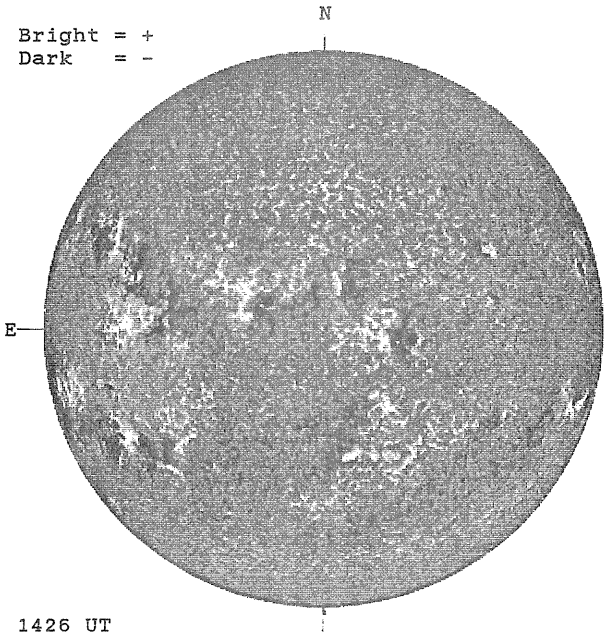


FeXIV, 1546 UT

SEPTEMBER 9, 1990 (P= 22.88, B_o = 7.23, L_o = 255.69)

KITT PEAK MAGNETOGRAM

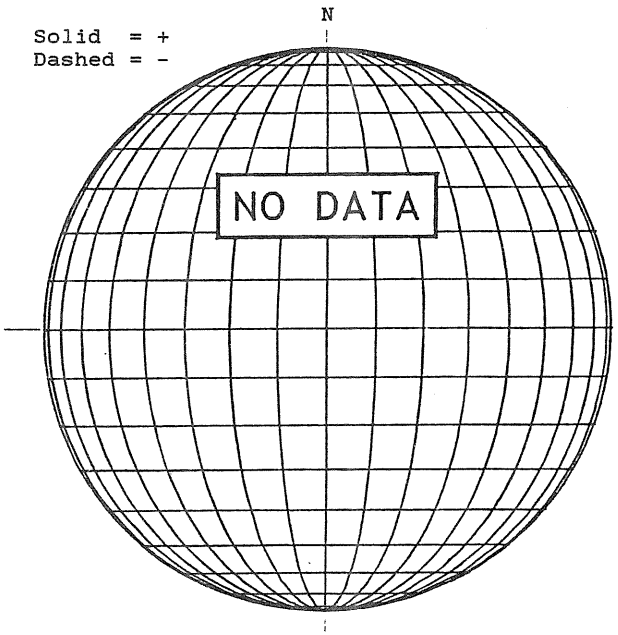
Bright = +
Dark = -



1426 UT

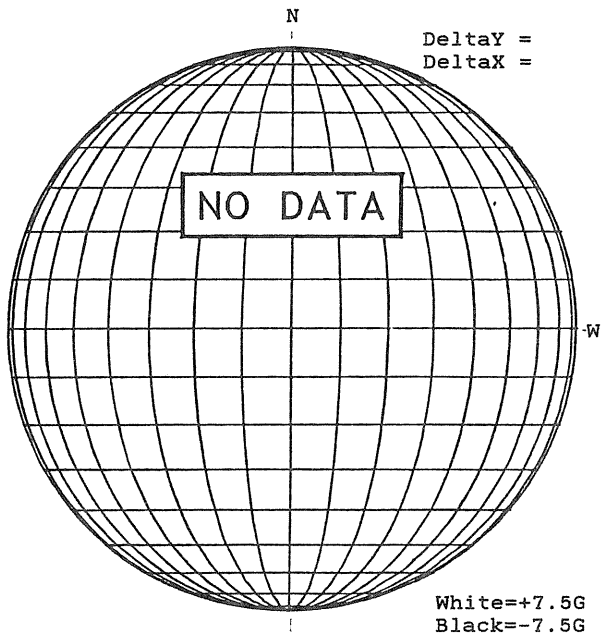
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



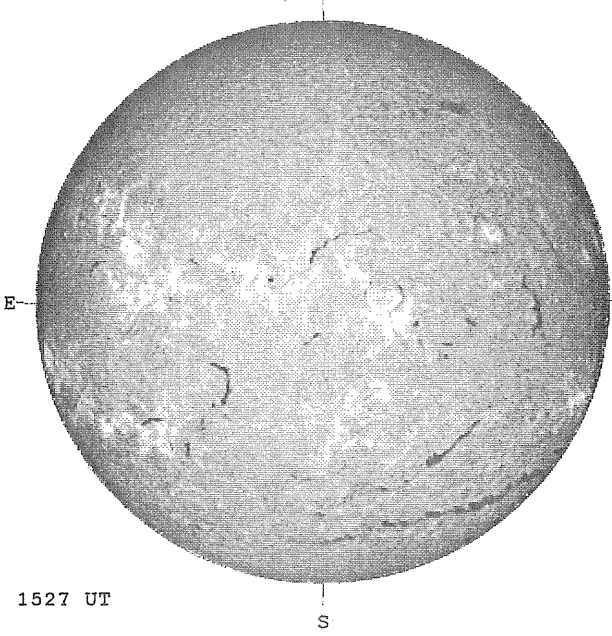
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



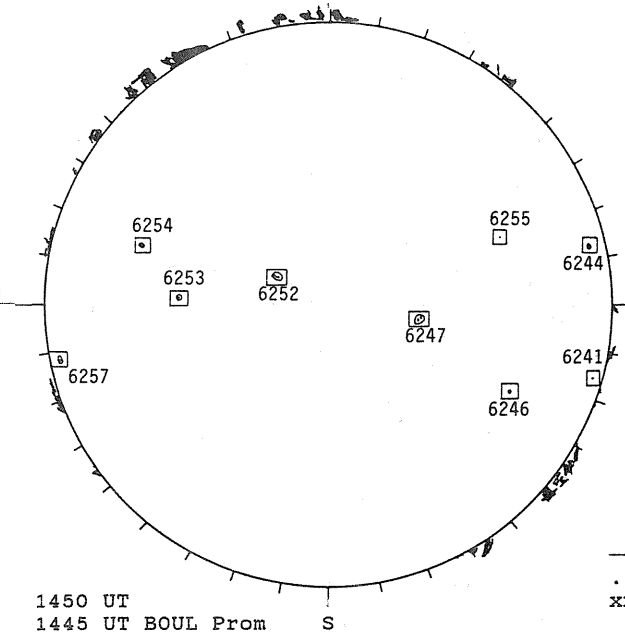
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



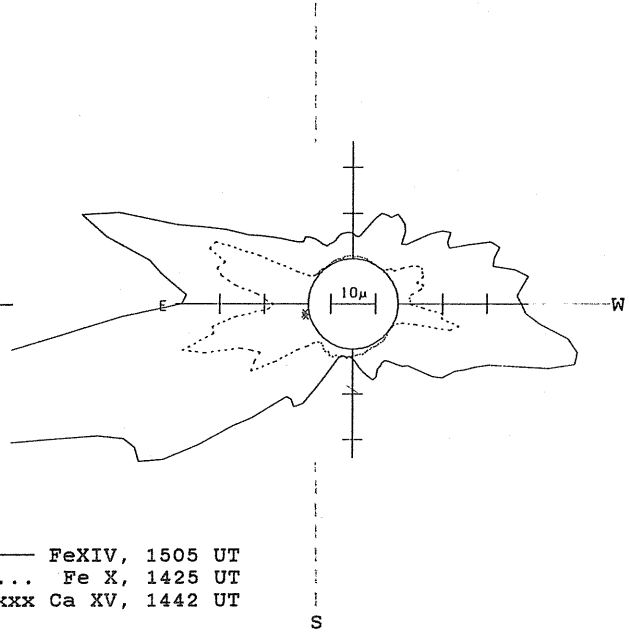
1527 UT

BOULDER SUNSPOT



1450 UT
1445 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

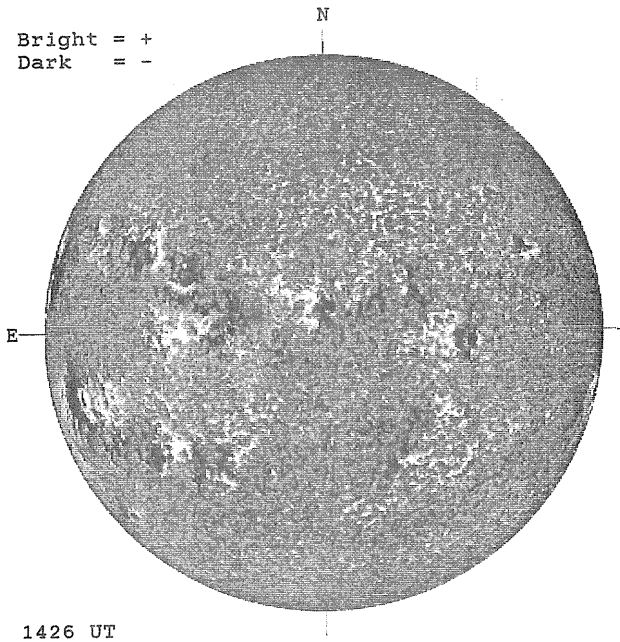


—— FeXIV, 1505 UT
.... Fe X, 1425 UT
xxxx Ca XV, 1442 UT

SEPTEMBER 10, 1990 (P= 23.08, B_o = 7.23, L_o = 242.48)

KITT PEAK MAGNETOGRAM

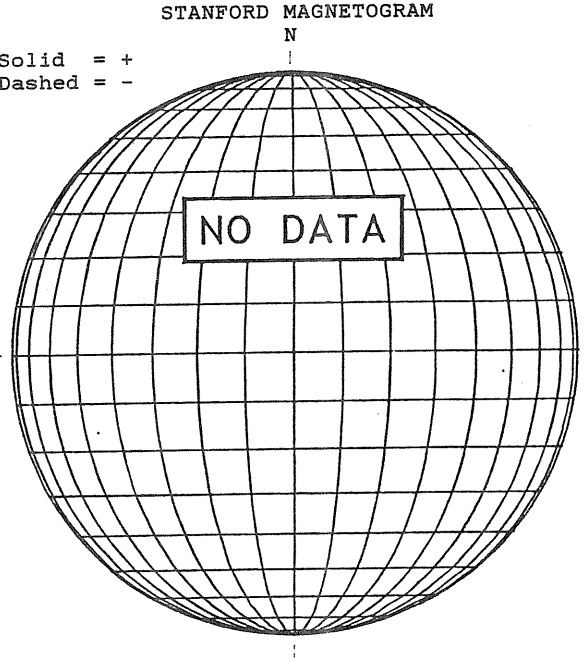
Bright = +
Dark = -



1426 UT

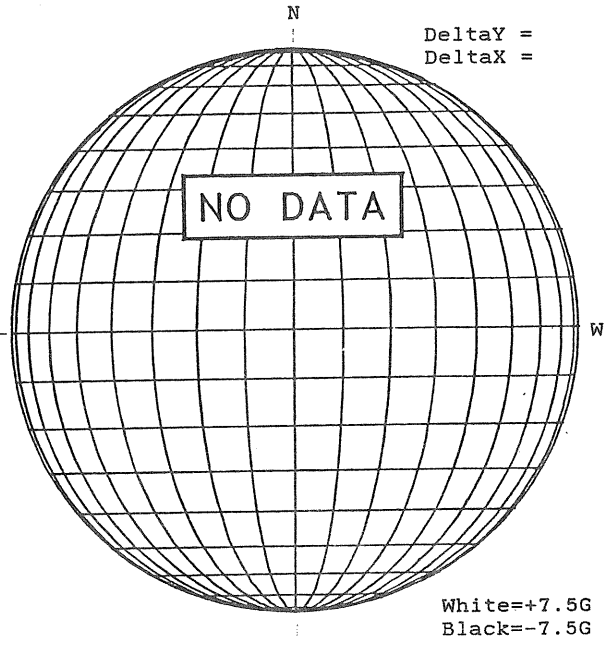
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



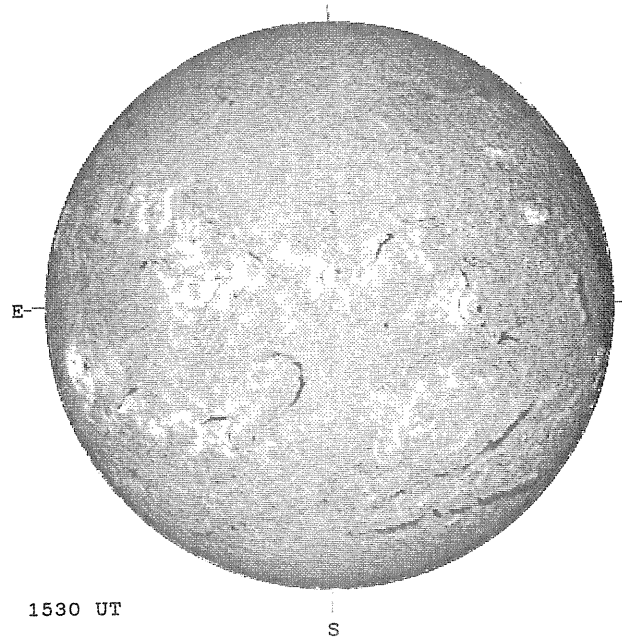
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



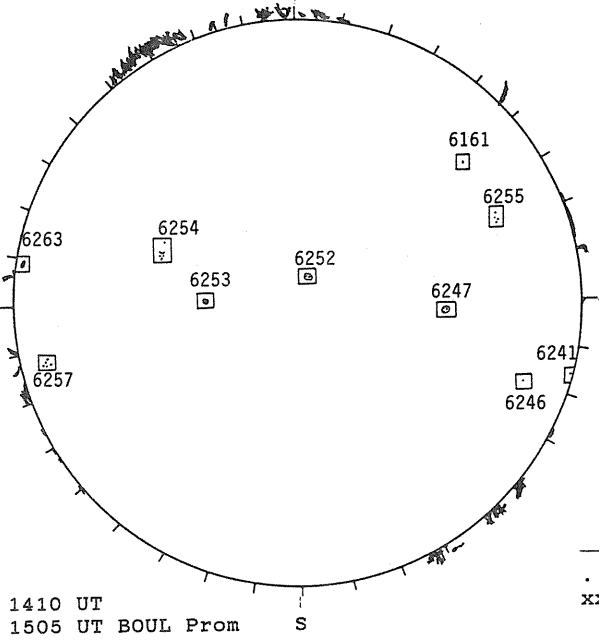
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



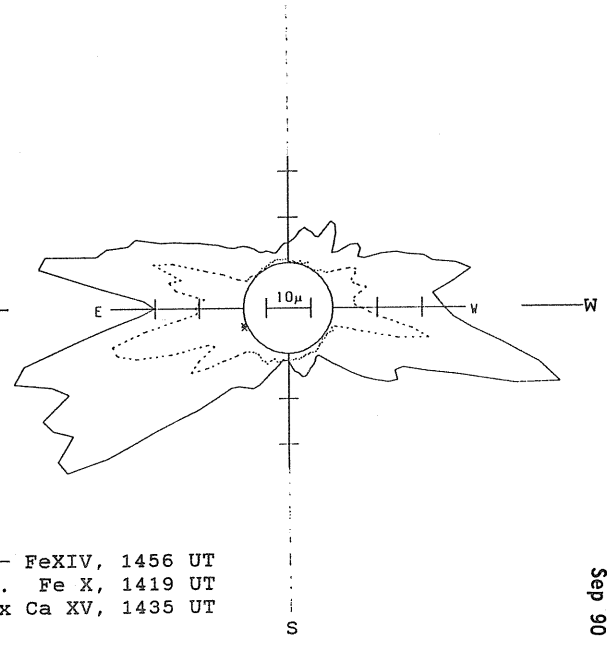
1530 UT

BOULDER SUNSPOT



1410 UT
1505 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



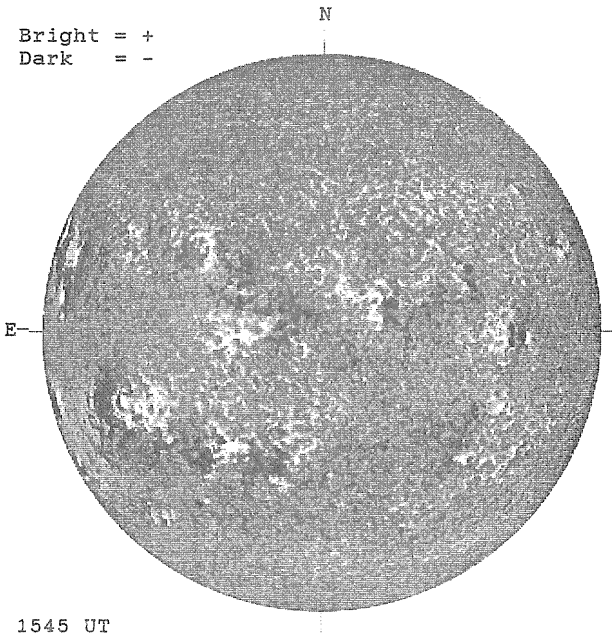
—— FeXIV, 1456 UT
.... Fe X, 1419 UT
xxxx Ca XV, 1435 UT

Sep 90

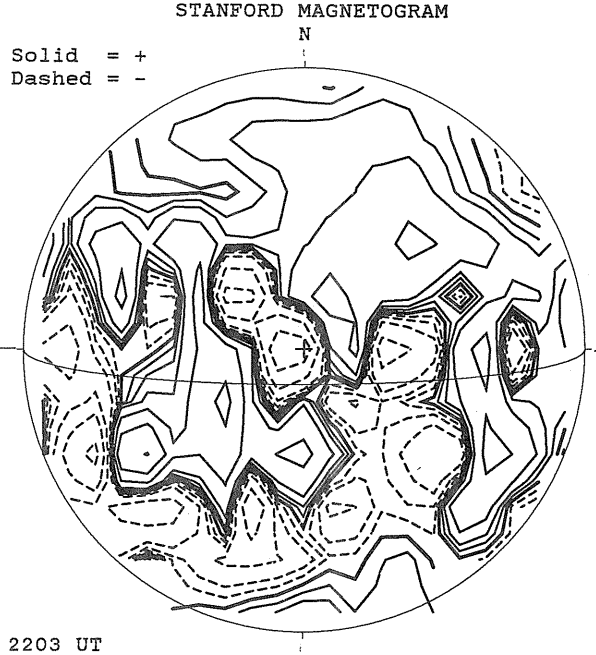
SEPTEMBER 11, 1990 (P= 23.28, B_o = 7.23, L_o = 229.28)

sep 90

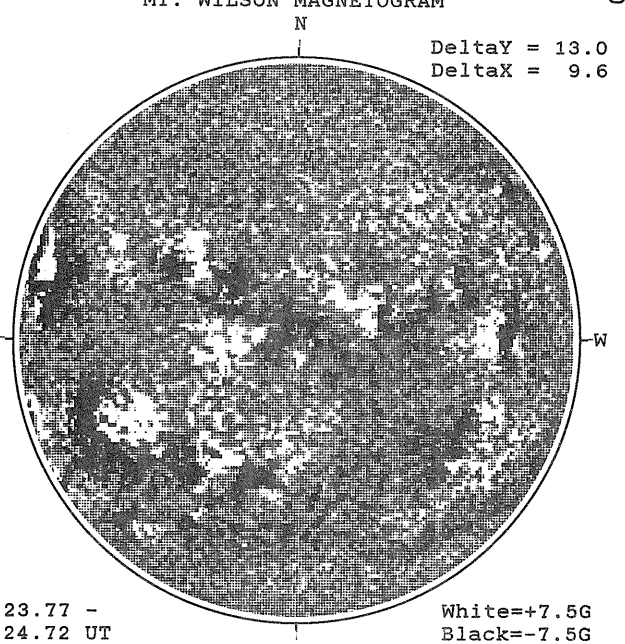
KITT PEAK MAGNETOGRAM



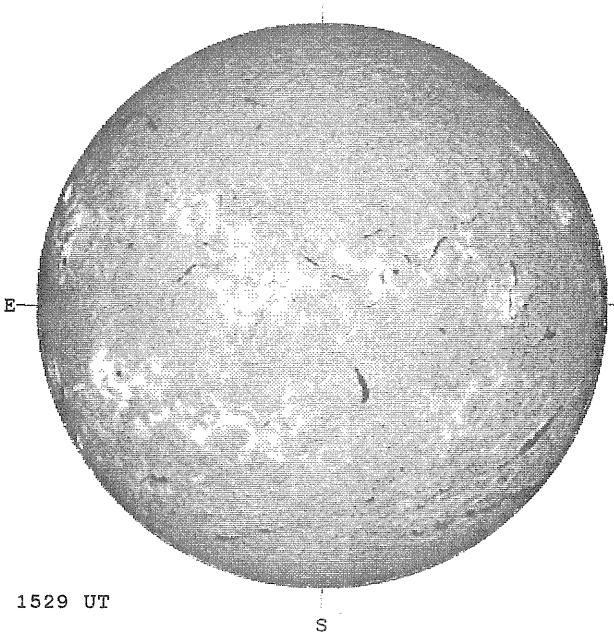
STANFORD MAGNETOGRAM



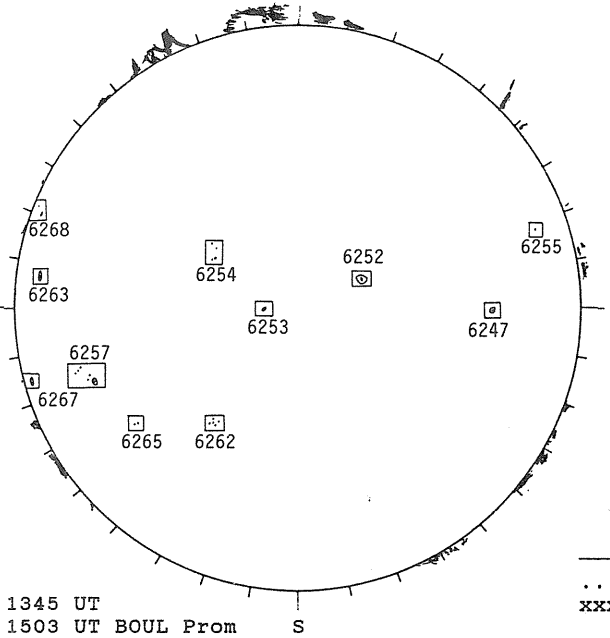
MT. WILSON MAGNETOGRAM



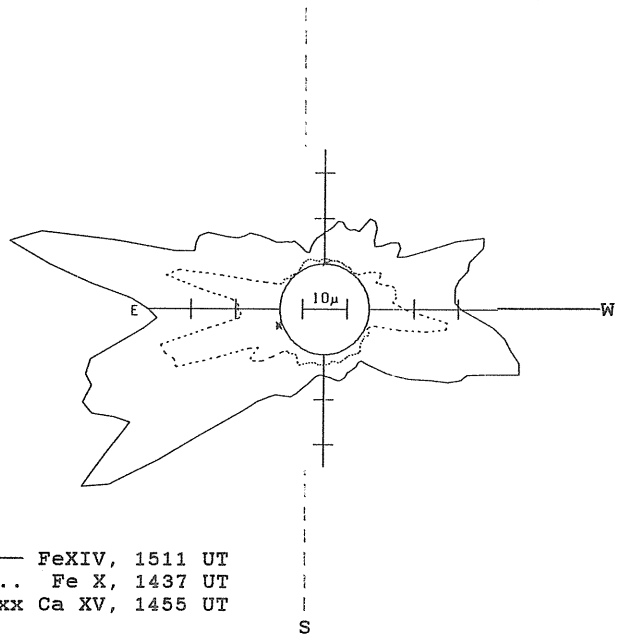
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



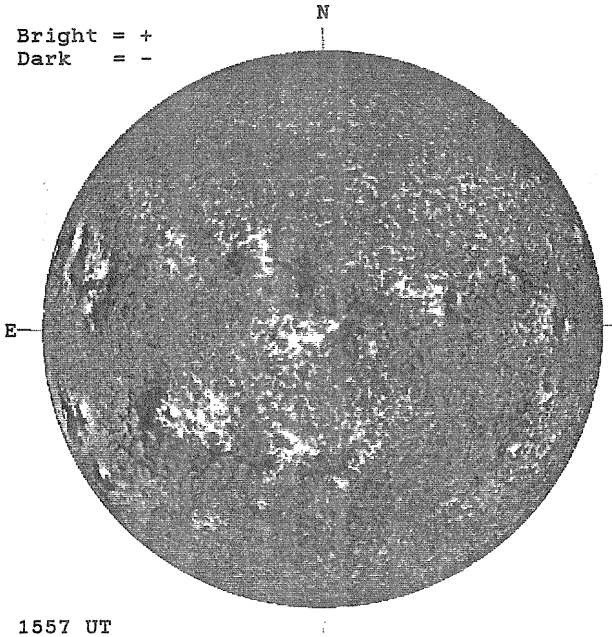
SACRAMENTO PEAK CORONA (1.15 Radii)



SEPTEMBER 12, 1990 (P= 23.48, B_o = 7.22, L_o = 216.07)

KITT PEAK MAGNETOGRAM

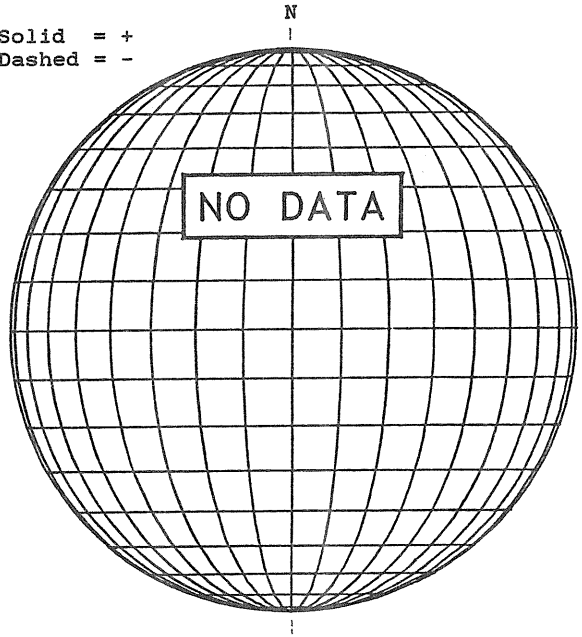
Bright = +
Dark = -



1557 UT

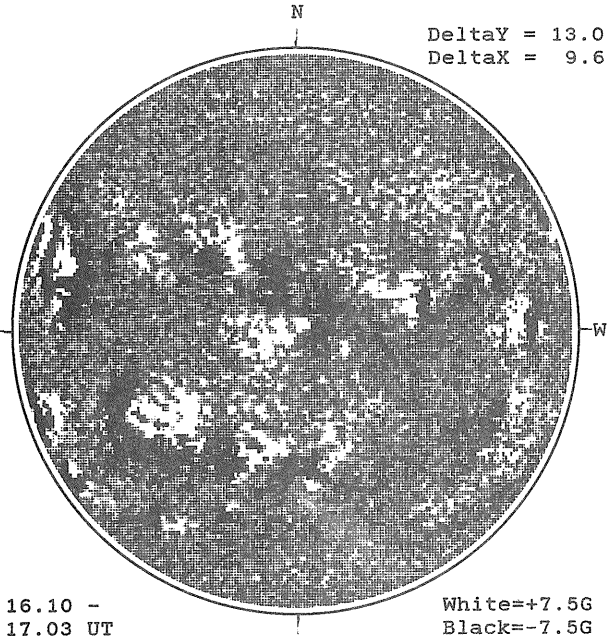
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

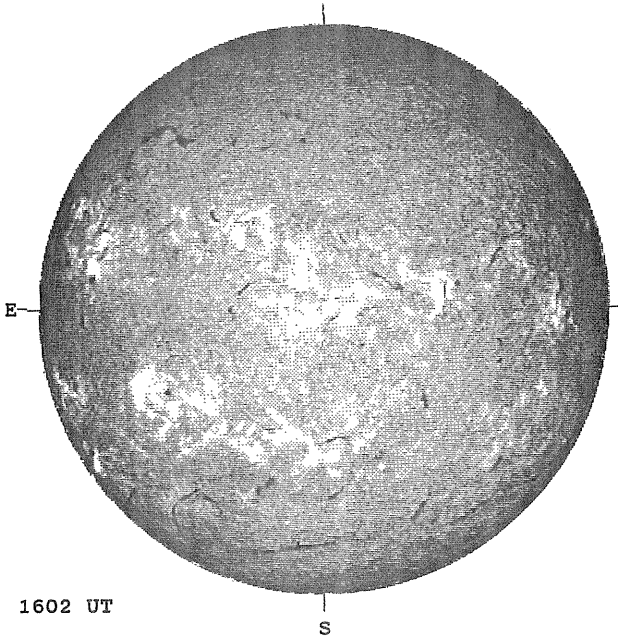
DeltaY = 13.0
DeltaX = 9.6



16.10 -
17.03 UT

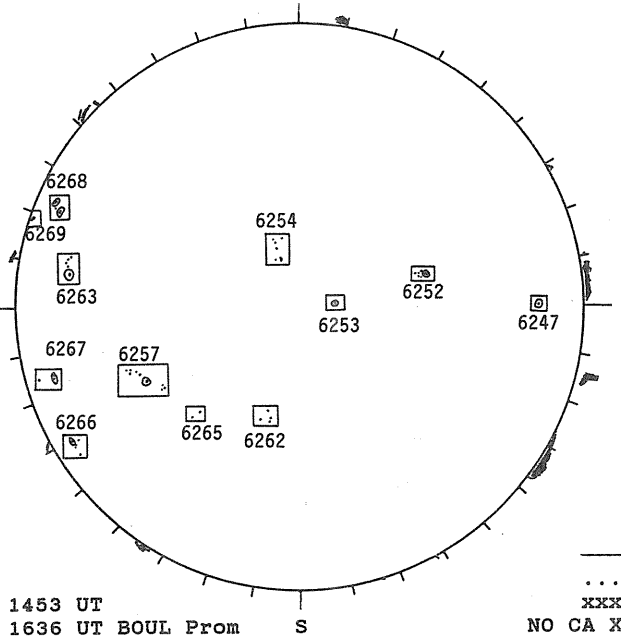
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



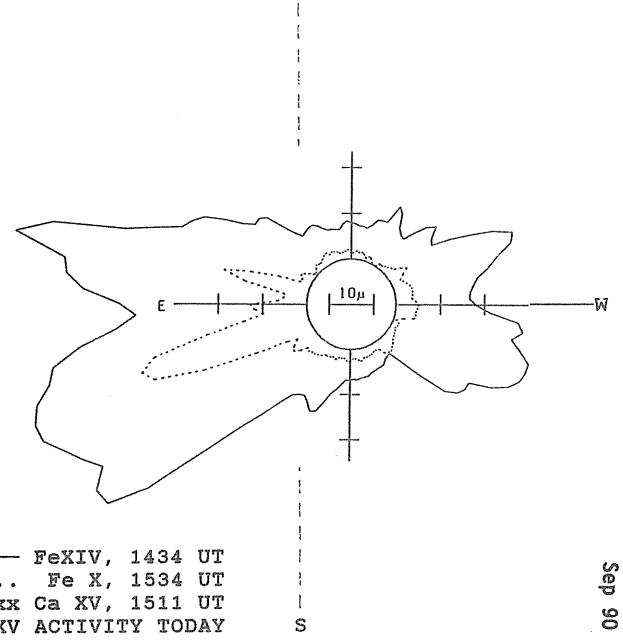
1602 UT

BOULDER SUNSPOT



1453 UT
1636 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

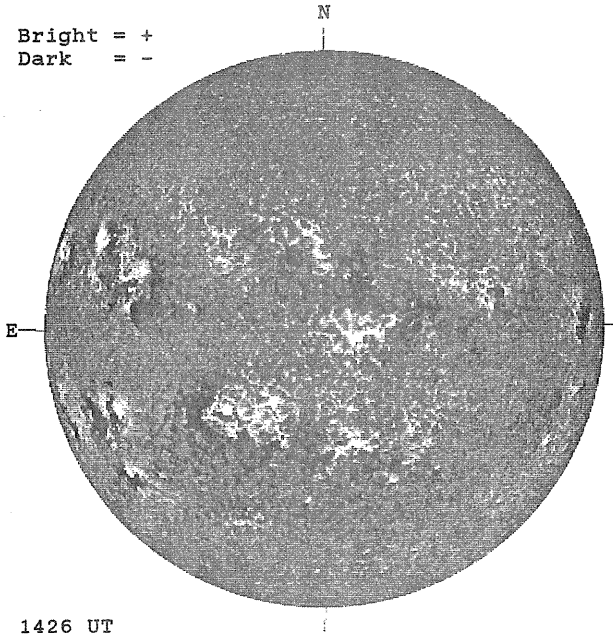


—— FeXIV, 1434 UT
.... Fe X, 1534 UT
xxxx Ca XV, 1511 UT
NO CA XV ACTIVITY TODAY

SEPTEMBER 13, 1990 (P= 23.67, B_o = 7.21, L_o = 202.87)

KITT PEAK MAGNETOGRAM

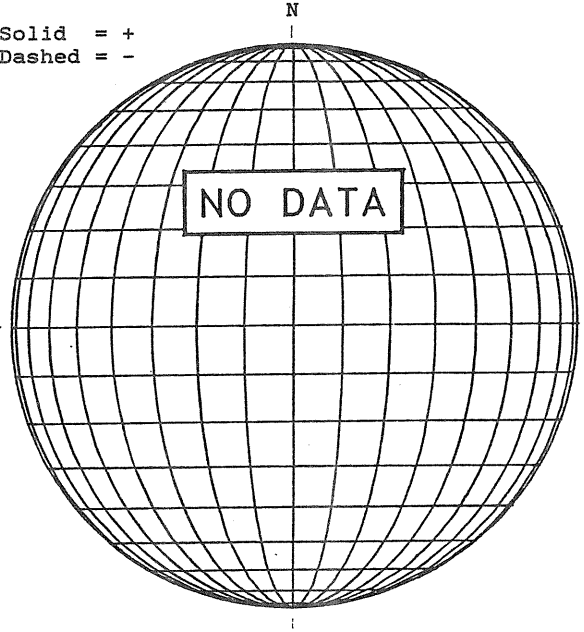
Bright = +
Dark = -



1426 UT

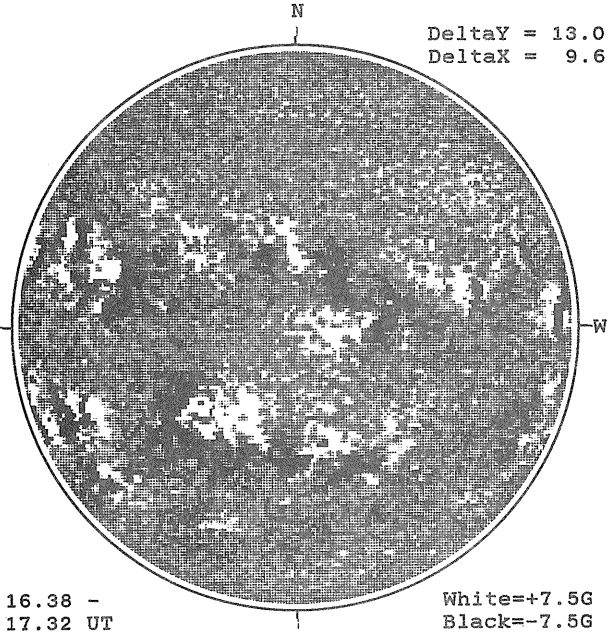
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

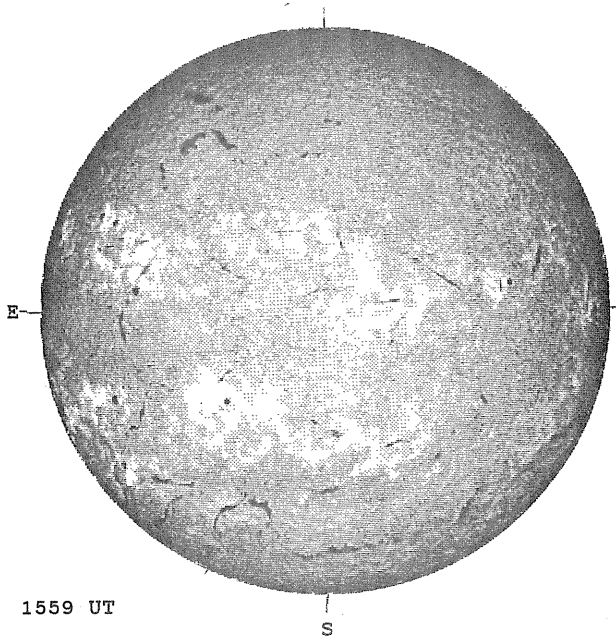
DeltaY = 13.0
DeltaX = 9.6



16.38 -
17.32 UT

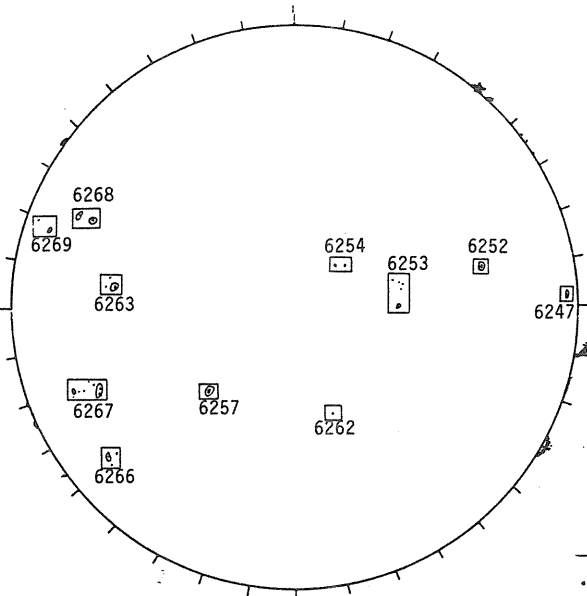
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



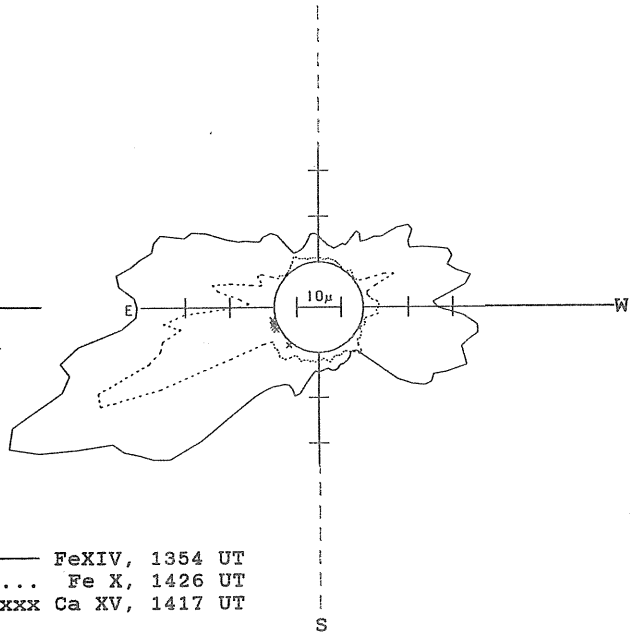
1559 UT

BOULDER SUNSPOT



1450 UT
1440 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

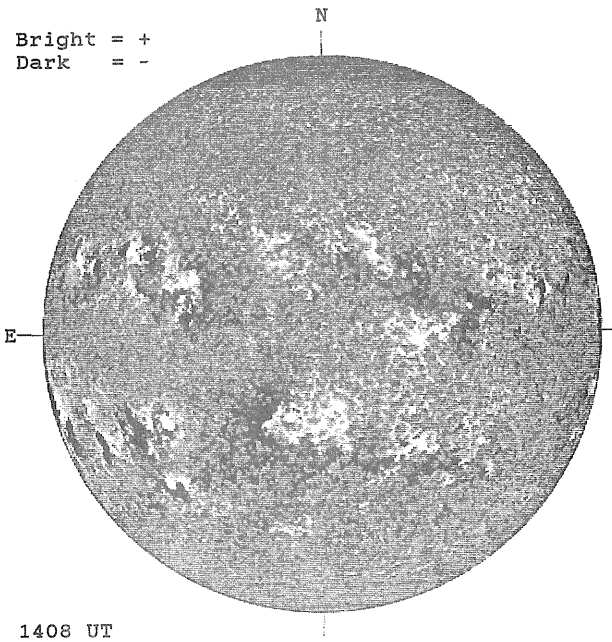


—— FeXIV, 1354 UT
.... Fe X, 1426 UT
xxxx Ca XV, 1417 UT

SEPTEMBER 14, 1990 (P= 23.85, B_o = 7.20, L_o = 189.66)

KITT PEAK MAGNETOGRAM

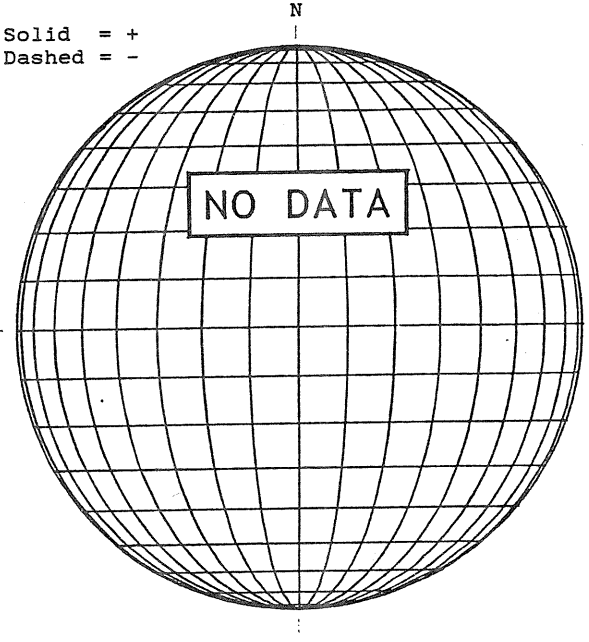
Bright = +
Dark = -



1408 UT

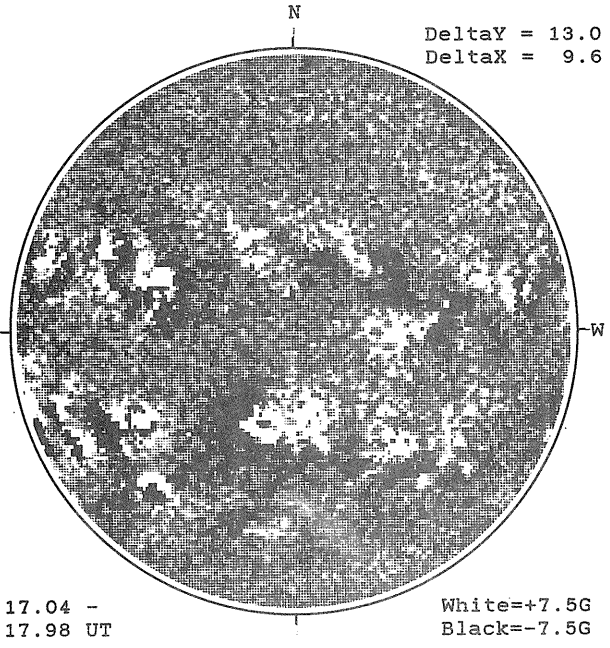
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

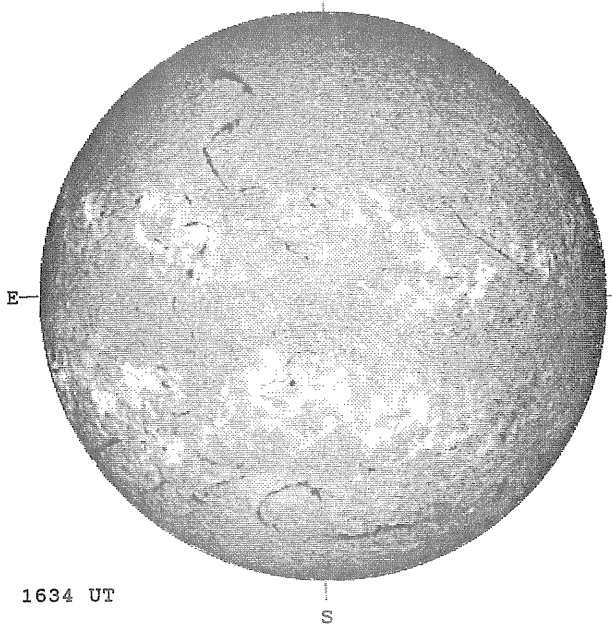
DeltaY = 13.0
DeltaX = 9.6



17.04 -
17.98 UT

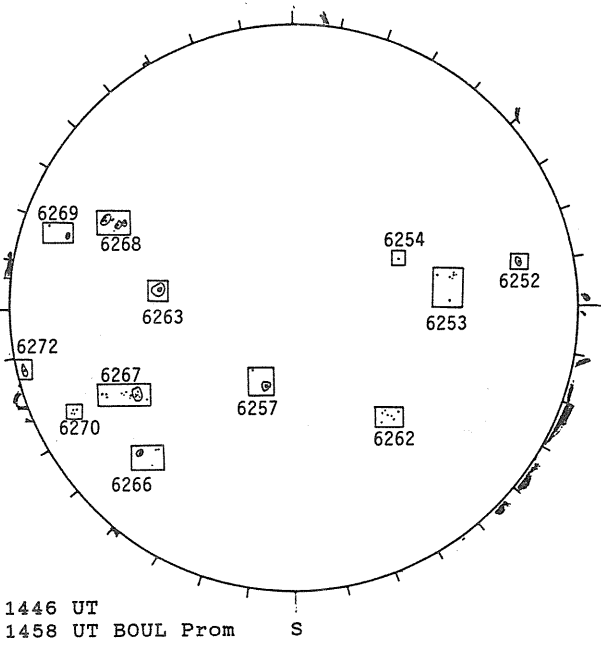
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



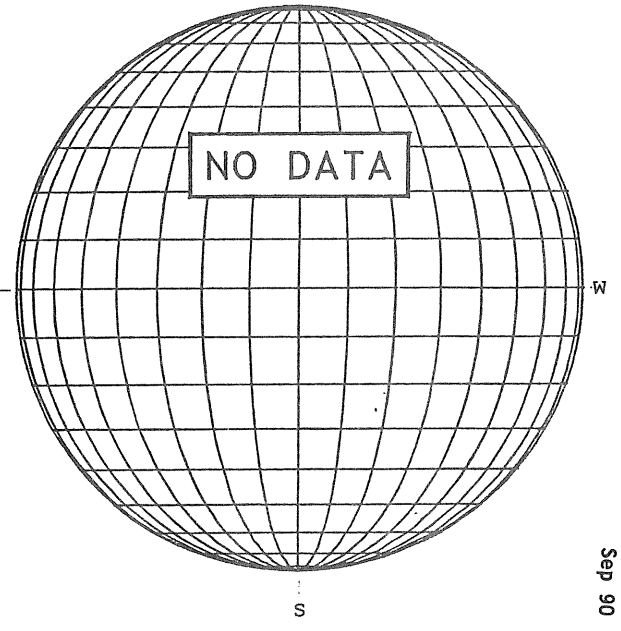
1634 UT

BOULDER SUNSPOT



1446 UT
1458 UT BOUL Prom

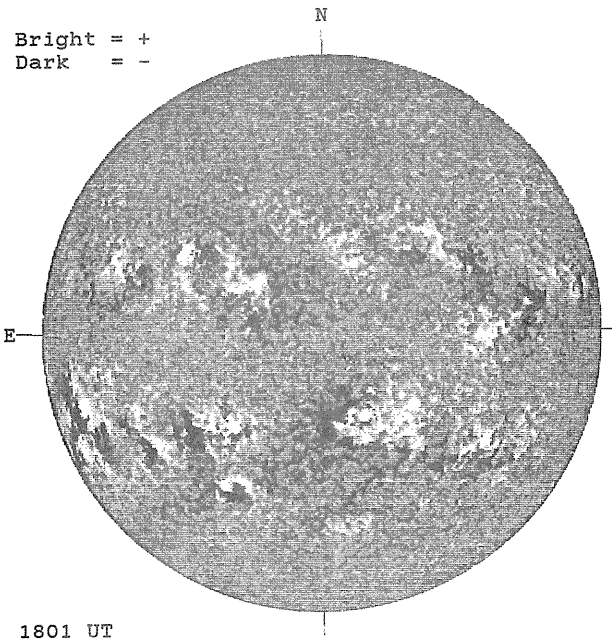
SACRAMENTO PEAK CORONA (1.15 Radii)



SEPTEMBER 15, 1990 (P= 24.02, B_o = 7.19, L_o = 176.46)

KITT PEAK MAGNETOGRAM

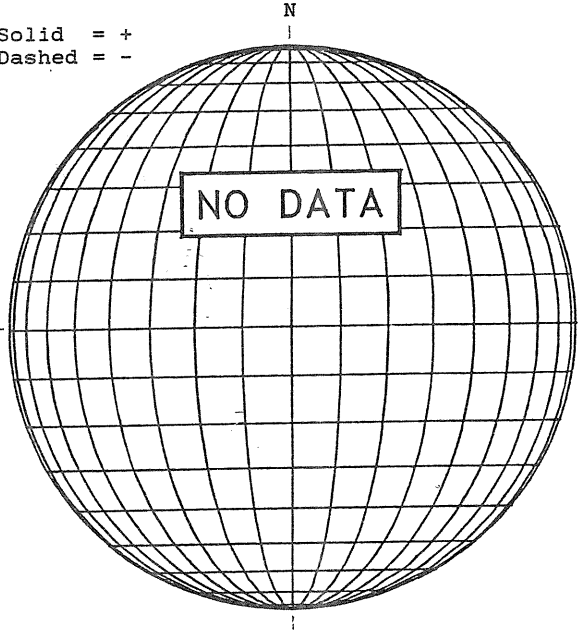
Bright = +
Dark = -



1801 UT

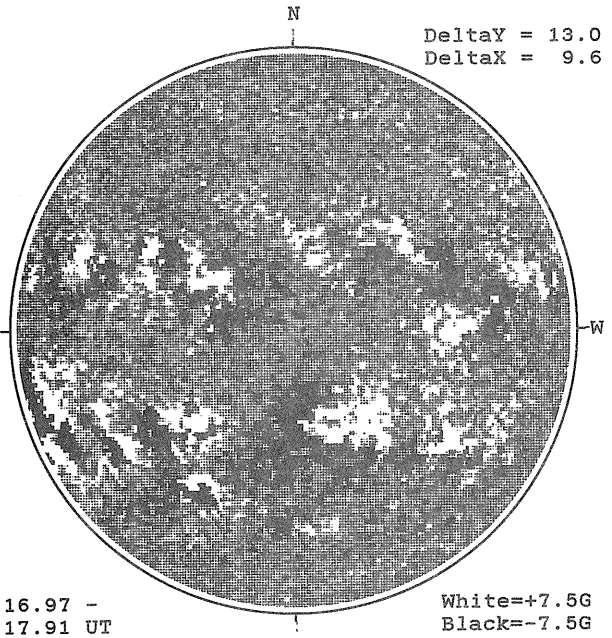
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

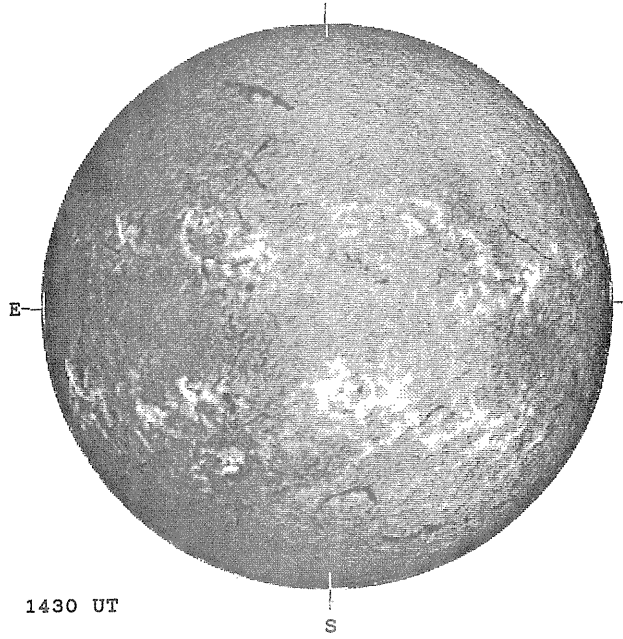
DeltaY = 13.0
DeltaX = 9.6



16.97 -
17.91 UT

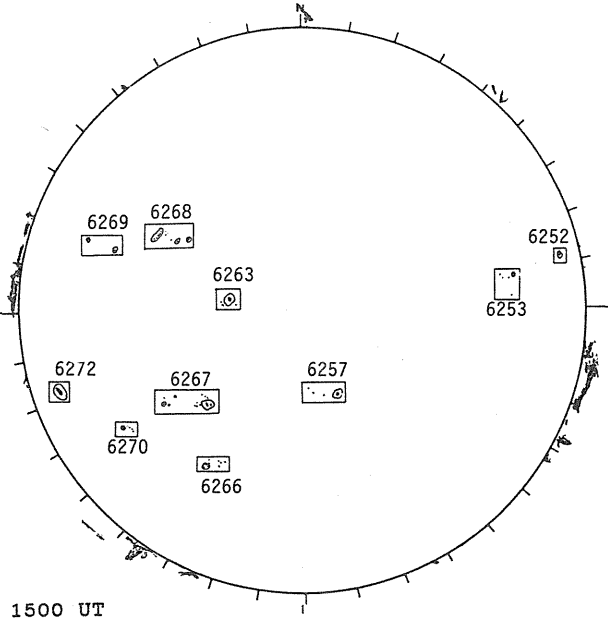
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



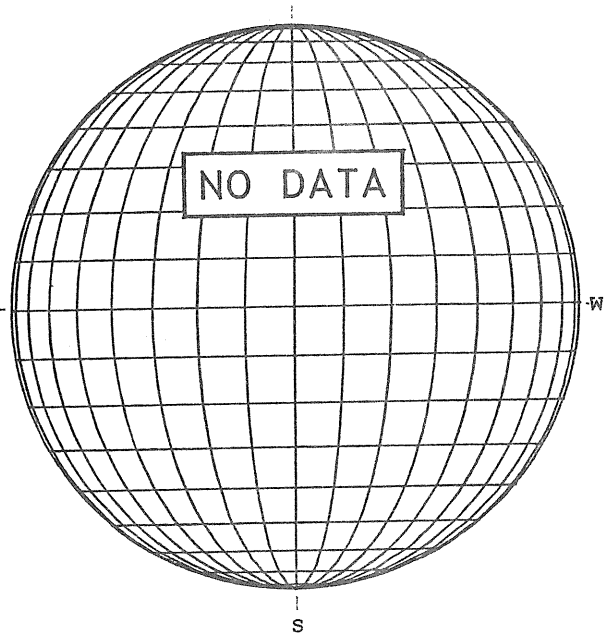
1430 UT

BOULDER SUNSPOT



1500 UT
1430 UT BOUL Prom

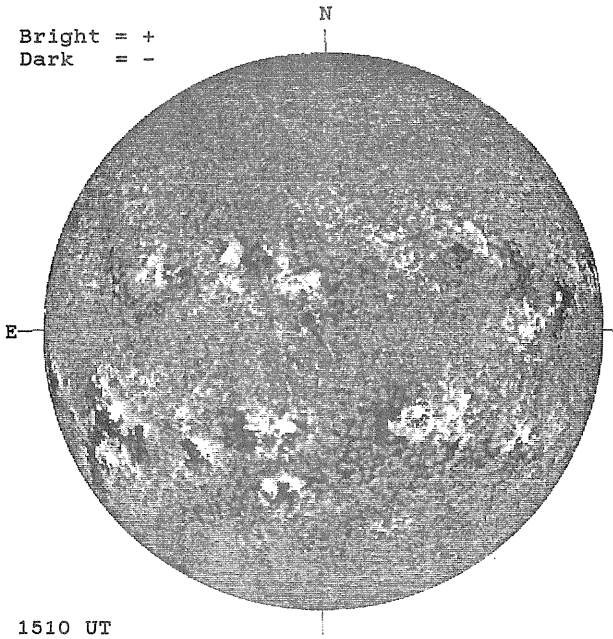
SACRAMENTO PEAK CORONA (1.15 Radii)



SEPTEMBER 16, 1990 (P= 24.19, B_o = 7.18, L_o = 163.26)

KITT PEAK MAGNETOGRAM

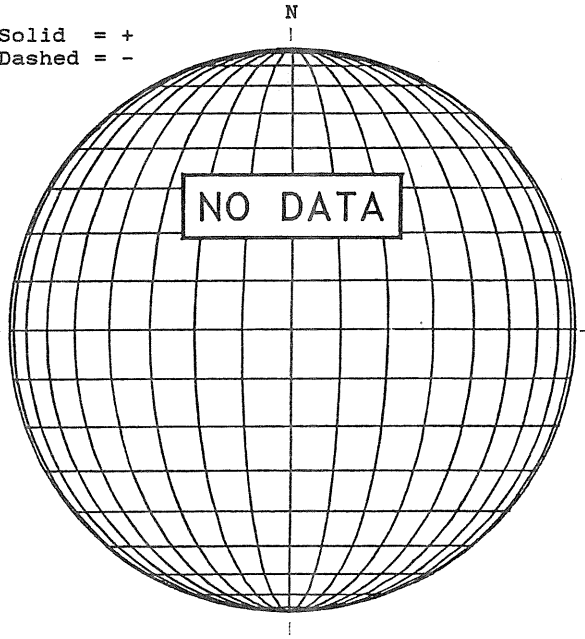
Bright = +
Dark = -



1510 UT

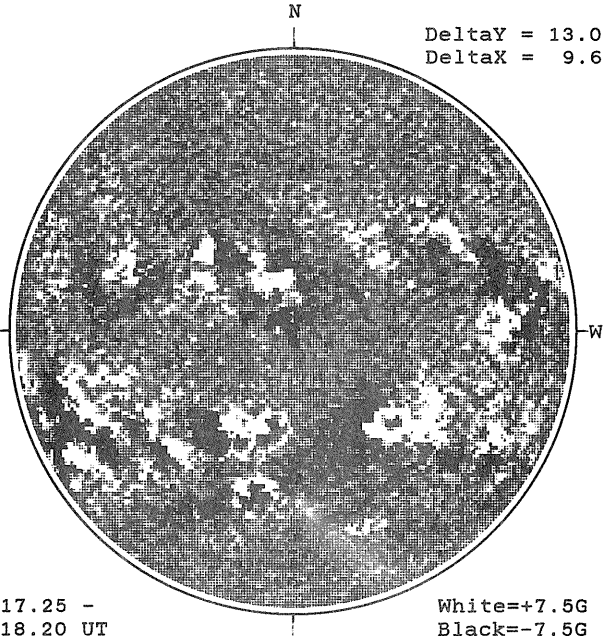
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

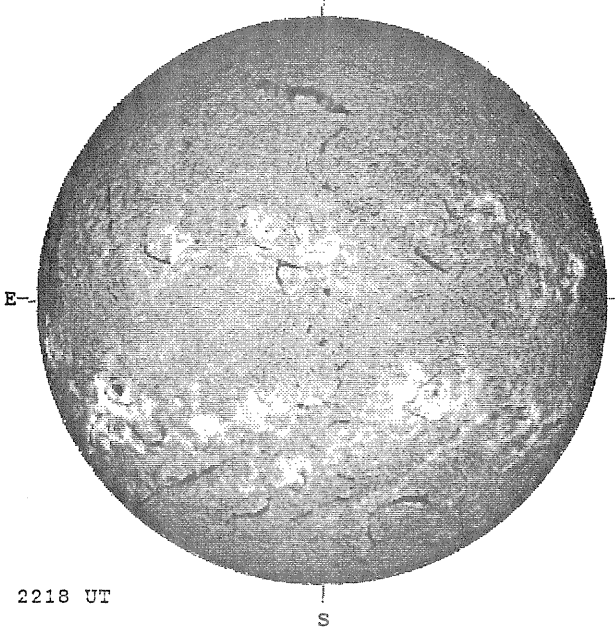
DeltaY = 13.0
DeltaX = 9.6



17.25 -
18.20 UT

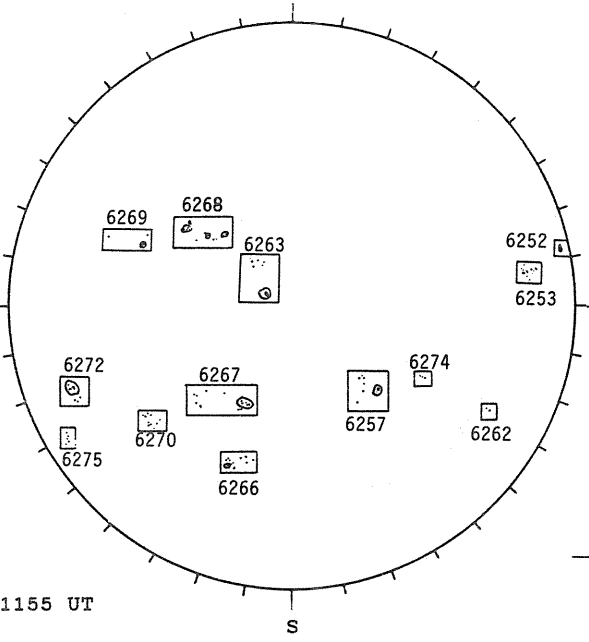
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



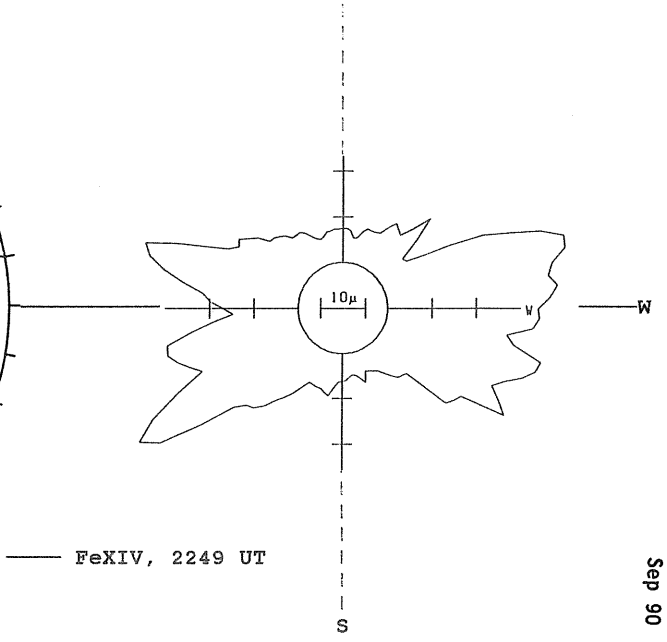
2218 UT

RAMEY SUNSPOT



1155 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



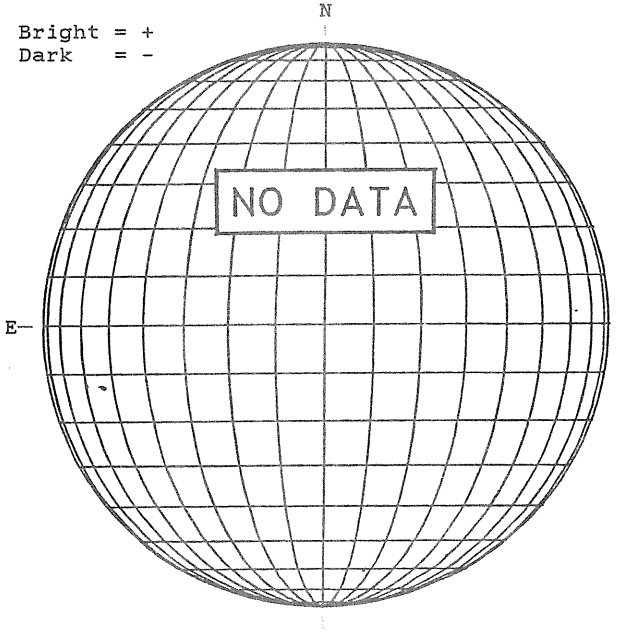
—— FeXIV, 2249 UT

75
Sep 90

SEPTEMBER 17, 1990 (P= 24.36, B_o = 7.16, L_o = 150.06)

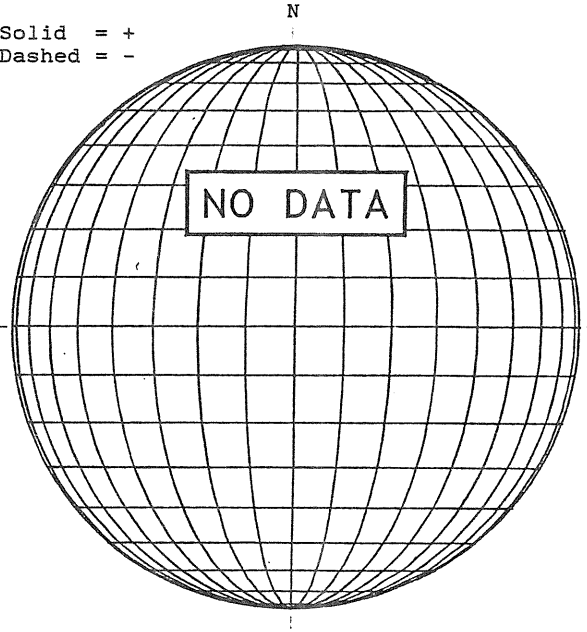
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



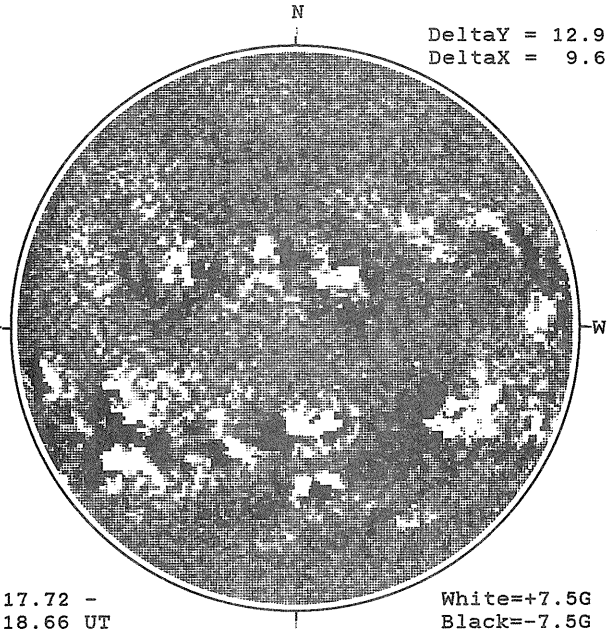
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

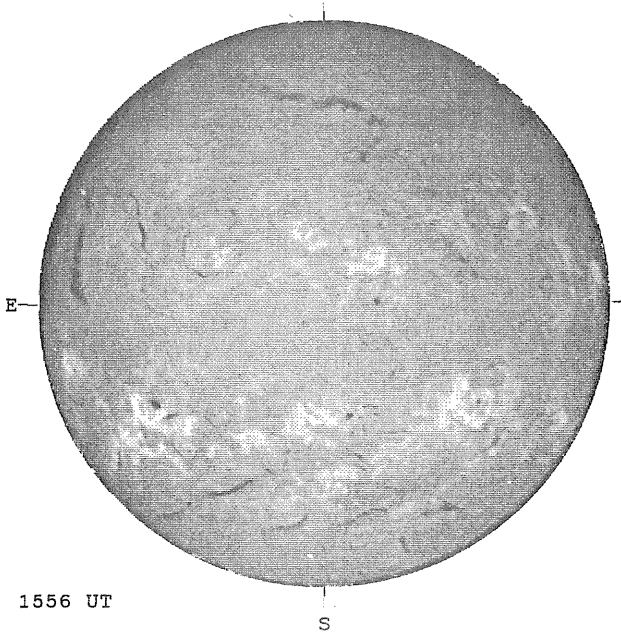
DeltaY = 12.9
DeltaX = 9.6



17.72 -
18.66 UT

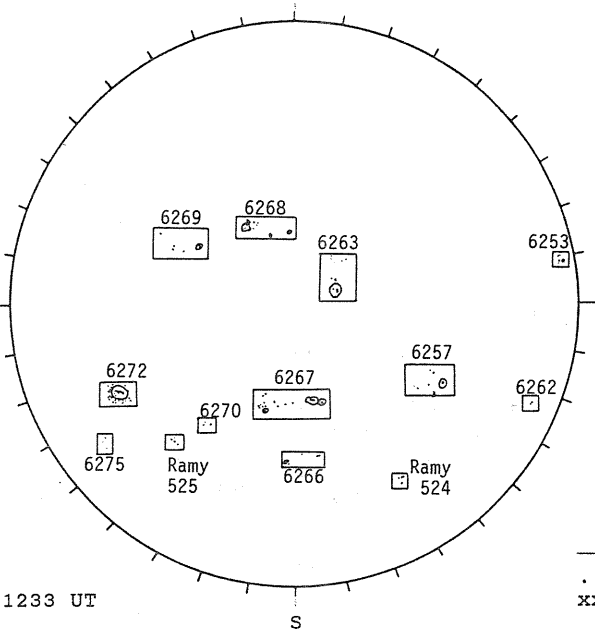
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



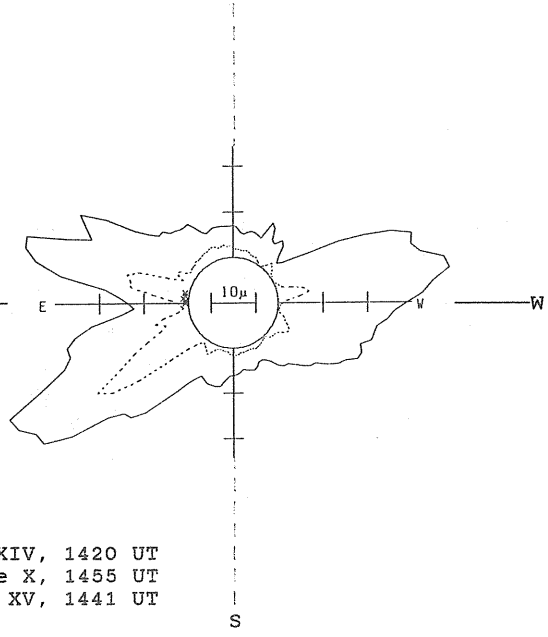
1556 UT

RAMEY SUNSPOT



1233 UT

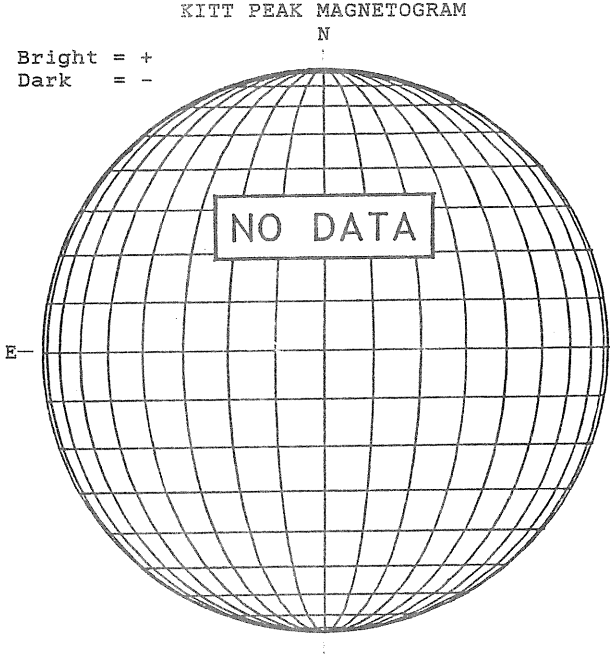
SACRAMENTO PEAK CORONA (1.15 Radii)



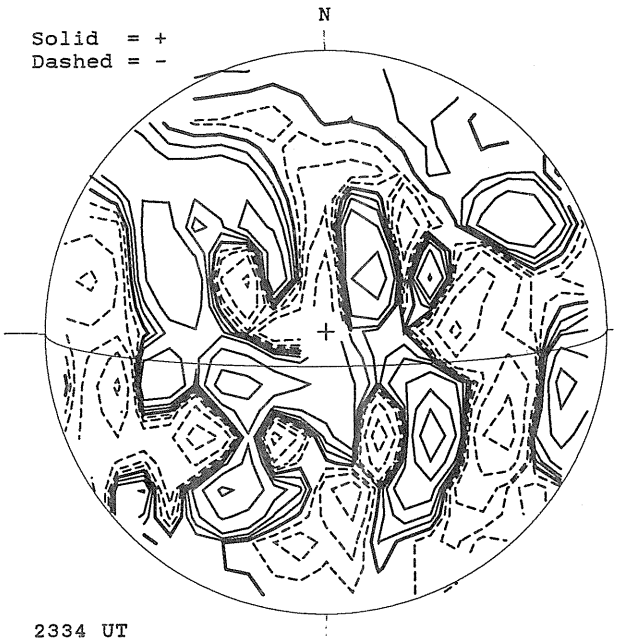
—— FeXIV, 1420 UT
.... Fe X, 1455 UT
xxxx Ca XV, 1441 UT

SEPTEMBER 18, 1990 (P= 24.52, B_o = 7.14, L_o = 136.86)

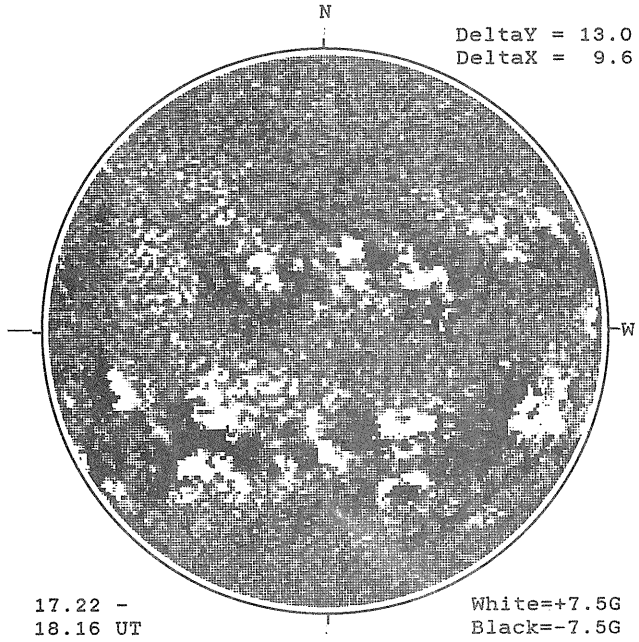
KITT PEAK MAGNETOGRAM



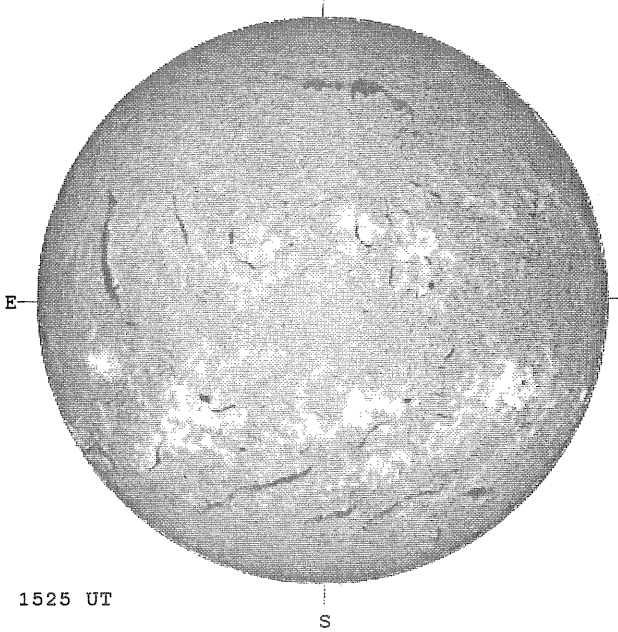
STANFORD MAGNETOGRAM



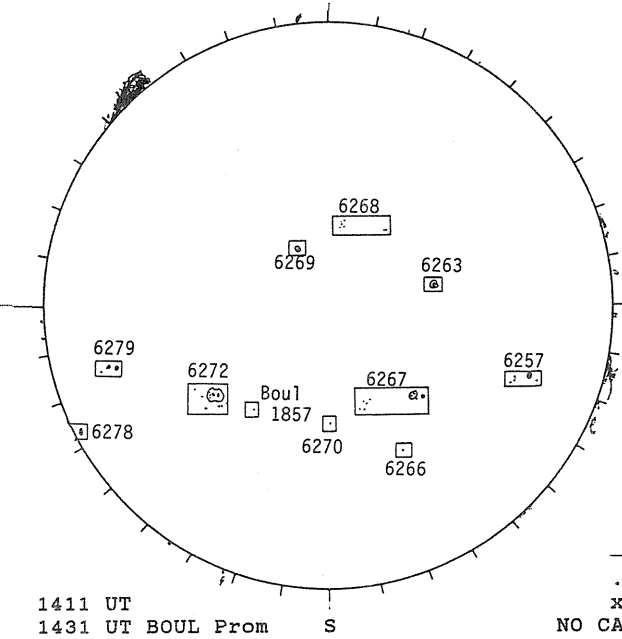
MT. WILSON MAGNETOGRAM



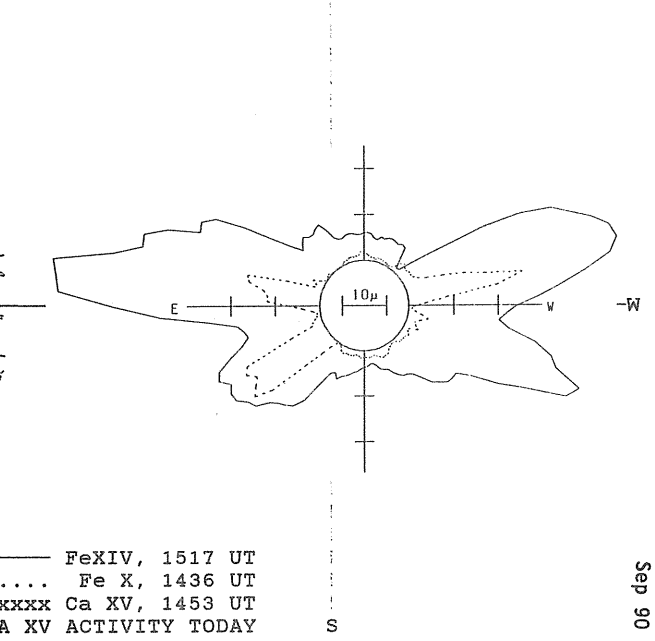
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT



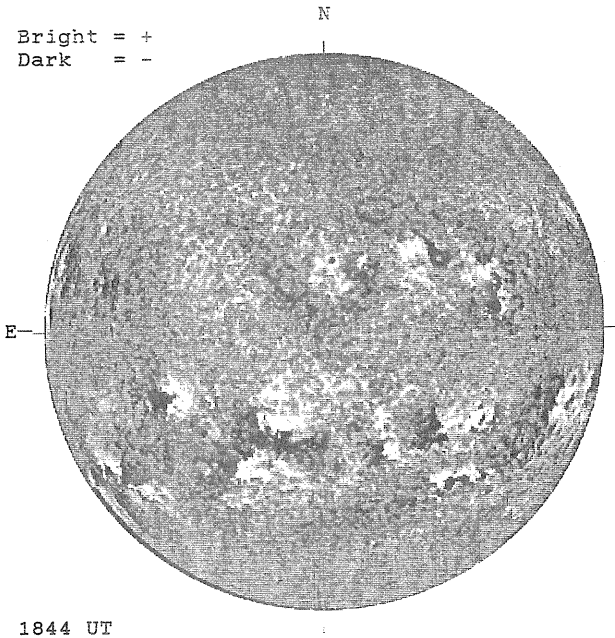
SACRAMENTO PEAK CORONA (1.15 Radii)



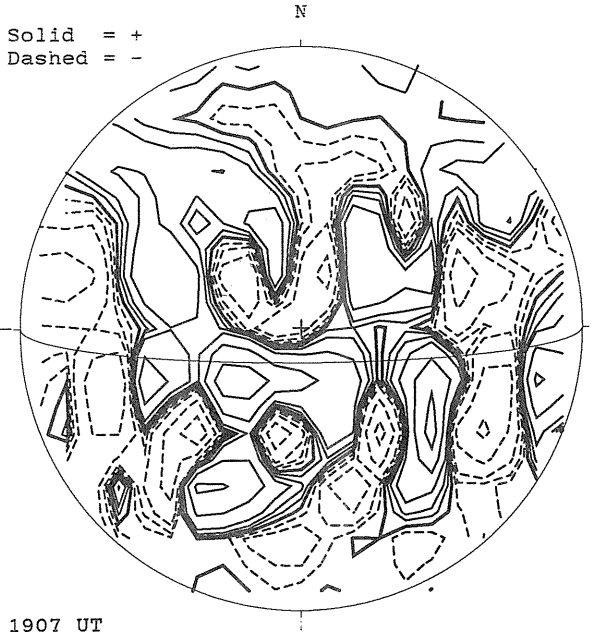
77
Sep 90

SEPTEMBER 19, 1990 (P= 24.67, B_o = 7.12, L_o = 123.66)

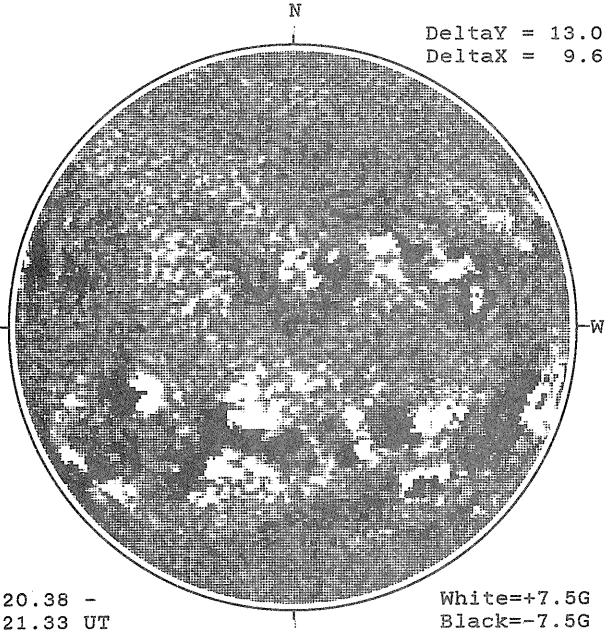
KITT PEAK MAGNETOGRAM



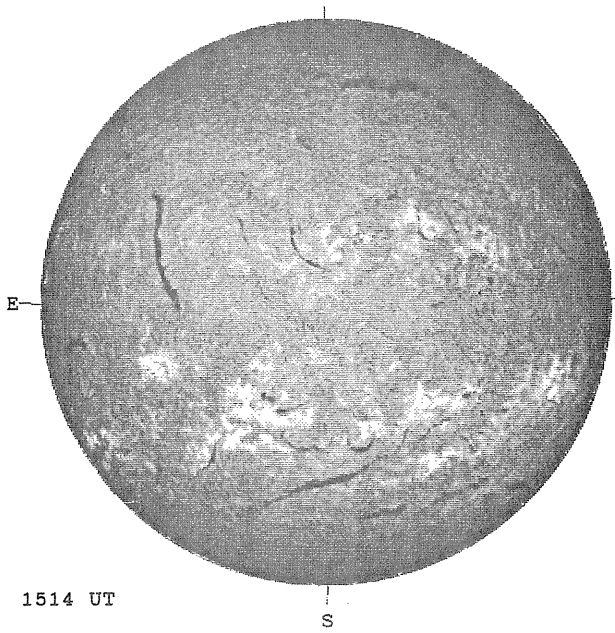
STANFORD MAGNETOGRAM



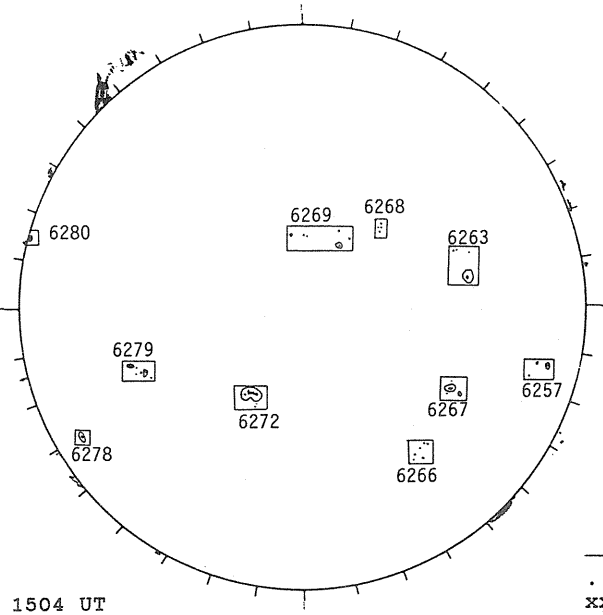
MT. WILSON MAGNETOGRAM



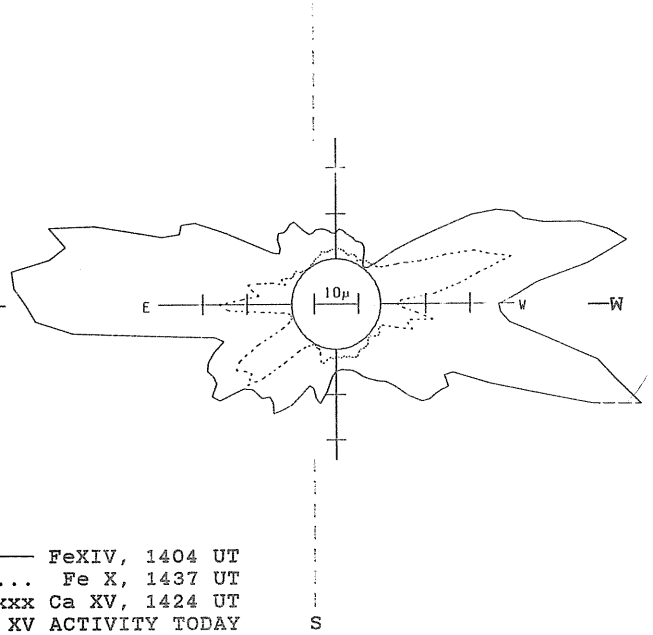
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOT

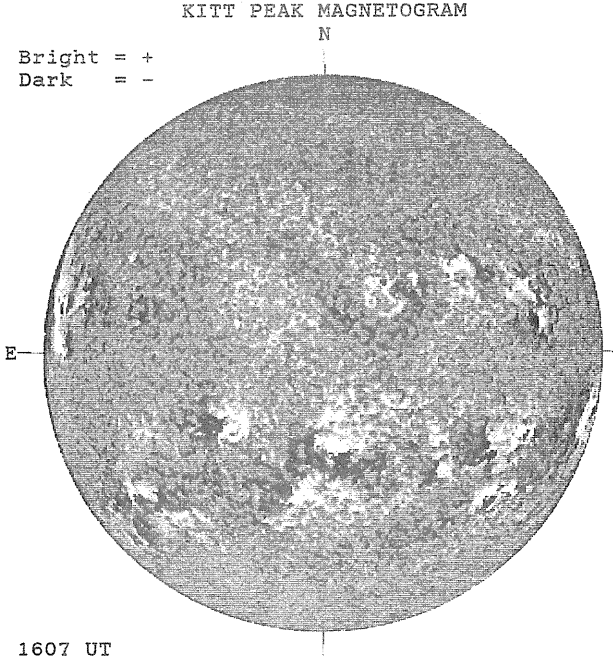


SACRAMENTO PEAK CORONA (1.15 Radii)



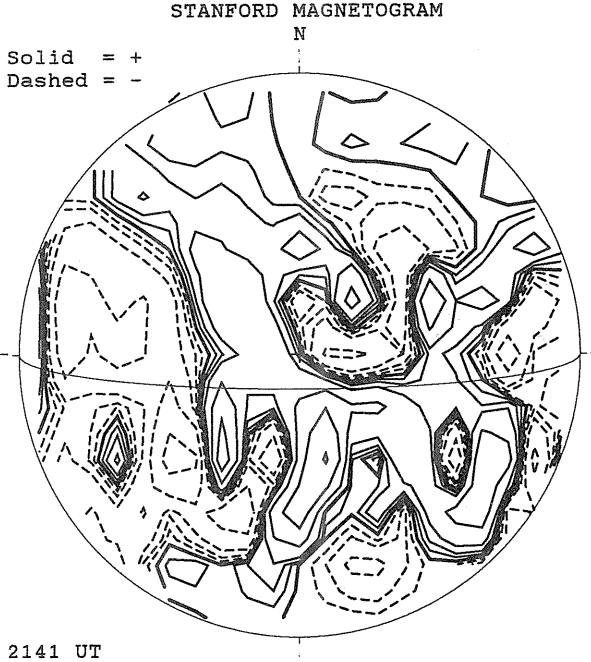
SEPTEMBER 20, 1990 (P= 24.81, B_o = 7.10, L_o = 110.46)

KITT PEAK MAGNETOGRAM



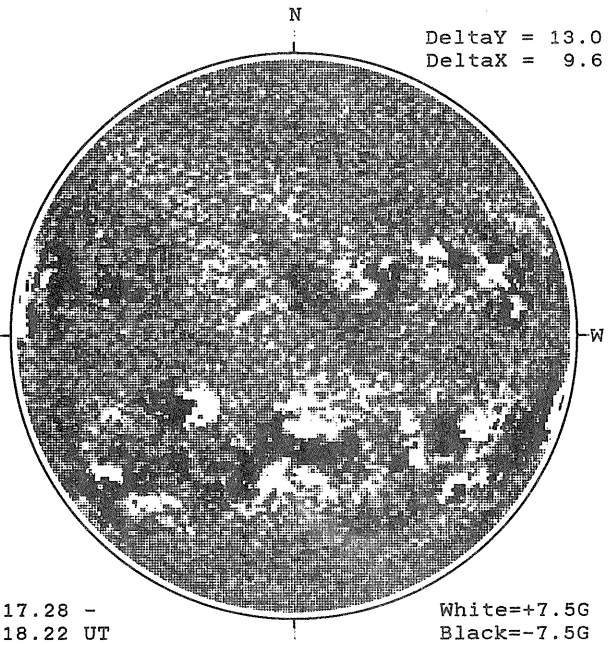
1607 UT

STANFORD MAGNETOGRAM



2141 UT

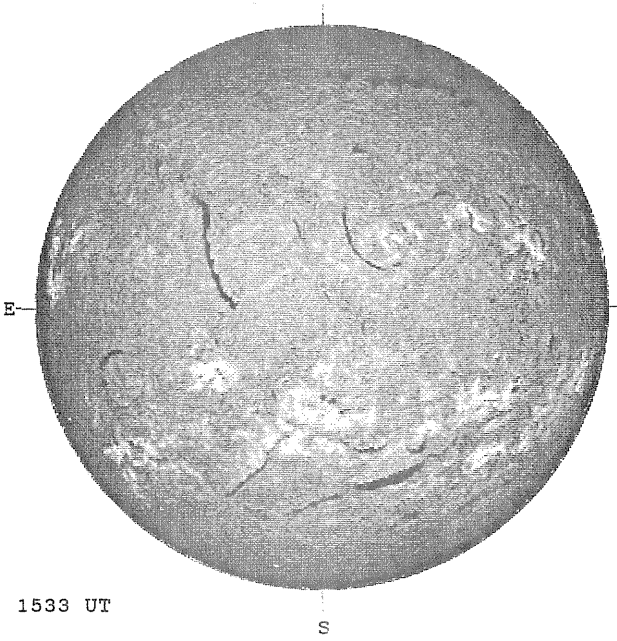
MT. WILSON MAGNETOGRAM



17.28 - 18.22 UT

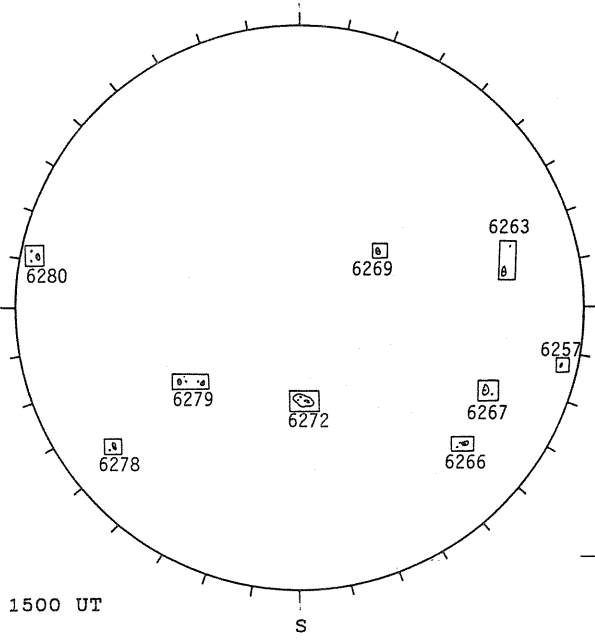
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



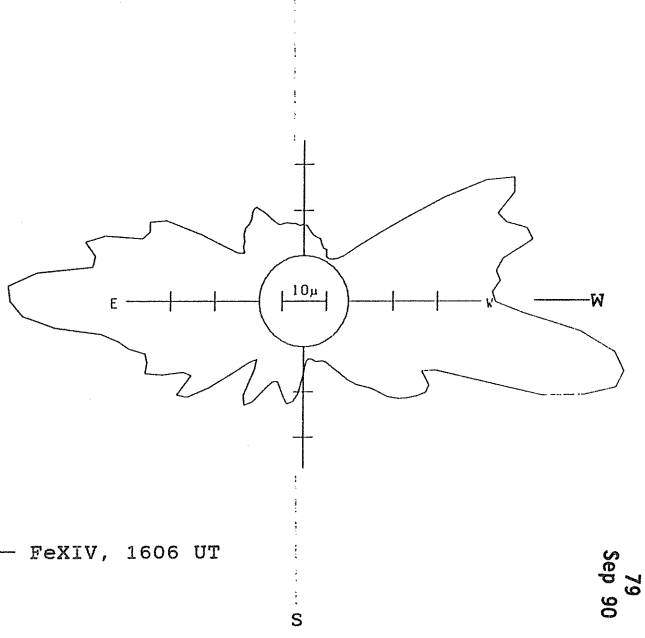
1533 UT

BOULDER SUNSPOT



1500 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



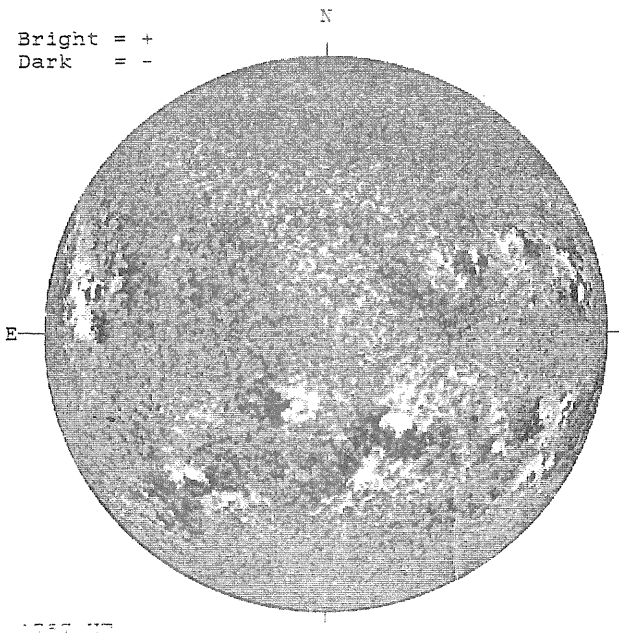
—— FeXIV, 1606 UT

79 Sep 90

SEPTEMBER 21, 1990 (P= 24.95, B_o = 7.07, L_o = 97.26)

KITT PEAK MAGNETOGRAM

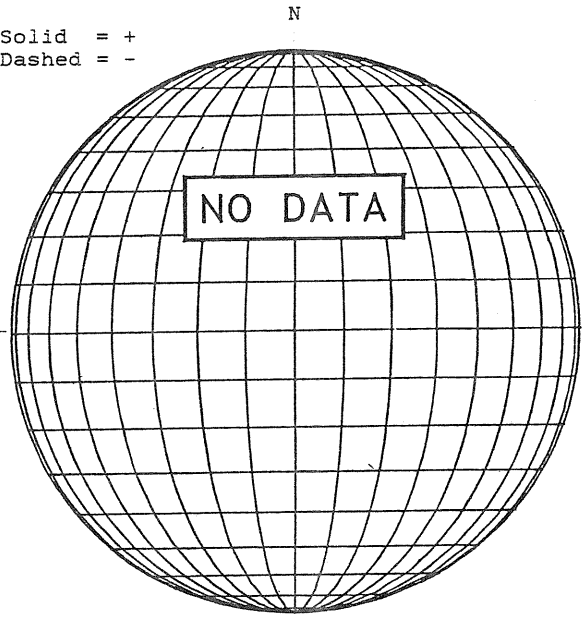
Bright = +
Dark = -



1951 UT

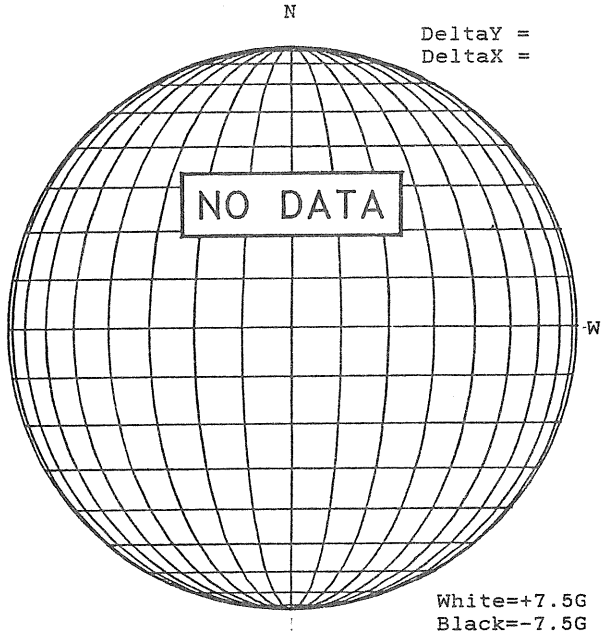
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



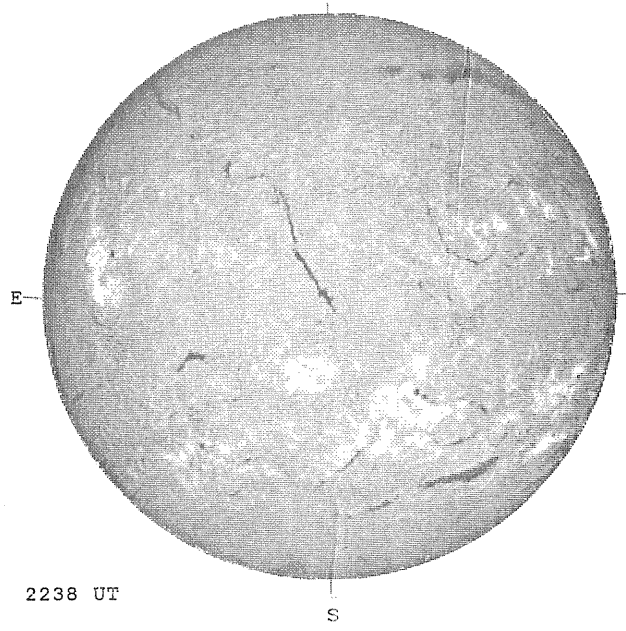
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



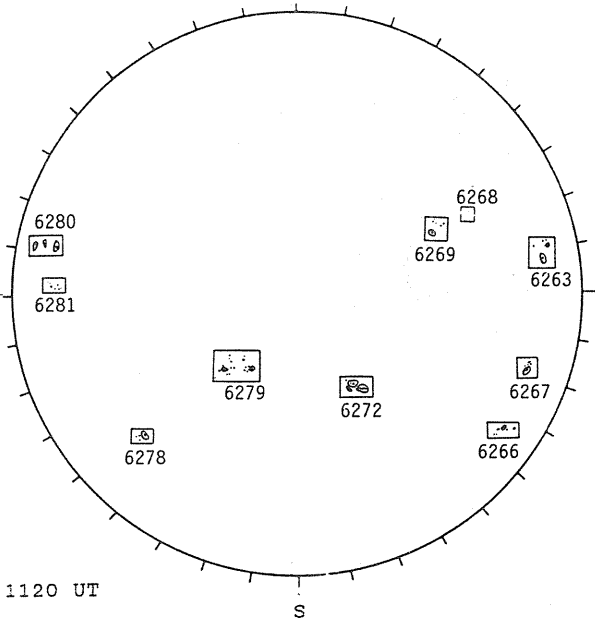
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



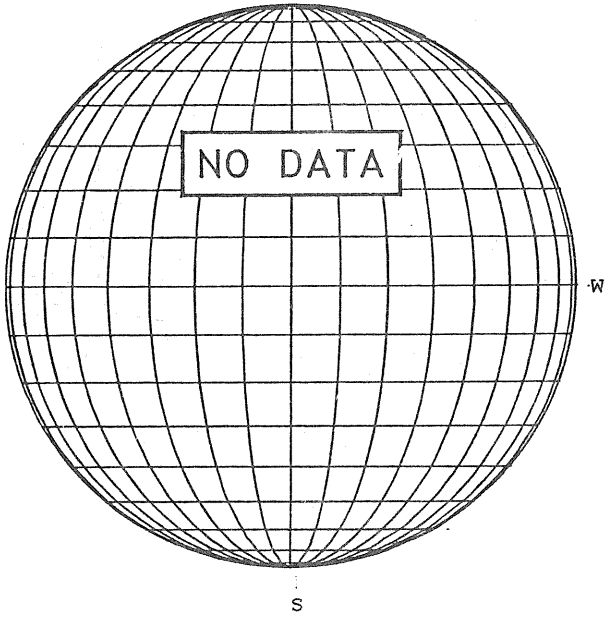
2238 UT

RAMEY SUNSPOT



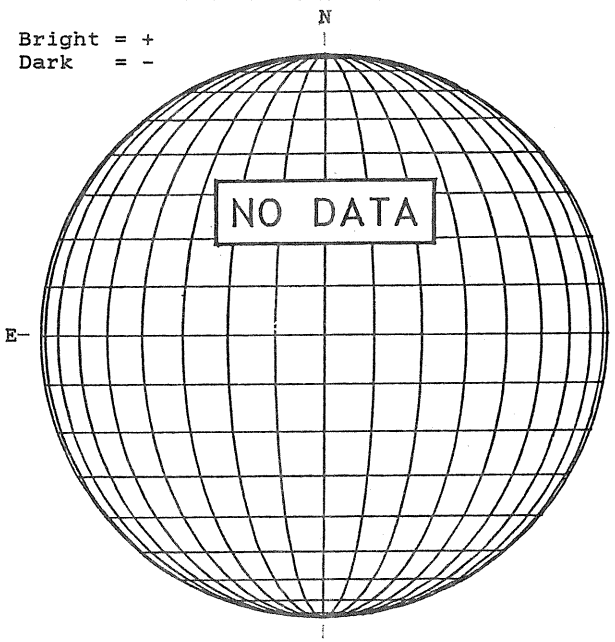
1120 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

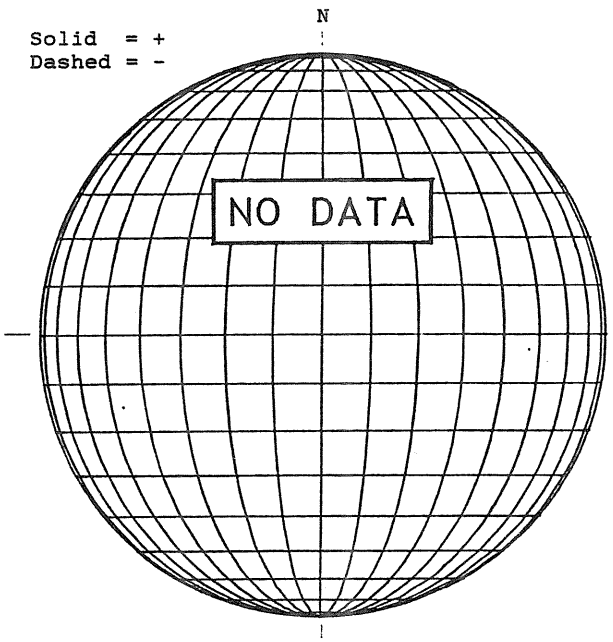


SEPTEMBER 22, 1990 (P= 25.08, B_o = 7.05, L_o = 84.06)

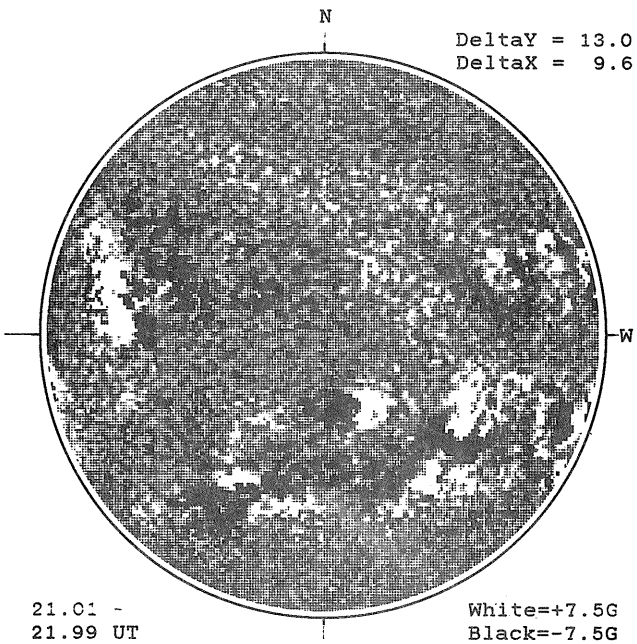
KITT PEAK MAGNETOGRAM



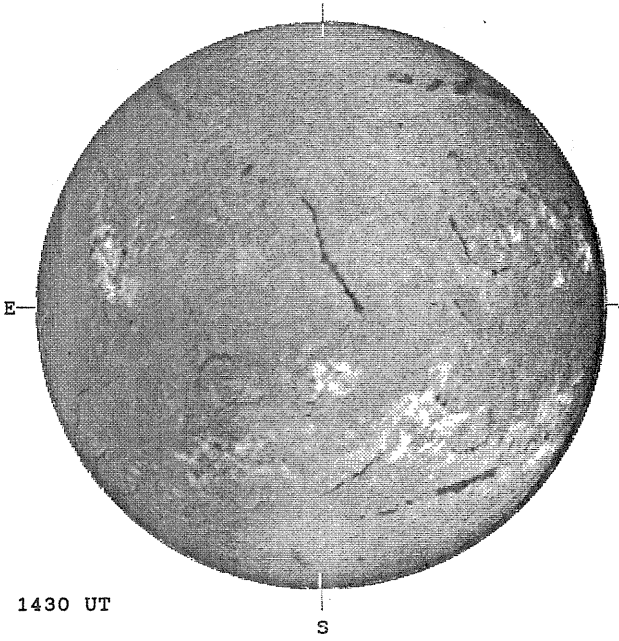
STANFORD MAGNETOGRAM



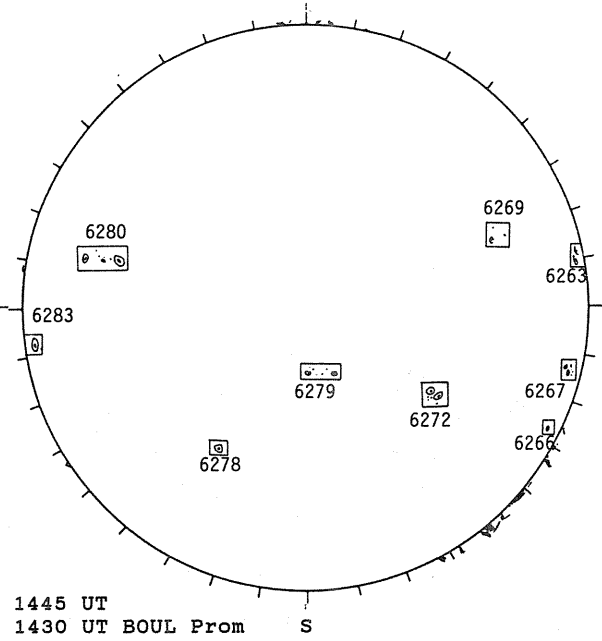
MT. WILSON MAGNETOGRAM



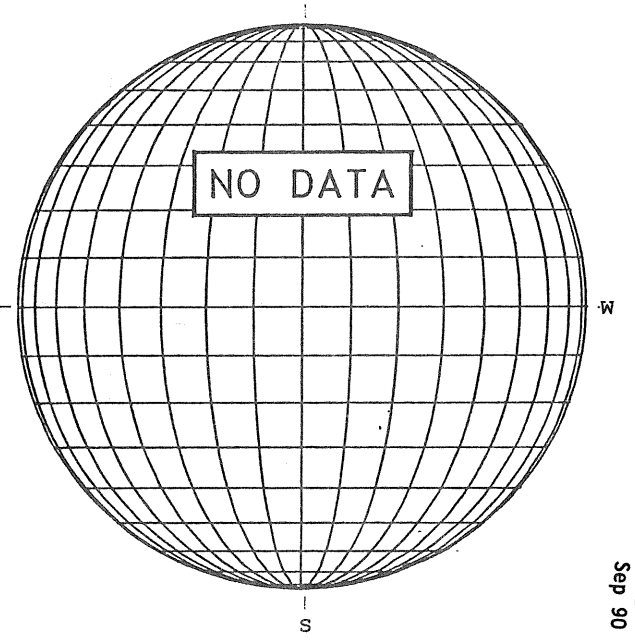
BOULDER H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

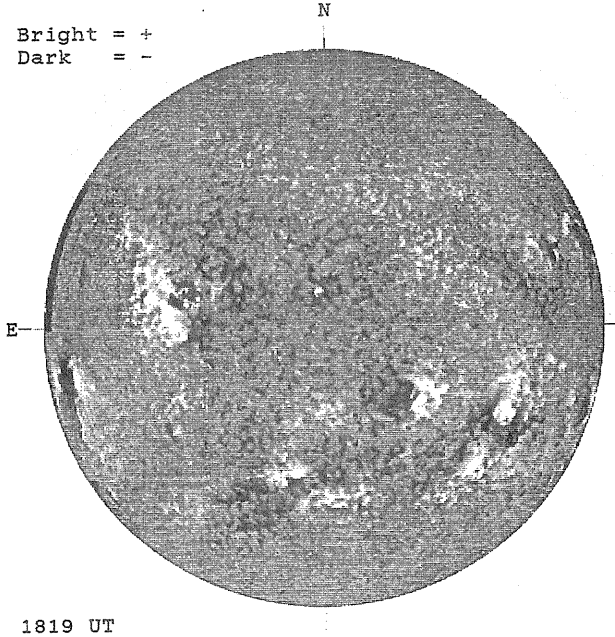


81
Sep 90

SEPTEMBER 23, 1990 (P= 25.21, B_o = 7.02, L_o = 70.86)

KITT PEAK MAGNETOGRAM

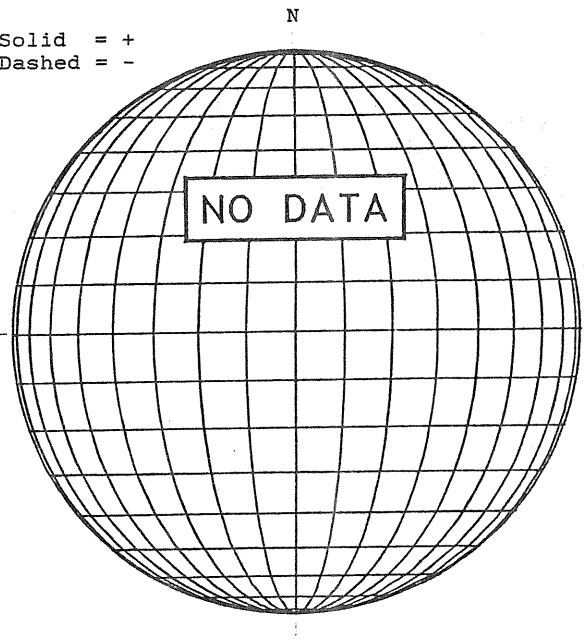
Bright = +
Dark = -



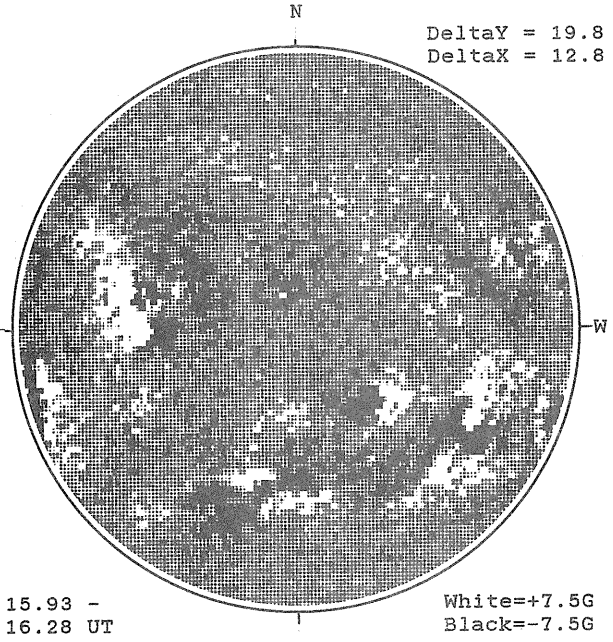
1819 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -



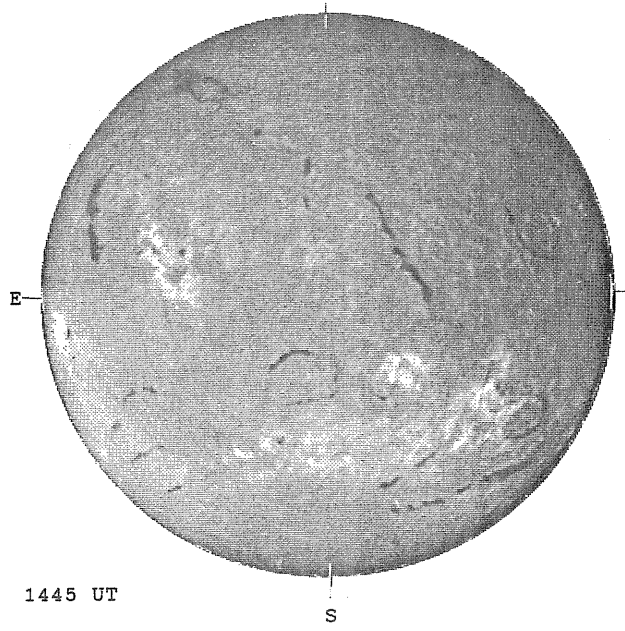
MT. WILSON MAGNETOGRAM



15.93 -
16.28 UT

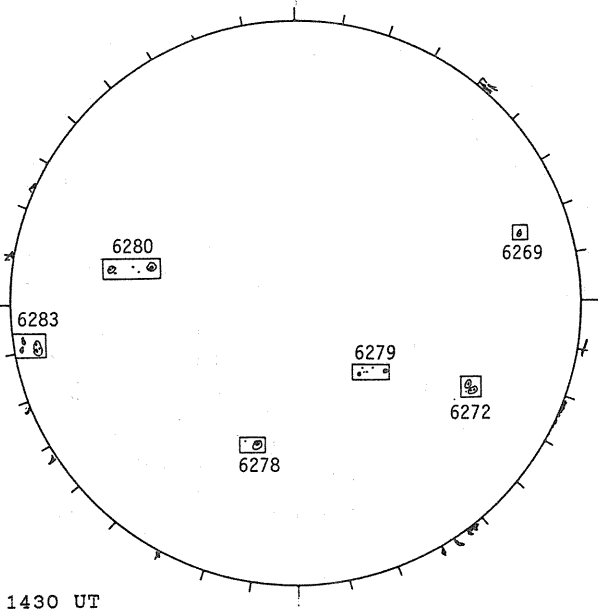
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



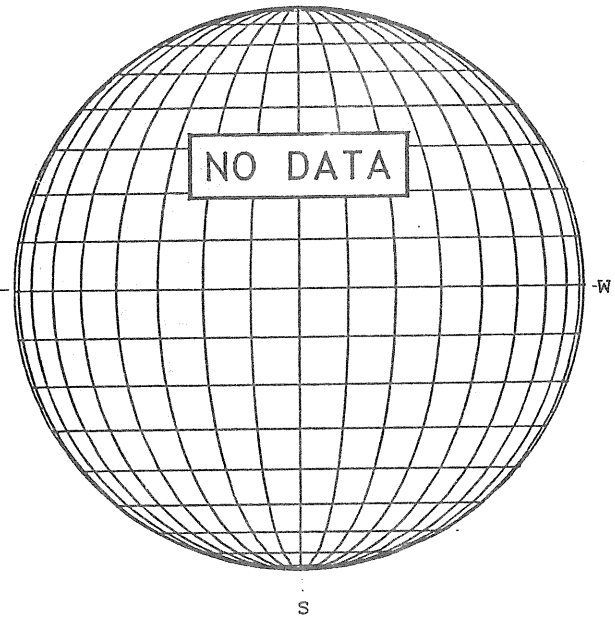
1445 UT

BOULDER SUNSPOT



1430 UT
1445 UT BOUL Prom

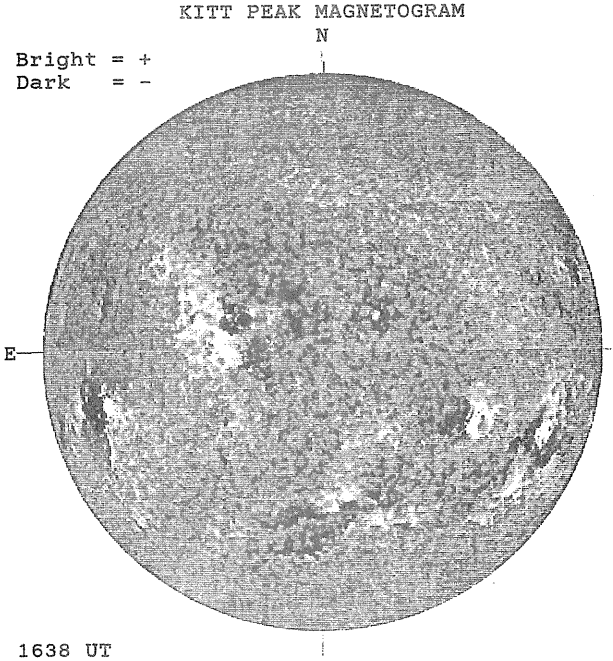
SACRAMENTO PEAK CORONA (1.15 Radii)



SEPTEMBER 24, 1990 (P= 25.33 B_o = 6.99, L_o = 57.66)

KITT PEAK MAGNETOGRAM

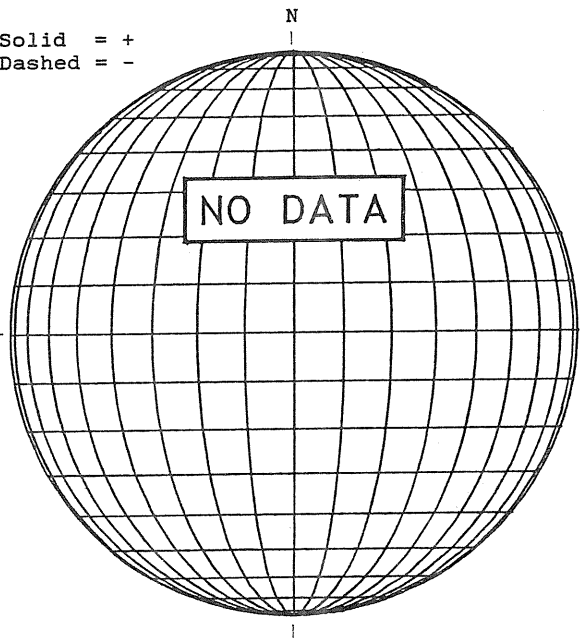
Bright = +
Dark = -



1638 UT

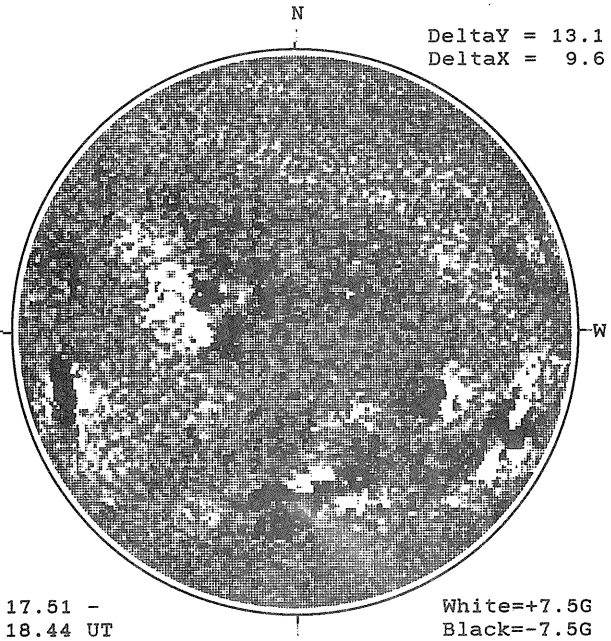
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

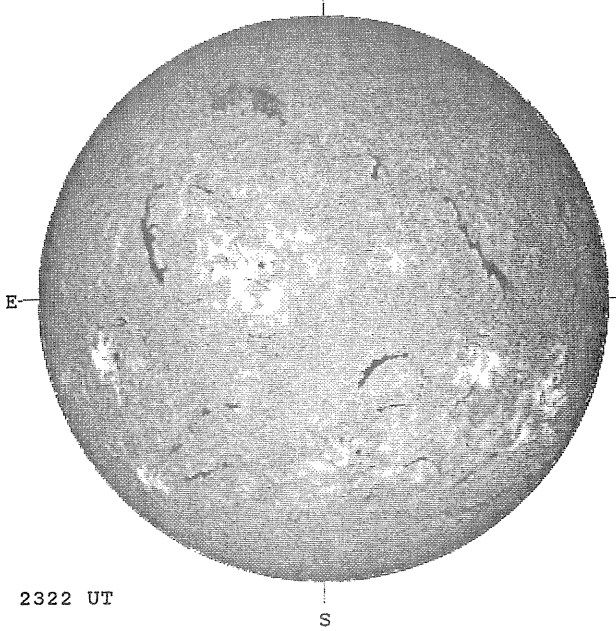
DeltaY = 13.1
DeltaX = 9.6



17.51 -
18.44 UT

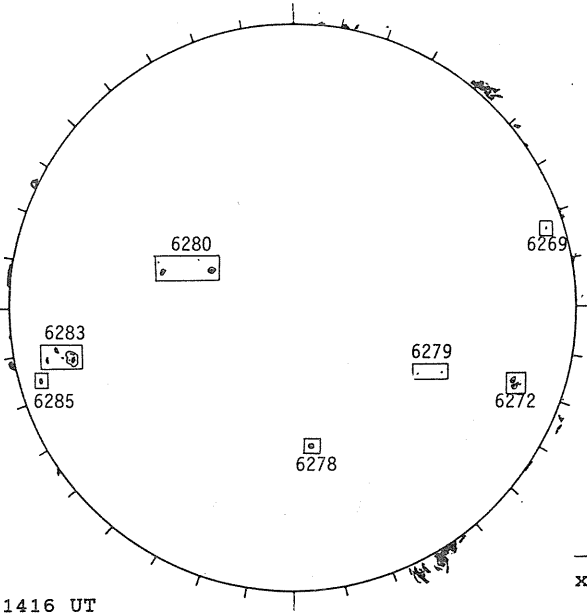
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



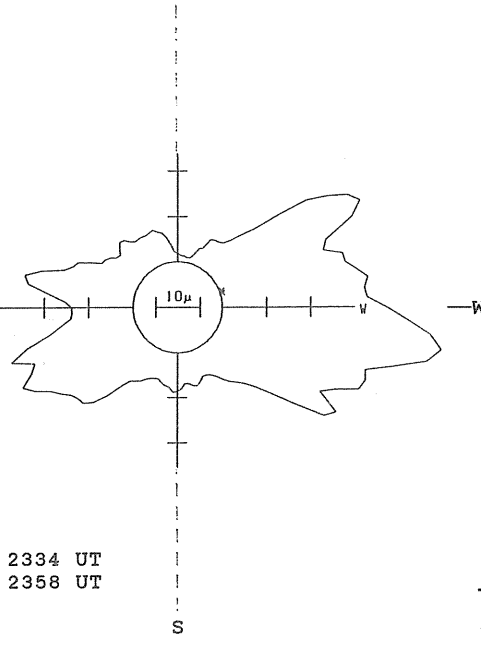
2322 UT

BOULDER SUNSPOT



1416 UT
1558 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

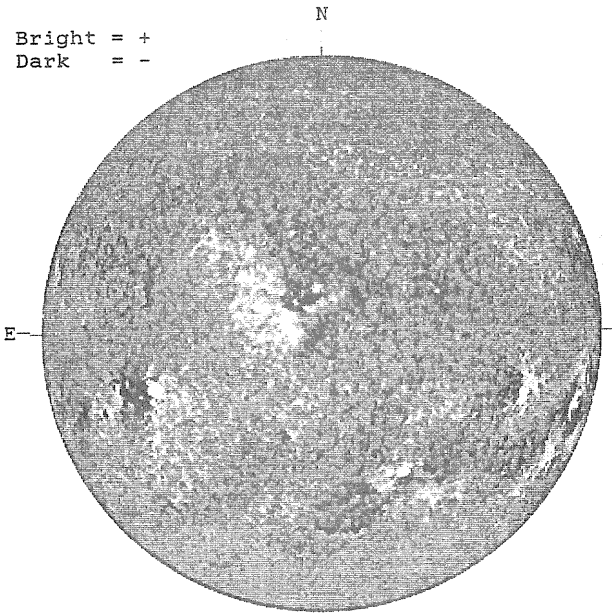


—— FeXIV, 2334 UT
xxxx Ca XV, 2358 UT

SEPTEMBER 25, 1990 (P= 25.44, B_o = 6.95, L_o = 44.46)

KITT PEAK MAGNETOGRAM

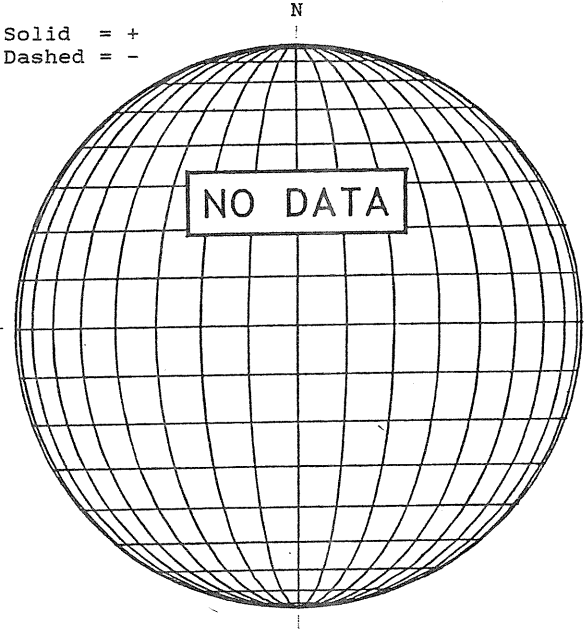
Bright = +
Dark = -



1746 UT

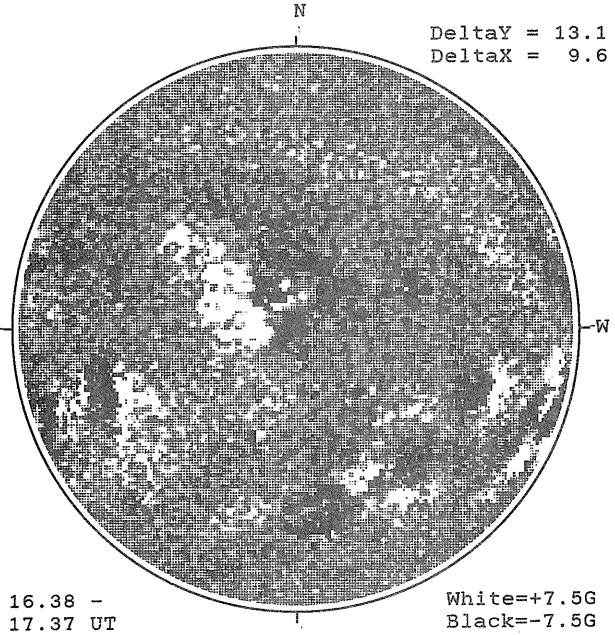
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

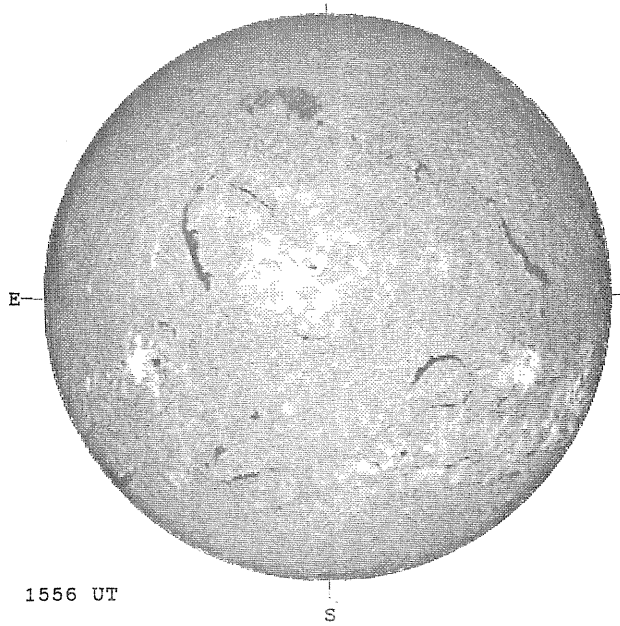
DeltaY = 13.1
DeltaX = 9.6



16.38 -
17.37 UT

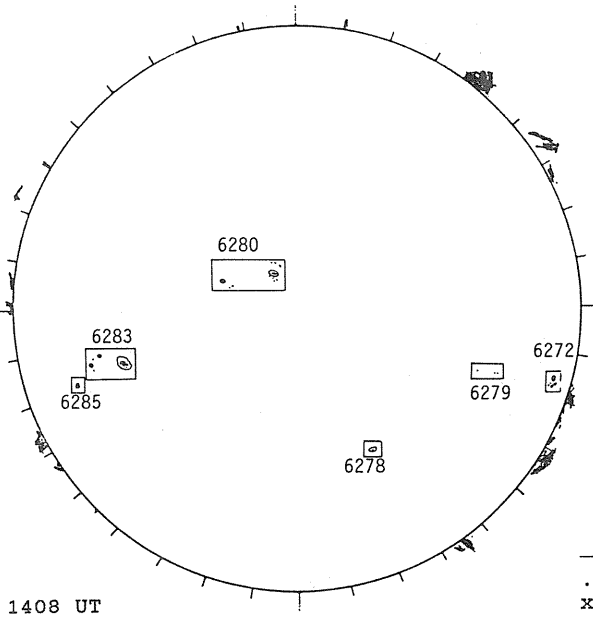
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



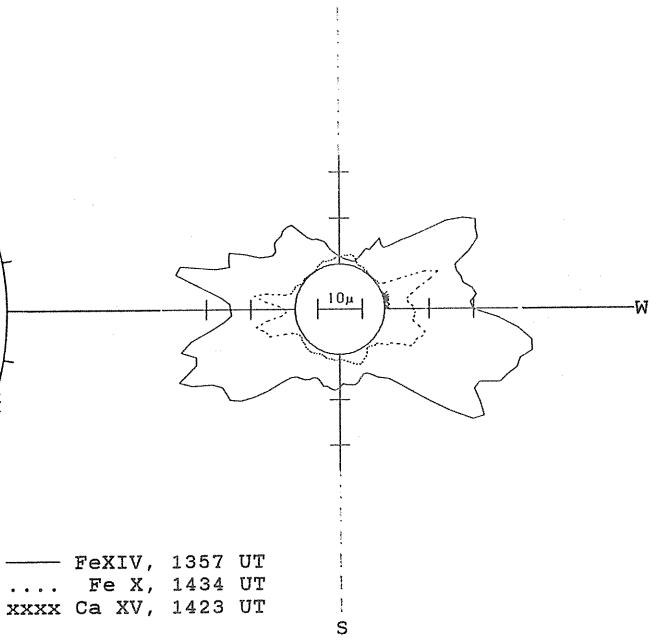
1556 UT

BOULDER SUNSPOT



1408 UT
1459 UT BOUL Prom

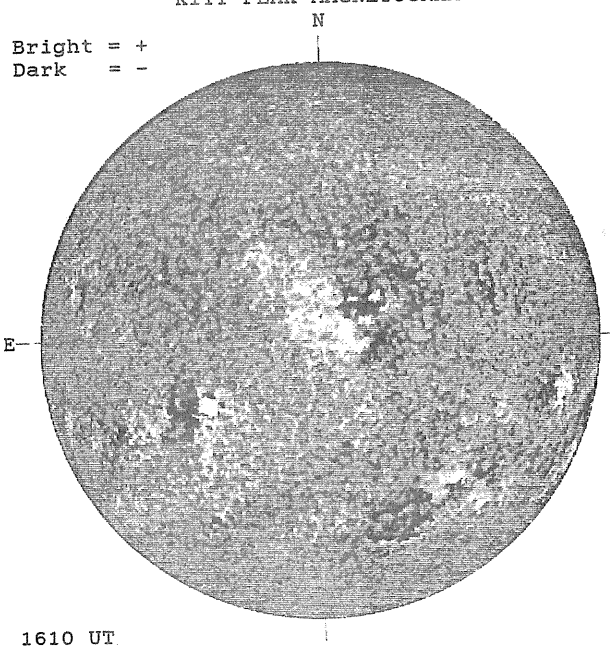
SACRAMENTO PEAK CORONA (1.15 Radii)



—— FeXIV, 1357 UT
.... Fe X, 1434 UT
xxxx Ca XV, 1423 UT

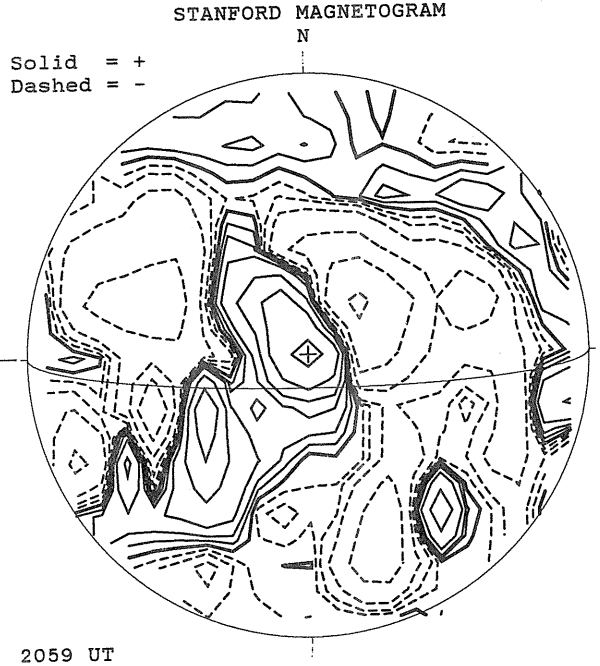
SEPTEMBER 26, 1990 (P= 25.54, B_o = 6.92, L_o = 31.27)

KITT PEAK MAGNETOGRAM



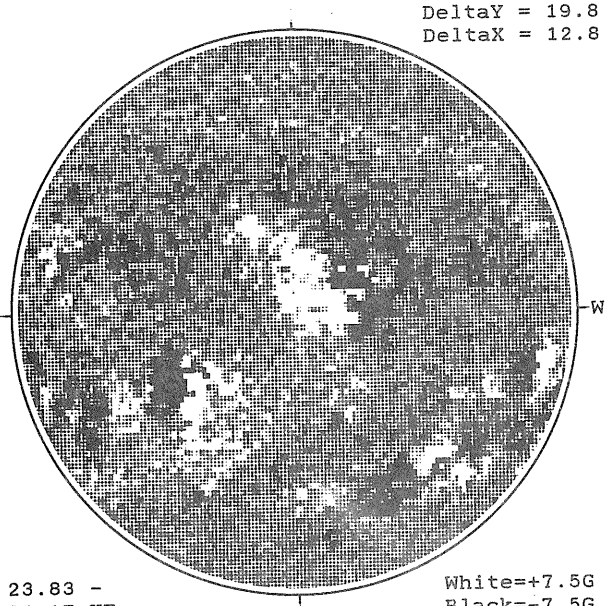
1610 UT

STANFORD MAGNETOGRAM



2059 UT

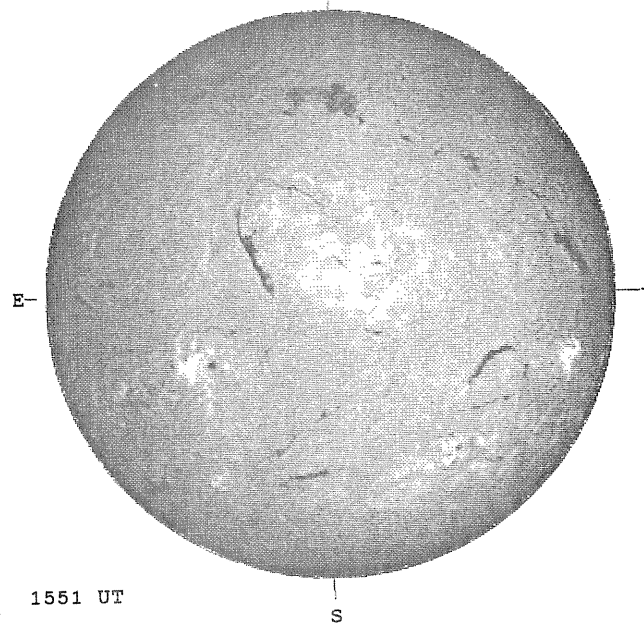
MT. WILSON MAGNETOGRAM



23.83 -
24.17 UT

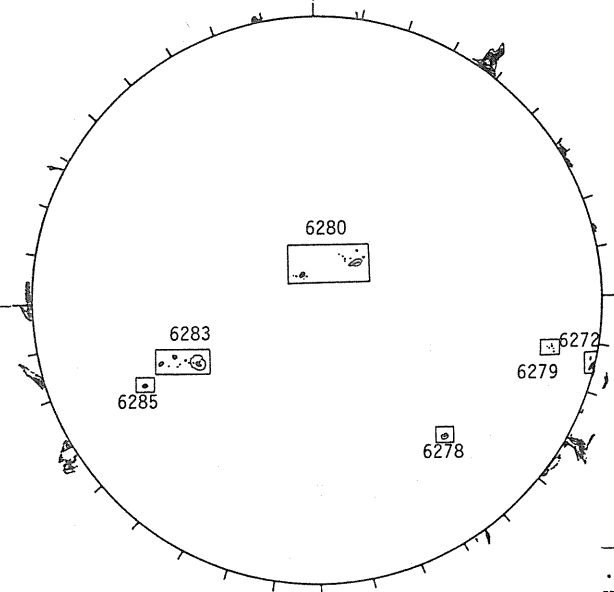
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



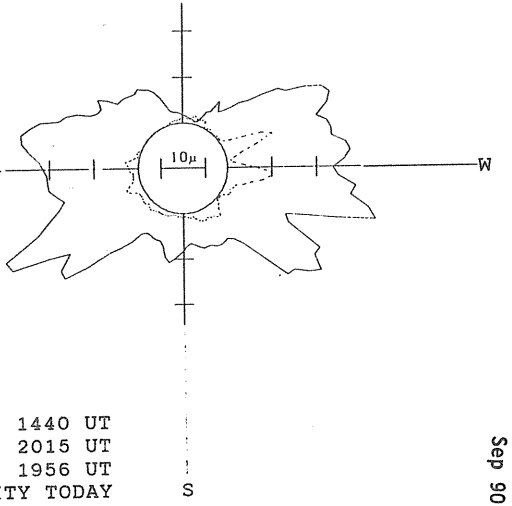
1551 UT

BOULDER SUNSPOT



1405 UT
1503 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



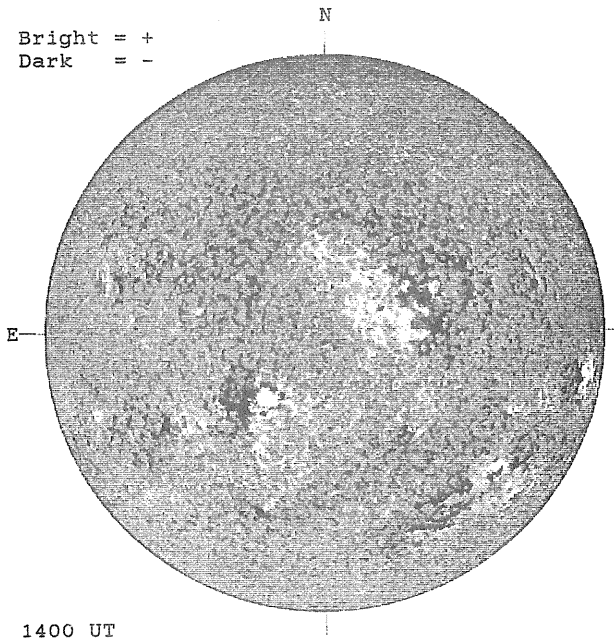
—— FeXIV, 1440 UT
.... Fe X, 2015 UT
xxxx Ca XV, 1956 UT
NO CA XV ACTIVITY TODAY

85
Sep 90

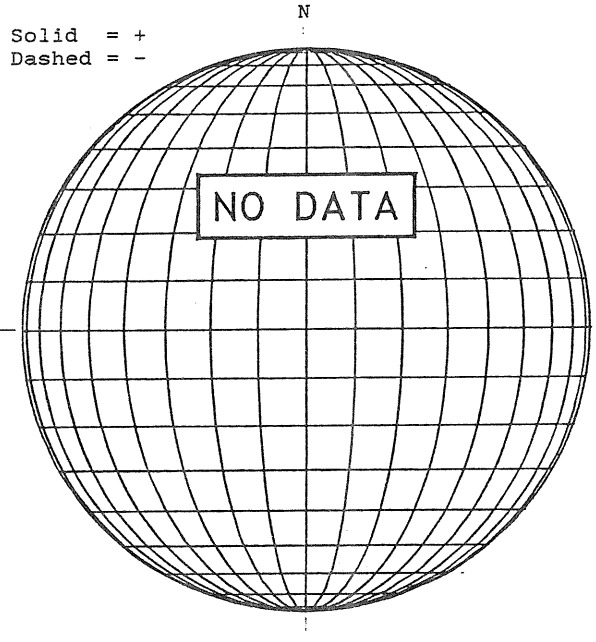
SEPTEMBER 27, 1990 (P= 25.64, B_o = 6.88, L_o = 18.07)

sep 90
86

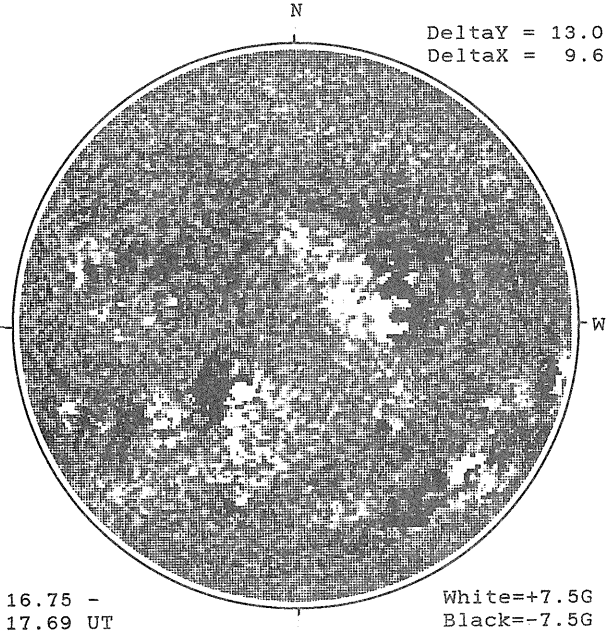
KITT PEAK MAGNETOGRAM



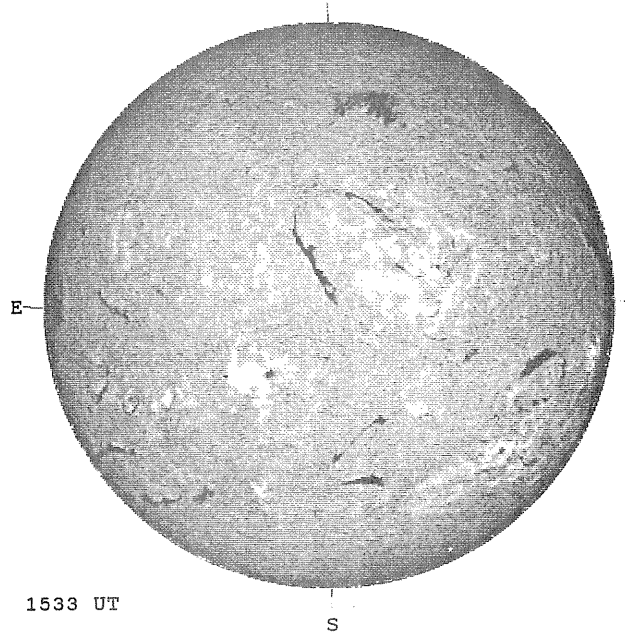
STANFORD MAGNETOGRAM



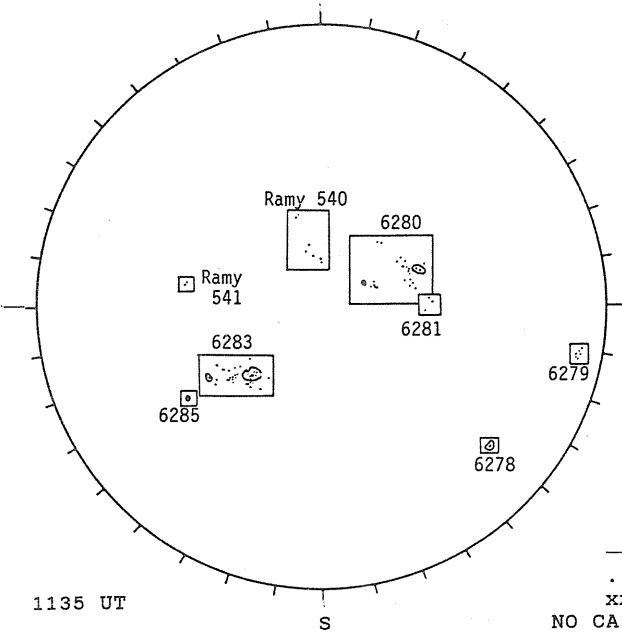
MT. WILSON MAGNETOGRAM



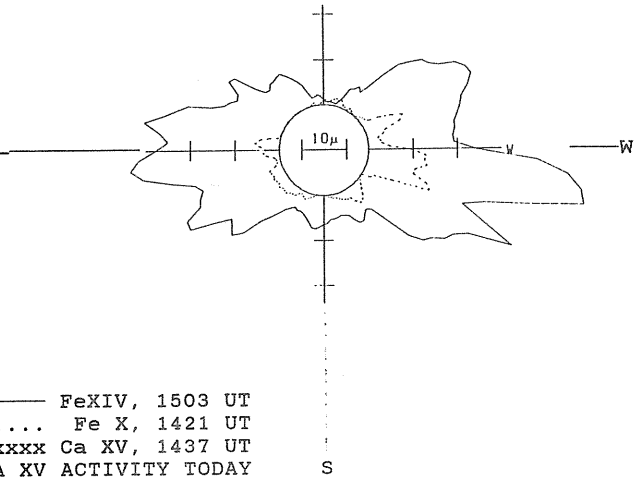
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

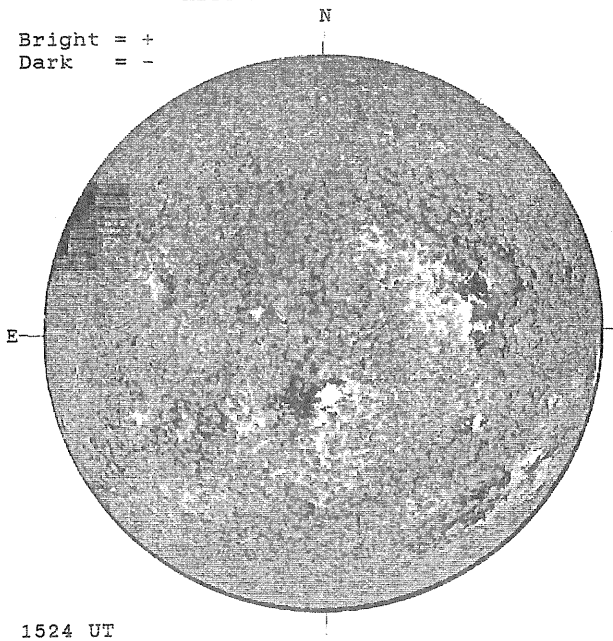


—— FeXIV, 1503 UT
.... Fe X, 1421 UT
xxxx Ca XV, 1437 UT
NO CA XV ACTIVITY TODAY

SEPTEMBER 28, 1990 (P= 25.74 B_o = 6.84, L_o = 4.87)

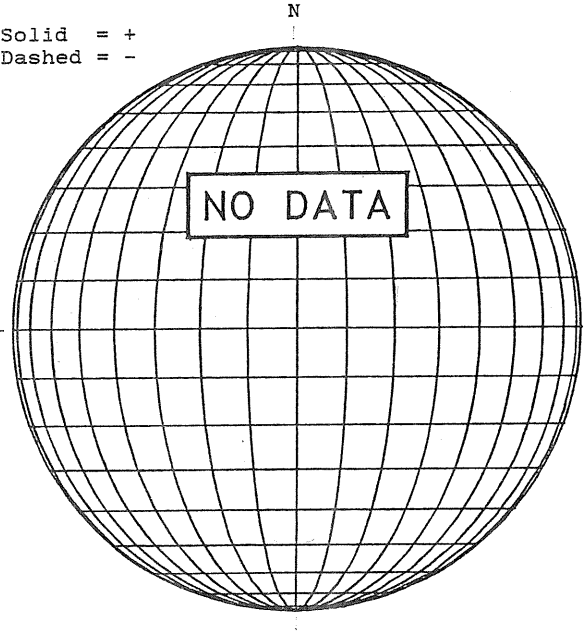
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



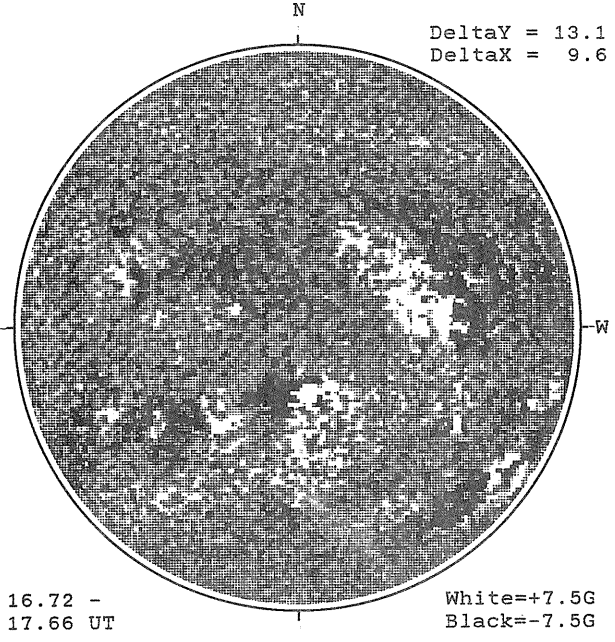
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

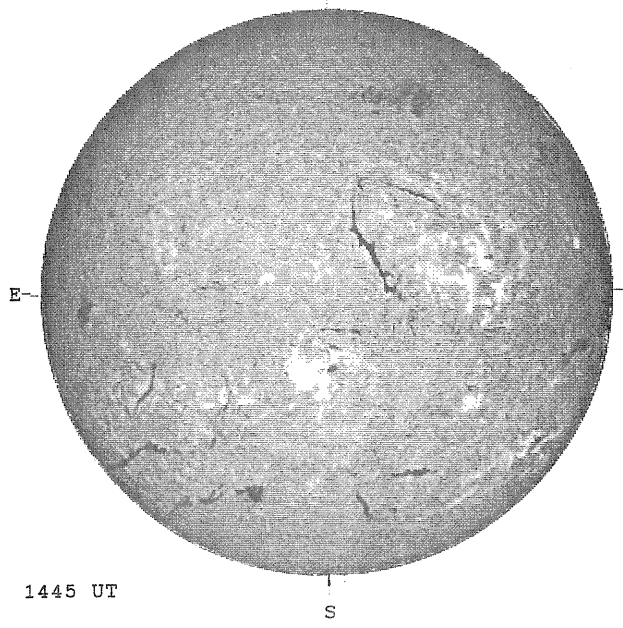
DeltaY = 13.1
DeltaX = 9.6



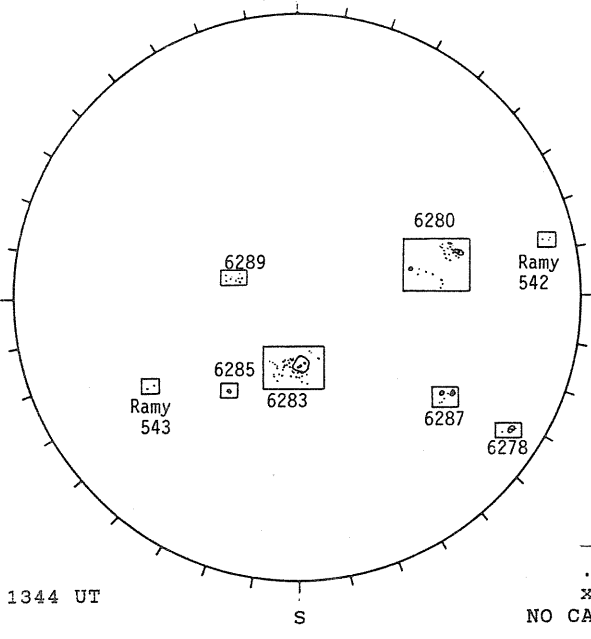
16.72 -
17.66 UT

White=+7.5G
Black=-7.5G

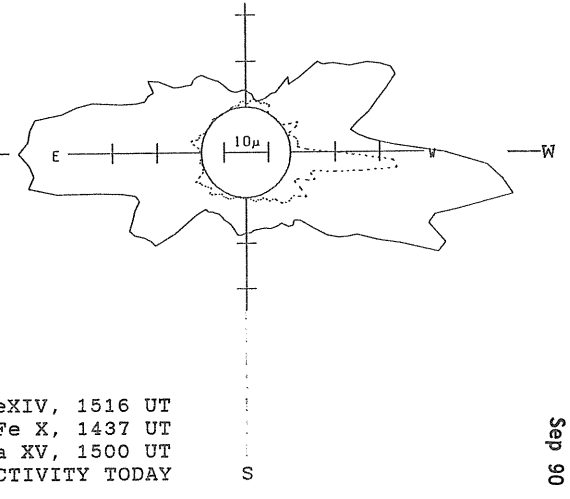
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



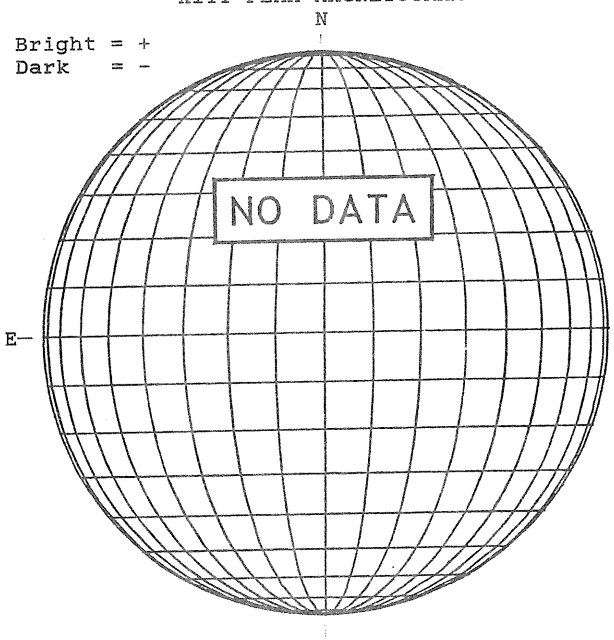
—— FeXIV, 1516 UT
.... Fe X, 1437 UT
xxxx Ca XV, 1500 UT
NO CA XV ACTIVITY TODAY

87
Sep 90

SEPTEMBER 29, 1990 (P= 25.82, B_o = 6.80, L_o = 351.67)

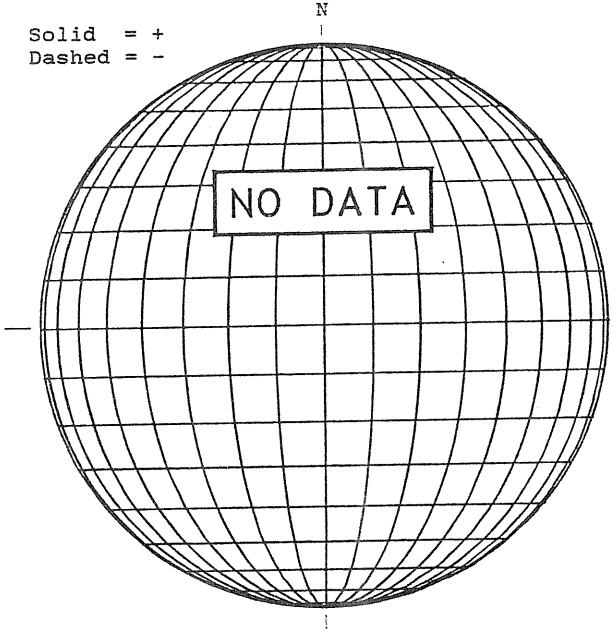
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



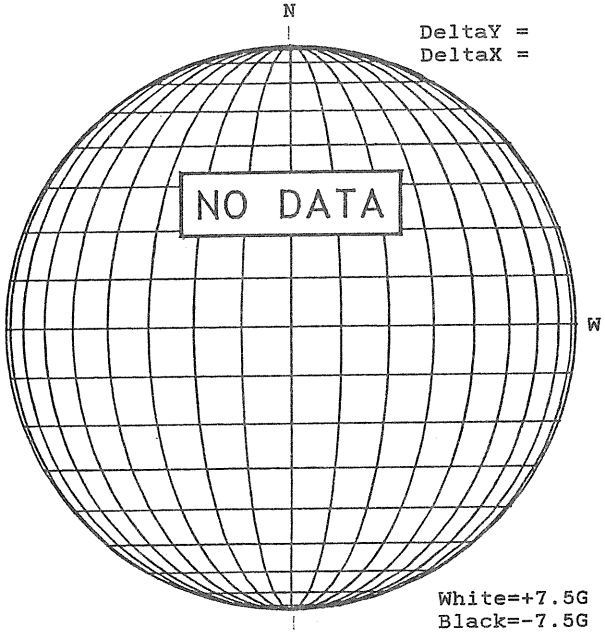
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



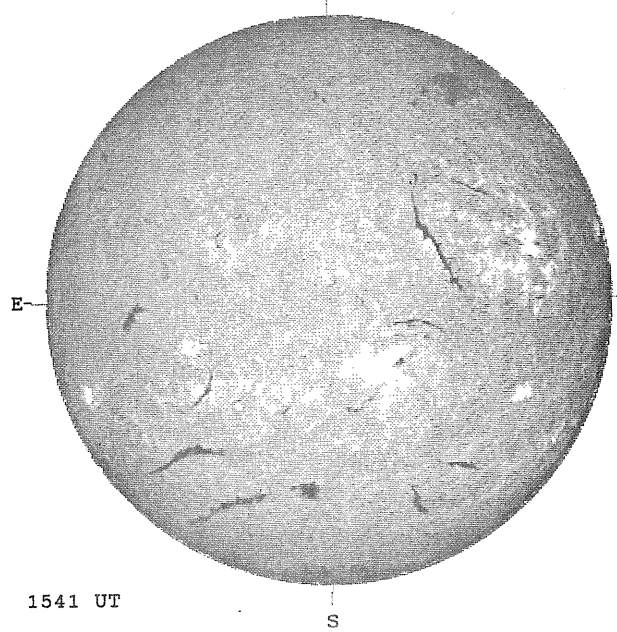
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



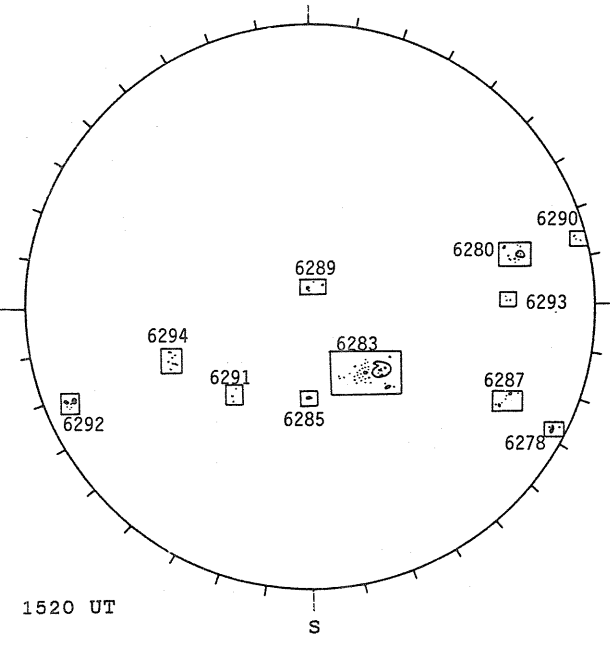
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



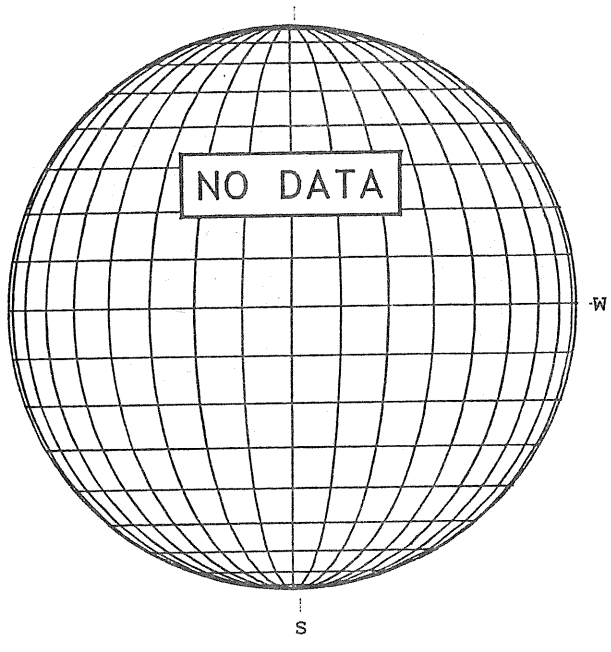
1541 UT

RAMEY SUNSPOT



1520 UT

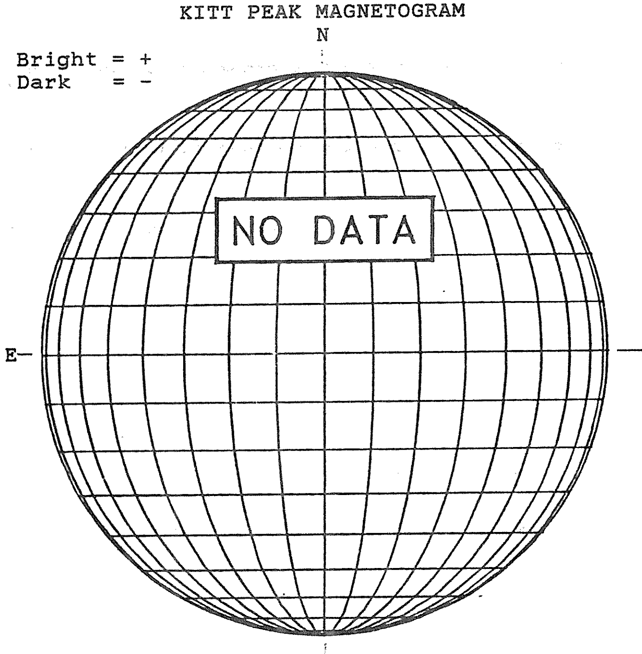
SACRAMENTO PEAK CORONA (1.15 Radii)



SEPTEMBER 30, 1990 (P= 25.90, B_O = 6.76, L_O = 338.48)

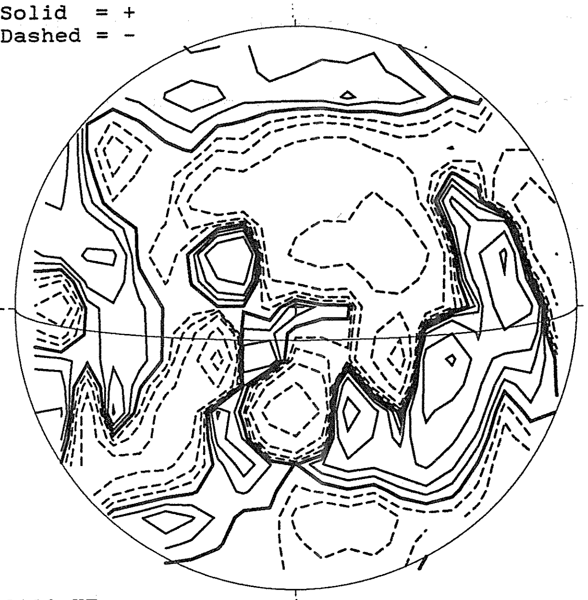
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



STANFORD MAGNETOGRAM

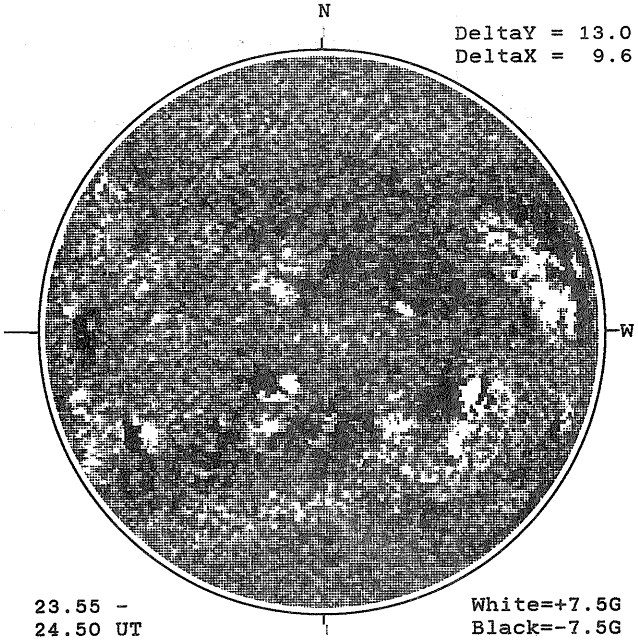
Solid = +
Dashed = -



2133 UT

MT. WILSON MAGNETOGRAM

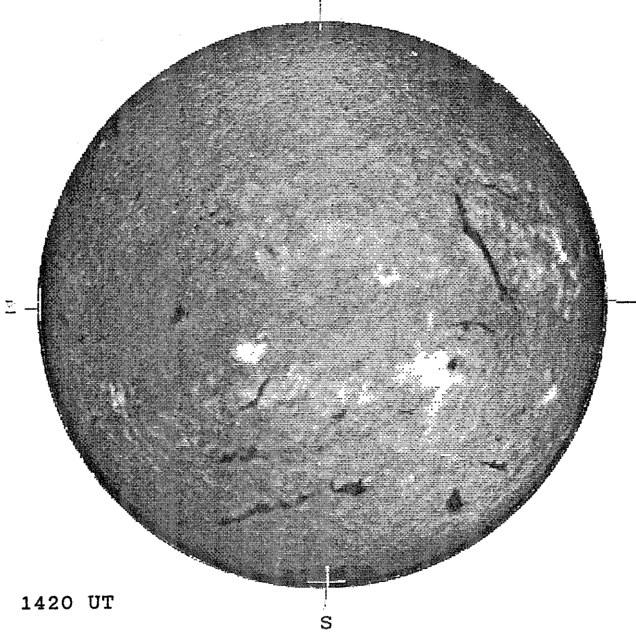
DeltaY = 13.0
DeltaX = 9.6



23.55 -
24.50 UT

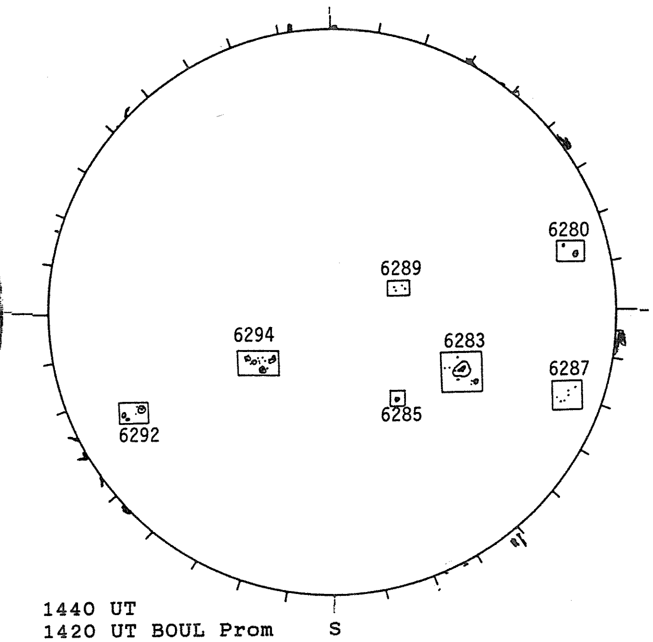
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



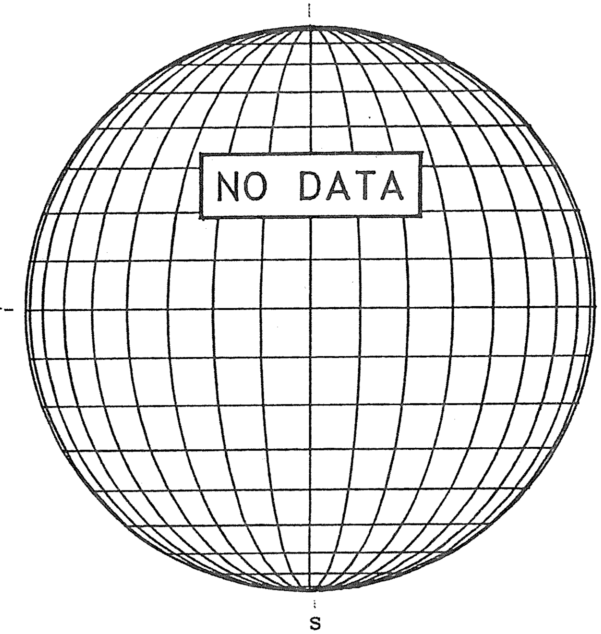
1420 UT

BOULDER SUNSPOT



1440 UT
1420 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6237		RAMY	08	27	1330	S18	E70	09	1.9					0		3
6237		HOLL	08	27	1608	S17	E69	09	1.9		B	BX	20	2	3	3
6237		PALE	08	27	1735	S16	E68	09	1.9		B	BXO	10	4	3	4
6237		LEAR	08	28	0035	S15	E61	09	1.6		A	AX	20	2	1	3
6237		SVTO	08	28	0745	S14	E60	09	1.8		B	BXO	10	3	2	3
6237		RAMY	08	28	1210	S15	E55	09	1.7		B	BXO	10	3	3	3
6237		BOUL	08	28	1353	S15	E53	09	1.6		A	AX	10	2	1	1
6237		HOLL	08	28	1630	S16	E54	09	1.8		B	BXO	20	5	4	3
6237		PALE	08	28	1746	S15	E54	09	1.8		A	AX	20	2	2	3
6237		LEAR	08	29	0020	S16	E49	09	1.7		B	BXO	20	3	4	3
6237		SVTO	08	29	1042	S15	E44	09	1.8		B	BXO	30	5	6	2
6237		RAMY	08	29	1155	S17	E43	09	1.8		B	BXO	30	9	12	4
6237		HOLL	08	29	1440	S18	E44	09	2.0		B	BXO	20	8	10	4
6237		BOUL	08	29	1442	S14	E40	09	1.6		B	BXO	20	4	6	3
6237		PALE	08	29	1743	S16	E41	09	1.8		B	BXO	20	4	6	3
6237		LEAR	08	30	0015	S18	E39	09	2.0		B	BXO	20	7	10	3
6237		CULG	08	30	0200	S17	E38	09	2.0		B	BXO	10	9	12	1
6237		SVTO	08	30	0840	S17	E36	09	2.1		B	DAO	60	12	10	3
6237		RAMY	08	30	1245	S16	E29	09	1.7		B	BXO	10	9	8	2
6237		BOUL	08	30	1445	S14	E27	09	1.6		B	BXO	30	9	7	3
6237		HOLL	08	30	1537	S15	E29	09	1.8		B	CRO	30	9	8	3
6237		PALE	08	30	1735	S15	E27	09	1.8		B	CRO	20	10	7	4
6237		LEAR	08	31	0045	S16	E24	09	1.8		B	BXO	10	7	6	2
6237		SVTO	08	31	0755	S15	E21	09	1.9		B	BXO	20	10	6	2
6237		RAMY	08	31	1228	S15	E17	09	1.8		B	CAO	30	8	6	3
6237		BOUL	08	31	1433	S14	E16	09	1.8		B	BXO	10	6	6	3
6237		HOLL	08	31	1540	S15	E16	09	1.9		B	BXO	20	13	7	4
6237		PALE	08	31	1735	S16	E15	09	1.9		B	BXO	10	7	7	4
6237		LEAR	09	01	0108	S16	E10	09	1.8		B	BXO	30	4	5	2
6237		CULG	09	01	0310	S17	E08	09	1.7		B	CRO	20	7	7	3
6237		SVTO	09	01	0635	S15	E08	09	1.9		B	CRO	30	10	6	2
6237		RAMY	09	01	1352	S15	E04	09	1.9		B	BXO	30	10	6	4
6237		HOLL	09	01	1510	S18	E03	09	1.9		B	BXO	10	5	5	3
6237		PALE	09	01	1747	S18	E04	09	2.0		B	BXO	10	4	3	3
6237		LEAR	09	02	0014	S17	W02	09	1.8		B	BXO	20	2	3	3
6237		CULG	09	02	0225	S18	W01	09	2.0		A	HR	10	1	1	3
6237		SVTO	09	02	0736	S14	W08	09	1.7		B	BXO	10	4	6	2
6237		RAMY	09	02	1345	S14	W12	09	1.7		A	AX	10	2	1	3
6237		PALE	09	02	1756	S16	W14	09	1.7		B	BXO		4	1	3
6237		CULG	09	03	0110	S18	W13	09	2.0		A	HR	10	1	1	3
6237		SVTO	09	03	0640	S13	W22	09	1.6		B	BXO	10	3	3	2
6237		CULG	09	04	0015	S19	W26	09	2.0		A	AX		1		2
6237		CULG	09	05	0125	S19	W40	09	2.0		A	AX		1		2
6237		SVTO	09	05	0745	S13	W43	09	2.1		A	AX		1		3
6237		CULG	09	06	0210	S19	W55	09	1.9		A	AX		1		2
6237A		RAMY	09	01	1352	N15	E06	09	2.0		B	BXO	20	4	4	4
6237B		RAMY	09	03	1310	S06	W19	09	2.1		B	BXO	10	6	3	3
6237B		HOLL	09	03	1525	S07	W20	09	2.1		B	BXO	20	4	3	3
6242		BOUL	08	29	1442	S20	E48	09	2.3		A	AX	10	1		3
6242		RAMY	08	30	1245	S21	E38	09	2.4		B	DAO	60	12	5	2
6242		BOUL	08	30	1445	S20	E36	09	2.4		B	CAO	40	3	5	3
6242		HOLL	08	30	1537	S20	E36	09	2.4		B	CRO	20	5	4	3
6242		PALE	08	30	1735	S21	E36	09	2.5		B	CAO	40	7	6	4
6242		LEAR	08	31	0045	S21	E31	09	2.4		B	DSO	50	3	6	2
6242		SVTO	08	31	0755	S21	E29	09	2.5		B	DAO	50	7	6	2
6242		RAMY	08	31	1228	S22	E23	09	2.3		B	CAO	60	9	6	3
6242		BOUL	08	31	1433	S19	E22	09	2.3		B	CAO	30	7	7	3
6242		HOLL	08	31	1540	S21	E23	09	2.4		B	CRO	10	6	6	4
6242		PALE	08	31	1735	S21	E22	09	2.4		B	CAO	30	5	6	4
6242		LEAR	09	01	0108	S21	E15	09	2.2		B	CSO	30	3	5	2
6242		SVTO	09	01	0635	S20	E13	09	2.3		B	CAO	40	8	7	2
6242		RAMY	09	01	1352	S21	E10	09	2.3		B	DAO	30	6	6	4
6242		HOLL	09	01	1510	S21	E07	09	2.2		B	CRO	50	10	6	3
6242		PALE	09	01	1747	S20	E09	09	2.4		B	BXO	10	5	6	3
6242		LEAR	09	02	0014	S19	E01	09	2.1		B	CSO	30	2	3	3
6242		SVTO	09	02	0736	S19	W01	09	2.2		B	CRO	20	4	4	2

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

SEPTEMBER 1990

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
6242		RAMY	09	02	1345	S21	W03	09	2.3		B	BXO	10	2	4	3
6242		BOUL	09	02	1430	S19	W05	09	2.2		B	CSO	10	2	5	2
6242		HOLL	09	02	1553	S20	W05	09	2.3		B	DRO	20	2	5	3
6242		PALE	09	02	1756	S21	W06	09	2.3		B	BXO		3	4	3
6242		LEAR	09	03	0006	S18	W12	09	2.1		A	AX	10	1	1	3
6242		SVTO	09	03	0640	S20	W14	09	2.2		B	CAO	20	5	5	2
6242		RAMY	09	03	1310	S19	W19	09	2.1		A	HR	10	1	1	3
6242		BOUL	09	03	1343	S18	W18	09	2.2		A	AX		1		1
6242		HOLL	09	03	1525	S19	W20	09	2.1		A	AX	10	1		3
6242		PALE	09	03	1905	S19	W23	09	2.0		A	AX	10	2	2	3
6242		SVTO	09	04	0915	S19	W28	09	2.2		A	AX	10	2	2	3
6242		RAMY	09	04	1115	S19	W31	09	2.1		A	AX		1	1	4
6242		BOUL	09	04	1348	S17	W31	09	2.2		A	AX		1		1
6242		HOLL	09	04	1510	S19	W33	09	2.1		A	AX		1		4
6242		PALE	09	04	1745	S19	W35	09	2.1		A	AX		1		4
6242		LEAR	09	05	0115	S19	W39	09	2.1		A	AX	10	1	1	3
6242		RAMY	09	05	1125	S17	W48	09	1.8		A	AX	10	1	1	3
6242		BOUL	09	05	1407	S18	W46	09	2.1		A	AX		1		3
6242		PALE	09	05	1952	S19	W48	09	2.2		A	AX	10	2	1	3
6242		LEAR	09	06	0019	S19	W52	09	2.0		A	AX	10	3	1	2
6242		SVTO	09	06	0738	S19	W57	09	2.0		A	AX		1		3
6242		RAMY	09	06	1218	S19	W58	09	2.1		A	HR	10	1	1	3
6242		HOLL	09	06	1635	S18	W60	09	2.1		A	AX		1	1	3
6242		PALE	09	06	1928	S20	W60	09	2.2		A	AX		1		3
6242		RAMY	09	07	1352	S20	W71	09	2.1		A	AX		1	1	3
6250		BOUL	09	03	1343	S05	W18	09	2.2		B	BXO	10	3	2	1
6250		PALE	09	03	1905	S07	W22	09	2.1		B	BXO		4	3	3
6250		CULG	09	04	0015	S06	W27	09	2.0		A	AX		2	1	2
6238		HOLL	08	27	1608	S12	E84	09	3.0		A	HS	90	1	2	3
6238		PALE	08	27	1735	S11	E85	09	3.1		A	HA	60	1	3	4
6238		LEAR	08	28	0035	S12	E77	09	2.8		A	HS	60	1	3	3
6238		CULG	08	28	0145	S12	E73	09	2.6		A	HS	80	1	1	3
6238		SVTO	08	28	0745	S11	E77	09	3.1		A	HA	90	2	2	3
6238		RAMY	08	28	1210	S13	E69	09	2.7		A	HA	140	3	2	3
6238		BOUL	08	28	1353	S12	E68	09	2.7		A	HS	90	1	1	1
6238		HOLL	08	28	1630	S13	E68	09	2.8				70	4	2	3
6238		PALE	08	28	1746	S12	E70	09	3.0		B	CAO	100	3	3	3
6238		LEAR	08	29	0020	S13	E64	09	2.8		B	CHO	70	3	6	3
6238		SVTO	08	29	1042	S12	E60	09	3.0		B	CAI	140	7	7	2
6238		RAMY	08	29	1155	S12	E53	09	2.5		B	BAO	170	10	7	4
6238		HOLL	08	29	1440	S13	E57	09	2.9		B	CAO	140	10	10	4
6238		BOUL	08	29	1442	S12	E57	09	2.9		B	CSO	170	6	9	3
6238		PALE	08	29	1743	S13	E61	09	3.3		B	CAO	140	4	13	3
6238		LEAR	08	30	0015	S12	E51	09	2.8		B	CAO	110	5	8	3
6238		CULG	08	30	0200	S12	E52	09	3.0		B	CAO	100	9	10	1
6238		SVTO	08	30	0840	S14	E48	09	3.0		B	CAO	150	9	9	3
6238		RAMY	08	30	1245	S13	E43	09	2.8		B	CAO	110	11	9	2
6238		BOUL	08	30	1445	S12	E43	09	2.8		B	CAO	140	6	9	3
6238		HOLL	08	30	1537	S13	E43	09	2.9		B	CAO	90	4	10	3
6238		PALE	08	30	1735	S13	E42	09	2.9		B	CAO	110	13	12	4
6238		LEAR	08	31	0045	S13	E35	09	2.7		B	CAO	130	4	5	2
6238		SVTO	08	31	0755	S13	E37	09	3.1		B	EAO	160	8	15	2
6238		BOUL	08	31	1433	S13	E27	09	2.6		B	CAO	120	3	5	3
6238		HOLL	08	31	1540	S12	E28	09	2.8		B	CSO	100	2	5	4
6238		PALE	08	31	1735	S13	E27	09	2.8		B	CSO	120	4	5	4
6238		LEAR	09	01	0108	S12	E22	09	2.7		B	CSO	130	6	5	2
6238		CULG	09	01	0310	S12	E21	09	2.7		B	CSO	100	7	7	3
6238		SVTO	09	01	0635	S13	E20	09	2.8		B	CAO	140	17	7	2
6238		RAMY	09	01	1352	S13	E18	09	2.9		B	DAO	170	15	8	4
6238		HOLL	09	01	1510	S15	E16	09	2.8		B	DSO	140	19	7	3
6238		PALE	09	01	1747	S12	E12	09	2.6		B	CSO	140	14	8	3
6238		LEAR	09	02	0014	S13	E09	09	2.7		B	DSO	190	13	8	3
6238		CULG	09	02	0225	S11	E08	09	2.7		B	DSI	140	14	7	3
6238		SVTO	09	02	0736	S13	E06	09	2.8		B	DAO	150	16	8	2
6238		RAMY	09	02	1345	S13	E04	09	2.9		BG	DAO	180	16	8	3
6238		BOUL	09	02	1430	S13	E03	09	2.8		B	DSI	150	18	8	2
6238		HOLL	09	02	1553	S13	E02	09	2.8		B	DSO	140	14	8	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6238		PALE	09 02 1756	S13 E01	09 2.8		B	CSO	120	15	8	3
6238		LEAR	09 03 0006	S12 W04	09 2.7		B	DAO	200	17	8	3
6238		CULG	09 03 0110	S12 W05	09 2.7		B	CAI	110	12	7	3
6238		SVTO	09 03 0640	S12 W06	09 2.8		B	CAO	140	25	8	2
6238		RAMY	09 03 1310	S12 W11	09 2.7		B	CAO	130	15	7	3
6238		BOUL	09 03 1343	S12 W11	09 2.7		B	DSI	90	12	5	1
6238		HOLL	09 03 1525	S13 W12	09 2.7		B	CSO	120	16	8	3
6238		PALE	09 03 1905	S12 W15	09 2.7		B	DSO	120	7	6	3
6238		CULG	09 04 0015	S13 W18	09 2.6		B	CAO	140	9	7	2
6238		SVTO	09 04 0915	S12 W19	09 2.9		B	CAO	150	10	8	3
6238		RAMY	09 04 1115	S12 W22	09 2.8		B	CSO	120	11	8	4
6238		BOUL	09 04 1348	S12 W23	09 2.8		B	CSI	100	8	7	1
6238		HOLL	09 04 1510	S13 W24	09 2.8		B	CSO	90	15	8	4
6238		PALE	09 04 1745	S13 W27	09 2.7		B	CSO	100	15	8	4
6238		LEAR	09 05 0115	S12 W31	09 2.7		B	CSO	100	8	8	3
6238		CULG	09 05 0125	S13 W32	09 2.6		B	CSO	110	12	8	2
6238		SVTO	09 05 0745	S13 W34	09 2.7		B	DSO	110	9	7	3
6238		RAMY	09 05 1125	S12 W37	09 2.7		B	CSO	120	9	8	3
6238		BOUL	09 05 1407	S12 W41	09 2.5		B	CAO	100	7	3	3
6238		HOLL	09 05 1910	S14 W41	09 2.7		B	DSO	130	8	10	2
6238		PALE	09 05 1952	S13 W41	09 2.7		B	CSO	110	9	8	3
6238		LEAR	09 06 0019	S12 W44	09 2.7		B	CSO	80	6	7	2
6238		CULG	09 06 0210	S12 W46	09 2.6		B	CSO	160	5	7	2
6238		SVTO	09 06 0738	S14 W47	09 2.8		B	DAO	90	7	7	3
6238		RAMY	09 06 1218	S12 W48	09 2.9		B	DAO	100	8	10	3
6238		HOLL	09 06 1635	S12 W50	09 2.9		B	CAO	100	5	12	3
6238		PALE	09 06 1928	S13 W53	09 2.8		B	CSO	70	6	12	3
6238		LEAR	09 07 0040	S12 W54	09 2.9		B	CSO	60	7	11	2
6238		SVTO	09 07 0716	S14 W61	09 2.7		B	CAO	100	6	9	3
6238		RAMY	09 07 1352	S13 W64	09 2.7		B	CAO	120	4	9	3
6238		BOUL	09 07 1409	S11 W68	09 2.5		B	CSO	120	2	3	3
6238		HOLL	09 07 1635	S12 W68	09 2.6		B	CSO	40	2	3	4
6238		PALE	09 07 1720	S12 W69	09 2.5		B	CSO	110	2	3	3
6238		LEAR	09 08 0025	S10 W71	09 2.7		A	HA	90	1	2	3
6238		CULG	09 08 0220	S12 W80	09 2.1		A	HS	40	1	1	2
6238		SVTO	09 08 0639	S11 W79	09 2.3		A	HA	90	1	2	2
6238		RAMY	09 08 1235	S11 W81	09 2.4		A	HA	50	1	1	2
6238		BOUL	09 08 1420	S11 W80	09 2.6		A	HS	60	1	2	4
6238		HOLL	09 08 1545	S12 W87	09 2.1		A	HS	70	1	2	3
6238		PALE	09 08 1750	S11 W87	09 2.2		A	HS	60	1	1	4
6238A		HOLL	09 06 1635	N10 W48	09 3.1		B	BXO	10	3	3	3
6239		HOLL	08 27 1608	N16 E88	09 3.3		A	HS	60	1	2	3
6239		PALE	08 27 1735	N17 E88	09 3.4		A	HA	60	1	2	4
6239		LEAR	08 28 0035	N16 E79	09 3.0		A	HS	30	1	3	3
6239		CULG	08 28 0145	N17 E77	09 2.9		A	HS	80	1	1	3
6239		SVTO	08 28 0745	N16 E80	09 3.4		A	HA	60	1	2	3
6239		RAMY	08 28 1210	N15 E72	09 2.9		A	HS	60	1	1	3
6239		BOUL	08 28 1353	N16 E73	09 3.1		A	HS	60	1	1	1
6239		PALE	08 28 1746	N16 E73	09 3.3		A	HS	100	1	1	3
6239		LEAR	08 29 0020	N16 E68	09 3.2		A	HH	50	1	3	3
6239		SVTO	08 29 1042	N17 E65	09 3.4		A	HS	90	1	2	2
6239		RAMY	08 29 1155	N15 E61	09 3.1		A	HS	120	2	2	4
6239		HOLL	08 29 1440	N16 E61	09 3.2		A	HS	90	1	2	4
6239		BOUL	08 29 1442	N17 E61	09 3.2		A	HS	110	1	2	3
6239		PALE	08 29 1743	N15 E59	09 3.2		A	HS	70	1	1	3
6239		LEAR	08 30 0015	N15 E55	09 3.2		A	HS	60	1	2	3
6239		CULG	08 30 0200	N16 E55	09 3.2		A	HS	100	1	2	1
6239		SVTO	08 30 0840	N16 E52	09 3.3		A	HS	100	1	2	3
6239		RAMY	08 30 1245	N16 E49	09 3.2		B	CAO	80	3	3	2
6239		BOUL	08 30 1445	N16 E47	09 3.2		A	HS	80	1	2	3
6239		HOLL	08 30 1537	N17 E48	09 3.3		A	HS	80	1	2	3
6239		PALE	08 30 1735	N17 E47	09 3.3		A	HS	80	1	2	4
6239		LEAR	08 31 0045	N16 E42	09 3.2		A	HS	80	1	2	2
6239		SVTO	08 31 0755	N16 E40	09 3.4		A	HS	100	1	2	2
6239		RAMY	08 31 1228	N17 E37	09 3.3		B	CAO	70	3	3	3
6239		BOUL	08 31 1433	N17 E35	09 3.3		A	HS	70	1	2	3
6239		HOLL	08 31 1540	N17 E35	09 3.3		A	HS	100	1	2	4

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

SEPTEMBER 1990

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
6239		PALE	08	31	1735	N16	E34	09	3.3		A	HS	100	2	2	4
6239		LEAR	09	01	0108	N16	E28	09	3.2		A	HS	90	1	2	2
6239		CULG	09	01	0310	N17	E27	09	3.2		A	HS	60	1	2	3
6239		SVTO	09	01	0635	N17	E27	09	3.3		A	HS	90	1	2	2
6239		RAMY	09	01	1352	N16	E23	09	3.3		A	HS	90	1	2	4
6239		HOLL	09	01	1510	N14	E22	09	3.3		A	HS	80	2	2	3
6239		PALE	09	01	1747	N16	E22	09	3.4		A	HS	70	1	2	3
6239		LEAR	09	02	0014	N16	E17	09	3.3		A	HS	80	1	2	3
6239		CULG	09	02	0225	N17	E16	09	3.3		A	HS	80	1	2	3
6239		SVTO	09	02	0736	N17	E13	09	3.3		A	HS	80	1	2	2
6239		RAMY	09	02	1345	N16	E09	09	3.2		A	HA	90	1	2	3
6239		BOUL	09	02	1430	N16	E09	09	3.3		A	HS	90	1	2	2
6239		HOLL	09	02	1553	N14	E09	09	3.3		A	HS	60	1	2	3
6239		PALE	09	02	1756	N15	E08	09	3.3		A	HS	60	2	2	3
6239		LEAR	09	03	0006	N16	E04	09	3.3		A	HS	80	1	2	3
6239		CULG	09	03	0110	N17	E02	09	3.2		A	HS	60	1	2	3
6239		SVTO	09	03	0640	N16	E00	09	3.3		A	HS	80	1	2	2
6239		RAMY	09	03	1310	N16	W03	09	3.3		A	HS	80	2	2	3
6239		BOUL	09	03	1343	N16	W03	09	3.3		A	HS	40	2	1	1
6239		HOLL	09	03	1525	N16	W05	09	3.3		A	HS	80	4	2	3
6239		PALE	09	03	1905	N15	W06	09	3.3		A	HS	50	1	2	3
6239		CULG	09	04	0015	N16	W10	09	3.2		A	HS	60	4	2	2
6239		SVTO	09	04	0915	N16	W13	09	3.4		A	HS	80	1	2	3
6239		RAMY	09	04	1115	N16	W15	09	3.3		A	HS	80	2	2	4
6239		BOUL	09	04	1348	N16	W17	09	3.3		A	HS	50	1	1	1
6239		HOLL	09	04	1510	N16	W17	09	3.3		A	HS	80	1	2	4
6239		PALE	09	04	1745	N15	W19	09	3.3		A	HS	60	2	2	4
6239		LEAR	09	05	0115	N16	W22	09	3.4		A	HS	50	1	2	3
6239		CULG	09	05	0125	N16	W24	09	3.2		A	HS	70	3	2	2
6239		SVTO	09	05	0745	N16	W27	09	3.3		A	HS	60	1	2	3
6239		RAMY	09	05	1125	N16	W28	09	3.3		B	CAO	70	2	2	3
6239		BOUL	09	05	1407	N16	W29	09	3.4		A	HS	70	1	2	3
6239		HOLL	09	05	1910	N14	W33	09	3.3		A	HS	70	1	2	2
6239		PALE	09	05	1952	N16	W32	09	3.4		A	HS	70	1	2	3
6239		LEAR	09	06	0019	N16	W36	09	3.3		A	HS	50	1	2	2
6239		CULG	09	06	0210	N16	W37	09	3.3		A	HS	60	3	2	2
6239		SVTO	09	06	0738	N15	W40	09	3.3		A	HS	80	1	2	3
6239		RAMY	09	06	1218	N17	W41	09	3.4		B	CAO	80	3	3	3
6239		HOLL	09	06	1635	N17	W45	09	3.3		A	HS	50	1	2	3
6239		PALE	09	06	1928	N15	W45	09	3.4		A	HS	50	1	1	3
6239		LEAR	09	07	0040	N17	W49	09	3.3		A	HS	60	1	2	2
6239		SVTO	09	07	0716	N15	W52	09	3.4		A	HS	60	1	2	3
6239		RAMY	09	07	1352	N15	W55	09	3.4		A	HA	60	1	2	3
6239		BOUL	09	07	1409	N16	W56	09	3.3		A	HA	50	2	1	3
6239		HOLL	09	07	1635	N16	W56	09	3.4		A	HA	30	1	1	4
6239		PALE	09	07	1720	N16	W58	09	3.3		A	HS	70	1	2	3
6239		LEAR	09	08	0025	N17	W58	09	3.6		B	CSO	70	2	3	3
6239		CULG	09	08	0220	N16	W65	09	3.2		A	HS	40	1	1	2
6239		SVTO	09	08	0639	N16	W66	09	3.3		A	HS	40	1	2	2
6239		RAMY	09	08	1235	N16	W69	09	3.3		A	HA	50	1	1	2
6239		BOUL	09	08	1420	N17	W66	09	3.6		A	HS	30	1	1	4
6239		HOLL	09	08	1545	N16	W70	09	3.3		A	HS	80	1	2	3
6239		PALE	09	08	1750	N16	W70	09	3.4		A	HS	50	2	1	4
6239		LEAR	09	09	0102	N18	W77	09	3.2		A	AX	10	2	1	3
6239		CULG	09	09	0135	N17	W78	09	3.1		A	AX	10	1	1	2
6239		SVTO	09	09	0710	N16	W79	09	3.3		A	HR	30	1	1	2
6239		RAMY	09	09	1210	N16	W81	09	3.4		A	HA	30	1	1	3
6239		HOLL	09	09	1500	N15	W83	09	3.3		A	AX	30	1	1	4
6239		PALE	09	09	1815	N16	W87	09	3.2		A	HR	30	1	1	4
6239A		BOUL	08	31	1433	S13	E39	09	3.5		A	AX	10	2		3
6239A		HOLL	08	31	1540	S15	E40	09	3.7		A	AX	10	4	1	4
6239A		PALE	08	31	1735	S15	E39	09	3.7		A	AX		3	2	4
6245		LEAR	09	01	0108	S14	E33	09	3.5		A	AX	20	2	2	2
6245		SVTO	09	01	0635	S14	E31	09	3.6		A	AX		1		2
6245		RAMY	09	02	1345	S13	E13	09	3.5		B	BXO	10	3	3	3
6245		BOUL	09	04	1348	S14	W15	09	3.4		A	AX		1		1
6245		HOLL	09	04	1510	S15	W15	09	3.5		A	AX		2	1	4

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6245		PALE	09 04	1745	S15 W16	09 3.5		A	AX		2		4
6245		SVTO	09 07	0716	S13 W51	09 3.4		A	AX		1		3
6239B		RAMY	09 02	1345	N29 E12	09 3.5		A	AX		1	1	3
6239B		HOLL	09 02	1553	N30 E12	09 3.6		A	AX	10	1	1	3
6239B		PALE	09 02	1756	N31 E11	09 3.6		B	BXO		2	3	3
6244		HOLL	08 30	1537	N13 E62	09 4.3		B	BXO	10	4	4	3
6244		PALE	08 30	1735	N13 E60	09 4.2		B	BXO	10	3	3	4
6244		LEAR	08 31	0045	N12 E55	09 4.2		B	CAO	40	5	4	2
6244		SVTO	08 31	0755	N12 E53	09 4.3		B	CAO	60	11	7	2
6244		RAMY	08 31	1228	N12 E50	09 4.3		B	DAO	70	9	4	3
6244		BOUL	08 31	1433	N14 E47	09 4.1		B	DAO	80	7	5	3
6244		HOLL	08 31	1540	N13 E47	09 4.2		B	DAI	80	11	5	4
6244		PALE	08 31	1735	N13 E47	09 4.3		B	CAO	90	9	4	4
6244		LEAR	09 01	0108	N12 E41	09 4.1		B	DAO	130	4	4	2
6244		CULG	09 01	0310	N13 E40	09 4.2		B	CSO	60	3	5	3
6244		SVTO	09 01	0635	N13 E39	09 4.2		B	DAO	130	6	5	2
6244		RAMY	09 01	1352	N13 E36	09 4.3		B	DAO	120	7	6	4
6244		HOLL	09 01	1510	N12 E33	09 4.1		B	CAO	120	8	6	3
6244		PALE	09 01	1747	N13 E35	09 4.4		B	CAO	10	8	6	3
6244		LEAR	09 02	0014	N12 E29	09 4.2		B	CAO	110	8	5	3
6244		CULG	09 02	0225	N13 E28	09 4.2		B	CAO	70	7	5	3
6244		SVTO	09 02	0736	N13 E25	09 4.2		B	CAO	70	11	5	2
6244		RAMY	09 02	1345	N12 E23	09 4.3		B	CAO	80	8	6	3
6244		BOUL	09 02	1430	N13 E22	09 4.3		B	CAO	70	8	6	2
6244		HOLL	09 02	1553	N11 E21	09 4.2		B	CAO	70	9	6	3
6244		PALE	09 02	1756	N12 E19	09 4.2		B	CAO	40	5	3	3
6244		LEAR	09 03	0006	N12 E14	09 4.0		B	CSO	50	3	3	3
6244		CULG	09 03	0110	N13 E13	09 4.0		A	HS	50	1	1	3
6244		SVTO	09 03	0640	N13 E13	09 4.2		B	CAO	80	6	5	2
6244		RAMY	09 03	1310	N12 E09	09 4.2		B	CAO	90	8	5	3
6244		BOUL	09 03	1343	N13 E07	09 4.1		A	HS	40	3	1	1
6244		HOLL	09 03	1525	N12 E07	09 4.2		A	HS	60	3	2	3
6244		PALE	09 03	1905	N12 E05	09 4.2		A	HA	60	3	2	3
6244		CULG	09 04	0015	N13 E01	09 4.1		A	HS	60	4	2	2
6244		SVTO	09 04	0915	N12 W02	09 4.2		B	CSO	60	3	3	3
6244		RAMY	09 04	1115	N12 W03	09 4.2		B	CSO	80	8	4	4
6244		BOUL	09 04	1348	N13 W06	09 4.1		A	HS	40	1	1	1
6244		HOLL	09 04	1510	N12 W07	09 4.1		A	HS	60	1	1	4
6244		PALE	09 04	1745	N11 W07	09 4.2		B	CSO	60	4	3	4
6244		LEAR	09 05	0115	N13 W11	09 4.2		B	CSO	50	6	4	3
6244		CULG	09 05	0125	N12 W12	09 4.1		B	CSO	50	3	3	2
6244		SVTO	09 05	0745	N12 W16	09 4.1		A	HS	50	1	1	3
6244		RAMY	09 05	1125	N11 W18	09 4.1		B	CAO	90	4	3	3
6244		BOUL	09 05	1407	N11 W18	09 4.2		B	CAO	60	2	3	3
6244		HOLL	09 05	1910	N11 W22	09 4.1		A	HS	50	1	2	2
6244		PALE	09 05	1952	N12 W21	09 4.2		A	HS	40	2	2	3
6244		LEAR	09 06	0019	N12 W25	09 4.1		A	HS	40	1	2	2
6244		CULG	09 06	0210	N12 W26	09 4.1		A	HS	60	1	2	2
6244		SVTO	09 06	0738	N13 W29	09 4.1		A	HS	60	1	1	3
6244		RAMY	09 06	1218	N12 W30	09 4.2		B	CAO	80	3	3	3
6244		HOLL	09 06	1635	N13 W33	09 4.2		A	HS	60	1	2	3
6244		PALE	09 06	1928	N12 W33	09 4.3		A	HS	40	1	1	3
6244		LEAR	09 07	0040	N13 W38	09 4.2		A	HS	50	1	2	2
6244		SVTO	09 07	0716	N12 W42	09 4.1		A	HS	50	1	2	3
6244		RAMY	09 07	1352	N12 W44	09 4.3		A	HA	60	1	2	3
6244		BOUL	09 07	1409	N13 W45	09 4.2		A	HS	50	1	1	3
6244		HOLL	09 07	1635	N13 W46	09 4.2		A	HS	40	1	2	4
6244		PALE	09 07	1720	N12 W47	09 4.2		A	HS	60	1	2	3
6244		LEAR	09 08	0025	N14 W50	09 4.2		A	HS	40	1	2	3
6244		CULG	09 08	0220	N13 W54	09 4.0		A	HS	40	1	1	2
6244		SVTO	09 08	0639	N13 W54	09 4.2		A	HS	30	1	1	2
6244		RAMY	09 08	1235	N12 W58	09 4.1		A	HA	60	1	1	2
6244		BOUL	09 08	1420	N15 W56	09 4.3		A	HS	40	1	2	4
6244		HOLL	09 08	1545	N14 W59	09 4.2		A	HS	60	1	2	3
6244		PALE	09 08	1750	N13 W59	09 4.3		B	CSO	30	3	3	4
6244		LEAR	09 09	0102	N15 W64	09 4.2		A	HS	20	1	2	3
6244		CULG	09 09	0135	N15 W67	09 4.0		A	HR	10	1	1	2

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

SEPTEMBER 1990

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
6244		SVTO	09 09	0710	N14 W69	09	4.1		A	HS	40	1	1	2
6244		RAMY	09 09	1210	N14 W71	09	4.1		B	CSO	60	3	3	3
6244		BOUL	09 09	1450	N15 W69	09	4.4		A	HS	50	1	2	3
6244		HOLL	09 09	1500	N13 W72	09	4.2		A	HS	60	1	1	4
6244		PALE	09 09	1815	N13 W72	09	4.3		A	HS	110	1	2	4
6244		CULG	09 10	0010	N14 W77	09	4.2		A	HS	40	1	1	3
6244		LEAR	09 10	0010	N15 W79	09	4.0		A	HS	60	1	2	3
6244		SVTO	09 10	0704	N13 W80	09	4.2		A	HS	40	1	2	3
6241		RAMY	08 30	1245	S15 E71	09	4.9		B	BXO	10	3	3	2
6241		BOUL	08 30	1445	S13 E67	09	4.7		A	AX	20	2	1	3
6241		HOLL	08 30	1537	S12 E69	09	4.8		A	AX		2	1	3
6241		PALE	08 30	1735	S13 E68	09	4.9		B	BXO	20	5	4	4
6241		LEAR	08 31	0045	S13 E63	09	4.8		B	BXO	20	3	3	2
6241		SVTO	08 31	0755	S13 E60	09	4.8		A	HR	20	1	1	2
6241		RAMY	08 31	1228	S13 E58	09	4.9		B	CRO	40	3	4	3
6241		BOUL	08 31	1433	S12 E54	09	4.7		A	AX	20	1	1	3
6241		HOLL	08 31	1540	S12 E56	09	4.9		A	AX		2	1	4
6241		PALE	08 31	1735	S13 E54	09	4.8		A	HR	20	1	1	4
6241		LEAR	09 01	0108	S14 E48	09	4.7		A	AX	20	1	1	2
6241		SVTO	09 01	0635	S13 E48	09	4.9		A	HR	30	3	2	2
6241		RAMY	09 01	1352	S14 E43	09	4.8		B	BXO	20	4	3	4
6241		HOLL	09 01	1510	S16 E42	09	4.8		A	AX		1	1	3
6241		PALE	09 01	1747	S14 E41	09	4.8		A	AX	10	5	2	3
6241		LEAR	09 02	0014	S13 E34	09	4.6		B	BXO	50	5	5	3
6241		CULG	09 02	0225	S11 E33	09	4.6		B	BXO	10	5	5	3
6241		SVTO	09 02	0736	S13 E32	09	4.7		B	CRO	30	11	10	2
6241		RAMY	09 02	1345	S14 E29	09	4.8		B	BXO	50	12	8	3
6241		BOUL	09 02	1430	S13 E25	09	4.5		B	CAO	40	7	5	2
6241		HOLL	09 02	1553	S15 E26	09	4.6		B	BXO	20	7	5	3
6241		PALE	09 02	1756	S14 E27	09	4.8		B	BXO	10	7	5	3
6241		LEAR	09 03	0006	S12 E21	09	4.6		B	CSO	40	5	5	3
6241		CULG	09 03	0110	S13 E19	09	4.5		B	CRO	10	0	7	3
6241		SVTO	09 03	0640	S13 E17	09	4.6		B	CAO	40	13	7	2
6241		RAMY	09 03	1310	S12 E12	09	4.4		B	CRO	20	8	5	3
6241		BOUL	09 03	1343	S12 E13	09	4.5		B	BXO	20	8	4	1
6241		HOLL	09 03	1525	S12 E12	09	4.5		B	BXO	20	9	5	3
6241		PALE	09 03	1905	S13 E11	09	4.6		B	BXO	20	7	5	3
6241		CULG	09 04	0015	S12 E07	09	4.5		B	BXO		5	6	2
6241		SVTO	09 04	0915	S13 E03	09	4.6		B	CAO	30	7	6	3
6241		RAMY	09 04	1115	S12 E01	09	4.5		B	BXO	20	9	6	4
6241		BOUL	09 04	1348	S12 W02	09	4.4		B	BXO	10	3	4	1
6241		HOLL	09 04	1510	S13 W01	09	4.5		B	BXO	10	8	6	4
6241		PALE	09 04	1745	S13 W03	09	4.5		B	BXO	10	7	6	4
6241		LEAR	09 05	0115	S13 W07	09	4.5		B	BXO	20	10	5	3
6241		CULG	09 05	0125	S12 W07	09	4.5		B	CRO	20	10	6	2
6241		SVTO	09 05	0745	S13 W12	09	4.4		B	DAO	20	4	6	3
6241		RAMY	09 05	1125	S13 W12	09	4.6		B	BXO	20	12	7	3
6241		BOUL	09 05	1407	S12 W13	09	4.6		B	BXO	10	6	7	3
6241		HOLL	09 05	1910	S17 W16	09	4.6		B	BXO	10	4	7	2
6241		PALE	09 05	1952	S14 W17	09	4.5		B	BXO	20	8	6	3
6241		LEAR	09 06	0019	S13 W19	09	4.6		B	CRO	30	10	11	2
6241		CULG	09 06	0210	S12 W21	09	4.5		B	BXO		5	8	2
6241		SVTO	09 06	0738	S13 W25	09	4.4		B	BXO	10	4	7	3
6241		RAMY	09 06	1218	S13 W29	09	4.3		B	DAO	50	8	3	3
6241		HOLL	09 06	1635	S13 W28	09	4.6		B	CAO	60	21	10	3
6241		PALE	09 06	1928	S14 W30	09	4.5		B	CRO	60	14	6	3
6241		LEAR	09 07	0040	S13 W34	09	4.5		B	CAO	60	13	7	2
6241		SVTO	09 07	0716	S14 W39	09	4.3		B	DAO	100	17	8	3
6241		RAMY	09 07	1352	S14 W39	09	4.6		B	EAO	100	15	13	3
6241		BOUL	09 07	1409	S12 W40	09	4.6		B	EAI	110	16	12	3
6241		HOLL	09 07	1635	S14 W43	09	4.4		B	CAO	40	16	8	4
6241		PALE	09 07	1720	S13 W41	09	4.6		B	EAO	70	12	12	3
6241		LEAR	09 08	0025	S13 W47	09	4.5		B	DAO	50	7	8	3
6241		CULG	09 08	0220	S13 W52	09	4.2		B	DSO	40	3	7	2
6241		RAMY	09 08	1235	S15 W55	09	4.4		B	CAO	50	6	8	2
6241		BOUL	09 08	1420	S13 W54	09	4.5		B	DSO	50	5	8	4
6241		HOLL	09 08	1545	S14 W57	09	4.3		B	BXO	50	11	8	3
6241		PALE	09 08	1750	S14 W57	09	4.4		B	CRO	40	7	8	4

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

SEPTEMBER 1990

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
6241		LEAR	09	09	0102	S13	W61	09	4.4		B	DSO	40	3	9	3
6241		CULG	09	09	0135	S12	W64	09	4.2		B	BXO	10	2	7	2
6241		SVTO	09	09	0710	S14	W65	09	4.4		B	BXO	20	2	8	2
6241		RAMY	09	09	1210	S12	W68	09	4.4		B	BXO	20	3	8	3
6241		BOUL	09	09	1450	S13	W70	09	4.3		A	AX	10	1	1	3
6241		HOLL	09	09	1500	S14	W70	09	4.3		B	BXO	20	4	10	4
6241		PALE	09	09	1815	S14	W71	09	4.4		B	BXO	30	5	10	4
6241		LEAR	09	10	0010	S13	W75	09	4.3		B	BXO	30	3	9	3
6241		CULG	09	10	0010	S13	W75	09	4.3		B	CRO	20	4	9	3
6241		SVTO	09	10	0704	S14	W76	09	4.5		B	BXO	30	3	5	3
6241		RAMY	09	10	1140	S13	W79	09	4.5		B	CAO	50	2	5	3
6241		BOUL	09	10	1410	S14	W79	09	4.6		A	AX		1		1
6241		HOLL	09	10	1620	S13	W78	09	4.8		A	AX	20	2	2	4
6241		PALE	09	10	1920	S15	W81	09	4.7		A	AX		1		3
6241A		LEAR	09	10	0010	S07	W68	09	4.9		A	AX	10	2	2	3
6241A		CULG	09	10	0010	S08	W67	09	5.0		A	AX		2	2	3
6241A		RAMY	09	10	1140	S08	W79	09	4.6		A	HR	30	1	1	3
6246		RAMY	09	01	1352	S15	E65	09	6.5		A	AX	20	2	1	4
6246		HOLL	09	01	1510	S17	E64	09	6.5		A	AX		1	1	3
6246		PALE	09	01	1747	S15	E67	09	6.8		B	BXO	20	3	3	3
6246		LEAR	09	02	0014	S16	E57	09	6.3		B	BXO	40	2	3	3
6246		CULG	09	02	0225	S13	E57	09	6.4		A	AX	10	2	1	3
6246		SVTO	09	02	0736	S15	E55	09	6.5		A	HS	20	2	1	2
6246		RAMY	09	02	1345	S15	E53	09	6.6		B	CAO	50	5	5	3
6246		BOUL	09	02	1430	S14	E50	09	6.4		B	CAO	50	6	4	2
6246		HOLL	09	02	1553	S17	E52	09	6.6		B	BXO	30	6	6	3
6246		PALE	09	02	1756	S13	E52	09	6.7		B	BXO	10	5	6	3
6246		LEAR	09	03	0006	S13	E46	09	6.5		B	CSO	90	7	5	3
6246		CULG	09	03	0110	S13	E46	09	6.5		B	CSO	30	4	5	3
6246		SVTO	09	03	0640	S15	E44	09	6.6		B	DAO	90	11	6	2
6246		RAMY	09	03	1310	S14	E39	09	6.5		B	DAO	80	12	5	3
6246		BOUL	09	03	1343	S14	E37	09	6.4		B	CAI	60	7	5	1
6246		HOLL	09	03	1525	S13	E38	09	6.5		B	CSO	70	13	4	3
6246		PALE	09	03	1905	S15	E38	09	6.7		B	DAO	40	10	5	3
6246		CULG	09	04	0015	S13	E33	09	6.5		B	DAO	80	7	6	2
6246		SVTO	09	04	0915	S14	E30	09	6.6		B	DAO	80	9	5	3
6246		RAMY	09	04	1115	S15	E28	09	6.6		B	DAO	110	8	5	4
6246		BOUL	09	04	1348	S13	E26	09	6.5		B	DAO	70	6	4	1
6246		HOLL	09	04	1510	S14	E25	09	6.5		B	DAI	90	10	5	4
6246		PALE	09	04	1745	S14	E25	09	6.6		B	DSO	60	9	4	4
6246		LEAR	09	05	0115	S15	E20	09	6.6		B	DAO	60	10	5	3
6246		CULG	09	05	0125	S13	E20	09	6.6		B	DAO	40	9	5	2
6246		SVTO	09	05	0745	S14	E17	09	6.6		B	CAO	40	7	4	3
6246		RAMY	09	05	1125	S14	E13	09	6.4		B	DAO	20	7	5	3
6246		BOUL	09	05	1407	S15	E13	09	6.6		B	CAO	40	7	4	3
6246		HOLL	09	05	1910	S17	E11	09	6.6		B	CRO	30	5	4	2
6246		PALE	09	05	1952	S13	E11	09	6.6		B	CSO	20	4	4	3
6246		LEAR	09	06	0019	S14	E09	09	6.7		B	CAO	30	7	4	2
6246		CULG	09	06	0210	S13	E06	09	6.5		B	CAO	20	6	4	2
6246		SVTO	09	06	0738	S14	E05	09	6.7		B	CRO	30	7	5	3
6246		RAMY	09	06	1218	S13	E01	09	6.6		B	DAO	20	4	4	3
6246		HOLL	09	06	1635	S13	W03	09	6.5		B	CSO	20	2	3	3
6246		PALE	09	06	1928	S15	W02	09	6.6		A	AX	10	3	2	3
6246		LEAR	09	07	0040	S13	W07	09	6.5		B	CAO	30	3	3	2
6246		SVTO	09	07	0716	S13	W12	09	6.4		B	CAO	20	3	3	3
6246		RAMY	09	07	1352	S14	W14	09	6.5		A	HR	10	1	1	3
6246		BOUL	09	07	1409	S13	W16	09	6.4		A	HS	20	1	1	3
6246		HOLL	09	07	1635	S13	W16	09	6.5		A	HS	10	1	1	4
6246		PALE	09	07	1720	S14	W16	09	6.5		A	HS	20	1	1	3
6246		LEAR	09	08	0025	S13	W21	09	6.4		A	HS	20	1	1	3
6246		CULG	09	08	0220	S13	W22	09	6.4		A	AX	10	1	1	2
6246		SVTO	09	08	0639	S13	W25	09	6.4		A	HA	20	2	1	2
6246		RAMY	09	08	1235	S14	W27	09	6.5		A	HA	10	1	1	2
6246		BOUL	09	08	1420	S13	W27	09	6.5		A	HS	10	1	1	4
6246		HOLL	09	08	1545	S14	W29	09	6.5		A	AX	10	2	1	3
6246		PALE	09	08	1750	S14	W30	09	6.5		A	AX	10	1	1	4
6246		LEAR	09	09	0102	S14	W34	09	6.5		A	HS	10	1	1	3

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

SEPTEMBER 1990

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
6246		CULG	09	09	0135	S14	W36	09	6.3		A	AX	10	1	1	2
6246		SVTO	09	09	0710	S13	W38	09	6.4		A	AX	10	1	1	2
6246		RAMY	09	09	1210	S12	W40	09	6.5		A	HA	10	1	1	3
6246		BOUL	09	09	1450	S13	W40	09	6.6		A	HS	10	1	1	3
6246		HOLL	09	09	1500	S13	W42	09	6.4		A	AX	10	1	1	4
6246		PALE	09	09	1815	S13	W43	09	6.5		A	AX	10	1	1	4
6246		LEAR	09	10	0010	S13	W47	09	6.5		A	AX	10	1	1	3
6246		CULG	09	10	0010	S13	W47	09	6.5		A	AX		2		3
6246		SVTO	09	10	0704	S13	W51	09	6.4		A	AX	20	2	2	3
6246		RAMY	09	10	1140	S14	W53	09	6.5		A	AX	10	2	1	3
6246		BOUL	09	10	1410	S13	W54	09	6.5		A	AX		1		1
6246		HOLL	09	10	1620	S13	W55	09	6.5		A	AX		1		4
6246		PALE	09	10	1920	S15	W56	09	6.6		A	AX		1		3
6246		RAMY	09	11	1234	S15	W65	09	6.6		A	AX	10	2	1	3
6255		RAMY	09	08	1235	N20	W24	09	6.7		A	AX		1	1	2
6255		HOLL	09	08	1545	N20	W26	09	6.7		A	AX		1		3
6255		PALE	09	08	1750	N20	W27	09	6.7		A	AX		1		4
6255		SVTO	09	09	0710	N20	W35	09	6.6		B	CRO	10	3	2	2
6255		RAMY	09	09	1210	N21	W36	09	6.7		B	CRO	20	5	4	3
6255		BOUL	09	09	1450	N19	W38	09	6.7		A	AX		1		3
6255		HOLL	09	09	1500	N20	W40	09	6.6		B	BXO	10	6	5	4
6255		PALE	09	09	1815	N21	W40	09	6.7		B	BXO	10	4	4	4
6255		CULG	09	10	0010	N20	W44	09	6.6		B	CRO	10	4	5	3
6255		LEAR	09	10	0010	N21	W44	09	6.6		B	BXO	10	5	5	3
6255		SVTO	09	10	0704	N21	W46	09	6.8		B	CAO	20	4	2	3
6255		RAMY	09	10	1140	N22	W47	09	6.9		B	CRO	20	4	3	3
6255		BOUL	09	10	1410	N21	W48	09	6.9		B	BXO	10	4	2	1
6255		HOLL	09	10	1620	N22	W50	09	6.8		B	BXO	10	4	3	4
6255		PALE	09	10	1920	N20	W51	09	6.9		A	AX	10	4	1	3
6255		LEAR	09	11	0008	N21	W53	09	6.9		B	BXO	20	4	5	3
6255		CULG	09	11	0040	N21	W53	09	7.0		B	CRO	20	6	5	3
6255		SVTO	09	11	0635	N21	W58	09	6.8		B	BXO	20	6	6	2
6255		RAMY	09	11	1234	N20	W60	09	6.9		B	BXO	10	4	4	3
6255		BOUL	09	11	1345	N19	W63	09	6.8		A	AX		1		1
6255		RAMY	09	12	1121	N22	W74	09	6.8		A	AX	10	1	1	4
6261		PALE	09	09	1815	N35	W33	09	7.1		B	BXO		2	3	4
6261		CULG	09	10	0010	N34	W39	09	6.9		A	AX		1		3
6261		LEAR	09	10	0010	N36	W38	09	6.9		A	AX	10	1	1	3
6261		SVTO	09	10	0704	N36	W43	09	6.8		B	BXO	10	2	2	3
6261		RAMY	09	10	1140	N35	W44	09	7.0		A	HR	10	1	1	3
6261		BOUL	09	10	1410	N34	W44	09	7.1		A	AX		1		1
6261		HOLL	09	10	1620	N36	W47	09	6.9		A	AX	10	2	1	4
6261		PALE	09	10	1920	N34	W48	09	7.0		A	AX		1		3
6261		LEAR	09	11	0008	N35	W50	09	7.0		A	AX	10	2	1	3
6261		CULG	09	11	0040	N34	W52	09	6.9		A	AX		1		3
6261		SVTO	09	11	0635	N35	W55	09	6.9		A	AX		1		2
6261		RAMY	09	11	1234	N35	W59	09	6.8		A	AX	10	1	1	3
6261		HOLL	09	11	1702	N36	W60	09	6.9		A	AX		1		4
6261A		RAMY	09	04	1115	N17	E43	09	7.7		B	CRO	30	4	3	4
6261B		PALE	09	08	1750	S02	W10	09	8.0		A	AX		2	2	4
6247		PALE	09	01	1747	N04	E86	09	8.2		A	AX	50	1	1	3
6247		LEAR	09	02	0014	N03	E77	09	7.8		A	HH	180	1	5	3
6247		SVTO	09	02	0736	N03	E79	09	8.2		A	HA	150	2	3	2
6247		RAMY	09	02	1345	N03	E78	09	8.4		A	HK	120	1	3	3
6247		BOUL	09	02	1430	N05	E72	09	8.0		B	DSO	180	2	4	2
6247		HOLL	09	02	1553	N03	E73	09	8.1		A	HA	170	2	4	3
6247		PALE	09	02	1756	N03	E73	09	8.2		B	DAO	140	2	2	3
6247		LEAR	09	03	0006	N03	E68	09	8.1		A	HK	150	2	4	3
6247		CULG	09	03	0110	N03	E67	09	8.0		A	HS	150	1	2	3
6247		SVTO	09	03	0640	N03	E67	09	8.3		A	HA	190	2	3	2
6247		RAMY	09	03	1310	N02	E61	09	8.1		B	CAO	220	5	4	3
6247		BOUL	09	03	1343	N04	E60	09	8.0		A	HA	140	4	2	1
6247		HOLL	09	03	1525	N03	E60	09	8.1		A	HA	220	3	3	3
6247		PALE	09	03	1905	N02	E60	09	8.3		B	CSO	140	8	6	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6247		CULG	09	04	0015	N03	E55	09	8.1		A	HA	100	3	3	2
6247		SVTO	09	04	0915	N03	E52	09	8.3		B	CAO	180	7	4	3
6247		RAMY	09	04	1115	N02	E49	09	8.1		B	CAO	250	7	5	4
6247		BOUL	09	04	1348	N04	E48	09	8.2		B	CAO	120	5	4	1
6247		HOLL	09	04	1510	N03	E49	09	8.3		B	CSO	170	7	5	4
6247		PALE	09	04	1745	N04	E48	09	8.3		B	CSO	210	7	4	4
6247		LEAR	09	05	0115	N03	E42	09	8.2		B	CAO	160	5	5	3
6247		CULG	09	05	0125	N04	E42	09	8.2		B	CAO	170	5	4	2
6247		SVTO	09	05	0745	N03	E39	09	8.2		A	HA	190	2	2	3
6247		RAMY	09	05	1125	N03	E37	09	8.2		B	CKO	200	9	4	3
6247		BOUL	09	05	1407	N04	E34	09	8.1		B	CAO	200	4	4	3
6247		HOLL	09	05	1910	N03	E32	09	8.2		A	HA	130	3	3	2
6247		LEAR	09	06	0019	N03	E29	09	8.2		A	HK	160	2	3	2
6247		CULG	09	06	0210	N03	E28	09	8.2		B	CAO	220	4	4	2
6247		SVTO	09	06	0738	N04	E29	09	8.5		B	DKO	210	6	8	3
6247		RAMY	09	06	1218	N05	E23	09	8.2		B	CKO	230	7	5	3
6247		HOLL	09	06	1635	N03	E20	09	8.2		B	CAO	170	4	5	3
6247		PALE	09	06	1928	N04	E19	09	8.2		B	CKO	130	5	3	3
6247		LEAR	09	07	0040	N03	E18	09	8.4		A	HK	100	3	3	2
6247		SVTO	09	07	0716	N03	E12	09	8.2		B	CAO	200	3	3	3
6247		RAMY	09	07	1352	N04	E09	09	8.2		A	HS	120	2	2	3
6247		BOUL	09	07	1409	N04	E07	09	8.1		A	HS	150	3	2	3
6247		HOLL	09	07	1635	N04	E07	09	8.2		A	HS	150	3	3	4
6247		PALE	09	07	1720	N04	E08	09	8.3		B	CSO	150	5	5	3
6247		LEAR	09	08	0025	N03	E03	09	8.2		B	CAO	150	4	4	3
6247		CULG	09	08	0220	N03	E01	09	8.2		A	HS	120	2	2	2
6247		SVTO	09	08	0639	N04	W01	09	8.2		A	HS	200	3	2	2
6247		RAMY	09	08	1235	N04	E01	09	8.6		B	CAO	200	12	11	2
6247		BOUL	09	08	1420	N04	W04	09	8.3		B	CAO	150	5	5	4
6247		HOLL	09	08	1545	N05	W05	09	8.3		B	CSO	220	8	5	3
6247		PALE	09	08	1750	N03	W06	09	8.3		B	CSO	150	6	5	4
6247		LEAR	09	09	0102	N04	W10	09	8.3		B	CSO	80	9	4	3
6247		CULG	09	09	0135	N04	W11	09	8.2		B	CSO	100	9	5	2
6247		SVTO	09	09	0710	N04	W13	09	8.3		B	CAO	180	4	4	2
6247		RAMY	09	09	1210	N05	W13	09	8.5		B	CAO	170	10	8	3
6247		BOUL	09	09	1450	N04	W17	09	8.3		A	HA	120	2	3	3
6247		HOLL	09	09	1500	N05	W14	09	8.6		B	CSO	180	13	8	4
6247		PALE	09	09	1815	N04	W20	09	8.3		A	HS	150	2	2	4
6247		CULG	09	10	0010	N04	W22	09	8.4		B	CSO	160	5	4	3
6247		LEAR	09	10	0010	N04	W23	09	8.3		B	CAO	120	5	5	3
6247		SVTO	09	10	0704	N05	W27	09	8.3		B	CSO	130	4	4	3
6247		RAMY	09	10	1140	N04	W26	09	8.5		B	CAO	140	5	8	3
6247		BOUL	09	10	1410	N04	W31	09	8.3		A	HS	40	3	2	1
6247		HOLL	09	10	1620	N03	W32	09	8.3		A	HS	110	3	2	4
6247		PALE	09	10	1920	N03	W33	09	8.3		A	HS	80	1	2	3
6247		LEAR	09	11	0008	N05	W35	09	8.4		B	CAO	110	4	5	3
6247		CULG	09	11	0040	N04	W37	09	8.3		A	HS	80	2	2	3
6247		SVTO	09	11	0635	N04	W40	09	8.3		B	CSO	130	3	3	2
6247		RAMY	09	11	1234	N04	W44	09	8.2		B	CAO	110	3	3	3
6247		BOUL	09	11	1345	N04	W44	09	8.3		A	HS	80	1	2	1
6247		HOLL	09	11	1702	N05	W46	09	8.3		A	HS	110	1	2	4
6247		PALE	09	11	1908	N04	W46	09	8.3		A	HS	80	1	2	3
6247		LEAR	09	12	0020	N05	W49	09	8.3		A	HS	120	1	2	3
6247		SVTO	09	12	0738	N05	W56	09	8.1		A	HS	90	1	2	3
6247		RAMY	09	12	1121	N05	W55	09	8.3		B	CAO	140	4	3	4
6247		BOUL	09	12	1453	N04	W57	09	8.3		A	HS	130	1	2	3
6247		HOLL	09	12	1615	N05	W59	09	8.3		A	HS	160	1	2	3
6247		PALE	09	12	1740	N05	W58	09	8.4		B	CSO	100	3	5	4
6247		LEAR	09	13	0028	N06	W63	09	8.3		A	HH	130	1	3	3
6247		SVTO	09	13	0745	N04	W70	09	8.1		A	HA	100	2	2	3
6247		RAMY	09	13	1329	N04	W69	09	8.4		A	HA	110	1	2	3
6247		BOUL	09	13	1450	N04	W73	09	8.2		A	HA	110	1	3	4
6247		HOLL	09	13	1505	N05	W72	09	8.2		A	HS	110	1	2	3
6247		PALE	09	13	2109	N04	W75	09	8.3		A	HS	90	1	2	3
6247		LEAR	09	14	0030	N06	W75	09	8.4		A	HS	120	1	2	3
6247		CULG	09	14	0230	N04	W78	09	8.3		A	HA	80	1	2	2
6247		SVTO	09	14	0735	N05	W85	09	7.9		A	HS	30	1	2	4
6247A		BOUL	09	05	1407	N09	E37	09	8.4		A	AX	10	1		3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6247B		SVTO	09 08 0639	S09 E05	09 8.6		A	AX		1		2
6247B		RAMY	09 08 1235	S10 E03	09 8.7		A	AX		2	2	2
6247B		BOUL	09 08 1420	S08 E00	09 8.6		A	AX		1		4
6247B		HOLL	09 08 1545	S10 E00	09 8.6		A	AX		3	2	3
6247C		PALE	09 04 1745	S11 E59	09 9.2		A	AX		2	1	4
6247D		CULG	09 10 0010	N19 W11	09 9.2		A	AX		2	1	3
6249		SVTO	09 03 0640	N14 E80	09 9.3		B	DAO	60	2	4	2
6249		RAMY	09 03 1310	N15 E71	09 8.9		B	DAO	40	3	4	3
6249		BOUL	09 03 1343	N14 E70	09 8.9		A	AX	10	1		1
6249		HOLL	09 03 1525	N15 E75	09 9.3		B	BXO	30	3	10	3
6249		PALE	09 03 1905	N14 E71	09 9.2		B	BXO	20	2	5	3
6249		CULG	09 04 0015	N16 E68	09 9.2		A	AX		2	1	2
6249		SVTO	09 04 0915	N15 E65	09 9.3		B	BXO	40	5	5	3
6249		RAMY	09 04 1115	N14 E60	09 9.0		B	DAO	40	4	5	4
6249		BOUL	09 04 1348	N17 E61	09 9.2		A	HA	20	1	1	1
6249		HOLL	09 04 1510	N15 E60	09 9.2		B	BXO	10	5	8	4
6249		PALE	09 04 1745	N15 E59	09 9.2		B	BXO	10	4	5	4
6249		LEAR	09 05 0115	N14 E54	09 9.1		B	BXO	30	3	7	3
6249		CULG	09 05 0125	N16 E55	09 9.2		B	BXO		3	6	2
6249		SVTO	09 05 0745	N16 E55	09 9.5		A	AX		1		3
6249		RAMY	09 05 1125	N18 E52	09 9.4		B	BXO	10	4	4	3
6249		BOUL	09 05 1407	N16 E49	09 9.3		A	AX	10	1	1	3
6249		HOLL	09 05 1910	N15 E48	09 9.4		B	BXO	10	4	10	2
6249		LEAR	09 06 0019	N16 E45	09 9.4		B	BXO	10	4	7	2
6249		CULG	09 06 0210	N17 E45	09 9.5		B	BXO		7	9	2
6249		SVTO	09 06 0738	N19 E47	09 9.9		A	AX	10	2	2	3
6249		RAMY	09 06 1218	N17 E40	09 9.5		B	CAO	30	7	7	3
6249		HOLL	09 06 1635	N17 E39	09 9.6		B	BXO	20	5	10	3
6249		PALE	09 06 1928	N17 E38	09 9.7		B	CRO	20	3	7	3
6249		LEAR	09 07 0040	N15 E33	09 9.5		B	BXO	20	3	3	2
6249		SVTO	09 07 0716	N19 E33	09 9.8		A	AX		1		3
6249		RAMY	09 07 1352	N16 E23	09 9.3		B	BXO	10	3	2	3
6249		HOLL	09 07 1635	N14 E21	09 9.3		A	AX	10	2	1	4
6249		PALE	09 07 1720	N15 E20	09 9.2		A	AX	10	3	1	3
6249		LEAR	09 08 0025	N15 E18	09 9.4		B	BXO	20	4	3	3
6249		SVTO	09 08 0639	N16 E16	09 9.5		B	BXO	10	2	3	2
6249		RAMY	09 08 1235	N15 E11	09 9.3		A	AX		2	2	2
6249		PALE	09 08 1750	N16 E09	09 9.4		A	AX		1		4
6249		PALE	09 09 1815	N20 W07	09 9.2		A	AX		1		4
6249		LEAR	09 10 0010	N20 W10	09 9.2		A	AX	10	2	1	3
6249		HOLL	09 11 1702	N19 W32	09 9.3		B	BXO	10	2	2	4
6256		PALE	09 07 1720	S21 E19	09 9.2		A	AX		3	2	3
6256		PALE	09 08 1750	S21 E06	09 9.2		A	AX		2	2	4
6256		RAMY	09 09 1210	S21 W04	09 9.2		A	AX	10	3	2	3
6256		PALE	09 09 1815	S21 W09	09 9.1		A	AX		2	1	4
6256		SVTO	09 11 0635	S21 W27	09 9.2		A	AX	10	2	1	2
6251		PALE	09 03 1905	N18 E53	09 7.8		A	AX		1		3
6251		CULG	09 04 0015	N18 E50	09 7.8		A	AX		2	2	2
6251		SVTO	09 04 0915	N17 E48	09 8.0		B	BXO	20	4	4	3
6251		BOUL	09 04 1348	N17 E42	09 7.8		B	BXO	10	3	3	1
6251		HOLL	09 04 1510	N18 E42	09 7.8		B	BXO	10	3	3	4
6251		PALE	09 04 1745	N18 E41	09 7.9		B	BXO	10	3	3	4
6251		LEAR	09 05 0115	N17 E36	09 7.8		B	BXO	10	3	4	3
6251		CULG	09 05 0125	N18 E36	09 7.8		B	BXO		3	3	2
6251		SVTO	09 05 0745	N17 E32	09 7.7		A	AX		1		3
6251		SVTO	09 07 0716	N15 E26	09 9.3		B	BXO	10	5	4	3
6252		CULG	09 04 0015	N13 E88	09 10.6		A	HS	150	1	2	2
6252		SVTO	09 04 0915	N13 E81	09 10.5		A	HA	120	1	2	3
6252		RAMY	09 04 1115	N13 E79	09 10.4		A	HK	150	1	3	4
6252		BOUL	09 04 1348	N13 E79	09 10.5		A	HS	120	1	2	1
6252		HOLL	09 04 1510	N13 E77	09 10.4		A	HS	120	1	2	4
6252		PALE	09 04 1745	N13 E76	09 10.5		A	HA	180	3	2	4

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6252		LEAR	09 05 0115	N12 E72	09 10.5		B	CSO	120	4	4	3
6252		CULG	09 05 0125	N13 E72	09 10.5		A	HS	170	1	2	2
6252		SVTO	09 05 0745	N12 E70	09 10.6		B	CAO	150	4	2	3
6252		RAMY	09 05 1125	N12 E67	09 10.5		B	CAO	220	7	4	3
6252		BOUL	09 05 1407	N13 E64	09 10.4		A	HA	180	1	2	3
6252		HOLL	09 05 1910	N12 E63	09 10.5		A	HA	160	1	2	2
6252		PALE	09 05 1952	N13 E62	09 10.5		A	HS	120	1	2	3
6252		LEAR	09 06 0019	N12 E60	09 10.5		B	CAO	150	4	3	2
6252		CULG	09 06 0210	N13 E58	09 10.5		A	HA	140	2	2	2
6252		SVTO	09 06 0738	N13 E56	09 10.5		A	HA	180	3	2	3
6252		RAMY	09 06 1218	N13 E53	09 10.5		B	CKO	150	6	5	3
6252		HOLL	09 06 1635	N12 E50	09 10.4		A	HS	210	6	4	3
6252		LEAR	09 07 0040	N12 E48	09 10.6		B	CAO	120	5	4	2
6252		SVTO	09 07 0716	N12 E42	09 10.5		B	CAO	210	4	4	3
6252		RAMY	09 07 1352	N13 E40	09 10.6		B	CAO	140	5	4	3
6252		BOUL	09 07 1409	N13 E37	09 10.4		B	CAO	160	7	4	3
6252		HOLL	09 07 1635	N13 E37	09 10.5		B	CAO	120	5	3	4
6252		PALE	09 07 1720	N13 E38	09 10.6		B	CAO	180	7	4	3
6252		LEAR	09 08 0025	N12 E32	09 10.4		A	HA	210	1	2	3
6252		CULG	09 08 0220	N12 E32	09 10.5		A	HS	140	1	2	2
6252		SVTO	09 08 0639	N12 E29	09 10.5		A	HA	120	3	2	2
6252		RAMY	09 08 1235	N14 E28	09 10.6		B	CAO	150	5	8	2
6252		BOUL	09 08 1420	N14 E24	09 10.4		B	CAO	140	2	3	4
6252		HOLL	09 08 1545	N15 E25	09 10.5		B	CSO	180	3	7	3
6252		PALE	09 08 1750	N15 E25	09 10.6		B	CSO	170	6	6	4
6252		LEAR	09 09 0102	N12 E19	09 10.5		A	HA	120	2	2	3
6252		CULG	09 09 0135	N12 E19	09 10.5		A	HS	130	1	2	2
6252		SVTO	09 09 0710	N12 E16	09 10.5		A	HA	150	2	2	2
6252		RAMY	09 09 1210	N12 E13	09 10.5		B	CAO	170	8	4	3
6252		BOUL	09 09 1450	N13 E12	09 10.5		A	HA	130	1	3	3
6252		HOLL	09 09 1500	N13 E12	09 10.5		A	HS	190	1	2	4
6252		PALE	09 09 1815	N12 E10	09 10.5		A	HS	160	2	2	4
6252		CULG	09 10 0010	N12 E07	09 10.5		B	CAO	120	4	3	3
6252		LEAR	09 10 0010	N12 E08	09 10.6		B	CAO	120	4	4	3
6252		SVTO	09 10 0704	N12 E04	09 10.6		B	CAO	160	5	4	3
6252		RAMY	09 10 1140	N12 E01	09 10.6		A	HA	140	2	2	3
6252		BOUL	09 10 1410	N13 W02	09 10.4		A	HA	90	2	2	1
6252		HOLL	09 10 1620	N12 W02	09 10.5		B	CSO	160	5	4	4
6252		PALE	09 10 1920	N12 W03	09 10.6		A	HS	120	1	2	3
6252		LEAR	09 11 0008	N12 W04	09 10.7		B	CSO	130	5	6	3
6252		CULG	09 11 0040	N12 W06	09 10.6		A	HA	130	3	2	3
6252		SVTO	09 11 0635	N12 W09	09 10.6		B	CAO	120	2	3	2
6252		RAMY	09 11 1234	N12 W12	09 10.6		B	CKO	170	5	4	3
6252		BOUL	09 11 1345	N13 W13	09 10.6		A	HA	100	1	2	1
6252		HOLL	09 11 1702	N13 W15	09 10.6		A	HS	150	1	2	4
6252		PALE	09 11 1908	N13 W16	09 10.6		A	HS	150	2	2	3
6252		LEAR	09 12 0020	N13 W19	09 10.6		A	HA	90	2	2	3
6252		SVTO	09 12 0738	N13 W24	09 10.5		A	HS	120	4	2	3
6252		RAMY	09 12 1121	N12 W26	09 10.5		B	CKO	130	6	3	4
6252		BOUL	09 12 1453	N13 W27	09 10.6		B	CAO	100	6	3	3
6252		HOLL	09 12 1615	N12 W28	09 10.6		A	HS	90	4	2	3
6252		PALE	09 12 1740	N13 W28	09 10.6		B	CSO	120	8	3	4
6252		LEAR	09 13 0028	N13 W33	09 10.5		A	HH	110	2	3	3
6252		SVTO	09 13 0745	N12 W37	09 10.5		A	HA	120	1	2	3
6252		RAMY	09 13 1329	N12 W40	09 10.5		A	HA	100	1	2	3
6252		BOUL	09 13 1450	N13 W42	09 10.4		A	HS	80	1	2	4
6252		HOLL	09 13 1505	N12 W40	09 10.6		B	CSO	130	3	5	3
6252		PALE	09 13 2109	N13 W44	09 10.6		A	HS	100	2	2	3
6252		LEAR	09 14 0030	N12 W46	09 10.5		A	HS	100	1	2	3
6252		CULG	09 14 0230	N13 W47	09 10.5		A	HA	120	2	2	2
6252		SVTO	09 14 0735	N13 W51	09 10.5		A	HS	100	1	2	4
6252		BOUL	09 14 1446	N13 W53	09 10.6		A	HS	100	1	2	2
6252		RAMY	09 14 1530	N12 W53	09 10.6		B	CAO	100	3	3	2
6252		HOLL	09 14 1702	N13 W56	09 10.5		A	HS	140	1	2	3
6252		PALE	09 14 1807	N13 W56	09 10.5		A	HS	140	1	2	3
6252		LEAR	09 15 0015	N12 W60	09 10.5		A	HS	80	2	2	2
6252		CULG	09 15 0205	N13 W63	09 10.3		A	HS	100	1	1	2
6252		SVTO	09 15 0702	N12 W64	09 10.5		A	HS	80	1	2	5
6252		RAMY	09 15 1450	N12 W66	09 10.6		A	HA	80	1	2	1

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6252		BOUL	09	15	1500	N13	W67	09	10.6		A	HS	140	1	2	2
6252		HOLL	09	15	1645	N12	W68	09	10.6		A	HS	120	1	2	2
6252		PALE	09	15	1747	N14	W68	09	10.6		A	HS	100	1	2	2
6252		LEAR	09	16	0050	N13	W70	09	10.7		A	HS	30	1	1	3
6252		CULG	09	16	0125	N13	W76	09	10.3		A	HS	60	1	3	2
6252		RAMY	09	16	1155	N13	W80	09	10.5		A	HA	60	1	2	3
6252		HOLL	09	16	1735	N14	W85	09	10.3		A	HS	120	1	2	3
6252		PALE	09	16	1936	N13	W81	09	10.7		A	HS	60	1	1	3
6252		LEAR	09	17	0010	N15	W83	09	10.7		A	HS	60	1	2	3
6258		RAMY	09	09	1210	N17	E24	09	11.3		A	AX	10	3	1	3
6258		HOLL	09	09	1500	N17	E23	09	11.4		A	AX	10	3	2	4
6258		PALE	09	09	1815	N17	E20	09	11.3		A	AX	10	3	2	4
6258		LEAR	09	10	0010	N17	E17	09	11.3		B	BXO	10	3	3	3
6258A		PALE	09	13	2109	S25	W30	09	11.5		A	AX		3	1	3
6258A		HOLL	09	14	1702	S26	W40	09	11.6		A	AX		1		3
6258A		PALE	09	14	1807	S25	W40	09	11.6		A	AX		1		3
6271		SVTO	09	13	0745	S25	W23	09	11.5		A	AX		1		3
6271		RAMY	09	13	1329	S26	W25	09	11.6		A	AX	10	1	1	3
6271		LEAR	09	14	0030	S24	W31	09	11.6		B	BXO	30	2	3	3
6271		CULG	09	14	0230	S24	W34	09	11.5		B	BXO		3	3	2
6271		SVTO	09	14	0735	S24	W36	09	11.5		A	AX	10	2	1	4
6271		RAMY	09	14	1530	S26	W39	09	11.6		A	AX		1	1	2
6258B		PALE	09	18	1740	S37	W85	09	11.9		A	AX		2		3
6253		PALE	09	05	1952	N08	E83	09	12.0		A	HS	30	1	2	3
6253		LEAR	09	06	0019	N06	E80	09	12.0		A	HA	60	1	1	2
6253		CULG	09	06	0210	N08	E80	09	12.1		A	HS	60	1	2	2
6253		SVTO	09	06	0738	N08	E77	09	12.1		A	HA	60	1	1	3
6253		RAMY	09	06	1218	N08	E73	09	12.0		A	HA	60	1	1	3
6253		HOLL	09	06	1635	N07	E72	09	12.1		A	HR	60	1	2	3
6253		PALE	09	06	1928	N07	E73	09	12.3		A	HS	60	1	1	3
6253		LEAR	09	07	0040	N06	E70	09	12.3		A	HS	60	1	1	2
6253		SVTO	09	07	0716	N08	E64	09	12.1		A	HA	60	1	2	3
6253		RAMY	09	07	1352	N08	E63	09	12.3		B	CAO	40	2	3	3
6253		BOUL	09	07	1409	N08	E60	09	12.1		A	HS	80	1	1	3
6253		HOLL	09	07	1635	N08	E59	09	12.1		A	HS	40	1	2	4
6253		PALE	09	07	1720	N08	E61	09	12.3		B	CAO	40	2	4	3
6253		LEAR	09	08	0025	N06	E56	09	12.2		B	CSO	30	2	3	3
6253		CULG	09	08	0220	N07	E54	09	12.1		A	HS	50	1	1	2
6253		SVTO	09	08	0639	N08	E53	09	12.2		B	CSO	60	3	4	2
6253		RAMY	09	08	1235	N08	E51	09	12.3		B	CAO	60	2	4	2
6253		BOUL	09	08	1420	N07	E45	09	12.0		A	HS	40	1	1	4
6253		HOLL	09	08	1545	N06	E48	09	12.2		B	CSO	70	3	3	3
6253		PALE	09	08	1750	N08	E48	09	12.3		B	CSO	60	3	3	4
6253		LEAR	09	09	0102	N07	E41	09	12.1		A	HS	50	1	1	3
6253		CULG	09	09	0135	N07	E40	09	12.1		A	HS	40	1	1	2
6253		SVTO	09	09	0710	N07	E39	09	12.2		B	CSO	50	2	4	2
6253		RAMY	09	09	1210	N07	E36	09	12.2		B	CAO	80	7	5	3
6253		BOUL	09	09	1450	N07	E33	09	12.1		A	HS	60	1	2	3
6253		HOLL	09	09	1500	N07	E35	09	12.2		B	CSO	80	7	5	4
6253		PALE	09	09	1815	N06	E34	09	12.3		B	CSO	80	3	6	4
6253		LEAR	09	10	0010	N07	E29	09	12.2		A	HS	40	2	2	3
6253		CULG	09	10	0010	N08	E29	09	12.2		A	HS	40	1	2	3
6253		SVTO	09	10	0704	N08	E24	09	12.1		B	CSO	50	3	2	3
6253		RAMY	09	10	1140	N08	E21	09	12.1		B	CAO	70	4	3	3
6253		BOUL	09	10	1410	N07	E19	09	12.0		A	HS	20	1	1	1
6253		HOLL	09	10	1620	N07	E18	09	12.0		A	HS	50	2	2	4
6253		PALE	09	10	1920	N07	E18	09	12.1		B	CAO	20	2	3	3
6253		LEAR	09	11	0008	N08	E15	09	12.1		B	CSO	30	3	4	3
6253		CULG	09	11	0040	N08	E16	09	12.2		A	HS	40	2	1	3
6253		SVTO	09	11	0635	N07	E11	09	12.1		A	HS	40	1	2	2
6253		RAMY	09	11	1234	N08	E08	09	12.1		B	CAO	70	7	3	3
6253		BOUL	09	11	1345	N07	E06	09	12.0		A	HS	30	1	1	1
6253		HOLL	09	11	1702	N08	E06	09	12.1		B	CSO	40	4	2	4
6253		PALE	09	11	1908	N07	E05	09	12.2		A	HS	40	1	1	3

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

SEPTEMBER 1990

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
6253		LEAR	09 12 0020	N06 E04	09 12.3		B	CAO	60	8	8	3
6253		SVTO	09 12 0738	N07 W04	09 12.0		A	HS	40	1	1	3
6253		RAMY	09 12 1121	N08 W02	09 12.3		B	CAO	90	4	7	4
6253		BOUL	09 12 1453	N08 W07	09 12.1		A	HA	40	2	1	3
6253		HOLL	09 12 1615	N08 W08	09 12.1		A	HS	40	1	1	3
6253		PALE	09 12 1740	N09 W08	09 12.1		B	CSO	40	4	3	4
6253		LEAR	09 13 0028	N07 W12	09 12.1		A	HS	40	1	2	3
6253		SVTO	09 13 0745	N10 W17	09 12.0		B	CAO	50	9	3	3
6253		RAMY	09 13 1329	N10 W18	09 12.2		B	DAO	70	7	2	3
6253		BOUL	09 13 1450	N08 W22	09 12.0		B	CAO	30	5	2	4
6253		HOLL	09 13 1505	N10 W20	09 12.1		B	CSO	50	8	6	3
6253		PALE	09 13 2109	N09 W24	09 12.1		A	AX	10	4	1	3
6253		LEAR	09 14 0030	N09 W26	09 12.1		B	CSO	50	6	6	3
6253		CULG	09 14 0230	N09 W28	09 12.0		B	DSO	30	8	4	2
6253		SVTO	09 14 0735	N10 W30	09 12.1		B	CSO	20	8	4	4
6253		BOUL	09 14 1446	N09 W33	09 12.1		B	CSO	20	8	6	2
6253		RAMY	09 14 1530	N09 W34	09 12.1		B	DAO	40	8	4	2
6253		HOLL	09 14 1702	N09 W36	09 12.0		B	CSO	30	12	5	3
6253		PALE	09 14 1807	N10 W35	09 12.1		B	CRO	30	9	5	3
6253		LEAR	09 15 0015	N09 W40	09 12.0		B	BXO	20	8	7	2
6253		CULG	09 15 0205	N09 W42	09 11.9		B	BXO	10	7	5	2
6253		SVTO	09 15 0702	N09 W43	09 12.1		B	BXO	30	11	7	5
6253		RAMY	09 15 1450	N09 W47	09 12.1		B	DAO	40	5	5	1
6253		BOUL	09 15 1500	N09 W46	09 12.2		B	CAO	40	6	5	2
6253		PALE	09 15 1747	N11 W48	09 12.1		B	BXO	20	7	5	2
6253		HOLL	09 15 1815	N09 W49	09 12.1		B	BXO	20	11	7	4
6253		LEAR	09 16 0050	N11 W52	09 12.1		B	BXO	10	5	5	3
6253		CULG	09 16 0125	N09 W54	09 12.0		B	BXO	10	9	6	2
6253		RAMY	09 16 1155	N11 W60	09 12.0		B	CRO	40	15	7	3
6253		HOLL	09 16 1735	N11 W63	09 12.0		B	BXO	20	6	6	3
6253		PALE	09 16 1936	N11 W62	09 12.1		B	BXO	20	8	6	3
6253		LEAR	09 17 0010	N11 W65	09 12.1		B	BXO	70	6	7	3
6253		CULG	09 17 0133	N09 W69	09 11.9		B	BXO	10	5	6	3
6253		SVTO	09 17 0745	N08 W75	09 11.7		B	CRO	30	2	2	4
6253		RAMY	09 17 1233	N11 W73	09 12.0		B	CRO	30	7	6	3
6253		HOLL	09 17 1535	N10 W75	09 12.0		B	BXO	10	3	5	4
6253		PALE	09 17 1745	N09 W79	09 11.8		B	BXO	30	2	4	4
6253		LEAR	09 18 0015	N11 W76	09 12.3		A	AX	10	1	1	3
6271A		SVTO	09 10 0704	S21 E32	09 12.7		A	AX	100	3	2	3
6271A		RAMY	09 10 1140	S21 E29	09 12.7		A	AX		2	1	3
6271A		HOLL	09 10 1620	S22 E24	09 12.5		B	BXO	10	3	5	4
6271A		RAMY	09 11 1234	S19 E19	09 13.0		B	BXO	10	2	3	3
6271A		RAMY	09 12 1121	S20 E05	09 12.8		B	BXO	10	3	3	4
6254		HOLL	09 06 1635	N17 E85	09 13.1		A	HA	30	1	2	3
6254		PALE	09 06 1928	N18 E87	09 13.4		A	AX	30	1	1	3
6254		LEAR	09 07 0040	N17 E82	09 13.2		A	HS	30	1	1	2
6254		SVTO	09 07 0716	N18 E76	09 13.1		A	HA	60	1	2	3
6254		RAMY	09 07 1352	N18 E73	09 13.1		A	HA	60	1	2	3
6254		BOUL	09 07 1409	N18 E72	09 13.1		A	HA	60	2	1	3
6254		HOLL	09 07 1635	N18 E71	09 13.1		A	HS	50	1	2	4
6254		PALE	09 07 1720	N18 E70	09 13.0		A	HA	60	1	2	3
6254		LEAR	09 08 0025	N16 E66	09 13.0		A	HS	40	1	2	3
6254		CULG	09 08 0220	N18 E66	09 13.1		A	HS	50	1	1	2
6254		SVTO	09 08 0639	N18 E65	09 13.2		B	CSO	40	2	5	2
6254		RAMY	09 08 1235	N18 E61	09 13.2		B	CAO	80	3	3	2
6254		BOUL	09 08 1420	N17 E57	09 12.9		A	HA	40	2	2	4
6254		HOLL	09 08 1545	N18 E58	09 13.1		B	CSO	80	5	3	3
6254		PALE	09 08 1750	N18 E58	09 13.1		B	CSO	70	6	3	4
6254		LEAR	09 09 0102	N16 E52	09 13.0		A	HS	60	3	2	3
6254		CULG	09 09 0135	N17 E52	09 13.0		B	CSO	40	2	3	2
6254		SVTO	09 09 0710	N17 E48	09 12.9		B	CSO	60	3	4	2
6254		RAMY	09 09 1210	N16 E46	09 13.0		B	CAO	80	9	3	3
6254		BOUL	09 09 1450	N17 E44	09 13.0		A	HA	40	2	2	3
6254		HOLL	09 09 1500	N18 E45	09 13.0		B	CSO	50	11	6	4
6254		PALE	09 09 1815	N18 E44	09 13.1		B	BXO	70	9	7	4
6254		CULG	09 10 0010	N17 E40	09 13.0		B	DAO	40	8	4	3
6254		LEAR	09 10 0010	N17 E41	09 13.1		B	CSO	40	8	3	3

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

SEPTEMBER 1990

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
6254		SVTO	09 10 0704	N18 E36	09 13.0		B	CAO	70	13	5	3
6254		RAMY	09 10 1140	N18 E32	09 12.9		B	DAO	70	12	4	3
6254		BOUL	09 10 1410	N17 E31	09 12.9		B	DSI	40	6	2	1
6254		HOLL	09 10 1620	N16 E30	09 12.9		B	DSI	40	11	4	4
6254		PALE	09 10 1920	N18 E29	09 13.0		A	HS	30	6	1	3
6254		LEAR	09 11 0008	N17 E25	09 12.9		B	CAO	30	7	5	3
6254		CULG	09 11 0040	N18 E26	09 13:0		B	CAO	20	9	3	3
6254		SVTO	09 11 0635	N18 E22	09 12.9		B	CAO	30	5	3	2
6254		RAMY	09 11 1234	N19 E19	09 13.0		B	CAO	60	13	5	3
6254		BOUL	09 11 1345	N18 E17	09 12.9		B	CAO	20	4	2	1
6254		HOLL	09 11 1702	N18 E17	09 13.0		B	CSO	20	7	4	4
6254		PALE	09 11 1908	N18 E16	09 13.0		BG	CAO	30	5	4	3
6254		LEAR	09 12 0020	N18 E13	09 13.0		B	CAO	20	9	4	3
6254		SVTO	09 12 0738	N18 E09	09 13.0		A	HS	10	6	2	3
6254		RAMY	09 12 1121	N18 E07	09 13.0		B	CAO	20	5	4	4
6254		BOUL	09 12 1453	N18 E04	09 12.9		B	CAO	20	7	2	3
6254		HOLL	09 12 1615	N18 E05	09 13.0		B	CRO	10	6	4	3
6254		PALE	09 12 1740	N18 E04	09 13.0		B	CSO	30	7	5	4
6254		LEAR	09 13 0028	N17 W01	09 12.9		A	HS	20	1	1	3
6254		SVTO	09 13 0745	N16 W06	09 12.9		B	CRO	20	4	2	3
6254		RAMY	09 13 1329	N18 W07	09 13.0		B	BXO	20	8	4	3
6254		BOUL	09 13 1450	N16 W09	09 12.9		A	AX	10	2	3	4
6254		HOLL	09 13 1505	N18 W08	09 13.0		B	BXO	20	11	6	3
6254		PALE	09 13 2109	N17 W13	09 12.9		A	AX	10	3	2	3
6254		LEAR	09 14 0030	N16 W13	09 13.0		B	BXO	20	3	3	3
6254		CULG	09 14 0230	N16 W15	09 13.0		A	AX		2	1	2
6254		SVTO	09 14 0735	N17 W19	09 12.9		A	AX	10	1	1	4
6254		BOUL	09 14 1446	N16 W22	09 12.9		A	AX	10	1	1	2
6254		RAMY	09 14 1530	N16 W22	09 13.0		A	AX		1	1	2
6254		HOLL	09 14 1702	N16 W25	09 12.8		A	AX		1		3
6254		PALE	09 14 1807	N16 W24	09 12.9		A	AX		1		3
6254		LEAR	09 15 0015	N16 W28	09 12.9		A	AX	10	1	1	2
6254		SVTO	09 15 0702	N18 W30	09 13.0		B	BXO	10	6	4	5
6254		RAMY	09 15 1450	N20 W36	09 12.9		B	BXO	10	4	6	1
6254		HOLL	09 15 1815	N17 W35	09 13.1		B	BXO		3	7	4
6254A		PALE	09 08 1750	N06 E58	09 13.1		A	AX		2	2	4
6254A		SVTO	09 14 0735	N06 W17	09 13.0		A	AX	10	3	3	4
6254A		RAMY	09 14 1530	N05 W21	09 13.1		B	BXO	10	4	4	2
6254A		HOLL	09 14 1702	N05 W22	09 13.1		B	BXO	10	5	4	3
6254A		PALE	09 14 1807	N05 W23	09 13.0		B	BXO	10	3	3	3
6254B		RAMY	09 08 1235	S19 E62	09 13.2		A	AX	20	3	2	2
6254B		SVTO	09 10 0704	S18 E38	09 13.2		A	AX		1		3
6254B		RAMY	09 10 1140	S18 E35	09 13.1		A	AX	10	3	2	3
6262		BOUL	09 11 1345	S17 E18	09 12.9		B	BXO	10	5	2	1
6262		PALE	09 11 1908	S18 E21	09 13.4		B	BXO	10	3	5	3
6262		LEAR	09 12 0020	S17 E14	09 13.1		B	CRO	20	8	5	3
6262		SVTO	09 12 0738	S18 E11	09 13.1		B	BXO	20	8	7	3
6262		RAMY	09 12 1121	S17 E10	09 13.2		B	CRO	10	3	3	4
6262		BOUL	09 12 1453	S15 E07	09 13.1		B	CAO	10	4	3	3
6262		HOLL	09 12 1615	S17 E07	09 13.2		B	BXO	10	2	3	3
6262		PALE	09 12 1740	S18 E06	09 13.2		B	CRO	10	4	3	4
6262		LEAR	09 13 0028	S16 E02	09 13.2		B	BXO	30	5	4	3
6262		SVTO	09 13 0745	S17 W05	09 12.9		B	CRO	10	4	1	3
6262		RAMY	09 13 1329	S16 W05	09 13.2		B	CAO	20	5	5	3
6262		BOUL	09 13 1450	S15 W08	09 13.0		A	AX	10	1	1	4
6262		HOLL	09 13 1505	S16 W08	09 13.0		B	BXO	10	3	3	3
6262		PALE	09 13 2109	S18 W10	09 13.1		B	BXO	10	5	4	3
6262		LEAR	09 14 0030	S17 W11	09 13.2		B	BXO	20	3	5	3
6262		CULG	09 14 0230	S16 W16	09 12.9		A	AX		1		2
6262		SVTO	09 14 0735	S15 W18	09 12.9		A	AX		1		4
6262		BOUL	09 14 1446	S16 W20	09 13.1		B	BXO	20	7	5	2
6262		RAMY	09 14 1530	S16 W21	09 13.0		B	BXO	20	7	4	2
6262		HOLL	09 14 1702	S17 W22	09 13.0		B	BXO	10	7	4	3
6262		PALE	09 14 1807	S17 W22	09 13.1		B	BXO	120	6	4	3
6262		LEAR	09 15 0015	S17 W27	09 12.9		A	AX	10	2	1	2
6262		SVTO	09 15 0702	S17 W29	09 13.1		B	BXO	10	4	4	5

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6262		PALE	09 15 1747	S17 W38	09 12.8		B	BXO	10	3	3	2
6262		HOLL	09 15 1815	S18 W37	09 12.9		B	BXO		3	3	4
6262		CULG	09 16 0125	S16 W43	09 12.8		A	AX	10	1	1	2
6262		RAMY	09 16 1155	S17 W47	09 12.9		A	AX	10	3	2	3
6262		HOLL	09 16 1735	S16 W49	09 13.0		B	BXO	10	3	3	3
6262		PALE	09 16 1936	S17 W49	09 13.1		B	BXO		3	4	3
6262		LEAR	09 17 0010	S16 W51	09 13.1		B	BXO	40	3	4	3
6262		CULG	09 17 0133	S18 W55	09 12.9		A	AX	10	1	1	3
6262		SVTO	09 17 0745	S19 W58	09 12.9		A	AX	10	2	1	4
6262		RAMY	09 17 1233	S18 W60	09 12.9		B	BXO	10	4	2	3
6262		HOLL	09 17 1535	S17 W61	09 13.0		A	AX		2	2	4
6262		PALE	09 17 1745	S18 W63	09 12.9		B	BXO	10	3	3	4
6262		LEAR	09 18 0015	S17 W65	09 13.1		B	BXO	10	2	4	3
6262		CULG	09 18 0107	S16 W68	09 12.9		A	AX	10	2	3	3
6262		RAMY	09 18 1226	S18 W75	09 12.8		B	BXO	10	2	2	3
6262		PALE	09 18 1740	S17 W80	09 12.6		A	AX		1		3
6262A		CULG	09 16 0125	N33 W34	09 13.3		A	AX	10	1	1	2
6262B		RAMY	09 10 1140	N24 E41	09 13.6		A	AX		2	1	3
6262B		PALE	09 12 1740	N22 E11	09 13.6		A	AX		1		4
6262B		RAMY	09 13 1329	N22 W01	09 13.5		A	AX		1	1	3
6264		CULG	09 11 0040	S31 E36	09 13.9		A	AX		1		3
6264		SVTO	09 11 0635	S32 E33	09 13.9		A	AX	10	2	3	2
6264		HOLL	09 11 1702	S32 E31	09 14.2		A	AX		1		4
6264A		PALE	09 13 2109	N22 E05	09 14.3		A	AX		2	1	3
6265		HOLL	09 10 1620	S18 E47	09 14.2		A	AX	10	3	2	4
6265		PALE	09 10 1920	S18 E48	09 14.5		A	AX		3	2	3
6265		LEAR	09 11 0008	S18 E43	09 14.3		B	CRO	20	5	3	3
6265		SVTO	09 11 0635	S18 E40	09 14.3		B	BR	10	2	3	2
6265		RAMY	09 11 1234	S18 E38	09 14.4		B	BXO	10	4	3	3
6265		BOUL	09 11 1345	S18 E36	09 14.3		A	AX		2	1	1
6265		HOLL	09 11 1702	S18 E36	09 14.4		B	BXO	10	2	2	4
6265		PALE	09 11 1908	S19 E36	09 14.5		B	BXO	10	4	3	3
6265		LEAR	09 12 0020	S18 E31	09 14.4		B	BXO	10	7	4	3
6265		SVTO	09 12 0738	S19 E28	09 14.4		A	AX	10	3	3	3
6265		RAMY	09 12 1121	S17 E23	09 14.2		B	BXO	10	4	3	4
6265		BOUL	09 12 1453	S16 E22	09 14.3		B	BXO		2	2	3
6265		PALE	09 12 1740	S19 E21	09 14.3		B	BXO		4	3	4
6265		LEAR	09 13 0028	S17 E17	09 14.3		A	AX	20	2	2	3
6265		RAMY	09 13 1329	S19 E11	09 14.4		A	AX		1	1	3
6274		RAMY	09 13 1329	S07 E12	09 14.5		B	BXO	10	2	2	3
6274		SVTO	09 14 0735	S10 E03	09 14.5		B	BXO	10	6	5	4
6274		RAMY	09 14 1530	S08 W03	09 14.4		A	AX	10	2	2	2
6274		LEAR	09 15 0015	S10 W08	09 14.4		B	BXO	10	4	2	2
6274		HOLL	09 15 1815	S09 W18	09 14.4		B	BXO	10	9	3	4
6274		LEAR	09 16 0050	S09 W22	09 14.4		A	AX	10	3	1	3
6274		CULG	09 16 0125	S09 W23	09 14.3		B	BXO	10	4	2	2
6274		RAMY	09 16 1155	S09 W28	09 14.4		A	AX	10	3	2	3
6274		HOLL	09 16 1735	S09 W32	09 14.3		A	AX		2	1	3
6274A		CULG	09 11 0040	S18 E46	09 14.5		A	AX		3	2	3
6257		PALE	09 08 1750	S09 E89	09 15.4		A	AX	10	2	1	4
6257		LEAR	09 09 0102	S10 E85	09 15.4		A	HA	60	1	3	3
6257		CULG	09 09 0135	S10 E80	09 15.1		A	HS	150	1	2	2
6257		SVTO	09 09 0710	S10 E77	09 15.1		A	HA	80	1	2	2
6257		RAMY	09 09 1210	S11 E73	09 15.0		A	HA	120	1	2	3
6257		BOUL	09 09 1450	S09 E75	09 15.2		A	HS	90	1	3	3
6257		HOLL	09 09 1500	S09 E74	09 15.2		A	HS	180	1	2	4
6257		PALE	09 09 1815	S09 E75	09 15.4		B	CSO	180	5	9	4
6257		LEAR	09 10 0010	S10 E72	09 15.4		B	CSO	120	3	9	3
6257		CULG	09 10 0010	S10 E73	09 15.5		B	CSO	100	2	7	3
6257		SVTO	09 10 0704	S09 E65	09 15.2		B	DAO	260	9	7	3
6257		RAMY	09 10 1140	S09 E63	09 15.2		B	DAO	200	8	9	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6257		BOUL	09 10 1410	S08 E62	09 15.2		B	CSO	110	5	9	1
6257		HOLL	09 10 1620	S10 E62	09 15.3		B	DSO	210	8	10	4
6257		PALE	09 10 1920	S09 E63	09 15.5		B	CSO	130	3	9	3
6257		LEAR	09 11 0008	S09 E57	09 15.3		B	DSO	170	7	8	3
6257		CULG	09 11 0040	S10 E58	09 15.4		B	CSO	140	4	8	3
6257		SVTO	09 11 0635	S08 E54	09 15.3		B	DAO	150	10	9	2
6257		RAMY	09 11 1234	S09 E50	09 15.3		B	CAO	180	8	8	3
6257		BOUL	09 11 1345	S08 E49	09 15.2		B	CAI	140	6	7	1
6257		HOLL	09 11 1702	S10 E47	09 15.2		B	CSO	150	9	11	4
6257		PALE	09 11 1908	S11 E46	09 15.2		B	CSO	230	8	8	3
6257		LEAR	09 12 0020	S10 E42	09 15.2		B	CSO	170	8	11	3
6257		SVTO	09 12 0738	S10 E39	09 15.2		B	CSO	150	9	12	3
6257		RAMY	09 12 1121	S10 E34	09 15.0		B	CAO	230	9	11	4
6257		BOUL	09 12 1453	S09 E34	09 15.2		B	CAO	150	9	9	3
6257		HOLL	09 12 1615	S10 E33	09 15.1		B	CSO	130	8	11	3
6257		PALE	09 12 1740	S11 E34	09 15.3		B	CSO	160	14	12	4
6257		LEAR	09 13 0028	S11 E30	09 15.3		B	CSO	190	5	6	3
6257		SVTO	09 13 0745	S11 E25	09 15.2		A	HS	130	2	2	3
6257		RAMY	09 13 1329	S09 E25	09 15.4		B	CAO	120	8	8	3
6257		BOUL	09 13 1450	S11 E18	09 15.0		A	HA	100	1	2	4
6257		HOLL	09 13 1505	S12 E24	09 15.4		B	CSO	180	13	10	3
6257		PALE	09 13 2109	S11 E17	09 15.2		A	HS	110	1	2	3
6257		LEAR	09 14 0030	S11 E18	09 15.4		B	CSO	160	10	9	3
6257		CULG	09 14 0230	S11 E15	09 15.2		B	CSO	120	3	3	2
6257		SVTO	09 14 0735	S10 E16	09 15.5		B	CAO	150	12	10	4
6257		BOUL	09 14 1446	S07 E07	09 15.1		B	CAO	110	2	2	2
6257		HOLL	09 14 1702	S11 E06	09 15.2		A	HS	150	1	2	3
6257		PALE	09 14 1807	S11 E05	09 15.1		A	HS	150	1	2	3
6257		LEAR	09 15 0015	S11 E05	09 15.4		B	CSO	110	7	8	2
6257		CULG	09 15 0205	S11 W01	09 15.0		A	HS	100	1	2	2
6257		SVTO	09 15 0702	S10 E02	09 15.4		B	CSO	150	7	9	5
6257		RAMY	09 15 1450	S10 W03	09 15.4		B	CAO	110	6	8	1
6257		BOUL	09 15 1500	S10 W04	09 15.3		B	CSO	120	4	7	2
6257		PALE	09 15 1747	S11 W05	09 15.4		B	CSO	170	8	7	2
6257		HOLL	09 15 1815	S11 W06	09 15.3		B	CSO	160	10	11	4
6257		LEAR	09 16 0050	S11 W09	09 15.3		B	CSO	60	6	7	3
6257		CULG	09 16 0125	S10 W10	09 15.3		B	CSO	120	6	8	2
6257		RAMY	09 16 1155	S10 W16	09 15.3		B	CAO	150	8	7	3
6257		HOLL	09 16 1735	S10 W21	09 15.1		B	CSO	170	5	5	3
6257		PALE	09 16 1936	S11 W19	09 15.4		B	CSO	100	9	7	3
6257		LEAR	09 17 0010	S10 W22	09 15.3		B	CSO	120	7	8	3
6257		CULG	09 17 0133	S11 W24	09 15.2		B	CSO	90	7	8	3
6257		SVTO	09 17 0745	S12 W26	09 15.4		B	DSO	110	8	7	4
6257		RAMY	09 17 1233	S10 W28	09 15.4		B	CAO	130	8	7	3
6257		HOLL	09 17 1535	S11 W30	09 15.4		B	CSO	110	4	6	4
6257		PALE	09 17 1745	S11 W32	09 15.3		B	CSO	100	2	8	4
6257		LEAR	09 18 0015	S11 W38	09 15.1		A	HS	80	1	2	3
6257		CULG	09 18 0107	S10 W40	09 15.0		A	HS	100	1	2	3
6257		RAMY	09 18 1226	S11 W46	09 15.0		B	CAO	140	4	3	3
6257		BOUL	09 18 1411	S10 W43	09 15.4		B	CAO	100	5	8	1
6257		HOLL	09 18 1735	S12 W45	09 15.3		B	CSO	120	4	7	1
6257		PALE	09 18 1740	S11 W45	09 15.3		B	CSO	120	6	8	3
6257		LEAR	09 19 0010	S11 W47	09 15.5		B	DAO	100	8	6	3
6257		CULG	09 19 0035	S11 W51	09 15.2		B	DSO	120	8	7	3
6257		SVTO	09 19 0755	S10 W53	09 15.3		B	CSO	90	5	8	3
6257		RAMY	09 19 1327	S10 W56	09 15.3		B	CAO	80	6	7	3
6257		BOUL	09 19 1504	S10 W56	09 15.4		B	DAO	120	3	7	2
6257		HOLL	09 19 1518	S11 W58	09 15.3		B	CSO	160	3	7	3
6257		PALE	09 19 1745	S11 W58	09 15.4		B	CAO	80	9	7	4
6257		LEAR	09 20 0010	S10 W63	09 15.3		B	CAO	100	4	5	3
6257		CULG	09 20 0045	S11 W64	09 15.2		B	CSO	100	3	6	2
6257		SVTO	09 20 0705	S14 W65	09 15.4		B	EAO	140	2	13	4
6257		RAMY	09 20 1400	S10 W69	09 15.4		A	HA	70	1	2	3
6257		BOUL	09 20 1500	S10 W70	09 15.4		A	HA	60	1	2	1
6257		HOLL	09 20 1620	S12 W64	09 15.8		A	HS	60	1	1	2
6257		PALE	09 20 1924	S12 W76	09 15.1		A	HA	60	1	1	3
6257		LEAR	09 21 0018	S10 W75	09 15.4		A	HS	90	1	2	3
6257A		SVTO	09 17 0745	S32 W23	09 15.5		A	AX	10	2	1	4

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6257A		RAMY	09 17 1233	S32 W26	09 15.5		B	BXO	10	3	2	3
6257A		PALE	09 17 1745	S32 W29	09 15.4		A	AX		1		4
6257B		HOLL	09 15 1815	S05 W03	09 15.5		A	AX		1		4
6257C		SVTO	09 13 0745	N10 E31	09 15.6		A	AX		1		3
6257C		RAMY	09 13 1329	N11 E28	09 15.7		A	AX		1	1	3
6257D		PALE	09 17 1745	S17 W27	09 15.7		A	AX		2	1	4
6257E		SVTO	09 19 0755	S25 W35	09 16.6		A	AX		1		3
6257F		PALE	09 13 2109	N19 E39	09 16.8		A	AX		3	2	3
6257F		CULG	09 17 0133	N17 W02	09 16.9		B	BXO	10	3	5	3
6263		SVTO	09 10 0704	N11 E88	09 16.9		A	HA	120	1	2	3
6263		RAMY	09 10 1140	N10 E81	09 16.6		A	HA	120	1	2	3
6263		BOUL	09 10 1410	N10 E79	09 16.5		A	HS	120	1	2	1
6263		HOLL	09 10 1620	N09 E78	09 16.5		A	HS	90	1	2	4
6263		PALE	09 10 1920	N10 E81	09 16.9		A	HA	120	1	1	3
6263		LEAR	09 11 0008	N09 E78	09 16.8		A	HS	80	1	2	3
6263		CULG	09 11 0040	N09 E77	09 16.8		A	HS	150	1	2	3
6263		SVTO	09 11 0635	N10 E72	09 16.7		A	HA	140	1	2	2
6263		RAMY	09 11 1234	N10 E69	09 16.7		B	CKO	170	3	4	3
6263		BOUL	09 11 1345	N10 E66	09 16.5		A	HS	150	1	2	1
6263		HOLL	09 11 1702	N10 E68	09 16.8		A	HS	150	1	2	4
6263		PALE	09 11 1908	N10 E68	09 16.9		A	HS	140	1	2	3
6263		LEAR	09 12 0020	N09 E63	09 16.7		A	HA	180	1	2	3
6263		SVTO	09 12 0738	N11 E61	09 16.9		B	CSO	180	2	4	3
6263		RAMY	09 12 1121	N09 E57	09 16.7		A	HK	180	1	3	4
6263		BOUL	09 12 1453	N13 E55	09 16.8		B	CSO	240	5	3	3
6263		HOLL	09 12 1615	N10 E56	09 16.9		A	HS	230	2	2	3
6263		PALE	09 12 1740	N10 E56	09 16.9		B	CSO	190	4	3	4
6263		LEAR	09 13 0028	N09 E50	09 16.8		B	CSO	180	2	4	3
6263		SVTO	09 13 0745	N12 E47	09 16.9		B	CAO	250	5	4	3
6263		RAMY	09 13 1329	N10 E46	09 17.0		B	CSO	270	4	3	3
6263		BOUL	09 13 1450	N10 E42	09 16.8		A	HA	130	3	3	4
6263		HOLL	09 13 1505	N11 E44	09 16.9		B	CSO	240	3	6	3
6263		PALE	09 13 2109	N09 E41	09 16.9		A	HS	180	1	2	3
6263		LEAR	09 14 0030	N09 E38	09 16.9		B	CAO	180	2	3	3
6263		CULG	09 14 0230	N10 E37	09 16.9		B	CSO	180	3	3	2
6263		SVTO	09 14 0735	N10 E34	09 16.9		B	CSO	180	3	4	4
6263		BOUL	09 14 1446	N10 E29	09 16.8		A	HK	200	1	3	2
6263		RAMY	09 14 1530	N14 E30	09 16.9		B	CAO	200	3	3	2
6263		HOLL	09 14 1702	N09 E29	09 16.9		A	HS	220	1	2	3
6263		PALE	09 14 1807	N09 E28	09 16.8		A	HS	170	1	3	3
6263		LEAR	09 15 0015	N09 E26	09 17.0		B	CSO	150	4	4	2
6263		CULG	09 15 0205	N10 E24	09 16.9		B	CSO	160	3	4	2
6263		SVTO	09 15 0702	N10 E21	09 16.9		B	CSO	230	3	4	5
6263		RAMY	09 15 1450	N10 E18	09 17.0		B	CKO	230	3	4	1
6263		BOUL	09 15 1500	N09 E16	09 16.8		A	HH	180	4	3	2
6263		PALE	09 15 1747	N09 E15	09 16.9		B	CHO	300	7	4	2
6263		HOLL	09 15 1815	N09 E16	09 17.0		B	CHO	200	4	4	4
6263		LEAR	09 16 0050	N12 E12	09 16.9		B	CHO	150	5	8	3
6263		CULG	09 16 0125	N10 E10	09 16.8		B	CSO	210	3	4	2
6263		RAMY	09 16 1155	N12 E07	09 17.0		B	CKO	230	10	8	3
6263		HOLL	09 16 1735	N13 E04	09 17.0		B	CSO	290	5	8	3
6263		PALE	09 16 1936	N13 E03	09 17.0		B	CHO	240	6	5	3
6263		LEAR	09 17 0010	N13 W01	09 16.9		B	CHO	220	4	5	3
6263		CULG	09 17 0133	N10 W03	09 16.8		A	HH	230	1	3	3
6263		SVTO	09 17 0745	N10 W07	09 16.8		A	HS	240	1	2	4
6263		RAMY	09 17 1233	N12 W08	09 16.9		B	CKO	330	8	4	3
6263		HOLL	09 17 1535	N10 W10	09 16.9		A	HH	220	1	2	4
6263		PALE	09 17 1745	N09 W11	09 16.9		A	HS	210	1	3	4
6263		LEAR	09 18 0015	N13 W14	09 16.9		B	CHO	200	3	7	3
6263		CULG	09 18 0107	N13 W16	09 16.8		B	CSO	200	6	5	3
6263		RAMY	09 18 1226	N10 W21	09 16.9		B	CKO	280	7	4	3
6263		BOUL	09 18 1411	N10 W22	09 16.9		A	HS	110	1	2	1
6263		HOLL	09 18 1735	N10 W23	09 17.0		A	HS	30	2	3	1

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6263		PALE	09 18 1740	N14 W24	09 16.9		B	CSO	220	6	7	3
6263		LEAR	09 19 0010	N13 W27	09 17.0		B	CSO	190	4	8	3
6263		CULG	09 19 0035	N12 W27	09 17.0		B	CSO	220	6	8	3
6263		SVTO	09 19 0755	N14 W32	09 16.9		B	CSO	230	7	4	3
6263		RAMY	09 19 1327	N13 W36	09 16.8		B	CKO	240	7	7	3
6263		BOUL	09 19 1504	N14 W35	09 17.0		B	CHO	240	4	4	2
6263		HOLL	09 19 1518	N13 W37	09 16.8		B	CSO	240	11	8	3
6263		PALE	09 19 1745	N14 W37	09 16.9		B	CSO	200	8	6	4
6263		LEAR	09 20 0010	N13 W43	09 16.8		B	CSO	130	5	8	3
6263		CULG	09 20 0045	N12 W41	09 16.9		B	CSO	230	6	7	2
6263		SVTO	09 20 0705	N13 W47	09 16.7		B	CAO	140	3	4	4
6263		RAMY	09 20 1400	N13 W49	09 16.9		B	CAO	200	5	4	3
6263		BOUL	09 20 1500	N17 W51	09 16.7		B	DAO	100	2	4	1
6263		HOLL	09 20 1620	N12 W51	09 16.8		B	CSO	180	5	7	2
6263		PALE	09 20 1924	N13 W53	09 16.8		B	CSO	110	4	4	3
6263		LEAR	09 21 0018	N12 W55	09 16.9		B	DHO	250	6	6	3
6263		SVTO	09 21 0720	N12 W58	09 16.9		B	DAO	250	5	6	4
6263		RAMY	09 21 1120	N11 W61	09 16.9		B	DAO	230	7	8	4
6263		HOLL	09 21 1606	N12 W64	09 16.8		B	DAO	160	6	6	4
6263		PALE	09 21 1938	N10 W67	09 16.8		B	DSO	170	3	5	2
6263		CULG	09 22 0035	N10 W71	09 16.7		B	DSO	180	5	6	3
6263		LEAR	09 22 0215	N12 W72	09 16.7		B	DAO	240	4	8	2
6263		SVTO	09 22 0800	N12 W76	09 16.6		B	DAO	240	3	6	3
6263		RAMY	09 22 1203	N12 W77	09 16.7		B	CAO	190	6	9	4
6263		BOUL	09 22 1445	N12 W73	09 17.1		B	DSO	230	2	6	3
6263		PALE	09 22 1912	N11 W76	09 17.1		B	DSO	110	4	5	3
6263		LEAR	09 23 0005	N12 W79	09 17.0		B	DAO	150	5	6	3
6263		CULG	09 23 0100	N12 W83	09 16.8		B	DSO	90	6	8	3
6263		SVTO	09 23 0810	N11 W86	09 16.9		B	DSO	80	2	4	2
6263		RAMY	09 23 1231	N12 W88	09 16.9		B	DAO	150	4	4	4
6263A		CULG	09 16 0125	N16 E13	09 17.0		A	AX	10	4	2	2
6266		SVTO	09 11 0635	S27 E80	09 17.5		A	HA	90	1	2	2
6266		RAMY	09 11 1234	S26 E79	09 17.7		A	HK	120	2	3	3
6266		BOUL	09 11 1345	S26 E75	09 17.4		A	HS	120	1	2	1
6266		HOLL	09 11 1702	S28 E75	09 17.6		A	HS	120	1	2	4
6266		PALE	09 11 1908	S26 E75	09 17.6		A	HS	120	1	2	3
6266		LEAR	09 12 0020	S26 E69	09 17.4		A	HA	120	2	2	3
6266		SVTO	09 12 0738	S28 E67	09 17.5		A	HS	130	2	3	3
6266		RAMY	09 12 1121	S28 E64	09 17.5		B	CKO	200	3	6	4
6266		BOUL	09 12 1453	S26 E60	09 17.3		B	CAO	160	6	4	3
6266		HOLL	09 12 1615	S27 E61	09 17.4		B	CAO	190	3	4	3
6266		PALE	09 12 1740	S29 E60	09 17.4		B	CAO	220	7	7	4
6266		LEAR	09 13 0028	S27 E56	09 17.4		B	CAO	180	4	6	3
6266		SVTO	09 13 0745	S27 E55	09 17.6		B	CAO	170	3	4	3
6266		RAMY	09 13 1329	S26 E49	09 17.4		B	CAO	140	6	9	3
6266		BOUL	09 13 1450	S26 E47	09 17.3		B	CAO	90	3	3	4
6266		HOLL	09 13 1505	S26 E49	09 17.4		B	CSO	180	6	4	3
6266		PALE	09 13 2109	S26 E47	09 17.5		A	HA	70	3	2	3
6266		LEAR	09 14 0030	S27 E46	09 17.6		A	HA	120	3	2	3
6266		CULG	09 14 0230	S28 E43	09 17.5		B	CAO	140	6	5	2
6266		SVTO	09 14 0735	S28 E40	09 17.4		B	CAO	80	3	4	4
6266		BOUL	09 14 1446	S26 E35	09 17.3		B	CAO	90	8	6	2
6266		RAMY	09 14 1530	S27 E36	09 17.4		B	CAO	150	7	6	2
6266		HOLL	09 14 1702	S28 E34	09 17.4		B	CSO	110	15	7	3
6266		PALE	09 14 1807	S27 E35	09 17.5		B	CSO	100	10	7	3
6266		LEAR	09 15 0015	S28 E32	09 17.5		B	CSO	80	5	6	2
6266		CULG	09 15 0205	S27 E30	09 17.4		A	HA	80	2	2	2
6266		SVTO	09 15 0702	S27 E27	09 17.4		B	CAO	80	10	6	5
6266		RAMY	09 15 1450	S25 E23	09 17.4		B	CAO	90	7	8	1
6266		BOUL	09 15 1500	S26 E22	09 17.3		B	CAO	100	10	7	2
6266		HOLL	09 15 1645	S26 E25	09 17.6		B	CSO	90	9	7	2
6266		PALE	09 15 1747	S28 E21	09 17.4		B	CAO	90	8	8	2
6266		HOLL	09 15 1815	S27 E22	09 17.5		B	CAO	60	10	7	4
6266		LEAR	09 16 0050	S27 E17	09 17.3		B	CAO	40	8	7	3
6266		CULG	09 16 0125	S26 E16	09 17.3		B	CAO	50	10	8	2
6266		RAMY	09 16 1155	S27 E12	09 17.4		B	DAO	70	14	7	3
6266		HOLL	09 16 1735	S25 E09	09 17.4		B	CAO	60	10	8	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6266		PALE	09 16 1936	S25 E09	09 17.5		B	CAO	30	9	7	3
6266		LEAR	09 17 0010	S26 E05	09 17.4		B	CSO	70	6	8	3
6266		CULG	09 17 0133	S27 E05	09 17.4		B	CAO	10	10	9	3
6266		SVTO	09 17 0745	S26 E02	09 17.5		B	DAO	30	8	7	4
6266		RAMY	09 17 1233	S27 W01	09 17.4		B	CAO	40	9	8	3
6266		HOLL	09 17 1535	S26 W03	09 17.4		B	BXO	10	11	10	4
6266		PALE	09 17 1745	S26 W05	09 17.3		B	BXO	20	11	9	4
6266		LEAR	09 18 0015	S27 W05	09 17.6		A	AX	10	1	1	3
6266		CULG	09 18 0107	S26 W06	09 17.6		A	AX	10	2	1	3
6266		RAMY	09 18 1226	S27 W17	09 17.2		B	BXO	10	3	4	3
6266		BOUL	09 18 1411	S24 W17	09 17.3		A	AX		2		1
6266		PALE	09 18 1740	S26 W20	09 17.2		A	AX		2	2	3
6266		LEAR	09 19 0010	S26 W19	09 17.5		B	BXO	10	5	5	3
6266		CULG	09 19 0035	S27 W23	09 17.2		B	BXO	10	9	12	3
6266		SVTO	09 19 0755	S26 W23	09 17.5		A	AX	20	7	3	3
6266		RAMY	09 19 1327	S26 W32	09 17.1		B	BXO	20	16	15	3
6266		BOUL	09 19 1504	S26 W26	09 17.6		B	CSO	40	6	3	2
6266		HOLL	09 19 1518	S27 W31	09 17.2		B	BXO	20	9	14	3
6266		PALE	09 19 1745	S27 W33	09 17.2		B	BXO	20	7	15	4
6266		LEAR	09 20 0010	S25 W27	09 17.9		B	BXO	20	5	7	3
6266		CULG	09 20 0045	S26 W32	09 17.5		B	CRO	20	8	4	2
6266		SVTO	09 20 0705	S26 W35	09 17.6		B	CAO	400	5	3	4
6266		RAMY	09 20 1400	S26 W40	09 17.5		B	CAO	80	7	9	3
6266		BOUL	09 20 1500	S23 W40	09 17.5		A	HA	90	3	2	1
6266		HOLL	09 20 1620	S25 W41	09 17.5		B	BXO	30	5	7	2
6266		PALE	09 20 1924	S25 W46	09 17.2		B	CAO	30	5	7	3
6266		LEAR	09 21 0018	S25 W46	09 17.4		B	CSO	100	8	7	3
6266		SVTO	09 21 0720	S25 W53	09 17.2		B	DAO	80	8	8	4
6266		RAMY	09 21 1120	S25 W52	09 17.4		B	DAO	90	8	9	4
6266		HOLL	09 21 1606	S25 W55	09 17.4		B	CRO	30	4	6	4
6266		PALE	09 21 1938	S26 W60	09 17.1		B	CAO	60	2	6	2
6266		CULG	09 22 0035	S27 W59	09 17.4		B	CSO	20	7	12	3
6266		LEAR	09 22 0215	S25 W62	09 17.3		B	CAO	50	5	8	2
6266		SVTO	09 22 0800	S26 W67	09 17.1		B	DAO	50	2	6	3
6266		RAMY	09 22 1203	S26 W65	09 17.4		B	CAO	80	4	9	4
6266		BOUL	09 22 1445	S23 W66	09 17.5		A	HS	60	1	2	3
6266		PALE	09 22 1912	S25 W68	09 17.5		A	HA	30	1	1	3
6266		LEAR	09 23 0005	S24 W66	09 17.9		B	CSO	30	2	4	3
6266		CULG	09 23 0100	S26 W78	09 17.0		A	HS	30	1	3	3
6266		SVTO	09 23 0810	S25 W77	09 17.4		A	HS	20	1	1	2
6266		RAMY	09 23 1231	S23 W80	09 17.3		B	CAO	60	3	2	4
6267		SVTO	09 11 0635	S13 E81	09 17.4		A	HA	120	1	2	2
6267		RAMY	09 11 1234	S12 E77	09 17.3		B	CKO	240	4	5	3
6267		BOUL	09 11 1345	S13 E73	09 17.1		A	HS	150	2	2	1
6267		HOLL	09 11 1702	S12 E75	09 17.4		A	HS	120	2	2	4
6267		PALE	09 11 1908	S12 E75	09 17.4		A	HS	120	2	2	3
6267		LEAR	09 12 0020	S13 E69	09 17.2		A	HA	140	1	2	3
6267		SVTO	09 12 0738	S13 E70	09 17.6		B	CSO	200	2	9	3
6267		RAMY	09 12 1121	S12 E67	09 17.5		B	DKO	240	5	9	4
6267		BOUL	09 12 1453	S11 E65	09 17.5		B	DAO	230	3	10	3
6267		HOLL	09 12 1615	S12 E64	09 17.5		B	DHO	220	3	9	3
6267		PALE	09 12 1740	S13 E65	09 17.6		B	DHO	240	4	10	4
6267		LEAR	09 13 0028	S13 E59	09 17.5		B	DAO	310	8	8	3
6267		SVTO	09 13 0745	S14 E56	09 17.5		B	DKO	300	10	10	3
6267		RAMY	09 13 1329	S12 E55	09 17.7		B	DAO	300	14	10	3
6267		BOUL	09 13 1450	S13 E49	09 17.3		B	DKO	220	8	10	4
6267		HOLL	09 13 1505	S12 E51	09 17.5		B	CHO	320	19	8	3
6267		PALE	09 13 2109	S12 E50	09 17.6		B	DHO	220	6	9	3
6267		LEAR	09 14 0030	S13 E46	09 17.5		B	DAO	320	6	10	3
6267		CULG	09 14 0230	S13 E46	09 17.6		B	DKO	310	9	10	2
6267		SVTO	09 14 0735	S13 E44	09 17.6		B	CAO	230	13	10	4
6267		BOUL	09 14 1446	S12 E38	09 17.5		B	EKO	320	17	12	2
6267		RAMY	09 14 1530	S13 E39	09 17.6		B	EKO	320	15	13	2
6267		HOLL	09 14 1702	S13 E38	09 17.6		BG	EAI	260	18	11	3
6267		PALE	09 14 1807	S13 E39	09 17.7		B	EAO	130	20	11	3
6267		LEAR	09 15 0015	S13 E34	09 17.6		B	EAO	260	20	14	2
6267		CULG	09 15 0205	S12 E32	09 17.5		B	ESO	210	9	11	2
6267		SVTO	09 15 0702	S12 E31	09 17.6		B	EAO	310	22	13	5

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6267		RAMY	09 15 1450	S12 E28	09 17.7		B	EAO	250	15	14	1
6267		BOUL	09 15 1500	S12 E25	09 17.5		B	EKO	380	15	13	2
6267		HOLL	09 15 1645	S12 E27	09 17.7		BG	EKO	310	19	13	2
6267		PALE	09 15 1747	S14 E25	09 17.6		B	EKO	330	18	13	2
6267		LEAR	09 16 0050	S13 E22	09 17.7		B	EAO	220	11	11	3
6267		CULG	09 16 0125	S12 E20	09 17.6		B	EKO	210	13	13	2
6267		RAMY	09 16 1155	S12 E15	09 17.6		B	EKO	260	31	13	3
6267		HOLL	09 16 1735	S12 E12	09 17.6		B	EHO	340	13	13	3
6267		PALE	09 16 1936	S13 E12	09 17.7		B	CKO	310	15	13	3
6267		LEAR	09 17 0010	S13 E07	09 17.5		B	EKO	280	17	13	3
6267		CULG	09 17 0133	S13 E04	09 17.4		B	CKO	180	16	13	3
6267		SVTO	09 17 0745	S13 E03	09 17.5		B	EKO	300	22	13	4
6267		RAMY	09 17 1233	S13 E01	09 17.6		B	EAO	350	23	13	3
6267		HOLL	09 17 1535	S13 E01	09 17.7		B	CAO	230	30	15	4
6267		PALE	09 17 1745	S13 W02	09 17.6		B	CAO	200	37	14	4
6267		LEAR	09 18 0015	S14 W04	09 17.7		B	FAO	170	13	16	3
6267		CULG	09 18 0107	S13 W07	09 17.5		B	CAO	180	22	16	3
6267		RAMY	09 18 1226	S13 W11	09 17.7		B	EAO	230	15	14	3
6267		BOUL	09 18 1411	S13 W13	09 17.6		B	EAO	140	10	14	1
6267		HOLL	09 18 1735	S14 W15	09 17.6		B	CAO	210	9	15	1
6267		PALE	09 18 1740	S14 W15	09 17.6		B	CAO	230	14	17	3
6267		LEAR	09 19 0010	S13 W18	09 17.6		B	CAO	110	10	14	3
6267		CULG	09 19 0035	S14 W18	09 17.7		B	CAO	160	11	16	3
6267		SVTO	09 19 0755	S14 W25	09 17.4		B	CSO	170	8	14	3
6267		RAMY	09 19 1327	S13 W31	09 17.2		B	DAO	170	11	7	3
6267		BOUL	09 19 1504	S12 W32	09 17.2		B	DAO	190	4	4	2
6267		HOLL	09 19 1518	S13 W31	09 17.3		B	CAO	160	8	8	3
6267		PALE	09 19 1745	S13 W34	09 17.2		B	CAO	160	14	7	4
6267		LEAR	09 20 0010	S12 W35	09 17.4		B	CAO	90	8	6	3
6267		CULG	09 20 0045	S13 W37	09 17.2		B	CAO	190	13	6	2
6267		SVTO	09 20 0705	S13 W42	09 17.1		B	DSO	170	7	6	4
6267		RAMY	09 20 1400	S13 W44	09 17.3		B	CAO	250	7	6	3
6267		BOUL	09 20 1500	S13 W43	09 17.4		B	CAO	110	3	3	1
6267		HOLL	09 20 1620	S13 W45	09 17.3		B	CSO	210	7	7	2
6267		PALE	09 20 1924	S13 W48	09 17.2		B	DAO	120	4	5	3
6267		LEAR	09 21 0018	S12 W48	09 17.4		B	DAO	190	8	6	3
6267		SVTO	09 21 0720	S12 W54	09 17.2		B	DAI	200	10	6	4
6267		RAMY	09 21 1120	S11 W56	09 17.2		B	CAO	130	12	5	4
6267		HOLL	09 21 1606	S12 W58	09 17.3		B	DAO	90	7	4	4
6267		PALE	09 21 1938	S14 W60	09 17.3		B	CKO	190	9	6	2
6267		CULG	09 22 0035	S14 W64	09 17.2		B	DSO	100	7	7	3
6267		LEAR	09 22 0215	S11 W65	09 17.2		B	DAO	310	6	6	2
6267		SVTO	09 22 0800	S12 W67	09 17.3		B	CAI	190	3	5	3
6267		RAMY	09 22 1203	S11 W69	09 17.3		B	DAO	170	8	6	4
6267		BOUL	09 22 1445	S11 W68	09 17.5		B	DSO	170	7	7	3
6267		PALE	09 22 1912	S13 W73	09 17.3		B	CAO	80	7	7	3
6267		LEAR	09 23 0005	S12 W72	09 17.6		B	DAI	120	6	5	3
6267		CULG	09 23 0100	S14 W81	09 16.9		B	DSO	40	5	10	3
6267		SVTO	09 23 0810	S12 W79	09 17.4		A	HS	60	1	3	2
6267		RAMY	09 23 1231	S12 W83	09 17.3		B	CAO	90	2	4	4
6267A		CULG	09 22 0035	N10 W53	09 18.0		A	AX	10	1		3
6267A		SVTO	09 22 0800	N10 W57	09 18.0		B	BXO	10	3	3	3
6268		RAMY	09 11 1234	N22 E82	09 17.8		B	CAO	120	3	3	3
6268		BOUL	09 11 1345	N22 E79	09 17.6		B	CSO	60	2	2	1
6268		HOLL	09 11 1702	N22 E81	09 17.9		B	DSO	180	5	8	4
6268		PALE	09 11 1908	N22 E80	09 17.9		B	CSO	90	7	10	3
6268		LEAR	09 12 0020	N22 E75	09 17.8		B	DAO	120	8	5	3
6268		SVTO	09 12 0738	N21 E75	09 18.1		B	DSO	270	5	7	3
6268		RAMY	09 12 1121	N22 E70	09 17.8		B	DAO	250	8	9	4
6268		BOUL	09 12 1453	N24 E67	09 17.8		B	DAO	290	8	7	3
6268		HOLL	09 12 1615	N22 E68	09 17.9		B	DSO	240	9	7	3
6268		PALE	09 12 1740	N22 E68	09 18.0		B	DAO	340	8	7	4
6268		LEAR	09 13 0028	N22 E64	09 17.9		B	DAO	310	2	8	3
6268		SVTO	09 13 0745	N22 E62	09 18.1		B	DAO	400	6	10	3
6268		RAMY	09 13 1329	N23 E59	09 18.1		B	DAO	340	7	8	3
6268		BOUL	09 13 1450	N23 E55	09 17.8		B	DAO	190	2	8	4
6268		HOLL	09 13 1505	N23 E56	09 17.9		B	DAO	300	7	9	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6268		PALE	09 13 2109	N23 E56	09 18.2		B	EAO	210	6	12	3
6268		LEAR	09 14 0030	N23 E51	09 17.9		B	DSO	260	3	9	3
6268		CULG	09 14 0230	N23 E51	09 18.0		B	DAO		8	9	2
6268		SVTO	09 14 0735	N22 E49	09 18.1		B	DSO	260	5	8	4
6268		BOUL	09 14 1446	N23 E44	09 18.0		B	DKO	300	14	7	2
6268		RAMY	09 14 1530	N23 E45	09 18.1		B	DAO	280	9	9	2
6268		HOLL	09 14 1702	N22 E42	09 17.9		B	DHO	290	11	9	3
6268		PALE	09 14 1807	N23 E43	09 18.1		B	DHO	290	13	10	3
6268		LEAR	09 15 0015	N23 E39	09 18.0		B	DAO	210	9	8	2
6268		CULG	09 15 0205	N23 E38	09 18.0		B	DAO	160	7	9	2
6268		SVTO	09 15 0702	N22 E36	09 18.0		B	DKO	290	13	9	5
6268		RAMY	09 15 1450	N22 E31	09 18.0		B	DKO	180	6	10	1
6268		BOUL	09 15 1500	N22 E30	09 17.9		B	DKO	210	14	9	2
6268		HOLL	09 15 1645	N23 E31	09 18.1		BG	EKO	320	10	11	2
6268		LEAR	09 16 0050	N23 E25	09 18.0		B	DAO	130	8	10	3
6268		CULG	09 16 0125	N23 E26	09 18.1				210	5	11	2
6268		RAMY	09 16 1155	N21 E19	09 17.9		B	EAO	230	15	11	3
6268		HOLL	09 16 1735	N22 E17	09 18.0		B	EAO	260	5	11	3
6268		PALE	09 16 1936	N23 E17	09 18.1		B	EAO	90	8	11	3
6268		LEAR	09 17 0010	N22 E13	09 18.0		B	EAO	190	9	11	3
6268		CULG	09 17 0133	N22 E11	09 17.9		B	EAO	120	6	11	3
6268		SVTO	09 17 0745	N22 E07	09 17.9		B	EAO	130	10	11	4
6268		RAMY	09 17 1233	N22 E06	09 18.0		B	EAO	190	16	11	3
6268		HOLL	09 17 1535	N22 E05	09 18.0		B	EAO	100	12	11	4
6268		PALE	09 17 1745	N22 E03	09 18.0		B	EAO	110	15	11	4
6268		LEAR	09 18 0015	N22 E01	09 18.1		B	DAO	70	9	10	3
6268		CULG	09 18 0107	N22 W01	09 18.0		B	EAO	30	14	11	3
6268		RAMY	09 18 1226	N22 W07	09 18.0		B	EAO	70	18	11	3
6268		SVTO	09 18 1307	N23 W07	09 18.0		B	EAO	60	8	11	4
6268		BOUL	09 18 1411	N24 W08	09 18.0		B	BXO	30	7	11	1
6268		HOLL	09 18 1735	N22 W09	09 18.0		B	BXO	20	7	11	1
6268		PALE	09 18 1740	N22 W09	09 18.0		B	CAO	40	7	11	3
6268		LEAR	09 19 0010	N22 W12	09 18.1		B	CAO	30	9	10	3
6268		CULG	09 19 0035	N22 W13	09 18.0		B	BXO	10	8	10	3
6268		SVTO	09 19 0755	N23 W12	09 18.4		A	AX	10	5	2	3
6268		RAMY	09 19 1327	N23 W19	09 18.1		B	BXO	10	9	10	3
6268		BOUL	09 19 1504	N23 W16	09 18.4		B	BXO	10	4	1	2
6268		HOLL	09 19 1518	N23 W17	09 18.3		B	BXO	20	8	4	3
6268		PALE	09 19 1745	N23 W19	09 18.3		B	BXO	10	7	4	4
6268		LEAR	09 20 0010	N22 W23	09 18.2		B	BXO	10	4	5	3
6268		CULG	09 20 0045	N23 W23	09 18.2		B	BXO	10	7	5	2
6268		SVTO	09 20 0705	N22 W28	09 18.1		B	BXO	10	2	9	4
6268		RAMY	09 20 1400	N23 W27	09 18.5		B	BXO	80	2	2	3
6268		HOLL	09 20 1620	N22 W33	09 18.1		B	BXO	10	5	7	2
6268		PALE	09 20 1924	N21 W32	09 18.3		B	BXO	10	2	4	3
6268		LEAR	09 21 0018	N22 W33	09 18.5		A	AX	10	1	1	3
6268		RAMY	09 21 1120	N21 W40	09 18.4		A	AX		1	1	4
6284		PALE	09 21 1938	N09 W49	09 18.1		A	AX		1		2
6284		LEAR	09 22 0215	N11 W52	09 18.2		B	BXO	10	3	3	2
6284		PALE	09 22 1912	N09 W61	09 18.2		A	AX		1		3
6270		RAMY	09 13 1329	S19 E73	09 19.1		B	BXO	50	4	3	3
6270		HOLL	09 13 1505	S19 E68	09 18.8		A	AX	30	3	2	3
6270		LEAR	09 14 0030	S18 E63	09 18.8		A	AX	50	2	2	3
6270		CULG	09 14 0230	S19 E64	09 19.0		A	AX		4	2	2
6270		SVTO	09 14 0735	S19 E60	09 18.9		A	AX	10	3	1	4
6270		BOUL	09 14 1446	S17 E54	09 18.7		B	BXO	20	5	3	2
6270		RAMY	09 14 1530	S18 E56	09 18.9		B	BXO	40	6	4	2
6270		HOLL	09 14 1702	S20 E54	09 18.8		B	BXO	10	6	3	3
6270		PALE	09 14 1807	S19 E54	09 18.9		B	BXO	30	8	4	3
6270		LEAR	09 15 0015	S18 E50	09 18.8		A	AX	10	2	2	2
6270		CULG	09 15 0205	S18 E47	09 18.7		B	BXO	10	3	3	2
6270		SVTO	09 15 0702	S19 E46	09 18.8		B	BXO	20	3	4	5
6270		RAMY	09 15 1450	S18 E43	09 18.9		B	BXO	20	3	3	1
6270		BOUL	09 15 1500	S18 E42	09 18.8		B	CSO	30	5	3	2
6270		PALE	09 15 1747	S21 E39	09 18.7		B	BXO	10	6	4	2
6270		LEAR	09 16 0050	S19 E36	09 18.8		B	BXO	10	3	3	3
6270		CULG	09 16 0125	S18 E36	09 18.8		B	BXO	10	4	4	2

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

SEPTEMBER 1990

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
6270		RAMY	09	16	1155	S18	E31	09	18.8		B	BXO	20	10	4	3
6270		HOLL	09	16	1735	S19	E29	09	18.9		B	BXO	10	6	5	3
6270		PALE	09	16	1936	S19	E29	09	19.0		A	AX		3	1	3
6270		CULG	09	17	0133	S18	E26	09	19.0		A	AX	10	2	1	3
6270		SVTO	09	17	0745	S17	E21	09	18.9		B	BXO	10	3	5	4
6270		RAMY	09	17	1233	S18	E19	09	19.0		A	AX	10	3	2	3
6270		PALE	09	17	1745	S19	E16	09	19.0		A	AX		1		4
6270		RAMY	09	18	1226	S18	E06	09	19.0		B	BXO	10	5	5	3
6270		BOUL	09	18	1411	S17	W01	09	18.5		A	AX		1		1
6270		CULG	09	19	0035	S18	W01	09	18.9		A	AX		2		3
6270		PALE	09	19	1745	S19	W12	09	18.8		B	BXO		4	3	4
6270A		PALE	09	18	1740	S05	E06	09	19.2		A	AX		1		3
6270B		RAMY	09	18	1226	S27	E10	09	19.3		B	BXO	10	3	3	3
6269		BOUL	09	12	1453	N19	E81	09	18.8		A	HA	60	2	1	3
6269		HOLL	09	12	1615	N18	E81	09	18.8		A	HS	60	1	2	3
6269		PALE	09	12	1740	N18	E80	09	18.8		A	HA	60	2	2	4
6269		LEAR	09	13	0028	N18	E77	09	18.9		A	HS	60	1	2	3
6269		SVTO	09	13	0745	N18	E80	09	19.4		B	DAO	120	2	7	3
6269		RAMY	09	13	1329	N20	E77	09	19.4		B	DAO	90	2	9	3
6269		BOUL	09	13	1450	N19	E70	09	19.0		B	DAO	50	2	8	4
6269		HOLL	09	13	1505	N20	E74	09	19.3		B	CSO	120	4	10	3
6269		PALE	09	13	2109	N19	E75	09	19.6		B	CAO	60	2	12	3
6269		LEAR	09	14	0030	N19	E69	09	19.3		B	DSO	180	2	9	3
6269		CULG	09	14	0230	N17	E68	09	19.3		B	DAO	70	4	9	2
6269		SVTO	09	14	0735	N19	E68	09	19.5		B	DSO	70	3	10	4
6269		BOUL	09	14	1446	N19	E63	09	19.4		B	EAO	90	2	11	2
6269		RAMY	09	14	1530	N19	E63	09	19.4		B	EAO	120	3	11	2
6269		HOLL	09	14	1702	N19	E60	09	19.3		B	DSO	110	4	9	3
6269		PALE	09	14	1807	N19	E61	09	19.4		B	CAO	90	4	10	3
6269		LEAR	09	15	0015	N19	E57	09	19.4		B	DAO	100	3	10	2
6269		CULG	09	15	0205	N19	E57	09	19.4		B	CSO	50	2	10	2
6269		SVTO	09	15	0702	N19	E54	09	19.4		B	ESO	100	2	11	5
6269		RAMY	09	15	1450	N20	E50	09	19.4		B	EAO	80	2	11	1
6269		BOUL	09	15	1500	N19	E50	09	19.4		B	DSO	90	2	10	2
6269		HOLL	09	15	1815	N19	E49	09	19.5		B	DSO	80	5	10	4
6269		LEAR	09	16	0050	N19	E45	09	19.5		B	DSO	40	2	10	3
6269		CULG	09	16	0125	N20	E44	09	19.4		B	EAO	60	3	11	2
6269		RAMY	09	16	1155	N19	E37	09	19.3		B	CAO	80	5	11	3
6269		HOLL	09	16	1735	N19	E35	09	19.4		B	CSO	120	5	11	3
6269		PALE	09	16	1936	N20	E34	09	19.4		B	DAO	50	2	10	3
6269		LEAR	09	17	0010	N18	E32	09	19.4		B	CSO	50	2	11	3
6269		CULG	09	17	0133	N21	E30	09	19.4		B	CAO	40	2	10	3
6269		SVTO	09	17	0745	N18	E29	09	19.5		B	DSO	70	3	11	4
6269		RAMY	09	17	1233	N18	E24	09	19.3		B	CAO	80	6	8	3
6269		HOLL	09	17	1535	N19	E24	09	19.5		B	CSO	60	5	10	4
6269		PALE	09	17	1745	N19	E21	09	19.3		B	CSO	40	4	8	4
6269		LEAR	09	18	0015	N17	E15	09	19.1		A	HS	40	1	2	3
6269		CULG	09	18	0107	N18	E17	09	19.3		B	CSO	50	2	7	3
6269		RAMY	09	18	1226	N18	E08	09	19.1		B	CAO	90	6	4	3
6269		BOUL	09	18	1411	N19	E06	09	19.0		A	HS	60	1	1	1
6269		HOLL	09	18	1735	N18	E05	09	19.1		A	HS	40	1	2	1
6269		PALE	09	18	1740	N19	E06	09	19.2		A	HS	60	1	2	3
6269		LEAR	09	19	0010	N20	E06	09	19.5		B	CAO	60	5	11	3
6269		CULG	09	19	0035	N18	E03	09	19.2		B	CSO	70	5	10	3
6269		SVTO	09	19	0755	N21	E02	09	19.5		B	CSO	70	10	10	3
6269		RAMY	09	19	1327	N20	W01	09	19.5		B	CAO	70	7	13	3
6269		BOUL	09	19	1504	N21	W04	09	19.3		B	ESO	90	6	13	2
6269		HOLL	09	19	1518	N20	W01	09	19.6		B	CSO	80	10	12	3
6269		PALE	09	19	1745	N19	W04	09	19.4		B	CSO	100	9	11	4
6269		LEAR	09	20	0010	N19	W07	09	19.5		B	CSO	70	6	10	3
6269		CULG	09	20	0045	N20	W07	09	19.5		B	CSO	70	12	11	2
6269		SVTO	09	20	0705	N19	W11	09	19.4		B	ESO	70	10	12	4
6269		RAMY	09	20	1400	N20	W12	09	19.7		B	CAO	60	8	10	3
6269		BOUL	09	20	1500	N18	W17	09	19.3		A	HA	40	1	1	1
6269		HOLL	09	20	1620	N19	W16	09	19.4		B	CSO	70	6	12	2
6269		PALE	09	20	1924	N19	W19	09	19.3		B	CSO	40	4	7	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6269		LEAR	09 21 0018	N19 W20	09 19.5		B	CSO	50	2	6	3
6269		SVTO	09 21 0720	N19 W28	09 19.2		B	CSO	50	5	4	4
6269		RAMY	09 21 1120	N19 W30	09 19.2		B	CAO	80	8	5	4
6269		HOLL	09 21 1606	N19 W33	09 19.1		B	CSO	40	5	4	4
6269		PALE	09 21 1938	N18 W36	09 19.1		B	CSO	50	4	4	2
6269		CULG	09 22 0035	N19 W40	09 19.0		B	CSO	50	5	5	3
6269		LEAR	09 22 0215	N20 W40	09 19.0		B	CSO	40	6	5	2
6269		SVTO	09 22 0800	N19 W43	09 19.0		B	CSO	60	4	5	3
6269		RAMY	09 22 1203	N20 W45	09 19.1		B	CAO	70	7	6	4
6269		BOUL	09 22 1445	N19 W45	09 19.2		B	CSO	60	3	6	3
6269		PALE	09 22 1912	N18 W46	09 19.3		A	HS	30	1	1	3
6269		LEAR	09 23 0005	N19 W51	09 19.1		B	CSO	30	2	5	3
6269		CULG	09 23 0100	N18 W50	09 19.2		A	HS	30	2	2	3
6269		SVTO	09 23 0810	N17 W54	09 19.2		A	HS	30	1	1	2
6269		RAMY	09 23 1231	N19 W57	09 19.2		B	CAO	90	5	4	4
6269		BOUL	09 23 1430	N17 W55	09 19.4		A	HS	50	1	2	3
6269		PALE	09 23 1805	N18 W60	09 19.2		A	HS	40	1	1	3
6269		LEAR	09 24 0022	N18 W60	09 19.4		A	HS	20	1	2	3
6269		CULG	09 24 0100	N18 W63	09 19.2		A	HS	40	1	1	3
6269		SVTO	09 24 0825	N18 W68	09 19.2		A	HR	30	1	1	2
6269		RAMY	09 24 1222	N18 W68	09 19.3		B	CAO	80	4	7	4
6269		BOUL	09 24 1416	N18 W68	09 19.4		A	HS	50	1	1	1
6269		PALE	09 24 1850	N18 W73	09 19.2		A	HS	30	1	1	4
6269		HOLL	09 24 2030	N18 W75	09 19.1		A	AX	20	2	1	3
6269		LEAR	09 25 0020	N18 W71	09 19.6		A	HS	30	1	1	3
6269		CULG	09 25 0050	N18 W75	09 19.3		A	HS	30	1	1	3
6269		SVTO	09 25 0653	N18 W80	09 19.2		A	AX	10	1		3
6269		RAMY	09 25 1135	N18 W85	09 19.0		A	AX	20	2	2	4
6269		HOLL	09 25 1600	N18 W86	09 19.1		A	AX	30	1	1	3
6276		SVTO	09 17 0745	S21 E31	09 19.7		B	BXO	10	4	2	4
6276		RAMY	09 17 1233	S21 E28	09 19.7		B	BXO	10	6	3	3
6276		HOLL	09 17 1535	S21 E26	09 19.6		A	AX		3	2	4
6276		PALE	09 17 1745	S22 E25	09 19.7		A	AX		2	1	4
6276		LEAR	09 18 0015	S23 E20	09 19.5		A	AX	10	1	1	3
6276		CULG	09 18 0107	S22 E19	09 19.5		A	AX	10	2	1	3
6272		LEAR	09 14 0030	S12 E78	09 19.9		A	AX	60	1	2	3
6272		CULG	09 14 0230	S08 E89	09 20.8		A	HS	150	1	2	2
6272		SVTO	09 14 0735	S12 E84	09 20.6		A	HS	120	1	5	4
6272		BOUL	09 14 1446	S11 E76	09 20.3		A	HK	330	1	5	2
6272		RAMY	09 14 1530	S12 E77	09 20.4		A	HK	300	1	3	2
6272		HOLL	09 14 1702	S13 E76	09 20.4		A	HH	450	1	3	3
6272		PALE	09 14 1807	S12 E78	09 20.6		A	HS	300	2	4	3
6272		LEAR	09 15 0015	S13 E72	09 20.4		A	HK	360	1	3	2
6272		CULG	09 15 0205	S12 E70	09 20.4		A	HH	300	1	3	2
6272		SVTO	09 15 0702	S12 E69	09 20.5		B	HK	520	4	3	5
6272		RAMY	09 15 1450	S11 E65	09 20.5		A	HK	460	1	4	1
6272		BOUL	09 15 1500	S13 E62	09 20.3		A	HH	520	1	6	2
6272		HOLL	09 15 1815	S12 E62	09 20.4		A	HK	450	7	4	4
6272		LEAR	09 16 0050	S13 E57	09 20.3		A	HK	380	4	4	3
6272		CULG	09 16 0125	S12 E58	09 20.4		A	HH	400	5	6	2
6272		RAMY	09 16 1155	S12 E51	09 20.3		B	CKO	510	8	5	3
6272		HOLL	09 16 1735	S12 E49	09 20.4		B	CKI	540	19	5	3
6272		PALE	09 16 1936	S13 E49	09 20.5		B	CKO	480	11	5	3
6272		LEAR	09 17 0010	S13 E45	09 20.4		B	DKO	430	12	6	3
6272		CULG	09 17 0133	S11 E45	09 20.4		A	AX	360	10	6	3
6272		SVTO	09 17 0745	S13 E42	09 20.5		B	DKO	540	13	6	4
6272		RAMY	09 17 1233	S13 E39	09 20.5		B	CKO	550	31	7	3
6272		HOLL	09 17 1535	S10 E39	09 20.6		B	EKI	530	30	11	4
6272		PALE	09 17 1745	S13 E36	09 20.4		B	DKO	520	35	9	4
6272		LEAR	09 18 0015	S13 E33	09 20.5		B	DKI	380	17	8	3
6272		CULG	09 18 0107	S13 E33	09 20.5		B	CKO	370	16	9	3
6272		RAMY	09 18 1226	S12 E27	09 20.5		B	DKO	640	32	8	3
6272		BOUL	09 18 1411	S13 E25	09 20.5		B	CKI	400	13	8	1
6272		HOLL	09 18 1735	S13 E24	09 20.5		B	CHO	520	19	8	1
6272		PALE	09 18 1740	S13 E25	09 20.6		B	DKO	480	36	9	3
6272		LEAR	09 19 0010	S13 E21	09 20.6		B	DKO	430	21	8	3
6272		CULG	09 19 0035	S13 E21	09 20.6		B	DKO	460	22	8	3

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

SEPTEMBER 1990

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
6272		SVTO	09 19 0755	S13 E18	09 20.7		B	CAO	430	19	8	3
6272		RAMY	09 19 1327	S13 E14	09 20.6		B	DKO	520	22	7	3
6272		BOUL	09 19 1504	S12 E11	09 20.4		B	CKO	380	5	5	2
6272		HOLL	09 19 1518	S12 E12	09 20.5		B	CKO	500	21	8	3
6272		PALE	09 19 1745	S13 E12	09 20.6		B	DKO	410	26	8	4
6272		LEAR	09 20 0010	S13 E07	09 20.5		B	CKO	320	10	5	3
6272		CULG	09 20 0045	S13 E07	09 20.5		B	CKO	430	10	5	2
6272		SVTO	09 20 0705	S15 E04	09 20.6		B	CKO	370	11	4	4
6272		RAMY	09 20 1400	S13 W01	09 20.5		B	CKO	330	13	5	3
6272		BOUL	09 20 1500	S12 W03	09 20.4		B	CKO	300	3	5	1
6272		HOLL	09 20 1620	S12 W01	09 20.6		B	CKO	380	6	6	2
6272		PALE	09 20 1924	S14 W04	09 20.5		B	CKO	290	6	4	3
6272		LEAR	09 21 0018	S13 W06	09 20.5		B	DKO	330	12	6	3
6272		SVTO	09 21 0720	S13 W11	09 20.5		B	CAI	340	9	5	4
6272		RAMY	09 21 1120	S11 W12	09 20.6		B	CAO	310	8	5	4
6272		HOLL	09 21 1606	S13 W15	09 20.5		B	DAO	190	7	5	4
6272		PALE	09 21 1938	S14 W17	09 20.5		B	DKO	200	4	5	2
6272		CULG	09 22 0035	S13 W19	09 20.6		B	DAO	200	19	5	3
6272		LEAR	09 22 0215	S12 W21	09 20.5		B	DAO	190	11	5	2
6272		SVTO	09 22 0800	S13 W23	09 20.6		B	CAI	250	12	5	3
6272		RAMY	09 22 1203	S12 W25	09 20.6		B	CAO	240	19	5	4
6272		BOUL	09 22 1445	S13 W26	09 20.6		B	DAO	220	9	4	3
6272		PALE	09 22 1912	S13 W29	09 20.6		B	DHO	180	6	4	3
6272		LEAR	09 23 0005	S13 W32	09 20.6		B	DAC	160	7	5	3
6272		CULG	09 23 0100	S13 W32	09 20.6		B	DAO	150	11	6	3
6272		SVTO	09 23 0810	S14 W36	09 20.6		B	DSO	200	6	4	2
6272		RAMY	09 23 1231	S12 W38	09 20.6		B	DAO	270	12	5	4
6272		BOUL	09 23 1430	S13 W38	09 20.7		A	HS	240	5	4	3
6272		PALE	09 23 1805	S13 W42	09 20.6		B	DAO	220	7	4	3
6272		LEAR	09 24 0022	S12 W44	09 20.7		B	DKO	120	7	7	3
6272		CULG	09 24 0100	S13 W46	09 20.6		B	DAO	230	7	4	3
6272		SVTO	09 24 0825	S13 W50	09 20.6		B	DSO	70	5	3	2
6272		RAMY	09 24 1222	S12 W50	09 20.7		B	DAO	220	11	7	4
6272		BOUL	09 24 1416	S12 W52	09 20.7		A	DAO	170	3	4	1
6272		PALE	09 24 1850	S14 W55	09 20.6		B	CAO	150	6	7	4
6272		HOLL	09 24 2030	S13 W53	09 20.8		B	DAI	180	5	3	3
6272		LEAR	09 25 0020	S12 W57	09 20.7		B	DAO	60	5	3	3
6272		CULG	09 25 0050	S13 W59	09 20.6		B	DAO	170	5	4	3
6272		SVTO	09 25 0653	S13 W62	09 20.6		B	DAO	130	4	3	3
6272		RAMY	09 25 1135	S12 W64	09 20.7		B	DAO	190	4	5	4
6272		BOUL	09 25 1408	S12 W65	09 20.7		A	DAO	140	4	4	1
6272		HOLL	09 25 1600	S13 W68	09 20.5		B	DAO	210	3	4	3
6272		PALE	09 25 1820	S13 W68	09 20.6		B	BAO	180	5	5	3
6272		SVTO	09 26 0744	S13 W78	09 20.4		B	DSO	120	3	5	2
6272		RAMY	09 26 1400	S12 W78	09 20.7		B	DAO	120	2	5	3
6272		BOUL	09 26 1405	S11 W80	09 20.6		A	DSO	90	2	7	1
6272		HOLL	09 26 1525	S13 W80	09 20.6		A	AX	60	2	4	3
6272		PALE	09 26 1744	S14 W84	09 20.4		B	BXO	50	2	6	3
6275		HOLL	09 15 1815	S24 E70	09 21.2		B	BXO	10	3	7	4
6275		LEAR	09 16 0050	S23 E63	09 20.9		A	AX	10	1	1	3
6275		CULG	09 16 0125	S22 E64	09 21.0		A	AX	10	1	1	2
6275		RAMY	09 16 1155	S23 E59	09 21.0		B	BXO	20	5	3	3
6275		HOLL	09 16 1735	S24 E58	09 21.2		B	BXO	20	2	3	3
6275		LEAR	09 17 0010	S25 E52	09 21.0		B	BXO	40	3	4	3
6275		CULG	09 17 0133	S25 E54	09 21.2		B	BXO	10	2	2	3
6275		RAMY	09 17 1233	S24 E48	09 21.2		B	BXO	10	5	3	3
6275		HOLL	09 17 1535	S24 E45	09 21.1		B	BXO		2	4	4
6275		RAMY	09 18 1226	S27 E36	09 21.3		B	BXO	10	3	3	3
6275		PALE	09 19 1745	S25 E20	09 21.3		A	AX		2	1	4
6275		RAMY	09 20 1400	S24 E04	09 20.9		B	BXO	20	4	9	3
6275		PALE	09 20 1924	S24 E00	09 20.8		B	BXO		4	10	3
6275		SVTO	09 21 0720	S24 W03	09 21.1		B	BXO	10	2	1	4
6275		RAMY	09 24 1222	S25 W43	09 21.2		A	AX	10	3	2	4
6275		RAMY	09 25 1135	S26 W58	09 21.0		B	BXO	20	4	3	4
6279		PALE	09 17 1745	S06 E58	09 22.1		A	AX		1		4
6279		RAMY	09 18 1226	S08 E52	09 22.4		B	DAO	50	9	4	3
6279		BOUL	09 18 1411	S08 E49	09 22.3		B	DSO	60	4	4	1

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6279		HOLL	09 18 1735	S08 E49	09 22.4		B	CSO	60	7	4	1
6279		PALE	09 18 1740	S09 E49	09 22.4		B	DSO	80	7	3	3
6279		LEAR	09 19 0010	S08 E44	09 22.3		B	DAO	60	5	5	3
6279		CULG	09 19 0035	S08 E46	09 22.5		B	DAO	60	10	6	3
6279		SVTO	09 19 0755	S09 E40	09 22.3		B	DSO	100	8	4	3
6279		RAMY	09 19 1327	S09 E37	09 22.3		B	DAO	70	16	6	3
6279		BOUL	09 19 1504	S08 E34	09 22.2		B	DAO	120	9	6	2
6279		HOLL	09 19 1518	S08 E36	09 22.3		B	DSO	150	15	8	3
6279		PALE	09 19 1745	S09 E35	09 22.4		B	DAI	130	24	9	4
6279		LEAR	09 20 0010	S09 E33	09 22.5		B	DAI	100	15	7	3
6279		CULG	09 20 0045	S08 E31	09 22.3		B	DAI	120	16	8	2
6279		SVTO	09 20 0705	S08 E27	09 22.3		B	DAI	120	18	7	4
6279		RAMY	09 20 1400	S09 E25	09 22.4		B	DAO	170	14	8	3
6279		BOUL	09 20 1500	S09 E23	09 22.3		B	DSO	70	4	6	1
6279		HOLL	09 20 1620	S09 E23	09 22.4		B	DSO	140	23	10	2
6279		PALE	09 20 1924	S08 E21	09 22.4		B	DAO	120	12	6	3
6279		LEAR	09 21 0018	S08 E19	09 22.4		B	DAO	230	20	7	3
6279		SVTO	09 21 0720	S07 E14	09 22.3		B	DAO	150	18	8	4
6279		RAMY	09 21 1120	S09 E12	09 22.4		B	DAO	130	27	8	4
6279		HOLL	09 21 1606	S10 E10	09 22.4		B	DAO	80	13	7	4
6279		PALE	09 21 1938	S10 E08	09 22.4		B	DAO	70	4	7	2
6279		CULG	09 22 0035	S08 E06	09 22.5		B	DAO	80	23	8	3
6279		LEAR	09 22 0215	S09 E05	09 22.5		B	DAO	100	7	7	2
6279		SVTO	09 22 0800	S08 E02	09 22.5		B	DSO	80	12	7	3
6279		RAMY	09 22 1203	S09 W01	09 22.4		B	EAO	110	19	11	4
6279		BOUL	09 22 1445	S06 W03	09 22.4		B	DSO	80	9	7	3
6279		PALE	09 22 1912	S09 W04	09 22.5		B	DAO	80	4	6	3
6279		LEAR	09 23 0005	S09 W07	09 22.5		B	DAO	70	9	6	3
6279		CULG	09 23 0100	S09 W08	09 22.4		B	DAO	50	7	7	3
6279		SVTO	09 23 0810	S09 W12	09 22.4		B	DSO	50	12	6	2
6279		RAMY	09 23 1231	S09 W13	09 22.5		B	EAO	100	8	7	4
6279		BOUL	09 23 1430	S07 W15	09 22.5		B	DSO	50	6	7	3
6279		PALE	09 23 1805	S09 W17	09 22.5		B	DAO	50	6	7	3
6279		LEAR	09 24 0022	S08 W20	09 22.5		B	DAO	60	8	7	3
6279		CULG	09 24 0100	S09 W22	09 22.4		B	DAO	40	10	7	3
6279		SVTO	09 24 0825	S09 W25	09 22.5		B	CRO	30	11	8	2
6279		RAMY	09 24 1222	S09 W27	09 22.5		B	DAO	60	11	8	4
6279		BOUL	09 24 1416	S07 W28	09 22.5		B	BXO		2	5	1
6279		PALE	09 24 1850	S05 W32	09 22.4		B	CRO	20	8	6	4
6279		HOLL	09 24 2030	S08 W32	09 22.4		B	BXO	10	8	6	3
6279		LEAR	09 25 0020	S08 W34	09 22.5		B	DSO	40	7	7	3
6279		CULG	09 25 0050	S09 W34	09 22.5		B	CRO	10	5	5	3
6279		SVTO	09 25 0653	S08 W40	09 22.3		B	BXO	20	4	5	3
6279		RAMY	09 25 1135	S08 W40	09 22.5		B	BXO	10	3	7	4
6279		BOUL	09 25 1408	S08 W42	09 22.4		B	BXO		3	6	1
6279		HOLL	09 25 1600	S08 W43	09 22.4		B	BXO	20	3	7	3
6279		PALE	09 25 1820	S09 W44	09 22.5		B	BXO	30	6	9	3
6279		SVTO	09 26 0744	S08 W54	09 22.3		B	BXO	20	6	4	2
6279		RAMY	09 26 1400	S08 W55	09 22.4		B	CRO	50	9	5	3
6279		BOUL	09 26 1405	S07 W55	09 22.5		B	BXO		5	3	1
6279		HOLL	09 26 1525	S08 W57	09 22.4		B	BXO	360	7	5	3
6279		PALE	09 26 1744	S08 W57	09 22.5		B	BXO	20	9	5	3
6279		LEAR	09 27 0007	S08 W60	09 22.5		B	BXO	100	8	4	4
6279		SVTO	09 27 0700	S08 W66	09 22.3		B	BXO	10	3	3	2
6279		RAMY	09 27 1135	S07 W66	09 22.5		B	BXO	20	6	4	4
6279		HOLL	09 27 1410	S08 W69	09 22.4		B	BXO	10	5	3	4
6279		PALE	09 27 1851	S07 W68	09 22.7		B	BXO		3	3	3
6279		LEAR	09 28 0007	S08 W73	09 22.5		B	BXO	30	3	6	3
6279A		CULG	09 23 0100	N14 W03	09 22.8		A	HR	10	3	1	3
6279B		PALE	09 24 1850	S31 W23	09 23.0		A	AX		1		4
6279C		RAMY	09 23 1231	N04 E03	09 23.7		B	BXO	10	4	3	4
6286		PALE	09 23 1805	N14 E00	09 23.7		A	AX		2	1	3
6286		LEAR	09 24 0022	N15 W04	09 23.7		B	BXO	10	3	1	3
6286		CULG	09 24 0100	N14 W03	09 23.8		A	HR	10	3	1	3
6286		PALE	09 24 1850	N14 W13	09 23.8		B	BXO		3	3	4

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6286		HOLL	09 25 1600	N14 W23	09 23.9		A	AX		1		3
6286		LEAR	09 28 0007	N14 W57	09 23.7		B	BXO	20	4	2	3
6290		SVTO	09 23 0810	N14 E07	09 23.9		A	AX		1		2
6290		SVTO	09 24 0825	N14 W06	09 23.9		B	BXO	10	3	3	2
6290		RAMY	09 24 1222	N13 W09	09 23.8		B	BXO	10	4	3	4
6290		SVTO	09 28 1035	N14 W64	09 23.6		A	AX	10	1	1	2
6290		RAMY	09 28 1344	N15 W64	09 23.7		B	BXO	20	3	4	3
6290		HOLL	09 28 1435	N14 W62	09 23.9		A	AX		1		3
6290		PALE	09 28 1745	N14 W66	09 23.7		B	BXO		3	3	3
6290		CULG	09 29 0155	N16 W76	09 23.3		B	BXO	10	2	4	3
6290		SVTO	09 29 0722	N14 W74	09 23.7		B	CAO	40	3	6	3
6290		RAMY	09 29 1520	N14 W78	09 23.7		B	CRO	30	3	5	3
6290		HOLL	09 29 1730	N15 W77	09 23.9		B	BXO	20	4	6	2
6290		PALE	09 29 1750	N15 W80	09 23.7		B	BXO	30	4	3	3
6278		LEAR	09 18 0015	S23 E76	09 23.9		A	HS	60	1	2	3
6278		CULG	09 18 0107	S24 E85	09 24.6		A	HS	40	1	4	3
6278		RAMY	09 18 1226	S24 E76	09 24.4		B	CAO	120	4	5	3
6278		HOLL	09 18 1735	S23 E70	09 24.1		A	HS	150	1	2	1
6278		PALE	09 18 1740	S25 E70	09 24.1		A	HS	120	1	2	3
6278		LEAR	09 19 0010	S24 E66	09 24.1		A	HS	110	1	2	3
6278		CULG	09 19 0035	S24 E68	09 24.3		A	HS	120	1	2	3
6278		SVTO	09 19 0755	S24 E64	09 24.3		A	HS	140	1	3	3
6278		RAMY	09 19 1327	S25 E61	09 24.3		A	HS	90	1	2	3
6278		BOUL	09 19 1504	S23 E58	09 24.1		A	HS	190	1	2	2
6278		HOLL	09 19 1518	S23 E58	09 24.1		A	HS	170	1	2	3
6278		PALE	09 19 1745	S25 E58	09 24.2		A	HS	130	1	2	4
6278		LEAR	09 20 0010	S25 E56	09 24.3		A	HS	120	2	3	3
6278		CULG	09 20 0045	S24 E54	09 24.2		B	CSO	120	3	3	2
6278		SVTO	09 20 0705	S24 E52	09 24.3		B	CAO	100	2	3	4
6278		RAMY	09 20 1400	S25 E49	09 24.4		B	CAO	140	2	4	3
6278		BOUL	09 20 1500	S25 E45	09 24.1		A	HA	70	2	3	1
6278		HOLL	09 20 1620	S24 E48	09 24.4		B	CSO	140	4	4	2
6278		PALE	09 20 1924	S24 E45	09 24.3		A	HS	100	2	3	3
6278		LEAR	09 21 0018	S24 E42	09 24.2		B	CSO	140	2	3	3
6278		SVTO	09 21 0720	S24 E40	09 24.4		B	CSO	140	2	3	4
6278		RAMY	09 21 1120	S25 E37	09 24.3		B	CAO	150	4	3	4
6278		HOLL	09 21 1606	S24 E33	09 24.2		A	HS	130	1	2	4
6278		PALE	09 21 1938	S25 E31	09 24.2		A	HS	100	1	2	2
6278		CULG	09 22 0035	S23 E30	09 24.3		A	HS	80	1	2	3
6278		LEAR	09 22 0215	S25 E28	09 24.3		A	HS	110	1	2	2
6278		SVTO	09 22 0800	S24 E26	09 24.3		A	HS	110	1	2	3
6278		RAMY	09 22 1203	S24 E23	09 24.3		B	CAO	140	3	4	4
6278		BOUL	09 22 1445	S24 E21	09 24.2		A	HS	120	1	2	3
6278		PALE	09 22 1912	S24 E19	09 24.3		A	HS	120	1	2	3
6278		LEAR	09 23 0005	S24 E18	09 24.4		B	CSO	70	4	4	3
6278		CULG	09 23 0100	S24 E17	09 24.3		B	CSO	110	4	4	3
6278		SVTO	09 23 0810	S24 E15	09 24.5		B	CSO	120	3	4	2
6278		RAMY	09 23 1231	S25 E11	09 24.4		B	CAO	180	7	5	4
6278		BOUL	09 23 1430	S23 E10	09 24.4		B	CSO	130	2	4	3
6278		PALE	09 23 1805	S24 E07	09 24.3		A	HS	120	1	2	3
6278		LEAR	09 24 0022	S23 E04	09 24.3		A	HH	110	2	3	3
6278		CULG	09 24 0100	S24 E03	09 24.3		A	HS	110	1	2	3
6278		SVTO	09 24 0825	S25 E00	09 24.3		A	HS	120	1	2	2
6278		RAMY	09 24 1222	S23 W01	09 24.4		B	CAO	140	4	4	4
6278		BOUL	09 24 1416	S23 W04	09 24.3		A	HS	110	1	2	1
6278		PALE	09 24 1850	S25 W07	09 24.2		A	HS	110	1	2	4
6278		HOLL	09 24 2030	S24 W08	09 24.2		A	HS	1120	1	2	3
6278		LEAR	09 25 0020	S23 W08	09 24.4		A	HH	90	1	3	3
6278		CULG	09 25 0050	S24 W09	09 24.3		A	HS	120	1	2	3
6278		SVTO	09 25 0653	S25 W13	09 24.3		A	HS	120	1	2	3
6278		RAMY	09 25 1135	S24 W15	09 24.3		A	HS	140	1	2	4
6278		BOUL	09 25 1408	S23 W16	09 24.3		A	HS	100	1	2	1
6278		HOLL	09 25 1600	S24 W17	09 24.3		A	HS	100	1	2	3
6278		PALE	09 25 1820	S26 W18	09 24.4		A	HH	120	1	3	3
6278		SVTO	09 26 0744	S25 W26	09 24.3		A	HS	100	1	2	2
6278		RAMY	09 26 1400	S24 W28	09 24.4		B	CAO	110	3	5	3
6278		BOUL	09 26 1405	S24 W28	09 24.4		A	HS	80	1	2	1

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6278		HOLL	09 26	1525	S25 W29	09 24.4		A	HS	100	1	2	3
6278		PALE	09 26	1744	S25 W30	09 24.4		A	HS	80	1	2	3
6278		LEAR	09 27	0007	S25 W34	09 24.4		B	CSO	80	2	3	4
6278		SVTO	09 27	0700	S25 W39	09 24.3		A	HS	120	1	2	2
6278		RAMY	09 27	1135	S24 W39	09 24.5		A	HS	140	1	2	4
6278		HOLL	09 27	1410	S25 W42	09 24.3		A	HS	100	1	2	4
6278		PALE	09 27	1851	S25 W43	09 24.4		A	HS	60	1	2	3
6278		LEAR	09 28	0025	S24 W49	09 24.2		A	HS	100	1	2	2
6278		CULG	09 28	0110	S23 W51	09 24.1		A	HS	50	1	1	3
6278		SVTO	09 28	1035	S24 W55	09 24.2		A	HS	100	1	2	2
6278		RAMY	09 28	1344	S25 W54	09 24.4		B	CAO	130	4	7	3
6278		HOLL	09 28	1435	S25 W55	09 24.3		B	CSO	80	3	7	3
6278		PALE	09 28	1745	S24 W57	09 24.3		A	HS	80	1	2	3
6278		CULG	09 29	0155	S23 W67	09 23.9		A	HS	100	1	2	3
6278		SVTO	09 29	0722	S24 W65	09 24.3		A	HS	100	1	2	3
6278		RAMY	09 29	1520	S24 W69	09 24.3		B	CAO	120	5	6	3
6278		HOLL	09 29	1730	S23 W68	09 24.5		A	HS	80	1	2	2
6278		PALE	09 29	1750	S24 W70	09 24.3		A	HS	60	1	2	3
6278		LEAR	09 30	0005	S23 W70	09 24.6		A	HS	30	1	1	3
6278		CULG	09 30	0155	S23 W81	09 23.8		A	HS	60	1	1	2
6278		SVTO	09 30	0645	S25 W80	09 24.1		A	HS	30	1	2	4
6278		RAMY	09 30	1129	S24 W78	09 24.4		A	HA	90	1	2	4
6282		RAMY	09 19	1327	N24 E61	09 24.3		A	AX	10	1	1	3
6282		HOLL	09 19	1518	N26 E60	09 24.3		A	AX	10	1		3
6282		PALE	09 19	1745	N25 E59	09 24.3		A	AX		1		4
6282		LEAR	09 20	0010	N25 E57	09 24.4		A	AX	10	1	1	3
6282		CULG	09 20	0045	N25 E55	09 24.3		A	AX		1		2
6288		RAMY	09 26	1400	S11 W29	09 24.4		A	AX		2	1	3
6288		HOLL	09 26	1525	S12 W28	09 24.5		A	AX		1		3
6288		PALE	09 26	1744	S12 W29	09 24.5		A	AX		1		3
6288		LEAR	09 27	0007	S12 W33	09 24.5		A	AX	10	1	1	4
6288		PALE	09 27	1851	S12 W46	09 24.3		A	AX		1		3
6288A		CULG	09 22	0035	S28 E42	09 25.3		A	AX	10	1		3
6280		RAMY	09 19	1327	N12 E89	09 26.3		A	HS	120	1	2	3
6280		BOUL	09 19	1504	N15 E81	09 25.7		A	HS	60	1	1	2
6280		HOLL	09 19	1518	N14 E85	09 26.1		A	HS	60	1	1	3
6280		PALE	09 19	1745	N12 E88	09 26.4		A	HS	120	1	3	4
6280		LEAR	09 20	0010	N12 E82	09 26.2		A	HS	120	1	4	3
6280		CULG	09 20	0045	N13 E82	09 26.2		A	HS	150	1	2	2
6280		SVTO	09 20	0705	N13 E80	09 26.3		B	DAO	150	2	7	4
6280		RAMY	09 20	1400	N13 E75	09 26.2		B	DAO	260	3	10	3
6280		BOUL	09 20	1500	N13 E70	09 25.9		A	HA	100	3	7	1
6280		HOLL	09 20	1620	N13 E75	09 26.3		B	EAO	420	5	12	2
6280		PALE	09 20	1924	N12 E70	09 26.1		B	DSO	140	3	7	3
6280		LEAR	09 21	0018	N13 E70	09 26.3		B	DHO	360	5	10	3
6280		SVTO	09 21	0720	N13 E67	09 26.4		B	EAO	270	7	11	4
6280		RAMY	09 21	1120	N12 E64	09 26.3		B	EAO	410	10	12	4
6280		HOLL	09 21	1606	N13 E62	09 26.3		B	EAO	260	5	11	4
6280		PALE	09 21	1938	N13 E59	09 26.3		B	DSO	210	6	9	2
6280		CULG	09 22	0035	N16 E59	09 26.5		B	ESO	240	1	11	3
6280		LEAR	09 22	0215	N13 E58	09 26.5		B	EAO	300	11	11	2
6280		SVTO	09 22	0800	N13 E55	09 26.5		B	EAO	290	11	12	3
6280		RAMY	09 22	1203	N13 E51	09 26.3		B	EAO	320	14	12	4
6280		BOUL	09 22	1445	N16 E49	09 26.3		B	ESO	380	8	13	3
6280		PALE	09 22	1912	N13 E48	09 26.4		B	ESO	200	6	12	3
6280		LEAR	09 23	0005	N12 E46	09 26.5		B	EAO	190	12	13	3
6280		CULG	09 23	0100	N13 E42	09 26.2		B	ESO	270	12	13	3
6280		SVTO	09 23	0810	N12 E41	09 26.4		B	ESO	240	19	12	2
6280		RAMY	09 23	1231	N13 E38	09 26.4		B	FAO	300	17	15	4
6280		BOUL	09 23	1430	N14 E36	09 26.3		B	ESO	280	6	12	3
6280		PALE	09 23	1805	N13 E35	09 26.4		B	ESO	260	9	13	3
6280		LEAR	09 24	0022	N13 E31	09 26.3		B	EHO	180	6	13	3
6280		CULG	09 24	0100	N13 E32	09 26.4		B	ESO	270	12	13	3
6280		SVTO	09 24	0825	N14 E27	09 26.4		B	ESO	250	9	12	2
6280		RAMY	09 24	1222	N13 E26	09 26.5		B	EAO	560	22	12	4

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6280		BOUL	09 24 1416	N14 E24	09 26.4		B	EAO	170	4	14	1
6280		PALE	09 24 1850	N14 E22	09 26.4		B	ESO	220	23	15	4
6280		HOLL	09 24 2030	N13 E23	09 26.6		B	EAO	280	20	14	3
6280		LEAR	09 25 0020	N13 E18	09 26.4		B	EKO	140	18	13	3
6280		CULG	09 25 0050	N13 E18	09 26.4		B	ESO	240	18	13	3
6280		SVTO	09 25 0653	N13 E13	09 26.3		B	ESO	260	19	14	3
6280		RAMY	09 25 1135	N12 E11	09 26.3		BG	EKO	320	45	13	4
6280		BOUL	09 25 1408	N14 E11	09 26.4		B	EAI	170	14	13	1
6280		HOLL	09 25 1600	N13 E09	09 26.3		BG	ESO	230	15	13	3
6280		PALE	09 25 1820	N13 E08	09 26.4		B	EKO	250	22	14	3
6280		SVTO	09 26 0744	N13 W01	09 26.2		BG	ESO	220	19	12	2
6280		RAMY	09 26 1400	N12 W03	09 26.3		B	EKO	290	36	13	3
6280		BOUL	09 26 1405	N14 W03	09 26.4		B	EAI	190	11	13	1
6280		HOLL	09 26 1525	N13 W04	09 26.3		B	EAO	260	25	14	3
6280		PALE	09 26 1744	N11 W11	09 25.9		B	FKO	280	39	23	3
6280		LEAR	09 27 0007	N13 W09	09 26.3		B	EKO	330	25	13	4
6280		SVTO	09 27 0700	N13 W09	09 26.6		B	FAO	190	19	16	2
6280		RAMY	09 27 1135	N13 W13	09 26.5		B	EAO	210	30	15	4
6280		HOLL	09 27 1410	N13 W16	09 26.4		B	EAO	140	24	13	4
6280		PALE	09 27 1851	N12 W18	09 26.4		B	EKO	130	14	14	3
6280		LEAR	09 28 0007	N13 W22	09 26.3		B	EAO	170	17	14	3
6280		CULG	09 28 0110	N14 W24	09 26.2		B	EAO	100	13	13	3
6280		SVTO	09 28 1035	N14 W27	09 26.4		B	FAO	190	18	18	2
6280		RAMY	09 28 1344	N13 W29	09 26.4		B	EAO	200	26	13	3
6280		HOLL	09 28 1435	N14 W28	09 26.5		B	EAO	140	19	14	3
6280		PALE	09 28 1745	N13 W32	09 26.3		B	EAO	150	15	14	3
6280		CULG	09 29 0155	N17 W42	09 25.9		B	CAO	70	7	5	3
6280		SVTO	09 29 0722	N15 W42	09 26.1		B	EAO	160	17	11	3
6280		RAMY	09 29 1520	N15 W47	09 26.1		B	DAO	150	22	6	3
6280		HOLL	09 29 1730	N15 W47	09 26.2		B	DAO	100	9	6	2
6280		PALE	09 29 1750	N15 W48	09 26.1		B	DAO	110	5	6	3
6280		LEAR	09 30 0005	N15 W50	09 26.2		B	DAO	60	8	6	3
6280		CULG	09 30 0155	N16 W57	09 25.7		B	DAO	60	5	6	2
6280		SVTO	09 30 0645	N14 W56	09 26.0		B	DAO	140	8	6	4
6280		RAMY	09 30 1129	N15 W58	09 26.1		B	DAO	170	12	6	4
6280		BOUL	09 30 1440	N16 W60	09 26.1		B	DSO	120	3	5	4
6280		LEAR	10 01 0055	N15 W62	09 26.4		B	CAO	40	3	5	3
6280		PALE	10 01 0204	N15 W67	09 26.1		A	HA	30	1	1	3
6280		SVTO	10 01 0655	N14 W69	09 26.2		B	CSO	60	4	9	4
6280		RAMY	10 01 1238	N14 W76	09 25.9		A	HA	50	2	2	2
6280		BOUL	10 01 1417	N15 W75	09 26.0		A	AX	30	2	2	1
6280		PALE	10 01 1904	N14 W75	09 26.2		A	HA	30	1	1	3
6280		LEAR	10 02 0007	N14 W76	09 26.4		A	HS	30	1	1	3
6280		SVTO	10 02 0635	N17 W83	09 26.1		B	BXO	10	3	4	2
6281		RAMY	09 19 1327	N03 E89	09 26.2		A	AX	10	2	2	3
6281		HOLL	09 19 1518	N06 E82	09 25.8		A	AX	20	1		3
6281		PALE	09 19 1745	N05 E84	09 26.0		A	AX	10	2	1	4
6281		LEAR	09 20 0010	N05 E79	09 25.9		A	AX	10	2	1	3
6281		CULG	09 20 0045	N05 E80	09 26.0		A	AX		2	1	2
6281		SVTO	09 20 0705	N06 E75	09 25.9		B	CRO	30	3	2	4
6281		RAMY	09 20 1400	N05 E70	09 25.8		B	BXO	40	3	2	3
6281		HOLL	09 20 1620	N06 E70	09 25.9		B	BXO	50	4	3	2
6281		PALE	09 20 1924	N04 E68	09 25.9		B	BXO	20	4	3	3
6281		LEAR	09 21 0018	N06 E63	09 25.7		B	BXO	60	3	3	3
6281		SVTO	09 21 0720	N05 E62	09 25.9		B	BXO	30	8	7	4
6281		RAMY	09 21 1120	N06 E59	09 25.9		B	BXO	30	7	6	4
6281		HOLL	09 21 1606	N06 E56	09 25.9		B	CRO	20	7	6	4
6281		PALE	09 21 1938	N05 E53	09 25.8		A	AX	10	5	2	2
6281		CULG	09 22 0035	N08 E52	09 25.9		B	BXO	10	7	6	3
6281		LEAR	09 22 0215	N05 E51	09 25.9		B	BXO	20	7	5	2
6281		SVTO	09 22 0800	N06 E47	09 25.8		B	BXO	30	6	6	3
6281		RAMY	09 22 1203	N06 E45	09 25.9		B	BXO	20	11	8	4
6281		PALE	09 22 1912	N05 E42	09 25.9		B	BXO	10	7	7	3
6281		LEAR	09 23 0005	N04 E37	09 25.8		A	AX	10	4	3	3
6281		CULG	09 23 0100	N05 E36	09 25.7		A	AX		2	1	3
6281		SVTO	09 23 0810	N06 E37	09 26.1		B	BXO	20	8	6	2
6281		RAMY	09 23 1231	N06 E33	09 26.0		B	BXO	10	7	5	4
6281		PALE	09 23 1805	N05 E29	09 25.9		B	BXO		2	3	3

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

SEPTEMBER 1990

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
6281		LEAR	09 24 0022	N06 E25	09 25.9		B	BXO	10	2	1	3
6281		CULG	09 24 0100	N05 E26	09 26.0		A	AX		2	1	3
6281		LEAR	09 25 0020	N07 E15	09 26.1		B	BXO	10	4	3	3
6281		CULG	09 25 0050	N06 E13	09 26.0		A	AX		4	2	3
6281		SVTO	09 26 0744	N05 W01	09 26.2		B	BXO	10	4	4	2
6281		RAMY	09 26 1400	N06 W08	09 26.0		B	BXO	10	3	6	3
6281		RAMY	09 27 1135	N07 W22	09 25.8		B	BXO	10	3	3	4
6281		LEAR	09 30 0005	N05 W48	09 26.4		A	AX	10	1	1	3
6293		RAMY	09 29 1520	N05 W44	09 26.3		A	AX	10	3	2	3
6293		PALE	09 29 1750	N06 W46	09 26.3		A	AX		1		3
6293		SVTO	09 30 0645	N07 W55	09 26.2		A	AX	10	4	1	4
6293		RAMY	09 30 1129	N07 W57	09 26.2		B	BXO	10	4	3	4
6287		RAMY	09 25 1135	S15 E11	09 26.3		A	AX		2	1	4
6287		HOLL	09 25 1600	S15 E09	09 26.3		A	AX	10	2	1	3
6287		PALE	09 25 1820	S16 E08	09 26.4		B	BXO	20	4	4	3
6287		HOLL	09 27 1410	S15 W20	09 26.1		A	AX		1		4
6287		PALE	09 27 1851	S17 W23	09 26.0		A	AX	10	2	2	3
6287		LEAR	09 28 0007	S14 W25	09 26.1		B	CRO	30	7	3	3
6287		CULG	09 28 0110	S13 W28	09 25.9		A	HS	20	1	1	3
6287		SVTO	09 28 1035	S15 W31	09 26.1		B	DAO	50	9	3	2
6287		RAMY	09 28 1344	S14 W32	09 26.1		B	DAO	90	12	4	3
6287		HOLL	09 28 1435	S14 W32	09 26.2		B	DAO	30	11	5	3
6287		PALE	09 28 1745	S15 W35	09 26.1		B	DAO	70	7	4	3
6287		CULG	09 29 0155	S13 W42	09 25.9		B	DRO	40	2	3	3
6287		SVTO	09 29 0722	S15 W41	09 26.2		B	DAO	40	6	5	3
6287		RAMY	09 29 1520	S16 W44	09 26.3		B	DAO	50	11	7	3
6287		HOLL	09 29 1730	S15 W47	09 26.2		B	CAO	40	6	6	2
6287		PALE	09 29 1750	S15 W47	09 26.2		B	DSO	50	4	6	3
6287		LEAR	09 30 0005	S14 W48	09 26.4		B	DSO	30	7	5	3
6287		CULG	09 30 0155	S11 W56	09 25.9		B	BXI	10	7	8	2
6287		RAMY	09 30 1129	S15 W56	09 26.2		B	DAO	60	11	6	4
6287		BOUL	09 30 1440	S14 W57	09 26.3		B	BXO	20	6	6	4
6287		LEAR	10 01 0055	S15 W60	09 26.6		B	CAO	20	5	9	3
6287		CULG	10 01 0103	S14 W65	09 26.2		B	BXO	10	4	6	2
6287		PALE	10 01 0204	S16 W64	09 26.3		B	BXO	20	4	5	3
6287		SVTO	10 01 0655	S16 W69	09 26.1		B	BXO	10	3	4	4
6287		RAMY	10 01 1238	S15 W67	09 26.5		B	BXO	10	3	4	2
6287		PALE	10 01 1904	S16 W70	09 26.6		B	BXO	10	3	3	3
6287		LEAR	10 02 0007	S15 W73	09 26.6		A	HS	30	1	1	3
6293A		HOLL	09 27 1410	N20 W15	09 26.4		A	AX		2		4
6293B		HOLL	09 27 1410	N16 W01	09 27.5		A	AX		3	1	4
6293C		RAMY	09 27 1135	N20 E02	09 27.6		B	BXO	10	7	10	4
6298		RAMY	10 02 1314	N17 W66	09 27.6		B	DAO	90	7	6	3
6298		HOLL	10 02 1905	N16 W70	09 27.6		B	EAO	160	7	11	2
6298		PALE	10 02 1923	N20 W69	09 27.6		B	BXO	80	8	5	3
6298		LEAR	10 03 0008	N17 W70	09 27.8		B	DAO	270	10	10	4
6298		CULG	10 03 0045	N17 W75	09 27.4		B	DAO	120	9	9	2
6298		SVTO	10 03 0801	N16 W78	09 27.5		B	DSO	150	7	8	3
6298		RAMY	10 03 1314	N17 W78	09 27.7		B	DAO	230	4	9	2
6298		BOUL	10 03 1450	N17 W77	09 27.9		B	DAO	240	4	7	1
6298		PALE	10 03 1805	N17 W84	09 27.5		B	DAO	140	9	10	3
6298		HOLL	10 03 2315	N20 W80	09 27.9		B	CHO	200	9	8	3
6298		CULG	10 04 0045	N17 W85	09 27.7		A	HS	200	1	2	3
6298		LEAR	10 04 0340	N18 W79	09 28.2		A	HH	180	1	4	3
6298		RAMY	10 04 1206	N22 W85	09 28.1		B	CAO	80	4	4	3
6298		HOLL	10 04 1435	N23 W85	09 28.1		B	CSO	50	2	8	3
6293D		CULG	09 23 0100	N30 E61	09 27.8		A	AX		1		3
6303		LEAR	10 03 0008	N24 W60	09 28.5		B	BXO	60	3	4	4
6303		SVTO	10 03 0801	N24 W69	09 28.1		B	BXO	20	4	2	3
6303		BOUL	10 03 1450	N23 W68	09 28.5		B	BXO	40	3	2	1
6303		PALE	10 03 1805	N23 W70	09 28.4		B	BXO	20	5	5	3

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

SEPTEMBER 1990

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
6303		CULG	10 04	0045	N24 W75	09 28.3		B	BXO		3	3	3
6303		LEAR	10 04	0340	N24 W75	09 28.4		B	CAO	90	2	3	3
6303		SVTO	10 04	0759	N23 W79	09 28.3		B	BXO	30	2	4	2
6283A		RAMY	09 26	1400	S18 E28	09 28.7		A	AX		1	1	3
6283A		SVTO	09 28	1035	S15 E03	09 28.7		B	BXO	10	3	3	2
6283A		SVTO	09 30	0645	S19 W20	09 28.7		B	BXO	10	5	3	4
6283A		RAMY	09 30	1129	S20 W21	09 28.9		A	AX	10	3	2	4
6283C		RAMY	09 23	1231	S31 E69	09 29.0		A	AX	10	2	1	4
6283C		RAMY	09 26	1400	S31 E27	09 28.7		B	BXO	10	3	2	3
6283B		CULG	09 24	0100	N30 E61	09 28.8		A	AX		1		3
6283		SVTO	09 22	0800	S06 E85	09 28.7		A	HK	120	1	3	3
6283		RAMY	09 22	1203	S07 E79	09 28.4		A	HK	240	2	3	4
6283		BOUL	09 22	1445	S05 E78	09 28.4		A	HH	240	1	5	3
6283		PALE	09 22	1912	S06 E74	09 28.3		A	HA	180	1	1	3
6283		LEAR	09 23	0005	S06 E74	09 28.5		B	EKI	330	4	11	3
6283		SVTO	09 23	0810	S06 E74	09 28.9		B	EHO	530	4	12	2
6283		RAMY	09 23	1231	S07 E70	09 28.8		B	EKO	810	15	12	4
6283		BOUL	09 23	1430	S06 E70	09 28.8		B	FHO	630	6	16	3
6283		PALE	09 23	1805	S07 E67	09 28.8		B	DKO	610	13	10	3
6283		LEAR	09 24	0022	S07 E65	09 28.9		B	EKO	400	9	12	3
6283		CULG	09 24	0100	S06 E64	09 28.8		B	EHO	550	10	11	3
6283		SVTO	09 24	0825	S06 E60	09 28.8		B	EKO	580	8	11	2
6283		RAMY	09 24	1222	S08 E57	09 28.8		B	EKO	780	22	11	4
6283		BOUL	09 24	1416	S06 E56	09 28.8		B	EKO	290	7	11	1
6283		PALE	09 24	1850	S07 E54	09 28.8		B	EKO	580	24	12	4
6283		HOLL	09 24	2030	S07 E53	09 28.8		B	EKO	580	19	13	3
6283		LEAR	09 25	0020	S07 E50	09 28.7		B	EKO	360	9	11	3
6283		CULG	09 25	0050	S07 E51	09 28.8		B	EKO	380	12	11	3
6283		SVTO	09 25	0653	S07 E47	09 28.8		B	EKO	550	13	11	3
6283		RAMY	09 25	1135	S07 E44	09 28.8		B	EKO	640	23	11	4
6283		BOUL	09 25	1408	S06 E42	09 28.7		B	EKI	450	10	12	1
6283		HOLL	09 25	1600	S07 E42	09 28.8		B	EHO	530	14	12	3
6283		PALE	09 25	1820	S07 E42	09 28.9		B	DKO	720	24	10	3
6283		SVTO	09 26	0744	S08 E34	09 28.9		B	EKO	570	21	11	2
6283		RAMY	09 26	1400	S08 E30	09 28.8		B	EKI	530	34	14	3
6283		BOUL	09 26	1405	S06 E29	09 28.7		B	EKI	390	10	12	1
6283		HOLL	09 26	1525	S07 E29	09 28.8		B	EKO	560	15	15	3
6283		PALE	09 26	1744	S06 E27	09 28.7		B	EKO	550	21	14	3
6283		LEAR	09 27	0007	S08 E23	09 28.7		B	EKI	570	29	14	4
6283		SVTO	09 27	0700	S08 E20	09 28.8		B	EKI	4700	18	13	2
6283		RAMY	09 27	1135	S08 E18	09 28.8		B	EKO	540	36	13	4
6283		HOLL	09 27	1410	S08 E17	09 28.9		B	EKI	430	30	13	4
6283		PALE	09 27	1851	S07 E13	09 28.7		B	EKO	420	37	13	3
6283		LEAR	09 28	0007	S07 E11	09 28.8		B	EKI	410	26	13	3
6283		CULG	09 28	0110	S07 E08	09 28.6		B	EHI	380	15	13	3
6283		SVTO	09 28	1035	S08 E05	09 28.8		B	EKI	490	32	12	2
6283		RAMY	09 28	1344	S08 E03	09 28.8		B	EKI	550	49	14	3
6283		HOLL	09 28	1435	S07 E03	09 28.8		B	EKI	350	40	12	3
6283		PALE	09 28	1745	S07 E02	09 28.9		B	EKI	460	41	12	3
6283		CULG	09 29	0155	S07 W06	09 28.6		B	EHO	350	12	12	3
6283		SVTO	09 29	0722	S07 W08	09 28.7		B	EKI	530	27	13	3
6283		RAMY	09 29	1520	S08 W12	09 28.7		B	EKO	720	51	12	3
6283		HOLL	09 29	1730	S07 W13	09 28.7		B	EHI	430	39	13	2
6283		PALE	09 29	1750	S07 W13	09 28.8		B	EKO	450	35	12	3
6283		LEAR	09 30	0005	S07 W16	09 28.8		B	EKI	420	29	12	3
6283		CULG	09 30	0155	S07 W20	09 28.6		B	CHO	400	12	12	2
6283		SVTO	09 30	0645	S07 W21	09 28.7		B	EKI	470	34	11	4
6283		RAMY	09 30	1129	S07 W20	09 29.0		B	EKO	550	40	14	4
6283		BOUL	09 30	1440	S06 W26	09 28.7		B	DKI	440	14	7	4
6283		LEAR	10 01	0055	S08 W30	09 28.9		B	CKI	360	25	10	3
6283		PALE	10 01	0204	S08 W31	09 28.9		B	EKO	430	23	12	3
6283		SVTO	10 01	0655	S07 W36	09 28.7		B	EKI	490	31	12	4
6283		RAMY	10 01	1238	S07 W37	09 28.8		B	EKO	620	27	11	2
6283		BOUL	10 01	1417	S06 W38	09 28.8		B	DKO	400	12	7	1
6283		PALE	10 01	1904	S08 W39	09 29.0		B	EKO	470	25	10	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1990

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
6283		LEAR	10 02 0007	S07 W44	09 28.8		B	EKI	350	19	11	3
6283		SVTO	10 02 0635	S07 W49	09 28.7		B	DKO	420	12	8	2
6283		RAMY	10 02 1314	S08 W52	09 28.7		B	DKO	620	17	9	3
6283		HOLL	10 02 1905	S08 W57	09 28.6		B	DKO	540	10	8	2
6283		PALE	10 02 1923	S06 W56	09 28.7		B	DKO	510	17	8	3
6283		LEAR	10 03 0008	S07 W57	09 28.8		B	DKO	400	14	8	4
6283		CULG	10 03 0045	S07 W60	09 28.6		B	DKO	320	12	7	2
6283		SVTO	10 03 0801	S08 W63	09 28.7		B	DKO	300	7	6	3
6283		RAMY	10 03 1314	S07 W63	09 28.9		B	DKO	280	5	4	2
6283		BOUL	10 03 1450	S07 W66	09 28.8		B	DKO	430	12	4	1
6283		PALE	10 03 1805	S08 W69	09 28.7		B	DKO	380	16	5	3
6283		HOLL	10 03 2315	S08 W70	09 28.8		B	DKI	450	10	7	3
6283		CULG	10 04 0045	S07 W73	09 28.7		B	DKO	540	13	6	3
6283		LEAR	10 04 0340	S07 W72	09 28.8		B	DKO	300	5	6	3
6283		SVTO	10 04 0759	S08 W77	09 28.6		B	DKO	330	4	6	2
6283		RAMY	10 04 1206	S07 W77	09 28.8		B	DKO	240	5	4	3
6283		HOLL	10 04 1435	S08 W79	09 28.8		B	DKO	270	4	7	3
6283		PALE	10 04 1955	S08 W82	09 28.8		B	EHI	150	4	15	3
6283		LEAR	10 05 0007	S06 W79	09 29.2		A	AX	60	1	2	4
6283D		HOLL	09 29 1730	N45 W07	09 29.1		A	AX		1		2
6289		RAMY	09 27 1135	N11 E29	09 29.7		B	BXO	10	2	2	4
6289		HOLL	09 27 1410	N11 E27	09 29.6		B	BXO	10	4	3	4
6289		PALE	09 27 1851	N11 E25	09 29.7		A	AX		2	2	3
6289		LEAR	09 28 0007	N11 E21	09 29.6		B	BXO	20	5	3	3
6289		SVTO	09 28 1035	N11 E14	09 29.5		B	DAO	30	9	4	2
6289		RAMY	09 28 1344	N11 E14	09 29.6		B	BXO	30	10	4	3
6289		HOLL	09 28 1435	N11 E12	09 29.5		B	BXO	10	8	4	3
6289		PALE	09 28 1745	N10 E11	09 29.6		B	BXO	10	4	4	3
6289		CULG	09 29 0155	N11 E07	09 29.6		A	AX	10	1	1	3
6289		SVTO	09 29 0722	N11 E04	09 29.6		B	CRO	20	3	4	3
6289		RAMY	09 29 1520	N11 E00	09 29.6		B	CAO	20	5	3	3
6289		HOLL	09 29 1730	N11 W01	09 29.6		A	HR	10	1	1	2
6289		PALE	09 29 1750	N11 W01	09 29.7		A	AX		1		3
6289		LEAR	09 30 0005	N10 W04	09 29.7		A	AX	10	1	1	3
6289		RAMY	09 30 1129	N11 W12	09 29.6		B	BXO	10	4	3	4
6289		BOUL	09 30 1440	N12 W14	09 29.5		B	BXO	10	4	3	4
6289		LEAR	10 01 0055	N11 W19	09 29.7		B	BXO	10	4	3	3
6289		CULG	10 01 0103	N11 W20	09 29.6		B	BXO	10	2	3	2
6289		PALE	10 01 0204	N11 W21	09 29.6		B	BXO	10	5	3	3
6289		SVTO	10 01 0655	N10 W25	09 29.5		B	BXO	10	2	3	4
6289		RAMY	10 01 1238	N11 W27	09 29.6		A	AX		1		2
6289		LEAR	10 03 0008	N16 W43	09 29.8		A	AX	10	1	1	4
6289		HOLL	10 03 2315	N13 W55	09 29.9		B	BXO	10	2	6	3
6285		CULG	09 23 0100	S12 E76	09 28.8		A	HS	30	1	1	3
6285		RAMY	09 23 1231	S12 E82	09 29.7		A	HA	60	1	2	4
6285		PALE	09 23 1805	S13 E79	09 29.7		A	HA	30	1	2	3
6285		LEAR	09 24 0022	S12 E71	09 29.4		A	HS	30	1	2	3
6285		CULG	09 24 0100	S12 E76	09 29.8		A	HS	30	1	1	3
6285		SVTO	09 24 0825	S12 E70	09 29.6		A	HS	20	1	1	2
6285		RAMY	09 24 1222	S12 E68	09 29.6		A	HS	50	1	2	4
6285		BOUL	09 24 1416	S12 E66	09 29.6		A	HS	70	1	1	1
6285		PALE	09 24 1850	S12 E64	09 29.6		A	HA	40	1	1	4
6285		HOLL	09 24 2030	S12 E62	09 29.5		A	HS	40	1	1	3
6285		LEAR	09 25 0020	S12 E59	09 29.4		A	HA	20	1	1	3
6285		CULG	09 25 0050	S12 E61	09 29.6		A	HS	40	2	1	3
6285		SVTO	09 25 0653	S12 E58	09 29.6		A	HS	20	1	1	3
6285		RAMY	09 25 1135	S12 E53	09 29.5		A	HA	40	1	1	4
6285		BOUL	09 25 1408	S11 E52	09 29.5		A	HS	60	1	1	1
6285		HOLL	09 25 1600	S12 E52	09 29.6		A	HS	50	1	2	3
6285		PALE	09 25 1820	S12 E52	09 29.7		A	HA	60	1	2	3
6285		SVTO	09 26 0744	S13 E45	09 29.7		A	HS	30	1	1	2
6285		RAMY	09 26 1400	S13 E40	09 29.6		A	HA	30	1	2	3
6285		BOUL	09 26 1405	S11 E39	09 29.5		A	HS	50	1	1	1
6285		HOLL	09 26 1525	S12 E40	09 29.6		A	HS	40	1	1	3
6285		PALE	09 26 1744	S12 E38	09 29.6		A	HA	30	1	1	3
6285		LEAR	09 27 0007	S13 E34	09 29.6		A	HS	40	1	2	4

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

SEPTEMBER 1990

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
6285		SVTO	09 27 0700	S12 E30	09 29.5		A	HA	10	1	1	2
6285		RAMY	09 27 1135	S12 E29	09 29.7		A	HA	20	1	2	4
6285		HOLL	09 27 1410	S12 E27	09 29.6		A	HR	20	1	1	4
6285		PALE	09 27 1851	S13 E25	09 29.7		A	HA	20	1	1	3
6285		LEAR	09 28 0007	S12 E21	09 29.6		A	HA	20	1	1	3
6285		CULG	09 28 0110	S12 E19	09 29.5		A	HS	20	1	1	3
6285		SVTO	09 28 1035	S11 E16	09 29.6		A	HS	20	2	1	2
6285		RAMY	09 28 1344	S12 E15	09 29.7		A	HA	30	1	2	3
6285		HOLL	09 28 1435	S11 E13	09 29.6		A	HR	20	1	1	3
6285		PALE	09 28 1745	S12 E12	09 29.6		A	HS	20	1	1	3
6285		CULG	09 29 0155	S12 E06	09 29.5		A	HR	20	1	1	3
6285		SVTO	09 29 0722	S11 E06	09 29.7		A	HS	20	2	1	3
6285		RAMY	09 29 1520	S12 E01	09 29.7		A	HA	20	1	2	3
6285		HOLL	09 29 1730	S12 W02	09 29.6		A	HR	10	2	1	2
6285		PALE	09 29 1750	S12 W01	09 29.7		A	HS	20	1	1	3
6285		LEAR	09 30 0005	S11 W06	09 29.5		B	CSO	20	2	4	3
6285		CULG	09 30 0155	S12 W08	09 29.5		A	HR	10	1	1	2
6285		SVTO	09 30 0645	S13 W06	09 29.8		B	BXO	20	4	4	4
6285		RAMY	09 30 1129	S12 W11	09 29.6		A	HA	20	1	2	4
6285		BOUL	09 30 1440	S12 W13	09 29.6		A	HS	20	1	1	4
6285		LEAR	10 01 0055	S12 W18	09 29.8		A	AX	10	1	1	3
6285		PALE	10 01 0204	S12 W18	09 29.8		A	AX		1		3
6285		SVTO	10 01 0655	S13 W21	09 29.8		B	BXO	10	3	4	4
6285		RAMY	10 01 1238	S13 W24	09 29.8		B	BXO	10	3	4	2
6285		BOUL	10 01 1417	S11 W25	09 29.8		A	AX		1		1
6285		PALE	10 01 1904	S13 W27	09 29.8		A	AX	10	1		3
6285		LEAR	10 02 0007	S12 W30	09 29.8		A	AX	10	1	1	3
6285		RAMY	10 02 1314	S12 W37	09 29.9		A	AX	10	2	2	3
6285		PALE	10 02 1923	S13 W38	09 30.0		A	AX		1		3
6291		LEAR	09 28 0025	S12 E26	09 30.0		B	BXO	10	2	3	2
6291		SVTO	09 28 1035	S11 E33	09 30.9		A	HR	10	3	2	2
6291		RAMY	09 28 1344	S12 E32	10 1.0		B	BXO	10	2	2	3
6291		HOLL	09 28 1435	S11 E31	09 30.9		B	BXO	10	3	3	3
6291		PALE	09 28 1745	S12 E30	10 1.0		B	BXO	10	2	3	3
6291		CULG	09 29 0155	S12 E22	09 30.7		B	BXO	10	2	3	3
6291		SVTO	09 29 0722	S11 E22	10 1.0		B	BXO	10	3	3	3
6291		RAMY	09 29 1520	S11 E17	09 30.9		B	BXO	10	3	3	3
6291		HOLL	09 29 1730	S12 E16	09 30.9		A	AX		1		2
6291		PALE	09 29 1750	S12 E14	09 30.8		B	BXO		3	3	3
6291		LEAR	09 30 0005	S12 E12	09 30.9		A	AX	10	1	1	3

Stations reporting:

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

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1990

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
01	0307	0316	0328D	1-	1			1			0256	C4.9	6233
01	0329E	0341	0415	1-	1			1			0320		
01	0600	0614	0627	1	3		2				No flare		
01	0700	0713	0908	3	5	3	3	1	1	6	0658	M2.7	6233
01	1333	1348	1417	1+	3		2				No flare		
01	1703	1717U	1837	3	1					1	1703	C5.9	
01	1726	1736	1750	1	3		2				No flare		
01	2221	2234	2313	1-	5			1		1	2221	C2.2	6233
01	2353	2402	2428	1-	1			1			No flare		
02	0043	0052	0121	1-	1			1			No flare		
02	0142	0147	0203	1-	3	1		1			0143	C3.4	6233
02	1232	1255	1318	1	3		2				No flare		
02	1351	1453	1558	1	3		2				1436	C1.7	
02	2342	2403	2434	1-	1			1			2344	C1.9	
03	0216	0222	0320	1-	1			1			0219	C3.5	6233
03	0715	0728	0734D	1-	5		1	1			0716	C3.0	6238
03	0734E	0749	0813	1-	5		1	1		1	0735	C2.0	6233
03	0938	0949	1144	2+	5	3	5	1	1	5	0943	M2.2	6233
03	1340	1347	1430	1-	5		3		1	1	1339	C2.4	6233
03	1929	1935	2011	2-	3					3	1947E	C4.3	6233
03	2349	2401	2414	1-	1			1			2353	C1.9	
04	0042	0050	0155	2-	5	2		1			0042	C7.0	6233
04	0507	0526	0548	1-	1			1			0504	C1.4	
04	0739	0748	0748D	1-	3				1	1	0741		6233
04	0755	0817	0943	2+	5		2	1	1	2	0750	C9.2	6233
04	1436	1455	1620	2	5	2	4		1	5	1437	M1.4	6233
05	0023	0039	0141D	2	5	2		1			0016	C8.3	
05	0141E	0147	0247	1-	1			1			0142	C3.0	6249
05	0357	0440	0921	3	5	1		1		1	0426E	M2.7	6233
05	0555	0614	0640	1	1		1				No flare		
05	0929	0936	0958	1	1		1				No flare		
05	1003	1015	1034	1	1		1				No flare		
05	1255	1310	1327	1+	1		1				No flare		
05	1541	1552	1638	2	3					3	1540	C3.1	6246
05	1920	1927	1943	1	1					1	1919	C1.4	
05	2157	2203	2227	1-	5			1		1	2100	C3.5	
05	2332	2341	2341D	1-	1			1			2331	C2.1	
06	0001E	0024	0045	1-	1			1			0002	C2.0	
06	0602	0610	0630	1	1		1				0610	C1.5	
06	0646	0659	0737	1-	5		1	1			0643	C1.7	
06	1557	1600	1656	2+	1					1	1530	C2.5	
06	2109	2148	2402	2+	5	1		1		7	2108	M1.9	
07	0203	0210	0233	1-	1			1			No flare		
07	0527	0539	0716	1+	5	1		1		1	0530E	C7.2	
07	0753	0756	0834	2	1					1	0753		6245
07	1157	1204	1215	1-	1				1		1153	C3.0	6246
07	1545	1553	1612	1	1		1				No flare		
07	1732	1752	1811	1	3		2				1744		6246
08	1136	1144	1205	1-	1		1		1		1136	C4.0	
08	2213	2225	2301	1-	5			1		1	2215	C4.8	6254
10	0542	0550	0620	1-	1			1			0540	C1.7	
10	0914	0920	0933	1-	1			1			0910	C2.5	
11	0004	0008	0026	1-	1			1			0018	C1.7	6262
11	0523	0541	0655	1+	3	1		1			0446	C5.2	
11	0842	0859	0911	1+	3		2				0901	C1.3	
11	1007	1011	1031	1-	5	1	3	1	1		1011		6257
11	1245	1257	1314	1	3		2				No flare		
11	1314	1335U	1425D	1+	1		2				No flare		
11	1658	1715	1733	1	1		1				1710		6268

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1990

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
12	0028	0034	0052	1-	1			1			0037E		6262
12	0055	0111	0256	2+	5	2		1			0057	M1.5	6247
12	0918	0930	0950	1+	1		1				No flare		
12	1858	1906	2001	2	3					6	1848	C6.6	6266
13	0027	0036	0058	1-	1			1			0014	C1.7	6263
13	0200	0210	0244	1-	1			1			0221	C2.4	6263
13	0727	0739	0755	2	1		1				No flare		
13	0800	0810	0834	2	1		1				No flare		
13	0837	0843	0858	1	1		1				0834		6257
13	1041	1116	1147	1+	3		2				No flare		
13	1159	1205	1301	1+	3		2				No flare		
13	1405	1409	1434	1+	3					2	1412E	C1.8	6263
13	1751	1755	1830	2	1					1	1735	C2.6	6266
14	0055	0058	0118	1-	1			1			0053	C1.6	6257
14	0409	0423	0623	2+	5	1		1		3	0410	M1.3	6266
14	0731	0806	0832	3	3		2				0806		6257
14	0956	1000	1018	1-	5		2	1	1		0954	C3.0	
14	1255	1300	1320	1-	3	1	1		1		1255	C3.1	6257
14	1329	1400	1530	3	5	3	5		1	9	1332	M3.5	
14	2004	2015	2124	1-	5	1		1		7	2005E	M1.6	6263
14	2235	2241	2253	1-	1			1			No flare		
15	0019	0026	0035	1-	1			1			No flare		
15	0553	0603	0620	1-	1			1			0550	C2.3	6272
15	0750	0756	0807D	1+	5		1	1	1	2	0744	C6.9	6257
15	0807E	0819	0940	2	5		1	1	1	2	0813	C7.6	
15	0931	0946	1016	1+	3		2				No flare		
15	1836	1841	1858	1	1					1	1835		6266
16	0710	0722U	0752	1	1		1				No flare		
16	1135	1210	1218	1	1		2				No flare		
16	1218	1247	1332	2+	3		2				No flare		
16	1341	1401	1434	2-	3		2				1341		6272
16	1418	1424	1453U	2	1					1	1417	C2.4	6257
17	0313	0319	0334	1-	1			1			0314	C2.1	6272
17	0550	0557	0711	2+	3	1	1	1			0550	M1.0	6272
17	0728	0747	0922	1-	1			1			0728		6275
17	0918	0931	0945	1	1		1				No flare		
17	1001	1025	1051	1	3		2				*		
17	1112	1126	1146	2+	3		2				No flare		
17	1200	1220	1310	2	1		1				No flare		
17	1343	1347	1430	2	5	3	4		1	10	1319E	M1.3	6272
17	1408	1409	1445	2	1					1	No flare		
17	1800	1801	1816	1-	1					1	1800E		6262
17	1845	1855	1916	1-	5			1		6	1845	C6.5	6272
17	2150	2157	2327	3-	5	3		1		6	2140	M5.3	6272
18	0251	0300	0321	1-	1			1			0252		6272
18	0935	0939	1039	1-	5	1	2	1	1	1	0937	C6.6	6272
18	1418	1431	1510	2-	1		1				1415E		6257
18	1529	1540	1620	2-	1		1				1441	C1.4	6257
18	2027	2036	2104	1-	5			1		2	No flare		
18	2206	2210	2250	1-	1			1			2209E	C2.6	6279
18	2325	2335	2357	1-	1			1			2325	C2.0	
19	0039	0044	0106	1-	1			1			0038	C2.2	
19	0233	0241	0305	1-	1			1			0226	C2.5	6279
19	0902	0910	1034	3-	5	4	5	1	1	3	0905	M2.6	
19	1014	1021	1045	1-	1		1		1		1009	C3.9	
19	1329	1335	1400	1+	1		1				No flare		
19	1415	1416	1429	1-	1					1	1404E		6267
19	1636	1639	1710	1+	3					4	1633	C3.9	6281
19	2058	2058	2114	1-	1					1	2054		6267

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1990

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
20	0050	0056	0125	1-	1			1			0047	C3.0	6281
20	0621	0628	0716	1	5	1	1	1		1	0612	C7.0	6281
20	0909	0935U	1014	1+	1		2				No flare		
20	1146	1213	1239	1+	3		2				1149E		6280
20	1320	1324	1352	1+	1					1	No flare		
20	1521	1524	1558	2-	3					3	1521	C2.1	6281
20	1717	1720	1741	1	3					4	1711	C2.5	6263
20	1831	1858	2000	3-	3					7	1832	C4.9	6266
21	0303	0308	0324	1-	1			1			0302	C1.8	
21	0406	0415	0439	1-	1			1			0106	C1.7	
21	0528	0558	0636	1-	1			1			0524E	C1.6	
21	1112	1127	1142	1	3		2				No flare		
21	1255	1305	1315	1	1					1	1255	C2.1	6280
22	0252	0318	0530	2+	3	1		1			0306	M1.1	6266
22	1922	1926	2000	2-	3					5	1920	C2.9	
22	2241	2245	2329	2+	1					1	2216E		6263
23	0024	0039	0145	1-	1			1			0027	C3.6	6266
23	0320	0334	0400	1-	1			1			No flare		
23	0601	0610	0633	1-	1			1			0549		6263
23	0708	0725	0808	1-	1			1			No flare		
23	1308	1317	1425	2	5	5	4		1	11	1305	M2.7	
23	2232	2242	2340	2-	5	1		1			2230	C7.1	
24	0051	0100	0149D	1-	1			1			*		
24	0149E	0159	0228D	1-	1			1			0132E		6280
24	0228E	0236	0350	1	1			1			0228	C3.5	
24	0517	0537	0612D	1-	1			1			0516	C2.8	
24	0612E	0642	0730	1-	5		1	1			0628	C4.4	6280
24	0812	0815	0857	1-	1			1			0813	C2.9	6272
24	1200	1210	1230	2-	1		1				No flare		
24	1349	1352	1413	1	3					2	1347	C4.2	6280
24	1556	1612	1641	2	3					2	1508	C2.8	
24	1637	1638	1654	1+	1					1	No flare		
24	1850	1859	1943	2	3					8	1846	C4.7	6280
24	2215	2222	2250	1-	1			1			2215	C3.8	6280
25	0222	0230	0354	2+	3	1		1			0221	M1.7	6280
25	0902	0910	0922	1-	5	1		1	1	1	0901	C2.9	6280
25	1035	1040	1107	1-	5	1	1	1	1	2	1305	C5.3	6280
26	0849	0852	0931	1+	1		1				*		
26	1301	1330	1400	2+	1					1	1325	C7.8	6272
26	1429	1433	1448	1-	3					2	1418E	C4.2	6279
26	1558	1602	1641	2-	5					5	1559	C3.3	6279
26	1834	1841	1912	2-	1					1	No flare		
28	0848	0904	0928	2	3		2				No flare		
28	1235	1255	1414	3-	1		1				1224		6278
28	1410	1415	1425	1-	5		1		1	2	1409	C1.4	6287
29	0404	0412	0528	2	5	2		1		1	0406	C9.4	6287
29	0803	0810	0825	1-	1			1			No flare		
29	0824	0829	0840	1-	1			1			No flare		
29	1036	1040	1050	1-	1				1		1036		
29	1420	1427	1435	1	3		2				No flare		
29	1430	1435	1452	2	1		1				No flare		
29	1502	1525	1559	1	3		2				1541		6290
29	1613	1628	1650	1+	3		2				1612		6283
29	1651	1659	1718	1	3		2				No flare		
29	2255	2313	2347	1-	5			1		1	2257	C1.7	6283
30	0623	0631	0653	1-	1			1			No flare		
30	0646E	0652	0709	1-	1			1			No flare		
30	0702	0711U	0805	1	1		1				No flare		
30	0738	0752	0908	2	5	2	2	1	1	3	0737	C9.2	6283

* = no flare patrol.

OBSERVATORIES REPORTING FOR SEPTEMBER 1990

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
Darmstadt, Germany	SWF	Madison, Wisconsin, USA	SES
Edenvale, Rep of S. Africa	SES	Manahawkin, New Jersey, USA	SES
Euclid, Ohio, USA	SES	Maui, Hawaii, USA	SWF
Hiraiso, Japan	SWF	Nerja, Spain	SES
Houston, Texas, USA	SES	Panska Ves, Czechoslovakia	SES, SEA, SWF
Hudson, Ohio, USA	SES	San Francisco, California, USA	SES
Inubo, Japan	SPA	Shaker Heights, Ohio, USA	SES
Johannesburg, Rep of S. Africa	SES	Sofia, Bulgaria	SES
Juliusruh, Germany	SWF	Tucson, Arizona, USA	SES
Kandilli, Turkey	SEA	Upice, Czechoslovakia	SEA
Kuhlungsborn, Germany	SEA, SPA	Vlasim, Czechoslovakia	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

SEPTEMBER 1990

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	0634	1432	ONDR										
	0637	1457	POTS				0650.0	1457.0U	1				I,S,DC
			SVTO				0812.0	0812.0	2				III
			POTS				0812.3	0813.8	1				IIIG
			LEAR				0813.0	0813.0	1				III
			POTS				1118.3	1118.6	1				IIIG
			SGMR				1151.0	1152.0	1				III
			SVTO				1151.0	1152.0	1				III
	0518	1740	WEIS				1151.4	1152.2	2				IIIG
			POTS				1151.7	1153.8	2				IIIGG
			SGMR				1325.0	1325.0	1				III
			SGMR				1832.0	1833.0	1				III
02			LEAR				0028.0	0028.0	1				III
			LEAR				0049.0	0050.0	2				III
			LEAR				0344.0	0344.0	1				III
	0521	1739	WEIS										
	0637	1453	POTS				0641.0	1453.0U	1				I,S,DC
			POTS				0803.4	0804.6	1				IIIG
			POTS				0813.7	0815.6	1				IIIG
	1041	1045	ONDR										
			POTS				1146.9	1147.1	1				U,HARM
	0635	1431	ONDR				1258.7	1258.8	1				I
			SGMR				1902.0	1902.0	1				III
03	0520	1231	WEIS										
	0633	0753	POTS										IIIG
	0635	1431	ONDR	1234.4	1234.7	1							
			SGMR				1736.0	1736.0	2				III
04	0629	1515	POTS										
	0634	1430	ONDR										
	1014	1735	WEIS										
			SGMR				1458.0	1458.0	1				V
			SVTO				1458.0	1458.0	1				III
05			LEAR				0449.0	0500.0	1				III
	0631	1511	POTS				0643.0	0711.0	1				I
			POTS				0946.1	0946.5	1				IIIG
			POTS				1025.8	1025.9	1				IIIB
			POTS				1037.0	1037.2	2				IIIG
			SVTO				1037.0	1037.0	2				III
	0523	1733	WEIS				1037.0	1037.4	2				IIIB
			WEIS				1242.7	1243.2	1				IIIG
	0634	1432	ONDR				1242.8	1242.9	1				IIIG
			ONDR	1244.9	1245.4	1	1244.9	1245.4	1				IIIGG
			WEIS				1244.9	1245.3	2				IIIGG
			SGMR				1245.0	1245.0	1				III
			SVTO				1245.0	1245.0	1				III
06			LEAR				0457.0	0457.0	1				III
	0635	1431	ONDR										
	0633	1501	POTS				0852.7	1127.0	2				I,S,DC
			POTS				1127.2	1127.4	1				U
			POTS				1137.3	1137.8	2				IIIG
			POTS				1409.5	1501.0U	2				I
			POTS				1439.9	1441.7	2				IIIG
			SGMR				1554.0	1606.0	1				S
	0526	1731	WEIS				1602.5	1605.3	1				IIIG
			PALE				2156.0	2156.0	1				III
			LEAR				2344.0	0845.0	1				CONT
07			LEAR				0052.0	0054.0	2				III
			LEAR				0154.0	0156.0	2				III
			PALE				0155.0	0155.0	1				III
			LEAR				0525.0	0530.0	3				III
	0526	0930	WEIS				0526.4	0528.3	2				IIIG
			LEAR				0533.0	0542.0	1				II
			SVTO				0534.0	0543.0	2				II

SOLAR RADIO EMISSION
Spectral Observations

SEPTEMBER 1990

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
07		LEAR				0542.0	0600.0	2				IV
		SVTO				0543.0	0700.0	2				CONT
0635	1055	ONDR										
0621	1519	POTS				0742.2	1302.0U	1				I,S,DC
		POTS				0921.4	0923.5	2				IIIG
		POTS				1027.4	1027.5	1				UNCLF
		POTS				1045.8	1052.2	3				IIIGG
0956	1728	WEIS				1046.3	1049.6	2				IIIG
1055	1431	ONDR										
		POTS				1200.5	1200.6	2				IIIB
		SGMR				1226.0	1226.0	1				III
		POTS				1226.5	1228.7	1				IIIGG
		WEIS				1226.7	1226.8	1				IIIB
		POTS				1510.0	1511.2	2				IIIG
		SGMR				1510.0	1511.0	2				V
		SVTO				1510.0	1511.0	2				III
		WEIS				1510.1	1511.1	1				IIIG
		SGMR				1659.0	1743.0	1				CONT
		SGMR				1701.0	1702.0	1				V
		SGMR				1826.0	1831.0	1				III
		SGMR				1921.0	1921.0	1				III
		PALE				1933.0	1934.0	1				III
		SGMR				1933.0	1934.0	1				III
		PALE				1954.0	1955.0	2				V
		SGMR				1954.0	1955.0	2				III
		PALE				2016.0	2019.0	1				III
		SGMR				2016.0	2019.0	1				III
		PALE				2158.0	2158.0	2				III
		PALE				2220.0	2221.0	1				III
		PALE				2258.0	2258.0	1				III
		PALE				2303.0	0022.0	1				CONT
08		LEAR				0157.0	0204.0	2				III
		LEAR				0447.0	0448.0	2				III
		LEAR				0608.0	0609.0	2				III
0631	1455	POTS				0723.6	0723.7	1				IIIB
		LEAR				0903.0	0903.0	1				III
		SVTO				0903.0	0903.0	3				V
0529	1727	WEIS				0903.7	0904.4	2				IIIG
		POTS				0913.7	0913.8	2				UNCLF
		POTS				1025.0	1025.2	1				UNCLF
		POTS				1043.4	1055.2	2				IIIGG
		WEIS				1043.6	1043.9	1				IIIG
		SGMR				1055.0	1055.0	1				III
		SVTO				1055.0	1055.0	2				III
		WEIS				1055.0	1055.2	2				IIIB
		SGMR				1101.0	1112.0	1				II
		SVTO				1102.0	1109.0	1				II
		POTS				1102.1	1113.6	2				II ,C,Z
		WEIS				1102.3	1108.9	1				II H,HB
		SGMR				1134.0	1137.0	2				III
		SVTO				1134.0	1137.0	2				III
		POTS				1134.6	1145.9	2				IIIG,IV?
		WEIS				1134.7	1135.1	2				IIIG
		WEIS				1136.8	1137.4	2				IIIG
		SGMR				1149.0	1150.0	1				III
		SGMR				1204.0	1205.0	1				III
		SGMR				1418.0	1419.0	1				III
		POTS				1418.4	1419.2	2				IIIG
		WEIS				1418.5	1419.1	2				IIIG
		POTS				1425.0	1428.3	1				IIIG
		SGMR				1708.0	1716.0	1				V
		SGMR				1936.0	1936.0	1				III
		PALE				2157.0	2205.0	2				V
		PALE				2228.0	2229.0	1				III
		LEAR				2341.0	2342.0	1				III
09		LEAR				0025.0	0025.0	2				III
		PALE				0025.0	0025.0	1				III

SOLAR RADIO EMISSION
Spectral Observations

SEPTEMBER 1990

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
09			LEAR				0705.0	0705.0	3				III
			SVTO				0705.0	0705.0	3				III
	0528	1724	WEIS				0705.1	0705.5	3				IIIG
			SVTO				0739.0	0740.0	2				III
	0629	1413	POTS				0739.5	0741.6	1				IIIG
			WEIS				0739.9	0740.6	1				IIIG
			LEAR				0741.0	0741.0	2				III
			POTS				0830.9	0831.1	1				IIIG
			POTS				0833.2	0833.3	1				IIIB
	0835	1432	ONDR										
			POTS				1314.0	1314.3	1				UNCLF
			SGMR				1431.0	1431.0	1				III
10			LEAR				0006.0	0008.0	2				III
			LEAR				0026.0	0028.0	2				III
			PALE				0026.0	0028.0	1				V
			LEAR				0045.0	0045.0	1				III
			PALE				0045.0	0045.0	1				III
	0635	1431	ONDR										
			LEAR				0653.0	0654.0	2				III
	0531	1014	WEIS				0654.0	0654.4	1				IIIG,U
			SVTO				0717.0	0719.0	2				III
			LEAR				0718.0	0721.0	2				III
			WEIS				0718.7	0720.6	1				IIIG
	0706	1507	POTS				0719.0	0720.3	1				IIIG
	1049	1723	WEIS										
			POTS				1241.3	1241.4	1				UNCLF
			POTS				1300.0	1301.0	1				IIIB
11	0531	1720	WEIS										
	0635	1431	ONDR										
	0633	1447	POTS				1239.2	1305.4	1				I
			POTS				1402.7	1409.2	1				I,W
			SGMR				1558.0	1559.0	1				V
			SGMR				1808.0	1814.0	2				V
			PALE				1809.0	1809.0	1				III
			SGMR				2015.0	2016.0	1				III
12			LEAR				0111.0	0112.0	1				III
	0637	0713	POTS										
	0634	1430	ONDR				0952.9	0953.5	1				IIIG
			SGMR				1344.0	1346.0	2				V
			SVTO				1344.0	1345.0	2				V
	0534	1719	WEIS				1344.9	1345.6	2				U
			PALE				1900.0	1901.0	2				III
			SGMR				1900.0	1902.0	2				V
13			SVTO				0600.0	0600.0	1				III
			LEAR				0602.0	0602.0	1				III
	0634	1432	ONDR										
			LEAR				0850.0	0851.0	1				III
			SVTO				0850.0	0851.0	2				III
	0642	1522	POTS				0850.8	0851.1	1				IIIB
	0534	1130	WEIS				0850.8	0851.1	1				IIIB
			SGMR				1352.0	1352.0	1				III
			SVTO				1352.0	1352.0	1				III
	1331	1710	WEIS				1352.2	1352.4	1				IIIB
			SGMR				1458.0	1458.0	1				III
			SGMR				1729.0	1744.0	1				S
14			LEAR				0039.0	0039.0	1				III
			LEAR				0410.0	0416.0	3				III
			LEAR				0413.0	0430.0	3				II
			LEAR				0626.0	0627.0	1				III
			LEAR				0648.0	0648.0	2				III
			SVTO				0648.0	0648.0	2				III
	0536	1715	WEIS				0648.3	0648.5	2				IIIG
	0651	1529	POTS				0838.6	0838.7	1				IIIB
			WEIS				0838.7	0838.8	2				IIIB

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

SEPTEMBER 1990

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
14			WEIS				1113.7	1114.9	1				IIIG
			SGMR				1126.0	1127.0	1				III
			POTS				1126.9	1127.5	3				IIIG
			WEIS				1126.9	1127.8	2				IIIG
			SVTO				1127.0	1128.0	2				III
			WEIS				1151.1	1151.3	1				IIIB
			SVTO				1227.0	1232.0	1				III
			WEIS				1227.0	1227.1	1				IIIB
			WEIS				1228.9	1229.1	2				IIIG
			SGMR				1231.0	1232.0	2				III
			WEIS				1231.7	1232.0	2				IIIG
			SGMR				1321.0	1321.0	2				III
			POTS				1321.2	1321.4	2				IIIB
			WEIS				1321.3	1321.6	2				IIIB
			SGMR				1326.0	1331.0	3				V
			POTS				1326.4	1330.0	3				IIIGG
			WEIS				1326.4	1330.8	3				IIIGG
	0635	1432	ONDR	1328.1	1328.7	2	1226.5	1330.0	2				IIIGG
			WEIS				1339.8	1351.3	2				II H
			POTS				1340.0	1419.3	2				II
			SGMR				1340.0	1354.0	1				II
			SVTO				1347.0	1352.0	2				II
			SGMR				1403.0	1456.0	2				CONT
			SVTO				1404.0	1442.0	1				CONT
			WEIS				1410.7	1412.6	2				II
			WEIS				1418.2	1418.4	1				U
			POTS				1451.7	1451.8	1				UNCLF
			WEIS				1451.7	1452.0	2				IIIB
			SVTO				1452.0	1453.0	1				III
			SGMR				1509.0	1510.0	2				V
			SVTO				1509.0	1509.0	1				III
			WEIS				1509.7	1510.0	2				IIIB
			SGMR				1601.0	1616.0	1				S
			SGMR				1640.0	1640.0	1				III
			WEIS				1640.7	1640.8	2				IIIB
			WEIS				1658.9	1703.6	3				IIIG
			SGMR				1659.0	1706.0	3				V
			PALE				1701.0	1701.0	2				III
			SGMR				1856.0	1856.0	1				III
			SGMR				1909.0	1917.0	1				III
			PALE				1959.0	2008.0	2				V
			SGMR				1959.0	2029.0	2				S
			SGMR				2008.0	2022.0	2				II
			PALE				2010.0	2018.0	2				II
			PALE				2018.0	2153.0	2				CONT
			PALE				2212.0	2213.0	3				V
			LEAR				2256.0	2256.0	1				III
			PALE				2256.0	2256.0	1				III
15			LEAR				0000.0	0800.0	1				CONT
			LEAR				0309.0	0314.0	2				III
			PALE				0314.0	0314.0	1				III
			LEAR				0426.0	0430.0	3				III
			LEAR				0438.0	0443.0	2				III
			LEAR				0534.0	0549.0	2				S
			SVTO				0534.0	0534.0	2				III
	0635	1431	ONDR										
			LEAR				0813.0	0813.0	2				III
	0623	1433	POTS				0813.0	0813.1	3				IIIB
			SVTO				0813.0	0813.0	2				III
	0536	0856	WEIS				0813.0	0813.3	2				IIIB
			POTS				0900.2	0900.3	2				IIIB
			POTS				1134.0	1135.5	2				IIIG
			SVTO				1134.0	1135.0	2				III
			SGMR				1220.0	1223.0	1				III
	1207	1712	WEIS				1220.9	1222.3	1				IIIG
			SGMR				1237.0	1738.0	1				CONT
			SVTO				1313.0	1313.0	1				III
			POTS				1313.5	1313.7	1				IIIB

SOLAR RADIO EMISSION
Spectral Observations

SEPTEMBER 1990

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		WEIS				1313.5	1313.7	1				IIIB
		WEIS				1442.3	1442.7	2				IIIG
		WEIS				1509.8	1510.0	1				IIIB
		SVTO				1513.0	1513.0	1				III
		SGMR				1601.0	1605.0	2				V
		SVTO				1601.0	1601.0	1				III
		WEIS				1601.2	1601.6	1				IIIG
		WEIS				1604.9	1605.2	1				IIIB
		PALE				1901.0	1902.0	1				III
		SGMR				1901.0	1902.0	2				III
		PALE				2303.0	2303.0	1				III
16		LEAR				0033.0	0033.0	2				III
		PALE				0049.0	0049.0	1				III
		LEAR				0123.0	0246.0	1				CONT
		LEAR				0331.0	0332.0	2				III
		LEAR				0408.0	0410.0	2				III
		LEAR				0532.0	0532.0	1				III
		LEAR				0553.0	0553.0	1				III
		LEAR				0614.0	0622.0	2				III
	0530	1711 WEIS				0614.6	0614.8	1				IIIG
		WEIS				0616.9	0617.1	1				IIIG
		WEIS				0618.1	0619.1	1				IIIB
		LEAR				0852.0	0855.0	2				III
		SVTO				0852.0	0855.0	2				III
		WEIS				0852.5	0853.3	2				IIIG
	0713	1435 POTS				0852.6	0855.1	1				IIIG
	0634	1431 ONDR				0854.7	0855.1	1				IIIG
		WEIS				0854.8	0855.3	1				IIIG
		SVTO				0951.0	1001.0	2				S
		POTS				0951.2	0951.3	1				IIIB
		WEIS				0951.2	0951.6	2				IIIG
		LEAR				0958.0	0959.0	2				III
		POTS				0958.7	1001.6	3				IIIG
		WEIS				0958.7	0959.8	3				IIIG
		WEIS				1001.4	1001.5	3				IIIB
		WEIS				1127.4	1127.5	1				IIIB
		WEIS				1233.7	1233.8	1				IIIB
		POTS				1306.0	1306.2	1				IIIB
		SVTO				1306.0	1306.0	2				III
		WEIS				1306.1	1306.6	1				IIIG
		SGMR				1342.0	1342.0	1				III
		SVTO				1342.0	1342.0	2				III
		WEIS				1342.2	1342.4	1				IIIB
		SVTO				1437.0	1438.0	2				III
		WEIS				1437.3	1438.1	2				IIIG
		SGMR				1453.0	1454.0	1				III
		SGMR				1534.0	1534.0	1				III
		SGMR				1606.0	1608.0	1				III
		SGMR				1630.0	1632.0	1				III
		SGMR				1704.0	1704.0	1				III
		PALE				1953.0	1954.0	1				III
		SGMR				1953.0	1954.0	1				III
		PALE				2006.0	2006.0	1				III
		PALE				2106.0	2107.0	1				III
17		LEAR				0032.0	0032.0	1				III
		LEAR				0044.0	0056.0	1				S
		LEAR				0107.0	0127.0	1				S
		LEAR				0220.0	0221.0	2				III
		PALE				0220.0	0221.0	1				III
		LEAR				0258.0	0259.0	1				III
		LEAR				0309.0	0317.0	3				III
		PALE				0309.0	0322.0	2				S
		LEAR				0322.0	0323.0	2				III
		LEAR				0349.0	0351.0	1				III
		LEAR				0358.0	0815.0	2				CONT
		LEAR				0550.0	0555.0	3				III
		SVTO				0551.0	0553.0	3				III

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

SEPTEMBER 1990

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
17	0539	0633	WEIS				0551.6	0553.4	3				IIIG
			SVTO				0635.0	0812.0	2				CONT
	0643	1515	POTS				0652.8	0654.3	2			II	?
	0653	1707	WEIS				0654.0	0803.0	2				IIIN
			POTS				0733.9	0741.8	2				IIIGG
			POTS				0754.8	0756.3	1				UNCLF
			POTS				0815.0	0815.2	1				IIIB
			SGMR				1210.0	1210.0	1				III
			WEIS				1210.4	1210.5	1				IIIB
	0634	1432	ONDR	1340.4	1341.2	1							IIIG
			SGMR				1343.0	1344.0	1				III
			SVTO				1343.0	1344.0	2				III
			ONDR	1343.3	1344.9	1	1343.3	1344.9	1				IIIGG
			ONDR				1350.1	1350.3	1				IIIB
			WEIS				1418.4	1418.5	1				IIIB
			SVTO				1454.0	1455.0	2				III
			SGMR				1804.0	1804.0	1				III
			SGMR				1815.0	1823.0	1				III
			SGMR				1847.0	1847.0	1				III
			SGMR				1901.0	1901.0	1				III
			PALE				2153.0	2159.0	3				V
			SGMR				2153.0	2154.0	2				III
18			LEAR				0550.0	0550.0	2				III
			SVTO				0550.0	0551.0	2				III
	0542	1603	WEIS				0550.3	0550.4	1				IIIG
			LEAR				0609.0	0609.0	1				III
			WEIS				0936.8	0938.7	3				IIIGG
	0635	1432	ONDR	0936.9	0938.5	3	0936.9	0938.5	3				IIIGG,V
			LEAR				0937.0	0942.0	2				III
			SVTO				0937.0	0942.0	2				III
	0701	1459	POTS				0937.1	0942.1	3				IIIG
			WEIS				0941.4	0942.3	3				IIIG
			SGMR				1130.0	1130.0	1				III
			POTS				1130.2	1130.4	1				IIIB
			WEIS				1130.2	1130.3	1				IIIB
			SVTO				1204.0	1208.0	1				III
			WEIS				1204.1	1204.2	1				IIIB
			SGMR				1207.0	1207.0	1				III
			POTS				1207.3	1207.5	1				IIIB
			WEIS				1207.4	1207.9	1				IIIG
19			LEAR				0215.0	0215.0	1				III
			LEAR				0308.0	0309.0	1				III
			LEAR				0423.0	0423.0	1				III
	0541	0817	WEIS										
			LEAR				0704.0	0704.0	1				III
	0635	1431	ONDR	0911.2	0911.7	1							IIIG
			SVTO				0934.0	0935.0	2				III
			LEAR				0935.0	0936.0	1				III
	1048	1232	WEIS										
	0637	1517	POTS				1305.9	1306.1	1				IIIB
			POTS				1439.0E	1441.9	2				IIIGG
			SGMR				1439.0	1441.0	1				V
			POTS				1444.7	1447.8	2				IIIB
20	0544	1702	WEIS										
	0634	1431	ONDR										
	0625	1521	POTS				0634.0	0844.0	1				I,W,S,DC
			POTS				0749.0	0750.4	3				IIIG
			POTS				0948.5	1521.0U	2				I,S,DC,DP
21			LEAR				0536.0	0536.0	1				III
	0544	0558	WEIS										
	0611	1659	WEIS										
	0634	1432	ONDR										
	0712	0735	ONDR										
	0631	1513	POTS				0801.0	0930.0	2				I,S,DC,DP
			LEAR				0820.0	0820.0	1				III

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

SEPTEMBER 1990

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
21		POTS				0820.4	0820.7	1				IIIB
1034	1149	ONDR										
		POTS				1059.7	1101.0	3				IIIG
		POTS				1131.8	1132.0	1				IIIB
22		LEAR				0302.0	0317.0	1				S
0635	1432	ONDR										
0645	1501	POTS				0950.9	0953.7	1				IIIG
		POTS				0956.9	0959.2	1				IIIG
		POTS				1006.6	1006.7	1				IIIB
		POTS				1023.3	1023.9	1				U
		POTS				1155.5	1155.6	1				UNCLF
		POTS				1211.9	1212.0	1				UNCLF
		SGMR				1414.0	1414.0	1				V
0547	1526	WEIS				1414.0	1414.2	1				IIIB
		POTS				1438.7	1438.8	1				UNCLF
1550	1658	WEIS										
23		LEAR				0405.0	0406.0	1				III
		LEAR				0623.0	0625.0	1				III
0547	1655	WEIS				0623.8	0625.7	2				IIIG
		SVTO				0625.0	0625.0	2				III
		LEAR				0636.0	0637.0	2				III
		SVTO				0636.0	0636.0	2				III
		WEIS				0636.4	0636.9	2				IIIG
		WEIS	0838.2	0838.3	1							Spikes
0635	1431	ONDR				0838.3	0838.4	1				IIIB
0707	1459	POTS				1021.5	1127.0	2				I,S,DC
		POTS				1026.4	1026.5	1				IIIB
		ONDR				1209.9	1313.6	2	II			
		SGMR				1307.0	1309.0	1				V
		POTS				1307.1	1325.0	3				HARM,IIIG
		POTS				1307.1	1325.0	3	II			
		POTS				1307.1	1325.0	3	IV			
		WEIS				1307.3	1312.3	1				Spikes
		WEIS				1309.0	1316.8	3	II			HB
		SGMR				1313.0	1330.0	1	II			
		SVTO				1313.0	1324.0	2				S
		WEIS				1329.3	1330.4	2	II			
		SGMR				1702.0	1703.0	2				III
		PALE				2230.0	2234.0	3				V
		LEAR				2231.0	2234.0	2				III
		LEAR				2239.0	2251.0	1	II			
		PALE				2244.0	2256.0	2	II			
		LEAR				2256.0	2302.0	1				III
24		LEAR				0055.0	0056.0	1				III
		LEAR				0251.0	0252.0	1				III
		LEAR				0340.0	0344.0	1				III
		LEAR				0416.0	0416.0	1				III
		LEAR				0434.0	0437.0	3				V
		LEAR				0611.0	0615.0	1				III
		SVTO				0611.0	0612.0	1				III
0550	1654	WEIS				0611.7	0611.8	1				IIIG
		LEAR				0643.0	0645.0	1				III
		LEAR				0750.0	0750.0	1				III
0631	1441	POTS				0903.6	0905.9	2				IIIG
		WEIS				0903.7	0906.7	3				IIIG
		LEAR				0904.0	0918.0	2				S
		POTS				0916.0	0917.9	1	II			?
		POTS				1121.1	1121.3	1				UNCLF
		POTS				1128.4	1128.9	1				UNCLF
		SVTO				1154.0	1158.0	3				V
		POTS				1155.0	1157.3	3				IIIG,C
		SGMR				1155.0	1158.0	3				III
0634	1431	ONDR				1155.1	1156.2	2				IIIG
		WEIS				1155.1	1158.1	3				IIIG
		WEIS				1155.2	1156.3	3				Spikes
		POTS				1201.2	1208.0	2	II			HARM

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

SEPTEMBER 1990

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
24			POTS				1402.1	1407.4	2				IIIG,HARM
			SGMR				1406.0	1407.0	1				III
			WEIS				1406.7	1407.4	2				IIIG
			SGMR				1711.0	1711.0	1				III
			SGMR				1741.0	1741.0	1				III
			LEAR				2228.0	2230.0	2				MWB
			LEAR				2348.0	2350.0	1				III
25			LEAR				0231.0	0237.0	1				III
			LEAR				0415.0	0415.0	1				III
			LEAR				0435.0	0435.0	1				III
			LEAR				0530.0	0531.0	2				III
	0634	1432	ONDR										
	0628	1513	POTS				0843.3	0843.6	1				IIIG
			LEAR				0847.0	0847.0	1				III
			POTS				0847.3	0847.6	1				IIIB
			POTS				1001.0	1003.6	2				IIIGG
	0550	1652	WEIS				1003.0	1003.4	1				IIIG
			POTS				1018.2	1018.3	1				IIIB
			POTS				1118.1	1301.0	1				I,S,DC
			SVTO				1220.0	1221.0	2				V
			POTS				1220.7	1223.2	3				IIIG
			WEIS				1220.9	1221.8	2				IIIG
			SGMR				1221.0	1221.0	1				III
			POTS				1412.5	1412.6	1				IIIB
			POTS				1419.3	1419.5	1				IIIB
			SGMR				1433.0	1433.0	1				III
			POTS				1439.6	1439.8	1				IIIG
			SGMR				1506.0	1507.0	2				V
			POTS				1506.3	1507.6	1				IIIG
			WEIS				1506.5	1507.8	2				IIIG
			SVTO				1507.0	1507.0	2				III
			PALE				2001.0	2001.0	1				III
			SGMR				2001.0	2001.0	1				III
			LEAR				2241.0	2242.0	1				III
			PALE				2241.0	2242.0	1				III
26	0553	0725	WEIS										
	0636	1501	POTS				0852.0	0855.0	1				I,W
			POTS				1020.9	1021.1	1				IIIG
			POTS				1102.8	1102.9	1				IIIB
	0635	1432	ONDR				1126.0	1126.1	1				UNCLF
			SGMR				1225.0	1225.0	1				III
			SVTO				1225.0	1225.0	1				III
			POTS				1225.6	1225.8	2				IIIB
	0735	1658	WEIS				1225.6	1225.7	2				IIIG
			SGMR				1239.0	1259.0	1				CONT
			SVTO				1240.0	1619.0	1				CONT
			WEIS				1240.2	1250.0	1				I,N
			ONDR	1323.1	1323.2	1							II
			SGMR				1325.0	1325.0	1				III
			POTS				1437.1	1444.6	3				II
			WEIS				1437.1	1439.0	2				II
			SGMR				1608.0	1609.0	1				III
			WEIS				1608.6	1608.8	1				IIIG
			PALE				2108.0	2110.0	2				III
			PALE				2129.0	2132.0	3				V
			SGMR				2130.0	2132.0	2				III
			PALE				2159.0	2159.0	1				III
27			LEAR				0413.0	0415.0	2				III
	0635	1431	ONDR										
	0625	1435	POTS				0939.0	0939.1	1				IIIB
			POTS				1153.3	1153.8	1				IIIG
			POTS				1201.3	1201.4	1				IIIB
	1222	1311	ONDR										
			POTS				1226.2	1226.5	1				IIIG
			POTS				1301.2	1301.5	1				IIIG
			POTS				1316.7	1317.1	1				IIIG

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

SEPTEMBER 1990

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
27			POTS				1319.3	1319.8	2				IIIG
			POTS				1325.7	1326.0	2				IIIG
			POTS				1410.9	1413.0	3				IIIG
			SGMR				1411.0	1413.0	2				V
	0552	1639	WEIS				1411.3	1412.9	2				IIIG
			SVTO				1412.0	1413.0	2				III
			SGMR				1434.0	1439.0	1				III
			SGMR				1528.0	1531.0	3				V
			SVTO				1528.0	1529.0	2				V
			WEIS				1528.1	1530.1	3				IIIG
			PALE				1814.0	1815.0	2				V
			SGMR				1814.0	1816.0	2				V
28			LEAR				0257.0	0259.0	2				III
	0559	1348	WEIS										
	0634	1431	ONDR	1409.1	1410.8	2	1409.1	1410.8	2				IIIG,U
	0629	1505	POTS				1409.7	1409.8	1				UNCLF
	1423	1646	WEIS										
			SGMR				1702.0	1702.0	1				III
			LEAR				2357.0	2357.0	1				III
29	0555	1642	WEIS										
	0641	1451	POTS				0918.0	0918.1	1				UNCLF
	0634	1403	ONDR	1035.0	1037.1	2	1035.8	1037.1	2				II
			LEAR				2252.0	2257.0	2				III
			PALE				2253.0	2256.0	2				V
			PALE				2357.0	2357.0	1				III
30			LEAR				0433.0	0434.0	1				III
	0558	1641	WEIS				0635.9	0641.8	2				IIIG
			WEIS				0651.3	0655.2	1				IIIG
	0635	1441	POTS				0732.8	0755.3	2				IIIGG
			LEAR				0734.0	0744.0	2				III
			POTS				0734.6	0755.0	3				II
			POTS				0734.6	0755.0	3				IV
			SVTO				0736.0	0742.0	2				IV
			POTS	0736.8	0738.0	1							DCIM,P
			LEAR				0746.0	0801.0	2				II
			SVTO				0746.0	0759.0	2				II
			POTS				0837.4	0837.6	1				IIIB
			POTS				0853.3	0853.8	1				I,DC
			POTS				0936.2	0936.5	2				IIIG
			POTS				1014.7	1015.9	1				IIIG,W
	0706	1402	ONDR	1050.0	1050.5	1	1103.9	1104.3	1				IIIG
			POTS				1050.1	1050.3	1				IIIG
			SVTO				1103.0	1105.0	3				III
			POTS				1103.8	1107.0	3				IIIGG,C
			WEIS				1103.9	1105.8	3				IIIG
			SGMR				1104.0	1106.0	2				V
			POTS				1117.0	1427.0U	2				I,S,DC
			ONDR				1304.4	1304.8	1				IIIG
			POTS				1304.7	1304.9	2				UNCLF
			SGMR				1514.0	1522.0	1				III
			WEIS				1514.7	1514.9	2				IIIG
			WEIS				1521.7	1522.1	3				IIIG
			PALE				2001.0	2002.0	3				V
			SGMR				2001.0	2003.0	2				V
			PALE				2227.0	2228.0	1				III
			LEAR				2228.0	2228.0	1				III

COSMIC RAY INDICES
(Neutron Monitor)

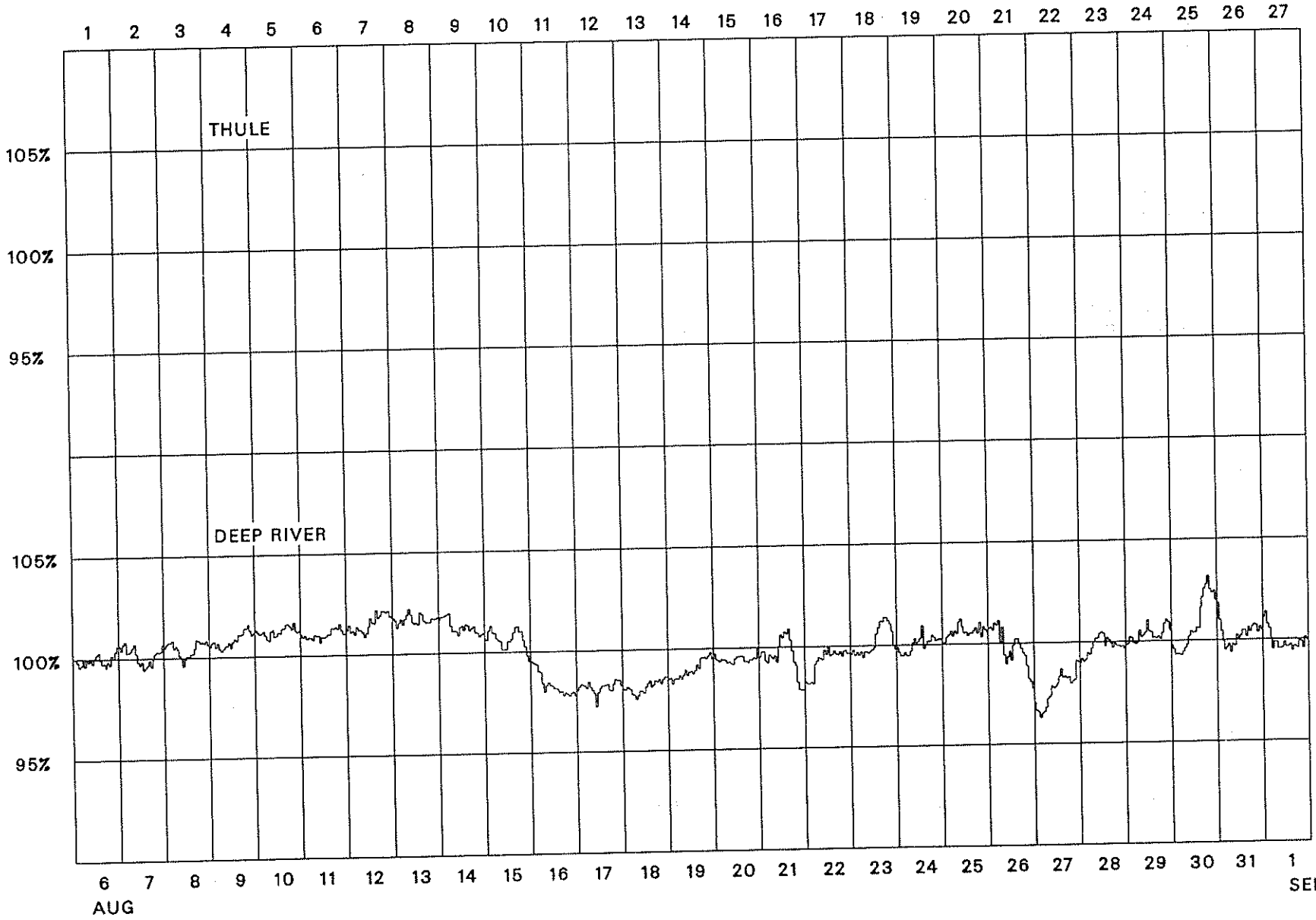
SEPTEMBER 1990

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		5870.8	5317.3	3337.1	3390.2	
2		5894.5	5320.6	3355.6	3396.9	
3		5916.5	5319.4	3350.0	3391.4	
4		5907.2	5333.4	3350.4	3383.1	
5		5936.3	5360.4	3380.9	3394.4	
6		5937.7	5359.3	3379.5	3395.7	
7		5934.5	5366.6	3385.4	3404.7	
8		5969.7	5365.7	3386.3	3416.7	
9		5985.5	5380.2	3409.1	3419.7	
10		5981.0	5389.8	3415.2	3415.2	
11		5941.8	5352.9	3391.3	3400.3	
12		5933.9	5345.9	3383.0	3397.2	
13		5960.2	5377.0	3402.6	3404.4	
14		5965.2	5385.5	3412.5	3411.5	
15		5964.7	5378.3	3413.1	3412.2	
16		5994.4	5384.4	3413.7	3408.3	
17		6020.7	5396.2	3428.5	3407.5	
18		6014.5	5397.6	3428.1	3416.1	
19		5967.5	5363.2	3409.8	3408.3	
20		5963.5	5364.5	3398.9	3421.1	
21		5972.5	5369.7	3401.5	3432.5	
22		5975.2	5382.6	3413.4	3435.0	
23		6008.2	5399.1	3417.5	3433.2	
24		6029.4	5413.4	3434.8	3439.7	
25		6038.2	5437.1	3447.1	3436.0	
26		6033.4	5432.3	3442.0	3437.7	
27		6031.1	5427.4	3447.2	3439.0	
28		6042.0	5422.6	3456.3	3438.7	
29		6085.2	5446.1	3479.8	3444.9	
30		6103.6	5469.5	3494.8	3445.6	
Mean		5979.3	5381.9	3409.2	3415.9	

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.

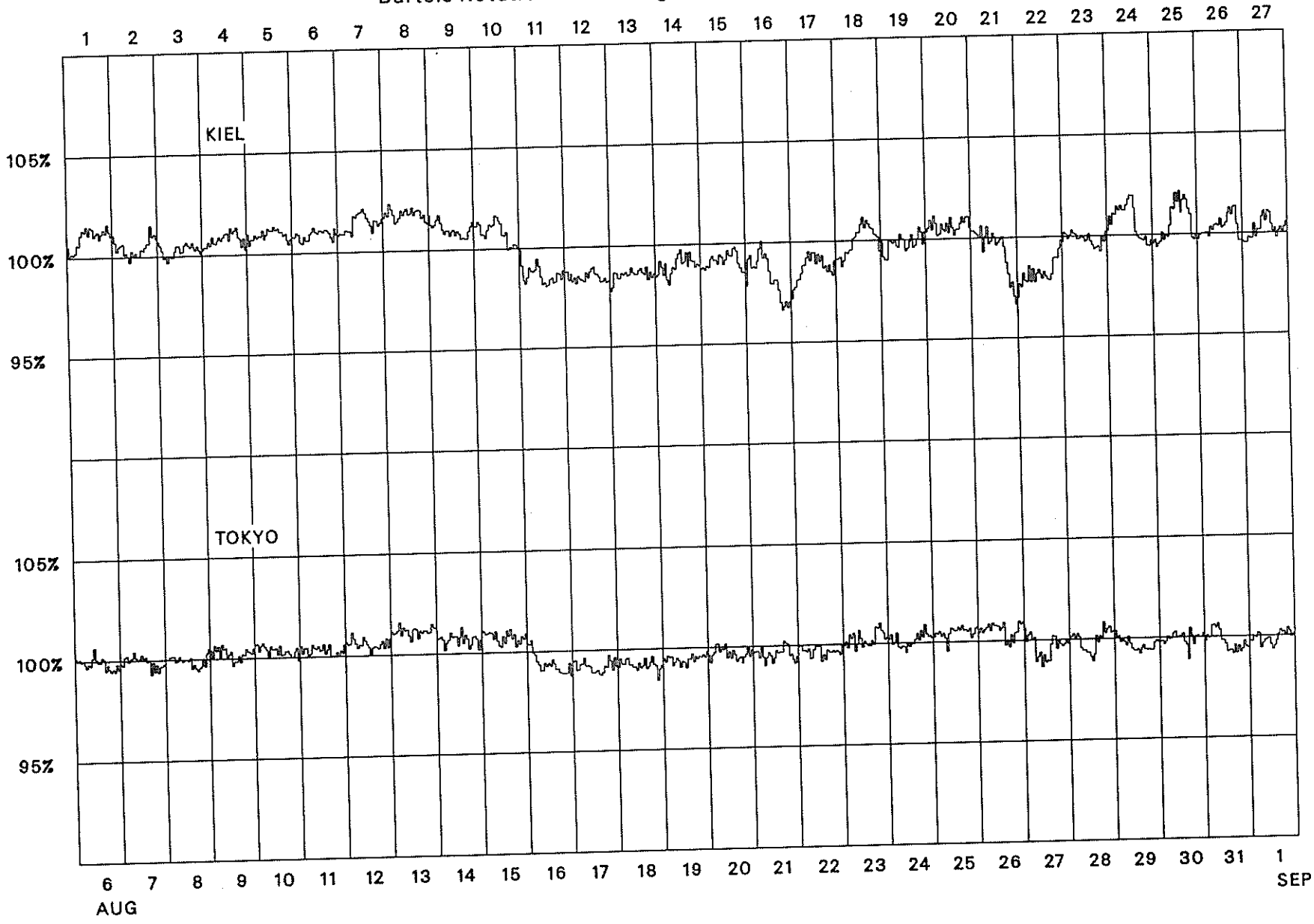
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2145 (August 1990-September 1990)



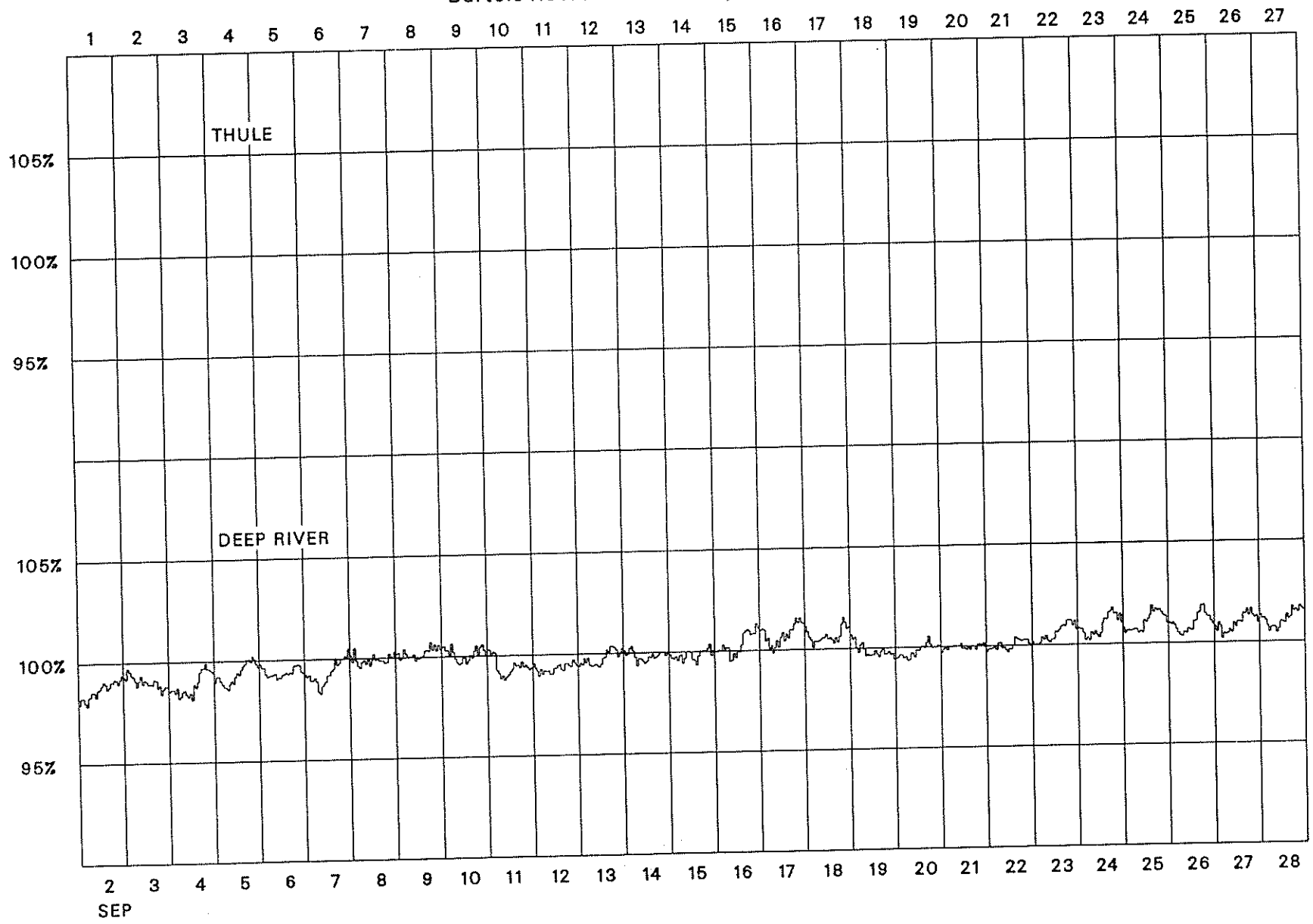
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2145 (August 1990-September 1990)



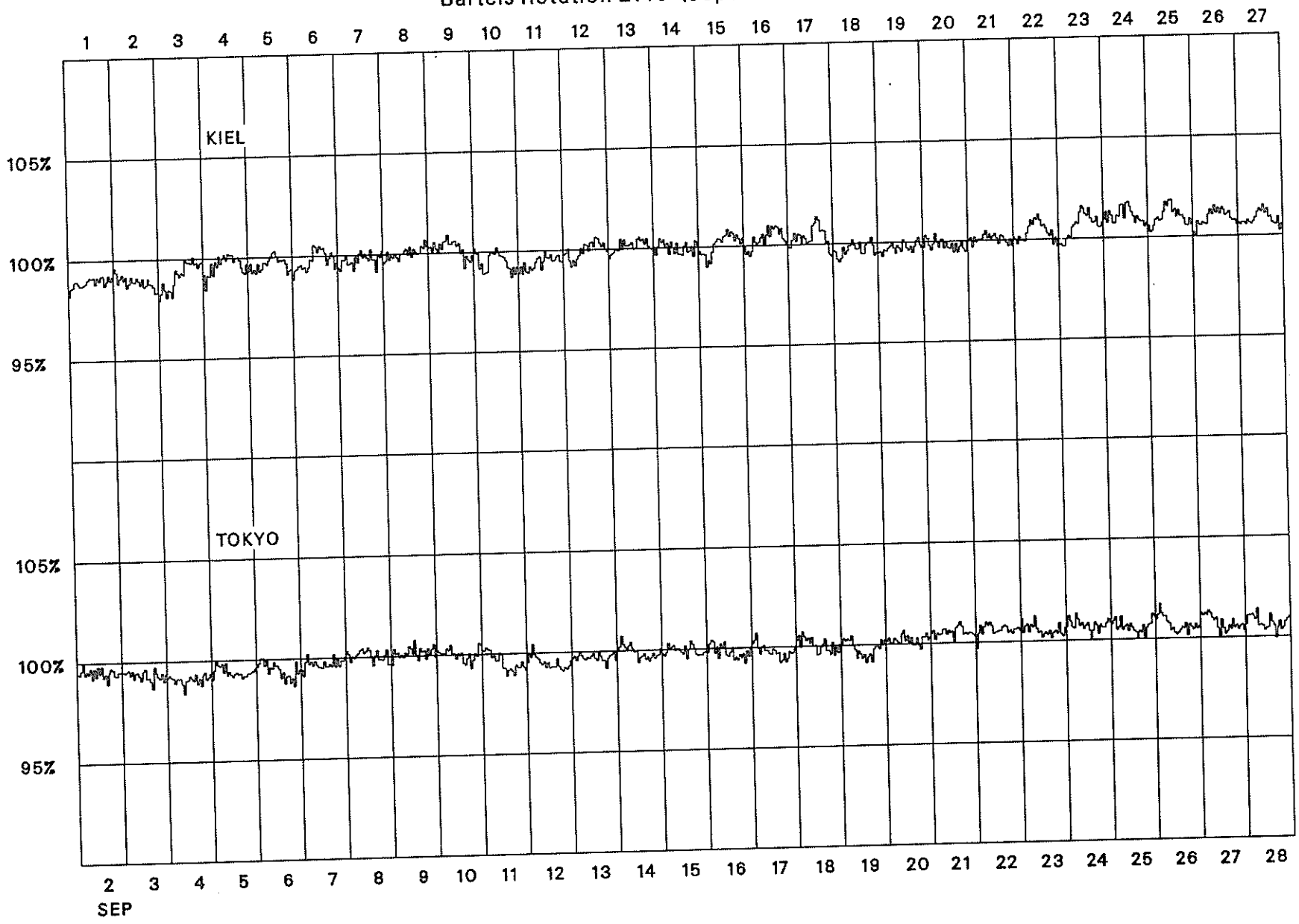
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2146 (September 1990)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2146 (September 1990)



139
Sep 90

GEOMAGNETIC ACTIVITY INDICES

September 1990

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	D4	2+ 3- 1 4	7- 4 3- 1+	25-	26	1.2						
2	Q1	1- 0+ 0+ 1-	1- 0 1- 0	3+	2	0.0						
3	Q2	0 1- 1- 2-	2- 1- 1 1	7+	4	0.1						
4	Q6A	1- 1- 1 2	2 3- 2+ 3+	15-	8	0.4						
5		3+ 3- 2+ 2+	3- 2+ 2 2+	20	11	0.6						
6		3 2 3+ 3	3- 2+ 2+ 2+	21	12	0.7						
7		3 3- 3 3+	3+ 4- 1+ 2	22+	14	0.8						
8	Q7A	2+ 2 2- 2-	2- 2+ 2+ 3	17	8	0.5						
9	Q9A	3- 2+ 1+ 3-	3- 2 3- 2+	19-	10	0.5						
10	Q10A	3 2+ 2+ 0+	1- 1 3 4+	17	11	0.6						
11	D1	3- 3+ 4 4-	4 4 4 5-	30+	25	1.2						
12		4 4 3 3+	3- 3 4- 3	27-	19	1.0						
13		5- 3 2- 3+	3+ 3+ 3- 4	26	19	1.0						
14		4 4 3+ 3+	3+ 3+ 3+ 2+	27	19	1.0						
15	D3	3+ 4 3 4	5- 4- 3+ 2+	28+	22	1.1						
16	D2	4- 3+ 4 5	4 3+ 2 3	28+	23	1.1						
17		3- 3 3 3-	2+ 2 3 3	22-	12	0.7						
18		1 3- 3+ 4	4- 4 4 3+	26	19	1.0						
19		4+ 3+ 3- 2-	2- 4- 3- 4-	24-	16	0.9						
20		4 2 1 1+	1+ 2 3 5+	20	16	0.9						
21		4- 2+ 2+ 3+	3 3- 3 3+	24-	15	0.8						
22	D5	3+ 4 4- 2	3+ 4- 4- 4-	27+	20	1.0						
23		4- 4 3 2+	2 3- 1+ 1+	20+	13	0.7						
24		1+ 3- 3+ 2+	3+ 4- 3- 2	21+	13	0.7						
25		3+ 3+ 2+ 2-	1 2- 3+ 3-	19+	11	0.7						
26		2+ 3 2 2	3 3 3+ 2	21-	12	0.7						
27	Q5A	3- 2+ 3- 2-	2+ 2- 1 1+	16-	8	0.4						
28	Q8A	3+ 3 1 2+	3- 1- 1+ 2-	16	9	0.5						
29	Q4A	3- 2+ 2 2	1+ 0 1+ 2+	14	7	0.3						
30	Q3	2+ 1- 1- 1-	1- 1- 2 2-	9+	5	0.2						
Mean					14	0.71						

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	Prov Sa	Ri	Ra	Rs	IMF
1							171.4	126	125	123	
2							168.9	116	124	120	
3							162.6	131	135	114	
4							158.2*	134	141	109	
5							157.5	118	119	108	
6							157.6	118	114	108	
7							165.1	103	107	116	
8							163.5	112	104	115	
9							170.4	113	112	123	
10							171.2	121	118	123	
11							180.6	116	113	133	
12							193.3	124	127	147	
13							198.0	142	139	152	
14							209.4*	178	164	164	
15							207.3	162	158	162	
16							205.2	156	162	160	
17							210.7	142	144	166	
18							207.5	136	138	162	
19							213.8	151	143	169	
20							204.0	135	142	158	
21							203.2	139	138	157	
22							195.3	130	133	149	
23							185.4	110	113	138	
24							178.7	101	101	131	
25							167.1	101	97	118	
26							159.6	93	95	110	
27							152.6	77	95	103	
28							152.1	113	119	102	
29							150.1	119	127	100	
30							157.8	124	118	108	
Mean							179.3	124.7	125.6	131.6	

DAILY AVERAGE INDICES Ap

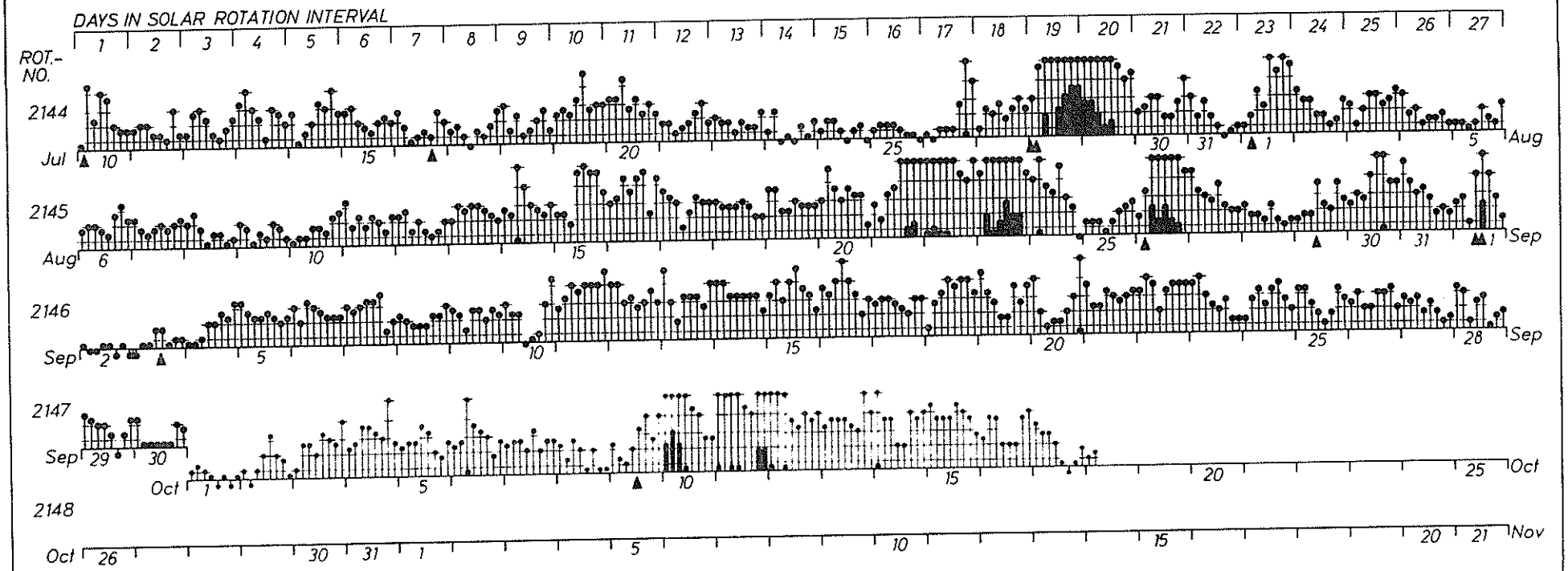
October 1989 to September 1990

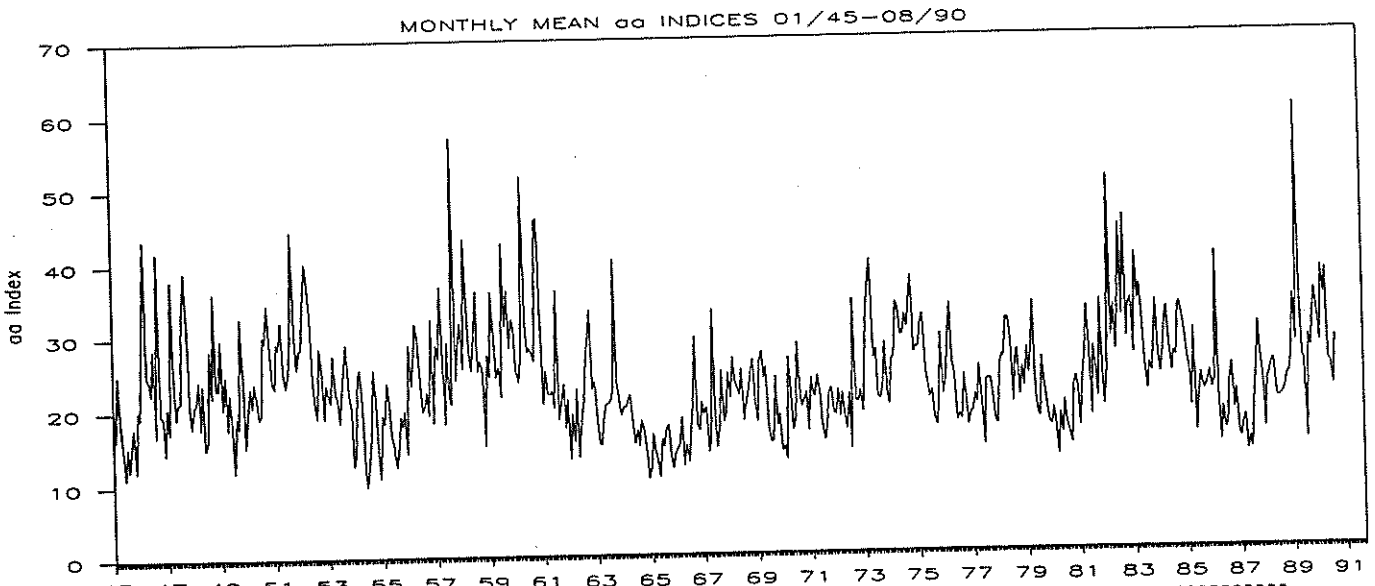
DAY	1989 OCT	NOV	DEC	1990 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8	38	16	22	20	6	8	10	5	26	26
2	9	21	22	17	25	14	11	10	6	6	9	2
3	12	26	26	15	8	10	17	18	6	7	11	4
4	6	28	31	12	28	6	10	12	5	8	6	8
5	5	19	14	17	24	11	10	10	5	10	5	11
6	10	11	5	7	10	21	7	5	10	7	9	12
7	12	19	10	6	25	8	8	7	22	6	7	14
8	9	15	6	11	8	10	6	11	16	10	6	8
9	11	25	4	14	7	8	34	16	32	5	5	10
10	12	10	3	16	8	8	124	33	17	14	6	11
11	7	18	6	18	10	14	64	24	11	7	9	25
12	8	10	8	15	6	42	99	7	89	8	7	19
13	1	43	7	9	9	29	38	11	70	13	12	19
14	1	14	12	8	30	26	45	3	79	12	19	19
15	4	6	10	9	36	11	24	5	9	8	26	22
16	10	5	16	10	50	7	10	3	5	7	25	23
17	12	109	11	9	33	3	40	4	3	6	15	12
18	17	45	7	8	23	35	24	31	10	8	12	19
19	24	8	6	4	33	16	9	18	6	16	14	16
20	112	8	6	14	38	30	18	20	2	16	19	16
21	146	12	8	17	16	76	13	22	5	7	38	15
22	51	6	26	19	21	28	16	32	6	6	49	20
23	22	6	15	20	36	29	37	11	7	4	77	13
24	17	8	20	32	29	18	30	8	8	4	24	13
25	23	2	16	19	29	39	19	20	7	4	6	11
26	24	11	22	10	19	41	16	47	7	14	63	12
27	17	16	25	4	26	34	15	45	12	9	15	8
28	9	28	10	7	31	24	20	7	7	102	6	9
29	13	19	50	24		27	30	10	8	75	11	7
30	23	20	30	24		69	19	23	4	12	26	5
31	14		35	18		7		11		6	16	
MEAN	21	19	16	14	23	23	27	16	16	14	19	14

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

Kp through September 30, 1990

University of Göttingen





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					29.5

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

SEPTEMBER 1990

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	SC Amplitudes H (Gamma)	SC Amplitudes Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges K	Ranges D (Min)	Ranges H (Gamma)	Ranges Z (Gamma)	End Day	End Hour (UT)
FRD	49.6N	01	1024	SC	- 1	11	- 3	01(5)	6	22	145	36	01	21
HYB	07.6N	01	1024	SC	- .5	10	- 1		-	--	--	--	--	--
HYB	07.6N	01	1239	SC	- 1.3	63	- 3		-	--	--	--	--	--
GUA	04.0N	01	1238	SC	- 1.2	73	- 19	01(5)	6	--	100	20	01	19
ETT	00.6S	01	1238	SC	- 1.8	58	55		-	--	--	--	--	--
CNB	43.9S	01	10--	..	..	..	..	01(5)	6	14	131	61	01	20
KGL	56.5S	01	1239	SC	17	88	44	01(5)	4	17	110	64	01	23
HYB	07.6N	05	0500	..	..	..	..	07(5,6)	4	8	125	31	07	20
GUA	04.0N	05	00--	..	..	..	..	05(1)	5	10	90	20	05	08
ETT	00.6S	07	0000	..	..	..	..		-	9	173	39	07	20
FRD	49.6N	10	20--	..	..	..	..	12(1) 13(1)	5	20	121	54	17	16
GUA	04.0N	10	22--	..	..	..	..	11(3)	5	10	150	10	11	16
KGL	56.5S	10	2027	SC	4	48	24	11(8)	6	30	264	184	12	11
BJI	28.5N	11	0535	SC	.6	27	0	11(3)	5	10	121	68	11	24
HYB	07.6N	11	0538	SC	- .1	11	- 2	11(3,5)	5	8	166	40	13	04
ETT	00.6S	11	05--	SC	..	..	..		-	8	276	91	14	22
HYB	07.6N	13	1200	..	..	..	..	15(5) 16(4)	5	8	110	46	16	21
ETT	00.6S	15	0100	..	..	..	..		-	7	220	69	16	21
CNB	43.9S	15	11--	..	..	..	..	15(4,5)	5	20	86	45	16	18
GUA	04.0N	16	00--	..	..	..	..	16(1)	5	10	140	30	16	17
GUA	04.0N	18	08--	..	..	..	..	18(4)	5	--	70	20	18	17
ETT	00.6S	18	0300	..	..	..	..		-	6	204	55	19	23
GUA	04.0N	19	00--	..	..	..	..	19(1)	5	10	50	30	19	09
GUA	04.0N	19	22--	..	..	..	..	20(1)	5	10	110	30	20	06
GUA	04.0N	20	21--	..	..	..	..	21(1)	5	10	130	30	21	12

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

C O N T E N T S

Prompt Reports | LATE DATA | Number 555 | Part I

SOLAR RADIO EMISSION
Spectral Observations

JULY 1990

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	0710	CULG				0028.5	0028.5	1				IIIB
			CULG				0136.5	0136.5	1				IIIB
			CULG				0226.5	0229.0	1	0226.5	0229.0	1	IIIG
			CULG				0227.0	0230.0	2	0227.0	0229.0	1	V
			CULG				0242.0	0253.0	1				IIIB,N
			CULG				0243.5	0244.0	2				IIIG
			CULG				0253.5	0253.5	2				IIIB
			CULG				0438.5	0438.5	1				IIIB
			CULG				0536.5	0536.5	1				IIIG
			CULG				0634.0	0634.0	1				IIIB
	2050	2400	CULG										
02	0000	0705	CULG				0103.0	0103.0	1				IIIB
			CULG				0111.0	0500.0	1				I CDC
			CULG				0332.0	0428.0	1				IIIB,N
			CULG				0433.0	0444.0	1				IIIB,N
			CULG				0457.0	0457.5	2				IIIG
			CULG				0500.0		2				I,C
			CULG				0508.5	0508.5	1				IIIB
			CULG				0513.0	0607.0	1				IIIS
	2050	2400	CULG				2113.0	2255.0	1				IIIN
			CULG				2200.0	2208.0	1				II B
			CULG				2207.0	2207.0	1				IIIB
			CULG				2209.0	2242.0	1				IIIN
03	0000	0705	CULG				0021.0	0025.0	1				IIIG
			CULG				0038.0	0105.0	1				IIIN
			CULG				0125.0	0159.0	1				IIIN
			CULG				0203.0	0205.0	3	0203.0	0205.0	3	IIIG
			CULG				0213.0	0705.0	1				IIIN
			CULG				0302.0	0302.0	3	0302.0	0302.0	3	IIIB
			CULG				0419.0	0421.0	3	0419.0	0421.0	3	V B
			CULG				0422.0	0423.0	1				IIIG
			CULG				0606.0	0606.0	2				IIIB
	2050	2400	CULG				2110.0	2400.0	1				IC
			CULG				2145.0	2241.0	1				IIIS
			CULG				2208.0	2209.0	1				IIIG
			CULG				2241.0	2400.0	1				IIIS
04			CULG				0000.0	0705.0	1				IC
	0000	0705	CULG				0000.0	0010.0	1				IIIS
			CULG				0003.0	0003.0	2	0003.0	0003.0	2	IIIB
			CULG				0010.0	0705.0	1				IIIS
			CULG				0538.0	0603.0	2				IIIN
	2050	2400	CULG				2212.0	2323.0	1				IIIS
			CULG				2216.0	2219.0	2				II B
			CULG				2351.5	2351.5	2	2351.5	2351.5	1	IIIB
05	0000	0705	CULG				0003.0	0142.0	1				IIIN
			CULG				0222.0	0222.0	2				IIIB
			CULG				0332.0	0430.0	1				IIIS
			CULG				0419.0		2				I S
			CULG				0529.0	0531.0	2				IIIG
			CULG				0626.0	0626.0	2				III PAIR
	2050	2400	CULG				2105.0		1				I C
			CULG				2138.0	2305.0	2				IIIN
06	0000	0705	CULG				0000.0E		1				I C
			CULG				0022.0	0124.0	1				IIIN
			CULG				0124.0	0642.0	2				IIIS
	2050	2400	CULG				2105.0		1				I C
			CULG				2342.0	2343.5	1				IIIG
07			CULG				0038.0	0038.0	1				IIIB
			CULG				0230.5	0230.5	1				IIIB
			CULG				0419.0	0419.0	2				III PAIR
			CULG				0629.0	0641.0	2				II
	0000	0705	CULG				0629.0E	0629.0	1				I C
			CULG				0629.5	0656.0	2				I C

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

JULY 1990

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
07	2050	2400	CULG				2109.0		1				I C
08	0000	0710	CULG				0000.0E		1				I C
			CULG				0021.0	0021.0	1				IIIB
			CULG				0506.5	0519.5	1				IIIB,N
			CULG				0516.5	0516.5	2				IIIB
			CULG				2131.0	2132.0	1				IIIG
	2050	2400	CULG				2203.0	2214.0	2				IIIG,B,N
			CULG				2241.0	2242.0	1				IIIG
09	0000	0710	CULG				0140.0	0425.0	1				I CDC
			CULG				0243.0	0243.5	2	0243.0	0243.0	1	IIIG
			CULG				0244.0	0244.5	1				IIIG
			CULG				0346.5	0346.5	1				IIIB
			CULG				0457.0	0524.0	1				IIIB,N
			CULG				0510.0	0519.0	2				III GBN
			CULG				2105.0	2225.0	2				C
	2050	2400	CULG				2225.0		1				C
			CULG										
10	0000	0710	CULG				0000.0E	0015.0	1				C
	2050	2400	CULG				2308.0	2308.0	1	2308.0	2308.0	1	IIIB
11	0000	0710	CULG				0541.0	0541.5	1				V
	2050	2400	CULG										
12	0000	0710	CULG										
	2050	2400	CULG										
13	0000	0710	CULG										
	2050	2400	CULG				2154.0	2154.0	2				IIIG
			CULG				2226.0	2226.0	3				IIIB
			CULG				2245.0	2245.0	1				IIIB
14	0000	0710	CULG				0024.0	0025.0	2				III PAIR
			CULG				0337.0	0339.0	1				IIIG
			CULG				0401.0	0403.0	1				IIIG
			CULG				0520.0	0521.0	1				IIIG
			CULG				0612.0	0613.0	1				IIIG
			CULG				0634.0	0634.0	1				IIIG
	2050	2400	CULG										
15	0000	0715	CULG										
	2050	2400	CULG										
16	0000	0710	CULG										
	2050	2400	CULG				2216.0	2216.0	2				IIIB
			CULG				2342.0	2342.0	2				IIIB
17	0000	0715	CULG				0143.0	0143.0	1				IIIB
			CULG				0405.5	0406.0	1				III PAIR
			CULG				0412.0	0414.0	3	0413.0	0414.0	1	IIIG
			CULG				0422.0	0422.5	1				III PAIR
			CULG				0458.0	0502.0	1				IIIG
			CULG				0643.5	0643.5	2				IIIB
			CULG				0649.0	0649.0	2				IIIB
	2110	2400	CULG				2129.0	2129.0	1				IIIB
18	0000	0715	CULG				0151.0	0152.0	1				IIIG
			CULG				0607.0	0607.0	1				IIIB
	2045	2400	CULG				2128.0	2129.0	1				IIIG
19	0000	0715	CULG										
	2045	2400	CULG				2149.0	2149.0	1				IIIB
			CULG				2240.0	2240.0	1				IIIB
20	0000	0715	CULG				0115.0	0115.0	1				IIIB
			CULG				0503.0	0507.0	1				IIIN
			CULG				0518.0	0519.0	2				IIIB
			CULG				0601.0	0601.0	2				IIIG

SOLAR RADIO EMISSION
Spectral Observations

JULY 1990

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			CULG				0618.0	0618.0	1				IIIG
			CULG				0711.0	0711.0	1				IIIB
	2045	2400	CULG				2147.0	2147.0	1				IIIB
			CULG				2306.0	2319.0	1				IIIN
21	0000	0715	CULG				0000.0	0030.0	1				IIIN
			CULG				0049.0	0124.0	2				IIIN
			CULG				0136.0	0224.0	1				IIIN
			CULG				0210.0	0211.0	2				IIIG
			CULG				0314.0	0315.0	3				IIIG
			CULG				0321.0	0321.0	1				IIIB
			CULG				0324.0	0328.0	3	0324.0	0328.0	1	IIIGG
			CULG				0400.0	0402.0	2	0400.0	0402.0	1	IIIG
			CULG				0410.0	0427.0	1				IIIN
			CULG				0434.0	0451.0	1				IIIN
			CULG				0533.0	0534.0	3				IIIG
			CULG				0555.0	0556.0	3				IIIG
			CULG				0705.0	0706.0	1				IIIG
	2045	2400	CULG				2103.0	2103.0	1				IIIB
			CULG				2126.0	2129.0	1				IIIN
			CULG				2243.0	2243.0	2				IIIB
22	0000	0715	CULG				0525.0	0525.0	1				IIIB
			CULG				0531.0	0531.0	1				IIIB
	2045	0000	CULG				2136.0	2137.0	1				IIIG
			CULG				2157.0	2159.0	3				IIIGG
			CULG				2159.0	2216.0	1				IIIN
			CULG				2357.0	2358.0	2				III PAIR
23	0000	0720	CULG				0003.0	0006.0	3	0003.0	0006.0	2	IIIGG
			CULG				0134.0	0134.0	2				IIIB
			CULG				0219.0	0219.5	1				III PAIR
			CULG				0258.0	0259.0	1				IIIG
			CULG				0408.0	0412.0	1				UNCLF
			CULG				0412.0	0417.0	1				IIIG
			CULG				0431.5	0436.5	2				IIIGG
	2045	2400	CULG				2124.0	2124.0	1				IIIB
			CULG				2129.0	2129.0	1				IIIB
24	0000	0720	CULG				0129.0	0129.0	2				IIIB
			CULG				0132.0	0132.0	1				III PAIR
			CULG				0213.0	0213.0	1				IIIB
			CULG				0219.0	0219.0	1				IIIB
			CULG				0228.5	0230.5	1	0230.0	0230.0	1	IIIGG
			CULG				0308.5	0310.0	2				IIIG
			CULG				0319.0	0319.0	1				III PAIR
			CULG				0358.0	0358.0	1				III PAIR
			CULG				0404.0	0404.0	1				IIIB
			CULG				0417.0	0419.0	2				IIIGG
			CULG				0424.5	0425.0	2				III PAIR
			CULG				0427.0	0427.0	2				IIIB
			CULG				0441.0	0442.0	2				IIIG
			CULG				0452.0	0452.0	1				IIIB
			CULG				0512.0	0512.0	1				IIIB
			CULG				0558.0	0600.0	2				IIIG
			CULG				0603.0	0603.0	1				IIIB
			CULG				0604.0	0604.0	1				IIIB
			CULG				0616.0	0616.0	1				IIIB
			CULG				0624.0	0624.0	2				IIIB
			CULG				0647.0	0650.0	1				IIIG
			CULG				0657.0	0658.0	1				IIIG
	2045	2400	CULG				2057.0		1				IIIN
			CULG				2107.0	2109.0	2				IIIG
			CULG				2146.5	2146.5	2				IIIB
			CULG				2202.0	2205.0	1				IIIGG
			CULG				2241.5	2242.5	2				III PAIR
25			CULG				0208.0	0209.0	1				IIIG
			CULG				0451.0	0452.0	1				IIIG

SOLAR RADIO EMISSION
Spectral Observations

JULY 1990

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
25	0000	0720	CULG				0522.0E	0522.0	1				IIIN
			CULG				0547.0	0548.0	1				IIIG
			CULG				0651.5	0652.0	1				IIIG
	2045	2400	CULG				2140.5	2141.0	1				IIIG
			CULG				2233.0	2233.0	1				IIIB
			CULG				2236.0	2236.0	1				IIIB
			CULG				2305.0	2305.0	1				IIIB
			CULG				2311.0	2311.0	1				IIIB
			CULG				2312.0	2313.0	1				UNCLF
			CULG				2315.0	2316.0	1				UNCLF
			CULG				2318.5	2324.0	3	2318.5	2324.0	1	IIIS
			CULG				2321.0	2321.0	2				IIIB
			CULG				2326.5	2333.0	1	2326.5	2333.0	1	IV
26	0000	0720	CULG				0008.5	0009.0	1				III PAIR
			CULG				0011.0	0011.0	1				IIIB
			CULG				0056.0	0057.0	2				IIIG
			CULG				0113.0	0115.0	3	0113.0	0114.0	1	IIIG
			CULG				0126.0	0126.0	1				IIIB
			CULG				0254.0	0254.0	1				IIIB
			CULG				0332.0	0332.0	1				IIIB
			CULG				0351.0	0351.0	1				IIIB
			CULG				0610.5	0614.0	2				IIIGG
	2045	2400	CULG				2055.0	2327.0	1				IC
			CULG				2127.0	2252.0	1				IIIN
			CULG				2152.0	2153.0	1				III PAIR
			CULG				2155.0	2227.0	1				IIIN
			CULG				2202.0	2204.0	2				IIIG
27	0000	0720	CULG				0004.0	0004.0	1				IIIB
			CULG				0025.0	0026.0	1				IIIG
			CULG				0040.0	0050.0	3	0048.0	0050.0	1	IIIG
			CULG				0043.0	0116.0	1				IIIN
			CULG				0057.0		1				IC
			CULG				0258.0	0259.0	3	0258.0	0259.0	1	IIIB
			CULG				0300.0	0601.0	1				IIIN
			CULG				0556.0	0559.0	3				IIIG
			CULG				2201.0	2201.0	1				IIIB
	2045	2400	CULG				2233.0	2233.0	1				IIIB
			CULG				2258.0	2258.0	1				IIIB
			CULG				2302.0	2304.0	1				IIIG
			CULG				2308.0	2309.0	1				IIIG
			CULG				2334.0	2335.0	1				IIIG
28	0000	0720	CULG				0009.0	0154.0	1				IIIN
			CULG				0059.0	0100.0	3	0059.0	0100.0	1	IIIB
			CULG				0141.0	0144.0	2	0141.0	0144.0	1	III PAIR
			CULG				0215.0	0216.0	2	0215.0	0216.0	1	IIIG
			CULG				0311.0		1				IIIN
			CULG				0318.0	0320.0	1				IIIG
			CULG				0418.0	0419.0	1				IIIG
			CULG				0644.0	0644.0	1				IIIG
	2045	2400	CULG				2104.0	2104.0	1				IIIB
			CULG				2118.0	2125.0	3				IIIGG
			CULG				2125.0	2133.0	1				IIIN
			CULG				2315.0	2323.0	1				IIIN
29	0000	0720	CULG				0004.0	0056.0	1				IIIN
			CULG				0016.0	0019.0	2				IIIG
			CULG				0224.0	0224.0	1				IIIB
			CULG				0253.0	0253.0	1				IIIN
			CULG				0410.0	0411.0	2				III PAIR
			CULG				0428.0	0454.0	1				IIIN
			CULG				0543.0	0605.0	1				IIIN
			CULG				0553.0	0554.0	1				IIIG
	2045	2400	CULG				2147.0	2147.0	1				IIIB
			CULG				2216.0	2219.0	1				IIIG
30	0000	0720	CULG				0036.0	0225.0	1				IIIN

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

JULY 1990

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
30		CULG				0051.0	0131.0	1				IIIN
		CULG				0115.0	0129.0	1				UNCLF
		CULG				0243.0	0244.0	1				IIIB
		CULG				0301.0	0302.0	1				IIIG
		CULG				0306.0	0707.0	1				IIIN
		CULG				0345.0	0347.0	1				UNCLF
		CULG				0506.0	0507.0	1				IIIB
		CULG				0608.0	0608.0	1				IIIB
		CULG							0709.0	0720.0		SWF
		CULG				0715.0	0730.0	1				II B
		CULG				0718.0	0721.0	3				IIIG
	2045	2400 CULG				2101.0	2126.0	1				IN
		CULG				2210.0	2212.0	2				IIIG
		CULG				2227.0	2227.0	2				IIIB
		CULG				2302.0	2303.0	1				III PAIR
		CULG				2334.0	2334.5	1				III PAIR
		CULG				2337.0	2337.0	1				IIIB
31	0000	0720 CULG				0001.0	0002.0	1				IIIG
		CULG				0004.0	0005.0	1				III PAIR
		CULG				0052.0	0056.0	1				IIIN
		CULG				0241.5	0241.5	1	0241.5	0241.5	1	IIIB
	2045	2400 CULG										

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

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 1990

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	0720	CULG				0035.0	0035.0	1				IIIB
			CULG				0517.0	0517.0	1				IIIB
	2045	2400	CULG				2252.0	2252.0	1				IIIB
			CULG				2350.5	2351.5	1				IIIG
02	0000	0725	CULG				0525.5	0526.0	3				IIIB
	2045	2400	CULG										
03	0000	0720	CULG				0058.0	0058.0	1				IIIB
			CULG				0059.0	0059.0	1				IIIB
			CULG				0556.5	0557.5	1				IIIG
	2045	2400	CULG				2227.0	2227.0	1				IIIB
04	0000	0720	CULG				0009.5	0009.5	1				IIIB
			CULG				0607.5	0608.0	1				IIIG
	2045	2400	CULG				2116.5	2117.0	1				IIIPAIR
			CULG				2133.0	2135.0	2				IIIG
			CULG				2141.0	2144.0	1				IIIBN
05	0000	0720	CULG				0335.5	0336.0	1				IIIPAIR
	2045	2400	CULG				2254.0	2254.0	1				IIIB
06	0000	0720	CULG				0306.0	0307.0	2	0306.0	0307.0	1	IIIG
			CULG				0310.0	0311.0	1				IIIG
			CULG				0313.0	0313.0	1				IIIB
	2045	2400	CULG										
07	0000	0725	CULG				0434.0	0454.0	1				IIIN
	2045	2359	CULG										
08	0000	0725	CULG				0212.0	0415.0	1				IIIN
			CULG				0223.0	0225.0	1				IIIG
			CULG				0246.0	0249.0	1				IIIG
	2045	2359	CULG				2320.0	2325.0	1				IIIN
09	0000	0730	CULG				0334.0	0334.0	1				IIIB
	2045	2359	CULG										
10	0000	0730	CULG				0031.0	0031.0	1				IIIB
			CULG				0155.0	0156.0	1				IIIB
	0000	0730	CULG				0310.0	0310.0	1				IIIB
			CULG				0715.0	0720.0	1				IIIG
	2045	2400	CULG				2209.0	2209.0	1				IIIB
			CULG				2219.0	2219.0	1				IIIB
			CULG				2348.0	2348.0	1				IIIB
11	0000	0730	CULG				0254.5	0254.5	1				IIIB
			CULG				0300.0	0300.0	1				IIIB
	2045	2400	CULG										
12	0000	0358	CULG				0118.0	0118.0	1	0118.0	0118.0	1	IIIB
	0410	0730	CULG										
	2045	2359	CULG				2329.0	2334.0	2				IIIG
13	0000	0730	CULG				0002.0	0126.0	1				IIIN
			CULG				0003.0	0003.0	1				IIIB
			CULG				0255.0	0258.0	1				IIIG
			CULG				0258.0	0300.0	3	0258.0	0300.0	1	IIIG
			CULG				0331.0	0331.0	1				IIIB
			CULG				0401.0	0402.0	1				IIIG
			CULG				0519.0	0520.0	1				IIIB
			CULG				0527.0	0527.0	1				IIIG
			CULG				0634.0	0636.0	3				VB
			CULG				0637.0	0638.0	1				IIIG
	2045	2359	CULG										
14	0000	0735	CULG				0058.0	0059.0	1				IIIG
			CULG				0235.0	0236.0	1				IIIG
	2045	2359	CULG				2205.0	2206.0	1				IIIG

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 1990

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
14			CULG				2251.0	2252.0	1				IIIB
			CULG				2259.0	2259.0	1				IIIB
15	0000	0735	CULG										
	2045	2400	CULG				2107.0	2107.0	1				IIIB
16	0000	0735	CULG				0213.0	0213.0	2				IIIB
			CULG				0402.0	0403.0	1				IIIG
			CULG				0405.5	0405.5	1				IIIB
			CULG				0655.0	0655.0	1				IIIB
	2040	2400	CULG				2053.0	2125.0	1				IIIBN
			CULG				2238.5	2240.5	1				IIIG
			CULG				2256.0	2257.0	1				IIIG
			CULG				2348.0	2348.0	1				IIIB
			CULG				2349.5	2349.5	1				IIIB
17	0000	0735	CULG				0141.0	0143.0	1				IIIG
			CULG				0235.5	0235.5	1				IIIB
			CULG				0259.0	0259.0	1				IIIB
			CULG				0332.0	0405.0	1				IIIBN
			CULG				0355.5	0336.0	1	0336.0	0336.0	1	IIIPAIR
			CULG				0419.0	0419.0	1				IIIB
			CULG				0427.0	0427.0	1				IIIB
			CULG				0525.5	0526.0	2				IIIV
			CULG				0628.0	0657.0	1				IIIBN
	2040	2359	CULG				2120.0	2120.0	1				IIIB
			CULG				2258.0	2258.0	1				IIIB
18	0000	0735	CULG				0024.0	0025.0	1				IIIG
			CULG				0056.0	0056.0	1				IIIG
			CULG				0258.0	0258.0	1				IIIB
			CULG				0353.0	0353.0	1				IIIB
			CULG				0434.0	0434.0	1				IIIB
			CULG				0506.0	0506.0	1				IIIB
	2040	2359	CULG				2149.0	2153.0	1				IIIN
			CULG				2332.0	2332.0	1				IIIB
19	0000	0735	CULG				0136.0	0136.0	1	0136.0	0136.0	1	IIIB
			CULG				0150.0	0151.0	1				IIIG
			CULG				0159.0	0159.0	1				IIIB
			CULG				0219.0	0219.0	2	0219.0	0219.0	1	IIIG
			CULG				0225.0	0225.0	2	0225.0	0225.0	2	IIIG
			CULG				0305.0	0305.0	3				IIIB
			CULG				0314.0	0317.0	2	0314.0	0317.0	2	IIIG
			CULG				0318.0	0319.0	2				VB
			CULG				0343.0	0343.0	1				IIIB
			CULG				0344.0	0346.0	2	0344.0	0346.0	1	IIIG
			CULG				0345.0	0345.0	2	0348.0	0348.0	1	IIIB
			CULG				0538.0	0538.0	1				IIIB
			CULG				0603.0	0607.0	1				IIIG
			CULG				0708.0	0710.0	1				IIIG
	2040	2359	CULG				2054.0	2100.0	2				IIIGG
			CULG				2101.0	2114.0	1				IIIN
			CULG				2201.0	2201.0	2				IIIG
			CULG				2210.0	2210.0	2				IIIB
			CULG				2256.0	2306.0	1				IIIN
20	0000	0735	CULG				0014.0	0014.0	1				IIIG
			CULG				0058.0	0059.0	1				IIIG
			CULG				0143.0	0144.0	1	0143.0	0144.0	1	IIIB
			CULG				0227.0	0255.0	1				IIIS
			CULG				0232.0	0234.0	1				IIIN
			CULG				0252.0	0254.0	1				IIIG
			CULG				0324.0	0421.0	1				IIIN
			CULG				0352.0	0352.0	1				IIIB
			CULG				0408.0	0408.0	1	0408.0	0408.0	1	IIIG
			CULG				0559.0	0559.0	1				IIIB
			CULG				0559.0	0559.5	2				IIIB
			CULG				0630.0	0630.0	1				IIIB

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 1990

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			CULG				0657.0	0658.0	1				IIIG
			CULG				0658.0	0659.0	2				IIIG
	2040	2400	CULG				2346.0	2348.0	1				IIIG
21	0000	0735	CULG				0051.0	0051.0	1	0051.0	0051.0	1	IIIB
			CULG				0104.0	0115.0	1	0104.0	0115.0	1	IIIBGN
			CULG				0236.0	0237.0	1	0236.0	0237.0	1	IIIG
			CULG				0253.0	0253.0	1				IIIB
			CULG				0308.0	0308.5	1	0308.0	0308.5	1	IIIG
			CULG				0311.0	0311.0	1				IIIB
			CULG				0337.0	0409.0	1				IIIBN
			CULG				0355.0	0355.0	1	0355.0	0355.0	1	IIIB
			CULG				0415.0	0416.0	2				IIIV
			CULG				0420.5	0421.5	3	0420.5	0421.0	1	IIIGV
			CULG				0424.0	0425.0	2	0424.5	0425.0	1	IIIG
			CULG				0502.0	0502.0	1				IIIB
			CULG				0517.0	0617.0	1	0531.5	0536.5	1	IIIBGN
			CULG				0549.0	0550.0	3	0549.0	0549.5	1	IIIGV
			CULG				0604.0	0604.0	2				IIIB
			CULG				0644.0	0712.0	1				IIIBN
			CULG				0717.0	0717.0	2				IIIB
			CULG				0718.5	0718.5	2				IIIB
	2040	2400	CULG				2040.0E	2105.0	2				ICDC
			CULG				2105.0	2350.0	1				ICDC
			CULG				2147.0	2317.0	1				IIIBN
			CULG				2350.0	2400.0D	1				IC
22			CULG				0000.0E	0103.0	1				IS
	0000	0735	CULG				0000.0E	0025.0	1				IC
			CULG				0003.0	0136.0	1	0003.0	0136.0	1	IIIBN
			CULG				0037.0	0037.0	1	0037.0	0037.0	1	IIIB
			CULG				0134.0	0134.5	1				IIIG
			CULG				0158.0	0353.0	1	0247.5	0247.5	1	IIIBGN
			CULG				0231.5	0231.5	2	0231.5	0231.5	1	IIIB
			CULG				0249.0	0249.0	1				IIIPAIR
			CULG				0341.5	0344.5	3	0341.5	0344.5	1	IIIGG
			CULG				0351.5	0351.5	2	0351.0	0351.5	1	IIIPAIR
			CULG				0352.5	0352.5	2	0352.5	0352.5	1	IIIB
			CULG				0415.5	0415.5	1	0415.5	0415.5	1	IIIPAIR
			CULG				0418.0	0418.5	1				IIIG
			CULG				0435.0	0526.0	1				IIIBN
			CULG				0547.5	0548.0	1				IIIG
			CULG				0619.5	0619.5	1				IIIB
			CULG				0621.0	0621.0	1				IIIPAIR
			CULG				0703.0	0703.0	1				IIIB
			CULG				0733.0	0733.0	1				IIIB
	2040	2400	CULG				2040.0E	2400.0D	1				IS
			CULG				2047.0	2048.0	3				IIIG
			CULG				2209.5	2209.5	1				IIIB
			CULG				2213.0	2214.0	2				IIIG
			CULG				2242.0	2242.5	1				IIIPAIR
			CULG				2249.5	2245.5	1				IIIB
			CULG				2309.5	2309.5	1				IIIB
			CULG				2345.0	2347.5	1				IIIG
			CULG				2350.5	2350.5	1	2350.5	2350.5	1	IIIG
23	0000	0735	CULG				0012.0	0703.0	1				IIIN
			CULG				0015.5	0015.5	2				IIIB
			CULG				0017.5	0021.0	2				IIIGG
			CULG				0052.2	0053.0	2	0052.5	0052.5	1	IIIPAIR
			CULG				0133.5	0133.5	1	0133.5	0135.5	1	IIIB
			CULG				0136.0	0137.0	2	0136.0	0137.0	1	IIIG
			CULG				0146.0	0146.0	2	0146.0	0146.0	1	IIIB
			CULG				0240.5	0252.0	2				IIIN
			CULG				0252.0	0254.5	3	0252.0	0254.5	1	IIIGG
			CULG				0306.5	0307.0	1				IIIPAIR
			CULG				0502.5	0503.5	2	0502.5	0503.0	1	IIIG
			CULG				0514.0	0539.0	2				IIIN
			CULG				0557.0	0557.0	1				II PAIR

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 1990

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		CULG				0620.0	0653.0	1				IIIN
		CULG				0703.0	0706.0	3				III/V
		CULG				0710.0	0730.0	2				CONT
	2040	2400 CULG				2040.0E	2400.0D	1				IS
		CULG				2121.0	2125.0	1				IIIN
		CULG				2158.0	2256.0	1				IIIN
		CULG				2201.0	2201.0	2				IIIB
		CULG				2220.0	2226.0	2	2225.0	2226.0	1	IIIGG
		CULG				2301.0	2301.0	2				IIIB
24	0000	0735 CULG				0000.0E	0735.0D	1				IS
		CULG				0005.0	0429.0	1				IIIN
		CULG				0026.0	0035.0	1				IIIN
		CULG				0044.0	0044.0	1				IIIB
		CULG				0108.0	0427.0	2	0108.0	0427.0	1	IIIN
		CULG				0403.0	0404.0	2				IIIG
		CULG				0427.0	0428.0	2	0427.0	0428.0	1	IIIG
		CULG				0442.0	0442.0	2	0442.0	0442.0	1	IIIB
		CULG				0504.0	0735.0D	1				IIIN
		CULG				0524.0	0710.0	1				IIIBGN
		CULG				0545.5	0654.0	2				IIIGN
		CULG				0714.0	0715.0	3				IIIG
	2035	2400 CULG				2035.0E	2100.0	1				IC
		CULG				2100.0	2400.0D	1				IC
		CULG				2123.0	2138.0	1				IIIBN
		CULG				2309.5	2309.5	1	2390.5	2309.5	1	IIIB
		CULG				2316.0	2400.0D	1				IIIS
		CULG				2323.0	2323.5	2				IIIG
		CULG				2353.0	2358.0	1	2353.0	2358.0	1	IIIBN
		CULG				2359.0	2400.0	1	2359.0	2400.0	1	IIIG
25	0000	0734 CULG				0000.0E	0350.0	1				IC
		CULG				0001.0	0001.5	1	0001.5	0001.5	1	IIIG
		CULG				0006.5	0050.0	1	0006.5	0024.0	1	IIIBN
		CULG				0144.0	0204.0	1				IIIBN
		CULG				0206.0	0211.5	1	0206.0	0211.0	1	IIIGG
		CULG				0228.0	0228.0	1				IIIB
		CULG				0253.5	0255.5	1	0253.5	0255.5	1	IIIBN
		CULG				0301.0	0306.0	1				IIIGG
		CULG				0306.5	0307.0	3	0306.5	0307.0	1	IIIG/V
		CULG				0333.0	0357.0	1				IIIN
		CULG				0344.0	0345.0	3	0346.5	0345.0	1	IIIG
		CULG				0346.0	0348.0	2	0346.0	0348.0	1	IIIG
		CULG				0350.0	0455.0	1				IC
		CULG				0418.0	0459.0	1				IIIGBN
		CULG				0451.0	0451.0	1				IIIB
		CULG				0455.0	0610.0	1				IC
		CULG				0503.0	0721.0	1				IIIS
		CULG				0610.0	0734.0D	1				IC
		CULG				0626.0	0626.0	1				IIIB
		CULG				0710.0	0712.0	1				IIIBN
	2034	2400 CULG				2034.0E	2300.0	2				ICDC
		CULG				2130.0	2130.0	1				IIIB
		CULG				2139.0	2141.0	1				IIIG
		CULG				2142.0	2142.5	2				IIIPAIR
		CULG				2144.5	2144.5	1				IIIB
		CULG				2147.0	2147.0	1				IIIB
		CULG				2300.0	2400.0D	1				IC
26	0000	0734 CULG				0000.0E	0374.0D	1				IC
		CULG				0041.0	0041.5	2				IIIG
		CULG				0042.0	0054.5	1				IIIBN
		CULG				0122.0	0136.0	1				IIIGG
		CULG				0136.5	0137.0	2				IIIG
		CULG				0138.0	0142.5	1				IIIBN
		CULG				0156.5	0157.5	2				IIIG
		CULG				0208.0	0220.0	1				IIIGG
		CULG				0358.5	0400.0	3				IIIG/V
		CULG				0505.5	0524.0	1				IIIBN

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 1990

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				0706.0	0706.5	2				IIIG
			CULG				0707.0	0707.0	1				IIIB
			CULG				0723.0	0724.0	2				IIIG
			CULG				0731.0	0732.0	2				IIIG
			CULG				0732.0	0734.0	2				IIIG
	2034	2400	CULG				2034.0E	2100.0	1				IC
			CULG				2100.0	2300.0	1				IC
			CULG				2104.5	2105.0	2				IIIB
			CULG				2106.5	2134.0	1				IIIBN
			CULG				2108.5	2111.0	1				IIIBN
			CULG				2153.0	2223.0	1				IIIBN
			CULG				2155.5	2235.0	1				IIIBN
			CULG				2253.0	2253.5	2				IIIG
			CULG				2253.5	2300.0	1				IIIG
			CULG				2300.0	2302.0	2	2302.0	2302.0	1	IIIGG
			CULG				2302.5	2308.5	1				IIIGG
			CULG				2358.5	2358.5	1				IIIB
27	0000	0734	CULG				0025.0	0046.0	1				IIIN
			CULG				0125.5	0126.0	1	0126.0	0126.0	1	IIIG
			CULG				0148.0	0154.0	1				IIIGG
			CULG				0149.5	0151.0	2				IIIG
			CULG				0234.0	0234.0	1				IIIB
			CULG				0249.0	0249.0	1	0249.0	0249.0	1	IIIB
			CULG				0322.0	0322.0	1				IIIB
			CULG				0327.0	0336.0	1	0329.0	0330.5	1	IIIBN
			CULG				0536.0	0536.0	1				IIIB
			CULG				0601.0	0601.0	1				IIIPAIR
			CULG				0653.0	0703.0	1				IIIBN
			CULG				0713.0	0714.0	1				IIIG
	2034	2400	CULG				2034.0E	2058.0	1				IC
			CULG				2058.0	2101.0	3				IIIGG/V
			CULG				2058.0	2110.0	2				IV
			CULG				2101.0	2108.0	1				UNCLF
			CULG				2110.0	2210.0	1				CONT
			CULG				2117.0	2117.0	1				IIIB
			CULG				2128.0	2136.0	1				IIIBN
			CULG				2128.5	2129.5	2				IIIG
			CULG				2201.0	2201.0	1				IIIB
			CULG				2231.5	2232.0	1				IIIG
			CULG				2234.0	2234.5	1				IIIG
			CULG				2252.0	2252.0	1				IIIB
28	0000	0734	CULG				0008.0	0026.0	1				IIIBN
			CULG				0127.0	0127.5	1				IIIG
			CULG				0137.0	0217.0	1				IIIBGN
			CULG				0209.5	0213.0	2				IIIBN
			CULG				0259.0	0259.0	1				IIIBN
			CULG				0304.5	0308.0	2				IIIGG
			CULG				0317.0	0334.0	1				IIIBN
			CULG				0321.0	0337.0	1				IIIBGN
			CULG				0337.0	0343.0	3				IIIGG
			CULG				0343.0	0345.0	1				IIIG
			CULG				0359.0	0400.0	3	0359.5	0400.0	1	IIIG
			CULG				0401.0	0419.0	1				IIIBN
			CULG				0403.0	0405.0	2	0403.0	0404.5	1	IIIG
			CULG				0414.0	0414.5	1				IIIG
			CULG				0459.0	0515.0	1				IIIBN
			CULG				0535.0	0536.0	1				IIIG
			CULG				0553.5	0651.0	1				IIIBN
			CULG				0608.0	0609.0	2	0608.5	0608.5	1	IIIG/V
			CULG				2125.0	2125.0	1				IIIB
	2040	2400	CULG				2218.0	2218.0	2	2218.0	2218.0	1	IIIB
			CULG				2357.0	2359.0	1	2357.0	2328.0	1	IIIG
29	0000	0733	CULG				0035.5	0035.5	1				IIIB
			CULG				0043.0	0043.5	1				IIIPAIR
			CULG				0133.5	0136.0	1				IIIG
			CULG				0151.0	0151.0	1				IIIB

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

AUGUST 1990

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
29		CULG				0248.5	0250.5	3	0248.5	0250.5	1	IIIGG
		CULG				0306.5	0333.0	2	0306.5	0312.0	1	IIIN
		CULG				0509.0	0509.5	1				IIIG
		CULG				0518.0	0518.0	1				IIIB
		CULG				0623.5	0624.0	1				IIIG
		CULG				2214.5	2303.0	1				IIIN
		CULG				2238.5	2240.0	1				IIIG
		CULG				2243.0	2243.0	1				IIIB
30	0000 0732	CULG				0042.0	0206.0	1				IS
		CULG				0153.0	0153.0	1				IIIB
		CULG				0156.0	0159.5	3	0156.5	0159.5	2	IIIGG
		CULG				0201.5	0203.0	1				IIIG
		CULG				0514.0	0523.0	1				IIIN
		CULG				0555.0	0555.5	1				IIIPAIR
		CULG				0659.0	0659.0	1				IIIB
		CULG				0701.0	0701.0	1				IIIB
	2035 2400	CULG				2054.5	2054.5	2				IIIB
		CULG				2151.0	2152.0	2				IIIPAIR
		CULG				2202.0	2202.0	1				IIIB
		CULG				2309.5	2310.5	2				IIIG
		CULG				2337.0	2337.0	1	2337.0	2337.0	1	IIIB
31	0000 0732	CULG				0116.0	0240.0	1				IIIN
		CULG				0143.0	0143.0	2				IIIB
		CULG				0202.0	0213.0	2				IIIN
		CULG				0234.5	0239.0	2	0234.5	0239.0	1	IIIGG
		CULG				0253.0	0339.0	1				IIIN
		CULG				0445.0	0515.0	1				IIIN
		CULG				0454.5	0455.5	2	0455.0	0455.5	1	IIIG
		CULG				0508.0	0515.0	2	0508.0	0515.0	1	IIIGG
		CULG				0646.5	0647.0	1				IIIPAIR
		CULG				0711.0	0714.5	1				IIIBN
	2035 2400	CULG				2103.0	2103.0	1				IIIB

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

EDITOR'S NOTE: Corrected Kp and Ap data were received. They affect August 17-26, 1990 data.

157 CORR Aug 90

GEOMAGNETIC ACTIVITY INDICES

August 1990

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	aa Provisional Am	N	S	M	
1		1 2- 3+ 2+	5 4+ 5 5-	27+	26	1.2	1 1+ 3+ 3-	4 4- 4 4	37	37	38	19	56
2		3+ 3- 3- 2-	2- 1 1+ 3-	17	9	0.5	3- 3- 2+ 1+	1+ 1- 1 2+	15	26	9	20	15
3		2+ 1 2 3	3 2+ 3- 3+	20-	11	0.6	2+ 1+ 2 3+	3 1- 3- 3-	20	30	20	18	33
4	Q7K	3 2- 2 1	1+ 1+ 2- 1	13	6	0.3	3- 1+ 2+ 1	1+ 1+ 1+ 1	11	21	8	17	12
5	Q1	1 1 1- 1	2 1+ 1 2+	10+	5	0.2	1 1 1- 1	2- 1+ 1+ 2+	9	14	6	6	14 CC
6		2- 2 2 2-	1+ 3- 3+ 2+	17	9	0.5	2 2 2- 2	1+ 3- 3 2+	17	23	12	14	20
7	Q9A	2+ 2- 1+ 2-	2 2- 2 2+	15	7	0.3	2+ 1+ 1+ 2-	2 2- 1+ 2	13	19	9	14	14
8	Q3	2 3- 2- 1-	1+ 1+ 1- 1	11+	6	0.3	2 3- 2 1	1 1 0+ 1	10	17	7	14	10 CC
9	Q2	2 2- 1- 1+	1 2 2- 1	11+	5	0.2	2 1+ 1 1+	1 2 2- 1	10	15	6	11	10 CC
10	Q4	1- 1 1 2-	2- 1+ 2+ 3-	12+	6	0.3	1- 1+ 1 2-	2- 1+ 2- 2	10	15	6	7	14 CK
11	Q10A	3+ 2- 2+ 2-	2+ 2 1+ 2+	17	9	0.5	3- 2 3- 2	2+ 1+ 1+ 2+	17	23	16	20	19
12	Q8A	2+ 3- 1+ 2	1+ 1 1+ 2	14	7	0.3	2+ 3 2- 2	2- 1+ 1+ 2	14	16	10	16	10 C
13		2 3 3- 3	3 3- 2+ 2	21-	12	0.7	2 3 3 3+	3 3 2+ 2-	26	28	34	30	32
14		3- 2+ 5+ 4	3 3- 2+ 3	25+	19	1.0	3- 2+ 5- 4	3 3 2+ 3-	33	38	32	47	24
15		2+ 2+ 2- 5-	5 5- 5- 4-	29	26	1.2	2+ 2+ 2- 5-	4+ 4- 4- 3+	41	46	41	28	59
16		3 3+ 4+ 4-	4+ 5- 2+ 4+	30	25	1.2	3+ 3 4 3+	4- 4 2 4	41	40	30	33	36
17		4- 3+ 3 1+	2+ 3+ 3 3	23	15	0.8	4- 3+ 3- 1+	3- 3 3- 3-	27	24	25	22	26
18		3 3- 3- 3-	3 3- 2 2	21-	12	0.7	3- 3 3- 2+	3- 2+ 1+ 2-	19	26	12	22	16
19		4- 4- 2+ 2+	3 3- 3- 3-	23	14	0.8	4- 3 2 2+	3- 2+ 2 3-	23	38	13	25	26
20		3 5- 4- 3	4- 3+ 3+ 1+	26	19	1.0	3- 4 4- 3	3+ 3 3- 1+	33	33	29	35	27
21	D4	3- 2- 3+ 4-	5 6- 6 5	33	38	1.4	2+ 2- 3 3	4- 4+ 5- 5-	46	54	40	22	72
22	D3	5+ 6- 5+ 5+	5 4+ 4 5	40	49	1.6	4 5- 5- 5-	4- 4- 3+ 4+	61	57	58	61	54
23	D1	4+ 6+ 5+ 6	7 6+ 6+ 4+	46	77	1.8	3+ 5 5- 6	6- 5- 5+ 4-	90	90	87	89	88
24		4 5+ 4- 3+	5- 3 2+ 0+	27-	24	1.1	4- 5- 3+ 3	3+ 2 2- 1-	33	41	20	31	29
25	Q6	1+ 1+ 1+ 1-	1+ 2 2+ 3-	13	6	0.3	2- 1 1 1-	2- 2- 2+ 3-	11	16	8	6	18 C
26	D2	2- 3+ 7- 6	7- 6 6- 4+	40+	63	1.7	2 4- 6- 5+	6- 5 4 4-	80	71	71	74	68
27		4+ 3+ 3 3-	4- 2+ 2 2	23+	15	0.9	4 4- 3 2+	3 2 2- 2	28	32	23	34	21
28	Q5	2+ 2- 2- 1+	2+ 1+ 1 1+	13	6	0.3	2+ 2+ 2- 2-	2 1 1 1+	12	11	10	13	8 C
29		1+ 2- 2- 4-	2+ 2 4- 3-	19	11	0.6	1+ 2- 2 3+	2+ 2- 4- 2+	21	24	16	16	24
30	D5	2+ 3 3- 4	5 5+ 4- 4-	30-	26	1.2	2+ 3 3 3+	4+ 4+ 3 4	41	42	35	21	56
31		5- 4- 3 3+	3- 2- 2 2-	23-	16	0.9	5- 3+ 3 3-	3- 2- 2- 1+	28	25	25	35	15
Mean					19	0.79			28.3	32.0	24.4		28.2

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	1+ 2- 3+ 3	5- 4- 4+ 4	41	1- 1- 3+ 2	4- 3+ 4 4+	33	199.0	146	149	153	
2	2+ 3- 3- 2	2- 1 1+ 3-	16	3 3- 2 1	1- 0+ 1- 2+	13	208.6	175	151	163	
3	2 1+ 2 3+	3 2+ 2+ 2+	20	2+ 1+ 2- 3	3- 1 3- 3	20	192.4	151	142	146	
4	2+ 2- 3- 1+	2 2- 2- 1+	14	3- 1 2 1-	1 1 1+ 1-	9	191.2	137	131	144	
5	1 1+ 1 1	2- 2- 1+ 2+	10	1- 1- 0+ 1-	1+ 1+ 1 2+	8	180.8	128	125	133	
6	2 2 2 2+	2- 3 3 2	19	2+ 2+ 1+ 2-	1 2 3 2+	16	174.6	124	116	127	
7	2+ 1+ 1+ 2-	2+ 2 2- 2	14	2+ 1+ 1+ 1+	2- 1+ 1+ 2	11	172.1	120	121	124	
8	2 3- 2 1	2- 1+ 1- 1	11	2 3- 2 1-	0+ 1- 0+ 1-	9	184.8	136	125	138	
9	2 2- 1+ 2	1+ 2+ 2 1+	13	2+ 1+ 1- 1-	1- 2- 1 1-	8	183.2	145	145	136	
10	1 2- 1 2	2 2- 2+ 2+	13	0+ 1 1 1+	1+ 1- 1+ 1+	7	186.3	160	161	139	
11	3 2 3 2+	3- 2 1+ 3-	20	3- 2- 3- 2-	2+ 1- 1 2	15	187.1	161	162	140	
12	2 3- 1+ 2+	2 2- 2- 2	15	2+ 3 2- 2	1+ 1- 1- 2-	14	188.2	160	175	141	
13	2+ 3 3 4-	3+ 3 3- 2	29	2 3+ 3 3	3 3- 2 2-	24	192.5	192	182	146	
14	3- 2+ 5 4	3 3 2+ 3-	36	2+ 2+ 4+ 4-	3- 3- 2 3-	30	188.2*	215	210	141	
15	2+ 2+ 2 4	5 4- 4- 3+	42	2+ 2+ 1+ 5-	4- 4- 4- 4-	39	199.6	229	218	154	
16	3+ 3+ 4+ 4-	4- 4 2+ 4-	43	3+ 3- 4- 3+	4- 4 2- 4	39	211.0	232	226	166	
17	3+ 3 3 2-	3- 3+ 3- 3	28	4 3+ 3- 1	2+ 3 3- 2+	27	228.4	269	262	185	
18	3 3- 3- 3-	3- 3- 2- 2+	22	3- 3 3- 2-	2+ 2- 1 1+	17	246.1	270	273	204	
19	3+ 3 2+ 2	3 3- 2+ 2+	24	4 3- 2 2+	2+ 2- 2 3-	23	268.0*	278	277	227	
20	3- 4 4- 3	4- 3 3- 2-	34	3- 4+ 4- 3+	3 3- 3- 1	33	288.7	295	280	250	
21	2 2- 3 3+	4- 5- 5 5-	48	2+ 1+ 3+ 3-	4- 4 5- 5-	44	298.3	278	262	260	
22	4 5- 5- 5-	5- 4- 3+ 4	64	4+ 5- 4 5-	4- 4- 3 4+	58	322.8*	262	249	287	
23	3+ 5+ 5 6	6 5 6- 4-	103	4- 5 4 6	5 4 5- 3+	77	322.7	281	266	287	
24	4- 5- 3+ 3+	4- 2+ 2 1-	35	4- 5- 3+ 3-	3 2 1+ 1-	30	329.2	276	275	294	
25	1+ 1+ 1+ 1	2- 2- 3- 3-	13	2 1- 1- 1-	1+ 1+ 2- 2	10	303.9	263	241	266	
26	2 3+ 5+ 5+	6- 5 4 4	78	2 4- 6- 6-	6- 5 4 3	81	285.1*	214	217	246	
27	4 4- 3+ 3	4- 3- 2 2+	33	4 3+ 3 2-	3- 1+ 1+ 1+	23	269.2	188	194	229	
28	3- 2+ 2 2-	2+ 2- 1+ 2-	15	2 2 1+ 1+	1+ 1- 1- 1	9	250.2	170	163	208	
29	2- 1+ 2+ 4-	2+ 2 4- 3-	23	1 2 2- 3-	2+ 1+ 4- 2+	18	225.2	186	172	181	
30	2- 3- 3- 4-	4+ 5- 3 4	42	3- 3 3 3+	4+ 4 3 4	40	210.4	196	177	165	
31	4 4- 3 3	3- 2 2- 2-	29	5 3 3- 3-	2+ 1+ 1+ 1+	28	182.9*	161	152	136	
Mean			30.5			26.2	228.1	199.9	193.5	184.3	

WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

158
Late
Jan 89

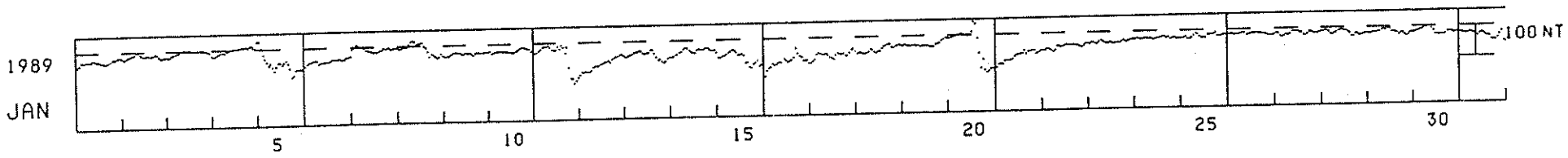
HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

JANUARY 1989

UNIT=NT

U.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-45	-41	-32	-33	-32	-31	-30	-30	-26	-28	-31	-31	-34	-35	-38	-38	-36	-30	-24	-25	-23	-20	-19	-21
2	-25	-25	-20	-17	-15	-12	-10	-3	-4	-11	-14	-17	-16	-13	-16	-16	-14	-11	-12	-19	-23	-23	-21	-21
3	-22	-20	-16	-14	-11	-8	-7	-2	0	-1	-1	0	0	-1	-1	-1	-2	0	-2	-1	-4	-6	-9	-18
4	-22	-20	-16	-13	-11	-11	-11	-5	-2	2	2	3	3	3	5	7	5	8	5	10	11	5	1	23
5	25	3	-18	-32	-43	-54	-48	-60	-72	-58	-45	-46	-53	-45	-39	-49	-65	-93	-88	-71	-68	-70	-68	-66
6	-60	-52	-47	-45	-43	-43	-43	-52	-49	-47	-47	-45	-45	-43	-39	-39	-39	-38	-39	-40	-39	-34	-32	-30
7	-7	-2	7	4	-1	-1	-6	-12	-14	-13	-17	-18	-17	-18	-14	-12	-6	-8	-4	-5	-11	-7	-7	-6
8	-10	-9	-6	-5	-4	5	14	17	14	5	6	8	10	-2	-7	-19	-35	-28	-30	-36	-40	-37	-27	-34
9	-37	-36	-35	-31	-27	-23	-26	-25	-26	-30	-31	-25	-27	-26	-29	-34	-27	-25	-25	-28	-27	-25	-23	-26
10	-22	-30	-28	-26	-23	-24	-23	-26	-24	-25	-25	-26	-29	-29	-24	-21	-15	-12	-12	-13	-17	-19	-26	-32
11	-33	-31	-26	-20	-13	-12	-12	-9	-15	-22	-24	-23	-12	-21	-9	-16	-34	-13	-81	-116	-117	-132	-124	-114
12	-105	-96	-99	-95	-97	-96	-92	-82	-78	-78	-77	-72	-70	-67	-64	-61	-67	-56	-51	-50	-48	-43	-41	-46
13	-51	-47	-45	-42	-38	-36	-34	-30	-32	-39	-41	-38	-38	-29	-29	-41	-53	-63	-60	-66	-71	-66	-58	-53
14	-54	-51	-46	-46	-39	-35	-29	-24	-25	-33	-37	-41	-40	-33	-29	-31	-30	-27	-25	-29	-34	-34	-32	-40
15	-58	-60	-55	-53	-48	-43	-39	-34	-35	-43	-51	-49	-48	-52	-76	-75	-90	-93	-81	-76	-70	-89	-83	-99
16	-122	-104	-95	-92	-82	-86	-83	-78	-77	-82	-66	-72	-76	-73	-69	-62	-33	-49	-57	-61	-73	-73	-72	-82
17	-82	-77	-70	-54	-50	-52	-56	-55	-52	-58	-64	-66	-72	-57	-51	-55	-55	-53	-59	-59	-51	-41	-38	-45
18	-54	-51	-51	-55	-55	-52	-49	-41	-43	-49	-54	-47	-48	-39	-33	-29	-26	-25	-35	-37	-33	-31	-28	-31
19	-33	-28	-30	-32	-32	-30	-30	-32	-31	-35	-33	-32	-32	-33	-35	-35	-35	-29	-26	-24	-17	-12	-7	-8
20	-11	-7	-5	-4	0	2	5	1	-1	-4	0	10	42	36	-12	-60	-108	-79	-115	-122	-117	-111	-111	-118
21	-107	-97	-97	-96	-87	-84	-85	-85	-81	-73	-68	-66	-65	-63	-55	-64	-58	-56	-55	-55	-64	-63	-57	-55
22	-56	-54	-50	-53	-56	-61	-56	-42	-42	-46	-43	-40	-38	-39	-39	-39	-39	-40	-40	-45	-47	-42	-35	-36
23	-38	-32	-32	-38	-37	-31	-26	-30	-36	-35	-37	-32	-37	-38	-36	-34	-35	-30	-27	-32	-30	-28	-25	-25
24	-26	-22	-25	-26	-25	-22	-23	-24	-24	-27	-26	-24	-22	-21	-19	-18	-23	-21	-27	-24	-22	-25	-26	-25
25	-25	-23	-21	-27	-28	-23	-17	-11	-14	-20	-25	-23	-25	-16	-16	-14	-13	-9	-19	-20	-19	-16	-16	-15
26	-16	-13	-15	-17	-16	-15	-13	-10	-12	-18	-17	-15	-12	-13	-12	-13	-14	-16	-15	-17	-21	-21	-21	-18
27	-14	-16	-24	-28	-24	-18	-22	-19	-11	-9	-11	-11	-13	-13	-22	-23	-18	-12	-12	-16	-17	-17	-14	-12
28	-12	-8	-8	-14	-21	-22	-17	-15	-11	-9	-9	-11	-11	-16	-19	-29	-29	-20	-21	-25	-25	-22	-21	-19
29	-21	-20	-17	-17	-16	-16	-13	-9	-8	-10	-5	-7	-15	-16	-17	-18	-26	-20	-18	-26	-30	-25	-18	-19
30	-19	-15	-13	-11	-10	-5	-3	-1	0	-9	-16	-27	-28	-29	-28	-27	-26	-18	-17	-19	-20	-22	-18	-16
31	-20	-22	-23	-26	-24	-21	-24	-28	-30	-34	-28	-23	-27	-32	-34	-36	-46	-47	-47	-40	-30	-20	-51	-54

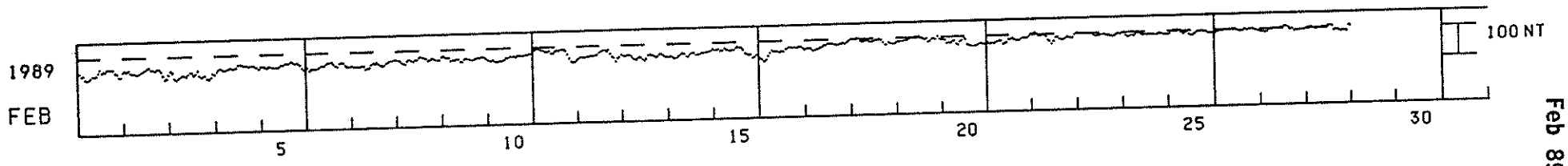


WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

FEBRUARY 1989

DAY	UNIT=NT 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	U.T. 23	24
1	-49	-58	-56	-68	-71	-70	-64	-57	-60	-57	-47	-37	-47	-44	-44	-38	-39	-38	-39	-49	-53	-63	-65	-47
2	-42	-47	-43	-51	-52	-52	-56	-56	-52	-48	-45	-40	-36	-34	-41	-43	-46	-41	-41	-48	-61	-74	-71	-57
3	-48	-53	-72	-77	-71	-66	-62	-63	-66	-59	-53	-55	-62	-58	-48	-64	-69	-66	-65	-74	-77	-69	-57	-61
4	-53	-46	-42	-47	-49	-48	-44	-41	-44	-44	-40	-33	-30	-33	-36	-36	-37	-37	-35	-36	-41	-40	-48	-39
5	-41	-41	-45	-40	-41	-43	-44	-43	-44	-41	-36	-35	-31	-30	-30	-26	-27	-32	-30	-33	-37	-47	-54	-47
6	-47	-57	-53	-52	-51	-51	-48	-42	-42	-42	-37	-32	-32	-31	-37	-44	-46	-36	-33	-34	-43	-46	-48	-45
7	-46	-49	-48	-49	-49	-46	-47	-57	-55	-52	-42	-37	-41	-36	-40	-46	-48	-46	-39	-36	-33	-31	-29	-29
8	-30	-33	-39	-43	-44	-34	-29	-32	-35	-31	-30	-23	-21	-24	-25	-28	-34	-32	-27	-29	-32	-34	-32	-24
9	-20	-25	-25	-27	-37	-34	-35	-31	-33	-40	-41	-33	-31	-33	-34	-36	-34	-30	-29	-29	-27	-27	-30	-36
10	-39	-41	-38	-42	-44	-43	-43	-40	-37	-33	-32	-28	-29	-28	-31	-25	-26	-27	-25	-24	-24	-21	-20	-15
11	-11	-7	-6	-9	-11	-12	-15	-15	-14	-20	-22	-16	-12	-13	-11	-11	-8	-14	-26	-39	-50	-52	-51	-45
12	-40	-35	-36	-38	-36	-34	-34	-32	-33	-31	-29	-22	-18	-15	-14	-18	-14	-27	-36	-40	-52	-42	-38	-30
13	-34	-36	-32	-32	-35	-43	-47	-48	-41	-41	-48	-52	-46	-36	-32	-36	-38	-42	-39	-33	-33	-37	-40	-42
14	-42	-39	-44	-49	-46	-41	-36	-30	-34	-43	-43	-36	-30	-31	-37	-37	-36	-32	-32	-29	-29	-28	-25	-21
15	-23	-24	-21	-27	-25	-19	-22	-25	-28	-26	-25	-19	-16	-17	-19	-25	-37	-39	-43	-42	-52	-50	-43	-42
16	-54	-59	-66	-61	-48	-37	-31	-34	-34	-34	-37	-33	-36	-28	-25	-20	-22	-23	-22	-23	-21	-22	-26	-30
17	-27	-26	-28	-34	-34	-31	-29	-26	-23	-19	-17	-13	-12	-14	-16	-17	-19	-15	-13	-12	-15	-10	-5	-1
18	0	0	4	2	-7	-11	-9	-6	-7	-10	-11	-9	-5	-5	-4	-5	-13	-21	-20	-14	-17	-18	-18	-15
19	-12	-12	-10	-10	-9	-8	-4	0	-1	4	4	3	-2	-3	-7	-6	-16	-12	-6	-5	-7	1	-7	-8
20	-9	-10	-20	-21	-21	-16	-13	-24	-28	-17	-12	-5	-11	-27	-30	-32	-32	-32	-30	-27	-23	-25	-28	-24
21	-24	-27	-24	-25	-23	-20	-17	-18	-29	-27	-23	-16	-14	-11	-15	-17	-18	-17	-12	-11	-12	-10	-6	1
22	4	6	4	-5	-6	-4	-4	-8	-21	-24	-33	-23	-12	-11	-17	-19	-19	-16	-11	-12	-14	-13	-4	2
23	2	0	0	0	0	-1	-2	-4	-7	-10	-8	-9	-5	-5	-6	-9	-9	-10	-12	-10	-6	-4	-5	-1
24	-2	-10	-15	-14	-11	-12	-9	-4	-3	-8	-11	-9	-10	-9	-9	-9	-10	-10	-8	-6	-9	-10	-10	-10
25	-9	-2	3	4	5	2	-6	-11	-7	-6	-12	-15	-16	-11	-6	-2	-1	-1	-3	-6	-8	-8	-10	-9
26	-9	-5	-4	-2	-2	0	2	2	1	1	2	-1	-6	-6	-4	1	-1	0	1	1	-1	-4	-6	-8
27	-8	-11	-11	-8	-4	-1	1	2	1	2	3	6	8	6	2	-4	-2	-8	-5	-5	-5	-6	-4	-3
28	-1	3	3	0	-3	-2	0	2	3	4	4	7	8	5	-9	-7	-7	-10	-12	-10	-11	-12	6	5



159
Late
Feb 89

WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

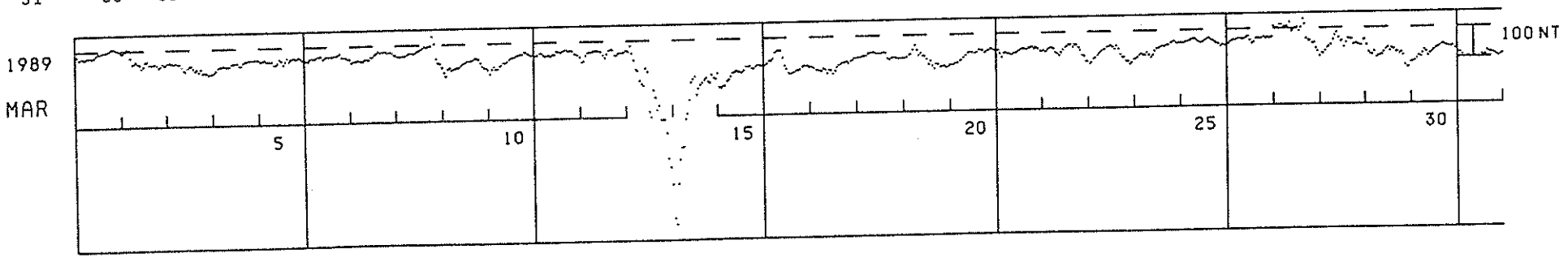
160
Late
Mar 89

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

MARCH 1989

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							U.T.	
1	-17	-27	-26	-24	-28	-24	-22	-22	-23	-21	-14	-8	-10	-7	-5	-6	-4	0	5	6	3	1	-2	-8
2	-8	-1	3	4	-23	-46	-42	-38	-44	-48	-59	-53	-39	-37	-47	-49	-47	-46	-51	-57	-55	-46	-51	-48
3	-44	-43	-46	-48	-44	-49	-47	-58	-68	-73	-61	-56	-55	-63	-71	-66	-75	-67	-79	-78	-79	-84	-83	-81
4	-77	-72	-63	-60	-59	-58	-59	-60	-59	-51	-49	-49	-50	-58	-57	-47	-42	-44	-40	-41	-40	-39	-39	-41
5	-45	-43	-40	-45	-46	-45	-46	-56	-56	-51	-39	-44	-56	-46	-35	-45	-39	-35	-37	-39	-34	-38	-44	-43
6	-46	-47	-40	-38	-39	-38	-32	-32	-32	-41	-35	-32	-34	-33	-34	-31	-31	-28	-23	-36	-38	-38	-42	-42
7	-55	-51	-49	-47	-48	-50	-49	-44	-44	-46	-38	-35	-29	-23	-19	-23	-22	-21	-21	-24	-22	-24	-31	-33
8	-37	-38	-36	-36	-35	-30	-27	-26	-29	-26	-22	-19	-16	-11	-6	-8	-5	-3	27	3	-45	-59	-62	-75
9	-92	-103	-82	-77	-84	-81	-79	-77	-76	-69	-64	-61	-56	-57	-54	-52	-48	-50	-51	-63	-74	-80	-81	-87
10	-100	-85	-77	-84	-84	-74	-71	-64	-65	-61	-54	-50	-48	-45	-40	-41	-37	-37	-31	-33	-37	-41	-42	-42
11	-44	-43	-36	-35	-42	-46	-42	-42	-47	-41	-40	-31	-33	-36	-30	-28	-26	-31	-29	-30	-39	-41	-44	-51
12	-67	-65	-45	-37	-35	-35	-33	-30	-33	-33	-35	-45	-55	-42	-31	-27	-29	-45	-48	-41	-39	-39	-38	-33
13	-35	-17	-40	-65	-94	-99	-131	-140	-148	-92	-102	-232	-250	-163	-186	-227	-214	-260	-260	-260	-303	-384	-413	-470
14	-580	-599	-467	-390	-351	-347	-257	-241	-197	-139	-129	-121	-179	-159	-147	-141	-132	-125	-138	-143	-116	-125	-129	-111
15	-156	-160	-153	-153	-137	-132	-122	-111	-109	-104	-106	-108	-110	-103	-91	-91	-90	-97	-99	-92	-87	-88	-90	-90
16	-88	-83	-74	-75	-68	-47	-42	-42	-42	-67	-92	-101	-115	-118	-115	-112	-106	-106	-103	-96	-92	-93	-93	-98
17	-97	-101	-109	-107	-110	-112	-103	-107	-118	-109	-110	-120	-112	-100	-94	-90	-84	-85	-82	-88	-82	-78	-72	-71
18	-69	-70	-67	-67	-65	-58	-56	-55	-55	-58	-57	-57	-56	-55	-56	-74	-78	-73	-71	-73	-75	-76	-74	-75
19	-74	-71	-65	-61	-48	-34	-49	-66	-59	-68	-69	-80	-97	-85	-101	-110	-95	-97	-105	-103	-102	-107	-103	-99
20	-98	-96	-93	-93	-87	-84	-77	-69	-62	-60	-59	-61	-63	-59	-52	-52	-55	-61	-57	-54	-50	-51	-55	-54
21	-54	-66	-78	-64	-62	-66	-67	-72	-67	-62	-62	-58	-53	-50	-53	-54	-49	-48	-46	-52	-47	-53	-59	-61
22	-57	-62	-56	-51	-49	-52	-65	-70	-76	-67	-57	-49	-46	-40	-41	-49	-40	-43	-51	-60	-77	-80	-97	-97
23	-105	-100	-89	-85	-78	-70	-64	-60	-57	-51	-49	-45	-51	-58	-47	-58	-76	-85	-85	-99	-99	-109	-103	-93
24	-92	-86	-80	-75	-80	-79	-72	-79	-89	-82	-67	-59	-58	-55	-51	-52	-49	-47	-40	-39	-36	-42	-43	-41
25	-43	-41	-38	-37	-34	-30	-29	-30	-35	-41	-42	-39	-34	-29	-27	-32	-36	-41	-44	-47	-54	-50	-52	-51
26	-47	-41	-36	-35	-34	-30	-30	-34	-31	-28	-23	-38	-47	-43	-31	-31	-32	-31	-26	-33	-28	-30	-27	8
27	4	4	14	13	6	7	9	21	-11	-6	1	4	-8	4	30	13	-34	-41	-41	-49	-47	-66	-77	-92
28	-82	-83	-75	-65	-61	-55	-39	-24	-16	-33	-44	-42	-63	-48	-36	-35	-38	-55	-51	-52	-56	-57	-41	-39
29	-58	-79	-86	-88	-78	-96	-94	-92	-89	-79	-71	-66	-76	-68	-72	-79	-80	-87	-81	-91	-124	-131	-129	-114
30	-112	-108	-101	-94	-97	-84	-74	-82	-94	-87	-82	-74	-70	-67	-62	-58	-56	-61	-63	-65	-64	-62	-71	-83
31	-85	-85	-92	-101	-99	-96	-101	-100	-99	-99	-101	-101	-91	-95	-92	-80	-84	-85	-87	-92	-94	-98	-94	-90



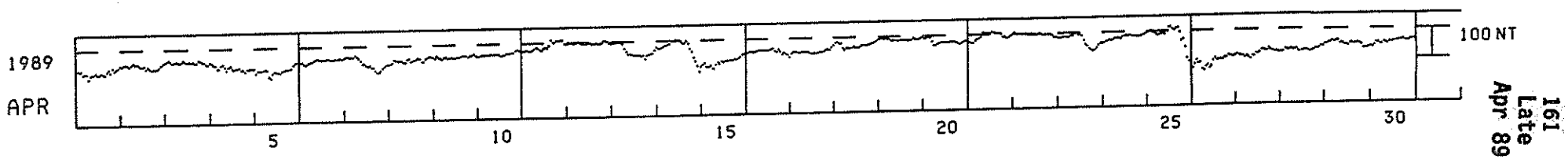
WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

APRIL 1989

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	U.T. 24
1	-66	-69	-68	-79	-77	-78	-95	-83	-81	-80	-74	-82	-80	-76	-80	-81	-72	-65	-74	-60	-68	-63	-59	-53
2	-54	-49	-50	-51	-56	-50	-43	-49	-48	-51	-56	-56	-54	-65	-57	-62	-68	-65	-67	-64	-60	-52	-47	-44
3	-41	-35	-40	-46	-44	-40	-44	-45	-42	-38	-42	-44	-42	-44	-42	-48	-45	-38	-39	-44	-46	-52	-52	-45
4	-49	-54	-56	-66	-67	-56	-53	-61	-73	-63	-57	-66	-71	-67	-67	-65	-73	-72	-78	-69	-69	-68	-69	-68
5	-85	-76	-77	-77	-74	-72	-74	-96	-102	-87	-79	-81	-83	-84	-78	-76	-73	-74	-72	-69	-60	-53	-51	-48
6	-52	-51	-57	-60	-54	-51	-49	-46	-43	-40	-42	-44	-44	-44	-41	-41	-44	-44	-42	-42	-42	-39	-42	-39
7	-35	-36	-38	-36	-37	-31	-35	-41	-50	-60	-58	-64	-68	-64	-71	-72	-81	-88	-88	-81	-75	-68	-63	-63
8	-61	-58	-48	-50	-51	-53	-51	-56	-57	-47	-44	-54	-51	-50	-46	-43	-45	-54	-54	-45	-40	-38	-39	-40
9	-45	-38	-43	-46	-49	-43	-41	-46	-44	-42	-44	-45	-42	-42	-39	-38	-37	-38	-42	-38	-37	-33	-39	-41
10	-40	-38	-37	-38	-38	-37	-35	-35	-36	-36	-34	-36	-40	-39	-37	-32	-34	-33	-31	-30	-23	-21	-24	-27
11	-27	-25	-23	-27	-27	-23	-18	-14	-17	-22	-25	-19	-15	-17	-8	10	1	1	7	6	9	8	-3	-5
12	-4	0	-2	-4	-4	2	1	-6	-5	-5	-6	-4	-4	-7	-6	-4	-7	-6	-3	3	4	1	-3	-7
13	-6	-3	-4	-1	-3	-9	-24	-34	-42	-42	-44	-47	-46	-45	-47	-50	-48	-59	-47	-44	-43	-41	-30	-21
14	-25	-26	-22	-18	-16	-14	-10	-2	-2	3	1	1	-2	-8	-8	-1	-11	-28	-37	-58	-69	-85	-105	-88
15	-82	-76	-88	-90	-85	-93	-97	-82	-74	-80	-72	-75	-71	-70	-70	-68	-69	-65	-66	-63	-58	-51	-47	-47
16	-46	-43	-42	-44	-43	-41	-37	-37	-39	-37	-38	-39	-38	-34	-32	-40	-44	-35	-43	-53	-45	-51	-54	-62
17	-51	-46	-46	-46	-48	-48	-46	-45	-45	-45	-49	-53	-51	-51	-51	-47	-48	-48	-44	-39	-39	-41	-33	-25
18	-19	-16	-21	-20	-35	-42	-35	-36	-36	-35	-31	-35	-34	-34	-29	-27	-28	-29	-25	-23	-21	-18	-16	-11
19	-9	-6	-8	-7	-8	-9	-13	-14	-14	-14	-15	-12	-12	-13	-12	-16	-13	-12	-7	-11	-11	-10	-7	-4
20	-10	-7	-4	-7	-20	-32	-32	-27	-23	-23	-24	-23	-22	-23	-21	-22	-22	-23	-28	-31	-26	-22	-18	-19
21	-24	-27	-27	-21	-15	-13	-8	7	6	5	5	4	8	7	4	3	3	1	-8	-9	-13	-11	-5	0
22	5	-1	-2	-2	-1	-2	-2	-3	-3	-3	-3	-4	-4	0	-1	-5	-3	-4	-4	-3	-7	-13	-14	-15
23	-16	-17	-13	-12	-14	-13	-9	-11	-4	0	-7	-6	-10	-26	-39	-44	-52	-58	-61	-58	-51	-43	-36	-35
24	-35	-31	-29	-26	-27	-25	-21	-20	-21	-22	-15	-13	-12	-14	-11	-13	-13	-16	-15	-15	-14	-10	-9	-6
25	-1	1	-2	-5	-9	-13	-10	-8	-7	-11	2	13	13	7	4	8	12	-6	-33	-27	-54	-92	-103	-112
26	-123	-112	-98	-109	-107	-128	-132	-121	-116	-125	-119	-102	-94	-100	-99	-97	-98	-92	-92	-84	-85	-88	-88	-84
27	-81	-85	-87	-87	-94	-88	-93	-98	-88	-88	-79	-79	-76	-70	-66	-71	-71	-63	-70	-72	-74	-73	-77	-76
28	-77	-74	-66	-69	-69	-67	-68	-69	-67	-74	-77	-72	-69	-70	-72	-74	-71	-69	-65	-64	-63	-56	-57	-51
29	-50	-45	-44	-39	-44	-39	-39	-50	-48	-52	-55	-56	-49	-47	-51	-49	-48	-50	-55	-66	-67	-65	-63	-60
30	-63	-56	-48	-47	-54	-52	-46	-49	-52	-45	-45	-44	-42	-40	-40	-39	-38	-43	-42	-42	-38	-38	-36	-32



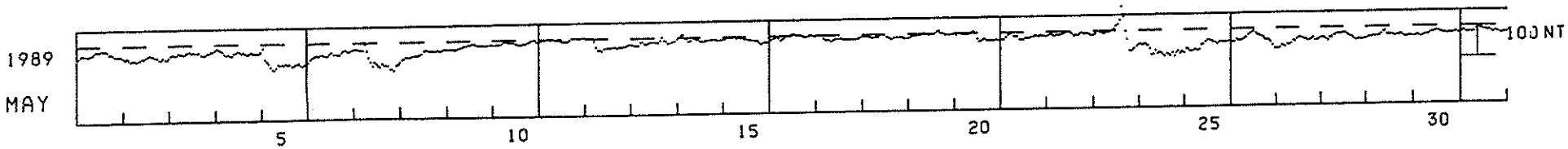
WDC-C2 FOR GEOMAGNETISM. KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

MAY 1989

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	U.T. 24
1	-39	-33	-30	-32	-33	-34	-30	-29	-24	-19	-18	-19	-16	-17	-15	-20	-27	-27	-31	-35	-35	-36	-35	-41
2	-45	-40	-46	-52	-50	-50	-52	-50	-48	-43	-44	-39	-35	-33	-35	-38	-41	-40	-48	-48	-40	-48	-48	-43
3	-34	-30	-34	-34	-28	-30	-30	-32	-27	-26	-22	-27	-26	-28	-28	-28	-34	-36	-36	-30	-29	-24	-24	-18
4	-14	-17	-21	-24	-32	-37	-34	-39	-38	-31	-28	-24	-26	-31	-28	-32	-36	-30	-28	-32	-33	-33	-31	-26
5	-13	-51	-57	-64	-77	-84	-87	-79	-68	-71	-70	-69	-67	-70	-68	-74	-74	-69	-67	-65	-72	-74	-70	-65
6	-62	-53	-47	-44	-40	-42	-41	-38	-40	-42	-42	-36	-31	-38	-37	-39	-39	-33	-25	-23	-27	-30	-26	-22
7	-20	-22	-23	-26	-25	-3	-28	-50	-62	-77	-62	-69	-76	-80	-70	-75	-74	-77	-88	-86	-93	-75	-73	-67
8	-57	-54	-50	-51	-51	-48	-46	-46	-46	-42	-39	-31	-28	-29	-30	-30	-31	-32	-28	-30	-30	-27	-26	-27
9	-28	-27	-27	-29	-27	-24	-22	-20	-17	-17	-14	-14	-11	-10	-14	-16	-17	-16	-17	-17	-16	-15	-14	-15
10	-16	-15	-14	-13	-10	-6	-6	-9	-8	-8	-8	-12	-15	-17	-16	-13	-14	-10	-7	-3	-1	-2	-8	-6
11	-5	-3	-3	0	2	-1	0	-1	-3	-3	-5	-8	-9	-9	-9	-4	3	2	4	1	1	2	3	4
12	2	1	1	4	-9	-28	-38	-38	-41	-33	-32	-30	-30	-31	-29	-29	-32	-29	-29	-27	-28	-24	-20	-20
13	-22	-24	-24	-24	-14	-12	-18	-20	-17	-13	-13	-14	-15	-16	-8	2	-9	-10	-18	-17	-14	-13	-10	-6
14	2	8	9	-1	-6	-13	-10	-2	-4	-7	-7	-12	-13	-14	-11	-11	-9	-9	-7	-8	-10	-10	-11	-9
15	-7	-3	-1	-4	-1	1	-5	-4	-6	-3	-8	-8	-9	-10	-12	-12	-13	-13	-20	-25	-21	-19	-20	-15
16	-12	-8	-7	-6	-7	-13	-10	-6	0	1	3	5	3	2	2	2	-2	-3	-4	-1	1	0	-2	-1
17	1	0	0	-11	-15	-14	-15	-21	-15	-14	-12	-12	-10	-13	-14	-14	-16	-13	-14	-14	-13	-12	-9	-6
18	-6	-7	-5	-8	-10	-11	-9	-8	-7	0	1	-2	-8	-11	-16	-16	-10	-8	-11	-8	-10	-14	-14	-13
19	-10	-9	-6	-6	-5	-3	-2	1	2	-1	-3	-2	-2	2	6	8	2	2	-4	-3	-3	-3	-1	-2
20	-5	0	1	-3	-4	-3	-4	-2	4	5	-1	-18	-27	-26	-20	-19	-26	-22	-26	-25	-23	-22	-23	-25
21	-23	-22	-16	-8	-6	-4	-12	-12	-13	-23	-24	-23	-19	-19	-18	-16	-15	-11	-12	-14	-11	-12	-13	-13
22	-11	-8	-8	-13	-10	-11	-11	-9	-6	-2	2	-1	-7	-14	-12	-12	-7	-4	-8	-7	-7	-10	-14	-13
23	-9	-2	-2	-6	-9	-9	-6	-5	-1	3	6	15	21	34	77	44	-2	-27	-64	-66	-61	-57	-51	-46
24	-43	-48	-42	-46	-49	-60	-79	-78	-67	-77	-71	-74	-81	-85	-76	-80	-85	-74	-85	-74	-68	-76	-69	-74
25	-61	-62	-69	-70	-67	-64	-68	-64	-50	-48	-40	-34	-34	-37	-41	-43	-47	-43	-39	-41	-43	-40	-39	-40
26	-42	-40	-34	-38	-38	-36	-32	-28	-20	-15	-12	-8	-15	-20	-22	-25	-29	-35	-37	-37	-44	-54	-65	-66
27	-64	-63	-54	-58	-59	-53	-55	-50	-40	-42	-36	-30	-30	-33	-35	-35	-40	-39	-38	-32	-40	-39	-37	-33
28	-32	-33	-38	-42	-33	-31	-24	-23	-18	-20	-18	-18	-17	-22	-26	-29	-33	-37	-40	-37	-38	-39	-38	-36
29	-34	-30	-31	-29	-29	-29	-27	-22	-16	-14	-24	-26	-23	-25	-29	-27	-25	-23	-28	-33	-32	-29	-31	-31
30	-31	-27	-29	-32	-29	-26	-25	-24	-19	-17	-15	-13	-16	-18	-21	-21	-24	-20	-22	-21	-19	-17	-22	-23
31	-17	-14	-21	-20	-18	-19	-18	-11	-7	-7	-8	-12	-12	-16	-14	-18	-22	-17	-18	-22	-23	-22	-20	-20



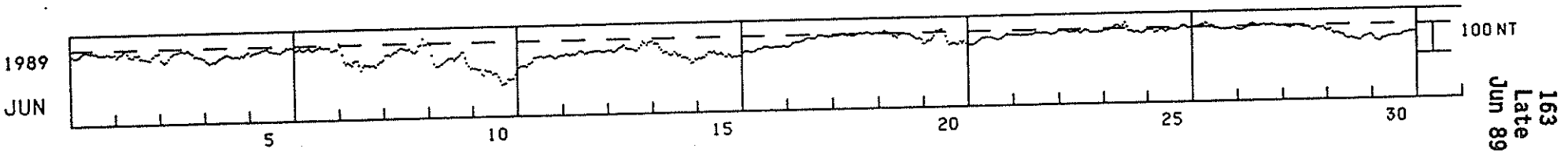
WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

JUNE 1989

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	U.T. 24
1	-18	-23	-26	-24	-21	-13	-9	-7	-5	-8	-10	-9	-12	-10	-16	-17	-17	-15	-17	-13	-15	-17	-17	-16
2	-26	-20	-16	-13	-7	-3	-13	-24	-28	-27	-18	-21	-18	-31	-33	-32	-34	-36	-38	-28	-24	-17	-17	-14
3	-38	-43	-48	-42	-33	-24	-19	-16	-13	-13	-11	-9	-10	-12	-7	-11	-15	-19	-29	-27	-30	-31	-34	-35
4	-44	-47	-52	-50	-46	-49	-43	-37	-34	-31	-28	-24	-26	-29	-32	-32	-31	-31	-34	-28	-30	-24	-20	-17
5	-27	-22	-20	-19	-18	-15	-11	-10	-8	-11	-17	-17	-18	-19	-21	-22	-20	-16	-12	-6	-9	-5	-7	-7
6	-17	-14	-9	-15	-17	-16	-10	-8	-15	-18	-14	-10	-8	-3	-8	-10	-9	-9	-10	-18	-18	-15	-16	5
7	-5	-30	-56	-65	-59	-64	-69	-58	-55	-54	-68	-86	-75	-68	-70	-72	-72	-71	-71	-77	-67	-60	-58	-52
8	-38	-35	-35	-39	-33	-27	-27	-21	-16	-16	-19	-21	-21	-19	-26	-30	-31	-26	-9	-6	15	-6	-5	4
9	-5	-40	-70	-78	-78	-77	-71	-69	-62	-58	-52	-52	-53	-59	-53	-48	-42	-34	-32	-52	-68	-80	-88	-87
10	-89	-89	-93	-92	-106	-112	-93	-98	-96	-100	-108	-106	-106	-117	-130	-144	-140	-139	-126	-127	-125	-124	-110	-98
11	-89	-83	-83	-83	-84	-77	-75	-70	-56	-56	-55	-52	-53	-56	-54	-53	-50	-51	-54	-60	-57	-53	-51	-49
12	-51	-46	-48	-51	-47	-48	-50	-44	-37	-37	-41	-46	-44	-41	-40	-39	-39	-38	-37	-37	-40	-40	-41	-38
13	-38	-38	-42	-42	-37	-30	-27	-24	-20	-30	-34	-34	-34	-36	-40	-39	-31	-22	-11	-16	-22	-14	-11	-11
14	-19	-15	-18	-30	-39	-50	-46	-45	-55	-58	-54	-45	-53	-60	-57	-67	-64	-67	-68	-74	-84	-83	-71	-74
15	-70	-71	-68	-68	-59	-51	-50	-53	-48	-54	-59	-56	-55	-59	-66	-66	-59	-62	-70	-67	-67	-66	-64	-57
16	-54	-50	-51	-51	-54	-52	-51	-47	-43	-44	-41	-36	-35	-37	-40	-41	-39	-37	-38	-38	-39	-36	-36	-39
17	-39	-34	-28	-25	-24	-23	-23	-21	-18	-13	-11	-11	-12	-14	-12	-7	-2	-4	-4	-6	-6	-8	-7	-7
18	-6	-5	-5	-3	0	-1	-4	-5	-4	-5	-5	-6	-1	2	1	0	2	3	4	0	-2	0	1	2
19	4	4	6	7	4	-1	-4	-10	-11	-15	-7	-4	-1	-1	-3	-5	-5	-10	-14	-18	-22	-19	-23	-38
20	-38	-31	-28	-28	-21	-12	5	3	9	9	2	-13	-32	-43	-41	-37	-38	-43	-40	-32	-39	-33	-40	-41
21	-44	-44	-44	-40	-35	-31	-25	-22	-23	-21	-22	-21	-24	-25	-27	-30	-28	-25	-20	-16	-12	-14	-13	-15
22	-16	-15	-16	-17	-15	-15	-15	-15	-14	-15	-12	-8	-10	-11	-10	-10	-11	-10	-13	-15	-14	-12	-8	-4
23	-3	-4	-4	-5	-9	-10	-9	-8	-8	-6	-10	-12	-9	-4	-4	-5	-11	-11	-11	-11	-12	-9	-10	-7
24	-4	-4	-5	-2	3	7	10	11	6	4	10	18	5	-9	-9	-11	-13	-12	-12	-14	-17	-14	-10	-7
25	-5	-6	-7	-15	-13	-12	-7	-3	-8	-13	-9	-6	-5	-5	-6	-6	-4	2	5	5	1	-1	-2	-3
26	0	1	3	5	8	9	13	10	4	4	3	-6	-6	-5	-8	-8	-8	-9	-8	-7	-7	-4	-7	-11
27	-11	-12	-10	-7	-5	1	7	9	7	3	2	4	4	5	2	1	1	3	4	2	-2	0	0	0
28	-2	-4	-5	-9	-5	-3	2	1	0	-3	-5	-7	-6	-5	-8	-15	-17	-13	-9	-8	-8	-7	-14	-20
29	-17	-16	-25	-30	-28	-28	-33	-33	-35	-43	-46	-48	-44	-46	-49	-49	-52	-53	-45	-41	-40	-37	-36	-36
30	-42	-51	-54	-57	-54	-47	-47	-45	-42	-43	-41	-39	-41	-41	-41	-38	-33	-31	-30	-27	-27	-27	-28	-26



163
Late
Jun 89

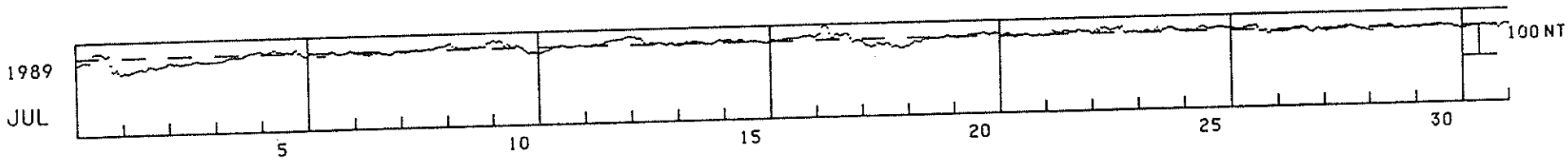
WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

JULY 1989

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							U.T.	
1	-20	-17	-14	-12	-12	-14	-13	2	11	15	15	15	15	10	5	5	8	-20	-43	-44	-38	-46	-53	-52
2	-47	-51	-51	-49	-46	-45	-42	-40	-39	-38	-41	-42	-36	-31	-31	-33	-35	-35	-33	-32	-30	-29	-25	-22
3	-21	-23	-25	-23	-25	-27	-26	-25	-23	-24	-23	-22	-20	-17	-17	-19	-20	-20	-22	-22	-21	-20	-20	-20
4	-20	-19	-18	-17	-16	-12	-10	-9	-9	-9	-9	-9	-8	-7	-3	0	2	3	5	5	6	9	10	9
5	5	4	4	7	9	12	12	9	7	6	3	4	5	3	2	1	8	12	0	1	-6	-10	-11	-10
6	-3	0	-2	-1	-11	-11	-10	-11	-10	-4	2	3	3	0	-3	-6	-6	-4	-4	-2	2	3	2	-1
7	-2	-5	-5	-3	-8	-8	-10	-11	-7	-4	-3	-3	-2	-5	-7	-7	-8	-10	-10	-7	-2	0	0	-3
8	-4	-3	-3	-1	-1	0	1	3	1	-1	1	1	1	3	4	2	4	7	9	10	10	11	12	15
9	19	18	10	4	9	5	4	5	5	5	5	3	6	5	5	4	6	6	5	6	16	19	21	26
10	26	21	22	25	20	9	4	13	9	4	3	3	8	5	1	-2	-8	-13	-18	-16	-16	-15	-17	-20
11	-19	-17	-13	-11	-10	-9	-5	-3	1	2	3	4	4	1	-2	-2	-2	-1	0	2	2	2	1	0
12	-2	0	2	4	5	5	4	5	5	7	12	13	15	16	16	17	18	19	21	21	23	26	28	26
13	26	26	21	20	20	14	7	-1	1	6	5	3	3	5	5	3	1	-1	-1	1	3	0	-3	-3
14	-6	-3	0	4	6	2	4	6	6	5	4	3	2	-1	-2	-1	-2	-3	0	4	6	8	7	7
15	8	8	9	6	3	1	5	8	9	7	1	0	2	3	2	3	2	1	0	-1	-4	-5	-2	3
16	5	5	4	4	4	4	6	7	8	8	9	9	8	8	8	12	14	13	14	15	15	12	10	12
17	16	20	40	45	46	38	21	7	7	15	18	13	13	15	19	19	15	3	-8	-7	-3	-3	-5	-9
18	-16	-20	-21	-24	-28	-22	-22	-16	-15	-18	-21	-18	-16	-17	-22	-29	-25	-26	-27	-30	-33	-30	-27	-26
19	-25	-21	-17	-11	-14	-14	-13	-7	-6	-6	-6	-4	-3	-4	-3	-3	-1	-1	0	2	5	1	0	-1
20	-2	-3	-2	-1	-1	0	2	6	6	7	7	7	8	9	12	11	8	5	3	8	9	10	8	1
21	-1	1	5	8	6	2	-1	-6	-4	1	1	0	4	3	2	-1	-4	-3	-2	-1	2	-1	-4	-2
22	-2	-1	3	11	9	7	5	7	9	10	11	9	6	6	7	6	11	12	8	8	7	8	6	1
23	0	7	13	8	16	17	18	15	12	9	11	14	15	18	14	21	4	-1	1	3	2	3	3	2
24	0	-1	-1	5	6	3	0	-1	7	13	5	-1	6	6	10	14	14	13	9	5	4	4	2	1
25	4	6	3	3	1	1	6	11	14	15	11	9	7	9	9	10	11	11	12	11	8	9	9	9
26	6	5	5	4	4	5	8	8	11	11	11	13	15	7	-6	-6	-3	-4	-12	-12	-6	-5	-7	-7
27	-7	-7	-9	-6	-7	-3	-1	3	5	4	5	5	6	4	3	-3	-8	-10	-8	-3	1	0	-5	-4
28	-8	-8	-5	-3	-4	-3	-3	3	3	3	7	8	5	6	5	4	2	-1	-2	-7	-3	-5	-8	-9
29	-12	-10	-1	2	3	4	4	4	4	9	7	3	-4	-6	-5	-3	-1	-4	-5	-2	-3	-2	0	-1
30	-3	-5	-4	1	4	3	2	3	4	5	5	6	5	4	1	2	3	2	1	-5	-4	-6	-8	-10
31	-10	-9	-5	-6	-3	-2	-3	-2	-1	1	3	0	-1	-2	-4	-3	-1	-4	-10	-4	0	3	4	2



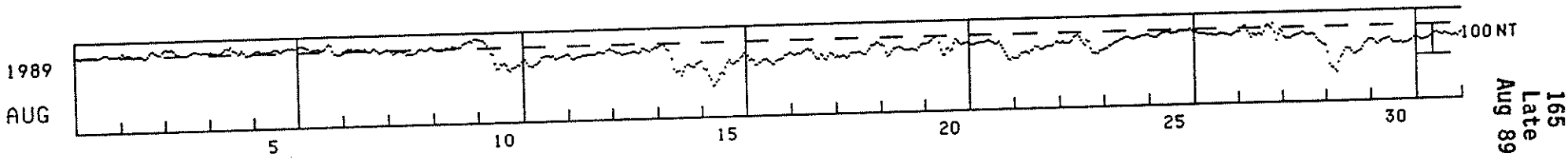
WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

AUGUST 1989

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																	U.T.							
1	2	-1	-3	0	1	1	4	4	3	4	1	-1	0	3	7	10	9	3	2	2	3	1	4	6
2	13	10	5	6	7	4	-1	-2	1	3	4	0	-6	-7	0	10	17	17	12	7	5	5	13	21
3	22	20	19	22	17	9	5	3	1	0	0	1	2	6	8	11	11	10	8	6	9	8	8	7
4	10	7	6	5	4	5	9	14	20	21	18	25	14	11	9	0	5	11	4	-5	-5	-4	-2	4
5	8	10	10	7	5	5	7	6	7	8	11	12	12	7	3	8	11	14	15	13	15	13	13	13
6	20	21	21	17	14	11	5	6	8	9	10	9	5	7	11	21	26	21	4	-7	-9	-10	-10	-7
7	-3	5	9	8	8	4	7	6	6	3	2	7	0	-4	-4	3	9	1	-4	-8	-6	-1	2	4
8	1	-6	-14	-11	-6	-2	-4	-7	-5	-15	-13	-14	-15	-12	-9	-2	2	2	-1	-4	-1	3	7	3
9	-1	-5	-5	-4	-5	-2	4	4	2	6	8	5	3	4	5	13	18	19	23	25	21	31	31	29
10	28	25	23	17	9	-1	-19	-22	-53	-72	-69	-56	-58	-53	-60	-73	-79	-70	-68	-66	-60	-61	-50	-48
11	-42	-52	-62	-64	-66	-59	-58	-53	-47	-36	-34	-32	-31	-33	-35	-33	-40	-43	-39	-38	-34	-34	-29	-27
12	-32	-40	-46	-43	-39	-37	-37	-32	-32	-33	-30	-31	-30	-30	-30	-25	-22	-25	-27	-25	-19	-17	-14	-19
13	-21	-26	-28	-27	-32	-34	-31	-31	-29	-27	-24	-26	-28	-31	-25	-16	-16	-20	-22	-25	-18	-17	-12	-14
14	-8	-6	-1	-9	-19	-23	1	-52	-86	-96	-93	-93	-109	-95	-79	-73	-73	-78	-82	-81	-72	-68	-65	-62
15	-87	-91	-90	-112	-123	-146	-142	-133	-125	-106	-102	-106	-85	-70	-61	-70	-75	-72	-65	-64	-54	-49	-39	-33
16	-49	-65	-59	-64	-80	-80	-73	-72	-64	-62	-61	-68	-73	-78	-79	-70	-66	-64	-63	-60	-51	-50	-44	-42
17	-47	-51	-48	-46	-48	-44	-39	-34	-32	-35	-36	-46	-59	-67	-65	-51	-54	-66	-69	-58	-48	-49	-55	-63
18	-57	-63	-59	-56	-59	-67	-60	-50	-48	-47	-50	-45	-46	-51	-54	-54	-44	-37	-26	-25	-22	-16	-18	-25
19	-23	-29	-51	-62	-57	-47	-39	-38	-35	-33	-34	-39	-42	-44	-43	-43	-41	-43	-44	-48	-36	-29	-25	-23
20	-24	-23	-19	-13	-7	-6	0	-22	-48	-63	-62	-44	-43	-51	-45	-26	-12	-19	-26	-31	-28	-26	-23	-26
21	-30	-33	-30	-27	-25	-26	-24	-25	-22	-21	-19	-23	-27	-32	-30	-26	-37	-48	-60	-73	-83	-87	-78	-80
22	-82	-81	-73	-65	-62	-60	-63	-66	-58	-54	-44	-44	-46	-52	-53	-49	-46	-43	-43	-44	-39	-33	-29	-33
23	-36	-29	-34	-34	-36	-33	-28	-16	-12	-8	-16	-27	-38	-44	-27	-33	-56	-69	-72	-71	-73	-65	-63	-60
24	-58	-56	-48	-47	-43	-38	-36	-34	-29	-27	-23	-21	-21	-22	-26	-28	-25	-22	-21	-19	-16	-17	-13	-16
25	-20	-21	-23	-23	-18	-13	-10	-7	-7	-6	-10	-10	-10	-9	-8	-3	-4	-4	-3	-3	-3	2	-5	-8
26	-9	-12	-15	-14	-14	-15	-18	-18	-17	-20	-21	-22	-19	-16	-15	-15	-18	-19	-22	-24	-18	-15	-11	-12
27	-10	0	7	8	-10	-21	-31	-20	-22	-26	-19	-21	-23	-14	3	10	5	-1	14	-17	-43	-24	-7	-14
28	-30	-36	-36	-35	-35	-30	-27	-28	-24	-22	-17	-18	-23	-27	-26	-24	-23	-28	-39	-47	-51	-58	-59	-62
29	-86	-125	-136	-139	-146	-153	-121	-104	-96	-83	-75	-75	-77	-84	-93	-93	-88	-84	-82	-72	-60	-54	-47	-45
30	-46	-50	-57	-62	-56	-51	-48	-47	-44	-43	-51	-57	-59	-57	-59	-56	-62	-59	-60	-57	-53	-49	-42	-41
31	-42	-47	-51	-51	-48	-45	-42	-38	-33	-29	-28	-32	-34	-35	-31	-32	-35	-37	-40	-37	-36	-40	-33	-28



165
Late
Aug 89

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."