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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
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OCTOBER 1989 NUMBER 542 - Part I

Solar-Geophysical Data prompt reports

Data for September, August 1989, and Late Data

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NATIONAL GEOPHYSICAL DATA CENTER
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Boulder, Colorado

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

NUMBER 542

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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

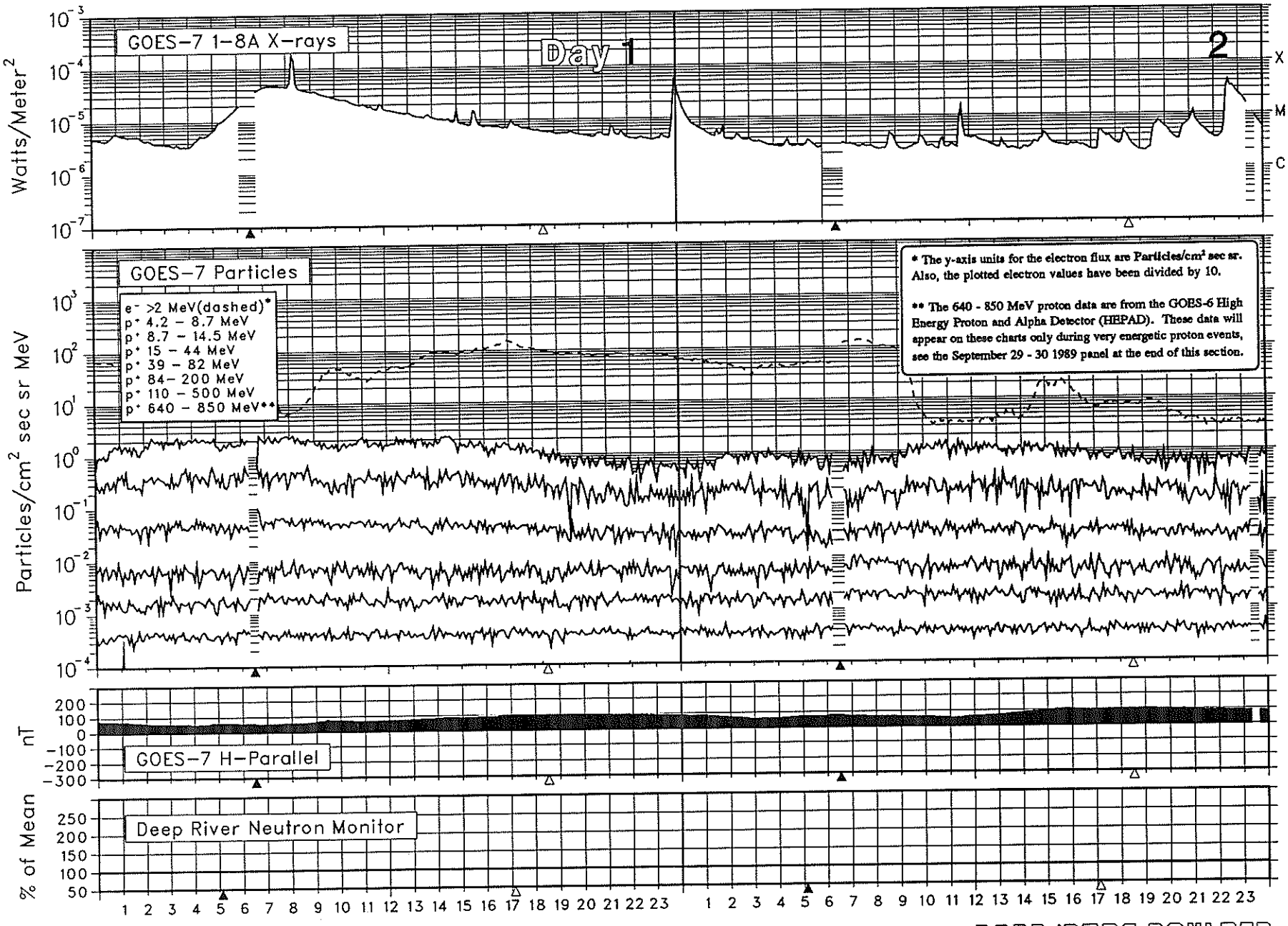
CODE	KIND OF OBSERVATION	FEB 89	MAR	APR	MAY	JUN	JUL	AUG	SEP
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	536A 61	537A 43	538A 55	539A 63	540A 44	541A 57	542A 67	
A.2aa	Internat. Provisional Sunspot Numbers	535A 13	536A 13	537A 11	538A 13	539A 15	540A 13	541A 13	542A 27
A.2c	American Sunspot Numbers	535A 13	536A 13	537A 11	538A 13	539A 15	540A 13	541A 13	542A 27
A.3a	Mt. Wilson Magnetograms	536A 61	537A 43	538A 55	539A 63	540A 44	541A 57	542A 67	
A.3b	Mt. Wilson Sunspot Magnetic Class	536A 89	537A 74	538A 85	539A 94	540A 74	541A 88	542A 98	
A.3c	Kitt Peak Magnetograms	536A 61	537A 43	538A 55	539A 63	540A 44	541A 57	542A 67	
A.3d	Mean Solar Magnetic Field (Stanford)	535A 37	536A 51	537A 33	538A 44	539A 50	540A 33	541A 45	542A 56
A.3e	Stanford Magnetograms	536A 61	537A 43	538A 55	539A 63	540A 44	541A 57	542A 67	
A.4	H-alpha Filtergrams	536A 61	537A 43	538A 55	539A 63	540A 44	541A 57	542A 67	
A.6	H-alpha Synoptic Charts	537A144	538A138	538A 46	539A 54	540A 36	541A 48	542A 58	
A.6b	Active Region Carte Synoptique (Paris)	Dec 88 in 541B176; Jan-Feb 89 in 542B 78							
A.6c	Stanford Solar Mag Field Synoptic Maps	536A 55	537A 37	538A 48	539A 56	540A 38	541A 50	542A 60	
A.6d	Kitt Peak " Mag Field Synoptic Maps	536A 60	537A 42	538A 47	539A 62	540A 37	541A 56	542A 66	
A.6e	Mass Ejections from the Sun	540B 75	541B158	542B 61					
A.6f	Active Prominences and Filaments	540B 76	541B160	542B 62					
A.6g	Sac Peak Coronal Line Synoptic Maps	536A 56	537A 38	538A 50	539A 58	540A 40	541A 52	542A 62	
A.7h	Coronal Line Emission (Sac Peak)	536A 61	537A 43	538A 55	539A 63	540A 44	541A 57	542A 67	
A.8aa	2800 MHz - Solar Flux (Ottawa)	535A 13	536A 13	537A 11	538A 13	539A 15	540A 13	541A 13	542A 27
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	535A 13	536A 13	537A 11	538A 13	539A 15	540A 13	541A 13	542A 27
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	535A 13	536A 13	537A 11	538A 13	539A 15	540A 13	541A 13	542A 27
A.10a	Interferometric Chart (164 MHz) Nancay	535A 31	536A 35	538A140	539A156	539A 39		541A 34	542A 47
A.10c	East-West Scans - 21 cm - Fleurs	535A 29	536A 33	537A 27	538A 33	539A 38	540A 28	541A 32	
A.10d	East-West Scans - 43 cm - Fleurs	535A 30	536A 34	537A 28	538A 34	539A 38	540A 29	541A 33	
A.10e	East-West Scans - 10 cm - Ottawa	535A 28	536A 32	537A 26	538A 32	539A 37	540A 27	541A 31	542A 46
A.10f	East-West Scans - 3 cm - Toyokawa	535A 27	536A 31	537A 25	538A 31	539A 36	540A 26	541A 30	542A 45
A.11g	Solar X-ray GOES (graphs/event table)	540B 67	541B148	542B 53					
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)	Sep 85-May 86 in 525B 60; Jul 86-Aug 87 in 539B112							
A.13e	Solar Plasma (IMP H & J)	540B 67	541B147	542B 52					
A.13f	Solar Wind (Pioneer 12)	Jan-Dec 88 in 536A153							
A.16a	SMM Solar Irradiance	Feb 80-Oct 87 in 530B 64							
A.16b	NIMBUS Solar Irradiance	Nov 78-Feb 87 in 523B 49							
A.16c	ERBS Solar Irradiance	1984-88 in 538B101							
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							
B.	IONOSPHERIC RADIO PROPAGATION								
B.52	Field Strength Graphs-North Atlantic	536A142	537A138	538A134					
B.53	Quality Indices on Paths to Germany	536A144	537A140	538A136					
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	535A 16	536A 16	537A 15	538A 16	539A 18	540A 16	541A 17	542A 31
C.1ba	H-alpha Flare Groups	540B 4	541B 4	542B 4					
C.1d	Flare Patrol Observations	535A 26	536A 30	537A 24	538A 30	539A 35	540A 25	541A 29	542A 44
C.1d	Flare Patrol Observations	540B 32	541B 41	542B 26					
C.3	Radio Bursts Fixed Freq.	540B 34	541B 43	542B 28					
C.3	Radio Bursts Fixed Freq. Selected	535A 32	536A 36	537A 30	538A 36	539A 40	540A 31	541A 35	542A 48
C.4d	Radio Bursts Spectral (Culgoora)	Dec 88 in 534A129							
C.4e	Radio Bursts Spectral (Weissenau)	536A124	537A111	538A116	539A135	540A122	541A122	542A140	
C.4f	Radio Bursts Spectral (Sagamore Hill)	536A124	537A111	538A116	539A135	540A122	541A122	542A140	
C.4i	Radio Bursts Spectral (Bleien)	---	---	---	---	---	541A122	542A140	
C.4k	Radio Bursts Spectral (Learmonth)	536A124	537A111	538A116	539A135	540A122	541A122	542A140	
C.4l	Radio Bursts Spectral (Palehua)	536A124	537A111	538A116	539A135	540A122	541A122	542A140	
C.6	Sudden Ionospheric Disturbances	536A117	537A102	538A111	539A129	540A114	541A118	542A133	
D.	GEOMAGNETIC & MAGNETOSPHERIC EVENTS								
D.1a	Geomagnetic Indices	536A137	537A132	538A129	539A150	540A144	541A137	542A158	
D.1ba	27-day Chart of Kp Indices	536A139	537A134	538A131	539A152	540A146	541A139	542A160	
D.1cb	Monthly Mean aa Indices	536A140	537A135	538A132	539A153	540A147	541A140	542A161	
D.1d	Principal Magnetic Storms	536A141	537A136	538A133	539A154	540A148	541A141	542A162	
D.1f	Sudden Commencements/Flare Effects	538A143	540A153	540A154	541A144	541A145			
D.1g	Equatorial Indices Dst	Aug-Dec 87 in 534A163; Mar-Apr 88 in 541A146							
F	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	536A136	537A127	538A123	539A147	540A139	541A136	542A153	
F.1b	Cosmic Ray Neutron Cts (Climax)	536A136	538A141	538A123	539A147	540A139	541A136	542A153	
F.1h	Cosmic Ray Neutron Cts (Thule)	536A136	537A127	538A123	539A147	540A139	541A136	542A153	
F.1i	Cosmic Ray Neutron Cts (Kiel)	536A136	537A127	538A123	539A147	540A139	541A136	542A153	
F.1j	Cosmic Ray Neutron Cts (Tokyo)	536A136	537A127	538A123	539A147	540A139	541A136	542A153	
F.1l	Cosmic Ray Neutron Cts (Huancayo)	536A136	538A141	538A123	540A152	542A167	541A136		
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	535A 4	536A 4	537A 4	538A 4	539A 4	540A 4	541A 4	542A 19

The entry "536A 61" under Feb 1989, for example, means that the sunspot drawings for Feb 1989 appear in SOLAR-GEOPHYSICAL DATA No. 536, Part I, and that they begin on page 61. "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 **SEPTEMBER 1989** Number 542 Part I

SOLAR-TERRESTRIAL ENVIRONMENT
September 1989



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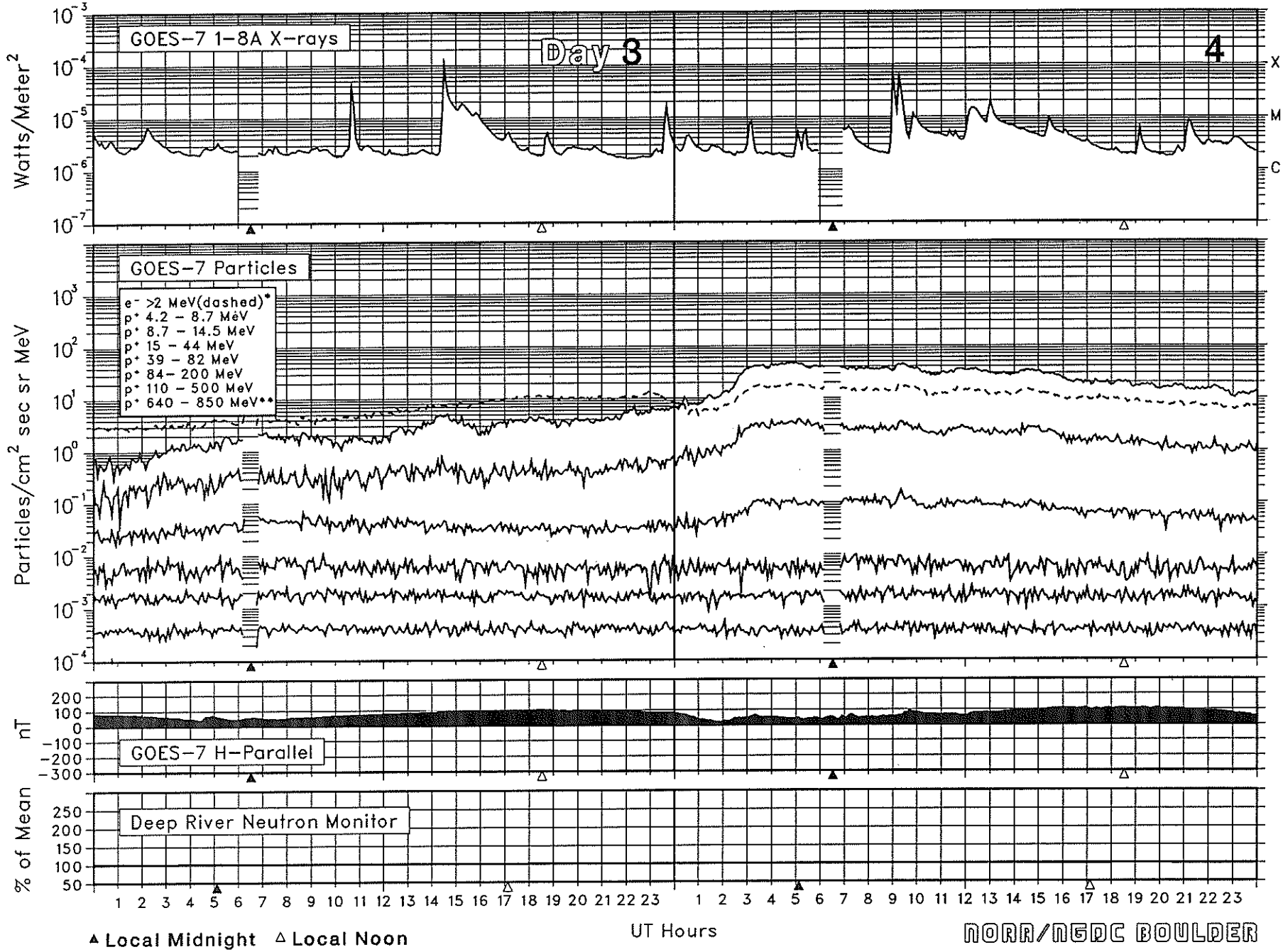
September 1989



5 Sep 89

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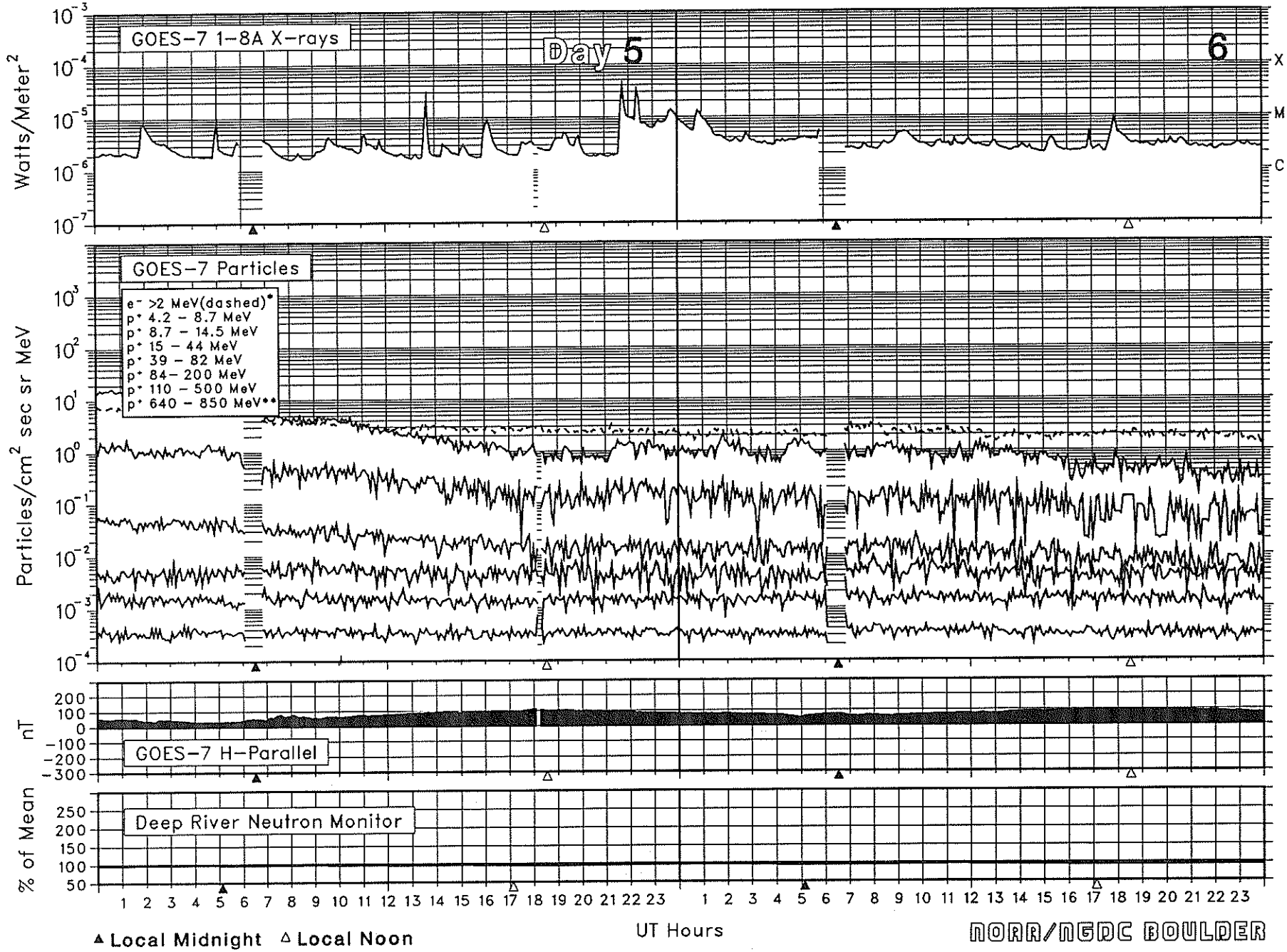
September 1989



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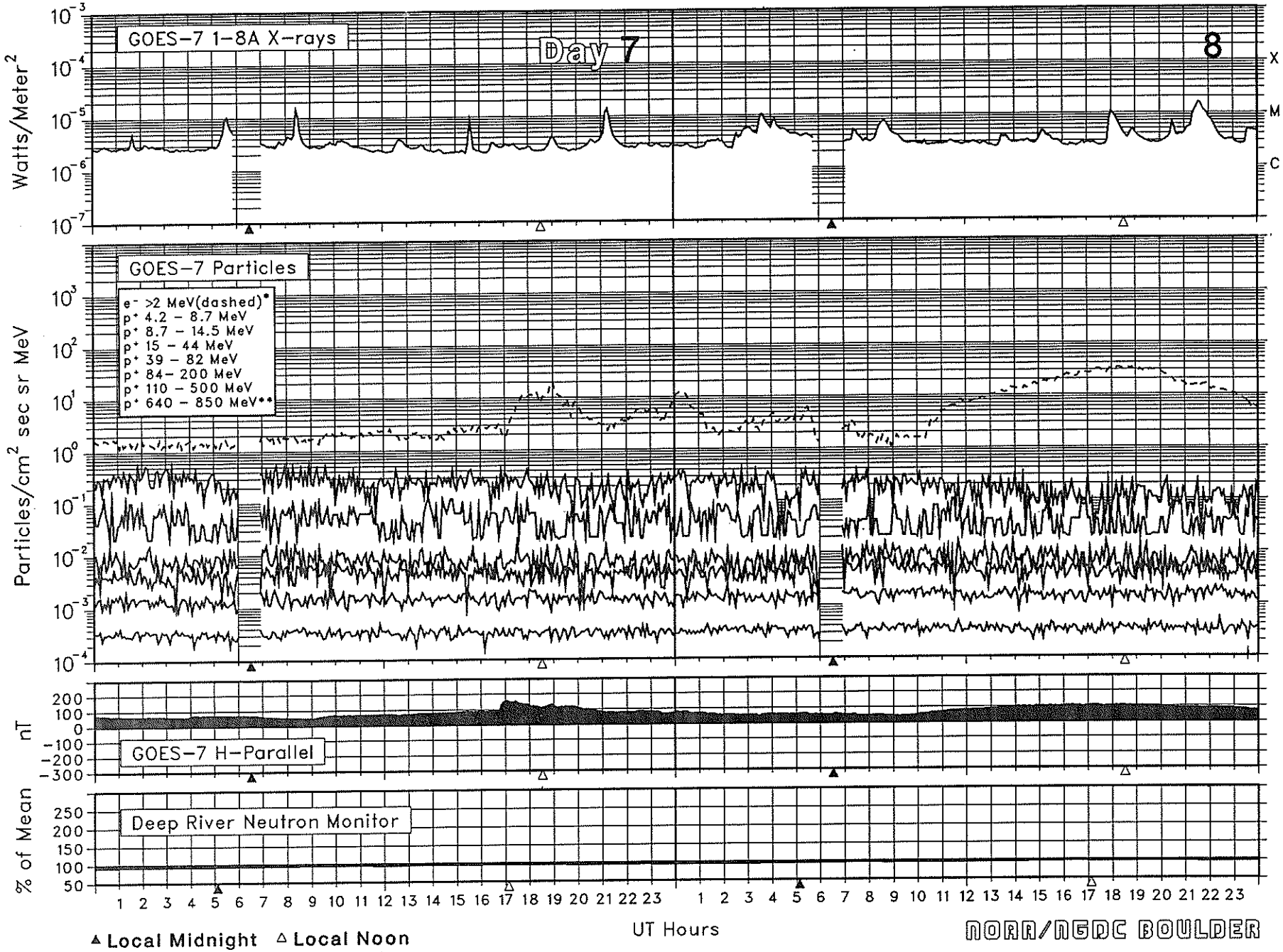
September 1989



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September 1989

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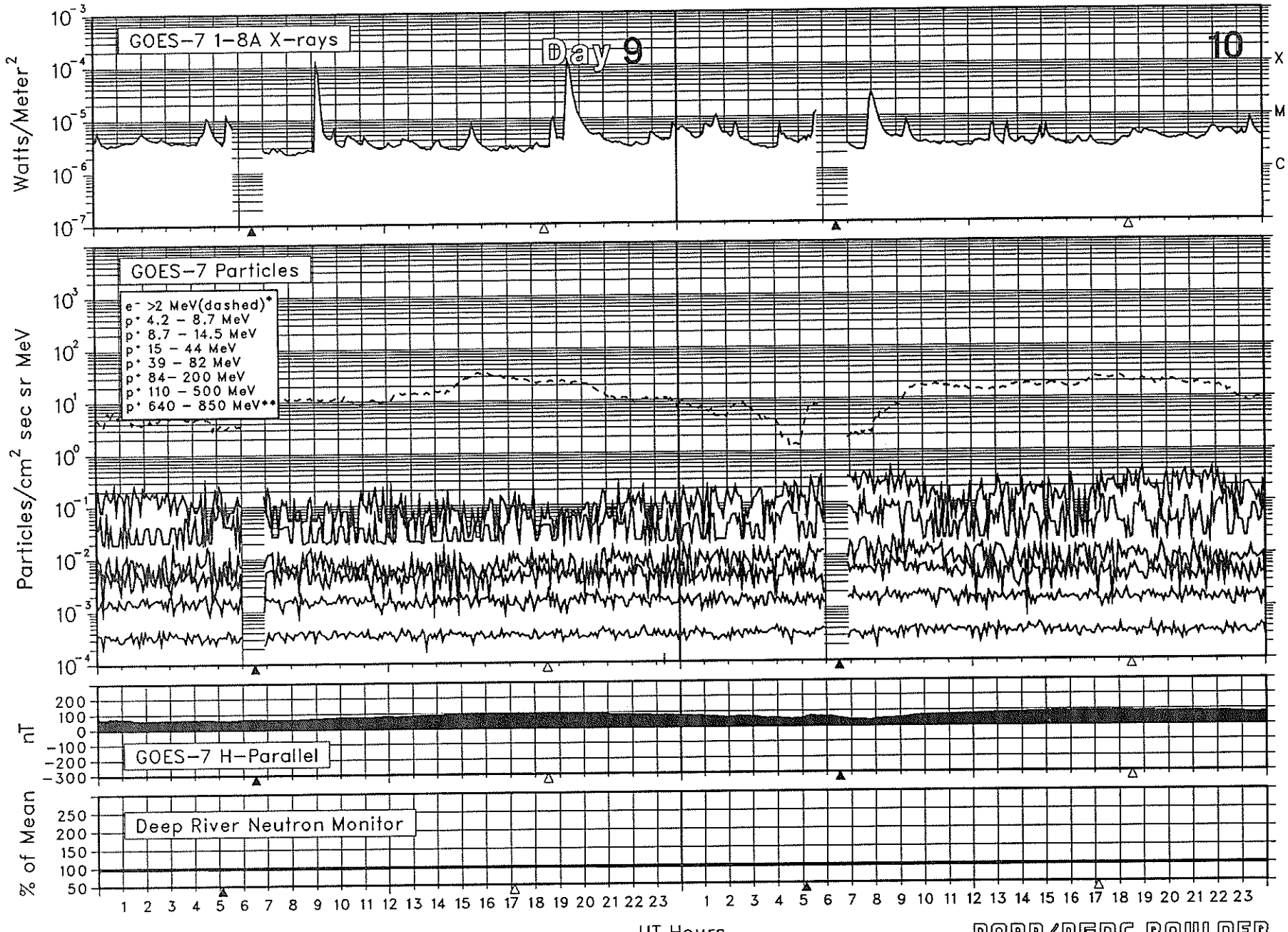

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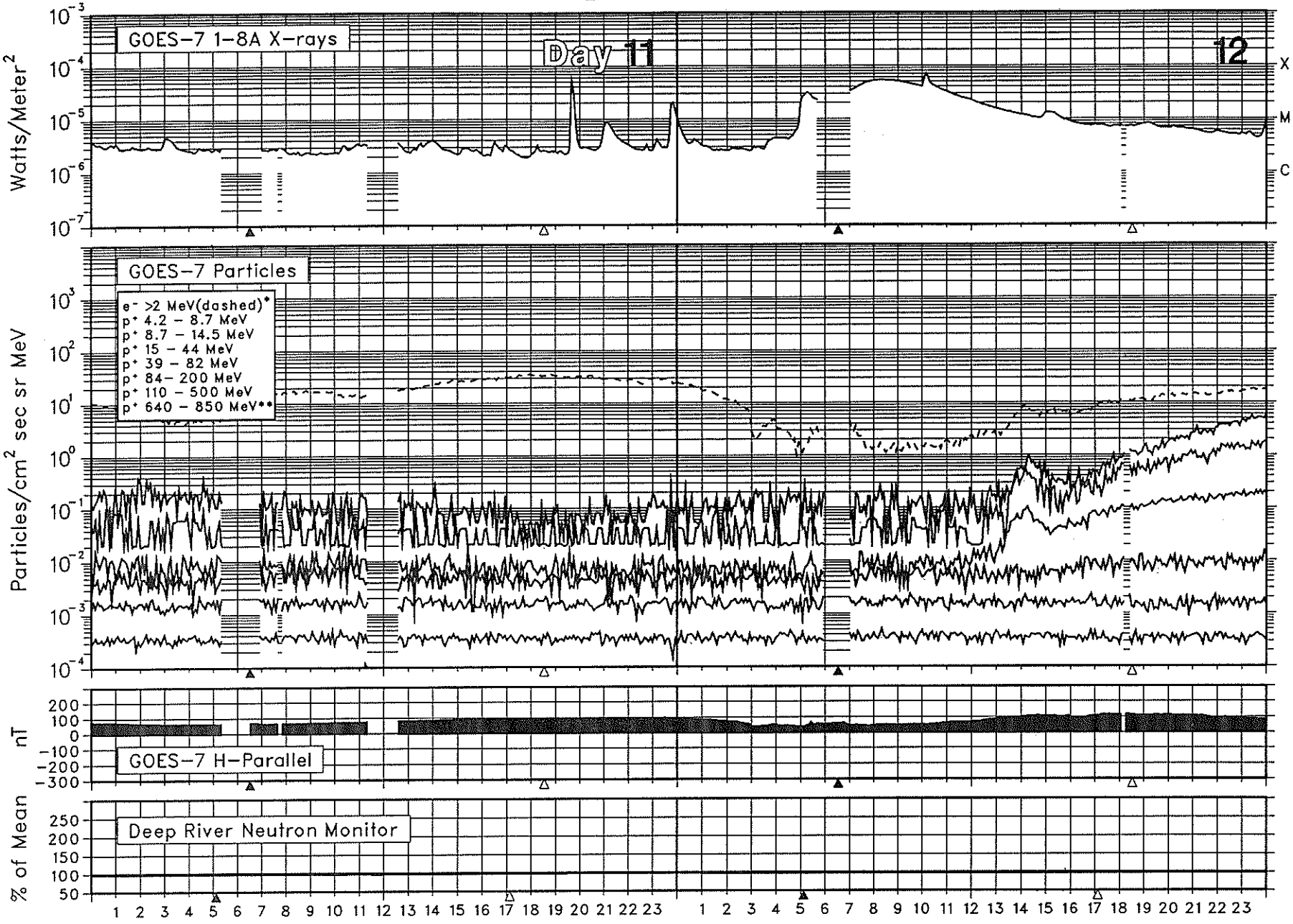


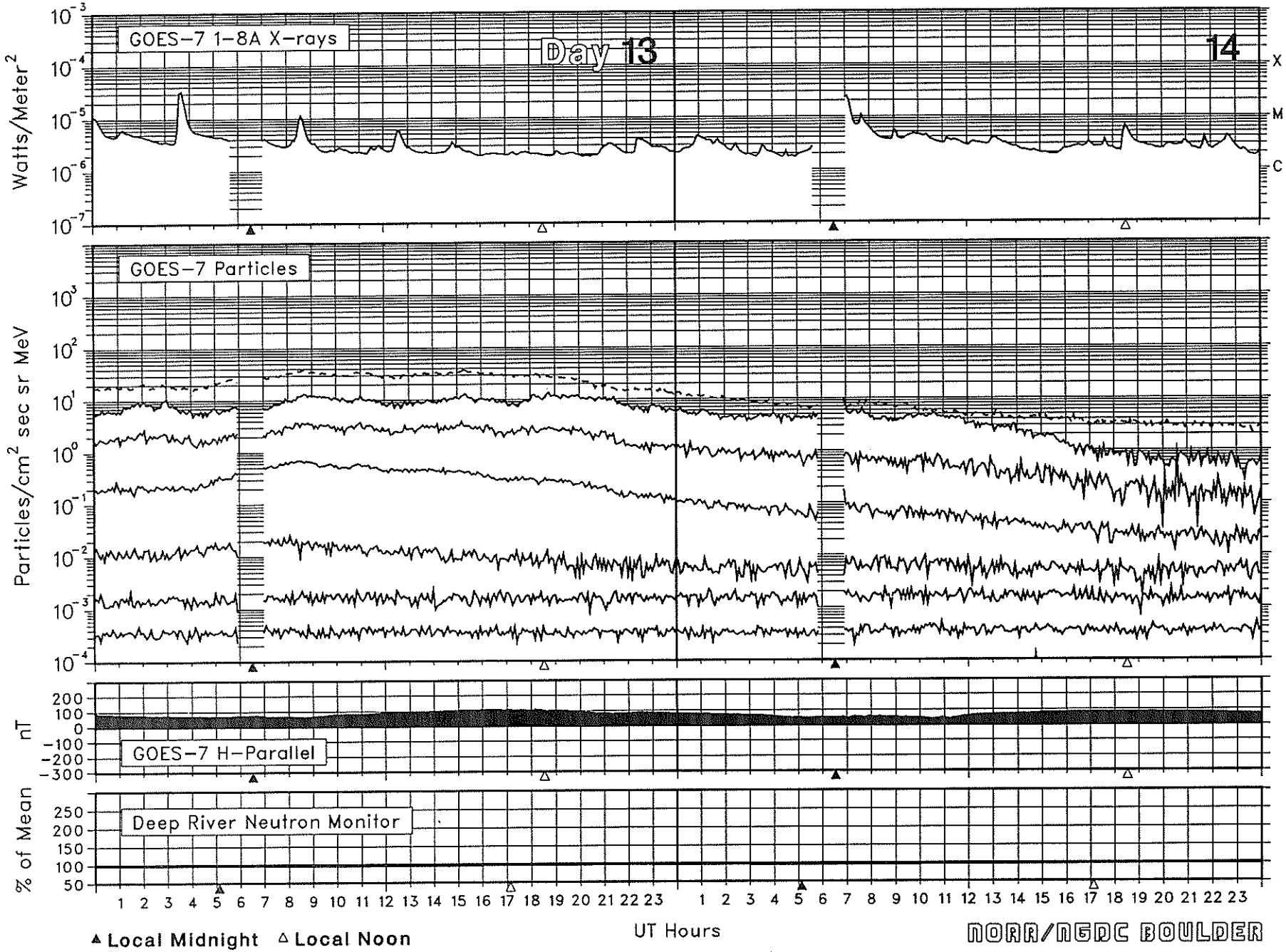
▲ Local Midnight △ Local Noon

NOAA/NGDC BOULDER

Sep 89
9

SOLAR-TERRESTRIAL ENVIRONMENT
September 1989

Sep 89 10



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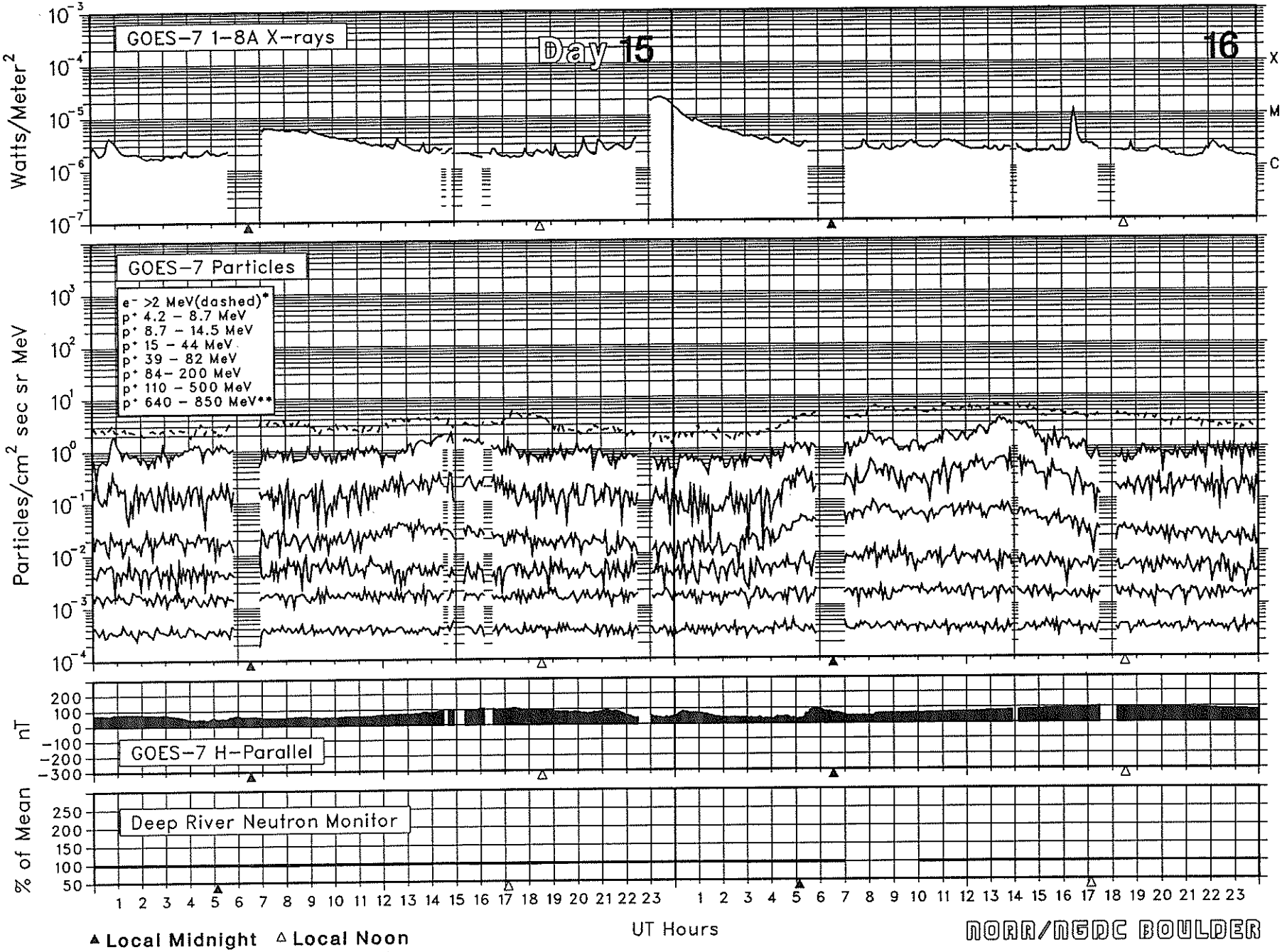
September 1989



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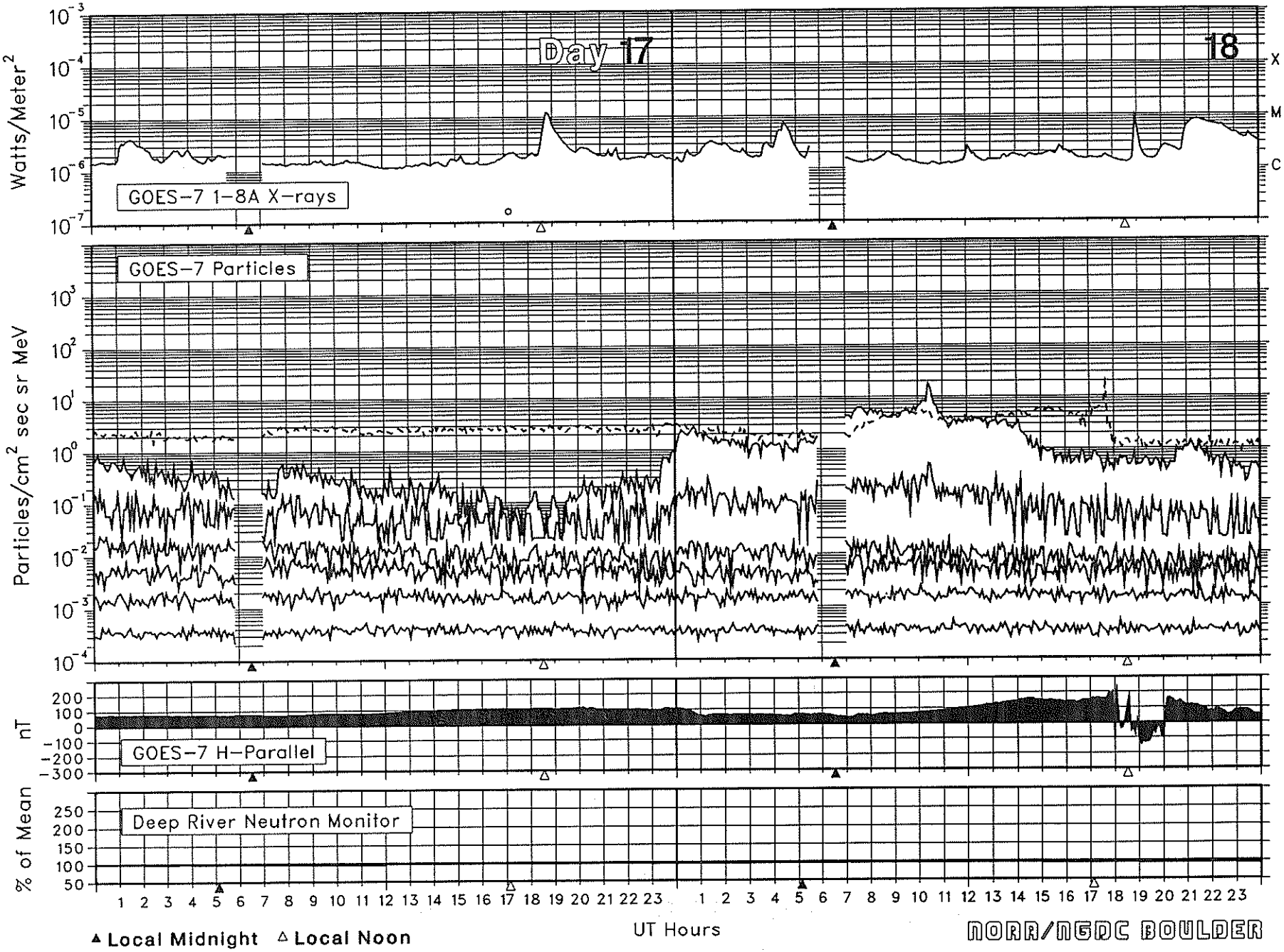
September 1989

12 Sep 89



SOLAR-TERRESTRIAL ENVIRONMENT

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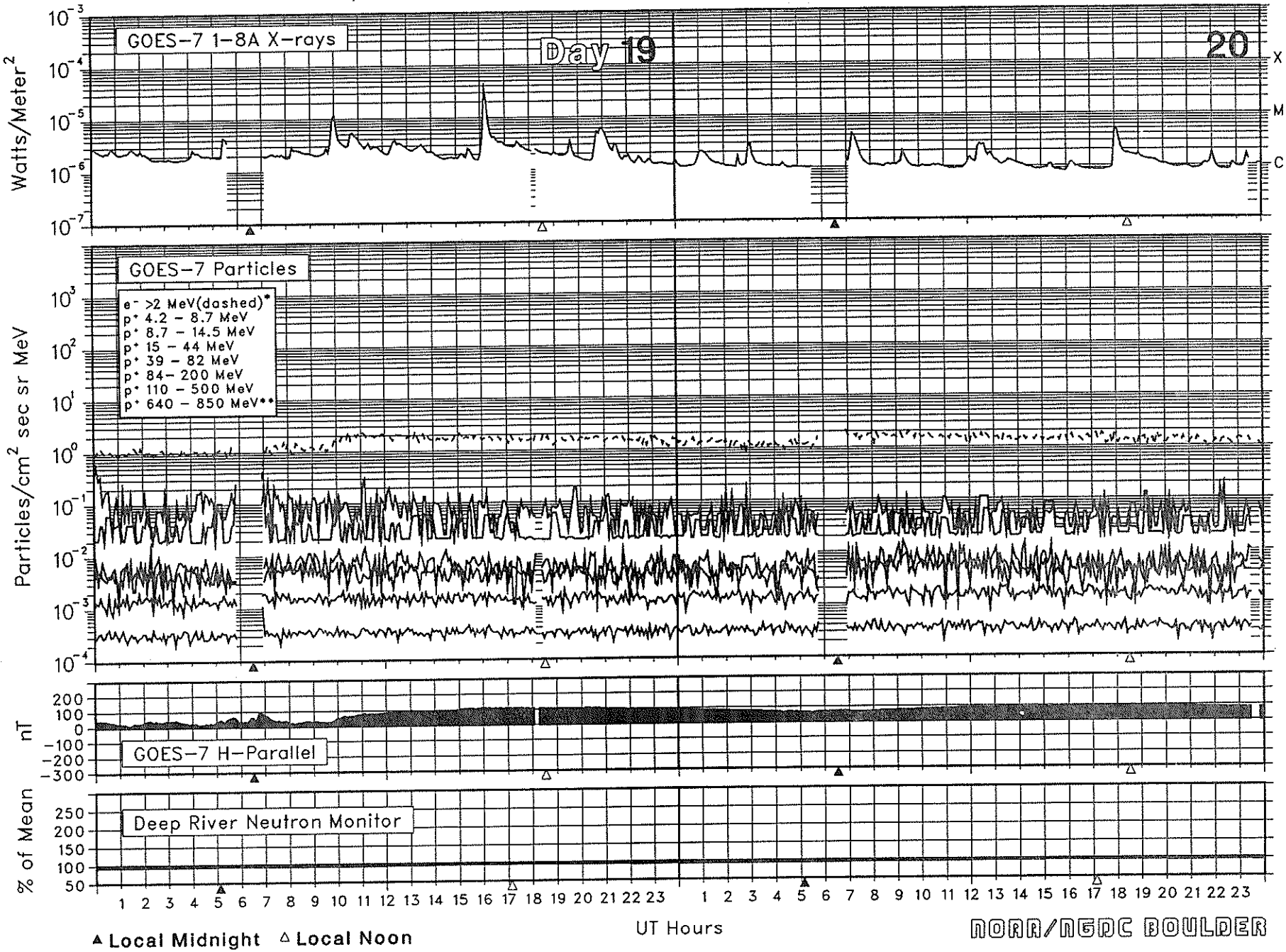
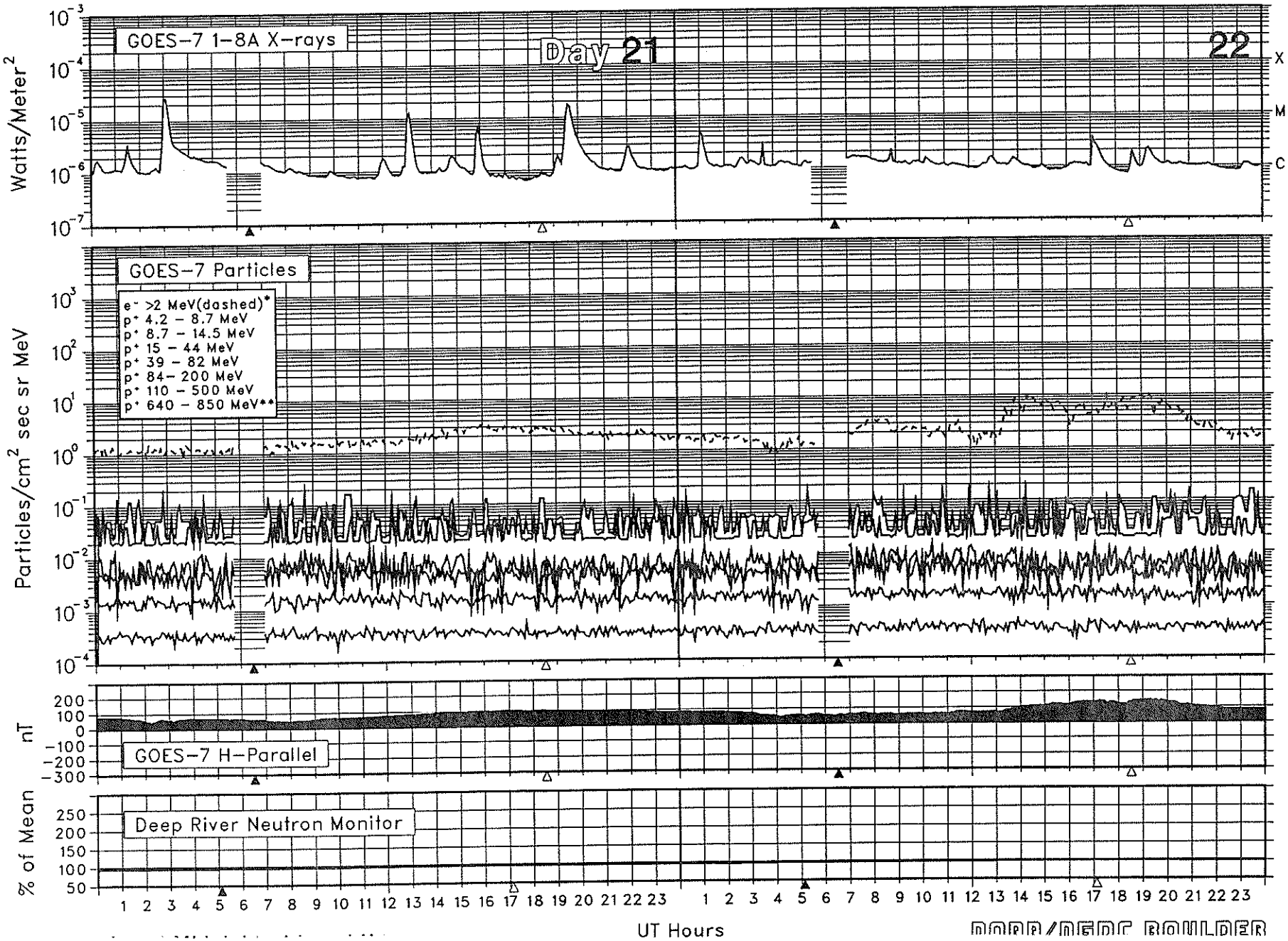


13
Sep 89

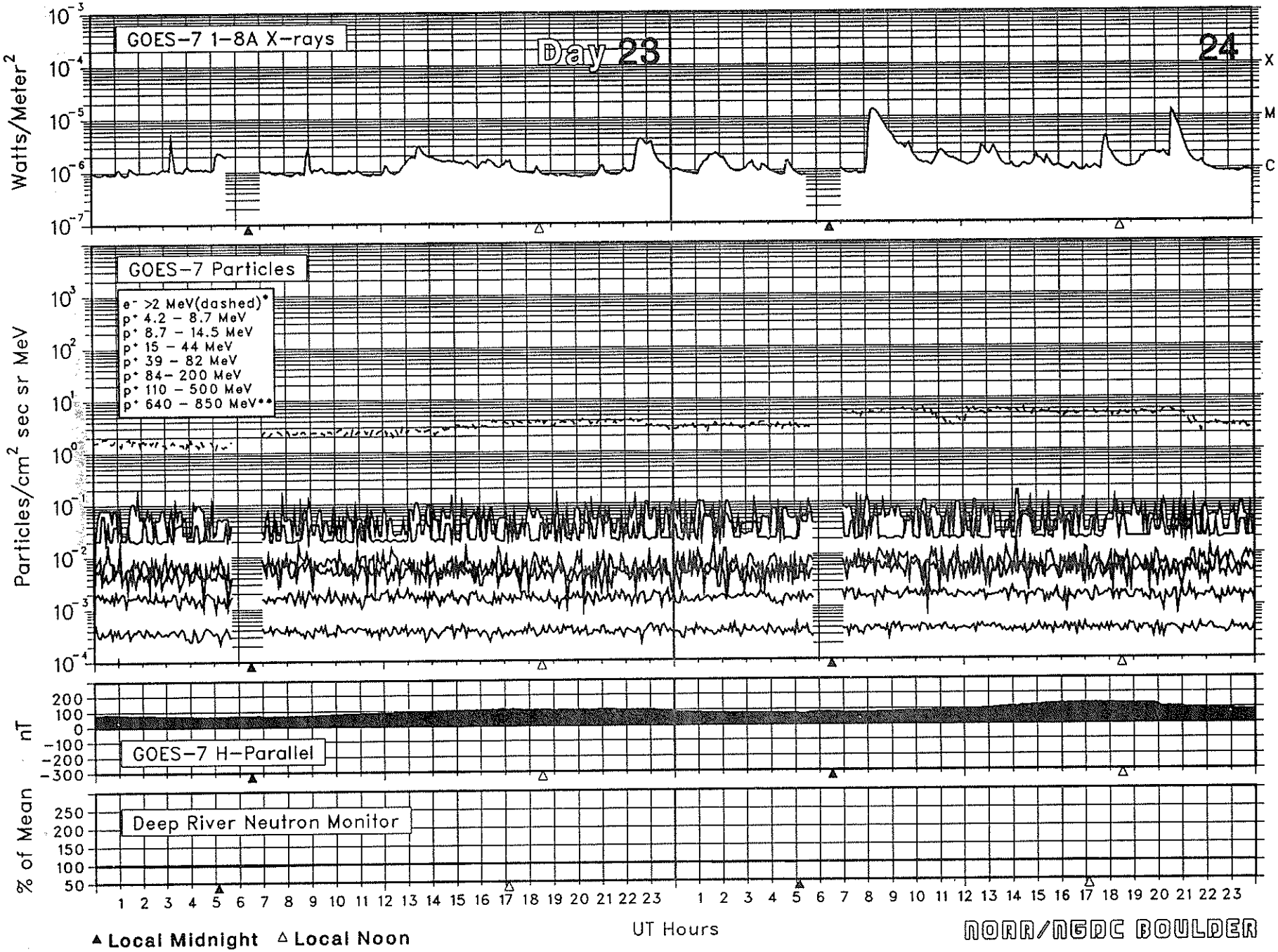
SOLAR-TERRESTRIAL ENVIRONMENT
September 1989

14 Sep 89



NOAA/NEDIS BOULDER

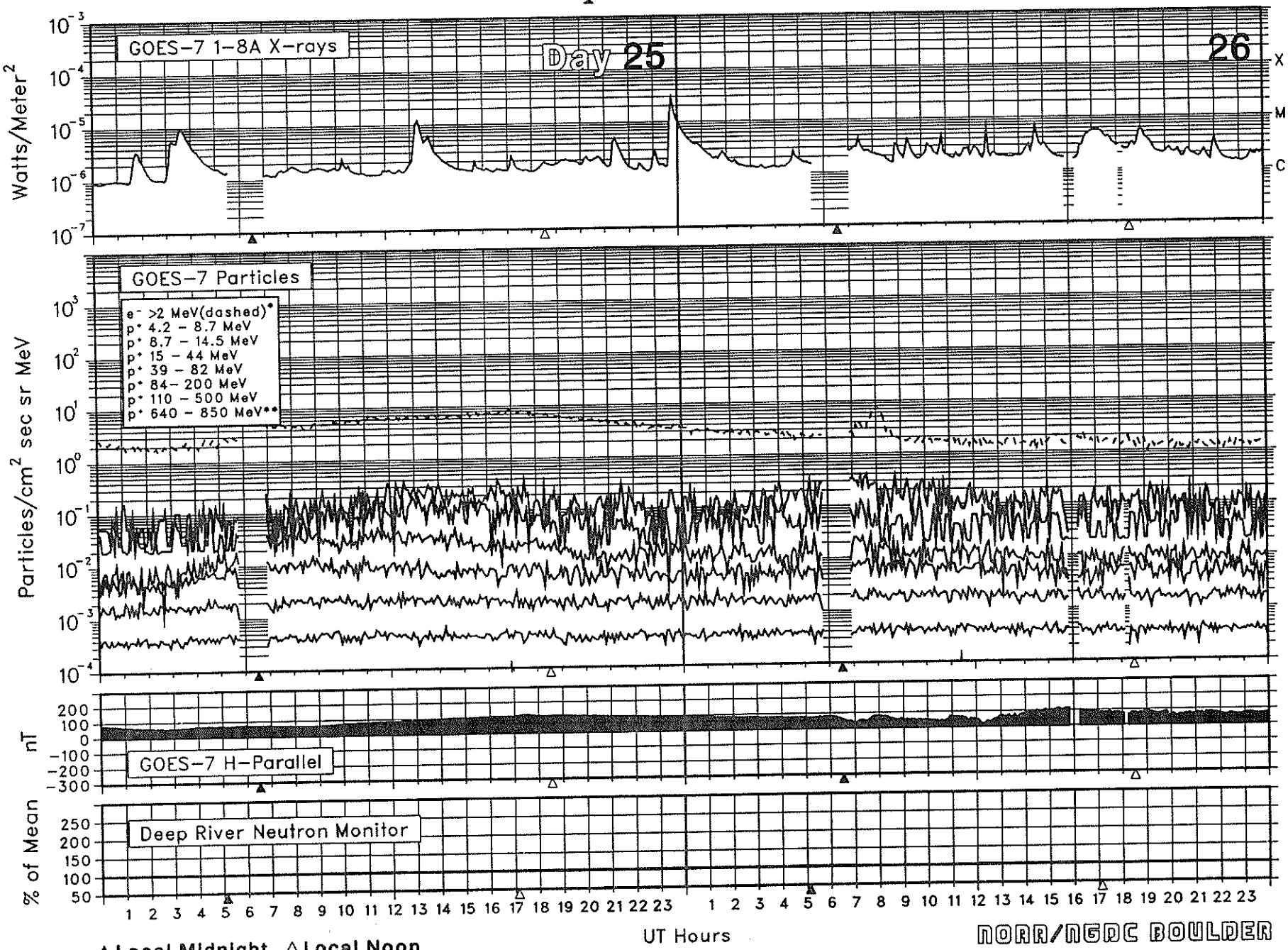
SOLAR-TERRESTRIAL ENVIRONMENT
September 1989



15 Sep 89

SOLAR-TERRESTRIAL ENVIRONMENT
September 1989

Sep 16 89



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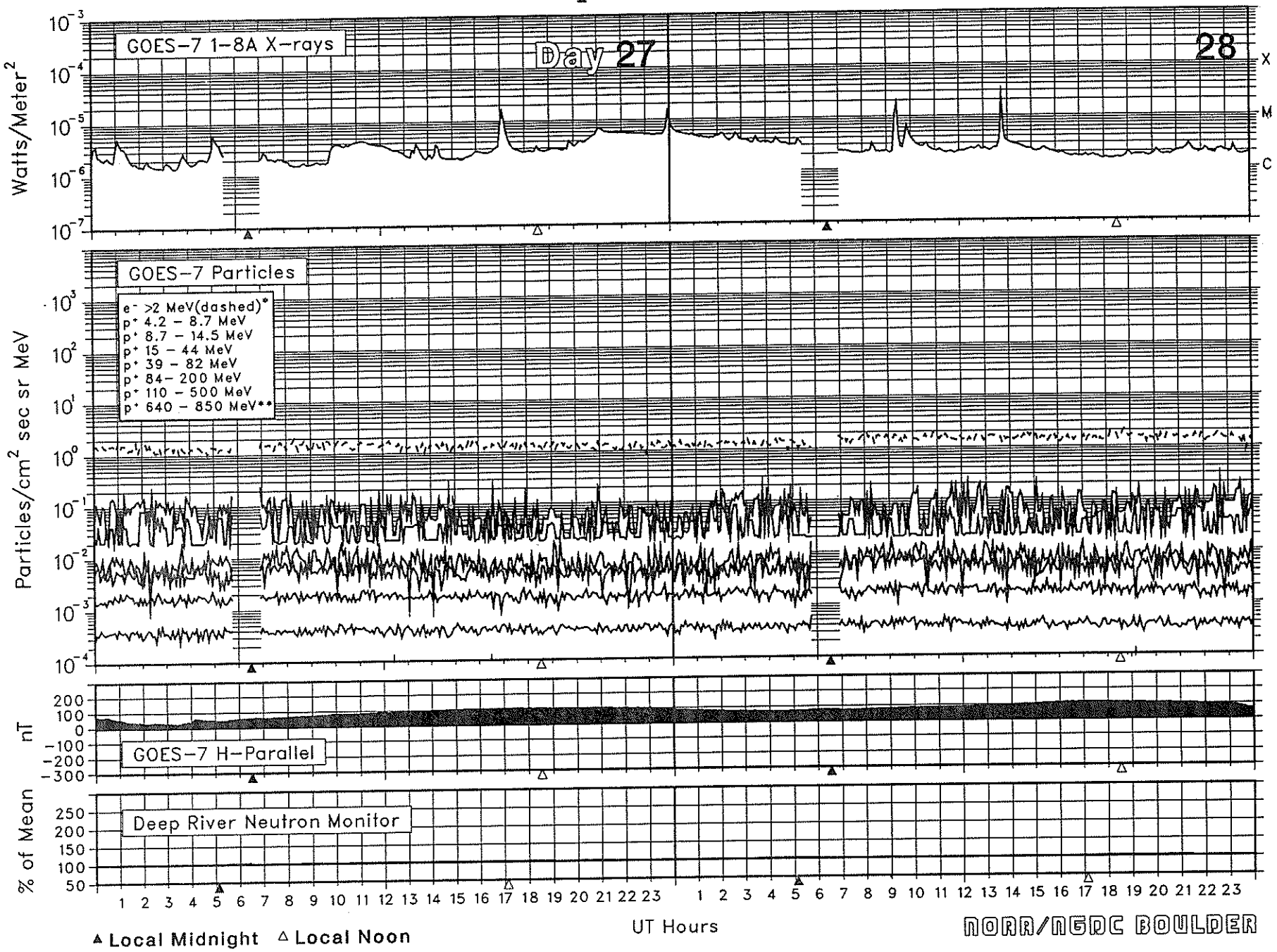
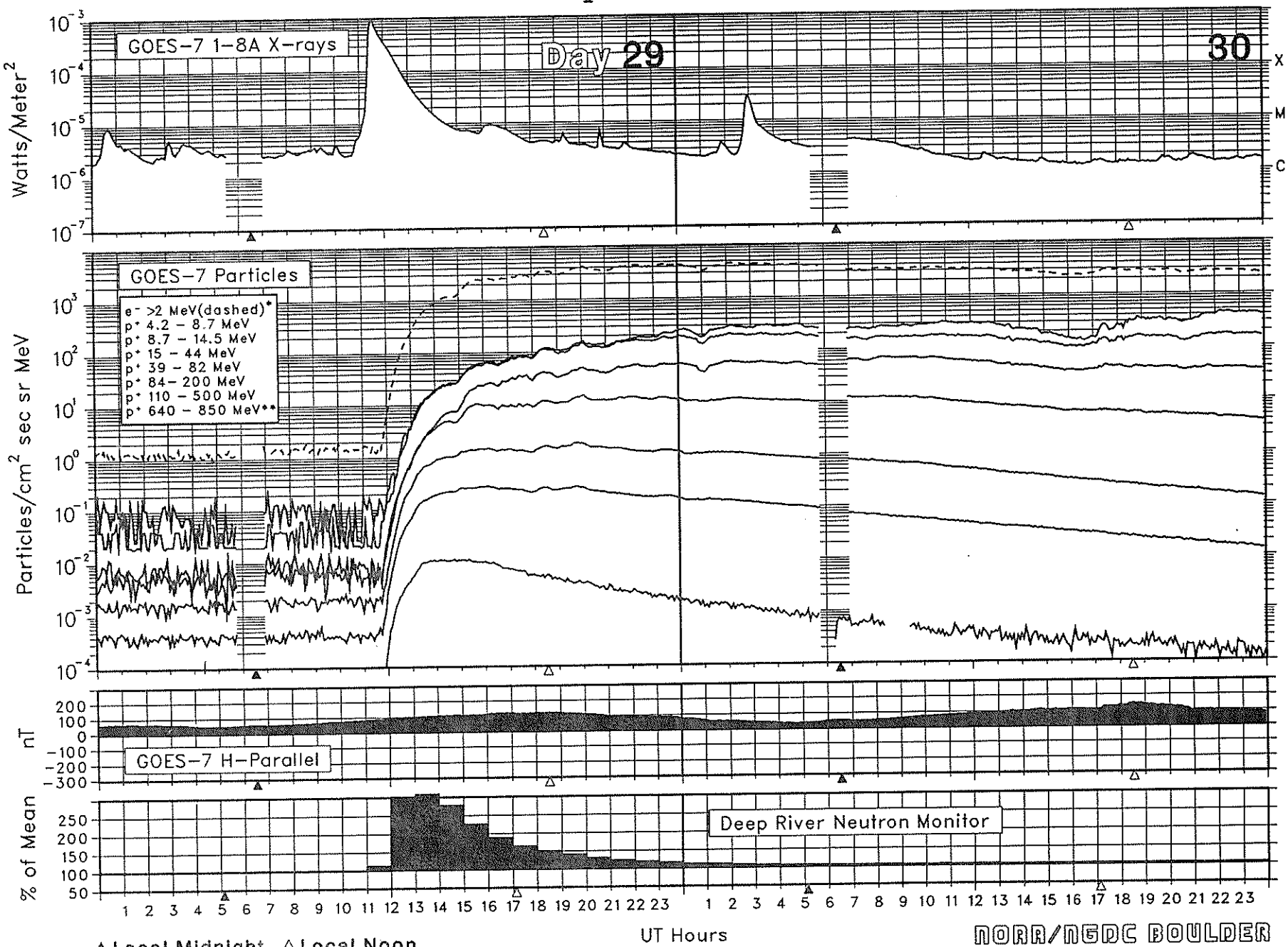


17 Sep 89

SOLAR-TERRESTRIAL ENVIRONMENT
September 1989

Sep 89 18



ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 1989**

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
244	01	31	173	205	004	S21	W89	0	0	0	01	S21	W89	Q	Solalert Major Flare Alert 01/XX 24716 and 26719, Magquiet.
						N24	W47	0	0	0		N24	W47	Q	
						S18	W21	0	0	0		S18	W21	Q	
						N23	E05	0	0	0		N23	E05	Q	
						N32	E43	1	0	0		N32	E43	Q	
						S16	E47	13	2	0		S16	E47	A	
						S27	E15	5	0	0		S27	E15	Q	
						S19	E67	6	1	0		S19	E67	A	
		Presto:[2]	Boulder	Tenflare 210 flux units 31/1605 UT duration 2 minutes.											
			Boulder	Tenflare 280 flux units 31/1615 UT duration 12 minutes.											
245	02	01	196	218	009	N24	W60	1	0	0	02	N24	W60	Q	Solalert Major Flare Alert 02/XX 23315 and 24719, Magalert 03/04 Flare.
						S18	W34	0	0	0		S18	W34	Q	
						N23	W09	0	0	0		N23	W09	Q	
						N32	E28	0	0	0		N32	E28	Q	
						S15	E33	5	1	0		S15	E33	A	
						S26	E02	0	0	0		S26	E02	E	
						S19	E47	13	3	1		S19	E47	A	
						N24	E72	0	0	0		N24	E72	Q	
						N23	E19	0	0	0		N23	E19	Q	
		Presto:[2]	Boulder	Tenflare 3000 flux units 01/0605 UT duration 90 minutes.											
			Boulder	Tenflare 1800 flux units 01/0630 UT duration 95 minutes.											
			Toyokawa	Tenflare 570 flux units 01/0808 UT duration 12 minutes.											
			Boulder	X-ray event X2/SB S20 E65 01/0810 UT duration 10 minutes.											
			Boulder	Tenflare 270 flux units 01/1458 UT duration 2 minutes.											
246	03	02	218	231	009	N24	W73	1	0	0	03	N24	W73	Q	Solalert Major Flare Alert 03/XX 22717, Magalert 03/04 Flare.
						S18	W48	0	0	0		S18	W48	Q	
						N23	W22	0	0	0		N23	W22	Q	
						N31	E14	0	0	0		N31	E14	Q	
						S17	E27	18	5	0		S17	E27	P	
						S25	W11	3	0	0		S25	W11	Q	
						N24	E59	6	0	0		N24	E59	Q	
						N23	E06	0	0	0		N23	E06	Q	
						N22	W41	0	0	0		N22	W41	Q	
		Presto:[2]	Boulder	Tenflare 710 flux units 02/0620 UT duration 19 minutes.											
			Boulder	Tenflare 350 flux units 02/1137 UT duration 7 minutes.											
247	04	03	294	242	012	N25	W85	0	0	0	04	N25	W85	Q	Solalert Major Flare Alert 04/XX 21417, Magalert 04/06 Flare.
						S18	W62	0	0	0		S18	W62	Q	
						N31	E02	0	0	0		N31	E02	Q	
						S17	E14	16	1	1		S17	E14	P	
						S25	W26	3	0	0		S25	W26	E	
						N25	E45	8	0	0		N25	E45	E	
						N23	W07	0	0	0		N23	W07	Q	
						N23	W55	0	0	0		N23	W55	Q	
						N20	W25	0	0	0		N20	W25	Q	
						N27	E75	0	0	0		N27	E75	Q	
		Presto:[2]	Boulder	Tenflare 460 flux units 03/1040 UT duration 7 minutes.											
			Boulder	X-ray event X1/2B S17 E15 03/1427 UT duration 95 minutes.											
			Boulder	Tenflare 5000 flux units 03/1428 UT duration 18 minutes.											
			Toyokawa	Tenflare 250 flux units 03/2335 UT duration 11 minutes.											

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 1989**

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
248	05	04	323	242	018	S18 W75	0	0	0	05	S18 W75	Q	Solalert Major Flare
						N32 W12	0	0	0		N32 W12	Q	Alert 05/XX 20117,
						S17 E01	14	3	1		S17 E01	P	Magalert 05/06 Flare.
						S25 W40	1	0	0		S25 W40	E	
						N24 E32	9	1	0		N24 E32	E	
						N22 W21	0	0	0		N22 W21	Q	
						N18 W36	0	0	0		N18 W36	Q	
						N27 E64	1	0	0		N27 E64	Q	
						S41 W08	0	0	0		S41 W08	Q	
						N19 W05	0	0	0		N19 W05	Q	
						S26 E10	0	0	0		S26 E10	Q	
		Presto:[2]	Kakioka	Magstorm began 04/0026 UT.									
			Boulder	Proton event began 04/0120 UT maximum of 44 particles/cm²-s-ster at greater than 10 MeV 04/0510 UT.									
			Toyokawa	Tenflare 140 flux units 04/0628 UT duration 4 minutes.									
			Boulder	X-ray event X1/2B S17 E20 04/0856 UT duration 18 minutes.									
			Boulder	Tenflare 470 flux units 04/0857 UT duration 12 minutes.									
249	06	05	304	261	018	S18 W90	0	0	0	06	S18 W90	Q	Proton Flare Alert
						N31 W24	0	0	0		N31 W24	Q	06/XX 31117,
						S17 W11	10	4	0		S17 W11	P	Magalert 06 Flare.
						S24 W52	0	0	0		S24 W52	Q	
						N24 E20	4	1	0		N24 E20	E	
						N17 W48	0	0	0		N17 W48	Q	
						N27 E52	3	0	0		N27 E52	E	
						N19 W18	0	0	0		N19 W18	Q	
						N16 E74	0	0	0		N16 E74	E	
						N16 E47	0	0	0		N16 E47	Q	
		Presto:[2]	Boulder	Tenflare 1100 flux units 05/2142 UT duration 18 minutes.									
			Boulder	Tenflare 370 flux units 05/2222 UT duration 5 minutes.									
250	07	06	350	278	015	N30 W36	0	0	0	07	N30 W36	Q	Solalert 07/XX,
						S17 W24	13	1	0		S17 W24	P	Magalert 07/07.
						S26 W66	0	0	0		S26 W66	Q	
						N24 E05	4	0	0		N24 E05	E	
						N18 W62	0	0	0		N18 W62	Q	
						N27 E38	3	0	0		N27 E38	E	
						N16 E62	0	0	0		N16 E62	E	
						N24 E26	1	0	0		N24 E26	Q	
						N18 E54	0	0	0		N18 E54	Q	
						N29 E77	0	0	0		N29 E77	Q	
						N07 E55	0	0	0		N07 E55	Q	
						N20 E77	0	0	0		N20 E77	Q	
		Presto:[2]	Toyokawa	Tenflare 260 flux units 06/0055 UT duration 4 minutes.									
251	08	07	378	305	017	S18 W37	15	4	0	08	S18 W37	A	Solalert 08/XX,
						S26 W82	1	0	0		S26 W82	Q	Magalert 08/08.
						N24 W09	4	0	0		N24 W09	E	
						N18 W75	0	0	0		N18 W75	Q	
						N27 E25	3	0	0		N27 E25	E	
						N16 E52	2	0	0		N16 E52	E	
						N24 E13	1	0	0		N24 E13	Q	
						N18 E41	0	0	0		N18 E41	Q	
						N29 E64	0	0	0		N29 E64	Q	
						N08 E42	1	0	0		N08 E42	Q	
						N19 E67	4	0	0		N19 E67	Q	
						N14 E76	1	0	0		N14 E76	E	
						N28 W00	0	0	0		N28 W00	Q	
		Presto:[2]	Boulder	Tenflare 290 flux units 07/0821 UT duration 10 minutes.									
			Kakioka	Magstorm began 07/1649 UT.									

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — SEPTEMBER 1989

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		
252	09	08	342	295	016	S18 W50	18	2	0	09	S18 W50	A	Solalert 09/XX,
						N24 W22	1	0	0		N24 W22	E	Magnil.
						N27 E10	6	1	0		N27 E10	E	
						N16 E39	5	1	0		N16 E39	E	
						N24 W01	3	0	0		N24 W01	Q	
						N17 E27	0	0	0		N17 E27	Q	
						N28 E49	1	0	0		N28 E49	Q	
						N07 E28	0	0	0		N07 E28	Q	
						N18 E52	4	0	0		N18 E52	E	
						N16 E65	3	0	0		N16 E65	Q	
						N28 W13	0	0	0		N28 W13	Q	
						S10 E73	7	0	0		S10 E73	E	
		Presto:[2]	Toyokawa	Tenflare 170 flux units 08/0407 UT duration 1 minute.									
253	10	09	376	305	009	S18 W61	6	1	1	10	S18 W61	A	Solalert 10/XX,
						N24 W35	4	0	0		N24 W35	E	Magquiet.
						N27 W03	6	0	0		N27 W03	E	
						N16 E26	5	2	1		N16 E26	A	
						N23 W16	2	0	0		N23 W16	E	
						N17 E15	2	0	0		N17 E15	Q	
						N29 E38	0	0	0		N29 E38	Q	
						N07 E13	0	0	0		N07 E13	Q	
						N18 E41	5	0	0		N18 E41	E	
						N16 E53	3	0	0		N16 E53	Q	
						S12 E59	5	0	0		S12 E59	E	
						N12 E65	0	0	0		N12 E65	Q	
		Presto:[2]	Toyokawa	Tenflare 200 flux units 09/0528 UT duration 4 minutes.									
			Sydney	Culgoora Soflare SB N17 E38, intense Type III/V 09/0529 UT, followed by moderate Type II 09/0547 UT.									
			Boulder	X-ray event X1/2B N18 E28 09/0908 UT duration 20 minutes.									
			Boulder	Tenflare 1400 flux units 09/0909 UT duration 14 minutes.									
			Boulder	X-ray event X1/1F S15 W67 09/1925 UT duration 41 minutes.									
			Boulder	Tenflare 830 flux units 09/1927 UT duration 12 minutes.									
254	11	10	395	295	009	S18 W71	5	2	0	11	S18 W71	A	Solalert 11/XX
						N24 W47	2	0	0		N24 W47	E	Magalert 12/12 Flare.
						N27 W15	7	1	0		N27 W15	E	
						N16 E15	6	0	0		N16 E15	A	
						N23 W30	1	0	0		N23 W30	E	
						N16 E01	13	0	0		N16 E01	E	
						N29 E25	0	0	0		N29 E25	Q	
						N07 E02	0	0	0		N07 E02	Q	
						N17 E29	1	0	0		N17 E29	E	
						N16 E38	7	1	0		N16 E38	E	
						S12 E47	0	0	0		S12 E47	Q	
						N21 E53	2	0	0		N21 E53	Q	
						S15 W58	1	0	0		S15 W58	Q	
						S22 E64	0	0	0		S22 E64	Q	
255	12	11	339	299	003	S19 W82	5	1	0	12	S19 W82	A	Solalert 12/XX
						N24 W60	0	0	0		N24 W60	E	Magalert 12/XX.
						N27 W27	2	0	0		N27 W27	E	
						N17 E01	4	1	0		N17 E01	E	
						N17 W14	18	0	0		N17 W14	E	
						N29 E12	1	0	0		N29 E12	Q	
						N08 W13	1	0	0		N08 W13	Q	
						N17 E15	1	0	0		N17 E15	Q	
						N17 E26	2	0	0		N17 E26	E	
						S13 E33	0	0	0		S13 E33	Q	
						N22 E38	4	0	0		N22 E38	E	
						S14 W73	0	0	0		S14 W73	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 1989**

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
255	12	11				S22 E52	0	0	0	12	S22 E52	Q	
						S10 E06	0	0	0		S10 E06	Q	
		Presto:[2]	Boulder	Tenflare 500 flux units 11/1939 UT duration ?? minutes.									
256	13	12	366	288	011	S15 W88	3	2	0	13	S15 W88	A	Solalert 13/XX,
						N25 W75	0	0	0		N25 W75	Q	Magnil.
						N27 W39	4	0	0		N27 W39	E	
						N16 W13	4	0	0		N16 W13	E	
						N24 W52	0	0	0		N24 W52	Q	
						N17 W27	1	0	0		N17 W27	E	
						N07 W26	1	0	0		N07 W26	Q	
						N16 E02	2	1	0		N16 E02	E	
						N17 E13	3	0	0		N17 E13	E	
						S13 E19	0	0	0		S13 E19	Q	
						N22 E26	0	0	0		N22 E26	Q	
						S16 W89	0	0	0		S16 W89	Q	
						S23 E38	0	0	0		S23 E38	Q	
						S10 W08	0	0	0		S10 W08	Q	
						N26 E55	0	0	0		N26 E55	Q	
			Boulder	Proton event began 12/1935 UT maximum of 25 particles/cm^2-s-ster at greater than 10 MeV 12/2355 UT.									
257	14	13	344	245	007	N25 W87	0	0	0	14	N25 W87	Q	Solalert 14/XX,
						N27 W53	8	1	0		N27 W53	E	Magquiet.
						N17 W26	2	0	0		N17 W26	E	
						N23 W68	2	0	0		N23 W68	Q	
						N17 W40	0	0	0		N17 W40	Q	
						N07 W37	0	0	0		N07 W37	Q	
						N15 W09	5	1	0		N15 W09	E	
						N17 W00	1	0	0		N17 W00	E	
						S13 E06	1	0	0		S13 E06	Q	
						N22 E13	2	0	0		N22 E13	Q	
						S23 E26	0	0	0		S23 E26	Q	
						S10 W21	0	0	0		S10 W21	Q	
						N27 E43	2	0	0		N27 E43	Q	
						N28 E17	0	0	0		N28 E17	Q	
		Presto:[2]	Toyokawa	Tenflare 570 flux units 13/0330 UT duration 9 minutes.									
			Boulder	Tenflare 450 flux units 13/0332 UT duration 9 minutes.									
258	15	14	289	241	006	N27 W64	0	0	0	15	N27 W64	E	Solalert 15/XX,
						N17 W38	2	0	0		N17 W38	E	Magalert 15/XX.
						N22 W81	2	0	0		N22 W81	E	
						N17 W53	2	1	0		N17 W53	E	
						N07 W55	0	0	0		N07 W55	Q	
						N17 W21	0	0	0		N17 W21	Q	
						N17 W12	0	0	0		N17 W12	Q	
						S12 W09	0	0	0		S12 W09	Q	
						N21 W01	0	0	0		N21 W01	Q	
						S09 W37	0	0	0		S09 W37	Q	
						N27 E31	3	1	0		N27 E31	E	
						N28 E02	0	0	0		N28 E02	Q	
						N15 E69	0	0	0		N15 E69	Q	
259	16	15	289	223	020	N27 W76	2	0	0	16	N27 W76	E	Solalert 16/XX,
						N17 W52	0	0	0		N17 W52	Q	Magnil.
						N24 W92	0	0	0		N24 W92	Q	
						N17 W67	0	0	0		N17 W67	Q	
						N06 W66	1	0	0		N06 W66	Q	
						N16 W32	1	0	0		N16 W32	E	
						N14 W24	1	1	0		N14 W24	E	
						S12 W22	0	0	0		S12 W22	Q	
						N21 W14	0	0	0		N21 W14	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 1989**

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
259	16	15				S24	E01	0	0	0	16	S24	E01	Q	
						S09	W49	0	0	0		S09	W49	Q	
						N26	E16	2	0	0		N26	E16	E	
						N27	W13	0	0	0		N27	W13	Q	
						N15	E56	0	0	0		N15	E56	Q	
						N28	W52	1	0	0		N28	W52	E	
		Presto:[2]	Boulder	Sudden commencement began 15/0047 UT.											
			Sydney	Culgoora Soflare began 15/2225 UT. Type II began 15/2257UT. Type IV began 15/2300 UT.											
260	17	16	242	228	020	N28	W84	0	0	0	17	N28	W84	Q	Solalert 17/XX,
						N16	W66	3	0	0		N16	W66	E	Magquiet.
						N17	W82	2	1	0		N17	W82	E	
						N16	W45	12	0	0		N16	W45	E	
						N17	W39	1	0	0		N17	W39	E	
						S13	W36	0	0	0		S13	W36	Q	
						N21	W28	0	0	0		N21	W28	Q	
						S11	W64	0	0	0		S11	W64	Q	
						N25	E03	0	0	0		N25	E03	E	
						N28	W64	11	0	0		N28	W64	E	
						S25	E63	2	0	0		S25	E63	E	
						S14	E53	1	0	0		S14	E53	Q	
						N33	E24	0	0	0		N33	E24	Q	
261	18	17	213	213	006	N16	W81	0	0	0	18	N16	W81	Q	Solquiet,
						N19	W94	0	0	0		N19	W94	Q	Magalert 18/18.
						N17	W60	1	1	0		N17	W60	E	
						N17	W52	1	0	0		N17	W52	E	
						S11	W55	0	0	0		S11	W55	Q	
						N22	W40	0	0	0		N22	W40	Q	
						N26	W10	1	0	0		N26	W10	E	
						N29	W77	2	0	0		N29	W77	E	
						S26	E53	3	0	0		S26	E53	E	
						S15	E40	0	0	0		S15	E40	Q	
						S25	E69	0	0	0		S25	E69	Q	
262	19	18	181	205	026	N17	W95	0	0	0	19	N17	W95	Q	Solquiet,
						N16	W71	1	1	0		N16	W71	E	Magalert 19/19.
						N16	W64	1	0	0		N16	W64	Q	
						S11	W69	0	0	0		S11	W69	Q	
						N21	W57	0	0	0		N21	W57	Q	
						N26	W23	1	0	0		N26	W23	Q	
						N27	W87	0	0	0		N27	W87	Q	
						S26	E41	3	0	0		S26	E41	E	
						S15	E28	0	0	0		S15	E28	Q	
						S22	E56	0	0	0		S22	E56	Q	
263	20	19	203	202	082	N17	W83	1	0	0	20	N17	W83	E	Solalert 20/XX,
						N16	W77	0	0	0		N16	W77	Q	Magalert 20/XX.
						S11	W79	0	0	0		S11	W79	Q	
						N21	W68	0	0	0		N21	W68	Q	
						N26	W37	2	0	0		N26	W37	Q	
						N14	E11	0	0	0		N14	E11	Q	
						S26	E28	4	2	0		S26	E28	A	
						S16	E14	0	0	0		S16	E14	Q	
						S25	E42	0	0	0		S25	E42	Q	
						S21	E03	0	0	0		S21	E03	Q	
		Presto:[2]	Kakioka	Magstorm begins 18/1028 UT.											
			Boulder	Strong magstorm in progress 19/0536 UT.											
			Boulder	Tenflare 290 flux units 19/1609 UT duration 2 minutes.											

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 1989**

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
264	21	20	140	170	006	N21 W87	0	0	0	21	N21 W87	Q	Solalert 21/XX,
						N26 W51	2	0	0		N26 W51	Q	Magnil.
						N15 W04	0	0	0		N15 W04	Q	
						S26 E14	5	0	0		S26 E14	A	
						S17 E02	0	0	0		S17 E02	Q	
						S24 E30	0	0	0		S24 E30	Q	
						S19 W10	0	0	0		S19 W10	Q	
						S22 E51	0	0	0		S22 E51	Q	
265	22	21	141	159	008	N26 W63	1	0	0	22	N26 W63	E	Solalert 22/XX,
						N14 W20	0	0	0		N14 W20	Q	Magquiet.
						S25 E02	10	3	0		S25 E02	A	
						S20 W23	0	0	0		S20 W23	Q	
						S23 E38	0	0	0		S23 E38	Q	
						N36 E35	0	0	0		N36 E35	Q	
		Presto:[2] Toyokawa Tenflare 150 flux units 21/0258 UT duration 2 minutes.											
		Toyokawa Tenflare 100 flux units 21/2205 UT duration 3 minutes.											
266	23	22	159	160	019	N25 W79	1	0	0	23	N25 W79	Q	Solalert 23/XX,
						N13 W31	0	0	0		N13 W31	Q	Magquiet.
						S25 W11	12	0	0		S25 W11	A	
						S19 W36	1	0	0		S19 W36	Q	
						S22 E22	1	0	0		S22 E22	Q	
						N35 E23	1	0	0		N35 E23	Q	
						N21 W55	0	0	0		N21 W55	Q	
						S18 E46	0	0	0		S18 E46	Q	
267	24	23	149	156	003	N26 W94	2	0	0	24	N26 W94	Q	Solalert 24/XX,
						S25 W24	1	0	0		S25 W24	A	Magquiet.
						S20 W51	0	0	0		S20 W51	Q	
						S21 E09	0	0	0		S21 E09	Q	
						N34 E09	0	0	0		N34 E09	Q	
						N21 W70	0	0	0		N21 W70	Q	
						S17 E31	0	0	0		S17 E31	Q	
268	25	24	125	155	006	N12 W54	0	0	0	25	N12 W54	Q	Solalert 25/XX,
						S26 W37	5	1	0		S26 W37	A	Magquiet.
						S20 W62	0	0	0		S20 W62	Q	
						S22 W05	0	0	0		S22 W05	Q	
						N33 W06	0	0	0		N33 W06	Q	
						N21 W84	0	0	0		N21 W84	Q	
						S15 W30	0	0	0		S15 W30	Q	
269	26	25	128	166	006	N14 W69	0	0	0	26	N14 W69	Q	Solalert 26/XX,
						S26 W51	3	1	0		S26 W51	A	Magquiet.
						S19 W80	0	0	0		S19 W80	Q	
						S22 W19	1	0	0		S22 W19	Q	
						N34 W14	0	0	0		N34 W14	Q	
						S15 W46	0	0	0		S15 W46	Q	
						S15 E81	1	1	0		S15 E81	E	
						S11 E53	1	0	0		S11 E53	Q	
		Presto:[2] Toyokawa Tenflare 100 flux units 25/2341 UT duration 7 minutes.											

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 1989**

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast [1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
270	27	26	095	178	028	N13 W79	0	0	0	27	N13 W79	Q	Solalert 27/XX,
						S26 W62	8	0	0		S26 W62	A	Magquiet.
						S22 W31	0	0	0		S22 W31	Q	
						S16 E63	2	0	0		S16 E63	A	
						S11 E39	1	0	0		S11 E39	E	
271	28	27	134	199	007	S25 W77	4	1	0	28	S25 W77	A	Solalert 28/XX,
						S22 W44	1	0	0		S22 W44	Q	Magquiet.
						S15 E50	2	0	0		S15 E50	E	
						S12 E26	1	0	0		S12 E26	E	
						N32 E66	0	0	0		N32 E66	Q	
						N19 E05	0	0	0		N19 E05	Q	
						S17 E69	0	0	0		S17 E69	E	
		Presto:[2]	Toyokawa	Tenflare 130 flux units 27/2353 UT duration 7 minutes.									
272	29	28	161	192	005	S26 W93	0	0	0	29	S26 W93	A	Solalert 29/XX,
						S22 W56	0	0	0		S22 W56	Q	Magquiet.
						S24 W34	0	0	0		S24 W34	Q	
						S16 E36	0	0	0		S16 E36	Q	
						S11 E13	0	0	0		S11 E13	E	
						N32 E55	1	0	0		N32 E55	Q	
						N19 W08	0	0	0		N19 W08	Q	
						S18 E54	2	1	0		S18 E54	A	
						N23 E31	0	0	0		N23 E31	Q	
						N29 E77	0	0	0		N29 E77	E	
273	30	29	181	209	005	S23 W70	0	0	0	30	S23 W70	Q	Solalert 30/XX,
						S14 E20	1	0	0		S14 E20	Q	Magquiet.
						S11 W01	0	0	0		S11 W01	Q	
						N32 E41	0	0	0		N32 E41	Q	
						N19 W19	0	0	0		N19 W19	Q	
						S18 E44	3	0	0		S18 E44	A	
						N27 E67	1	0	0		N27 E67	E	
						S24 E31	0	0	0		S24 E31	Q	
						N15 E65	0	0	0		N15 E65	Q	
						N18 E53	0	0	0		N18 E53	Q	
						S10 E38	0	0	0		S10 E38	Q	
		Presto:[2]	Boulder	X-ray event X9 29/1047 UT duration 228 minutes.									
			Moscow	Tenflare 2774 flux units 29/1148 UT in progress.									
			Boulder	Proton event began 29/1205 UT maximum of 3100 particles/cm²-s-ster at greater than 10 MeV 29/2100 UT.									
			Boulder	Tenflare 2800 flux units 29/1215 UT duration 157 minutes.									
274	01	30	165	201	009	S22 W83	0	0	0	01	S22 W83	Q	Solalert 01/XX,
						S11 W14	0	0	0		S11 W14	Q	Magalert Minor 02
						N32 E31	1	0	0		N32 E31	Q	Flare.
						S18 E28	2	1	0		S18 E28	A	
						N27 E57	0	0	0		N27 E57	Q	
						S25 E17	1	0	0		S25 E17	Q	
						N14 E53	2	0	0		N14 E53	Q	
						N19 E40	1	0	0		N19 E40	Q	

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

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

INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Oct 88	Nov	Dec	Jan 89	Feb	Mar	Apr	May	Jun	Jul†	Aug†	Sep†
01	109	126	128	148	141	127	104	93	136	128	158	147
02	117	114	114	173	144	107	122	94	148	149	187	171
03	129	121	139	146	164	103	140	85	158	129	193	180
04	128	104	122	120	133	98	115	97	157	120	210	204
05	130	129	149	155	127	90	106	85	171	101	227	212
06	123	124	149	142	127	103	139	105	145	120	220	230
07	128	114	144	165	132	98	170	134	130	149	206	277
08	131	95	111	155	161	109	185	149	143	141	210	261
09	125	110	122	165	172	133	153	137	168	116	218	296
10	146	131	133	190	192	163	122	123	192	104	200	270
11	148	155	152	211	190	155	106	120	203	136	202	264
12	169	159	175	229	216	140	96	115	218	111	188	264
13	150	147	187	206	219	162	92	129	253	116	198	248
14	131	139	213	189	208	181	103	123	251	116	189	215
15	109	156	225	177	191	165	120	148	264	92	196	207
16	108	181	226	164	195	187	130	154	265	91	169	180
17	125	196	232	155	209	168	144	161	233	99	192	159
18	134	175	222	160	163	164	137	177	216	113	189	155
19	133	147	223	140	164	148	160	191	235	138	202	152
20	119	112	218	126	169	158	165	195	232	149	209	137
21	117	145	210	114	149	155	175	168	187	162	203	111
22	109	131	255	165	142	155	167	156	174	197	160	109
23	104	117	235	171	134	145	128	180	196	195	133	110
24	121	116	199	142	153	155	135	196	215	168	129	85
25	124	89	183	144	189	131	132	173	227	132	100	80
26	119	73	174	152	163	117	125	157	237	111	95	93
27	120	69	175	157	147	102	118	163	206	105	57	101
28	119	86	196	172	128	89	109	130	187	75	50	111
29	128	86	194	169		95	107	121	182	112	70	134
30	115	107	178	157		78	114	122	156	125	94	142
31	111		172	140		91		111		132	116	
Mean	125.1	125.1	179.2	161.3	165.1	131.4	130.6	138.5	196.2	126.8	166.8	176.8

† = preliminary. The yearly mean sunspot number equaled 100.2 for 1988.

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

Day	Oct 88	Nov	Dec	Jan 89	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
01	179.4	157.2*	150.5	179.5*	184.8	168.8*	173.8*	180.5	191.6*	204.0	198.5	223.8
02	197.0	156.5*	149.4	193.7	171.2	173.7	183.5	184.5*	208.2*	193.4	201.7	233.3
03	200.4	164.0	147.3	189.2	185.8*	169.0	196.5*	190.6	203.3*	192.5*	220.2	243.0*
04	189.2	159.7	142.7	195.7*	183.4	163.6	188.9	198.2	221.3*	189.8	225.7	245.0
05	191.0	163.8	154.6*	201.6	195.1	183.5	191.1	193.7	213.2*	183.4*	241.5	273.3
06	193.4	161.2	157.7	198.7	205.3*	201.1J	196.5	195.9*	212.2*	192.3	240.3	288.4
07	182.4	151.6	152.9*	239.5	210.5	190.3*	199.8	200.6	205.3	193.5	240.6	303.4
08	172.6	143.5	164.1	260.2	243.9	202.6	207.1	212.4	222.9	188.9	233.6	302.1
09	176.5	152.4	165.2	251.3	259.3	204.2*	194.0	205.1*	241.9	188.1	233.9*	311.5
10	177.8	147.7	161.2*	250.0	269.8	212.4*	182.3	208.7	250.9*	184.1	232.6	303.3
11	168.2	153.8	176.4	254.7*	257.0	232.4*	180.7	198.9	270.3	193.2	243.6	299.3
12	148.4	150.6*	173.9	263.2	257.3	237.6*	181.3	197.2	285.8*	190.7	256.1*	292.2
13	157.5	157.8*	181.1	291.7*	258.4	253.0	185.3*	197.5	319.2	184.0*	263.9	249.3
14	150.4	173.2*	204.4*	274.9	260.7	263.8J	198.1	193.1*	327.2	183.9	271.3	244.9
15	149.1	161.1*	212.0	280.1	241.3	255.8J	199.5	195.8	334.7*	185.7	281.7	226.0
16	152.3	186.1*	232.1	292.1	241.1	261.6J	203.9	188.6	320.9*	183.9	259.8	233.7
17	175.0	175.6	241.7	266.7*	233.9*	240.7	210.6*	187.0	303.7*	184.1	262.9	216.2
18	162.3	161.8	243.5	271.2	213.8	234.2	204.1	184.9	271.5	189.2	265.0	208.6
19	164.0	151.2	240.2	241.6	214.0	221.1	209.7	188.6	270.6	193.7	249.1	197.0*
20	166.0	146.6	238.8	222.0*	202.2*	218.2*	192.5	203.1	249.3*	192.4	236.4	173.1
21	165.9	152.9	245.2	198.2*	217.8	213.5*	196.1	211.9*	242.8	195.0	225.7	161.8
22	166.2	153.1	246.6	203.6	213.9	222.5	193.6*	203.9	233.1	200.9	205.4	159.3
23	171.1	135.7	234.8	205.6	214.7*	216.1*	183.1*	212.2	238.7	196.5	191.3	157.5
24	168.4	138.0	221.6	211.0	213.4	193.2*	189.0	210.0	227.6	191.1	182.0	157.0
25	162.1	137.5	210.5	227.3	203.8*	186.2*	179.7	194.6*	221.6	180.4	159.7	166.8
26	155.4	137.4	193.0	206.3	190.3*	171.6*	176.9	188.0	233.0	169.8	161.0	182.2*
27	161.8	140.9	201.9	211.1	168.6*	162.6	176.9	176.6	227.5	172.8	159.6	199.4
28	156.0	138.8	201.6	207.1	163.5	157.3	183.2	173.5	227.4	170.7	174.1	194.3
29	155.9	137.6	196.7	200.5		155.8	189.5	173.6	223.0	180.9	180.3*	204.7*
30	154.2*	135.8	179.5	187.3		159.8	180.6	183.0	217.4	185.1	192.0*	202.0
31	160.4		177.6	187.5		167.5		194.2		188.2	208.9*	
Mean	168.7	152.8	193.5	227.8	217.0	203.0	190.9	194.4	247.2	187.8	222.5	228.4

* = corrected for burst in progress; J = no calibration due to burst; the yearly mean flux equaled 141.1 in 1988.

DAILY SOLAR INDICES

September 1989

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	Amer	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit — SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
01	244	13	147	149	219.8	610	344	286	223.8	226	153	97	81	16
02	245	14	171	168	229.3	590	353	299	233.3	219	146	84	47	36
03	246	15	180	198	238.9*	630	401	345	243.0*	248	154	109	67	46
04	247	16	204	220	241.0	607	379	349	245.0	263	168	96	71	20
05	248	17	212	223	269.0	595	366	341	273.3	260	166	85	40	22
06	249	18	230	243	284.0	602	361	358	288.4	277	172	86	43	30
07	250	19	277	275	298.9	598	362	357	303.4	287	174	98	48	23
08	251	20	261	260	297.8	595	350	352	302.1	289	173	95	49	22
09	252	21	296	284	307.2	586	350	342	311.5	289	178	94	44	22
10	253	22	270	284	299.2	585	339	325	303.3	289	177	95	63	--
11	254	23	264	254	295.5	579	324	308	299.3	277	174	87	48	39
12	255	24	264	272	288.6	599	---	---	292.2	---	---	88	49	41
13	256	25	248	252	246.4	572	300	257	249.3	233	156	85	47	32
14	257	26	215	213	242.1	568	301	257	244.9	214	150	86	43	30
15	258	27	207	205	223.6	556	304	257	226.0	216	144	81	41	25
16	259	1	180	192	231.3	576	332	292	233.7	223	141	81	44	38
17	260	2	159	155	214.1	543	309	260	216.2	201	127	76	40	23
18	261	3	155	144	206.7	565	311	260	208.6	193	122	77	45	23
19	262	4	152	147	195.3*	521	324	257	197.0*	202	123	70	40	20
20	263	5	137	120	171.7	432	266	209	173.1	158	105	65	35	17
21	264	6	111	102	160.6	542	291	215	161.8	151	99	65	35	17
22	265	7	109	106	158.2	557	291	212	159.3	152	99	64	35	30
23	266	8	110	110	156.5	555	291	207	157.5	151	100	61	33	19
24	267	9	85	85	156.1	568	299	214	157.0	150	99	64	35	20
25	268	10	80	83	165.9	---	294	215	166.8	157	102	67	34	15
26	269	11	93	86	181.4*	557	291	236	182.2*	182	112	67	37	17
27	270	12	101	104	198.6	622	315	250	199.4	188	118	82	45	31
28	271	13	111	113	193.6	600	285	223	194.3	182	124	73	38	20
29	272	14	134	131	204.1*	608	292	237	204.7*	204	133	76	38	15
30	273	15	142	149	201.5	611	278	223	202.0	190	130	81	39	16
Mean			176.8	177.6	225.9	577	321	274	228.4	216	139	81	45	25

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

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

* = corrected for burst in progress

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

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

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1980	164	163	161	159	156	155	153	150	150	150	148	143
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	156 (4)	162 (7)	168 (11)	171 (16)	174 (21)	181 (24)	186 (26)	189 (28)	191 (29)
1990	192 (31)	192 (33)	190 (35)	185 (35)	179 (34)	174 (30)	172 (29)	170 (31)	162 (32)	154 (32)	146 (30)	141 (27)
1991	139 (29)	136 (29)	131 (30)	130 (35)	132 (37)	129 (33)	125 (30)	119 (27)	114 (23)	113 (21)	114 (22)	115 (25)

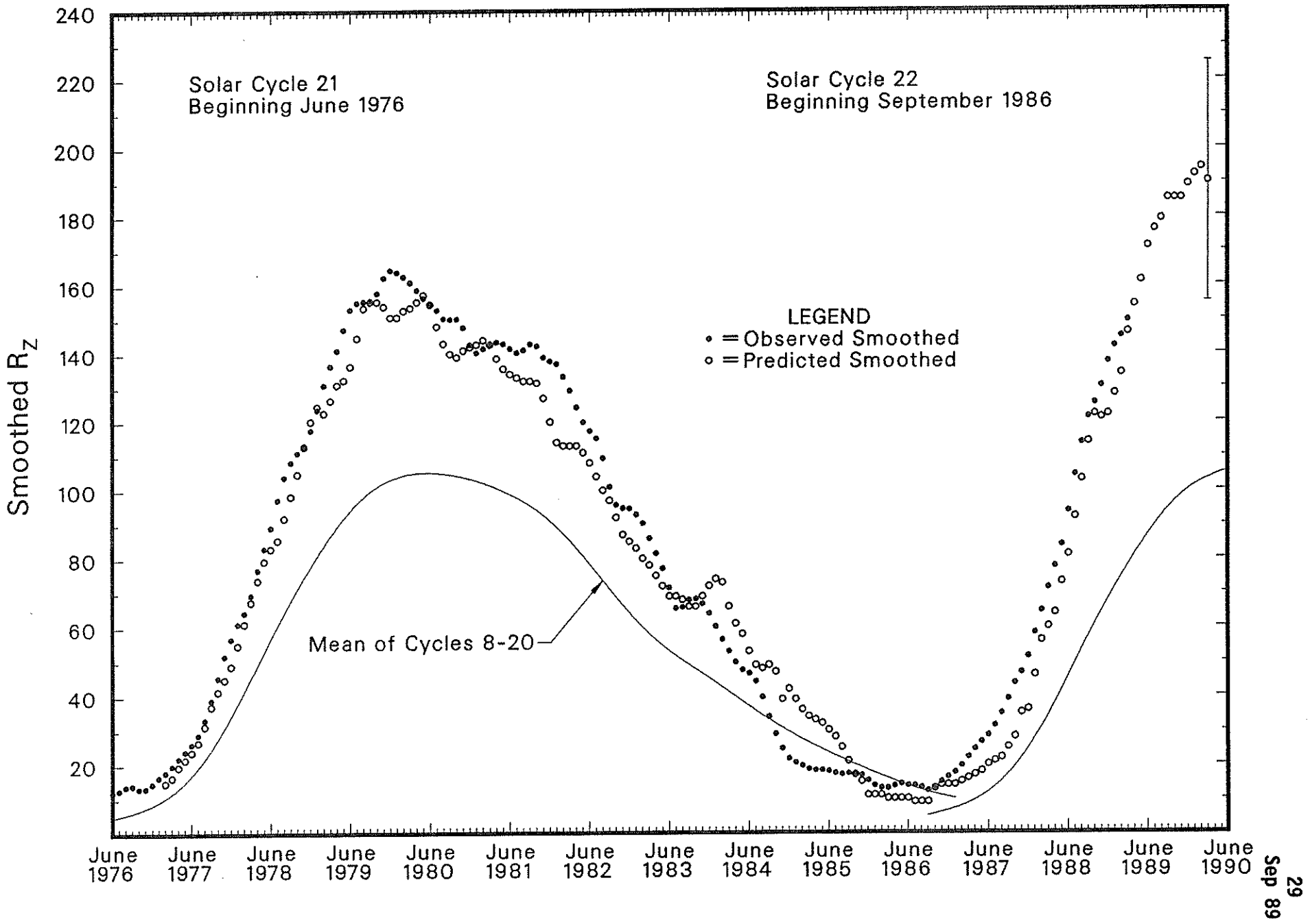
*September 1986 marks the onset of Sunspot Cycle 22.

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 1989 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 March 1990 prediction. There exists a 90% chance that in March 1990 the actual smoothed sunspot number will fall somewhere between 155 and 225.

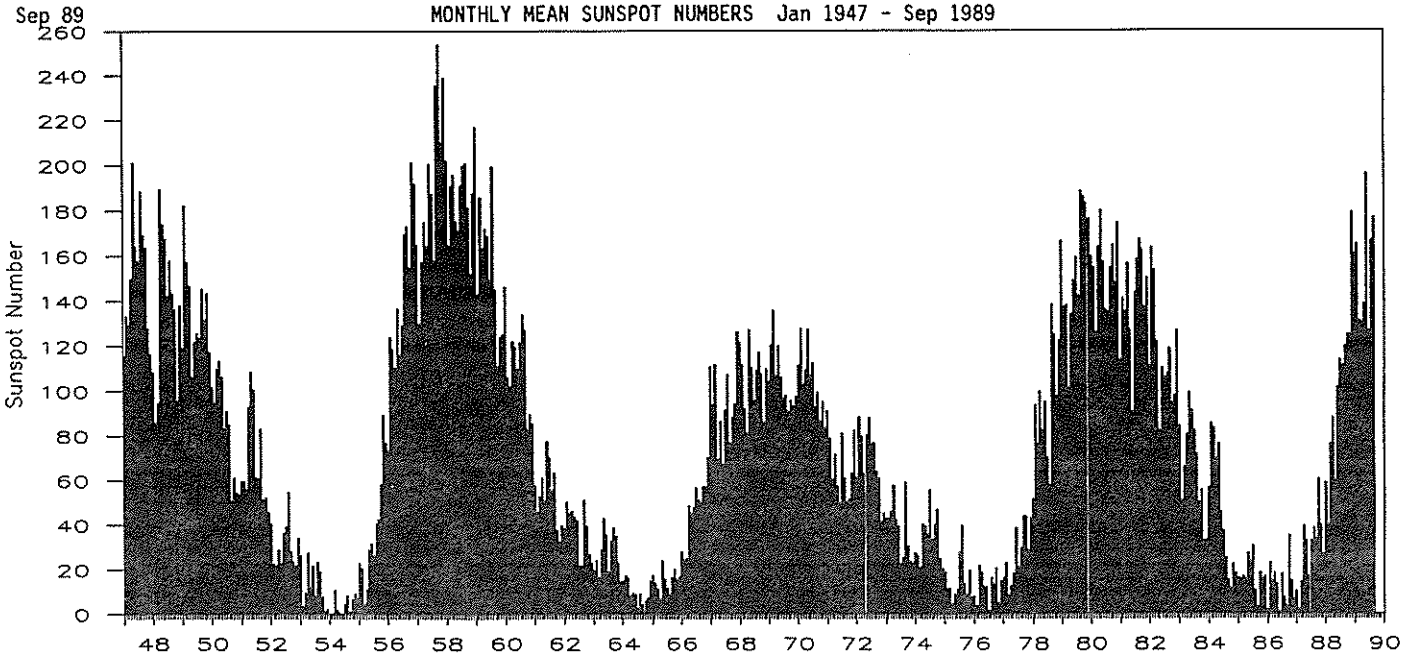
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED, MONTHLY MEAN SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles used in the computation. Moreover, the method is very sensitive to the data defined 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



30
Sep 89

MONTHLY MEAN SUNSPOT NUMBERS Jan 1947 - Sep 1989



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5	151.6 M
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0	136.3
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6	134.7
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4 m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2 M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	112.3
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2 m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	105.9 M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6 m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4 M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4 m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.4
1988	59.0	40.0	76.2	88.0	60.1	101.8	113.8	111.6	120.1	125.1	125.1	179.2	100.2
1989	161.3	165.1	131.4	130.6	138.5	196.2	126.8*	166.8*	176.8*				158.3*

*Preliminary

For the yearly means, each "M" marks a sunspot cycle maximum and each "m" a minimum.

Hα S O L A R F L A R E S

SEPTEMBER 1989

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	01	0405	0712	1121						436		M 4.6						T
GOES		0810	0818	0820						10		X 2.3						
RAMY		1126	1127	1134	S15	E52	5671	09	5.4	8	SF		3	E		26		F
RAMY		1126	1128	1133	S18	E39	5669	09	4.4	7	SF		3	E		20		FE
SVTO		1128	1129	1137	S39	E17	5669	09	2.8	9	SF		2	E		47		F
SVTO		1147E	1150U	1159	S19	E54	5671	09	5.6	12D	SF		3	E		99		
RAMY		1150	1151	1158	S18	E53	5671	09	5.5	8	SN		3	E		63		FE
RAMY		1252	1253	1256	S14	E34	5669	09	4.1	4	SF		3	E		26		
RAMY		1259	1300	1312	S18	E55	5671	09	5.7	13	SF		3	E		39		
RAMY		1347	1347	1359	S18	E61	5671	09	6.2	12	SF		3	E		11		
HOLL		1421	1424	1515D	N22	W49	5655	08	28.9	54D	SF		3	E		32		FH
RAMY		1421	1426	1526	N26	W51	5655	08	28.7	65	SF		3	E		34		FH
SVTO		1434E	1439U	1504	N23	W52	5655	08	28.7	30D	SF		2	E		60		FH
SVTO		1434E	1441	1504	S16	E52	5671	09	5.5	30D	SF		2	E		51		F
HOLL		1439	1439	1449D	S17	E51	5671	09	5.5	10D	SF		3	E		16		
RAMY		1440	1440	1447	S18	E51	5671	09	5.5	7	SF		3	E		10		
HOLL		1446	1454U	1515D	S16	E39	5669	09	4.6	29D	SF	M 2.0	2	E		26		F
SVTO		1457E	1459U	1505	S16	E39	5669	09	4.6	8D	SF	M 2.0	2	E		63		
RAMY		1539	1541	1553	S17	E57	5671	09	6.0	14	SF	M 1.6	3	E		14		
PALE		1704	1714	1751	S19	E55	5671	09	5.9	47	SF		3	E		89		F
RAMY		1711	1713	1727	S19	E55	5671	09	5.9	16	SF		3	E		35		FH
HOLL		1713	1715	1720	S18	E50	5671	09	5.5	7	SF		3	E		20		
PALE		1909	1938	1943	S15	E47	5671	09	5.3	34	SF		3	E		72		F
PALE		2044	2044	2100	S16	E35	5669	09	4.5	16	SF		3	E		22		
GOES		2121	2125	2136						15		M 1.0						
PALE		2140	2148	2156	S19	E48	5671	09	5.6	16	SF		3	E		21		F
PALE		2237	2237	2253	S19	E47	5671	09	5.5	16	SF		3	E		21		F
GOES		2323	2326	2328						5		C 5.9						
LEAR		2350	2355	2439	S19	E42	5671	09	5.2	49	2N	M 5.8	3	E		434		F
PALE		2359	2418U	2524	S19	E47	5671	09	5.6	85	3F		3	E		704		
HOLL	02	0033E	0035U	0043D	S18	E46	5671	09	5.5	10D	SF		2	E		95		F
LEAR		0141	0143	0153	S18	E47	5671	09	5.6	12	SF	C 7.2	3	E		77		F
LEAR		0154	0156	0159	S17	E53	5671	09	6.1	5	SF	M 1.1	3	E		13		
LEAR		0231	0233	0242	S19	E47	5671	09	5.7	11	SF		3	E		30		
LEAR		0432	0435	0440	S17	E51	5671	09	6.1	8	SF		3	E		23		
LEAR		0528	0530	0550	S27	W02	5670	09	2.1	22	SF		3	E		18		
LEAR		0621	0622	0634	S18	E47	5671	09	5.8	13	1B	M 2.5	3	E		110		
LEAR		0848	0850	0903	S18	E48	5671	09	6.0	15	SF	C 4.9	3	E		19		
GOES		1001	1004	1007						6		C 5.5						
SVTO		1034E	1035U	1045D	S15	E40	5671	09	5.5	11D	SF		3	E		31		
SVTO		1040	1043	1053	S28	W03	5670	09	2.2	13	SF		3	E		13		
GOES		1050	1056	1059						9		C 4.4						
RAMY		1115	1115	1121	S19	E36	5671	09	5.2	6	SF		2	E		27		
RAMY		1117	1118	1147	N25	E69	5672	09	7.8	30	SF		3	E		23		
RAMY		1130	1140	1226	S18	E50	5671	09	6.3	56	1B	M 2.3	3	E		206		H
RAMY		1130	1214	1226	S18	E50	5671			56	SF			E		27		K
SVTO		1145E	1145U	1220D	S17	E51	5671	09	6.4	35D	2B		2	E		401		H
HOLL		1315	1321U	1336	S20	E48	5671	09	6.2	21	SF	C 3.8	3	E		41		
SVTO		1403E	1414U	1435D	S24	W03	5670	09	2.3	32D	SF		2	E		12		
RAMY		1427	1506	1529	S17	E36	5669	09	5.3	62	SF		4	E		48		F
HOLL		1434	1506	1526	S17	E34	5669	09	5.2	52	SF		3	E		38		F
HOLL		1606	1607	1615	N25	W67	5655	08	28.6	9	SF		3	E		22		
RAMY		1606	1610	1634	N24	W65	5655	08	28.7	28	SF		4	E		32		
RAMY		1625	1625	1634	N22	E59	5672	09	7.2	9	SF		4	E		17		
HOLL		1702	1720	1800	S18	E34	5669	09	5.3	58	SF	C 5.5	3	E		50		FE
HOLL		1702	1747	1800	S18	E34	5669			58	SF			E		44		K
HOLL		1713	1720	1723	N23	E61	5672	09	7.4	10	SF		3	E		12		
RAMY		1718	1721	1732	S19	E36	5669	09	5.5	14	SF		3	E		33		F
HOLL		1808	1808	1813	S17	E32	5669	09	5.2	5	SF		3	E		21		
RAMY		1818	1825	1833	S19	E32	5669	09	5.2	15	SF	C 4.7	3	E		23		F
HOLL		1822	1826	1843	S17	E32	5669	09	5.2	21	SF	C 4.7	3	E		36		F
RAMY		1903	1905	1908	N22	E58	5672	09	7.2	5	SF		3	E		23		
HOLL		1930	1944	2029	S17	E26	5669	09	4.8	59	SF		2	E		42		FE
RAMY		1933	1939	2159D	S17	E31	5669	09	5.2	146D	SF	C 7.3	3	E		22		F
HOLL		1935	1936	2012	N25	E60	5672	09	7.5	37	SF		3	E		12		
HOLL		2041	2050	2148	S17	E25	5669	09	4.8	67	SF	M 1.7	3	E		45		FE
HOLL		2225	2233	2320D	S18	E32	5669	09	5.4	55D	1B	M 4.6	3	E		155		UE

Hα S O L A R F L A R E S

SEPTEMBER 1989

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	02	2226E	2236	2429	S15	E28	5669	09	5.0	123D	2N		3	E		396		F
LEAR		2256E	2256U	2322	S17	E32	5669	09	5.4	26D	1F		1	E		169		
PALE	03	0051	0052	0137	S16	E29	5669	09	5.2	46	SF		3	E		89		F
PALE		0149	0154	0211	S27	W11	5670	09	2.2	22	SF		3	E		27		F
PALE		0157	0158	0205	S17	E29	5669	09	5.3	8	SF		3	E		39		F
LEAR		0206	0217	0256	S18	E26	5669			50	SF	C 7.0		E		37		K
PALE		0206	0219	0254	S17	E29	5669	09	5.3	48	1F	C 7.0	3	E		105		F
LEAR		0206	0243	0256	S18	E26	5669	09	5.1	50	SF		3	E		41		F
LEAR		0430	0431	0442	S18	E26	5669	09	5.2	12	SF		3	E		31		
SVTO		0538	0542	0549	S24	W11	5670	09	2.4	11	SF		3	E		18		
SVTO		0607	0610	0650	S23	W13	5670	09	2.2	43	SF		3	E		17		F
LEAR		0731	0733	0740	S16	E22	5669	09	5.0	9	SF	C 3.5	3	E		27		
GOES		1037	1044	1052						15		M 5.0						
RAMY		1118	1126	1139	S17	E23	5669	09	5.2	21	SF		3	E		16		
RAMY		1134	1134	1139	N24	E51	5672	09	7.4	5	SF		3	E		11		
RAMY		1216	1216	1221	S16	E26	5669	09	5.5	5	SF		3	E		16		
SVTO		1348	1433	1450D	S16	E21	5669	09	5.2	62D	1B		3	E		221		UF
HOLL		1423	1423	1427	N26	E57	5672	09	8.0	4	SF		3	E		41		
RAMY		1423	1424	1427	N25	E57	5672	09	8.0	4	SF		3	E		31		
RAMY		1428	1431	1500	S18	E16	5669	09	4.8	32	1B	X 1.2	3	E		155		F
HOLL		1429	1431	1455	S18	E19	5669	09	5.0	26	1B	X 1.2	3	E		159		F
RAMY		1444	1446	1536	N23	E47	5672			52	SF			E		53		K
HOLL		1444	1502	1511	N24	E48	5672	09	7.3	27	SF		3	E		51		F
RAMY		1444	1502	1536	N23	E47	5672	09	7.2	52	SF		3	E		44		
RAMY		1502	1503	1556	S21	E23	5669			54	SF			E		57		K
RAMY		1502	1518	1556	S21	E23	5669	09	5.4	54	SF		3	E		52		F
HOLL		1504	1519	1621	S20	E18	5669			77	SF			E		47		K
HOLL		1504	1548	1621	S20	E18	5669	09	5.0	77	SF		3	E		45		FE
RAMY		1556	1556	1626	S18	E16	5669	09	4.9	30	SF		3	E		35		
HOLL		1705	1707	1720	S17	E18	5669	09	5.1	15	SF		3	E		24		F
HOLL		1725	1726	1732	N27	E55	5672	09	8.0	7	SF		3	E		21		
HOLL		1753	1754	1800	N25	E47	5672	09	7.4	7	SF		3	E		18		
PALE		1753	1754	1802	N27	E46	5672	09	7.3	9	SF		3	E		20		
HOLL		1755	1755	1800	S16	E17	5669	09	5.0	5	SF		3	E		19		
PALE		1755	1755	1801	S15	E18	5669	09	5.1	6	SF		3	E		19		F
HOLL		1839	1840	1909	S18	E26	5669	09	5.7	30	SF	C 5.4	3	E		30		F
PALE		1839	1840	1909	S15	E24	5669	09	5.6	30	SF	C 5.4	3	E		39		
PALE		1839	1841	1847	N27	E46	5672	09	7.4	8	SF		3	E		17		F
HOLL		1859	1902	1909	N25	E48	5672	09	7.5	10	SF		3	E		15		
PALE		2004	2005	2009	S15	E16	5669	09	5.0	5	SF		3	E		14		
HOLL		2010	2107	2119	N26	E53	5672	09	7.9	69	SF		3	E		20		
HOLL		2309	2312	2334	S16	E14	5669	09	5.0	25	SF		3	E		17		F
HOLL		2336	2343	2343D	S17	E27	5669	09	6.0	7D	1B	M 1.8	3	E		108		F
LEAR		2338	2339	2348	S18	E26	5669	09	6.0	10	SF	M 1.8	2	E		23		
PALE		2340E	2340U	2350D	S16	E28	5669	09	6.1	10D	1N	M 1.8	3	E		110		
LEAR	04	0303	0310	0322	S18	E24	5669	09	5.9	19	SF	C 9.9	3	E		24		
SVTO		0459	0502	0518	S17	E22	5669	09	5.9	19	SF	C 5.5	2	E		96		
LEAR		0500	0506	0518	S18	E20	5669	09	5.7	18	SF	C 5.5	3	E		62		
LEAR		0519	0523	0536	S18	E20	5669	09	5.7	17	SF	C 7.7	3	E		47		F
SVTO		0542	0546	0604	S30	W23	5670	09	2.4	22	SF		3	E		42		F
LEAR		0610	0612	0622	S15	E14	5669	09	5.3	12	SF		3	E		14		
SVTO		0610E	0655U	0704D	S15	E12	5669	09	5.2	54D	SF		2	E		35		F
LEAR		0625	0631	0714	S18	E10	5669	09	5.0	49	1N	M 1.3	3	E		114		F
LEAR		0709	0711	0727	N27	E66	5676	09	9.4	18	SF		3	E		99		
LEAR		0857	0903	0946	S18	E19	5669	09	5.8	49	2B	X 1.1	3	E		369		FH
LEAR		0857	0917	0946	S18	E19	5669			49	1B	M 9.0		E		105		K
GOES		0946	0952	1035						49		M 1.1						
RAMY		1136E	1136U	1139	S18	E24	5669	09	6.3	3D	SB	C 5.8	2	E		38		
RAMY		1202	1215	1305	S23	E18	5669	09	5.9	63	1N	M 1.4	3	E		160		F
HOLL		1304E	1314U	1334	N24	E39	5672	09	7.5	30D	SF		2	E		22		UF
RAMY		1305E	1306U	1354	N23	E41	5672	09	7.7	49D	1N	M 2.0	3	E		113		
RAMY		1305E	1320	1354	N23	E41	5672			49D	SF			E		51		K
HOLL		1518	1526	1636	S14	E00	5669	09	4.6	78	1N	C 9.7	3	E		144		FE
HOLL		1518	1609	1636	S14	E00	5669			78	SF			E		41		K
RAMY		1521	1525	1552	S18	E08	5669	09	5.2	31	SF		3	E		66		F
HOLL		1659	1659	1708	S19	E11	5669	09	5.5	9	SF		3	E		15		F

Hα SOLAR FLARES

SEPTEMBER 1989

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	04	1705	1705	1724	N25	E37	5672	09	7.6	19	SF		3	E		23		F
RAMY		1707	1721	1726	N24	E36	5672	09	7.5	19	SF		3	E		11		F
HOLL		1810	1811	1824	N25	E36	5672	09	7.5	14	SF		3	E		23		F
PALE		1812	1813	1817	N27	E34	5672	09	7.4	5	SF		3	E		16		
RAMY		1812	1813	1829	N24	E35	5672	09	7.5	17	SF		3	E		34		F
HOLL		1848	1849	1902	N25	E36	5672	09	7.6	14	SF		3	E		23		F
RAMY		1849	1849	1857	N24	E36	5672	09	7.6	8	SF		3	E		18		F
RAMY		1908	1908	1923	S19	E06	5669	09	5.2	15	SF	C 8.0	3	E		22		F
PALE		1908	1909	1926	S18	E06	5669	09	5.2	18	SN	C 8.0	3	E		45		FE
HOLL		1908	1910	1925	S18	E05	5669	09	5.2	17	SN	C 8.0	3	E		47		FE
HOLL		1946	1954	1957	N25	E34	5672	09	7.4	11	SF		3	E		17		F
PALE		2043	2115	2157	N27	E34	5672	09	7.5	74	1N	C 8.9	3	E		111		FE
HOLL		2046	2110	2159D	N25	E34	5672	09	7.5	73D	1N	C 8.9	3	E		122		FE
RAMY		2047	2111	2123	N23	E33	5672	09	7.4	36	SN	C 8.9	3	E		32		F
PALE		2156	2216	2247	S18	E10	5669	09	5.7	51	SF		3	E		21		F
HOLL		2202	2202	2208	S17	E12	5669	09	5.8	6	SF		3	E		24		F
PALE		2226	2228	2237	N27	E33	5672	09	7.5	11	SF		3	E		12		
HOLL		2302	2302	2314	S20	E14	5669	09	6.0	12	SF		3	E		11		F
PALE		2319	2325	2336	N26	E33	5672	09	7.5	17	SF		3	E		10		F
PALE		2337	2345	2405	N27	E31	5672	09	7.4	28	SF		3	E		20		F
PALE	05	0153E	0153U	0207D	N30	E63	5676	09	10.0	14D	SF		3	E		60		F
LEAR		0153	0153	0227	N27	E67	5676	09	10.3	34	SF	C 8.7	3	E		56		
LEAR		0458	0501	0509	S17	E12	5669	09	6.1	11	1N	M 1.7	3	E		150		E
LEAR		0546	0546	0558	S15	W11	5669	09	4.4	12	SF	C 4.0	3	E		10		
GOES		0603E	0604	0616D						13D		C 4.5						
LEAR		0619	0638	0709	N24	E31	5672			50	SF	C 4.0		E		77		K
LEAR		0619	0643	0709	N24	E31	5672	09	7.6	50	SF	C 5.7	3	E		82		
LEAR		0652	0655	0705	S22	W45	5670	09	1.8	13	SF		3	E		27		
LEAR		0723	0723	0730	S16	W07	5669	09	4.8	7	SF		3	E		10		
GOES		1105	1110	1114						9		C 6.4						
GOES		1144	1148	1152						8		C 3.9						
RAMY		1313	1316	1357	S18	E06	5669			44	SB			E		84		K
RAMY		1313	1341	1357	S18	E06	5669	09	6.0	44	SB	M 3.2	3	E		83		F
GOES		1420	1424	1428						8		C 3.8						
GOES		1506	1514	1519						13		C 3.1						
RAMY		1602	1603	1641	S18	W11	5669	09	4.8	39	1N	C 9.3	3	E		106		FH
GOES		1729E	1758	1828D						59D		C 3.5						
RAMY		1807	1807	1822	S17	W05	5669	09	5.4	15	SF		3	E		27		F
PALE		1850	1856	1935D	N26	E25	5672	09	7.7	45D	SF		3	E		14		
HOLL		1853	1856	1926	N24	E20	5672	09	7.3	33	SF		3	E		15		F
RAMY		1853	1857	1943D	N23	E19	5672	09	7.2	50D	SF		3	E		22		
HOLL		1921	1925	1949	S16	W04	5669	09	5.5	28	SF	C 5.5	3	E		32		FE
RAMY		1921	1925	1957D	S17	W06	5669	09	5.3	36D	SF	C 5.5	3	E		30		F
PALE		1945	1945	2006	N27	E25	5672	09	7.8	21	SF		3	E		21		
HOLL		1950	1952	2006	S18	W09	5669	09	5.1	16	SF	C 4.7	3	E		20		E
HOLL		2138	2143	2226	S16	W12	5669	09	5.0	48	2B		3	E		294		
RAMY		2146E	2147U	2150D	S17	W11	5669	09	5.1	4D	1B	M 4.7	2	E		177		F
HOLL		2206	2214	2306	S17	E03	5669			60	1B			E		134		K
HOLL		2206	2225	2306	S17	E03	5669	09	6.1	60	1B	M 5.7	3	E		133		
LEAR		2307	2346	2428	N28	E56	5676	09	10.3	81	SF		3	E		33		F
HOLL		2336	2343	2432D	N26	E23	5672	09	7.8	56D	SN	M 1.3	3	E		86		
LEAR		2338	2341	2409	N24	E19	5672	09	7.4	31	SF		3	E		25		F
HOLL		2350	2350	2432D	N27	E57	5676	09	10.4	42D	SF		3	E		36		
LEAR	06	0044	0047	0126	S17	W08	5669	09	5.4	42	SN	M 1.3	3	E		64		FE
GOES		0244E	0247	0308D						24D		C 5.2						
LEAR		0420	0422	0436	S18	W09	5669	09	5.5	16	SF		3	E		18		F
LEAR		0554	0556	0604	S17	W03	5669	09	6.0	10	SN	C 8.7	3	E		62		F
LEAR		0904	0920	0927	N28	E55	5676	09	10.7	23	SF	C 4.9	3	E		14		F
RAMY		1124	1135	1227	S18	W25	5669			63	SF			E		33		K
RAMY		1124	1149	1227	S18	W25	5669	09	4.6	63	SF		3	E		31		F
RAMY		1227	1245	1333	S19	W10	5669			66	SF			E		43		K
RAMY		1227	1258	1333	S19	W10	5669	09	5.7	66	SF		3	E		41		F
SVTO		1257	1302	1307D	S20	W03	5669	09	6.3	10D	SF		2	E		32		F
RAMY		1407	1411	1421	S18	W25	5669	09	4.7	14	SF		3	E		16		F
RAMY		1516	1517	1529	S19	W19	5669	09	5.2	13	SF	C 3.8	3	E		23		F
SVTO		1525	1531	1541	N23	E09	5672	09	7.3	16	SF		3	E		17		

Hα S O L A R F L A R E S

SEPTEMBER 1989

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	06	1526	1531	1538	N23	E14	5672	09	7.7	12	SF		3	E		14		F
RAMY		1656	1657	1702	S19	W09	5669	09	6.0	6	SN	C 6.6	3	E		38		E
RAMY		1740	1744	1826	S19	W18	5669			46	SF			E		48		K
RAMY		1740	1758	1826	S19	W18	5669	09	5.4	46	SF	C 9.3	3	E		46		F
PALE		1853	1856	1859	S19	W20	5669	09	5.3	6	SF		3	E		15		
PALE		1853	1857	1915	N29	E43	5676	09	10.1	22	SF		3	E		25		
PALE		1857	1908	1912	N25	E07	5672	09	7.3	15	SF		3	E		28		
PALE		1914	1915	1923	N23	E08	5672	09	7.4	9	SF		3	E		20		
HOLL		1940	1951	2024	N25	E30	5682	09	9.1	44	SF		3	E		11		F
HOLL		2011	2011	2032	S20	W07	5669	09	6.3	21	SF		3	E		22		F
HOLL		2037	2038	2047	S15	W21	5669	09	5.3	10	SF		3	E		19		FE
LEAR	07	0114	0114	0122	S20	W19	5669	09	5.6	8	SF		3	E		13		
GOES		0135E	0139	0157D						22D		C 5.5						
LEAR		0308	0309	0312	N23	E04	5672	09	7.4	4	SF		3	E		18		
LEAR		0333	0333	0337	S15	W23	5669	09	5.4	4	SF		3	E		19		
LEAR		0523	0525	0532	N27	E36	5676	09	10.0	9	SF		3	E		14		F
LEAR		0529	0534	0619	S17	W26	5669	09	5.2	50	SF	M 1.1	3	E		64		F
LEAR		0529	0602	0619	S17	W65	5669			50	SF			E		43		K
LEAR		0541	0541	0546	S21	W65	5670	09	2.2	5	SF		3	E		18		
LEAR		0553	0555	0557	N17	E79	5686	09	13.2	4	SF		3	E		63		
LEAR		0601	0602	0609	N27	E39	5676	09	10.3	8	SF	C 7.3	3	E		13		F
SVTO		0649	0651	0701	N23	E89	5686	09	14.1	12	SF		3	E		31		
LEAR		0754	0755	0759	N16	E80	5686	09	13.4	5	SF		3	E		27		
LEAR		0801	0802	0809	S21	W16	5669	09	6.1	8	SF		3	E		25		F
SVTO		0814	0833	0845	N28	E22	5682	09	9.1	31	SF		3	E		36		
LEAR		0822	0827	0847	S16	W34	5669	09	4.8	25	SN		3	E		75		F
SVTO		0823E	0829	0858	S17	W32	5669	09	4.9	35D	1B	M 1.6	3	E		108		F
SVTO		1017	1024	1045	N25	E01	5672	09	7.5	28	SF		3	E		73		
SVTO		1017	1034	1045	N25	E01	5672			28	SF			E		14		K
SVTO		1223	1233	1305	S23	W61		09	2.8	42	SF		3	E		45		F
SVTO		1232	1233	1248	N22	E63	5680	09	12.4	16	SF		3	E		30		F
RAMY		1232	1235	1309D	N20	E65	5680	09	12.5	37D	SF	C 3.8	3	E		26		
RAMY		1247	1247	1308	S15	W53		09	3.5	21	SF		3	E		38		
SVTO		1340	1344	1348	S16	W32	5669	09	5.1	8	SF		3	E		26		
SVTO		1452	1452	1458	N11	E45	5685	09	11.0	6	SF		3	E		13		
SVTO		1533E	1537U	1547	S18	W19	5669	09	6.2	14D	SN		2	E		56		FH
HOLL		1533	1537	1547	S17	W21	5669	09	6.0	14	1B	M 1.1	3	E		108		F
PALE		1722	1725	1739	S14	W37	5669	09	4.9	17	SF		3	E		16		
RAMY		1725	1726	1738	S13	W37	5669	09	4.9	13	SF		3	E		22		
HOLL		1846	1846	1851	S18	W35	5669	09	5.1	5	SF		3	E		15		F
PALE		1850	1851	1858	N24	W07	5672	09	7.2	8	SF		3	E		23		
HOLL		1851	1858	1923	S16	W38	5669	09	4.9	32	SF		3	E		40		F
PALE		1852	1901	1923	S14	W37	5669	09	5.0	31	SF	C 4.2	3	E		48		F
PALE		1932	1950	2013	S14	W33	5669	09	5.3	41	SF		3	E		29		
PALE		2019	2024	2032	N19	E82	5686	09	14.1	13	SF		3	E		34		
HOLL		2020	2024	2032	N19	E80	5686	09	13.9	12	SF		3	E		35		F
HOLL		2032	2036	2040	S14	W33	5669	09	5.4	8	SF		3	E		25		FE
PALE		2034	2036	2039	S20	W29	5669	09	5.6	5	SF		3	E		20		
HOLL		2036	2037	2041	N13	E57	5680	09	12.1	5	SF		3	E		12		F
PALE		2036	2038	2045	N15	E58	5680	09	12.2	9	SF		3	E		13		F
HOLL		2051	2052	2149	S15	W39	5669			58	SB			E		51		K
HOLL		2051	2114	2149	S15	W39	5669	09	4.9	58	SB	M 1.4	3	E		60		F
PALE		2054	2114	2142	S16	W40	5669	09	4.8	48	SN	M 1.4	3	E		65		
PALE		2233	2234	2237	S21	W31	5669	09	5.6	4	SF		3	E		15		F
HOLL		2233	2234	2238	S19	W28	5669	09	5.8	5	SF		3	E		15		F
PALE		2239	2241	2247	N15	E89	5686	09	14.7	8	SF		3	E		16		
HOLL		2240	2240	2247	N13	E81	5686	09	14.0	7	SF		3	E		24		
PALE	08	0024	0027	0033	N26	E12	5682	09	8.9	9	SF		3	E		15		
PALE		0116	0159	0246	N26	E11	5682	09	8.9	90	SF		3	E		89		
LEAR		0126	0128	0136	N25	E12	5682	09	9.0	10	SF		3	E		15		
LEAR		0134	0138	0147	N14	E69	5686	09	13.3	13	SF		3	E		17		
PALE		0137	0139	0200	N18	E71	5686	09	13.5	23	SF		3	E		35		
PALE		0200	0224	0245	N17	E49	5680	09	11.8	45	SF		3	E		16		F
LEAR		0232	0235	0245	S21	W34	5669	09	5.5	13	SF	C 5.2	3	E		55		
PALE		0233	0234	0243	S15	W28	5669	09	6.0	10	SF		3	E		55		
LEAR		0247	0249	0307	N17	E75	5686	09	13.8	20	SF		3	E		36		

Hα S O L A R F L A R E S

SEPTEMBER 1989

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	08	0304	0307	0310	N21	E78	5687	09	14.1	6	SF	C 5.9	3	E		20		
LEAR		0306	0309	0315	S18	W34	5669	09	5.5	9	SF		3	E		15		
PALE		0324	0339	0411	N29	E27	5676	09	10.2	47	1N	M 1.1	3	E		229		F
LEAR		0326	0340	0431	N26	E32	5676	09	10.6	65	1N	M 1.1	3	E		215		FE
LEAR		0336	0337	0340	S15	W40	5669	09	5.1	4	SF		3	E		22		
LEAR		0408	0408	0503	S20	W25	5669	09	6.3	55	SF	M 1.1	3	E		81		FE
PALE		0419	0422	0436D	S17	W37	5669	09	5.4	17D	SF		3	E		11		
PALE		0420	0422	0436D	N27	E26	5676	09	10.2	16D	SF		3	E		61		
SVTO		0634	0638	0648	S06	E86		09	14.7	14	SF		3	E		86		
LEAR		0645	0647	0657	S17	W38	5669	09	5.4	12	SF		3	E		35		F
SVTO		0646	0649	0655	S23	W34	5669	09	5.7	9	SF	C 5.3	3	E		23		
LEAR		0726	0728	0732	N20	E59	5686	09	12.8	6	SF		3	E		20		
LEAR		0726	0729	0736	S16	W30	5669	09	6.0	10	SF	C 6.0	3	E		82		
LEAR		0741E	0745	0748	S12	E81		09	14.4	7D	SF		3	E		12		
LEAR		0824	0840	0910	S13	W51	5669	09	4.5	46	SF	C 7.7	3	E		28		
SVTO		0828	0840	0906	S18	W43	5669			38	SN			E		33		K
SVTO		0828	0851U	0906	S18	W43	5669	09	5.1	38	SF		3	E		26		F
RAMY		1129	1130	1145	N17	E51	5680	09	12.3	16	SF		3	E		15		
SVTO		1155E	1203U	1215D	S05	E80		09	14.5	20D	SF		2	E		22		H
RAMY		1159	1200	1213	N29	E58	5684	09	13.0	14	SF		3	E		22		
RAMY		1221	1223	1229	S10	E78		09	14.4	8	SF		3	E		19		
RAMY		1241	1247	1253	S14	W44	5669	09	5.2	12	SF		3	E		31		
GOES		1325	1332	1337						12		C 4.1						
SVTO		1431E	1435U	1439	S24	W99	5669	08	31.9	8D	SF		2	E		21		
HOLL		1456	1512	1526D	S11	E76		09	14.3	30D	SF	C 4.8	3	E		42		
RAMY		1456	1512	1530	S10	E77		09	14.4	34	SF	C 4.8	3	E		44		
HOLL		1459	1509	1526D	N15	E49	5680	09	12.3	27D	SF		3	E		54		
HOLL		1512	1514	1526D	N31	E29	5676	09	10.9	14D	SF		3	E		18		
HOLL		1620	1622	1640	S21	W42	5669	09	5.5	20	SF		3	E		33		
RAMY		1621	1622	1632	S20	W42	5669	09	5.5	11	SF		3	E		29		
HOLL		1702	1704	1716	N24	E02	5682	09	8.9	14	SF		3	E		20		
PALE		1716	1717	1720	S19	W37	5669	09	5.9	4	SF		3	E		22		
PALE		1750	1753	1859	N19	E34	5680	09	11.3	69	1N	M 1.0	3	E		151		F
HOLL		1750	1754	1857	N17	E33	5680	09	11.2	67	1N	M 1.0	3	E		135		UF
RAMY		1754E	1804U	1918D	N17	E33	5680	09	11.2	84D	1N		3	E		162		F
PALE		1832	1835	1841	S22	W42	5669	09	5.5	9	SF		3	E		23		
PALE		1837	1849	1912	S09	E77		09	14.5	35	SF		3	E		14		
PALE		1856	1857	1909	S19	W38	5669	09	5.9	13	SF	C 5.0	3	E		24		
RAMY		2004	2009	2012	S18	W39	5669	09	5.9	8	SF		3	E		17		
RAMY		2014	2018	2042	S14	W53	5669	09	4.8	28	SF		3	E		26		
HOLL		2017	2018	2023	S15	W53	5669	09	4.8	6	SF		3	E		12		F
HOLL		2031	2033	2056	S15	W53	5669	09	4.8	25	SF	C 7.3	3	E		23		F
HOLL		2043	2053	2102D	S11	E75	5689	09	14.5	19D	SF		3	E		39		
PALE		2047	2048	2057	S10	E81	5689	09	14.9	10	SF		3	E		27		
HOLL		2049	2055	2121D	N27	E17	5676	09	10.2	32D	SF		3	E		31		F
RAMY		2051	2115U	2145D	S15	W50	5669	09	5.1	54D	SN		2	E		39		F
PALE		2052	2054	2100	N30	E17	5676	09	10.2	8	SF		3	E		13		
PALE		2103E	2127U	2221	S15	W53	5669	09	4.9	78D	SF		3	E		58		F
HOLL		2103	2130	2232	S18	W48	5669	09	5.2	89	1N	M 1.6	3	E		104		FE
HOLL		2103	2154	2232	S18	W48	5669			89	SF			E		73		K
PALE		2134	2137	2202	N19	E56	5686	09	13.2	28	SF		3	E		43		F
HOLL		2145	2145	2200	N17	E63	5687	09	13.7	15	SF		3	E		33		F
PALE		2151	2207	2233	N23	W19	5672	09	7.4	42	SF		3	E		48		
HOLL		2155	2207	2235	N22	W25	5672	09	7.0	40	SF		3	E		51		F
PALE		2159	2201	2203	N19	E38	5680	09	11.8	4	SF		3	E		11		
PALE		2250	2306	2331	N30	E16	5676	09	10.2	41	SF		3	E		14		F
HOLL		2302	2337	2426	N28	E16	5676	09	10.2	84	SN	C 4.9	3	E		57		FE
PALE		2334	2338	2427	N30	E16	5676	09	10.2	53	SF	C 4.9	3	E		44		F
LEAR		2336	2339	2408	N28	E16	5676	09	10.2	32	SF	C 4.9	3	E		31		F
PALE		2352	2354	2357	N23	E81		09	15.2	5	SF		3	E		68		
PALE		2353	2354	2357	N17	E66	5687	09	14.0	4	SF		3	E		27		
LEAR		2353	2354	2358	N21	E67	5687	09	14.1	5	SF		3	E		25		
HOLL		2354	2354	2357	N19	E65	5687	09	13.9	3	SF		3	E		28		
HOLL	09	0011	0012	0020	S16	W39	5669	09	6.0	9	SB		3	E		72		
LEAR		0011	0013	0020	S17	W39	5669	09	6.0	9	SN		3	E		46		
PALE		0012	0012	0019	S17	W38	5669	09	6.1	7	SF		3	E		62		
LEAR		0117	0117	0130	N24	E17	5676	09	10.4	13	SF		3	E		19		

Hα S O L A R F L A R E S

SEPTEMBER 1989

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	09	0118	0129	0156	N28	E15	5676	09	10.2	38	SF		3	E		41		F
PALE		0146	0200	0212	S08	E73	5689	09	14.5	26	SF		3	E		47		F
PALE		0250	0250	0311	N24	W03	5682	09	8.9	21	SF		3	E		35		F
LEAR		0250	0251	0304	N24	W03	5682	09	8.9	14	SF		3	E		24		F
LEAR		0322	0349	0406	N26	E00	5682	09	9.1	44	SF		3	E		16		F
LEAR		0336	0337	0340	S16	W40	5669	09	6.1	4	SF		3	E		19		
LEAR		0437	0443	0522	S15	W57	5669	09	4.9	45	SF	M 1.1	3	E		75		F
LEAR		0526	0529	0546	S11	E71	5689	09	14.6	20	SF		3	E		42		
LEAR		0529	0530	0604	N18	E31	5680	09	11.6	35	1N	M 1.4	3	E		136		F
LEAR		0617	0632	0638	N21	E69	5687	09	14.5	21	SF		3	E		46		F
LEAR		0651	0701	0709	S19	W42	5669	09	6.1	18	SF		3	E		49		F
LEAR		0910	0911	0934	N18	E28	5680	09	11.5	24	2B	X 1.4	3	E		443		F
GOES		0953	0956	0958						5		C 9.9						
GOES		1109	1112	1119						10		C 4.8						
RAMY		1247E	1247U	1300	N19	E28	5680	09	11.7	13D	SF		2	E		55		
SVTO		1247	1248	1257	N19	E31	5680	09	11.9	10	SN		3	E		65		
RAMY		1247E	1416U	1450D	S16	W57	5669	09	5.2	123D	SF		2	E		38		
SVTO		1249	1312	1327	S08	E62	5689	09	14.2	38	SF		3	E		62		
RAMY		1303	1304	1329	N27	E10	5676	09	10.3	26	SF		2	E		20		
RAMY		1303	1310	1315	S09	E61	5689	09	14.1	12	SF		2	E		16		
SVTO		1310	1310	1317	N24	W36	5672	09	6.8	7	SF		3	E		21		F
HOLL		1310E	1310U	1326	N24	W35	5672	09	6.8	16D	SF		3	E		19		
HOLL		1310E	1310	1326	S09	E58	5689	09	13.9	16D	SF		3	E		61		F
RAMY		1310	1310	1335	N25	W34	5672	09	6.9	25	SF		2	E		27		
HOLL		1336	1349	1356	N21	E65	5687	09	14.6	20	SF		3	E		10		
HOLL		1338	1342	1419	N17	E49	5686	09	13.3	41	SF		3	E		19		
HOLL		1341	1349	1356	S09	E58	5689	09	13.9	15	SF		3	E		15		
RAMY		1352	1352	1401	N17	E50	5686	09	13.4	9	SF		3	E		14		
HOLL		1400	1415	1430D	S17	W60	5669	09	5.0	30D	SF		3	E		14		
RAMY		1403	1409	1413	S10	E62	5689	09	14.2	10	SF		3	E		54		
HOLL		1522	1522	1545	N28	E01	5676	09	9.7	23	SF		3	E		26		F
RAMY		1525	1526	1539	N22	E52	5686	09	13.6	14	SF		3	E		18		
HOLL		1525	1526	1539	N16	E53	5686	09	13.7	14	SF		3	E		20		
RAMY		1532	1535	1545	N21	E18	5683	09	11.0	13	SF		3	E		18		
HOLL		1532	1535	1552	N18	E26	5680	09	11.6	20	SN	C 8.7	3	E		84		FE
RAMY		1533	1535	1553	N24	E25	5680	09	11.6	20	SF		3	E		78		
RAMY		1555	1555	1618	N28	E01	5676	09	9.7	23	SF		3	E		30		F
HOLL		1633	1633	1637	N25	W32	5672	09	7.2	4	SF		3	E		32		
RAMY		1652	1653	1709	N24	W38	5672	09	6.8	17	SF		3	E		27		F
HOLL		1708	1711	1737	N16	E47	5686	09	13.3	29	SF		3	E		38		F
HOLL		1708	1722	1737	N16	E47	5686			29	SF			E		30		K
PALE		1709	1710	1714	N20	E53	5686	09	13.8	5	SF		3	E		22		F
RAMY		1709	1728	1743	N18	E48	5686	09	13.4	34	SF		3	E		46		F
PALE		1719	1724	1733	N19	E46	5686	09	13.2	14	SF		3	E		16		F
PALE		1816	1818	1823	N19	E50	5686	09	13.6	7	SF		3	E		12		
PALE		1851	1852	1915	N20	E24	5680	09	11.6	24	1N	M 1.2	3	E		163		F
PALE		1928	1930	1956	S15	W67	5669	09	4.7	28	1F	X 1.3	3	E		188		F
PALE		1940	1951	2029	N21	E51	5686	09	13.7	49	SF		3	E		80		F
PALE		1955	2003	2012	N18	E18	5683	09	11.2	17	SF		3	E		16		F
HOLL		2255	2256	2332D	N16	E60	5687	09	14.5	37D	SF		3	E		58		
PALE		2301	2303U	2331	N18	E61	5687	09	14.6	30	SF		3	E		71		
LEAR		2344	2352	2424	N28	E01	5676	09	10.1	40	SF	C 8.8	3	E		56		F
PALE		2347	2352	2425	N28	E04	5676	09	10.3	38	SF	C 8.8	3	E		72		F
HOLL		2358		2430	N27	W40	5672	09	6.9	32	SF		3	E		87		F
PALE	10	0001	0014	0020	N25	W43	5672	09	6.7	19	SF	C 6.7	3	E		25		F
LEAR		0008	0012	0017	N26	W41	5672	09	6.8	9	SF	C 6.7	3	E		41		F
PALE		0029	0033	0042	N20	E21	5680	09	11.6	13	SF		3	E		34		
PALE		0030	0111	0215D	N28	E03	5676	09	10.2	105D	SF		3	E		59		F
LEAR		0104	0227	0254	N28	W04	5676	09	9.7	110	SF		3	E		44		
PALE		0111	0112	0123	N21	E55	5687	09	14.3	12	SF		3	E		31		F
LEAR		0113	0113	0133	N18	E54	5687	09	14.2	20	SF	C 8.2	3	E		18		
PALE		0130	0130	0133	N25	W38	5672	09	7.1	3	SF		3	E		11		
LEAR		0135	0139	0208	N16	E57	5687	09	14.4	33	1F	M 1.3	3	E		102		FE
LEAR		0136	0138	0151	N23	E67	5690	09	15.2	15	SF		3	E		57		
PALE		0136	0139	0204	N20	E56	5687	09	14.3	28	SN		3	E		93		F
PALE		0142	0145	0203	N23	W18	5682	09	8.7	21	SF		3	E		60		F
LEAR		0142	0146	0159	N24	W15	5682	09	8.9	17	SF		3	E		44		

Hα S O L A R F L A R E S

SEPTEMBER 1989

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	0208E	0211	0233	N16	E14	5683	09	11.1	25D	SF		3	E		29		
LEAR		0223	0223	0241	N18	E20	5680	09	11.6	18	SF	C 8.3	3	E		23		F
LEAR		0223	0229	0241	N18	E20	5680			18	SF			E		39		K
LEAR		0405	0416	0456	N17	E09	5683	09	10.8	51	SN	C 9.4	3	E		85		
LEAR		0405	0427	0456	N17	E09	5683			51	SN			E		71		K
PALE		0406	0416	0428	N16	E09	5683	09	10.8	22	SN	C 9.4	3	E		64		F
LEAR		0436	0437	0514	N17	E46	5686	09	13.7	38	SF		3	E		39		
LEAR		0515	0517	0526	N27	W02	5676	09	10.1	11	SF		3	E		20		
SVTO		0527	0547	0620	S24	W55	5669	09	6.0	53	2N		3	E		307		F
SVTO		0534	0549	0557	S26	W46	5679	09	6.6	23	1N		3	E		174		
LEAR		0536	0546	0621	S20	W56	5669	09	5.9	45	2F	M 1.3	3	E		416		F
LEAR		0627	0631	0653	N26	W02	5676	09	10.1	26	SN	M 1.0	3	E		83		
LEAR		0638	0639	0657	N21	E56	5687	09	14.6	19	SF		3	E		26		
LEAR		0650	0652	0704	N19	E21	5680	09	11.9	14	SF	C 8.1	3	E		44		
SVTO		0651	0652	0705	N18	E16	5680	09	11.5	14	SF	C 8.1	3	E		63		F
SVTO		0748	0757	0827	S19	W82	5669	09	4.1	39	SN	M 2.8	3	E		87		F
LEAR		0750	0757	0815	S14	W67	5669	09	5.3	25	SF		3	E		37		
SVTO		0856	0924	1053	N17	E09	5683			117	SB			E		97		K
SVTO		0856	0930	1053	N17	E09	5683	09	11.0	117	SN	C 8.9	3	E		97		F
SVTO		1011	1013	1017	S19	W59	5669	09	5.9	6	SF		3	E		47		
SVTO		1119	1126	1139D	N17	E09	5683	09	11.1	20D	SF		3	E		21		
RAMY		1120	1124	1156D	N27	E04	5676	09	10.8	36D	SF		3	E		20		
SVTO		1216	1216	1230	N26	W07	5676	09	10.0	14	SF		3	E		26		F
SVTO		1216	1223	1234	N17	E08	5683	09	11.1	18	SF		3	E		17		
SVTO		1230	1241	1310	S23	W74	5669	09	4.8	40	SF		3	E		37		FH
RAMY		1247E	1416U	1450D	S16	W57	5669	09	6.2	123D	SF		2	E		38		
SVTO		1255	1300	1304D	N18	E13	5680	09	11.5	9D	1N	C 9.4	3	E		102		F
SVTO		1306	1308	1318	N26	W08	5676	09	9.9	12	SF		3	E		21		F
SVTO		1334	1335	1342	S18	W73	5669	09	5.0	8	SF	C 8.6	3	E		17		F
HOLL		1402	1415	1420	N19	E46	5687	09	14.1	18	SF		3	E		20		
GOES		1455	1459	1501						6		C 6.7						
HOLL		1514	1514	1618D	N27	W09	5676	09	9.9	64D	SF	C 7.8	3	E		32		
HOLL		1526	1526	1613D	N18	E16	5680	09	11.9	47D	SF		3	E		23		
RAMY		1740	1747	1803	N17	E02	5683	09	10.9	23	SF		3	E		25		H
PALE		1745	1746	1753	N17	E02	5683	09	10.9	8	SF		3	E		19		
RAMY		1807	1850	1940	N17	E04	5683	09	11.0	93	SF		3	E		93		FH
PALE		1816	1817	1830	N23	E43	5687	09	14.1	14	SF		3	E		14		
PALE		1840	1850	1921	N17	E04	5683	09	11.1	41	SF		3	E		54		F
PALE		1930	1930	1941	N17	E04	5683	09	11.1	11	SF		3	E		20		F
PALE		1937	1939	1943	N19	E48	5687	09	14.5	6	SF		3	E		17		
PALE		2035	2036	2045	N17	E02	5683	09	11.0	10	SF		3	E		17		
PALE		2152	2209	2229	N26	E63	5690	09	15.8	37	SF		3	E		37		F
PALE		2154	2201	2210	N17	E01	5683	09	11.0	16	SF		3	E		12		
PALE		2204	2250	2331	S16	W57	5691	09	6.6	87	SF		3	E		44		F
PALE		2223	2223	2233	N27	W13	5676	09	9.9	10	SF		3	E		17		F
PALE		2230	2238	2250	N17	E01	5683	09	11.0	20	SF		3	E		31		F
PALE		2234	2254	2311	N18	E43	5687	09	14.2	37	SF		3	E		36		F
HOLL		2305E	2307U	2317D	N17	W03	5683	09	10.7	12D	SF		2	E		73		FH
PALE		2309	2310	2323	N17	E00	5683	09	11.0	14	SF		3	E		23		F
HOLL		2317E	2328U	2356	N18	E09	5680	09	11.6	39D	SF	C 8.5	3	E		81		FH
LEAR		2328	2328	2335	N18	E09	5680	09	11.7	7	SF	C 8.5	3	E		23		
LEAR	11	0007	0015	0032	N22	E52	5690	09	15.0	25	SF		3	E		11		
PALE		0015	0047	0051D	N24	E52	5690	09	15.0	36D	SF		3	E		35		F
HOLL		0058	0100	0111D	N17	W03	5683	09	10.8	13D	SF		2	E		60		E
LEAR		0100	0100	0108	N17	W01	5683	09	11.0	8	SF		3	E		59		
LEAR		0109	0120	0129	N26	E56	5690	09	15.4	20	SF		3	E		14		
PALE		0205	0206	0210	N06	W01	5685	09	11.0	5	SF		3	E		10		
LEAR		0244	0314	0323	N16	W03	5683	09	10.9	39	SF		3	E		57		
PALE		0252	0305	0325	S15	W59	5669	09	6.6	33	SF		3	E		25		
PALE		0301	0305	0315	N26	W15	5676	09	10.0	14	SF		3	E		25		
PALE		0313	0315U	0329	N17	W03	5683	09	10.9	16	SF		3	E		25		
LEAR		0321	0321	0324	N18	E09	5680	09	11.8	3	SF		3	E		23		
LEAR		0403	0404	0412	N18	E32	5687	09	13.6	9	SF		3	E		22		
LEAR		0420	0423	0431	N23	E49	5690	09	14.9	11	SF		3	E		18		
LEAR		0502	0503	0506	N16	W04	5683	09	10.9	4	SF		4	E		12		
SVTO		0830	0833	0838	N16	W07	5683	09	10.8	8	SF		3	E		24		
RAMY		1244	1244	1323	N17	W09	5683	09	10.8	39	SF		2	E		25		F

Hα S O L A R F L A R E S

SEPTEMBER 1989

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	11	1327	1330	1441	N16	W08	5683	09	10.9	74	SF	C 4.0	2	E		61		FH
HOLL		1330	1330	1343	N15	W08	5683	09	10.9	13	SF	C 4.0	3	E		23		F
HOLL		1347	1401	1421	N16	W08	5683	09	11.0	34	SF		3	E		32		F
HOLL		1435	1436U	1453	N21	E21	5686	09	13.2	18	SF		3	E		15		
HOLL		1509	1519	1546	N16	W08	5683	09	11.0	37	SF		3	E		48		F
RAMY		1521	1521	1537	N15	W07	5683	09	11.1	16	SF		2	E		61		F
HOLL		1546	1550	1605	N27	W21	5676	09	10.0	19	SF		3	E		44		
RAMY		1548	1549	1555	N24	W16	5676	09	10.4	7	SF		2	E		14		F
HOLL		1553	1555	1605	N16	W10	5683	09	10.9	12	SF		3	E		20		
HOLL		1611	1615	1637	N17	W10	5683	09	10.9	26	SF		3	E		33		F
HOLL		1615	1617	1623	S20	W75	5669	09	5.9	8	SF		3	E		26		
HOLL		1623	1629	1707	N26	W36	5682	09	8.9	44	1F	C 3.8	3	E		213		UE
PALE		1640E	1640U	1657	N24	W35	5682	09	9.0	17D	SF		3	E		70		UF
HOLL		1641	1645	1725	N16	W11	5683			44	SF			E		47		K
HOLL		1641	1701	1725	N16	W11	5683	09	10.9	44	SF		3	E		48		F
PALE		1657	1700	1723	N16	W11	5683	09	10.9	26	SF		3	E		40		F
PALE		1706	1711	1717	N25	E39	5690	09	14.7	11	SF		3	E		15		
HOLL		1715	1716	1728	N16	E23	5686	09	13.5	13	SF		3	E		26		
PALE		1716	1718	1724	N17	E23	5687	09	13.5	8	SF		3	E		15		
HOLL		1804	1828	1846	N18	W01	5680	09	11.7	42	SF		3	E		20		F
PALE		1809	1827	1850	N18	W02	5680	09	11.6	41	SF		3	E		26		F
HOLL		1910	1911	1925	N17	W11	5683	09	11.0	15	SF		3	E		19		F
PALE		1911	1912	1922	N17	W12	5683	09	10.9	11	SF		3	E		17		H
HOLL		1938E	1940U	2012D	N19	W02	5680	09	11.7	34D	2B	M 6.2	3	E		339		UF
PALE		1938	1940	2015	N19	W02	5680	09	11.7	37	2B	M 6.2	3	E		312		FH
PALE		2010E	2010U	2022D	N16	W12	5683	09	10.9	12D	SF		3	E		24		F
HOLL		2012E	2013U	2027D	N17	W13	5683	09	10.8	15D	SF		3	E		19		F
HOLL		2051E	2051U	2114D	N17	W13	5683	09	10.9	23D	SF	C 9.0	3	E		20		F
PALE		2058	2101	2125D	N16	W12	5683	09	11.0	27D	SF		3	E		17		
PALE		2150	2150	2155	N17	W13	5683	09	10.9	5	SF		3	E		11		
HOLL		2304E	2308	2328	N17	W14	5683	09	10.9	24D	SF		3	E		72		F
PALE		2313E	2314U	2315D	N17	W15	5683	09	10.8	2D	SF		3	E		20		F
HOLL		2328	2329	2340D	S18	W75	5669	09	6.3	12D	SF		3	E		20		F
LEAR		2343	2345	2420	S20	W74	5669	09	6.3	37	SF		3	E		50		
HOLL		2344	2348	2351D	S20	W76	5669	09	6.2	7D	1N	M 2.2	3	E		115		F
LEAR	12	0233	0235	0239	N17	W16	5683	09	10.9	6	SF		3	E		13		
PALE		0314E	0319	0332D	N06	W15	5685	09	11.0	18D	SF		3	E		25		F
LEAR		0315	0320	0326	N07	W13	5685	09	11.2	11	SF		3	E		18		F
GOES		0435	0814	1057						382		M 5.3						T
LEAR		0437	0439	0443	N28	W33	5676	09	9.6	6	SF		3	E		28		F
GOES		0458E	0459	0508D						10D		M 3.2						
LEAR		0534	0536	0541	S20	W73	5669	09	6.6	7	SF		3	E		33		F
LEAR		0740	0741	0746	N18	W09	5680	09	11.6	6	SF		3	E		14		F
SVTO		1003E	1009U	1151D	N17	E13	5686	09	13.4	108D	2N	M 7.3	1	E		349		F
SVTO		1004E	1010U	1032D	N28	E15	5684	09	13.6	28D	SN		1	E		60		
SVTO		1004E	1014U	1032D	N26	E21	5687	09	14.0	28D	1N		1	E		122		F
RAMY		1409	1409	1414	N14	W10	5680	09	11.8	5	SF		3	E		17		F
HOLL		1513	1514	1534	N28	W34	5676	09	10.0	21	SF		3	E		47		F
HOLL		1517	1520	1534	N18	E23	5687	09	14.4	17	SF		3	E		28		F
HOLL		1744	1807	1831D	N16	E09	5686	09	13.4	47D	SF		3	E		96		F
PALE		1745	1808	1835	N17	E11	5686	09	13.6	50	SF		3	E		46		F
PALE		1829	1829	1834	N16	W05	5680	09	12.4	5	SF		3	E		15		
HOLL		1904E	1904U	1936D	N26	W31	5676	09	10.4	32D	SF		3	E		62		F
PALE		1905	1907	1946	N26	W36	5676	09	10.0	41	SF		3	E		56		F
HOLL		2013E	2014U	2028D	N18	E17	5687	09	14.1	15D	SF		3	E		66		F
PALE		2031	2033	2113	N18	W07	5680	09	12.3	42	SF		3	E		22		F
LEAR		2318	2320	2330	N26	W36	5676	09	10.2	12	SF		3	E		11		F
GOES		2353E	0001	0014						21D		M 1.1						
LEAR	13	0101	0129	0140	N27	W41	5676	09	9.8	39	SF		3	E		38		F
LEAR		0108	0110	0135	N16	E07	5686	09	13.6	27	SF		3	E		12		F
LEAR		0258	0306	0323	N27	W41	5676	09	9.9	25	SF		3	E		25		F
LEAR		0301	0303	0309	N21	E29	5690	09	15.3	8	SF		3	E		12		
LEAR		0308	0311	0317	N26	E53	5694	09	17.2	9	SF		3	E		10		
LEAR		0329	0338	0422	N16	E06	5686	09	13.6	53	2N	M 3.6	3	E		274		FE
LEAR		0330	0338	0422	N21	E12	5687	09	14.1	52	1N		3	E		240		FE
PALE		0336E	0337	0352D	N17	E10	5686	09	13.9	16D	2B		1	E		266		UH

Hα SOLAR FLARES

SEPTEMBER 1989

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	13	0422	0422	0427	N17	W11	5680	09	12.3	5	SF		3	E		31		
LEAR		0630	0638	0730	N16	W14	5680	09	12.2	60	SF		3	E		63		F
LEAR		0632	0633	0705	N15	E04	5686	09	13.6	33	SF		3	E		83		
SVTO		0647E	0653	0735	N17	W19	5680	09	11.8	48D	SF		2	E		63		
SVTO		0647E	0654	0729	N13	E01	5686	09	13.3	42D	SF		2	E		60		
SVTO		0651	0654	0712	S12	E18	5689	09	14.6	21	SF		3	E		35		
LEAR		0651	0655	0703	S12	E17	5689	09	14.6	12	SF		3	E		30		
SVTO		0706	0707	0722	N27	W41	5676	09	10.1	16	SF		3	E		25		
LEAR		0813	0828	0836	N26	W42	5676	09	10.1	23	SF	M 1.1	3	E		20		F
LEAR		0908	0910	0924	N26	W46	5676	09	9.8	16	SF		3	E		17		
HOLL		1424	1426	1431	N24	W63	5682	09	8.7	7	SF		3	E		13		F
HOLL		1438	1449	1538	N17	E00	5686	09	13.6	60	SF		3	E		50		F
RAMY		1712	1720	1800	N24	W48	5676	09	10.0	48	SF		3	E		21		
RAMY		1753	1753	1801	N15	W03	5686	09	13.5	8	SF		3	E		20		
RAMY		1800	1822	1838	N28	E47	5694	09	17.4	38	SF		3	E		16		
RAMY		1907	1908	1916	N24	W49	5676	09	10.0	9	SF		3	E		18		
RAMY		1930	1943	1952	N22	W63	5682	09	9.0	22	SF		3	E		18		
PALE		2234E	2238U	2327	N25	W56	5676	09	9.6	53D	SF	C 4.1	3	E		69		
LEAR	14	0051	0053	0103	N15	W36	5683	09	11.3	12	SF		3	E		17		
LEAR		0141	0146	0159	N27	E44	5694	09	17.5	18	SF		3	E		49		
LEAR		0332	0334	0338	N19	W33	5680	09	11.6	6	SF		3	E		12		
GOES		0433	0436	0440						7		C 2.4						
LEAR		0659	0708	0742	N15	W39	5683	09	11.3	43	1N	M 2.4	3	E		106		F
LEAR		0700	0700	0754	N15	W28	5680	09	12.2	54	SN		3	E		31		
LEAR		0738	0741	0839	N26	E40	5694	09	17.4	61	SF	M 1.1	3	E		79		
LEAR		0900	0904	0910	N22	W70	5682	09	9.0	10	SF	C 6.7	3	E		41		
RAMY		1218	1219	1247	N21	W70	5682	09	9.1	29	SF		3	E		24		H
SVTO		1230E	1246U	1319	N20	W74	5682	09	8.9	49D	SF		2	E		83		F
RAMY		1301	1314	1334	N27	E36	5694	09	17.3	33	SF		3	E		35		F
SVTO		1304	1304	1334	N28	E39	5694	09	17.6	30	SF		2	E		92		F
GOES		1738	1741	1745						7		C 3.9						
GOES		1825	1831	1845						20		C 6.7						
GOES		2141	2147	2152						11		C 4.2						
LEAR	15	0002	0005	0020	N07	W53	5685	09	11.0	18	SF		3	E		28		F
PALE		0037	0046	0056	N29	E30	5694	09	17.4	19	SF	C 4.3	3	E		25		
LEAR		0043	0046	0053	N26	E32	5694	09	17.5	10	SF	C 4.3	3	E		13		F
LEAR		0352	0357	0402	N27	E30	5694	09	17.5	10	SF		3	E		19		F
GOES		0627	0711	0943						196		C 6.4						
RAMY		1212	1212	1250D	N27	W44		09	12.1	38D	SF		3	E		21		F
RAMY		1219	1220	1223	N26	W76	5676	09	9.6	4	SF		3	E		18		
GOES		1237	1241	1247						10		C 4.2						
GOES		1342	1346	1349						7		C 3.8						
RAMY		1402	1409	1435	N25	W67	5676	09	10.4	33	SF		3	E		83		H
SVTO		1406	1410	1425	N26	W75	5676	09	9.8	19	SF		3	E		86		
GOES		1755	1758	1800						5		C 2.8						
GOES		1908	1912	1917						9		C 2.9						
PALE		1910E	1914U	1925	N16	W32	5686	09	13.4	15D	SF		3	E		40		F
GOES		2017	2022	2027						10		C 3.9						
GOES		2101	2106U	2106						5		C 3.6						
PALE		2230	2348U	2440	N20	W22	5687	09	14.2	130	1F		3	E		172		F
LEAR		2251	2253	2255	N24	W24	5687	09	14.1	4	SF		3	E		14		F
LEAR		2256	2345	2412	N24	W22	5687	09	14.2	76	1F	M 2.3	3	E		131		F
LEAR	16	0007	0008	0015	N15	W68	5683	09	10.8	8	SF		3	E		11		
LEAR		0030	0032	0036	N18	W32	5686	09	13.6	6	SF		3	E		26		
LEAR		0054	0056	0111	N18	W32	5686	09	13.6	17	SF		3	E		49		
LEAR		0104	0104	0116	N29	W51	5697	09	12.0	12	SF		3	E		28		
LEAR		0147	0151	0200	N30	W49	5697	09	12.2	13	SF		3	E		40		
LEAR		0220	0220	0235	N29	W52	5697	09	12.0	15	SF		3	E		28		F
LEAR		0258	0310	0414	N17	W34	5686			76	SF			E		38		K
LEAR		0258	0351	0414	N17	W34	5686	09	13.5	76	SF		3	E		35		F
LEAR		0435	0436	0441	N18	W34	5686	09	13.6	6	SF		3	E		24		
LEAR		0437	0443	0505	N14	W53	5680	09	12.2	28	SF		3	E		18		
SVTO		0555	0555	0612	N26	W52	5697	09	12.2	17	SF		3	E		17		
SVTO		0555	0557	0607	N17	W55	5680	09	12.1	12	SF		3	E		20		
SVTO		0701	0702	0713	N16	W37	5686	09	13.5	12	SF		3	E		15		

Hα SOLAR FLARES

SEPTEMBER 1989

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
SVTO	16	0723	0735	0745	N16	W36	5686	09	13.6	22	SF		3	E		14		
LEAR		0751	0751	0801	N17	W37	5686	09	13.5	10	SF	C 3.4	3	E		12		
SVTO		0751	0755	0815	N16	W37	5686	09	13.5	24	SF	C 3.4	3	E		26		F
SVTO		0830	0831	0834	N29	W54	5697	09	12.1	4	SF		3	E		23		
SVTO		0902	0918	1008	S19	E75		09	22.1	66	SF		3	E		53		
SVTO		0916	0920	0935	N26	W56	5697	09	12.0	19	SF		3	E		30		F
SVTO		0938	0939	0956	N16	W38	5686	09	13.5	18	SF		3	E		35		
SVTO		0938	0952	0958	N26	W55	5697	09	12.1	20	SF		3	E		23		F
SVTO		1036	1037	1043	S21	E71		09	21.9	7	SF		2	E		32		
SVTO		1121	1123	1129	N17	W59	5680	09	12.0	8	SF		3	E		12		
RAMY		1343	1343	1350	N15	W39	5686	09	13.6	7	SF		3	E		13		
SVTO		1445	1458	1512	S21	E52		09	20.6	27	SF		3	E		67		F
RAMY		1532	1534	1546	N17	W35	5687	09	14.0	14	SF		3	E		33		F
RAMY		1622	1634	1652	N14	W73	5681	09	11.2	30	1F	M 1.2	3	E		108		F
RAMY		1713	1717	1724	N27	W60	5697	09	12.0	11	SF		3	E		24		F
RAMY		1743	1745	1806	N16	W38	5686	09	13.8	23	SF		3	E		32		UH
RAMY		1848	1851	1900	N17	W38	5686	09	13.9	12	SF	C 3.3	3	E		14		F
RAMY		1929	1939	1958	N25	W61	5697	09	12.1	29	SF		3	E		51		F
RAMY		1959	2012	2037	N29	W61	5697	09	12.0	38	SF		3	E		34		F
GOES	17	0108	0142	0215						67		C 4.1						
SVTO		0521E	0534U	0551D	N17	W49	5687	09	13.5	30D	SF		3	E		62		F
GOES		0647	0650	0655						8		C 2.8						
SVTO		0859	0904	0906	N29	W02	5694	09	17.2	7	SF		3	E		19		
SVTO		0929	0930	0938	N27	W69	5697	09	12.0	9	SF		3	E		20		
SVTO		1019	1024	1032	S24	E60	5698	09	22.1	13	SF		3	E		14		
SVTO		1042	1047	1051	S24	E60	5698	09	22.1	9	SF		3	E		12		
SVTO		1106	1111	1114	N26	W71	5697	09	11.9	8	SF		3	E		19		
SVTO		1127	1131	1144	S25	E60	5698	09	22.1	17	SF		3	E		27		
PALE		1831	1848	1926	N14	W54	5686	09	13.7	55	1F	M 1.2	3	E		150		F
GOES		2136	2140	2143						7		C 3.1						
GOES	18	0031	0035	0040						9		C 2.7						
LEAR		0205	0206	0216	S26	E52	5698	09	22.1	11	SF		3	E		21		
LEAR		0426	0430	0451	S26	E50	5698	09	22.1	25	SF	C 9.6	3	E		87		
SVTO		0523	0534	0637D	S24	E51	5698	09	22.2	74D	SN	C 3.1	3	E		47		
SVTO		1042	1043	1104	N20	W55	5687	09	14.2	22	SN		3	E		17		
GOES		1202	1208	1215						13		C 2.6						
SVTO		1416	1417	1440	N27	W17	5694	09	17.3	24	SF		3	E		13		
GOES		1547	1551	1559						12		C 2.7						
PALE		1849	1858	1939	N18	W65	5686	09	13.8	50	2N	M 1.1	3	E		338		
GOES		2054	2132	2249						115		C 8.0						
PALE	19	0122	0141	0204	N26	W23	5694	09	17.3	42	SF		3	E		39		F
LEAR		0135	0139	0149	N26	W23	5694	09	17.3	14	SF		3	E		11		
LEAR		0143	0146	0150	N20	W67	5686	09	13.9	7	SF		3	E		16		
PALE		0144	0145	0148	N18	W69	5686	09	13.8	4	SF		3	E		20		
LEAR		0524	0529	0541	S27	E36	5698	09	22.0	17	1F	C 5.6	3	E		112		
SVTO		0529E	0529U	0558	S25	E39	5698	09	22.2	29D	SF	C 5.6	2	E		63		
GOES		0814	0818	0822						8		C 3.1						
GOES		0939	0942	0944						5		C 3.1						
SVTO		1000E	1003U	1036D	S30	E36	5698	09	22.2	36D	SN	M 1.2	2	E		34		FE
GOES		1038	1045	1100						22		C 5.5						
GOES		1221	1232	1236						15		C 4.4						
SVTO		1531	1532	1537	S26	E29	5698	09	21.9	6	SF	C 2.7	3	E		28		
SVTO		1532	1536	1544D	N28	W28	5694	09	17.4	12D	SN		2	E		54		
GOES		1605	1614	1628						23		M 4.1						
GOES		1939	1944	1947						8		C 4.1						
GOES		2041	2058	2112						31		C 6.3						
PALE		2131	2132	2309	N26	W34	5694	09	17.2	98	SF	C 3.3	3	E		21		F
PALE	20	0057	0102	0132	N26	W36	5694	09	17.2	35	SF		3	E		25		F
PALE		0126	0126	0133	S25	E29	5698	09	22.3	7	SF		3	E		17		
PALE		0235	0236	0245	S27	E23	5698	09	21.9	10	SF	C 2.4	3	E		50		
LEAR		0253	0304	0316	S28	E24	5698	09	22.0	23	SF		3	E		92		H
PALE		0259	0306	0315	S27	E26	5698	09	22.1	16	SF		3	E		45		
GOES		0543	0551	0603						20		C 4.1						
GOES		0710	0719	0729						19		C 4.6						

Hα S O L A R F L A R E S

SEPTEMBER 1989

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	20	0922	0923	0927	N30	W37	5694	09	17.5	5	SF	C 2.0	3	E		18		F
SVTO		1222E	1228U	1320D	S26	E22	5698	09	22.2	58D	SB	C 2.8	3	E		40		F
PALE		1801	1804	1823	S28	E17	5698	09	22.1	22	SF	C 6.4	3	E		58		F
GOES		2157	2203	2207						10		C 1.8						
GOES		2323E	2325	2334D						11D		C 2.0						
LEAR	21	0011	0012	0035	S27	E13	5698	09	22.0	24	SF	C 2.0	3	E		27		F
LEAR		0128E	0128U	0140	S28	E13	5698	09	22.1	12D	SF	C 3.5	2	E		16		F
PALE		0240	0240	0244	S27	E13	5698	09	22.1	4	SF		3	E		13		
PALE		0258	0313	0337	S24	E16	5698	09	22.3	39	1N		3	E		144		
LEAR		0259E	0306U	0324D	S27	E11	5698	09	22.0	25D	1N	M 2.9	2	E		135		E
SVTO		0954	0954	1002	S26	E09	5698	09	22.1	8	SF		3	E		14		
SVTO		1154	1157U	1221	N28	W53	5694	09	17.3	27	SF	C 1.8	3	E		62		F
SVTO		1233	1253U	1256	S27	E04	5698	09	21.8	23	SF	C 1.9	3	E		15		F
SVTO		1302	1303	1329	S27	E05	5698	09	21.9	27	1N		3	E		101		F
RAMY		1308E	1308U	1335	S27	E06	5698	09	22.0	27D	SN	M 1.5	2	E		33		FH
GOES		1445	1450	1455						10		C 2.0						
SVTO		1556	1600U	1609	S27	E05	5698	09	22.0	13	SF	C 7.8	2	E		20		F
PALE		1906E	1933	2002	S27	E03	5698	09	22.0	56D	1F	M 1.9	3	E		110		F
GOES		2159	2207	2211						12		C 2.8						
LEAR	22	0103	0103	0118	S26	W01	5698	09	22.0	15	SF	C 6.9	3	E		20		
LEAR		0304	0305	0308	S23	W04	5698	09	21.8	4	SF		3	E		20		
LEAR		0334	0337	0341	S23	W05	5698	09	21.8	7	SF	C 3.3	3	E		24		
GOES		0517	0520	0523						6		C 1.5						
LEAR		0538	0540	0551	S24	E01	5698	09	22.3	13	SF	C 7.7	3	E		27		
SVTO		0624	0628	0641	S25	W01	5698	09	22.2	17	1B		3	E		100		F
LEAR		0625	0627	0645	S29	W01	5698	09	22.2	20	SN	C 4.9	3	E		81		
SVTO		0848	0852	0858	S23	W08	5698	09	21.7	10	SF		3	E		49		
LEAR		0850	0851	0857	S23	W08	5698	09	21.7	7	SF		3	E		50		
GOES		0850	0853	0855						5		C 2.4						
SVTO		1119	1122	1142	N38	E31	5704	09	25.0	23	SF		3	E		25		
SVTO		1237	1238	1245	S24	W03	5698	09	22.3	8	SF		3	E		12		F
SVTO		1249	1257	1323	S21	W29	5702	09	20.3	34	SF		3	E		12		
RAMY		1250E	1250U	1256	S23	W02	5698	09	22.4	6D	SF		3	E		16		
GOES		1703	1708	1718						15		C 4.3						
GOES		1704	1708	1717						13		C 4.0						
PALE		1837	1838	1851	N24	W63	5694	09	17.9	14	SF		3	E		19		F
GOES		1837	1843	1847						10		C 2.3						
PALE		1841	1842	1856	S25	W06	5698	09	22.3	15	SF		3	E		27		F
PALE		1927	1929	1946D	S24	E24	5703	09	24.7	19D	SF	C 2.2	3	E		12		F
LEAR	23	0309	0309	0314	N29	W71	5694	09	17.6	5	SF		3	E		20		
GOES		0319	0324	0326						7		C 5.8						
GOES		0508	0518	0705						117		C 2.3						
GOES		0856	0900	0904						8		C 4.4						
LEAR		0858	0859	0901	N29	W74	5694	09	17.6	3	SF		3	E		15		
SVTO		0858	0859	0909D	N29	W76	5694	09	17.4	11D	SF		2	E		34		
GOES		1329	1335	1344						15		C 3.2						
PALE		1717E	1717U	1725	S28	W19	5698	09	22.2	8D	SF		3	E		30		F
GOES		2230	2245	2318						48		C 4.0						
PALE	24	0305E	0315U	0325D	S27	W22	5698	09	22.4	20D	SF		3	E		19		F
LEAR		0311	0312	0318	S26	W23	5698	09	22.3	7	SF		3	E		14		F
GOES		0444	0451	0457						13		C 1.6						
LEAR		0814	0834	0904	S29	W28	5698	09	22.1	50	SF	M 1.4	3	E		54		
SVTO		0817E	0842	0903	S29	W27	5698	09	22.2	46D	SN		2	E		39		F
SVTO		0910	0911	0917	S29	W27	5698	09	22.3	7	SF		3	E		23		
LEAR		0910	0911	0919	S29	W27	5698	09	22.3	9	SF		3	E		33		
GOES		1058	1110	1130						32		C 2.3						
RAMY		1130	1142	1213	S28	W27	5698	09	22.4	43	SF		3	E		45		F
GOES		1247	1255	1303						16		C 2.8						
GOES		1310	1315	1325						15		C 2.9						
RAMY		1454	1504	1549	S31	W29	5698	09	22.3	55	SF	C 2.0	3	E		31		FH
RAMY		1454	1517	1549	S31	W29	5698			55	SF			E		25		K
GOES		1530	1534	1537						7		C 1.9						
GOES		1708	1711	1714						6		C 1.2						
GOES		1750	1800	1805						15		C 5.6						

Hα SOLAR FLARES

SEPTEMBER 1989

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	24	1924	2021	2032						68		C 2.6						
GOES		2023E	2029	2115D						52D		M 1.6						
LEAR	25	0148	0148	0203	S30	W37	5698	09	22.2	15	SF	C 3.8	3	E		15		
GOES		0303	0338	0358						55		C 9.8						
LEAR		0412	0416	0418	S23	W04	5703	09	24.9	6	SF		3	E		12		
SVTO		0940	1015	1041	S27	W42	5698	09	22.1	61	SN	C 2.5	3	E		63		H
SVTO		0940	1033	1041	S27	W42	5698			61	SF			E		12		K
SVTO		1207	1208	1216	S11	E58	5708	09	29.9	9	SF		3	E		17		
SVTO		1312	1322	1333	S30	W48	5698	09	21.8	21	SF	M 1.2	3	E		57		F
GOES		1342	1346	1351						9		C 6.6						
GOES		1539	1543	1546						7		C 2.5						
GOES		1708	1713	1719						11		C 2.5						
GOES		2117	2126	2138						21		C 5.7						
GOES		2300	2306	2311						11		C 3.0						
PALE		2344	2345	2406	S13	E78	5708	10	1.9	22	1F	M 3.3	3	E		149		
PALE	26	0212	0214	0226	S10	E54	5709	09	30.1	14	SF		3	E		21		
GOES		0443	0447	0450						7		C 2.9						
GOES		0621	0629	0636						15		C 4.6						
GOES		0724	0728	0731						7		C 5.0						
SVTO		0855E	0858	0911	S25	W54	5698	09	22.2	16D	SF	C 4.6	2	E		48		FH
GOES		0921	0927	0936						15		C 4.2						
SVTO		1015E	1025U	1031D	S24	W56	5698	09	22.1	16D	SF	C 3.8	1	E		75		H
SVTO		1025E	1026U	1033D	S13	E75	5708	10	2.1	8D	SF		1	E		19		
GOES		1049	1052	1054						5		C 5.9						
SVTO		1154E	1154U	1158D	S25	W62	5698	09	21.7	4D	SF		2	E		25		
RAMY		1156E	1158U	1206D	S25	W54	5698	09	22.3	10D	SF		2	E		20		
SVTO		1203	1209	1211	S20	W76	5702	09	20.7	8	SF		2	E		11		
SVTO		1209	1209	1214	S26	W54	5698	09	22.3	5	SF		2	E		25		
RAMY		1226	1239U	1248D	S27	W55	5698	09	22.2	22D	SF	C 8.2	3	E		25		
RAMY		1357E	1400U	1420D	S27	W55	5698	09	22.3	23D	SF		3	E		28		H
RAMY		1436	1438U	1448	S26	W54	5698	09	22.4	12	SF	C 8.3	3	E		35		
RAMY		1640E	1645U	1655	S18	E87	5708	10	3.3	15D	SF	C 5.6	3	E		41		
GOES		1852	1902	1912						20		C 5.8						
RAMY		2010	2015U	2022	S25	W61	5698	09	22.1	12	SF		3	E		49		
GOES		2154	2202	2208						14		C 4.1						
PALE		2318	2318	2324	S27	W69	5698	09	21.6	6	SF		3	E		20		
GOES	27	0007	0011	0014						7		C 4.4						
PALE		0102	0108	0118	S14	E70	5708	10	2.3	16	SF		3	E		43		
LEAR		0104E	0108	0114	S16	E67	5708	10	2.1	10D	SF		3	E		17		
SVTO		0800	0811	0816	S22	W70	5698	09	21.9	16	SF		3	E		17		
SVTO		1018	1031	1039	S22	W35	5703	09	24.7	21	SF	C 4.5	3	E		26		F
RAMY		1245E	1245U	1259	S30	W72	5698	09	21.9	14D	SF		3	E		25		
GOES		1329	1333	1339						10		C 3.8						
GOES		1418	1427	1429						11		C 3.8						
RAMY		1700	1713	1721	S20	W75	5698	09	22.0	21	SF	M 1.6	3	E		36		F
GOES		1949	1953	1959						10		C 4.2						
PALE		2013	2017	2024	S28	W86	5698	09	21.1	11	1F		3	E		118		F
GOES		2355		2400						5		M 1.6						
GOES	28	0332E	0336	0347D						15D		C 4.6						
SVTO		0747	0802	0803	N32	E65	5710	10	3.5	16	SF		3	E		15		
GOES		0919	0926	0932						13		M 2.9						
GOES		0946	0952	0959						13		C 7.0						
RAMY		1347E	1349	1414	S19	E85	5712	10	5.1	27D	1B	M 3.5	3	E		120		FH
GOES		2322E	2323	2332D						10D		C 3.8						
GOES	29	0025	0042	0056						31		C 9.2						
GOES		0304	0311	0319						15		C 5.3						
LEAR		0344	0344	0349	N30	E84	5714	10	5.8	5	SF		3	E		16		
SVTO		0732E	0735U	0742	S15	E62	5712	10	4.0	10D	SF		2	E		30		H
LEAR		0907	0908	0920	S16	E48	5712	10	3.0	13	SF		3	E		48		F
GOES		1000	1004	1010						10		C 4.4						
GOES		1047	1133	1435						228		X 9.8						T
PALE		1917	1920	1931	S15	E29	5708	10	2.0	14	SF	C 6.4	3	E		50		F
GOES		2048	2052	2056						8		C 8.2						

Hα SOLAR FLARES

SEPTEMBER 1989

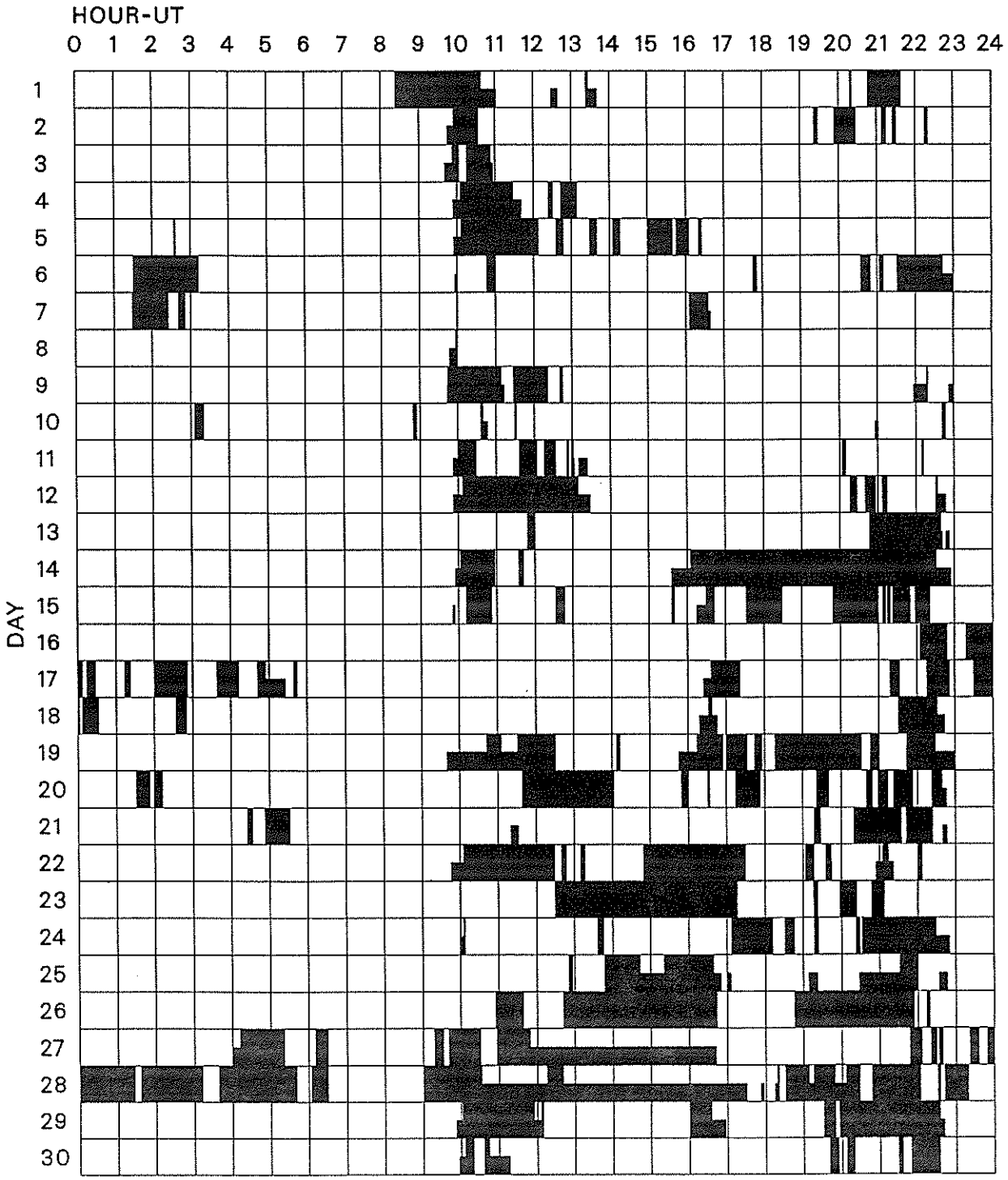
Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	30	0239	0254	0402	S18	E35	5712	10	2.8	83	2N	M 2.9	3	E		338		UF
LEAR		0302	0303	0322	S24	E29	5715	10	2.4	20	SF		3	E		15		
LEAR		0555	0600	0614	N13	E61	5716	10	4.8	19	SF		3	E		36		F
LEAR		0555	0604	0614	N13	E61	5716			19	SF			E		43		K
SVTO		0556E	0604	0629D	N15	E62	5716	10	4.9	33D	SN		3	E		98		F
RAMY		1234	1236	1248	S18	E21	5708	10	2.1	14	1F		3	E		119		F
RAMY		1353	1353	1403	N20	E44	5717	10	3.9	10	SF		3	E		15		
RAMY		1938	1938	1957	N36	E34	5710	10	3.5	19	SF		3	E		28		
RAMY		1957	2004U	2030D	N15	E55	5716	10	5.0	33D	SF		2	E		32		
HOLL		2256E	2258	2322	S18	E27	5712	10	3.0	26D	SF		3	E		50		

"Remarks"

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

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1989



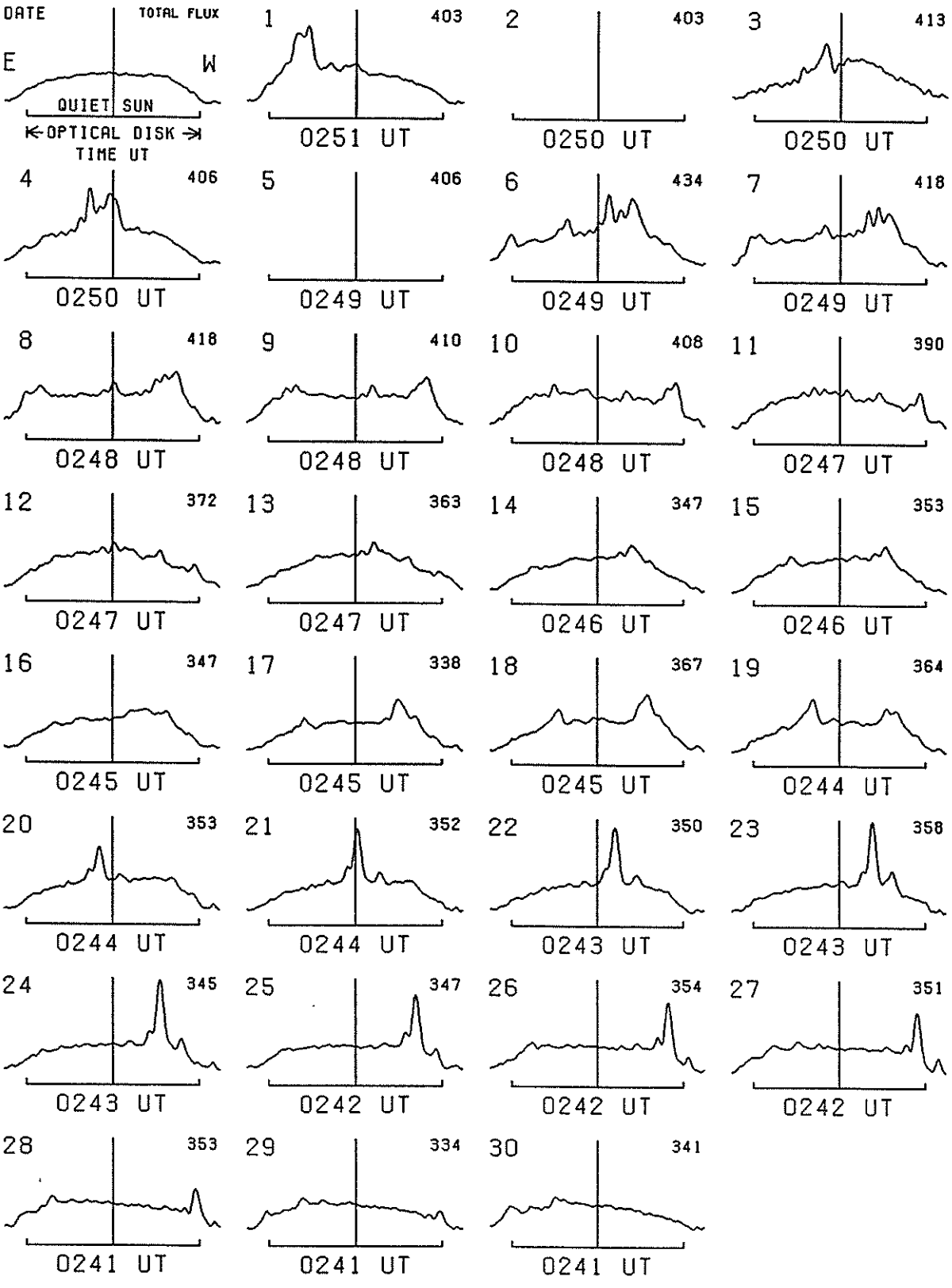
Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times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

Holloman Learmonth Palehua Ramey San Vito

EAST-WEST SOLAR SCANS
SEPTEMBER 1989

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



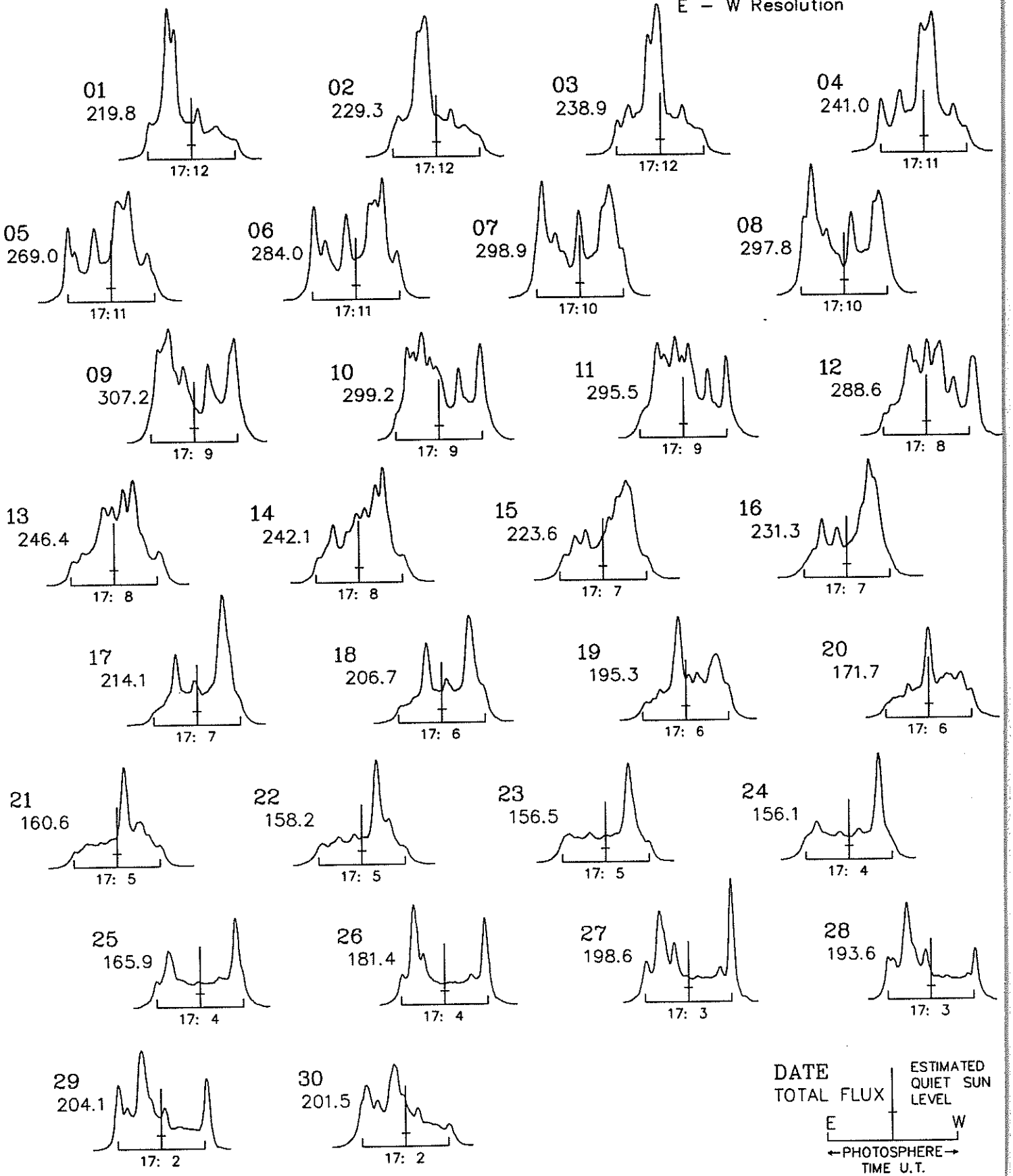
46
Sep 89

Note: All scans taken with 3 dB attenuation. This means all scans are one-half normal height.

EAST – WEST SOLAR SCANS
SEPTEMBER 1989

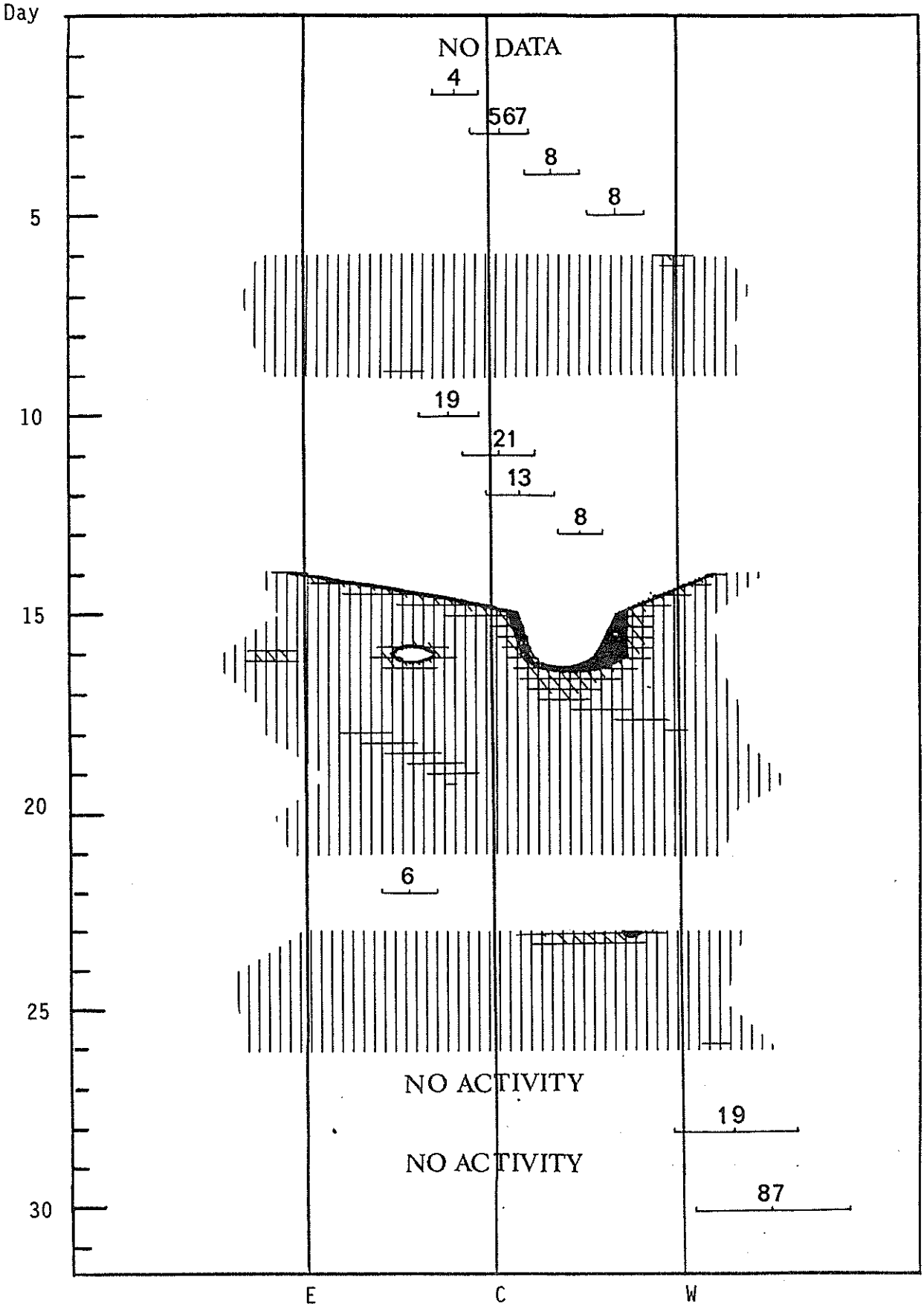
ALGONQUIN RADIO OBSERVATORY
CANADA

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



SOLAR INTERFEROMETRIC OBSERVATIONS

Nancay — SEPTEMBER 1989 — 164 MHz



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

SEPTEMBER 1989

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	LEAR	4	S/F	0042.0E	0047.0	6.0D	35.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0443.0E	0444.0	1157.0D	65.0			QL=1 ST=1 TYP=3
	8800	LEAR	49	GB	0559.0E	0622.0	91.0D	910.0			QL=1 ST=2 TYP=7
	2695	LEAR	49	GB	0604.0E	0620.0	86.0D	2600.0			QL=1 ST=2 TYP=7
	2695	SVTO	49	GB	0605.0E	0620.0	90.0D	3000.0			QL=1 ST=2 TYP=6
	8800	SVTO	49	GB	0607.0E	0622.0	61.0D	670.0			QL=1 ST=3 TYP=6
	2695	LEAR	4	S/F	0804.0E	0809.0	21.0D	360.0			QL=1 ST=2 TYP=5
	2695	SVTO	4	S/F	0808.0E	0809.0	13.0D	360.0			QL=1 ST=2 TYP=5
	8800	LEAR	4	S/F	0809.0E	0813.0	6.0D	320.0			QL=1 ST=2 TYP=5
	8800	SVTO	4	S/F	0809.0E	0817.0	12.0D	480.0			QL=1 ST=2 TYP=5
	8800	LEAR	8	S	0906.0E	0907.0	1.0D	110.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0906.0E	0907.0	1.0D	110.0			QL=1 ST=2 TYP=3
	2695	LEAR	20	GRF	0906.0E	0916.0	11.0D	66.0			QL=1 ST=2 TYP=2
	8800	SVTO	8	S	1127.0E	1127.0	1.0D	71.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1330.0E	1330.0	1.0D	66.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1401.0E	1401.0	4.0D	100.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1458.0E	1459.0	3.0D	270.0			QL=1 ST=2 TYP=3
	8800	SVTO	49	GB	1458.0E	1459.0	3.0D	540.0			QL=1 ST=2 TYP=6
	2800	OTTA	3	S	1458.8	1459.8	9.5	252.8	51.0		
	2695	SGMR	8	S	1459.0E	1459.0	1.0D	240.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1538.1	1539.2	11.0	30.5	6.0		
	8800	LEAR	4	S/F	2349.0E	2354.0	27.0D	56.0			QL=1 ST=2 TYP=3
	2695	PENT	4	S/F	2350.8	2355.0	5.5	29.5	8.0		
	2695	LEAR	4	S/F	2354.0E	2354.0	23.0D	31.0			QL=1 ST=2 TYP=3
02	8800	LEAR	8	S	0153.0E	0153.0	U	28.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0153.0E	0153.0	1.0D	64.0			QL=1 ST=2 TYP=3
	8800	LEAR	49	GB	0620.0E	0621.0	8.0D	590.0			QL=1 ST=2 TYP=6
	8800	SVTO	49	GB	0620.0E	0621.0	7.0D	510.0			QL=1 ST=2 TYP=6
	2695	LEAR	49	GB	0620.0E	0621.0	19.0D	710.0			QL=1 ST=2 TYP=6
	2695	SVTO	49	GB	0620.0E	0621.0	14.0D	720.0			QL=1 ST=2 TYP=6
	8800	LEAR	4	S/F	0841.0E	0842.0	4.0D	68.0			QL=1 ST=3 TYP=3
	2695	LEAR	4	S/F	0842.0E	0842.0	3.0D	26.0			QL=1 ST=3 TYP=3
	2695	SGMR	4	S/F	1137.0E	1138.0	7.0D	350.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1137.0E	1138.0	7.0D	360.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1137.0E	1138.0	2.0D	150.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1138.0E	1138.0	1.0D	160.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	1719.0E	1720.0	9.0D	73.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	1719.0E	1720.0	2.0D	78.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1719.7	1721.9	14.5	79.7	16.0		
	8800	SGMR	8	S	1720.0E	1720.0	2.0D	52.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	2109.0E	2109.0	U	80.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	2109.0E	2109.0	U	70.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	2109.0E	2109.0	U	76.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	2109.2	2109.5	4.9	112.3	22.0		
	2800	OTTA	22	GRF	2214.0	2237.0	165.0	17.4	8.0		
	8800	SGMR	4	S/F	2230.0E	2232.0	6.0D	100.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	2230.0E	2232.0	20.0D	87.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	2236.0E	2236.0	U	25.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	2246.6	2247.3	4.0	26.5	11.0		
03	8800	SGMR	49	GB	1037.0E	1039.0	8.0D	1400.0			QL=1 ST=3 TYP=6
	2695	SGMR	49	GB	1037.0E	1040.0	8.0D	580.0			QL=1 ST=3 TYP=6
	2695	SVTO	4	S/F	1040.0E	1040.0	7.0D	460.0			QL=1 ST=2 TYP=3
	8800	SVTO	49	GB	1040.0E	1040.0	6.0D	510.0			QL=1 ST=2 TYP=6
	8800	SVTO	49	GB	1427.0E	1430.0	24.0D	2300.0			QL=1 ST=2 TYP=6
	8800	SGMR	49	GB	1428.0E	1430.0	8.0D	2200.0			QL=1 ST=2 TYP=6
	2695	SVTO	49	GB	1428.0E	1429.0	23.0D	4800.0			QL=1 ST=2 TYP=6
	2800	OTTA	45	C	1428.5	1429.3	1.0	1968.0			
	2800	OTTA	45	C	1428.5	1429.3	31.5	1968.0	390.0		
	2800	OTTA	45	C	1429.5	1430.3	30.5	969.0	194.0		
	2800	OTTA	29	PBI	1500.0	1500.0	20.0	23.8	11.0		
	2800	OTTA	4	S/F	1836.3	1843.0	23.8	43.8	9.0		
	2695	SGMR	4	S/F	1838.0E	1842.0	7.0D	56.0			QL=1 ST=2 TYP=5
	8800	SGMR	4	S/F	1839.0E	1842.0	6.0D	38.0			QL=1 ST=2 TYP=3
	2695	PENT	3	S	2334.0	2336.5	7.0	215.8	43.0		
	2695	LEAR	4	S/F	2335.0E	2336.0	25.0D	220.0			QL=1 ST=1 TYP=3
	8800	LEAR	4	S/F	2336.0E	2336.0	8.0D	250.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	2336.0E	2336.0	2.0D	200.0			QL=1 ST=2 TYP=3

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

SEPTEMBER 1989

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
03	8800	PALE	4 S/F	2336.0E	2336.0	8.0D	250.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	2336.0E	2336.0	11.0D	220.0			QL=1 ST=2 TYP=3
04	8800	PALE	8 S	0148.0E	0148.0	1.0D	63.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0301.0E	0301.0	U	23.0			QL=1 ST=2 TYP=3
	2695	PALE	4 S/F	0301.0E	0302.0	3.0D	60.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0301.0E	0303.0	10.0D	230.0			QL=1 ST=2 TYP=3
	8800	PALE	4 S/F	0302.0E	0303.0	7.0D	180.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0629.0E	0630.0	4.0D	200.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0630.0E	0631.0	4.0D	79.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0702.0E	0705.0	6.0D	65.0			QL=1 ST=2 TYP=3
	8800	SVTO	8 S	0704.0E	0705.0	2.0D	55.0			QL=1 ST=2 TYP=3
	8800	LEAR	49 GB	0857.0E	0859.0	8.0D	690.0			QL=1 ST=2 TYP=7
	2695	LEAR	4 S/F	0857.0E	0903.0	12.0D	470.0			QL=1 ST=2 TYP=5
	8800	LEAR	8 S	0916.0E	0917.0	2.0D	200.0			QL=1 ST=2 TYP=3
	2695	LEAR	8 S	0917.0E	0917.0	1.0D	180.0			QL=1 ST=2 TYP=3
	8800	LEAR	8 S	0948.0E	0949.0	1.0D	77.0			QL=1 ST=2 TYP=3
	2695	SGMR	8 S	1202.0E	1203.0	2.0D	60.0			QL=1 ST=2 TYP=3
	2695	SGMR	8 S	1205.0E	1206.0	1.0D	61.0			QL=1 ST=2 TYP=3
	2695	SGMR	8 S	1213.0E	1214.0	2.0D	67.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1518.3	1526.4	18.8	71.8	14.0		
	8800	SGMR	8 S	1525.0E	1526.0	2.0D	120.0			QL=1 ST=2 TYP=3
	2695	SGMR	8 S	1525.0E	1526.0	2.0D	79.0			QL=1 ST=2 TYP=3
	2800	OTTA	3 S	1907.5	1908.4	8.5	84.6	17.0		
	2695	PALE	8 S	1908.0E	1908.0	1.0D	83.0			QL=1 ST=2 TYP=3
	8800	PALE	8 S	1908.0E	1908.0	U	70.0			QL=1 ST=2 TYP=3
	8800	SGMR	8 S	1908.0E	1908.0	U	190.0			QL=1 ST=2 TYP=3
05	8800	LEAR	4 S/F	0151.0E	0153.0	8.0D	120.0			QL=1 ST=2 TYP=3
	2695	PALE	8 S	0152.0E	0152.0	2.0D	55.0			QL=1 ST=2 TYP=3
	8800	PALE	4 S/F	0152.0E	0153.0	3.0D	99.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0457.0E	0500.0	5.0D	110.0			QL=1 ST=2 TYP=5
	8800	LEAR	8 S	0500.0E	0500.0	1.0D	40.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1334.8	1337.0	15.2	353.1	70.0		
	8800	SGMR	49 GB	1335.0E	1336.0	7.0D	540.0			QL=1 ST=2 TYP=6
	2695	SGMR	4 S/F	1335.0E	1336.0	7.0D	280.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1558.0	1602.8	9.0	31.6	6.0		
	8800	SGMR	4 S/F	1601.0E	1602.0	3.0D	270.0			QL=1 ST=2 TYP=3
	2800	OTTA	3 S	1730.9	1732.3	11.1	59.6	12.0		
	2695	PALE	8 S	1731.0E	1732.0	2.0D	60.0			QL=1 ST=2 TYP=3
	2695	SGMR	8 S	1731.0E	1732.0	2.0D	58.0			QL=1 ST=2 TYP=3
	2695	SGMR	49 GB	2113.0E	2113.0	4.0D	1100.0			QL=1 ST=3 TYP=6
	8800	SGMR	4 S/F	2113.0E	2113.0	4.0D	1300.0			QL=1 ST=3 TYP=3
	2800	OTTA	47 GB	2141.9	2142.9	36.2	658.1	132.0		
	8800	SGMR	49 GB	2142.0E	2143.0	8.0D	720.0			QL=1 ST=3 TYP=6
	8800	PALE	49 GB	2142.0E	2142.0	14.0D	690.0			QL=1 ST=2 TYP=6
	2695	PALE	49 GB	2142.0E	2142.0	18.0D	1100.0			QL=1 ST=2 TYP=6
	2695	SGMR	49 GB	2142.0E	2143.0	13.0D	1000.0			QL=1 ST=3 TYP=6
	2800	OTTA	4 S/F	2219.0	2222.9	18.0	191.5	38.0		
	2695	PALE	4 S/F	2222.0E	2222.0	5.0D	370.0			QL=1 ST=2 TYP=3
	2695	SGMR	49 GB	2222.0E	2222.0	2.0D	660.0			QL=1 ST=3 TYP=6
	8800	SGMR	49 GB	2222.0E	2222.0	2.0D	1000.0			QL=1 ST=3 TYP=6
06	8800	LEAR	8 S	0046.0E	0046.0	2.0D	39.0			QL=1 ST=2 TYP=3
	2695	LEAR	4 S/F	0050.0E	0055.0	7.0D	220.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0054.0E	0054.0	3.0D	290.0			QL=1 ST=2 TYP=3
	2695	PENT	3 S	0054.4	0054.9	29.7	258.8	52.0		
	2695	LEAR	4 S/F	0550.0E	0551.0	8.0D	87.0			QL=1 ST=2 TYP=3
	8800	LEAR	4 S/F	0550.0E	0555.0	7.0D	170.0			QL=1 ST=2 TYP=5
	8800	SVTO	8 S	0555.0E	0555.0	U	140.0			QL=1 ST=2 TYP=3
	8800	SGMR	4 S/F	1652.0E	1657.0	6.0D	53.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1653.1	1655.7	15.0	56.6	11.0		
	2695	SGMR	4 S/F	1654.0E	1655.0	3.0D	70.0			QL=1 ST=2 TYP=3
	8800	PALE	8 S	1655.0E	1655.0	1.0D	52.0			QL=1 ST=2 TYP=3
	2695	PALE	8 S	1655.0E	1655.0	2.0D	52.0			QL=1 ST=2 TYP=3
	2695	PALE	8 S	1713.0E	1713.0	1.0D	56.0			QL=1 ST=2 TYP=3
	8800	PALE	8 S	1713.0E	1713.0	1.0D	98.0			QL=1 ST=2 TYP=3
	2800	OTTA	4 S/F	1713.5	1713.8	6.2	54.4	11.0		
	2800	OTTA	4 S/F	1741.1	1753.8	20.2	32.6	6.0		

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

SEPTEMBER 1989

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
06	2800	OTTA	3	S	2036.1	2037.5	3.0	49.5	10.0		
07	8800	LEAR	8	S	0133.0E	0133.0	2.0D	51.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0133.0E	0134.0	2.0D	51.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0138.0E	0139.0	4.0D	73.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0139.0E	0139.0	1.0D	14.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0139.0E	0139.0	2.0D	46.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0519.0E	0519.0	U	42.0			QL=1 ST=3 TYP=3
	8800	LEAR	8	S	0555.0E	0555.0	U	29.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0808.0E	0809.0	1.0D	62.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0820.0E	0824.0	11.0D	310.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0821.0E	0824.0	9.0D	290.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0822.0E	0824.0	6.0D	110.0			QL=1 ST=2 TYP=3
	2800	OTTA	42	SER	1530.5	1533.3	15.5	36.0	10.0		
	2695	SGMR	8	S	1533.0E	1533.0	U	32.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1533.0E	1533.0	U	57.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1533.0E	1533.0	U	36.0			QL=1 ST=3 TYP=3
	8800	SVTO	8	S	1533.0E	1533.0	U	63.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1537.0E	1537.0	1.0D	92.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1537.0E	1538.0	1.0D	32.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1537.0E	1537.0	1.0D	91.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1626.0	1627.0	4.7	94.5	28.0		
	2695	SGMR	4	S/F	1626.0E	1627.0	3.0D	83.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1626.0E	1627.0	2.0D	82.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1851.0	1854.0	15.3	80.1	16.0		
	2695	SGMR	4	S/F	1851.0E	1853.0	309.0D	81.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	1852.0E	1853.0	4.0D	63.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	2032.3	2032.9	2.5	27.9	6.0		
	2695	PALE	4	S/F	2104.0E	2105.0	5.0D	100.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	2104.0E	2105.0	5.0D	110.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	2104.6	2105.4	20.0	126.0	25.0		
	2695	PALE	4	S/F	2112.0E	2114.0	6.0D	56.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	2113.0E	2114.0	1.0D	30.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	2313.0E	2313.0	1.0D	35.0			QL=1 ST=2 TYP=3
08	2695	PALE	20	GRF	0333.0E	0339.0	9.0D	57.0			QL=1 ST=2 TYP=2
	8800	PALE	4	S/F	0333.0E	0335.0	10.0D	49.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0334.0E	0334.0	1.0D	26.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0334.0E	0335.0	3.0D	30.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0407.0E	0407.0	3.0D	360.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0407.0E	0407.0	3.0D	300.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0407.0E	0407.0	U	100.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0410.0	0412.0U	10.0D	84.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0839.0E	0840.0	5.0D	70.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0840.0E	0840.0	2.0D	58.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	1751.0E	1752.0	3.0D	92.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1751.5	1753.0	4.0	104.3	31.0		
	2695	SGMR	8	S	1752.0E	1752.0	1.0D	87.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	1756.5	1756.5	36.5	13.0	6.0		
09	8800	LEAR	8	S	0011.0E	0012.0	2.0D	16.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0011.0E	0012.0	1.0D	33.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0528.0E	0530.0	3.0D	160.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0528.0E	0529.0	3.0D	370.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0528.0E	0530.0	3.0D	170.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0529.0E	0529.0	1.0D	290.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0540.0E	0541.0	2.0D	43.0			QL=1 ST=2 TYP=3
	8800	SVTO	49	GB	0909.0E	0910.0	11.0D	5800.0			QL=1 ST=2 TYP=7
	2695	SVTO	49	GB	0909.0E	0910.0	14.0D	1400.0			QL=1 ST=2 TYP=7
	2695	SVTO	8	S	0951.0E	0951.0	1.0D	59.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	0954.0E	0955.0	2.0D	57.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1533.0E	1534.0	1.0D	38.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1533.0E	1534.0	2.0D	71.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1533.0E	1534.0	4.0D	120.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1533.0E	1534.0	507.0D	110.0			QL=1 ST=1 TYP=3
	2800	OTTA	3	S	1533.7	1534.1	4.7	69.6	14.0		
	2800	OTTA	20	GRF	1810.0	1813.0	40.0D	9.0	4.0		
	2695	PALE	4	S/F	1851.0E	1851.0	3.0D	170.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	1851.0E	1851.0	3.0D	270.0			QL=1 ST=2 TYP=3

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

SEPTEMBER 1989

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
09	8800	SGMR	4	S/F	1851.0E	1851.0	5.0D	380.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1851.2	1851.8	6.0	191.5	38.0		
	2800	OTTA	20	GRF	1909.0	1911.0	18.0D	9.6	4.0		
	8800	SGMR	49	GB	1926.0E	1929.0	13.0D	1100.0			QL=1 ST=2 TYP=6
	2695	SGMR	49	GB	1927.0E	1929.0	12.0D	830.0			QL=1 ST=2 TYP=6
	2800	OTTA	3	S	1927.0	1929.2	7.8	314.7	63.0		
	2800	OTTA	29	PBI	1934.7	1934.7	125.0	48.2	19.0		
10	2695	PALE	8	S	0032.0E	0033.0	1.0D	35.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0111.0E	0112.0	1.0D	45.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0222.0E	0226.0	6.0D	210.0			QL=1 ST=2 TYP=5
	8800	PALE	4	S/F	0222.0E	0226.0	6.0D	210.0			QL=1 ST=2 TYP=5
	2695	PALE	8	S	0223.0E	0225.0	2.0D	29.0			QL=1 ST=2 TYP=3
	2695	LEAR	20	GRF	0535.0E	0540.0	9.0D	63.0			QL=1 ST=2 TYP=2
	8800	LEAR	4	S/F	0538.0E	0540.0	3.0D	180.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	0538.0E	0540.0	3.0D	150.0			QL=1 ST=3 TYP=3
	2695	SVTO	8	S	0539.0E	0540.0	1.0D	31.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	0649.0E	0651.0	5.0D	210.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0650.0E	0651.0	3.0D	190.0			QL=1 ST=2 TYP=3
	8800	SVTO	20	GRF	0751.0E	0758.0	25.0D	100.0			QL=1 ST=2 TYP=2
	8800	LEAR	20	GRF	0752.0E	0758.0	9.0D	88.0			QL=1 ST=2 TYP=2
	2695	SVTO	4	S/F	0752.0E	0753.0	9.0D	200.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0752.0E	0753.0	10.0D	230.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1254.0E	1256.0	12.0D	150.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1254.5	1256.9	15.2	149.2	45.0		
	8800	SGMR	4	S/F	1255.0E	1256.0	10.0D	440.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1255.0E	1256.0	12.0D	450.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1256.0E	1256.0	6.0D	140.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	2308.0E	2308.0	U	45.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	2321.0E	2323.0	2.0D	27.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	2328.0E	2328.0	U	23.0			QL=1 ST=2 TYP=3
11	2695	SGMR	8	S	1145.0E	1145.0	1.0D	55.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1813.0	1824.0	53.0	14.6	5.0		
	2800	OTTA	4	S/F	1939.0	1941.1	26.0	462.0	139.0		
	2695	PALE	4	S/F	1939.0E	1940.0	9.0D	480.0			QL=1 ST=2 TYP=3
	8800	PALE	49	GB	1939.0E	1940.0	9.0D	540.0			QL=1 ST=2 TYP=6
	8800	SGMR	49	GB	1939.0E	1940.0	13.0D	690.0			QL=1 ST=2 TYP=6
	2695	SGMR	49	GB	1939.0E	1940.0	10.0D	500.0			QL=1 ST=2 TYP=6
	8800	LEAR	4	S/F	2344.0E	2345.0	3.0D	180.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	2344.0E	2345.0	3.0D	180.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	2345.0E	2345.0	1.0D	33.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	2345.0E	2346.0	1.0D	29.0			QL=1 ST=2 TYP=3
12	2695	LEAR	4	S/F	0457.0E	0500.0	13.0D	180.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0458.0E	0459.0	12.0D	96.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0532.0E	0534.0	4.0D	41.0			QL=1 ST=2 TYP=3
	8800	LEAR	20	GRF	0742.0E	0750.0	16.0D	35.0			QL=1 ST=2 TYP=2
	2695	SVTO	4	S/F	1003.0E	1006.0	18.0D	150.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1004.0E	1006.0	15.0D	120.0			QL=1 ST=2 TYP=3
13	2695	PALE	4	S/F	0332.0E	0334.0	9.0D	450.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0333.0E	0334.0	6.0D	400.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0333.0E	0335.0	5.0D	130.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0333.0E	0336.0	10.0D	150.0			QL=1 ST=2 TYP=3
14	8800	LEAR	49	GB	0658.0E	0700.0	13.0D	980.0			QL=1 ST=2 TYP=6
	2695	LEAR	4	S/F	0659.0E	0701.0	12.0D	62.0			QL=1 ST=2 TYP=3
18	2800	OTTA	4	S/F	1854.5	1857.2	5.7	39.7	12.0		
19	8800	LEAR	8	S	0525.0E	0526.0	2.0D	61.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0940.0E	0940.0	U	42.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0952.0E	0954.0	4.0D	59.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0953.0E	0953.0	1.0D	60.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0953.0E	0954.0	2.0D	71.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1608.0E	1610.0	12.0D	160.0			QL=1 ST=2 TYP=5
	2800	OTTA	4	S/F	1608.5	1611.0	3.9	285.5	85.0		
	2695	SVTO	8	S	1609.0E	1610.0	2.0D	290.0			QL=1 ST=2 TYP=5

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

SEPTEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	2800	OTTA	29	PBI	1612.4	1612.4	160.0	14.8	7.0		
20	8800	LEAR	4	S/F	0300.0E	0300.0	4.0D	170.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0300.0E	0300.0	4.0D	110.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0300.0E	0300.0	3.0D	160.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	0300.0E	0300.0	4.0D	130.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	1759.0E	1801.0	3.0D	90.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1800.0	1801.4	8.3	65.9	20.0		
	2695	PALE	8	S	1800.0E	1801.0	1.0D	65.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1800.0E	1801.0	2.0D	70.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1800.0E	1801.0	11.0D	190.0			QL=1 ST=2 TYP=3
21	8800	LEAR	4	S/F	0127.0E	0127.0	5.0D	89.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0127.0E	0128.0	2.0D	81.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0127.0E	0128.0	1.0D	51.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0258.0E	0258.0	1.0D	120.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0258.0E	0258.0	1.0D	130.0			QL=1 ST=2 TYP=3
	8800	LEAR	20	GRF	0258.0E	0258.0	17.0D	240.0			QL=1 ST=2 TYP=2
	8800	PALE	4	S/F	0258.0E	0258.0	21.0D	220.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1300.0E	1301.0	4.0D	130.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1300.0E	1301.0	3.0D	140.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1457.0E	1457.0	U	71.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1550.0E	1550.0	U	61.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1550.0E	1550.0	1.0D	60.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1554.0E	1555.0	4.0D	300.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1554.0E	1555.0	3.0D	310.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1900.0	1937.0	120.0	103.3	20.0		
	8800	SGMR	4	S/F	1934.0E	1936.0	7.0D	190.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1934.0E	1937.0	4.0D	80.0			QL=1 ST=2 TYP=3
	2695	PALE	20	GRF	1936.0E	1937.0	7.0D	98.0			QL=1 ST=2 TYP=2
	2800	OTTA	4	S/F	2152.0	2207.0	26.0	82.6	17.0		
	2695	PALE	8	S	2205.0E	2205.0	1.0D	76.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	2205.0E	2205.0	1.0D	77.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	2205.0E	2205.0	1.0D	190.0			QL=1 ST=2 TYP=3
22	2695	LEAR	8	S	0626.0E	0626.0	1.0D	130.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0626.0E	0626.0	1.0D	270.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	0626.0E	0626.0	1.0D	130.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0707.0E	0708.0	2.0D	95.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0707.0E	0708.0	2.0D	43.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	0708.0E	0708.0	1.0D	110.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0708.0E	0708.0	1.0D	41.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0737.0E	0738.0	2.0D	61.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	1644.0E	1646.0	3.0D	100.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	1644.0E	1645.0	3.0D	55.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1702.0E	1702.0	1.0D	100.0			QL=1 ST=2 TYP=3
23	8800	LEAR	4	S/F	2308.0E	2309.0	3.0D	47.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	2309.0E	2309.0	1.0D	22.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	2309.0E	2309.0	1.0D	46.0			QL=1 ST=2 TYP=3
24	8800	LEAR	8	S	0343.0E	0343.0	1.0D	38.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0444.0E	0445.0	2.0D	35.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1503.0E	1503.0	1.0D	61.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1503.0E	1503.0	1.0D	65.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	1758.0E	1759.0	1.0D	48.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1758.0E	1759.0	1.0D	130.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1758.0E	1759.0	1.0D	150.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1758.0E	1759.0	1.0D	58.0			QL=1 ST=2 TYP=3
25	2695	PENT	4	S/F	2341.0	2342.9	9.0	119.4	36.0		
	8800	LEAR	4	S/F	2341.0E	2344.0	7.0D	120.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	2341.0E	2342.0	5.0D	120.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	2341.0E	2344.0	5.0D	120.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	2341.0E	2342.0	4.0D	120.0			QL=1 ST=2 TYP=3
26	2695	SGMR	4	S/F	1238.0E	1239.0	682.0D	39.0			QL=1 ST=1 TYP=3
	2695	SVTO	8	S	1239.0E	1239.0	U	38.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1619.0	1641.0	200.0	30.3	9.0		

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

SEPTEMBER 1989

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
26	8800	SGMR	8	S	1631.0E	1631.0	2.0D	51.0			QL=1 ST=2 TYP=3
27	8800	PALE	4	S/F	1701.0E	1704.0	7.0D	160.0			QL=1 ST=2 TYP=3
	8800	SGMR	20	GRF	1701.0E	1704.0	6.0D	150.0			QL=1 ST=2 TYP=2
	8800	LEAR	8	S	2353.0E	2354.0	1.0D	32.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	2353.0E	2353.0	3.0D	130.0			QL=1 ST=2 TYP=3
	2695	PALE	4	S/F	2353.0E	2353.0	3.0D	130.0			QL=1 ST=2 TYP=3
	2695	PENT	4	S/F	2353.0	2353.5	13.5	128.1	26.0		
28	2695	LEAR	8	S	0925.0E	0925.0	2.0D	91.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	0925.0E	0925.0	1.0D	94.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1345.0E	1345.0	U	75.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1345.0E	1345.0	U	71.0			QL=1 ST=2 TYP=3
	2800	OTTA	4	S/F	1345.0	1345.4	6.0	76.3	15.0		
29	2695	SGMR	49	GB	1120.0E	1126.0	157.0D	6800.0			QL=1 ST=2 TYP=7
	8800	SGMR	49	GB	1120.0E	1137.0	156.0D	15000.0			QL=1 ST=2 TYP=7
	2800	OTTA	47	GB	1150.0E	1150.0	90.0D	4316.0	863.0		
	8800	SVTO	49	GB	1215.0E	1216.0	83.0D	1600.0			QL=1 ST=3 TYP=7
	2695	SVTO	49	GB	1215.0E	1216.0	92.0D	2800.0			QL=1 ST=3 TYP=7
	2800	OTTA	4	S/F	2048.0	2049.4	5.0	43.9	13.0		
	8800	SGMR	8	S	2048.0E	2049.0	2.0D	70.0			QL=1 ST=3 TYP=3
	2695	PALE	8	S	2049.0E	2049.0	1.0D	34.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	2049.0E	2049.0	2.0D	64.0			QL=1 ST=2 TYP=3
30	2695	PALE	20	GRF	0244.0E	0251.0	27.0D	110.0			QL=1 ST=2 TYP=2
	2695	LEAR	4	S/F	0247.0E	0250.0	9.0D	66.0			QL=1 ST=2 TYP=3
	8800	LEAR	20	GRF	0249.0E	0259.0	11.0D	36.0			QL=1 ST=2 TYP=2
	8800	PALE	20	GRF	0249.0E	0255.0	24.0D	46.0			QL=1 ST=2 TYP=2
	8800	LEAR	4	S/F	0555.0E	0556.0	3.0D	58.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0556.0E	0557.0	2.0D	27.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0605.0E	0607.0	7.0D	110.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0605.0E	0607.0	6.0D	100.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	1235.0E	1235.0	1.0D	33.0			QL=1 ST=2 TYP=3

Reports are received routinely from the following observatories:

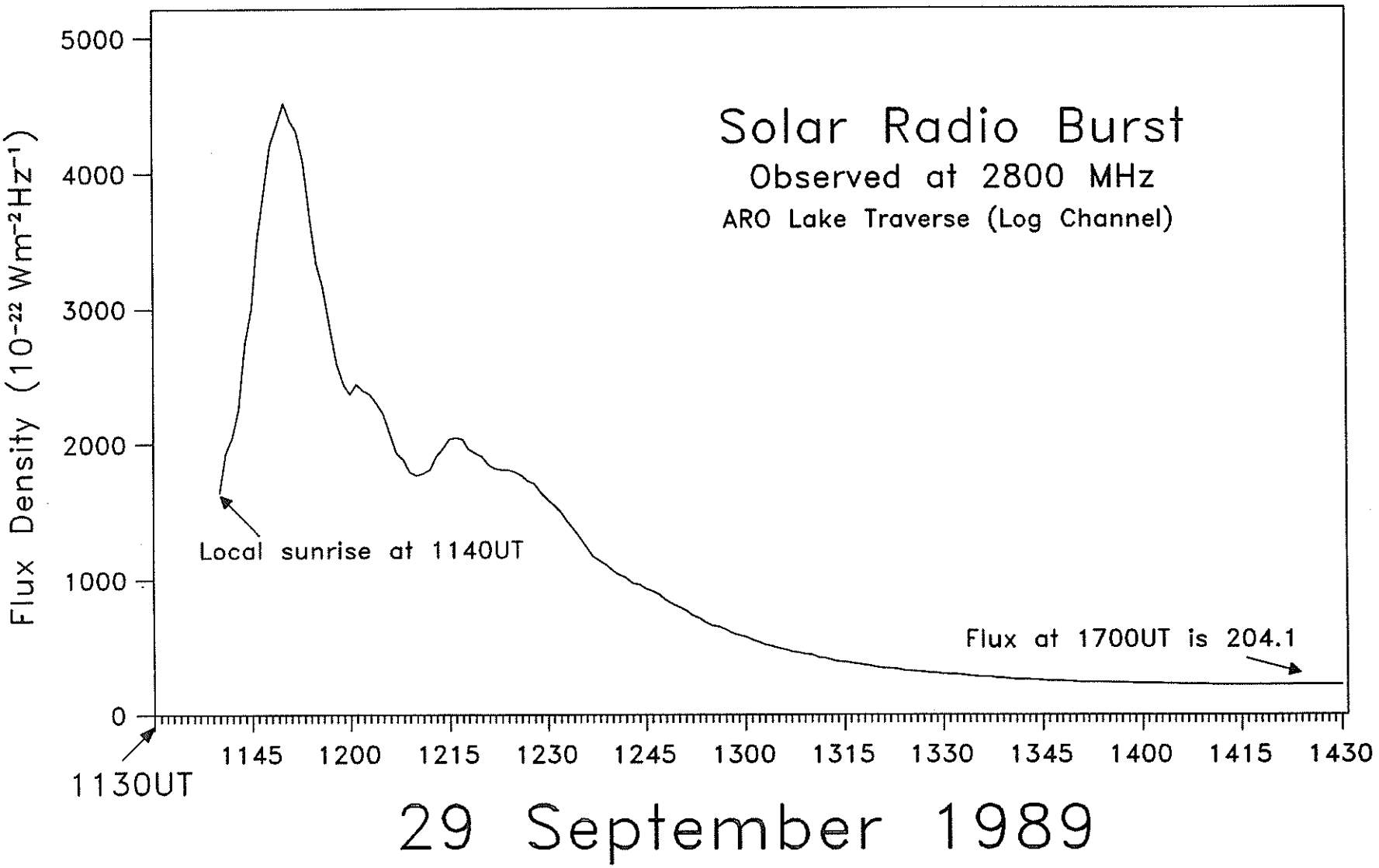
BERN = Berne LEAR = Learmonth PALE = Palehua SGMR = Sagamore Hill
OTTA = Ottawa PENT = Penticton SVTO = San Vito

Explanation of Type Code:

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

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

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

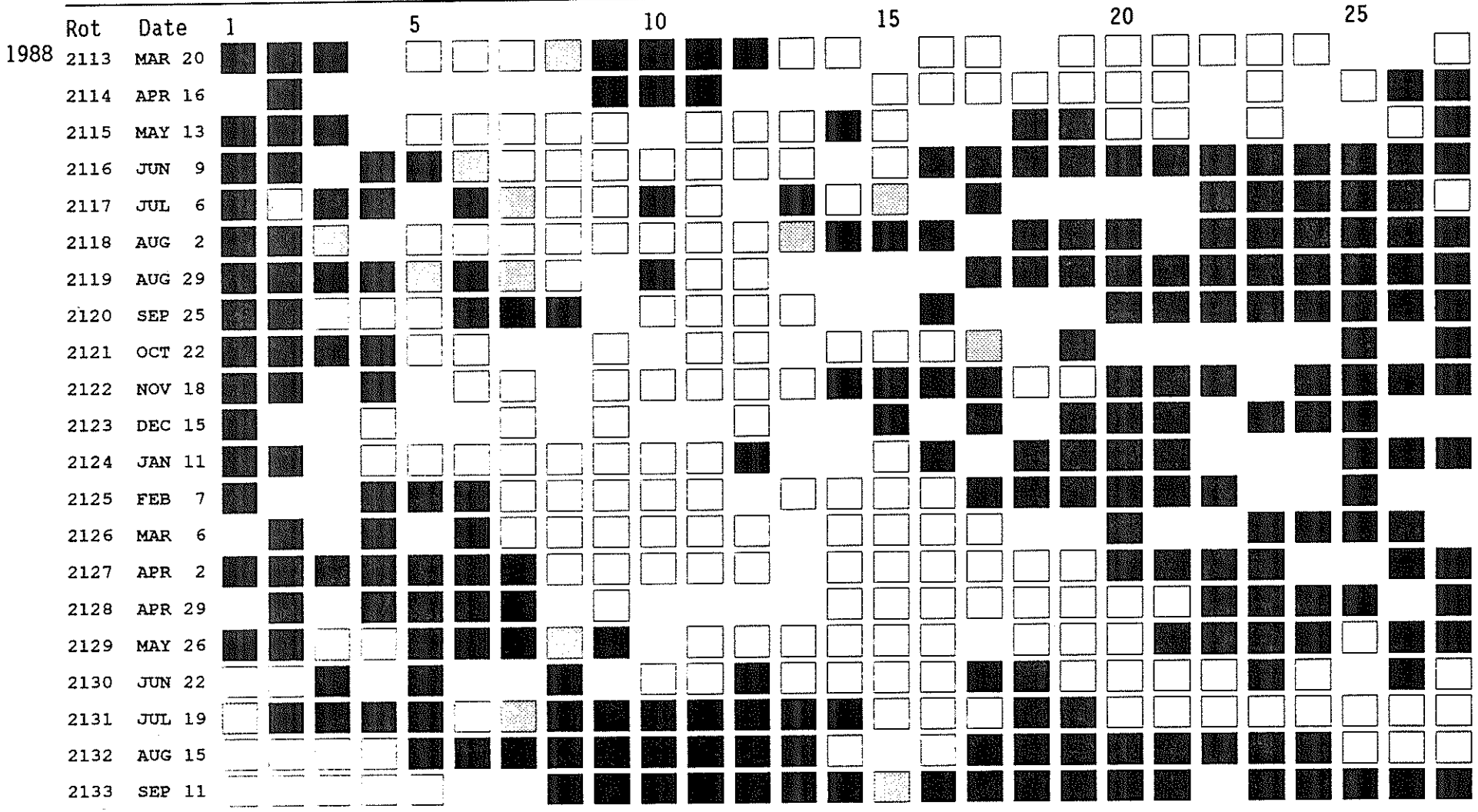

Solar Radio Burst
Observed at 2800 MHz
ARO Lake Traverse (Log Channel)
Flux Density (10^{-22} $Wm^{-2}Hz^{-1}$)
5000
4000
3000
2000
1000
0
Local sunrise at 1140UT
Flux at 1700UT is 204.1
1130UT
1145
1200
1215
1230
1245
1300
1315
1330
1345
1400
1415
1430
29 September 1989

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	1988 Oct	Nov	Dec	1989 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-15	23	-3	.	.	.	.	.	-5	4	-145	-58
2	-19	24	-5	-19	.	.	-97	-47	-1	51	80	-46
3	.	.	-4	-22	.	-66	-114	-31	-22	-19	121	-37
4	8	40	-12	-41	-65	.	-86	-22	.	3	14	-37
5	12	19	2	.	-46	.	-76	-22	2	71	-51	-46
6	15	3	4	-65	-4	.	-62	.	56	69	-65	-30
7	10	0	-24	-85	-13	-10	-28	65	74	25	9	-5
8	.	.	-27	-101	.	.	-15	.	120	-90	145	22
9	.	-9	-33	.	.	-58	25	.	145	-79	86	25
10	-8	.	.	.	-16	.	71	.	142	106	82	12
11	.	.	-62	-16	-6	-16	101	.	.	115	59	23
12	.	.	-47	-23	-18	37	78	73	37	84	43	23
13	.	.	-53	.	23	39	54	87	34	73	43	43
14	-36	.	-38	10	34	61	.	75	24	-55	55	44
15	-33	-35	-30	24	55	63	44	76	-58	22	57	25
16	-43	.	.	23	73	40	11	73	-26	.	66	.
17	-39	-46	.	16	66	32	15	59	-91	-49	33	.
18	-52	-43	34	74	.	.	19	53	-6	6	2	-13
19	-53	-46	.	101	116	64	29	22	4	0	-10	-22
20	-40	.	.	120	131	73	27	-37	-67	-138	-20	-20
21	-37	-19	56	119	94	14	-21	-44	-18	-126	-35	-21
22	-34	.	.	-29	40	12	-68	-48	35	-57	-41	-26
23	-38	29	61	.	-13	.	-6	-54	15	-25	-29	-31
24	-36	31	.	.	-7	.	-110	.	-15	10	-15	-21
25	-17	.	.	22	-35	-50	.	-44	.	-2	-13	-1
26	14	30	65	-37	-64	.	.	-14	-24	-15	-15	-8
27	15	31	.	.	-108	.	-80	-13	.	-52	-7	-19
28	.	24	.	-50	-93	-110	-77	1	.	-27	4	-16
29	.	26	-5	-64		-105	.	7	-30	-12	.	-24
30	15	18	.	-91		-106	-64	-12	.	-44	3	-26
31	.		-24	-101		-100		-5		-144	-29	

Dot symbol indicates no data available for the day.

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.

C O N T E N T S

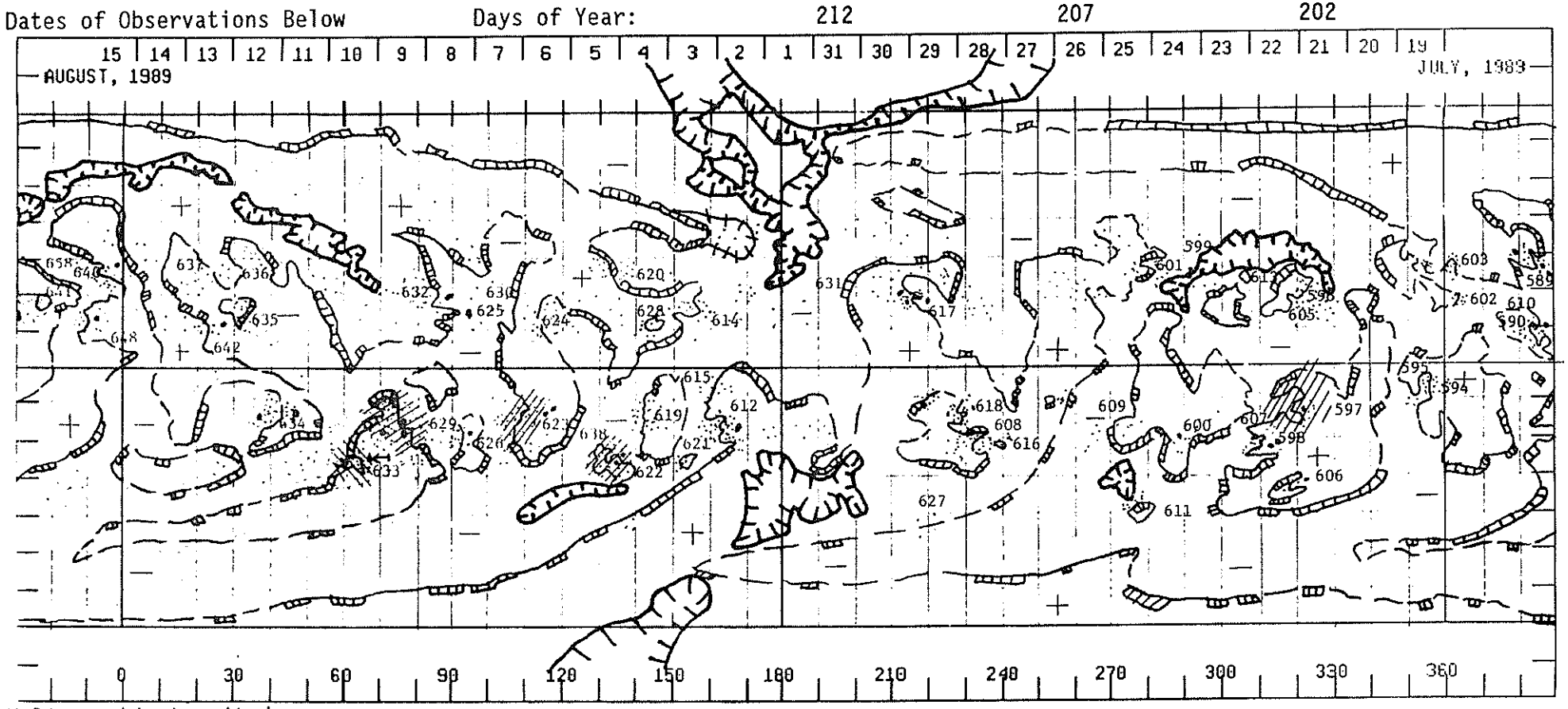
'rompt Reports DATA FOR **AUGUST 1989** Number 542 Part I

*** Data no longer available in SGD because of extremely low usage. Please contact the data center for further information on data availability.

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1818

(19 July to 15 August 1989)

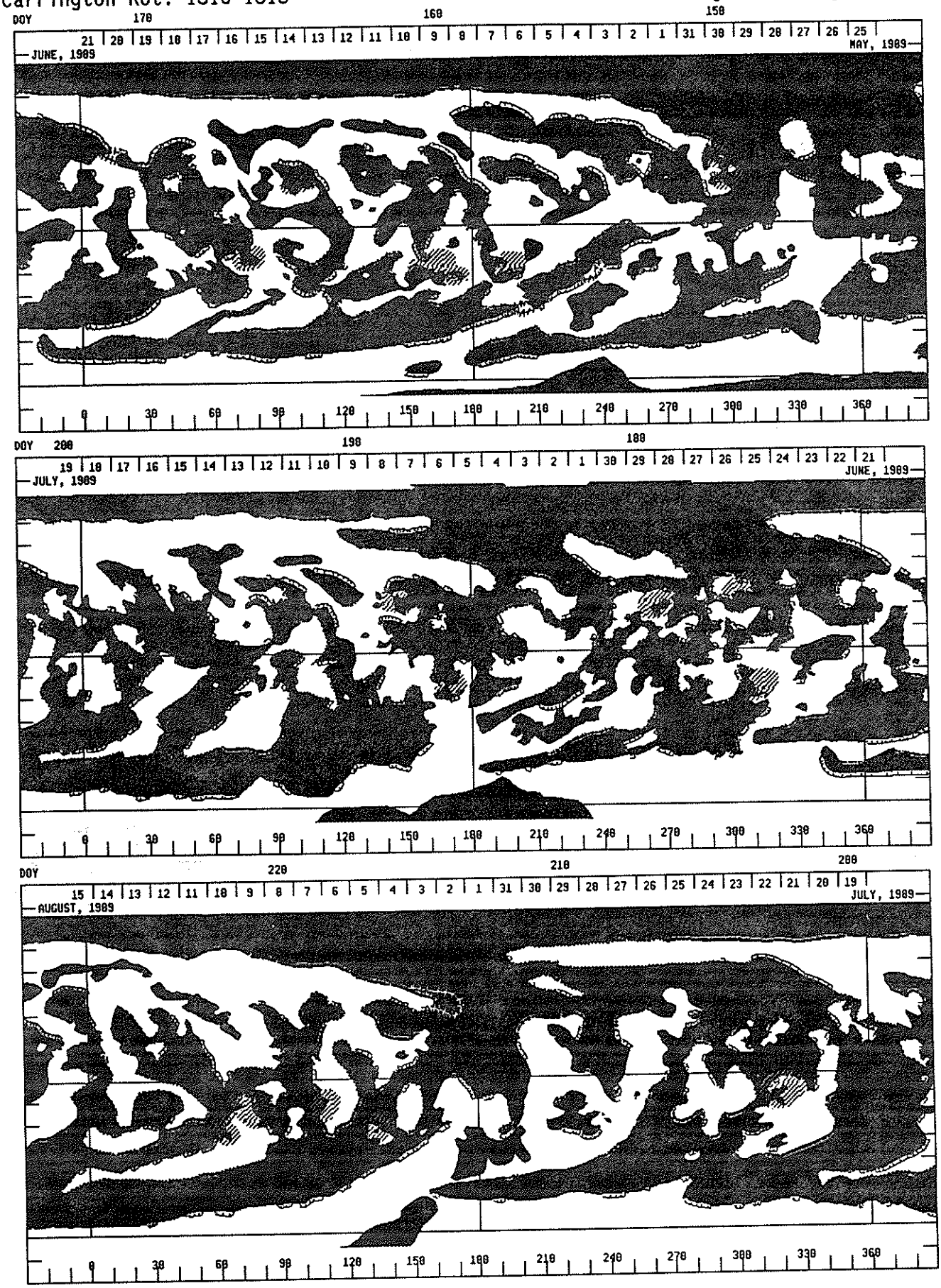


Last Revised 10/05/89 PSM/KMP

SHADED H-ALPHA SOLAR SYNOPTIC CHARTS

Carrington Rot. 1816-1818

25 May to 15 August 1989



□ = Positive Polarity ■ = Negative Polarity ■ = 10830 Coronal Hole Estimate ▨ = X-Ray Flares > M1

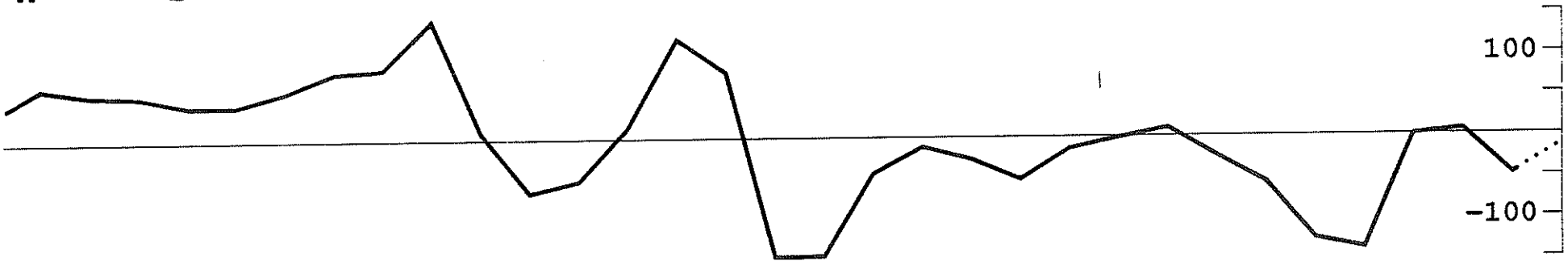
Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1818
(19 July to 15 August 1989)

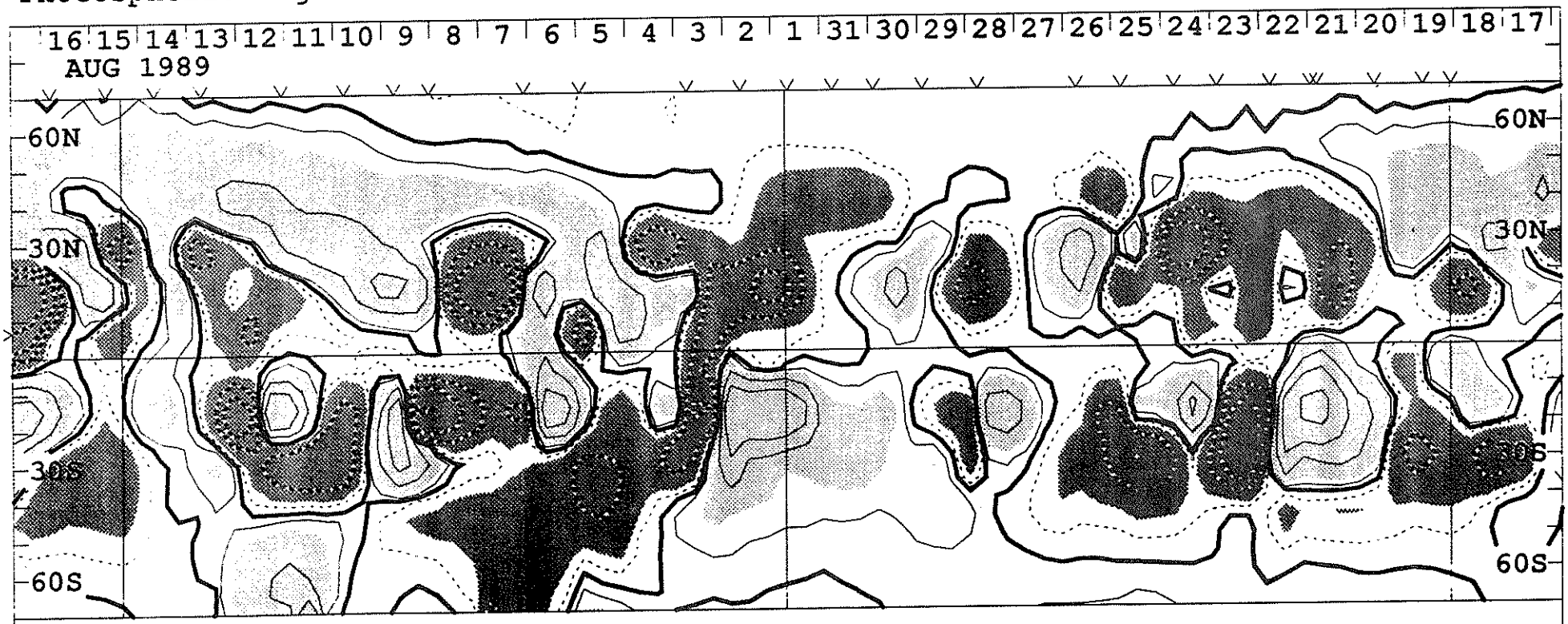
WILCOX SOLAR OBSERVATORY

Mean Field



Photospheric Magnetic Field

0, ±100, 500, 1000, 2000 MicroTesla



Heliographic Longitude

1818

SOLAR MAGNETIC FIELD SYNOPTIC CHART

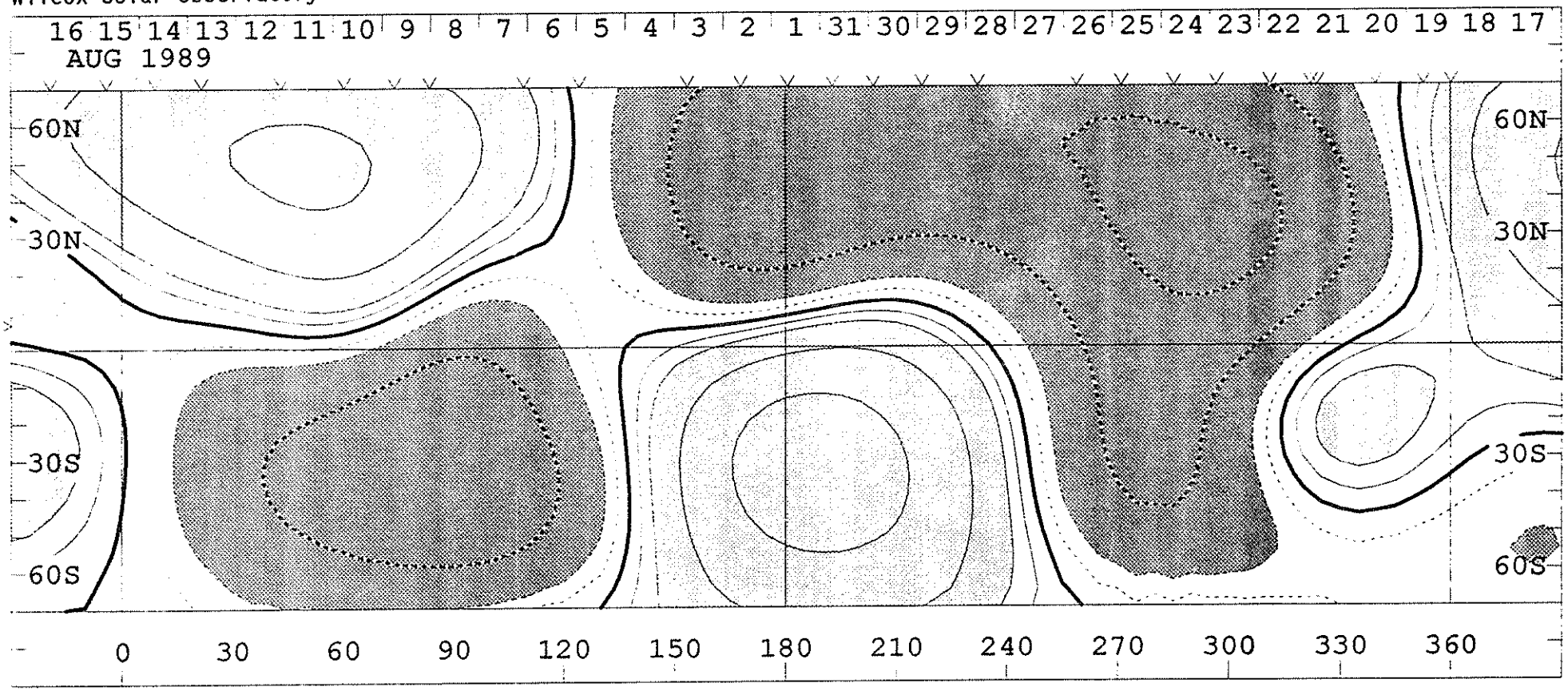
SOURCE SURFACE FIELD

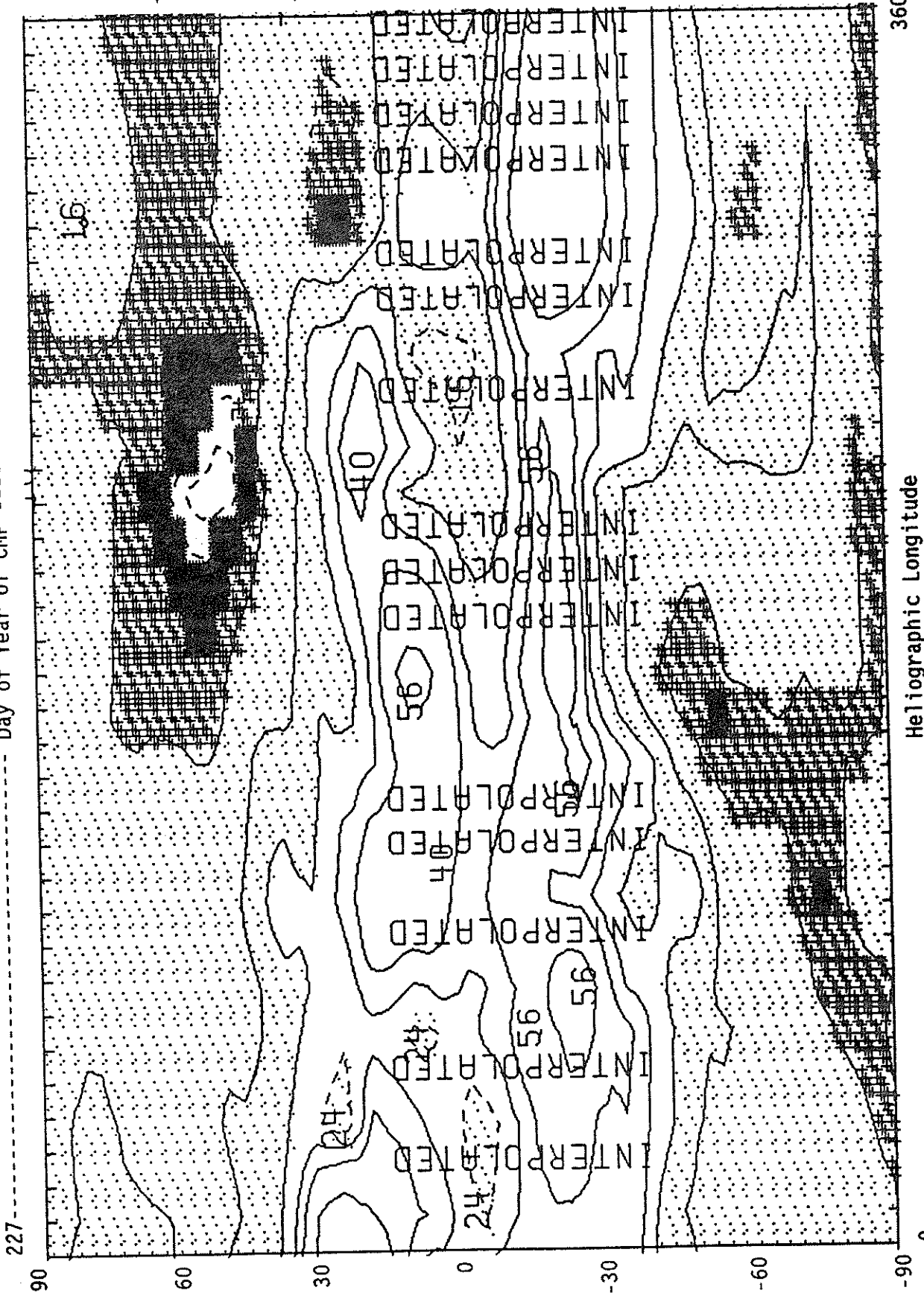
CARRINGTON ROTATION NUMBER 1818

(19 July to 15 August 1989)

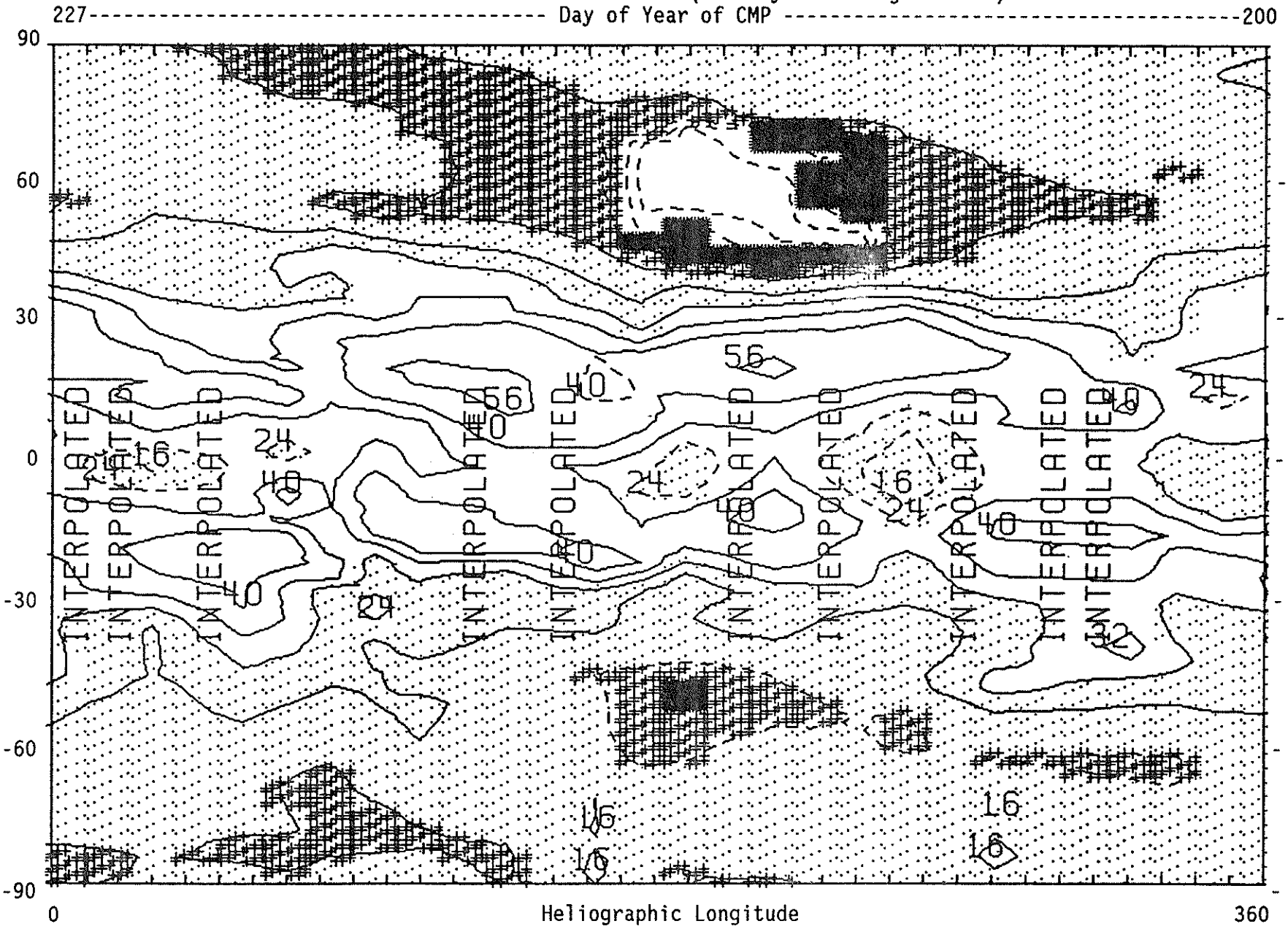
Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla

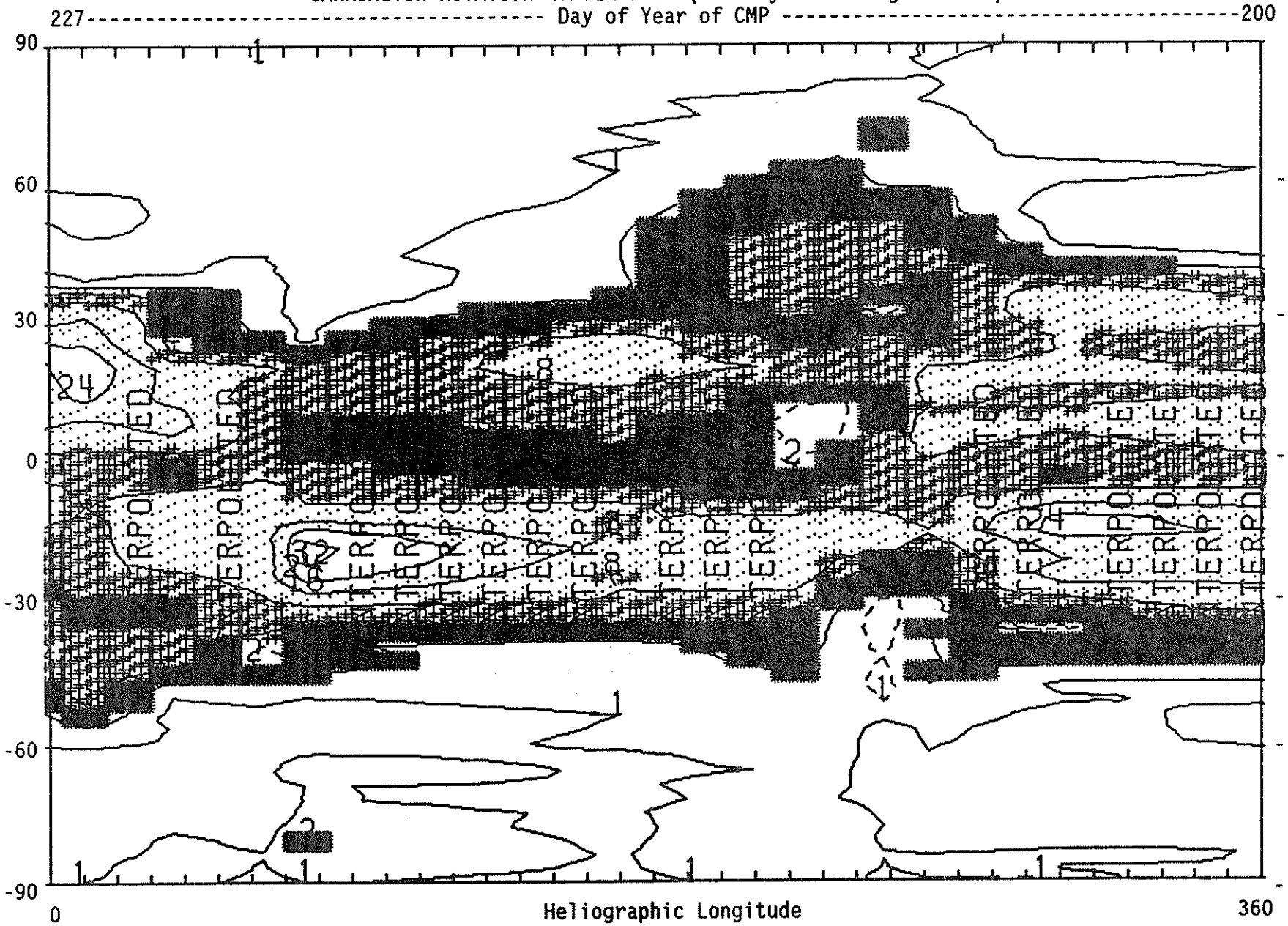



SACRAMENTO PEAK CORONAL GREEN LINE SYNOPTIC MAP--EAST LIMB
CARRINGTON ROTATION NUMBER 1818 (19 July to 15 August 1989)
227 ---------- Day of Year of CMP ---------- 200
90
60
30
0
-30
-60
-90
360
0
Heliographic Longitude
INTERPOLATED
16
40
56
95
24

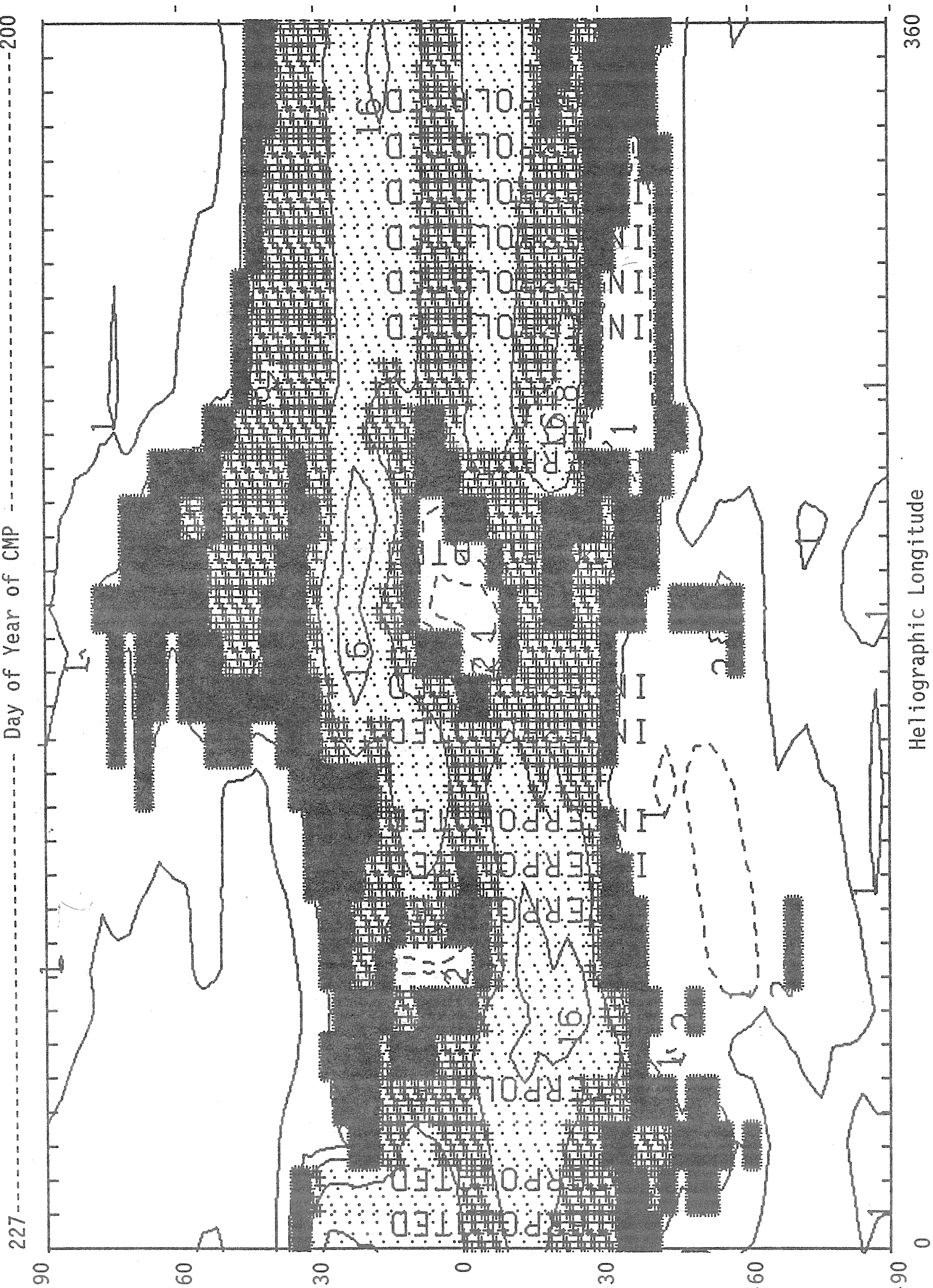
SACRAMENTO PEAK CORONAL GREEN LINE SYNOPTIC MAP--WEST LIMB
CARRINGTON ROTATION NUMBER 1818 (19 July to 15 August 1989)



SACRAMENTO PEAK CORONAL RED LINE SYNOPTIC MAP--EAST LIMB
CARRINGTON ROTATION NUMBER 1818 (19 July to 15 August 1989)



SACRAMENTO PEAK CORONAL RED LINE SYNOPTIC MAP--WEST LIMB
CARRINGTON ROTATION NUMBER 1818 (19 July to 15 August 1989)



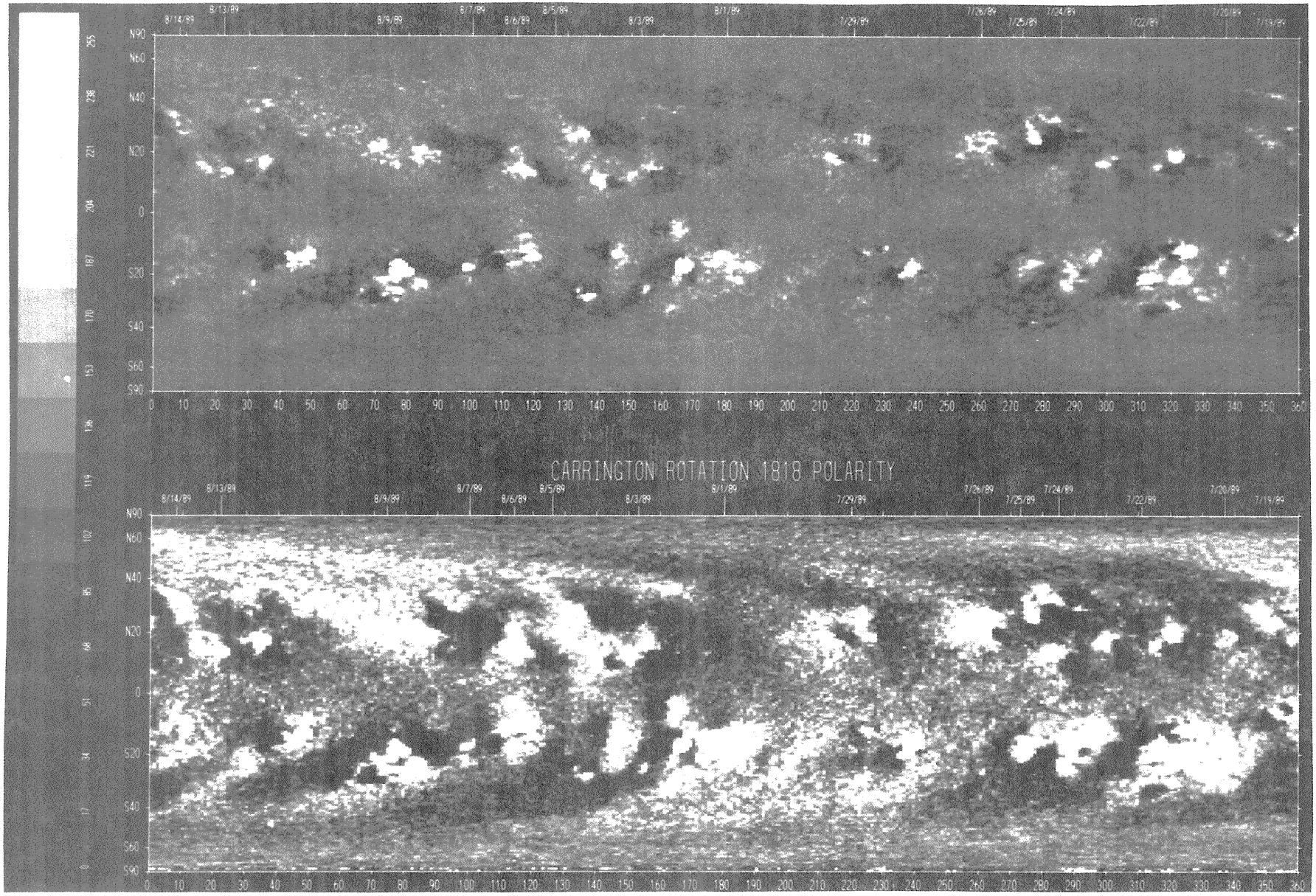
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1818

(19 July to 15 August 1989)

Kitt Peak National Observatory

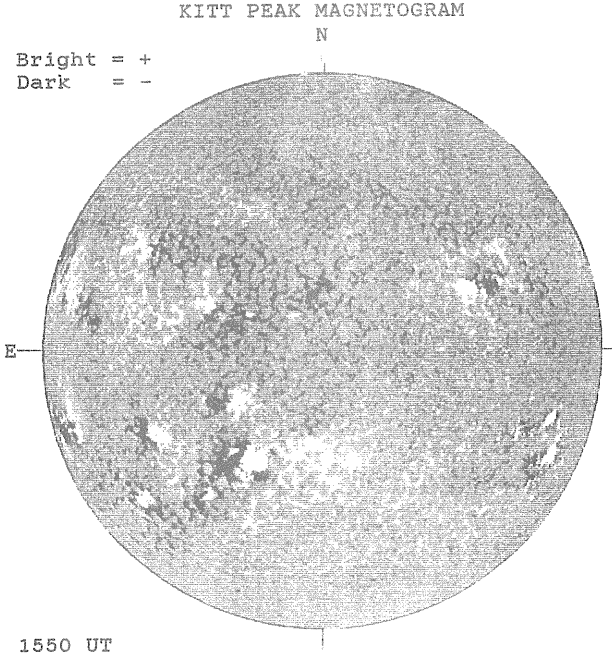
Dates of Observation



Heliographic Longitude

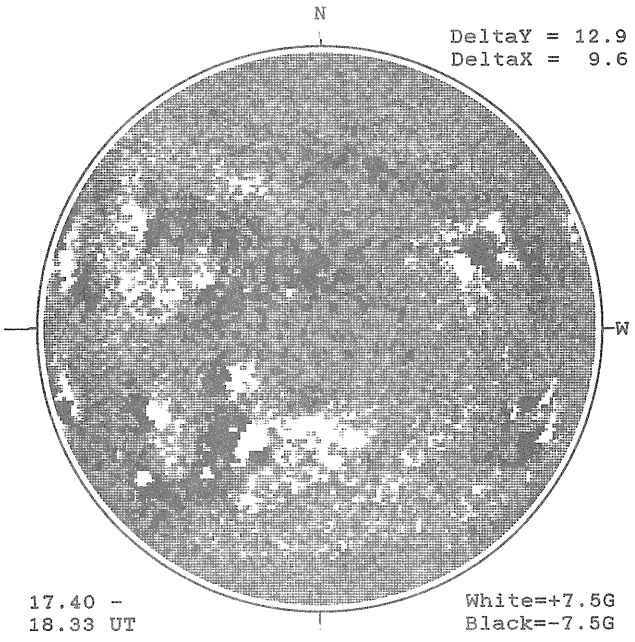
AUGUST 1, 1989 (P= 10.82, B_o = 5.78, L_o = 188.64)

KITT PEAK MAGNETOGRAM

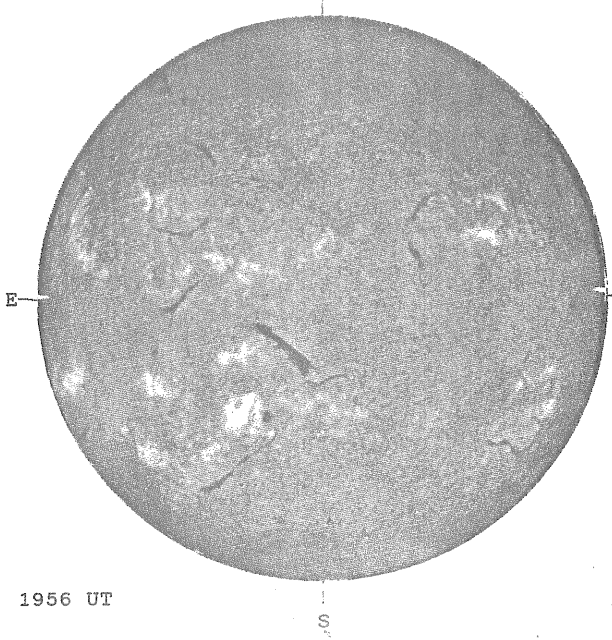


STANFORD MAGNETOGRAM

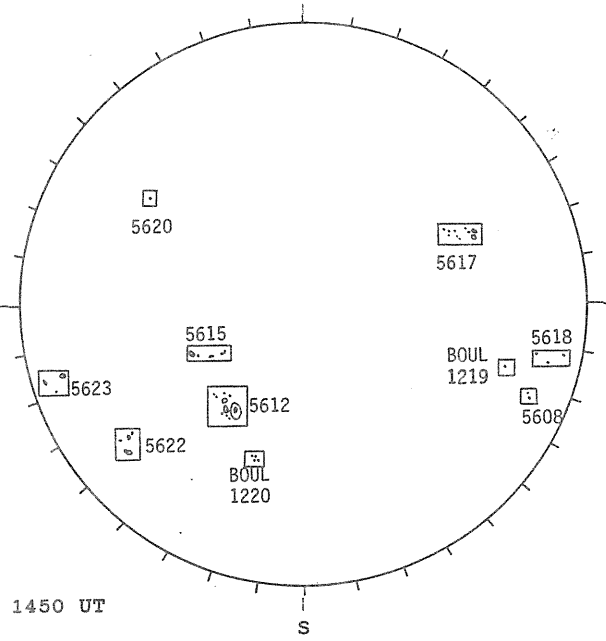
MT. WILSON MAGNETOGRAM



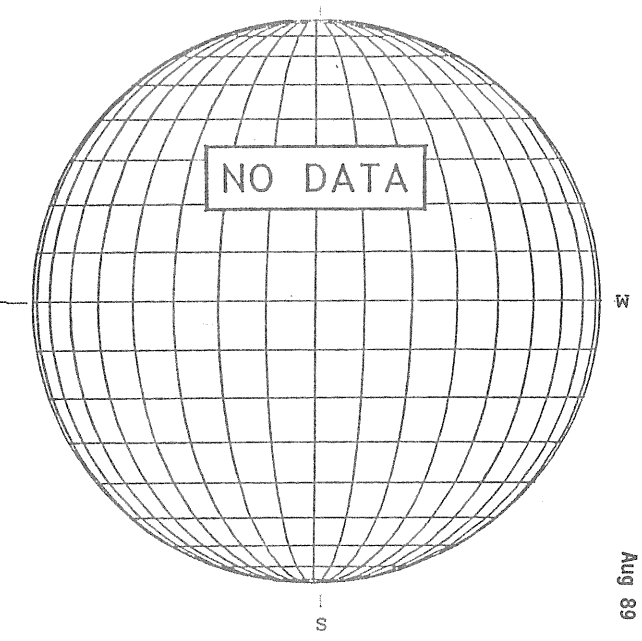
HOLLOMAN H-ALPHA



BOULDER SUNSPOT

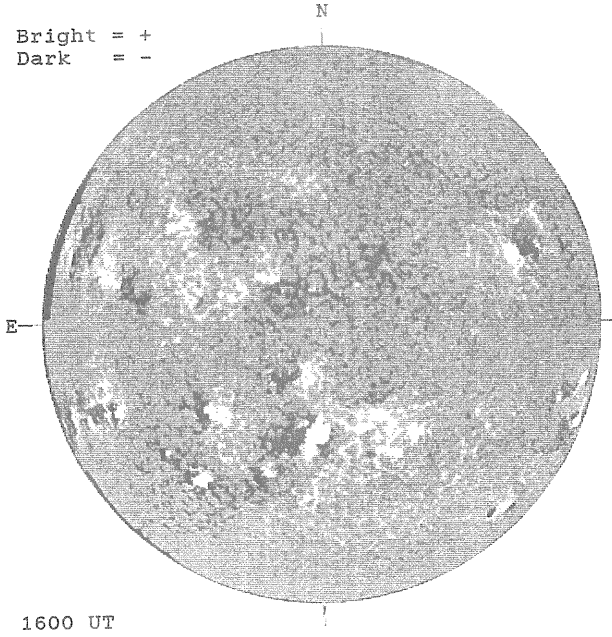


SACRAMENTO PEAK CORONA (1.15 Radii)



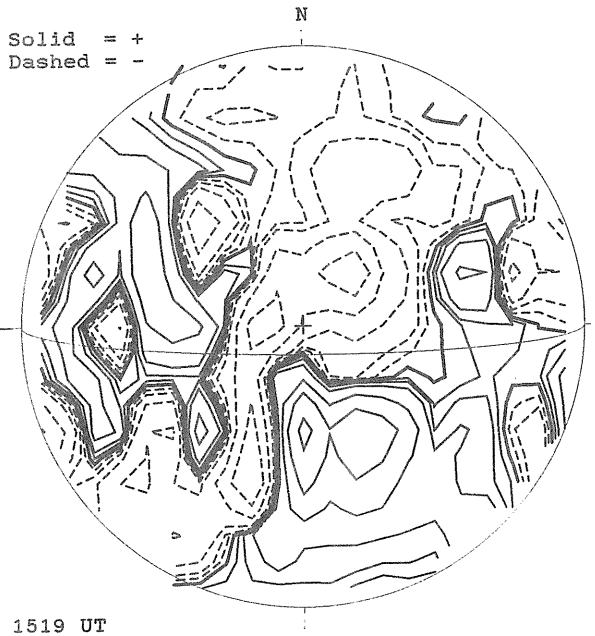
AUGUST 2, 1989 (P= 11.22, B_o = 5.85, L_o = 175.42)

KITT PEAK MAGNETOGRAM



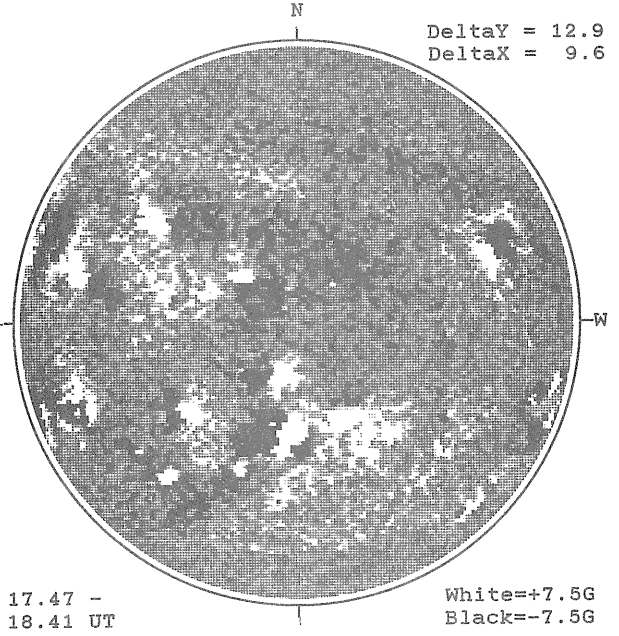
1600 UT

STANFORD MAGNETOGRAM



1519 UT

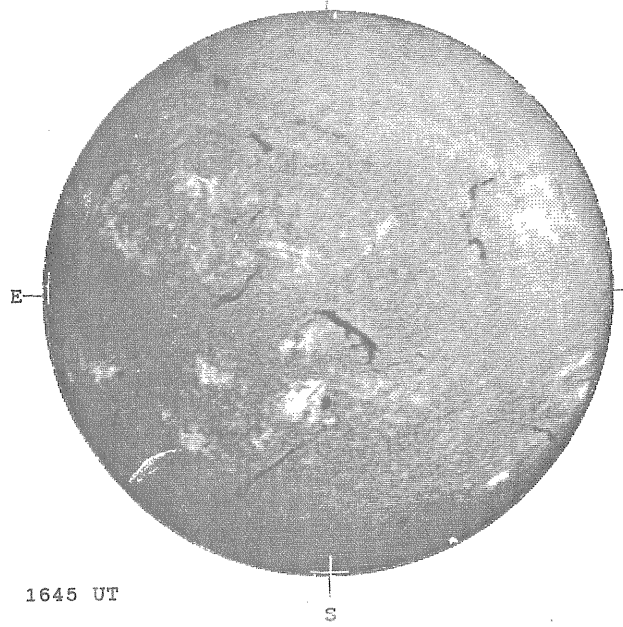
MT. WILSON MAGNETOGRAM



17.47 -
18.41 UT

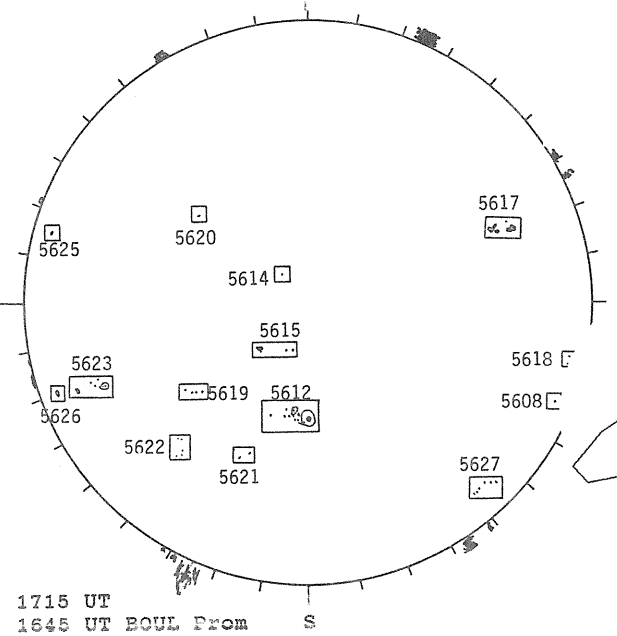
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



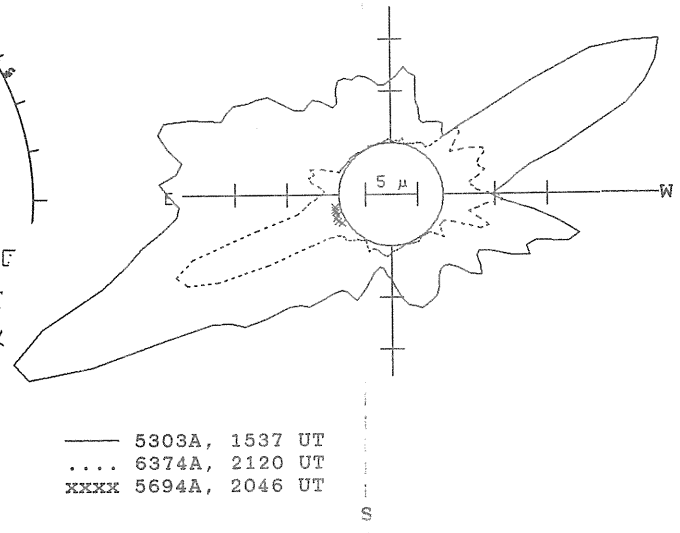
1645 UT

BOULDER SUNSPOT



1715 UT
1645 UT BOUL Prom

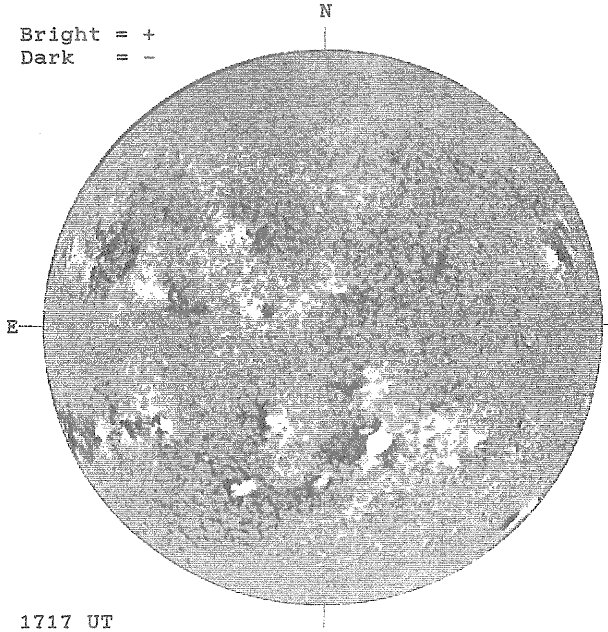
SACRAMENTO PEAK CORONA (1.15 Radii)



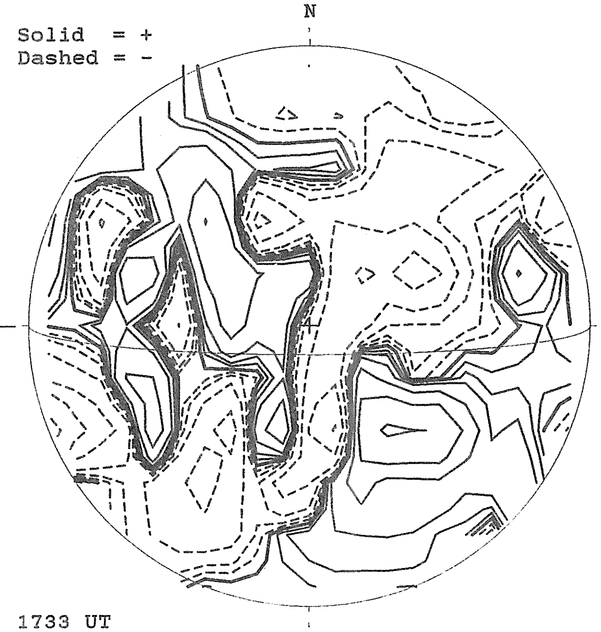
—— 5303A, 1537 UT
.... 6374A, 2120 UT
xxxx 5694A, 2046 UT

AUGUST 3, 1989 (P= 11.61, B_o = 5.92, L_o = 162.19)

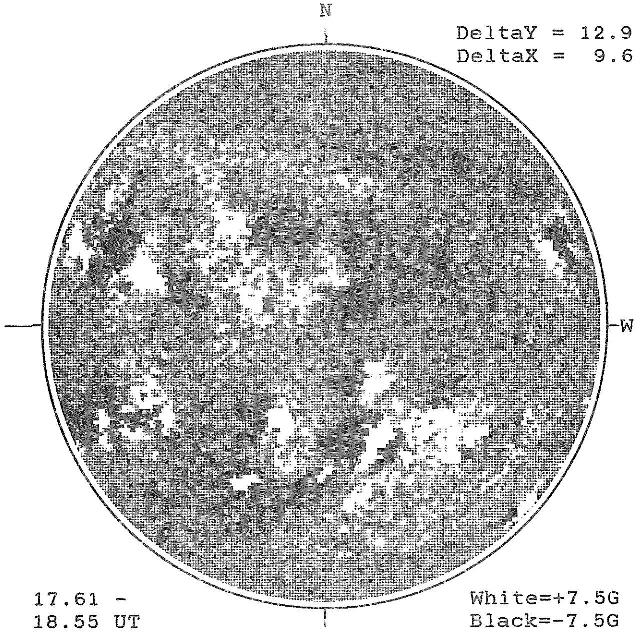
KITT PEAK MAGNETOGRAM



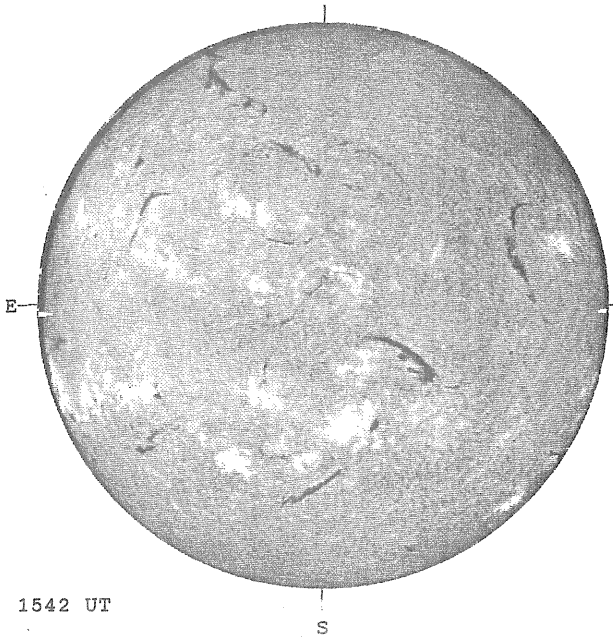
STANFORD MAGNETOGRAM



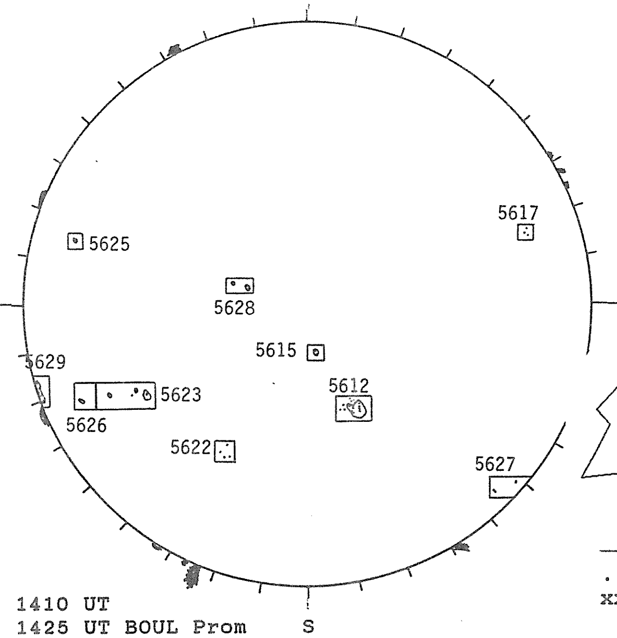
MT. WILSON MAGNETOGRAM



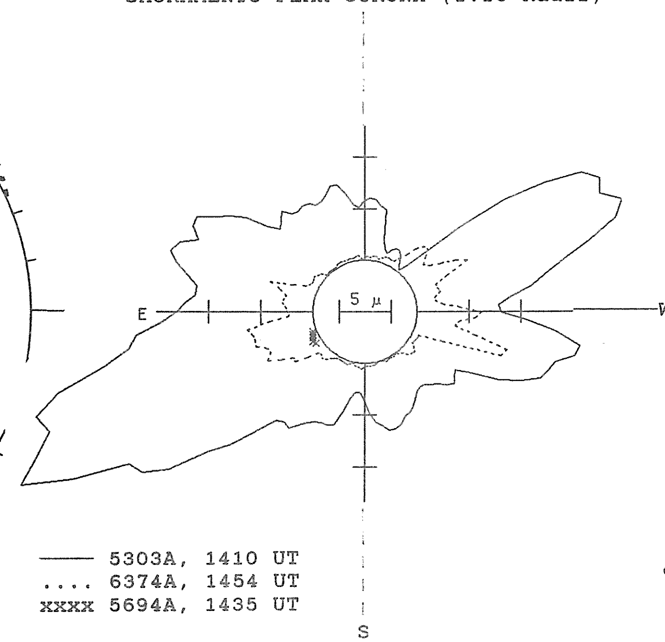
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



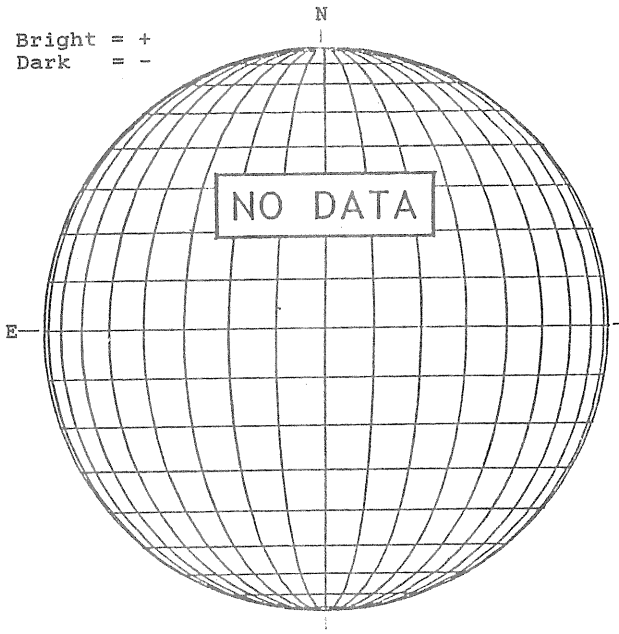
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 4, 1989 (P= 12.00, B_o = 5.99, L_o = 148.97)

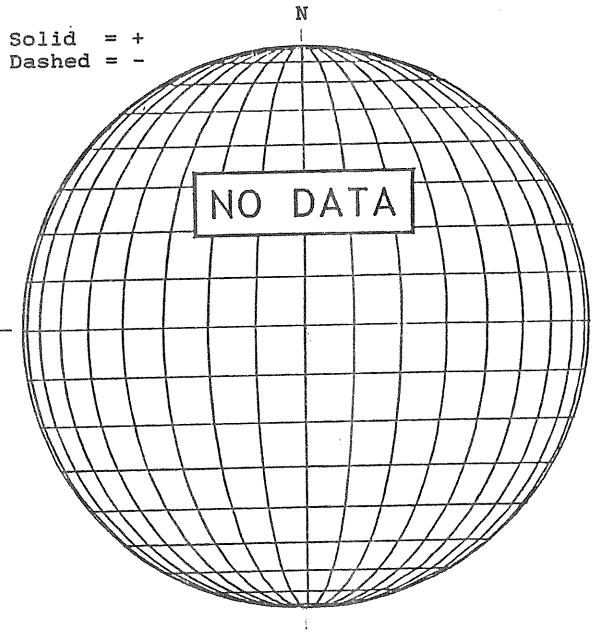
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



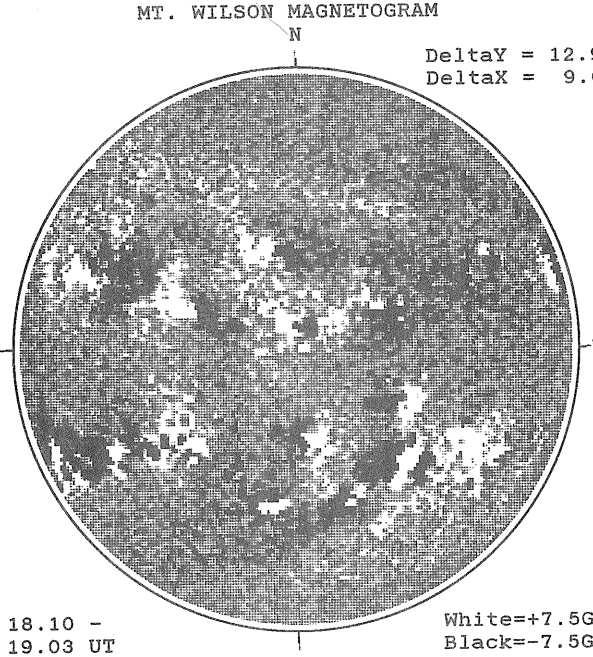
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

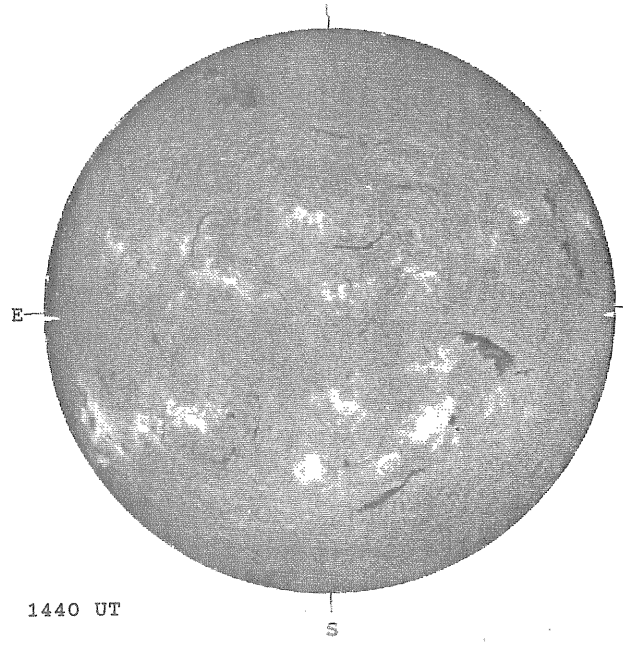
DeltaY = 12.9
DeltaX = 9.6



18.10 -
19.03 UT

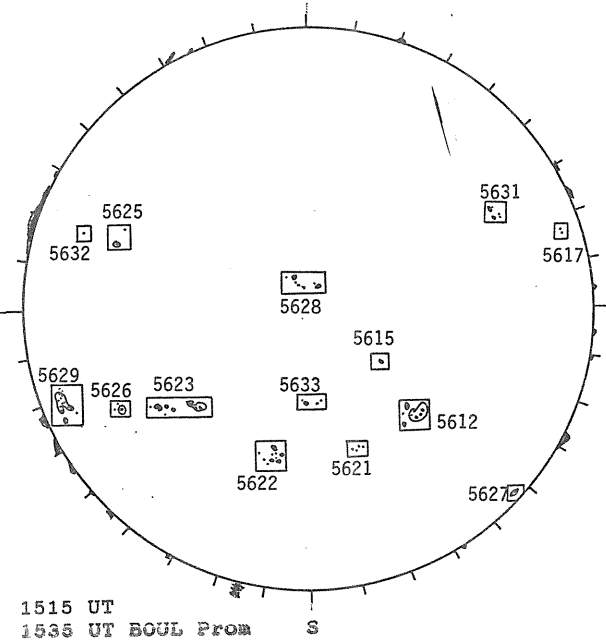
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



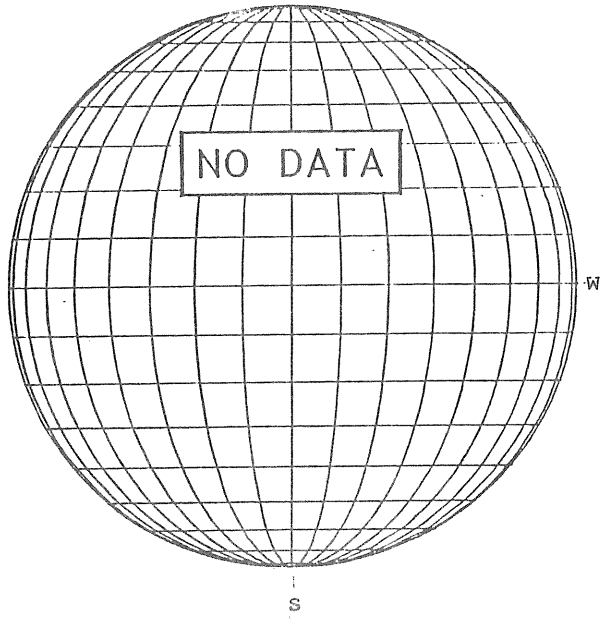
1440 UT

BOULDER SUNSPOT



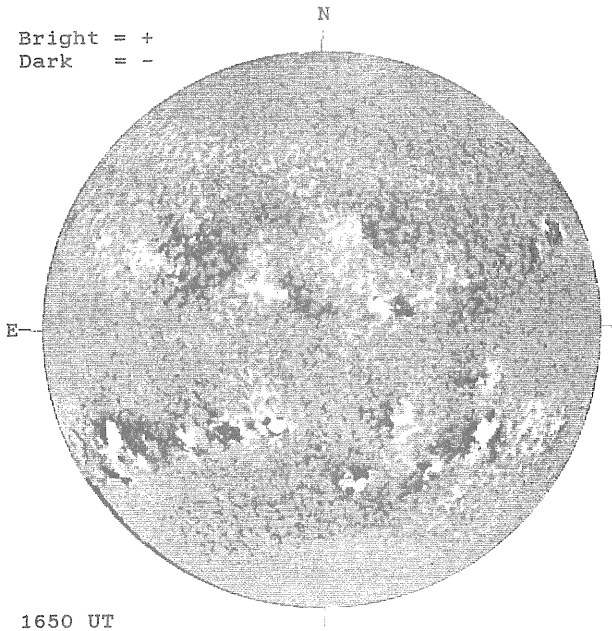
1515 UT
1535 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



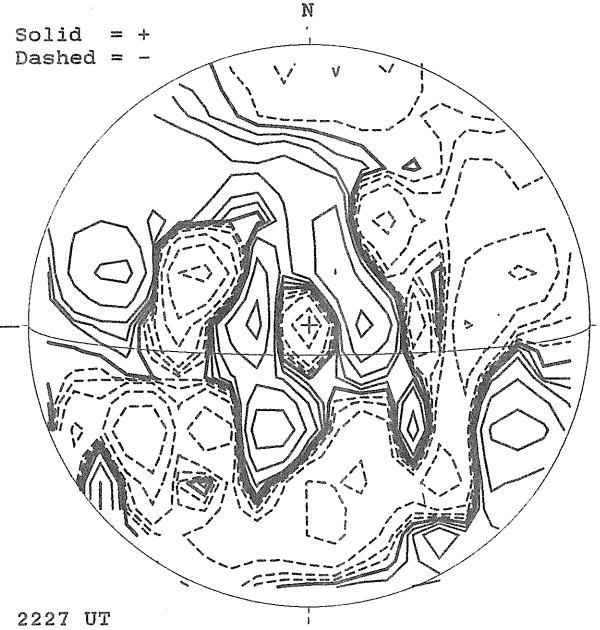
AUGUST 5, 1989 (P= 12.38, B_o = 6.06, L_o = 135.74)

KITT PEAK MAGNETOGRAM



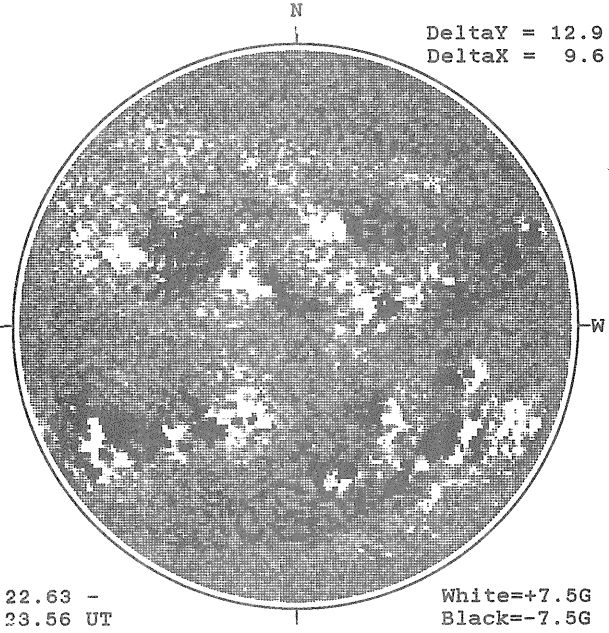
1650 UT

STANFORD MAGNETOGRAM



2227 UT

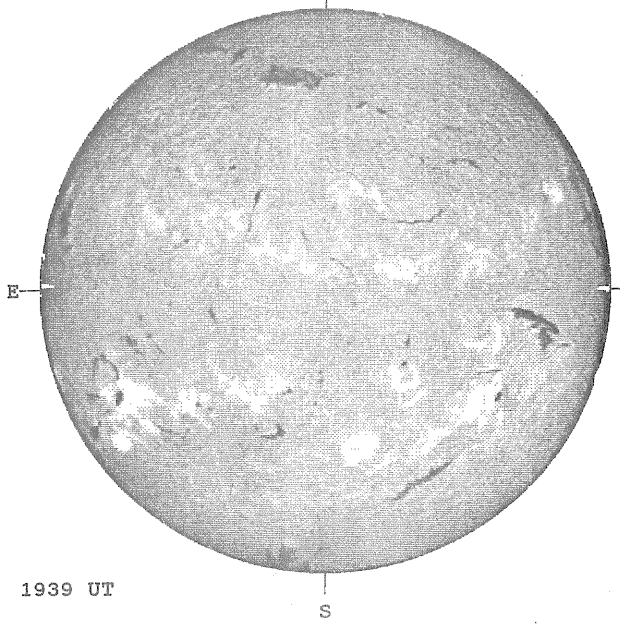
MT. WILSON MAGNETOGRAM



22.63 -
23.56 UT

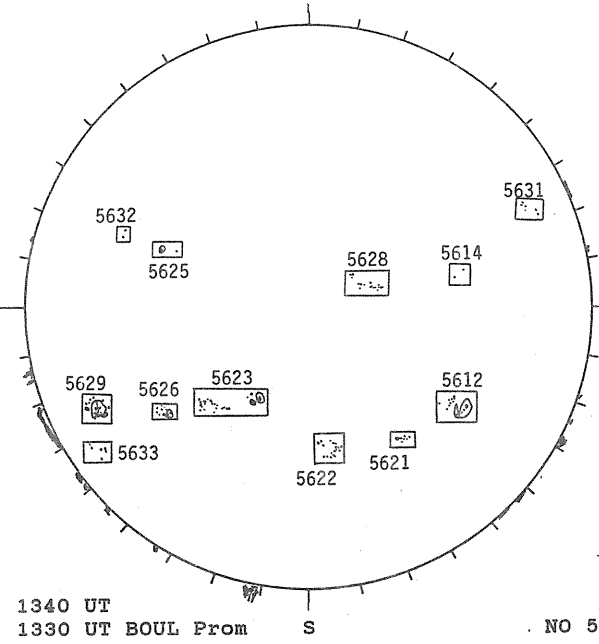
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



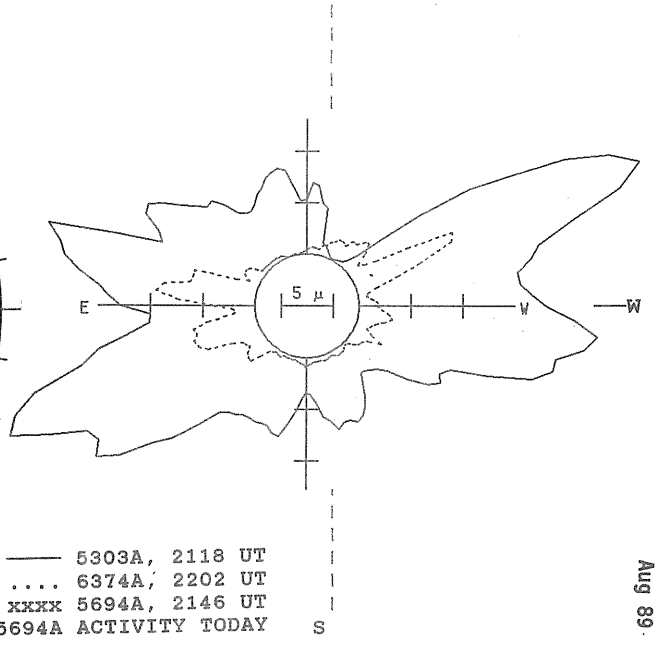
1939 UT

BOULDER SUNSPOT



1340 UT
1330 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



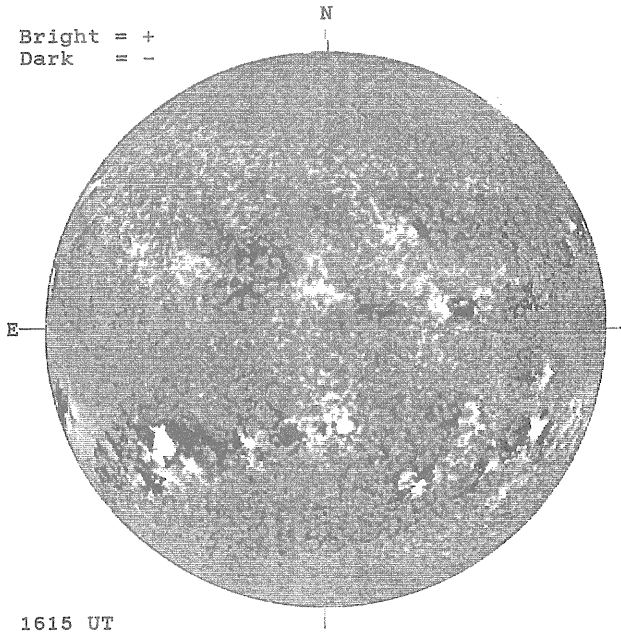
—— 5303A, 2118 UT
.... 6374A, 2202 UT
xxxx 5694A, 2146 UT
NO 5694A ACTIVITY TODAY

71
Aug 89

AUGUST 6, 1989 (P= 12.76, B_o = 6.12, L_o = 122.52)

KITT PEAK MAGNETOGRAM

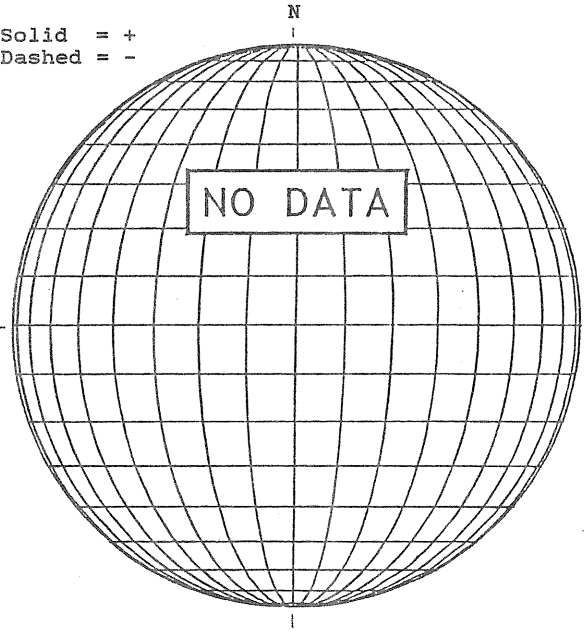
Bright = +
Dark = -



1615 UT

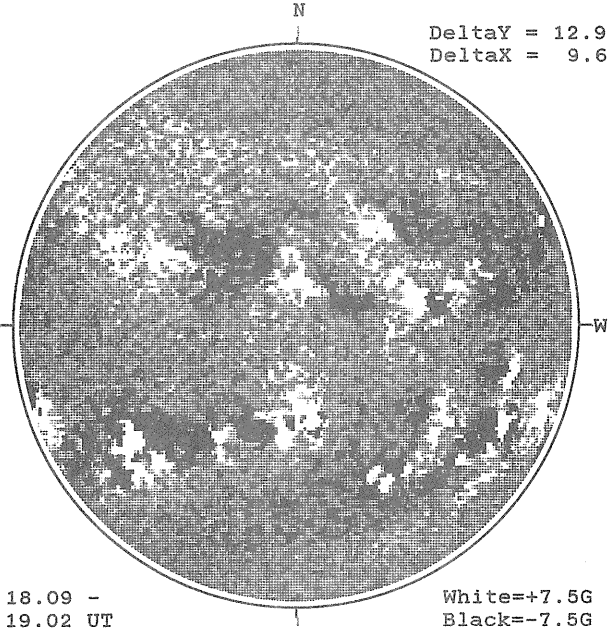
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

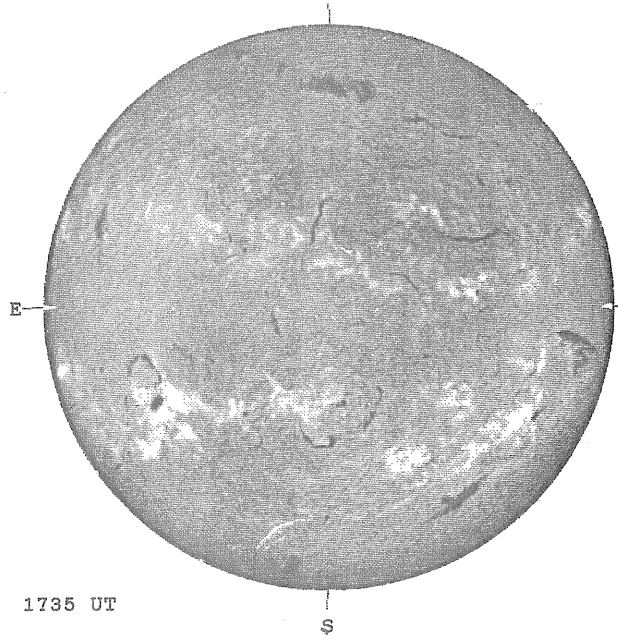
DeltaY = 12.9
DeltaX = 9.6



18.09 -
19.02 UT

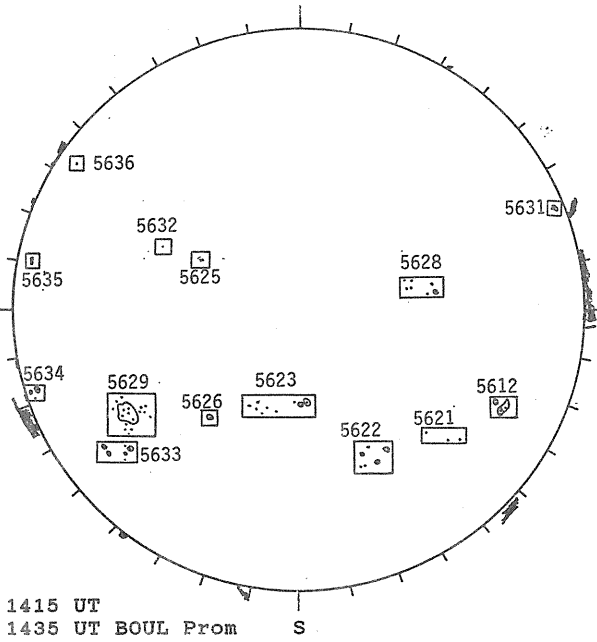
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



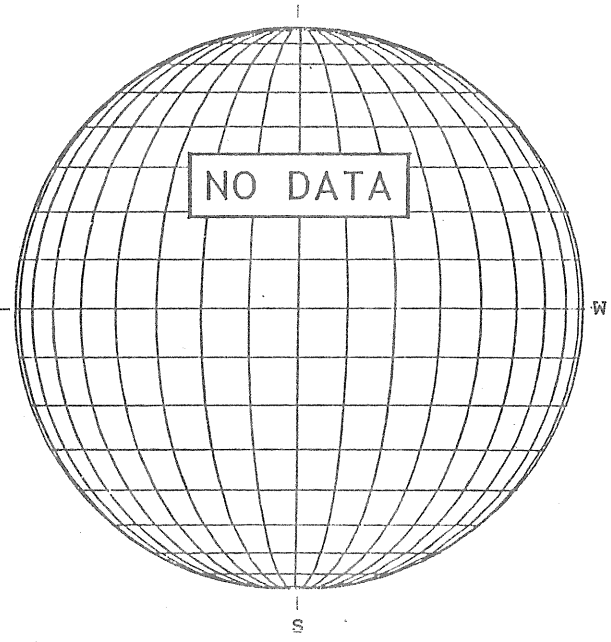
1735 UT

BOULDER SUNSPOT



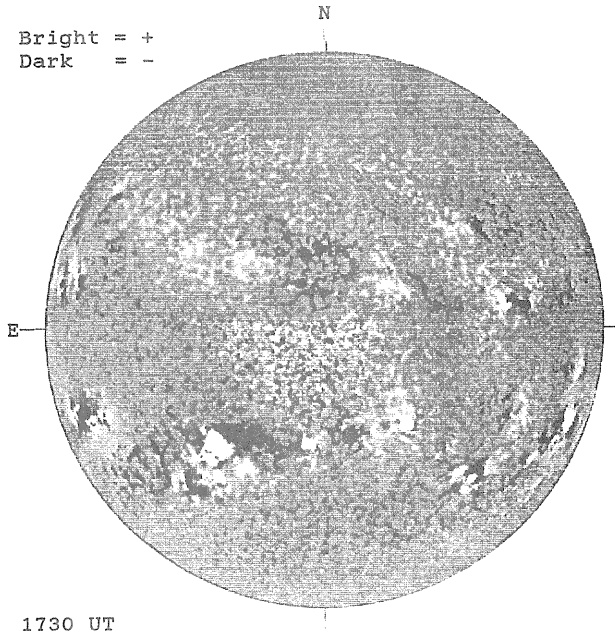
1415 UT
1435 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



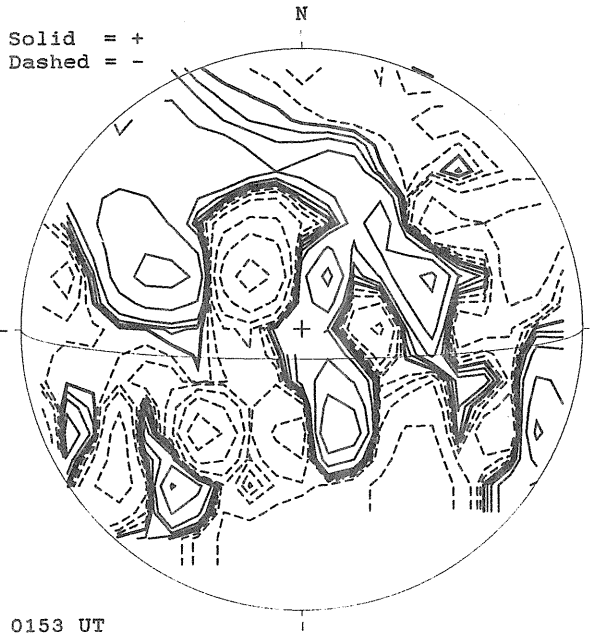
AUGUST 7, 1989 (P= 13.14, B_o = 6.19, L_o = 109.30)

KITT PEAK MAGNETOGRAM



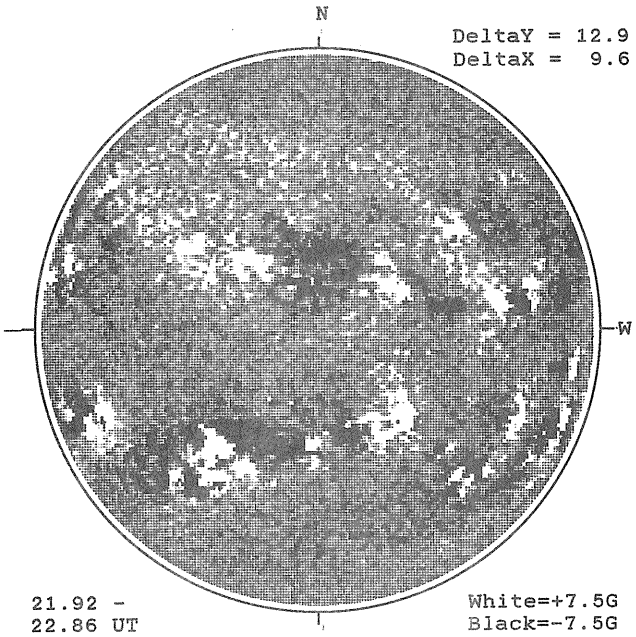
1730 UT

STANFORD MAGNETOGRAM



0153 UT

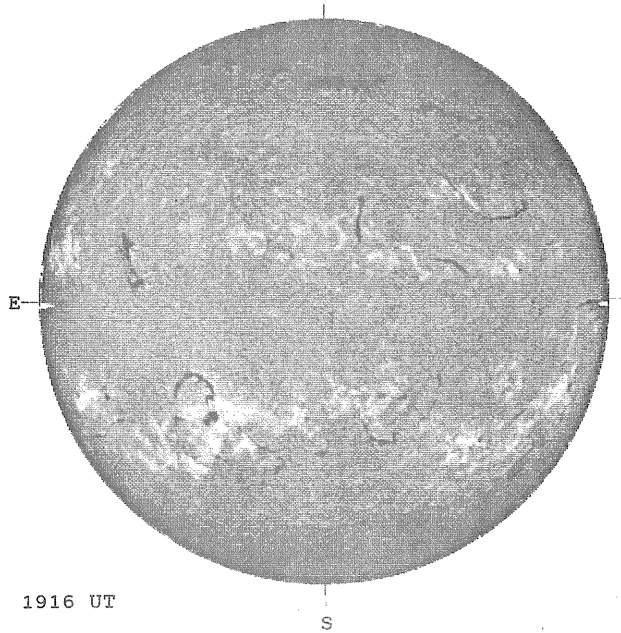
MT. WILSON MAGNETOGRAM



21.92 -
22.86 UT

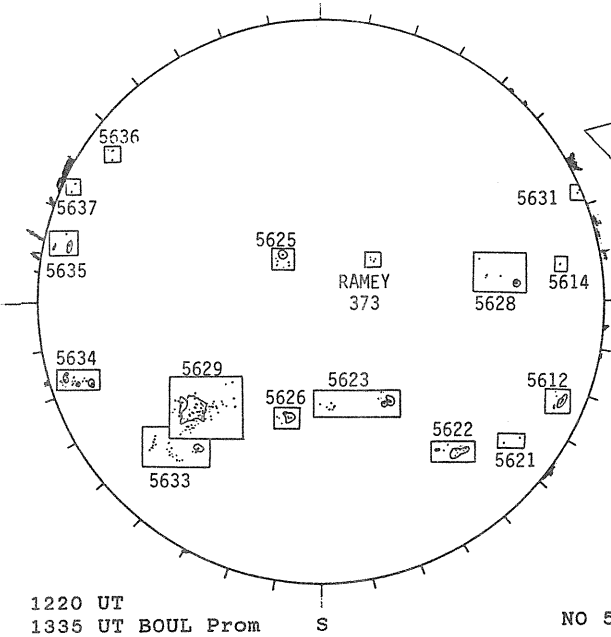
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



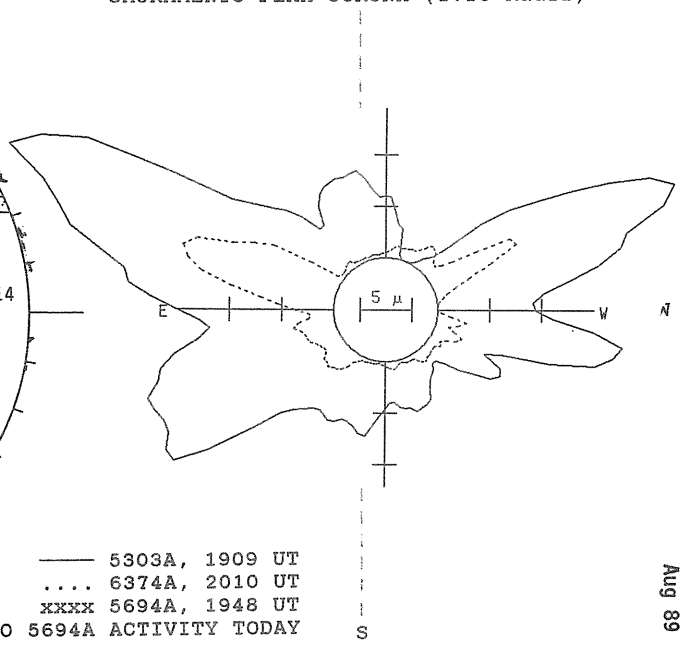
1916 UT

RAMEY SUNSPOT



1220 UT
1335 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



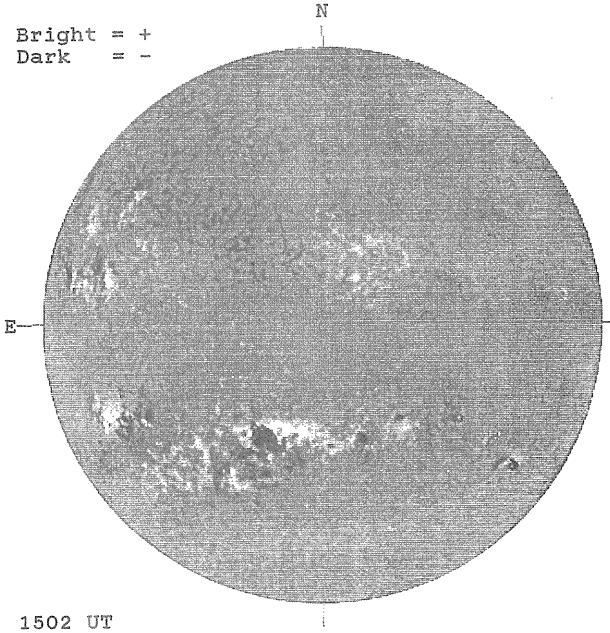
—— 5303A, 1909 UT
.... 6374A, 2010 UT
xxxx 5694A, 1948 UT
NO 5694A ACTIVITY TODAY

73
Aug 89

AUGUST 8, 1989 (P= 13.51, B_o = 6.25, L_o = 96.08)

KITT PEAK MAGNETOGRAM

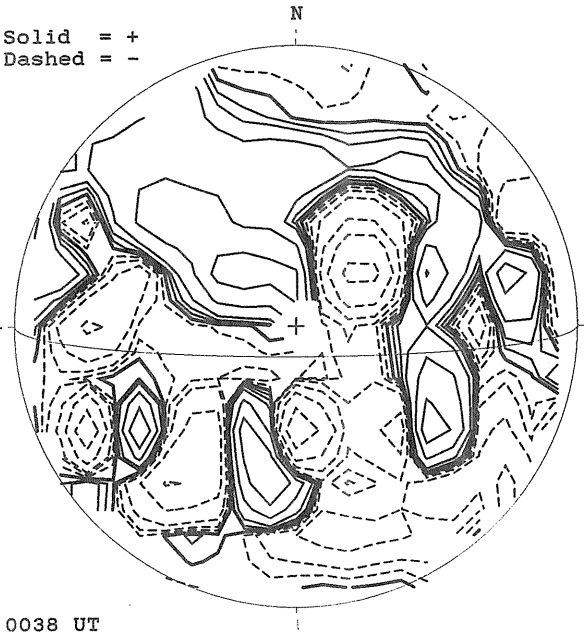
Bright = +
Dark = -



1502 UT

STANFORD MAGNETOGRAM

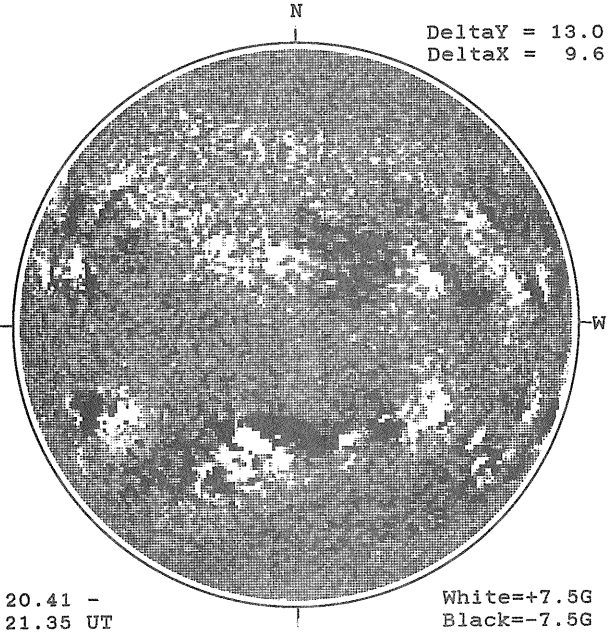
Solid = +
Dashed = -



0038 UT
August 9

MT. WILSON MAGNETOGRAM

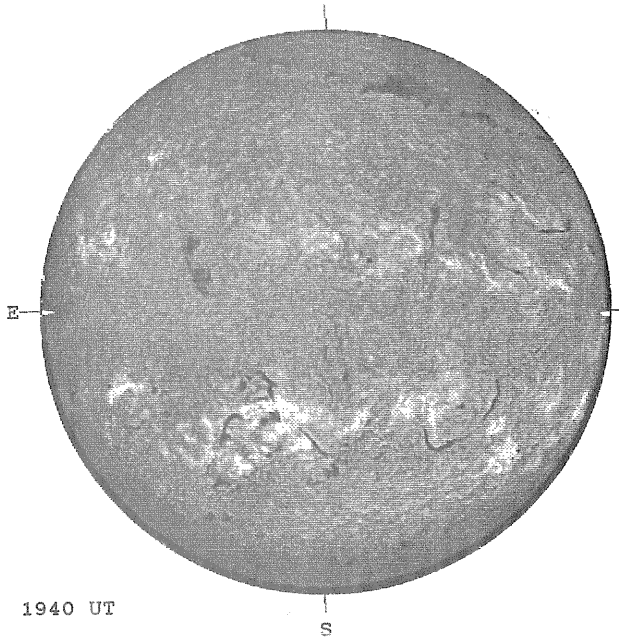
DeltaY = 13.0
DeltaX = 9.6



20.41 -
21.35 UT

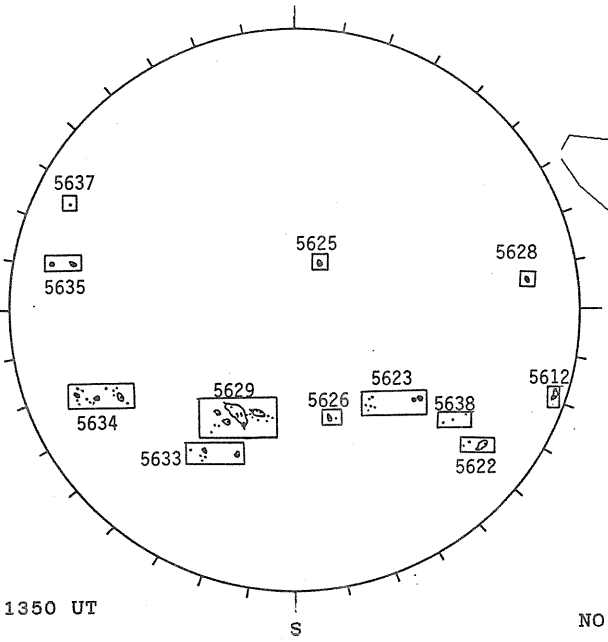
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



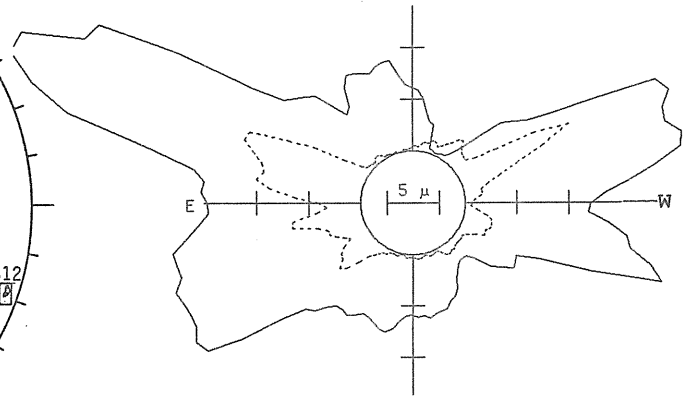
1940 UT

BOULDER SUNSPOT



1350 UT

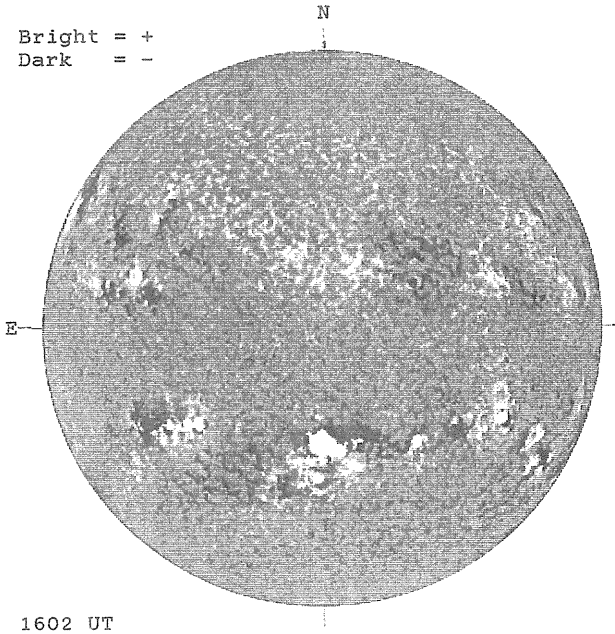
SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1535 UT
.... 6374A, 1613 UT
xxxx 5694A, 1557 UT
NO 5694A ACTIVITY TODAY

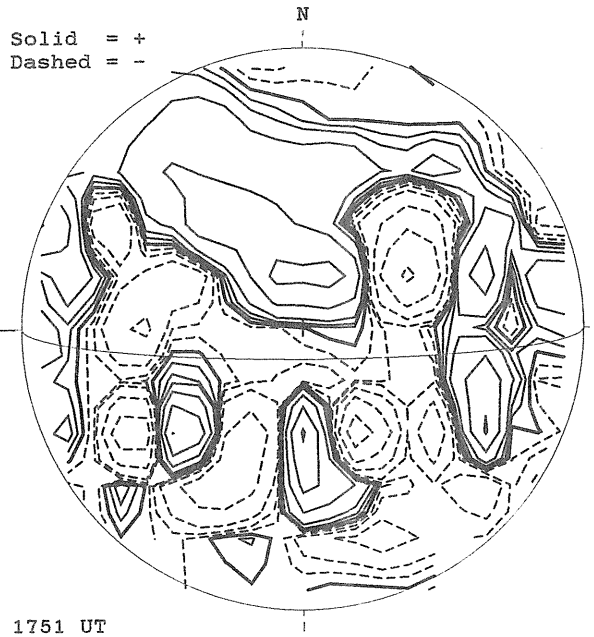
AUGUST 9, 1989 (P= 13.88, B_o = 6.31, L_o = 82.85)

KITT PEAK MAGNETOGRAM



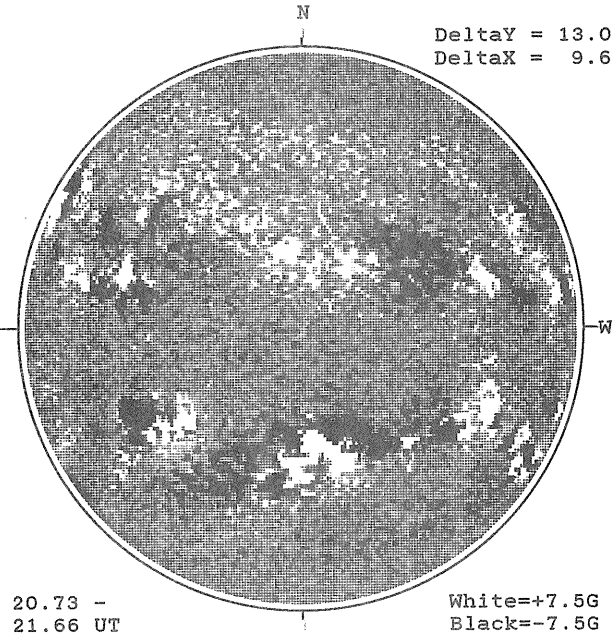
1602 UT

STANFORD MAGNETOGRAM



1751 UT

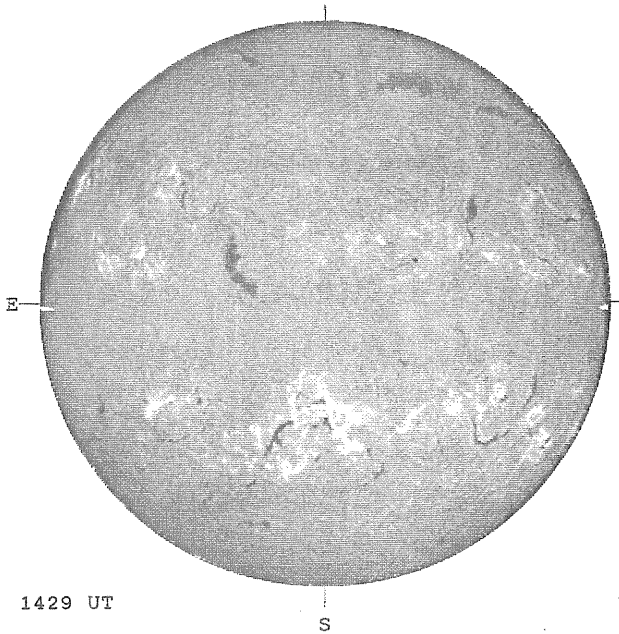
MT. WILSON MAGNETOGRAM



20.73 -
21.66 UT

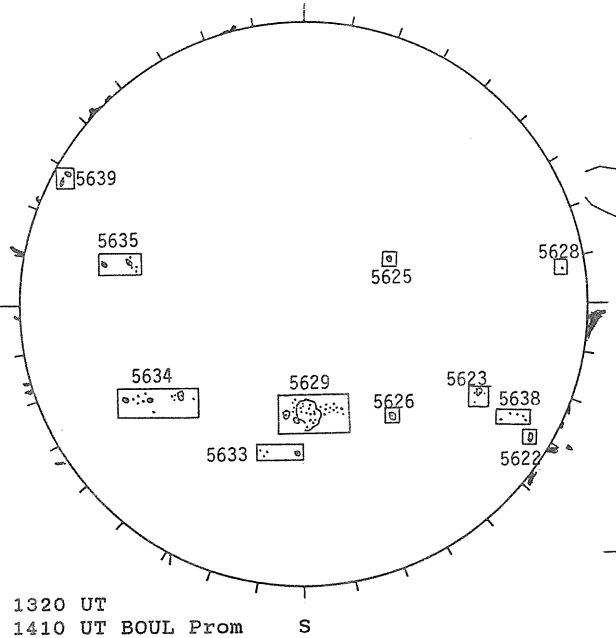
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



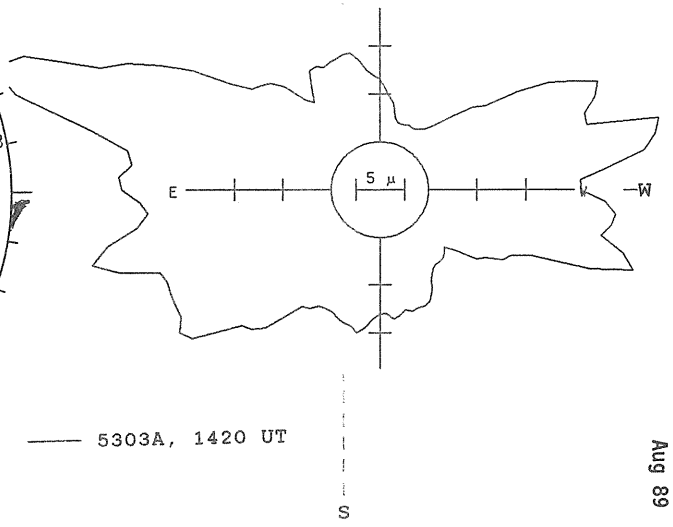
1429 UT

BOULDER SUNSPOT



1320 UT
1410 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



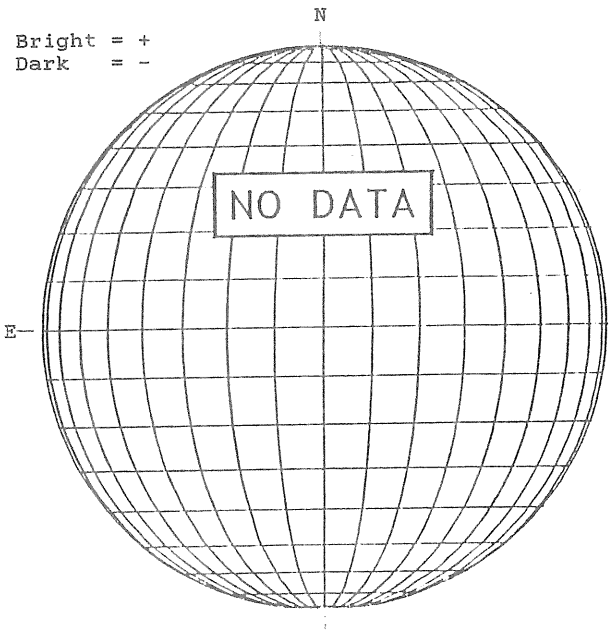
—— 5303A, 1420 UT

75
Aug 89

AUGUST 10, 1989 (P= 14.25, B_o = 6.37, L_o = 69.63)

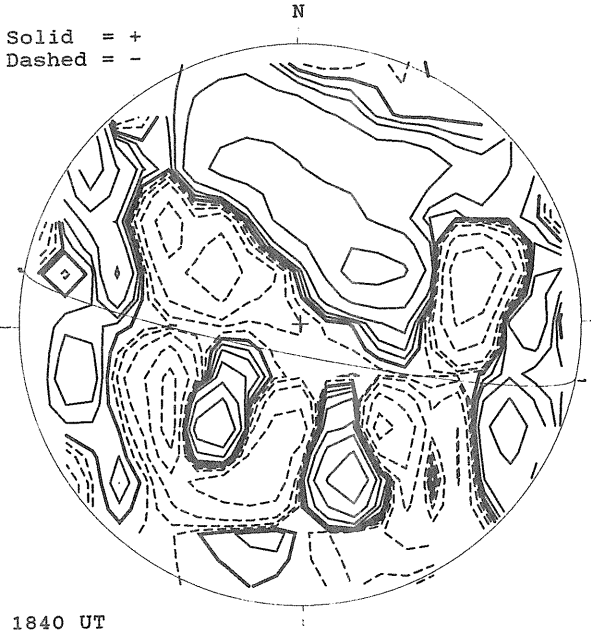
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



STANFORD MAGNETOGRAM

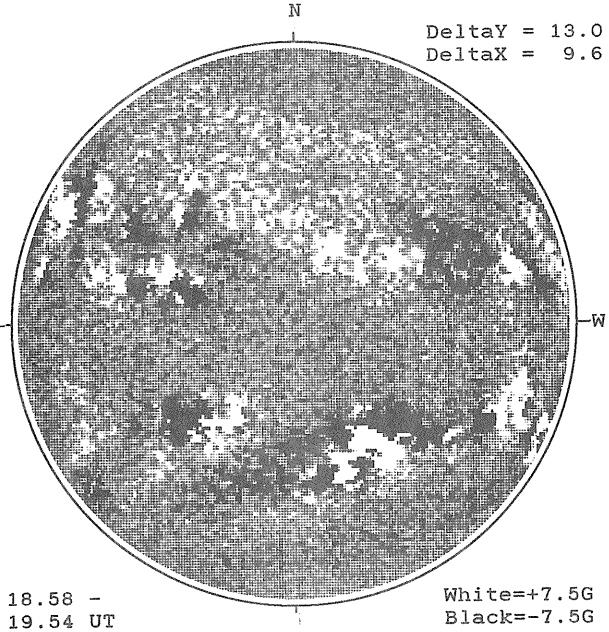
Solid = +
Dashed = -



1840 UT

MT. WILSON MAGNETOGRAM

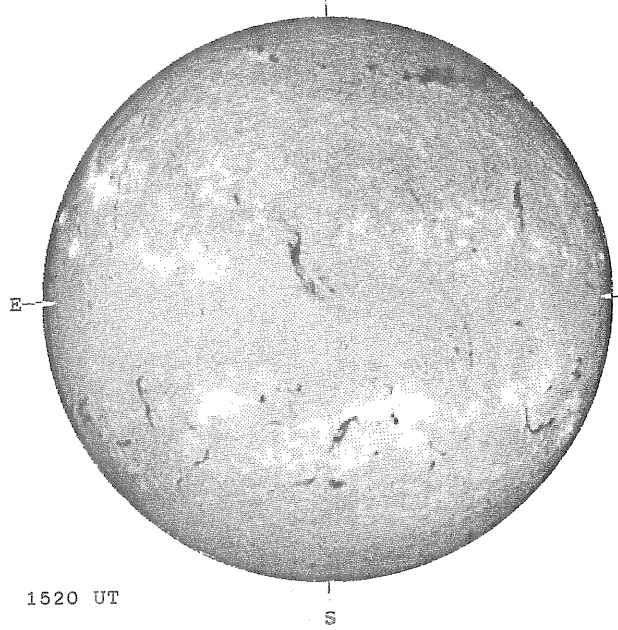
DeltaY = 13.0
DeltaX = 9.6



18.58 -
19.54 UT

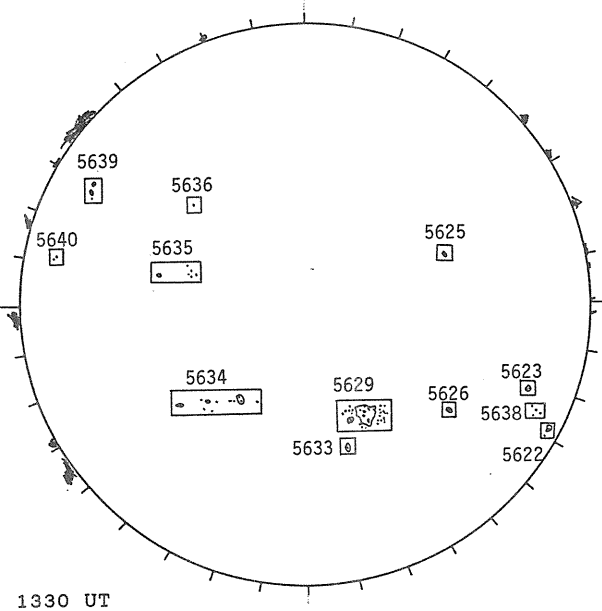
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



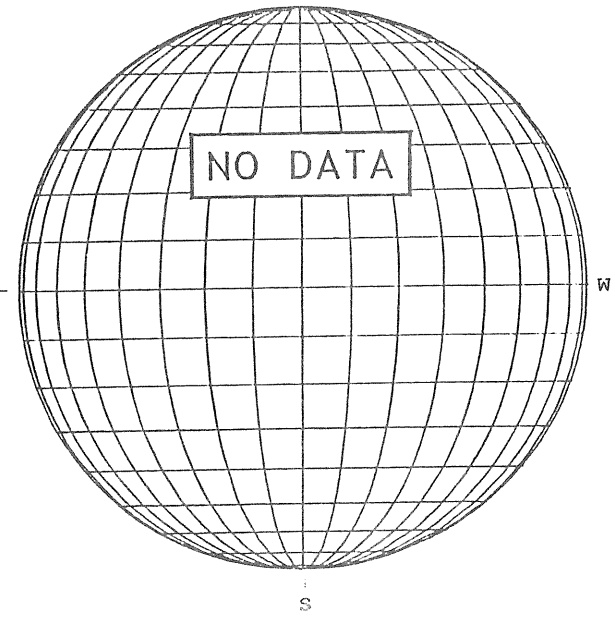
1520 UT

BOULDER SUNSPOT



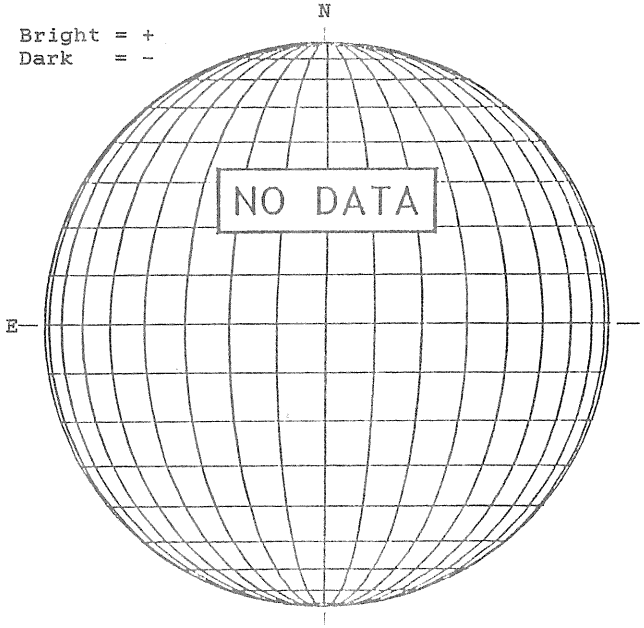
1330 UT
1640 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



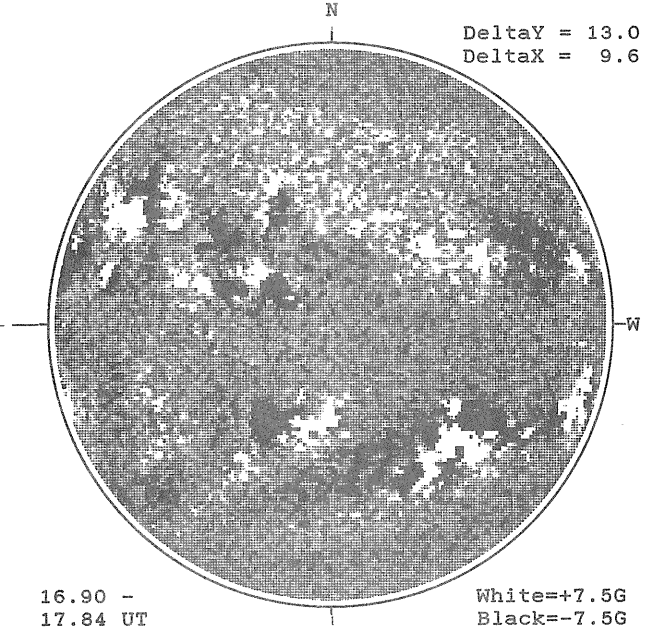
AUGUST 11, 1989 (P= 14.61, B_o = 6.42, L_o = 56.41)

KITT PEAK MAGNETOGRAM

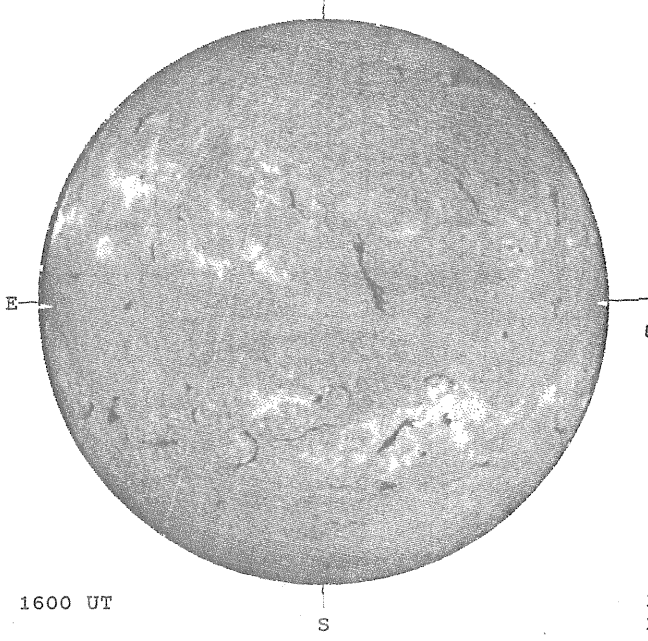


STANFORD MAGNETOGRAM

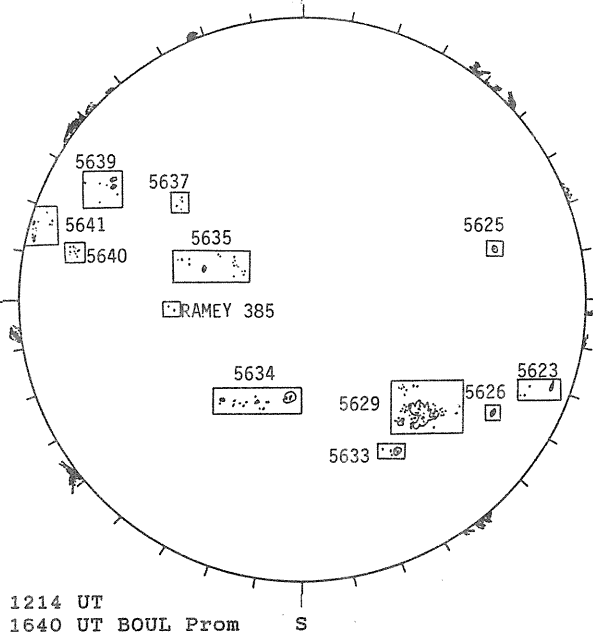
MT. WILSON MAGNETOGRAM



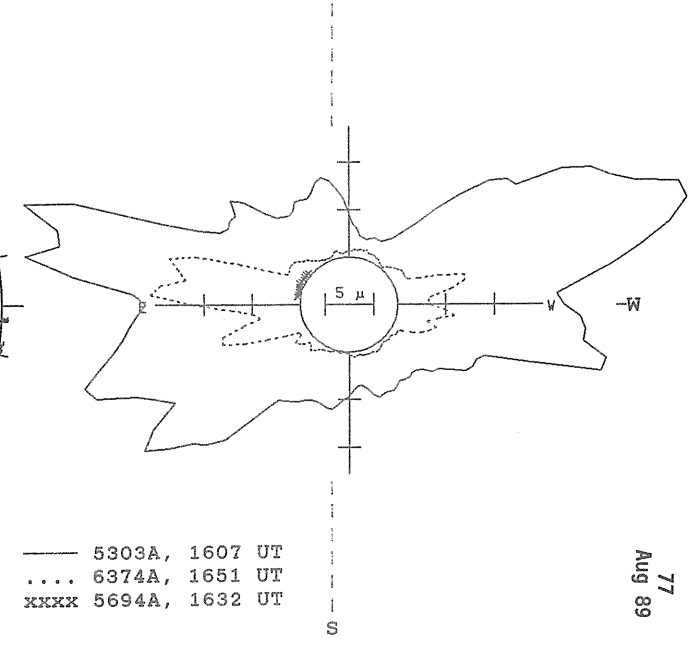
HOLLOMAN H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

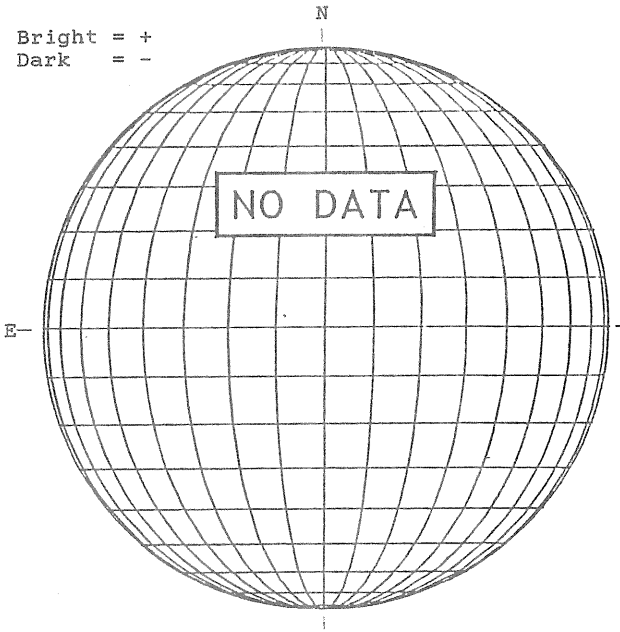


Aug 89
77

AUGUST 12, 1989 (P= 14.96, B_o = 6.48, L_o = 43.19)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



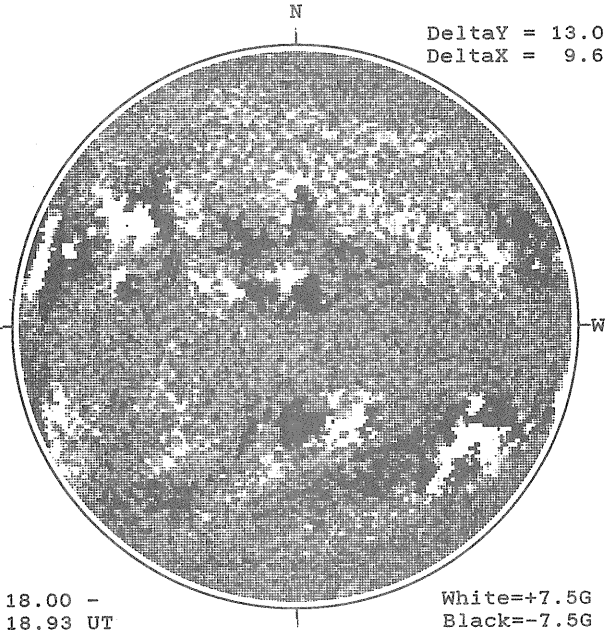
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2325 UT

MT. WILSON MAGNETOGRAM

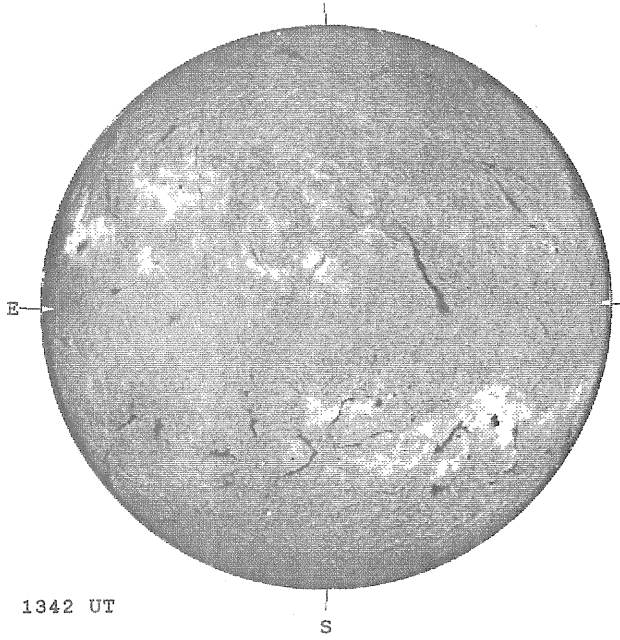
DeltaY = 13.0
DeltaX = 9.6



18.00 -
18.93 UT

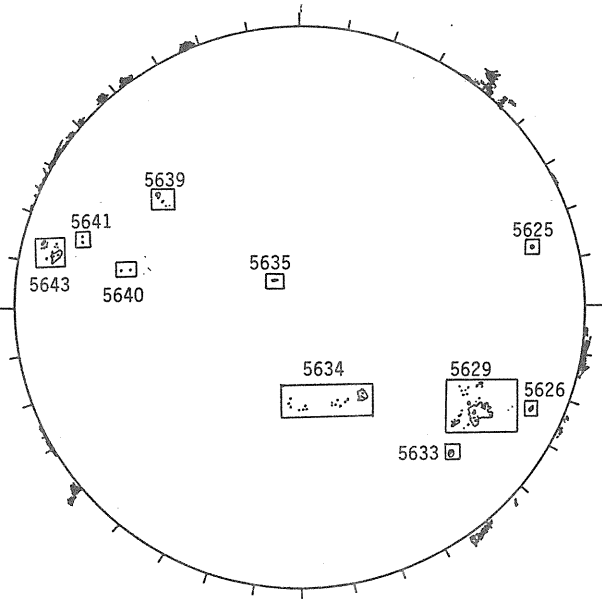
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



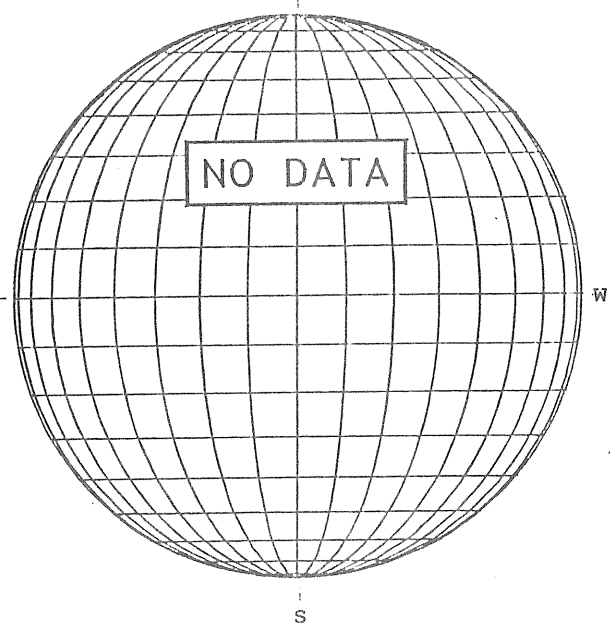
1342 UT

BOULDER SUNSPOT



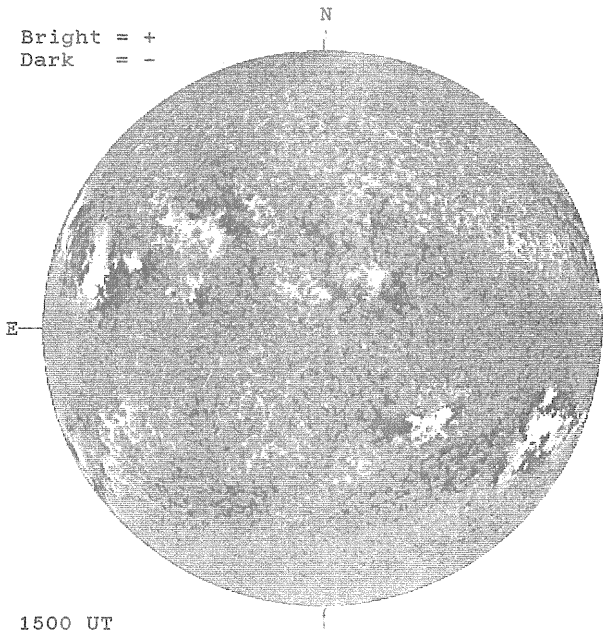
1608 UT
1600 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



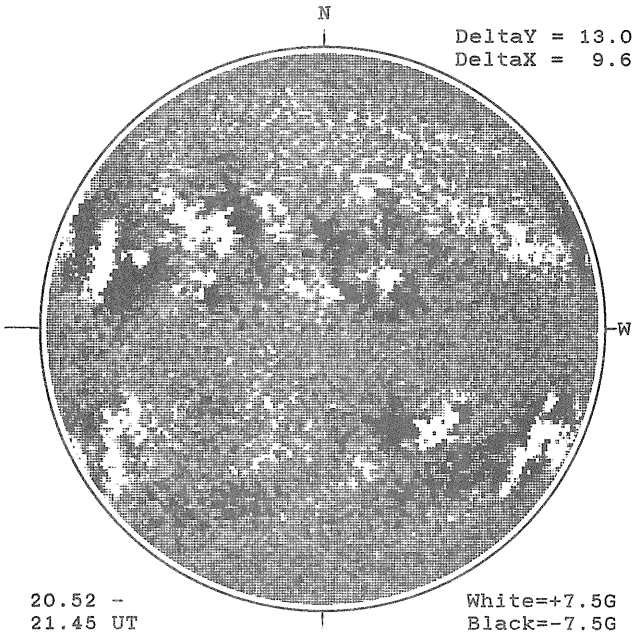
AUGUST 13, 1989 (P= 15.32, B_o = 6.53, L_o = 29.97)

KITT PEAK MAGNETOGRAM

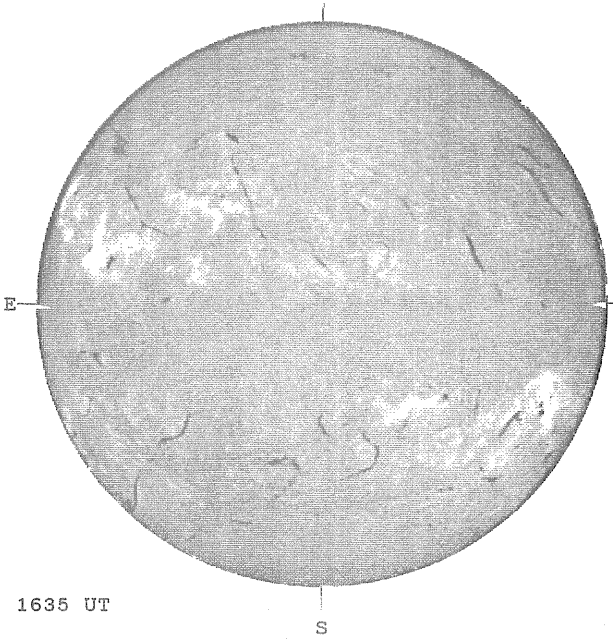


STANFORD MAGNETOGRAM

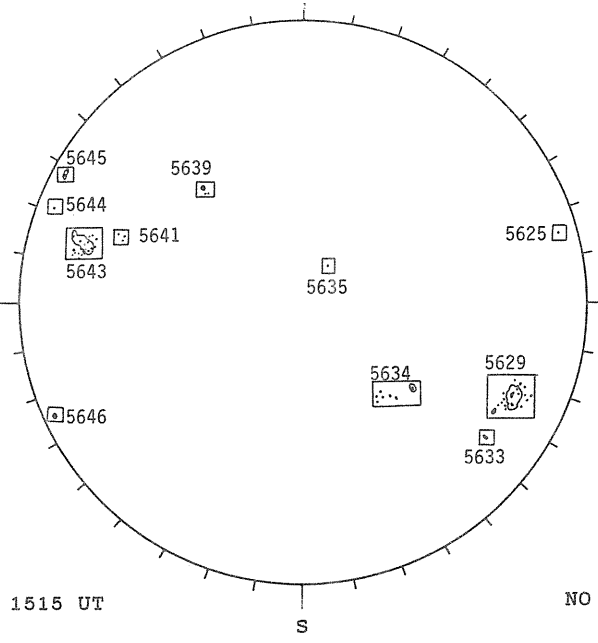
MT. WILSON MAGNETOGRAM



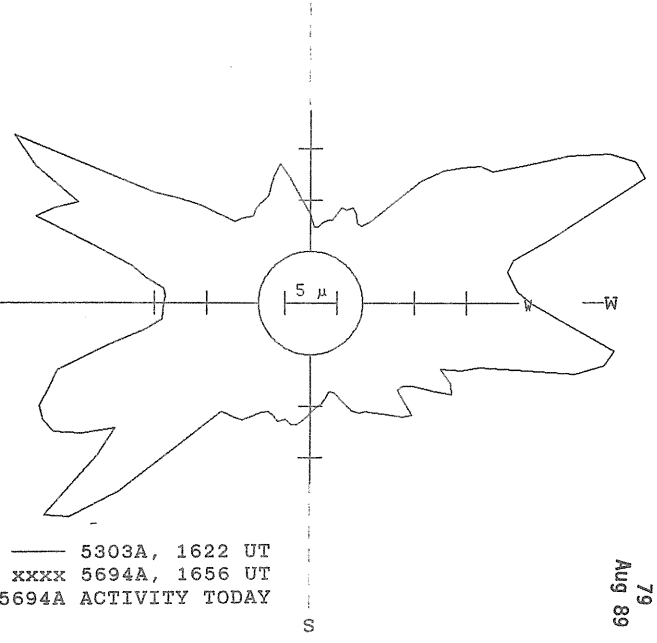
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



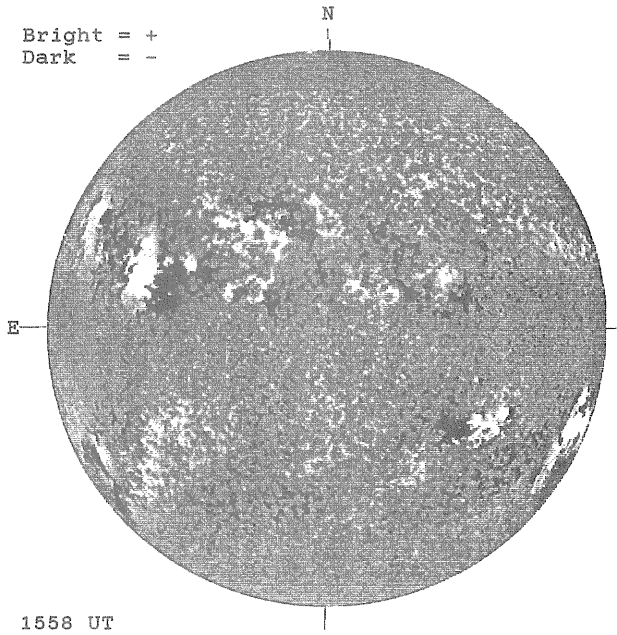
79
Aug 89

AUGUST 14, 1989 (P= 15.66, B_o = 6.58, L_o = 16.75)

Aug 89 80

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



1558 UT

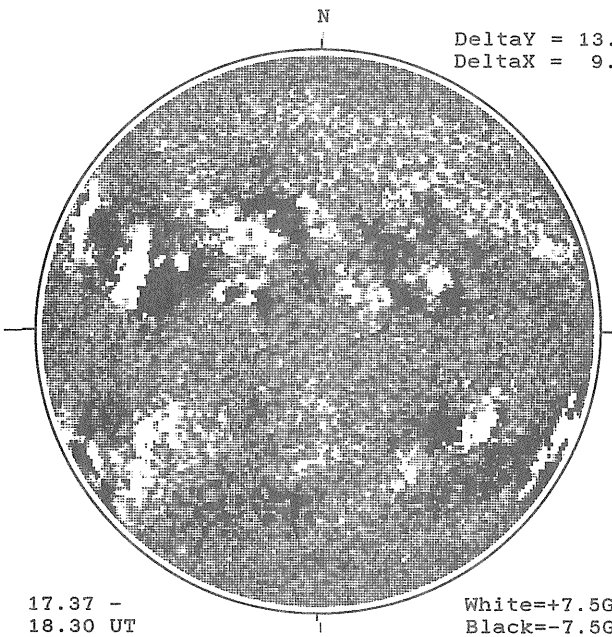
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

1615 UT

MT. WILSON MAGNETOGRAM

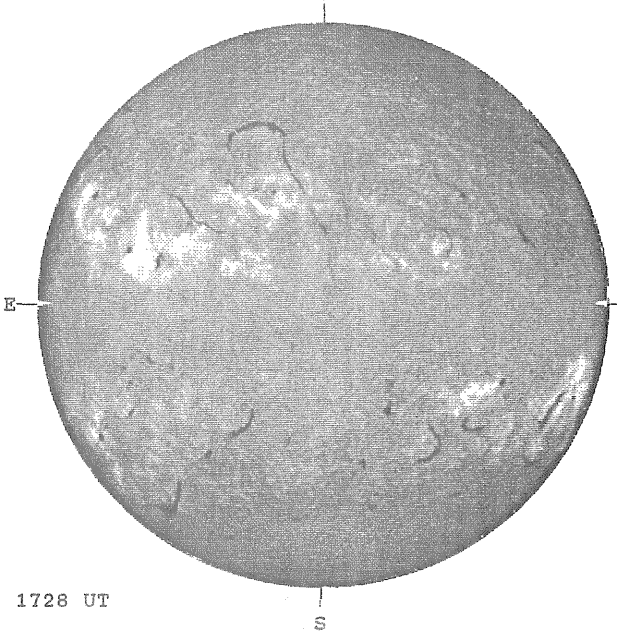
DeltaY = 13.0
DeltaX = 9.6



17.37 -
18.30 UT

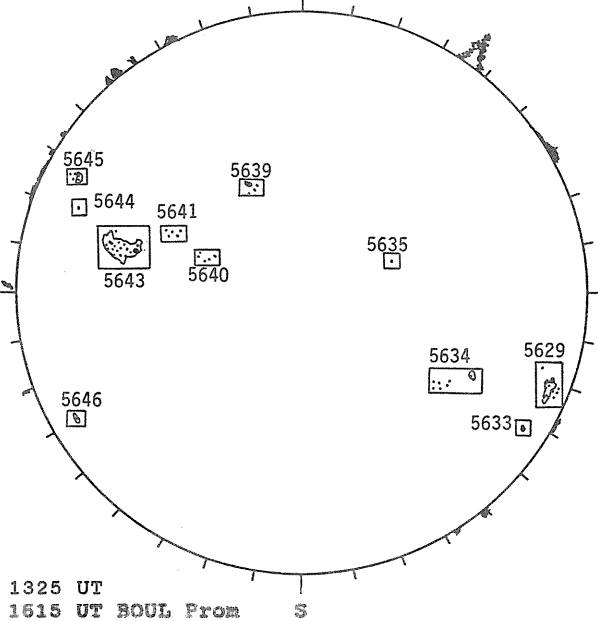
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



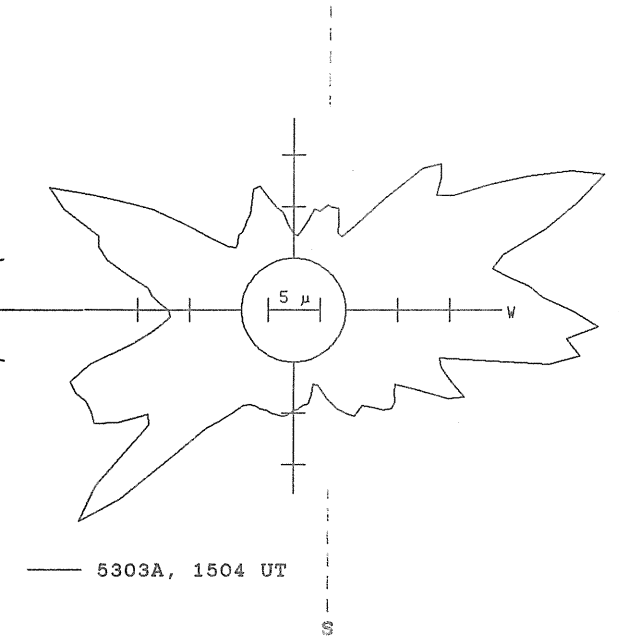
1728 UT

BOULDER SUNSPOT



1325 UT
1615 UT BOUL Prom

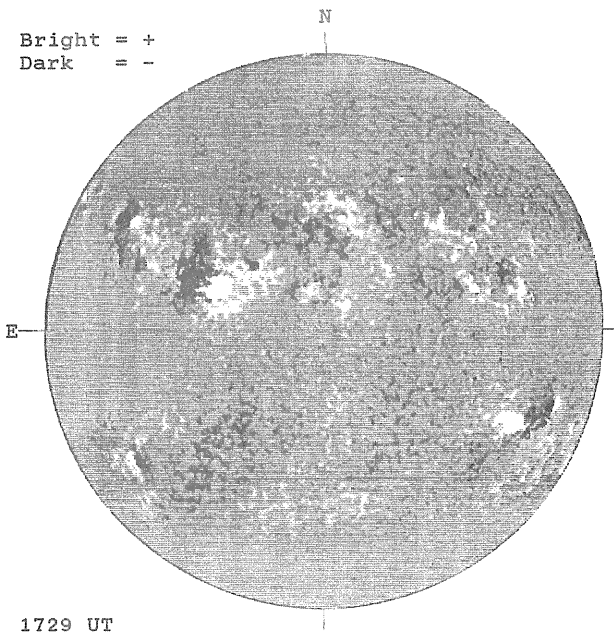
SACRAMENTO PEAK CORONA (1.15 Radii)



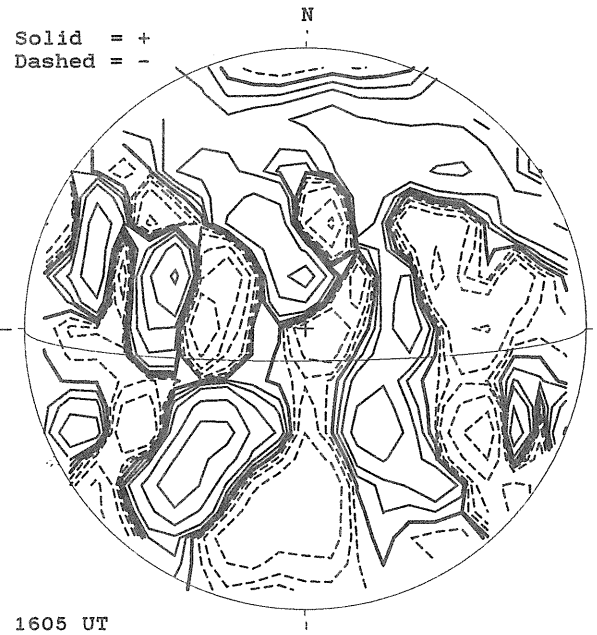
—— 5303A, 1504 UT

AUGUST 15, 1989 (P= 16.01, B_o = 6.63, L_o = 3.53)

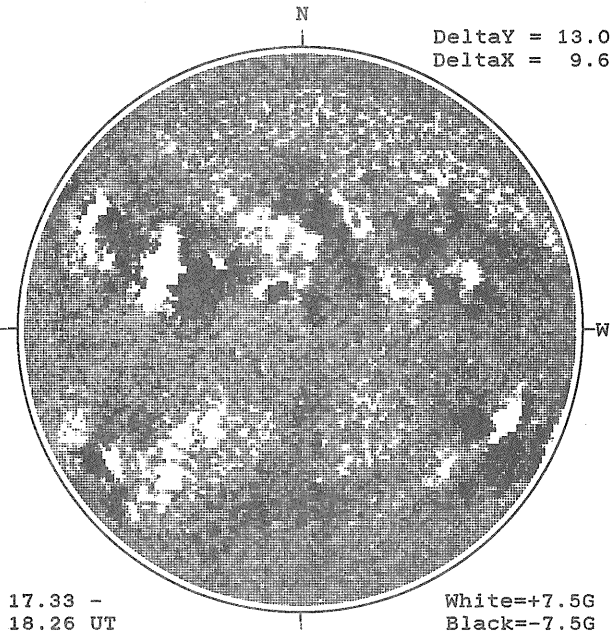
KITT PEAK MAGNETOGRAM



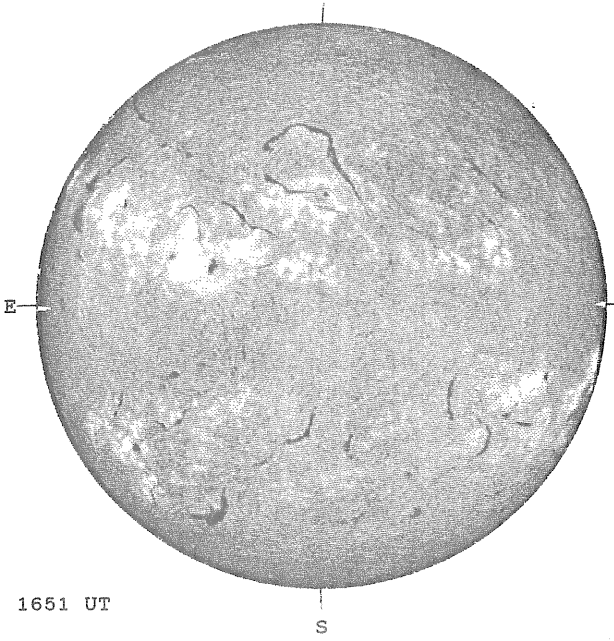
STANFORD MAGNETOGRAM



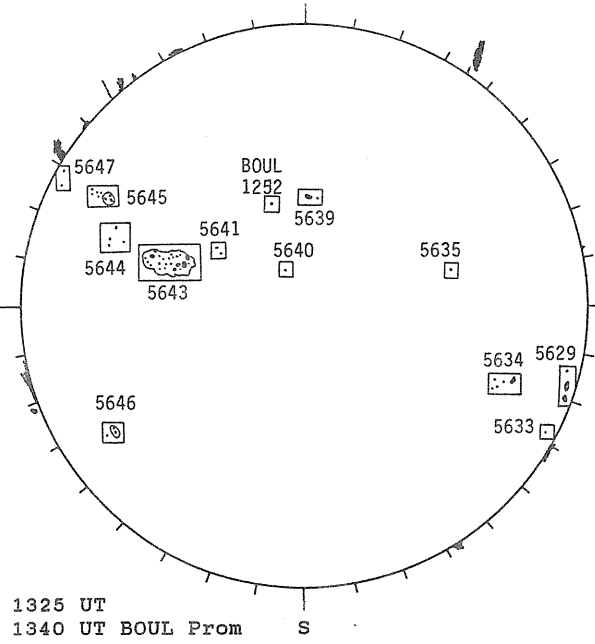
MT. WILSON MAGNETOGRAM



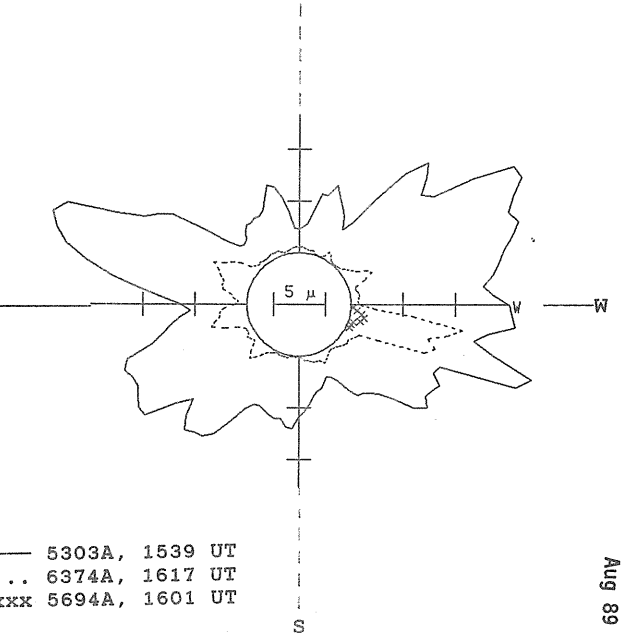
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



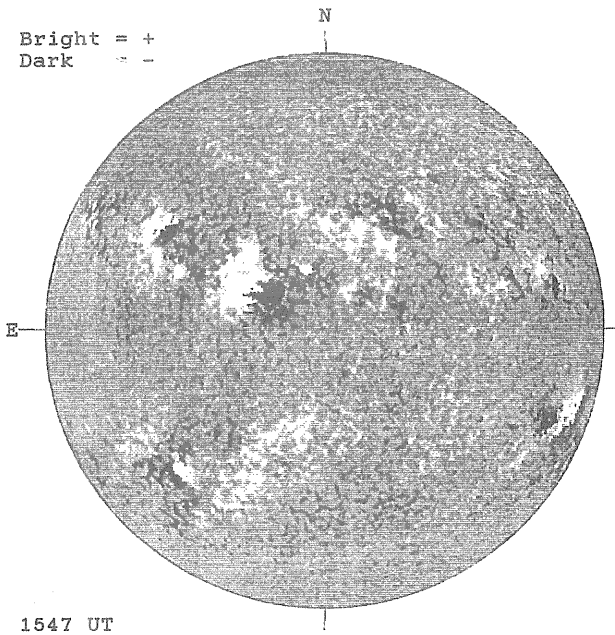
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 16, 1989 (P= 16.34, B_o = 6.68, L_o = 350.31)

KITT PEAK MAGNETOGRAM

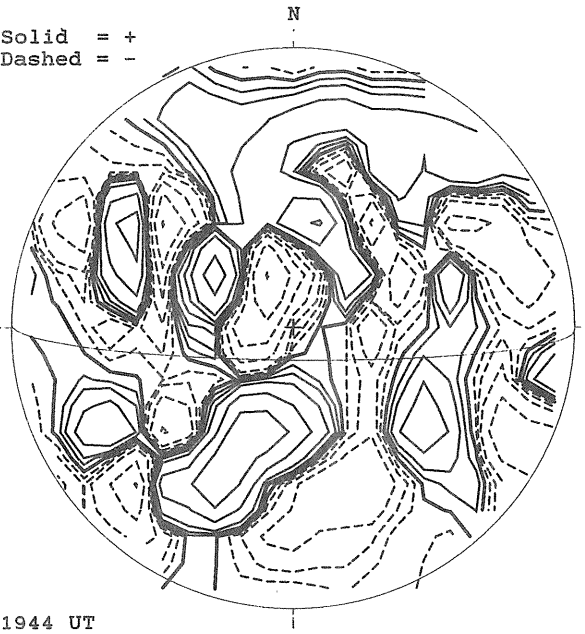
Bright = +
Dark = -



1547 UT

STANFORD MAGNETOGRAM

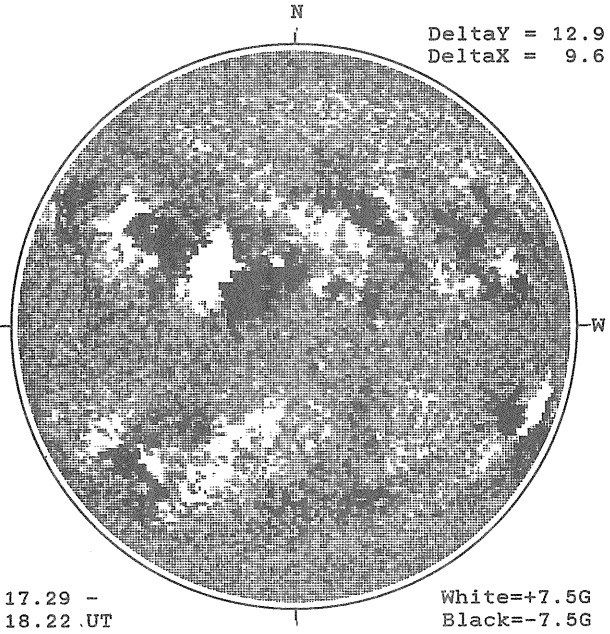
Solid = +
Dashed = -



1944 UT

MT. WILSON MAGNETOGRAM

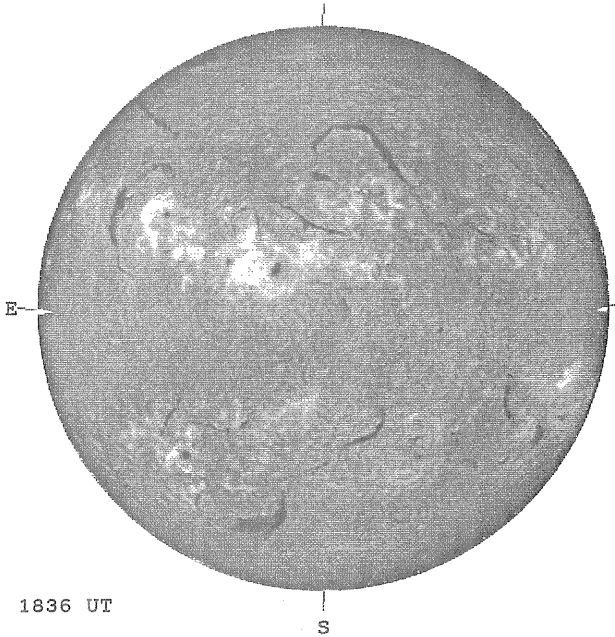
DeltaY = 12.9
DeltaX = 9.6



17.29 -
18.22 UT

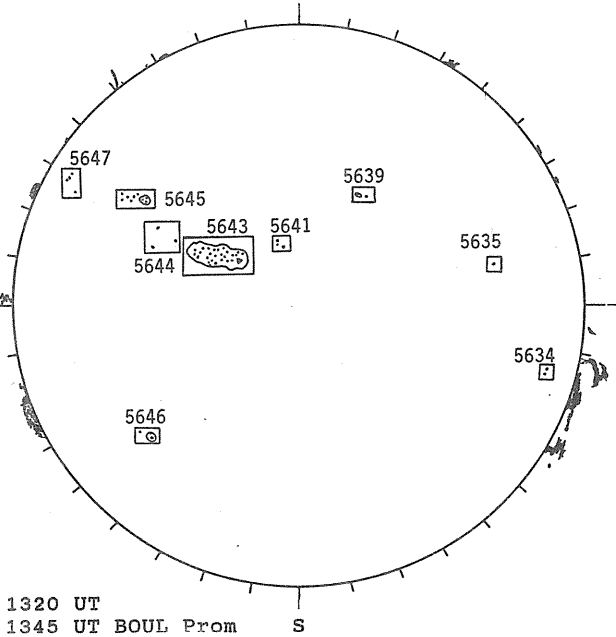
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



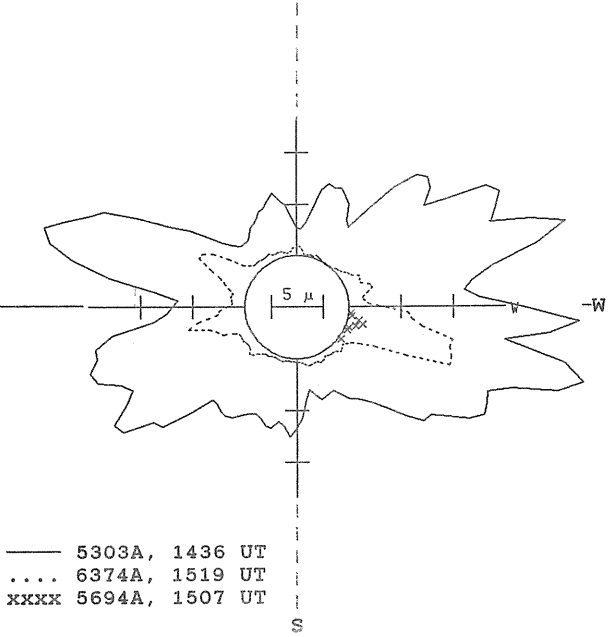
1836 UT

BOULDER SUNSPOT



1320 UT
1345 UT BOUL Prom

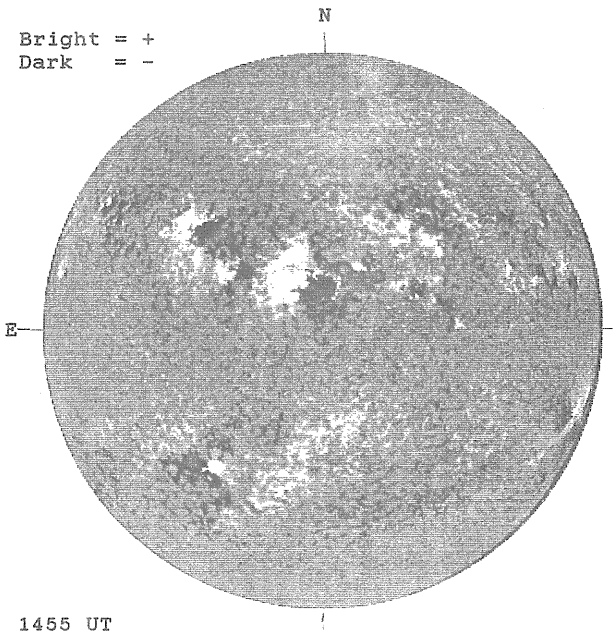
SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1436 UT
.... 6374A, 1519 UT
xxxx 5694A, 1507 UT

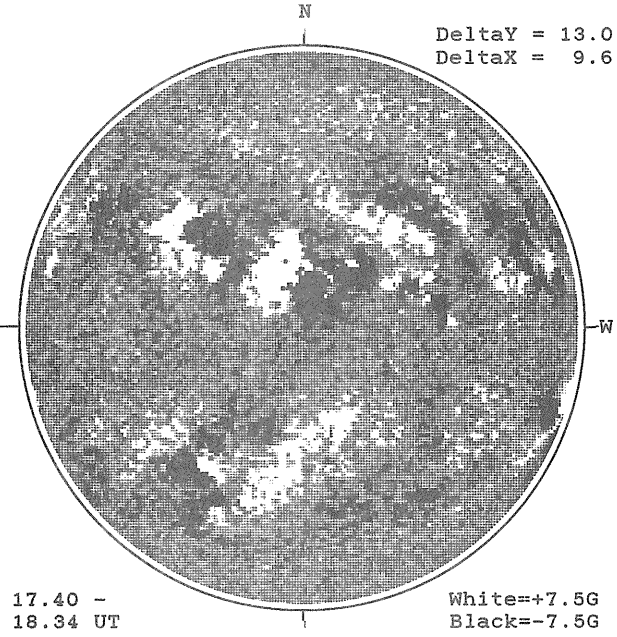
AUGUST 17, 1989 (P= 16.68, B_o = 6.73, L_o = 337.10)

KITT PEAK MAGNETOGRAM

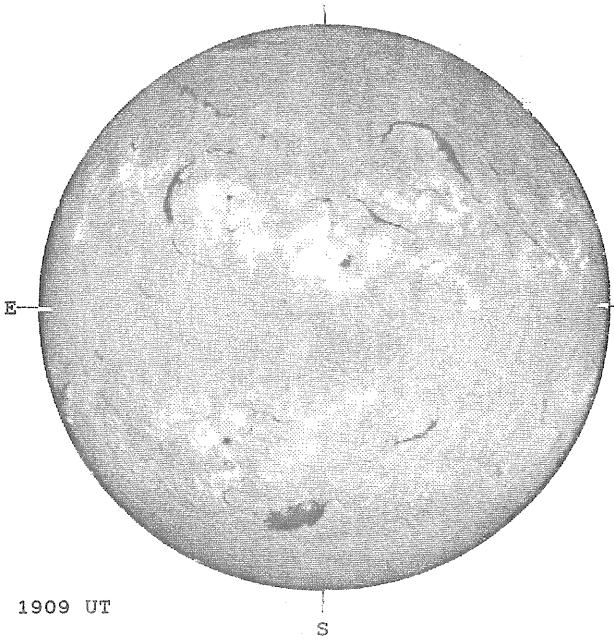


STANFORD MAGNETOGRAM

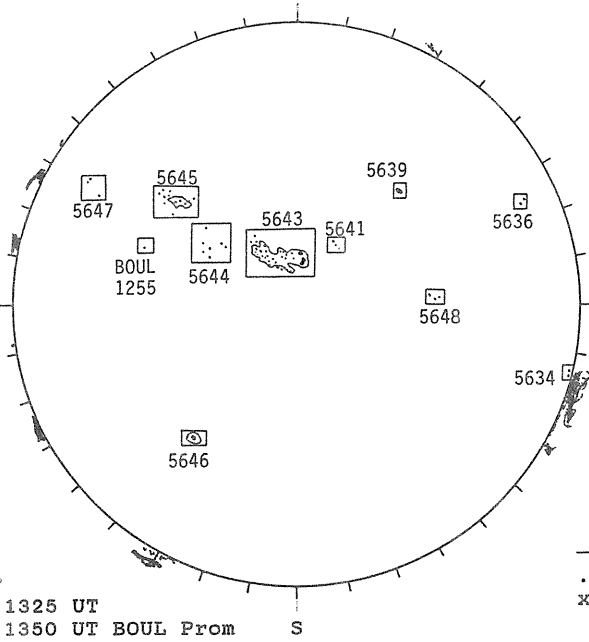
MT. WILSON MAGNETOGRAM



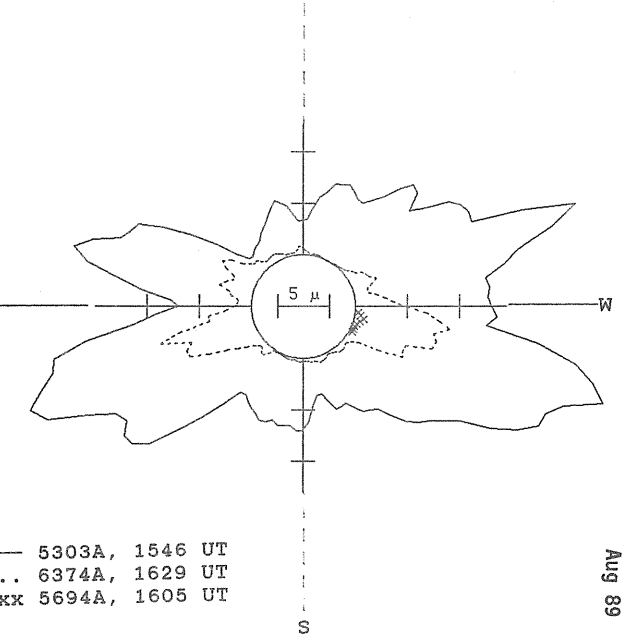
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

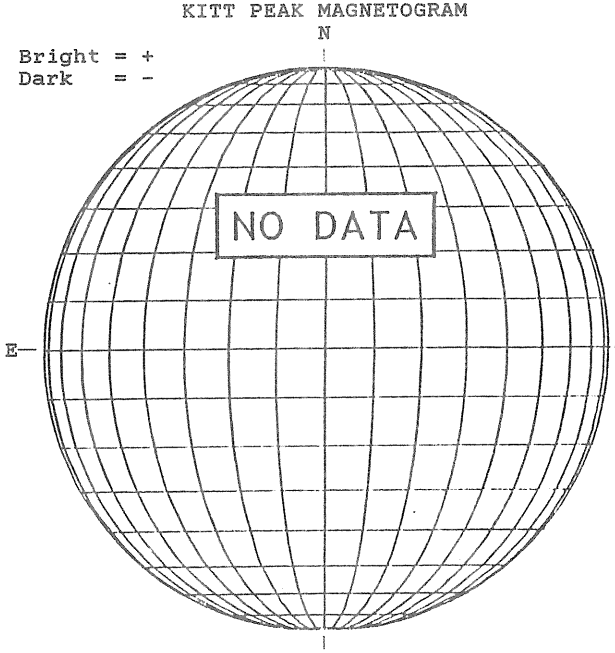


83
Aug 89

AUGUST 18, 1989 (P= 17.01, B_o = 6.77, L_o = 323.88)

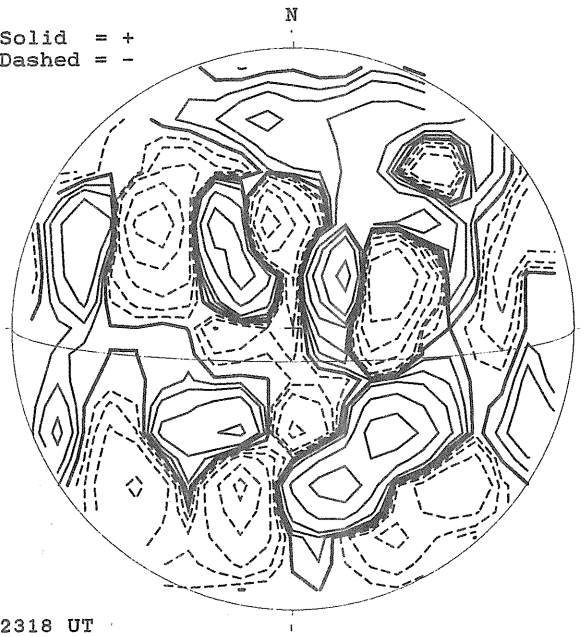
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



STANFORD MAGNETOGRAM

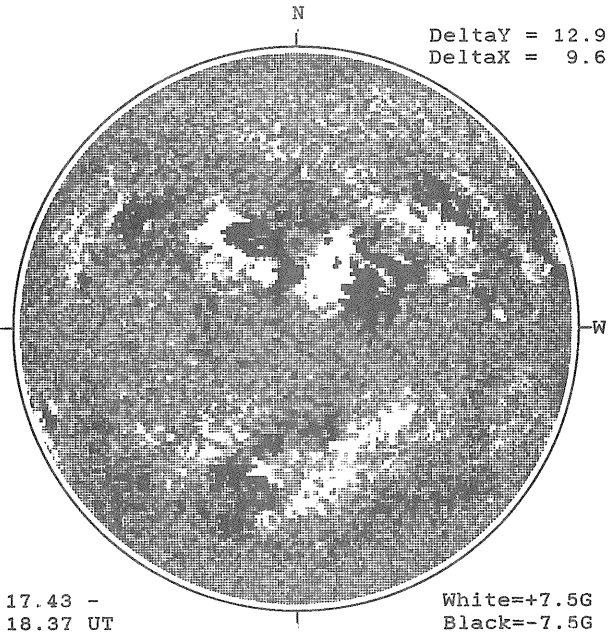
Solid = +
Dashed = -



2318 UT

MT. WILSON MAGNETOGRAM

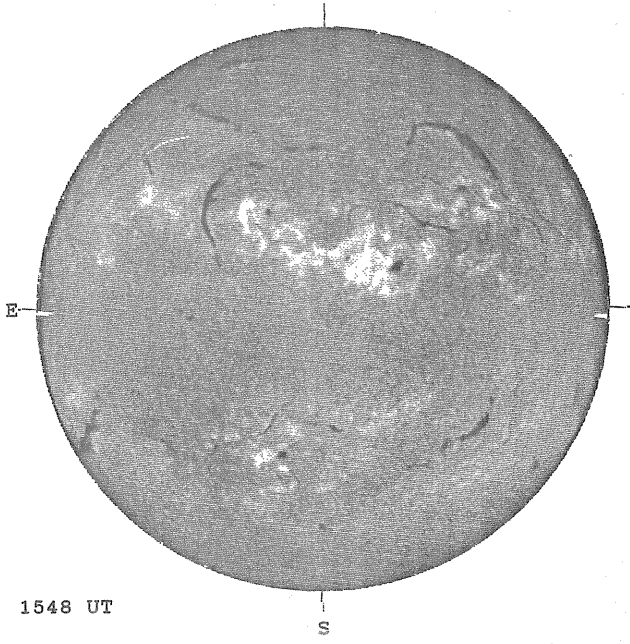
DeltaY = 12.9
DeltaX = 9.6



17.43 -
18.37 UT

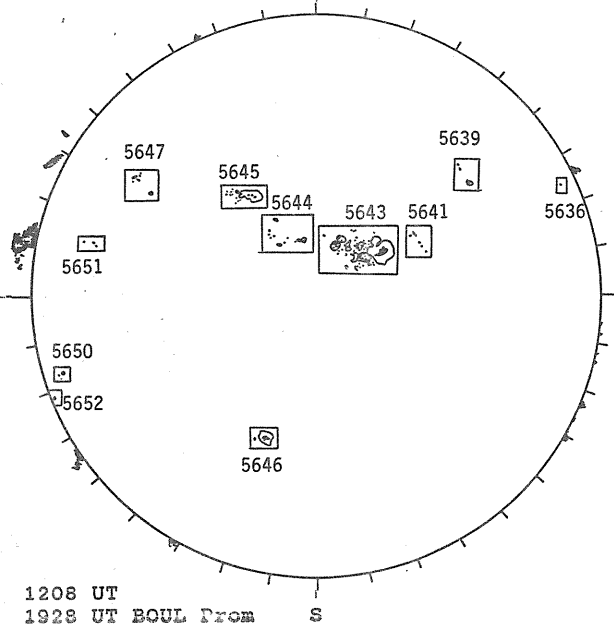
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



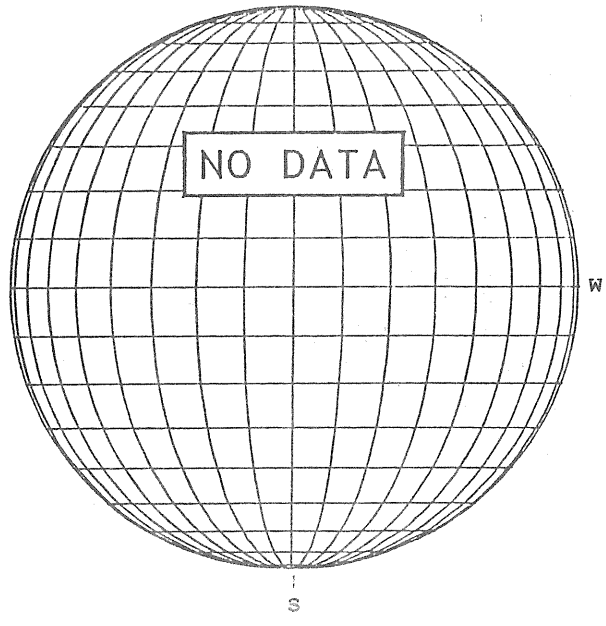
1548 UT

RAMEY SUNSPOT



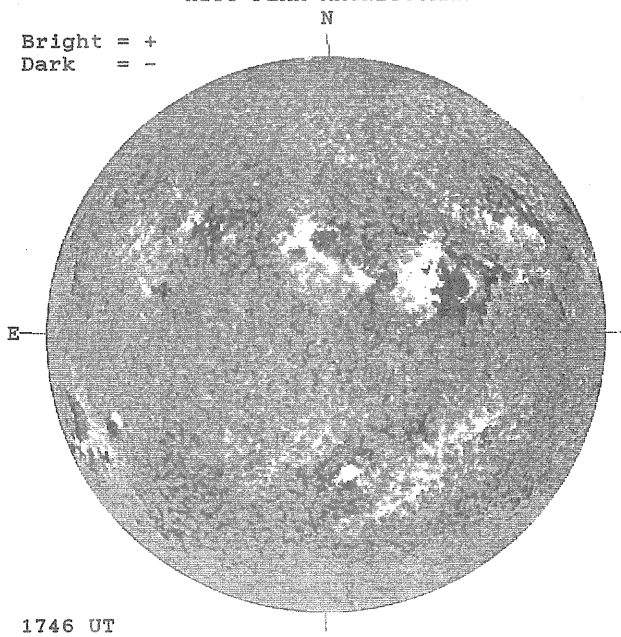
1208 UT
1928 UT BOUL From

SACRAMENTO PEAK CORONA (1.15 Radii)

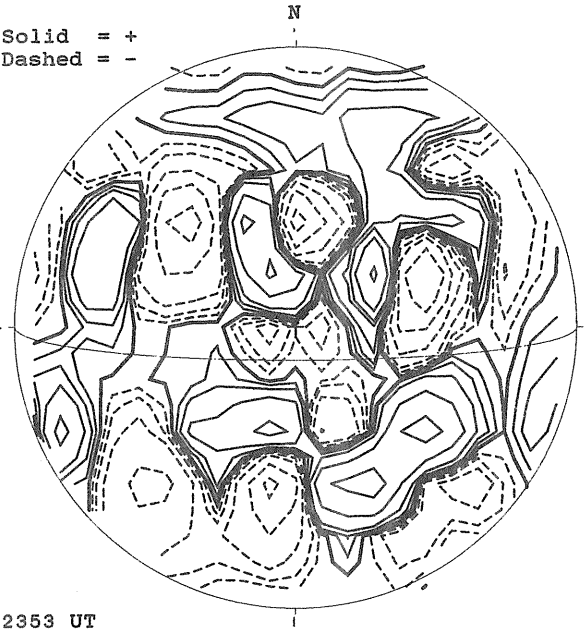


AUGUST 19, 1989 (P= 17.33, B_o = 6.81, L_o = 310.66)

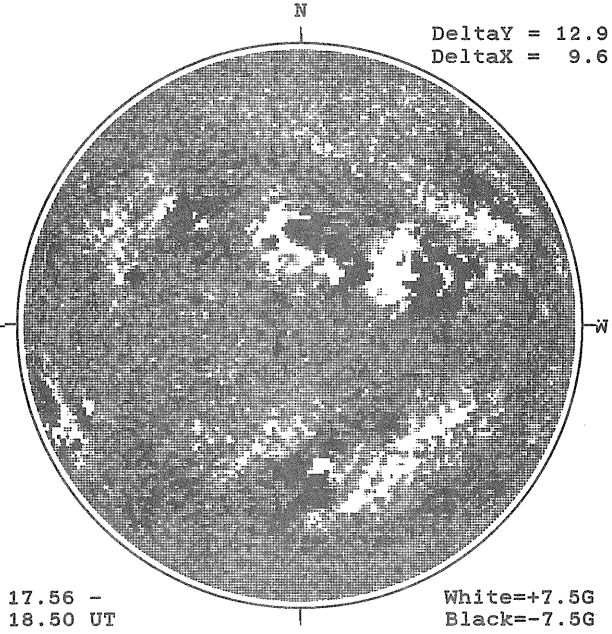
KITT PEAK MAGNETOGRAM



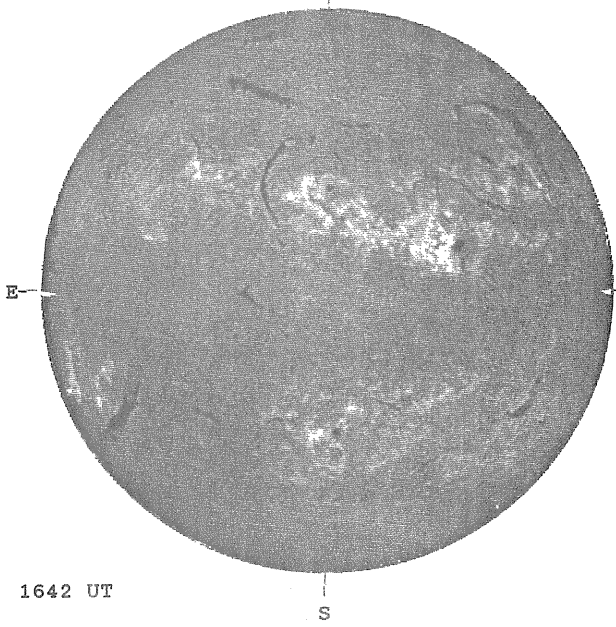
STANFORD MAGNETOGRAM



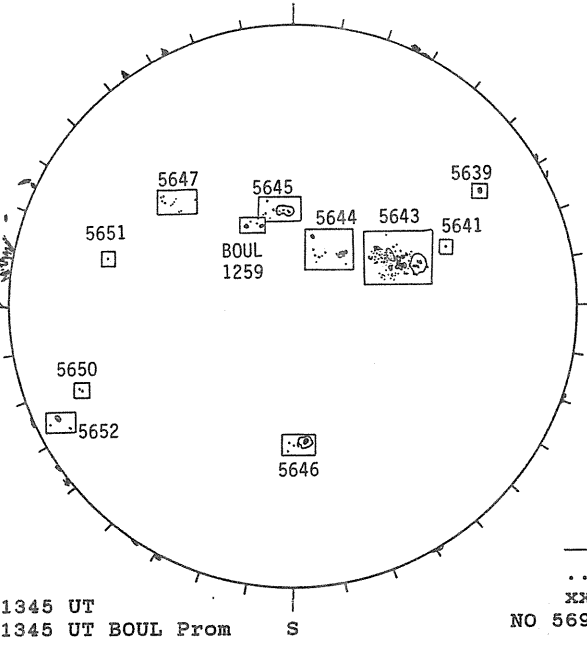
MT. WILSON MAGNETOGRAM



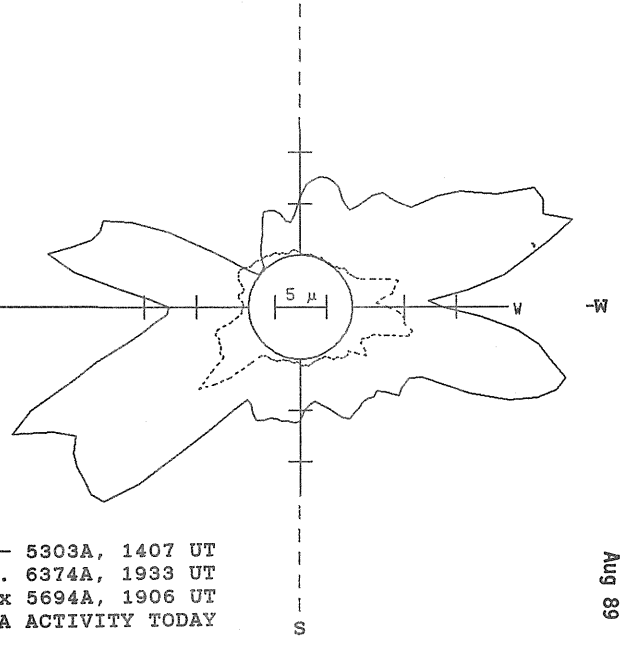
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

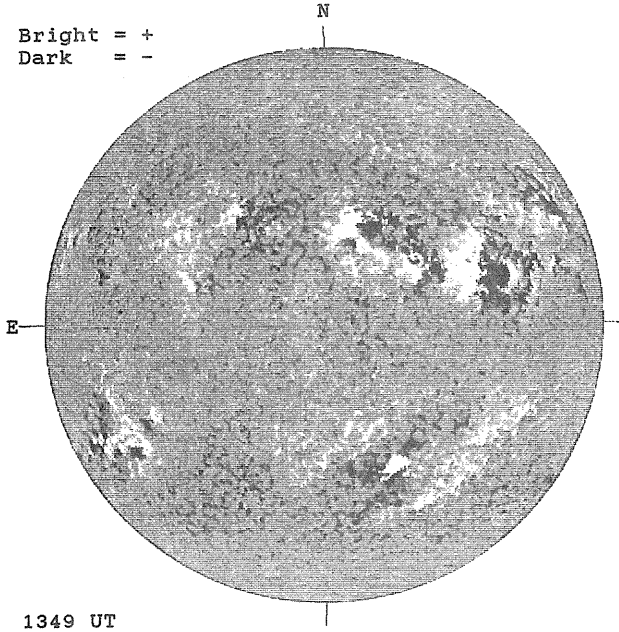


85
Aug 89

AUGUST 20, 1989 (P= 17.65, B_o = 6.85, L_o = 297.45)

KITT PEAK MAGNETOGRAM

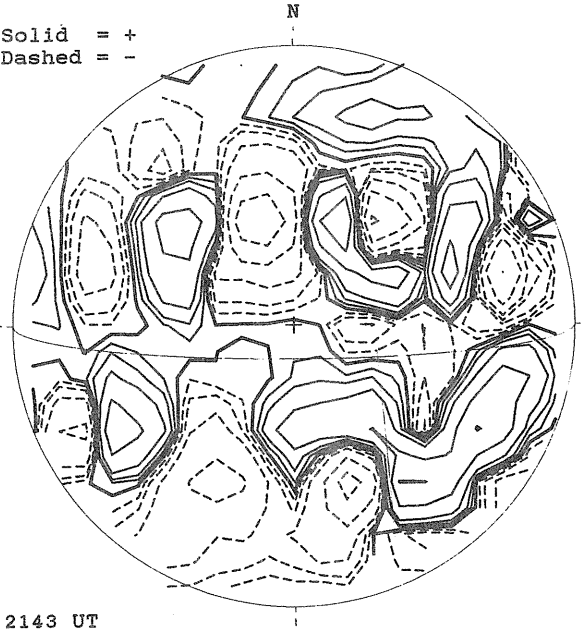
Bright = +
Dark = -



1349 UT

STANFORD MAGNETOGRAM

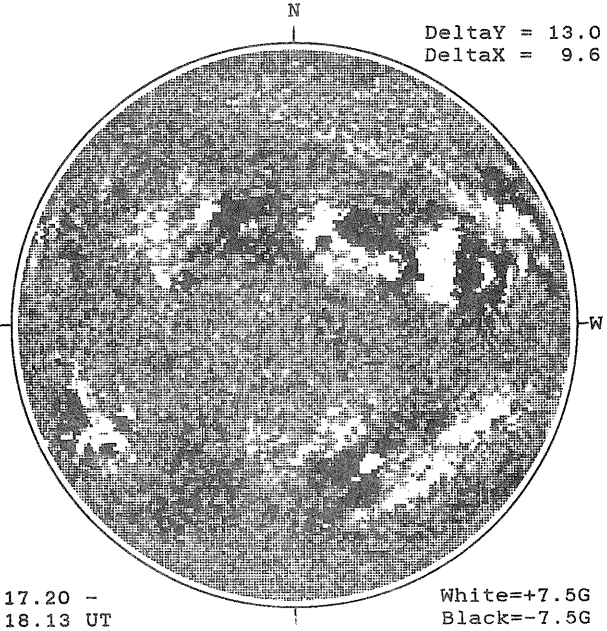
Solid = +
Dashed = -



2143 UT

MT. WILSON MAGNETOGRAM

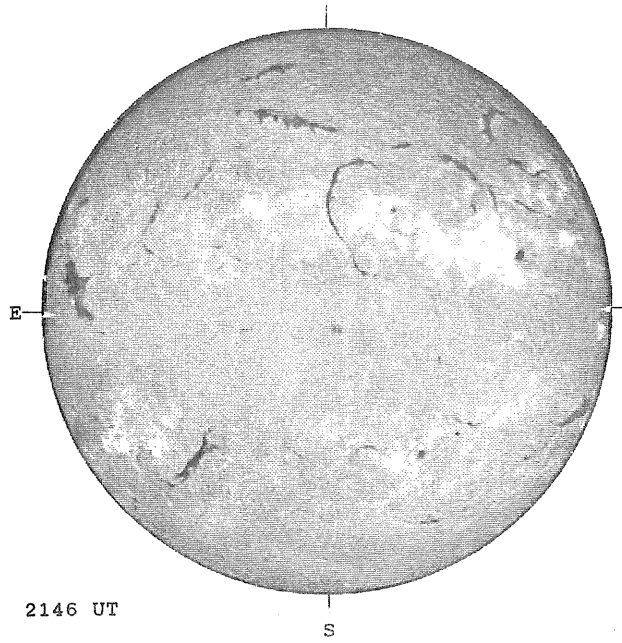
DeltaY = 13.0
DeltaX = 9.6



17.20 -
18.13 UT

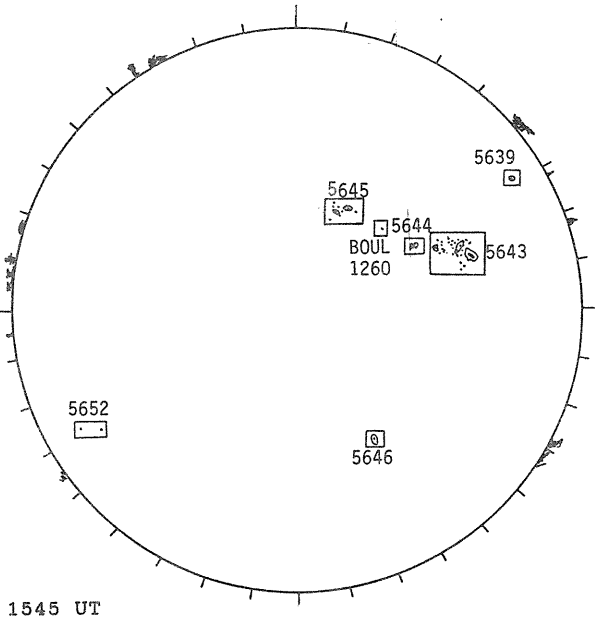
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



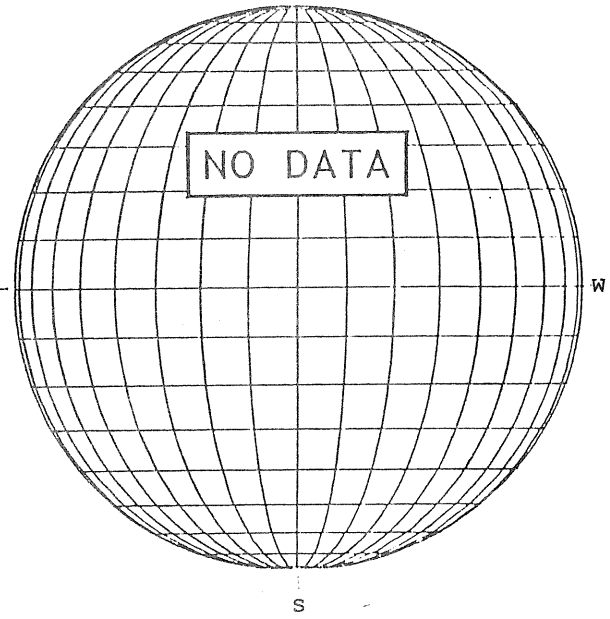
2146 UT

BOULDER SUNSPOT



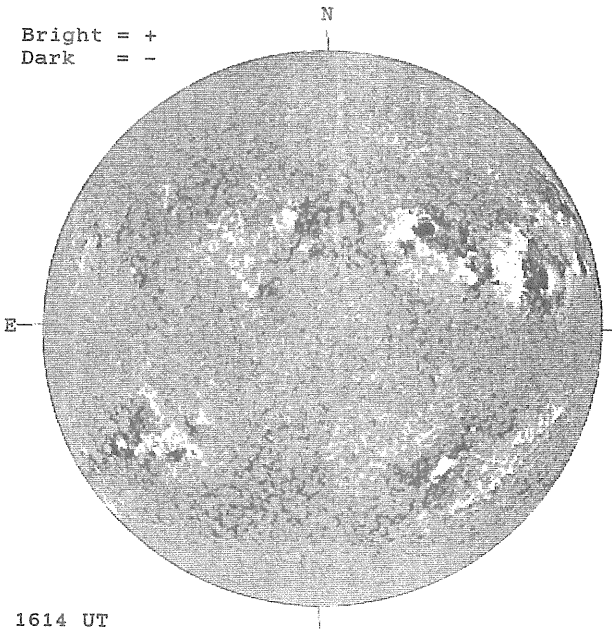
1545 UT
1700 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

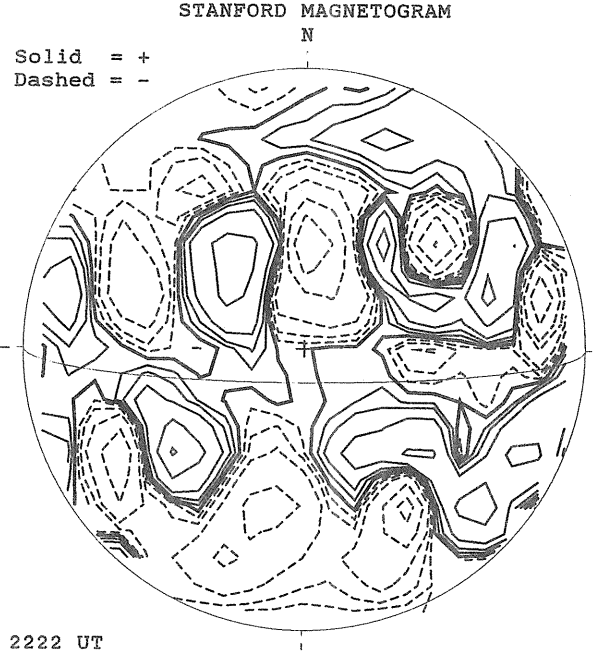


AUGUST 21, 1989 (P= 17.96, B_o = 6.89, L_o = 284.23)

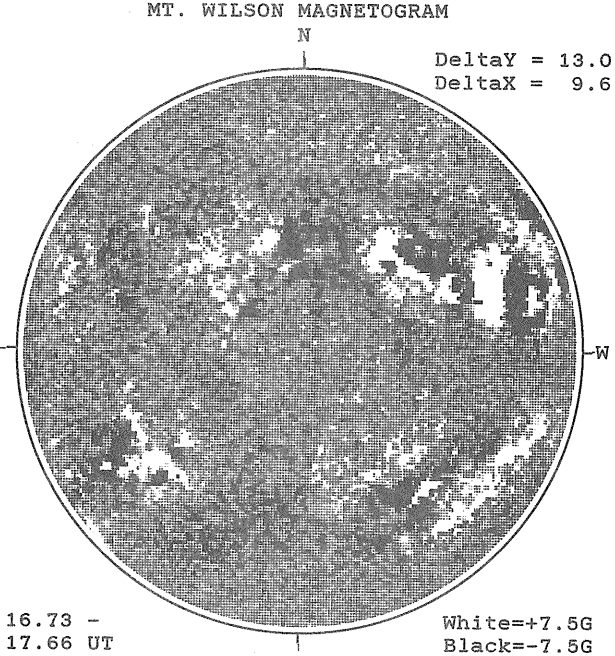
KITT PEAK MAGNETOGRAM



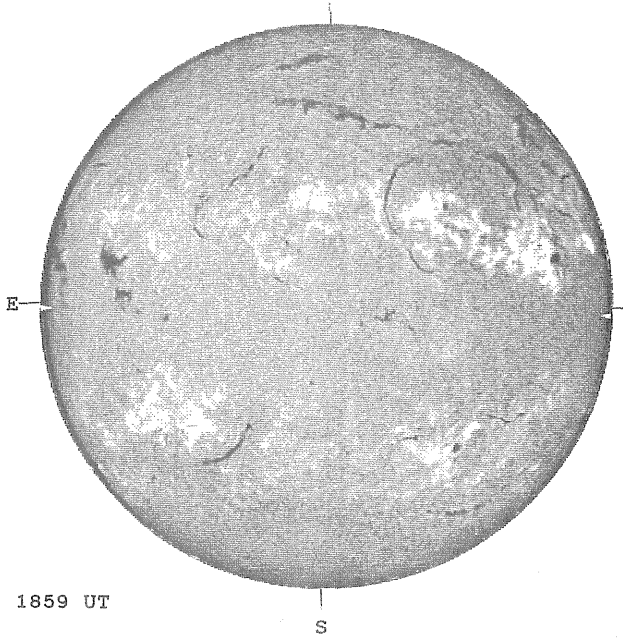
STANFORD MAGNETOGRAM



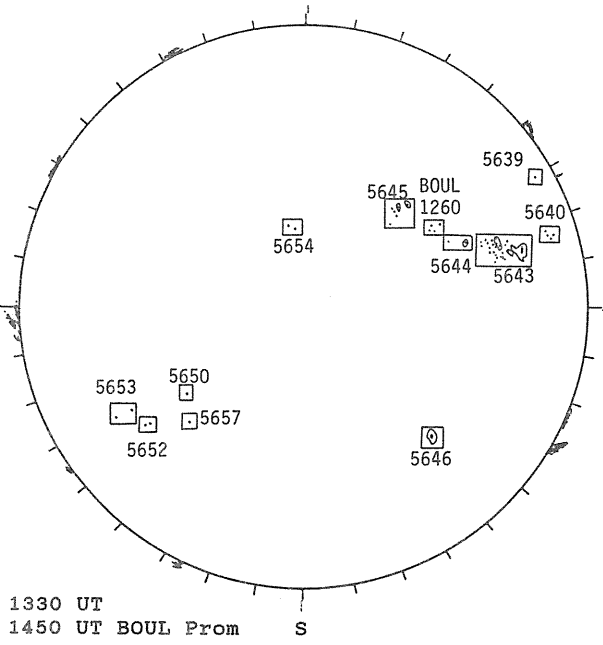
MT. WILSON MAGNETOGRAM



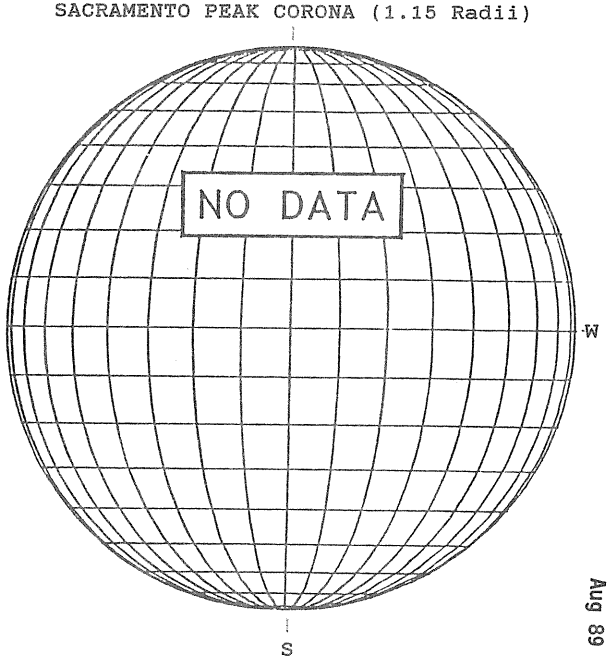
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



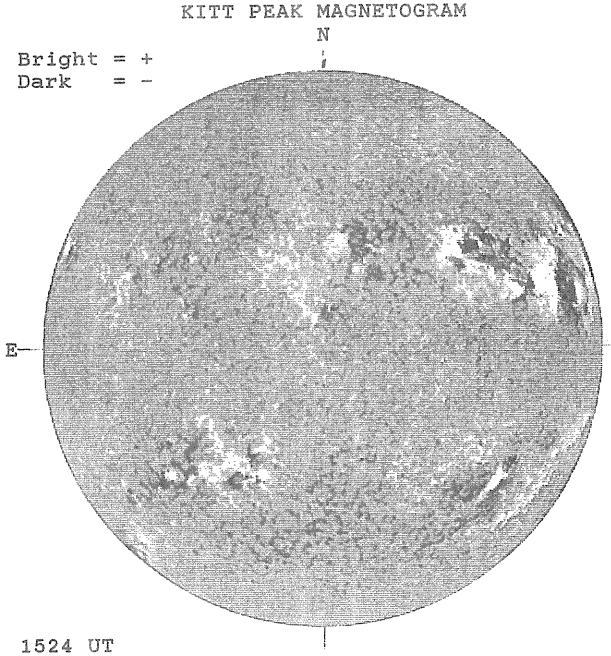
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 22, 1989 (P= 18.27, B_o = 6.93, L_o = 271.01)

KITT PEAK MAGNETOGRAM

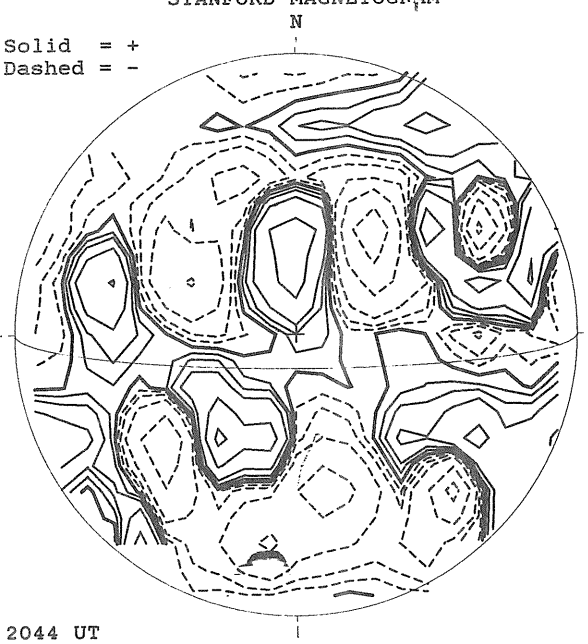
Bright = +
Dark = -



1524 UT

STANFORD MAGNETOGRAM

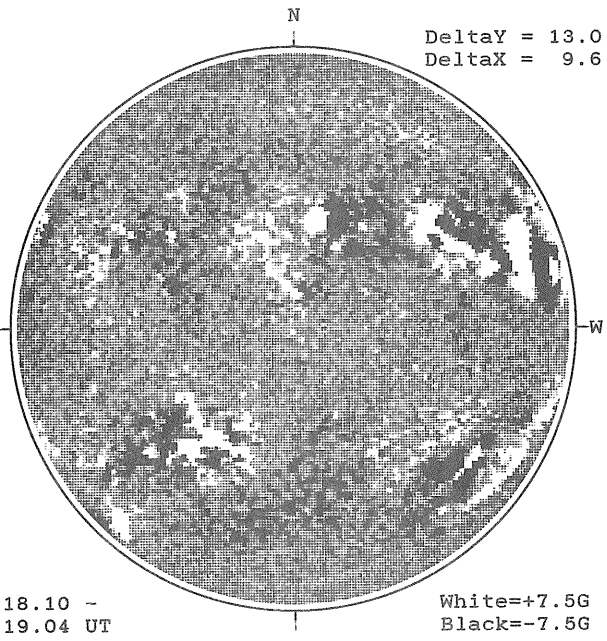
Solid = +
Dashed = -



2044 UT

MT. WILSON MAGNETOGRAM

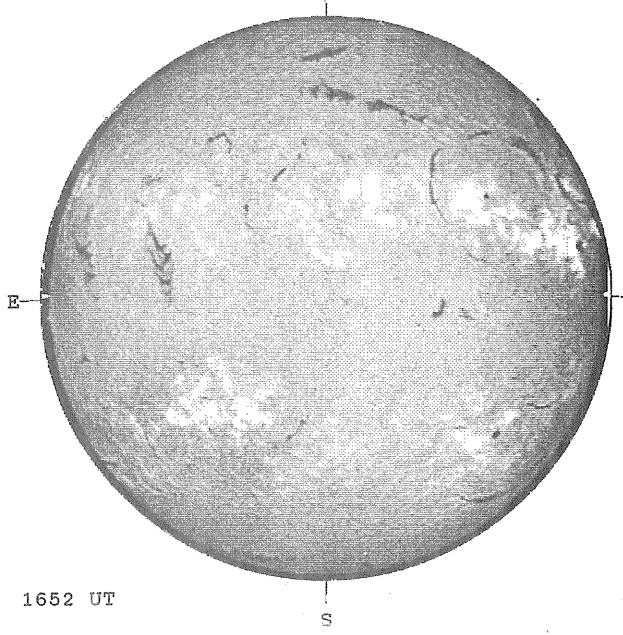
DeltaY = 13.0
DeltaX = 9.6



18.10 -
19.04 UT

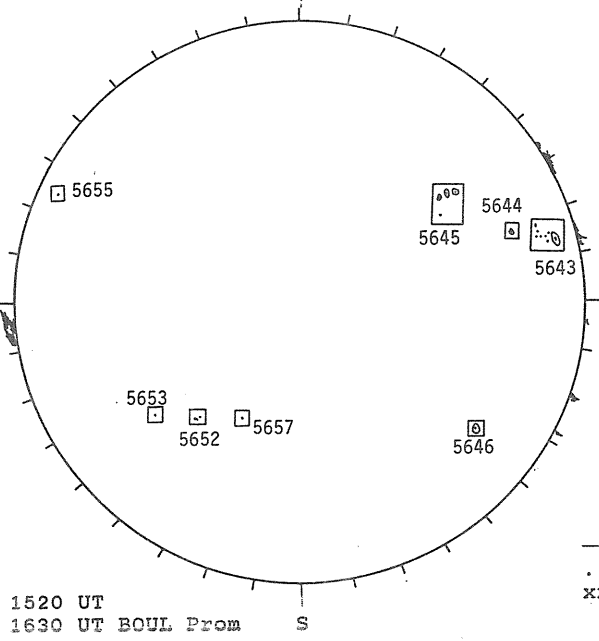
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



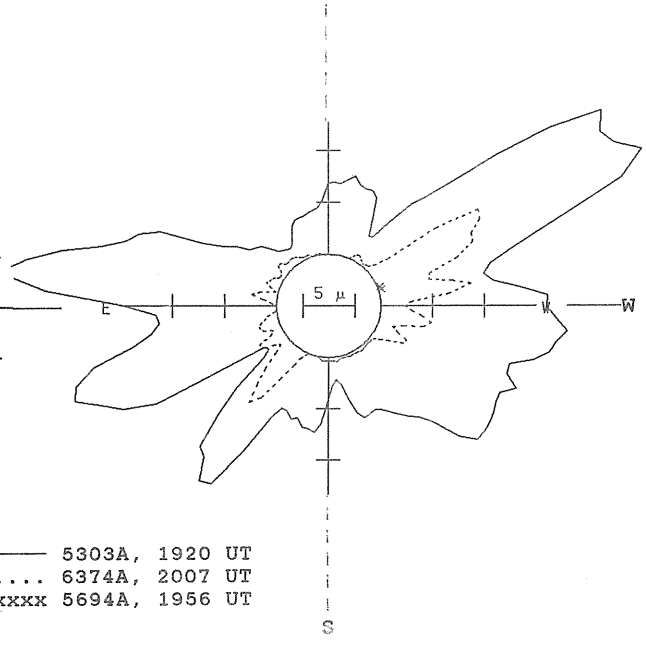
1652 UT

BOULDER SUNSPOT



1520 UT
1630 UT BOUL Prom

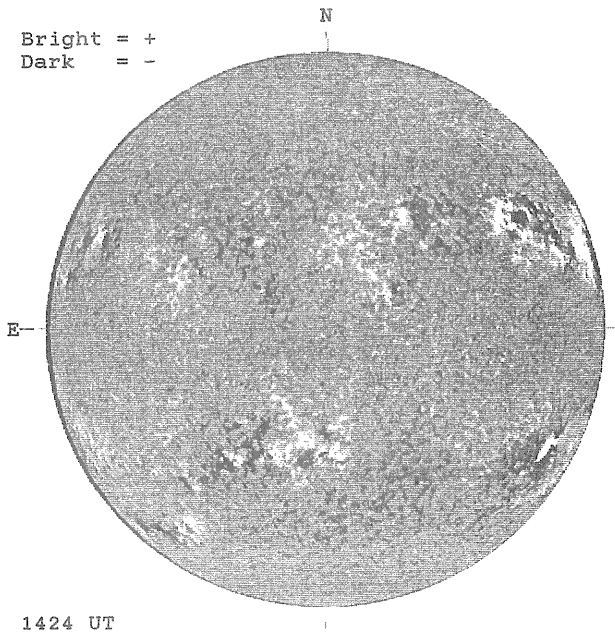
SACRAMENTO PEAK CORONA (1.15 Radii)



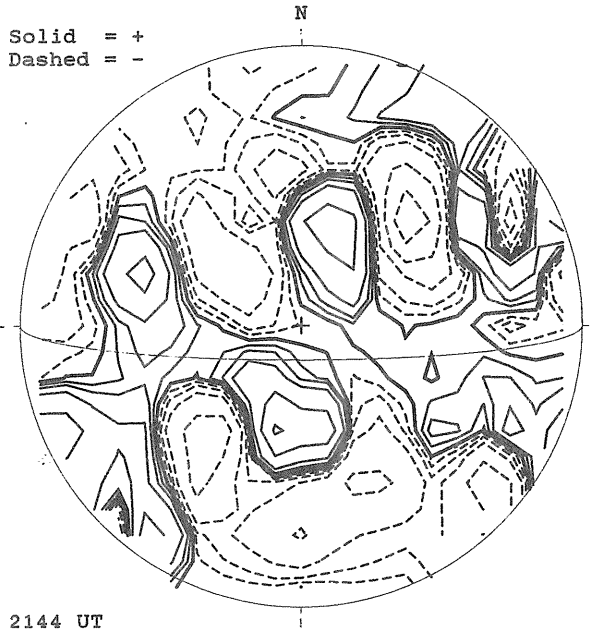
—— 5303A, 1920 UT
.... 6374A, 2007 UT
xxxx 5694A, 1956 UT

AUGUST 23, 1989 (P= 18.58, B_o = 6.96, L_o = 257.80)

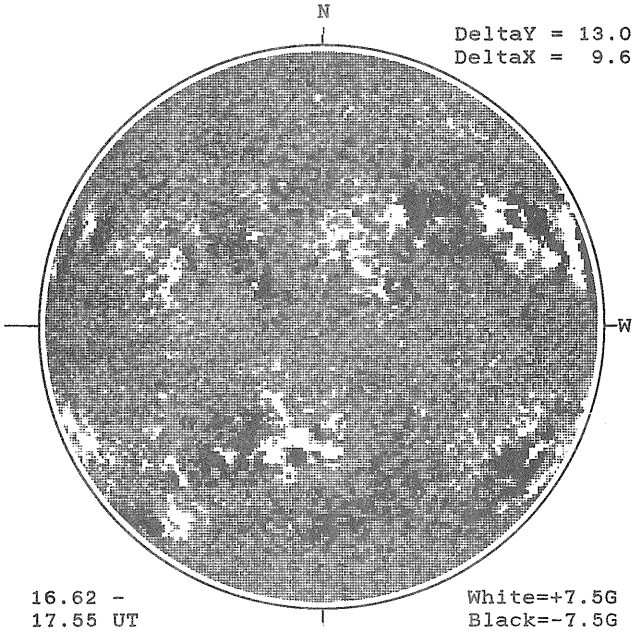
KITT PEAK MAGNETOGRAM



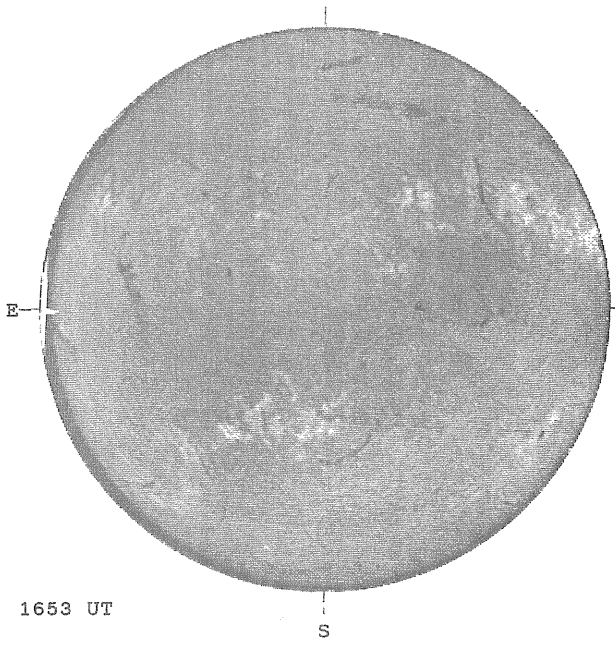
STANFORD MAGNETOGRAM



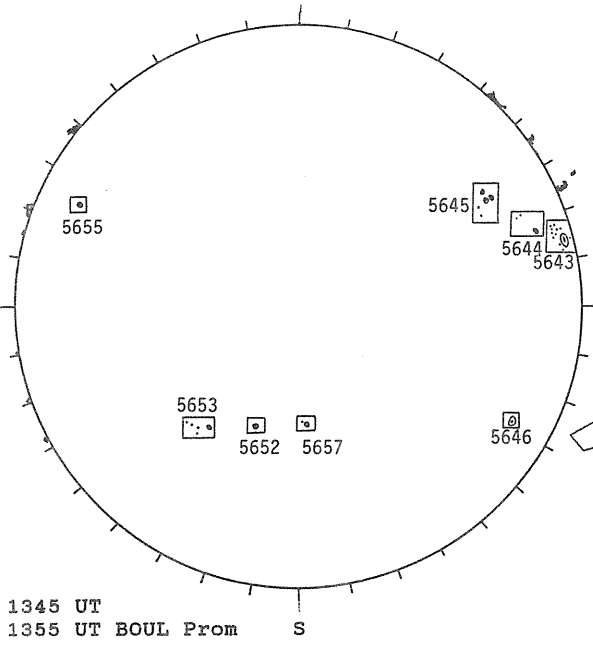
MT. WILSON MAGNETOGRAM



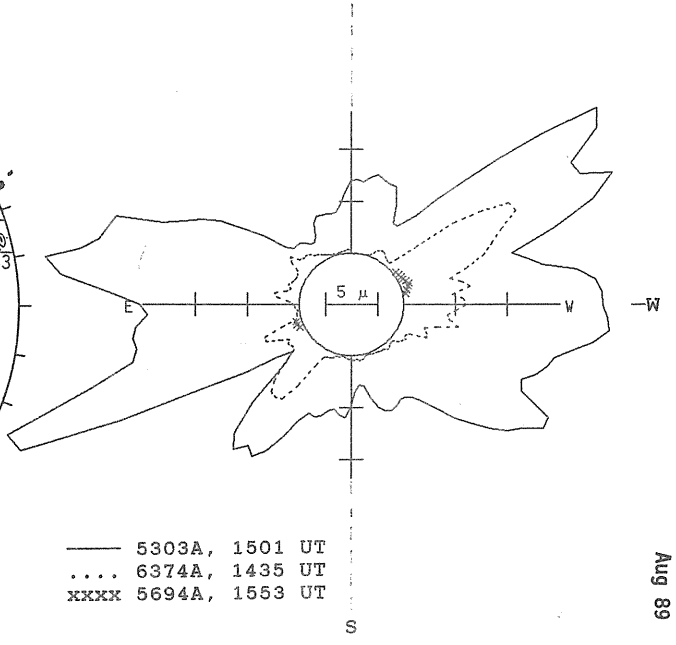
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

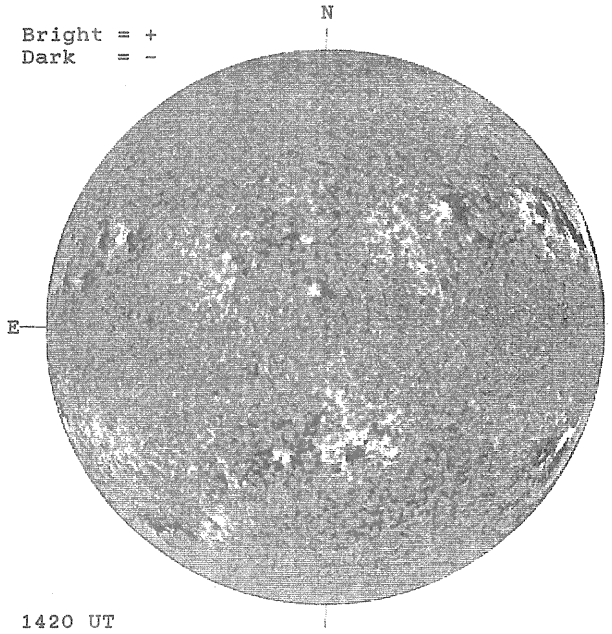


89 Aug 89

AUGUST 24, 1989 (P= 18.87, B_o = 6.99, L_o = 244.59)

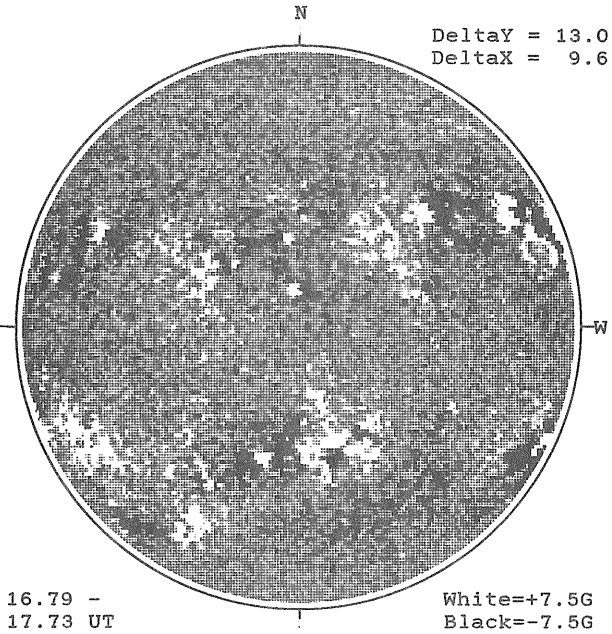
Aug 89

KITT PEAK MAGNETOGRAM

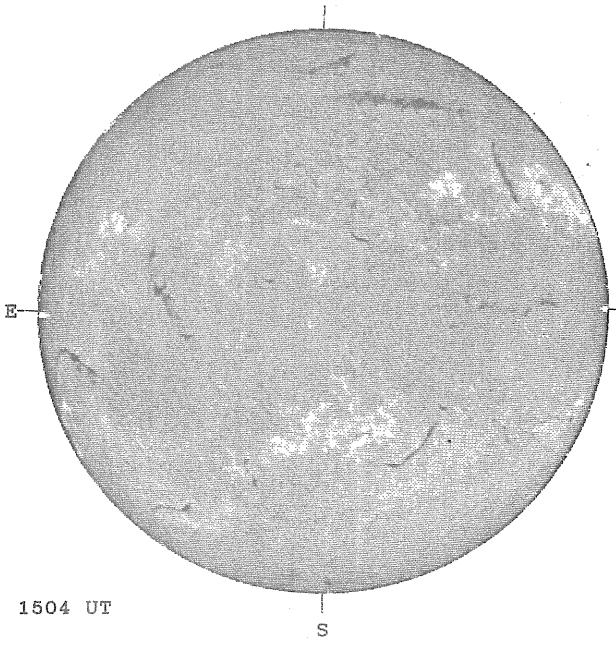


STANFORD MAGNETOGRAM

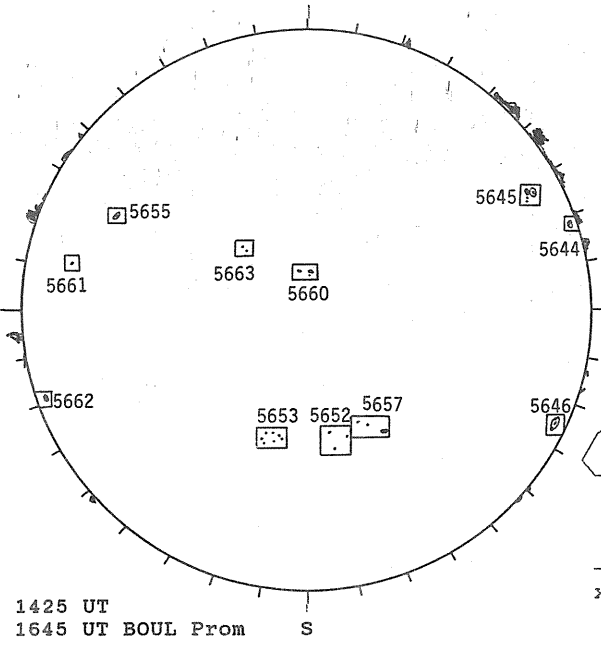
MT. WILSON MAGNETOGRAM



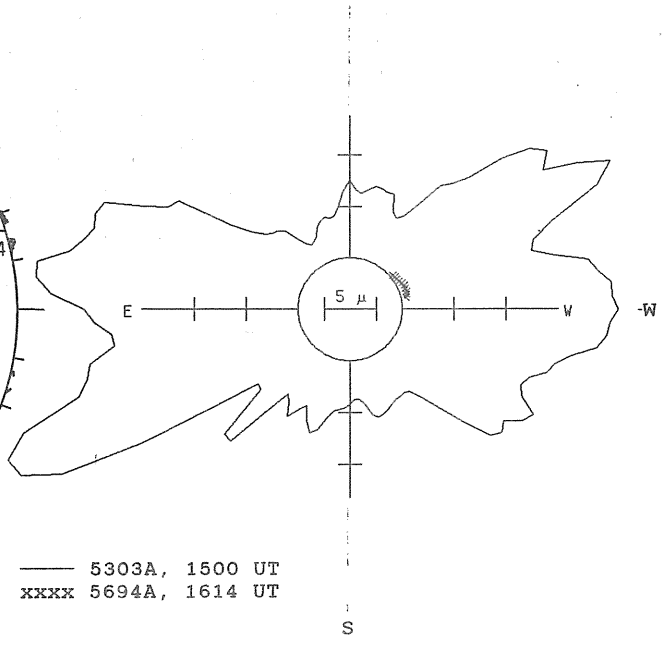
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



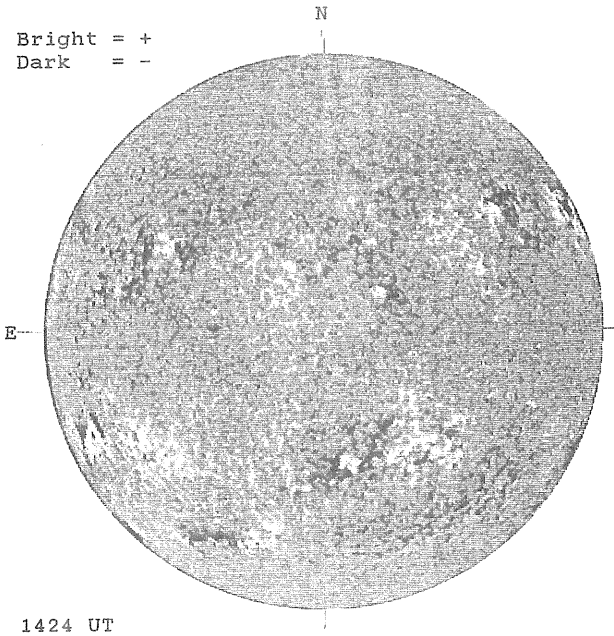
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 25, 1989 (P= 19.17, B_o = 7.02, L_o = 231.37)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



1424 UT

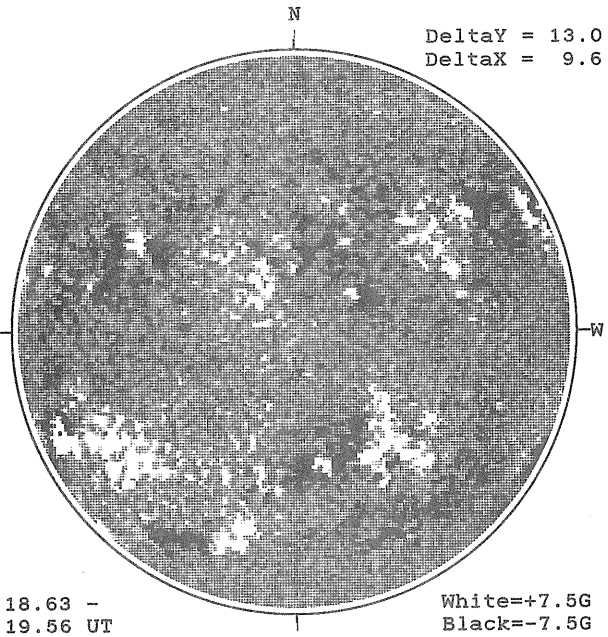
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2037 UT

MT. WILSON MAGNETOGRAM

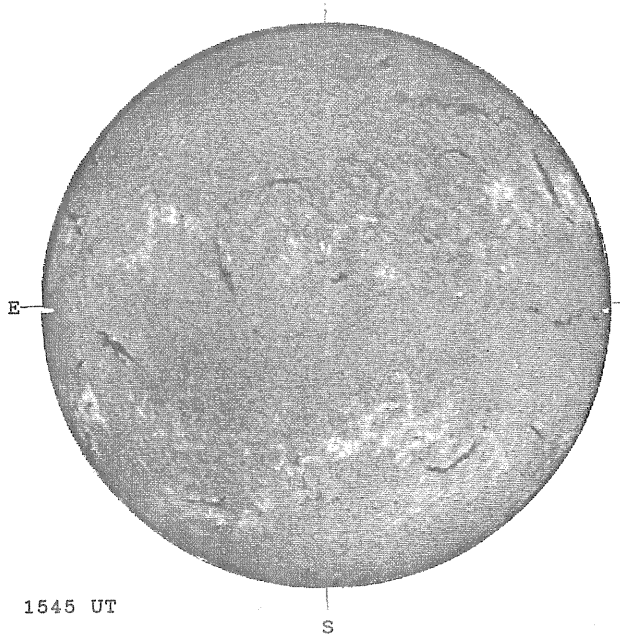
DeltaY = 13.0
DeltaX = 9.6



18.63 -
19.56 UT

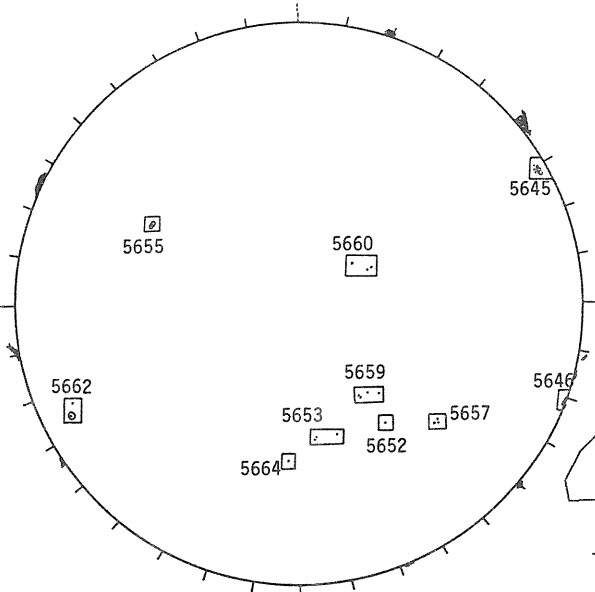
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



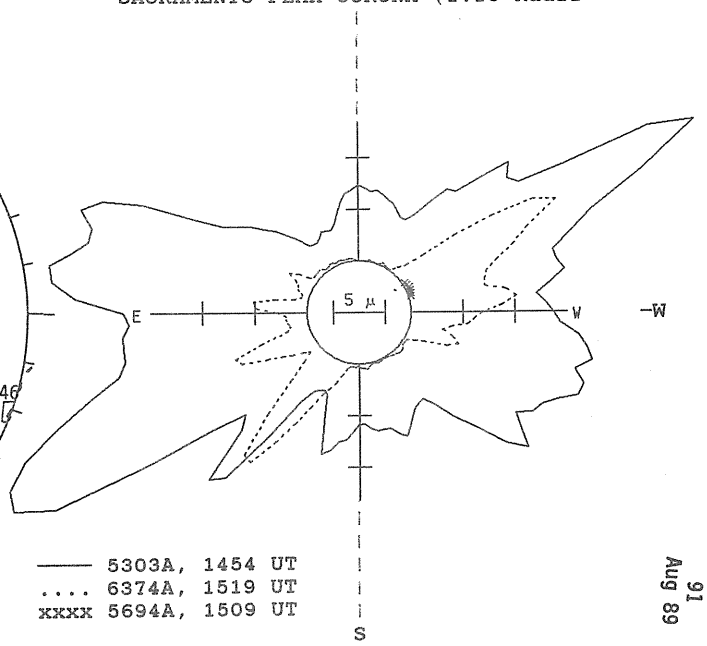
1545 UT

BOULDER SUNSPOT



1440 UT
1635 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1454 UT
.... 6374A, 1519 UT
xxxx 5694A, 1509 UT

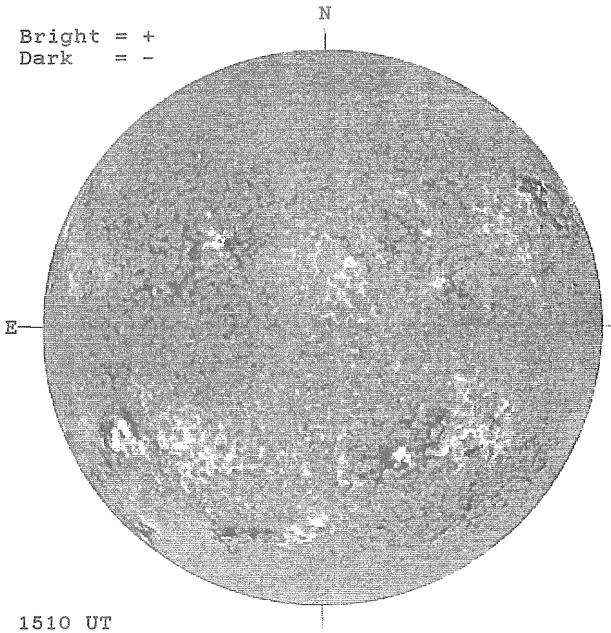
91
Aug 89

AUGUST 26, 1989 (P= 19.46, B_o = 7.05, L_o = 218.16)

Aug 89 92

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



1510 UT

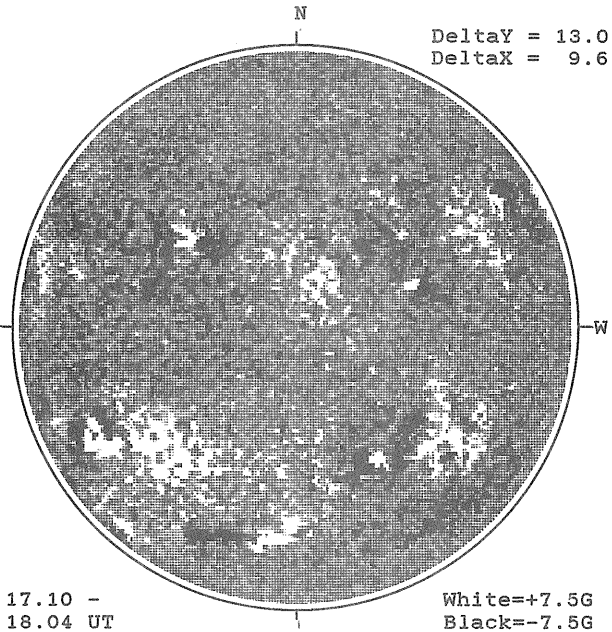
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2126 UT

MT. WILSON MAGNETOGRAM

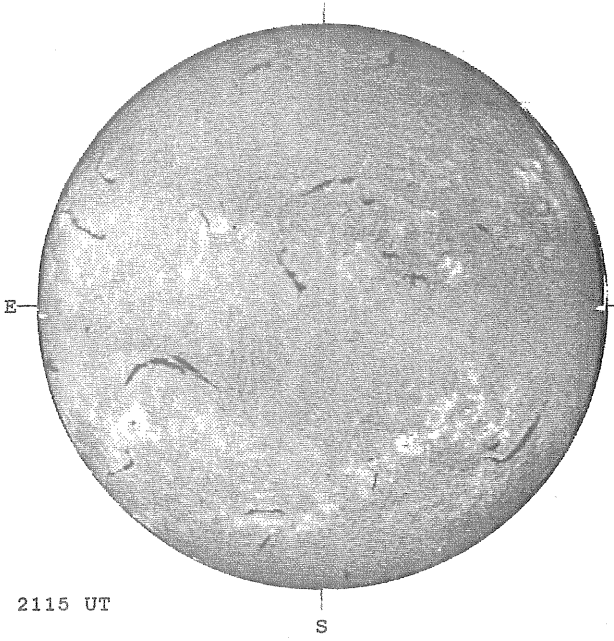
DeltaY = 13.0
DeltaX = 9.6



17.10 -
18.04 UT

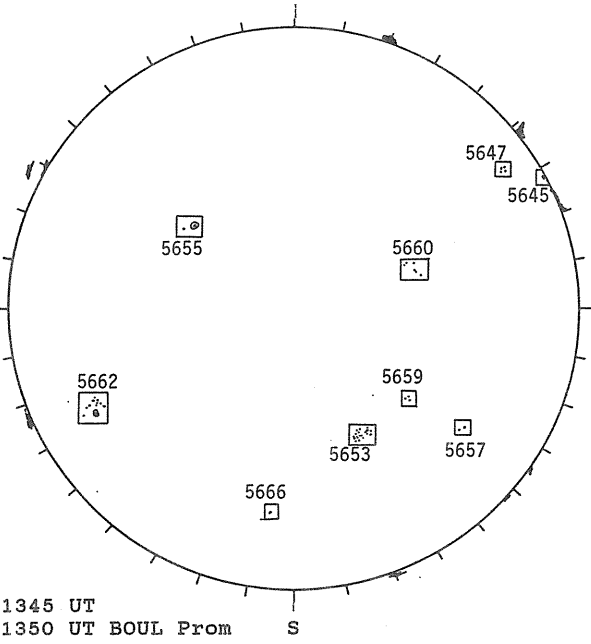
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



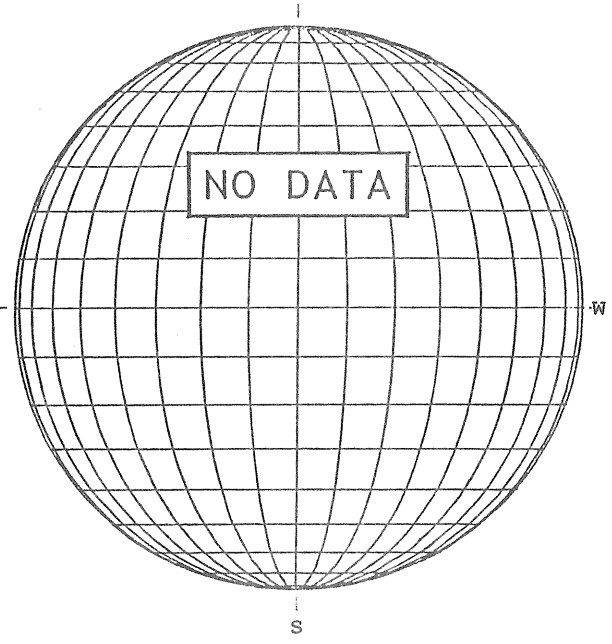
2115 UT

BOULDER SUNSPOT



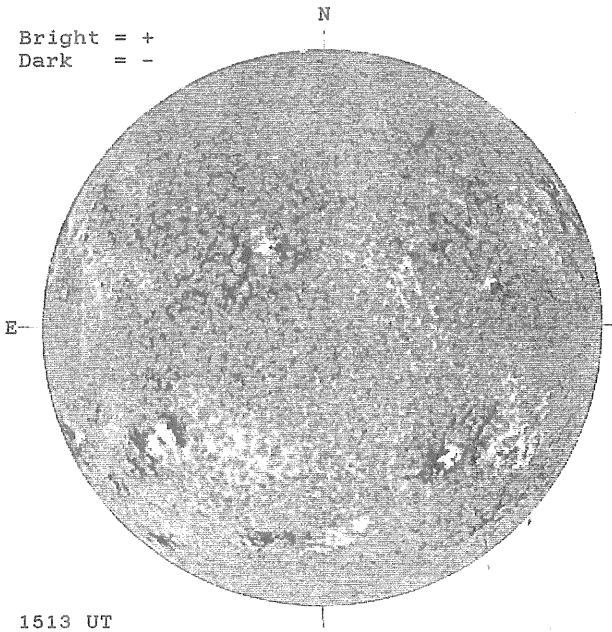
1345 UT
1350 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

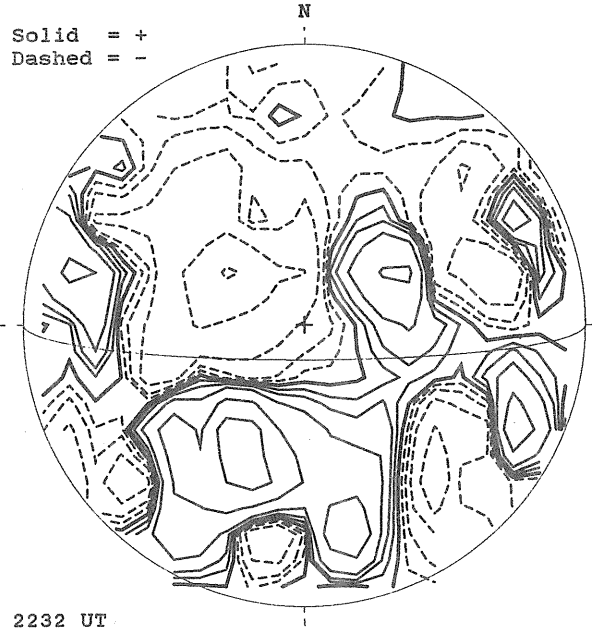


AUGUST 27, 1989 (P= 19.74, B_o = 7.08, L_o = 204.95)

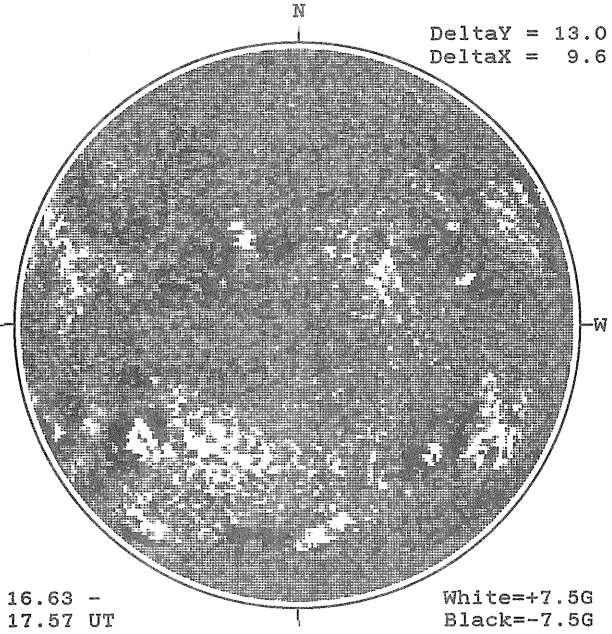
KITT PEAK MAGNETOGRAM



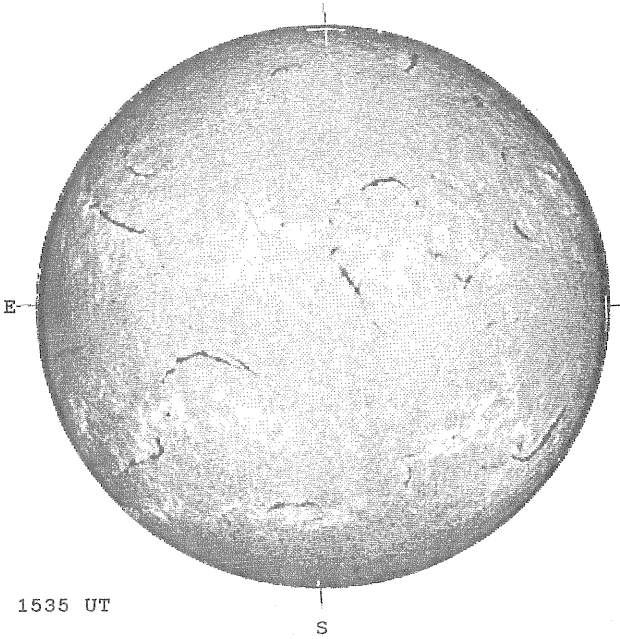
STANFORD MAGNETOGRAM



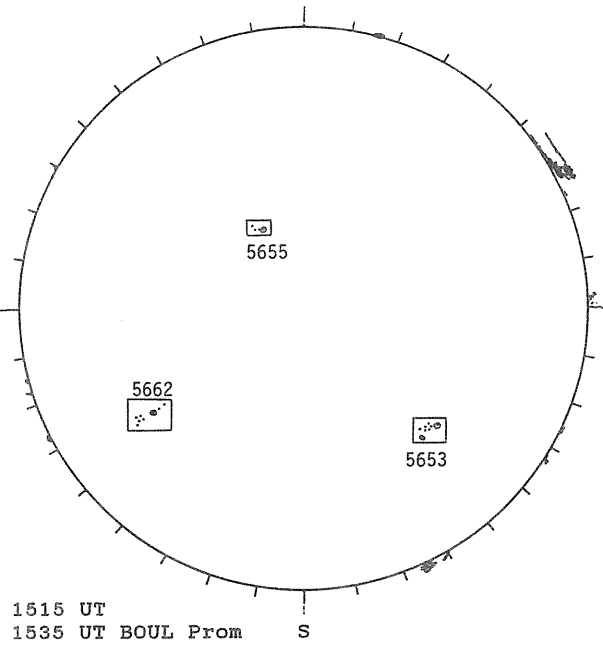
MT. WILSON MAGNETOGRAM



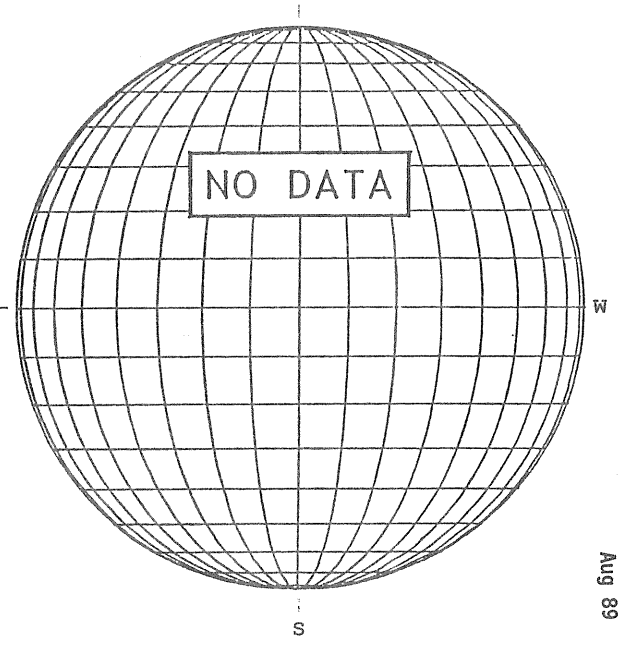
BOULDER H-ALPHA



BOULDER SUNSPOT



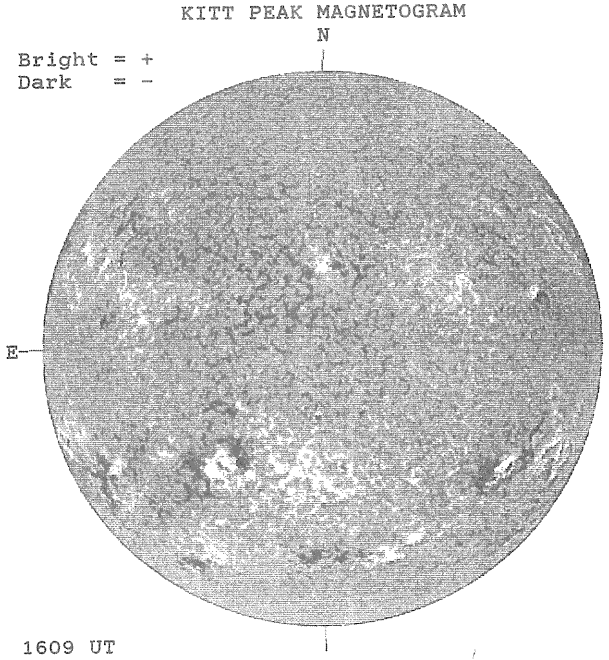
SACRAMENTO PEAK CORONA (1.15 Radii)



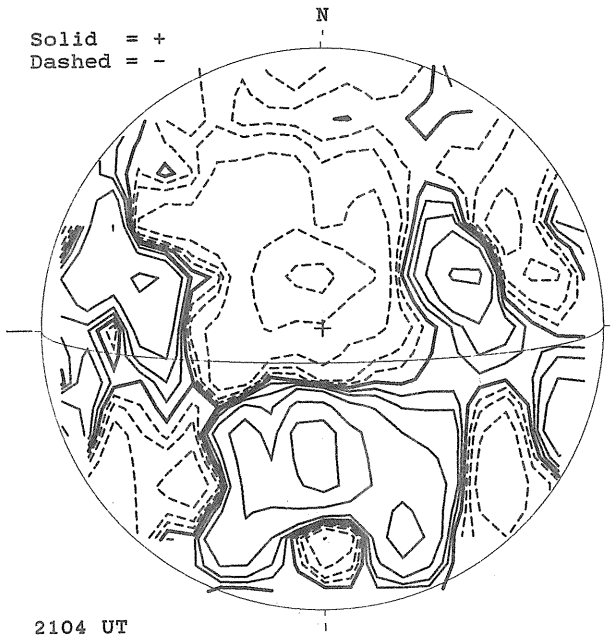
93
Aug 89

AUGUST 28, 1989 (P= 20.02, B_o = 7.10, L_o = 191.74)

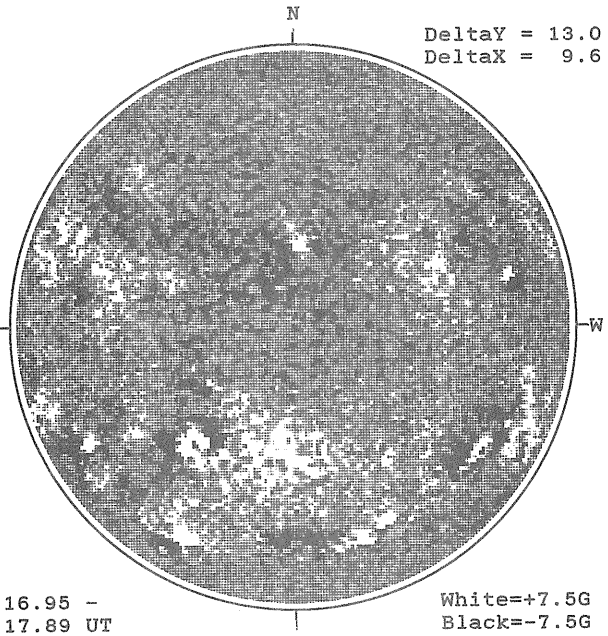
KITT PEAK MAGNETOGRAM



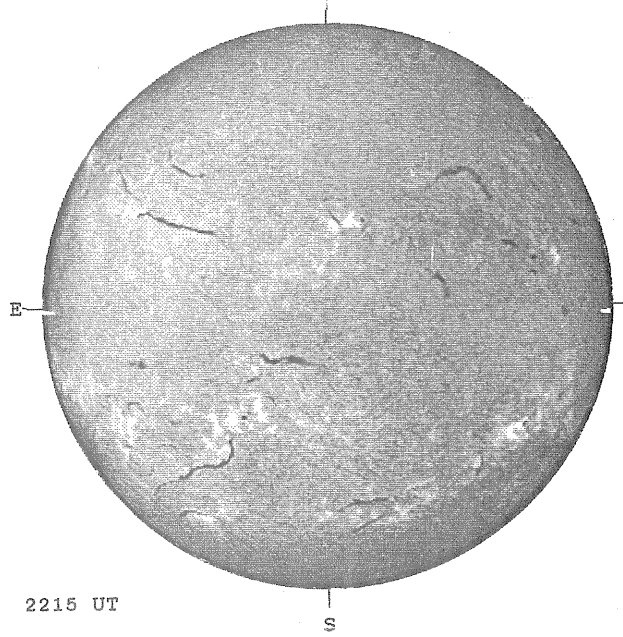
STANFORD MAGNETOGRAM



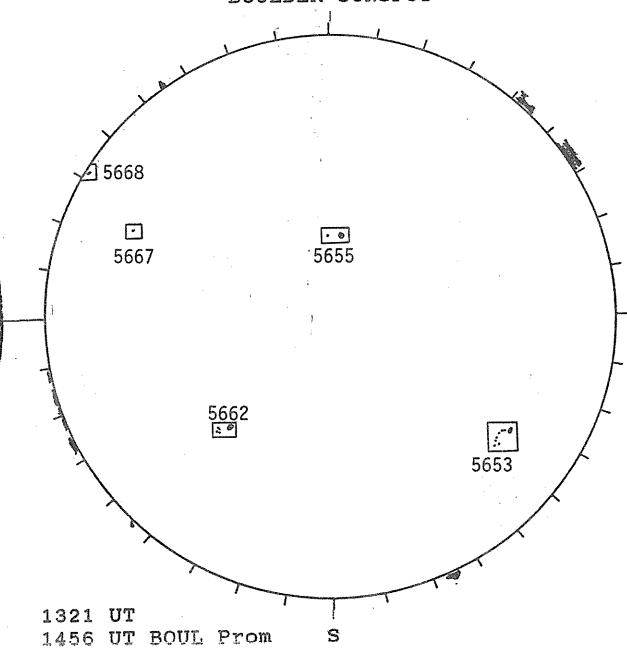
MT. WILSON MAGNETOGRAM



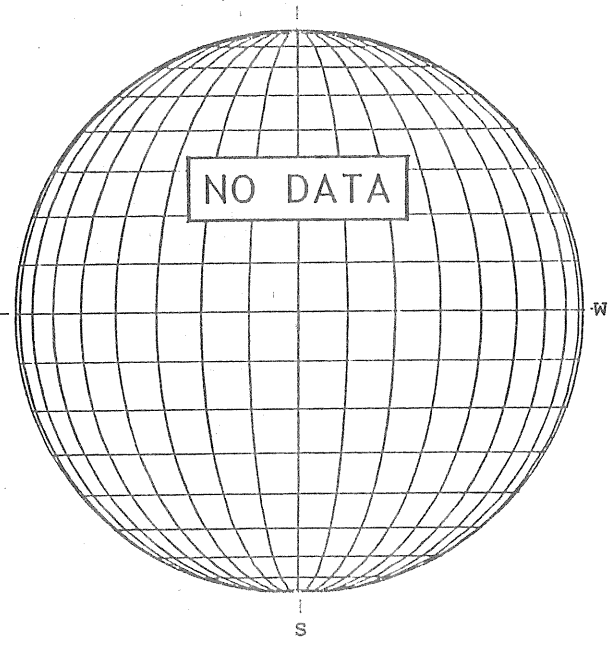
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



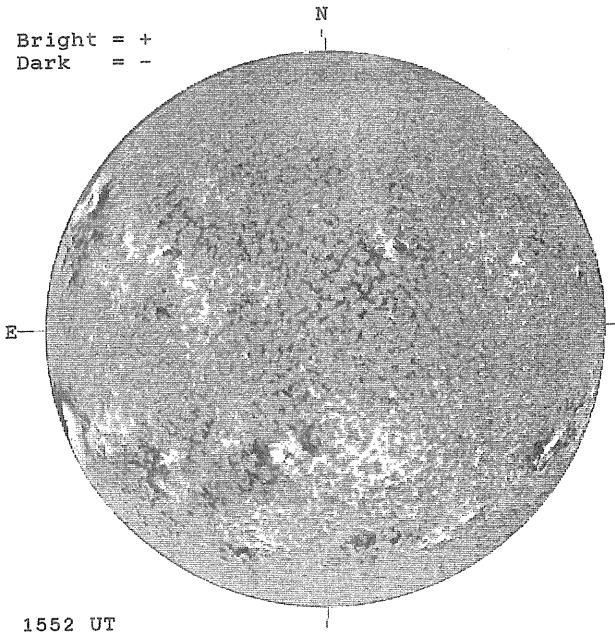
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 29, 1989 (P= 20.29, B_o = 7.12, L_o = 178.53)

KITT PEAK MAGNETOGRAM

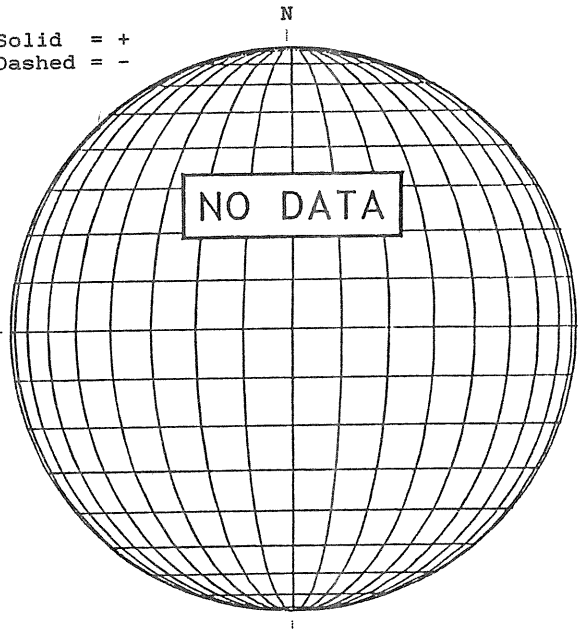
Bright = +
Dark = -



1552 UT

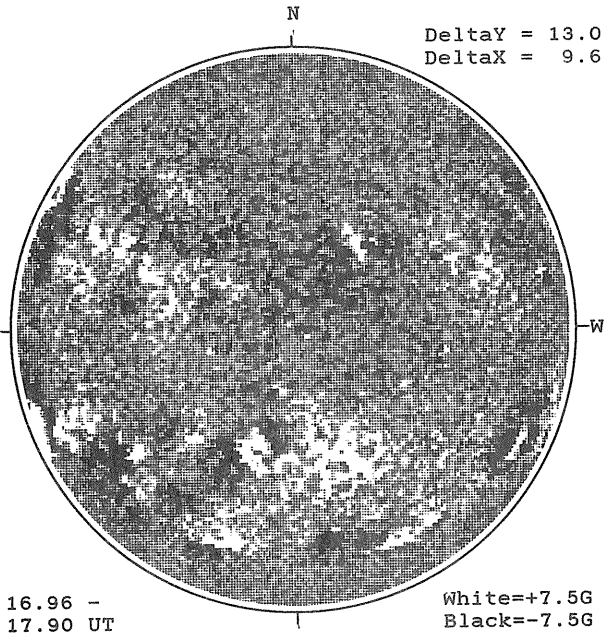
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

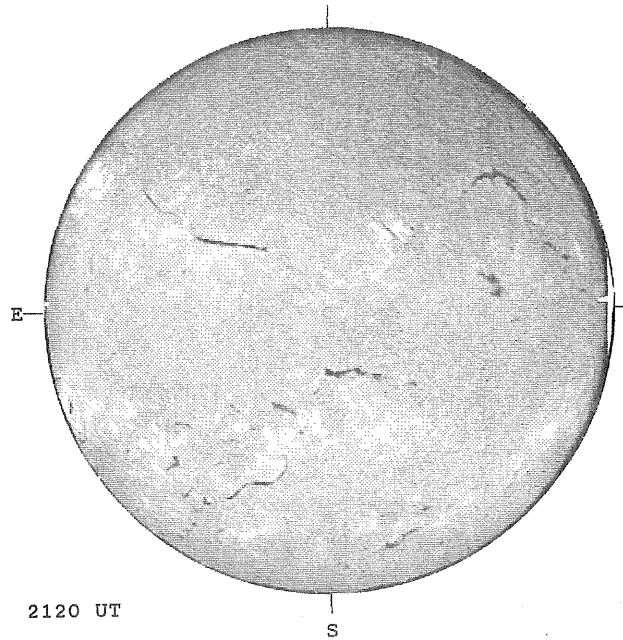
DeltaY = 13.0
DeltaX = 9.6



16.96 -
17.90 UT

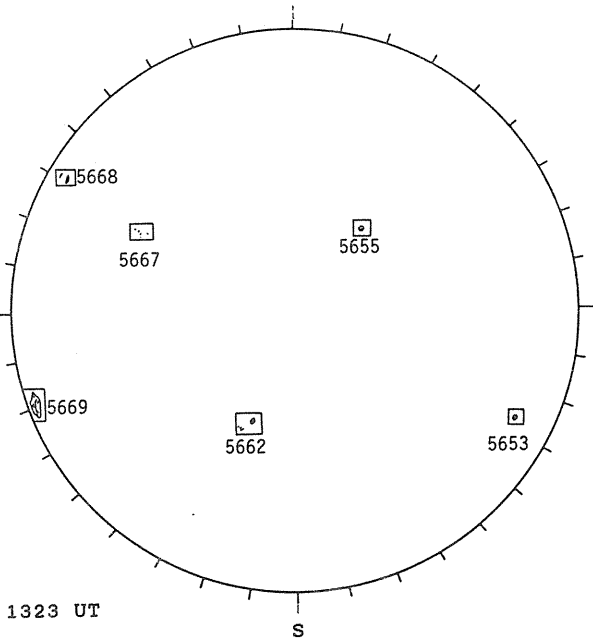
White=+7.5G
Black=-7.5G

HOLLOMAN H-ALPHA



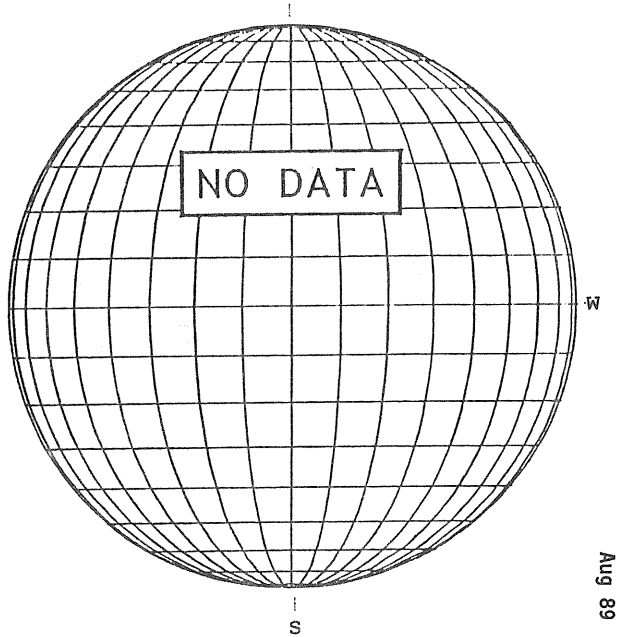
2120 UT

BOULDER SUNSPOT



1323 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

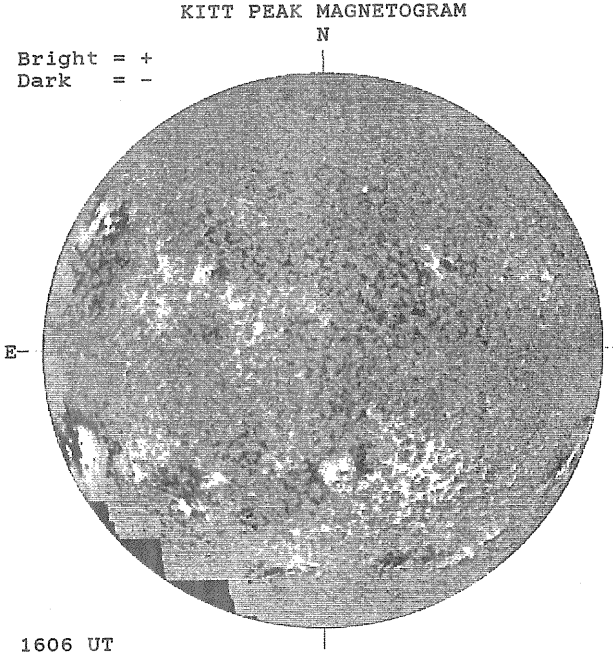


95
Aug 89

AUGUST 30, 1989 (P= 20.56, B_o = 7.14, L_o = 165.32)

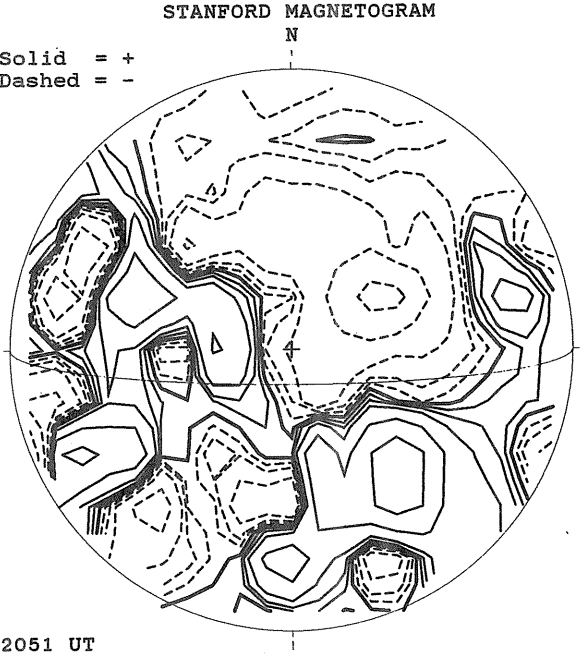
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



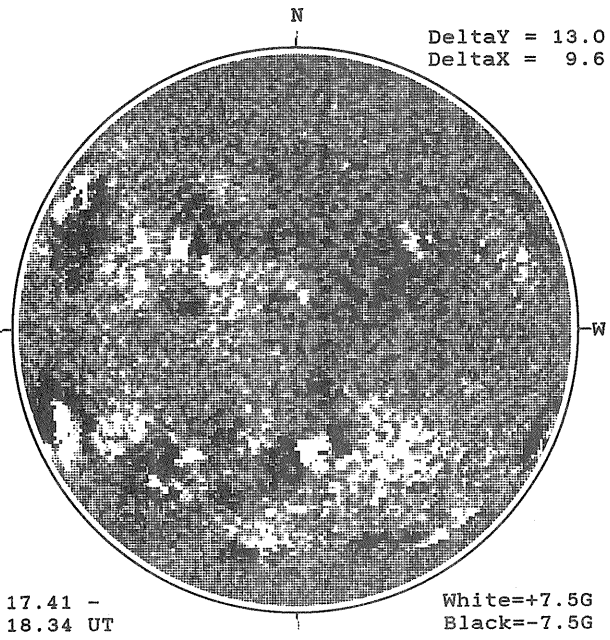
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

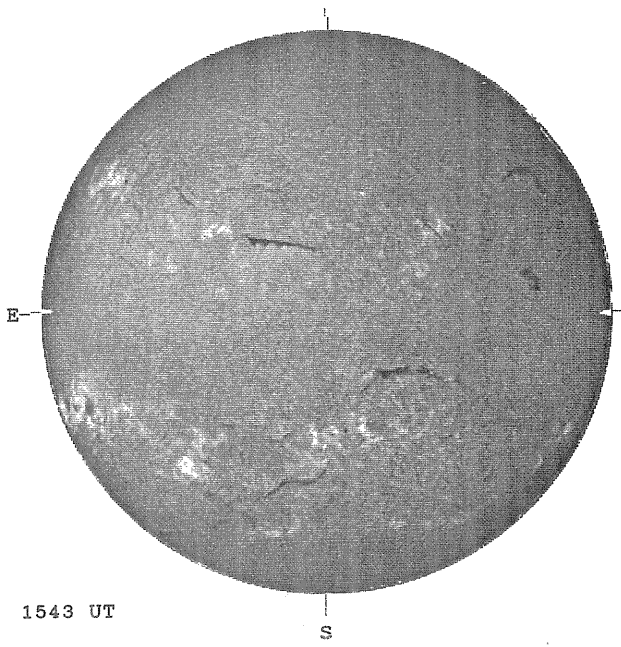


MT. WILSON MAGNETOGRAM

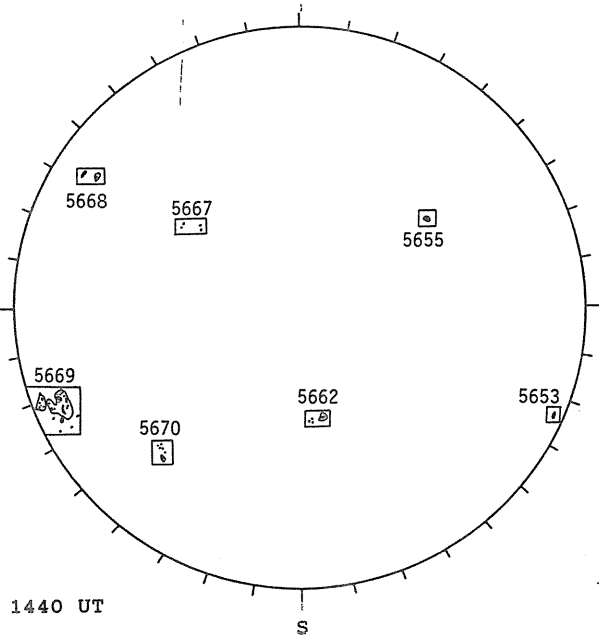
DeltaY = 13.0
DeltaX = 9.6



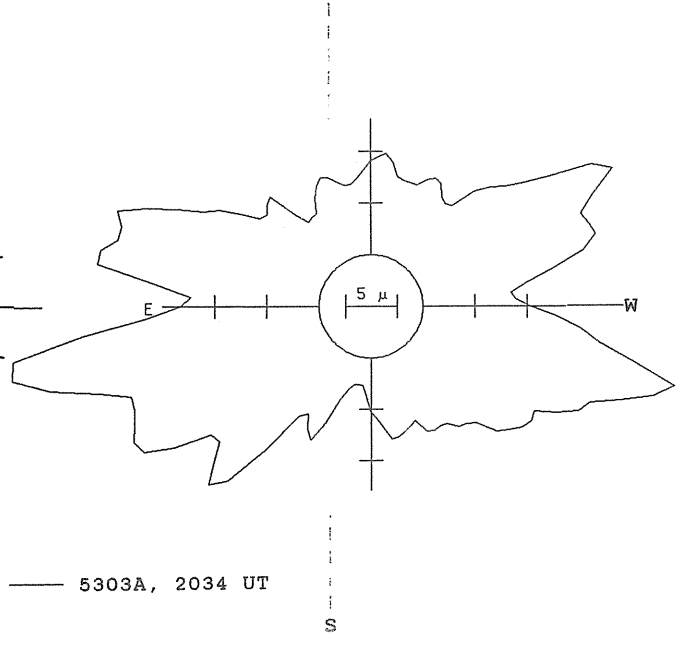
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



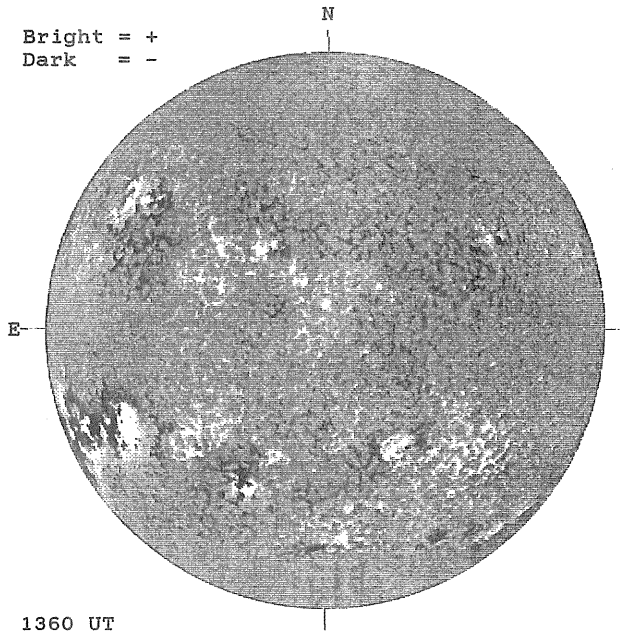
SACRAMENTO PEAK CORONA (1.15 Radii)



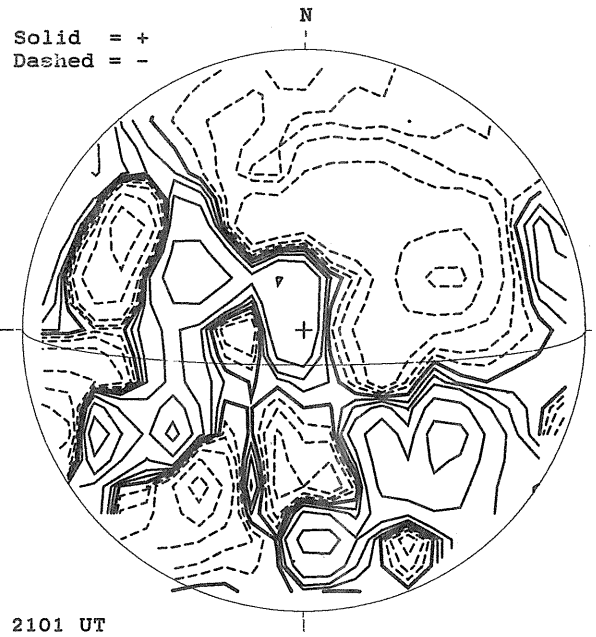
—— 5303A, 2034 UT

AUGUST 31, 1989 (P= 20.82, B_o = 7.16, L_o = 152.11)

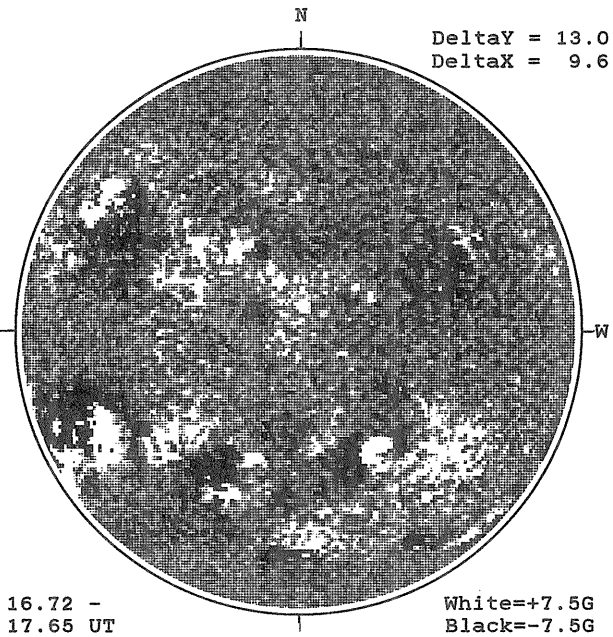
KITT PEAK MAGNETOGRAM



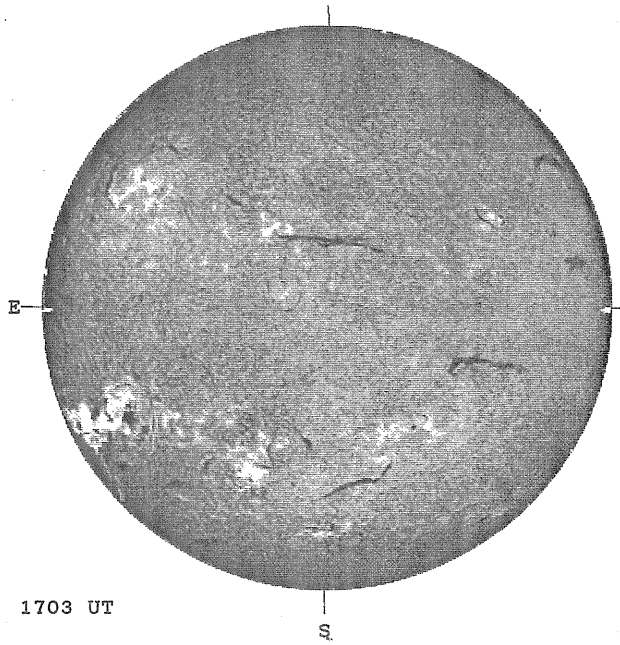
STANFORD MAGNETOGRAM



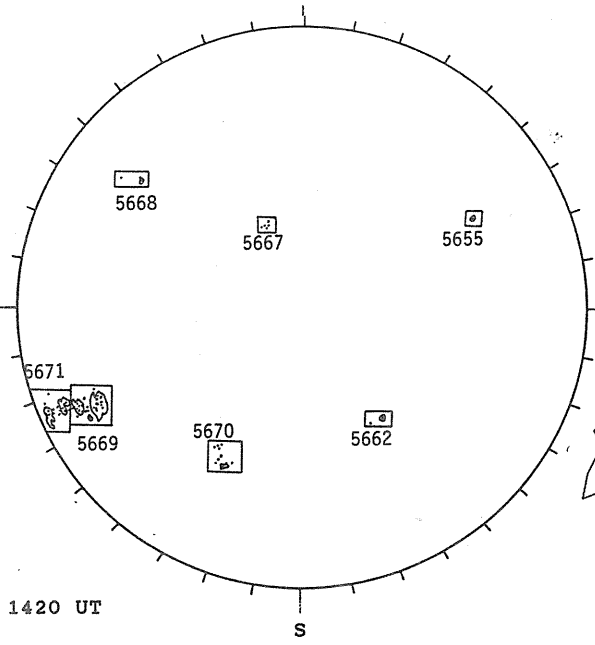
MT. WILSON MAGNETOGRAM



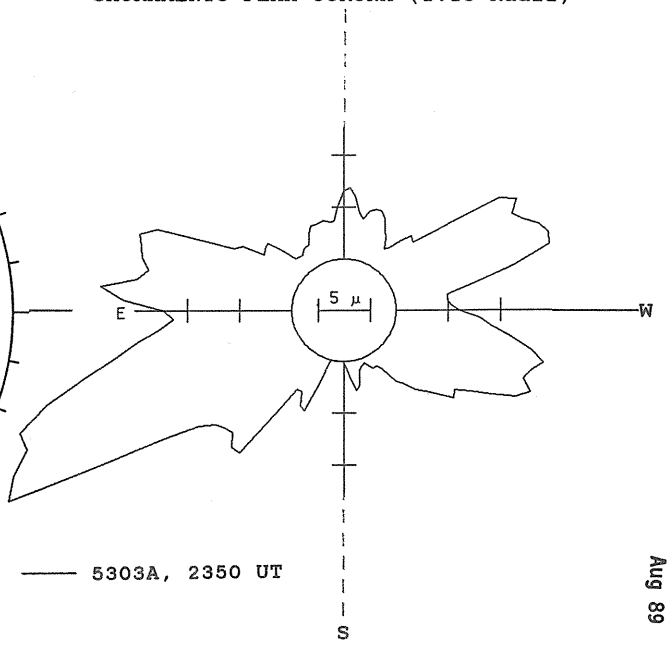
HOLLOMAN H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



97
Aug 89

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

AUGUST 1989

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
5631		LEAR	08	04	0045	N23	W38	08	1.1		A	AX	30	2	2	3
5631		CULG	08	04	0308	N24	W40	08	1.0		B	CSO	10	2	3	3
5631	25440	MWIL	08	04	1515	N23	W46	08	1.1	5	(BF)					
5631		HOLL	08	04	1815	N23	W49	08	1.0		B	DAO	80	15	5	3
5631		PALE	08	04	1905	N23	W51	07	31.9		B	DAO	90	9	4	2
5631		LEAR	08	05	0025	N23	W52	08	1.0		B	BXO	80	13	5	3
5631		CULG	08	05	0310	N22	W56	07	31.8		B	CAO	20	6	6	3
5631		BOUL	08	05	1340	N24	W59	08	1.0		B	BXO	10	9	6	3
5631		RAMY	08	05	1430	N21	W60	08	1.0		B	DAO	110	14	7	3
5631		PALE	08	05	1750	N22	W63	07	31.9		B	DAO	80	6	6	3
5631	25440	MWIL	08	05	1830	N23	W61	08	1.1	5	(BP)					
5631		HOLL	08	05	1850	N23	W65	07	31.8		B	CAO	70	9	9	2
5631		LEAR	08	06	0105	N23	W64	08	1.1		B	DAO	50	5	6	3
5631		CULG	08	06	0330	N20	W71	07	31.7		B	DSO	110	5	6	3
5631		RAMY	08	06	1240	N23	W78	07	31.5		B	CAO	100	7	10	3
5631		BOUL	08	06	1415	N22	W73	08	1.0		A	HS	60	2	3	3
5631	25440	MWIL	08	06	1445	N23	W79	07	31.5	4	BP					
5631		HOLL	08	06	1450	N24	W78	07	31.6		B	CSO	90	2	2	2
5631		PALE	08	06	1740	N22	W77	07	31.8		B	CAO	100	3	10	3
5631		CULG	08	07	0130	N21	W85	07	31.5		B	DSO	30	3	8	2
5631		LEAR	08	07	0145	N25	W80	07	31.9		B	CAO	40	3	4	3
5631		RAMY	08	07	1220	N24	W85	07	31.9		A	AX	10	1	2	4
5631	25440	MWIL	08	07	1500	N24	W85	08	1.0	2	AF					
5631D	25422	MWIL	07	31	1500	S17	E07	08	1.1	3	(AP)					
5631D	25422	MWIL	08	01	1530	S17	W06	08	1.2	4	(AP)					
5617B		PALE	07	31	1755	N18	E17	08	2.0		A	AX		2	2	3
5617B		HOLL	07	31	2030	N17	E15	08	2.0		A	AX	10	2	2	2
5617B	25427	MWIL	08	01	1530	N16	E03	08	1.9	3	(AP)					
5631A	25423	MWIL	07	31	1500	S16	E20	08	2.1	3	(AP)					
5631A	25423	MWIL	08	01	1530	S15	E06	08	2.1	3	(AF)					
5631A	25423	MWIL	08	02	1515	S16	W07	08	2.1	4	(AP)					
5631A		HOLL	08	02	1535	S16	W08	08	2.0		A	AX	10	2	2	3
5631A		PALE	08	02	1800	S17	W08	08	2.1		A	AX	10	3	2	3
5631A		RAMY	08	03	1404	S14	W24	08	1.8		A	AX	10	4	2	3
5631B	25424	MWIL	07	31	1500	S21	E24	08	2.5	4	(AP)					
5631E		BOUL	08	01	1450	S28	E11	08	2.5		B	BXO	20	4	3	3
5612		SVTO	07	27	0830	S18	E86	08	2.9		A	HK	150	1	4	2
5612		HOLL	07	27	1430	S18	E80	08	2.7		A	HK	2100	1	5	3
5612		BOUL	07	27	1435	S18	E80	08	2.7		A	HK	270	1	3	3
5612	25412	MWIL	07	27	1450	S18	E80	08	2.7	5	(AP					
5612		RAMY	07	27	1829	S17	E77	08	2.6		B	EKO	360	2	5	3
5612		PALE	07	27	1907	S17	E78	08	2.7		B	CKO	260	7	6	3
5612		CULG	07	28	0250	S16	E76	08	2.9		B	EKO	450	1	13	3
5612		LEAR	07	28	0400	S16	E71	08	2.5		B	DKO	450	2	8	3
5612		SVTO	07	28	1105	S21	E69	08	2.7		B	DKI	600	7	6	2
5612		BOUL	07	28	1400	S16	E65	08	2.5		B	DKI	360	8	9	3
5612	25412	MWIL	07	28	1440	S17	E69	08	2.8	6	(BP)					
5612		HOLL	07	28	1445	S17	E66	08	2.6		A	HK	520	4	4	3
5612		RAMY	07	28	1646	S19	E66	08	2.7		B	DKO	490	5	6	1
5612		PALE	07	28	1927	S18	E63	08	2.6		B	DKO	340	5	5	3
5612		CULG	07	29	0250	S15	E64	08	3.0		B	DKO	660	6	9	2
5612		LEAR	07	29	0345	S18	E61	08	2.8		B	DKI	550	12	7	1
5612		SVTO	07	29	1008	S17	E58	08	2.8		B	DHI	690	12	6	3
5612		BOUL	07	29	1330	S18	E54	08	2.7		B	DHI	460	9	8	3
5612		RAMY	07	29	1330	S18	E58	08	3.0		B	DKO	580	9	6	2
5612	25412	MWIL	07	29	1430	S18	E56	08	2.9	5	(AP)					
5612		PALE	07	29	1735	S18	E54	08	2.8		B	DHI	710	11	7	3
5612		HOLL	07	29	2030	S17	E53	08	2.9		B	DHO	520	16	10	2
5612		LEAR	07	30	0005	S18	E50	08	2.8		B	DHI	480	9	6	3
5612		SVTO	07	30	0810	S17	E45	08	2.7		B	DHI	660	23	8	2
5612		RAMY	07	30	1350	S18	E45	08	3.0		B	DHI	880	23	8	2
5612	25412	MWIL	07	30	1440	S18	E42	08	2.8	6	(BP)					
5612		HOLL	07	30	1825	S17	E40	08	2.8		B	CHI	630	24	8	3

S U N S P O T G R O U P S
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AUGUST 1989

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
5612		PALE	07 30 1905	S18 E42	08 3.0		B	DKI	770	18	7	3
5612		CULG	07 31 0310	S15 E37	08 2.9		B	DKI	560	20	6	2
5612		SVTO	07 31 0744	S17 E33	08 2.8		B	DHI	640	18	7	2
5612		RAMY	07 31 1250	S18 E29	08 2.7		B	EKI	620	33	11	3
5612		BOUL	07 31 1324	S17 E29	08 2.8		B	DKI	670	22	7	1
5612	25412	MWIL	07 31 1500	S17 E29	08 2.8	6	(BP)					
5612		PALE	07 31 1755	S19 E28	08 2.9		B	EHI	700	23	13	3
5612		HOLL	07 31 2030	S17 E26	08 2.8		B	DKI	740	46	9	2
5612		LEAR	08 01 0245	S18 E25	08 3.0		B	DKI	540	26	10	3
5612		CULG	08 01 0310	S16 E26	08 3.1		B	DKI	700	18	10	3
5612		RAMY	08 01 1315	S18 E16	08 2.8		B	EKI	800	43	15	4
5612		BOUL	08 01 1450	S17 E15	08 2.7		B	DKI	300	14	8	3
5612	25412	MWIL	08 01 1530	S17 E15	08 2.8	6	(BP)					
5612		PALE	08 01 1800	S17 E16	08 3.0		B	EHI	630	42	12	3
5612		HOLL	08 01 1835	S18 E17	08 3.1		B	EKO	640	30	12	2
5612		CULG	08 02 0325	S17 E13	08 3.1		B	EKI	520	34	12	3
5612		RAMY	08 02 1234	S18 E05	08 2.9		B	EKO	660	10	11	2
5612	25412	MWIL	08 02 1515	S17 E02	08 2.8	6	(BG)					
5612		HOLL	08 02 1535	S18 E04	08 2.9		B	EAI	560	36	12	3
5612		BOUL	08 02 1715	S18 E03	08 2.9		B	DKI	460	13	10	3
5612		PALE	08 02 1800	S17 E05	08 3.1		B	EHI	570	29	11	3
5612		LEAR	08 03 0103	S18 E00	08 3.0		B	EKI	510	26	12	4
5612		RAMY	08 03 1404	S18 W10	08 2.8		B	DKO	610	15	6	3
5612		BOUL	08 03 1410	S18 W12	08 2.7		A	HK	350	11	9	3
5612	25412	MWIL	08 03 1500	S17 W12	08 2.7	6	(BP)					
5612		HOLL	08 03 1510	S18 W10	08 2.9		B	CKI	520	27	7	3
5612		PALE	08 03 1725	S17 W11	08 2.9		B	DKI	630	17	8	3
5612		LEAR	08 04 0045	S18 W16	08 2.8		B	DKI	550	17	6	3
5612		CULG	08 04 0308	S17 W17	08 2.8		B	DKI	550	23	7	3
5612		BOUL	08 04 1515	S17 W23	08 2.9		B	DKO	490	10	6	1
5612	25412	MWIL	08 04 1515	S17 W24	08 2.8	6	(BP)					
5612		HOLL	08 04 1815	S18 W24	08 2.9		B	DKO	550	49	8	3
5612		PALE	08 04 1905	S18 W25	08 2.9		B	DKO	600	11	6	2
5612		LEAR	08 05 0025	S18 W27	08 3.0		B	DKO	480	16	8	3
5612		CULG	08 05 0310	S18 W30	08 2.8		B	DKI	500	14	6	3
5612		BOUL	08 05 1340	S16 W33	08 3.1		B	DKO	420	13	8	3
5612		RAMY	08 05 1430	S19 W35	08 2.9		B	DKO	500	18	8	3
5612		PALE	08 05 1750	S18 W37	08 2.9		B	DKO	490	8	8	3
5612	25412	MWIL	08 05 1830	S17 W38	08 2.9	6	(BP)					
5612		HOLL	08 05 1850	S17 W38	08 2.9		B	DKO	480	20	8	2
5612		LEAR	08 06 0105	S17 W40	08 3.0		BG	DKI	360	10	8	3
5612		CULG	08 06 0330	S21 W43	08 2.8		B	DKI	430	12	9	3
5612		RAMY	08 06 1240	S19 W49	08 2.8		B	DKO	420	9	5	3
5612		BOUL	08 06 1415	S17 W46	08 3.1		B	DKO	370	7	6	3
5612	25412	MWIL	08 06 1445	S18 W50	08 2.8	5	(AP)					
5612		HOLL	08 06 1450	S16 W50	08 2.8		B	DKO	420	9	6	2
5612		PALE	08 06 1740	S19 W50	08 2.9		B	DKO	400	8	5	3
5612		CULG	08 07 0130	S19 W56	08 2.8		B	DKO	410	6	6	2
5612		LEAR	08 07 0145	S17 W55	08 2.9		BG	DKI	380	5	5	3
5612		RAMY	08 07 1220	S18 W61	08 2.9		B	DKI	370	5	6	4
5612	25412	MWIL	08 07 1500	S17 W62	08 2.9	5	(AP)					
5612		HOLL	08 07 1730	S18 W65	08 2.8		B	DKO	340	5	10	2
5612		PALE	08 07 1920	S18 W66	08 2.8		B	DKO	540	9	10	3
5612		LEAR	08 08 0020	S17 W65	08 3.1		B	DKO	280	9	7	3
5612		CULG	08 08 0220	S19 W69	08 2.8		B	CKI	250	13	7	3
5612		RAMY	08 08 1240	S17 W72	08 3.0		B	DSI	320	7	6	4
5612		BOUL	08 08 1350	S18 W72	08 3.1		A	HA	120	3	4	3
5612	25412	MWIL	08 08 1430	S16 W76	08 2.8	5	(AP)					
5612		HOLL	08 08 1457	S18 W77	08 2.7		B	CAO	300	7	6	3
5612		PALE	08 08 2225	S20 W85	08 2.4		A	HK	60	1	6	3
5612		LEAR	08 09 0115	S17 W79	08 3.0		B	DAO	150	2	6	2
5614		BOUL	07 28 1400	N11 E72	08 3.0		A	AX	10	2	1	3
5614	25414	MWIL	07 28 1440	N11 E73	08 3.1	4	(AP)					
5614		HOLL	07 28 1445	N11 E74	08 3.2		A	AX		2		3
5614		LEAR	07 29 0345	N11 E65	08 3.0		A	AX	10	3	2	1
5614		BOUL	07 29 1330	N11 E58	08 2.9		B	BXO		3		3
5614		RAMY	07 29 1330	N12 E61	08 3.1		B	BXO	20	4	2	2
5614	25414	MWIL	07 29 1430	N11 E60	08 3.1	4	(AP)					

S U N S P O T G R O U P S
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AUGUST 1989

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
5614		PALE	07 29	1735	N12 E58	08 3.1		B	BXO	10	3	2	3
5614		HOLL	07 29	2030	N11 E57	08 3.1		A	AX	20	5	2	2
5614		LEAR	07 30	0005	N11 E54	08 3.1		A	AX	10	3	1	3
5614		SVTO	07 30	0810	N12 E50	08 3.1		A	AX	10	3	2	2
5614		RAMY	07 30	1350	N14 E50	08 3.3		B	BXO	180	5	7	2
5614	25414	MWIL	07 30	1440	N15 E53	08 3.6	4	(AF)					
5614		HOLL	07 30	1825	N15 E51	08 3.6		A	AX	10	2	2	3
5614		PALE	07 30	1905	N15 E51	08 3.6		A	AX		1	1	3
5614	25414	MWIL	07 31	1500	N13 E35	08 3.3	3	AP)					
5614		PALE	07 31	1755	N12 E32	08 3.1		A	AX		1		3
5614		RAMY	08 01	1315	N14 E17	08 2.8		B	BXO	10	3	3	4
5614	25414	MWIL	08 01	1530	N13 E19	08 3.1	4	(BP)					
5614		PALE	08 01	1800	N13 E15	08 2.9		B	BXO		3	3	3
5614		HOLL	08 01	1835	N11 E15	08 2.9		A	AX	10	2	2	2
5614	25414	MWIL	08 02	1515	N14 E07	08 3.2	4	(BP)					
5614		HOLL	08 02	1535	N11 E06	08 3.1		A	AX	10	3	2	3
5614		BOUL	08 02	1715	N12 E06	08 3.2		A	AX	10	1	1	3
5614		PALE	08 02	1800	N14 E08	08 3.3		B	BXO	10	6	7	3
5614		LEAR	08 03	0103	N12 E02	08 3.2		B	BXO	20	3	3	4
5614		RAMY	08 03	1404	N13 W07	08 3.0		A	AX	10	5	2	3
5614	25414	MWIL	08 03	1500	N13 W07	08 3.1	4	(AP)					
5614		HOLL	08 03	1510	N13 W08	08 3.0		B	BXO	10	2	3	3
5614		PALE	08 03	1725	N13 W09	08 3.0		B	BXO	10	2	3	3
5614	25414	MWIL	08 04	1515	N13 W21	08 3.0	4	(AP)					
5614		HOLL	08 04	1815	N13 W24	08 2.9		A	AX	10	2	1	3
5614		LEAR	08 05	0025	N13 W25	08 3.1		B	BXO	10	3	3	3
5614		CULG	08 05	0310	N13 W29	08 2.9		B	BXO	10	2	4	3
5614		BOUL	08 05	1340	N12 W33	08 3.1		B	BXO		2	3	3
5614		RAMY	08 05	1430	N10 W33	08 3.1		B	BXO	10	4	3	3
5614		PALE	08 05	1750	N11 W37	08 2.9		B	BXO	10	3	3	3
5614	25414	MWIL	08 05	1830	N11 W36	08 3.1	4	(AP)					
5614		HOLL	08 05	1850	N12 W36	08 3.1		B	BXO	20	6	3	2
5614		LEAR	08 06	0105	N11 W45	08 2.6		A	AX	10	1	1	3
5614		CULG	08 06	0330	N09 W48	08 2.5		A	AX		1		3
5614		RAMY	08 07	1220	N11 W58	08 3.1		A	AX	10	1	1	4
5614	25414	MWIL	08 07	1500	N12 W60	08 3.1	3	(AP)					
5614		PALE	08 07	1920	N10 W63	08 3.1		A	AX		1		3
5615	25415	MWIL	07 28	1440	S04 E76	08 3.3	2	AP					
5615		HOLL	07 28	1445	S05 E75	08 3.2		A	AX		2		3
5615		RAMY	07 28	1646	S08 E77	08 3.5		B	CRO	30	3	3	1
5615		CULG	07 29	0250	S02 E69	08 3.3		B	BXO	20	3	5	2
5615		LEAR	07 29	0345	S05 E67	08 3.2		B	CRO	30	3	4	1
5615		BOUL	07 29	1330	S05 E60	08 3.0		B	CAO	30	5	4	3
5615		RAMY	07 29	1330	S05 E64	08 3.3		B	DAO	70	3	6	2
5615	25415	MWIL	07 29	1430	S05 E61	08 3.2	5	(BP)					
5615		PALE	07 29	1735	S04 E58	08 3.1		B	DSO	80	4	6	3
5615		HOLL	07 29	2030	S05 E58	08 3.2		B	BXO	40	7	7	2
5615		LEAR	07 30	0005	S05 E56	08 3.2		B	CRO	40	5	7	3
5615		SVTO	07 30	0810	S04 E50	08 3.1		B	DAO	50	9	8	2
5615		RAMY	07 30	1350	S04 E48	08 3.2		B	DAI	110	12	8	2
5615	25415	MWIL	07 30	1440	S05 E49	08 3.3	5	(B)					
5615		HOLL	07 30	1825	S05 E45	08 3.1		B	CSO	120	11	7	3
5615		PALE	07 30	1905	S04 E46	08 3.2		B	DAO	120	5	8	3
5615		CULG	07 31	0310	S03 E42	08 3.3		B	DAO	50	9	7	2
5615		SVTO	07 31	0744	S05 E38	08 3.2		B	DSO	80	17	9	2
5615		RAMY	07 31	1250	S04 E36	08 3.2		B	CAO	80	14	9	3
5615		BOUL	07 31	1324	S04 E34	08 3.1		B	CAI	70	11	7	1
5615	25415	MWIL	07 31	1500	S04 E35	08 3.2	5	(B)					
5615		PALE	07 31	1755	S05 E34	08 3.3		B	CAO	80	11	9	3
5615		HOLL	07 31	2030	S04 E32	08 3.2		B	CAO	110	22	8	2
5615		LEAR	08 01	0245	S05 E29	08 3.3		B	CAO	50	12	9	3
5615		CULG	08 01	0310	S04 E28	08 3.2		B	CAO	60	7	8	3
5615		RAMY	08 01	1315	S05 E22	08 3.2		B	DAO	90	9	9	4
5615		BOUL	08 01	1450	S05 E20	08 3.1		B	CAO	60	7	8	3
5615	25415	MWIL	08 01	1530	S05 E22	08 3.3	5	(B)					
5615		PALE	08 01	1800	S05 E20	08 3.2		B	CAO	70	17	8	3
5615		HOLL	08 01	1835	S05 E20	08 3.3		B	CAO	60	12	9	2
5615		CULG	08 02	0325	S04 E15	08 3.3		B	CAO	30	8	9	3

S U N S P O T G R O U P S
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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
5615		RAMY	08	02	1234	S05	E09	08	3.2		B	CAO	40	6	7	2
5615	25415	MWIL	08	02	1515	S05	E08	08	3.2	5	(BF)					
5615		HOLL	08	02	1535	S05	E07	08	3.2		B	DAO	60	11	10	3
5615		BOUL	08	02	1715	S04	E07	08	3.2		B	CAO	30	5	7	3
5615		PALE	08	02	1800	S05	E07	08	3.3		B	CAO	60	8	9	3
5615		LEAR	08	03	0103	S06	E03	08	3.3		B	CSO	80	14	8	4
5615		RAMY	08	03	1404	S05	W05	08	3.2		B	CRO	30	9	10	3
5615		BOUL	08	03	1410	S05	W02	08	3.4		A	HA	20	2	2	3
5615	25415	MWIL	08	03	1500	S05	W04	08	3.3	4	(BF)					
5615		HOLL	08	03	1510	S05	W06	08	3.2		B	CAO	50	9	8	3
5615		PALE	08	03	1725	S05	W05	08	3.3		B	CAO	30	11	3	3
5615		LEAR	08	04	0045	S06	W08	08	3.4		B	CAO	40	5	3	3
5615		CULG	08	04	0308	S04	W09	08	3.4		A	AX	10	7	3	3
5615	25415	MWIL	08	04	1515	S05	W17	08	3.4	4	(BF)					
5615		BOUL	08	04	1515	S06	W15	08	3.5		A	HA	20	2	1	1
5615		HOLL	08	04	1815	S06	W21	08	3.2		B	BXO	30	12	8	3
5615		PALE	08	04	1905	S06	W18	08	3.4		B	BXO	10	3	4	2
5615		LEAR	08	05	0025	S05	W20	08	3.5		A	AX	20	2	1	3
5615		CULG	08	05	0310	S06	W22	08	3.5		A	AX	10	2	1	3
5615		RAMY	08	05	1430	S08	W32	08	3.2		B	BXO	10	3	6	3
5615		PALE	08	05	1750	S07	W33	08	3.3		B	BXO		3	7	3
5615	25415	MWIL	08	05	1830	S05	W35	08	3.1	4	(B)					
5615		HOLL	08	05	1850	S05	W34	08	3.2		B	BXO	10	6	8	2
5615		LEAR	08	06	0105	S05	W37	08	3.3		B	CAO	10	3	6	3
5615		CULG	08	06	0330	S08	W40	08	3.1		B	BXO		3	5	3
5615		RAMY	08	06	1240	S06	W45	08	3.1		B	BXO		2	7	3
5615	25415	MWIL	08	06	1445	S05	W47	08	3.1	2	AP					
5615A	25442	MWIL	08	06	1445	S18	W37	08	3.8	2	B					
5621	25418	MWIL	07	29	1430	S29	E69	08	4.0	2	AP					
5621		RAMY	07	30	1350	S28	E59	08	4.2		A	AX	20	1	1	2
5621	25418	MWIL	07	30	1440	S29	E58	08	4.1	4	(AF)					
5621		HOLL	07	30	1825	S28	E55	08	4.1		A	AX	10	2	2	3
5621		RAMY	07	31	1250	S29	E43	08	3.9		B	BXO	10	2	6	3
5621		BOUL	07	31	1324	S25	E40	08	3.6		B	BXO	20	5	3	1
5621	25418	MWIL	07	31	1500	S27	E42	08	3.9	4	(B)					
5621		PALE	07	31	1755	S25	E39	08	3.8		A	AX		1		3
5621		HOLL	07	31	2030	S25	E37	08	3.7		A	AX	20	3	1	2
5621		CULG	08	01	0310	S24	E36	08	3.9		A	AX		1		3
5621		RAMY	08	01	1315	S25	E29	08	3.8		B	BXO	30	5	5	4
5621	25418	MWIL	08	01	1530	S27	E28	08	3.8	4	(AP)					
5621		PALE	08	01	1800	S26	E27	08	3.8		B	BXO	10	6	5	3
5621		HOLL	08	01	1835	S26	E27	08	3.9		B	BXO	20	6	4	2
5621		CULG	08	02	0325	S27	E27	08	4.2		A	AX		1		3
5621		RAMY	08	02	1234	S25	E16	08	3.8		B	BXO	10	3	3	2
5621	25418	MWIL	08	02	1515	S27	E16	08	3.9	5	(BP)					
5621		HOLL	08	02	1535	S27	E15	08	3.8		A	AX	10	2	3	3
5621		BOUL	08	02	1715	S28	E15	08	3.9		B	BXO	10	2	3	3
5621		PALE	08	02	1800	S27	E15	08	3.9		B	BXO	10	3	4	3
5621		LEAR	08	03	0103	S27	E11	08	3.9		B	BXO	20	3	4	4
5621	25418	MWIL	08	03	1500	S27	E03	08	3.8	4	(BP)					
5621		HOLL	08	03	1510	S26	E04	08	3.9		B	BXO	10	5	5	3
5621		PALE	08	03	1725	S27	E02	08	3.9		B	BXO	10	5	4	3
5621		LEAR	08	04	0045	S24	W04	08	3.7		B	BXO	40	7	4	3
5621		CULG	08	04	0308	S24	W05	08	3.7		B	BXO	10	4	3	3
5621	25418	MWIL	08	04	1515	S25	W10	08	3.9	4	(BP)					
5621		BOUL	08	04	1515	S25	W12	08	3.7		B	DSO	30	4	3	1
5621		HOLL	08	04	1815	S25	W12	08	3.8		B	BXO	30	13	6	3
5621		PALE	08	04	1905	S25	W12	08	3.9		B	BXO	20	6	4	2
5621		LEAR	08	05	0025	S23	W15	08	3.9		B	BXO	40	5	4	3
5621		CULG	08	05	0310	S25	W16	08	3.9		B	BXO	10	5	3	3
5621		BOUL	08	05	1340	S22	W21	08	3.9		B	CRO	10	7	3	3
5621		RAMY	08	05	1430	S26	W22	08	3.9		B	DAO	50	4	3	3
5621		PALE	08	05	1750	S25	W23	08	4.0		B	CRO	30	4	3	3
5621	25418	MWIL	08	05	1830	S24	W24	08	3.9	5	(B)					
5621		HOLL	08	05	1850	S25	W29	08	3.5		B	BXO	30	9	11	2
5621		LEAR	08	06	0105	S23	W28	08	3.9		B	DSO	30	3	4	3
5621		CULG	08	06	0330	S25	W29	08	3.9		B	DAO	20	6	4	3

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5621		RAMY	08	06	1240	S24	W35	08	3.8		B	DRO	40	6	4	3
5621		BOUL	08	06	1415	S22	W32	08	4.1		B	BXO	10	3	10	3
5621	25418	MWIL	08	06	1445	S24	W36	08	3.8	4	(B)					
5621		HOLL	08	06	1450	S23	W36	08	3.8		B	BXO	20	3	4	2
5621		PALE	08	06	1740	S25	W37	08	3.9		B	BXO	10	4	5	3
5621		CULG	08	07	0130	S26	W42	08	3.8		B	BXO		3	6	2
5621		LEAR	08	07	0145	S24	W41	08	3.9		A	AX	20	3	4	3
5621		RAMY	08	07	1220	S25	W49	08	3.7		B	BXO	10	2	5	4
5621	25418	MWIL	08	07	1500	S24	W49	08	3.8	3	(B)					
5621		PALE	08	07	1920	S26	W54	08	3.6		A	AX		1		3
5621A	25431	MWIL	08	02	1515	N27	E22	08	4.3	4	(AP)					
5619		RAMY	07	29	1330	S12	E80	08	4.6		A	AX	30	2	1	2
5619	25420	MWIL	07	29	1430	S13	E72	08	4.0	3	(AP)					
5619		HOLL	07	29	2030	S12	E71	08	4.2		A	AX	10	2	1	2
5619		SVTO	07	30	0810	S13	E66	08	4.3		A	AX	10	2	1	2
5619		RAMY	07	30	1350	S12	E66	08	4.5		B	BXO	20	4	7	2
5619	25420	MWIL	07	30	1440	S13	E64	08	4.4	5	(B)					
5619		HOLL	07	30	1825	S12	E61	08	4.4		B	BXO	20	3	6	3
5619		PALE	07	30	1905	S12	E63	08	4.5		B	BXO	10	2	7	3
5619		CULG	07	31	0310	S09	E62	08	4.8		B	BXO		3	7	2
5619		SVTO	07	31	0744	S12	E55	08	4.5		B	CAO	20	3	7	2
5619		RAMY	07	31	1250	S11	E53	08	4.5		B	BXO	30	4	8	3
5619		BOUL	07	31	1324	S12	E49	08	4.2		A	AX	10	2	1	1
5619	25420	MWIL	07	31	1500	S11	E52	08	4.5	4	(B)					
5619		HOLL	07	31	2030	S13	E48	08	4.5		B	BXO	30	5	6	2
5619		LEAR	08	01	0245	S12	E43	08	4.3		B	BXO	20	3	1	3
5619		CULG	08	01	0310	S10	E47	08	4.7		B	BXO		3	7	3
5619		RAMY	08	01	1315	S11	E40	08	4.6		B	CRO	40	11	7	4
5619	25420	MWIL	08	01	1530	S13	E38	08	4.5	5	(B)					
5619		PALE	08	01	1800	S12	E37	08	4.5		B	BXO	10	8	7	3
5619		HOLL	08	01	1835	S14	E38	08	4.6		B	BXO	20	8	7	2
5619		CULG	08	02	0325	S12	E33	08	4.6		B	BXO	10	7	7	3
5619		RAMY	08	02	1234	S13	E27	08	4.6		B	BXO	20	5	6	2
5619	25420	MWIL	08	02	1515	S13	E27	08	4.7	4	(B)					
5619		HOLL	08	02	1535	S13	E24	08	4.5		B	BXO	10	5	6	3
5619		BOUL	08	02	1715	S13	E24	08	4.5		B	BXO	10	4	5	3
5619		PALE	08	02	1800	S13	E25	08	4.6		B	BXO	10	6	5	3
5619		LEAR	08	03	0103	S13	E21	08	4.6		B	BXO	20	4	4	4
5619	25420	MWIL	08	03	1500	S13	E14	08	4.7	4	(BP)					
5619		HOLL	08	03	1510	S13	E13	08	4.6		B	BXO	10	7	6	3
5619	25420	MWIL	08	04	1515	S13	E00	08	4.6	4	(B)					
5619		HOLL	08	04	1815	S13	W03	08	4.5		B	BXO	30	15	5	3
5619		PALE	08	04	1905	S13	W03	08	4.6		B	BXO	10	4	5	2
5619		LEAR	08	05	0025	S13	W06	08	4.6		B	BXO	30	6	5	3
5619		CULG	08	05	0310	S13	W07	08	4.6		B	BXO	10	5	5	3
5619		RAMY	08	05	1430	S14	W15	08	4.5		B	CAO	30	6	6	3
5619		PALE	08	05	1750	S13	W15	08	4.6		B	BXO	10	7	6	3
5619	25420	MWIL	08	05	1830	S13	W17	08	4.5	4	(B)					
5619		HOLL	08	05	1850	S13	W15	08	4.6		B	BXO	20	6	6	2
5619		CULG	08	06	0330	S14	W22	08	4.5		B	BXO		4	6	3
5619	25420	MWIL	08	06	1445	S12	W30	08	4.3	2	(AP)					
5628	25428	MWIL	08	01	1530	N12	E42	08	4.8	4	(AF)					
5628	25428	MWIL	08	02	1515	N10	E28	08	4.7	3	(B)					
5628		LEAR	08	03	0103	N09	E23	08	4.8		B	BXO	30	5	3	4
5628		RAMY	08	03	1404	N10	E15	08	4.7		B	CAO	20	9	4	3
5628		BOUL	08	03	1410	N09	E13	08	4.6		B	DRO	30	3	5	3
5628	25428	MWIL	08	03	1500	N10	E15	08	4.7	5	(BF)					
5628		HOLL	08	03	1510	N10	E14	08	4.7		B	DSO	30	7	5	3
5628		PALE	08	03	1725	N10	E12	08	4.6		B	DSO	60	9	5	3
5628		LEAR	08	04	0045	N10	E08	08	4.6		B	BXO	70	12	5	3
5628		CULG	08	04	0308	N11	E07	08	4.6		B	DAO	20	9	6	3
5628	25428	MWIL	08	04	1515	N10	E02	08	4.8	5	(B)					
5628		BOUL	08	04	1515	N11	E02	08	4.8		B	DAO	60	9	7	1
5628		HOLL	08	04	1815	N10	W02	08	4.6		B	DAO	90	13	7	3
5628		PALE	08	04	1905	N10	W02	08	4.6		B	DAO	70	10	6	2
5628		LEAR	08	05	0025	N10	W05	08	4.6		B	BXO	80	17	7	3

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5628		CULG	08 05 0310	N11 W07	08 4.6		B	DRO	20	10	7	3
5628		BOUL	08 05 1340	N11 W12	08 4.7		B	DRI	20	18	6	3
5628		RAMY	08 05 1430	N09 W12	08 4.7		B	DAI	90	20	7	3
5628		PALE	08 05 1750	N10 W14	08 4.7		B	CAO	30	13	8	3
5628	25428	MWIL	08 05 1830	N10 W15	08 4.6	5	(B)					
5628		HOLL	08 05 1850	N10 W14	08 4.7		B	DAO	80	30	8	2
5628		LEAR	08 06 0105	N09 W18	08 4.7		B	DAO	70	13	8	3
5628		CULG	08 06 0330	N09 W22	08 4.5		B	DAO	50	16	7	3
5628		RAMY	08 06 1240	N09 W26	08 4.6		B	DAO	110	16	8	3
5628		BOUL	08 06 1415	N09 W25	08 4.7		B	CSO	50	7	8	3
5628	25428	MWIL	08 06 1445	N09 W27	08 4.6	5	(B)					
5628		HOLL	08 06 1450	N10 W27	08 4.6		B	CSO	70	10	9	2
5628		PALE	08 06 1740	N09 W28	08 4.6		B	DSO	90	10	7	3
5628		CULG	08 07 0130	N09 W34	08 4.5		B	CAO	80	7	8	2
5628		RAMY	08 07 1220	N10 W40	08 4.5		B	CSO	130	5	12	4
5628	25428	MWIL	08 07 1500	N09 W42	08 4.5	5	(BP)					
5628		HOLL	08 07 1730	N10 W40	08 4.7		B	CSO	80	3	9	2
5628		PALE	08 07 1920	N08 W43	08 4.6		B	CAO	130	2	9	3
5628		LEAR	08 08 0020	N10 W45	08 4.6		B	DSO	100	3	10	3
5628		CULG	08 08 0220	N09 W47	08 4.6		B	CSO	40	4	9	3
5628		RAMY	08 08 1240	N10 W52	08 4.6		B	CAO	90	6	9	4
5628		BOUL	08 08 1350	N08 W55	08 4.4		A	HS	70	1	2	3
5628	25428	MWIL	08 08 1430	N09 W55	08 4.5	5	(BP)					
5628		HOLL	08 08 1457	N10 W55	08 4.5		B	CSO	70	5	9	3
5628		PALE	08 08 2225	N08 W62	08 4.3		A	HS	110	2	2	3
5628		LEAR	08 09 0115	N08 W64	08 4.2		A	HA	80	2	2	2
5628		RAMY	08 09 1240	N08 W69	08 4.3		A	HA	60	3	3	4
5628		BOUL	08 09 1320	N09 W68	08 4.4		A	AX		1	1	3
5628		HOLL	08 09 1430	N09 W73	08 4.1		A	HS	50	2	2	3
5628	25428	MWIL	08 09 1600	N08 W73	08 4.2	5	(BP)					
5628		PALE	08 09 1740	N08 W74	08 4.2		A	HS	60	1	2	4
5628		LEAR	08 10 0025	N08 W78	08 4.2		A	HR	10	1	1	3
5628		CULG	08 10 0250	N08 W81	08 4.0		A	AX		1		3
5620		RAMY	07 29 1330	N26 E80	08 4.8		A	HR	30	1	1	2
5620		BOUL	07 29 1330	N27 E78	08 4.6		A	AX		1	1	3
5620	25419	MWIL	07 29 1430	N26 E80	08 4.8	4	(AP)					
5620		PALE	07 29 1735	N27 E75	08 4.6		A	AX	10	1	1	3
5620		HOLL	07 29 2030	N25 E75	08 4.7		A	AX	10	1		2
5620		LEAR	07 30 0005	N25 E76	08 4.9		A	AX	10	1	1	3
5620		SVTO	07 30 0810	N26 E70	08 4.8		A	HR	30	2	2	2
5620		RAMY	07 30 1350	N27 E69	08 4.9		A	HR	30	1	1	2
5620	25419	MWIL	07 30 1440	N26 E66	08 4.7	4	(AP)					
5620		HOLL	07 30 1825	N26 E65	08 4.8		A	AX	10	3	1	3
5620		PALE	07 30 1905	N26 E66	08 4.9		A	HS	20	1	1	3
5620		CULG	07 31 0310	N29 E61	08 4.9		A	HR	10	1	1	2
5620		SVTO	07 31 0744	N27 E58	08 4.8		A	HR	20	1	1	2
5620		RAMY	07 31 1250	N27 E54	08 4.7		A	HR	30	3	1	3
5620		BOUL	07 31 1324	N27 E52	08 4.6		A	AX	10	1	1	1
5620	25419	MWIL	07 31 1500	N27 E53	08 4.7	4	(AP)					
5620		PALE	07 31 1755	N26 E53	08 4.9		A	HS	20	2	1	3
5620		HOLL	07 31 2030	N26 E51	08 4.8		A	AX	20	2	1	2
5620		LEAR	08 01 0245	N26 E47	08 4.8		A	AX	20	2	1	3
5620		CULG	08 01 0310	N29 E47	08 4.8		A	HR	10	1	1	3
5620		RAMY	08 01 1315	N27 E41	08 4.7		B	CSO	30	2	3	4
5620		BOUL	08 01 1450	N27 E38	08 4.6		A	AX	10	1	1	3
5620	25419	MWIL	08 01 1530	N26 E40	08 4.7	5	(AP)					
5620		PALE	08 01 1800	N27 E40	08 4.9		B	CSO	10	3	3	3
5620		HOLL	08 01 1835	N27 E35	08 4.5		B	CSO	20	3	5	2
5620		CULG	08 02 0325	N27 E33	08 4.7		A	HR	10	1	1	3
5620		RAMY	08 02 1234	N27 E27	08 4.6		B	BXO	20	2	5	2
5620	25419	MWIL	08 02 1515	N26 E27	08 4.7	5	(AP)					
5620		HOLL	08 02 1535	N27 E23	08 4.4		B	DXO	10	2	6	3
5620		BOUL	08 02 1715	N24 E25	08 4.6		A	AX	10	1	1	3
5620		PALE	08 02 1800	N26 E26	08 4.8		A	HS	10	1	1	3
5620		LEAR	08 03 0103	N24 E22	08 4.7		B	BXO	20	4	3	4
5620		RAMY	08 03 1404	N27 E19	08 5.1		B	BXO	20	9	11	3
5620	25419	MWIL	08 03 1500	N26 E19	08 5.1	5	(BF)					
5620		HOLL	08 03 1510	N26 E19	08 5.1		B	BXO	10	9	5	3

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

AUGUST 1989

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
5620		PALE	08	03	1725	N26	E18	08	5.1		B	BXO	10	4	3	3
5620		LEAR	08	04	0045	N26	E14	08	5.1		B	BXO	30	5	3	3
5620		CULG	08	04	0308	N28	E14	08	5.2		B	BXO	10	4	3	3
5620	25419	MWIL	08	04	1515	N26	E07	08	5.2	4	(B)					
5620		HOLL	08	04	1815	N27	E05	08	5.2		B	BXO	20	5	5	3
5620		PALE	08	04	1905	N26	E05	08	5.2		B	BXO	10	7	4	2
5620		CULG	08	05	0310	N27	E01	08	5.2		B	BXO	10	2	4	3
5620		RAMY	08	05	1430	N25	W07	08	5.1		B	BXO	10	4	9	3
5622	25421	MWIL	07	30	1440	S28	E73	08	5.3	2	X					
5622		HOLL	07	30	1825	S26	E70	08	5.2		B	BXO	20	4	8	3
5622		PALE	07	30	1905	S27	E74	08	5.6		B	BXO	20	3	3	3
5622		CULG	07	31	0310	S26	E71	08	5.6		B	BXO		3	5	2
5622		SVTO	07	31	0744	S26	E62	08	5.1		B	CRO	30	4	6	2
5622		RAMY	07	31	1250	S26	E61	08	5.3		B	CRO	60	5	6	3
5622		BOUL	07	31	1324	S26	E59	08	5.1		B	BXO	30	5	3	1
5622	25421	MWIL	07	31	1500	S27	E60	08	5.3	3	(BG)					
5622		PALE	07	31	1755	S27	E60	08	5.4		B	BXO	20	7	3	3
5622		HOLL	07	31	2030	S27	E57	08	5.3		B	BXO	60	10	5	2
5622		LEAR	08	01	0245	S27	E54	08	5.3		B	BXO	30	5	5	3
5622		CULG	08	01	0310	S27	E56	08	5.5		B	BXO	10	4	2	3
5622		RAMY	08	01	1315	S26	E48	08	5.3		B	CAO	60	10	5	4
5622		BOUL	08	01	1450	S27	E44	08	5.0		B	CAO	60	5	5	3
5622	25421	MWIL	08	01	1530	S26	E47	08	5.3	4	(B)					
5622		PALE	08	01	1800	S27	E46	08	5.3		B	CAO	30	11	4	3
5622		HOLL	08	01	1835	S28	E45	08	5.3		B	CAO	50	8	5	2
5622		CULG	08	02	0325	S26	E43	08	5.5		B	BXO	10	1	5	3
5622		RAMY	08	02	1234	S23	E36	08	5.3		B	BXO	20	7	4	2
5622	25421	MWIL	08	02	1515	S26	E33	08	5.2	4	(BG)					
5622		HOLL	08	02	1535	S28	E31	08	5.1		B	BXO	20	5	6	3
5622		BOUL	08	02	1715	S27	E31	08	5.1		B	BXO	10	5	4	3
5622		PALE	08	02	1800	S29	E32	08	5.2		B	CRO	20	2	3	3
5622		LEAR	08	03	0103	S27	E28	08	5.2		B	BXO	30	5	4	4
5622		BOUL	08	03	1410	S27	E18	08	5.0		B	BXO	10	4	3	3
5622	25421	MWIL	08	03	1500	S26	E19	08	5.1	4	(B)					
5622		HOLL	08	03	1510	S26	E21	08	5.3		B	BXO	20	12	6	3
5622		PALE	08	03	1725	S28	E21	08	5.4		B	BXO	40	17	7	3
5622		LEAR	08	04	0045	S27	E16	08	5.3		B	BXO	70	20	7	3
5622		CULG	08	04	0308	S27	E15	08	5.3		B	CAO	10	13	6	3
5622		BOUL	08	04	1515	S26	E08	08	5.2		B	DAO	90	13	6	1
5622	25421	MWIL	08	04	1515	S27	E07	08	5.2	5	(B)					
5622		HOLL	08	04	1815	S27	E06	08	5.2		B	BXO	60	26	7	3
5622		PALE	08	04	1905	S27	E07	08	5.3		B	BXO	20	9	5	2
5622		LEAR	08	05	0025	S27	E02	08	5.2		B	DAO	100	15	3	3
5622		CULG	08	05	0310	S27	E01	08	5.2		B	CRO	20	13	4	3
5622		BOUL	08	05	1340	S25	W05	08	5.2		B	BXO	10	16	5	3
5622		RAMY	08	05	1430	S27	W05	08	5.2		B	DAO	160	17	8	3
5622		PALE	08	05	1750	S28	W07	08	5.2		B	DAI	60	12	6	3
5622	25421	MWIL	08	05	1830	S26	W08	08	5.1	5	(D)					
5622		HOLL	08	05	1850	S27	W08	08	5.2		B	BXO	90	43	7	2
5622		LEAR	08	06	0105	S27	W12	08	5.1		B	DAO	110	20	6	3
5622		CULG	08	06	0330	S27	W12	08	5.2		B	DAI	90	12	5	3
5622		RAMY	08	06	1240	S28	W19	08	5.0		B	DAO	230	14	7	3
5622		BOUL	08	06	1415	S26	W17	08	5.3		B	DSO	80	6	7	3
5622	25421	MWIL	08	06	1445	S26	W14	08	5.5	5	(BG)					
5622		HOLL	08	06	1450	S26	W20	08	5.1		B	DSO	220	17	9	2
5622		PALE	08	06	1740	S28	W20	08	5.2		B	DAO	180	21	8	3
5622		CULG	08	07	0130	S27	W25	08	5.1		B	DAO	220	14	9	2
5622		LEAR	08	07	0145	S27	W25	08	5.1		B	DAO	210	17	8	3
5622		RAMY	08	07	1220	S28	W32	08	5.0		B	DKI	300	15	8	4
5622	25421	MWIL	08	07	1500	S26	W33	08	5.1	5	(D)					
5622		HOLL	08	07	1730	S26	W35	08	5.0		B	DKO	240	15	9	2
5622		PALE	08	07	1920	S26	W35	08	5.1		B	DKO	280	15	10	3
5622		LEAR	08	08	0020	S23	W34	08	5.4		BD	DKO	280	17	8	3
5622		CULG	08	08	0220	S27	W39	08	5.0		B	DKO	270	12	7	3
5622		RAMY	08	08	1240	S26	W44	08	5.1		B	DKI	330	16	9	4
5622		BOUL	08	08	1350	S27	W45	08	5.1		B	CAO	100	5	7	3
5622	25421	MWIL	08	08	1430	S26	W45	08	5.1	5	(D)					
5622		HOLL	08	08	1457	S26	W46	08	5.0		BD	DAI	260	10	8	3

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

AUGUST 1989

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
5622		PALE	08 08	2225	S27 W48	08 5.2		B	CKO	380	6	9	3
5622		LEAR	08 09	0115	S26 W50	08 5.2		B	DKO	50	10	7	2
5622		RAMY	08 09	1240	S25 W56	08 5.2		B	CKO	190	6	8	4
5622		BOUL	08 09	1320	S27 W62	08 4.7		B	CAO	100	2	4	3
5622		HOLL	08 09	1430	S26 W60	08 4.9		BD	CHO	210	9	8	3
5622	25421	MWIL	08 09	1600	S26 W61	08 4.9	5	(D)					
5622		PALE	08 09	1740	S27 W61	08 5.0		B	CKO	210	7	8	4
5622		LEAR	08 10	0025	S26 W66	08 4.9		B	CKO	450	4	8	3
5622		CULG	08 10	0250	S29 W71	08 4.5		A	HA	120	5	2	3
5622		BOUL	08 10	1330	S27 W71	08 5.0		B	CSO	120	4	4	3
5622		RAMY	08 10	1448	S25 W72	08 5.0		A	HK	180	3	3	4
5622		HOLL	08 10	1500	S25 W75	08 4.8		BD	DKO	30	2	10	2
5622	25421	MWIL	08 10	1500	S26 W76	08 4.7	4	D					
5622		PALE	08 10	1715	S27 W77	08 4.7		B	CAO	100	4	5	4
5622		LEAR	08 11	0030	S26 W78	08 5.0		A	HH	180	2	3	4
5622		CULG	08 11	0220	S28 W88	08 4.2		A	HA	150	3	3	1
5622A	25437	MWIL	08 03	1500	N10 E27	08 5.6	4	(AP)					
5622A	25437	MWIL	08 04	1515	N11 E17	08 5.9	4	(AP)					
5622A		CULG	08 05	0310	N11 E07	08 5.6		B	BXO	10	3	7	3
5622B	25432	MWIL	08 02	1515	N25 E39	08 5.6	4	(AF)					
5638		PALE	08 02	1800	S21 E38	08 5.7		A	AX		2	2	3
5638		CULG	08 08	0220	S21 W31	08 5.7		A	AX		1		3
5638		RAMY	08 08	1240	S20 W37	08 5.7		B	BXO	30	9	5	4
5638		BOUL	08 08	1350	S19 W37	08 5.7		B	BXO	10	3	5	3
5638	25451	MWIL	08 08	1430	S19 W38	08 5.7	4	(B)					
5638		HOLL	08 08	1457	S19 W39	08 5.6		B	CRO	20	12	5	3
5638		PALE	08 08	2225	S23 W43	08 5.6		B	CSO	50	6	7	3
5638		LEAR	08 09	0115	S20 W43	08 5.8		B	CSO	50	8	6	2
5638		RAMY	08 09	1240	S18 W50	08 5.7		B	CAI	50	14	8	4
5638		BOUL	08 09	1320	S20 W50	08 5.7		B	BXO	10	5	9	3
5638		HOLL	08 09	1430	S19 W52	08 5.6		B	BXO	50	10	8	3
5638	25451	MWIL	08 09	1600	S18 W52	08 5.7	5	(BF)					
5638		PALE	08 09	1740	S21 W55	08 5.5		B	BXO	20	11	7	4
5638		LEAR	08 10	0025	S20 W58	08 5.6		B	BXO	10	5	6	3
5638		CULG	08 10	0250	S21 W58	08 5.7		B	BXO	10	5	5	3
5638		BOUL	08 10	1330	S20 W60	08 6.0		B	BXO	10	4	5	3
5638		RAMY	08 10	1448	S19 W63	08 5.8		B	BXO	30	5	8	4
5638		HOLL	08 10	1500	S19 W65	08 5.7		B	BXO	30	13	7	2
5638	25451	MWIL	08 10	1500	S20 W62	08 5.9	4	(AF)					
5638		PALE	08 10	1715	S21 W65	08 5.7		B	BXO	10	3	3	4
5638		LEAR	08 11	0030	S21 W69	08 5.7		A	AX	10	1	1	4
5638A		RAMY	07 31	1250	N12 E75	08 6.2		A	AX	20	1	1	3
5638A	25425	MWIL	07 31	1500	N12 E75	08 6.3	3	(AP)					
5638A		PALE	07 31	1755	N12 E75	08 6.4		A	HA	10	2	1	3
5623		RAMY	07 31	1250	S12 E81	08 6.6		B	CAO	80	3	9	3
5623		BOUL	07 31	1324	S13 E75	08 6.2		A	HS	60	2	1	1
5623	25426	MWIL	07 31	1500	S13 E80	08 6.7	5	(AP)					
5623		PALE	07 31	1755	S13 E80	08 6.8		A	HA	100	2	4	3
5623		HOLL	07 31	2030	S14 E75	08 6.5		A	HS	120	1	2	2
5623		LEAR	08 01	0245	S14 E73	08 6.6		B	CAO	150	6	8	3
5623		CULG	08 01	0310	S13 E81	08 7.2		B	ESO	120	2	14	3
5623		RAMY	08 01	1315	S13 E68	08 6.7		B	DAO	250	6	9	4
5623		BOUL	08 01	1450	S15 E66	08 6.6		B	DAO	100	3	12	3
5623	25426	MWIL	08 01	1530	S14 E66	08 6.6	5	(BP)					
5623		PALE	08 01	1800	S16 E73	08 7.3		B	FSI	270	9	26	3
5623		HOLL	08 01	1835	S16 E71	08 7.1		B	FAO	270	6	25	2
5623		CULG	08 02	0325	S13 E65	08 7.0		B	EAO	280	6	13	3
5623		RAMY	08 02	1234	S14 E56	08 6.7		B	EAO	240	6	11	2
5623	25426	MWIL	08 02	1515	S15 E55	08 6.8	5	(BP)					
5623		HOLL	08 02	1535	S15 E52	08 6.6		B	ESO	220	9	12	3
5623		BOUL	08 02	1715	S15 E50	08 6.5		B	ESO	130	6	13	3
5623		PALE	08 02	1800	S16 E55	08 6.9		B	ESO	320	11	12	3
5623		LEAR	08 03	0103	S16 E49	08 6.8		B	EKO	370	9	12	4
5623		RAMY	08 03	1404	S14 E44	08 6.9		B	EAO	240	14	12	3

S U N S P O T G R O U P S
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AUGUST 1989

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
5623		BOUL	08	03	1410	S16	E40	08	6.6		B	ESO	170	4	13	3
5623	25426	MWIL	08	03	1500	S15	E42	08	6.8	5	(BP)					
5623		HOLL	08	03	1510	S15	E42	08	6.8		B	EAO	340	12	13	3
5623		PALE	08	03	1725	S15	E41	08	6.8		B	EKO	250	9	13	3
5623		LEAR	08	04	0045	S15	E36	08	6.7		B	EKO	300	17	12	3
5623		CULG	08	04	0308	S14	E36	08	6.8		B	EKO	270	13	14	3
5623	25426	MWIL	08	04	1515	S15	E28	08	6.7	5	(D)					
5623		BOUL	08	04	1515	S16	E28	08	6.7		B	EAI	360	10	13	1
5623		HOLL	08	04	1815	S15	E27	08	6.8		B	EKO	350	35	14	3
5623		PALE	08	04	1905	S13	E28	08	6.9		B	EKO	330	17	15	2
5623		LEAR	08	05	0025	S14	E24	08	6.8		B	EKO	420	26	13	3
5623		CULG	08	05	0310	S14	E23	08	6.9		B	EKO	270	21	14	3
5623		BOUL	08	05	1340	S14	E16	08	6.8		B	EAO	170	26	14	3
5623		RAMY	08	05	1430	S16	E13	08	6.6		B	EAO	320	22	14	3
5623		PALE	08	05	1750	S15	E16	08	6.9		B	EAO	200	24	15	3
5623	25426	MWIL	08	05	1830	S14	E14	08	6.8	5	(BG)					
5623		HOLL	08	05	1850	S15	E15	08	6.9		B	EKO	290	44	15	2
5623		LEAR	08	06	0105	S15	E11	08	6.9		B	EAO	210	18	13	3
5623		CULG	08	06	0330	S14	E10	08	6.9		B	CAO	170	18	15	3
5623		RAMY	08	06	1240	S15	E04	08	6.8		B	EKO	270	22	13	3
5623		BOUL	08	06	1415	S13	E03	08	6.8		B	ESO	80	9	14	3
5623	25426	MWIL	08	06	1445	S15	E01	08	6.7	5	(BG)					
5623		HOLL	08	06	1450	S14	E05	08	7.0		B	ESO	200	16	15	2
5623		PALE	08	06	1740	S15	E04	08	7.0		B	CSO	220	21	14	3
5623		CULG	08	07	0130	S14	W02	08	6.9		B	CAO	140	8	13	2
5623		LEAR	08	07	0145	S13	W02	08	6.9		B	EAO	180	9	14	3
5623		RAMY	08	07	1220	S15	W08	08	6.9		B	CAO	190	14	14	4
5623	25426	MWIL	08	07	1500	S15	W11	08	6.8	5	(BG)					
5623		HOLL	08	07	1730	S16	W10	08	7.0		B	ESO	100	4	13	2
5623		PALE	08	07	1920	S15	W10	08	7.0		B	CKO	190	13	16	3
5623		LEAR	08	08	0020	S15	W13	08	7.0		B	DAO	130	14	14	3
5623		CULG	08	08	0220	S13	W15	08	7.0		B	FAO	110	13	16	3
5623		RAMY	08	08	1240	S15	W21	08	6.9		B	CAO	110	17	14	4
5623		BOUL	08	08	1350	S15	W22	08	6.9		B	DSO	70	8	10	3
5623	25426	MWIL	08	08	1430	S15	W23	08	6.9	5	(BG)					
5623		HOLL	08	08	1457	S14	W22	08	7.0		B	CAO	130	17	14	3
5623		PALE	08	08	2225	S15	W26	08	7.0		B	CAO	180	9	14	3
5623		LEAR	08	09	0115	S15	W27	08	7.0		B	EAO	120	5	14	2
5623		RAMY	08	09	1240	S14	W33	08	7.0		B	CAO	120	16	15	4
5623		BOUL	08	09	1320	S15	W38	08	6.7		B	CSO	60	4	6	3
5623		HOLL	08	09	1430	S14	W35	08	6.9		B	CHO	140	10	14	3
5623	25426	MWIL	08	09	1600	S15	W37	08	6.9	5	(BG)					
5623		PALE	08	09	1740	S16	W37	08	6.9		B	CAO	140	6	14	4
5623		LEAR	08	10	0025	S14	W41	08	6.9		B	CAO	190	3	15	3
5623		CULG	08	10	0250	S17	W47	08	6.5		A	HA	60	2	2	3
5623		BOUL	08	10	1330	S15	W54	08	6.5		A	HS	70	2	2	3
5623		RAMY	08	10	1448	S14	W52	08	6.7		A	HA	150	3	2	4
5623		HOLL	08	10	1500	S14	W55	08	6.5		B	CSO	140	4	3	2
5623	25426	MWIL	08	10	1500	S15	W53	08	6.6	5	(BP)					
5623		PALE	08	10	1715	S16	W49	08	7.0		B	CAO	120	5	14	4
5623		LEAR	08	11	0030	S14	W59	08	6.6		A	HA	180	2	2	4
5623		CULG	08	11	0220	S16	W61	08	6.5		A	HA	130	2	3	1
5623		RAMY	08	11	1214	S14	W60	08	7.0		B	CAO	140	4	14	3
5623	25426	MWIL	08	11	1430	S15	W62	08	6.9	5	(BP)					
5623		HOLL	08	11	1730	S13	W61	08	7.1		B	CSO	130	6	12	3
5623		PALE	08	11	1921	S15	W65	08	6.9		B	CAO	130	8	11	3
5623		LEAR	08	12	0130	S15	W65	08	7.1		B	CSO	110	10	12	2
5623		CULG	08	12	0200	S17	W69	08	6.8		B	CAO	50	9	15	3
5623		RAMY	08	12	1225	S15	W70	08	7.2		B	CAO	80	6	12	3
5623	25426	MWIL	08	12	1430	S15	W75	08	6.9	4	B					
5623		PALE	08	12	1720	S15	W80	08	6.7		A	HA	60	1	2	3
5623		HOLL	08	12	1745	S14	W88	08	6.1		B	CHO	70	2	3	3
5624		RAMY	08	01	1315	N14	E69	08	6.8		A	AX	10	1	1	4
5624	25433	MWIL	08	02	1515	N13	E53	08	6.6	4	(AF)					
5624		PALE	08	02	1800	N14	E51	08	6.6		B	BXO	10	4	6	3
5624	25433	MWIL	08	03	1500	N13	E36	08	6.3	4	(AF)					
5624		HOLL	08	03	1510	N09	E27	08	5.6		B	BXO	10	3	3	3
5624		CULG	08	04	0308	N14	E31	08	6.5		A	AX	10	1	1	3

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

AUGUST 1989

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
5624		HOLL	08	04	1815	N12	E15	08	5.9		B	BXO	10	6	6	3
5624		PALE	08	04	1905	N11	E15	08	5.9		B	BXO	10	2	5	2
5624		CULG	08	05	0310	N14	E16	08	6.3		A	AX	10	1	1	3
5624		RAMY	08	07	1220	N14	W11	08	6.7		A	AX	10	4	2	4
5624		HOLL	08	07	1730	N16	W13	08	6.7		A	AX	10	3	2	2
5624		PALE	08	07	1920	N13	W15	08	6.7		A	AX	10	2	2	3
5624		LEAR	08	08	0020	N14	W18	08	6.6		B	BXO	10	2	3	3
5623D		RAMY	08	05	1430	N22	E22	08	7.3		A	AX	10	1	1	3
5623B		RAMY	08	06	1240	N18	E11	08	7.4		A	AX		1	1	3
5623B	25443	MWIL	08	06	1445	N17	E10	08	7.4	4	(AP)					
5623B	25443	MWIL	08	07	1500	N17	W02	08	7.5	4	(AP)					
5623B	25443	MWIL	08	08	1430	N20	W16	08	7.4	3	(AP)					
5623C	25448	MWIL	08	07	1500	N15	W01	08	7.5	4	(AF)					
5626A	25435	MWIL	08	08	1430	N23	W09	08	7.9	3	(AP)					
5626A	25454	MWIL	08	09	1600	N24	W20	08	8.1	4	(AP)					
5623A		LEAR	08	03	0103	N21	E63	08	7.9		B	BXO	40	2	3	4
5623A		HOLL	08	03	1510	N21	E57	08	8.0		A	AX	10	2	2	3
5626	25434	MWIL	08	02	1515	S19	E70	08	8.0	5	(AP)					
5626		HOLL	08	02	1535	S18	E69	08	7.9		A	HS	100	1	2	3
5626		BOUL	08	02	1715	S19	E68	08	7.9		A	HA	50	2	2	3
5626		PALE	08	02	1800	S17	E70	08	8.1		A	HA	120	4	2	3
5626		LEAR	08	03	0103	S19	E65	08	8.0		B	CAO	240	5	13	4
5626		RAMY	08	03	1404	S16	E60	08	8.1		B	CAO	150	8	4	3
5626		BOUL	08	03	1410	S20	E55	08	7.8		A	HA	40	1	2	3
5626	25434	MWIL	08	03	1500	S18	E58	08	8.0	5	(BP)					
5626		HOLL	08	03	1510	S18	E59	08	8.1		B	CAO	120	6	5	3
5626		PALE	08	03	1725	S18	E58	08	8.1		B	CKO	200	3	4	3
5626		LEAR	08	04	0045	S18	E52	08	8.0		B	CSO	150	7	5	3
5626		CULG	08	04	0308	S18	E53	08	8.2		B	CSO	90	4	3	3
5626		BOUL	08	04	1515	S17	E43	08	7.9		B	CSO	120	3	3	1
5626	25434	MWIL	08	04	1515	S17	E44	08	8.0	5	(BG)					
5626		HOLL	08	04	1815	S18	E46	08	8.3		B	CAO	180	10	9	3
5626		PALE	08	04	1905	S17	E42	08	8.0		B	CAO	140	6	4	2
5626		LEAR	08	05	0025	S18	E40	08	8.1		B	CSO	180	10	4	3
5626		CULG	08	05	0310	S17	E39	08	8.1		B	CAO	130	5	5	3
5626		BOUL	08	05	1340	S17	E32	08	8.0		B	DAI	120	11	4	3
5626		RAMY	08	05	1430	S18	E33	08	8.1		B	CAO	130	12	4	3
5626		PALE	08	05	1750	S17	E32	08	8.2		B	CSO	100	7	4	3
5626	25434	MWIL	08	05	1830	S17	E29	08	8.0	5	(BP)					
5626		HOLL	08	05	1850	S17	E32	08	8.2		B	CAO	150	17	5	2
5626		LEAR	08	06	0105	S17	E27	08	8.1		B	CSO	90	5	3	3
5626		CULG	08	06	0330	S16	E27	08	8.2		B	CAO	110	7	4	3
5626		RAMY	08	06	1240	S18	E19	08	8.0		A	HA	160	5	3	3
5626		BOUL	08	06	1415	S18	E19	08	8.0		A	HS	50	2	3	3
5626	25434	MWIL	08	06	1445	S18	E18	08	8.0	5	(BP)					
5626		HOLL	08	06	1450	S18	E19	08	8.1		B	CSO	90	7	3	2
5626		PALE	08	06	1740	S17	E18	08	8.1		B	CSO	120	5	3	3
5626		CULG	08	07	0130	S17	E14	08	8.1		B	CAO	110	5	3	2
5626		LEAR	08	07	0145	S17	E13	08	8.1		B	CSO	110	6	3	3
5626		RAMY	08	07	1220	S18	E08	08	8.1		A	HA	160	9	4	4
5626	25434	MWIL	08	07	1500	S18	E06	08	8.1	4	(BP)					
5626		HOLL	08	07	1730	S18	E04	08	8.0		B	CSO	160	7	5	2
5626		PALE	08	07	1920	S18	E04	08	8.1		B	CAO	150	5	3	3
5626		LEAR	08	08	0020	S18	E00	08	8.0		A	HA	110	2	2	3
5626		CULG	08	08	0220	S17	E00	08	8.1		A	HA	70	3	2	3
5626		RAMY	08	08	1240	S18	W06	08	8.1		B	CAO	140	13	5	4
5626		BOUL	08	08	1350	S18	W09	08	7.9		A	HS	50	1	2	3
5626	25434	MWIL	08	08	1430	S18	W06	08	8.1	5	(BP)					
5626		HOLL	08	08	1457	S18	W08	08	8.0		B	CSI	110	9	4	3
5626		PALE	08	08	2225	S19	W11	08	8.1		B	CAO	110	3	3	3
5626		LEAR	08	09	0115	S17	W12	08	8.1		B	CSO	100	6	3	2
5626		RAMY	08	09	1240	S18	W19	08	8.1		A	HK	130	7	3	4
5626		BOUL	08	09	1320	S18	W19	08	8.1		A	HS	40	1	2	3

S U N S P O T G R O U P S
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AUGUST 1989

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
5626		HOLL	08 09 1430	S19 W21	08 8.0		A	HA	100	3	2	3
5626	25434	MWIL	08 09 1600	S18 W21	08 8.1	5	(AP)					
5626		PALE	08 09 1740	S19 W22	08 8.0		A	HS	110	3	2	4
5626		LEAR	08 10 0025	S19 W27	08 7.9		A	HS	140	3	2	3
5626		CULG	08 10 0250	S19 W26	08 8.1		A	HA	60	2	1	3
5626		BOUL	08 10 1330	S18 W32	08 8.1		A	HS	50	1	2	3
5626		RAMY	08 10 1448	S18 W33	08 8.1		A	HA	50	2	2	4
5626		HOLL	08 10 1500	S19 W33	08 8.1		A	HS	80	3	2	2
5626	25434	MWIL	08 10 1500	S19 W34	08 8.0	4	(AP)					
5626		PALE	08 10 1715	S19 W34	08 8.1		A	HS	80	3	2	4
5626		LEAR	08 11 0030	S19 W39	08 8.0		B	CAO	110	5	3	4
5626		RAMY	08 11 1214	S18 W46	08 8.0		A	HA	60	1	2	3
5626	25434	MWIL	08 11 1430	S19 W46	08 8.1	4	(AP)					
5626		HOLL	08 11 1730	S19 W48	08 8.1		A	HS	60	5	3	3
5626		PALE	08 11 1921	S19 W50	08 8.0		A	HS	100	2	1	3
5626		LEAR	08 12 0130	S18 W51	08 8.2		A	HA	50	3	2	2
5626		CULG	08 12 0200	S21 W52	08 8.1		A	HA	50	4	2	3
5626		RAMY	08 12 1225	S19 W59	08 8.0		A	HA	40	1	1	3
5626	25434	MWIL	08 12 1430	S18 W59	08 8.1	4	(AP)					
5626		BOUL	08 12 1608	S18 W58	08 8.2		A	HS	40	1	1	2
5626		PALE	08 12 1720	S19 W60	08 8.1		A	HA	130	1	2	3
5626		HOLL	08 12 1745	S18 W61	08 8.1		A	HA	40	2	1	3
5626		LEAR	08 13 0146	S18 W63	08 8.3		A	HS	30	1	1	3
5626		CULG	08 13 0340	S21 W67	08 8.0		A	HS	30	1	1	3
5626		RAMY	08 13 1230	S19 W69	08 8.2		A	HA	30	1	1	4
5626	25434	MWIL	08 13 1500	S18 W72	08 8.1	3	(AP)					
5626		HOLL	08 13 1730	S15 W74	08 8.1		A	HS	60	1	2	3
5626		PALE	08 13 1820	S19 W75	08 8.0		B	CAO	70	3	7	3
5625		HOLL	08 01 1835	N16 E85	08 8.2		A	HS	50	1	2	2
5625	25436	MWIL	08 02 1515	N16 E73	08 8.2	5	(AP)					
5625		HOLL	08 02 1535	N16 E71	08 8.0		A	HS	120	1	2	3
5625		BOUL	08 02 1715	N15 E70	08 8.0		A	HA	30	1	2	3
5625		PALE	08 02 1800	N17 E71	08 8.1		A	HS	100	1	3	3
5625		LEAR	08 03 0103	N16 E67	08 8.1		A	HS	100	1	2	4
5625		RAMY	08 03 1404	N17 E61	08 8.2		A	HA	80	1	2	3
5625		BOUL	08 03 1410	N16 E58	08 8.0		A	HS	40	1	2	3
5625	25436	MWIL	08 03 1500	N16 E60	08 8.2	5	(AP)					
5625		HOLL	08 03 1510	N17 E64	08 8.5		B	CSO	80	2	11	3
5625		PALE	08 03 1725	N17 E59	08 8.2		A	HA	140	1	2	3
5625		LEAR	08 04 0045	N17 E58	08 8.4		B	CSO	130	2	10	3
5625		CULG	08 04 0308	N17 E55	08 8.3		A	HS	80	1	2	3
5625	25436	MWIL	08 04 1515	N16 E47	08 8.2	5	(AP)					
5625		BOUL	08 04 1515	N17 E44	08 8.0		B	CSO	60	2	3	1
5625		HOLL	08 04 1815	N16 E45	08 8.2		A	HS	80	1	2	3
5625		PALE	08 04 1905	N17 E43	08 8.1		A	HA	100	1	2	2
5625		LEAR	08 05 0025	N17 E41	08 8.1		A	HS	80	1	2	3
5625		CULG	08 05 0310	N18 E39	08 8.1		A	HS	100	1	2	3
5625		BOUL	08 05 1340	N17 E31	08 7.9		B	CSO	50	2	4	3
5625		RAMY	08 05 1430	N16 E33	08 8.1		B	CSO	100	5	4	3
5625		PALE	08 05 1750	N17 E32	08 8.2		A	HS	90	1	2	3
5625	25436	MWIL	08 05 1830	N16 E32	08 8.2	5	(AP)					
5625		HOLL	08 05 1850	N14 E32	08 8.2		A	HS	70	1	2	2
5625		LEAR	08 06 0105	N16 E27	08 8.1		A	HS	80	1	2	3
5625		CULG	08 06 0330	N18 E27	08 8.2		A	HS	70	1	2	3
5625		RAMY	08 06 1240	N18 E20	08 8.0		B	CSO	90	3	9	3
5625		BOUL	08 06 1415	N16 E21	08 8.2		A	HA	30	1	2	3
5625	25436	MWIL	08 06 1445	N16 E20	08 8.1	5	(AP)					
5625		HOLL	08 06 1450	N16 E20	08 8.1		A	HS	90	1	2	2
5625		PALE	08 06 1740	N15 E16	08 7.9		B	CSO	110	3	6	3
5625		CULG	08 07 0130	N17 E15	08 8.2		A	HS	80	1	2	2
5625		LEAR	08 07 0145	N16 E13	08 8.0		A	HS	60	1	2	3
5625		RAMY	08 07 1220	N15 E08	08 8.1		B	CSO	120	7	3	4
5625	25436	MWIL	08 07 1500	N16 E07	08 8.1	5	(BP)					
5625		HOLL	08 07 1730	N16 E06	08 8.2		B	CSO	100	3	3	2
5625		PALE	08 07 1920	N16 E05	08 8.2		B	CSO	100	2	4	3
5625		LEAR	08 08 0020	N15 E03	08 8.2		B	CSO	90	3	3	3
5625		CULG	08 08 0220	N16 E03	08 8.3		B	CSO	40	5	3	3
5625		RAMY	08 08 1240	N15 W05	08 8.1		A	HA	90	1	2	4

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

AUGUST 1989

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
5625		BOUL	08 08 1350	N15 W05	08 8.2		A	HS	40	1	2	3
5625	25436	MWIL	08 08 1430	N15 W05	08 8.2	5	(AP)					
5625		HOLL	08 08 1457	N16 W08	08 8.0		B	CSO	60	2	5	3
5625		PALE	08 08 2225	N15 W11	08 8.1		A	HS	100	1	2	3
5625		LEAR	08 09 0115	N16 W12	08 8.1		A	HS	80	1	2	2
5625		RAMY	08 09 1240	N15 W17	08 8.2		A	HS	90	1	2	4
5625		BOUL	08 09 1320	N15 W18	08 8.2		A	HS	30	1	2	3
5625		HOLL	08 09 1430	N15 W19	08 8.2		A	HS	90	1	2	3
5625	25436	MWIL	08 09 1600	N15 W19	08 8.2	5	(AP)					
5625		PALE	08 09 1740	N15 W21	08 8.1		A	HS	70	1	2	4
5625		LEAR	08 10 0025	N15 W25	08 8.1		A	HS	90	1	2	3
5625		CULG	08 10 0250	N16 W26	08 8.1		A	HS	50	1	2	3
5625		BOUL	08 10 1330	N15 W31	08 8.2		A	HS	40	1	2	3
5625		RAMY	08 10 1448	N15 W32	08 8.2		A	HS	100	1	2	4
5625		HOLL	08 10 1500	N16 W32	08 8.2		A	HS	80	1	2	2
5625	25436	MWIL	08 10 1500	N16 W33	08 8.1	5	(AP)					
5625		PALE	08 10 1715	N15 W33	08 8.2		A	HS	70	1	2	4
5625		LEAR	08 11 0030	N15 W38	08 8.1		A	HS	90	1	2	4
5625		RAMY	08 11 1214	N15 W45	08 8.1		A	HS	60	1	2	3
5625	25436	MWIL	08 11 1430	N15 W45	08 8.2	5	(AP)					
5625		HOLL	08 11 1730	N16 W47	08 8.2		A	HS	60	1	2	3
5625		PALE	08 11 1921	N14 W48	08 8.2		B	CSO	60	4	3	3
5625		LEAR	08 12 0130	N15 W52	08 8.1		A	HS	60	1	2	2
5625		CULG	08 12 0200	N14 W53	08 8.1		A	HS	60	1	2	3
5625		RAMY	08 12 1225	N15 W57	08 8.2		A	HS	100	1	2	3
5625	25436	MWIL	08 12 1430	N16 W59	08 8.1	5	(AP)					
5625		BOUL	08 12 1608	N16 W58	08 8.3		A	HS	40	1	1	2
5625		PALE	08 12 1720	N16 W60	08 8.2		A	HS	110	1	2	3
5625		HOLL	08 12 1745	N16 W61	08 8.1		A	HS	60	1	2	3
5625		LEAR	08 13 0146	N15 W64	08 8.2		A	HS	20	1	1	3
5625		CULG	08 13 0340	N13 W67	08 8.1		A	HS	90	1	2	3
5625		RAMY	08 13 1230	N15 W70	08 8.2		A	HS	50	1	1	4
5625	25436	MWIL	08 13 1500	N16 W71	08 8.2	5	(AP)					
5625		BOUL	08 13 1515	N15 W70	08 8.3		A	AX		1	1	3
5625		PALE	08 13 1820	N15 W74	08 8.2		A	HA	120	1	2	3
5625		CULG	08 14 0335	N14 W80	08 8.1		A	HS	70	1	2	4
5625		RAMY	08 14 1245	N17 W86	08 8.0		A	HS	30	1	1	4
5625	25436	MWIL	08 14 1530	N16 W85	08 8.2	3	AP					
5625A		CULG	08 02 0325	S16 E82	08 8.4		A	HA	150	4	4	3
5630		PALE	08 01 1800	N17 E89	08 8.5		A	HA	60	1	2	3
5630		CULG	08 02 0325	N18 E82	08 8.4		A	HA	80	2	4	3
5630	25435	MWIL	08 02 1515	N22 E72	08 8.2	4	(AP)					
5630		PALE	08 02 1800	N22 E71	08 8.2		A	AX		2	1	3
5630		RAMY	08 03 1404	N21 E60	08 8.2		A	AX	10	5	2	3
5630	25435	MWIL	08 03 1500	N21 E58	08 8.1	4	(AP)					
5630	25435	MWIL	08 04 1515	N20 E43	08 7.9	4	(AP)					
5630		HOLL	08 04 1815	N20 E43	08 8.0		A	AX	10	3	1	3
5630		LEAR	08 05 0025	N20 E38	08 7.9		A	AX	10	1	1	3
5630		CULG	08 05 0310	N22 E37	08 8.0		A	AX	10	1	1	3
5630		HOLL	08 05 1850	N21 E30	08 8.1		B	BXO	10	5	5	2
5630	25435	MWIL	08 06 1445	N21 E17	08 7.9	4	(AP)					
5630		PALE	08 06 1740	N21 E13	08 7.7		B	BXO	10	5	6	3
5630		HOLL	08 08 1457	N25 W03	08 8.4		A	AX	10	2	2	3
5630		LEAR	08 09 0115	N22 W13	08 8.0		A	AX	10	2	1	2
5630		RAMY	08 09 1240	N22 W19	08 8.1		B	BXO	10	5	5	4
5630		HOLL	08 09 1430	N22 W21	08 8.0		B	BXO	30	13	6	3
5630		PALE	08 09 1740	N24 W24	08 7.9		A	AX		2	3	4
5630		LEAR	08 10 0025	N20 W26	08 8.0		A	AX	10	1	1	3
5630A	25452	MWIL	08 08 1430	N25 W01	08 8.5	3	(AP)					
5632	25438	MWIL	08 03 1500	N18 E71	08 9.0	4	(AF)					
5632		PALE	08 03 1725	N19 E68	08 8.9		A	AX	10	1	1	3
5632		CULG	08 04 0308	N19 E68	08 9.3		A	AX	10	1	1	3
5632	25438	MWIL	08 04 1515	N18 E58	08 9.0	4	(AF)					
5632		HOLL	08 04 1815	N18 E55	08 8.9		A	AX		1		3
5632		PALE	08 04 1905	N19 E55	08 9.0		A	AX		1		2

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

AUGUST 1989

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
5632		LEAR	08	05	0025	N18	E52	08	9.0		A	AX	20	1	1	3
5632		CULG	08	05	0310	N20	E51	08	9.0		A	AX	10	1	1	3
5632		BOUL	08	05	1340	N19	E44	08	8.9		B	BXO		2	1	3
5632		RAMY	08	05	1430	N19	E44	08	9.0		A	AX	10	2	1	3
5632		PALE	08	05	1750	N19	E43	08	9.0		A	AX	10	1	1	3
5632	25438	MWIL	08	05	1830	N18	E42	08	9.0	4	(AF)					
5632		HOLL	08	05	1850	N18	E43	08	9.0		A	AX	10	1		2
5632		LEAR	08	06	0105	N19	E39	08	9.0		A	AX	10	2	1	3
5632		CULG	08	06	0330	N21	E37	08	9.0		A	AX		1		3
5632		RAMY	08	06	1240	N19	E32	08	9.0		A	AX		1	1	3
5632		BOUL	08	06	1415	N18	E30	08	8.9		A	AX	10	1	1	3
5632	25438	MWIL	08	06	1445	N18	E31	08	9.0	4	(AF)					
5632		HOLL	08	06	1450	N18	E31	08	9.0		A	AX	10	1		2
5632		PALE	08	06	1740	N20	E30	08	9.0		A	AX		1		3
5632		RAMY	08	08	1240	N18	E07	08	9.1		B	BXO		2	3	4
5632		HOLL	08	08	1457	N17	E06	08	9.1		A	AX		1		3
5632		HOLL	08	09	1430	N21	W08	08	9.0		A	AX		1		3
5632	25455	MWIL	08	09	1600	N22	W07	08	9.1	3	(AP)					
5632		PALE	08	09	1740	N17	W09	08	9.0		A	AX		1		4
5629		RAMY	08	03	1404	S16	E75	08	9.3		B	DKO	630	7	9	3
5629		BOUL	08	03	1410	S17	E80	08	9.7		B	DKC	450	4	3	3
5629	25439	MWIL	08	03	1500	S18	E77	08	9.5	4	BG					
5629		HOLL	08	03	1510	S18	E79	08	9.6		B	DKC	360	12	5	3
5629		PALE	08	03	1725	S18	E77	08	9.6		B	FKC	290	16	18	3
5629		LEAR	08	04	0045	S18	E68	08	9.2		B	DKC	630	16	7	3
5629		CULG	08	04	0308	S19	E73	08	9.7		B	EKC	420	9	13	3
5629		BOUL	08	04	1515	S17	E65	08	9.6		B	DKC	880	15	9	1
5629	25439	MWIL	08	04	1515	S17	E65	08	9.6	5	(BG)					
5629		HOLL	08	04	1815	S17	E63	08	9.5		B	EKI	620	48	13	3
5629		PALE	08	04	1905	S17	E65	08	9.7		B	DKI	800	21	10	2
5629		LEAR	08	05	0025	S18	E56	08	9.3		BG	EKI	700	29	12	3
5629		CULG	08	05	0310	S17	E59	08	9.6		B	DKI	620	21	9	3
5629		BOUL	08	05	1340	S19	E52	08	9.5		B	DKC	640	22	8	3
5629		RAMY	08	05	1430	S18	E53	08	9.6		B	DKO	870	25	9	3
5629		PALE	08	05	1750	S17	E50	08	9.5		BD	DKI	950	27	10	3
5629	25439	MWIL	08	05	1830	S17	E51	08	9.6	5	(BG)					
5629		HOLL	08	05	1850	S18	E47	08	9.4		B	EKI	750	52	13	2
5629		LEAR	08	06	0105	S17	E46	08	9.5		BG	DKC	810	20	9	3
5629		CULG	08	06	0330	S17	E46	08	9.6		B	DKC	750	28	8	3
5629		RAMY	08	06	1240	S17	E40	08	9.6		BD	EKC	1050	47	10	3
5629		BOUL	08	06	1415	S18	E38	08	9.5		B	DKC	700	17	9	3
5629	25439	MWIL	08	06	1445	S17	E39	08	9.6	5	(D)					
5629		HOLL	08	06	1450	S17	E40	08	9.6		BD	DKI	900	31	10	2
5629		PALE	08	06	1740	S17	E38	08	9.6		BD	DKC	1160	43	9	3
5629		CULG	08	07	0130	S17	E34	08	9.6		B	DKC	1030	29	10	2
5629		LEAR	08	07	0145	S18	E33	08	9.6		BG	DKC	880	38	10	3
5629		RAMY	08	07	1220	S17	E25	08	9.4		BGD	FKC	1160	65	17	4
5629	25439	MWIL	08	07	1500	S17	E26	08	9.6	5	(D)					
5629		HOLL	08	07	1730	S17	E24	08	9.5		BD	EKI	1100	52	13	2
5629		PALE	08	07	1920	S17	E24	08	9.6		BD	EKC	1070	47	11	3
5629		LEAR	08	08	0020	S17	E21	08	9.6		BG	EKO	1060	54	11	3
5629		CULG	08	08	0220	S17	E20	08	9.6		GD	EKC	800	38	13	3
5629		RAMY	08	08	1240	S17	E14	08	9.6		BGD	EKI	1540	94	13	4
5629		BOUL	08	08	1350	S18	E11	08	9.4		B	EKC	800	29	13	3
5629	25439	MWIL	08	08	1430	S17	E13	08	9.6	6	(D)					
5629		HOLL	08	08	1457	S18	E11	08	9.5		BGD	EKC	1560	63	13	3
5629		PALE	08	08	2225	S17	E07	08	9.5		BGD	EKC	1500	57	13	3
5629		LEAR	08	09	0115	S18	E06	08	9.5		GD	EKI	1260	39	12	2
5629		RAMY	08	09	1240	S17	W02	08	9.4		BGD	EKC	1640	0	15	4
5629		BOUL	08	09	1320	S18	W03	08	9.3		BGD	EKC	1030	30	13	3
5629		HOLL	08	09	1430	S17	W02	08	9.4		GD	FKI	1180	0	16	3
5629	25439	MWIL	08	09	1600	S17	W02	08	9.5	6	(D)					
5629		PALE	08	09	1740	S17	W04	08	9.4		BGD	EKC	1240	82	13	4
5629		LEAR	08	10	0025	S18	W08	08	9.4		BGD	EKC	1130	36	14	3
5629		CULG	08	10	0250	S17	W08	08	9.5		GD	EKC	900	42	11	3
5629		BOUL	08	10	1330	S18	W15	08	9.4		B	EKC	700	30	13	3
5629		RAMY	08	10	1448	S17	W14	08	9.5		BGD	EKC	1380	45	14	4
5629	25439	MWIL	08	10	1500	S18	W14	08	9.5	6	(D)					

S U N S P O T G R O U P S
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AUGUST 1989

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5629		HOLL	08	10	1500	S18	W15	08	9.5		BGD	EKI	1200	62	14	2
5629		PALE	08	10	1715	S17	W16	08	9.5		BGD	EKC	1100	82	15	4
5629		LEAR	08	11	0030	S18	W18	08	9.6		BGD	EKC	1030	42	15	4
5629		RAMY	08	11	1214	S15	W26	08	9.5		BGD	FKI	1270	61	16	3
5629	25439	MWIL	08	11	1430	S18	W27	08	9.5	6	(D)					
5629		HOLL	08	11	1730	S17	W29	08	9.5		BGD	EKI	1440	73	15	3
5629		PALE	08	11	1921	S16	W32	08	9.4		BGD	EKC	1360	67	14	3
5629		LEAR	08	12	0130	S15	W33	08	9.6		BGD	EKC	1140	43	14	2
5629		CULG	08	12	0200	S16	W35	08	9.4		GD	EKC	1050	46	14	3
5629		RAMY	08	12	1225	S18	W39	08	9.5		BGD	FKC	1480	66	17	3
5629	25439	MWIL	08	12	1430	S17	W40	08	9.6	6	(D)					
5629		BOUL	08	12	1608	S15	W43	08	9.4		B	FKI	780	40	16	2
5629		PALE	08	12	1720	S16	W40	08	9.7		BGD	FKC	1400	57	19	3
5629		HOLL	08	12	1745	S15	W41	08	9.6		GD	FKI	1190	82	18	3
5629		LEAR	08	13	0146	S17	W45	08	9.6		BGD	EKI	1060	22	12	3
5629		CULG	08	13	0340	S17	W47	08	9.6		B	EKC	1050	30	11	3
5629		RAMY	08	13	1230	S18	W51	08	9.6		BGD	EKC	1130	36	14	4
5629	25439	MWIL	08	13	1500	S17	W54	08	9.5	5	(D)					
5629		BOUL	08	13	1515	S15	W51	08	9.8		B	EKI	900	19	14	3
5629		HOLL	08	13	1730	S16	W55	08	9.5		BGD	FKI	1190	60	19	3
5629		PALE	08	13	1820	S16	W55	08	9.6		BGD	FKC	1030	43	16	3
5629		CULG	08	14	0335	S19	W63	08	9.3		GD	EKC	1300	23	14	4
5629		RAMY	08	14	1245	S18	W69	08	9.3		BGD	EKC	910	21	14	4
5629		BOUL	08	14	1325	S16	W65	08	9.6		B	CKO	900	10	11	3
5629	25439	MWIL	08	14	1530	S17	W68	08	9.5	6	(D)					
5629		PALE	08	14	1820	S16	W69	08	9.5		BGD	EKC	380	16	15	2
5629		HOLL	08	14	1830	S15	W68	08	9.6		BD	EKC	880	22	13	2
5629		LEAR	08	15	0040	S15	W70	08	9.7		BD	EKC	870	14	11	3
5629		BOUL	08	15	1325	S17	W75	08	9.8		B	CAO	180	5	8	3
5629	25439	MWIL	08	15	1545	S17	W80	08	9.6	4	D					
5629		HOLL	08	15	1800	S18	W77	08	9.9		BD	DKI	690	7	6	2
5629		PALE	08	15	2023	S16	W80	08	9.8		B	DKO	150	3	5	3
5629		LEAR	08	16	0015	S11	W79	08	10.1		A	HS	30	1	2	3
5629A	25458	MWIL	08	11	1430	S12	W24	08	9.8	5	(B)					
5629A	25458	MWIL	08	12	1430	S10	W37	08	9.8	4	(B)					
5629A	25458	MWIL	08	13	1500	S11	W52	08	9.7	3	(B)					
5629A	25458	MWIL	08	14	1530	S11	W65	08	9.7	4	(AP)					
5629A	25458	MWIL	08	15	1545	S12	W78	08	9.8	4	(AF)					
5633B	25444	MWIL	08	06	1445	N22	E43	08	9.9	3	(AF)					
5633B		RAMY	08	10	1448	N20	W08	08	10.0		A	AX		1		4
5633B		PALE	08	10	1715	N20	W09	08	10.0		A	AX		1		4
5633B		PALE	08	11	1921	N22	W29	08	9.6		B	BXO		5	4	3
5633B		PALE	08	14	1820	N21	W63	08	9.9		B	BXO	10	5	10	2
5633B		HOLL	08	15	1800	N21	W74	08	10.1		A	AX	30	2	1	2
5633B		PALE	08	15	2023	N17	W77	08	10.0		B	BXO	10	3	3	3
5633		LEAR	08	05	0025	S26	E63	08	9.9		B	BXO	60	2	5	3
5633		CULG	08	05	0310	S26	E66	08	10.2		B	BXO	10	2	7	3
5633		PALE	08	05	1750	S26	E55	08	10.0		B	CAO	70	8	7	3
5633	25441	MWIL	08	05	1830	S26	E54	08	10.0	4	(B)					
5633		HOLL	08	05	1850	S27	E57	08	10.2		B	BXO	60	14	8	2
5633		LEAR	08	06	0105	S27	E52	08	10.1		B	DSO	100	7	7	3
5633		CULG	08	06	0330	S26	E53	08	10.3		B	DAO	100	14	7	3
5633		RAMY	08	06	1240	S28	E45	08	10.0		B	DAI	220	19	9	3
5633		BOUL	08	06	1415	S27	E45	08	10.1		B	DSO	100	6	10	3
5633	25441	MWIL	08	06	1445	S27	E44	08	10.0	5	(B)					
5633		HOLL	08	06	1450	S28	E43	08	10.0		B	DSO	180	17	9	2
5633		PALE	08	06	1740	S26	E45	08	10.2		B	DAI	220	17	9	3
5633		CULG	08	07	0130	S26	E40	08	10.2		B	DAO	240	12	8	2
5633		LEAR	08	07	0145	S27	E38	08	10.0		B	DSO	160	14	9	3
5633		RAMY	08	07	1220	S28	E33	08	10.1		BG	CSI	210	26	13	4
5633	25441	MWIL	08	07	1500	S27	E32	08	10.1	5	(BG)					
5633		HOLL	08	07	1730	S28	E30	08	10.1		B	ESO	130	13	12	2
5633		PALE	08	07	1920	S27	E30	08	10.1		B	EHO	290	15	15	3
5633		LEAR	08	08	0020	S27	E27	08	10.1		B	EAO	200	13	13	3
5633		CULG	08	08	0220	S27	E27	08	10.2		B	EAO	140	11	12	3
5633		RAMY	08	08	1240	S27	E21	08	10.2		B	EAO	140	15	12	4

S U N S P O T G R O U P S
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AUGUST 1989

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5633		BOUL	08 08 1350	S28 E17	08 9.9		B	ESI	100	7	13	3
5633	25441	MWIL	08 08 1430	S27 E19	08 10.1	5	(BG)					
5633		HOLL	08 08 1457	S27 E18	08 10.0		B	EAO	140	12	12	3
5633		PALE	08 08 2225	S27 E15	08 10.1		B	EAO	180	7	13	3
5633		LEAR	08 09 0115	S28 E14	08 10.1		B	ESO	160	10	12	2
5633		RAMY	08 09 1240	S26 E07	08 10.1		B	CAO	140	13	11	4
5633		BOUL	08 09 1320	S27 E05	08 9.9		B	DSO	50	4	9	3
5633		HOLL	08 09 1430	S27 E06	08 10.1		B	CSO	170	12	12	3
5633	25441	MWIL	08 09 1600	S26 E04	08 10.0	5	(BG)					
5633		PALE	08 09 1740	S27 E04	08 10.0		B	CSO	120	10	11	4
5633		LEAR	08 10 0025	S26 E01	08 10.1		B	CSO	200	7	10	3
5633		CULG	08 10 0250	S24 E01	08 10.2		B	CSO	100	7	10	3
5633		RAMY	08 10 1448	S25 W05	08 10.2		B	CAO	120	5	10	4
5633		HOLL	08 10 1500	S27 W07	08 10.1		B	CSO	130	3	9	2
5633	25441	MWIL	08 10 1500	S27 W10	08 9.8	5	(AP)					
5633		PALE	08 10 1715	S27 W07	08 10.2		B	CSO	120	3	10	4
5633		LEAR	08 11 0030	S27 W13	08 10.0		B	CAO	150	5	8	4
5633		RAMY	08 11 1214	S27 W22	08 9.8		B	CAO	100	5	4	3
5633	25441	MWIL	08 11 1430	S27 W22	08 9.9	5	(AP)					
5633		HOLL	08 11 1730	S26 W25	08 9.8		A	HS	100	2	2	3
5633		PALE	08 11 1921	S26 W27	08 9.7		B	CSO	120	5	4	3
5633		LEAR	08 12 0130	S26 W27	08 10.0		A	HS	80	2	2	2
5633		CULG	08 12 0200	S28 W28	08 9.9		A	HA	80	2	2	3
5633		RAMY	08 12 1225	S26 W35	08 9.8		A	HA	80	1	2	3
5633	25441	MWIL	08 12 1430	S25 W36	08 9.8	5	(AP)					
5633		BOUL	08 12 1608	S25 W35	08 10.0		A	HA	60	2	2	2
5633		PALE	08 12 1720	S26 W37	08 9.8		A	HS	80	1	2	3
5633		HOLL	08 12 1745	S26 W38	08 9.8		A	HS	120	1	2	3
5633		LEAR	08 13 0146	S26 W40	08 10.0		A	HS	80	1	2	3
5633		CULG	08 13 0340	S27 W42	08 9.9		A	HS	100	1	2	3
5633		RAMY	08 13 1230	S26 W46	08 9.9		A	HA	70	1	2	4
5633	25441	MWIL	08 13 1500	S25 W48	08 9.9	4	(AP)					
5633		BOUL	08 13 1515	S25 W45	08 10.1		A	HS	30	1	2	3
5633		HOLL	08 13 1730	S27 W50	08 9.8		A	HS	70	1	2	3
5633		PALE	08 13 1820	S26 W50	08 9.9		A	HA	110	1	2	3
5633		CULG	08 14 0335	S27 W56	08 9.8		A	HS	80	1	2	4
5633		RAMY	08 14 1245	S26 W61	08 9.8		A	HS	60	1	2	4
5633		BOUL	08 14 1325	S26 W59	08 10.0		A	HS	60	1	2	3
5633	25441	MWIL	08 14 1530	S25 W61	08 9.9	5	(AP)					
5633		PALE	08 14 1820	S27 W64	08 9.8		A	HA	50	1	1	2
5633		HOLL	08 14 1830	S24 W62	08 10.0		A	HS	120	1	2	2
5633		LEAR	08 15 0040	S26 W62	08 10.2		A	HS	110	1	2	3
5633		BOUL	08 15 1325	S27 W69	08 10.2		A	AX		1	1	3
5633	25441	MWIL	08 15 1545	S26 W74	08 9.9	4	(AP)					
5633		HOLL	08 15 1800	S27 W72	08 10.1		A	HS	120	1	2	2
5633		PALE	08 15 2023	S26 W79	08 9.7		A	HA	60	1	2	3
5633		LEAR	08 16 0015	S24 W75	08 10.2		A	HS	30	1	2	3
5634A		BOUL	08 06 1415	N34 E70	08 12.2		A	AX	10	1	1	3
5634		RAMY	08 05 1430	S15 E80	08 11.7		A	HS	50	1	2	3
5634		PALE	08 05 1750	S14 E85	08 12.2		A	HS	30	1	2	3
5634		HOLL	08 05 1850	S14 E81	08 11.9		A	HS	80	1	2	2
5634		LEAR	08 06 0105	S14 E75	08 11.7		B	CAO	60	3	5	3
5634		CULG	08 06 0330	S12 E82	08 12.3		B	CAO	110	5	12	3
5634		RAMY	08 06 1240	S13 E72	08 12.0		B	EKI	420	10	12	3
5634		BOUL	08 06 1415	S17 E75	08 12.3		B	DSO	150	3	10	3
5634	25445	MWIL	08 06 1445	S14 E74	08 12.2	5	(B)					
5634		HOLL	08 06 1450	S15 E73	08 12.1		B	ESI	300	6	12	2
5634		PALE	08 06 1740	S14 E79	08 12.7		B	FAO	360	7	16	3
5634		CULG	08 07 0130	S13 E71	08 12.4		B	EAI	390	11	15	2
5634		LEAR	08 07 0145	S14 E68	08 12.2		B	ESO	230	6	13	3
5634		RAMY	08 07 1220	S13 E61	08 12.1		B	ESI	400	25	16	4
5634	25445	MWIL	08 07 1500	S15 E62	08 12.3	5	(B)					
5634		HOLL	08 07 1730	S15 E59	08 12.2		B	ESO	380	16	12	2
5634		PALE	08 07 1920	S13 E58	08 12.2		B	EHO	420	13	14	3
5634		LEAR	08 08 0020	S15 E55	08 12.2		B	EAI	340	16	15	3
5634		CULG	08 08 0220	S14 E56	08 12.3		B	EAI	260	14	14	3
5634		RAMY	08 08 1240	S14 E48	08 12.1		B	ESI	400	26	15	4

S U N S P O T G R O U P S
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AUGUST 1989

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
5634		BOUL	08 08	1350	S15 E46	08 12.0		B	ESI	140	12	14	3
5634	25445	MWIL	08 08	1430	S15 E47	08 12.2	5	(BG)					
5634		HOLL	08 08	1457	S15 E48	08 12.2		B	ESI	270	27	15	3
5634		PALE	08 08	2225	S14 E43	08 12.2		B	EKO	360	16	14	3
5634		LEAR	08 09	0115	S13 E41	08 12.1		B	EAO	240	16	15	2
5634		RAMY	08 09	1240	S15 E36	08 12.2		B	EAO	350	39	15	4
5634		BOUL	08 09	1320	S15 E33	08 12.0		B	ESO	170	12	14	3
5634		HOLL	08 09	1430	S15 E33	08 12.1		B	EHO	360	32	15	3
5634	25445	MWIL	08 09	1600	S14 E33	08 12.2	5	(BP)					
5634		PALE	08 09	1740	S14 E33	08 12.2		B	EHI	290	32	15	4
5634		LEAR	08 10	0025	S15 E28	08 12.1		B	FAI	300	22	16	3
5634		CULG	08 10	0250	S12 E27	08 12.1		BG	FAI	200	25	15	3
5634		BOUL	08 10	1330	S15 E21	08 12.1		B	ESO	160	10	14	3
5634		RAMY	08 10	1448	S15 E21	08 12.2		B	EAI	240	26	15	4
5634		HOLL	08 10	1500	S15 E21	08 12.2		B	FHO	260	31	16	2
5634	25445	MWIL	08 10	1500	S15 E21	08 12.2	5	(B)					
5634		PALE	08 10	1715	S14 E20	08 12.2		B	FSI	260	31	16	4
5634		LEAR	08 11	0030	S15 E15	08 12.1		B	FKI	190	31	16	4
5634		RAMY	08 11	1214	S15 E10	08 12.3		BG	FAO	280	19	16	3
5634	25445	MWIL	08 11	1430	S15 E08	08 12.2	5	(B)					
5634		HOLL	08 11	1730	S15 E08	08 12.3		B	CHO	250	20	18	3
5634		PALE	08 11	1921	S14 E04	08 12.1		B	CHI	260	34	17	3
5634		LEAR	08 12	0130	S13 E03	08 12.3		B	FSO	180	11	16	2
5634		CULG	08 12	0200	S13 E03	08 12.3		B	CAI	160	10	16	3
5634		RAMY	08 12	1225	S12 W03	08 12.3		B	CKO	290	29	17	3
5634	25445	MWIL	08 12	1430	S13 W07	08 12.1	5	(BG)					
5634		BOUL	08 12	1608	S12 W05	08 12.3		B	CAO	150	16	16	2
5634		PALE	08 12	1720	S15 W06	08 12.3		B	CKO	320	24	17	3
5634		HOLL	08 12	1745	S13 W06	08 12.3		B	FKO	340	37	17	3
5634		LEAR	08 13	0146	S13 W10	08 12.3		B	FSO	190	11	18	3
5634		CULG	08 13	0340	S13 W12	08 12.2		B	FAO	200	12	16	3
5634		RAMY	08 13	1230	S13 W16	08 12.3		B	FKO	330	31	17	4
5634	25445	MWIL	08 13	1500	S13 W21	08 12.0	5	(B)					
5634		BOUL	08 13	1515	S12 W19	08 12.2		B	CAO	80	7	10	3
5634		HOLL	08 13	1730	S15 W20	08 12.2		B	FHO	370	61	17	3
5634		PALE	08 13	1820	S14 W22	08 12.1		B	EKO	440	15	14	3
5634		CULG	08 14	0335	S13 W28	08 12.0		B	ESI	260	14	14	4
5634		RAMY	08 14	1245	S13 W32	08 12.1		B	EAO	260	17	14	4
5634		BOUL	08 14	1325	S12 W32	08 12.1		B	CSO	80	7	10	3
5634	25445	MWIL	08 14	1530	S13 W36	08 11.9	5	(BP)					
5634		PALE	08 14	1820	S14 W32	08 12.3		B	CAO	120	15	17	2
5634		HOLL	08 14	1830	S13 W32	08 12.3		B	CHO	260	26	17	2
5634		LEAR	08 15	0040	S13 W39	08 12.1		B	ESO	190	7	12	3
5634		BOUL	08 15	1325	S12 W45	08 12.2		B	CSO	70	5	8	3
5634	25445	MWIL	08 15	1545	S13 W52	08 11.7	5	(BP)					
5634		HOLL	08 15	1800	S13 W44	08 12.4		B	CAO	300	8	16	2
5634		PALE	08 15	2023	S13 W51	08 12.0		B	CKO	140	5	12	3
5634		LEAR	08 16	0015	S12 W53	08 12.0		B	CAO	100	2	6	3
5634		BOUL	08 16	1320	S12 W61	08 11.9		B	BXO	10	2	2	3
5634		HOLL	08 16	1515	S12 W63	08 11.9		B	DSO	110	3	3	3
5634	25445	MWIL	08 16	1530	S13 W66	08 11.7	5	(AP)					
5634		PALE	08 16	1720	S13 W68	08 11.6		B	DAO	140	2	3	3
5634		LEAR	08 17	0110	S12 W70	08 11.8		B	DSO	90	2	2	3
5634		CULG	08 17	0335	S14 W73	08 11.6		B	CSO	50	2	4	3
5634		RAMY	08 17	1237	S13 W78	08 11.6		B	DAO	90	2	4	2
5634		BOUL	08 17	1325	S13 W78	08 11.7		B	BXO	10	2	2	3
5634	25445	MWIL	08 17	1415	S12 W78	08 11.7	3	AP					
5634		HOLL	08 17	1612	S12 W79	08 11.7		B	CSO	30	2	3	3
5634		PALE	08 17	1745	S13 W81	08 11.6		B	CAO	50	2	4	3
5633A		LEAR	08 06	0105	N13 E80	08 12.1		A	HA	30	1	1	3
5633A		HOLL	08 06	1450	N13 E78	08 12.5		A	HS	120	2	2	2
5636	25446	MWIL	08 06	1445	N34 E78	08 12.8	4	(AP)					
5636		RAMY	08 07	1220	N34 E61	08 12.4		B	BXO	10	3	3	4
5636	25446	MWIL	08 07	1500	N34 E64	08 12.7	4	(B)					
5636		HOLL	08 07	1730	N34 E61	08 12.6		A	AX	10	2	2	2
5636		PALE	08 07	1920	N33 E60	08 12.6		A	AX	10	2	1	3
5636		LEAR	08 08	0020	N32 E56	08 12.4		A	AX	20	1	1	3

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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
5636		RAMY	08	08	1240	N32	E48	08	12.3		A	AX		1		4
5636	25446	MWIL	08	08	1430	N32	E49	08	12.5	2	AP					
5636		HOLL	08	08	1457	N32	E49	08	12.5		A	AX	10	2	2	3
5636		RAMY	08	09	1240	N27	E42	08	12.8		B	BXO	10	4	3	4
5636		HOLL	08	09	1430	N28	E41	08	12.8		B	BXO	10	3	3	3
5636	25456	MWIL	08	09	1600	N28	E40	08	12.8	4	(AP)					
5636		LEAR	08	10	0025	N27	E34	08	12.7		B	BXO	10	2	3	3
5636		CULG	08	10	0250	N30	E33	08	12.7		B	CRO	10	2	4	3
5636		RAMY	08	10	1448	N29	E28	08	12.8		B	BXO	20	4	3	4
5636	25456	MWIL	08	10	1500	N27	E25	08	12.6	4	(AP)					
5636		HOLL	08	10	1500	N28	E25	08	12.6		A	AX		1		2
5636		PALE	08	10	1715	N28	E24	08	12.6		A	AX		1		4
5636		PALE	08	11	1921	N29	E10	08	12.6		B	BXO	10	10	5	3
5636		PALE	08	15	2023	N26	W39	08	12.8		A	AX		2	2	3
5636		RAMY	08	17	1237	N25	W64	08	12.6		B	BXO	20	3	4	2
5636		BOUL	08	17	1325	N25	W60	08	12.9		B	BXO	10	2	3	3
5636	25473	MWIL	08	17	1415	N26	W62	08	12.8	3	(B)					
5636		HOLL	08	17	1612	N26	W63	08	12.8		B	CRO	20	3	4	3
5636		PALE	08	17	1745	N25	W63	08	12.8		A	AX	20	1	1	3
5636		LEAR	08	18	0021	N25	W66	08	12.9		B	BXO	20	2	6	4
5636		RAMY	08	18	1218	N27	W71	08	13.0		A	AX	10	1	1	4
5636	25473	MWIL	08	18	1530	N26	W74	08	12.9	4	(AF)					
5636		HOLL	08	18	1540	N26	W74	08	12.9		A	HR	30	2	2	2
5636		PALE	08	18	1740	N24	W76	08	12.9		A	AX	10	1	1	3
5636		LEAR	08	19	0040	N25	W78	08	13.0		A	AX	30	1	2	4
5635		CULG	08	06	0330	N16	E86	08	12.7		A	HA	60	2	2	3
5635		RAMY	08	06	1240	N14	E83	08	12.8		A	HA	120	4	9	3
5635		BOUL	08	06	1415	N12	E73	08	12.1		A	HA	60	2	2	3
5635	25447	MWIL	08	06	1445	N14	E78	08	12.5	4	(AP					
5635		PALE	08	06	1740	N15	E79	08	12.7		A	HA	120	1	2	3
5635		CULG	08	07	0130	N15	E80	08	13.1		B	DAO	170	5	10	2
5635		LEAR	08	07	0145	N13	E75	08	12.7		B	DAO	90	3	10	3
5635		RAMY	08	07	1220	N13	E68	08	12.6		B	DAO	200	7	10	4
5635	25450	MWIL	08	07	1500	N12	E75	08	13.3	4	(AP)					
5635	25447	MWIL	08	07	1500	N13	E66	08	12.6	5	(AP)					
5635		HOLL	08	07	1730	N12	E68	08	12.8		B	ESO	210	11	11	2
5635		PALE	08	07	1920	N15	E65	08	12.7		B	EAO	220	5	11	3
5635		LEAR	08	08	0020	N13	E64	08	12.8		B	DAO	20	7	10	3
5635		CULG	08	08	0220	N14	E64	08	12.9		B	EAO	140	13	12	3
5635		RAMY	08	08	1240	N13	E57	08	12.8		B	DAO	140	12	10	4
5635		BOUL	08	08	1350	N12	E56	08	12.8		B	DSO	150	2	8	3
5635	25450	MWIL	08	08	1430	N12	E60	08	13.1	5	(AP)					
5635	25447	MWIL	08	08	1430	N13	E52	08	12.5	5	(BP)					
5635		HOLL	08	08	1457	N13	E56	08	12.8		B	DAO	120	11	10	3
5635		PALE	08	08	2225	N15	E52	08	12.9		B	EAO	110	7	13	3
5635		LEAR	08	09	0115	N13	E50	08	12.8		B	EAO	170	10	12	2
5635		RAMY	08	09	1240	N13	E44	08	12.8		B	EAO	160	20	13	4
5635		BOUL	08	09	1320	N12	E42	08	12.7		B	DSO	90	6	9	3
5635		HOLL	08	09	1430	N13	E42	08	12.8		B	EAO	170	36	14	3
5635	25450	MWIL	08	09	1600	N13	E46	08	13.1	5	(AP)					
5635	25447	MWIL	08	09	1600	N14	E38	08	12.5	5	(BG)					
5635		PALE	08	09	1740	N13	E41	08	12.8		B	ESO	80	22	13	4
5635		LEAR	08	10	0025	N13	E36	08	12.7		BG	ESO	70	11	10	3
5635		CULG	08	10	0250	N17	E35	08	12.8		B	DSO	30	11	12	3
5635		BOUL	08	10	1330	N12	E28	08	12.7		B	CSO	30	6	9	3
5635		RAMY	08	10	1448	N13	E29	08	12.8		B	DAO	100	12	10	4
5635	25450	MWIL	08	10	1500	N12	E33	08	13.1	5	(AP)					
5635	25447	MWIL	08	10	1500	N13	E26	08	12.6	4	(AP)					
5635		HOLL	08	10	1500	N14	E27	08	12.7		B	DSO	80	22	10	2
5635		PALE	08	10	1715	N14	E28	08	12.8		B	DSO	60	18	9	4
5635		LEAR	08	11	0030	N12	E23	08	12.7		BG	CSO	40	14	10	4
5635		RAMY	08	11	1214	N14	E19	08	12.9		B	CAO	80	18	15	3
5635	25450	MWIL	08	11	1430	N12	E21	08	13.2	5	(AP)					
5635	25447	MWIL	08	11	1430	N13	E13	08	12.6	4	(BP)					
5635		HOLL	08	11	1730	N13	E16	08	12.9		B	CSO	30	8	12	3
5635		PALE	08	11	1921	N12	E15	08	12.9		B	CAO	70	17	13	3
5635		LEAR	08	12	0130	N14	E09	08	12.7		B	CAO	50	7	9	2
5635		CULG	08	12	0200	N15	E10	08	12.8		B	CAO	20	13	9	3

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5635		RAMY	08	12	1225	N14	E07	08	13.0		B	CAI	60	18	14	3
5635	25450	MWIL	08	12	1430	N13	E08	08	13.2	4	(AP)					
5635	25447	MWIL	08	12	1430	N15	E02	08	12.7	3	(B)					
5635		BOUL	08	12	1608	N13	E05	08	13.0		A	HA	20	1	1	2
5635		PALE	08	12	1720	N14	E05	08	13.1		B	CSO	60	11	7	3
5635		HOLL	08	12	1745	N13	E04	08	13.0		B	CAO	60	10	7	3
5635		LEAR	08	13	0146	N15	W02	08	12.9		B	CSO	50	3	6	3
5635		CULG	08	13	0340	N13	W04	08	12.8		B	CAO	20	4	7	3
5635		RAMY	08	13	1230	N12	W06	08	13.1		B	CAO	50	13	10	4
5635	25450	MWIL	08	13	1500	N13	W05	08	13.2	5	(AP)					
5635	25447	MWIL	08	13	1500	N13	W12	08	12.7	3	(B)					
5635		BOUL	08	13	1515	N13	W05	08	13.2		A	AX		1	1	3
5635		HOLL	08	13	1730	N13	W10	08	13.0		B	CSO	70	23	13	3
5635		PALE	08	13	1820	N13	W09	08	13.1		A	HS	40	1	2	3
5635		CULG	08	14	0335	N13	W14	08	13.1		A	HS	30	1	1	4
5635		RAMY	08	14	1245	N11	W20	08	13.0		A	HA	20	1	1	4
5635		BOUL	08	14	1325	N13	W18	08	13.2		A	AX		1	1	3
5635	25450	MWIL	08	14	1530	N14	W21	08	13.0	5	(AP)					
5635		PALE	08	14	1820	N15	W27	08	12.7		B	BXO	20	8	11	2
5635		HOLL	08	14	1830	N15	W26	08	12.8		B	DRO	20	5	10	2
5635		LEAR	08	15	0040	N13	W23	08	13.3		B	CSO	20	2	4	3
5635		BOUL	08	15	1325	N13	W32	08	13.1		A	AX		1	1	3
5635	25450	MWIL	08	15	1545	N13	W34	08	13.1	4	(AP)					
5635		HOLL	08	15	1800	N13	W34	08	13.2		A	AX	20	2	2	2
5635		PALE	08	15	2023	N13	W36	08	13.1		B	BXO	20	6	7	3
5635		LEAR	08	16	0015	N13	W38	08	13.1		A	AX	10	1	1	3
5635		BOUL	08	16	1320	N13	W45	08	13.2		A	AX		1	1	3
5635		HOLL	08	16	1515	N13	W46	08	13.2		A	AX	10	1	1	3
5635	25450	MWIL	08	16	1530	N13	W47	08	13.1	4	(B)					
5635		PALE	08	16	1720	N12	W48	08	13.1		A	AX		1	1	3
5635		LEAR	08	17	0110	N13	W51	08	13.2		A	AX	20	1	1	3
5635		CULG	08	17	0335	N12	W56	08	12.9		A	AX	10	1		3
5635	25450	MWIL	08	17	1415	N13	W59	08	13.1	3	(AP)					
5635		PALE	08	17	1745	N12	W61	08	13.1		A	AX		1		3
5635A	25468	MWIL	08	14	1530	N28	W24	08	12.8	4	(AP)					
5636A		RAMY	08	06	1240	N35	E78	08	12.8		B	CRO	50	5	4	3
5636A		PALE	08	06	1740	N35	E79	08	13.0		B	BXO	10	4	4	3
5636B		RAMY	08	11	1214	N04	E28	08	13.6		A	AX	10	2	1	3
5636B	25460	MWIL	08	11	1430	N03	E27	08	13.6	3	(B)					
5637		RAMY	08	07	1220	N25	E75	08	13.3		A	AX	10	2	2	4
5637	25449	MWIL	08	07	1500	N25	E71	08	13.1	3	(AF)					
5637		HOLL	08	07	1730	N26	E75	08	13.5		A	AX	10	10	1	2
5637		PALE	08	07	1920	N27	E74	08	13.6		A	AX		1		3
5637		LEAR	08	08	0020	N25	E69	08	13.3		A	AX	20	1	1	3
5637		CULG	08	08	0220	N27	E73	08	13.8		A	AX		1		3
5637		RAMY	08	08	1240	N26	E63	08	13.4		A	AX		1		4
5637		BOUL	08	08	1350	N25	E60	08	13.2		A	AX		1	1	3
5637	25449	MWIL	08	08	1430	N25	E64	08	13.6	3	(AP)					
5637		HOLL	08	08	1457	N26	E63	08	13.5		A	AX		1		3
5637		PALE	08	08	2225	N27	E60	08	13.6		A	AX		1		3
5637		LEAR	08	09	0115	N26	E57	08	13.5		A	AX	20	1	1	2
5637		RAMY	08	09	1240	N25	E51	08	13.5		A	AX		1		4
5637		HOLL	08	09	1430	N25	E51	08	13.5		A	AX	10	2	2	3
5637	25449	MWIL	08	09	1600	N25	E50	08	13.5	4	(AP)					
5637		PALE	08	09	1740	N26	E45	08	13.2		B	BXO	10	5	10	4
5637		LEAR	08	10	0025	N25	E45	08	13.5		A	AX	10	1	1	3
5637		PALE	08	10	1715	N25	E39	08	13.7		A	AX		1		4
5637		LEAR	08	11	0030	N24	E34	08	13.6		A	AX	10	1	1	4
5637		RAMY	08	11	1214	N25	E29	08	13.7		B	BXO	10	5	4	3
5637	25459	MWIL	08	11	1430	N26	E28	08	13.8	4	(AP)					
5637		HOLL	08	11	1730	N27	E27	08	13.8		A	AX	10	2	1	3
5637		PALE	08	11	1921	N28	E27	08	13.9		B	BXO		3	1	3
5637		LEAR	08	12	0130	N27	E21	08	13.7		A	AX	10	1	1	2
5637	25459	MWIL	08	12	1430	N27	E16	08	13.8	3	(AP)					
5637		CULG	08	13	0340	N28	E09	08	13.8		B	BXO		3	4	3

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5637		RAMY	08	20	1415	N27	W85	08	14.0		A	HA	120	3	3	3
5637	25487	MWIL	08	20	1445	N28	W84	08	14.0	3	X					
5637		PALE	08	20	1721	N26	W79	08	14.6		A	AX		1	1	4
5637		HOLL	08	20	2023	N28	W86	08	14.1		A	HR	120	1	3	3
5637A		LEAR	08	10	0025	N12	E70	08	15.3		A	AX	10	1	1	3
5637A		LEAR	08	13	0400	N14	E27	08	15.2		B	CRO	20	6	4	3
5637B	25478	MWIL	08	19	1430	N25	W53	08	15.5	4	(AF)					
5637C	25479	MWIL	08	19	1430	N34	W51	08	15.5	4	(AP)					
5648		HOLL	08	16	1515	N07	W15	08	15.5		B	BXO	10	3	3	3
5648	25471	MWIL	08	16	1530	N08	W15	08	15.5	4	(B)					
5648		PALE	08	16	1720	N06	W17	08	15.4		A	AX		1	1	3
5648		CULG	08	17	0335	N07	W24	08	15.3		A	AX	10	1	1	3
5648		RAMY	08	17	1237	N07	W30	08	15.3		A	AX	10	2	1	2
5648		BOUL	08	17	1325	N08	W28	08	15.4		B	BXO	10	3	3	3
5648	25471	MWIL	08	17	1415	N07	W29	08	15.4	4	(BP)					
5648		HOLL	08	17	1612	N07	W31	08	15.3		B	BXO	10	3	3	3
5648		PALE	08	17	1745	N07	W31	08	15.4		B	BXO		3	3	3
5648		LEAR	08	18	0021	N07	W37	08	15.2		A	AX	10	1	1	4
5639	25453	MWIL	08	08	1430	N28	E88	08	15.5	3	AP					
5639		HOLL	08	08	1457	N28	E86	08	15.3		B	DSO	120	2	4	3
5639		PALE	08	08	2225	N30	E78	08	15.1		B	DKO	120	5	6	3
5639		LEAR	08	09	0115	N30	E78	08	15.2		B	DSO	120	3	8	2
5639		RAMY	08	09	1240	N28	E73	08	15.2		A	HA	140	5	3	4
5639		BOUL	08	09	1320	N28	E75	08	15.4		B	DSO	300	3	9	3
5639		HOLL	08	09	1430	N28	E75	08	15.5		B	DKO	180	7	5	3
5639	25453	MWIL	08	09	1600	N28	E74	08	15.4	5	(AP)					
5639		PALE	08	09	1740	N29	E75	08	15.6		B	DAO	180	4	3	4
5639		LEAR	08	10	0025	N27	E64	08	15.0		B	DAO	170	3	3	3
5639		BOUL	08	10	1330	N28	E59	08	15.2		B	DSO	80	2	5	3
5639		RAMY	08	10	1448	N28	E63	08	15.5		B	CAO	200	6	5	4
5639		HOLL	08	10	1500	N28	E62	08	15.5		B	DKO	180	7	10	2
5639	25453	MWIL	08	10	1500	N29	E62	08	15.5	5	(BP)					
5639		PALE	08	10	1715	N28	E66	08	15.9		B	CAO	110	14	11	4
5639		LEAR	08	11	0030	N26	E58	08	15.5		B	CAO	170	7	12	4
5639		RAMY	08	11	1214	N27	E55	08	15.8		B	CAO	140	6	14	3
5639	25453	MWIL	08	11	1430	N28	E50	08	15.5	5	(BG)					
5639		HOLL	08	11	1730	N29	E51	08	15.7		B	CSO	90	7	11	3
5639		PALE	08	11	1921	N27	E51	08	15.8		B	EAO	100	7	13	3
5639		LEAR	08	12	0130	N29	E41	08	15.3		B	CSO	70	4	5	2
5639		RAMY	08	12	1225	N29	E37	08	15.4		A	HA	140	5	4	3
5639	25453	MWIL	08	12	1430	N29	E36	08	15.4	5	(AP)					
5639		BOUL	08	12	1608	N29	E33	08	15.2		B	DAO	50	4	5	2
5639		PALE	08	12	1720	N29	E35	08	15.5		B	DSO	90	6	5	3
5639		HOLL	08	12	1745	N28	E34	08	15.4		B	DAO	140	16	6	3
5639		LEAR	08	13	0146	N30	E31	08	15.5		B	DSO	100	3	4	3
5639		CULG	08	13	0340	N31	E28	08	15.4		B	CAO	70	5	5	3
5639		RAMY	08	13	1230	N30	E25	08	15.5		B	CAO	120	16	9	4
5639	25453	MWIL	08	13	1500	N29	E24	08	15.5	5	(AP)					
5639		BOUL	08	13	1515	N29	E23	08	15.4		B	CAO	30	3	4	3
5639		HOLL	08	13	1730	N27	E23	08	15.5		B	CSO	80	8	5	3
5639		PALE	08	13	1820	N30	E22	08	15.5		B	CSO	100	6	4	3
5639		CULG	08	14	0335	N31	E17	08	15.5		B	CSO	80	4	3	4
5639		RAMY	08	14	1245	N29	E14	08	15.6		B	CAO	100	9	11	4
5639		BOUL	08	14	1325	N29	E12	08	15.5		B	CSO	30	4	4	3
5639	25453	MWIL	08	14	1530	N29	E14	08	15.7	5	(BP)					
5639		PALE	08	14	1820	N29	E10	08	15.5		B	CSO	50	15	5	2
5639		HOLL	08	14	1830	N29	E13	08	15.8		B	CSO	50	11	17	2
5639		LEAR	08	15	0040	N30	E07	08	15.6		B	DSO	80	3	3	3
5639		BOUL	08	15	1325	N28	E05	08	15.9		A	AX		1	1	3
5639	25453	MWIL	08	15	1545	N30	E01	08	15.7	5	(BP)					
5639		HOLL	08	15	1800	N30	W03	08	15.5		B	ESO	190	9	11	2
5639		PALE	08	15	2023	N29	E00	08	15.8		B	CSO	70	7	12	3
5639		LEAR	08	16	0015	N27	W02	08	15.8		B	CSO	60	6	11	3
5639		BOUL	08	16	1320	N29	W15	08	15.4		B	CSO	20	2	3	3

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

AUGUST 1989

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
5639		HOLL	08	16	1515	N32	W12	08	15.7		B	CSO	90	10	8	3
5639	25453	MWIL	08	16	1530	N30	W13	08	15.6	5	(BP)					
5639		PALE	08	16	1720	N31	W16	08	15.4		B	CSO	120	4	5	3
5639		LEAR	08	17	0110	N30	W18	08	15.6		A	HS	40	1	1	3
5639		CULG	08	17	0335	N32	W22	08	15.4		B	CSO	60	2	3	3
5639		RAMY	08	17	1237	N30	W26	08	15.5		B	CSO	50	1	2	2
5639		BOUL	08	17	1325	N30	W25	08	15.6		A	HS	20	1	2	3
5639	25453	MWIL	08	17	1415	N30	W25	08	15.6	4	(AP)					
5639		HOLL	08	17	1612	N30	W27	08	15.5		A	HS	70	1	2	3
5639		PALE	08	17	1745	N30	W29	08	15.4		A	HS	70	1	2	3
5639		LEAR	08	18	0021	N29	W31	08	15.6		A	HS	50	1	2	4
5639		RAMY	08	18	1218	N32	W37	08	15.6		A	CAO	80	3	3	4
5639	25453	MWIL	08	18	1530	N31	W38	08	15.6	5	(AP)					
5639		HOLL	08	18	1540	N33	W37	08	15.7		B	CSO	80	4	5	2
5639		PALE	08	18	1740	N29	W41	08	15.5		A	HS	50	1	2	3
5639		LEAR	08	19	0040	N29	W43	08	15.6		A	HS	60	1	2	4
5639		CULG	08	19	0503	N30	W49	08	15.3		A	HS	20	1	1	2
5639		BOUL	08	19	1345	N29	W48	08	15.8		A	HS	30	1	1	4
5639	25453	MWIL	08	19	1430	N30	W51	08	15.6	5	(AP)					
5639		HOLL	08	19	1500	N31	W51	08	15.6		B	CAO	110	3	3	3
5639		PALE	08	19	1908	N30	W54	08	15.5		A	HS	60	1	1	3
5639		LEAR	08	20	0010	N27	W56	08	15.6		B	CSO	40	2	6	4
5639		RAMY	08	20	1415	N30	W63	08	15.6		A	HS	200	1	3	3
5639	25453	MWIL	08	20	1445	N30	W64	08	15.6	5	(AP)					
5639		BOUL	08	20	1545	N31	W62	08	15.8		A	HS	40	1	1	1
5639		PALE	08	20	1721	N28	W64	08	15.7		A	HS	40	1	1	4
5639		HOLL	08	20	2023	N29	W67	08	15.6		A	HS	100	1	2	3
5639		LEAR	08	21	0100	N29	W67	08	15.8		A	HS	50	1	1	3
5639		CULG	08	21	0310	N28	W74	08	15.3		A	HS	30	1	2	3
5639		RAMY	08	21	1315	N29	W73	08	15.8		A	HS	30	1	2	4
5639		BOUL	08	21	1330	N30	W70	08	16.0		A	AX		1	1	3
5639	25453	MWIL	08	21	1545	N29	W76	08	15.7	4	(AP)					
5639		HOLL	08	21	1835	N30	W78	08	15.6		A	HR	120	2	3	3
5639		LEAR	08	22	0015	N29	W85	08	15.3		A	HR	60	1	1	3
5639		CULG	08	22	0200	N28	W85	08	15.4		A	HS	10	1	2	2
5640		PALE	08	09	1740	N14	E80	08	15.8		A	AX		2	1	4
5640	25457	MWIL	08	10	1500	N13	E67	08	15.7	4	(B)					
5640		HOLL	08	10	1500	N14	E68	08	15.8		B	CSO	70	6	5	2
5640		PALE	08	10	1715	N14	E67	08	15.8		B	BXO	20	10	5	4
5640		LEAR	08	11	0030	N12	E60	08	15.5		B	CSO	30	6	4	4
5640		RAMY	08	11	1214	N13	E56	08	15.7		B	CSO	40	12	5	3
5640	25457	MWIL	08	11	1430	N13	E55	08	15.7	4	(BP)					
5640		HOLL	08	11	1730	N13	E52	08	15.6		B	CRO	30	11	4	3
5640		PALE	08	11	1921	N13	E54	08	15.9		B	BXO	10	7	5	3
5640		LEAR	08	12	0130	N14	E47	08	15.6		B	CAO	50	5	4	2
5640		RAMY	08	12	1225	N14	E41	08	15.6		B	BXO	40	7	6	3
5640	25457	MWIL	08	12	1430	N13	E41	08	15.7	4	(B)					
5640		PALE	08	12	1720	N14	E40	08	15.7		B	CSO	40	6	4	3
5640		HOLL	08	12	1745	N13	E40	08	15.7		B	BXO	20	8	4	3
5640		LEAR	08	13	0146	N14	E35	08	15.7		B	BXO	20	3	3	3
5640		CULG	08	13	0340	N16	E35	08	15.8		B	CRO	10	3	3	3
5640		RAMY	08	13	1230	N13	E29	08	15.7		B	BXO	10	6	3	4
5640	25457	MWIL	08	13	1500	N13	E27	08	15.7	4	(B)					
5640	25466	MWIL	08	13	1500	N14	E35	08	16.3	4	(B)					
5640		HOLL	08	13	1730	N12	E26	08	15.7		B	BXO	20	8	5	3
5640		HOLL	08	13	1730	N13	E33	08	16.2		B	BXO	10	4	3	3
5640		PALE	08	13	1820	N14	E26	08	15.7		B	BXO	20	7	4	3
5640		PALE	08	13	1820	N15	E33	08	16.3		B	BXO	10	3	3	3
5640		CULG	08	14	0335	N15	E24	08	16.0		B	BXO	10	12	9	4
5640		BOUL	08	14	1325	N14	E20	08	16.1		B	BXO	10	5	4	3
5640	25457	MWIL	08	14	1530	N13	E13	08	15.6	4	(AP)					
5640	25466	MWIL	08	14	1530	N14	E21	08	16.2	5	(B)					
5640		PALE	08	14	1820	N12	E12	08	15.7		A	AX	10	5	2	2
5640		PALE	08	14	1820	N15	E19	08	16.2		B	BXO	10	11	6	2
5640		HOLL	08	14	1830	N13	E22	08	16.4		A	AX	10	4	2	2
5640		HOLL	08	14	1830	N15	E17	08	16.0		B	BXO	10	4	4	2
5640		LEAR	08	15	0040	N14	E14	08	16.1		B	CRO	10	3	3	3
5640		LEAR	08	15	0040	N15	E17	08	16.3		B	CRO	10	5	3	3

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

AUGUST 1989

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5640		BOUL	08	15	1325	N14	E05	08	15.9		A	AX		1	1	3
5640		RAMY	08	15	1500	N14	E06	08	16.1		A	AX	10	2	2	3
5640	25466	MWIL	08	15	1545	N14	E06	08	16.1	4	(BP)					
5640		HOLL	08	15	1800	N14	E05	08	16.1		A	AX	10	2	1	2
5640		PALE	08	15	2023	N13	E03	08	16.1		A	AX		2	1	3
5640		LEAR	08	16	0015	N13	E01	08	16.1		A	AX	10	2	2	3
5640		HOLL	08	16	1515	N17	W05	08	16.2		A	AX		1		3
5640	25472	MWIL	08	16	1530	N17	W05	08	16.3	4	(AF)					
5640		CULG	08	17	0335	N17	W12	08	16.2		B	BXO	10	2	1	3
5640	25474	MWIL	08	17	1415	N14	W22	08	15.9	4	(AP)					
5640		HOLL	08	20	2023	N17	W60	08	16.3		A	AX	10	2	1	3
5640		LEAR	08	21	0100	N16	W63	08	16.3		B	CRO	20	4	4	3
5640		CULG	08	21	0310	N15	W68	08	16.0		B	BXO	10	6	3	3
5640		RAMY	08	21	1315	N17	W70	08	16.2		B	CAO	130	8	5	4
5640		BOUL	08	21	1330	N15	W65	08	16.6		B	BXO	10	4	4	3
5640	25490	MWIL	08	21	1545	N17	W72	08	16.2	5	(BF)					
5640		HOLL	08	21	1835	N17	W74	08	16.1		B	CRO	140	7	9	3
5640		LEAR	08	22	0015	N16	W81	08	15.9		B	CRO	60	6	4	3
5640		CULG	08	22	0200	N14	W84	08	15.7		B	CRO	30	5	10	2
5640		HOLL	08	22	1400	N18	W79	08	16.6		B	CAO	40	3	8	4
5640	25490	MWIL	08	22	1515	N17	W82	08	16.4	3	B					
5640A	25461	MWIL	08	11	1430	N28	E60	08	16.3	3	(AF)					
5640A	25491	MWIL	08	22	1515	N27	W73	08	16.9	4	(AP)					
5640A		PALE	08	22	1730	N27	W79	08	16.6		A	HS	60	1	2	3
5641		BOUL	08	10	1330	N12	E65	08	15.4		B	BXO	10	2	2	3
5641		RAMY	08	10	1448	N13	E68	08	15.7		B	CAO	90	6	4	4
5641		PALE	08	10	1715	N19	E80	08	16.8		A	AX	10	2	1	4
5641		LEAR	08	11	0030	N13	E78	08	16.9		A	HS	10	1	1	4
5641		RAMY	08	11	1214	N17	E77	08	17.4		B	DAI	190	15	10	3
5641	25462	MWIL	08	11	1430	N19	E70	08	16.9	4	(B)					
5641		HOLL	08	11	1730	N18	E68	08	16.9		B	BXO	10	3	5	3
5641		PALE	08	11	1921	N18	E68	08	17.0		A	AX		2	1	3
5641		LEAR	08	12	0130	N21	E62	08	16.8		A	AX	20	4	5	2
5641		RAMY	08	12	1225	N19	E58	08	16.9		B	BXO	10	13	4	3
5641	25462	MWIL	08	12	1430	N18	E57	08	16.9	4	(BP)					
5641		BOUL	08	12	1608	N19	E53	08	16.7		B	BXO		2	1	2
5641		PALE	08	12	1720	N19	E55	08	16.9		B	BXO	10	3	3	3
5641		HOLL	08	12	1745	N18	E57	08	17.1		B	BXO	50	13	6	3
5641		LEAR	08	13	0146	N19	E49	08	16.8		B	CSO	30	5	4	3
5641		CULG	08	13	0340	N21	E50	08	17.0		B	CSO	30	2	3	3
5641		RAMY	08	13	1230	N19	E44	08	16.9		B	CRO	40	8	3	4
5641	25462	MWIL	08	13	1500	N18	E44	08	17.0	4	(BP)					
5641		BOUL	08	13	1515	N18	E42	08	16.8		B	BXO	10	3	2	3
5641		HOLL	08	13	1730	N18	E42	08	16.9		B	BXO	20	10	5	3
5641		PALE	08	13	1820	N19	E41	08	16.9		B	BXO	40	8	3	3
5641		CULG	08	14	0335	N20	E37	08	17.0		B	BXO	10	9	4	4
5641		RAMY	08	14	1245	N19	E30	08	16.8		B	BXO	30	13	5	4
5641		BOUL	08	14	1325	N18	E28	08	16.7		B	BXO	10	5	4	3
5641	25462	MWIL	08	14	1530	N18	E31	08	17.0	5	(B)					
5641		PALE	08	14	1820	N19	E32	08	17.2		B	BXO		4	3	2
5641		HOLL	08	14	1830	N19	E28	08	16.9		A	AX	20	7	3	2
5641		LEAR	08	15	0040	N19	E26	08	17.0		B	CRO	20	3	3	3
5641		BOUL	08	15	1325	N18	E17	08	16.8		B	BXO	10	2	2	3
5641		RAMY	08	15	1500	N19	E18	08	17.0		B	CAO	70	10	6	3
5641	25462	MWIL	08	15	1545	N18	E17	08	16.9	5	(BF)					
5641		PALE	08	15	2023	N17	E17	08	17.1		B	CAO	110	10	6	3
5641		LEAR	08	16	0015	N18	E14	08	17.1		B	CAO	80	9	5	3
5641		BOUL	08	16	1320	N19	E04	08	16.9		B	BXO	10	3	3	3
5641	25462	MWIL	08	16	1530	N18	E04	08	16.9	5	(D)					
5641		PALE	08	16	1720	N18	E04	08	17.0		B	CAO	80	6	3	3
5641		LEAR	08	17	0110	N19	W01	08	17.0		B	DSO	40	6	2	3
5641		CULG	08	17	0335	N20	W05	08	16.8		A	HA	50	11	2	3
5641		RAMY	08	17	1237	N19	W08	08	16.9		B	CAO	60	8	3	2
5641		BOUL	08	17	1325	N19	W08	08	16.9		B	BXO	10	3	3	3
5641	25462	MWIL	08	17	1415	N19	W09	08	16.9	5	(B)					
5641		HOLL	08	17	1612	N19	W09	08	17.0		B	CAO	60	9	4	3
5641		PALE	08	17	1745	N19	W11	08	16.9		B	CAO	30	6	3	3

S U N S P O T G R O U P S
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AUGUST 1989

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
5641		LEAR	08 18 0021	N19 W15	08 16.9		B	CSO	40	6	3	4
5641		RAMY	08 18 1218	N18 W22	08 16.8		B	BXO	10	7	3	4
5641	25462	MWIL	08 18 1530	N19 W23	08 16.9	5	(BF)					
5641		HOLL	08 18 1540	N19 W23	08 16.9		B	BXO	20	9	4	2
5641		PALE	08 18 1740	N18 W26	08 16.7		B	BXO	10	6	3	3
5641		LEAR	08 19 0040	N17 W28	08 16.9		B	CAO	20	2	3	4
5641		CULG	08 19 0503	N18 W33	08 16.7		B	BXO	10	2	1	2
5641		BOUL	08 19 1345	N18 W34	08 17.0		A	AX		1		4
5641	25462	MWIL	08 19 1430	N19 W36	08 16.8	4	(AF)					
5641		HOLL	08 19 1500	N19 W36	08 16.9		A	AX	10	1	1	3
5641		PALE	08 19 1908	N17 W37	08 17.0		A	AX		2		3
5641		PALE	08 20 1721	N15 W57	08 16.4		A	AX		2		4
5641		HOLL	08 20 2023	N17 W60	08 16.3		A	AX	10	2	1	3
5658	25488	MWIL	08 20 1445	N27 W45	08 17.1	4	(B)					
5658		HOLL	08 23 1415	N26 W85	08 17.0		B	BXO	30	4	4	3
5658A		RAMY	08 20 1415	N27 W44	08 17.2		B	BXO	10	2	2	3
5658A		PALE	08 20 1721	N26 W45	08 17.2		B	BXO		2	3	4
5658A		HOLL	08 22 1400	N28 W70	08 17.1		B	BXO	10	3	3	4
5643	25463	MWIL	08 11 1430	N15 E82	08 17.8	5	AP)					
5643		HOLL	08 11 1730	N14 E77	08 17.5		B	EKI	360	10	11	3
5643		PALE	08 11 1921	N14 E76	08 17.5		B	DAO	340	10	7	3
5643		LEAR	08 12 0130	N17 E72	08 17.5		B	DKI	480	16	9	2
5643		RAMY	08 12 1225	N15 E69	08 17.7		B	EKI	910	37	12	3
5643	25463	MWIL	08 12 1430	N15 E68	08 17.7	5	(B)					
5643		BOUL	08 12 1608	N15 E64	08 17.5		B	DAI	320	12	9	2
5643		PALE	08 12 1720	N16 E65	08 17.6		B	EKI	960	18	11	3
5643		HOLL	08 12 1745	N14 E67	08 17.8		B	DKI	790	48	15	3
5643		LEAR	08 13 0146	N16 E61	08 17.7		B	DKI	760	23	10	3
5643		CULG	08 13 0340	N17 E63	08 17.9		B	EKI	920	23	11	3
5643		RAMY	08 13 1230	N15 E56	08 17.8		BGD	EKC	1170	59	12	4
5643	25463	MWIL	08 13 1500	N15 E55	08 17.8	5	(D)					
5643		BOUL	08 13 1515	N15 E55	08 17.8		B	CKI	800	18	10	3
5643		HOLL	08 13 1730	N14 E55	08 17.9		B	FKI	1470	87	16	3
5643		PALE	08 13 1820	N16 E51	08 17.6		B	EKC	1730	48	15	3
5643		CULG	08 14 0335	N17 E47	08 17.7		GD	EKC	1800	30	11	4
5643		RAMY	08 14 1245	N15 E41	08 17.6		BGD	EKC	1680	63	15	4
5643		BOUL	08 14 1325	N15 E42	08 17.7		B	EKC	1200	17	11	3
5643	25463	MWIL	08 14 1530	N15 E42	08 17.8	6	(BG)					
5643		PALE	08 14 1820	N15 E42	08 17.9		BGD	EKC	1940	42	15	2
5643		HOLL	08 14 1830	N16 E40	08 17.8		BD	EKC	1520	44	15	2
5643		LEAR	08 15 0040	N15 E36	08 17.7		BD	EKC	1680	60	12	3
5643		BOUL	08 15 1325	N15 E29	08 17.7		B	EKC	1400	26	13	3
5643		RAMY	08 15 1500	N15 E29	08 17.8		BGD	EKC	2280	66	13	3
5643	25463	MWIL	08 15 1545	N15 E27	08 17.7	6	(BG)					
5643		HOLL	08 15 1800	N15 E28	08 17.9		BD	FKC	1990	43	19	2
5643		PALE	08 15 2023	N15 E27	08 17.9		BD	EKC	1750	57	15	3
5643		LEAR	08 16 0015	N14 E23	08 17.7		BD	EKC	1300	43	13	3
5643		BOUL	08 16 1320	N15 E17	08 17.8		BD	EKC	1600	29	14	3
5643		HOLL	08 16 1515	N16 E16	08 17.8		BD	FKC	2660	0	20	3
5643	25463	MWIL	08 16 1530	N15 E14	08 17.7	6	(BP)					
5643		PALE	08 16 1720	N14 E15	08 17.8		BD	FKC	1900	91	17	3
5643		LEAR	08 17 0110	N15 E11	08 17.9		B	EKC	1500	56	15	3
5643		CULG	08 17 0335	N16 E09	08 17.8		BD	FKC	1530	80	15	3
5643		RAMY	08 17 1237	N15 E06	08 18.0		BGD	EKC	1690	90	16	2
5643		BOUL	08 17 1325	N15 E05	08 17.9		B	EKC	1500	27	14	3
5643	25463	MWIL	08 17 1415	N16 E03	08 17.8	6	(BG)					
5643		HOLL	08 17 1612	N16 E03	08 17.9		BD	EKC	1560	93	14	3
5643		PALE	08 17 1745	N16 E02	08 17.9		BD	EKC	1510	0	15	3
5643		LEAR	08 18 0021	N15 W02	08 17.9		B	EKI	1600	97	15	4
5643		RAMY	08 18 1218	N16 W09	08 17.8		BD	EKC	1570	78	14	4
5643	25463	MWIL	08 18 1530	N16 W12	08 17.7	6	(BG)					
5643		HOLL	08 18 1540	N16 W10	08 17.9		BD	FKC	2090	0	18	2
5643		PALE	08 18 1740	N16 W12	08 17.8		BD	EKC	1360	0	14	3
5643		LEAR	08 19 0040	N16 W16	08 17.8		B	EKI	1600	88	14	4
5643		CULG	08 19 0503	N17 W19	08 17.8		BG	EKC	1400	51	14	2
5643		BOUL	08 19 1345	N17 W22	08 17.9		B	EKC	770	0	12	4

SUNSPOT GROUPS
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AUGUST 1989

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5643	25463	MWIL	08	19	1430	N16	W23	08	17.8	6	(BG)					
5643		HOLL	08	19	1500	N16	W24	08	17.8		BD	EKC	2000	68	14	3
5643		PALE	08	19	1908	N17	W26	08	17.8		BD	EKC	1350	0	14	3
5643		LEAR	08	20	0010	N16	W28	08	17.9		BG	EKC	1380	0	13	4
5643	25463	MWIL	08	20	1445	N16	W37	08	17.8	6	(D)					
5643		BOUL	08	20	1545	N17	W35	08	18.0		B	EKC	600	36	12	1
5643		PALE	08	20	1721	N15	W37	08	17.9		BD	EKC	1220	83	14	4
5643		HOLL	08	20	2023	N15	W40	08	17.8		BG	EKC	1420	56	14	3
5643		LEAR	08	21	0100	N17	W42	08	17.8		BG	EKC	1200	57	14	3
5643		CULG	08	21	0310	N16	W45	08	17.7		B	EKI	950	63	14	3
5643		RAMY	08	21	1315	N16	W47	08	18.0		B	FKI	940	37	16	4
5643		BOUL	08	21	1330	N17	W48	08	17.9		B	EKC	550	23	14	3
5643	25463	MWIL	08	21	1545	N16	W51	08	17.8	6	(BP)					
5643		HOLL	08	21	1835	N16	W51	08	17.9		B	FKI	1000	38	17	3
5643		LEAR	08	22	0015	N16	W55	08	17.8		BG	FKO	820	27	16	3
5643		CULG	08	22	0200	N16	W58	08	17.7		B	FKI	950	29	17	2
5643		HOLL	08	22	1400	N16	W60	08	18.0		B	EKI	720	19	14	4
5643	25463	MWIL	08	22	1515	N16	W66	08	17.6	6	(BG)					
5643		BOUL	08	22	1520	N15	W64	08	17.8		B	CAI	270	8	10	2
5643		PALE	08	22	1730	N16	W64	08	17.9		B	EKI	750	10	13	3
5643		LEAR	08	23	0020	N16	W69	08	17.8		BG	DKO	600	11	12	3
5643		CULG	08	23	0415	N15	W75	08	17.5		B	CHO	600	7	12	3
5643		BOUL	08	23	1345	N15	W72	08	18.1		B	CAI	230	11	10	3
5643		HOLL	08	23	1415	N16	W75	08	17.9		B	CKI	530	20	9	3
5643	25463	MWIL	08	23	1515	N16	W79	08	17.6	6	(BP)					
5643		PALE	08	23	1810	N15	W77	08	17.9		B	CKI	390	13	15	3
5643		LEAR	08	24	0040	N16	W80	08	18.0		B	CHO	450	6	7	3
5643A		PALE	08	17	1745	S30	E14	08	18.8		A	AX		1		3
5644	25465	MWIL	08	12	1430	N21	E86	08	19.2	2	AP					
5644		PALE	08	12	1720	N23	E81	08	19.0		B	BXO	10	2	3	3
5644		LEAR	08	13	0146	N23	E78	08	19.1		A	HS	30	1	2	3
5644		CULG	08	13	0340	N23	E80	08	19.3		A	HS	20	1	1	3
5644	25465	MWIL	08	13	1500	N21	E73	08	19.2	4	(AP)					
5644		BOUL	08	13	1515	N22	E71	08	19.1		A	AX		1	1	3
5644		HOLL	08	13	1730	N21	E70	08	19.1		A	HS	50	1	1	3
5644		PALE	08	13	1820	N23	E70	08	19.1		A	HA	50	1	2	3
5644		CULG	08	14	0335	N23	E67	08	19.3		A	HS	20	1	1	4
5644		RAMY	08	14	1245	N20	E58	08	19.0		B	CSO	50	4	3	4
5644		BOUL	08	14	1325	N22	E58	08	19.0		A	AX		1	1	3
5644	25465	MWIL	08	14	1530	N21	E58	08	19.1	5	(AP)					
5644		PALE	08	14	1820	N20	E58	08	19.2		A	HA	1610	1	1	2
5644		HOLL	08	14	1830	N20	E57	08	19.1		B	CSO	40	5	6	2
5644		LEAR	08	15	0040	N20	E52	08	19.0		B	DSO	80	4	4	3
5644		BOUL	08	15	1325	N19	E45	08	19.0		B	BXO	10	4	5	3
5644		RAMY	08	15	1500	N18	E47	08	19.2		B	CAO	40	4	5	3
5644	25465	MWIL	08	15	1545	N19	E45	08	19.1	5	(BP)					
5644		HOLL	08	15	1800	N20	E45	08	19.2		B	DAO	140	8	7	2
5644		PALE	08	15	2023	N20	E42	08	19.1		B	DAO	50	4	6	3
5644		LEAR	08	16	0015	N18	E40	08	19.0		B	DSO	50	6	6	3
5644		BOUL	08	16	1320	N20	E32	08	19.0		B	BXO	10	3	6	3
5644		HOLL	08	16	1515	N20	E33	08	19.1		B	DSO	50	4	7	3
5644	25465	MWIL	08	16	1530	N18	E32	08	19.1	5	(BG)					
5644		PALE	08	16	1720	N20	E32	08	19.2		B	DSO	40	2	6	3
5644		LEAR	08	17	0110	N19	E26	08	19.0		B	BXO	50	11	6	3
5644		CULG	08	17	0335	N22	E24	08	19.0		B	DSO	20	10	7	3
5644		RAMY	08	17	1237	N18	E20	08	19.0		B	DAO	110	25	8	2
5644		BOUL	08	17	1325	N19	E19	08	19.0		B	BXO	10	7	7	3
5644	25465	MWIL	08	17	1415	N19	E19	08	19.0	4	(B)					
5644		HOLL	08	17	1612	N18	E19	08	19.1		B	DAI	110	25	8	3
5644		PALE	08	17	1745	N20	E17	08	19.0		B	DAO	40	20	7	3
5644		LEAR	08	18	0021	N17	E16	08	19.2		B	EAO	70	22	12	4
5644		RAMY	08	18	1218	N19	E07	08	19.0		B	DAO	100	23	8	4
5644	25465	MWIL	08	18	1530	N19	E05	08	19.0	5	(BG)					
5644		HOLL	08	18	1540	N18	E05	08	19.0		B	EKI	100	30	13	2
5644		PALE	08	18	1740	N19	E04	08	19.0		B	DAI	70	27	8	3
5644		LEAR	08	19	0040	N18	E01	08	19.1		B	EAO	300	23	13	4
5644		CULG	08	19	0503	N20	W02	08	19.0		B	CAO	50	21	13	2

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5644		BOUL	08	19	1345	N19	W07	08	19.0		B	DAO	50	18	7	4
5644	25465	MWIL	08	19	1430	N18	W08	08	19.0	4	(B)					
5644	25480	MWIL	08	19	1430	N22	W05	08	19.2	5	(AP)					
5644		HOLL	08	19	1500	N21	W08	08	19.0		B	DAI	290	15	9	3
5644		PALE	08	19	1908	N20	W10	08	19.0		B	DAI	160	24	9	3
5644		LEAR	08	20	0010	N20	W14	08	18.9		B	DAO	110	26	9	4
5644		RAMY	08	20	1415	N19	W21	08	19.0		B	DAO	110	28	8	3
5644	25465	MWIL	08	20	1445	N18	W22	08	18.9	4	(B)					
5644	25480	MWIL	08	20	1445	N22	W19	08	19.1	5	(AP)					
5644		BOUL	08	20	1545	N19	W25	08	18.7		B	DAO	50	3	3	1
5644		PALE	08	20	1721	N18	W23	08	19.0		B	CAI	110	27	9	4
5644		HOLL	08	20	2023	N20	W25	08	18.9		B	DAI	230	25	9	3
5644		LEAR	08	21	0100	N20	W27	08	19.0		B	DAO	160	17	9	3
5644		CULG	08	21	0310	N20	W30	08	18.8		B	DAI	90	14	7	3
5644		RAMY	08	21	1315	N20	W33	08	19.0		B	EAO	160	20	11	4
5644		BOUL	08	21	1330	N18	W35	08	18.9		B	CSO	50	2	5	3
5644	25465	MWIL	08	21	1545	N18	W37	08	18.8	4	(D)					
5644	25480	MWIL	08	21	1545	N22	W33	08	19.1	4	(BP)					
5644		HOLL	08	21	1835	N21	W37	08	18.9		B	CAO	170	16	9	3
5644		CULG	08	22	0200	N20	W42	08	18.9		B	CAO	60	9	8	2
5644		HOLL	08	22	1400	N19	W46	08	19.1		B	CAO	60	4	9	4
5644	25465	MWIL	08	22	1515	N18	W51	08	18.7	5	(AP)					
5644		BOUL	08	22	1520	N18	W52	08	18.7		A	HS	60	1	2	2
5644		PALE	08	22	1730	N18	W50	08	18.9		B	CHO	130	3	8	3
5644		LEAR	08	23	0020	N20	W53	08	19.0		B	CSO	80	6	10	3
5644		CULG	08	23	0415	N19	W57	08	18.8		B	CSO	90	5	8	3
5644		BOUL	08	23	1345	N22	W58	08	19.1		B	CSO	50	3	6	3
5644		HOLL	08	23	1415	N20	W60	08	19.0		B	CSO	110	5	10	3
5644	25465	MWIL	08	23	1515	N21	W63	08	18.8	5	(BP)					
5644		PALE	08	23	1810	N19	W64	08	18.9		B	CAO	100	6	10	3
5644		LEAR	08	24	0040	N23	W66	08	18.9		B	CSO	130	3	6	3
5644		CULG	08	24	0220	N19	W68	08	18.9		B	CSO	70	6	10	2
5644		RAMY	08	24	1225	N21	W77	08	18.6		B	CAO	70	4	9	4
5644		HOLL	08	24	1355	N21	W77	08	18.7		B	CAO	130	3	6	3
5644		BOUL	08	24	1425	N18	W77	08	18.7		A	HA	90	2	2	3
5644	25465	MWIL	08	24	1440	N19	W78	08	18.6	5	(AP)					
5644		PALE	08	24	1740	N17	W79	08	18.7		A	HS	60	1	2	3
5644		LEAR	08	25	0050	N18	W81	08	18.9		A	HS	120	1	2	3
5644A		HOLL	08	12	1745	N23	E87	08	19.4		A	HH	90	1	3	3
5644A		BOUL	08	20	1545	N23	W18	08	19.3		A	AX		1	1	1
5644A		BOUL	08	21	1330	N23	W30	08	19.2		B	BXO	10	4	4	3
5646		LEAR	08	13	0400	S23	E66	08	18.2		A	HH	250	1	3	3
5646	25467	MWIL	08	13	1500	S23	E75	08	19.4	4	(AP)					
5646		BOUL	08	13	1515	S22	E70	08	19.0		A	HS	60	1	3	3
5646		HOLL	08	13	1730	S24	E73	08	19.4		A	HH	270	1	3	3
5646		PALE	08	13	1820	S22	E72	08	19.3		A	HK	300	1	3	3
5646		CULG	08	14	0335	S21	E70	08	19.5		A	HH	260	1	2	4
5646		RAMY	08	14	1245	S22	E61	08	19.2		A	HK	220	1	3	4
5646		BOUL	08	14	1325	S22	E58	08	19.0		A	HS	130	1	2	3
5646	25467	MWIL	08	14	1530	S23	E61	08	19.3	5	(AP)					
5646		PALE	08	14	1820	S23	E60	08	19.4		A	HK	240	1	3	2
5646		HOLL	08	14	1830	S22	E59	08	19.3		A	HH	30	1	3	2
5646		LEAR	08	15	0040	S23	E56	08	19.3		A	HH	310	1	3	3
5646		BOUL	08	15	1325	S22	E46	08	19.1		B	CSO	150	3	5	3
5646		RAMY	08	15	1500	S23	E50	08	19.5		B	CAO	370	3	5	3
5646	25467	MWIL	08	15	1545	S23	E48	08	19.3	5	(BP)					
5646		HOLL	08	15	1800	S24	E50	08	19.6		B	DHO	430	4	6	2
5646		PALE	08	15	2023	S24	E50	08	19.7		A	CKO	340	3	6	3
5646		LEAR	08	16	0015	S24	E45	08	19.5		B	CHO	290	3	5	3
5646		BOUL	08	16	1320	S22	E34	08	19.2		B	CSO	140	2	5	3
5646		HOLL	08	16	1515	S23	E38	08	19.6		B	CSO	350	5	6	3
5646	25467	MWIL	08	16	1530	S23	E35	08	19.3	6	(BP)					
5646		PALE	08	16	1720	S23	E35	08	19.4		A	HH	420	2	5	3
5646		LEAR	08	17	0110	S23	E30	08	19.4		A	HS	270	2	3	3
5646		CULG	08	17	0335	S22	E32	08	19.6		B	CHO	290	3	6	3
5646		RAMY	08	17	1237	S23	E24	08	19.4		A	HS	240	1	2	2
5646		BOUL	08	17	1325	S22	E23	08	19.3		A	HS	240	1	5	3

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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
5646	25467	MWIL	08	17	1415	S23	E23	08	19.4	6	(BP)					
5646		HOLL	08	17	1612	S23	E24	08	19.5		B	CHO	360	5	5	3
5646		PALE	08	17	1745	S23	E23	08	19.5		B	CHO	350	5	5	3
5646		LEAR	08	18	0021	S18	E23	08	19.8		A	HH	360	1	4	4
5646		RAMY	08	18	1218	S23	E12	08	19.4		B	CKO	330	4	4	4
5646	25467	MWIL	08	18	1530	S23	E09	08	19.3	5	(BP)					
5646		HOLL	08	18	1540	S23	E08	08	19.3		B	CHO	370	6	5	2
5646		PALE	08	18	1740	S23	E11	08	19.6		B	CHO	320	6	5	3
5646		LEAR	08	19	0040	S22	E07	08	19.6		B	CHO	330	3	4	4
5646		CULG	08	19	0503	S24	E02	08	19.4		B	CHO	310	4	5	2
5646		BOUL	08	19	1345	S22	W01	08	19.5		B	CHO	260	6	6	4
5646	25467	MWIL	08	19	1430	S23	W03	08	19.4	5	(BP)					
5646		HOLL	08	19	1500	S23	W03	08	19.4		B	CHO	460	6	7	3
5646		PALE	08	19	1908	S22	W04	08	19.5		B	CHO	310	10	4	3
5646		LEAR	08	20	0010	S23	W07	08	19.5		B	CHO	250	8	6	4
5646		RAMY	08	20	1415	S26	W14	08	19.5		B	CKO	350	8	6	3
5646	25467	MWIL	08	20	1445	S23	W15	08	19.4	5	(BP)					
5646		BOUL	08	20	1545	S22	W15	08	19.5		A	HS	100	1	3	1
5646		PALE	08	20	1721	S25	W14	08	19.6		B	CHO	330	8	6	4
5646		HOLL	08	20	2023	S23	W18	08	19.5		B	CHO	380	5	6	3
5646		LEAR	08	21	0100	S23	W21	08	19.4		A	HH	290	2	4	3
5646		CULG	08	21	0310	S24	W22	08	19.4		B	CHO	380	4	4	3
5646		RAMY	08	21	1315	S24	W27	08	19.5		B	CKO	400	3	6	4
5646		BOUL	08	21	1330	S22	W28	08	19.4		A	HS	200	1	4	3
5646	25467	MWIL	08	21	1545	S23	W28	08	19.5	6	(AP)					
5646		HOLL	08	21	1835	S23	W30	08	19.5		A	HH	390	1	3	3
5646		LEAR	08	22	0015	S23	W33	08	19.5		B	CHO	250	2	6	3
5646		CULG	08	22	0200	S25	W33	08	19.5		B	CHO	290	3	5	2
5646		HOLL	08	22	1400	S22	W43	08	19.3		B	CHO	250	3	5	4
5646	25467	MWIL	08	22	1515	S23	W42	08	19.4	6	(AP)					
5646		BOUL	08	22	1520	S22	W41	08	19.5		A	HS	120	1	3	2
5646		PALE	08	22	1730	S22	W42	08	19.5		A	HH	450	1	3	3
5646		LEAR	08	23	0020	S23	W45	08	19.5		B	CHO	270	2	5	3
5646		CULG	08	23	0415	S24	W49	08	19.4		A	HH	340	1	3	3
5646		BOUL	08	23	1345	S20	W52	08	19.6		A	HS	140	1	2	3
5646		HOLL	08	23	1415	S23	W55	08	19.3		B	CAO	290	3	4	3
5646	25467	MWIL	08	23	1515	S23	W54	08	19.5	5	(AP)					
5646		PALE	08	23	1810	S24	W56	08	19.4		A	HH	300	1	3	3
5646		LEAR	08	24	0040	S22	W59	08	19.5		A	HH	260	1	3	3
5646		CULG	08	24	0220	S23	W61	08	19.4		A	HH	250	1	3	2
5646		RAMY	08	24	1225	S22	W62	08	19.7		A	HK	300	1	3	4
5646		HOLL	08	24	1355	S23	W66	08	19.5		A	HK	280	1	3	3
5646		BOUL	08	24	1425	S22	W67	08	19.4		A	HK	270	4	3	3
5646	25467	MWIL	08	24	1440	S23	W68	08	19.4	5	(AP)					
5646		PALE	08	24	1740	S24	W70	08	19.3		A	HH	300	1	3	3
5646		LEAR	08	25	0050	S22	W70	08	19.6		A	HH	390	1	3	3
5646		RAMY	08	25	1354	S23	W72	08	20.0		A	HK	180	1	3	3
5646		HOLL	08	25	1400	S23	W80	08	19.4		A	HS	80	1	2	2
5646		BOUL	08	25	1440	S19	W81	08	19.4		A	HA	120	1	2	3
5645	25464	MWIL	08	12	1430	N27	E88	08	19.5	2	AP					
5645		CULG	08	13	0340	N29	E85	08	19.8		A	HA	220	2	3	3
5645		LEAR	08	13	0400	N27	E71	08	18.7		B	DKO	340	6	8	3
5645		RAMY	08	13	1230	N28	E79	08	19.7		A	HK	180	1	3	4
5645	25464	MWIL	08	13	1500	N27	E76	08	19.5	4	(AP)					
5645		BOUL	08	13	1515	N28	E75	08	19.5		A	HA	180	2	4	3
5645		HOLL	08	13	1730	N27	E75	08	19.6		A	HK	450	2	4	3
5645		PALE	08	13	1820	N28	E77	08	19.8		B	CKO	450	1	6	3
5645		CULG	08	14	0335	N30	E75	08	20.0		B	CKO	350	5	10	4
5645		RAMY	08	14	1245	N28	E65	08	19.6		B	DKO	550	14	10	4
5645		BOUL	08	14	1325	N28	E63	08	19.5		B	CSO	170	5	8	3
5645	25464	MWIL	08	14	1530	N27	E66	08	19.8	6	(BP)					
5645		PALE	08	14	1820	N27	E65	08	19.8		B	CKO	350	10	9	2
5645		HOLL	08	14	1830	N28	E65	08	19.8		B	EHI	480	14	10	2
5645		LEAR	08	15	0040	N27	E60	08	19.7		B	DKO	360	11	8	3
5645		BOUL	08	15	1325	N27	E54	08	19.8		B	CSO	300	8	10	3
5645		RAMY	08	15	1500	N27	E56	08	20.0		B	CKO	550	14	8	3
5645	25464	MWIL	08	15	1545	N27	E52	08	19.7	5	(BP)					
5645		HOLL	08	15	1800	N27	E54	08	19.9		B	DKI	670	11	10	2

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

AUGUST 1989

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
5645		PALE	08 15 2023	N27 E48	08 19.6		B	CKI	500	17	11	3
5645		LEAR	08 16 0015	N26 E48	08 19.7		B	CKI	440	16	9	3
5645		BOUL	08 16 1320	N28 E41	08 19.7		B	CSO	150	9	10	3
5645		HOLL	08 16 1515	N28 E41	08 19.8		BD	CKI	590	36	11	3
5645	25464	MWIL	08 16 1530	N27 E39	08 19.7	5	(D)					
5645		PALE	08 16 1720	N28 E40	08 19.8		B	CKC	520	14	11	3
5645		LEAR	08 17 0110	N26 E35	08 19.8		B	CHO	390	14	10	3
5645		CULG	08 17 0335	N30 E36	08 20.0		B	DKI	360	17	10	3
5645		RAMY	08 17 1237	N27 E30	08 19.9		B	CKO	390	17	9	2
5645		BOUL	08 17 1325	N28 E30	08 19.9		B	CAO	250	10	10	3
5645	25464	MWIL	08 17 1415	N27 E28	08 19.8	5	(D)					
5645		HOLL	08 17 1612	N27 E29	08 19.9		B	DKI	400	15	9	3
5645		PALE	08 17 1745	N28 E29	08 20.0		B	DAI	390	20	10	3
5645		LEAR	08 18 0021	N28 E22	08 19.7		B	DKI	340	21	10	4
5645		RAMY	08 18 1218	N28 E15	08 19.7		B	DKO	360	23	9	4
5645	25464	MWIL	08 18 1530	N27 E15	08 19.8	5	(BP)					
5645		HOLL	08 18 1540	N28 E15	08 19.8		B	DKI	350	41	9	2
5645		PALE	08 18 1740	N28 E15	08 19.9		B	DKI	330	23	12	3
5645		LEAR	08 19 0040	N27 E11	08 19.9		B	FKO	500	22	18	4
5645		CULG	08 19 0503	N25 E13	08 20.2		B	DAO	20	4	4	2
5645		CULG	08 19 0503	N30 E07	08 19.8		B	DAI	210	12	8	2
5645		BOUL	08 19 1345	N24 E09	08 20.3		B	DAO	20	4	4	4
5645		BOUL	08 19 1345	N27 E04	08 19.9		B	DAO	250	15	7	4
5645	25481	MWIL	08 19 1430	N24 E09	08 20.3	5	(B)					
5645	25464	MWIL	08 19 1430	N28 E02	08 19.8	5	(BP)					
5645		HOLL	08 19 1500	N27 E06	08 20.1		B	CKI	400	29	12	3
5645		PALE	08 19 1908	N26 E03	08 20.0		B	EKO	320	26	13	3
5645		LEAR	08 20 0010	N27 E00	08 20.0		BG	EKO	300	27	12	4
5645		RAMY	08 20 1415	N27 W08	08 20.0		BG	FAI	380	26	16	3
5645	25481	MWIL	08 20 1445	N24 W06	08 20.1	5	(BG)					
5645	25464	MWIL	08 20 1445	N28 W11	08 19.7	5	(BP)					
5645		BOUL	08 20 1545	N27 W08	08 20.0		B	DAO	140	6	6	1
5645		PALE	08 20 1721	N25 W11	08 19.9		B	FAI	320	41	16	4
5645		HOLL	08 20 2023	N28 W11	08 20.0		B	FAI	430	26	16	3
5645		LEAR	08 21 0100	N27 W13	08 20.0		BG	EAO	320	20	13	3
5645		CULG	08 21 0310	N27 W16	08 19.9		B	CAO	210	23	13	3
5645		RAMY	08 21 1315	N26 W20	08 20.0		BG	CKI	320	22	15	4
5645		BOUL	08 21 1330	N27 W22	08 19.8		B	DAO	100	6	6	3
5645	25481	MWIL	08 21 1545	N24 W19	08 20.2	5	(BP)					
5645	25464	MWIL	08 21 1545	N28 W24	08 19.8	5	(BP)					
5645		HOLL	08 21 1835	N27 W26	08 19.7		BG	EAI	300	31	15	3
5645		CULG	08 22 0200	N26 W28	08 19.9		B	CAO	230	17	11	2
5645		HOLL	08 22 1400	N28 W35	08 19.8		B	DAI	230	15	8	4
5645	25481	MWIL	08 22 1515	N24 W33	08 20.1	5	(AP)					
5645	25464	MWIL	08 22 1515	N27 W37	08 19.7	5	(BG)					
5645		BOUL	08 22 1520	N27 W35	08 19.9		B	DAO	130	5	7	2
5645		PALE	08 22 1730	N27 W36	08 19.9		B	DHI	360	11	9	3
5645		LEAR	08 23 0020	N28 W40	08 19.9		BG	DAI	210	8	6	3
5645		CULG	08 23 0415	N25 W45	08 19.7		B	CAO	180	8	6	3
5645		BOUL	08 23 1345	N27 W48	08 19.8		B	DAO	130	5	6	3
5645		HOLL	08 23 1415	N27 W47	08 19.9		B	DAO	180	9	8	3
5645	25481	MWIL	08 23 1515	N24 W46	08 20.1	5	(AP)					
5645	25464	MWIL	08 23 1515	N28 W49	08 19.8	5	(BP)					
5645		PALE	08 23 1810	N26 W48	08 20.0		B	CAO	210	9	13	3
5645		LEAR	08 24 0040	N27 W54	08 19.8		B	DSO	220	6	7	3
5645		CULG	08 24 0220	N27 W58	08 19.6		B	CAO	230	5	4	2
5645		RAMY	08 24 1225	N27 W58	08 20.0		B	DAO	170	7	7	4
5645		HOLL	08 24 1355	N26 W60	08 19.9		B	DAO	160	8	7	3
5645		BOUL	08 24 1425	N26 W62	08 19.8		B	DAO	250	7	5	3
5645	25481	MWIL	08 24 1440	N23 W58	08 20.1	4	(AP)					
5645	25464	MWIL	08 24 1440	N27 W62	08 19.8	5	(AP)					
5645		PALE	08 24 1740	N26 W64	08 19.8		B	DAO	140	6	5	3
5645		LEAR	08 25 0050	N28 W67	08 19.8		B	DAO	180	5	5	3
5645		RAMY	08 25 1354	N27 W76	08 19.6		B	DAO	80	3	4	3
5645		HOLL	08 25 1400	N27 W75	08 19.7		B	CAO	150	6	4	2
5645		BOUL	08 25 1440	N30 W75	08 19.7		B	DAO	170	8	5	3
5645		LEAR	08 26 0006	N27 W78	08 19.9		B	CSO	120	4	3	4
5645		CULG	08 26 0321	N27 W87	08 19.4		B	DAO	20	2	5	3
5645		RAMY	08 26 1153	N26 W87	08 19.7		B	CAO	50	3	3	3

S U N S P O T G R O U P S
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AUGUST 1989

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
5645		BOUL	08 26 1345	N28 W88	08 19.7		A	HS	30	1	1	3
5645A		BOUL	08 17 1325	N18 E35	08 20.2		A	AX		1	1	3
5645C		BOUL	08 26 1345	N33 W62	08 21.6		B	BXO	10	4	2	3
5645C	25502	MWIL	08 26 1500	N32 W64	08 21.5	4	(B)					
5645C	25502	MWIL	08 27 1500	N33 W76	08 21.6	4	(B)					
5645E		LEAR	08 15 0040	N27 E83	08 21.5		A	HS	60	1	2	3
5645E		BOUL	08 15 1325	N27 E78	08 21.6		B	BXO	10	2	2	3
5645D		CULG	08 21 0310	N24 E09	08 21.8		B	BXO		2	2	3
5645D		CULG	08 23 0415	N22 W22	08 21.5		A	AX		1		3
5647	25469	MWIL	08 15 1545	N26 E78	08 21.7	4	(AP)					
5647		LEAR	08 16 0015	N26 E71	08 21.5		B	DAO	80	2	6	3
5647		BOUL	08 16 1320	N27 E66	08 21.7		B	BXO	10	4	8	3
5647		HOLL	08 16 1515	N28 E68	08 21.9		B	DAO	100	6	10	3
5647	25469	MWIL	08 16 1530	N26 E64	08 21.6	5	(AF)					
5647		PALE	08 16 1720	N28 E65	08 21.8		B	DAO	150	2	8	3
5647		LEAR	08 17 0110	N27 E61	08 21.8		B	CSO	70	4	8	3
5647		CULG	08 17 0335	N32 E61	08 22.0		B	DSO	30	2	9	3
5647		RAMY	08 17 1237	N27 E57	08 22.0		B	DAO	110	4	10	2
5647		BOUL	08 17 1325	N29 E56	08 21.9		B	BXO	10	3	8	3
5647	25469	MWIL	08 17 1415	N27 E52	08 21.6	4	(BF)					
5647		HOLL	08 17 1612	N27 E54	08 21.9		B	DSO	60	3	7	3
5647		PALE	08 17 1745	N29 E54	08 22.0		B	DAO	80	3	9	3
5647		LEAR	08 18 0021	N26 E46	08 21.6		B	CSO	30	3	2	4
5647		RAMY	08 18 1218	N28 E41	08 21.7		B	DAO	70	14	8	4
5647	25469	MWIL	08 18 1530	N26 E39	08 21.7	5	(BF)					
5647		HOLL	08 18 1540	N27 E38	08 21.6		B	CSO	20	3	5	2
5647		PALE	08 18 1740	N28 E37	08 21.6		B	CSO	20	4	3	3
5647		LEAR	08 19 0040	N28 E35	08 21.8		B	CSO	20	3	5	4
5647		CULG	08 19 0503	N29 E31	08 21.6		B	CAO	10	4	4	2
5647		BOUL	08 19 1345	N28 E28	08 21.8		B	CRO	10	10	9	4
5647	25469	MWIL	08 19 1430	N27 E27	08 21.7	5	(AP)					
5647		HOLL	08 19 1500	N26 E26	08 21.6		B	CRO	40	4	4	3
5647		PALE	08 19 1908	N28 E25	08 21.7		B	BXO		4	6	3
5647		LEAR	08 20 0010	N28 E23	08 21.8		B	CRO	20	6	3	4
5647		RAMY	08 20 1415	N28 E16	08 21.8		B	BXO	20	4	1	3
5647	25469	MWIL	08 20 1445	N27 E15	08 21.8	5	(AP)					
5647		PALE	08 20 1721	N28 E16	08 22.0		B	BXO	10	7	4	4
5647		HOLL	08 20 2023	N27 E13	08 21.9		B	BXO	20	6	4	3
5647		LEAR	08 21 0100	N27 E10	08 21.8		B	CRO	20	3	3	3
5647		CULG	08 21 0310	N29 E08	08 21.7		B	BXO		2	1	3
5647		RAMY	08 21 1315	N28 E03	08 21.8		B	BXO	10	4	3	4
5647	25469	MWIL	08 21 1545	N23 E03	08 21.9	4	(B)					
5647		HOLL	08 21 1835	N28 E03	08 22.0		B	BXO	20	6	6	3
5647		LEAR	08 22 0015	N28 W02	08 21.8		A	AX	10	1	1	3
5647		CULG	08 22 0200	N29 W04	08 21.8		B	BXO		2	2	2
5647		HOLL	08 22 1400	N29 W05	08 22.2		B	BXO	10	4	4	4
5647	25469	MWIL	08 22 1515	N23 W12	08 21.7	4	(AP)					
5647		PALE	08 22 1730	N28 W12	08 21.8		A	AX		1		3
5647		CULG	08 23 0415	N27 W18	08 21.8		A	AX		1		3
5647	25469	MWIL	08 23 1515	N23 W27	08 21.5	4	(AP)					
5647		PALE	08 24 1740	N31 W39	08 21.6		A	AX		1		3
5647		RAMY	08 26 1153	N32 W62	08 21.6		B	BXO	20	5	7	3
5647		PALE	08 26 1805	N33 W66	08 21.5		A	AX		2	2	3
5647		HOLL	08 26 1820	N32 W67	08 21.4		B	BXO	20	3	4	2
5647		LEAR	08 27 0010	N32 W67	08 21.7		B	BXO	70	2	3	4
5647		CULG	08 27 0301	N32 W74	08 21.3		B	BXO	10	2	4	2
5647		RAMY	08 27 1355	N32 W79	08 21.3		A	AX	10	1	1	1
5647		PALE	08 27 1815	N32 W78	08 21.6		A	AX		1		3
5654		BOUL	08 21 1330	N23 E03	08 21.8		B	BXO	10	2	2	3
5654		HOLL	08 21 1835	N23 E03	08 22.0		B	BXO	10	4	4	3
5654		CULG	08 22 0200	N23 W05	08 21.7		B	BXO		5	3	2
5654		HOLL	08 22 1400	N23 W12	08 21.6		A	AX		1		4
5654		PALE	08 22 1730	N22 W12	08 21.8		B	BXO		2	3	3

S U N S P O T G R O U P S
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AUGUST 1989

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5654		HOLL	08	23	1415	N23	W27	08	21.5		A	AX		1		3
5654		PALE	08	24	1740	N23	W40	08	21.6		A	AX		1		3
5654C		RAMY	08	15	1500	N28	E81	08	21.9		B	DAO	120	2	10	3
5654C		HOLL	08	15	1800	N28	E80	08	22.0		B	DSO	240	4	9	2
5654C		CULG	08	22	0200	N33	W02	08	21.9		A	AX		3	1	2
5654D		LEAR	08	21	0100	N23	E11	08	21.9		B	BXO	10	2	2	3
5654D		RAMY	08	21	1315	N23	E04	08	21.9		B	BXO	10	5	4	4
5649	25470	MWIL	08	15	1545	N29	E84	08	22.2	4	(AP)					
5649		PALE	08	15	2023	N28	E83	08	22.3		B	CAO	40	3	10	3
5649	25470	MWIL	08	16	1530	N29	E71	08	22.2	4	(AP)					
5649	25470	MWIL	08	17	1415	N29	E59	08	22.2	4	(BF)					
5649		LEAR	08	18	0021	N29	E53	08	22.2		B	CAO	50	2	2	4
5649	25470	MWIL	08	18	1530	N29	E45	08	22.2	5	(BF)					
5649		HOLL	08	18	1540	N29	E45	08	22.2		B	CAO	20	5	4	2
5649		PALE	08	18	1740	N31	E45	08	22.3		A	HR	20	2	1	3
5649		LEAR	08	19	0040	N31	E40	08	22.2		B	CAO	30	2	3	4
5649		CULG	08	19	0503	N31	E38	08	22.2		B	CSO	20	2	1	2
5649	25470	MWIL	08	19	1430	N30	E30	08	22.0	4	(BG)					
5649		HOLL	08	19	1500	N28	E33	08	22.2		B	CRO	60	8	4	3
5649		PALE	08	19	1908	N31	E32	08	22.3		B	BXO		2	3	3
5649		LEAR	08	20	0010	N30	E27	08	22.1		A	HR	20	1	1	4
5649		RAMY	08	20	1415	N29	E19	08	22.1		A	AX	10	1	1	3
5649	25470	MWIL	08	20	1445	N30	E18	08	22.0	4	(B)					
5649		PALE	08	20	1721	N30	E18	08	22.1		A	AX		1		4
5649		HOLL	08	20	2023	N30	E18	08	22.3		A	AX	10	1	1	3
5649		LEAR	08	21	0100	N30	E14	08	22.1		A	AX	10	1	1	3
5649		CULG	08	21	0310	N31	E12	08	22.1		A	AX		1		3
5649		RAMY	08	21	1315	N30	E08	08	22.2		A	AX		1		4
5649	25470	MWIL	08	21	1545	N28	E04	08	22.0	4	(BP)					
5649		HOLL	08	21	1835	N32	E06	08	22.2		B	BXO	10	5	7	3
5649		LEAR	08	22	0015	N31	E02	08	22.2		A	AX	10	1	1	3
5649	25470	MWIL	08	22	1515	N30	W12	08	21.7	4	(AP)					
5651		RAMY	08	17	1237	N14	E68	08	22.7		A	AX	10	2	1	2
5651	25475	MWIL	08	17	1415	N14	E67	08	22.6	3	(AP)					
5651		HOLL	08	17	1612	N13	E66	08	22.6		A	AX		1		3
5651		PALE	08	17	1745	N16	E66	08	22.7		B	BXO	10	2	3	3
5651		LEAR	08	18	0021	N16	E59	08	22.5		B	BXO	20	3	1	4
5651		RAMY	08	18	1218	N15	E54	08	22.6		B	BXO	10	2	4	4
5651		PALE	08	18	1740	N16	E54	08	22.8		B	BXO	10	4	4	3
5651		LEAR	08	19	0040	N16	E49	08	22.7		B	BXO	20	3	6	4
5651		CULG	08	19	0503	N16	E49	08	22.9		A	AX	10	1	1	2
5651		BOUL	08	19	1345	N16	E43	08	22.8		A	AX		1		4
5651	25482	MWIL	08	19	1430	N15	E43	08	22.8	4	(AF)					
5651		HOLL	08	19	1500	N14	E42	08	22.8		A	HR	30	2	1	3
5651		PALE	08	19	1908	N15	E43	08	23.0		A	AX		1		3
5651		LEAR	08	20	0010	N15	E35	08	22.6		B	BXO	10	2	6	4
5651		RAMY	08	20	1415	N13	E23	08	22.3		A	AX		1	10	3
5651	25489	MWIL	08	20	1445	N15	E25	08	22.5	4	(AP)					
5651		PALE	08	20	1721	N14	E24	08	22.5		A	AX		1		4
5651		HOLL	08	20	2023	N14	E21	08	22.4		A	AX	10	1	1	3
5651		LEAR	08	21	0100	N14	E20	08	22.5		B	BXO	10	2	3	3
5651		CULG	08	21	0310	N15	E18	08	22.5		B	BXO		2	3	3
5651		RAMY	08	21	1315	N14	E13	08	22.5		B	BXO	10	3	5	4
5651	25489	MWIL	08	21	1545	N14	E13	08	22.6	4	(BP)					
5651		HOLL	08	21	1835	N16	E11	08	22.6		B	BXO	10	5	3	3
5651		LEAR	08	22	0015	N15	E09	08	22.7				10	1	1	3
5651		CULG	08	23	0415	N14	W08	08	22.6		A	AX		1		3
5651		HOLL	08	23	1415	N15	W13	08	22.6		A	AX	10	5	2	3
5651	25494	MWIL	08	23	1515	N15	W14	08	22.6	4	(AP)					
5651		PALE	08	23	1810	N14	W15	08	22.6		A	AX		2	1	3
5651		LEAR	08	24	0040	N15	W18	08	22.7		A	AX	10	1	1	3
5650		RAMY	08	17	1237	S14	E79	08	23.5		A	AX	20	2	2	2
5650	25476	MWIL	08	17	1415	S14	E78	08	23.5	3	(AP)					
5650		HOLL	08	17	1612	S14	E78	08	23.6		B	BXO	10	3	4	3

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

AUGUST 1989

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
5650		PALE	08	17	1745	S13	E77	08	23.5		A	AX		1		3
5650		LEAR	08	18	0021	S13	E72	08	23.4		B	BXO	50	2	7	4
5650		RAMY	08	18	1218	S14	E65	08	23.4		B	CRO	30	4	4	4
5650	25476	MWIL	08	18	1530	S14	E65	08	23.5	4	(BP)					
5650		HOLL	08	18	1540	S14	E65	08	23.6		B	BXO	20	5	7	2
5650		PALE	08	18	1740	S13	E65	08	23.6		B	BXO	10	3	4	3
5650		LEAR	08	19	0040	S12	E60	08	23.5		B	CAO	40	3	6	4
5650		CULG	08	19	0503	S12	E57	08	23.5		A	HA	20	2	1	2
5650		BOUL	08	19	1345	S13	E50	08	23.3		A	AX		2	1	4
5650	25476	MWIL	08	19	1430	S13	E53	08	23.6	4	(BP)					
5650		HOLL	08	19	1500	S14	E52	08	23.5		B	CRO	60	4	5	3
5650		PALE	08	19	1908	S14	E51	08	23.6		A	AX		2	2	3
5650		LEAR	08	20	0010	S13	E48	08	23.6		B	BXO	10	3	4	4
5650		RAMY	08	20	1415	S14	E37	08	23.4		A	HR	20	2	1	3
5650	25476	MWIL	08	20	1445	S13	E39	08	23.5	4	(AP)					
5650		PALE	08	20	1721	S13	E38	08	23.6		A	AX		2	1	4
5650		HOLL	08	20	2023	S13	E36	08	23.6		A	HR	20	2	1	3
5650		LEAR	08	21	0100	S13	E33	08	23.5		A	AX	10	2	1	3
5650		CULG	08	21	0310	S12	E33	08	23.6		A	HA	10	2	1	3
5650		RAMY	08	21	1315	S13	E27	08	23.6		A	AX	10	3	2	4
5650		BOUL	08	21	1330	S12	E25	08	23.4		A	AX		1	1	3
5650	25476	MWIL	08	21	1545	S13	E25	08	23.5	4	(AP)					
5650		HOLL	08	21	1835	S14	E25	08	23.7		B	BXO	10	6	4	3
5657	25483	MWIL	08	19	1430	S20	E59	08	24.1	3	(AP)					
5657	25483	MWIL	08	20	1445	S21	E44	08	24.0	4	(BP)					
5657		BOUL	08	21	1330	S18	E26	08	23.5		A	AX		1	1	3
5657	25483	MWIL	08	21	1545	S20	E26	08	23.6	4	(AP)					
5657	25483	MWIL	08	22	1515	S20	E12	08	23.5	5	(AP)					
5657		BOUL	08	22	1520	S18	E13	08	23.6		A	AX		1	1	2
5657		LEAR	08	23	0020	S20	E09	08	23.7		B	CRO	20	3	2	3
5657		CULG	08	23	0415	S20	E08	08	23.8		B	CSO	50	6	4	3
5657		BOUL	08	23	1345	S18	W02	08	23.4		B	CSO	30	2	3	3
5657		HOLL	08	23	1415	S20	E01	08	23.7		B	CAO	40	11	5	3
5657	25483	MWIL	08	23	1515	S19	W01	08	23.5	5	(BP)					
5657		LEAR	08	24	0040	S19	W06	08	23.6		B	CSO	30	5	5	3
5657		CULG	08	24	0220	S21	W08	08	23.5		A	HS	30	1	1	2
5657		RAMY	08	24	1225	S18	W11	08	23.7		B	CAO	10	4	6	4
5657		HOLL	08	24	1355	S19	W12	08	23.7		B	BXO	30	5	8	3
5657		BOUL	08	24	1425	S18	W13	08	23.6		B	CAO	30	4	6	3
5657	25483	MWIL	08	24	1440	S20	W13	08	23.6	4	(BP)					
5657		PALE	08	24	1740	S20	W14	08	23.7		B	CAO	20	3	4	3
5657		LEAR	08	25	0050	S20	W19	08	23.6		B	DAO	50	3	4	3
5657		RAMY	08	25	1354	S20	W28	08	23.4		A	AX	10	6	2	3
5657		HOLL	08	25	1400	S20	W28	08	23.4		A	AX	20	3	2	2
5657		BOUL	08	25	1440	S18	W30	08	23.3		B	BXO	20	3	1	3
5657		LEAR	08	26	0006	S21	W33	08	23.5		A	AX	10	1	1	4
5657		RAMY	08	26	1153	S21	W38	08	23.6		A	AX	10	2	2	3
5657		BOUL	08	26	1345	S20	W38	08	23.7		B	BXO		2	2	3
5657	25483	MWIL	08	26	1500	S22	W39	08	23.6	4	(BP)					
5657		PALE	08	26	1805	S22	W45	08	23.3		A	AX		1		3
5657		PALE	08	27	1815	S20	W53	08	23.7		B	BXO	10	4	8	3
5657A	25484	MWIL	08	19	1430	S22	E59	08	24.1	4	(AF)					
5652		RAMY	08	18	1218	S19	E75	08	24.2		B	CRO	60	3	2	4
5652	25477	MWIL	08	18	1530	S20	E76	08	24.4	4	AP					
5652		HOLL	08	18	1540	S21	E72	08	24.2		A	HA	30	2	3	2
5652		LEAR	08	19	0040	S18	E70	08	24.3		A	HA	60	1	2	4
5652		CULG	08	19	0503	S20	E70	08	24.6		A	HA	30	2	1	2
5652	25477	MWIL	08	19	1430	S20	E63	08	24.4	4	(AP)					
5652		HOLL	08	19	1500	S22	E61	08	24.3		B	CAO	130	4	6	3
5652		PALE	08	19	1908	S22	E57	08	24.2		B	CAO	40	3	8	3
5652		LEAR	08	20	0010	S20	E58	08	24.4		B	CAO	80	11	16	4
5652		RAMY	08	20	1415	S22	E45	08	24.0		B	CAO	90	11	10	3
5652	25477	MWIL	08	20	1445	S20	E50	08	24.4	5	(BP)					
5652		PALE	08	20	1721	S19	E47	08	24.3		B	CAO	60	8	10	4
5652		HOLL	08	20	2023	S20	E44	08	24.2		B	CRO	70	5	5	3
5652		LEAR	08	21	0100	S21	E40	08	24.1		B	CAO	80	8	8	3

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

AUGUST 1989

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5652		CULG	08 21 0310	S19 E42	08 24.3		B	CAO	80	7	11	3
5652		RAMY	08 21 1315	S21 E33	08 24.1		B	CAO	70	10	13	4
5652		BOUL	08 21 1330	S19 E36	08 24.3		B	BXO	10	2	2	3
5652	25477	MWIL	08 21 1545	S21 E37	08 24.5	5	(BP)					
5652		HOLL	08 21 1835	S20 E30	08 24.1		B	CRO	100	20	12	3
5652		CULG	08 22 0200	S19 E27	08 24.1		B	DAO	40	7	12	2
5652		HOLL	08 22 1400	S20 E19	08 24.0		B	BXO	20	9	12	4
5652	25477	MWIL	08 22 1515	S21 E22	08 24.3	5	(BF)					
5652		BOUL	08 22 1520	S19 E23	08 24.4		B	BXO	10	2	2	2
5652		PALE	08 22 1730	S19 E21	08 24.3		B	CAO	60	7	12	3
5652		LEAR	08 23 0020	S19 E15	08 24.1		B	CRO	30	8	10	3
5652		CULG	08 23 0415	S20 E17	08 24.5		A	HS	20	1	1	3
5652		BOUL	08 23 1345	S18 E10	08 24.3		A	HS	20	1	2	3
5652		HOLL	08 23 1415	S20 E13	08 24.6		B	BXO	20	4	4	3
5652	25477	MWIL	08 23 1515	S20 E12	08 24.5	5	(BP)					
5652		PALE	08 23 1810	S20 E04	08 24.1		B	CRO	30	10	12	3
5652		LEAR	08 24 0040	S20 E05	08 24.4		B	CSO	20	2	4	3
5652		CULG	08 24 0220	S20 E04	08 24.4		A	HS	20	1	1	2
5652		RAMY	08 24 1225	S22 W03	08 24.3		B	CRO	20	5	4	4
5652		HOLL	08 24 1355	S22 W04	08 24.3		B	BXO	30	9	4	3
5652		BOUL	08 24 1425	S21 W07	08 24.1		B	BXO	20	3	4	3
5652	25477	MWIL	08 24 1440	S20 W03	08 24.4	4	(AP)					
5652		PALE	08 24 1740	S21 W06	08 24.3		B	BXO	10	6	6	3
5652		LEAR	08 25 0050	S20 W10	08 24.3		B	BXO	20	2	5	3
5652		RAMY	08 25 1354	S19 W15	08 24.4		A	AX	10	2	1	3
5652		HOLL	08 25 1400	S19 W17	08 24.3		A	AX	10	1		2
5652		BOUL	08 25 1440	S18 W18	08 24.2		A	AX	10	1		3
5652		LEAR	08 26 0006	S19 W22	08 24.3		A	AX	10	1	1	4
5652		RAMY	08 26 1153	S20 W20	08 25.0		A	AX	10	4	2	3
5652A	25499	MWIL	08 24 1440	S24 W04	08 24.3	4	(AP)					
5659		HOLL	08 22 1400	S13 E35	08 25.2		A	AX		1		4
5659		HOLL	08 23 1415	S16 E13	08 24.6		A	AX		1		3
5659	25496	MWIL	08 23 1515	S13 E16	08 24.8	3	(BP)					
5659		HOLL	08 24 1355	S13 E03	08 24.8		A	AX	10	4	2	3
5659	25496	MWIL	08 24 1440	S13 E01	08 24.7	4	(AF)					
5659		PALE	08 24 1740	S12 E00	08 24.7		B	BXO		3	3	3
5659		LEAR	08 25 0050	S13 W05	08 24.6		B	CAO	40	3	4	3
5659		RAMY	08 25 1354	S12 W12	08 24.7		B	BXO	10	6	4	3
5659		HOLL	08 25 1400	S13 W13	08 24.6		B	BXO	20	5	4	2
5659		BOUL	08 25 1440	S12 W13	08 24.6		B	BXO	10	4	4	3
5659		CULG	08 26 0321	S14 W18	08 24.8		A	AX	10	2	1	3
5659		RAMY	08 26 1153	S11 W22	08 24.8		B	BXO	10	5	3	3
5659		BOUL	08 26 1345	S12 W24	08 24.8		A	AX		3	1	3
5659	25496	MWIL	08 26 1500	S14 W24	08 24.8	4	(AF)					
5660		PALE	08 23 1810	N14 E11	08 24.6		A	AX		2	2	3
5660		LEAR	08 24 0040	N15 E08	08 24.6		B	CRO	20	4	4	3
5660		CULG	08 24 0220	N15 E07	08 24.6		B	BXO		2	3	2
5660		RAMY	08 24 1225	N13 E02	08 24.7		B	BXO	10	5	3	4
5660		HOLL	08 24 1355	N15 E02	08 24.7		B	BXO	20	4	4	3
5660		BOUL	08 24 1425	N15 E01	08 24.7		B	DAO	30	3	3	3
5660	25495	MWIL	08 24 1440	N15 E01	08 24.7	4	(B)					
5660		PALE	08 24 1740	N14 W01	08 24.7		B	BXO	20	5	4	3
5660		LEAR	08 25 0050	N14 W05	08 24.6		B	DSO	40	3	6	3
5660		RAMY	08 25 1354	N13 W13	08 24.6		B	BXO	10	3	4	3
5660		HOLL	08 25 1400	N15 W13	08 24.6		B	BXO	20	5	5	2
5660		BOUL	08 25 1440	N14 W13	08 24.6		B	BXO	20	3	4	3
5660		LEAR	08 26 0006	N14 W18	08 24.6		B	BXO	20	3	4	4
5660		CULG	08 26 0321	N13 W23	08 24.4		A	AX	10	2	1	3
5660		RAMY	08 26 1153	N13 W27	08 24.4		B	BXO	10	3	3	3
5660		BOUL	08 26 1345	N14 W25	08 24.7		B	BXO		6	3	3
5660	25495	MWIL	08 26 1500	N14 W28	08 24.5	4	(AP)					
5660		PALE	08 26 1805	N14 W31	08 24.4		B	BXO	10	9	5	3
5660	25495	MWIL	08 27 1500	N16 W39	08 24.7	4	(BF)					
5660		PALE	08 27 1815	N16 W39	08 24.8		B	BXO	10	8	6	3
5660		LEAR	08 28 0020	N17 W44	08 24.7		A	AX	10	1	1	4

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

AUGUST 1989

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5656	25485	MWIL	08 19 1430	S22 E68	08 24.8	3	(AP)					
5656		HOLL	08 22 1400	N26 E31	08 25.0		B	BXO	10	3	3	4
5656	25492	MWIL	08 22 1515	N26 E31	08 25.0	4	(BF)					
5656		PALE	08 22 1730	N27 E28	08 24.9		B	BXO	10	3	3	3
5656		LEAR	08 23 0020	N26 E27	08 25.1		B	BXO	20	4	3	3
5656		CULG	08 23 0415	N27 E23	08 25.0		B	BXO	10	3	4	3
5656		HOLL	08 23 1415	N25 E18	08 25.0		B	BXO	20	7	4	3
5656	25492	MWIL	08 23 1515	N26 E17	08 24.9	4	(BG)					
5656		PALE	08 23 1810	N26 E16	08 25.0		B	BXO		4	3	3
5656		LEAR	08 24 0040	N26 E12	08 25.0		B	BXO	30	7	6	3
5656		CULG	08 24 0220	N26 E10	08 24.9		A	AX		1		2
5656		RAMY	08 24 1225	N24 E04	08 24.8		A	AX	10	2	1	4
5656		HOLL	08 24 1355	N26 E04	08 24.9		A	AX	10	1	1	3
5656	25492	MWIL	08 24 1440	N25 E03	08 24.8	4	(AF)					
5656		PALE	08 24 1740	N25 E02	08 24.9		B	BXO		2	4	3
5660A		PALE	08 18 1740	S19 E79	08 24.8		A	AX	10	2	1	3
5660A		RAMY	08 20 1415	S20 E57	08 24.9		A	CR	40	5	5	3
5660B		CULG	08 22 0200	S12 E42	08 25.2		A	AX		1		2
5653		BOUL	08 19 1345	S20 E62	08 24.3		B	CSO	50	3	11	4
5653	25486	MWIL	08 19 1430	S21 E70	08 25.0	3	(AF)					
5653	25486	MWIL	08 20 1445	S19 E58	08 25.0	4	(AP)					
5653		BOUL	08 20 1545	S20 E52	08 24.6		B	BXO	10	2	7	1
5653		PALE	08 20 1721	S18 E58	08 25.1		B	BXO		2	6	4
5653		HOLL	08 20 2023	S19 E56	08 25.1		B	CRO	130	5	8	3
5653		LEAR	08 21 0100	S19 E52	08 25.0		B	CRO	40	3	5	3
5653		CULG	08 21 0310	S18 E52	08 25.1		B	CAO	20	2	6	3
5653		RAMY	08 21 1315	S18 E45	08 25.0		B	CSO	30	4	6	4
5653		BOUL	08 21 1330	S18 E43	08 24.8		B	BXO	10	2	6	3
5653	25486	MWIL	08 21 1545	S20 E46	08 25.2	4	(BG)					
5653		HOLL	08 21 1835	S20 E44	08 25.1		B	CRO	60	7	4	3
5653		CULG	08 22 0200	S18 E39	08 25.0		B	CAO	20	4	6	2
5653		HOLL	08 22 1400	S21 E35	08 25.3		B	CRO	20	7	5	4
5653	25486	MWIL	08 22 1515	S21 E35	08 25.3	4	(BP)					
5653		BOUL	08 22 1520	S18 E32	08 25.1		A	AX		1	1	2
5653		PALE	08 22 1730	S20 E34	08 25.3		B	CSO	40	7	3	3
5653		LEAR	08 23 0020	S21 E31	08 25.4		B	CSO	30	7	4	3
5653		CULG	08 23 0415	S21 E29	08 25.4		B	CSO	40	5	8	3
5653		BOUL	08 23 1345	S18 E22	08 25.2		B	CSO	30	5	6	3
5653		HOLL	08 23 1415	S21 E25	08 25.5		B	BXO	30	10	5	3
5653	25486	MWIL	08 23 1515	S21 E22	08 25.3	4	(BF)					
5653		PALE	08 23 1810	S20 E21	08 25.4		B	CAO	30	6	4	3
5653		LEAR	08 24 0040	S21 E19	08 25.5		B	DSO	60	5	6	3
5653		CULG	08 24 0220	S22 E16	08 25.3		B	CRO	10	3	3	2
5653		RAMY	08 24 1225	S22 E12	08 25.4		B	BXO	10	8	6	4
5653		HOLL	08 24 1355	S22 E13	08 25.6		B	BXO	40	12	6	3
5653		BOUL	08 24 1425	S21 E08	08 25.2		B	CRO	30	7	5	3
5653	25486	MWIL	08 24 1440	S21 E10	08 25.4	4	(B)					
5653		PALE	08 24 1740	S22 E09	08 25.4		B	BXO	10	5	5	3
5653		LEAR	08 25 0050	S21 E03	08 25.3		B	BXO	40	2	2	3
5653		RAMY	08 25 1354	S21 W02	08 25.4		B	BXO	10	5	5	3
5653		HOLL	08 25 1400	S22 W03	08 25.3		B	BXO	20	5	5	2
5653		BOUL	08 25 1440	S21 W05	08 25.2		B	BXO	10	3	5	3
5653		LEAR	08 26 0006	S22 W08	08 25.4		B	BXO	30	6	5	4
5653		CULG	08 26 0321	S22 W09	08 25.4		B	CAO	10	7	5	3
5653		RAMY	08 26 1153	S21 W12	08 25.6		B	DAO	70	14	4	3
5653		BOUL	08 26 1345	S20 W14	08 25.5		B	DRI	30	26	4	3
5653	25486	MWIL	08 26 1500	S22 W15	08 25.5	5	(B)					
5653		PALE	08 26 1805	S21 W18	08 25.4		B	DAO	130	12	5	3
5653		HOLL	08 26 1820	S22 W17	08 25.4		B	DAO	80	7	6	2
5653		LEAR	08 27 0010	S22 W20	08 25.5		B	DAO	130	16	5	4
5653		CULG	08 27 0301	S22 W22	08 25.4		B	DAO	100	8	6	2
5653		RAMY	08 27 1355	S22 W27	08 25.5		B	DAO	170	3	5	1
5653	25486	MWIL	08 27 1500	S22 W28	08 25.5	5	(BP)					
5653		BOUL	08 27 1515	S20 W27	08 25.6		B	DSO	80	8	5	3
5653		PALE	08 27 1815	S23 W30	08 25.4		B	CAO	120	15	7	3
5653		LEAR	08 28 0020	S21 W33	08 25.5		B	DSO	130	11	6	4

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

AUGUST 1989

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5653		RAMY	08 28 1205	S22 W39	08 25.5		B	CAO	130	16	6	3
5653		BOUL	08 28 1321	S21 W39	08 25.6		B	CSI	80	8	4	2
5653	25486	MWIL	08 28 1515	S21 W43	08 25.3	5	(BP)					
5653		PALE	08 28 1725	S22 W42	08 25.5		B	CAO	110	8	8	3
5653		HOLL	08 28 2208	S21 W44	08 25.5		B	CSO	60	12	8	4
5653		LEAR	08 29 0015	S20 W46	08 25.5		B	CSO	80	5	7	3
5653		CULG	08 29 0330	S21 W50	08 25.3		B	CAO	80	5	5	2
5653		RAMY	08 29 1247	S21 W52	08 25.5		B	CAO	130	4	4	3
5653		BOUL	08 29 1323	S19 W54	08 25.4		A	HS	80	1	2	2
5653	25486	MWIL	08 29 1500	S21 W56	08 25.3	5	(BP)					
5653		HOLL	08 29 1735	S21 W58	08 25.3		A	HA	40	1	1	2
5653		LEAR	08 30 0105	S20 W61	08 25.4		A	HS	50	1	4	3
5653		CULG	08 30 0310	S22 W67	08 25.0		A	HS	60	1	2	3
5653		HOLL	08 30 1400	S21 W71	08 25.1		A	HS	60	1	1	2
5653		BOUL	08 30 1440	S21 W68	08 25.4		B	CAO	40	3	1	2
5653	25486	MWIL	08 30 1515	S20 W70	08 25.3	4	(AP)					
5653		PALE	08 30 1730	S22 W72	08 25.2		A	HS	60	1	2	4
5653		LEAR	08 31 0012	S20 W71	08 25.6		A	HS	30	1	2	4
5653		CULG	08 31 0310	S22 W84	08 24.7		A	HS	10	1	1	3
5653A		HOLL	08 23 1415	S38 E26	08 25.7		A	AX		1		3
5663	25500	MWIL	08 24 1440	N19 E14	08 25.7	4	(B)					
5663		PALE	08 24 1740	N20 E13	08 25.7		A	AX		2	2	3
5663		PALE	08 26 1805	N15 W17	08 25.5		A	AX	10	7	2	3
5663		PALE	08 27 1815	N17 W25	08 25.9		B	BXO	10	7	4	3
5664		CULG	08 23 0415	S26 E45	08 26.7		A	AX		1		3
5664	25497	MWIL	08 23 1515	S27 E37	08 26.5	3	(AF)					
5664		LEAR	08 25 0050	S28 E13	08 26.0		B	BXO	10	2	3	3
5664		RAMY	08 25 1354	S27 E06	08 26.0		A	AX		1		3
5664		HOLL	08 25 1400	S27 E07	08 26.1		A	AX	10	1		2
5664		BOUL	08 25 1440	S26 E03	08 25.8		A	AX	10	1		3
5664		LEAR	08 26 0006	S27 E01	08 26.1		A	AX	10	1	1	4
5664		CULG	08 26 0321	S28 W01	08 26.1		A	AX	10	1	1	3
5664		PALE	08 26 1805	S32 W04	08 26.4		A	AX		3	2	3
5666		RAMY	08 26 1153	S40 E09	08 27.2		B	BXO	10	4	3	3
5666		BOUL	08 26 1345	S38 E06	08 27.0		A	AX		1		3
5666		RAMY	08 28 1205	S36 W20	08 26.9		A	AX	10	2	1	3
5666		LEAR	08 30 0105	S35 W40	08 26.8		A	AX	20	1	1	3
5655		HOLL	08 21 1835	N23 E84	08 28.2		A	HK	120	2	5	3
5655		CULG	08 22 0200	N26 E85	08 28.7		A	HS	20	1	2	2
5655		HOLL	08 22 1400	N23 E73	08 28.2		A	HS	50	1	1	4
5655	25493	MWIL	08 22 1515	N24 E74	08 28.3	4	(AP)					
5655		BOUL	08 22 1520	N25 E70	08 28.1		A	AX		1	1	2
5655		PALE	08 22 1730	N27 E71	08 28.3		A	CA	100	2	2	3
5655		LEAR	08 23 0020	N24 E68	08 28.3		A	HS	50	1	1	3
5655		CULG	08 23 0415	N26 E69	08 28.5		A	HS	60	1	1	3
5655		BOUL	08 23 1345	N25 E60	08 28.2		A	HS	50	1	2	3
5655		HOLL	08 23 1415	N24 E62	08 28.4		A	HS	80	1	2	3
5655	25493	MWIL	08 23 1515	N24 E61	08 28.3	5	(AP)					
5655		PALE	08 23 1810	N25 E59	08 28.3		A	HS	80	1	2	3
5655		LEAR	08 24 0040	N24 E56	08 28.3		B	CSO	70	2	6	3
5655		CULG	08 24 0220	N24 E56	08 28.4		A	HS	30	1	1	2
5655		RAMY	08 24 1225	N23 E48	08 28.2		A	HA	60	1	2	4
5655		HOLL	08 24 1355	N25 E48	08 28.3		A	HS	60	1	2	3
5655		BOUL	08 24 1425	N25 E47	08 28.2		A	HA	60	1	1	3
5655	25493	MWIL	08 24 1440	N24 E48	08 28.3	5	(AP)					
5655		PALE	08 24 1740	N26 E47	08 28.4		A	HS	60	1	2	3
5655		LEAR	08 25 0050	N24 E43	08 28.3		A	HS	60	1	2	3
5655		RAMY	08 25 1354	N25 E36	08 28.4		A	HS	50	1	2	3
5655		HOLL	08 25 1400	N25 E37	08 28.4		A	HS	50	1	2	2
5655		BOUL	08 25 1440	N23 E34	08 28.2		A	HS	70	1	2	3
5655		LEAR	08 26 0006	N23 E30	08 28.3		A	HS	70	1	2	4
5655		CULG	08 26 0321	N26 E28	08 28.3		A	HS	40	1	1	3
5655		RAMY	08 26 1153	N24 E24	08 28.3		B	CSO	70	5	4	3
5655		BOUL	08 26 1345	N24 E23	08 28.3		B	CAO	60	5	3	3

S U N S P O T G R O U P S
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AUGUST 1989

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5655	25493	MWIL	08	26	1500	N24	E22	08	28.3	5	(BP)					
5655		HOLL	08	26	1820	N24	E22	08	28.5		B	CSO	60	2	4	2
5655		LEAR	08	27	0010	N24	E19	08	28.5		B	CSO	70	3	4	4
5655		CULG	08	27	0301	N25	E16	08	28.4		A	HS	40	1	1	2
5655		RAMY	08	27	1355	N24	E10	08	28.3		A	HA	70	2	2	1
5655	25493	MWIL	08	27	1500	N24	E10	08	28.4	5	(BP)					
5655		BOUL	08	27	1515	N23	E10	08	28.4		B	CSO	50	4	4	3
5655		PALE	08	27	1815	N27	E09	08	28.5		B	CSO	60	12	5	3
5655		LEAR	08	28	0020	N23	E06	08	28.5		B	CSO	50	6	6	4
5655		RAMY	08	28	1205	N24	W02	08	28.3		B	CSO	90	14	8	3
5655		BOUL	08	28	1321	N24	W01	08	28.5		B	CSO	50	2	4	2
5655	25493	MWIL	08	28	1515	N24	W03	08	28.4	5	(BP)					
5655		PALE	08	28	1725	N25	W05	08	28.3		A	HS	80	1	2	3
5655		HOLL	08	28	2208	N25	W05	08	28.5		B	CSO	50	4	5	4
5655		LEAR	08	29	0015	N23	W05	08	28.6		B	CSO	50	4	7	3
5655		CULG	08	29	0330	N24	W11	08	28.3		B	CSO	40	2	3	2
5655		RAMY	08	29	1247	N23	W13	08	28.5		B	CAO	90	3	5	3
5655		BOUL	08	29	1323	N23	W15	08	28.4		A	HS	40	1	2	2
5655	25493	MWIL	08	29	1500	N24	W16	08	28.4	5	(AP)					
5655		HOLL	08	29	1735	N24	W18	08	28.3		A	HS	40	1	1	2
5655		PALE	08	29	1745	N24	W18	08	28.3		A	HS	50	1	2	3
5655		LEAR	08	30	0105	N24	W22	08	28.3		A	HS	60	1	2	3
5655		CULG	08	30	0310	N24	W23	08	28.3		A	HS	60	1	2	3
5655		HOLL	08	30	1400	N25	W29	08	28.3		A	HS	70	1	2	2
5655		BOUL	08	30	1440	N24	W28	08	28.4		A	HS	40	1	2	2
5655	25493	MWIL	08	30	1515	N24	W29	08	28.4	5	(AP)					
5655		PALE	08	30	1730	N25	W29	08	28.5		B	CSO	50	3	4	4
5655		LEAR	08	31	0012	N23	W33	08	28.5		B	CSO	40	2	2	4
5655		CULG	08	31	0310	N24	W37	08	28.3		A	HS	50	1	2	3
5655		RAMY	08	31	1340	N24	W42	08	28.3		A	HS	50	1	2	2
5655		BOUL	08	31	1420	N24	W41	08	28.4		A	HS	30	1	1	2
5655	25493	MWIL	08	31	1500	N25	W42	08	28.4	5	(BP)					
5655		HOLL	08	31	1755	N24	W43	08	28.4		A	HS	60	1	2	2
5655		PALE	08	31	2204	N23	W46	08	28.4		A	HS	40	1	1	3
5655		LEAR	09	01	0055	N24	W57	08	27.7		A	HS	30	1	2	3
5655		CULG	09	01	0252	N24	W51	08	28.3		A	HS	30	1	1	2
5655		RAMY	09	01	1236	N24	W55	08	28.4		A	HS	30	1	2	3
5655		BOUL	09	01	1625	N24	W55	08	28.5		A	HS	30	1	1	2
5655		HOLL	09	01	1750	N25	W56	08	28.5		B	CSO	30	3	3	2
5655		PALE	09	01	1927	N24	W56	08	28.6		A	HS	30	1	1	3
5655		LEAR	09	02	0013	N24	W58	08	28.6		A	HS	40	1	2	3
5655		CULG	09	02	0314	N24	W63	08	28.4		A	HS	20	1	1	3
5655		RAMY	09	02	1405	N24	W66	08	28.6		A	HA	50	1	2	4
5655		BOUL	09	02	1415	N24	W68	08	28.4		A	HS	30	1	1	3
5655		HOLL	09	02	1435	N25	W69	08	28.4		A	HS	20	1	1	4
5655		PALE	09	02	2231	N24	W71	08	28.5		A	HS	30	1	1	3
5655		LEAR	09	03	0005	N25	W71	08	28.6		A	AX	30	2	2	4
5655		CULG	09	03	0325	N24	W79	08	28.1		A	HS	10	1	1	3
5655		RAMY	09	03	1215	N25	W80	08	28.4		A	HA	30	1	1	4
5655		BOUL	09	03	1440	N24	W78	08	28.7		A	HS	30	1	1	3
5655		HOLL	09	03	1530	N25	W79	08	28.6		A	AX	20	1	1	3
5655A		PALE	08	28	1725	S07	E00	08	28.7		B	BXO	10	3	3	3
5655A		HOLL	08	28	2208	S08	W02	08	28.8		A	AX		2	2	4
5661	25498	MWIL	08	23	1515	N14	E74	08	29.2	4	(AP)					
5661		PALE	08	23	1810	N14	E71	08	29.1		A	AX		1		3
5661		LEAR	08	24	0040	N14	E68	08	29.2		A	AX	20	1	1	3
5661		RAMY	08	24	1225	N13	E59	08	29.0		A	AX		1		4
5661		HOLL	08	24	1355	N14	E59	08	29.0		A	AX	10	1		3
5661		BOUL	08	24	1425	N13	E58	08	29.0		A	AX	10	1		3
5661	25498	MWIL	08	24	1440	N14	E59	08	29.1	4	(AP)					
5661		PALE	08	24	1740	N15	E57	08	29.0		B	BXO	10	2	3	3
5661		RAMY	08	26	1153	N14	E39	08	29.4		A	AX	10	2	1	3
5661		HOLL	08	28	2208	N13	E02	08	29.1		A	AX		3	1	4
5661		LEAR	08	29	0015	N13	E01	08	29.1		A	AX	10	1	1	3
5661		CULG	08	29	0330	N14	W02	08	29.0		A	AX		1		2
5661	25506	MWIL	08	29	1500	N14	W06	08	29.2	4	(AP)					
5661		LEAR	08	30	0105	N16	W03	08	29.8		A	AS	10	1	1	3

S U N S P O T G R O U P S
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AUGUST 1989

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5661B	25507	MWIL	08 29	1500	N22 W05	08 29.2	4	(AP)					
5661A		LEAR	08 28	0020	S05 E27	08 30.0		B	BXO	10	3	3	4
5661A		LEAR	08 29	0015	S05 E12	08 29.9		A	AX	10	2	1	3
5662		LEAR	08 24	0040	S15 E80	08 30.1		A	HS	60	1	2	3
5662		RAMY	08 24	1225	S17 E71	08 29.9		A	HS	60	1	2	4
5662		HOLL	08 24	1355	S16 E72	08 30.0		A	HS	120	1	2	3
5662		BOUL	08 24	1425	S17 E73	08 30.1		A	HS	90	1	2	3
5662	25501	MWIL	08 24	1440	S17 E74	08 30.2	4	AP					
5662		PALE	08 24	1740	S15 E71	08 30.1		A	HS	90	1	2	3
5662		LEAR	08 25	0050	S18 E68	08 30.2		B	CSO	80	3	3	3
5662		RAMY	08 25	1354	S16 E63	08 30.3		B	CAO	90	4	5	3
5662		HOLL	08 25	1400	S16 E61	08 30.2		B	CSO	140	2	3	2
5662		BOUL	08 25	1440	S18 E59	08 30.1		B	CAO	120	2	3	3
5662		LEAR	08 26	0006	S16 E55	08 30.2		B	CSO	130	8	5	4
5662		CULG	08 26	0321	S16 E55	08 30.3		B	CSO	70	5	5	3
5662		RAMY	08 26	1153	S15 E48	08 30.1		B	CAO	130	17	7	3
5662		BOUL	08 26	1345	S15 E47	08 30.1		B	CAO	60	13	6	3
5662	25501	MWIL	08 26	1500	S16 E47	08 30.2	5	(BF)					
5662		PALE	08 26	1805	S17 E46	08 30.2		B	ESI	150	17	15	3
5662		LEAR	08 27	0010	S17 E41	08 30.1		B	CSO	80	8	4	4
5662		CULG	08 27	0301	S16 E40	08 30.1		B	CSO	60	3	4	2
5662		RAMY	08 27	1355	S17 E35	08 30.2		A	HS	80	1	1	1
5662	25501	MWIL	08 27	1500	S17 E34	08 30.2	5	(BF)					
5662		BOUL	08 27	1515	S18 E32	08 30.1		B	CSO	70	8	8	3
5662		PALE	08 27	1815	S17 E33	08 30.3		B	CSO	100	11	8	3
5662		LEAR	08 28	0020	S17 E29	08 30.2		B	DSO	80	5	6	4
5662		RAMY	08 28	1205	S18 E25	08 30.4		B	CAO	110	14	7	3
5662		BOUL	08 28	1321	S17 E23	08 30.3		B	CSO	60	5	4	2
5662	25501	MWIL	08 28	1515	S17 E22	08 30.3	5	(BF)					
5662		PALE	08 28	1725	S17 E22	08 30.4		B	CSO	100	5	8	3
5662		HOLL	08 28	2208	S19 E19	08 30.4		B	CSO	80	8	8	4
5662		LEAR	08 29	0015	S18 E18	08 30.4		B	DSO	80	4	4	3
5662		CULG	08 29	0330	S19 E17	08 30.4		B	DAO	100	5	4	2
5662		RAMY	08 29	1247	S18 E12	08 30.4		B	DAO	90	9	6	3
5662		BOUL	08 29	1323	S17 E11	08 30.4		B	CSO	60	5	3	2
5662	25501	MWIL	08 29	1500	S17 E09	08 30.3	5	(BG)					
5662		HOLL	08 29	1735	S19 E09	08 30.4		B	DSO	100	6	5	2
5662		PALE	08 29	1745	S19 E09	08 30.4		B	DSO	80	10	5	3
5662		LEAR	08 30	0105	S18 E07	08 30.6		B	DSO	110	9	5	3
5662		CULG	08 30	0310	S19 E04	08 30.4		B	DAO	100	7	4	3
5662		HOLL	08 30	1400	S18 W03	08 30.3		B	DAO	120	10	5	2
5662		BOUL	08 30	1440	S17 W03	08 30.4		B	DSO	110	4	4	2
5662	25501	MWIL	08 30	1515	S17 W04	08 30.3	5	(BP)					
5662		PALE	08 30	1730	S19 W04	08 30.4		B	DSO	80	5	4	4
5662		LEAR	08 31	0012	S18 W08	08 30.4		B	CHO	70	9	6	4
5662		CULG	08 31	0310	S19 W10	08 30.4		B	DAO	60	7	4	3
5662		RAMY	08 31	1340	S18 W16	08 30.3		B	DSO	60	3	3	2
5662		BOUL	08 31	1420	S17 W16	08 30.4		B	CSO	40	2	3	2
5662	25501	MWIL	08 31	1500	S17 W16	08 30.4	5	(AP)					
5662		PALE	08 31	2204	S19 W19	08 30.5		B	CSO	60	3	4	3
5662		LEAR	09 01	0055	S18 W21	08 30.5		B	CSO	80	6	6	3
5662		CULG	09 01	0252	S19 W23	08 30.5		B	DRO	50	3	4	2
5662		RAMY	09 01	1236	S18 W28	08 30.5		B	CSO	50	4	4	3
5662		BOUL	09 01	1625	S17 W30	08 30.5		B	CSO	50	2	4	2
5662		HOLL	09 01	1750	S18 W31	08 30.5		B	CSO	120	3	4	2
5662		PALE	09 01	1927	S19 W30	08 30.6		B	CSO	60	2	4	3
5662		LEAR	09 02	0013	S17 W35	08 30.4		B	CSO	60	3	4	3
5662		CULG	09 02	0314	S18 W39	08 30.3				50	1	2	3
5662		RAMY	09 02	1405	S19 W41	08 30.5		B	CAO	90	5	7	4
5662		BOUL	09 02	1415	S17 W42	08 30.5		A	HS	50	1	2	3
5662		HOLL	09 02	1435	S18 W45	08 30.3		A	HS	50	2	1	4
5662		PALE	09 02	2231	S18 W47	08 30.4		A	HS	60	1	1	3
5662		LEAR	09 03	0005	S18 W48	08 30.4		A	HS	60	1	2	4
5662		CULG	09 03	0325	S18 W53	08 30.2		A	HS	50	1	2	3
5662		RAMY	09 03	1215	S17 W56	08 30.3		A	HA	80	1	2	4
5662		BOUL	09 03	1440	S17 W56	08 30.4		A	HA	50	2	2	3
5662		HOLL	09 03	1530	S17 W58	08 30.3		A	HS	40	1	2	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

AUGUST 1989

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
5662		PALE	09	03	1740	S18	W59	08	30.3		A	HS	80	1	2	2
5662		LEAR	09	04	0030	S18	W62	08	30.4		A	HA	40	1	1	3
5662		CULG	09	04	0318	S19	W67	08	30.1		A	HS	30	1	1	2
5662		BOUL	09	04	1335	S16	W67	08	30.6		A	HS	60	1	1	2
5662		RAMY	09	04	1350	S19	W71	08	30.2		A	HA	50	1	1	3
5662		HOLL	09	04	1500	S18	W70	08	30.4		A	HS	30	1	1	3
5662		PALE	09	04	1800	S18	W72	08	30.4		A	HR	30	2	2	3
5662		LEAR	09	05	0045	S18	W77	08	30.3		A	HA	10	1	1	3
5674		RAMY	09	01	1236	N23	W24	08	30.8		A	AX	10	2	2	3
5674		LEAR	09	02	0013	N22	W28	08	30.9		A	AX	10	1	1	3
5674		RAMY	09	02	1405	N22	W34	08	31.0		B	BXO	10	2	2	4
5674		HOLL	09	02	1435	N22	W36	08	30.9		B	BXO		2	3	4
5674		PALE	09	02	2231	N20	W41	08	30.9		A	AX		2	2	3
5674		LEAR	09	03	0005	N23	W40	08	31.0		B	BXO	30	2	3	4
5674		CULG	09	03	0325	N23	W46	08	30.7		B	BXO	10	2	3	3
5665A		PALE	08	27	1815	S16	E47	08	31.3		A	AX	10	3	2	3
5665		LEAR	08	26	0006	S41	E61	08	31.0		A	AX	30	1	1	4
5665		RAMY	08	26	1153	S40	E52	08	30.7		A	AX	30	3	1	3
5665	25503	MWIL	08	26	1500	S42	E55	08	31.1	4	(AP)					
5665		LEAR	08	27	0010	S41	E49	08	31.0		A	AX	20	1	1	4
5665	25511	MWIL	08	31	1500	N12	E00	08	31.6	4	(AF)					

Stations reporting:

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

AUGUST 1989

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
01	0125	0140	0247	1+	3			1	1		*		
01	0323	0332	0429	1-	5			1	1	1	No flare		
01	0435	0446	0458D	1-	5			1	1	1	No flare		
01	0458E	0502	0542	1-	1			1			0456		5612
01	0546	0600	0646	1-	5			1	1	1	No flare		
01	0650	0700	0700D	1-	5			1	1	1	0647	C3.3	5623
01	0735	0746	0755	1	1		1				No flare		
01	0927	0938	1037	1-	5	1	1	1	2	1	0924	C5.0	5623
01	2105	2114	2200	1-	5			1		2	2103E	C5.4	5623
01	2257	2305	2341	1-	1			1			No flare		
01	2343	2350	0000	1-	1				1		*		
02	0134	0143	0158	1-	1			1			0130	C1.8	
02	0449	0459	0516	1-	3			1	1		0442E	C2.6	5612
02	0746	0757	0825	1-	5			1	2	1	0735	C3.1	
02	1040	1047	1100	1-	1				1		1037	C3.5	
02	1219	1230	1300	1	3		2				1228		5612
02	1330	1344	1404	1	3		2				No flare		
02	2227	2237	2306D	1-	5			1		2	2224	C4.8	
02	2307	2316	0052	2+	5	2		1	1	5	2304	M2.5	5623
02	2355	2358	0000	1-	1					1	2356	C1.5	
03	0153	0200	0229	1-	1			1			0149	C1.4	
03	0307	0313	0332D	1-	3			1	1		0306	C2.0	
03	0332E	0336	0350	1-	1			1			0325	C1.7	5627
03	0658	0707	0732	1-	5	1		1	2	1	0653	C3.1	5623
03	0746	0754	0847	2	5	3	3	1	2	2	0742	M1.0	
03	0941	0956	1002	1	3		2				No flare		
03	1021	1025	1055	1	1		1				No flare		
03	1109	1127	1207	1-	5	1	3	1	1		1101	C3.6	
03	1229	1239	1321	1+	5		1			1	1227	C5.3	5623
03	1232	1248	1248D	1	5	1	2		1	1	1235		5624
03	1402	1426	1546	1	3		2				1432		5624
03	1602	1607	1619	1-	3					2	1605		5629
03	1633	1639	1716	2-	5		1			2	No flare		
03	1646	1655	1719	1+	3					2	No flare		
03	2045	2057	2147	1-	5			1		4	2046	C5.7	5629
03	2141	2142	2154	1-	3					2	No flare		
03	2217	2230	2302	1-	1			1			2221	C3.4	5622
04	0411	0447	0543	1-	3			1	1		0411	C3.9	5623
04	1003	1009	1030	1-	3	1	2		1		1004	C2.8	5626
04	1153	1159	1220	1-	3	1	2		1		1159	C4.9	5619
04	1733	1740	1802	1+	3					3	1735	C3.0	5622
04	2156	2158	2212	1-	3					2	2153		5628
04	2242	2251	2343	1-	5	1		1		2	2242	C5.1	
05	0217	0225	0313	1-	3			1	1		0216	C4.1	5612
05	0328	0334	0342	1-	1				1		0327	C2.2	
05	0440	0450	0516	1-	5			1	1	1	0437	C3.2	
05	0545	0603	0720	3-	5	3	3	1	2	1	0549	M1.0	
05	0725	0732	0800	1	3		2				No flare		
05	0804	0822	0856	1	3		2				No flare		
05	0930	0937	0953	1	1		1				No flare		
05	1024	1042	1110D	1-	5	2	3	1	1	2	1018	M2.6	5622
05	1110E	1131	1225	2+	5	2	4	1	1	3	1018	M2.6	5622
05	1329	1402	1422	1	3		2				No flare		
05	1424	1440	1523	1	1		1				No flare		
05	1614	1629	1650	1	5	1	3		1	4	1611	C6.5	
05	1802	1809	1831	1+	1					1	No flare		
05	1951	2001	2025	1-	5			1		3	1958	C6.0	5628
05	2114	2130	2159D	1-	5			1		2	2115	C5.9	5622
05	2159E	2223	2258	1-	1			1			No flare		
05	2330	2338	2355	1-	1			1			No flare		
06	0004	0027	0042D	1-	3			1	1		No flare		
06	0042E	0053	0201	2	5	2		1	1		0047	M3.4	5623
06	0205	0213	0240	1-	3			1	1		0201	C3.0	5633

* = No flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1989

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
06	0347	0350	0418	1-	3			1	1		0345	C3.7	5629
06	0430	0437	0523D	1-	1			1			0432		5612
06	0523E	0545	0628	1-	3			1	1		0523	C4.8	5634
06	0608	0617	0657	1	1		1				No flare		
06	0647	0700	0727	1-	1		1	1			0645	C4.0	5628
06	0749	0757	0858	3-	5	3	3	1	2	2	0747	M2.7	5633
06	0828E	0833	0957	2	1			1			No flare		
06	0932	0938	0947	1-	1					1	0939	C7.0	5626
06	1005	1012	1045	1	5	2	3	1	1	2	*		
06	1205	1214	1301	1-	5	3	4	1	1	5	1130E	M1.9	5622
06	1351	1419	1428	1	3		2				No flare		
06	1459	1509	1520	1	3		2				1506	C2.0	5633
06	1741	1756	1812	1	3		2				No flare		
06	1934	1943	2001	1	3					2	1931	C5.0	5633
06	2238	2255	2320D	1-	1			1		1	2235		5634
06	2317E	2351	0040D	3	5	2		1	1	2	2342	M4.8	5622
07	0040E	0048	0215	1+	1			1			0037	M1.1	5629
07	0138	0142	0152	1-	1				1		No flare		
07	0335	0343	0443	1-	3			1	1		0333	C4.0	5629
07	0711	0731	0818	1-	1			1			No flare		
07	0924	0935	1112	2+	5	3	4	1	2	3	0920	M2.4	5633
07	1214	1227	1245	1+	3		2				No flare		
07	1527	1530	1545U	1-	1					1	1516E	C2.7	5629
07	1600	1611	1630	1+	1					1	1538	C3.0	5634
07	1731	1734	1758	1+	3					2	1727		5629
07	1844	1845	1900	1-	3					2	1842	C3.0	5634
07	2051	2102	2211	3-	5	2		1		6	2021E	M7.6	5622
07	2141	2143	2205	1	1					1	2136	M1.2	5633
08	0427	0437	0458	1-	3			1	1		0427	C2.2	5629
08	0512	0524	0646D	3	5	3		1	2	2	0509	M3.5	5633
08	0646E	0652	0721	1-	5			1	2	1	0511	C5.0	5629
08	0740	0742	0751	1-	1					1	0731		5629
08	1312	1313	1345	2	1					1	No flare		
08	1527	1529	1545	1-	3					2	1528	C3.8	5629
08	1911	1916	1948	2-	3					5	1906	C4.4	5629
08	2051	2053	2112	1-	5			1		1	2044		5629
08	2133	2137	2149	1-	1			1			No flare		
08	2156	2201	2216	1-	1			1			No flare		
09	0030	0041	0107	1-	3			1	1		0023		5629
09	0332	0339	0417	1-	3			1	1		0330	C4.1	
09	0445	0504	0527	1-	1			1			0457		5634
09	0647	0657	0740	1-	5			1	1	1	0647	C3.8	5638
09	1018	1023	1035	1-	3		2		1		1002E	C3.2	5629
09	1423	1440	1516	1+	5	2	3	1	1	5	1423	C9.2	5629
09	1712	1721	1731	1	1					1	1710	C2.6	5629
09	1911	1916	1939	1+	3					2	1917	C3.7	5629
10	0010	0013	0022	1-	1	1					No flare		
10	0139	0151	0205D	2	3	1		1	1		0140	M1.7	5629
10	0207E	0217	0346	3-	3			1	1		0140	M1.7	5629
10	0512	0530	0601	1-	5			1		1	0523E	C2.4	5629
10	0618	0648U	0713	1	1		1				0615		5633
10	0714	0731	0900	1	1		1				No flare		
10	0931	0941	1002	1	1		1				No flare		
10	1023	1024	1042	1	1		1				1028E	C2.6	
10	1121	1129	1140	1-	1		1		1		No flare		
10	1333	1341	1408	1	1		1				No flare		
10	1415	1423	1445	1-	5		1		1	2	No flare		
10	1631	1635U	1709	1	1		1				1621		
10	1833	1840	1853	1	3					2	1832E	C2.4	5639
10	2018	2021	2038	1	3					2	2010	C3.7	5629
10	2111	2113	2137	1-	5			1		1	2114	C2.9	5629
10	2322	2329	0006	1-	1			1			2319	C5.2	5629

* = No flare patrol.

AUGUST 1989

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
11	0010E	0017	0121	1-	1			1			0013	C3.7	5629
11	0135	0145	0252	1	3			1	1		0143E	C7.0	
11	0302	0305	0332	1-	1	1					No flare		
11	0525	0538	0637	2	5		2	1	2	1	0523	C8.5	5629
11	0913	0932	1005	1+	3		2				No flare		
11	1233	1244	1310	2	1					1	1230		5629
11	1318	1322	1340D	1	1					1	1318		5629
11	1341	1359	1432	1+	5		3			1	1340E		5629
11	1512	1544	1558	1-	5		1			1	1540		5629
11	1624	1636	1708	1+	5	2	5	1	1	7	1443	M2.0	5629
11	1712	1715	1729	1-	1					1	1720		5629
11	1830	1836	1900	1+	1					1	1828		5629
11	1952	2001	2017	1+	3					3	1946	M1.0	
11	2003	2029	2137	1+	5	1		1		4	2001	M1.6	5629
11	2243	2306	0047D	3	5	1		1	1	2	2243	M5.7	5629
12	0047E	0055	0112D	1-	3			1	1		No flare		
12	0111	0127	0157	1-	3			1	1		0118	C4.0	5643
12	0203	0217	0253	1-	3			1	1		0209	C3.2	
12	0302	0311	0422	3	5			1	1	1	0301	M1.9	5629
12	0703	0709	0737D	1-	5			1	2	1	0701	C3.3	
12	0737	0747	0758D	2	5	1		1	2	2	0738	C7.2	5629
12	0758E	0807	0921D	3	5	3	3	1	2	2	0757	M2.9	5629
12	0921E	0937	1035	1-	5		1	1	1	3	0921	C5.6	
12	1139	1144	1155	1-	5				1	2	1140	C5.5	
12	1235	1243	1256	1-	5		2			1	1243	C5.0	
12	1310	1322	1353	1	3		2				1311		5643
12	1359	1426	1635	3	5	3	4		1	8	1357	X2.6	5629
12	2222	2228	2321	1-	1			1			No flare		
13	0057	0105	0204	1	3			1	1		0057E	C8.3	
13	0206E	0209	0234	1-	1			1			No flare		
13	0343	0346	0410D	1-	1				1		No flare		
13	0410	0416	0436	1-	1				1		No flare		
13	0626	0631	0713	1-	5			1	1	1	0624	C2.9	
13	0718	0728	0742	3-	5	3	4	1	2	3	0717	M1.0	5629
13	1152	1154	1210	1-	3	1	2		1		1151	C3.1	
13	1354	1404	1431	1-	5	1	4	1	1	3	1355	C6.6	5629
13	1454	1503	1531	2	1					1	1502		5629
13	1619	1634	1650	1-	5		2		1	1	1619	C4.3	5643
13	1748	1800	1818	1+	1					1	1749		5643
13	2024	2028	2059	1-	5			1		3	2022	C3.9	5629
13	2123	2132	2455	1-	1			1			No flare		
13	2210	2227	2331	1-	1			1			2242E	C3.9	
13	2336	2346	0005	1-	1			1			*		
14	0021	0051	0359D	3	5	2		1	1		0022	C4.9	
14	0114	0115	0150U	2	1					1	0031	X3.5	5629
14	0402E	0410	0610D	2	3			1	1		0400		5629
14	0610	0613	0647	1-	1			1			No flare		
14	0700	0708	0739D	1	5	1	1	1	2	1	0704	C7.0	5629
14	0739E	0744	0830	1-	5			1	2	1	0739	C6.4	5629
14	0800	0807	0827	2	1		1				0752	C4.6	5643
14	0902	0909	0941	1-	5	1		1	1	1	0903	C4.6	5643
14	1013	1023	1104	1+	5	1	2	1	1	1	0941	M1.1	5643
14	1056	1100	1110	1-	1				1		1052	C5.5	5645
14	1202	1230	1334	1	1	2	5	1	1	3	1159	M1.1	5645
14	1807	1809	1823	1-	1					1	1804	C4.0	5643
14	1848	1852	1907	1	1					1	1848	C5.0	5629
14	1918	1926	2010D	2-	5	1		1		4	1914	M2.2	5629
14	2005E	2023	2047	1-	1			1			1946	C4.0	5643
14	2147	2205	2224	1-	1			1			2156	C5.1	5634
14	2313	2331	2350D	2+	5	1		1	1	1	2322E		5629
14	2350E	0006	0046D	3-	5	1		1	1	1	2358	M3.4	5629
15	0046E	0054	0118D	2+	3			1	1		0102	M2.3	5629
15	0118E	0127	0208D	3-	3			1	1		0120	M2.8	
15	0152E	0308	0530D	3	5	1		1	1		0142	X1.0	5629

* = No flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1989

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
15	0353	0400	0430U	2	1					1	No flare		
15	0530E	0533	0623D	2	5		2	1			No flare		
15	0623E	0625	0637D	1+	1			1			No flare		
15	0637E	0645	0808	1+	1			1			No flare		
15	0928	0935	1020	1	5	2		1	1	2	No flare		
15	1030	1058U	1058	2	3	1			1		No flare		
15	1224	1238	1305	1	5	1	2		1	3	1210	C5.8	5629
15	1333	1407	1530	2+	5	3	4	1	1	5	1329	M3.9	5629
15	1508	1511	1520	1-	3	1	1		1		1507	M1.3	
15	1537	1544	1608D	1+	1					1	1537		5629
15	1608	1611	1630	1	1					1	1608		5643
15	1659	1701	1714	1-	3					2	1701	C8.6	5629
15	1750	1757	1822	2-	3					3	1747	M1.0	5629
15	1838	1839	1854D	1-	1					1	1838	C8.4	
15	1854	1900	1949	2+	3					2	1850		5629
15	2028	2050	2123D	2+	5			1		2	2046	M5.2	5629
15	2123E	2133	2146D	2	5	1		1		2	No flare		
15	2140E	2204	2339D	2	3			1	1		2209	M4.1	5629
15	2339E	0005	0023D	1	3			1	1		2341	M1.1	5643
16	0023E	0040	0051D	2+	3	1		1	1		No flare		
16	0051E	0116	0843	3	5	1		1	1		0108	X20.0	5629
16	0350	0358U	1000U	3+	1					1	No flare		
16	0758	0831	0844	1	3		2				No flare		
16	0936	1019	1104	2	3		2				*		
16	1134	1140	1205	1-	1		1		1		*		
16	1617	1621	1635	1-	3					2	1617	C8.1	
16	2115	2129	2200	1-	5			1		1	2114	C6.0	5639
16	2225	2255	2314D	1	1			1			2242	C8.0	
16	2313E	2332	0005D	2-	3			1	1		2311	C9.2	5645
17	0011E	0041	0047D	3	1			1	1		0005		5645
17	0047E	0117	0850	3	5	2		1	1		0132	X2.9	5629
17	1302	1312	1412	1-	5		1	1	1	2	1310E		5643
17	1842	1849	1938	2	3					3	1843	M2.9	
17	1854	1919	2040	1+	1	1					1843	M2.9	
17	2036	2038	2057	1	1					1	2034		5641
17	2333	0002	0241	2-	5	1		1	1	1	No flare		
18	0445	0450	0530	2	1		1				No flare		
18	0701	0721	0755	2	3		2				No flare		
18	1242	1244	1247	1-	1		1				No flare		
18	1622	1624	1640	1-	1					1	No flare		
19	0247	0258	0422	2	5			1	1	1	0245	C8.6	5643
19	1436	1447	1512	1	3		2				1436		
19	1635	1647	1658	1-	1					1	1638	C1.8	
19	1911	1955	2015	2+	1					1	1915	C8.2	
19	2134	2140	2229	1-	5	1		1		2	2132		5643
20	0125	0150	0335	1	3			1	1		0133	C5.5	
20	0738	0741	0804	1	1					1	No flare		
20	0824	0827	0830	1-	3				1	2	0816	C4.8	
20	1255	1305	1325	1-	5	1	1		1	2	1254		5643
20	1419	1421	1434	1-	1					1	No flare		
20	1428	1511	1545	1	3		2				No flare		
20	1532	1534	1546	1-	1					1	1536	C1.7	
20	1642	1643	1648	1-	1					1	1643		5637
20	2250	2304	2358	1-	1			1			2247		5644
21	0454	0456	0541	1-	1			1			No flare		
21	0543E	0543U	0625	1+	1		1				No flare		
21	1003	1006	1019	1	1		1				No flare		
21	1144	1152	1230	2-	5					2	1146	C2.1	
21	1203	1227	1308	1	3		2				No flare		
21	1340	1353	1415	1	3		2				No flare		
21	2325	2336	2351D	1-	1			1			2323E	C3.3	
21	2351E	2356	0034	1-	1			1			No flare		

* = No flare patrol.

AUGUST 1989

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
22	0206	0226	0330	1-	3			1	1		0205	C3.4	5652
22	0337	0346	0419	2	1					1	No flare		
22	0553E	0553U	0613	1	1		1				No flare		
22	0602	0706U	0733	1	1		1				0624	C1.8	
22	0818	0819	0838	1+	1					1	No flare		
22	0836	0837	0854	1-	1					1	No flare		
22	0915	0916	0923	1-	1					1	No flare		
22	0923	0936	0953	1	1		1				No flare		
22	1111	1123	1146	1	1		1				*		
22	1303	1304	1307	1-	1		1				No flare		
23	0222	0229	0259	1-	3			1	1		0221	C2.4	
23	0852	0926	1035	1+	5	1	1	1	1	1	0846	M1.1	
23	1040	1047U	1106	1	1		1				No flare		
23	1107	1112	1125	1-	3	1	1		1	1	1106		5645
23	1126	1136	1246	2+	1		1				1124		5649
23	1447	1500	1530	1-	5	1	1		1	4	1451	C6.5	5658
23	1959	2004	2028	1	3					3	1958	C4.6	5643
24	0000	0001	0014	1-	1					1	0002		
24	0452	0507	0542	1-	1			1			No flare		
24	0620	0625	0649	1+	1					1	No flare		
24	0732	0740	0800	1-	5			1	2		0730	C3.2	
24	1333	1359	1442	1-	5	1	1	1	1	2	1328		5643
24	1606	1621	1635	1-	5	1	3		1	3	1604	C7.7	
25	0335	0346	0444	1-	3			1	1		No flare		
25	0816	0836	0920	1-	5		2	1	1		No flare		
25	1031	1105	1128	1	3		2				No flare		
26	0539	0552	0614	1-	3			1	1		No flare		
26	1000	1022	1106	1	1		1				No flare		
26	1143	1157	1227	1-	5	1	5	1	1	5	1142	M1.1	
26	1151	1206	1323	2	5	1		1			No flare		
26	1433	1502	1557	1	1		1				No flare		
26	1441	1520	1559	1	1		1				No flare		
26	1721	1730	1749	1	1		1				No flare		
27	0849	0907	0940	1-	3	1			1	1	0820	C4.8	
27	1011	1021	1103	1	1		1				No flare		
27	1615	1622	1641	1+	1					1	1615	C3.6	
27	2330	2341	0023	1-	1			1			2330	C4.1	
28	0115	0119	0133D	1-	3			1	1		No flare		
28	0133E	0142	0222D	1-	3			1	1		No flare		
28	0225	0228	0233	1-	3			1	1		0221	C3.8	
28	0343	0355	0425	1-	3			1	1		0349	C4.3	5653
28	0426	0439	0546D	2	3			1	1		0429	C6.3	
28	0546E	0604	0709	1-	5		3	1	1		0558	C4.7	5653
28	0720	0742	0853	1-	5	1	1	1	2	1	0731	C6.5	
28	1013	1054	1123	1	3		2			1	No flare		
28	1222	1224	1247	1	1		1				No flare		
28	2240	2249	0053	2	5	2		1		1	2240	M1.2	
29	0034	0042	0106	1-	3			1	1		No flare		
29	0129	0141	0152D	2+	5	2		1	1		0129	M1.2	
29	0155E	0206	0302	3-	3			1	1		No flare		
29	0324	0333	0341	1-	3			1	1		No flare		
29	0350	0405	0427D	1-	3			1	1		No flare		
29	0418	0422	0424D	1-	1				1		0415	C7.9	
29	0427E	0437	0606	2	5	1		1	1	1	No flare		
29	0636	0640	0655D	1-	1			1			No flare		
29	0655E	0703	0728	1-	1			1			No flare		
29	0824	0833	0933D	2+	5	3	4	1	2	4	0824	M1.8	
29	0933E	0938	1028D	2-	3		1	1			No flare		
29	1028E	1035	1134	1+	5	1	1	1	1	2	*		
29	1215	1220	1237	1-	3		1			1	1226	C6.9	

* = No flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1989

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
29	1238	1240	1333	1	1		1				1242	M4.7	5669
29	1253	1312	1405	1+	5	3	4	1	1	7	1242	M4.7	5669
29	1346	1414	1426	3-	1	1					No flare		
29	1454	1457	1519	1+	3					2	1453	M6.8	5669
29	1509	1526	1611	1+	5	3	2	1	1	6	No flare		
29	1636	1643	1643D	1-	5		1		1	5	No flare		
29	1656	1700	1700D	1-	5	2	2		1	4	1659E	M2.6	5669
29	1718	1724	1750	1-	5	1	1		1	5	1717	M2.1	5669
29	1758	1812	1932	3+	5	1				4	1754	M1.9	5669
29	1844	1849	1903	1-	3					2	1844	C8.0	
29	1939	1944	2005	1+	1					1	1916E	C7.2	5669
29	2047	2053	2121	1-	5			1		2	2051E	C7.2	5669
29	2351	0000	0121	2	5	1		1			2351	M1.3	
30	0204	0209	0227	1-	3			1	1		*		
30	0237	0247	0311D	3	5	1		1	1	1	0239	M4.0	5669
30	0311E	0320	0433D	3	3			1	1		0344E	M3.1	
30	0433E	0450	0516D	2	3	1		1	1		0432	C7.3	5669
30	0516E	0527	0615D	2-	3			1	1		0515	C6.0	
30	0615E	0621	0702	1-	1			1			0614	C3.6	
30	0720	0733	0810	1-	5			1	2		0721	C3.5	
30	0815	0826	0842	1	1		1				No flare		
30	0845	0900	0915	1	1		1				No flare		
30	0941	0950	1000	1	1		1				No flare		
30	1004	1012	1046	1-	5	1		1	1	4	1001	C4.6	
30	1147	1207	1207D	2	3	1	1		1	1	1145	C4.2	
30	1220	1237	1320	1-	5	1	2		1	2	1223	C4.5	
30	1442	1448	1505	1-	5	1	1		1	1	1440	C5.3	
30	1530	1541	1552	1	1					1	1530	C2.8	
30	1637	1647	1809	2+	5	3	4	1	1	10	1648	M7.1	5669
30	1813	1815	1843	1+	1					1	1814	C4.4	5669
30	2000	2001	2024	1	1					1	*		
30	2310	2325	0000	1-	3			1	1		No flare		
31	0057	0103	0237	2-	5	2		1	1		0052	M1.0	5669
31	0247	0322	0415	1-	1				1		0321		5669
31	0540	0550	0603	1-	3			1	1		0538	C3.0	5669
31	0627	0630	0637	1-	1			1			0626	C2.8	5669
31	0639	0658	0741	1-	3			1	1		0650	C4.1	5669
31	0818	0823	0840	1-	5	1	2	1	1	1	0816	C2.6	
31	0849	0851	0908	1-	5	1	2	1	1	1	0845	C3.6	
31	0932	0944	1000	1-	3		1		1	1	0932	C3.7	5669
31	1006	1010	1018	1-	5					3	1006	C3.1	
31	1041	1100	1140	1	3		2		1	1	1040	C3.5	
31	1217	1234U	1502	1	1		1				*		
31	1608	1636	1744	1+	5	3	4	1	1	9	1605	M1.9	5669
31	1956	1958	2014	1-	1					1	1951		5671
31	2100	2105	2115	1-	1					1	2100		5671

* No flare patrol.

OBSERVATORIES REPORTING FOR AUGUST 1989

Edenvale, Rep of S. Africa	SES	Lintong, People's Rep of China	SPA
Farsta, Sweden	SES	Louisville, Kentucky, USA	SES
Gainesville, Florida, USA	SES	Maui, Hawaii, USA	SWF
Hiraiso, Japan	SWF	Nerja, Spain	SEA
Houston, Texas, USA	SES	Panska Ves, Czechoslovakia	SES, SEA, SWF
Hudson, Ohio, USA	SES, SEA	Paterson, New Jersey, USA	SES
Inubo, Japan	SPA	Somesworth, New Hampshire, USA	SES
Johannesburg, Rep of S. Africa	SES	Tucson, Arizona, USA	SES
Juliusruh, German Dem Rep	SWF	Uccle, Belgium	SEA
Kandilli, Turkey	SEA	Upice, Czechoslovakia	SEA
Kuhlungsborn, German Dem Rep	SEA, SPA	Valley Cottage, New York, USA	SES
Latrobe, Pennsylvania	SES	Vlasim, Czechoslovakia	SEA

Observations are not necessarily continuous.

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1989

SIDs BY NOAA/SESC REGIONS

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	25	26	27	28	29	30	31
Reg. No.																															
5612	1	2			1	1																									
5619				1																											
5622			1	1	3	2	1																								
5623	3	1	2	1		1																									
5624			2																												
5626				1		1																									
5627			1																												
5628				1	1	1																									
5629			2			1	4	6	5	6	11	4	4	8	10	1	1														
5633						4	2	1		1																					
5634						2	2		1					1																	
5637																			1												
5638									1																						
5639										1						1															
5641																	1														
5643												2	2	5	2		1		2	1			1	1							
5644																				1											
5645														2		1	1						1								
5649																							1								
5652																						1									
5653																												2			
5658																							1								
5669																													8	4	7
5671																															2

Number of events with X-Ray flares

day	3	7	9	5	9	11	8	5	6	8	7	10	8	15	12	5	3		3	3	2	2	4	2		1	3	6	14	13	10

Number of events with no flare reported

	5	1	5		8	5	3	3		6	2	2	4	1	7	3	1	4		3	6	7	1	2	3	6	1	4	11	4	

Number of events with no flare patrol

	2				1				1							2						1							1	2	1

Total SID events

	11	9	17	6	17	19	12	10	8	16	15	13	15	18	22	10	7	4	5	9	8	10	7	6	3	7	4	10	26	19	14

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

AUGUST 1989

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		LEAR				0647.0	0648.0	1				III
		SVTO				0648.0	0648.0	1				III
		SVTO				0750.0	0751.0	1				III
		LEAR				0751.0	0751.0	1				III
0508	1754	BLEN	1133.7	1133.8	3							IIIB
0441	1833	WEIS	1133.8	1134.2	2							IIIG
		SGMR				1445.0	1453.0	1				III
		BLEN				1445.6	1445.7	3				IIIG
		WEIS				1445.6	1446.1	1				IIIG
		SVTO				1446.0	1453.0	2				III
		WEIS				1453.2	1453.3	1				IIIG
		SGMR				1629.0	1630.0	1				V
		BLEN	1629.2	1629.6	1	1629.2	1629.6	1				IIIG
		WEIS				1629.4	1629.7	2				IIIB
		SGMR				1720.0	1721.0	2				III
		BLEN				1720.6	1721.0	3				IIIG
		WEIS				1720.6	1721.0	3				IIIG
		SGMR				1731.0	1735.0	3				V
		BLEN	1732.3	1735.0	3	1732.3	1735.0	3				IIIGG,U
		WEIS				1733.1	1734.9	3				IIIGG,RS
		PALE				1734.0	1734.0	2				III
		PALE				2103.0	2110.0	1				III
		SGMR				2103.0	2111.0	1				V
		PALE				2121.0	2121.0	1				III
		SGMR				2121.0	2121.0	1				III
		PALE							2318.0	2327.0	1	III
02		LEAR				0039.0	0040.0	3				III
		PALE				0039.0	0040.0	3				V
		PALE				0041.0	0042.0	3				V
		LEAR				0107.0	0110.0	2				III
		PALE				0108.0	0110.0	2				V
		LEAR				0121.0	0122.0	1				III
		LEAR				0202.0	0207.0	2				III
		PALE				0202.0	0205.0	2				III
		LEAR				0214.0	0215.0	1				III
		PALE				0214.0	0215.0	1				III
		LEAR				0247.0	0248.0	2				III
		PALE				0247.0	0248.0	2				III
		LEAR				0406.0	0407.0	2				III
		PALE				0407.0	0407.0	1				III
0441	0651	WEIS										
		BLEN				0455.7	0455.8	2				III,RS,U
		LEAR				0526.0	0538.0	2				S
		SVTO				0526.0	0527.0	2				III
		SVTO				0538.0	0538.0	2				III
		LEAR				0627.0	0628.0	1				III
0509	1754	BLEN				0646.1	0646.2	1				IIIB
		BLEN				0816.8	0817.0	1				IIIU
		SVTO				0924.0	0924.0	2				III
0747	1831	WEIS				0924.6	0924.7	2				IIIB
		BLEN				1020.3	1020.6	1				IIIG
		SVTO				1039.0	1040.0	1				III
		WEIS				1039.6	1040.0	2				IIIB
		SGMR				1057.0	1058.0	1				III
		SVTO				1057.0	1058.0	2				V
		WEIS				1057.7	1058.4	2				IIIG
		SGMR				1335.0	1338.0	2				III
		SVTO				1335.0	1339.0	2				III
		WEIS				1335.7	1339.6	2				IIIGG,RS
		WEIS				1348.2	1348.3	1				IIIB
		SGMR				1628.0	2106.0	1				CONT
		PALE				1839.0	1839.0	1				III
		SGMR				1839.0	1840.0	2				III
		PALE				2312.0	2316.0	2				II
		LEAR				2313.0	2318.0	1				II
		SGMR				2313.0	2315.0	2				III
03		LEAR				0121.0	0122.0	1				III

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

AUGUST 1989

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
03			PALE				0121.0	0121.0	1				III
			LEAR				0149.0	0154.0	3				III
			PALE				0149.0	0151.0	2				V
			LEAR				0226.0	0229.0	2				III
			PALE				0226.0	0230.0	1				III
			LEAR				0242.0	0251.0	2				III
			PALE				0249.0	0249.0	1				III
			LEAR				0304.0	0312.0	2				III
			PALE				0304.0	0311.0	1				III
			LEAR				0539.0	0539.0	1				III
	0509	1753	BLEN	0617.0	0618.5	1							III
			LEAR				0617.0	0617.0	1				III
			SVTO				0617.0	0617.0	2				III
	0444	1830	WEIS				0617.1	0617.7	2				IIIG
			LEAR				0653.0	0654.0	2				III
			WEIS				0653.5	0653.8	1				IIIB
			SVTO				0654.0	0655.0	2				III
			BLEN	0656.3	0656.6	2							III,RS
			SVTO				0827.0	0827.0	1				III
			WEIS				0827.2	0827.3	1				IIIB
			WEIS				1026.2	1027.1	1				IIIG
			PALE				1049.0	0151.0	2				V
			BLEN				1208.9	1209.0	2				IIIB
			BLEN				1335.8	1335.9	2				IIIB
			PALE				1850.0	1850.0	1				III
			PALE				1852.0	1852.0	1				III
			SGMR				1852.0	1853.0	1				III
04			LEAR				0219.0	0219.0	2				III
			PALE				0219.0	0219.0	1				III
			SVTO				0528.0	0529.0	1				III
	0443	1634	WEIS				0916.4	0916.6	2				IIIG,RS
	0933	1750	BLEN	1001.2	1001.8	1							IIIB
			BLEN	1005.8	1006.0	2							IIIB
			WEIS				1012.9	1013.3	3				IIIG
			BLEN	1043.2	1044.2	1							IIIG
			BLEN	1149.0	1150.7	1							DCIM,C
			BLEN				1151.3	1154.0	3				IIIGG
			WEIS				1151.4	1152.2	3				IIIG
			WEIS				1533.7	1533.8	1				IIIB
			BLEN				1605.3	1605.7	1				IIIG
			PALE				1737.0	1739.0	2				V
			SGMR				1737.0	1741.0	3				V
			BLEN	1737.1	1739.6	3							IIIGG,RS
	1641	1827	WEIS				1737.2	1739.3	3				IIIGG
05			LEAR				0137.0	0846.0	1				CONT
			LEAR				0238.0	0239.0	2				III
			PALE				0238.0	0239.0	2				V
			LEAR				0613.0	0615.0	3				III
			SVTO				0613.0	0615.0	3				III
	0513	1749	BLEN				0613.5	0615.1	2				IIIGG
	0446	1828	WEIS				0613.5	0615.2	3				IIIG
			SVTO				0624.0	0630.0	1				III
			WEIS				0624.0	1543.0	3				IIIN
			BLEN	0636.5	1849.0D	1	0636.5	1849.0	2				IN,W
			SVTO				0713.0	1244.0	1				CONT
			LEAR				0837.0	0837.0	3				III
			SVTO				0837.0	0838.0	2				III
			LEAR				0912.0	0913.0	2				III
			LEAR				0934.0	0935.0	2				III
			SVTO				0934.0	0935.0	2				III
			SVTO				0943.0	0944.0	2				III
			WEIS				0943.3	0943.8	3				IIIG
			SGMR				1048.0	1049.0	1				III
			SGMR				1107.0	1603.0	1				CONT
			WEIS				1120.1	1131.0	1				II
			SGMR				1226.0	1226.0	2				III
			SVTO				1226.0	1227.0	2				III

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

AUGUST 1989

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
05		SGMR				1813.0	0000.0	1				CONT
		PALE				1907.0	1916.0	1				V
		PALE				1939.0	1940.0	1				III
		PALE				2007.0	2013.0	2				III
		PALE				2128.0	2216.0	2				CONT
06		LEAR				0046.0	0049.0	1				III
		PALE				0046.0	0049.0	1				III
		LEAR				0146.0	0149.0	1				III
		LEAR				0216.0	0216.0	1				III
		PALE				0216.0	0216.0	1				III
		LEAR				0327.0	0328.0	1				III
		LEAR				0407.0	0412.0	1				III
		BLEN				0415.0	1241.0	1				IC
		LEAR				0430.0	0947.0	1				CONT
	0445	1825 WEIS				0622.0	1614.0	3				IIIN
		SVTO				0718.0	0724.0	2				III
	0515	1747 BLEN				0723.0	1224.0	1				IN,W
		LEAR				0723.0	0723.0	2				III
		WEIS				0807.4	0808.7	1				DCIM
		WEIS	0810.2	0811.2	1							DCIM
		SVTO				0816.0	0915.0	2				CONT
		BLEN	0829.5	0836.0	1	0829.5	0836.0	3				IIIGG
		SVTO				0915.0	1331.0	1				CONT
		SGMR				1016.0	1019.0	1				III
		SVTO				1016.0	1021.0	2				V
		SGMR				1037.0	1345.0	1				CONT
		BLEN	1200.5	1225.5	1						IV	
		WEIS				1200.6	1223.5	2				DCIM,RS,CONT
		SVTO				1203.0	1225.0	3			IV	
		SGMR				1204.0	1224.0	3			IV	
		WEIS				1204.4	1210.9	3				IIIG
		BLEN	1204.5	1223.6	1	1204.5	1223.6	1				IIIGG
		BLEN	1341.5	1341.7	1							IIIG
		SGMR				1547.0	1628.0	2				S
		WEIS	1554.2	1554.7	1							DCIM
		BLEN				1554.7	1555.3	1				IIIG
		SVTO				1602.0	1608.0	2				III
		BLEN	1604.3	1607.0	1							DCIM,C
		WEIS	1604.4	1606.7	1							IIIG
		SGMR				1628.0	2115.0	1				CONT
		PALE				1902.0	1902.0	1				III
		PALE				2055.0	2055.0	2				III
		SGMR				2055.0	2055.0	2				III
		PALE				2123.0	2123.0	2				III
		SGMR				2123.0	2123.0	2				III
		SGMR				2123.0	2314.0	1				CONT
		PALE				2251.0	2251.0	2				III
		LEAR				2339.0	2359.0	2			IV	
		PALE				2339.0	0000.0	3			IV	
07		LEAR				0103.0	0948.0	3				CONT
		LEAR				0415.0	0421.0	2				III
		LEAR				0434.0	0434.0	2				III
		LEAR				0504.0	0510.0	2				III
		SVTO				0504.0	0505.0	2				III
	0447	1137 WEIS				0504.0	1646.0	2				IIIN
		BLEN	0514.2	0514.6	1							IIIG
	1207	1825 WEIS				0526.0	1659.0	3				I,DC
		LEAR				0538.0	0540.0	3				III
		SVTO				0538.0	0539.0	3				III
		WEIS				0538.6	0539.2	3				IIIG,U
		SVTO				0540.0	0611.0	1				CONT
		WEIS				0610.0	1555.0	2				I,DC
		SVTO				0611.0	0700.0	2				CONT
		WEIS				0655.0	1023.0	2				CONT
	0515	1747 BLEN	0711.7	0711.8	2							IIIB,RS
		WEIS				0720.0	1246.0	3				CONT
		BLEN	0733.8	0734.0	2							IIIG,RS

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

AUGUST 1989

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		BLEN				0844.8	0844.9	2				IIIG,RS
		BLEN	0922.3	0924.3	2							IIIGG
		SGMR				0942.0	1019.0	1				CONT
		SGMR				1019.0	1658.0	2				CONT
		SVTO				1030.0	1225.0	2				CONT
		BLEN				1137.7	1138.0	2				IIIG
		SVTO				1225.0	1735.0	1				CONT
		WEIS				1307.7	1308.2	3				IIIG
		BLEN				1307.9	1308.2	2				IIIG
		BLEN				1506.1	1506.4	1				IIIG
		BLEN				1539.2	1539.6	2				IIIGG
		WEIS				1539.4	1539.5	1				IIIG,RS
		WEIS				1557.3	1558.0	2				Spikes
		BLEN				1557.5	1558.0	2				IIIGG
		BLEN				1623.6	1623.8	1				IIIG
		WEIS				1623.7	1623.8	3				IIIG
		SGMR				1658.0	2226.0	1				CONT
		BLEN				1727.5	1729.5	3				IIIGG
		WEIS				1727.6	1730.0	3				IIIGG
		PALE				1728.0	1729.0	2				V
		SGMR				1728.0	1730.0	2				V
		PALE				2004.0	2005.0	3				V
		SGMR				2004.0	2006.0	3				III
		PALE				2052.0	2125.0	3				IV
		SGMR				2052.0	2114.0	3				IV
08		LEAR				0004.0	0948.0	1				CONT
		LEAR				0203.0	0212.0	2				III
		PALE				0204.0	0219.0	1				S
		LEAR				0232.0	0233.0	2				III
		PALE				0232.0	0232.0	1				III
		SVTO				0537.0	0540.0	1				III
		SVTO				0553.0	1734.0	2				CONT
0448	1822	WEIS				0623.0	1723.0	1				IN
		WEIS				0703.0	1740.0	2				IIIS
0517	1744	BLEN	0750.1	0750.4	1	0750.1	0750.4	1				IIIGG
		WEIS				0750.2	0751.7	2				DCIM
		LEAR				0823.0	0823.0	2				III
		BLEN	0954.9	0955.6	1	0954.9	0955.6	1				IIIG
		BLEN	1029.3	1029.5	2							IIIG,RS
		SGMR				1045.0	2222.0	1				CONT
		BLEN	1506.2	1509.0	1	1506.2	1509.0	2				IIIGG
		WEIS				1506.2	1509.0	2				IIIG
		BLEN	1527.8	1529.6	2							IIIGG,RS,U
		WEIS				1527.8	1529.5	3				DCIM,RS
		BLEN	1533.5	1533.6	2							IIIB
		PALE				1945.0	1950.0	1				III
		PALE				2201.0	0118.0	1				CONT
09		LEAR				0003.0	0004.0	2				III
		PALE				0003.0	0004.0	2				III
		LEAR				0006.0	0948.0	2				CONT
		PALE				0352.0	0355.0	1				III
		SVTO				0508.0	1733.0	2				CONT
		WEIS				0524.0	1755.0	2				IIIS,CONT,P
0451	1822	WEIS				0607.0	1802.0	2				IS,DC
0518	1514	BLEN				0818.5	0820.5	1				IIIG
		SGMR				1000.0	2331.0	2				CONT
		BLEN	1019.0	1019.3	1							IIIG
		BLEN	1422.5	1425.2	3							DCIM,P
		BLEN	1422.6	1423.3	3							IIIG
		PALE				1745.0	0111.0	1				CONT
		LEAR				2335.0	0949.0	1				CONT
10		LEAR				0134.0	0135.0	2				III
		LEAR				0207.0	0208.0	3				III
		PALE				0207.0	0208.0	2				V
		LEAR				0219.0	0219.0	2				III
		PALE				0220.0	0220.0	2				V

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

AUGUST 1989

Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
10		LEAR				0316.0	0316.0	2				III
		SVTO				0453.0	1732.0	2				CONT
0450	0745	WEIS				0600.0	1011.0	1				IN
0759	1703	WEIS				0630.4	0630.5	1				IIIB
		LEAR				0717.0	0718.0	2				III
		WEIS				0900.2	0900.7	1				Spikes
		SGMR				1049.0	1937.0	1				CONT
		WEIS				1135.4	1136.4	2				Spikes
1132	1744	BLEN				1135.6	1136.5	2				IIIGG
		WEIS				1431.3	1431.7	1				IIIG
		WEIS				1458.3	1459.5	2				IIIG,RS
		WEIS				1533.7	1533.8	1				IIIB
		WEIS				1700.2	1700.3	1				IIIB
1719	1818	WEIS				1719.0	1746.0	2				I
		PALE				1741.0	1741.0	1				V
		SGMR				1741.0	1742.0	2				V
		PALE				1756.0	0344.0	2				CONT
		SGMR				1937.0	2330.0	2				CONT
		LEAR				2308.0	0949.0	2				CONT
11		SVTO				0435.0	1731.0	2				CONT
0451	1120	WEIS				0453.0	1546.0	1				IN,DC,RS,DP
0520	1742	BLEN				0806.5	0806.8	1				IIIG
1204	1818	WEIS				0915.7	0916.3	2				IIIG
		SGMR				1101.0	2328.0	1				CONT
		WEIS				1413.0	1413.2	2				IIIB
		WEIS				1436.7	1437.1	1				IIIG
		WEIS				1441.7	1441.9	1				IIIB
		WEIS				1508.9	1510.3	1				IIIG
		PALE				1822.0	0000.0	1				CONT
		LEAR				2317.0	0000.0	1				CONT
12		SVTO				0435.0	1422.0	1				CONT
		LEAR				0531.0	0533.0	2				III
0453	1047	WEIS				0555.0	1407.0	1				IN,RS,DP
		SGMR				1055.0	1530.0	1				CONT
		SVTO				1056.0	1057.0	2				III
0520	1742	BLEN	1401.5	1404.9	3							IIIGG
		BLEN	1405.2	1408.7	3							DCIM,P
		WEIS				1406.0	1535.0	3			IV	dm
		BLEN	1408.0	1408.8	3							IIIGG
1129	1727	WEIS	1408.0	1410.4	2							IIIG,RS
		BLEN	1409.0	1535.0	3	1409.0	1535.0	3			IV	,P
		SGMR				1415.0	1423.0	2			II	
		SVTO				1416.0	1422.0	3			II	
		WEIS				1416.3	1434.0	2			II	H,HB
		SVTO				1422.0	1729.0	2			IV	
		SGMR				1423.0	1530.0	2			IV	
		WEIS				1425.0	1523.0	2			IV	m
		BLEN	1440.1	1441.5	2							IIIG
		BLEN	1443.0	1456.5	3	1443.0	1456.5	3				IIIGG
		BLEN	1451.8	1457.3	3							DCIM
		BLEN	1459.3	1502.1	3							DCIM,P
		SGMR				1530.0	2327.0	2				CONT
		BLEN				1537.0	1537.6	2				IIIGG
		SVTO				1643.0	1654.0	2			II	
		PALE				1651.0	0204.0	1				CONT
		SGMR				2231.0	2245.0	2			II	
		LEAR				2307.0	0950.0	1				CONT
13		SVTO				0500.0	1728.0	1				CONT
0520	1739	BLEN										
0454	1815	WEIS				0930.9	0931.0	1				IIIB
		SGMR				1104.0	0000.0	1				CONT
		WEIS				1253.2	1253.3	1				IIIB
		WEIS				1254.4	1255.3	1				IIIG
		WEIS				1346.8	1348.1	1				IIIG
14		PALE				0044.0	0046.0	2				V

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

AUGUST 1989

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			LEAR				0045.0	0047.0	3				II
			LEAR				0048.0	0806.0	2				IV
			PALE				0055.0	0413.0	2				IV
			SVTO				0506.0	1727.0	1				CONT
	0520	1739	BLEN	0802.0	1739.0D	1							I,DC,W
	0455	1812	WEIS	0901.0	0931.0	1							I
			WEIS				1048.7	1048.8	1				IIIB
			SGMR				1054.0	2324.0	1				CONT
			SVTO				1240.0	1240.0	2				III
			WEIS				1240.3	1240.5	1				IIIG
			WEIS				1335.8	1335.9	1				IIIB
			SGMR				1501.0	1501.0	2				V
			SVTO				1501.0	1501.0	2				III
			WEIS				1501.2	1501.5	2				IIIG
			SGMR				1544.0	1545.0	2				V
			SGMR				1613.0	1616.0	2				V
			SVTO				1613.0	1614.0	2				V
			WEIS				1613.7	1614.2	1				IIIG
			SGMR				1654.0	1655.0	2				V
			WEIS				1724.6	1725.2	1				IIIG
			PALE				2025.0	2027.0	3				V
			SGMR				2025.0	2027.0	3				V
			PALE				2253.0	2254.0	1				III
15			LEAR				0020.0	0235.0	1				CONT
			PALE				0024.0	0144.0	1				CONT
			PALE				0215.0	0311.0	2				IV
			LEAR				0235.0	0900.0	2				IV
	0525	1314	BLEN				0525.0	1030.0D		1000.0			I,DC,W
			LEAR				0601.0	0604.0	3				III
			SVTO				0601.0	0604.0	2				III
	0458	1423	WEIS				0601.1	0602.2	1				IIIG
			SVTO				0612.0	1725.0	2				CONT
	1437	1811	WEIS				0643.0	0713.0	2				IIIN
			SVTO				0715.0	0717.0	3				V
			WEIS				0716.0	0717.4	3				IIIG
			LEAR				0840.0	0842.0	2				III
			SVTO				0840.0	0842.0	2				III
			WEIS				0840.6	0842.4	2				IIIG
			SGMR				1056.0	2323.0	1				CONT
			SGMR				1135.0	1138.0	2				III
			SVTO				1136.0	1138.0	3				III
			WEIS				1136.2	1139.2	3				IIIG
			SVTO				1155.0	1158.0	2				III
			SVTO				1323.0	1324.0	2				III
	1354	1710	BLEN										
			SVTO				1418.0	1419.0	2				III
			SGMR				1643.0	1645.0	2				V
			PALE				1838.0	1842.0	3				V
			SGMR				1838.0	1842.0	3				V
			PALE				1842.0	0150.0	1				CONT
			LEAR				2345.0	0951.0	1				CONT
16			PALE				0103.0	0129.0	3				IV
			SVTO				0515.0	1608.0	1				CONT
	0525	1710	BLEN										
	0458	1809	WEIS				0624.0	1647.0	2				IIIN,RS
			SGMR				1111.0	2321.0	1				CONT
			PALE				1732.0	1732.0	1				III
			SGMR				1732.0	1733.0	2				V
			WEIS				1733.2	1733.7	2				IIIG
			PALE				1850.0	1905.0	1				S
			PALE				1905.0	1905.0	1				III
			PALE				2228.0	0444.0	2				CONT
			LEAR				2336.0	0951.0	2				CONT
			PALE				2336.0	2343.0	2				V
17			LEAR				0054.0	0107.0	3				S
			PALE				0054.0	0107.0	3				S

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

AUGUST 1989

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
17			SVTO				0510.0	1620.0	1				CONT
	0501	1809	WEIS				0521.0	1716.0	3				IS,DC,CONT
			WEIS				0545.0	1735.0	2				IIIS
	0525	1710	BLEN	0547.2	1710.0D	1	0547.2	1710.0D	2				I,DC,C
			WEIS				0639.5	0639.7	2				IIIG
			BLEN	0639.6	0639.7	2	0639.6	0639.7	2				III
			SGMR				1039.0	1853.0	1				CONT
			PALE				1815.0	0215.0	2				CONT
			SGMR				1853.0	2000.0	2				CONT
			PALE				1856.0	1907.0	2				II
			SGMR				1856.0	1913.0	2				II
			SGMR				2000.0	2320.0	1				CONT
			LEAR				2315.0	0951.0	1				CONT
			PALE				2336.0	2343.0	2				V
18			PALE				0252.0	0339.0	1				S
	0500	1104	WEIS	0521.0	1718.0	2							IN,DC
	0525	1710	BLEN										
			SVTO				0535.0	1721.0	1				CONT
	1110	1805	WEIS				0552.0	1549.0	1				IIIS
			LEAR				0700.0	0704.0	2				III
			SGMR				1124.0	2157.0	1				CONT
			PALE				1843.0	1845.0	1				III
			SGMR				1843.0	1845.0	2				III
19			LEAR				0112.0	0952.0	1				CONT
			PALE				0320.0	0330.0	1				III
	0503	1805	WEIS				0650.0	1207.0	1				IIIN,DP,RS
			WEIS				0740.8	0742.7	2				I,RS
			WEIS				0857.0	0857.4	2				IIIG
	0525	1710	BLEN	0857.4	0857.8	2	0857.4	0857.8	2				IIIG
			SVTO				1005.0	1720.0	1				CONT
			BLEN	1020.0	1430.0	1	1020.0	1430.0	1				I,W
			SGMR				1402.0	2004.0	1				CONT
			SGMR				1542.0	1606.0	2				II
			SVTO				1542.0	1556.0	2				II
			WEIS				1542.3	1612.7	3				II H
			PALE				1925.0	0209.0	2				CONT
			PALE				1948.0	2006.0	2				II
			SGMR				1949.0	2004.0	2				II
			SGMR				2004.0	2046.0	2				CONT
			SGMR				2046.0	2240.0	1				CONT
			LEAR				2315.0	0530.0	1				CONT
20			LEAR				0208.0	0209.0	2				III
			PALE				0208.0	0208.0	2				III
	0525	1710	BLEN	0525.0	1710.0	2	0525.0	1710.0	2				I,DC
	0503	1803	WEIS				0537.0	1739.0	2				IS,DC
			SGMR				1413.0	2214.0	1				CONT
			WEIS				1413.2	1413.7	1				IIIG
			WEIS				1530.6	1530.8	1				IIIG
21			LEAR				0009.0	0150.0	1				CONT
			LEAR				0036.0	0037.0	2				III
			PALE				0036.0	0037.0	1				III
			LEAR				0105.0	0106.0	2				III
			LEAR				0308.0	0309.0	2				III
			PALE				0308.0	0308.0	1				III
			SVTO				0455.0	0456.0	1				III
	0505	0804	WEIS				0618.0	1503.0	1				IN
	0525	1757	BLEN	0640.0	1257.0D	1	0640.0	1257.0D	1				I,DC
	0837	1801	WEIS				0951.0	0951.1	1				IIIG
22	0505	1758	WEIS				0725.0	0725.1	2				IIIB
			WEIS				0729.8	0730.0	2				IIIG
			WEIS				0956.8	0958.1	2				I
			SVTO				0959.0	1004.0	2				V
			WEIS				1010.6	1010.8	2				IIIB,RS
			WEIS	1045.7	1045.9	1							I

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

AUGUST 1989

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1–3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1–3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1–3)	Spectral Type
22			SGMR				1317.0	2130.0	1				CONT
			WEIS				1438.6	1439.3	2				Spikes
			WEIS	1444.6	1445.3	1							IIIG
			WEIS	1454.1	1454.2	2							IIIB
			WEIS				1640.9	1641.2	2				IIIG
			PALE				2215.0	2220.0	1				III
23			LEAR				0012.0	0013.0	2				III
			PALE				0012.0	0013.0	2				III
	0507	1758	WEIS				0609.0	1712.0	2				IN,DC
			SVTO				0713.0	0713.0	2				III
			WEIS				0713.3	0713.4	1				IIIB
			SVTO				0854.0	0855.0	2				III
			LEAR				0855.0	0855.0	1				III
			WEIS				0855.2	0855.7	2				IIIG
			WEIS				1132.9	1133.2	1				IIIB
			SGMR				1133.0	1133.0	1				III
	1330	1710	BLEN										
			SGMR				1611.0	1611.0	1				III
			SGMR				1653.0	1654.0	2				V
			WEIS				1653.6	1654.4	2				IIIG
			SGMR				1725.0	1725.0	1				V
			SGMR				1842.0	1944.0	1				CONT
			PALE				1844.0	1909.0	2				S
			SGMR				1850.0	1902.0	2				S
24			LEAR				0033.0	0034.0	1				III
			LEAR				0502.0	0503.0	1				III
			SVTO				0502.0	0503.0	1				III
	0508	0517	WEIS										
	0521	1755	WEIS				0540.0	1536.0	2				IN,DC
			WEIS				0918.7	0920.3	1				Spikes
			WEIS				0928.4	0928.8	1				Spikes
			WEIS				1038.2	1038.3	3				IIIG
			WEIS				1051.4	1051.6	1				Spikes
			SGMR				1215.0	1215.0	1				III
			SGMR				1232.0	1233.0	1				III
			SGMR				1249.0	1255.0	1				V
			SVTO				1249.0	1255.0	2				III
			WEIS				1249.0	1659.0	2				IIIN
			SGMR				1329.0	1331.0	3				V
			SVTO				1329.0	1331.0	3				V
			SGMR				1340.0	1400.0	1				S
			SGMR				1424.0	1428.0	2				V
			SVTO				1424.0	1713.0	2				CONT
			SGMR				1428.0	2058.0	1				CONT
	0520	1710	BLEN	1450.1	1450.6	1	1450.1	1450.6	2				IIIG
			WEIS				1450.2	1450.5	2				IIIG
			BLEN				1507.0	1535.0	1				I,DC,W
			WEIS				1601.2	1602.2	1				IIIG
			WEIS	1609.3	1613.1	3							IIIGG,RS
			SGMR				1657.0	1659.0	2				V
25	0520	1458	BLEN										
			LEAR				0641.0	0641.0	1				III
			SVTO				0641.0	0641.0	1				III
	0511	1253	WEIS				0641.2	0641.4	1				IIIB
			LEAR				0821.0	0822.0	3				III
			SVTO				0821.0	0822.0	3				III
			WEIS				0821.8	0822.5	3				IIIG
			LEAR				0908.0	0922.0	2				MWB
			WEIS				0908.0	0908.6	1				IIIG
			WEIS				0914.0	0922.8	2				II H
			SVTO				0917.0	0922.0	2				V
			WEIS				1119.7	1119.9	1				IIIB
			WEIS				1138.5	1138.7	3				IIIB
			SGMR				1232.0	1233.0	1				III
			WEIS				1232.9	1233.2	1				IIIB
			SGMR				1243.0	1253.0	2				S

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

AUGUST 1989

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			WEIS				1248.2	1249.2	2				IIIG
			WEIS				1252.8	1253.0	1				IIIB
			SGMR				1505.0	1508.0	1				V
	1314	1754	WEIS				1505.9	1508.1	2				IIIG
	1614	1725	BLEN	1720.6	1720.7	2	1720.6	1720.7	2				IIIB
			SGMR				1727.0	2100.0	1				CONT
			PALE				1851.0	1851.0	1				III
26			LEAR				0218.0	0219.0	1				III
			LEAR				0402.0	0408.0	2				III
			PALE				0402.0	0408.0	1				III
	0510	1751	WEIS				0648.3	0648.7	2				IIIG
			LEAR				0716.0	0718.0	1				III
			SVTO				0716.0	0718.0	1				III
			WEIS				0716.6	0718.6	1				IIIG
			WEIS	1050.4	1050.6	1							IIIG
			WEIS				1148.7	1148.9	2				IIIB
			SGMR				1150.0	1153.0	2				V
			SVTO				1150.0	1154.0	3				V
			WEIS				1150.0	1154.7	3				II HB
			WEIS	1159.5	1200.4	2							IIIGG
			SGMR				1200.0	1418.0	1				CONT
			SVTO				1200.0	1710.0	1				CONT
			WEIS				1200.8	1209.0	1				II
			SVTO				1208.0	1208.0	2				V
			WEIS	1328.7	1329.3	3							IIIGG
			WEIS				1428.9	1429.9	3				IIIG
			SGMR				1429.0	1430.0	2				III
			SVTO				1429.0	1429.0	3				III
			WEIS				1511.4	1514.6	2				IIIG
			PALE				1720.0	1721.0	2				III
			SGMR				1720.0	1721.0	2				III
			WEIS				1720.1	1721.5	3				IIIG
	0520	1725	BLEN	1720.6	1720.7	2	1720.6	1720.7	2				IIIB
			PALE				1753.0	1754.0	2				V
			SGMR				1753.0	1754.0	2				V
			PALE				1848.0	1854.0	1				III
			SGMR				1848.0	1854.0	1				III
			SGMR				2006.0	2006.0	1				III
			PALE				2137.0	2138.0	2				V
			SGMR				2137.0	2138.0	1				III
27	0513	1751	WEIS				0626.4	0626.5	2				IIIB
			WEIS				0854.7	0854.8	2				IIIG
			WEIS				1154.0	1154.3	1				IIIB
			SGMR				1155.0	1155.0	1				III
			SVTO				1155.0	1155.0	1				III
			WEIS				1206.9	1207.4	3				IIIG
			WEIS				1309.3	1309.7	3				IIIG,RS
			SGMR				1328.0	1328.0	1				III
			WEIS				1328.0	1328.1	1				IIIB
			WEIS				1428.0	1428.1	1				IIIB
			WEIS				1458.5	1458.9	3				IIIG
			SGMR				1614.0	1617.0	1				V
	0520	1725	BLEN				1614.1	1614.9	2				IIIGG
			WEIS				1614.1	1617.5	3				IIIG,RS,Spikes
			SGMR				1625.0	1627.0	1				II
			WEIS				1626.6	1627.5	1				IIIG
			SVTO				1627.0	1627.0	2				III
			BLEN				1715.8	1715.9	2				IIIU
			WEIS				1750.7	1750.9	2				U
			LEAR				2330.0	2331.0	1				III
			PALE				2330.0	2332.0	1				V
28			LEAR				0048.0	0048.0	1				III
			LEAR				0222.0	0223.0	2				III
			PALE				0222.0	0223.0	1				III
			LEAR				0430.0	0430.0	2				III
			LEAR				0439.0	0440.0	2				III

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 1989

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
28			LEAR				0506.0	0507.0	2				III
			LEAR				0511.0	0513.0	3				V
			SVTO				0511.0	0512.0	2				III
			LEAR				0531.0	0536.0	2				III
	0513	1117	WEIS				0531.0	1541.0	3				DCIM
			SVTO				0535.0	0536.0	2				III
			SVTO				0548.0	0556.0	3				III
			LEAR				0550.0	0556.0	3				III
	0520	1725	BLEN				0551.7	0552.6	1				IIIG
	1125	1748	WEIS				0551.7	0553.6	3				IIIGG
			WEIS				0615.1	0618.4	2				IIIG
			SVTO				0616.0	0618.0	3				III
			LEAR				0618.0	0618.0	1				III
			SVTO				0720.0	0720.0	1				III
			LEAR				0732.0	0732.0	1				III
			SVTO				0732.0	0744.0	1				S
			LEAR				0743.0	0744.0	1				III
			WEIS				0807.4	0809.0	1				IIIG
			SVTO				0931.0	0931.0	1				III
			WEIS				0931.0	0931.2	1				IIIB
			WEIS				1007.4	1010.3	3				IIIG
			SVTO				1008.0	1011.0	3				V
			BLEN	1008.9	1009.5	2	1008.9	1009.5	2				III,V
			SGMR				1009.0	1009.0	1				III
			SGMR				1114.0	1114.0	1				III
			WEIS				1114.5	1116.1	2				IIIG
			SGMR				1140.0	1141.0	1				III
			SVTO				1140.0	1141.0	2				III
			WEIS				1140.7	1141.1	1				IIIB
			SGMR				1401.0	1401.0	1				V
			SVTO				1404.0	1405.0	2				III
			SGMR				1420.0	1421.0	1				V
			SGMR				1456.0	1457.0	1				V
			SGMR				1530.0	1535.0	2				III
			BLEN				1530.5	1649.8	3				IIIGG,S
			WEIS				1530.6	1532.8	3				IIIGG,U,RS
			WEIS				1548.7	1551.5	3				IIIGG,U
			SGMR				1549.0	1451.0	1				III
			SVTO				1549.0	1549.0	3				III
			SGMR				1620.0	1621.0	2				III
			SVTO				1620.0	1621.0	3				III
			WEIS				1620.4	1621.3	3				IIIGG
			PALE				1730.0	1730.0	1				III
			SGMR				1730.0	1738.0	2				III
			PALE				1740.0	1740.0	1				III
			PALE				2115.0	2115.0	1				III
			SGMR				2115.0	2115.0	1				III
			PALE				2153.0	2154.0	2				V
			SGMR				2153.0	2154.0	1				III
			PALE				2242.0	2244.0	1				V
			SGMR				2242.0	2242.0	2				III
29			LEAR				0028.0	0029.0	1				III
			PALE				0028.0	0028.0	1				III
			LEAR				0039.0	0043.0	1				III
			PALE				0039.0	0042.0	1				III
			LEAR				0102.0	0103.0	2				III
			PALE				0102.0	0103.0	1				III
			LEAR				0113.0	0125.0	2				S
			PALE				0113.0	0125.0	2				S
			PALE				0134.0	0148.0	2				S
			LEAR				0135.0	0145.0	1				III
			LEAR				0148.0	0154.0	3				III
			PALE				0152.0	0154.0	3				V
			LEAR				0157.0	0214.0	3				II
			PALE				0158.0	0238.0	2				S
			LEAR				0217.0	0238.0	3				S
			LEAR				0320.0	0327.0	3				III
			PALE				0320.0	0326.0	3				V

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

AUGUST 1989

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		LEAR				0338.0	0339.0	1				III
		LEAR				0421.0	0422.0	2				III
		LEAR				0432.0	0436.0	1				III
		LEAR				0505.0	0516.0	2				III
	0520	0925 BLEN										
		LEAR				0532.0	0536.0	2				III
		SVTO				0532.0	0536.0	1				III
		LEAR				0554.0	0555.0	2				III
		SVTO				0648.0	0648.0	1				III
	0516	1747 WEIS				0651.2	0653.6	3				IIIG,DCIM
		SVTO				0728.0	0728.0	1				III
		WEIS	0729.2	0731.4	3							DCIM
		WEIS				0748.0	1740.0	3				IIIN
		SVTO				0749.0	0800.0	2				S
		LEAR				0759.0	0800.0	2				III
		SVTO				0826.0	0824.0	2				III
		SVTO				0856.0	0856.0	1				III
		SVTO				0908.0	0957.0	1				S
		SVTO				1021.0	1028.0	2				III
		SGMR				1026.0	1027.0	1				III
		WEIS				1026.3	1027.4	3				IIIG
		SGMR				1130.0	1131.0	1				III
		SGMR				1154.0	1154.0	1				III
		SGMR				1217.0	1217.0	1				III
		SGMR				1226.0	1229.0	2				V
		SVTO				1226.0	1229.0	2				V
		WEIS				1226.1	1229.4	3				IIIG,U
		SGMR				1231.0	1323.0	2				S
		SVTO				1242.0	1243.0	2				III
		SGMR				1252.0	1258.0	3				V
		SVTO				1252.0	1258.0	3				V
		WEIS				1252.4	1258.3	3				IIIGG/V
		SVTO				1303.0	1308.0	2				III
		WEIS				1303.4	1308.7	3				IIIGG,Spikes
		SVTO				1320.0	1323.0	2				III
		SGMR				1323.0	0000.0	1				CONT
		SVTO				1341.0	1358.0	1				S
		SVTO				1449.0	1500.0	1				S
		SGMR				1454.0	1500.0	2				V
		WEIS				1501.6	1502.2	2				DCIM
		SVTO				1513.0	1549.0	2				S
		SGMR				1515.0	1550.0	2				S
		WEIS				1515.6	1515.8	3				IIIB,RS
		WEIS				1517.5	1519.3	3				IIIG,RS
		WEIS				1539.4	1541.2	3				IIIG
		WEIS				1554.2	1555.6	3				IIIGG
		PALE				1654.0	1655.0	2				V
		SGMR				1654.0	1655.0	2				V
		SVTO				1654.0	1655.0	2				III
		SGMR				1714.0	1716.0	2				V
		PALE				1737.0	1741.0	2				V
		SGMR				1737.0	1742.0	3				V
		PALE				1803.0	1809.0	2				V
		SGMR				1803.0	1809.0	2				V
		PALE				1919.0	1928.0	2				V
		PALE				1919.0	2320.0	2				CONT
		SGMR				2052.0	2145.0	2				CONT
		SGMR				2145.0	2301.0	1				CONT
		SGMR				2149.0	2150.0	2				III
		PALE				2234.0	2236.0	2				V
		LEAR				2322.0	0451.0	2				CONT
30		PALE				0026.0	0000.0	1				CONT
		PALE				0038.0	0038.0	1				III
		PALE				0222.0	0223.0	1				III
		PALE				0244.0	0244.0	1				V
		LEAR				0310.0	0315.0	3				III
		PALE				0310.0	0314.0	2				V
		PALE				0322.0	0322.0	1				III

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

AUGUST 1989

Observation Start (UT)	Observation End (UT)	Day	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	LEAR				0555.0	0558.0	3				III
			SVTO				0555.0	0558.0	3				III
0515	1743		WEIS				0555.7	0556.6	2				IIIG
			LEAR				0622.0	0622.0	1				III
			LEAR				0646.0	0646.0	1				III
			LEAR				0722.0	0723.0	1				III
			WEIS				0903.7	0904.3	3				IIIGG,DCIM
			WEIS	1007.7	1007.9	2							IIIG
			SGMR				1327.0	1328.0	2				III
			SVTO				1327.0	1328.0	3				III
			WEIS				1327.2	1328.6	2				IIIG
			SGMR				1428.0	1428.0	1				III
			WEIS				1433.0	1647.0	3				DCIM
1332	1710		BLEN	1433.1	1443.0	2	1433.1	1443.0	1				IIIGG,U,RS
			SGMR				1440.0	1441.0	2				III
			SVTO				1440.0	1441.0	2				III
			WEIS				1440.5	1441.1	2				IIIG
			BLEN	1501.3	1503.4	2							IIIG
			SGMR				1529.0	1530.0	1				III
			BLEN	1533.5	1534.0	2							IIIGG
			SGMR				1541.0	1541.0	1				V
			SGMR				1612.0	1612.0	1				V
			WEIS				1620.8	1622.2	3				IIIG
			BLEN	1620.9	1621.4	1	1620.9	1621.4	1				IIIGG
			SGMR				1621.0	1622.0	2				V
			SVTO				1621.0	1622.0	3				V
			SGMR				1635.0	1641.0	2				V
			BLEN	1636.2	1646.3	3	1636.2	1646.3	1				IIIGG
			WEIS	1638.0	1642.0	2							CONT
			BLEN	1638.5	1641.3	2							DCIM,P
			PALE				1640.0	1650.0	1				V
			WEIS				1640.1	1640.9	2				IIIG
			BLEN	1711.7	1711.8	1							III
			PALE				1722.0	1723.0	2				III
			SGMR				1722.0	1727.0	3				V
			WEIS				1722.7	1723.4	3				IIIG
			PALE				1736.0	1737.0	2				III
			SGMR				1736.0	1737.0	2				V
			WEIS				1736.6	1737.3	1				IIIG
			PALE				1813.0	1813.0	2				V
			PALE				1857.0	1857.0	2				V
			SGMR				1857.0	1857.0	2				V
			PALE				2008.0	2010.0	2				III
			PALE				2100.0	2101.0	2				III
			PALE				2310.0	2310.0	1				III
		31	LEAR				0057.0	0100.0	3				III
			PALE				0058.0	0100.0	2				III
			LEAR				0123.0	0124.0	2				III
			PALE				0123.0	0124.0	2				III
			LEAR				0140.0	0142.0	1				III
			PALE				0140.0	0141.0	1				III
			LEAR				0157.0	0159.0	1				III
			LEAR				0315.0	0329.0	2				S
			LEAR				0341.0	0342.0	2				III
			PALE				0341.0	0342.0	2				III
			LEAR				0345.0	0956.0	2				CONT
			SVTO				0447.0	1702.0	2				CONT
0519	0954		WEIS				0537.0	1407.0	2				IIIN,CONT
0530	1710		BLEN	0538.3	0538.4	2	0538.3	0538.4	2				IIIB
			BLEN	0625.2	0626.1	2	0625.2	0626.1	2				IIIGG,RS
1000	1743		WEIS				0625.2	0626.1	3				IIIG,RS
			WEIS				0647.8	0648.1	2				IIIG
			BLEN	0647.9	0652.7	2	0647.9	0652.7	2				IIIGG,RS
			WEIS				0650.2	0652.7	3				IIIGG
			LEAR				0748.0	0749.0	3				III
			BLEN	0752.1	0752.3	1	0752.1	0752.3	2				IIIG
			WEIS				0752.1	0752.4	2				IIIG
			WEIS				0815.4	0817.0	2				IIIG

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

AUGUST 1989

Observation Start (UT) Day	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1–3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1–3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1–3)	Spectral Type
31		BLEN	0815.6	0817.1	2	0815.6	0817.1	2				IIIGG
		BLEN	0931.3	0932.6	2	0931.3	0932.6	2				IIIGG,RS
		WEIS				0931.3	0932.3	3				IIIGG,RS
		BLEN	0933.5	0934.9	2	0933.5	0934.9	1				DCIM
		WEIS	1002.8	1002.9	1							Spike
		BLEN	1007.5	1008.6	1							DCIM
		WEIS	1008.1	1008.5	2							DCIM
		SGMR				1024.0	2120.0	1				CONT
		WEIS				1032.2	1034.6	2				IIIG,Spikes
		BLEN	1034.3	1036.8	1	1034.3	1036.8	2				III
		WEIS	1454.9	1455.3	1							DCIM
		WEIS	1505.6	1507.3	1							DCIM
		BLEN	1605.2	1621.8	3	1605.2	1621.8	3				IIIGG,RS,U
		WEIS				1605.3	1606.7	3				IIIGG,RS,U
		BLEN	1606.3	1626.8	1							DCIM,C
		WEIS				1616.6	1622.6	3				IIIGG,RS,S
		LEAR				2257.0	0956.0	2				CONT
		LEAR				2345.0	2346.0	2				III

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

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

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

Stations Reporting:

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

C O S M I C R A Y I N D I C E S
(Neutron Monitor)

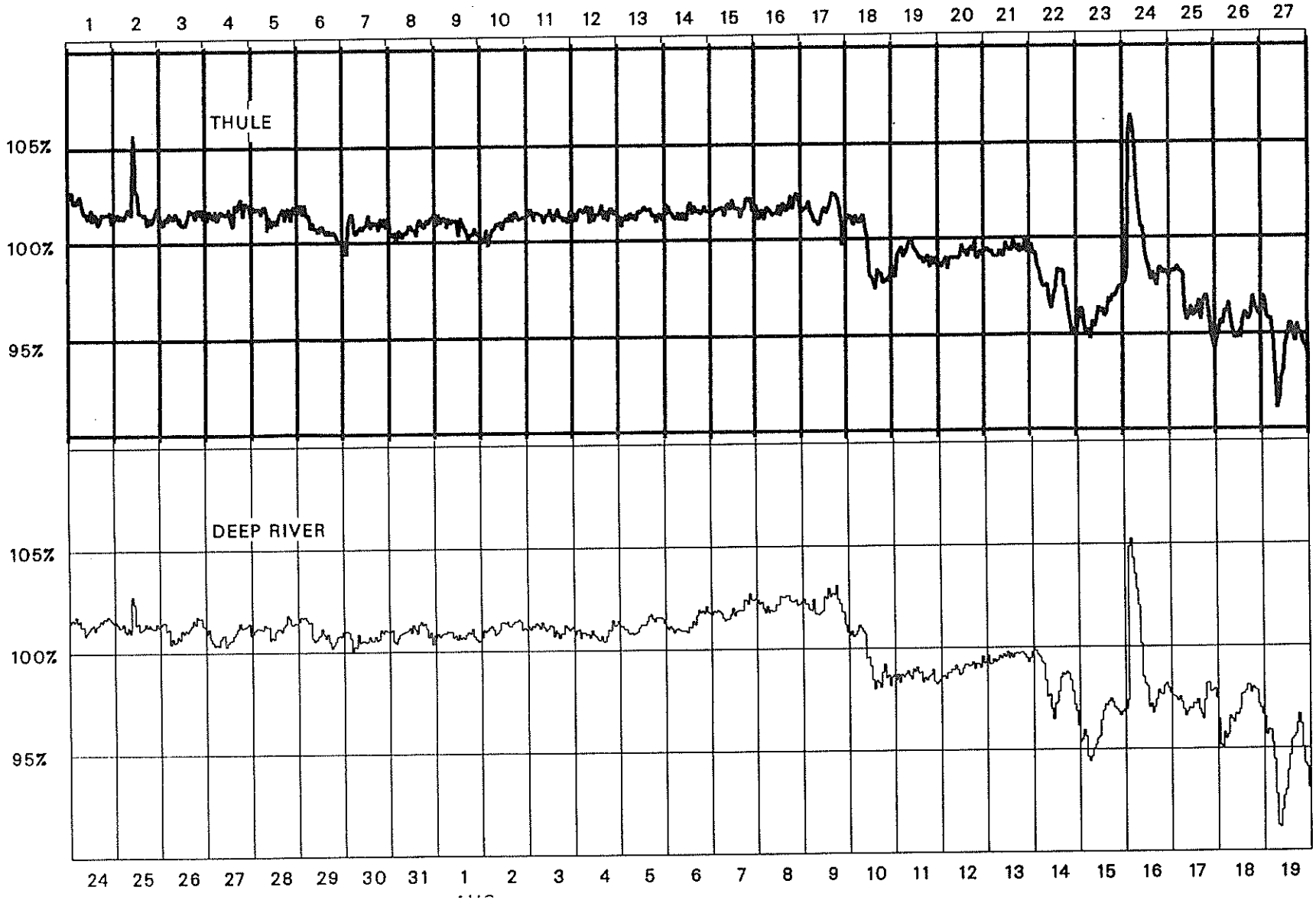
AUGUST 1989

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	3978	6225.4	5619.8	3577.4	3458.1	
2	3980	6250.2	5611.2	3600.5	3465.6	
3	3999	6243.8	5625.1	3606.8	3470.8	
4	4003	6230.0	5628.3	3613.6	3489.2	
5	3998	6253.7	5628.8	3618.8	3489.7	
6	4005	6258.2	5627.7	3618.6	3477.4	
7	4012	6297.8	5644.0	3631.6	3480.6	
8	4011	6314.4	5637.3	3632.2	3483.8	
9	4000	6307.6	5638.6	3641.6	3479.2	
10	3920	6145.7	5532.8	3541.6	3462.0	
11	3909	6093.0	5479.2	3509.0	3437.3	
12	3912	6116.0	5500.4	3520.8	3463.2	
13	3921	6149.6	5538.1	3544.0	3493.9	
14	3844	6066.0	5435.5	3503.2	3436.5	
15	3799	5942.1	5347.2	3439.3	3406.4	
16	3944	6133.0	5439.0	3466.6	3398.5	
17	3814	6012.2	5385.0	3439.1	3399.8	
18	3775	5983.6	5370.8	3437.0	3387.6	
19	3731	5835.6	5258.0	3335.3	3345.0	
20	3727	5805.0	5255.1	3310.3	3334.5	
21	3771	5882.4	5294.3	3366.5	3346.4	
22	3788	5945.3	5340.3	3390.7	3367.4	
23	3790	5909.3	5319.4	3400.8	3386.7	
24	3809	5970.6	5331.0	3418.1	3399.5	
25	3842	5968.4	5369.9	3409.5	3384.4	
26	3810	5969.3	5356.4	3407.8	3395.1	
27	3836	6047.8	5424.5	3469.5	3421.9	
28	3781	5926.3	5316.1	3398.5	3384.5	
29	3821	5993.9	5412.9	3470.9	3420.6	
30	3857	6038.8	5444.0	3470.9(30)	3429.3	
31	3877	6074.7	5452.7	3492.5	3446.0	
Mean	3879	6077.1	5460.1	3493.0	3427.1	

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.

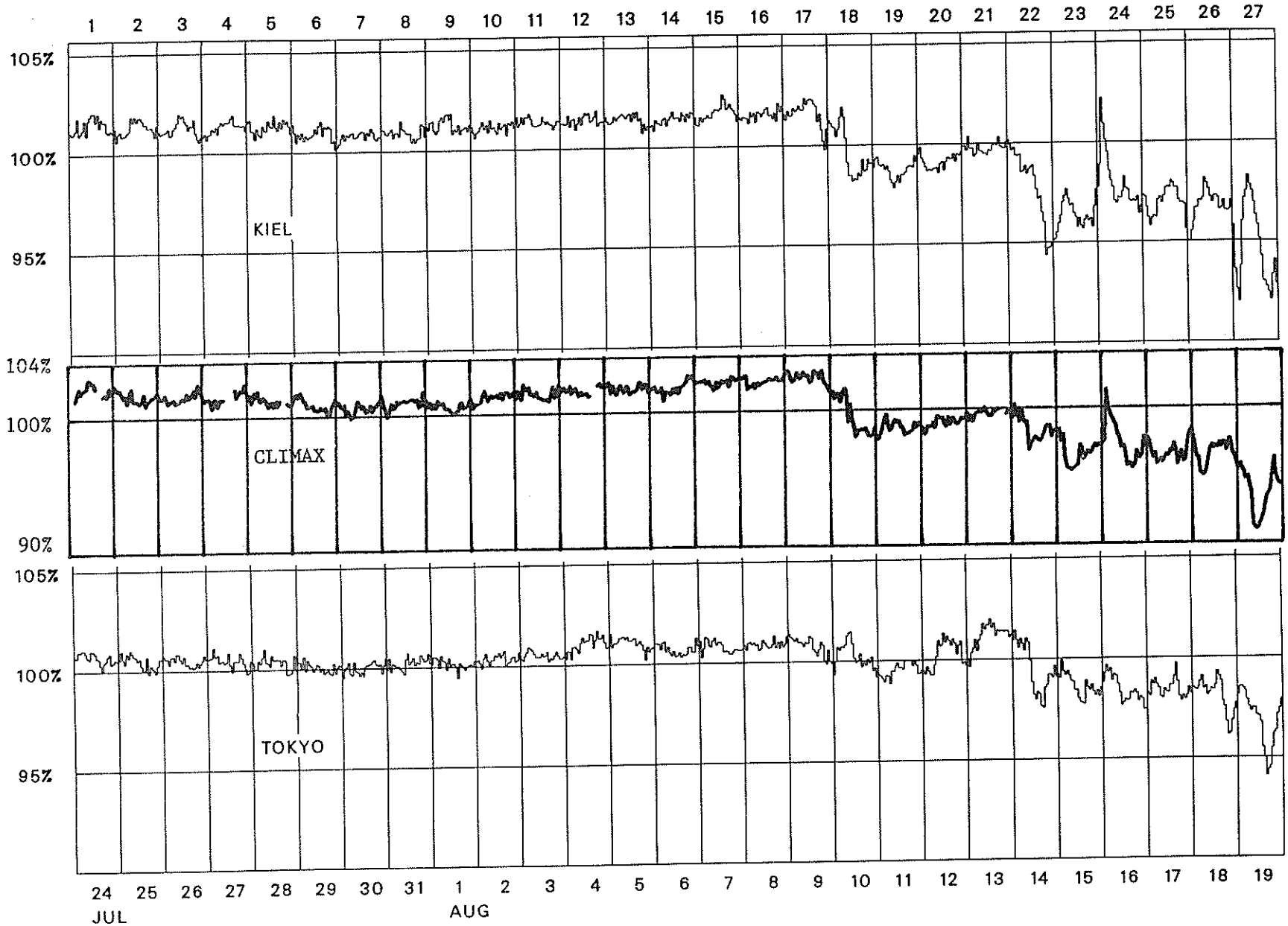
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2131 (July 1989-August 1989)



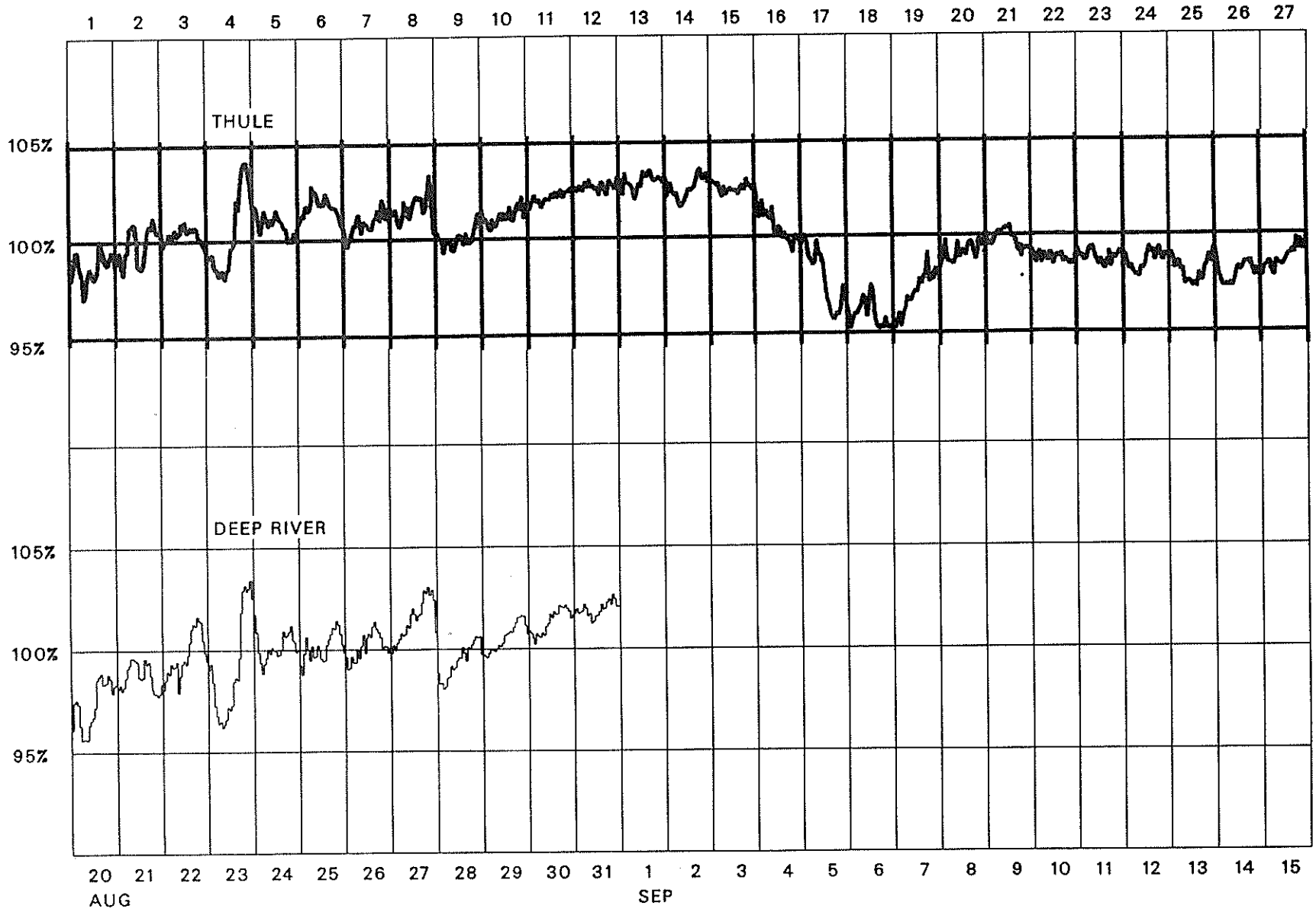
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2131 (July 1989-August 1989)



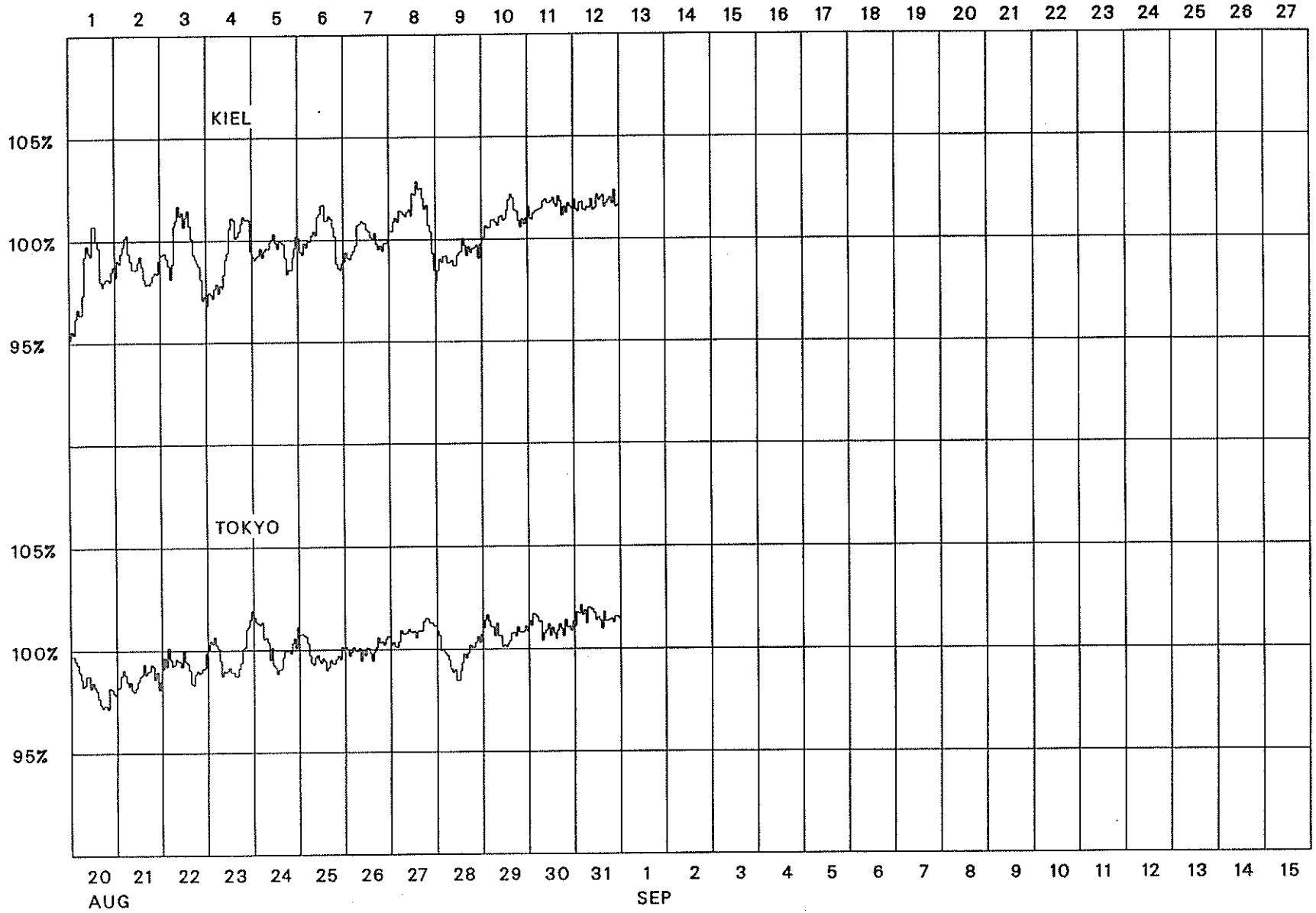
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2132 (August 1989-September 1989)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2132 (August 1989-September 1989)



157
Aug 89

GEOMAGNETIC ACTIVITY INDICES

August 1989

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	Q4	2-	1+	1-	1	1+	2-	2-	2+	12-	6	0.2	2-	1+	1+	1-	1+	2-	2-	2	10	10	8	7	11 CC
2	Q6	3-	2-	2+	1	1-	1-	1	2-	12-	6	0.3	3	2	3-	1+	1	1-	1-	1+	12	12	9	15	6 CC
3	Q3	2	2	2-	2-	1+	1	1	0+	11	5	0.2	2	2-	2-	1+	1+	1	1+	1-	10	12	7	10	9 CC
4		1-	1	2-	2+	3-	3+	2	2+	16	8	0.5	1-	1+	2-	3-	2+	3-	2	2	15	18	16	13	21 K
5	Q1	1	1-	0	0+	0+	0+	0+	1	4	2	0.0	1+	1-	0+	0+	0+	0+	1-	1	4	4	2	3	4 CK
6	Q10A	1	1+	1	1	2-	2+	3+	3-	14+	8	0.4	1+	1+	1+	1+	2-	2-	3-	3-	13	16	9	8	18 KK
7		2	2+	2	2	2	3-	3+	2	18+	9	0.5	2	2+	2+	2	2	2	3-	2	17	24	13	17	20
8	Q9A	2	2+	2+	3-	1+	1	2-	2-	15	7	0.4	2+	2+	2+	3-	1+	1	1+	2-	15	16	12	18	10
9		2-	1+	1-	1	2-	2-	4+	3+	16-	10	0.6	1+	1	1	1+	2-	2-	4-	3+	17	21	13	9	25
10	D4	4-	4-	6	6-	4+	4+	4	5	37-	41	1.5	4-	3+	5+	5	4-	4-	4-	4	59	47	58	60	46
11		5+	5-	3	4	4+	3+	2	2+	29	25	1.2	5-	4	3	4	4-	3	2	2	40	38	43	54	27
12		3	2+	2	2-	2+	1-	1+	2+	16-	8	0.4	3	2+	2+	2+	2+	1+	1+	2+	17	17	14	18	13
13		3	3-	2+	2	3-	1+	2	2	18	9	0.5	3	2+	2+	2	3-	1+	1+	2	17	19	16	18	17
14	D2	3+	4	7-	6	7-	3+	4	5	39	55	1.6	3+	4-	6+	6-	5+	3-	3+	4	76	73	58	82	49
15	D1	7-	7-	6	4+	6+	4	5	7-	46-	77	1.8	5+	6	5+	4	6-	3	4	6-	95	93	72	83	84
16		6-	5	3	2+	3+	3-	3+	4-	29	26	1.2	5+	5	3+	2+	3-	2+	3-	3+	46	32	31	39	25
17	D5	3+	3-	3+	3-	5+	6-	5-	5	33-	34	1.3	3	2+	3+	3	4	5-	4	4	46	52	44	30	66
18		5	4	4-	5	3-	3-	4+	4+	32-	29	1.3	4+	4-	4-	4	3-	3-	3+	4-	43	50	32	51	32
19		4	5-	2+	1	1	2-	3	1	19-	14	0.8	3+	4	2	1+	1	2-	2+	1	20	22	10	20	12
20		2+	3-	5	5	5	4	2-	2-	27+	26	1.2	2	3	5-	5-	4+	3+	1+	2-	41	40	38	44	35
21		2	1+	1	1	3+	4	5+	5	23	21	1.1	2-	2-	1+	1+	3-	4-	4	4+	30	33	33	10	57
22		4+	3+	3+	3-	1+	1+	1+	1+	19	12	0.7	4	3	3	3-	1+	1+	1	1+	21	23	15	29	9
23		3	3+	3-	3	5	5-	5+	4-	31-	28	1.2	3-	3	3-	3+	4	4	5-	3+	42	52	41	31	63
24	Q5K	3	1	1	1-	2-	1+	1	2-	11+	6	0.3	3-	1+	1+	1+	1+	1	1+	2-	11	15	8	11	11 C
25	Q2	1-	1	1+	1-	1+	1	1+	2+	10-	5	0.2	1	1+	1+	1	2-	2-	1+	2+	10	11	8	7	12 CC
26	Q8	1-	2+	2	3-	2	2-	1-	1-	13-	6	0.3	1-	2	2+	3-	2-	1+	1-	1	12	15	9	16	8 K
27		2	4+	3	3-	4	3+	6-	4+	29+	26	1.2	2-	4	4-	3-	4-	3	5-	4+	45	48	38	28	58
28		3-	1	1-	2	2	2+	4	7-	21+	22	1.1	2+	1+	1-	2	2	2+	4-	6-	32	40	30	11	59
29	D3	7	7+	6-	4	4-	4	4-	2+	38-	58	1.7	6	6+	6-	3+	3	3+	3+	2	79	68	63	91	39
30		2	4+	2	3	3+	4	3	3-	24+	17	0.9	2	4-	2	3	3	3	3	3-	28	34	24	25	33
31	Q7	2	1+	1	0+	1	3-	2-	2+	12+	6	0.3	2	1+	1	1-	1+	2+	2-	2+	12	16	8	7	16 C
Mean											20	0.80									30.2	31.4	25.4	28.4	

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	2-	1+	1+	0+	2	2+	2	2+	12	2-	1	1+	1-	1	1	1+	2	9	198.5	158	161	152	
2	3	2	3-	2-	1+	1	1	2-	14	3-	2	2+	1	1	0+	0+	1	11	201.7	187	184	156	
3	2	2	2	2-	2	1+	1+	1-	12	2	2-	2-	1	1	1-	1+	0+	9	220.2	193	205	176	
4	1-	1+	2	3	3-	3-	2	2+	17	1-	1	1+	2+	2	2+	2	2	12	225.7	210	219	182	
5	1+	1-	0	1-	1-	1-	1-	1+	5	1	0+	0+	0	0+	0+	0+	0+	3	241.7	227	243	199	
6	2-	2-	1+	1+	2+	2	3	3-	16	1	1+	1+	1-	1-	1	2+	2+	10	240.3	220	244	198	
7	2+	3-	2+	2+	2+	2+	3-	2+	20	2-	2	2	2-	2	2-	2	2-	14	240.6	206	226	198	
8	3-	2+	2+	3	2-	1+	2	2	17	2	2+	3-	3-	1	0+	1	1+	13	233.6	210	222	190	
9	1+	1	1+	2-	2+	2	4	3+	21	2-	1-	1-	1+	1+	1+	3+	3	14	233.9*	218	241	191	
10	4-	3+	6-	6-	4	4-	4-	4-	65	4-	3+	5	5-	3+	3+	4	4	54	232.6	200	205	189	
11	4+	4	3	4	4-	3+	2+	3-	41	5	4	3-	4	3+	2+	1+	1+	39	243.6	202	218	201	
12	3-	3-	2+	2+	2+	1+	2-	2	18	3	2	3-	2+	2	1	1	2+	16	256.1*	188	204	215	
13	3-	2+	3-	2	3-	2-	2-	2+	18	3	3-	2+	2	2+	1+	1	2-	16	263.9	198	204	223	
14	3+	4-	7-	6	6-	3	4-	4-	90	3	3	6	5	5-	2+	3	4	62	271.3	189	175	231	
15	5+	6	5+	4	6	4-	4+	5	101	5	6-	5+	4-	6-	3-	4-	6-	90	281.7	196	187	242	
16	5+	5	3+	3-	3+	2+	3-	3	47	6-	5-	3+	2	2	2+	3-	3+	44	259.8	169	172	219	
17	3-	3-	3+	3+	4+	5	4	4+	51	3	2+	3+	3	4	4	4-	4-	41	262.9	192	189	222	
18	4+	4-	4-	5-	3	3	4-	4	48	4+	4-	4-	4-	2+	2	3+	4-	39	265.0	189	197	224	
19	3+	4	2+	2-	1	2-	3-	1+	21	4-	4	2	1	1	1+	2	0+	19	249.1	202	210	207	
20	2+	3	5	5-	5-	4-	2-	2	45	2	3	5-	5-	4	3	1	1+	36	236.4	209	216	193	
21	2	2-	1+	2-	3	4-	4-	4	28	2-	2-	1+	1	2+	4	4	5-	31	225.7	203	189	182	
22	4-	3	3	3	2-	1+	1+	1+	22	4+	3	3	3-	1	1	1-	1	21	205.4	160	156	160	
23	3	3	3-	3	4+	4-	5-	3	43	3-	3-	3-	3+	4-	4+	5-	3+	41	191.3	133	138	145	
24	3-	2-	1+	1+	2-	1+	1+	2	13	3-	1+	1+	1-	1	1	1	1+	10	182.0	129	147	135	
25	1	1+	1+	1	2	2	2	3-	12	1	1	1	1	1+	1	1-	2-	7	159.7	100	102	110	
26	1	2	2+	3-	2+	2	1	1+	14	1-	2	2+	3	1+	1-	0+	0+	11	161.0	95	82	112	
27	2-	4	3+	3	4+	3+	5	5-	50	2-	4	4	2	3	2	5-	4-	39	159.6	57	78	110	
28	2+	1	1	2+	2+	2+	3+	6-	32	2	1+	1-	1+	2-	3-	4	6-	31	174.1	50	68	126	
29	6	6+	5+	4-	3	4-	4-	2	79	6	6+	6-	3	3	3+	3+	2-	78	180.3*	70	74	133	
30	2+	4	2	3	3	3	3	3-	28	2	4-	2	3	3	3	3	3	27	192.0*	94	97	145	

D A I L Y A V E R A G E I N D I C E S Ap

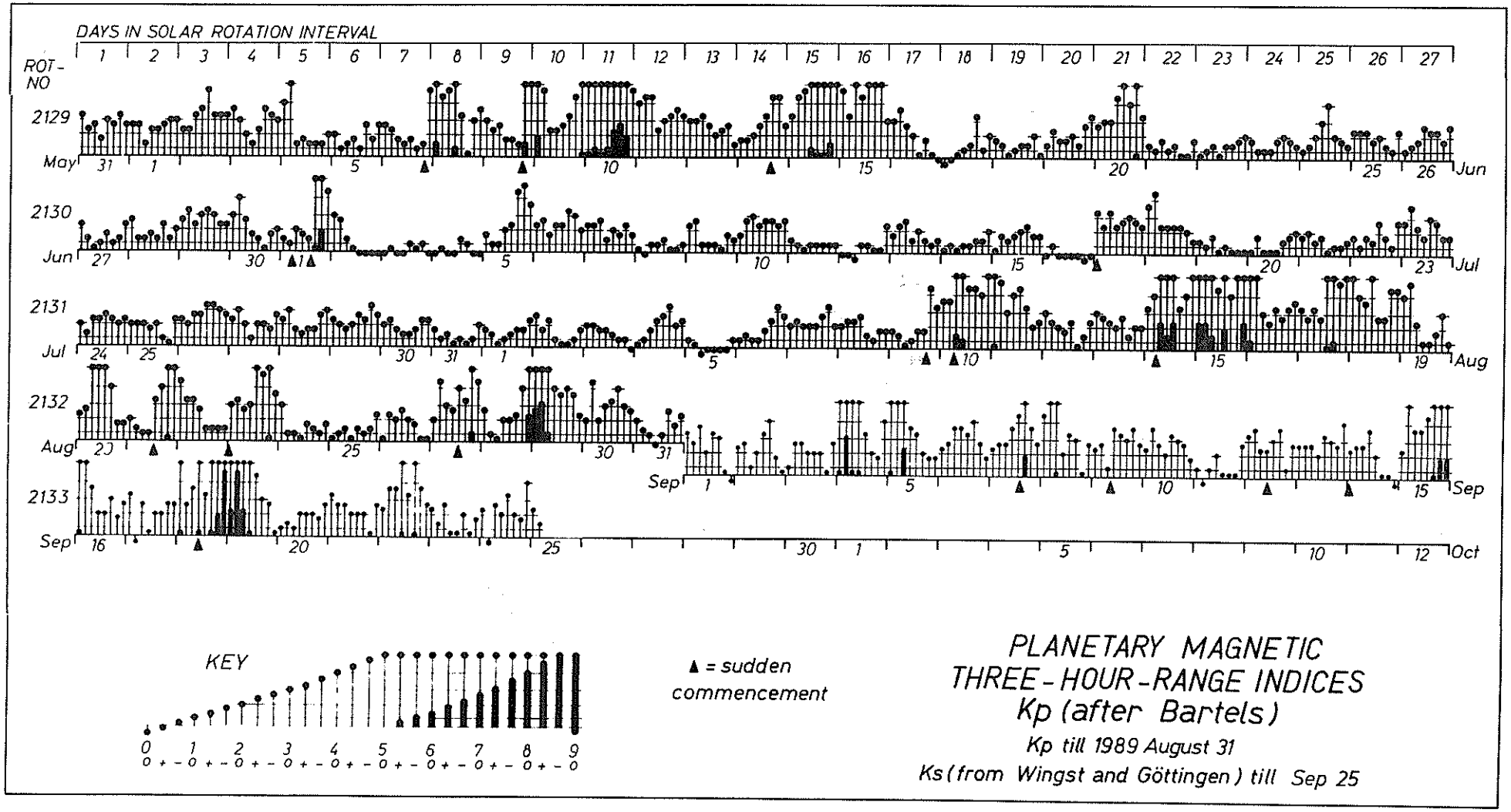
September 1988 to August 1989

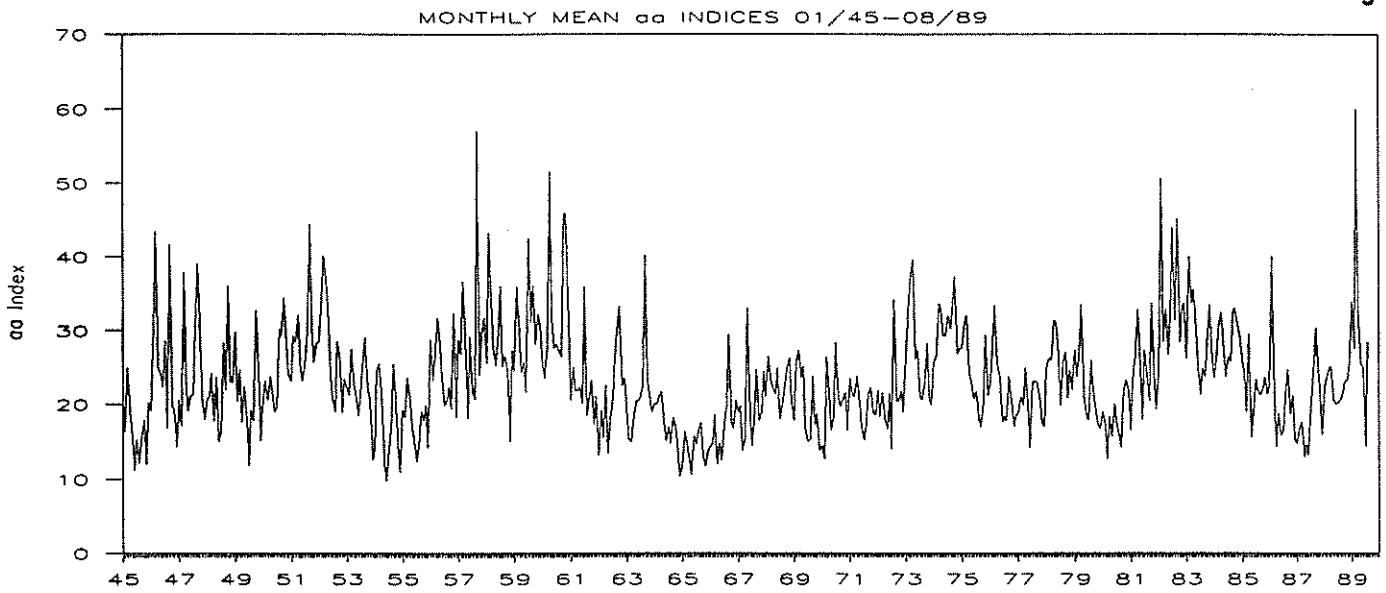
DAY	1988 SEP	OCT	NOV	DEC	1989 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	21	11	7	5	15	29	12	42	10	11	26	6
2	12	5	30	15	6	21	25	26	18	19	5	6
3	8	3	26	18	4	44	37	21	12	14	3	5
4	7	9	8	10	9	24	13	46	20	14	3	8
5	4	18	10	4	33	22	30	42	44	7	15	2
6	3	38	13	3	10	23	24	14	14	11	11	8
7	5	6	17	3	10	25	18	27	46	34	8	9
8	6	7	18	5	17	14	24	20	5	23	4	7
9	4	17	12	4	16	19	31	15	5	34	6	10
10	7	85	14	8	12	12	19	8	4	78	11	41
11	51	13	10	17	37	10	17	14	6	22	4	25
12	20	6	18	14	20	14	23	6	11	12	3	8
13	10	6	8	20	11	21	246	17	9	16	7	9
14	11	6	11	13	14	14	158	24	10	50	4	55
15	12	6	13	10	38	14	49	27	13	37	6	77
16	6	10	18	25	43	17	50	20	7	9	2	26
17	20	15	11	35	28	5	34	10	7	5	13	34
18	34	30	8	25	15	9	15	10	6	5	13	29
19	23	12	4	20	7	9	55	6	6	8	4	14
20	11	18	2	7	45	21	14	10	15	28	4	26
21	11	7	6	11	28	11	22	7	8	4	5	21
22	20	3	4	13	30	13	39	7	12	5	7	12
23	11	6	2	4	22	5	36	12	47	5	11	28
24	8	6	4	4	10	9	16	8	68	10	8	6
25	12	4	7	22	12	7	10	34	24	7	6	5
26	8	7	20	25	10	4	14	76	17	8	13	6
27	5	8	12	20	12	6	44	49	16	6	8	26
28	5	9	9	14	13	13	39	39	14	7	9	22
29	4	3	8	20	10		71	28	14	13	10	58
30	8	5	37	11	12		47	17	9	10	7	17
31		10		12	32		52		13		4	6
MEAN	12	13	12	13	19	15	41	23	16	17	8	20

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

University of Göttingen

Kp through August 31, 1989





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					31.0

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

AUGUST 1989

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges K	D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
COL	64.6N	09	1831	SC*	- 14	50	- 15	11(4)	7	159	1520	710	11	19
SIT	60.0N	09	0130	SC	- 6	13	10	10(3)	8	--	--	590	11	14
FRD	49.6N	09	1831	SC*	1.5	47	- 7	10(3,4) 11(1,2)	5	26	185	130	12	--
BJI	28.5N	09	1831	SC	1.5	28	2	10(3)	6	19	187	61	11	19
HYB	07.6N	09	1832	SC	- 0.5	23	- 1	10(3,4)	6	8	200	23	11	19
GUA	04.0N	09	1831	SC	1.3	16	- 3	10(1)	5	--	--	--	10	18
ETT	00.6S	09	1830	SC	- 0.7	20	20		-	8	268	120	11	21
PMG	18.6S	09	1829	SC*	- 0.6	19	14	10(3)	6	9	220	90	11	19
HER	33.7S	09	1831	SC	3	19	23	10(3,4)	5	28	126	66	10	17
CNB	43.9S	09	1831	SC	- 1.0	9	6	10(3,4) 11(1,4)	5	29	150	92	11	15
KRC	16.4N	10	0726	SC	- 1.6	45	23	10(3)	6	6	144	59	12	06
UJJ	13.5N	10	0726	SC	- 0.3	42	- 10		-	--	--	--	11	20
ABG	09.5N	10	0726	SC	- 0.7	37	- 9	10(3)	6	9	188	53	11	20
HYB	07.6N	10	0729	SC	- 0.3	30	- 4	10(3,4)	6	8	200	23	11	19
GUA	04.0N	10	0727	SC	1.3	22	- 6	10(3)	6	10	280	30	10	18
GUA	04.0N	10	20--	..	..	..	..	10(8)	5	10	60	30	11	19
ANN	01.5N	10	0726	SC	- 1.2	92	18		-	7	236	84	11	20
ETT	00.6S	10	0727	SC*	1.7	84	57		-	8	268	120	11	21
KGL	56.5S	10	0727	SC	4	32	12	11(1)	6	34	304	264	12	03
COL	64.6N	14	0615	SC*	- 21	-140	-107	15(3,5)	7	295	1760	1740	16	08
SIT	60.0N	14	19--	..	..	..	..	15(3)	8	--	--	590	16	08
FRD	49.6N	14	0614	SC	- 4.5	49	- 6	14(4)	7	41	229	170	16	--
BJI	28.5N	14	0613	SC*	3.2	82	4	14(3)	7	23	265	85	16	15
KRC	16.4N	14	0613	SC	- 3.6	85	42	14(3)	8	15	273	100	16	12
UJJ	13.5N	14	0612	SC	- 0.5	77	- 18		-	13	276	77	16	22
ABG	09.5N	14	0612	SC	- 1.6	70	- 17	14(3)	7	15	276	82	16	22
HYB	07.6N	14	0152	SC	- 0.3	7	0	14(3,4)	7	14	310	76	16	13
HYB	07.6N	14	0612	SC	- 0.3	63	- 8	14(3,4)	7	14	310	76	16	13
GUA	04.0N	14	0613	SC*	3.9	62	- 20	14(3)	7	--	210	30	14	17
ANN	01.5N	14	0612	SC	- 3.3	147	42		-	16	356	123	16	22
ETT	00.6S	14	0149	SC	- 0.7	10	6		-	19	495	198	16	14
ETT	00.6S	14	0612	SC*	4.2	183	106		-	19	495	198	16	14
PMG	18.6S	14	0612	SC*	1.8*	56	54 *	14(3)	7	14	250	130	16	14
HER	33.7S	14	01--	..	..	..	..	14(3,4) 15(8)	6	33	197	142	16	14
GNA	43.2S	14	23--	..	..	..	..	15(5)	7	37	180	170	16	10
GNA	43.2S	14	0612	SC*	13.1*	68 *	63 *	14(3)	6	20	180	200	14	21
CNB	43.9S	14	0613	SC	2.3	81	7	14(3) 15(5)	6	25	263	93	16	07
KGL	56.5S	14	0612	SC	18	68	32	15(2) 16(1)	7	103	656	384	16	12
GUA	04.0N	15	00--	..	..	..	..	15(5)	6	10	130	30	15	19
GUA	04.0N	15	21--	..	..	..	..	16(1)	7	10	170	50	16	17
COL	64.6N	17	06--	..	..	..	..	18(4)	7	237	1340	590	18	12
FRD	49.6N	17	1540	SC	8.0	14	- 1	17(6) 18(4)	5	23	178	73	19	07
KRC	16.4N	17	1403	..	..	..	..	18(1)	6	8	114	60	19	09
UJJ	13.5N	17	0700	..	..	..	..		-	9	121	50	18	23
ABG	09.5N	17	0700	..	..	..	..	17(6,7) 18(1)	5	10	152	59	18	23
HYB	07.6N	17	0728	SC	- 0.3	11	- 2	17(6,7)	5	10	165	46	19	04
GUA	04.0N	17	16--	..	..	..	..	18(1)	6	10	70	30	18	12
ANN	01.5N	17	0700	..	..	..	..		-	9	237	91	18	23
ETT	00.6S	17	0727	SC	- 0.6	31	18		-	10	256	65	19	08
HER	33.7S	17	14--	..	..	..	..	17(6) 18(1)	5	28	91	70	18	11
KGL	56.5S	17	1200	..	..	..	..	17(8) 18(1)	6	69	436	430	19	07
GUA	04.0N	20	01--	..	..	..	..	20(3)	6	10	170	10	20	18
KRC	16.4N	20	----	..	..	..	..	20(3)	6	8	128	46	21	19
UJJ	13.5N	21	1400	..	..	..	..		-	10	77	69	22	13
ABG	09.5N	21	1400	..	..	..	..	21(7,8)	5	11	105	73	22	13
HYB	07.6N	21	1416	SC	- 0.2*	10	0	21(8)	5	6	99	32	22	05
ANN	01.5N	21	1400	..	..	..	..		-	11	149	58	22	13
HER	33.7S	21	14--	..	..	..	..	21(8)	5	18	86	82	22	02
COL	64.6N	23	0047	SC	- 6	132	..	23(6)	7	274	1530	630	23	22
KRC	16.4N	23	0044	SC	- 0.5	10	5	23(4,5,6,7) 24(2)	5	6	119	50	24	10
UJJ	13.5N	23	0900	..	..	..	..		-	11	132	34	24	15
ABG	09.5N	23	0900		..	..	..	23(5,6,7)	5	12	155	52	24	15

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

AUGUST 1989

Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges K	D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYB	07.6N	23	0047	SC	- 0.2	5	- 1	23(4,5,6,7)	5	10	182	32	24	09
GUA	04.0N	23	09--	..	..	..	..	23(4)	5	--	70	20	23	24
ANN	01.5N	23	0900	..	..	..	..		-	10	241	73	24	15
ETT	00.6S	23	0047	SC	- 0.2	9	5		-	10	259	63	24	15
PMG	18.6S	23	0045	SC*	- 0.3*	18	16	23(4,5,6,7)	5	7	140	50	24	10
KGL	56.5S	23	1928	SC	..	16	..	23(6,7)	6	54	344	248	24	09
GUA	04.0N	27	01--	..	..	..	..	27(2)	5	--	100	20	27	11
FRD	49.6N	27	1337	SC	5.0	18	- 4	29(1)	7	39	196	162	30	05
BJI	28.5N	27	1337	SC	1.4	58	3	29(1)	6	19	222	37	29	20
KRC	16.4N	27	1337	SC	- 2.9	46	26	29(1,2)	6	13	153	50	29	21
UJJ	13.5N	27	1336	SC	- 0.5	40	- 8		-	13	158	53	29	20
ABG	09.5N	27	1336	SC	- 0.8	32	- 6	29(1)	6	14	168	71	29	20
HYB	07.6N	27	1337	SC	- 0.4	35	- 2	27(7)	5	5	80	12	28	03
GUA	04.0N	27	1338	SC	..	31	- 8	27(7)	5	10	90	40	28	03
ANN	01.5N	27	1336	SC	- 1.3	48	29		-	15	261	115	29	20
ETT	00.6S	27	1337	SC	- 0.8	27	27		-	14	313	117	29	20
HER	33.7S	27	1337	SC	1	23	13	27(7)	6	17	82	130	28	01
KGL	56.5S	27	1338	SC	2	36	8	29(1)	9	142	--	686	30	00
COL	64.6N	28	19--	..	..	..	..	29(3)	7	246	1740	880	29	20
SIT	60.0N	28	21--	..	..	..	..	29(3)	7	--	--	--	29	16
HYB	07.6N	28	1000	..	..	..	..	29(1)	6	12	154	40	29	21
GUA	04.0N	28	20--	..	..	..	..	29(1)	7	10	180	40	29	11
HER	33.7S	28	18--	..	..	..	..	29(1,2)	6	46	100	117	29	17
GNA	43.2S	28	10--	..	..	..	..	28(8)	6	23	190	140	29	21
CNB	43.9S	28	14--	..	..	..	..	29(3)	6	29	200	76	29	20

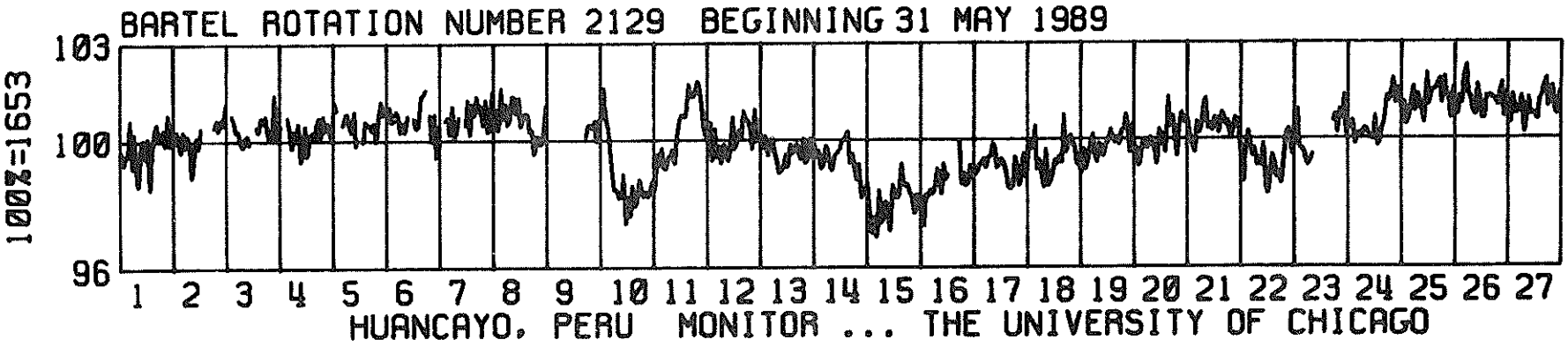
Stations:

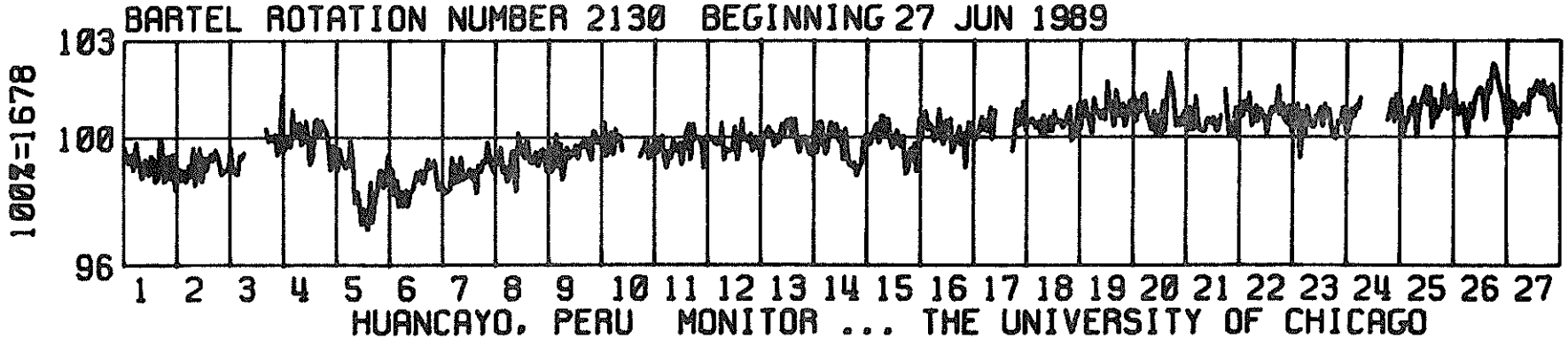
ABG = ALIBAG
ANN = ANNAMALAINAGAR
API = APIA
BJI = BEIJING
CNB = CANBERRA
COL = COLLEGE
ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HON = HONOLULU
HYB = HYDERABAD
JAI = JAIPUR
KGL = KERGUELEN
KRC = KARACHI
PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM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

C O N T E N T S

Prompt Reports **LATE DATA** Number 542 Part I

COSMIC RAY INDICES
(Neutron Monitor)





COSMIC RAY INDICES
(Neutron Monitor)

JUNE 1989

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	3828	5958.8	5406.7	3421.1	3430.2	1655.4(36)
2	3845	5985.7	5420.8	3439.2	3432.3	1658.4
3	3862	6009.5	5448.8	3460.3	3433.6	1656.8
4	3879	6030.8	5458.1	3486.2	3445.4	1662.3(38)
5	3879	6047.7	5448.6	3473.0	3433.6	1663.6
6	3867	6049.3	5456.6	3474.1	3441.4	1665.3
7	3815	5983.9	5406.0	3474.8	3452.0	1663.8
8	3815	5973.7	5396.0	3429.5	3421.9	1659.3(14)
9	3723	5814.6	5253.3	3324.5	3384.7	1633.4
10	3765	5890.0	5331.2	3399.6	3433.2	1658.0
11	3792	5918.7	5329.2	3395.6	3420.5	1654.0
12	3766	5907.9	5311.2	3390.5	3416.7	1646.6
13	3755	5899.5	5300.7	3379.3	3404.2	1642.8
14	3679	5751.0	5206.5	3277.3	3352.8	1620.8
15	3705	5783.8	5247.1	3304.3	3364.8	1630.9
16	3732	5842.8	5290.4	3334.8	3377.3	1638.8
17	3773	5900.4	5321.9	3370.4	3388.6	1644.0
18	3805	5950.7	5362.5	3398.9	3404.3	1650.6
19	3827	5998.8	5411.4	3433.5	3414.3	1653.4
20	3863	6000.5	5447.5	3454.5	3417.7	1660.1
21	3801	5893.5	5342.3	3377.0	3387.3	1642.6
22	3844	5975.7	5426.9	3439.9	3397.0	1655.6(32)
23	3881	6050.1	5473.3	3497.5	3423.8	1662.0
24	3940	6117.8	5543.6	3538.5	3437.5	1673.4
25	3930	6104.2	5534.1	3523.7	3437.0	1673.0
26	3915	6097.7	5522.8	3520.0	3431.6	1670.0
27	3901	6077.3	5496.5	3506.7	3425.7	1664.6
28	3905	6103.5	5510.5	3508.3	3425.7	1663.2
29	3936	6148.6	5532.2	3524.4	3452.2	1673.3(30)
30	3932	6162.0	5560.4	3543.1	3457.7	1678.2
Mean	3832	5981.0	5406.6	3436.5	3418.1	1655.4

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.

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
FINAL DATA

1984

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	A	A	T	T	T	A	TA	A	AT	A	A	T
2	A	T	T	T	T	A	A	A	A	A	T	T
3	A	T	T	T	A	A	A	A	A	T	T	AT
4	T	T	T	AT	A	A	A	A	A	T	AT	T
5	A	T	AT	T	T	A	A	T	A	T	AT	T
6	A	T	T	T	A	A	A	A	AT	AT	T	T
7	A	TA	T	TA	A	A	A	A	T	T	T	T
8	A	T	T	T	A	A	A	T	T	T	T	AT
9	AT	T	AT	T	A	A	AT	T	T	T	T	T
10	T	T	T	A	AT	TA	AT	T	T	AT	T	A
11	T	T	T	A	T	A	A	T	T	T	T	A
12	T	T	T	T	A	A	T	T	A	T	T	A
13	T	T	A	A	AT	A	T	T	T	T	T	AT
14	T	A	A	A	T	A	T	T	T	T	T	A
15	T	A	A	A	A	T	T	T	T	T	A	A
16	T	A	A	A	A	T	T	T	T	A	A	A
17	T	A	TA	AT	AT	A	T	T	T	AT	A	AT
18	T	A	T	AT	T	T	T	AT	T	A	T	T
19	A	A	TA	A	T	T	T	TA	A	AT	A	A
20	A	A	A	A	T	T	AT	T	A	-	T	T
21	A	T	A	TA	T	T	A	AT	A	T	A	AT
22	A	T	T	AT	T	T	T	AT	A	A	A	T
23	A	A	A	A	T	A	T	A	A	A	T	AT
24	A	A	A	T	T	T	T	A	T	AT	T	T
25	T	A	A	T	T	T	T	A	A	A	T	T
26	T	A	A	T	T	T	T	A	A	T	T	T
27	AT	A	T	TA	T	AT	A	A	A	T	AT	T
28	A	A	T	T	T	T	A	A	A	T	A	T
29	A	TA	T	TA	T	A	A	A	T	T	AT	T
30	A		T	TA	T	TA	A	A	A	T	T	T
31	A		TA		AT		A	A		T		A

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
FINAL DATA

1985

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	T	A	A	A	AT	T	T	T	TA	A	A	A
2	T	A	A	A	A	T	T	AT	T	T	AT	A
3	T	A	AT	A	AT	AT	A	T	T	A	TA	A
4	T	TA	A	A	TA	AT	T	T	T	A	AT	A
5	T	AT	A	A	TA	AT	T	T	T	A	A	A
6	T	A	A	A	TA	T	T	T	A	A	AT	A
7	T	A	A	A	T	TA	A	T	A	AT	A	T
8	T	A	A	A	T	T	TA	AT	AT	AT	AT	T
9	A	A	T	T	AT	TA	T	T	A	AT	T	T
10	A	AT	T	T	T	T	TA	A	A	AT	T	T
11	A	AT	T	A	A	TA	A	A	AT	A	T	T
12	A	A	T	T	T	T	AT	A	AT	T	TA	T
13	AT	T	T	AT	T	TA	A	TA	A	T	TA	TA
14	A	TA	T	T	T	AT	A	A	A	T	T	T
15	A	T	A	A	T	T	A	A	T	AT	T	AT
16	A	T	T	A	T	A	A	A	T	AT	TA	A
17	A	T	AT	A	T	A	A	A	T	T	TA	AT
18	AT	A	A	A	TA	A	A	T	T	T	T	A
19	T	T	T	T	T	A	A	T	A	T	T	A
20	A	T	TA	T	A	A	A	T	AT	T	T	T
21	T	T	T	T	A	A	A	T	T	T	T	AT
22	A	T	T	T	A	AT	TA	T	T	T	T	T
23	T	T	T	A	A	AT	T	TA	TA	T	AT	T
24	T	T	T	AT	A	A	T	T	T	T	T	T
25	T	T	T	A	A	T	T	T	AT	T	TA	TA
26	T	T	T	A	A	T	TA	T	AT	T	AT	AT
27	T	T	T	A	A	T	T	T	T	T	A	A
28	T	A	A	TA	A	T	T	T	T	T	T	A
29	T		T	A	A	T	T	T	T	A	TA	A
30	T		T	A	A	T	T	T	T	T	A	A
31	A		A		T		T	T		TA		AT

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
FINAL DATA

1986

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	AT	AT	TA	A	TA	T	AT	AT	AT	TA	A	A
2	AT	AT	AT	A	TA	TA	TA	TA	AT	A	T	A
3	AT	TA	A	AT	T	TA	A	AT	T	AT	TA	A
4	T	T	T	AT	TA	T	AT	AT	T	T	T	AT
5	A	T	AT	TA	TA	AT	AT	TA	AT	T	AT	T
6	A	T	T	AT	TA	T	TA	AT	T	AT	T	T
7	T	T	A	AT	TA	TA	AT	TA	AT	T	T	T
8	T	T	A	AT	TA	T	TA	TA	AT	T	T	T
9	T	AT	AT	TA	AT	T	AT	TA	AT	T	T	T
10	T	A	AT	A	AT	T	AT	T	T	T	T	TA
11	A	T	AT	AT	AT	T	TA	TA	T	T	T	T
12	A	T	A	TA	TA	T	TA	AT	A	T	T	T
13	TA	T	A	TA	AT	T	TA	AT	AT	A	T	AT
14	AT	T	AT	TA	AT	TA	TA	TA	AT	T	T	T
15	A	T	A	AT	TA	T	TA	TA	TA	T	T	A
16	TA	AT	A	AT	TA	AT	T	T	T	T	T	A
17	T	TA	T	T	TA	TA	T	AT	T	T	T	T
18	T	A	TA	AT	AT	AT	T	TA	AT	TA	T	T
19	T	TA	AT	AT	AT	TA	T	TA	AT	T	T	T
20	A	A	AT	A	TA	T	AT	TA	TA	T	T	T
21	T	A	A	AT	T	T	TA	TA	T	T	AT	T
22	A	A	AT	AT	TA	TA	TA	A	TA	T	T	A
23	AT	A	A	AT	TA	T	TA	A	TA	T	T	TA
24	A	A	A	AT	TA	AT	AT	TA	A	T	T	A
25	A	A	A	A	AT	AT	T	A	T	T	AT	A
26	A	A	AT	A	TA	AT	T	AT	AT	T	A	AT
27	A	A	A	AT	AT	TA	A	AT	A	T	A	A
28	A	A	AT	A	AT	TA	TA	AT	T	T	A	A
29	TA		TA	AT	TA	TA	TA	TA	TA	A	A	A
30	A		A	AT	AT	TA	A	TA	T	A	A	A
31	A		AT		TA		TA	TA		AT		A

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
FINAL DATA

1987

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	A	AT	A	T	A	AT	T	T	A	A	A	T
2	A	A	A	A	A	AT	TA	T	AT	A	AT	T
3	A	A	A	T	A	AT	TA	TA	A	A	T	T
4	AT	TA	A	AT	AT	A	TA	A	A	A	T	T
5	T	TA	A	A	A	TA	T	AT	A	A	T	AT
6	T	A	A	AT	T	T	T	A	A	A	T	T
7	T	A	A	A	T	T	T	A	T	A	TA	T
8	T	A	A	A	T	T	A	A	T	T	T	T
9	A	A	A	A	A	T	A	AT	A	A	T	T
10	AT	TA	A	A	A	A	A	A	A	AT	T	T
11	T	T	A	A	A	A	A	T	T	T	T	T
12	A	T	A	AT	A	A	A	T	TA	T	T	T
13	A	A	A	A	TA	A	AT	T	T	T	TA	T
14	A	TA	A	A	A	A	T	AT	T	T	T	A
15	T	AT	A	A	A	A	T	A	TA	T	T	T
16	AT	A	A	A	A	T	T	T	TA	T	T	A
17	AT	A	A	A	A	AT	TA	TA	A	T	T	A
18	A	A	A	A	AT	T	T	A	A	T	T	A
19	A	AT	A	A	A	T	T	T	T	T	A	A
20	AT	A	A	A	A	T	TA	T	AT	T	A	A
21	AT	A	TA	A	AT	T	A	T	T	T	A	A
22	AT	AT	A	A	A	T	A	TA	A	A	A	A
23	AT	A	T	AT	T	T	TA	A	A	A	A	A
24	AT	A	T	A	T	T	TA	T	A	A	A	A
25	A	A	A	A	AT	TA	T	A	TA	A	A	A
26	TA	T	A	A	A	A	A	T	AT	A	A	AT
27	T	A	TA	A	TA	T	A	A	T	A	A	T
28	AT	TA	A	A	AT	A	A	A	TA	TA	AT	T
29	AT		A	A	A	TA	A	T	A	A	T	A
30	AT		AT	T	A	A	A	A	A	A	T	A
31	AT		A		TA		T	A		A		AT

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
FINAL DATA

1988

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	T	T	A	TA	AT	AT	AT	T	T	T	A	AT
2	A	A	A	T	T	A	T	T	T	TA	A	A
3	T	A	A	T	T	AT	T	TA	T	TA	A	A
4	A	A	AT	A	A	T	AT	T	T	TA	AT	A
5	AT	T	A	A	A	A	AT	T	T	A	A	A
6	T	T	A	A	A	TA	TA	AT	T	T	A	A
7	T	T	AT	AT	T	T	T	T	T	TA	AT	A
8	AT	A	A	A	AT	T	T	T	A	TA	A	AT
9	AT	T	AT	AT	AT	A	T	T	T	AT	AT	TA
10	T	A	AT	AT	AT	AT	A	T	AT	A	A	AT
11	T	A	A	TA	AT	AT	T	T	A	A	T	TA
12	A	A	A	AT	A	AT	T	AT	AT	AT	TA	TA
13	A	A	A	AT	AT	AT	AT	A	AT	A	T	TA
14	T	A	AT	AT	AT	T	T	A	A	T	TA	T
15	A	A	A	AT	AT	T	A	A	TA	TA	T	T
16	A	A	A	A	AT	T	A	AT	AT	AT	AT	TA
17	A	A	AT	AT	T	T	A	AT	AT	TA	TA	T
18	A	A	A	AT	A	T	A	A	T	AT	T	A
19	A	A	A	A	T	TA	AT	T	T	T	T	T
20	AT	A	AT	T	T	A	AT	T	T	AT	T	T
21	A	A	AT	T	A	A	T	T	T	T	AT	A
22	A	A	AT	T	AT	TA	T	T	T	T	T	T
23	A	A	T	AT	T	TA	A	T	T	T	TA	AT
24	A	T	AT	T	A	T	A	AT	TA	TA	T	A
25	A	T	AT	T	AT	T	T	T	T	T	T	A
26	T	T	T	T	AT	A	T	AT	T	T	A	A
27	TA	T	AT	T	AT	A	T	AT	TA	T	AT	A
28	T	TA	TA	AT	AT	A	T	A	T	TA	A	A
29	AT	TA	T	AT	AT	T	AT	T	T	TA	AT	A
30	TA		A	AT	AT	T	T	T	T	TA	A	A
31	T		T		A		T	T		TA		AT

GEOMAGNETIC ACTIVITY INDICES

July 1989

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	D1	1+	1	2	2-	1+	5+	6+	4+	23+	26	1.2	1	1	3-	2-	2-	4+	5-	4	33	38	38	11	65	
2		3	3-	1+	1-	0+	0+	0+	0+	9	5	0.2	3-	2	2-	1-	1-	0+	1-	0+	9	16	5	14	6	C
3	Q2	0+	1-	0+	0+	1	1-	1	0+	5-	3	0.0	1-	1	0+	0+	1-	1-	1-	0+	4	12	4	6	10	CC
4	Q3	0+	1-	0+	0+	1+	1	0+	0+	5-	3	0.0	1-	1-	0+	0+	1+	1	0+	1-	5	7	3	4	5	CC
5	D2*	2-	1	1	2	2+	4+	5-	4-	21-	15	0.9	1+	1	1+	2-	2+	3	3+	3+	20	41	19	9	51	
6		2+	3-	2-	2+	2+	3+	3	2	20-	11	0.6	2+	3-	2-	3-	2	3-	3-	2-	18	24	16	19	21	
7		2+	2+	3-	1+	2	2-	2+	2-	16+	8	0.4	2	2+	3-	1	2-	1+	2-	1+	13	25	10	18	17	
8	Q4	1-	0+	1	1	1+	1-	1-	1	7-	4	0.1	1-	1-	1	1	1-	1-	1	1-	5	7	5	5	7	CC
9		2+	3-	1	1	1	1-	2-	1+	12-	6	0.3	2+	3-	1+	1	1	1	2-	1+	11	17	7	14	10	CK
10		2-	3-	3	2+	3-	3-	2+	3-	20	11	0.6	2-	3-	3	2+	2+	2+	2+	2+	20	24	15	19	20	
11	Q5	1+	1	1-	1	1	1	1	1	8	4	0.1	1	1	1-	1	1+	1	1-	1	7	10	7	8	8	CC
12	Q7	0+	0+	0	1	1	1-	1-	2+	6+	3	0.1	0+	0+	0	1	1-	1-	0+	2-	5	11	5	6	10	CC
13		2-	2+	3-	1+	2	1+	1	1+	14-	7	0.3	1+	2+	3	1+	2-	1+	1+	1+	13	13	12	14	10	CC
14	Q8	1-	1	1-	1	1	1+	1+	2	9	4	0.2	1	1+	1	1+	1	2-	2-	1+	9	10	9	7	12	CC
15		1-	2-	1+	2-	2	2+	2-	2-	13	6	0.3	1	2-	2	2	2-	2-	1+	1+	11	15	7	8	13	CC
16	Q1	0+	1	0+	0+	0+	0+	0	0+	3	2	0.0	0+	1-	0+	0+	1	1-	0+	0+	3	6	5	7	4	CK
17	D5*	3+	2+	3+	2+	3-	3	3-	2+	22	13	0.7	3	2+	3+	2+	3-	2+	3-	2	24	26	23	26	23	
18	D4*	4-	4+	2+	2+	2+	2+	2	1+	21-	13	0.7	3	4-	2+	3-	2	2+	2	2-	23	27	18	31	15	
19	Q6	1+	1	2-	1-	1	1-	1-	1-	8-	4	0.1	1+	1+	2-	0+	1+	1	1+	1	8	10	4	7	7	CC
20	Q10	1-	2-	1-	1-	1-	1+	2-	2	9+	4	0.2	1-	1+	1-	1	1-	1	1+	2-	7	13	3	7	9	CC
21		2-	2	1+	2-	1-	1	1	1+	11-	5	0.2	2-	2	1+	2-	1	1	1	1	9	12	6	11	6	CC
22		2-	1	2-	1+	3-	2-	1	3-	14-	7	0.3	1+	1-	2-	1+	2+	2-	1	2+	12	15	9	9	15	CK
23		3-	4-	2+	2-	3	3-	2-	2-	19+	11	0.6	2+	3+	2+	2+	3-	3-	2-	2-	21	25	15	22	18	
24		2	1+	2+	2+	3-	2+	2	2+	17+	8	0.5	2+	2-	2+	3-	3-	2+	1+	2+	18	23	14	19	18	
25		2	2	2	2-	2	1	1-	2+	14-	6	0.3	2	2	2	1+	2	1+	1+	2+	14	17	6	12	11	C
26	Q3*	2+	2	3-	3-	3+	3+	3	3-	22	13	0.7	2	2+	3-	3-	3+	3-	3-	2+	23	22	23	18	27	
27		2+	3	2	1	2	2	2-	3-	17-	8	0.5	2	3-	2+	1+	2-	2+	2-	3-	17	17	14	18	13	
28		2+	3	2-	1+	2-	2-	3-	3	17+	9	0.5	3-	3-	2	1+	2-	2-	2+	3	18	20	12	12	20	
29		2+	2	2-	2	3-	2+	3+	3-	19	10	0.6	2+	2	2-	2	2+	2	3-	3-	18	21	11	12	20	
30		2	2+	2-	1+	1+	2-	2+	2+	15	7	0.4	2	2	2	1+	2-	2	2-	2+	14	15	11	13	13	CC
31	Q9	2-	1	1+	1-	1	1-	1	2	9+	4	0.2	2-	1	1+	1-	1+	1	1+	2-	9	14	5	8	11	CC
Mean											8	0.38									13.6	17.8	11.0	14.4		

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+	1+	3	2+	2	5-	5-	4-	34	1	0+	2	1+	1+	4+	5-	4	31	204.0	128	139	158	
2	3-	2+	2-	1	1-	1-	1-	1	10	3-	2-	2-	0+	0+	0+	0+	0	8	193.4	149	153	147	
3	1	1	1	0+	1+	1	1	0+	6	0+	1	0	0	0+	0+	1-	0+	3	192.5*	129	134	146	
4	1	0+	1-	0+	2-	1+	1-	1	6	1-	1-	0	0	0+	0+	0+	0+	3	189.8	120	122	143	
5	2-	1+	1+	2	2+	4-	4	3+	25	1+	1-	1	2-	2	2+	3-	3	15	183.4*	101	110	136	
6	2+	3-	2-	3-	3-	3	3	2+	22	2	2+	1+	2+	1+	2+	2	1	15	192.3	120	131	146	
7	2+	3-	3-	1+	2	2	2+	2-	17	1+	2	2	1	1	1-	1	1	8	193.5	149	153	147	
8	1	1-	1+	1+	1+	1+	2-	1+	8	1-	0+	1-	1-	0+	0+	0+	0+	3	188.9	141	144	142	
9	2+	3-	2-	1+	1+	1+	2	2-	14	2+	2+	1-	1	0+	0+	1+	1-	8	188.1	116	112	141	
10	2	3	3+	3-	3-	3	3-	2+	24	1+	2+	3-	2-	2-	2-	2-	2+	15	184.1	104	115	137	
11	1+	1+	1	1+	2-	1+	1	1+	8	1	1	1-	0+	1-	1-	0+	0+	4	193.2	136	145	147	
12	1-	0+	0	1	1	1+	1	2+	7	0+	0	0	1-	1-	0	0	1	3	190.7	111	123	144	
13	2-	3-	3	2	2	2-	1+	1+	15	1	2-	3+	1-	1+	1+	1+	1	11	184.0*	116	114	137	
14	1+	2-	1	1+	1+	2	2-	2-	11	1	1+	1-	1	1-	1+	1+	1+	7	183.9	116	111	137	
15	1+	2	2	2	2	2+	2	2-	15	0+	1+	2	2-	1+	1	1	1	9	185.7	92	96	139	
16	0+	1	0+	1-	1+	1-	0+	0+	4	0+	1-	0+	0+	1-	0+	0+	0+	3	183.9	91	105	137	
17	3+	3-	4-	3-	3	3-	3-	2+	28	3	2	3+	2	3-	2+	2+	1+	20	184.1	99	111	137	
18	3+	4	2+	3-	2+	3-	2+	2	25	3	4-	2+	3-	2	2+	2	2-	22	189.2	113	126	142	
19	2-	1+	2	1-	2-	1+	1+	1+	9	1+	1+	1+	0+	1	1-	1	0+	6	193.7	138	146	147	
20	1	2-	1	1+	1+	2-	2	2	10	0+	1	0+	1-	0+	0+	0+	2-	5	192.4	149	160	146	
21	2	2	2-	2-	1+	1+	1+	1+	11	1+	2	1+	2-	0+	0+	1-	1	7	195.0	162	181	149	
22	2-	1	2	2-	3-	2	1+	3	16	1-	0+	1+	1	1+	1+	0+	2-	7	200.9	197	217	155	
23	3	4-	2+	3-	3	3+	2	2-	26	2-	3-	2+	2	2	2	2-	1+	15	196.5	195	215	150	
24	2	2-	3-	3-	3	2+	2	3-	20	2+	2	2+	3	2+	2	1	2-	17	191.1	168	169	144	
25	2+	2	2+	2-	2+	2-	1+	2+	16	2-	2+	2-	1+	1+	1-	1-	3-	12	180.4	132	135	133	
26	2+	2+	3-	3-	4-	3-	3+	3-	26	2-	2+	2+	2+	3+	3-	2	2	19	169.8	111	108	121	
27	2+	3	3-	2-	2	3-	2	2+	19	2	3-	2	1+	1	2+	2-	3-	15	172.8	105	98	125	
28	2+	3	2	2-	2-	2	3-	3	19	3-	2+	2-	1+	2-	1+	2+	3	16	170.7	75	88	122	
29	2+	2	2-	3-	2+	2+	3-	3	22	2+	2	2-	2-	2	2-	3-	2+	16	180.9	112	112	133	
30	2+	2	2+	2-	2	2+	2+	2+	16	2-	2-	2	1	1+	1+	1+	3-	12	185.1	125	130	138	
31	2-	1	2-	1	2-	1+	2-	2	10	2-	1	1+	1-	1+	0+	1	2-	8	188.2	132	144	141	
Mean									16.0									11.1	187.8	126.8	133.8	140.8	

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

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