



U.S. DEPARTMENT OF COMMERCE

Carlos M. Gutierrez, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary/Administrator

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Mary E. Kicza, Assistant Administrator

AUGUST 2008 NUMBER 768 - Part I

Solar-Geophysical Data prompt reports

Data for June and July 2008

International Standard Serial Number: 0038-0911

Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER

Christopher G. Fox, Director

Boulder, Colorado

AUGUST 2008 NUMBER 768 - Part I

Solar-Geophysical Data prompt reports



Data for June and July 2008

Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

NGDC On-Line Addresses:

World-Wide Web: <http://www.ngdc.noaa.gov>

Anonymous FTP: <ftp.ngdc.noaa.gov>

noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE,
DATA, AND INFORMATION SERVICE

NATIONAL GEOPHYSICAL
DATA CENTER

BOULDER,
COLORADO

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	DEC	JAN 08	FEB	MAR	APR	MAY	JUN	JUL
A.	SOLAR AND INTERPLANETARY								
A.1	Sunspot Drawings	762A 40	763A 40	764A 46	765A 40	766A 40	767A 40	768A 40	
A.2aa	International Sunspot Numbers	761A 24	762A 24	763A 23	764A 22	765A 23	766A 24	767A 23	768A 24
A.2c	American Sunspot Numbers	761A 24	762A 24	763A 23	764A 22	765A 23	766A 24	767A 23	768A 24
A.3a	Mt. Wilson Magnetograms	762A 40	763A 40	764A 46	765A 40	766A 40	767A 40	768A 40	
A.3b	Sunspot Mag Class and Regions	762A 77	763A 77	764A 80	765A 77	766A 75	767A 77	768A 75	
A.3c	Kitt Peak Magnetograms	762A 40	763A 40	764A 46	765A 40	766A 40	767A 40	768A 40	
A.3d	Mean Solar Mag Field (Stanford)	761A 34	762A 31	763A 30	764A 31	765A 30	766A 30	767A 30	768A 30
A.3e	Stanford Magnetograms	762A 40	763A 40	764A 46	765A 40	766A 40	767A 40	768A 40	
A.4	H-alpha Filtergrams	762A 40	763A 40	764A 46	765A 40	766A 40	767A 40	768A 40	
A.5d	PhotometricCa FaculaeSanFernando	Jan 92-Dec 96-631B 22; 1997-1998 663B 66							
A.6c	Stanford Solar Mag Field Map	762A 34	763A 34	764A 34	765A 34	766A 34	767A 34	768A 34	
A.6d	Kitt Peak Mag Field Synoptic Map	762A 39	763A 39	764A 45	765A 39	766A 39	767A 39	768A 39	
A.6f	Active Prominences and Filaments	766B 20	767B 16	768B 16					
A.6g	Sac Peak Coronal Line Maps	762A 37	763A 37	764A 38	765A 36	766A 36	767A 36	768A 36	
A.6h	Photometric WL SanFernando	Jul-Dec 96 630B 32; 1997-1998 663B 51							
A.7h	Coronal Line Emission (Sac Peak)	762A 40	763A 40	764A 46	765A 40	766A 40	767A 40	768A 40	
A.7j	Coronal Hole Daily Maps (NSO/KP)								
A.7k	Coronal Index (Slovak Academy)	1939-1996 - 644B 28							
A.7m	Coronal Mass Ejections (CSPSW)	766B 25	767B 21	768B 21					
A.8aa	2800 MHz- Solar Flux (Penticton)	761A 24	762A 24	763A 23	764A 22	765A 23	766A 24	767A 23	768A 24
A.8ac	2800 MHz Adj Solar Flux (Pent.)	761A 24	762A 24	763A 23	764A 22	765A 23	766A 24	767A 23	768A 24
A.8g	Adjusted Daily Solar Flux SGMR	761A 24	762A 24	763A 23	764A 22	765A 23	766A 24	767A 23	768A 24
A.10g	Nancay Radioheliog 150.9&327MHz	762A 84	763A 83	764A 86	765A 85	766A 81	767A 84	768A 81	
A.10h	Nobeyama Radioheliogr 17 GHz	762A 71	763A 71	764A 75	765A 71	766A 70	767A 71	768A 70	
A.11g	Solar X-ray GOES (graphs)	766B 13	767B 9	768B 8					
A.11g	Solar X-ray GOES (event table)	761A 29	762A 28	763A 27	764A 28	765A 27	766A 28	767A 27	768A 28
A.11k	Solar UV NOAA-9	May 86-Dec 88 in 566B 84							
A.11l	Solar UV NIMBUS7	Nov 78-Oct84 in 542B 82							
A.11m	Solar UV SOLSTICE (UARS)	Oct 91-Sep 94 in 607B 46							
A.11o	Solar UV SUSIM (UARS)	Oct 91-Jan 97 in 629B 30							
A.11p	Solar UV Mg II Daily Index	766B 21	767B 17	768B 17					
A.12g	Solar Particles (GOES)	761A 4	762A 4	763A 4	764A 4	765A 4	766A 4	767A 4	768A 4
A.12i	Solar Energetic Particles (ACE)	766B 24	767B 20	768B 20					
A.13g	Solar Plasma (ACE)	766B 23	767B 19	768B 19					
A.16c	ERBS	NOAA-9 & Oct 84-Jun 00 in 671B 36							
A.16d	UARS Solar Irradiance	Oct 91-May 2001 684B 26 - Complete Mission							
A.16e	VIRGO/SOHO Solar Irradiance	Jan 96-Sep 00 in 678B 46							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989-Jan94 in 611A118							
A.17d	ACE Interplanetary Mag Field	766B 22	767B 18	768B 18					
C.	SOLAR FLARE-ASSOCIATED EVENT								
C.1a	H-alpha Flares	761A 27	762A 27	763A 26	764A 27	765A 26	766A 27	767A 26	768A 27
C.1ba	H-alpha Flare Groups	766B 4	767B 4	768B 4					
C.1d	Flare Patrol Observations	766B 10	767B 6	768B 6					
C.1h	H-alpha Flare Index (ImpxDur)	Jan 76-Dec 85 in 639B 26; Jan 86-Oct 96 in 635B 24; Jan 96-Dec 98 in 665B 63							
C.3	Radio Bursts Fixed Frequency	766B 12	767B 8	768B 8					
C.3	Radio Bursts Fixed Freq Selected	761A 32	762A 29	763A 28	764A 29	765A 28	766A 29	767A 28	768A 29
C.4	Radio Bursts Spectral	762A 80	763A 79	764A 82	765A 81	766A 77	767A 80	768A 78	
C.6	Sudden Ionospheric Disturbances	762A79	763A 78	764A 81	765A 80	766A 76	767A 79	768A 77	
D.	GEOMAGNETIC EVENTS								
D.1a	Geomagnetic Indices	762A 91	763A 90	764A 93	765A 93	766A 88	767A 89	768A 86	
D.1ba	27-day Chart of Kp Indices	762A 93	763A 92	764A 95	765A 95	766A 90	767A 91	768A 88	
D.1cb	Monthly Mean aa Indices	762A 94	763A 93	764A 97	765A 96	766A 91	767A 92	768A 89	
D.1d	Principal Magnetic Storms	762A 98	763A 97	764A103	765A100	766A 95	767A 96	768A 93	
D.1f	Sudden Commencements	762A 99	763A 98	764A104	765A101	766A 96	767A 97	768A 94	
D.1g	Equatorial Indices Dst	762A 96	763A 95	764A101	765A 98	766A 93	767A 94	768A 91	
D.1l	Polar Cap (PC) Index	762A 97	763A 96	764A102	765A 99	766A 94	767A 95	768A 92	
F.	COSMIC RAYS								
F.1b	Cosmic Ray Neutron Cts (Climax)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
F.1h	Cosmic Ray Neutron Cts (Thule)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
F.1l	Cosmic Ray Neutron Cts (Kiel)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
F.1n	Cosmic Ray Neutron Cts (Beijing)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
F.1m	Cosmic Ray Neutron (Haleakala)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
F.1o	Cosmic Ray Neutron (Moscow)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
F.1p	Cosmic Ray Neutron Cts (Calgary)	762A 86	763A 85	764A 87	765A 88	766A 83	767A 86	768A 82	
H.	MISCELLANEOUS								
H.60	ISES Alert Periods	761A 20	762A 20	763A 19	764A 20	765A 19	766A 20	767A 19	768A 20

The entry "748A 48" under Oct, for example, means the sunspot drawings for Oct appear in SOLAR-GEOPHYSICAL DATA No 748, Part I, and that they begin on page 48, "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

CONTENTS

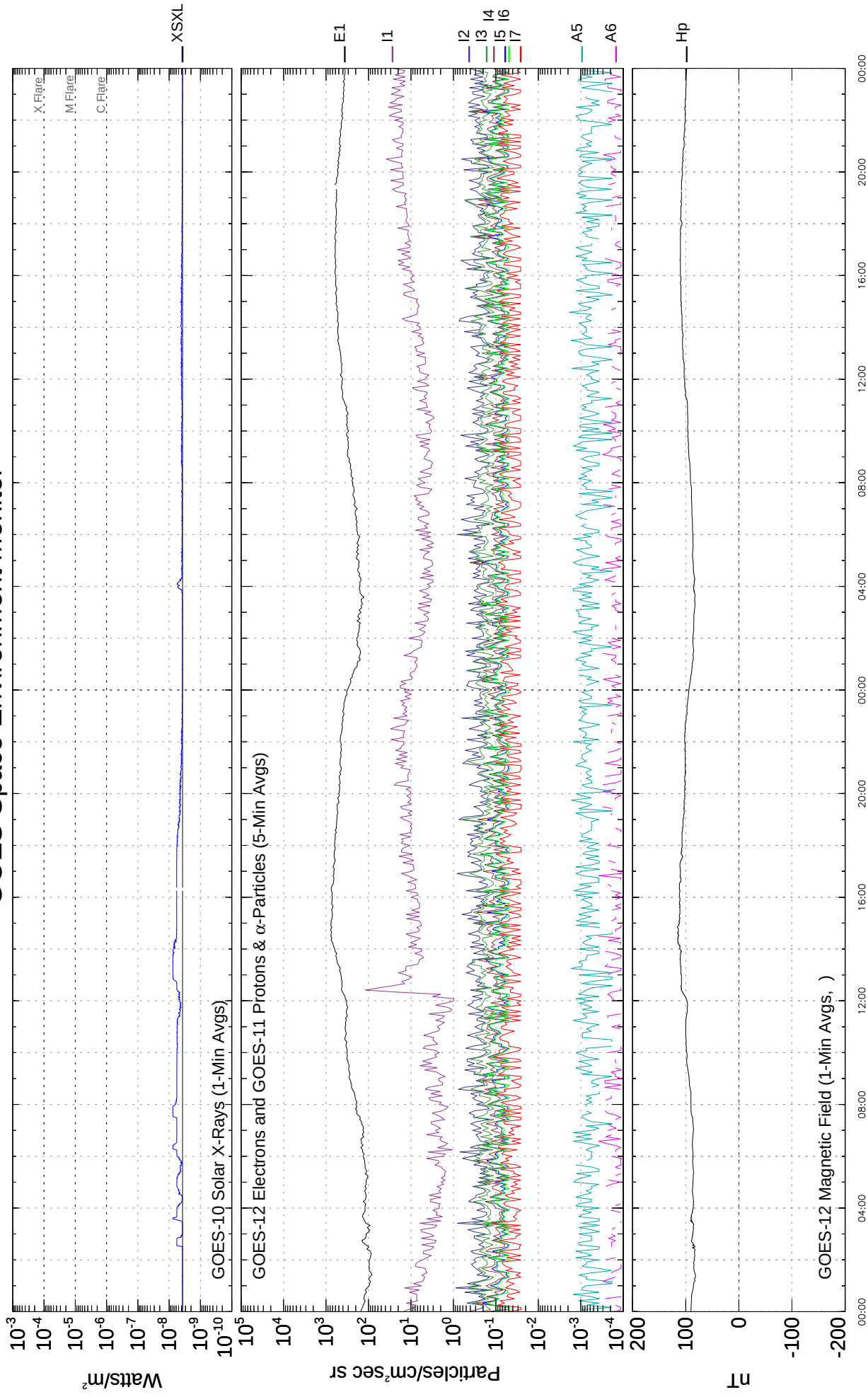
Prompt Reports

Number 768 Part I

DATA FOR JULY 2008

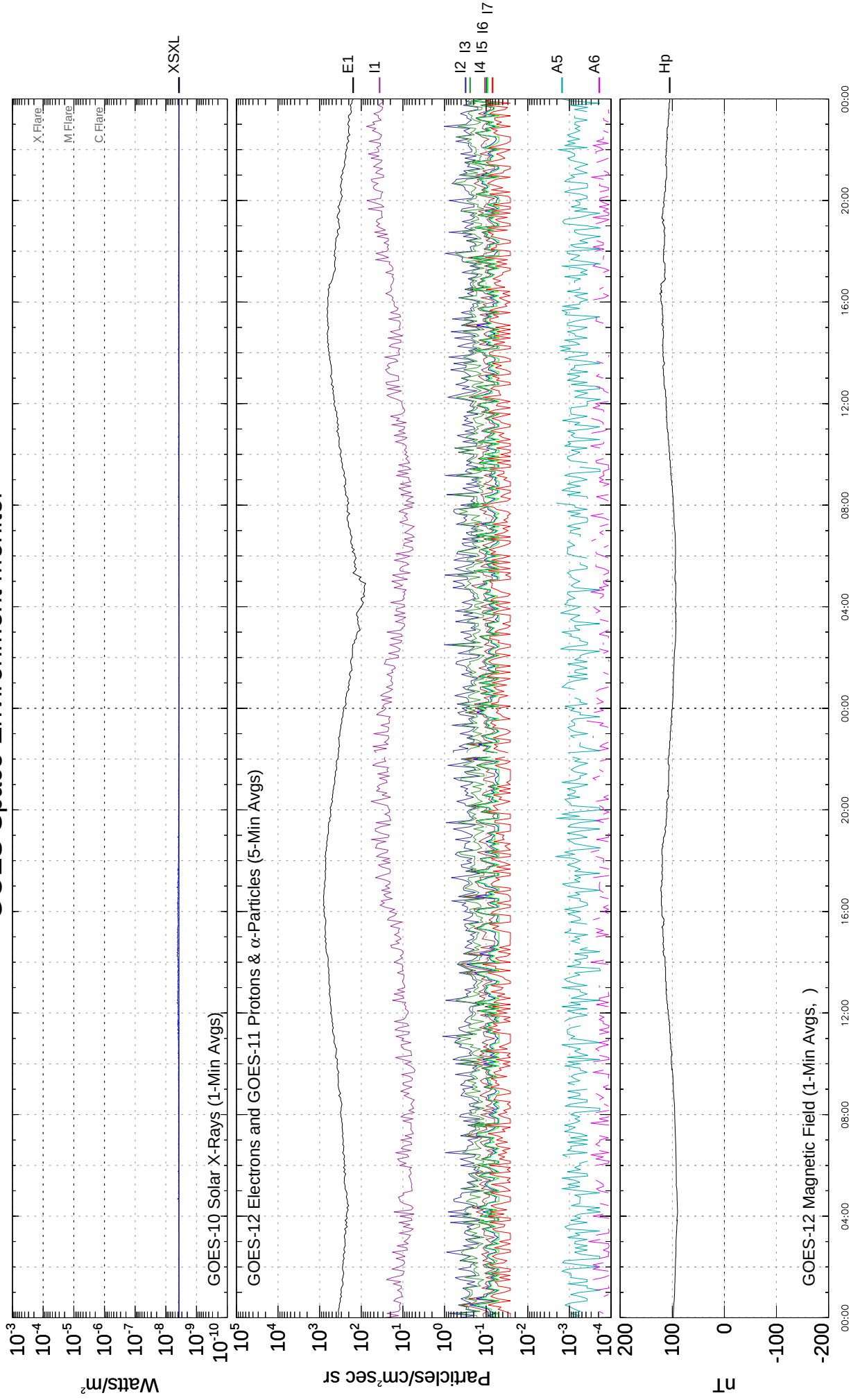
	Page
SOLAR-TERRESTRIAL ENVIRONMENT	4-19
Plots of GOES Satellite X-rays, Particles and Magnetometer Data with ground-based McMurdo Neutron Monitor Cosmic Rays	
ISES ALERT PERIODS (Advance and Worldwide)	20-21
SOLAR ACTIVITY INDICES	
Daily Sunspot Numbers (12 Months)	22
Daily 2800 MHz Solar Flux (12 Months)	23
Daily Solar Indices (Sunspot Numbers and Solar Flux)	24
Smoothed Observed and Predicted Sunspot Numbers	25
Graph and Table of Monthly Mean Sunspot Numbers 1951-present	26
SOLAR FLARES	
H-alpha Solar Flares	27
X-ray Solar Flares (GOES Full Disk Monitor)	28
SOLAR RADIO EMISSION	
Selected Fixed Frequency Events	29
STANFORD MEAN SOLAR MAGNETIC FIELD Graph	30
Table	31
GOES Daily Electron Fluence	32

GOES Space Environment Monitor

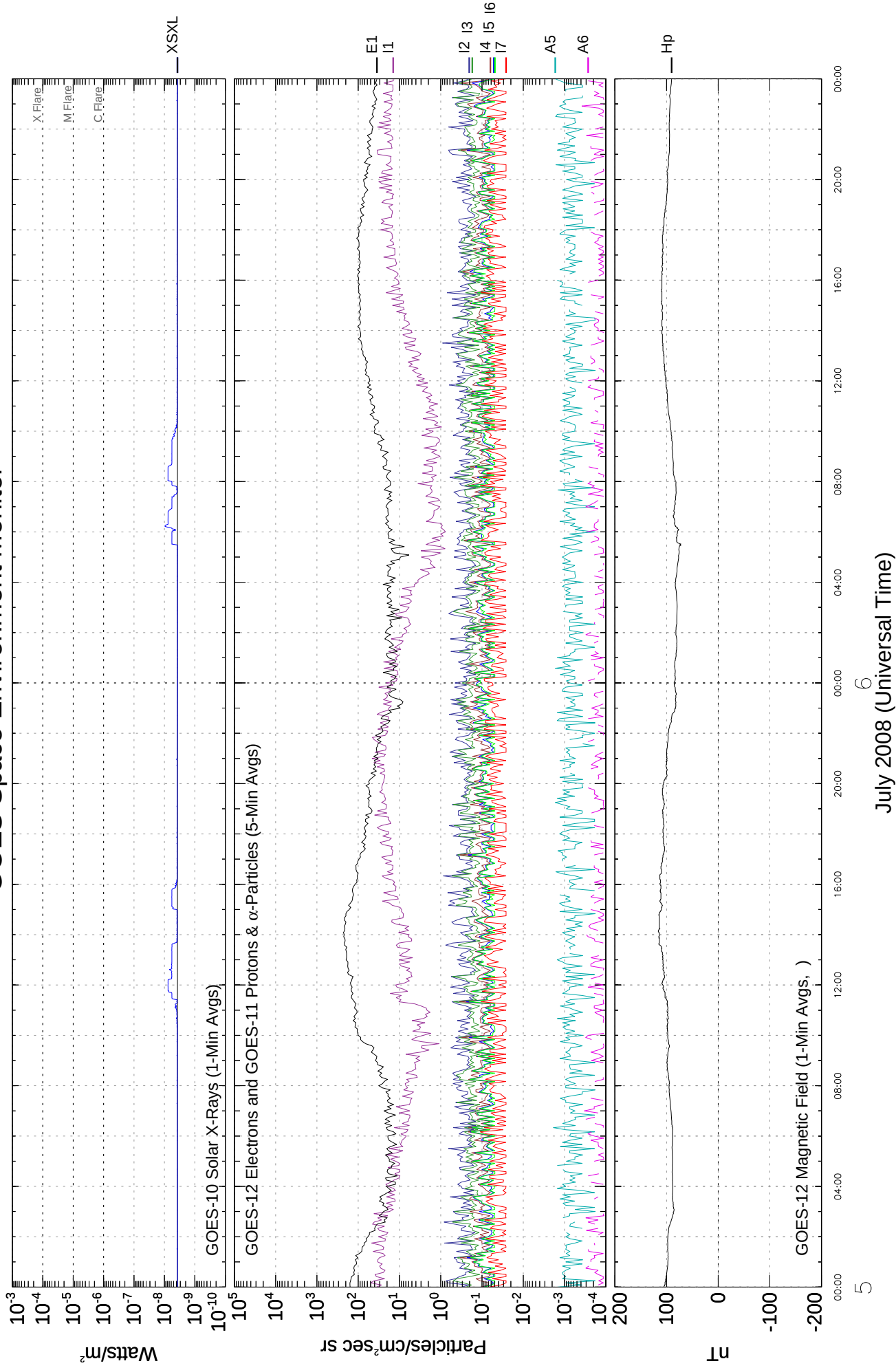


2
July 2008 (Universal Time)

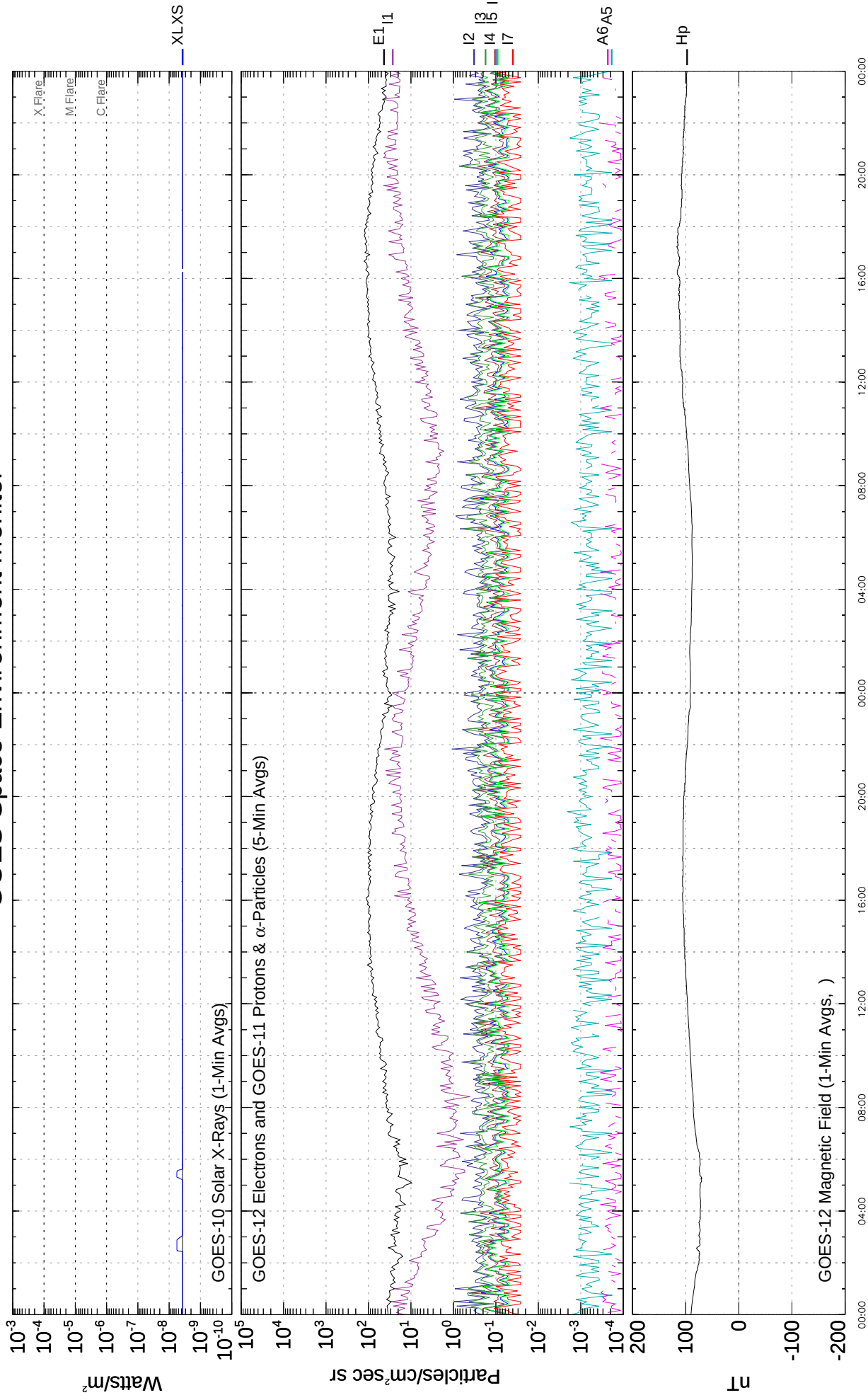
GOES Space Environment Monitor



GOES Space Environment Monitor

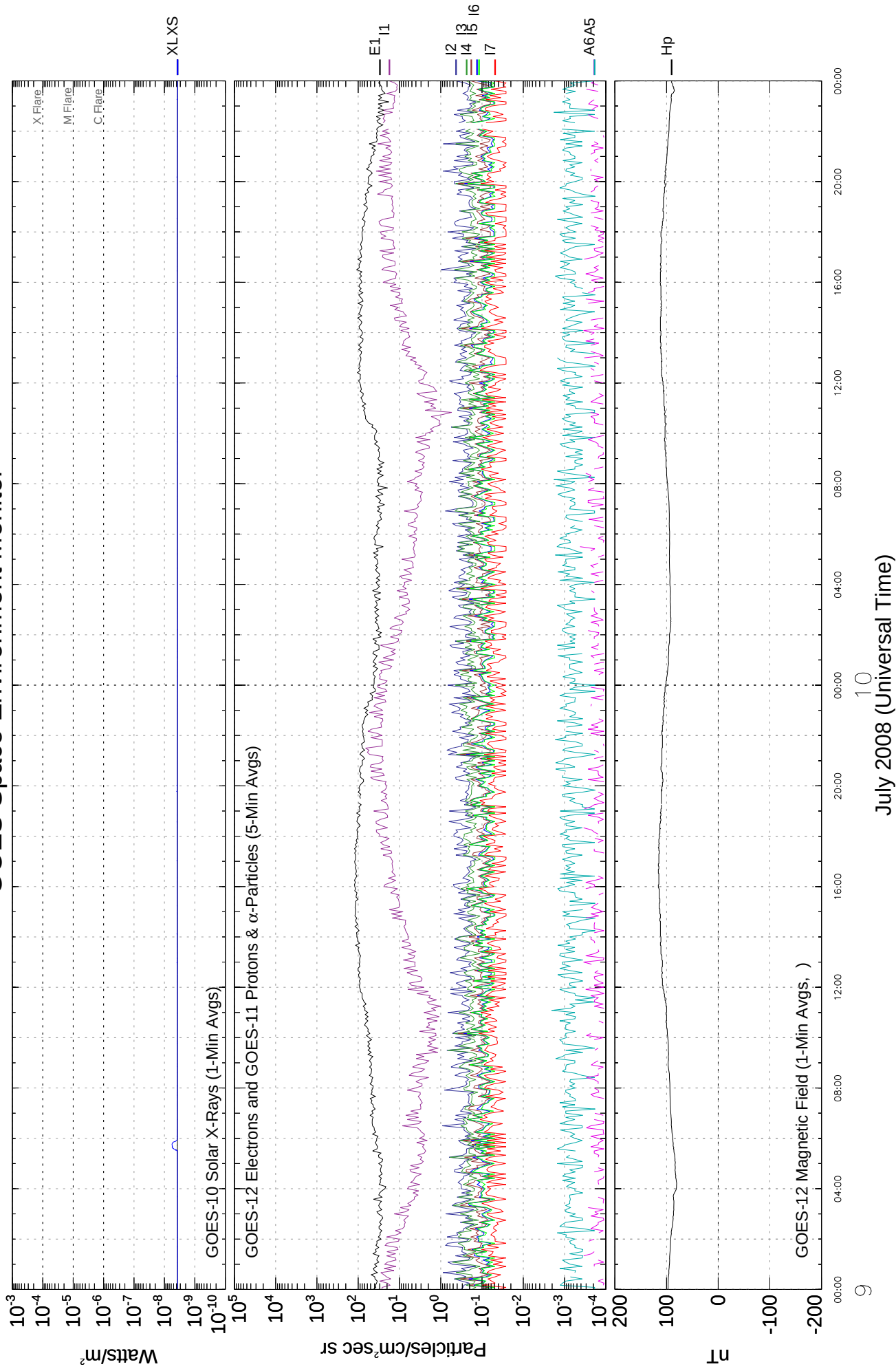


GOES Space Environment Monitor

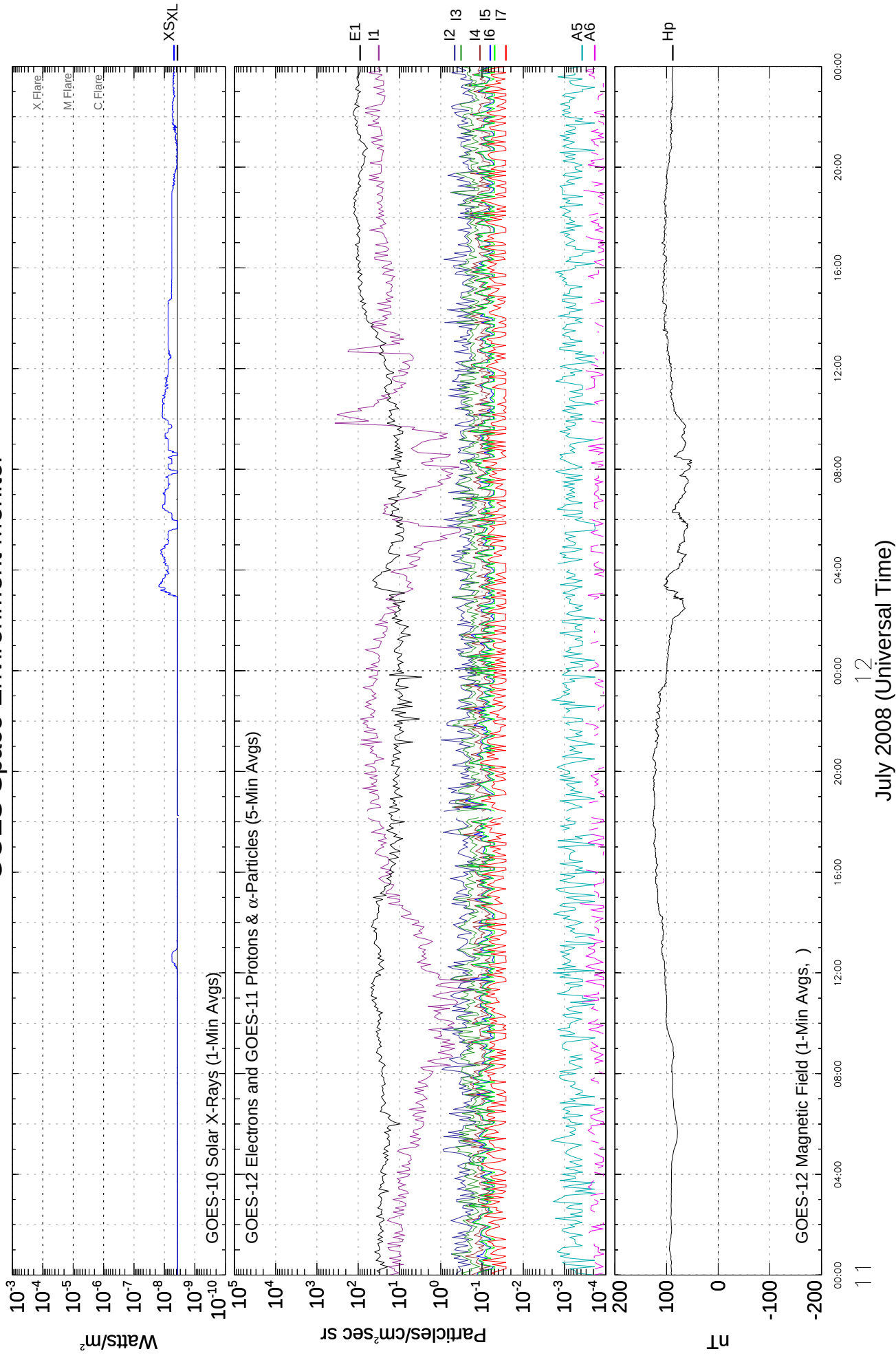


7
8
July 2008 (Universal Time)

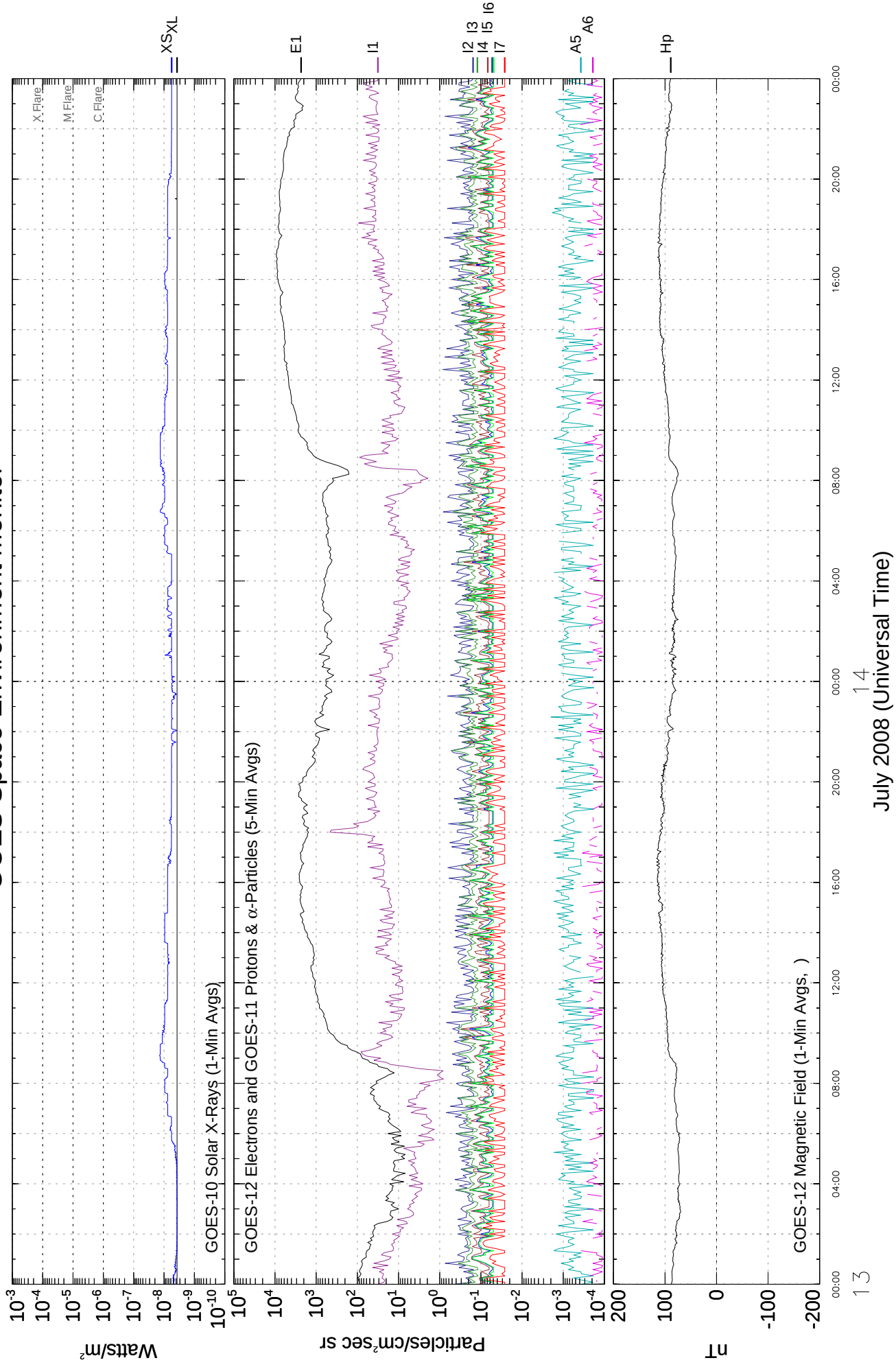
GOES Space Environment Monitor



GOES Space Environment Monitor

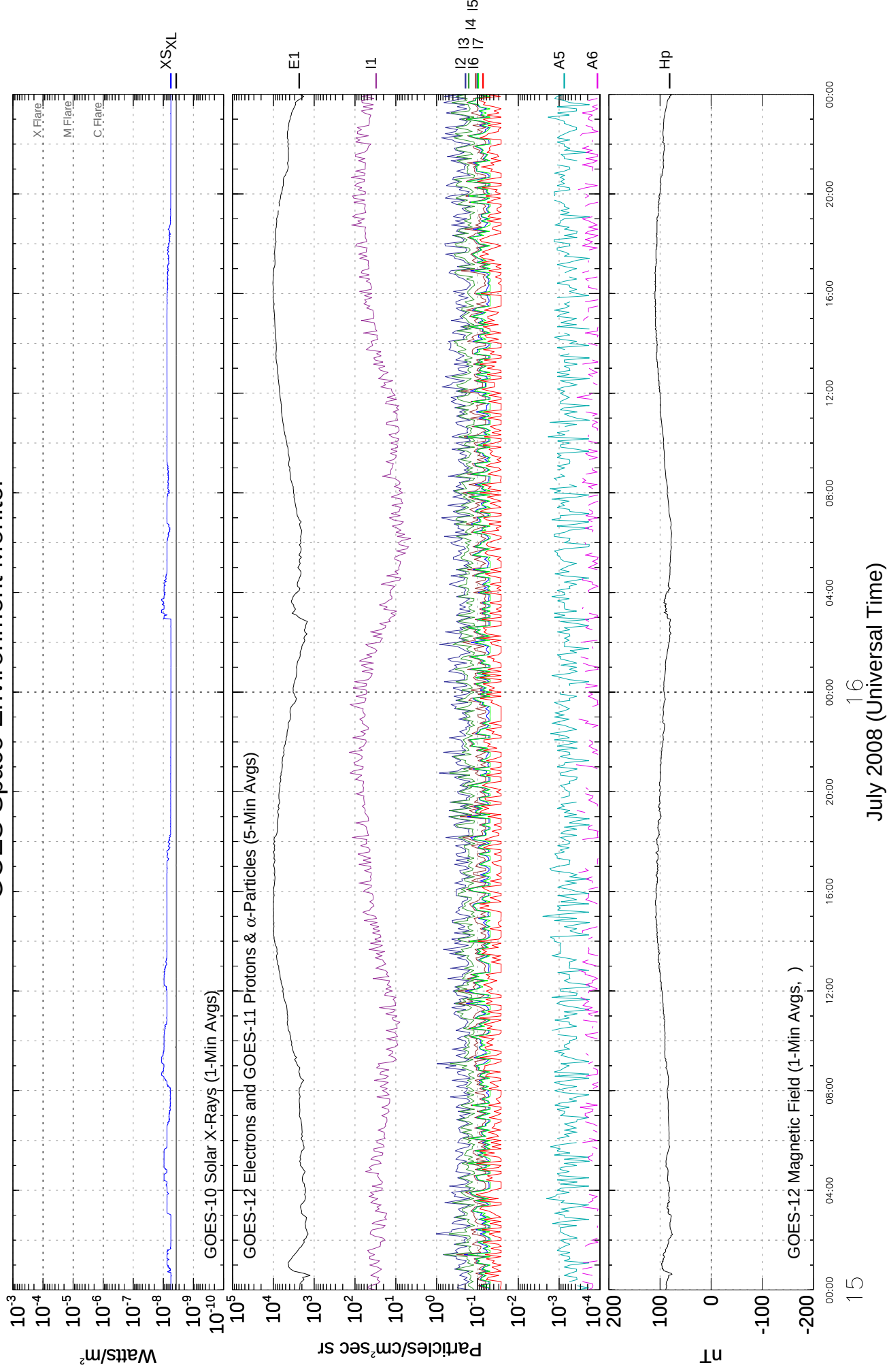


GOES Space Environment Monitor



July 2008 (Universal Time)

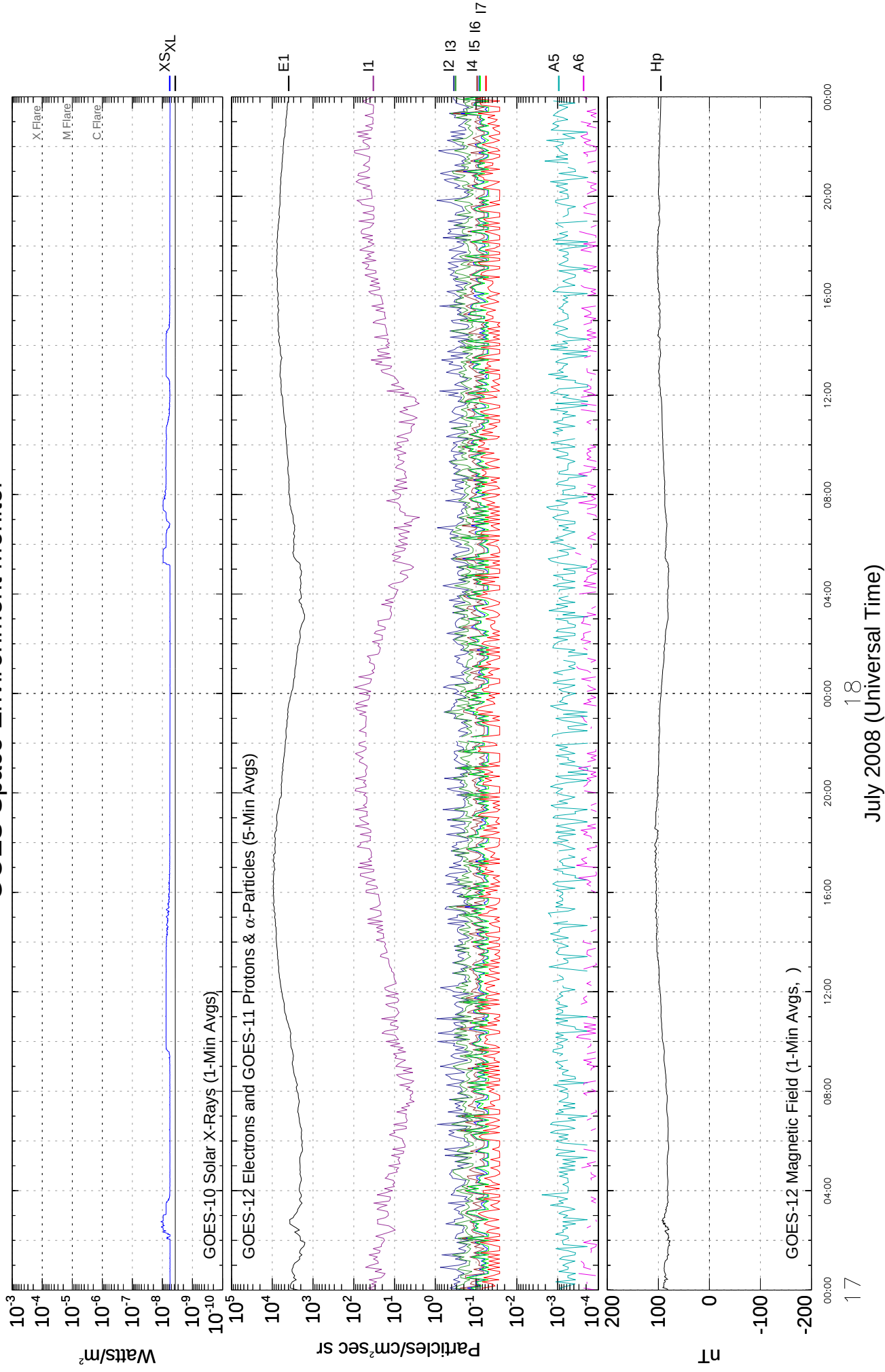
GOES Space Environment Monitor



16
July 2008 (Universal Time)

15

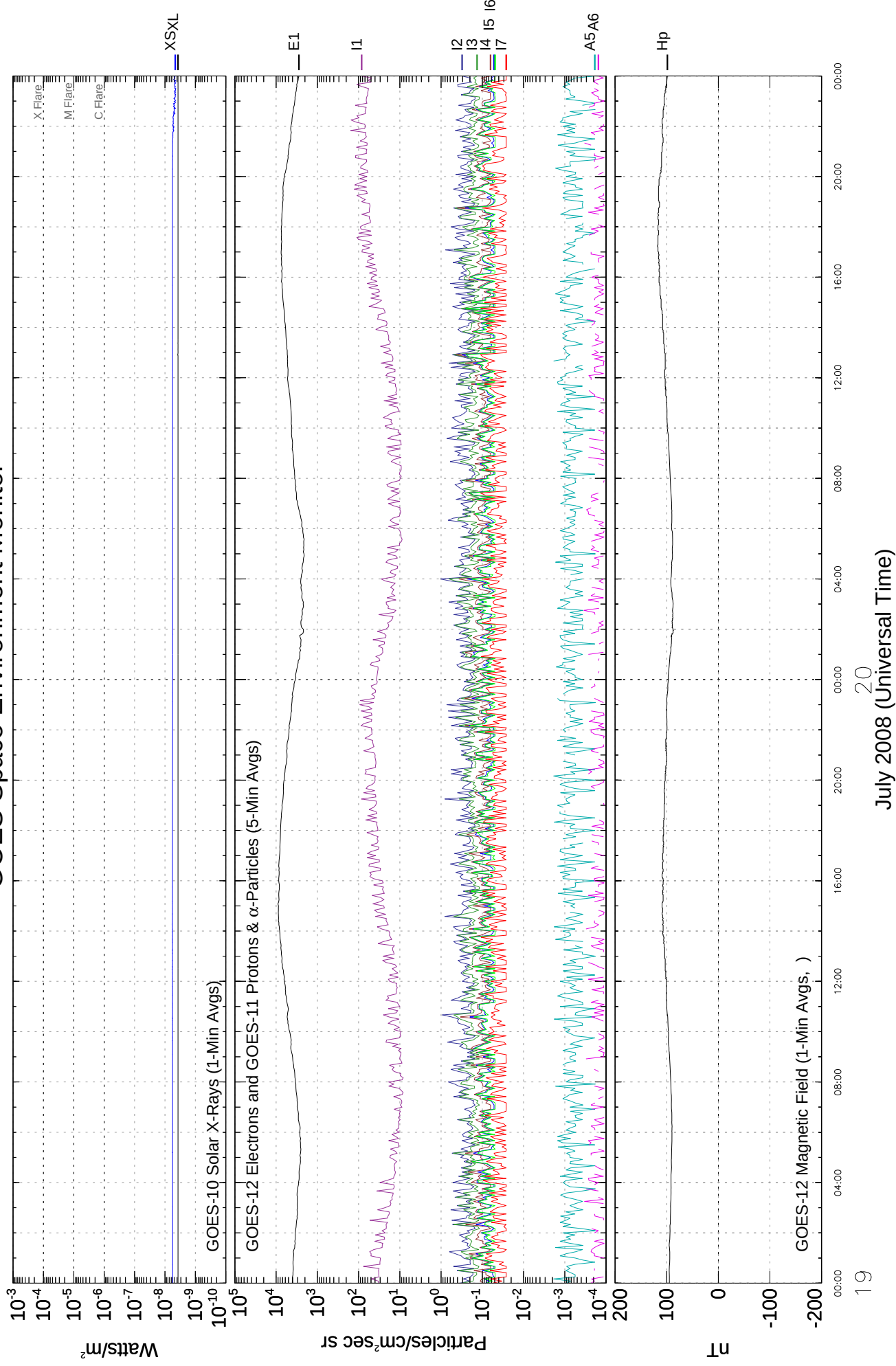
GOES Space Environment Monitor



18
July 2008 (Universal Time)

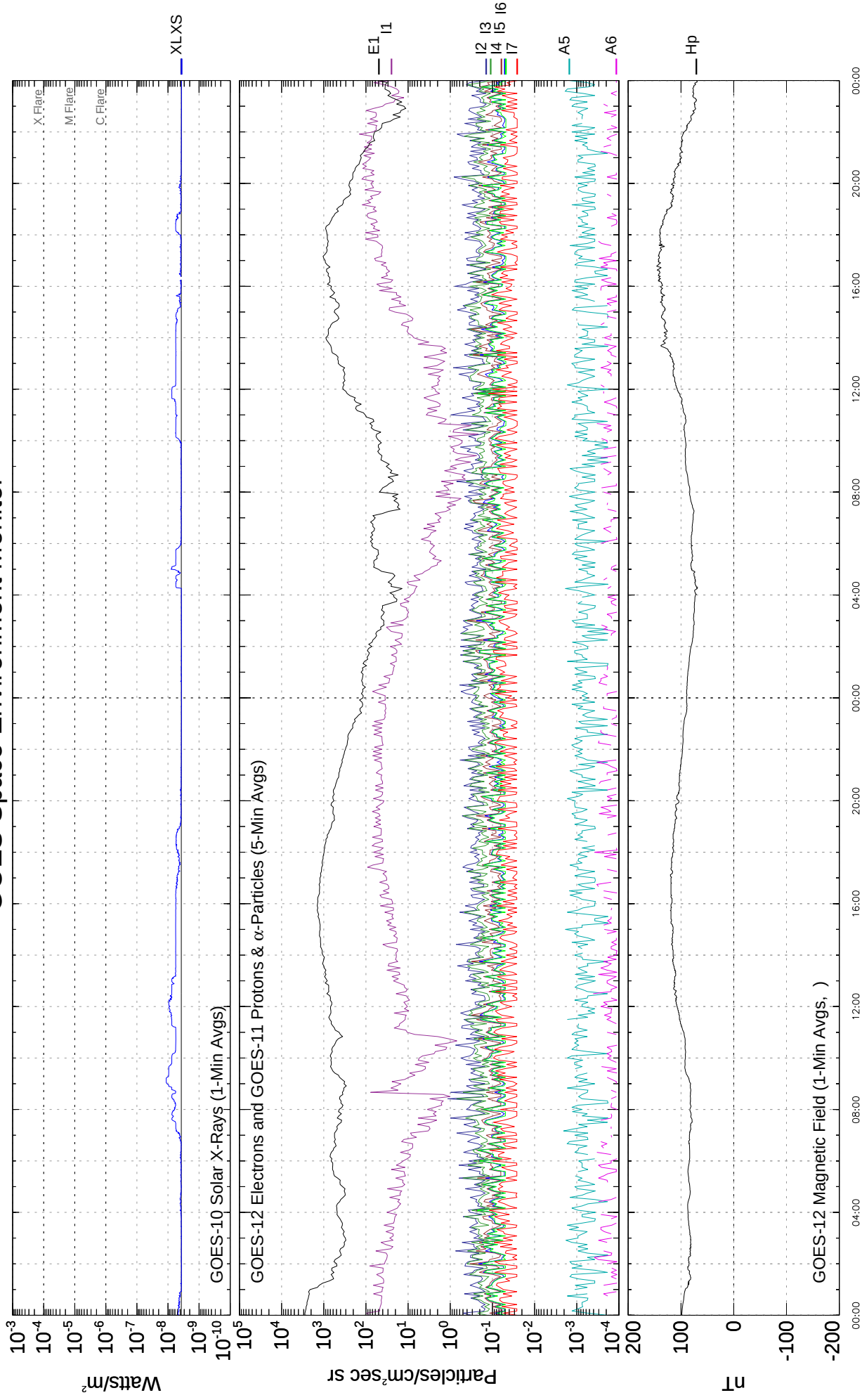
17

GOES Space Environment Monitor



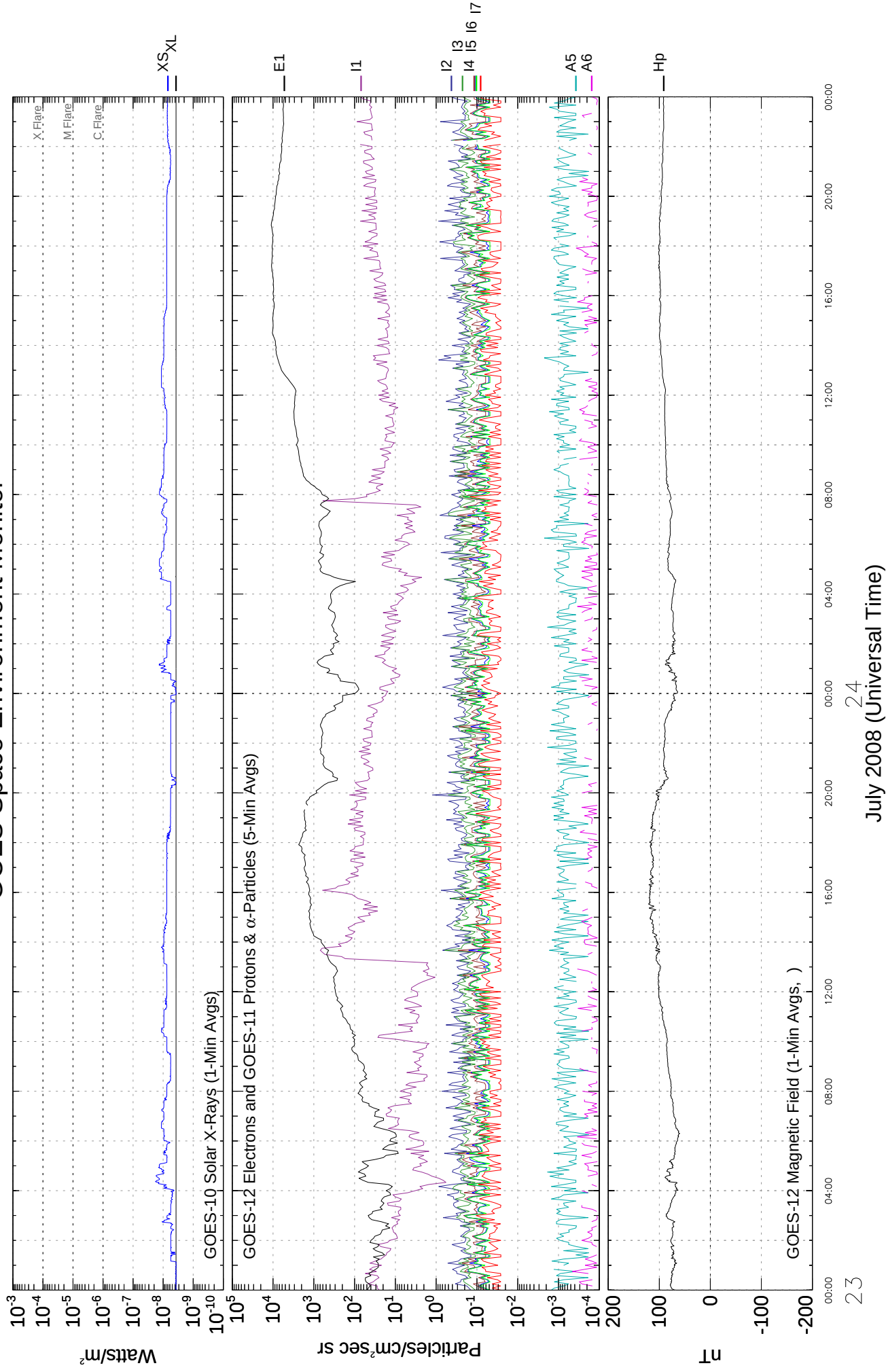
20
July 2008 (Universal Time)

GOES Space Environment Monitor

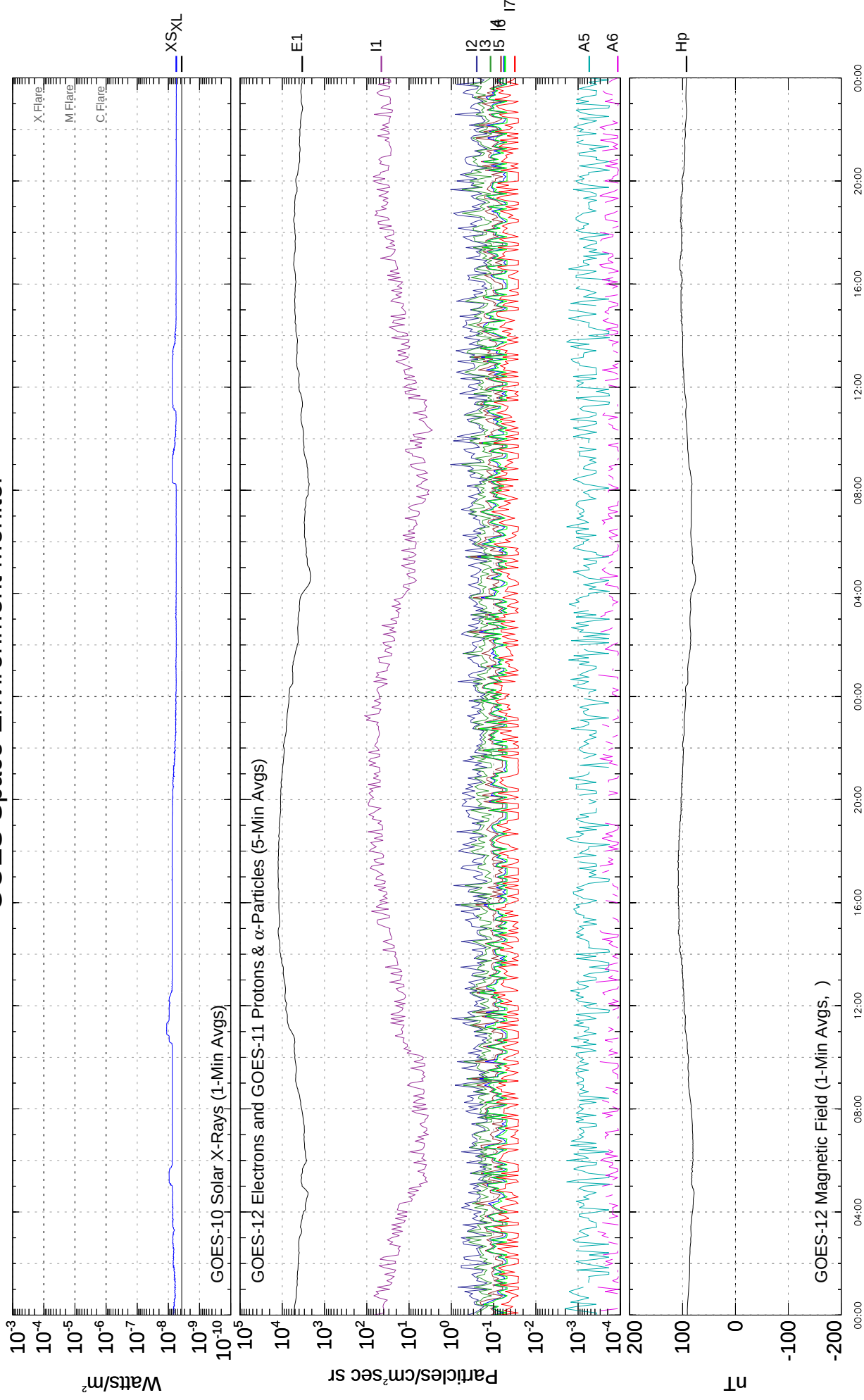


22
July 2008 (Universal Time)

GOES Space Environment Monitor

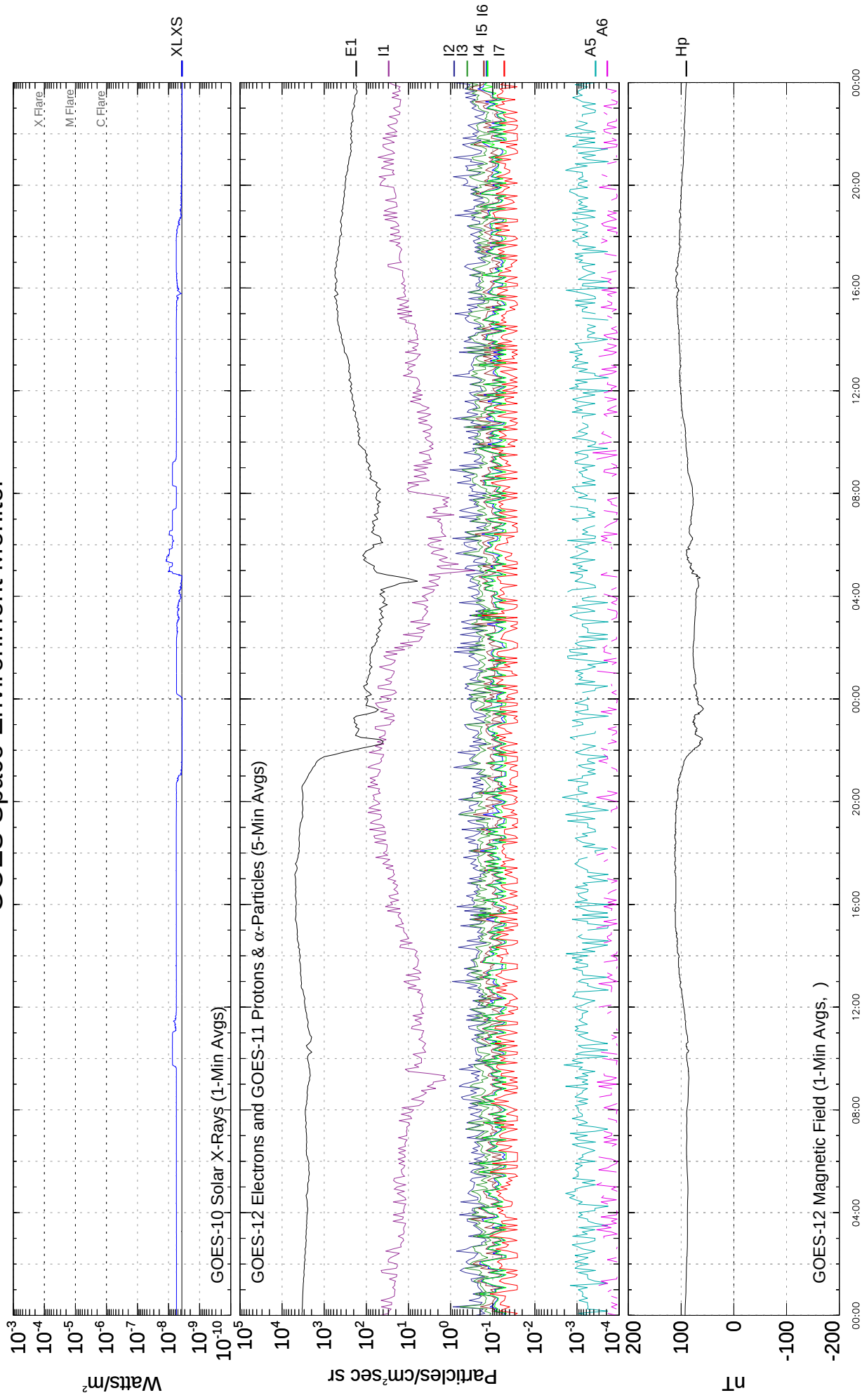


GOES Space Environment Monitor

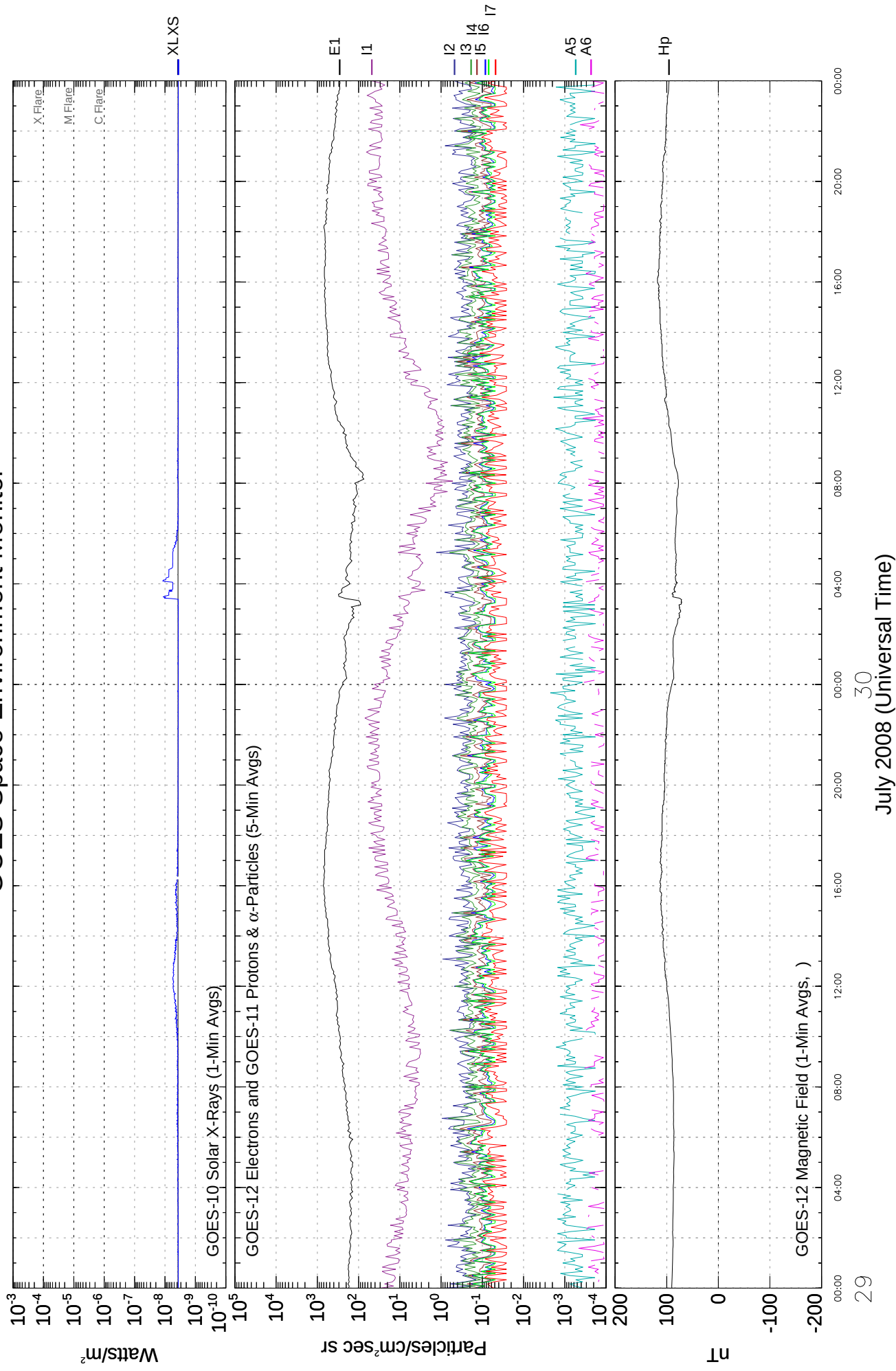


25
26
July 2008 (Universal Time)

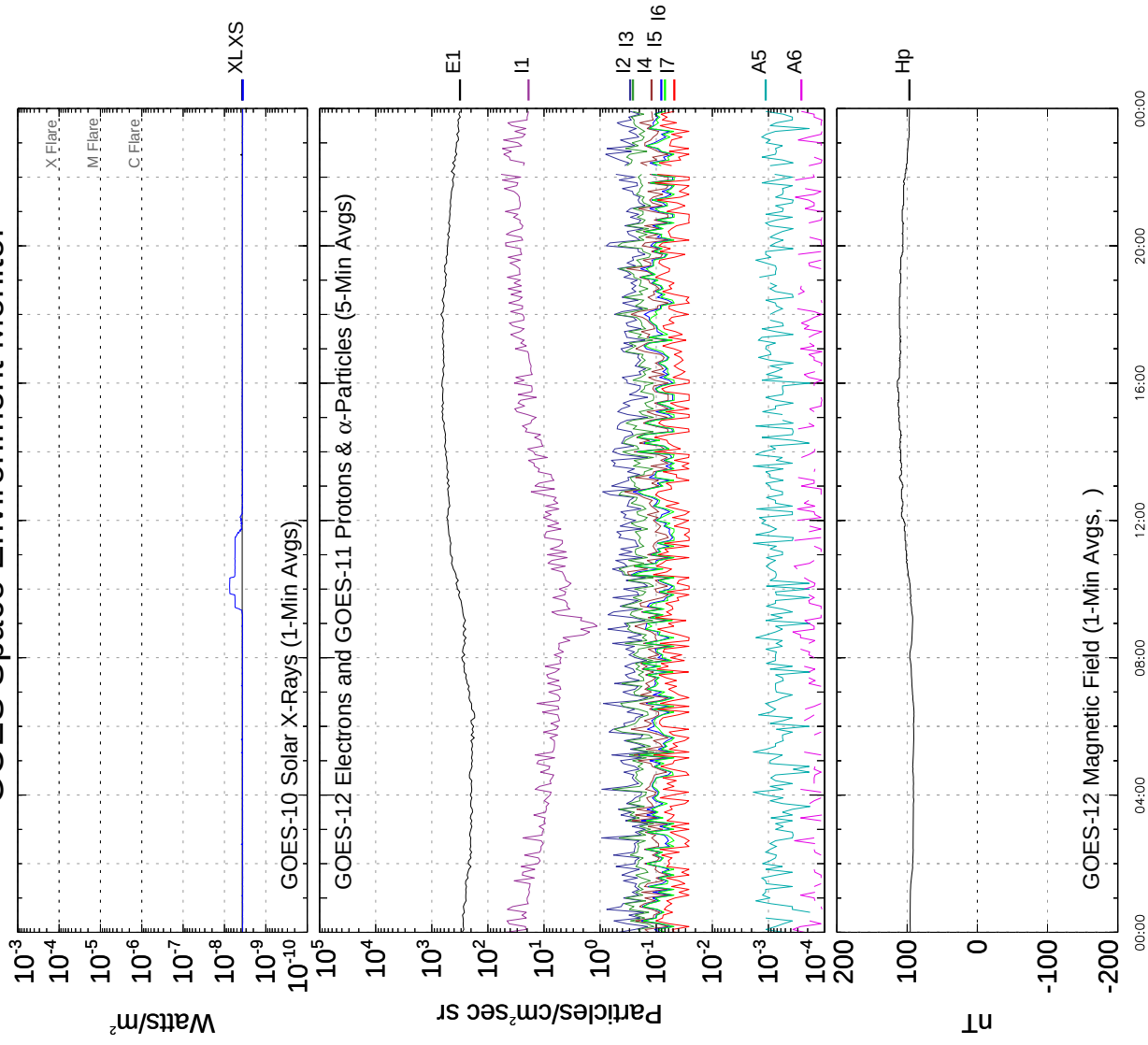
GOES Space Environment Monitor



GOES Space Environment Monitor



GOES Space Environment Monitor



20
Jul 08

A L E R T P E R I O D S
The International Space Environment Service

JULY 2008

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A- index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst (1)	Geoadvice (1)
							Lat	Lon	Opt	M	X			
183	01	30	0	67	8				0	0	0	01		SOL: Quiet
									0	0	0	01		MAG: Quiet
									0	0	0	01		PRO: Quiet
184	02	01	0	66	5				0	0	0	02		SOL: Quiet
									0	0	0	02		MAG: Quiet
									0	0	0	02		PRO: Quiet
185	03	02	0	66	4				0	0	0	03		SOL: Quiet
									0	0	0	03		MAG: Quiet
									0	0	0	03		PRO: Quiet
186	04	03	0	66	5				0	0	0	04		SOL: Quiet
									0	0	0	04		MAG: Quiet
									0	0	0	04		PRO: Quiet
187	05	04	0	65	3				0	0	0	05		SOL: Quiet
									0	0	0	05		MAG: Quiet
									0	0	0	05		PRO: Quiet
188	06	05	0	65	11				0	0	0	06		SOL: Quiet
									0	0	0	06		MAG: Quiet
									0	0	0	06		PRO: Quiet
189	07	06	0	66	5				0	0	0	07		SOL: Quiet
									0	0	0	07		MAG: Quiet
									0	0	0	07		PRO: Quiet
190	08	07	0	66	4				0	0	0	08		SOL: Quiet
									0	0	0	08		MAG: Quiet
									0	0	0	08		PRO: Quiet
191	09	08	0	66	2				0	0	0	09		SOL: Quiet
									0	0	0	09		MAG: Quiet
									0	0	0	09		PRO: Quiet
192	10	09	0	66	5				0	0	0	10		SOL: Quiet
									0	0	0	10		MAG: Quiet
									0	0	0	10		PRO: Quiet
193	11	10	0	65	3				0	0	0	11		SOL: Quiet
									0	0	0	11		MAG: Active
									0	0	0	11		PRO: Quiet
194	12	11	0	66	8				0	0	0	12		SOL: Quiet
									0	0	0	12		MAG: Active
									0	0	0	12		PRO: Quiet
195	13	12	0	65	20				0	0	0	13		SOL: Quiet
									0	0	0	13		MAG: Quiet
									0	0	0	13		PRO: Quiet
196	14	13	0	65	14				0	0	0	14		SOL: Quiet
									0	0	0	14		MAG: Quiet
									0	0	0	14		PRO: Quiet
197	15	14	0	66	11				0	0	0	15		SOL: Quiet
									0	0	0	15		MAG: Quiet
									0	0	0	15		PRO: Quiet
198	16	15	0	66	10				0	0	0	16		SOL: Quiet
									0	0	0	16		MAG: Quiet
									0	0	0	16		PRO: Quiet
199	17	16	0	65	9				0	0	0	17		SOL: Quiet
									0	0	0	17		MAG: Quiet
									0	0	0	17		PRO: Quiet

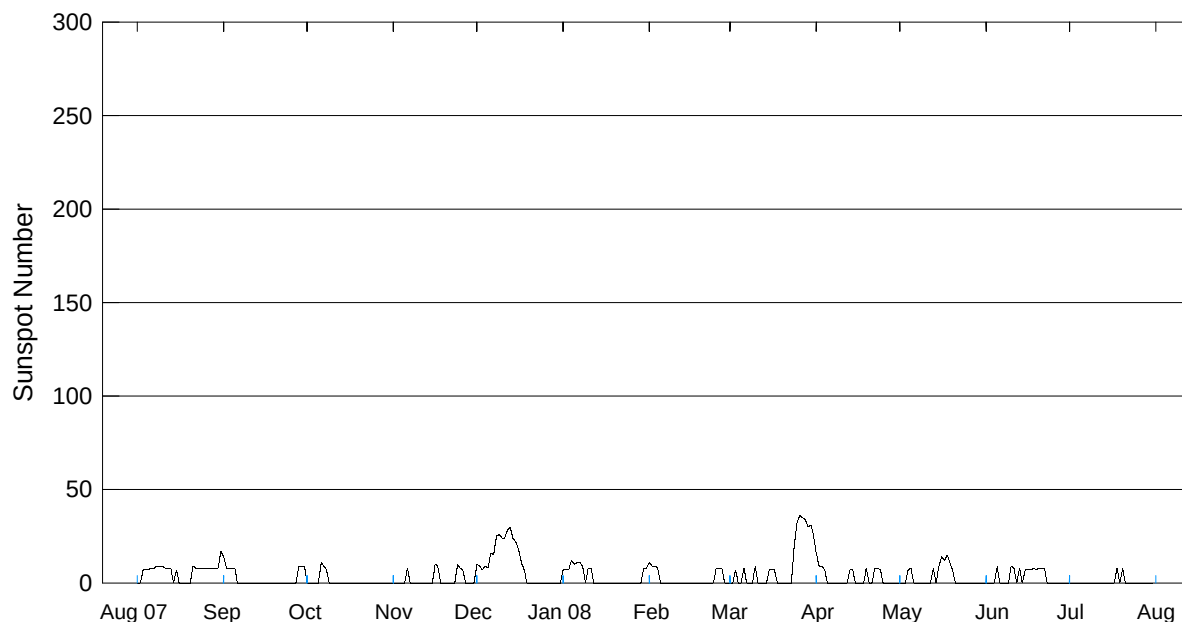
A L E R T P E R I O D S

The International Space Environment Service

JULY 2008

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst (1)	Geoadvice (1)
							Lat	Lon	Opt	M	X			
200	18	17	0	65	7				0	0	0	18		SOL: Quiet
									0	0	0	18		MAG: Quiet
									0	0	0	18		PRO: Quiet
201	19	18	11	65	6	11000	S13	E24	0	0	0	19	Q	SOL: Quiet
									0	0	0	19		MAG: Quiet
									0	0	0	19		PRO: Quiet
202	20	19	12	66	2	11000	S12	E10	0	0	0	20	Q	SOL: Quiet
									0	0	0	20		MAG: Quiet
									0	0	0	20		PRO: Quiet
203	21	20	11	66	3	11000	S12	W05	0	0	0	21	Q	SOL: Quiet
									0	0	0	21		MAG: Quiet
									0	0	0	21		PRO: Quiet
204	22	21	0	66	9				0	0	0	22		SOL: Quiet
									0	0	0	22		MAG: Quiet
									0	0	0	22		PRO: Quiet
205	23	22	0	66	13				0	0	0	23		SOL: Quiet
									0	0	0	23		MAG: Quiet
									0	0	0	23		PRO: Quiet
206	24	23	0	66	19				0	0	0	24		SOL: Quiet
									0	0	0	24		MAG: Quiet
									0	0	0	24		PRO: Quiet
207	25	24	0	65	13				0	0	0	25		SOL: Quiet
									0	0	0	25		MAG: Quiet
									0	0	0	25		PRO: Quiet
208	26	25	0	66	6				0	0	0	26		SOL: Quiet
									0	0	0	26		MAG: Quiet
									0	0	0	26		PRO: Quiet
209	27	26	0	66	4				0	0	0	27		SOL: Quiet
									0	0	0	27		MAG: Quiet
									0	0	0	27		PRO: Quiet
210	28	27	0	66	7				0	0	0	28		SOL: Quiet
									0	0	0	28		MAG: Quiet
									0	0	0	28		PRO: Quiet
211	29	28	0	66	10				0	0	0	29		SOL: Quiet
									0	0	0	29		MAG: Quiet
									0	0	0	29		PRO: Quiet
212	30	29	0	66	4				0	0	0	30		SOL: Quiet
									0	0	0	30		MAG: Quiet
									0	0	0	30		PRO: Quiet
213	31	30	0	67	5				0	0	0	31		SOL: Quiet
									0	0	0	31		MAG: Quiet
									0	0	0	31		PRO: Quiet

International Relative Sunspot Numbers Aug 2007 - Jul 2008

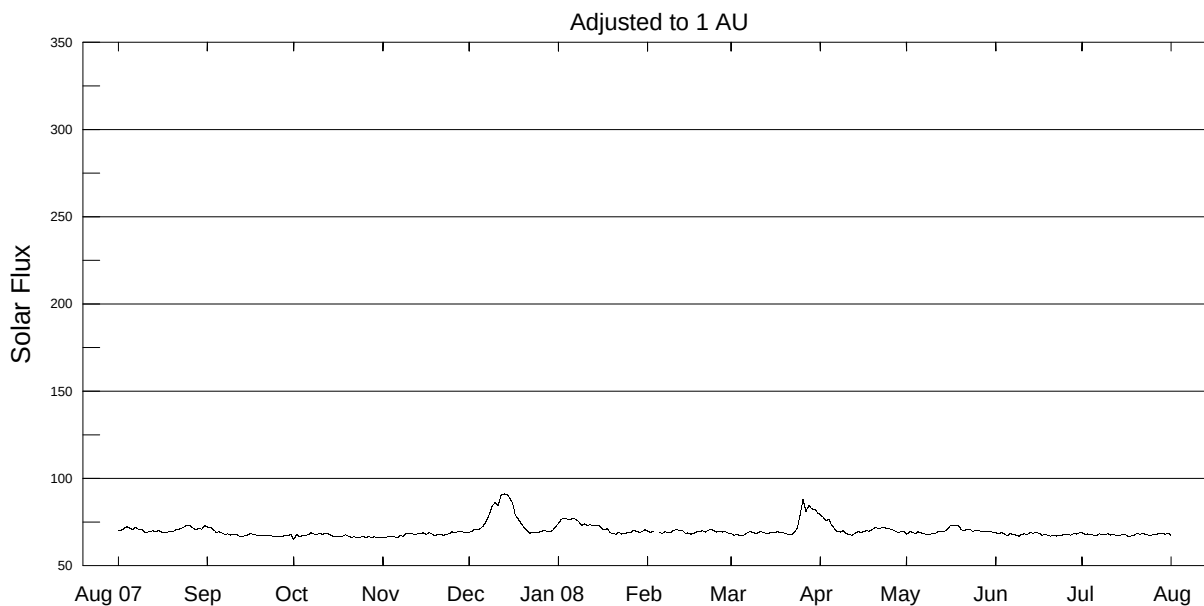


Day	Aug 07	Sep	Oct	Nov	Dec	Jan 08*	Feb*	Mar*	Apr*	May*	Jun*	Jul*
1	0	14	0	0	10	7	11	0	16	0	0	0
2	0	8	0	0	9	7	9	0	9	0	0	0
3	7	8	0	0	7	7	9	7	9	0	0	0
4	7	8	0	0	9	12	8	0	7	7	0	0
5	7	8	0	0	8	10	0	0	0	8	9	0
6	8	0	11	8	16	11	0	8	0	0	0	0
7	8	0	9	0	15	11	0	0	0	0	0	0
8	9	0	7	0	25	9	0	0	0	0	0	0
9	9	0	0	0	26	0	0	0	0	0	0	0
10	9	0	0	0	24	8	0	9	0	0	9	0
11	8	0	0	0	24	8	0	0	0	0	8	0
12	8	0	0	0	28	0	0	0	0	0	0	0
13	8	0	0	0	30	0	0	0	7	8	8	0
14	0	0	0	0	24	0	0	0	7	0	0	0
15	0	0	0	0	22	0	0	7	0	9	7	0
16	0	0	0	10	18	0	0	7	0	14	7	0
17	0	0	0	9	11	0	0	7	0	12	7	0
18	0	0	0	0	7	0	0	0	0	15	8	8
19	0	0	0	0	0	0	0	0	8	11	7	0
20	0	0	0	0	0	0	0	0	0	7	8	8
21	9	0	0	0	0	0	0	0	0	0	8	0
22	8	0	0	0	0	0	0	0	8	0	8	0
23	8	0	0	0	0	0	0	0	8	0	0	0
24	8	0	0	10	0	0	0	19	7	0	0	0
25	8	0	0	8	0	0	8	32	0	0	0	0
26	8	0	0	7	0	0	8	36	0	0	0	0
27	8	0	0	0	0	0	8	35	0	0	0	0
28	8	9	0	0	0	0	0	34	0	0	0	0
29	8	9	0	0	0	0	0	30	0	0	0	0
30	8	9	0	0	0	8		31	0	0	0	0
31	17		0		0	8		25		0		0
Mean	6.0	2.4	0.9	1.7	10.1	3.4	2.1	9.3	2.9	2.9	3.1	0.5

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux Aug 2007 - Jul 2008

23
Jul 08



Day	Aug 07	Sep	Oct	Nov	Dec	Jan 08	Feb	Mar	Apr	May	Jun	Jul
1	70.4	72.1	67.8	66.3	69.9	76.7	69.0	67.4	77.7	69.6	68.5	67.8
2	71.5	70.6	66.5	66.8	71.0	77.0	69.8	68.0	75.9	69.2	69.0	68.2
3	72.4	69.1	67.3	66.5	70.5	76.7	*	67.3	76.4	68.5	68.2	67.7
4	71.4	69.4	67.4	66.5	71.5	76.4	69.3	67.2	73.1	69.5	67.1	67.6
5	70.9	68.8	67.8	66.2	73.1	77.1	68.5	68.2	71.1	68.8	68.4	67.3
6	72.0	67.8	68.9	67.3	75.9	76.6	69.6	69.3	69.5	68.4	67.9	68.3
7	71.0	68.2	68.1	66.9	79.8	75.2	68.9	69.5	69.3	67.8	67.6	67.7
8	71.0	67.6	67.9	68.4	84.4	73.0	69.0	68.8	70.0	67.7	66.9	67.8
9	69.3	67.7	68.6	68.2	86.2	74.0	70.3	68.5	68.2	68.6	68.0	68.3
10	69.3	67.9	67.9	68.4	84.3	73.2	70.7	69.4	68.1	68.7	68.2	67.6
11	69.5	67.0	68.6	67.7	90.5	73.5	70.2	69.3	67.4	69.4	67.8	67.9
12	70.0	66.7	68.3	68.3	91.1	73.2	70.3	68.5	68.5	69.5	69.2	67.1
13	69.5	67.2	67.3	68.4	90.9	72.9	68.7	68.7	69.7	69.7	68.6	67.4
14	70.3	67.6	66.7	68.9	89.0	73.1	68.8	69.1	69.0	70.5	69.2	67.8
15	69.3	68.5	66.8	67.7	86.1	71.3	68.0	68.8	69.7	72.7	68.6	67.9
16	69.0	67.8	66.7	69.1	79.1	70.6	68.6	69.6	70.0	73.2	67.4	66.7
17	69.3	67.6	67.0	68.2	76.9	71.3	69.4	69.1	69.8	72.8	68.1	67.1
18	69.6	67.1	67.7	67.2	74.4	68.8	69.5	69.0	70.8	73.3	67.5	67.4
19	69.4	67.4	66.8	67.9	72.1	68.6	70.0	68.4	71.7	70.5	67.0	68.5
20	70.7	67.4	66.3	68.0	70.2	68.0	69.3	67.9	71.5	70.2	67.3	68.0
21	70.9	67.4	66.6	67.4	68.7	69.3	70.3	67.7	71.6	70.8	67.0	68.4
22	71.6	67.2	66.0	68.0	69.1	68.1	70.8	69.1	72.1	71.0	67.5	68.0
23	72.4	66.8	66.4	68.3	69.1	68.4	70.1	71.5	71.5	69.6	67.5	67.6
24	73.2	66.5	66.8	69.5	69.1	69.1	69.3	79.0	71.2	70.3	68.0	67.5
25	73.1	66.6	66.3	68.8	69.7	68.9	69.9	88.2	70.7	70.1	68.1	67.9
26	71.6	66.8	66.7	69.6	70.2	70.3	69.3	81.2	69.9	69.8	67.5	68.1
27	70.7	67.4	66.2	69.6	69.7	69.8	69.4	84.5	69.0	69.7	68.3	68.4
28	71.6	67.4	66.6	69.3	69.5	69.2	68.7	82.6	69.4	69.6	68.1	68.3
29	71.0	67.8	66.2	69.3	70.3	69.5	68.5	82.4	69.6	69.9	68.8	68.1
30	73.0	65.1	66.3	69.2	72.5	70.6		80.4	68.0	69.0	68.9	68.5
31	72.2		66.1		74.2	69.9		79.1		68.8		67.5
Mean	70.9	67.8	67.1	68.1	76.1	71.9	69.4	72.2	70.7	69.9	68.0	67.8

* = No data available.

24
Jul 08

DAILY SOLAR INDICES

JULY

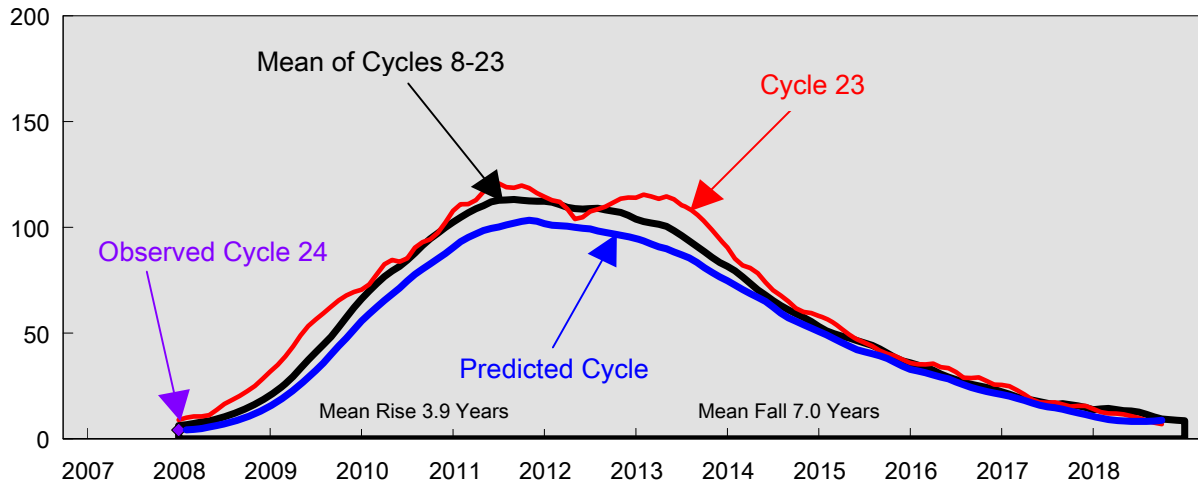
2008

Day	Day	Bartels	Sunspot		Obs Flux		-----Solar Flux Adjusted to 1 Astronomical Unit-----							
	of	Cycle	Numbers		Penticton	SGMR	SGMR	SGMR	Penticton	SGMR	SGMR	SGMR	SGMR	SGMR
	Year	Day	Int	Amer	(2800)	(15400)	(8800)	(4995)	(2800)	(2695)	(1415)	(610)	(410)	(245)
1	183	6	0	0	65.6	446	226	122	67.8	64	55	---	---	---
2	184	7	0	0	65.9	445	224	123	68.2	58	55	---	---	---
3	185	8	0	0	65.5	447	225	124	67.7	61	55	22	19	12
4	186	9	0	0	65.4	319	225	122	67.6	65	54	21	18	11
5	187	10	0	0	65.1	443	220	120	67.3	61	54	25	19	11
6	188	11	0	0	66.1	447	225	123	68.3	62	56	21	19	11
7	189	12	0	0	65.5	445	225	122	67.7	62	53	20	18	12
8	190	13	0	0	65.5	446	225	122	67.8	61	54	---	---	---
9	191	14	0	0	66.0	446	226	123	68.3	64	55	33	30	11
10	192	15	0	0	65.4	448	224	124	67.6	60	53	---	---	---
11	193	16	0	0	65.7	447	229	123	67.9	61	55	40	21	11
12	194	17	0	0	64.9	447	228	122	67.1	61	53	39	22	11
13	195	18	0	0	65.2	447	227	123	67.4	61	54	39	21	11
14	196	19	0	0	65.6	450	229	123	67.8	61	55	39	21	12
15	197	20	0	0	65.7	449	231	124	67.9	62	55	39	22	11
16	198	21	0	0	64.6	448	226	123	66.7	59	54	36	22	11
17	199	22	0	0	65.0	449	228	122	67.1	58	54	34	22	11
18	200	23	8	6	65.3	446	227	122	67.4	62	55	36	22	11
19	201	24	0	7	66.4	448	225	122	68.5	61	56	37	22	11
20	202	25	8	1	65.9	441	229	121	68.0	62	55	34	22	11
21	203	26	0	0	66.2	445	228	126	68.4	62	55	36	22	11
22	204	27	0	0	65.8	446	225	121	68.0	61	54	35	23	11
23	205	1	0	0	65.5	437	225	120	67.6	61	54	35	23	11
24	206	2	0	0	65.4	311	217	120	67.5	62	54	34	21	10
25	207	3	0	0	65.8	447	227	122	67.9	59	54	32	26	10
26	208	4	0	0	66.1	448	227	122	68.1	60	55	35	21	11
27	209	5	0	0	66.3	444	230	124	68.4	60	55	34	21	10
28	210	6	0	0	66.3	446	225	123	68.3	62	55	36	21	11
29	211	7	0	0	66.0	447	227	123	68.1	59	55	35	21	11
30	212	8	0	0	66.5	451	227	124	68.5	64	55	36	22	11
31	213	9	0	0	65.5	442	225	124	67.5	53	54	36	22	10
MEAN			0.5	0.4	65.7	437	226	122	67.8	60	54	33	21	10

NOTE: Radio flux values are from Sagamore Hill, Massachusetts, USA.

Cycle 24 Smoothed Sunspot Numbers: Observed and Predicted
PRELIMINARY Based on January 2008 Smoothed Data

25
Jul 08



Smoothed Sunspot Numbers (Observed and Predicted) for Parts of Solar Cycles 23 and 24

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1996	10	10	10	9	8*	9	8	8	8	9**	10	10	8
1997	11	11	14	17	18	20	23	25	28	32	35	39	23
1998	44	49	53	57	59	63	65	68	69	71	73	78	62
1999	83	85	84	85	90	93	94	98	102	108	111	111	95
2000	113	117	120	120.8+	119	119	120	119	116	115	113	112	107
2001	109	104	105	108	109	110	112	114	114	114	115	115	111
2002	114	115	113	111	109	106	103	99	95	91	85	82	102
2003	81	79	74	70	68	65	62	60	60	58	57	57	66
2004	53	49	47	46	46	42	40	39	38	36	35	35	42
2005	35	34	34	32	29	29	29	27	26	26	25	23	29
2006	21	19	17	17	17	16	15	16	16	14	13	13	16
2007	12	12	11	10	9	8	7	6	6	6	6	5	8
2008	##4	4 (0)	5 (1)	5 (2)	6 (3)	6 (4)	7 (5)	8 (6)	9 (7)	10 (8)	12 (10)	14 (12)	7 (5)
2009	16 (14)	18 (16)	20 (19)	23 (21)	26 (24)	29 (27)	32 (30)	36 (33)	40 (36)	44 (39)	48 (43)	52 (47)	32 (29)
Solar Cycle 22				Solar Cycle 23				Min, Max, and Predictions					

* May 1996 marks Cycle 22's mathematical minimum.

** October 1996 marks the consensus minimum.

+ April 2000 marks Cycle 23 maximum.

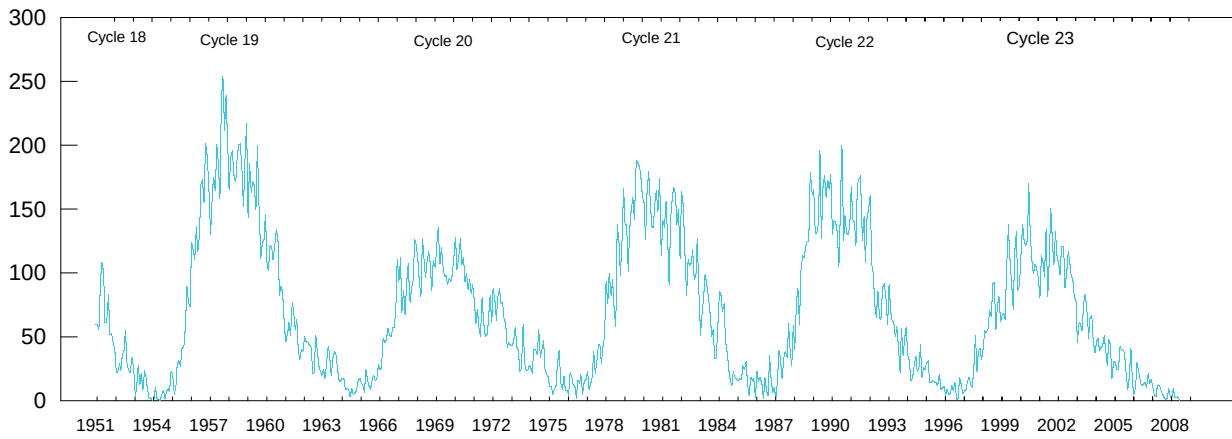
- Preliminary Cycle 24 Minimum

NOTE: This is a preliminary prediction using January 2008 as solar minimum.

OBSERVED AND PREDICTED NUMBERS: For the end of Cycle 23, and the rise and decline of Cycle 24, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through Dec 2007 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 Jul 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 January 2009 prediction. There exists a 90% chance that in January 2009, the actual smoothed sunspot will fall somewhere between 2 and 30.

POINTS TO PONDER: The McNish-Lincoln prediction method generates useful estimates of smoothed, monthly mean sunspot numbers for no more than 12 months ahead. Beyond 12 months, the predictions regress toward the mean of all 16 cycles of observations used in the computation. Moreover, the method remains very sensitive to the date defining the onset of the current cycle, that is, to the date of the most recent sunspot minimum. The new cycle predictions tabulated above are based on a PRELIMINARY minimum of January, 2009. This will be updated monthly until the actual minimum is reached.

Mean Monthly Sunspot Numbers Jan 1951 - Jul 2008



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
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	122.3
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	126.9	168.9	176.7	159.4	173.0	165.5	157.6 M
1990	177.3	130.5	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.5	131.4	129.7	142.6
1991	136.9	167.5	141.9	140.0	121.3	169.7	173.7	176.3	125.3	144.1	108.2	144.4	145.7
1992	150.0	161.1	106.7	99.8	73.8	65.2	85.7	64.5	63.9	88.7	91.8	82.6	94.3
1993	59.3	91.0	69.8	62.2	61.3	49.8	57.9	42.2	22.4	56.4	35.6	48.9	54.6
1994	57.8	35.5	31.7	16.1	17.8	28.0	35.1	22.5	25.7	44.0	18.0	26.2	29.9
1995	24.2	29.9	31.1	14.0	14.5	15.6	14.5	14.3	11.8	21.1	9.0	10.0	17.5
1996	11.5	4.4	9.2	4.8	5.5	11.8	8.2	14.4	1.6	0.9	17.9	13.3	8.6 m
1997	5.7	7.6	8.7	15.5	18.5	12.7	10.4	24.4	51.3	22.8	39.0	41.2	21.5
1998	31.9	40.3	54.8	53.4	56.3	70.7	66.6	92.2	92.9	55.5	74.0	81.9	64.3
1999	62.0	66.3	68.8	63.7	106.4	137.7	113.5	93.7	71.5	116.7	133.2	84.6	93.2
2000	90.1	112.9	138.5	125.5	121.6	124.9	170.1	130.5	109.7	99.4	106.8	104.4	119.6 M
2001	95.6	80.6	113.5	107.7	96.6	134.0	81.8	106.4	150.7	125.5	106.5	132.2	111.0
2002	114.1	107.4	98.4	120.7	120.8	88.3	99.9	116.4	109.3	97.5	95.5	80.8	104.0
2003	79.7	46.0	61.1	60.0	54.6	77.4	83.3	72.7	48.7	65.5	67.3	46.5	63.9
2004	37.7	45.8	49.1	39.3	41.5	43.2	51.0	40.9	27.7	48.0	43.5	17.9	40.4
2005	31.3	29.1	24.8	24.2	42.7	39.3	40.1	36.4	21.9	8.7	18.0	41.1	29.8
2006	15.4	4.7	10.8	30.2	22.2	13.9	12.2	12.9	14.4	10.5	21.4	13.6	15.2
2007	16.8	10.7	4.5	3.4	11.7	12.1	9.7	6.0	2.4	0.9	1.7	10.1	7.5
2008	3.4	2.1	9.3	2.9	2.9	3.1	0.5						3.5

Values are preliminary after Dec 07. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

HÀ S O L A R F L A R E S
JULY 2008

										NOAA/		Area Measurement					
	Start	Max	End			USAF	CMP	Dur	Imp	Obs		Time	Apparent	Corr			
Sta	Day	(UT)	(UT)	Lat	CMD	Region	Mo	Day	(Min)	Opt	Xray	See	Type	(UT)	(10-6 Disk)	(Sq Deg)	Remarks

NO REPORTS

"Remarks"

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

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

28
Jul 08

X - R A Y S O L A R F L A R E S
J U L Y 2 0 0 8

					NOAA/				Total			
		Start	Max	End	USAF	CMP	Dur	Imp	Integrated	Total	Total(3)	
Sta	Day	(UT)	(UT)	(UT)	Lat	CMD	Region	Mo	Day	(Min)	Xray	Flux(1)
												Area(2)
												Intensity

No Reports

Note 1: Total integrated flux computed from the event start time to end if available (units=J/m*2).
Note 2: Total area is derived from SXI imagery in units of squared arc seconds of the largest flaring area.
Note 3: Total intensity is derived from SXI imagery in units of data numbers/second of the largest flaring area.

=====

TABLE FORMAT CHANGE: Data are from the GOES full disk xray monitor supplemented with Solar Xray Imager (SXI) from January, 2004, to April 12, 2007. Positions, areas, and intensities are taken from SXI imagery using the largest flare event on the disk. Only the largest event is selected during multiple flares on the disk.

IMPORTANT NOTE: The xray sensor on GOES 12 was turned off on April 12, 2007, at 2250UT. The GOES SXI instrument is also inoperative. GOES 10 backup for xray data. Effective April 13, 2007, xray flare locations will be determined by optical flare reports. Xray event times will still be from the xray data.

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

Selected Fixed Frequency Events

29
Jul 08

JULY 2008

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		

No Reports

Reports are received routinely from the following observatories:

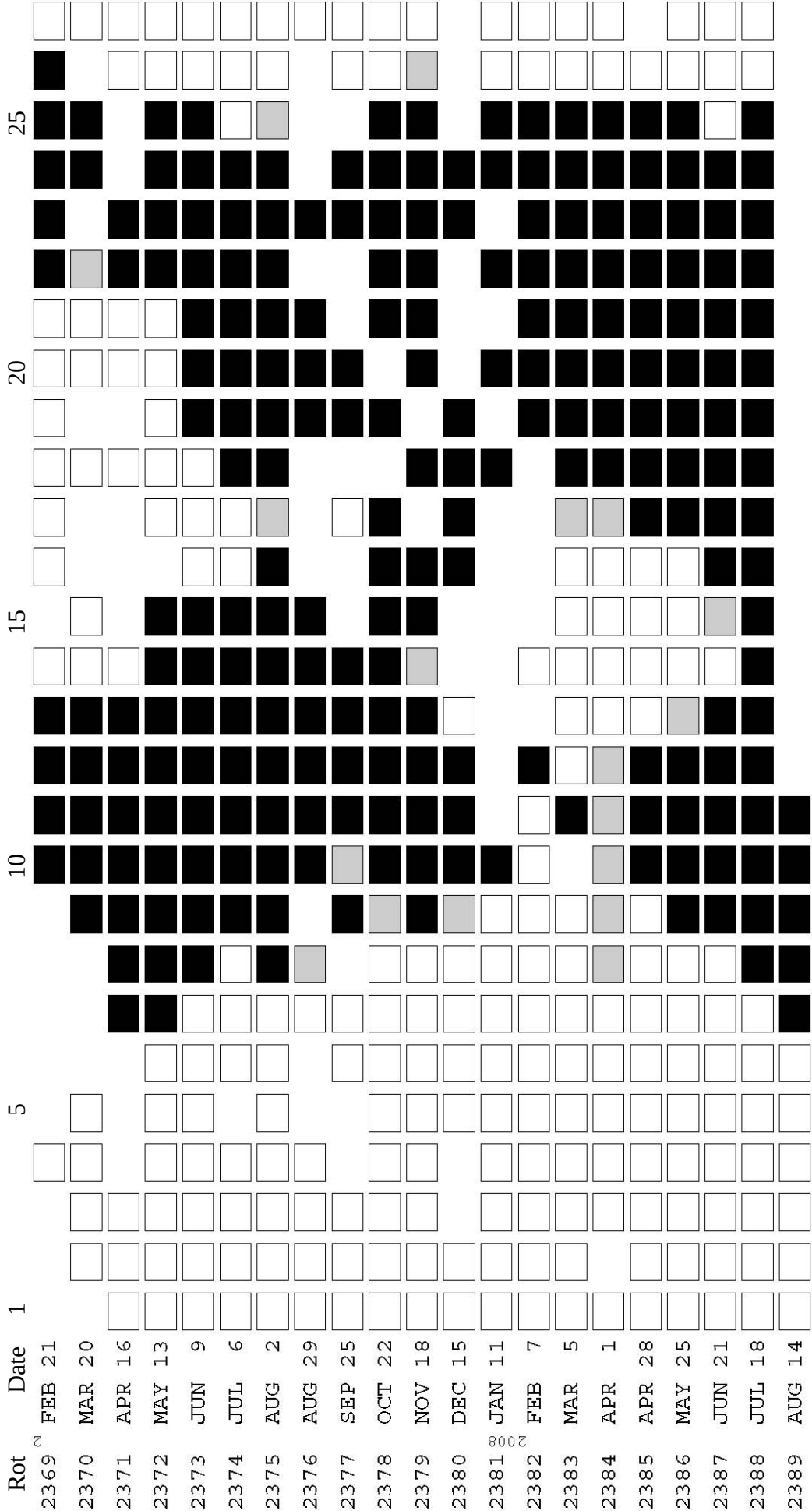
LEAR = Learmonth SGMR = Sagamore Hill SVTO = San Vito

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	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	4O Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	4OF Rise Only F	26O 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; Penticton, Canada 2800 MHz; and Hiraiso, Japan 500 and 200 MHz.

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity:

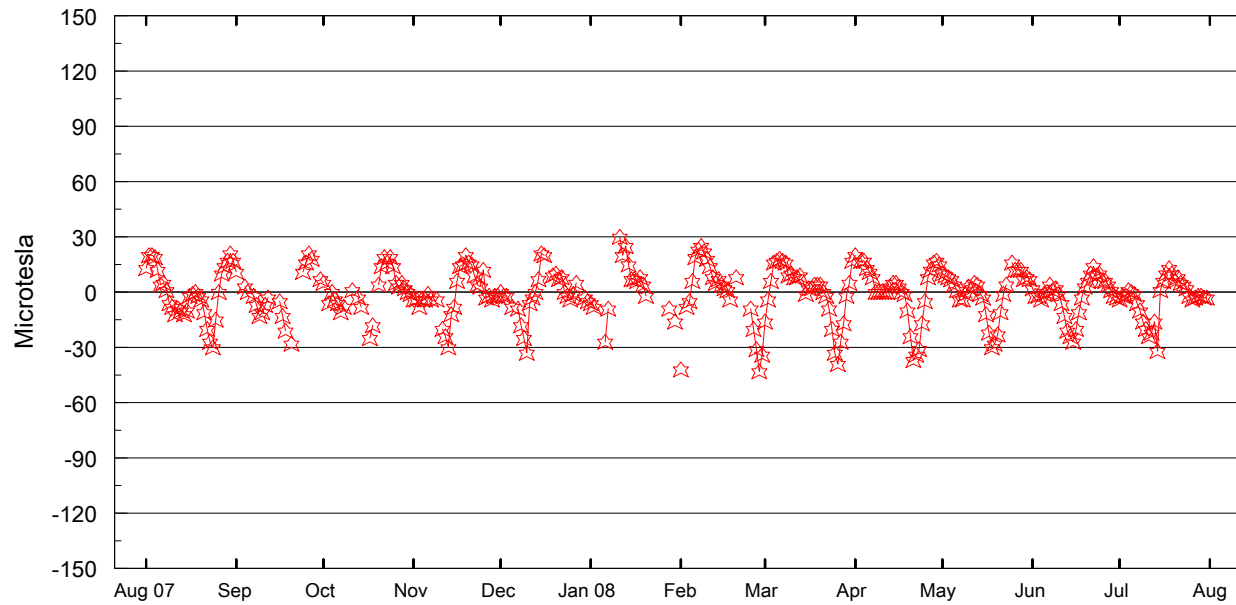
= field > 2 microT; = -2 microT ≤ field ≤ 2 microT

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

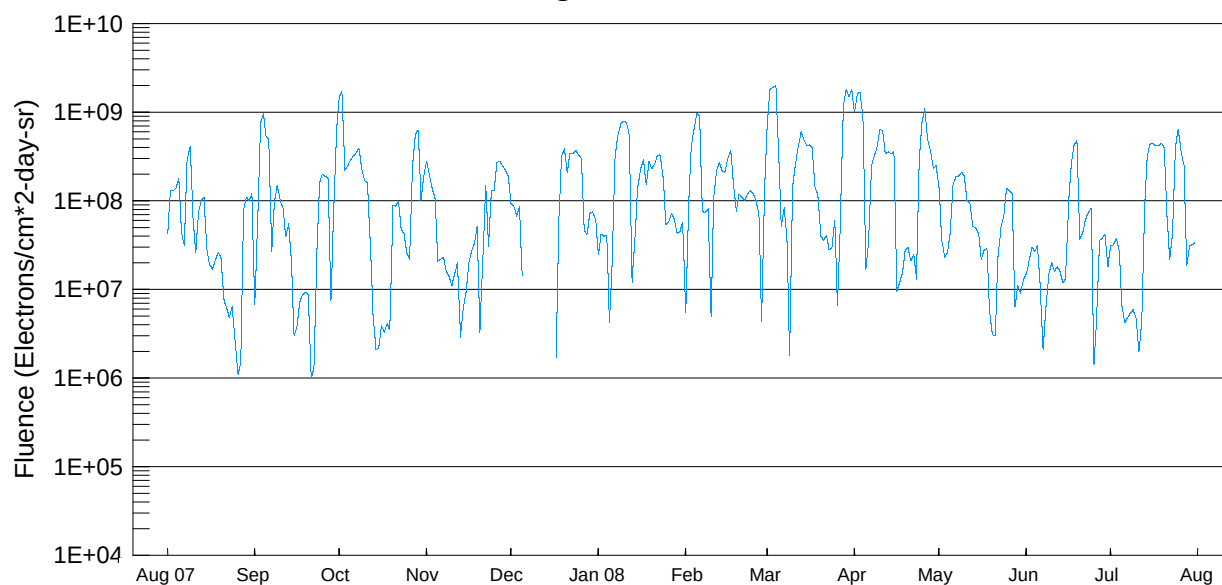
Observations are taken at 2000 UT. Rotation numbers given are the Bartels series, but the dates are not; these dates are five days earlier, to mark times of occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

Stanford Mean Solar Magnetic Field (Microtesla) "Sun-As-A-Star"

31
Jul 08



Day	Aug 07	Sep	Oct	Nov	Dec	Jan 08	Feb	Mar	Apr	May	Jun	Jul
1	13	11	5	-4	0	-6	-42	-16	20	10	2	-4
2	20	---	---	-4	-2	-8	---	-4	---	9	-2	-2
3	20	---	-6	-8	-2	---	-8	6	17	8	-2	-2
4	19	3	0	-4	---	---	-5	16	17	7	-4	1
5	12	0	-4	-4	-8	---	6	17	13	4	-1	0
6	4	---	-6	-1	---	-27	19	18	11	1	0	-1
7	5	-2	-11	-4	-9	-9	23	17	8	-4	4	-6
8	1	-7	-8	---	-18	---	25	16	0	-4	1	-10
9	-6	-13	---	-4	-25	---	22	9	0	-1	2	-16
10	-8	-11	---	---	-33	---	18	10	0	3	-1	-20
11	-12	-7	1	-20	-6	30	14	8	0	2	-6	-24
12	-9	-3	---	-24	-3	20	8	8	0	5	-13	-22
13	-10	---	-3	-30	0	25	5	9	3	4	-21	-16
14	-12	---	-8	-12	7	15	7	---	5	-1	-24	-32
15	-10	---	---	-8	21	7	4	-1	5	-3	-27	1
16	-2	-5	---	6	20	7	2	2	3	-12	-20	6
17	-1	-13	-25	14	---	6	1	2	0	-22	-11	10
18	0	-21	-18	15	---	8	-4	4	-1	-30	-3	13
19	-2	---	---	20	9	4	---	4	-10	-28	3	10
20	-4	-28	4	16	10	-2	8	4	-24	-23	6	6
21	-11	---	14	15	7	---	---	0	-37	-11	10	8
22	-20	---	19	9	8	---	---	-2	-34	-1	14	5
23	-27	---	16	4	0	---	---	-9	-31	4	9	4
24	-30	11	19	3	-2	---	---	-20	-17	---	10	2
25	-15	16	14	12	-4	---	-9	-33	-5	16	6	-2
26	0	21	5	-3	-1	---	-20	-39	8	12	6	-4
27	10	18	3	-2	5	---	-31	-27	12	12	4	-3
28	14	---	5	-4	---	-9	-43	-17	16	12	1	-2
29	17	---	2	-2	---	---	-34	-2	17	7	-2	-2
30	21	7	0	-2	-3	-16	---	5	15	8	-3	-3
31	17	---	-1	---	-5	---	---	17	---	7	---	-3

GOES Daily Electron Fluence
Aug 2007 - Jul 2008

Day	Aug 07	Sep	Oct	Nov	Dec	Jan 08	Feb	Mar	Apr	May	Jun	Jul
1	4.3E+07	6.8E+06	1.5E+09	2.8E+08	9.3E+07	2.5E+07	5.5E+06	7.5E+08	1.0E+09	1.4E+08	1.5E+07	3.1E+07
2	1.3E+08	6.3E+07	1.7E+09	2.0E+08	8.8E+07	4.2E+07	8.0E+07	1.8E+09	1.6E+09	3.6E+07	2.1E+07	3.2E+07
3	1.3E+08	7.5E+08	2.2E+08	1.4E+08	6.7E+07	4.0E+07	4.1E+08	1.9E+09	1.7E+09	2.3E+07	3.0E+07	3.8E+07
4	1.4E+08	9.6E+08	2.5E+08	1.1E+08	8.6E+07	4.1E+07	6.5E+08	2.0E+09	8.9E+08	2.6E+07	2.7E+07	2.7E+07
5	1.8E+08	5.3E+08	2.9E+08	2.1E+07	1.4E+07	4.2E+06	9.7E+08	3.6E+08	1.7E+07	4.2E+07	3.1E+07	6.6E+06
6	4.3E+07	4.9E+08	3.2E+08	2.2E+07	---	2.3E+07	9.1E+08	5.1E+07	3.6E+07	1.5E+08	1.1E+07	4.2E+06
7	3.1E+07	2.7E+07	3.5E+08	2.3E+07	---	3.2E+08	7.6E+07	8.4E+07	2.5E+08	1.9E+08	2.1E+06	4.8E+06
8	2.9E+08	9.6E+07	3.9E+08	1.6E+07	---	5.6E+08	7.3E+07	3.8E+07	3.2E+08	1.9E+08	6.7E+06	5.4E+06
9	4.1E+08	1.5E+08	2.3E+08	1.4E+07	---	7.5E+08	8.1E+07	1.8E+06	4.0E+08	2.1E+08	1.5E+07	5.9E+06
10	6.6E+07	1.0E+08	1.7E+08	1.1E+07	---	7.9E+08	5.0E+06	1.4E+08	6.4E+08	1.9E+08	2.0E+07	4.7E+06
11	2.6E+07	8.2E+07	1.6E+08	1.5E+07	---	7.7E+08	1.1E+08	2.5E+08	6.2E+08	1.0E+08	1.6E+07	2.0E+06
12	7.5E+07	3.9E+07	3.1E+07	2.0E+07	---	5.5E+08	2.2E+08	4.1E+08	3.4E+08	9.4E+07	1.8E+07	4.3E+06
13	1.0E+08	5.6E+07	5.0E+06	2.9E+06	---	1.2E+07	2.7E+08	6.0E+08	3.6E+08	5.2E+07	1.6E+07	7.8E+07
14	1.1E+08	2.1E+07	2.1E+06	6.1E+06	---	3.5E+07	2.2E+08	4.9E+08	3.4E+08	5.0E+07	1.2E+07	3.2E+08
15	2.8E+07	3.0E+06	2.2E+06	9.4E+06	---	1.4E+08	2.1E+08	4.2E+08	3.6E+08	4.3E+07	1.3E+07	4.4E+08
16	1.9E+07	3.8E+06	3.9E+06	2.0E+07	---	2.3E+08	3.0E+08	4.3E+08	9.4E+06	2.2E+07	9.6E+07	4.5E+08
17	1.7E+07	7.2E+06	3.3E+06	2.7E+07	1.7E+06	2.9E+08	3.7E+08	4.0E+08	1.2E+07	2.8E+07	2.7E+08	4.2E+08
18	2.2E+07	8.8E+06	4.1E+06	3.3E+07	6.4E+07	1.5E+08	1.5E+08	1.4E+08	1.5E+07	2.9E+07	4.3E+08	4.2E+08
19	2.6E+07	9.3E+06	3.5E+06	5.2E+07	3.2E+08	2.8E+08	7.6E+07	1.2E+08	2.7E+07	5.6E+06	4.8E+08	4.5E+08
20	2.3E+07	8.8E+06	8.9E+07	3.3E+06	3.9E+08	2.3E+08	1.2E+08	4.0E+07	3.0E+07	3.1E+06	3.7E+07	3.9E+08
21	7.7E+06	9.8E+05	8.7E+07	2.6E+07	2.1E+08	2.6E+08	1.1E+08	3.6E+07	2.1E+07	3.0E+06	4.3E+07	6.4E+07
22	6.2E+06	1.3E+06	9.9E+07	1.5E+08	3.4E+08	3.2E+08	1.0E+08	4.1E+07	2.5E+07	2.3E+07	6.0E+07	2.2E+07
23	4.8E+06	2.2E+07	4.7E+07	3.0E+07	3.4E+08	3.3E+08	1.2E+08	2.8E+07	1.3E+07	5.0E+07	7.3E+07	4.5E+07
24	6.5E+06	1.6E+08	4.3E+07	1.3E+08	3.7E+08	1.8E+08	1.3E+08	3.0E+07	3.0E+08	7.0E+07	8.3E+07	4.0E+08
25	2.5E+06	2.0E+08	2.6E+07	1.3E+08	3.3E+08	5.4E+07	1.2E+08	6.0E+07	7.8E+08	1.4E+08	1.4E+06	6.4E+08
26	1.1E+06	1.9E+08	2.2E+07	2.7E+08	3.0E+08	5.8E+07	1.0E+08	6.6E+06	1.1E+09	1.3E+08	4.8E+06	3.5E+08
27	1.5E+06	1.8E+08	2.3E+08	2.8E+08	4.6E+07	7.3E+07	7.1E+07	5.7E+07	5.0E+08	1.2E+08	3.6E+07	2.5E+08
28	7.9E+07	7.5E+06	5.7E+08	2.5E+08	4.2E+07	6.2E+07	4.4E+06	1.2E+09	3.7E+08	6.4E+06	3.8E+07	1.9E+07
29	1.1E+08	7.1E+07	6.2E+08	2.2E+08	7.1E+07	4.3E+07	1.1E+08	1.8E+09	2.3E+08	1.1E+07	4.2E+07	3.1E+07
30	1.0E+08	6.1E+08	1.0E+08	1.9E+08	7.6E+07	4.5E+07		1.5E+09	2.5E+08	9.1E+06	1.8E+07	3.2E+07
31	1.2E+08		1.9E+08		6.1E+07	5.7E+07		1.8E+09		1.3E+07		3.4E+07

NOTE: The electron detector responds significantly to protons above 32 MeV; therefore, electron data are contaminated when a proton event is in progress. These days are indicated with '-999' in the table and are not plotted. '-' indicates data not available.

NOTE: GOES9 data began April, 1996 and ended on 26 July, 1998. GOES12 is primary satellite as of 15 May 2003.

CONTENTS

Prompt Reports

Number 768 Part I

DATA FOR JUNE 2008

	Page
SOLAR ACTIVE REGIONS	
Solar Synoptic Charts	34- 39
Daily Activity Solar Maps	40- 69
Preliminary NSO/KP Coronal Hole Daily Maps -- none available	
Nobeyama Daily Radioheliograph Images at 17 GHz	70- 74
Sunspot Groups	75- 76
 SUDDEN IONOSPHERIC DISTURBANCES	 77
 SOLAR RADIO SPECTRAL OBSERVATIONS	 78- 80
 SOLAR RADIOHELIOGRAPH – 150.9 AND 327 MHz - NANCAY	 81
 COSMIC RAY MEASUREMENTS BY NEUTRON MONITOR	
Daily Counting Rates	82
Chart of Variations	83- 84
Graph and Table of Monthly Mean Kiel 1958 – June 2008	85
 GEOMAGNETIC INDICES	
Geomagnetic Activity Indices	86
Daily Average Ap	87
Chart of Kp by 27-day Rotation	88
Table of Monthly aa Index (1950 to present)	89
Chart of 3-hourly Km and aa by 27-day Rotation	90
 Provisional Values of Hourly Equatorial Dst	 91
Polar Cap (PC) Geomagnetic Index Plot of 15-min values – Thule	92
-- Plot of 1-min values – Vostok -- No data – Antarctic station inaccessible.	
 Principal Magnetic Storms	 93
Sudden Commencements/Solar Flare Effects	94

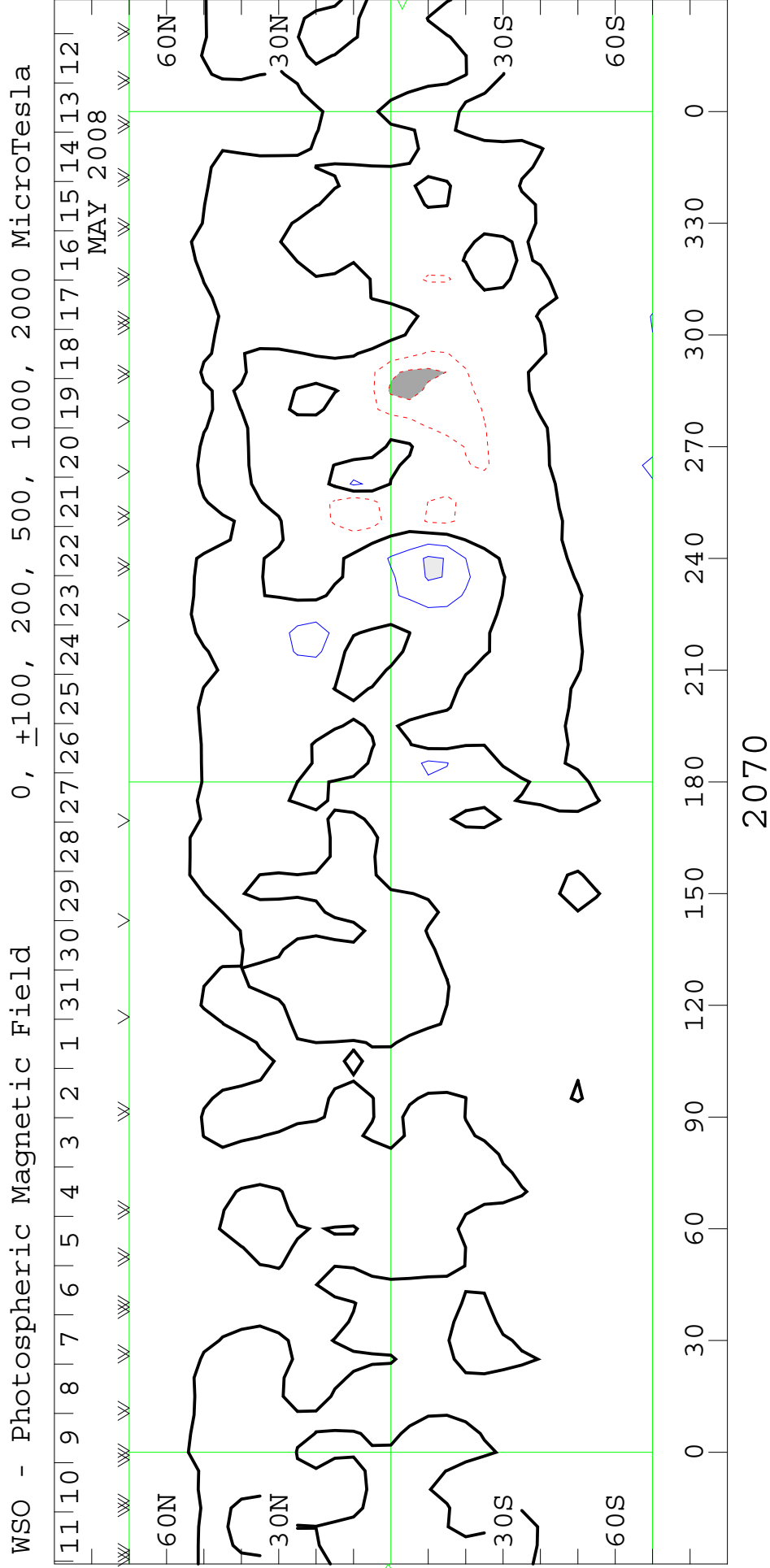
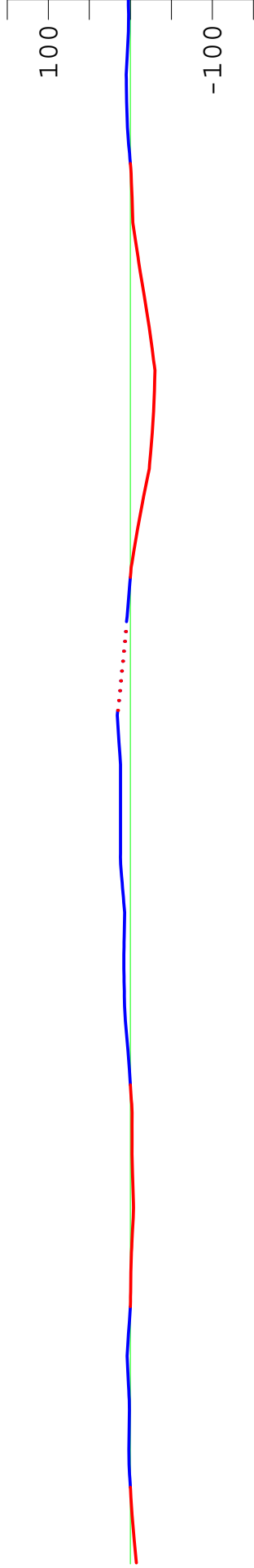
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2070

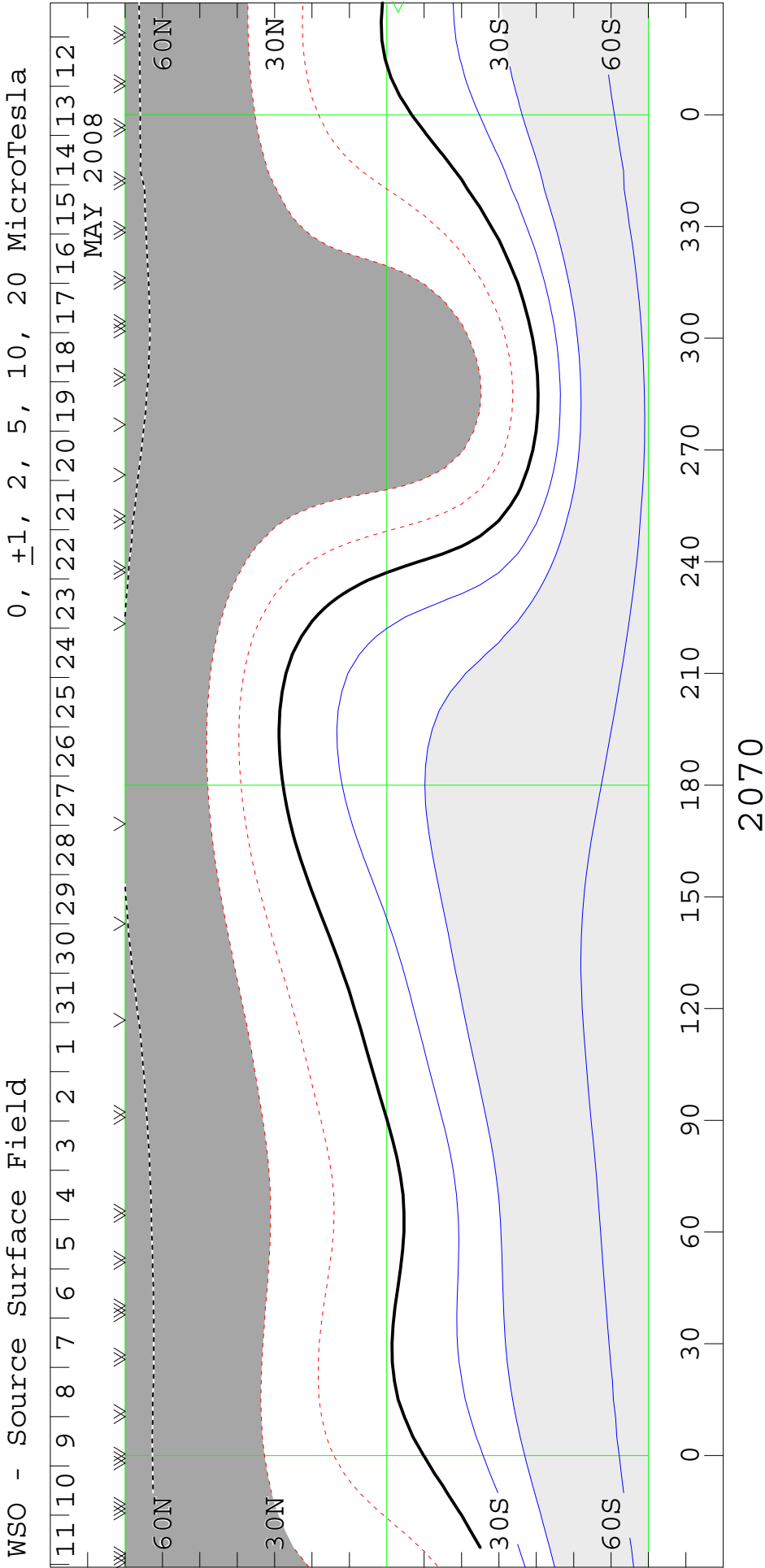
(13 May 2008 to 9 Jun 2008)

Wilcox Solar Observatory

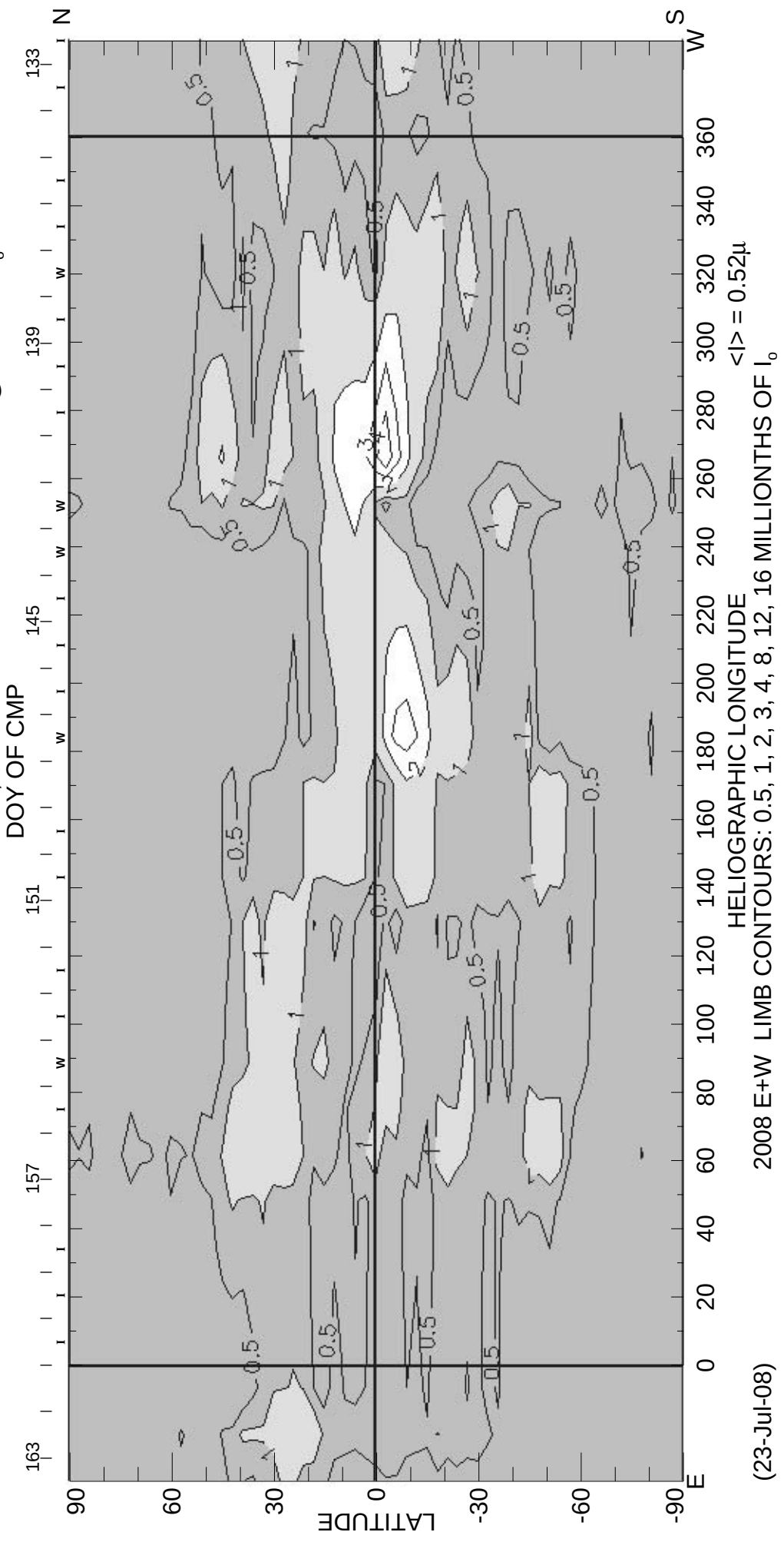
Mean Field



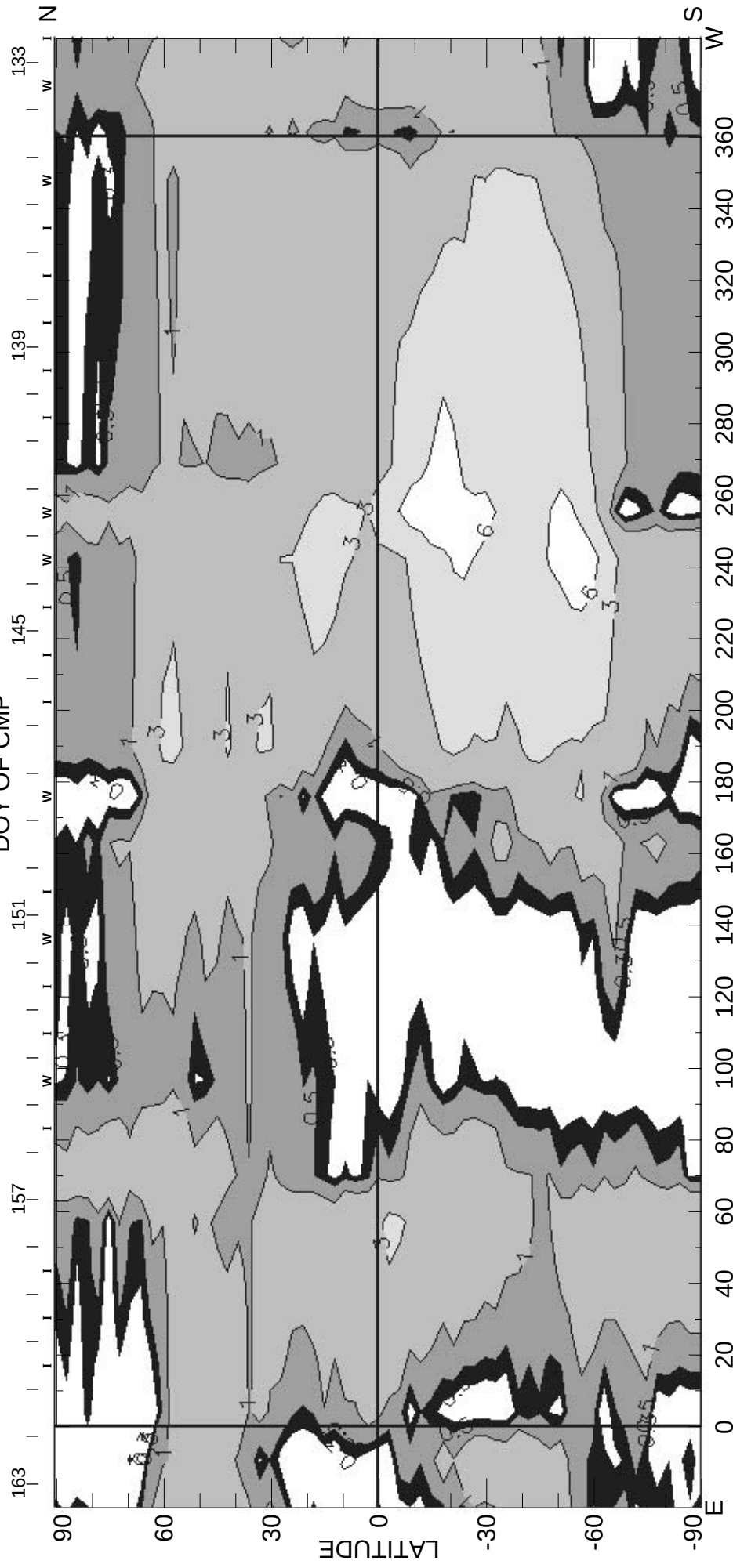
SOLAR MAGNETIC FIELD SYNOPSIS CHART
SOURCE SURFACE FIELD
CARRINGTON ROTATION NUMBER 2070
(13 May 2008 to 9 Jun 2008)



CARRINGTON ROTATION NUMBER 2070 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15R_o



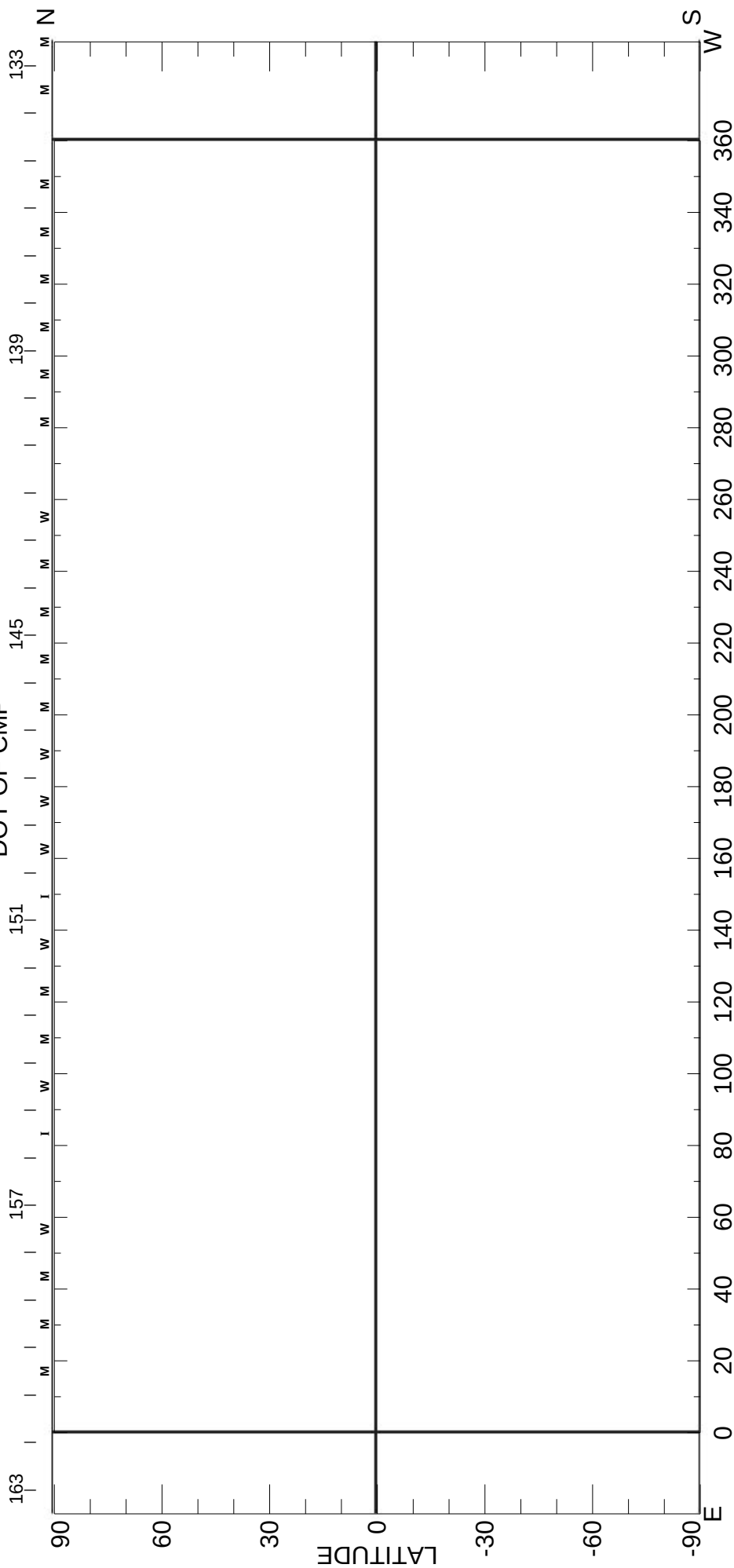
CARRINGTON ROTATION NUMBER 2070 ; NSO/SACRAMENTO PEAK FE XIV @ $R = 1.15R_{\odot}$
DOY OF CMP



(23-Jul-08) 2008 E+W LIMB CONTOURS: 0.3, 0.5, 1, 3, 6, 50, 60, 80, 120, 140, 160 MILLIONTHS OF $I_{\odot}$
CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK
 $\langle I \rangle = 1.41\mu$

CARRINGTON ROTATION NUMBER 2070 ; NSO/SACRAMENTO PEAK CA XV @ $R = 1.15R_{\odot}$

DOY OF CMP

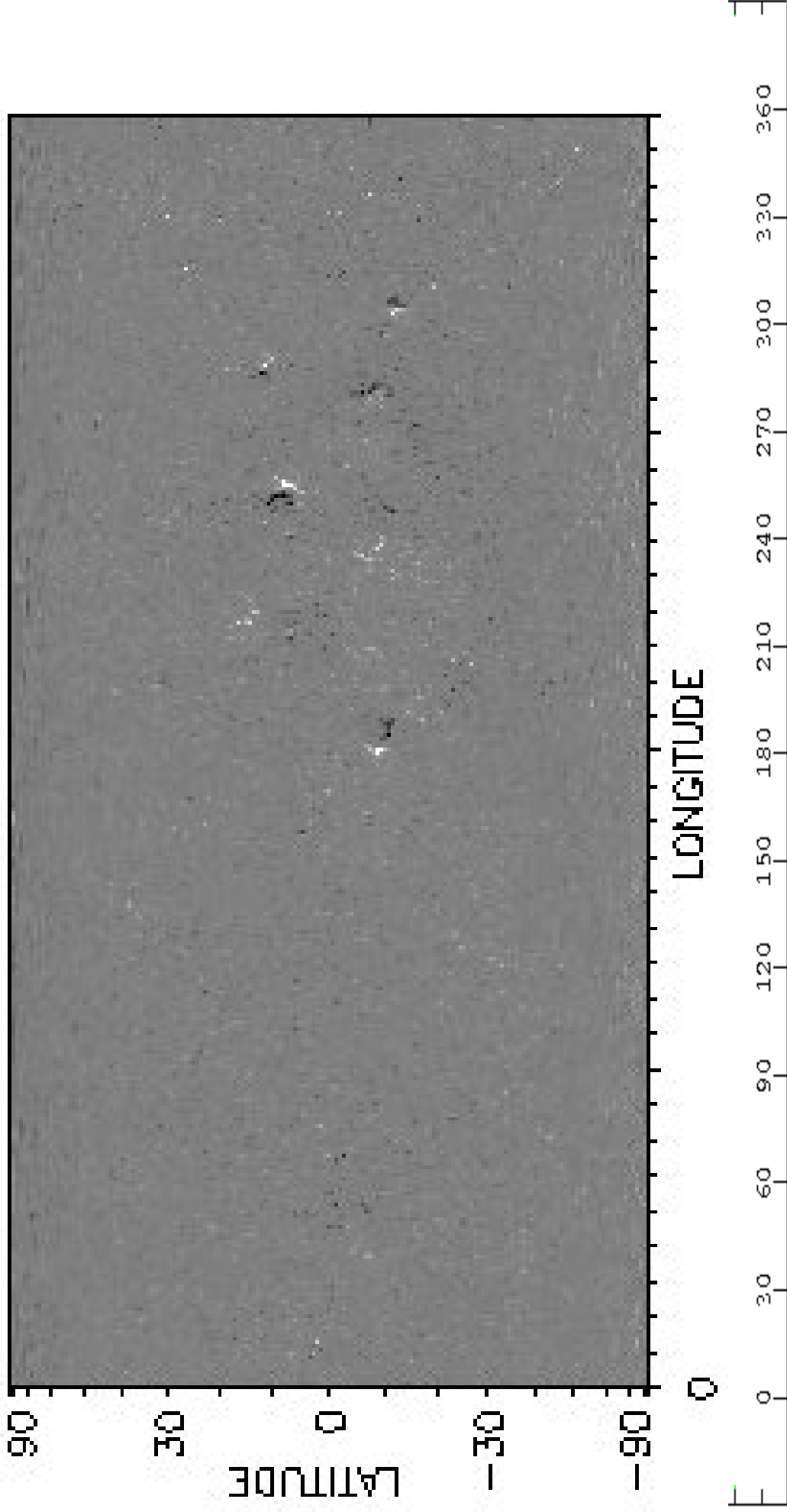


(23-Jul-08) 2008 E+W LIMB CONTOURS: 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF $I_{\odot}$

SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 2070
(13 May 2008 to 9 Jun 2008)

National Solar Observatory/Kitt Peak

NSO/VSM MAGNETIC FLUX SYNOPTIC MAP
CARRINGTON ROTATION 2070



Heliographic Longitude

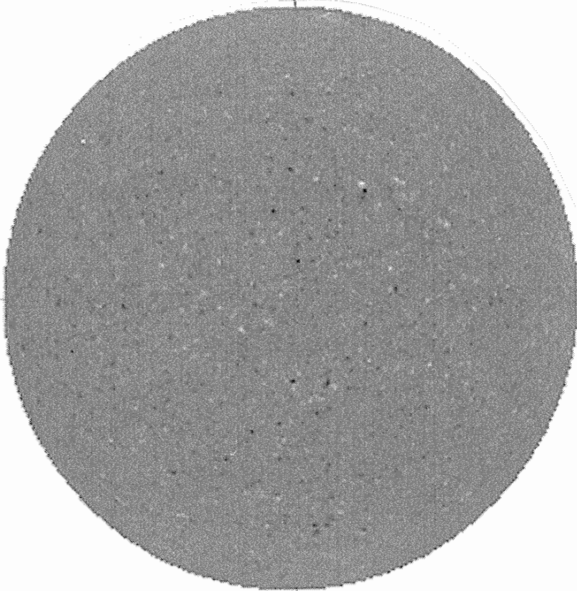
40
Jun 08

June 01, 2008 (P=-15.31, Bo=-0.63, Lo= 116.29)

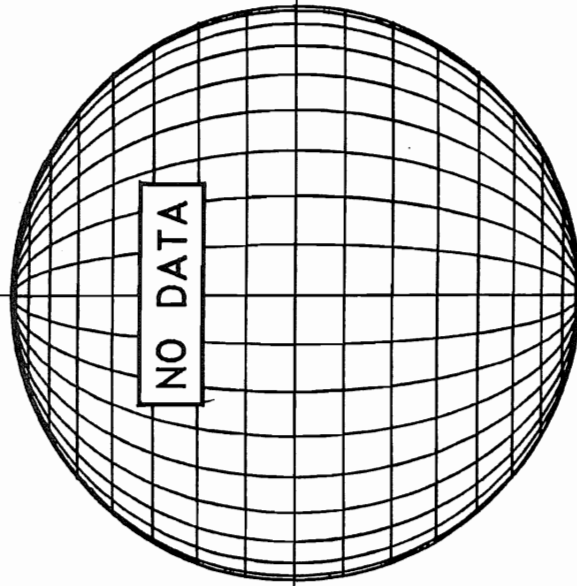
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

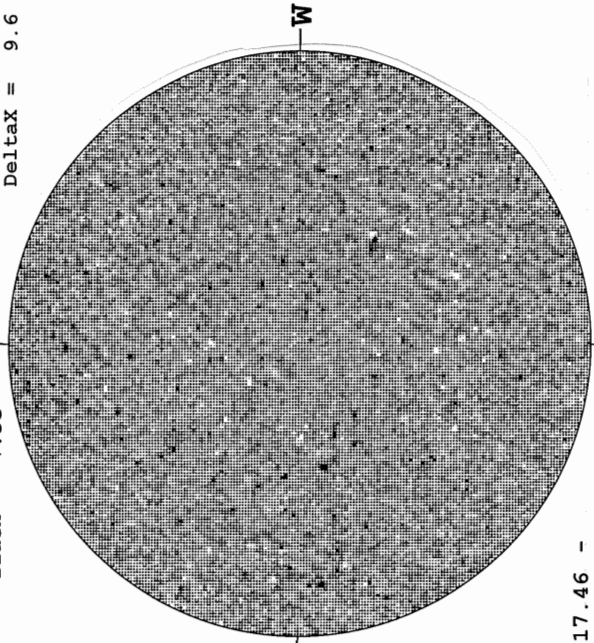
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
DeltaY = 13.1
DeltaX = 9.6



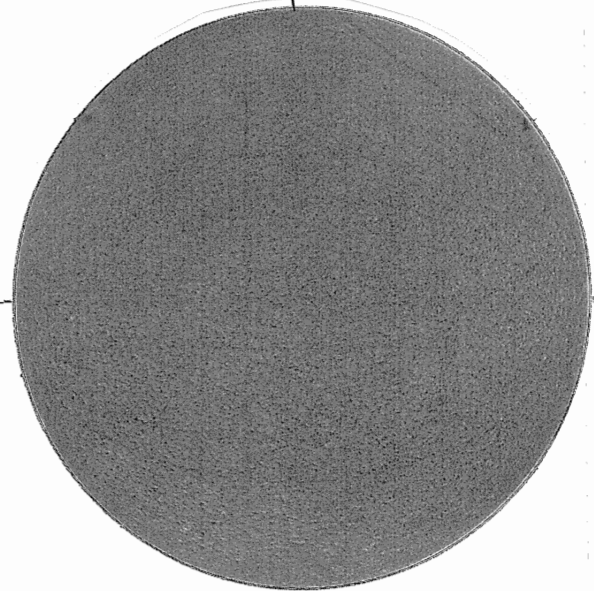
1906 UT



17.46 -
18.38 UT



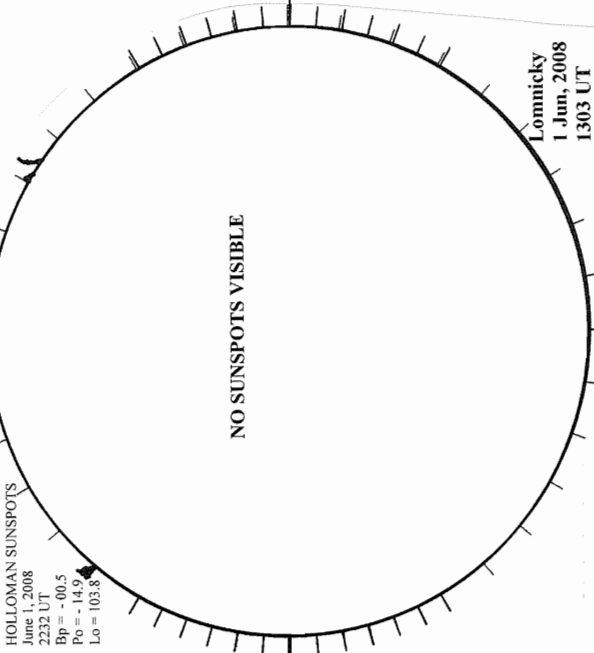
KANZELHOHE H-ALPHA



0612 UT

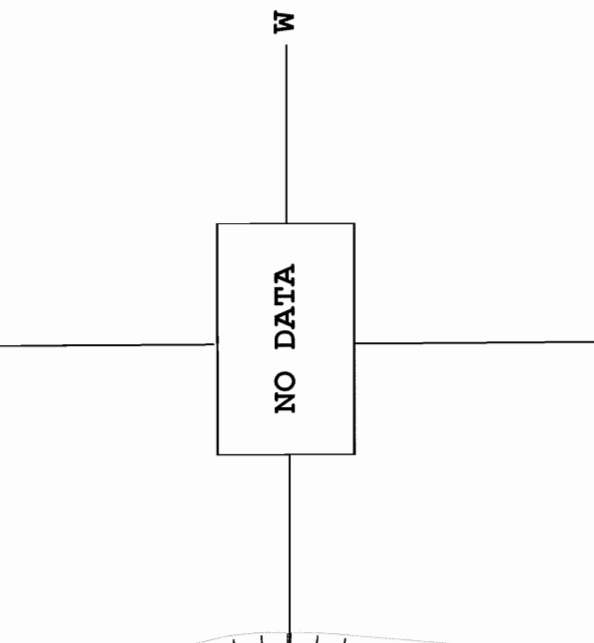
HOLLAND SUNSPOTS

June 1, 2008
2232 UT
Bp = -00.5
Po = -14.9
Lo = 103.8



2232 UT
1303 UT LOMN FROM

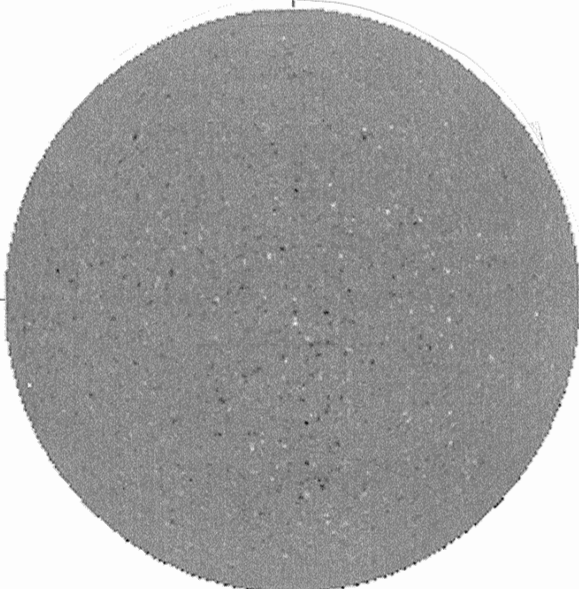
SACRAMENTO PEAK CORONA (1.15 Radii) -----



NO DATA

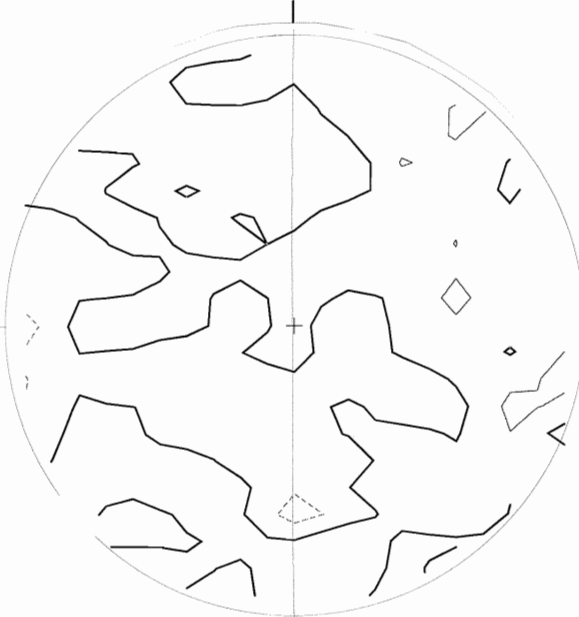
June 02, 2008 (P=-14.93, Bo=-0.51, Lo= 103.05)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N



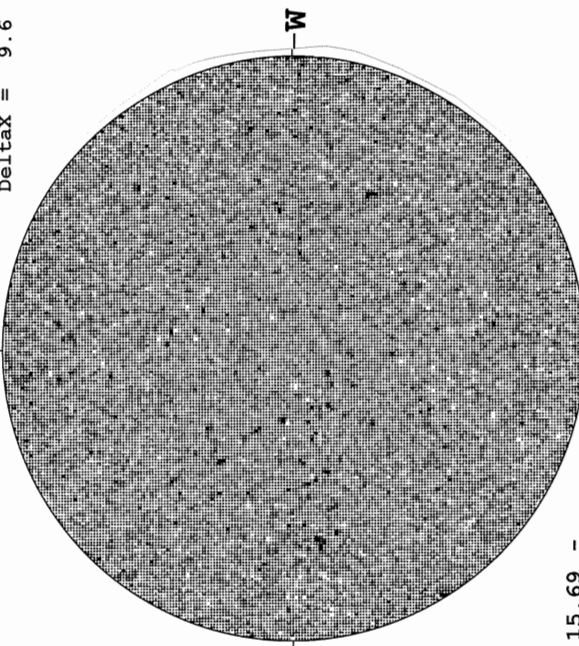
2000 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



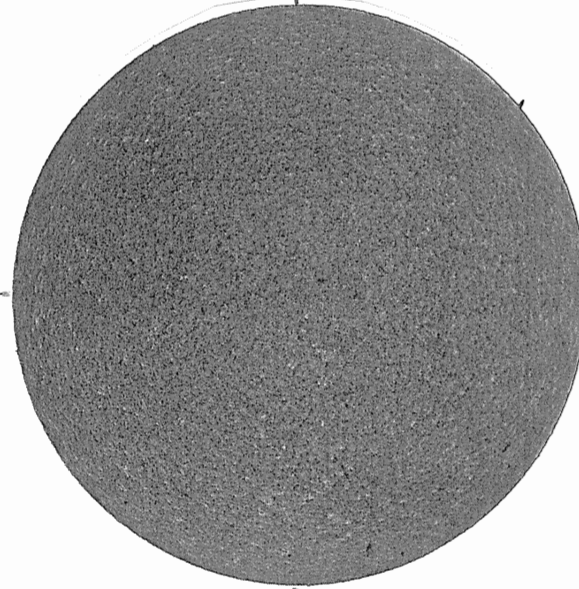
1939 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
DeltaY = 13.1
DeltaX = 9.6



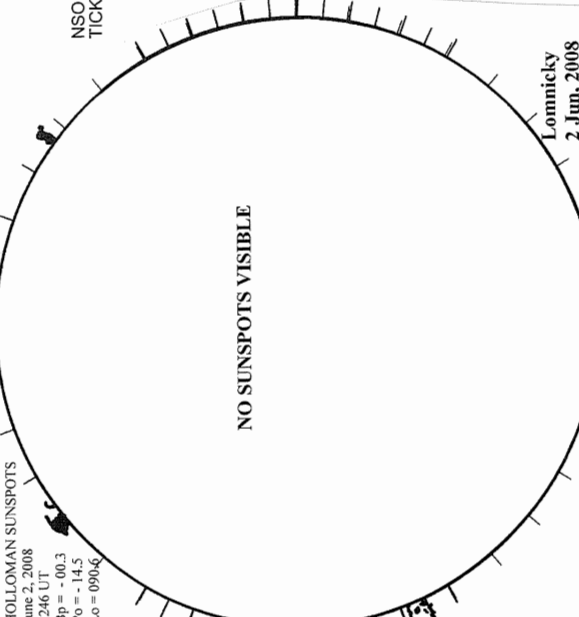
15.69 -
16.61 UT

BIG BEAR H-ALPHA



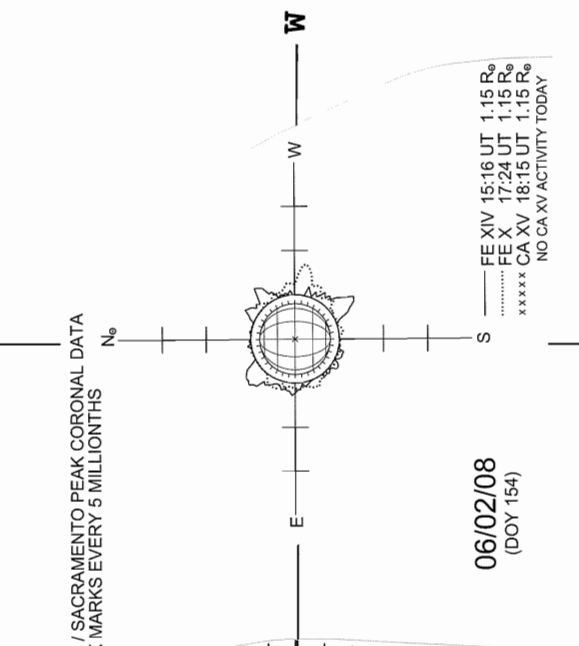
1545 UT

HOLLOMAN SUNSPOTS



2246 UT
0415 UT LOMN FROM

SACRAMENTO PEAK CORONA (1.15 Radii) -----



06/02/08
(DOY 154)

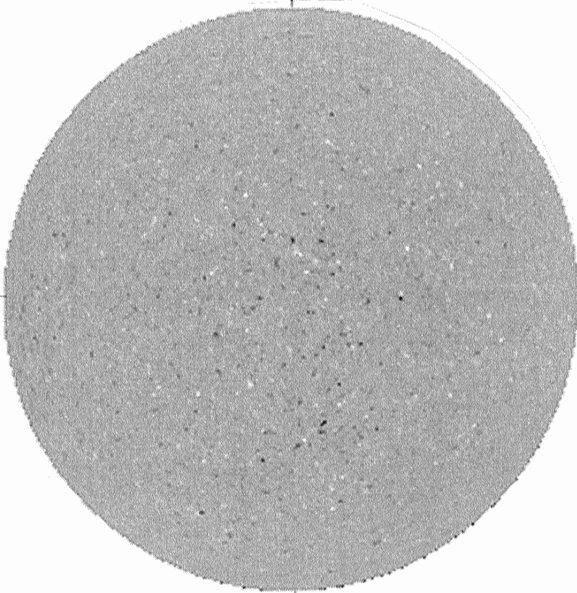
FE XIV 15:16 UT 1.15 R_o
FE X 17:24 UT 1.15 R_o
***** CA XV 18:15 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

41
Jun 08

42
Jun 08

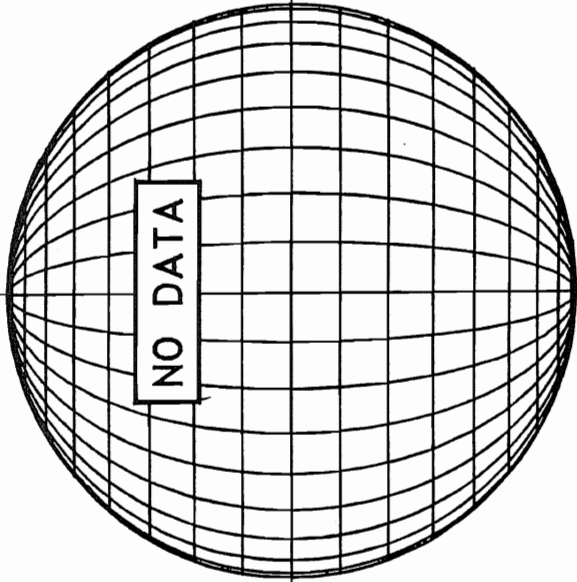
June 03, 2008 (P=-14.55, Bo=-0.39, Lo= 89.82)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N



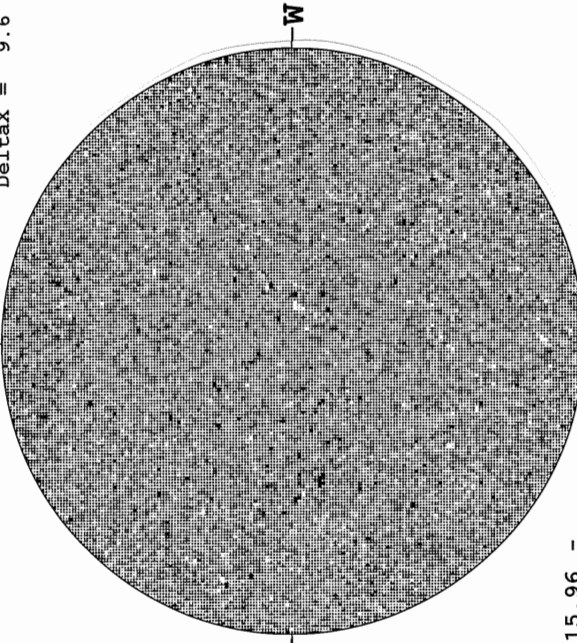
1938 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

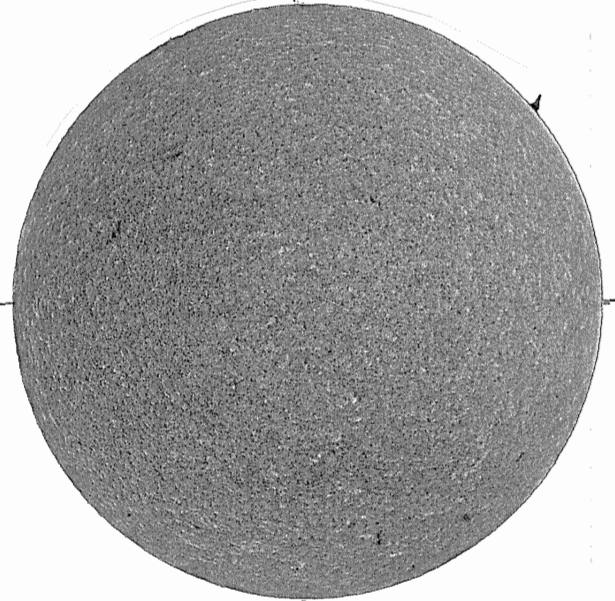


15.96 -
16.88 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6
N



BIG BEAR H-ALPHA

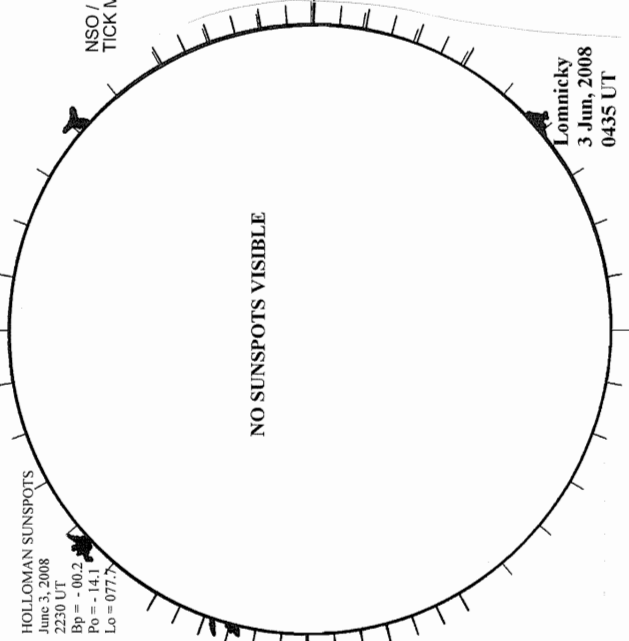


1523 UT

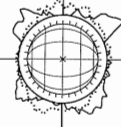
HOLLAND SUNSPOTS

HOLLAND SUNSPOTS
June 3, 2008
2230 UT
Bp = -00.2
Po = -14.1
Lo = 077.5

SACRAMENTO PEAK CORONA (1.15 Radii) -----



NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS



13/08
'155)

FE XIV 15:46 UT 1.15 R_o
FE X 14:29 UT 1.15 R_o
xxxxx CA XV 20:02 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

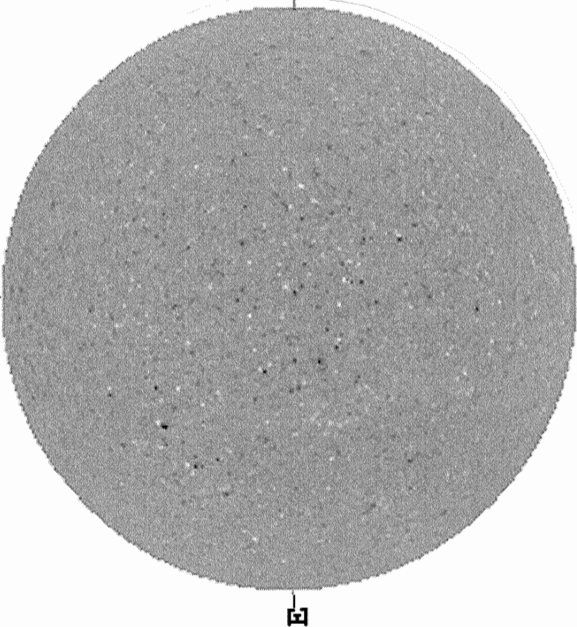
2230 UT
0435 UT LOMN FROM

June 04, 2008 (P=-14.16, Bo=-0.27, Lo= 76.58)

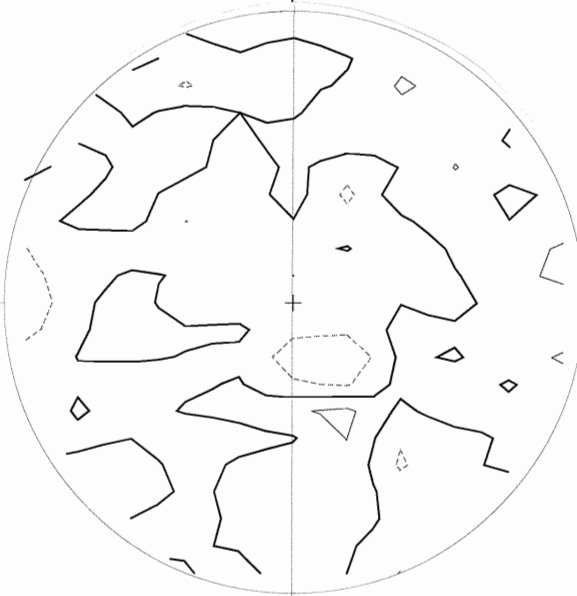
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

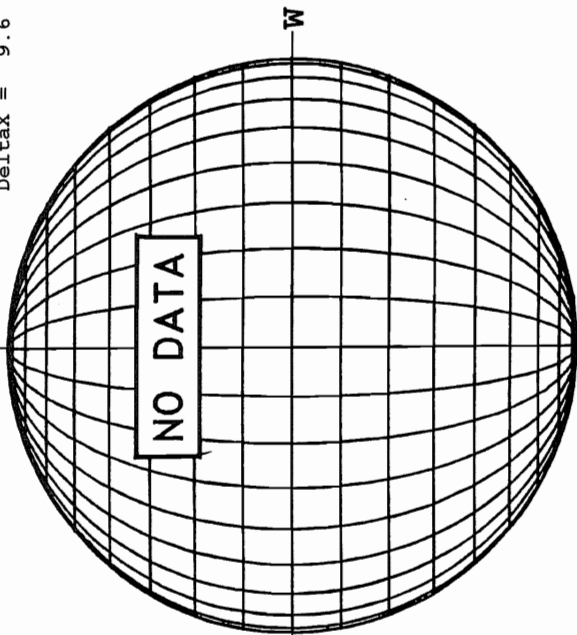
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G DeltaY = 13.1
DeltaX = 9.6



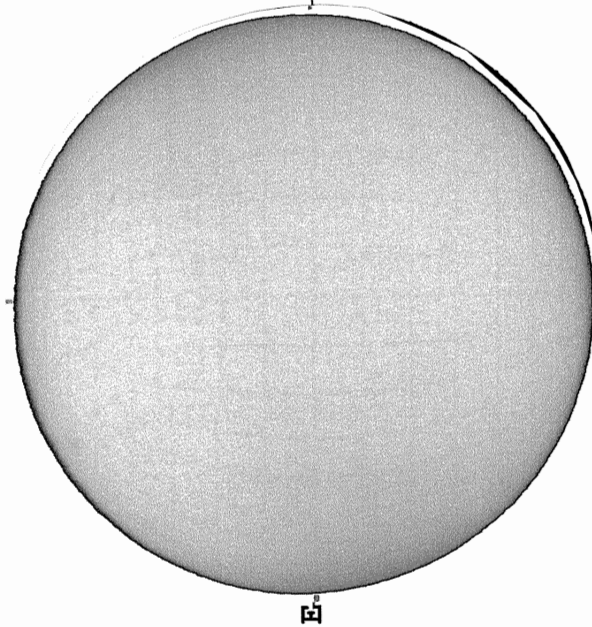
1832 UT



1948 UT



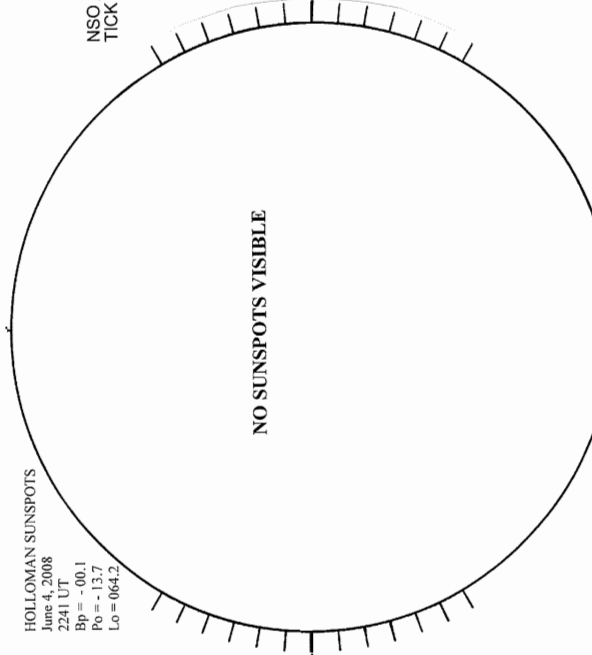
MEUDON H-ALPHA



1414 UT

HOLLOMAN SUNSPOTS

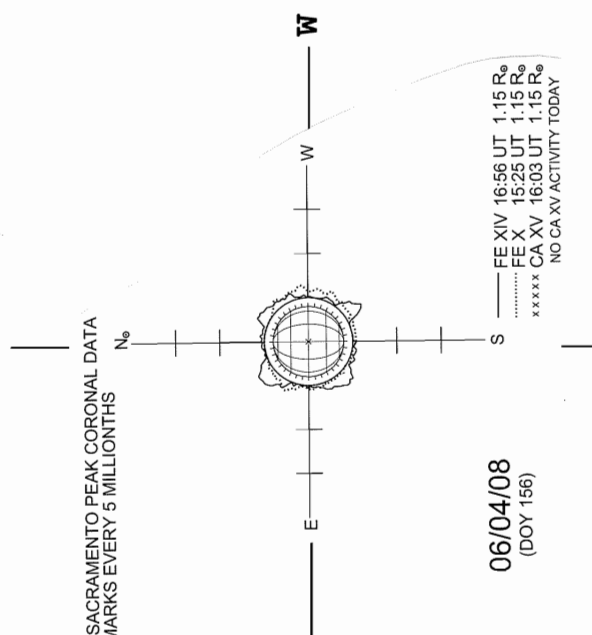
HOLLOMAN SUNSPOTS
June 4, 2008
2241 UT
Bp = -00.1
Po = -13.7
Lo = 064.2



2241 UT

SACRAMENTO PEAK CORONA (1.15 Radii) ----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS



06/04/08
(DOY 156)

FE XIV 16:56 UT 1.15 R_o
FE X 15:25 UT 1.15 R_o
CA XV 16:03 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

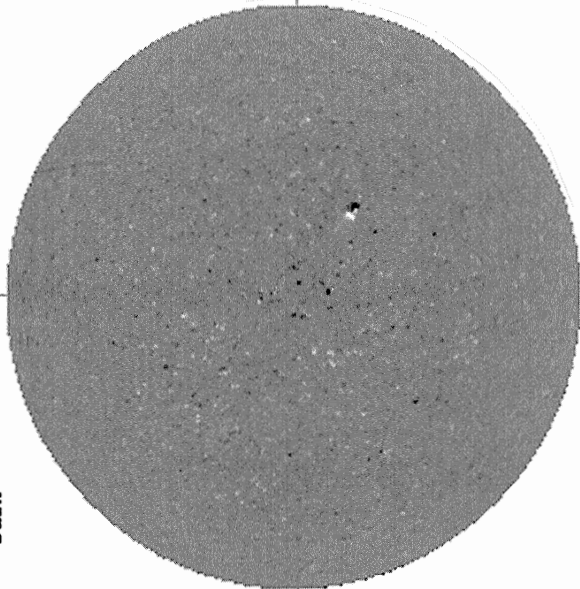
44
Jun 08

June 05, 2008 (P=-13.77, Bo=-0.15, Lo= 63.35)

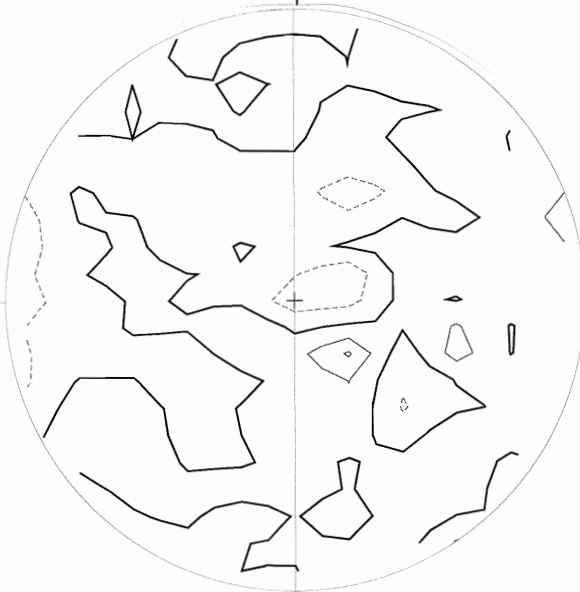
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

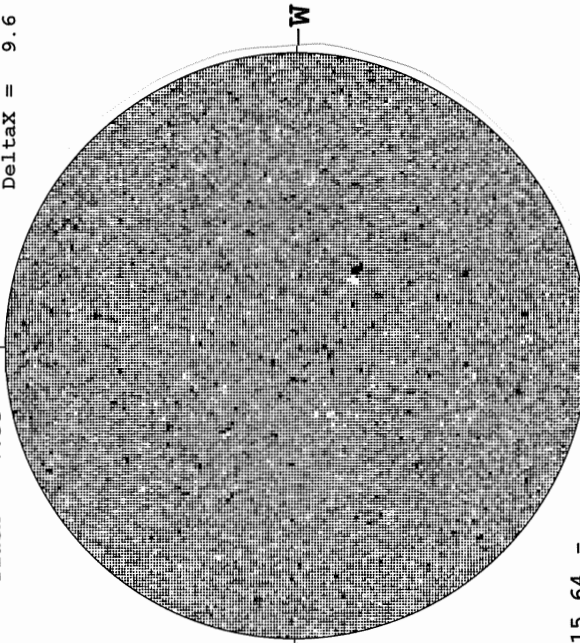
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



2014 UT

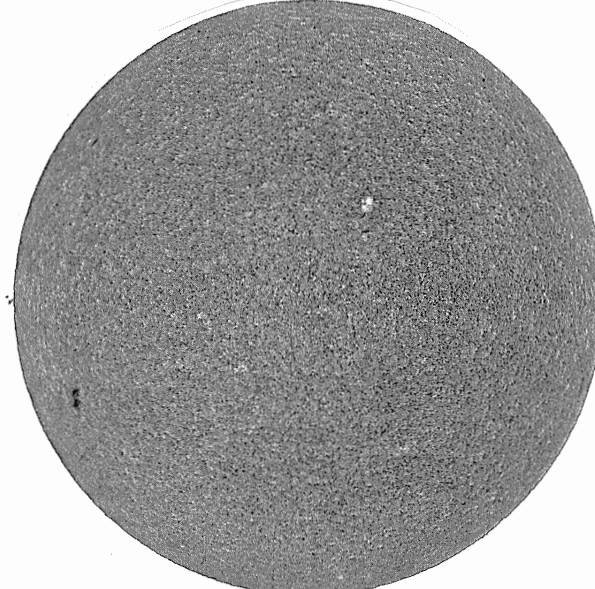


2054 UT



15.64 -
16.56 UT

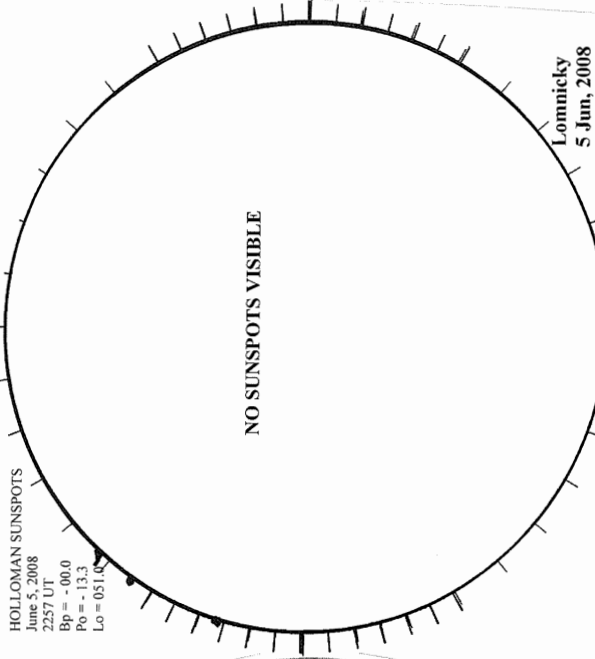
BIG BEAR H-ALPHA



2219 UT

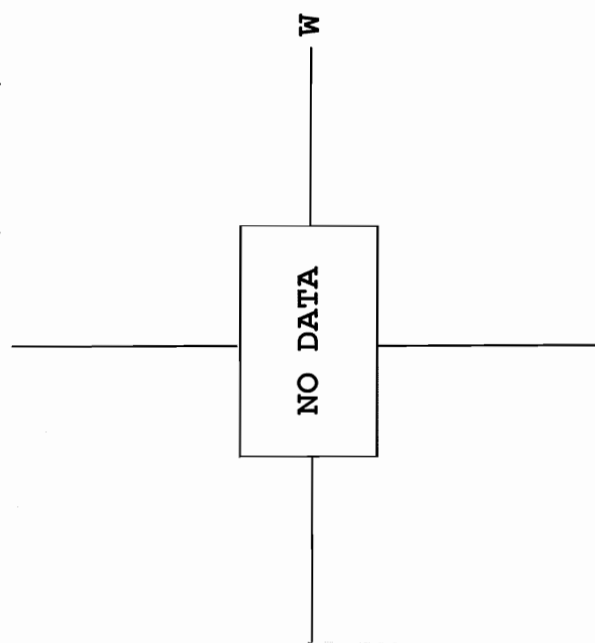
HOLLOMAN SUNSPOTS
June 5, 2008
2257 UT
Bp = -00.0
Po = -13.3
Lo = 051.0

HOLLOMAN SUNSPOTS



2257 UT
0445 UT LOMN FROM

SACRAMENTO PEAK CORONA (1.15 Radii) -----



NO DATA

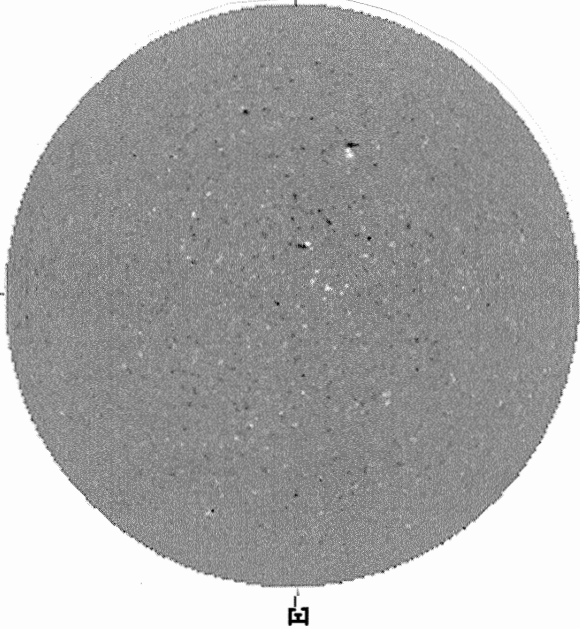
Lonnick
5 Jun, 2008
0445 UT

June 06, 2008 (P=-13.38, Bo=-0.03, Lo= 50.12)

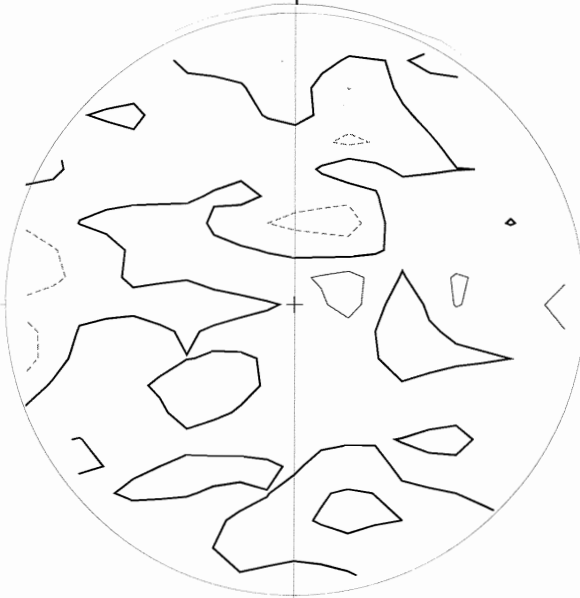
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

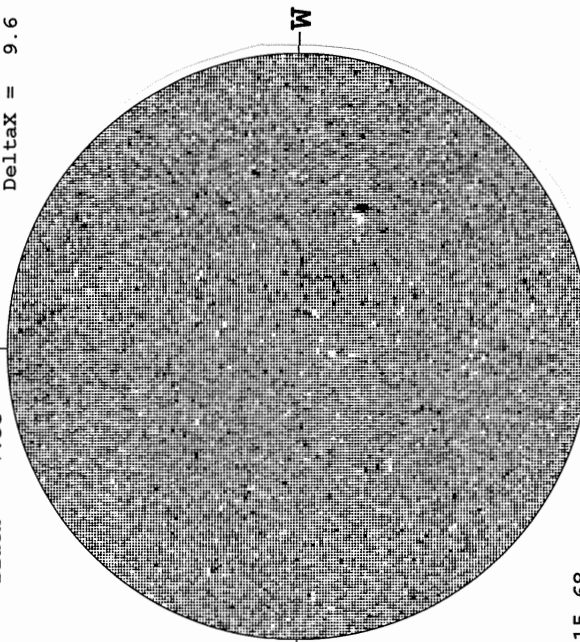
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



2014 UT

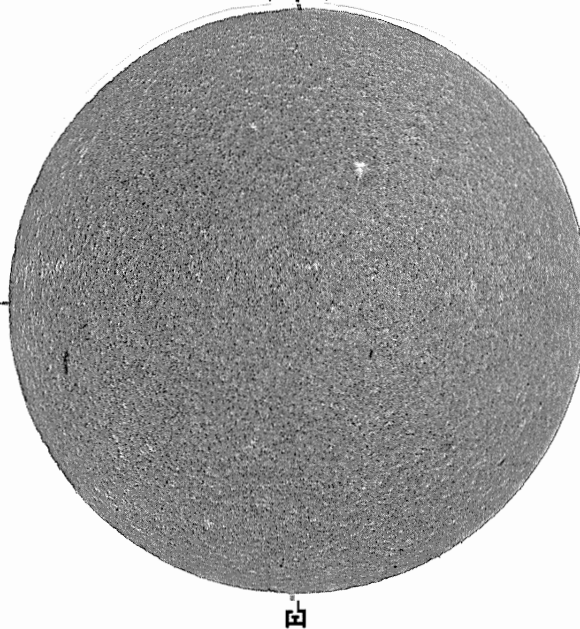


2224 UT



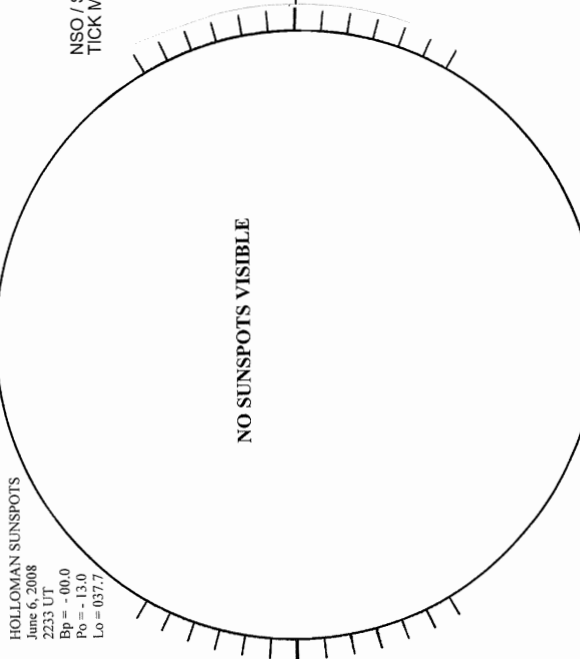
15.68 -
16.60 UT

BIG BEAR H-ALPHA



1529 UT

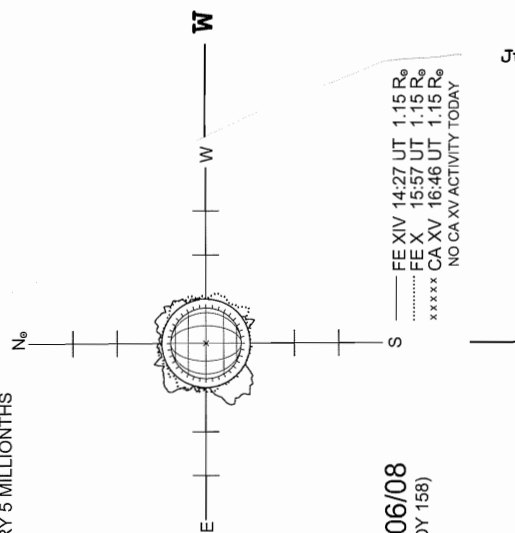
HOLLOMAN SUNSPOTS



2233 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS



06/06/08
(DOY 158)

FE XIV 14:27 UT 1.15R_o
FE X 15:57 UT 1.15R_o
CA XV 16:46 UT 1.15R_o
NO CA XV ACTIVITY TODAY

45
Jun 08

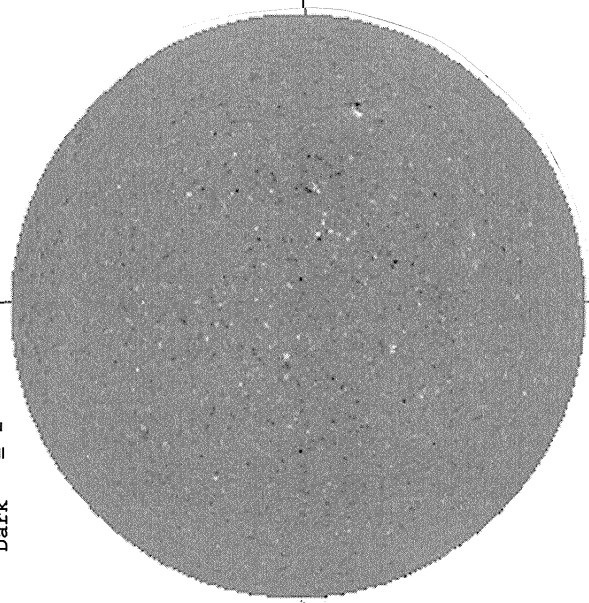
46
Jun 08

June 07, 2008 (P=-12.98, Bo= 0.10, Lo= 36.88)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = - -

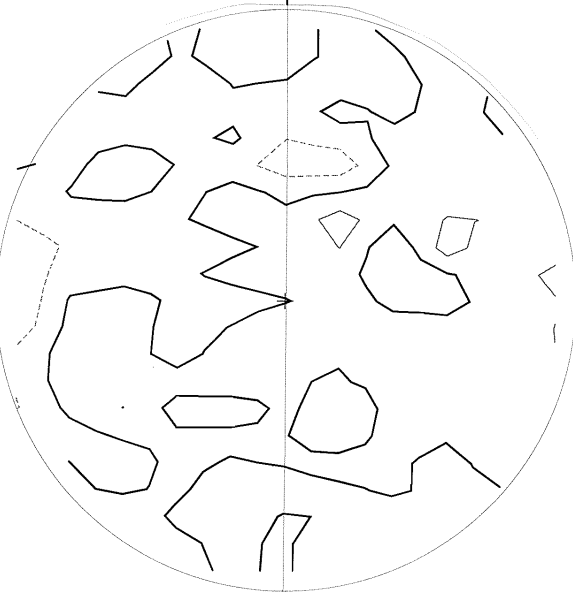
STANFORD MAGNETOGRAM
Solid = + N
Dashed = - -

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6

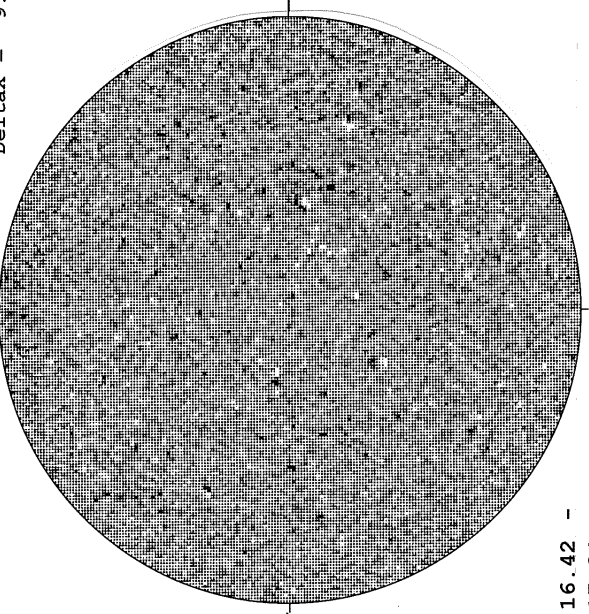


E

2001 UT



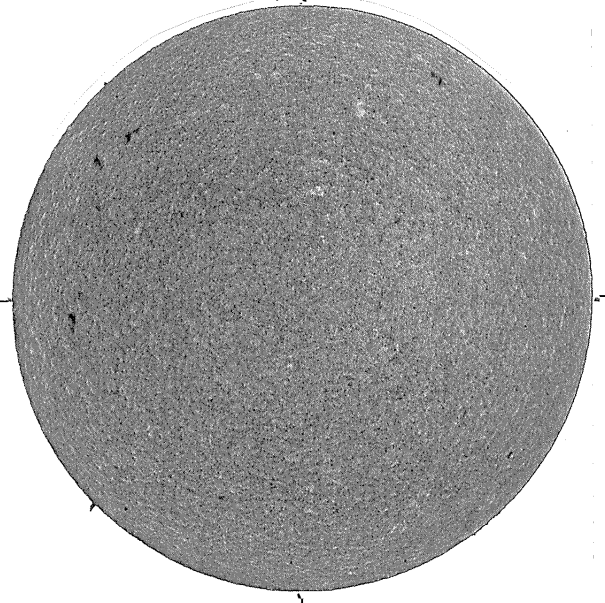
2006 UT



W

16.42 -
17.34 UT

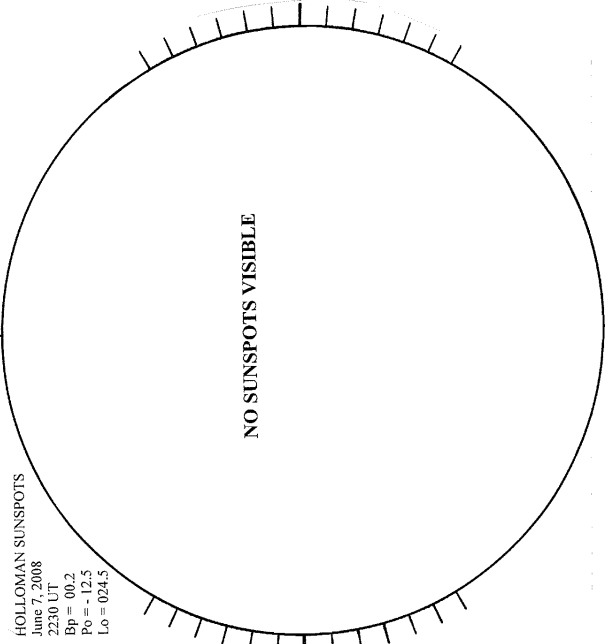
BIG BEAR H-ALPHA



E

1721 UT

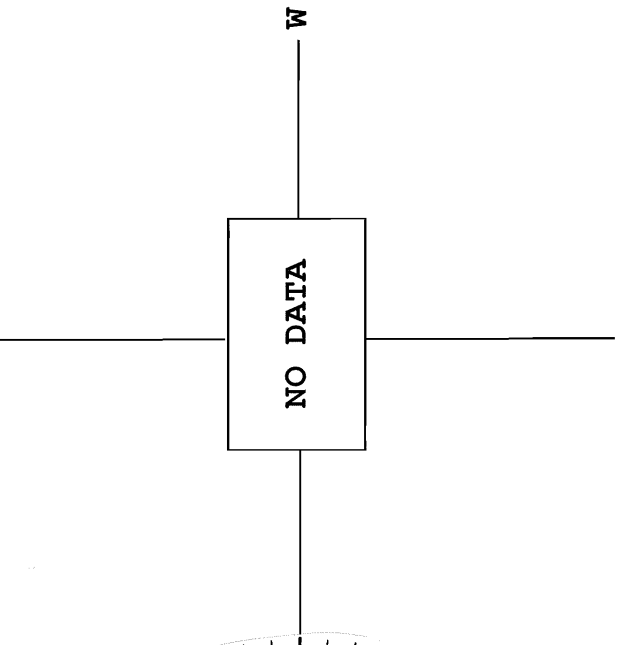
HOLLOMAN SUNSPOTS



S

2230 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----



W

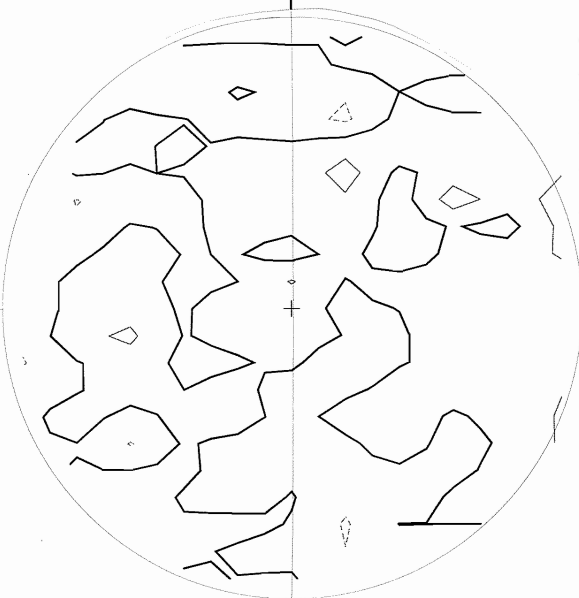
Jun 08, 2008 (P=-22.65, Bo=-3.41, Lo= 73.77)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N



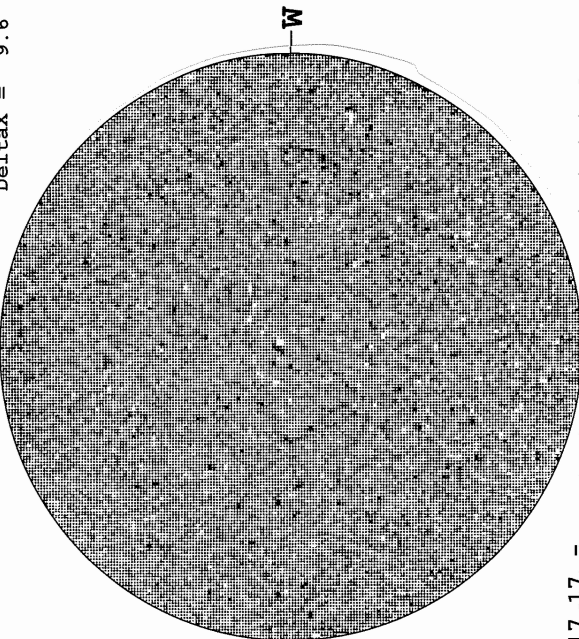
1808 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



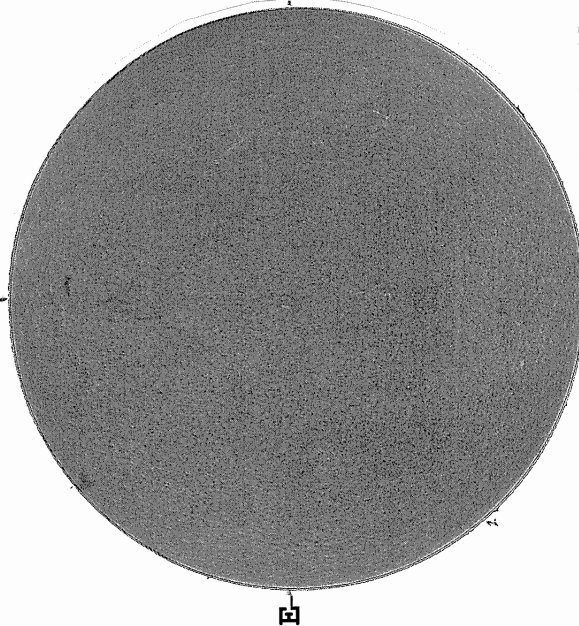
2123 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6
N



17.17 -
18.09 UT

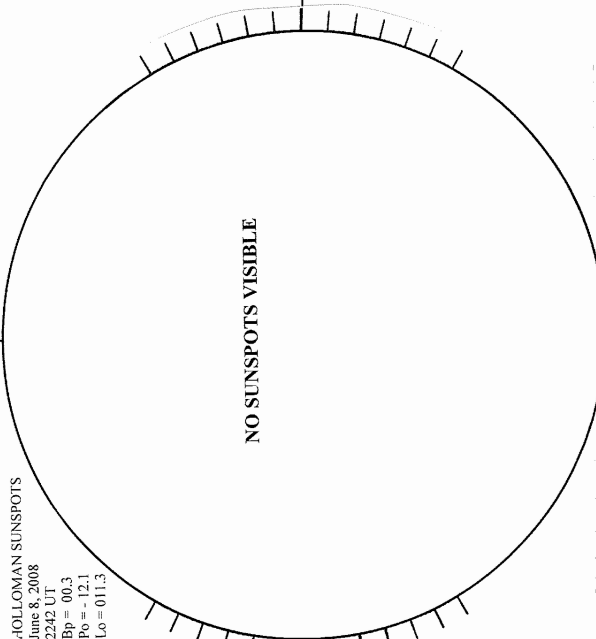
KANZELHOHE H-ALPHA



1349 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 8, 2008
2242 UT
Bp = 00.3
Ps = -12.1
Lo = 011.3



2242 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

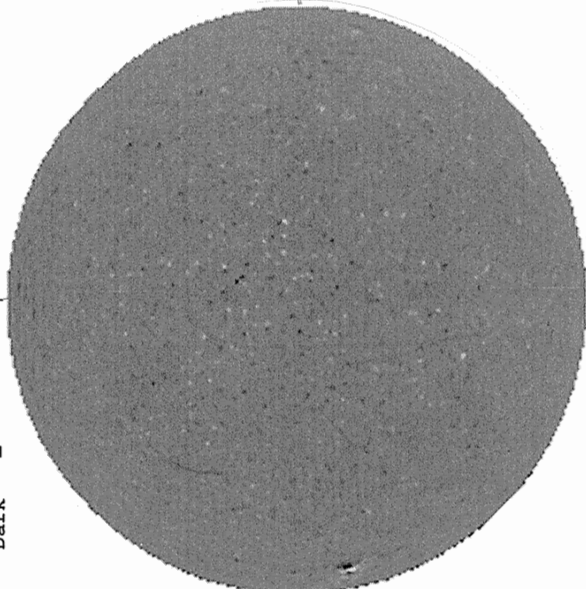
Jun 08 48

June 09, 2008 (P=-12.17, Bo= 0.34, Lo= 10.41)

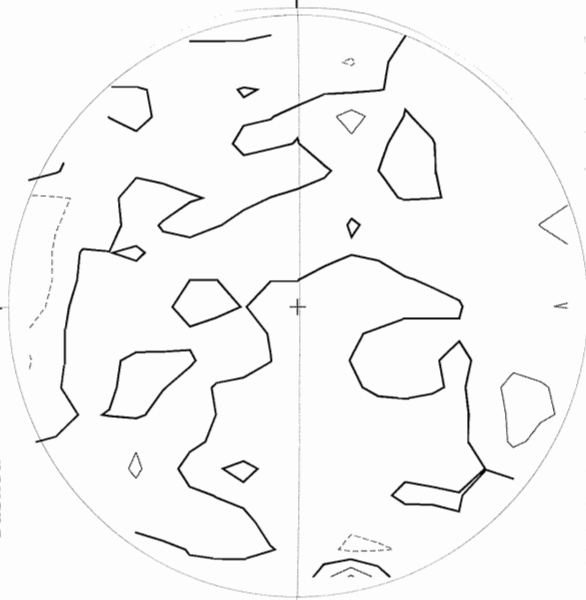
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

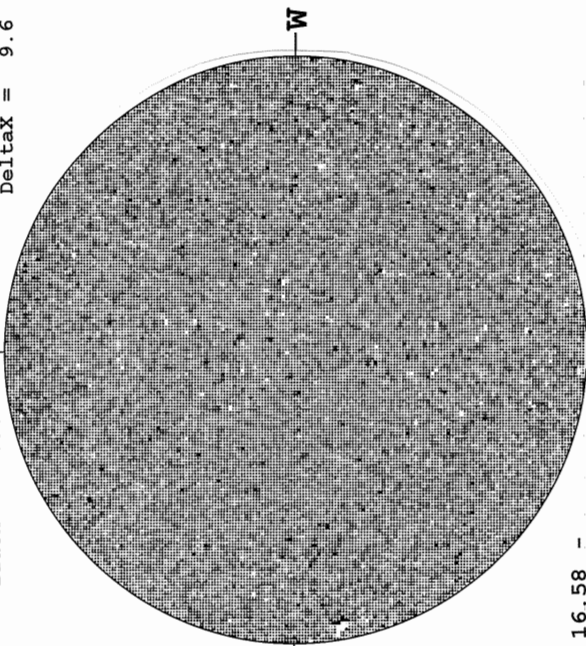
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
DeltaY = 13.1
DeltaX = 9.6



1930 UT



2022 UT

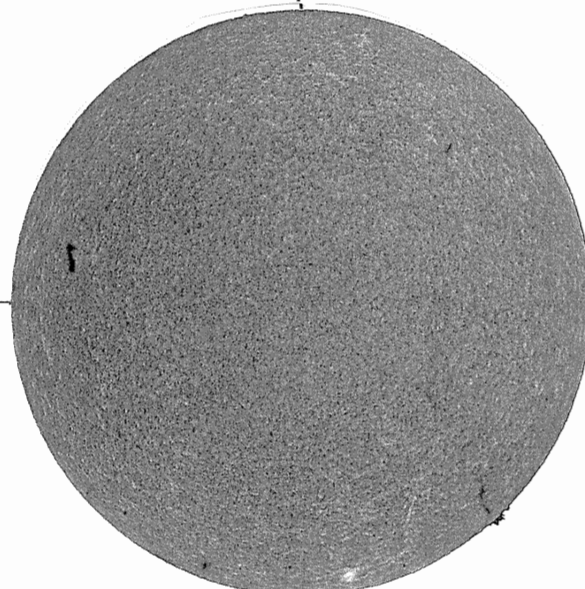


16.58 -
17.50 UT

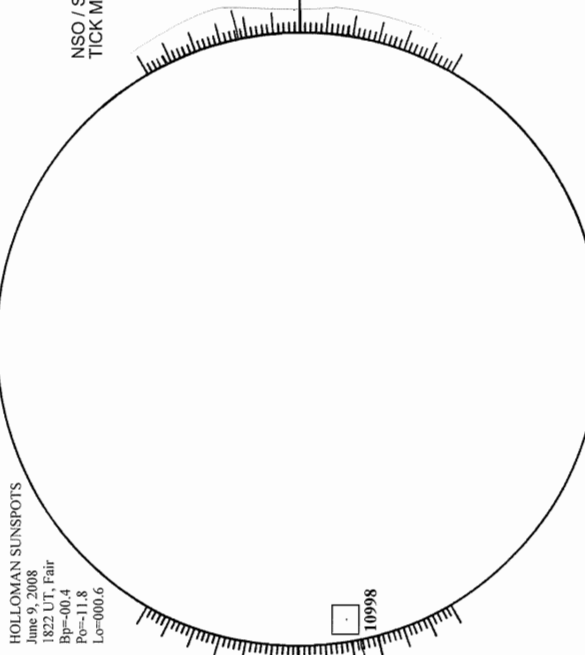
BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS

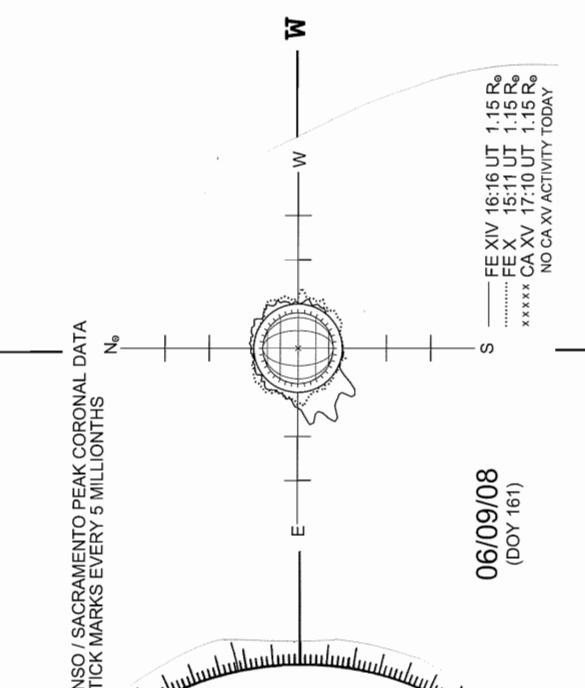
SACRAMENTO PEAK CORONA (1.15 Radii) ----



1532 UT



1822 UT

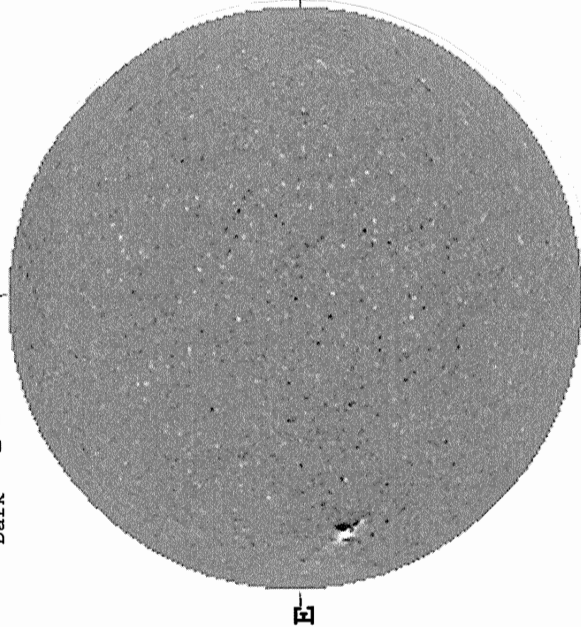


06/09/08
(DOY 161)

FE XIV 16:16 UT 1.15 R_o
FE X 15:11 UT 1.15 R_o
CA XV 17:10 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

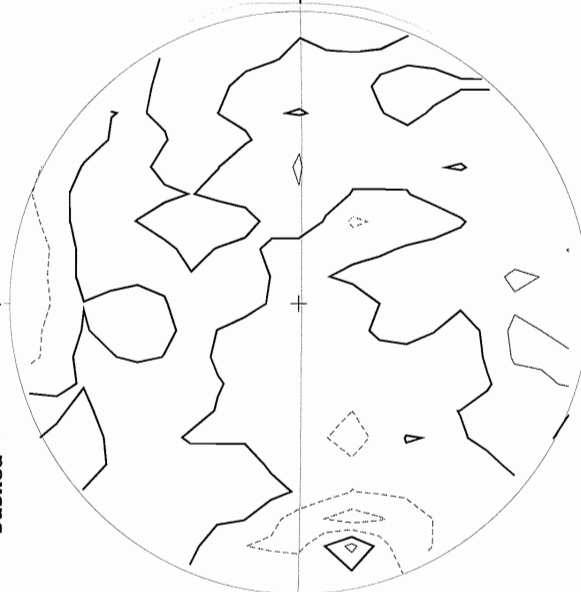
June 10, 2008 (P=-11.76, Bo= 0.46, Lo= 357.17)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -



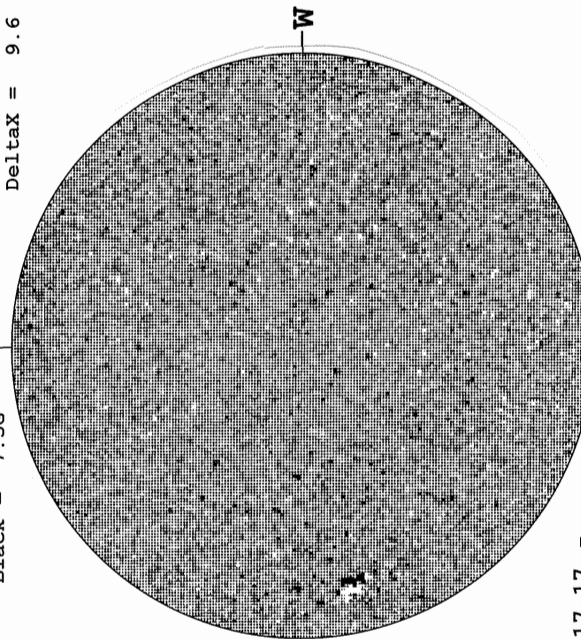
1900 UT

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



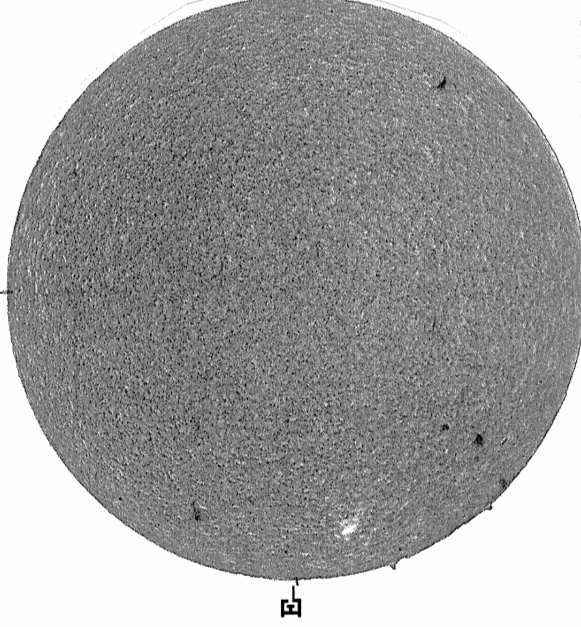
2047 UT

MT, WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



17.17 -
18.09 UT

BIG BEAR H-ALPHA

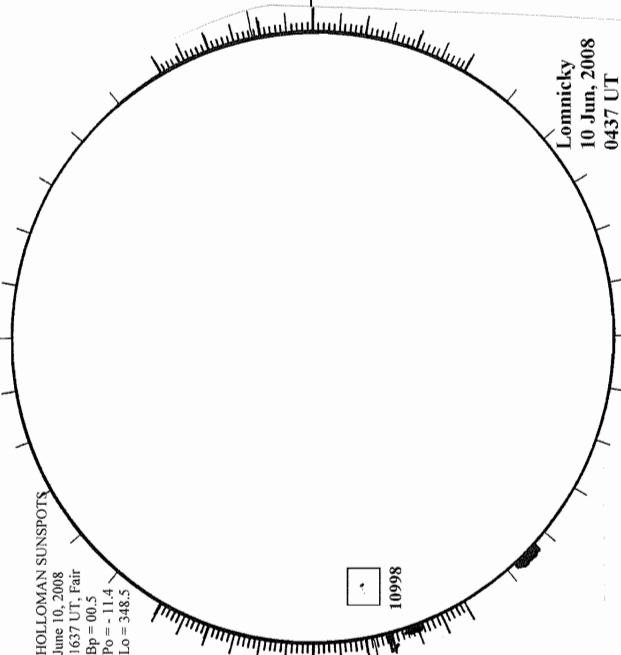


1528 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 10, 2008
1637 UT, Fair
Bp = 00.5
Po = -11.4
Lo = 348.5

SACRAMENTO PEAK CORONA (1.15 Radii) -----



1637 UT
0437 UT LOMN PROM

NO DATA

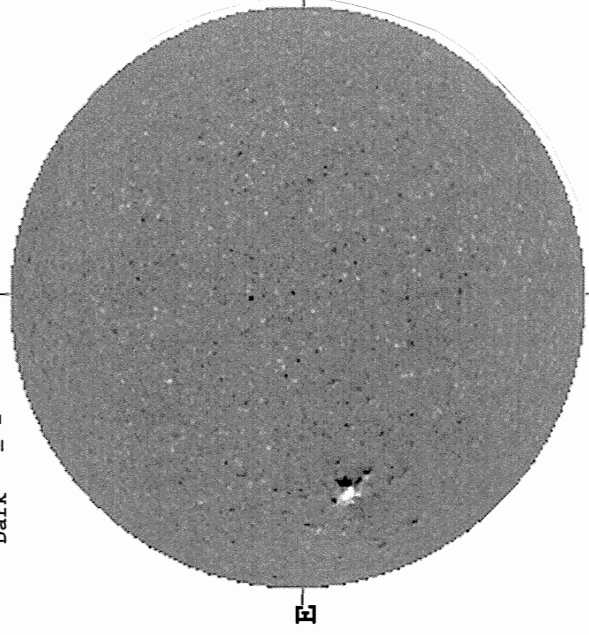
50
Jun 08

June 11, 2008 (P=-11.34, Bo= 0.58, Lo= 343.94)

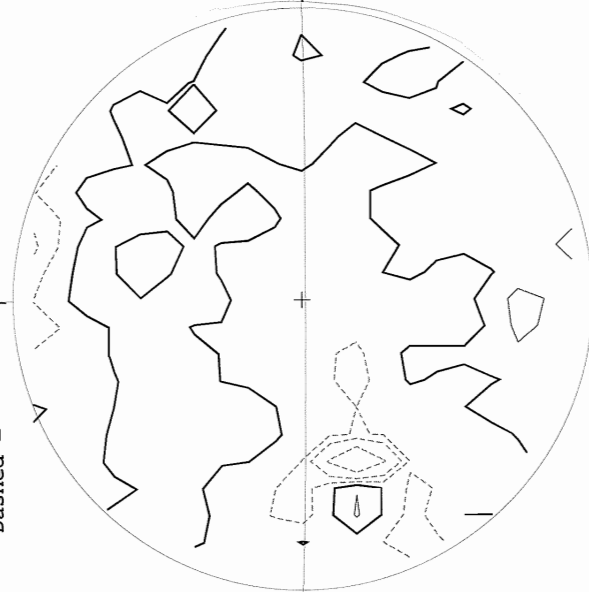
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

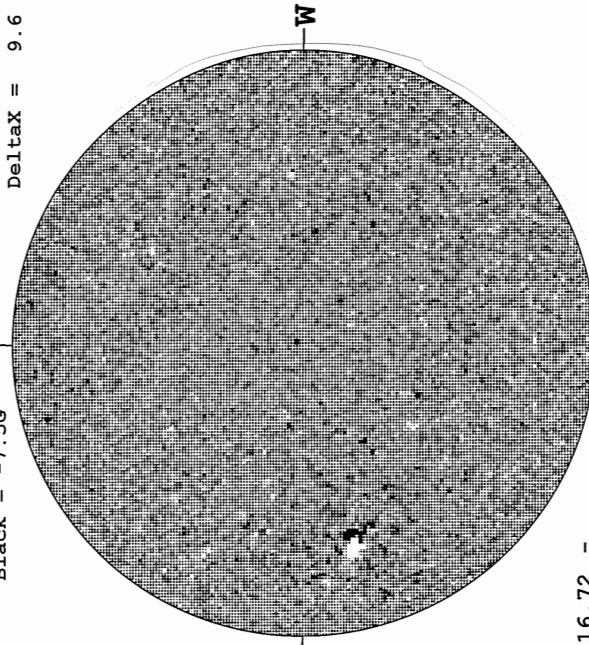
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.1
DeltaX = 9.6



1733 UT

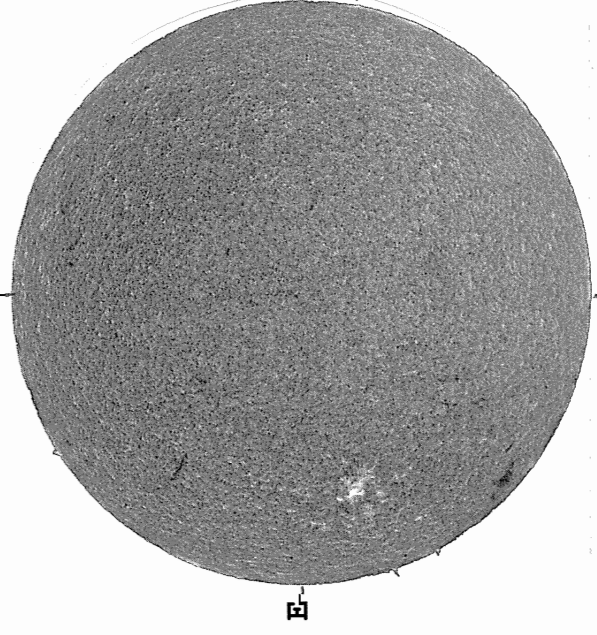


2054 UT



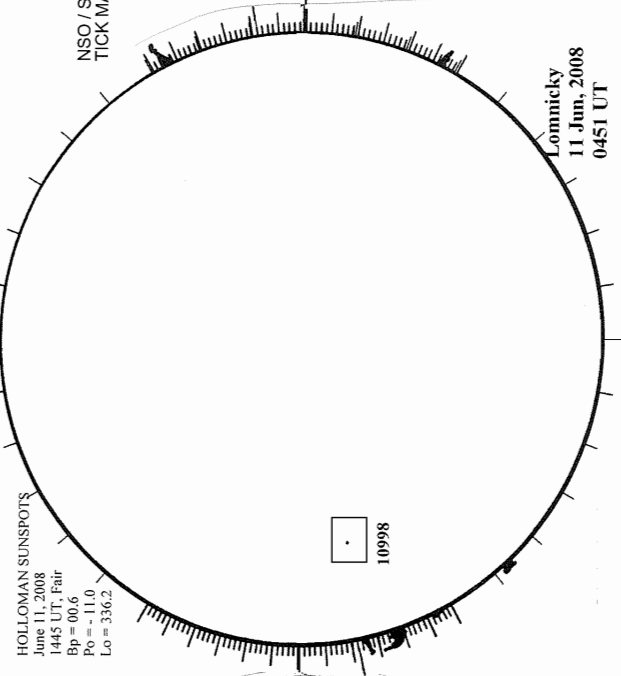
16.72 -
17.65 UT

BIG BEAR H-ALPHA



1548 UT

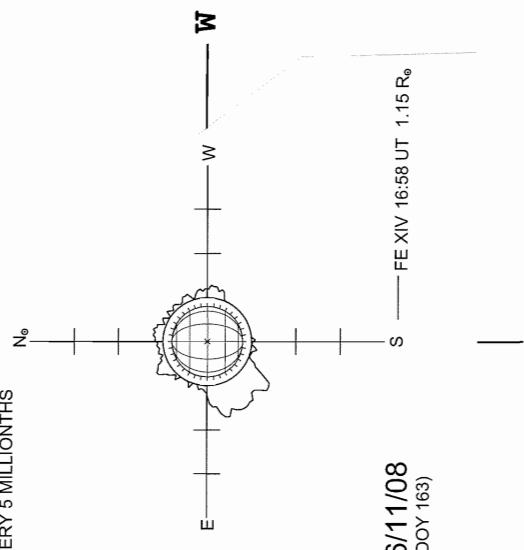
HOLLOMAN SUNSPOTS



1445 UT
0451 UT LOMN PROM

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS

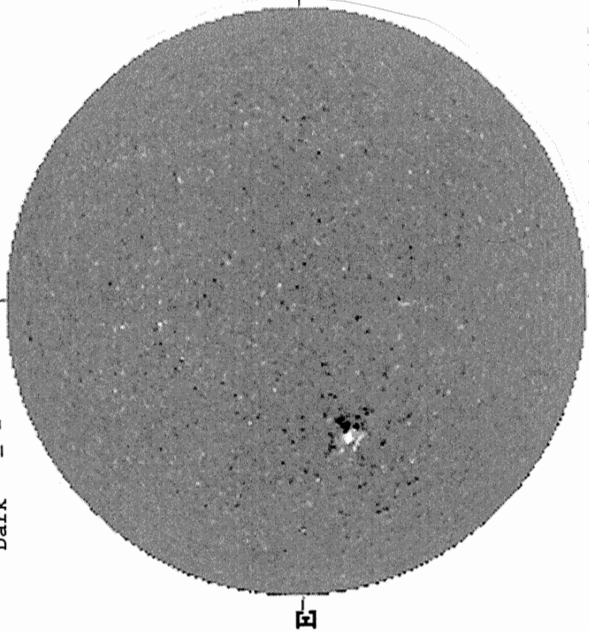


06/11/08
(DOY 163)

FE XIV 16:58 UT 1.15 R_o

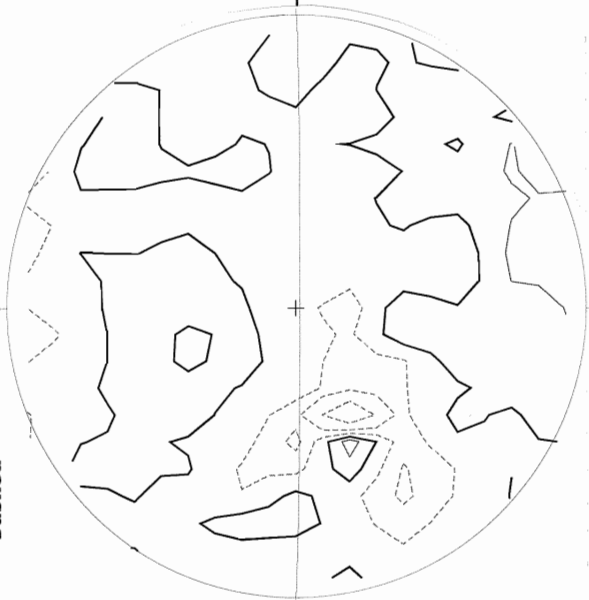
June 12, 2008 (P=-10.92, Bo= 0.70, Lo= 330.70)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -



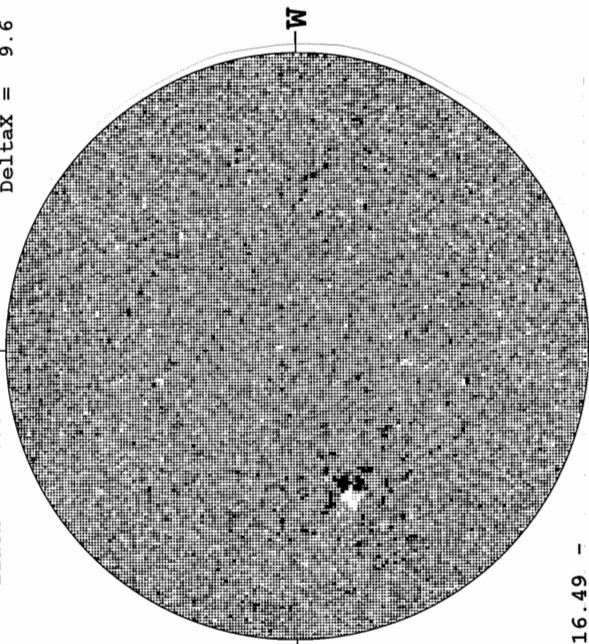
2040 UT

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



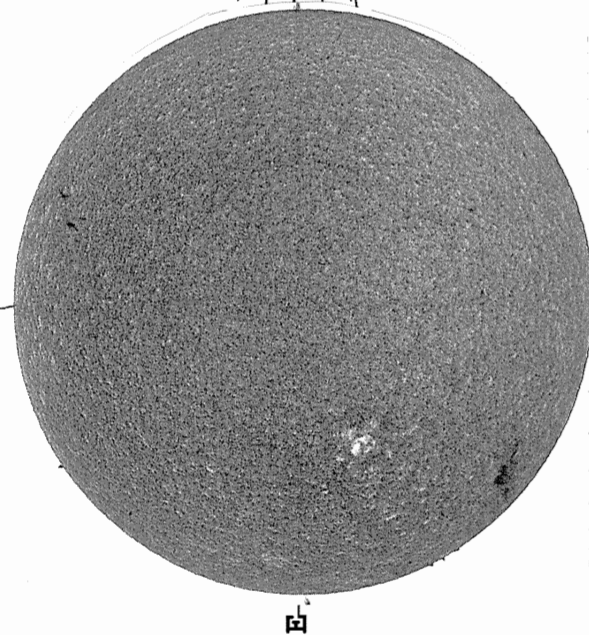
2225 UT

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.1
DeltaX = 9.6



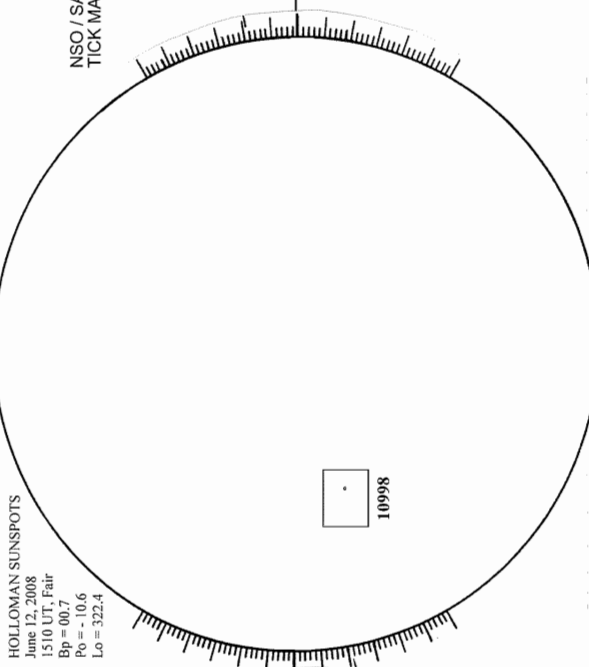
16.49 -
17.42 UT

--- BIG BEAR H-ALPHA



1530 UT

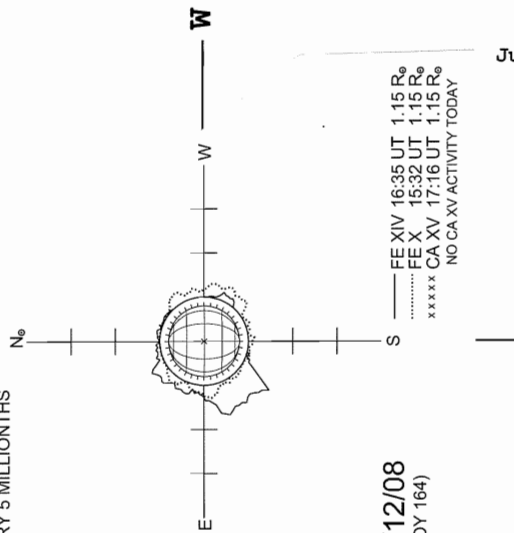
HOLLOMAN SUNSPOTS



1510 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS



06/12/08
(DOY 164)

--- FE XIV 16:35 UT 1.15 R_o
..... FE X 15:32 UT 1.15 R_o
***** CA XV 17:16 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

51
Jun 08

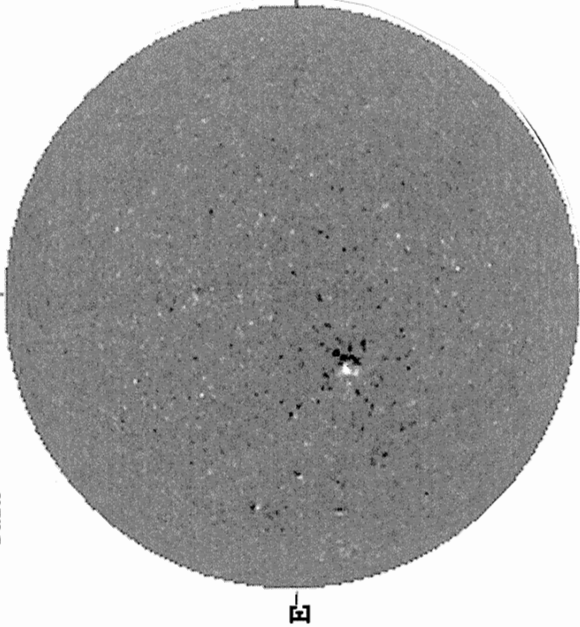
Jun 08 52

June 13, 2008 (P=-10.50, Bo= 0.82, Lo= 317.47)

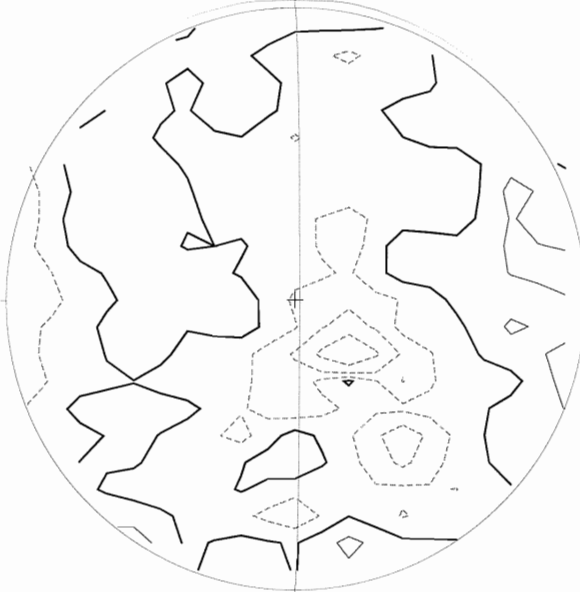
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

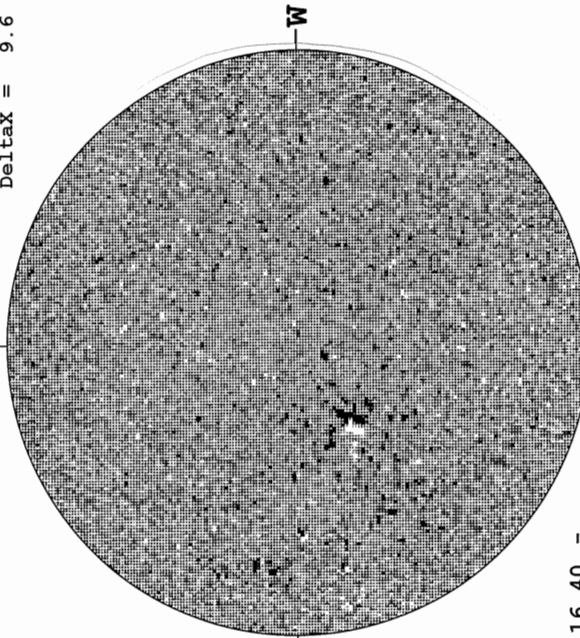
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.1
Deltax = 9.6



2018 UT

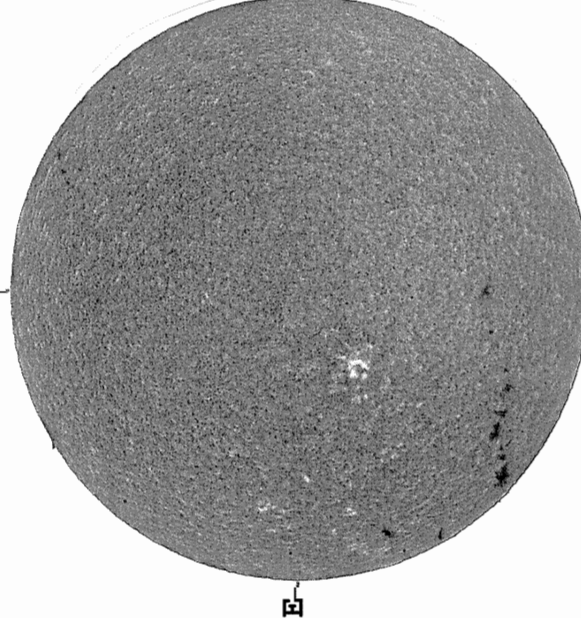


2106 UT



16.40 -
17.32 UT

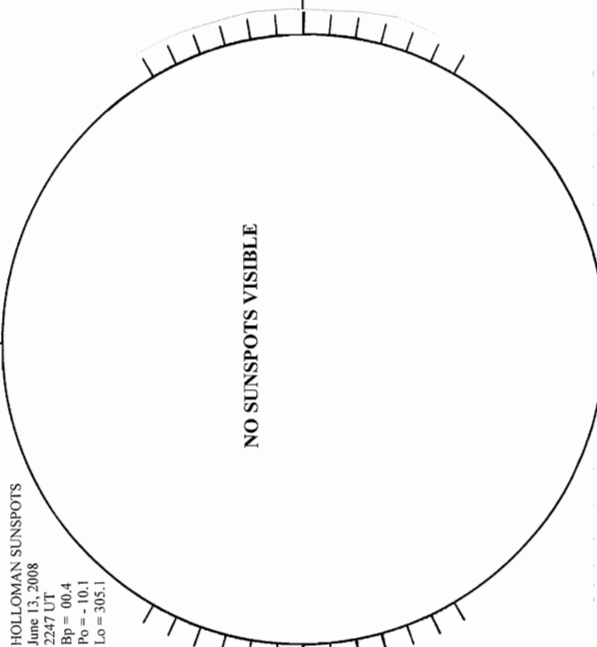
BIG BEAR H-ALPHA



1536UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 13, 2008
2247 UT
Bp = 00.4
Po = -10.1
Lo = 305.1



2247 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

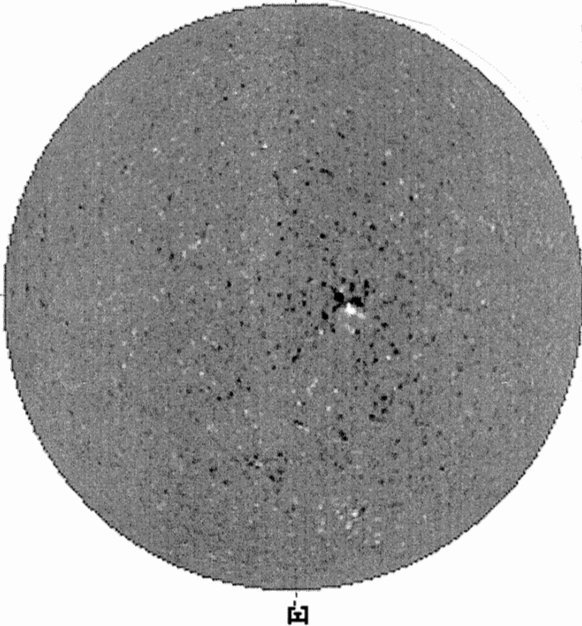
W

June 14, 2008 (P=-10.08, Bo= 0.94, Lo= 304.23)

KITT PEAK MAGNETOGRAM -- SOLIS
 Bright = +
 Dark = -

STANFORD MAGNETOGRAM
 Solid = +
 Dashed = -

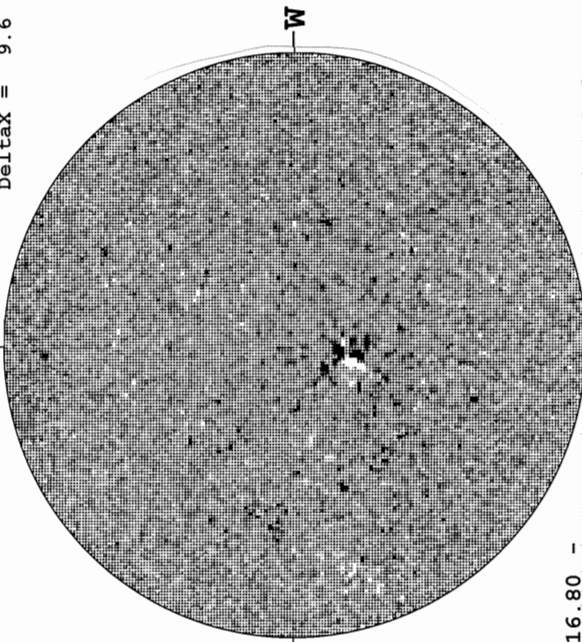
MT. WILSON MAGNETOGRAM
 White = +7.5G
 Black = -7.5G
 DeltaY = 13.1
 DeltaX = 9.6



1725 UT

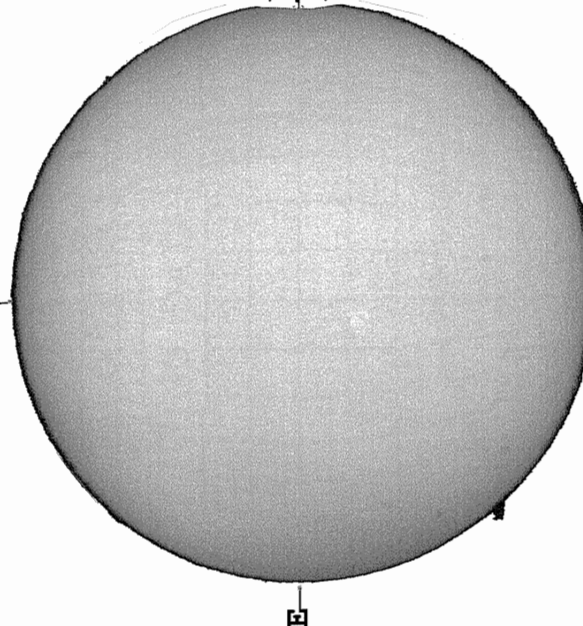


2117 UT



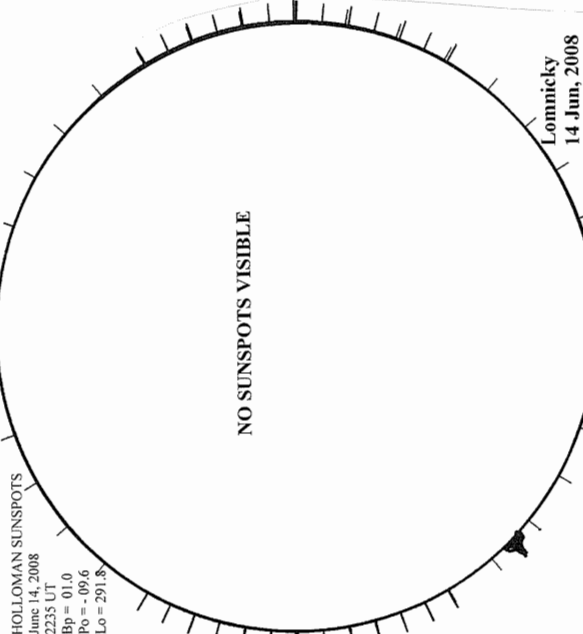
16.80 -
 17.72 UT

MEUDON H-ALPHA



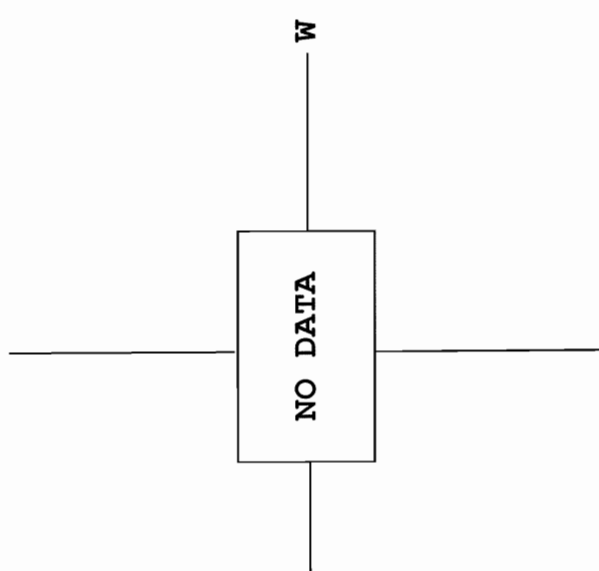
1128 UT

HOLLOMAN SUNSPOTS



2235 UT
 0441 UT LOMN PROM

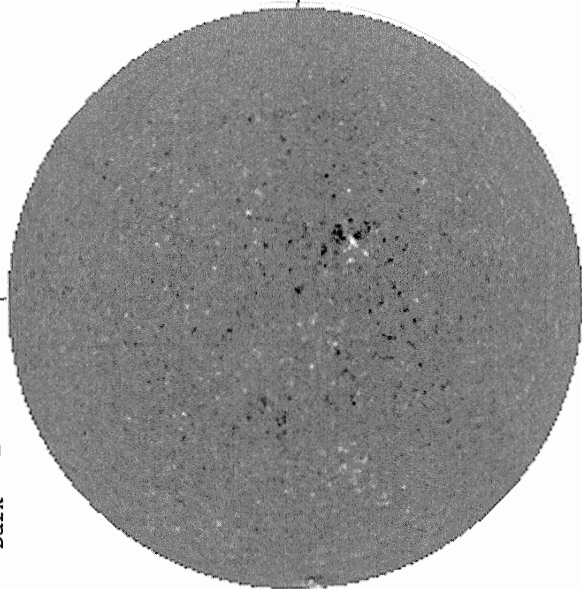
SACRAMENTO PEAK CORONA (1.15 Radii) -----



54
Jun 08

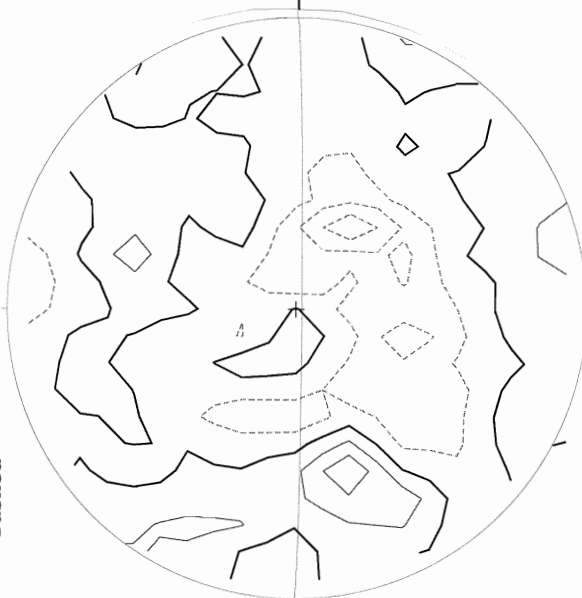
June 15, 2008 (P= -9.65, Bo= 1.06, Lo= 290.99)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -



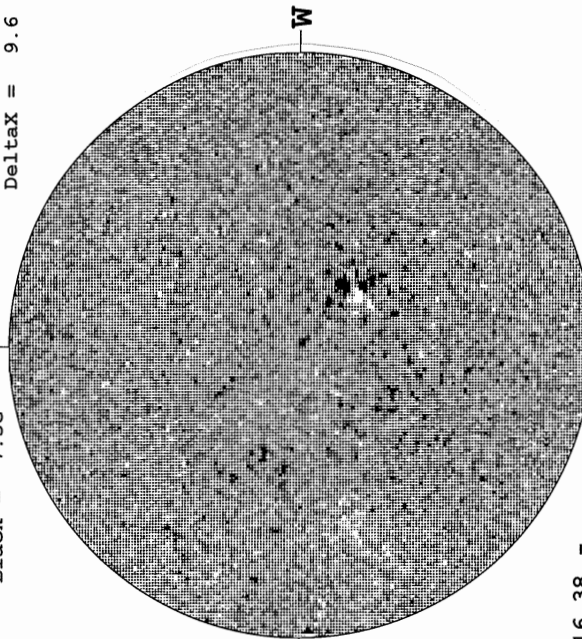
1702 UT

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



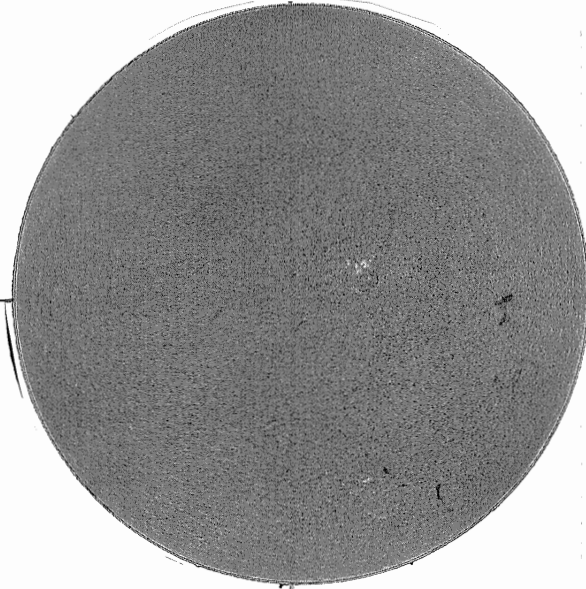
2023 UT

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



16.38 -
17.30 UT

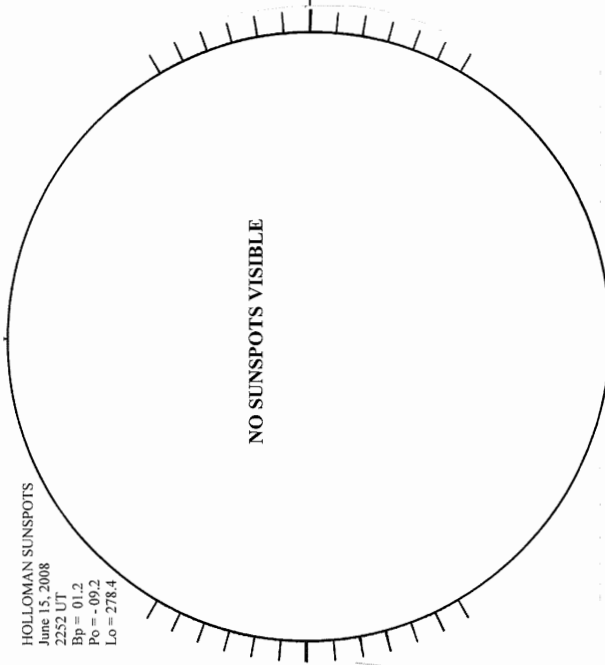
--- KANZELHOHE H-ALPHA



0611 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 15, 2008
2252 UT
Bp = 01.2
Po = -09.2
Lo = 278.4



2252 UT

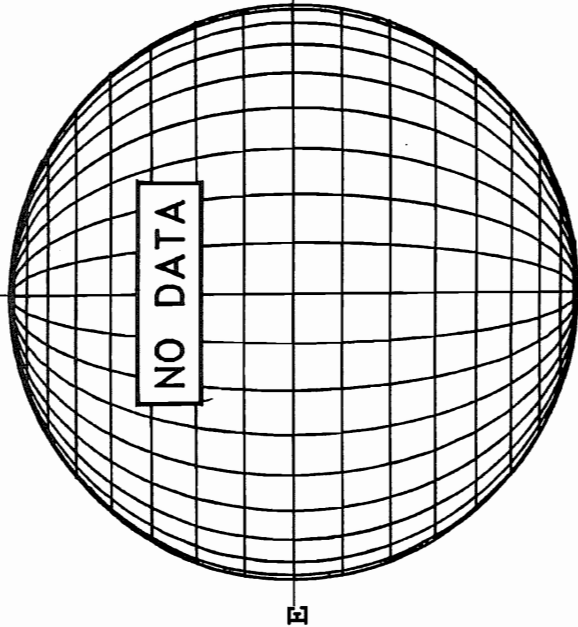
SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

W

June 16, 2008 (P= -9.22, Bo= 1.18, Lo= 277.75)

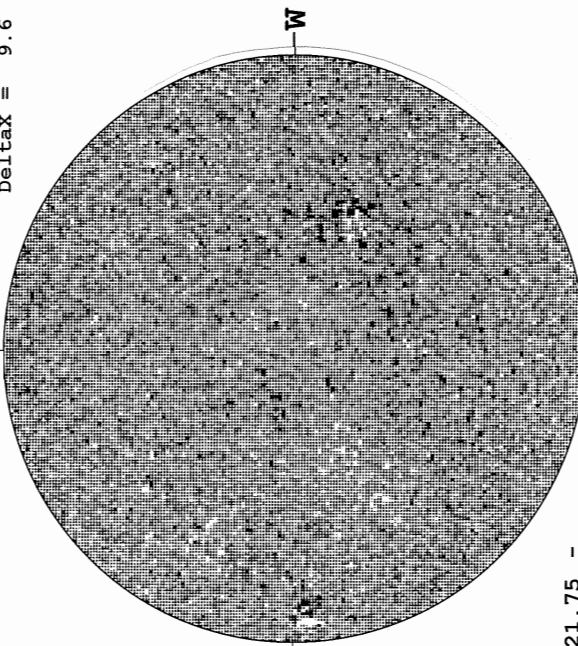
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -



STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



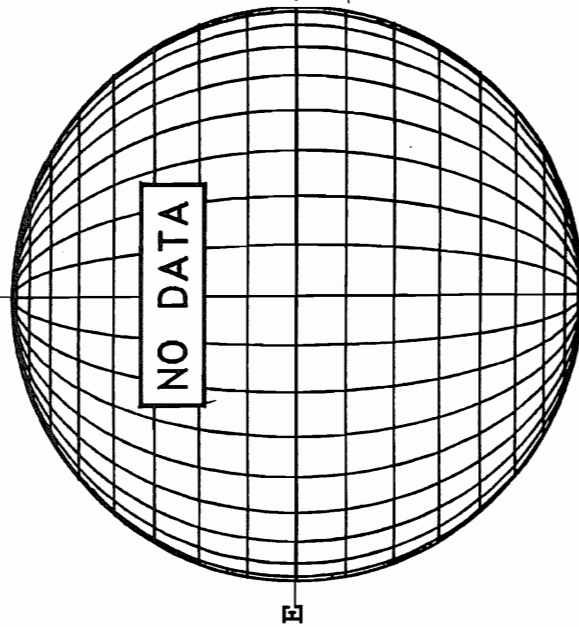
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.0
DeltaX = 9.6



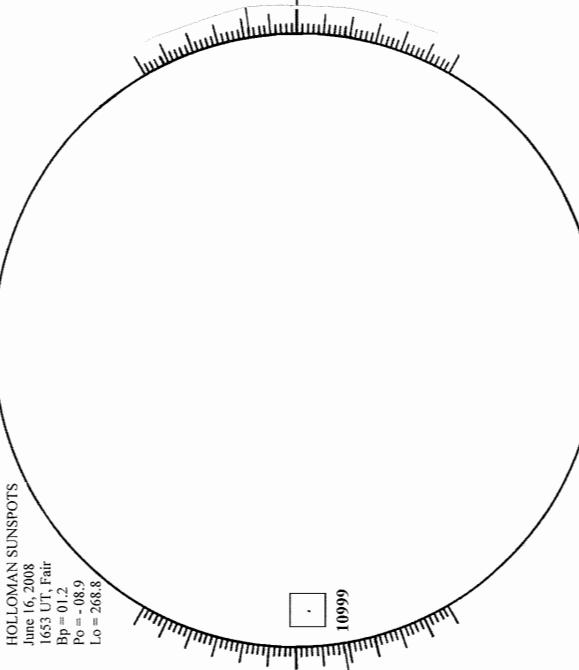
21.75 -
22.68 UT

2045 UT

BIG BEAR H-ALPHA



HOLLOMAN SUNSPOTS



HOLLOMAN SUNSPOTS
June 16, 2008
1653 UT, Fair
Bp = 01.2
Po = -08.9
Lo = 268.8

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

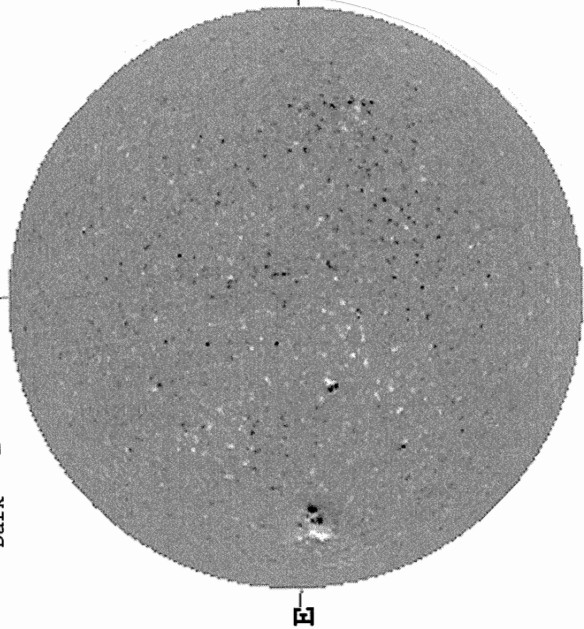
56
Jun 08

June 17, 2008 (P= -8.79, Bo= 1.29, Lo= 264.52)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

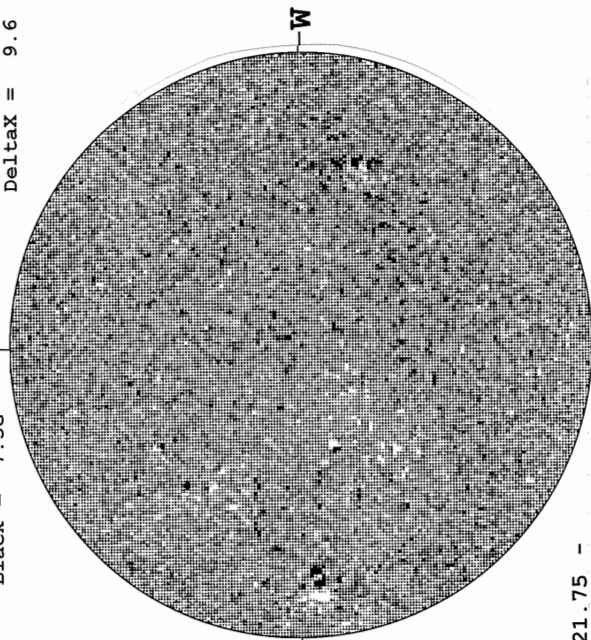
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
Delta γ = 13.0
Delta λ = 9.6



2117 UT

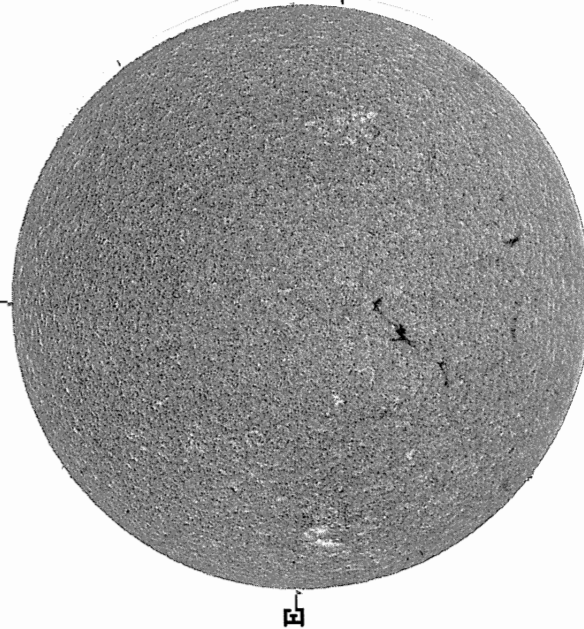


1957 UT



21.75 -
22.68 UT

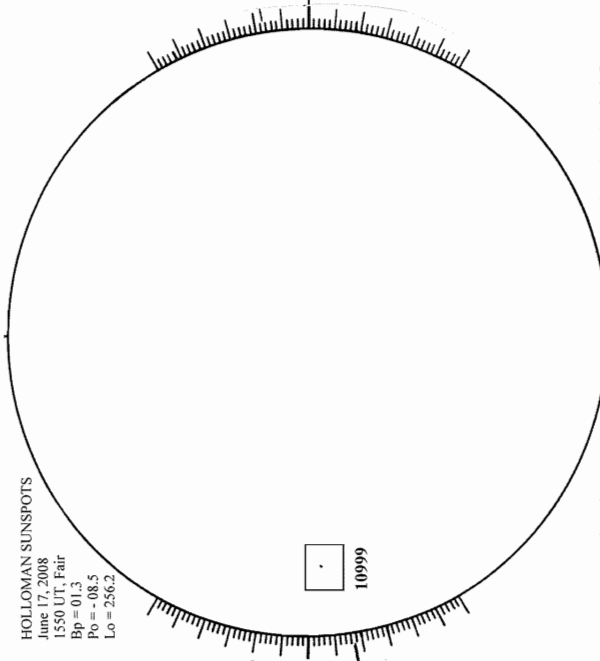
BIG BEAR H-ALPHA



1533 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 17, 2008
1550 UT, Fair
Bp = 01.3
Po = -08.5
Lo = 256.2



1550 UT

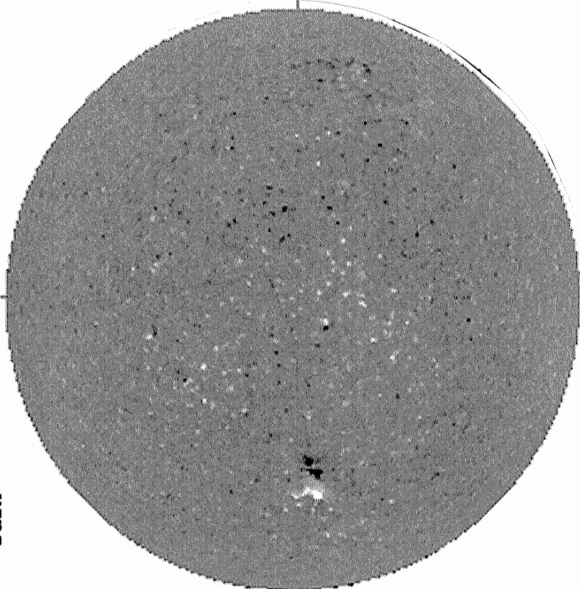
SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

W

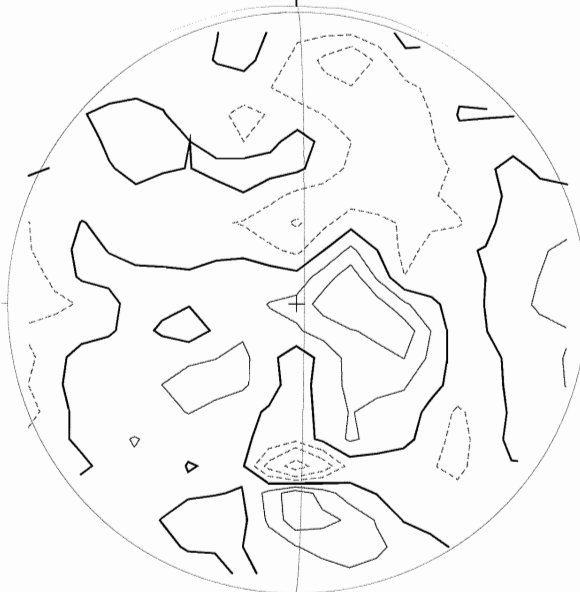
June 18, 2008 (P= -8.35, Bo= 1.41, Lo= 251.28)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -



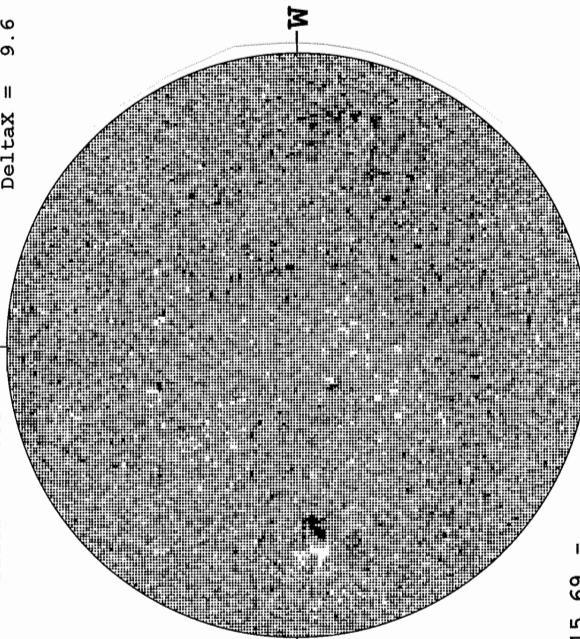
1951 UT

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



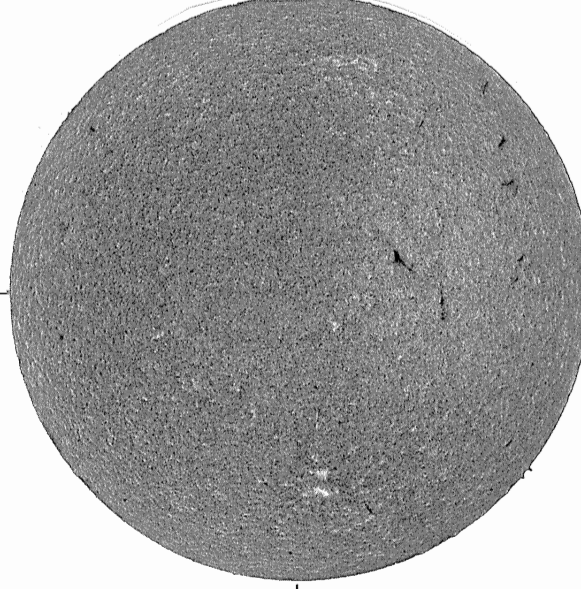
1916 UT

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.0
Deltax = 9.6



15.69 -
16.61 UT

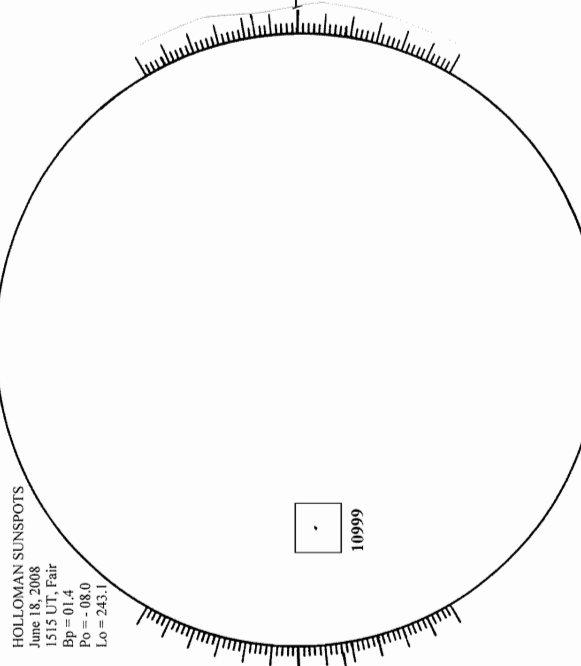
--- BIG BEAR H-ALPHA



1543 UT

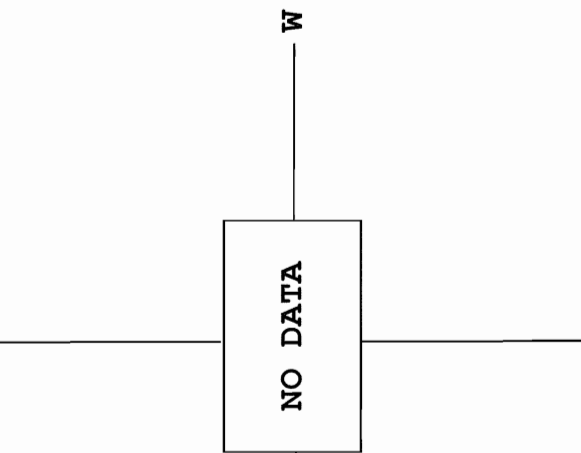
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 18, 2008
1515 UT, Fair
Bp = 01.4
Po = -08.0
Lo = 243.1



1515 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----



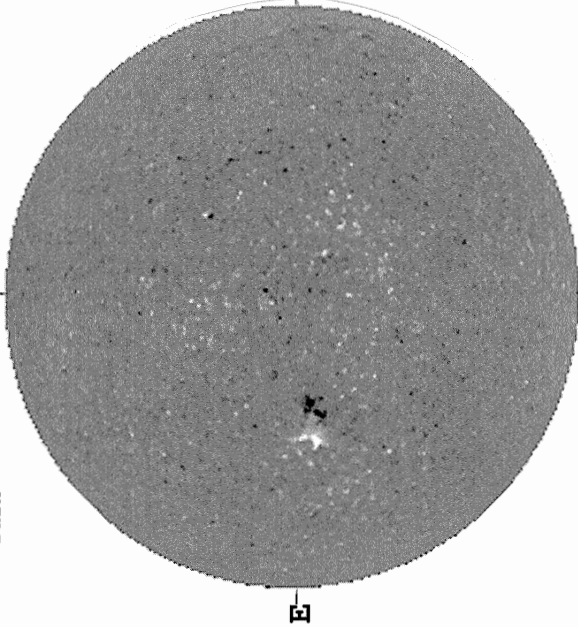
Jun 58
08

June 19, 2008 (P= -7.92, Bo= 1.53, Lo= 238.04)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N ** 854.2NM **

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

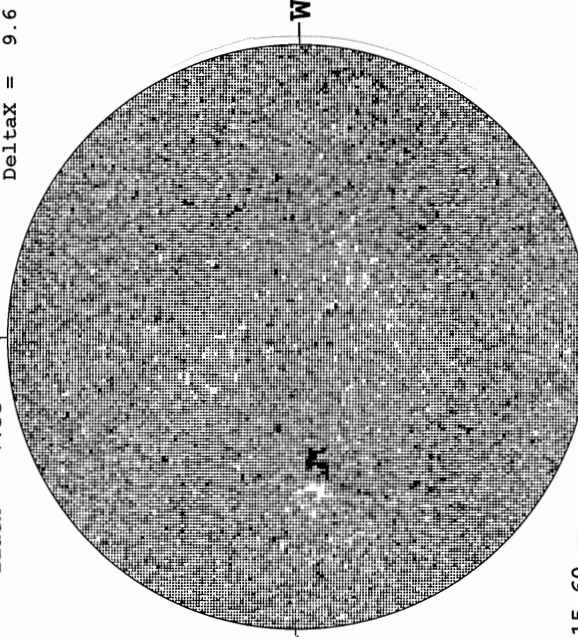
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
Deltay = 13.0
Deltax = 9.6



1903 UT



1937 UT

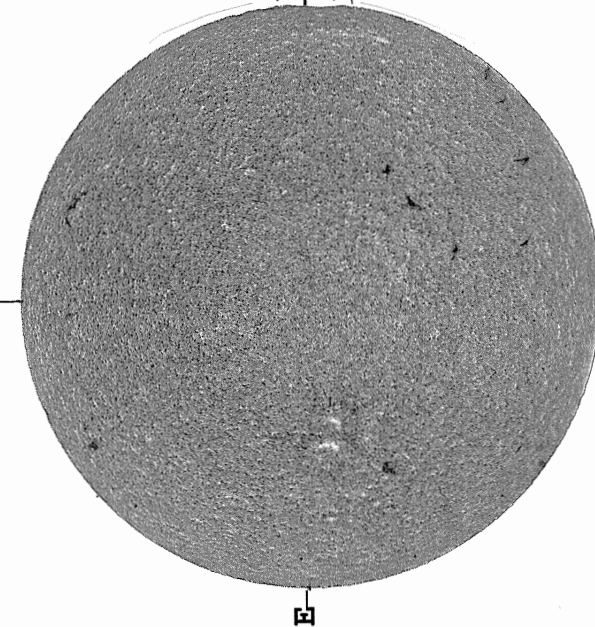


15.60 -
16.53 UT

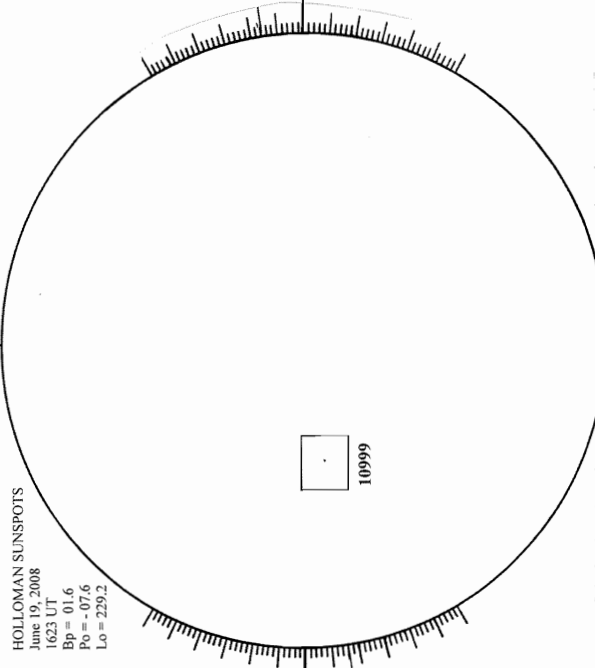
BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS

SACRAMENTO PEAK CORONA (1.15 Radii) ----



1543 UT



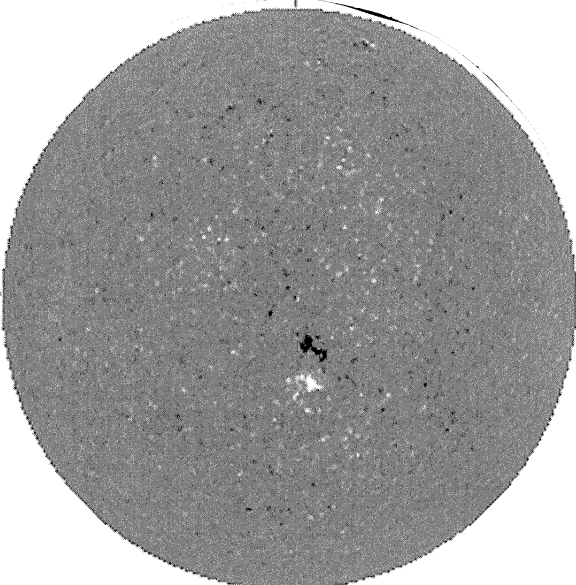
1623 UT

NO DATA

W

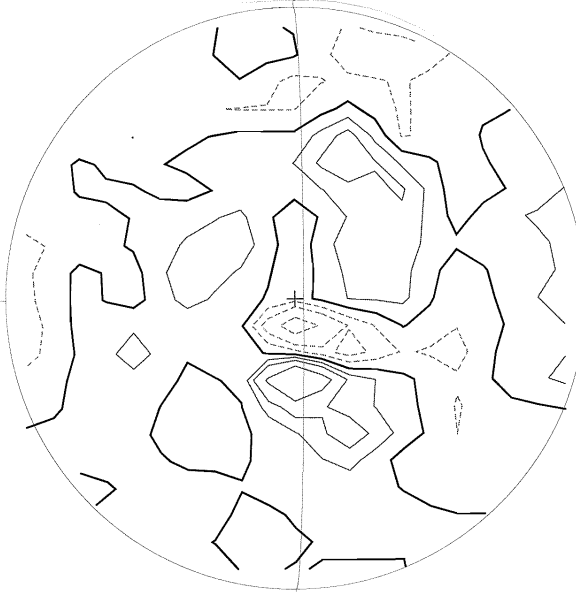
June 20, 2008 (P= -7.48, Bo= 1.65, Lo= 224.81)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N ** 854.2NM **



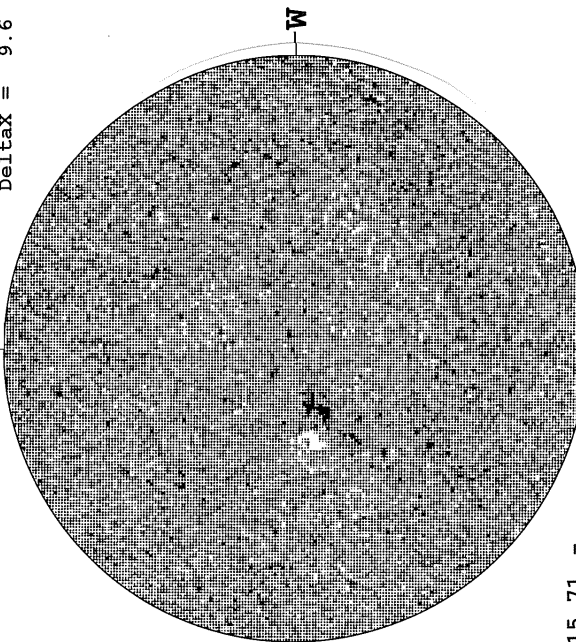
1831 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



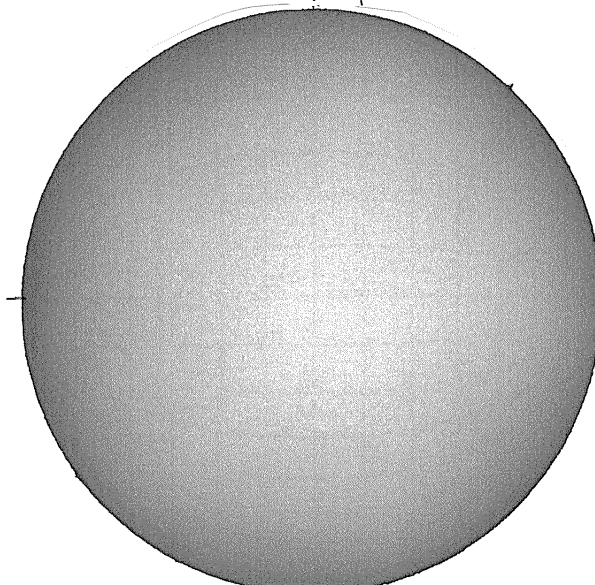
2128 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6
N



15.71 -
16.63 UT

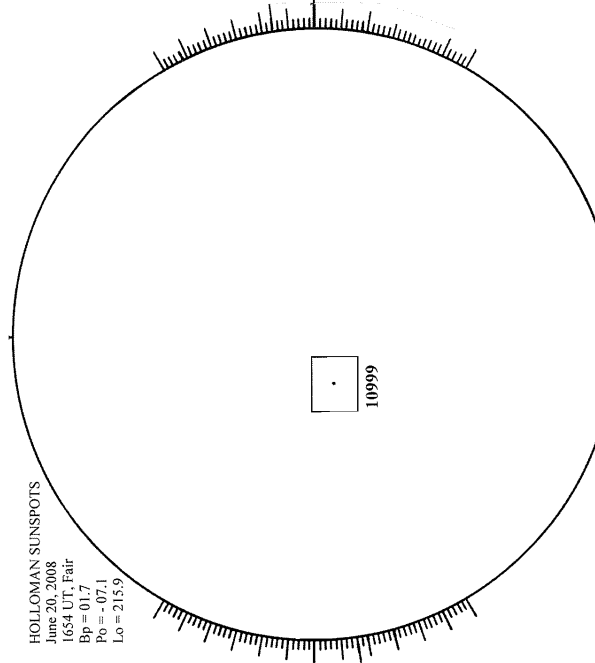
YUNNAN H-ALPHA



0308 UT

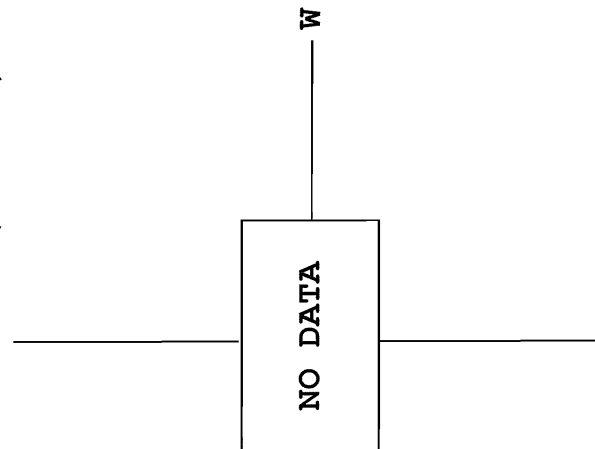
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 20, 2008
1654 UT, Fair
Bp = 01.7
Po = -07.1
Lo = 215.9



1654 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----



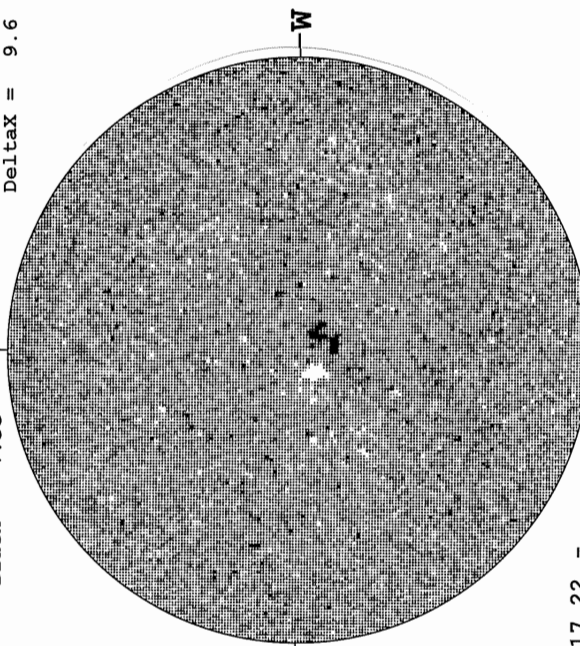
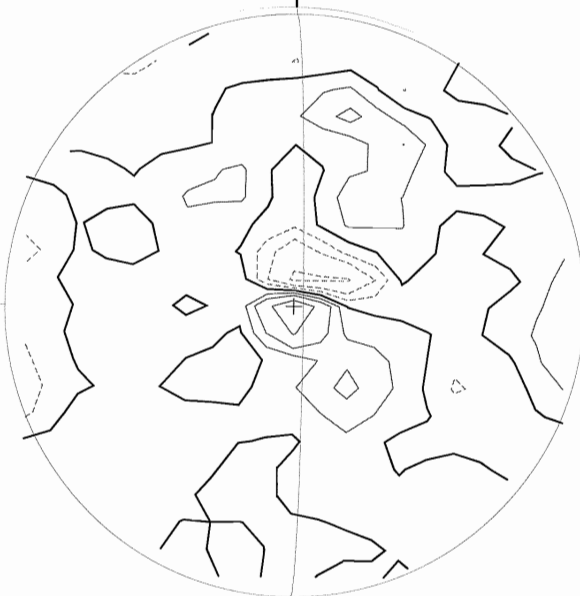
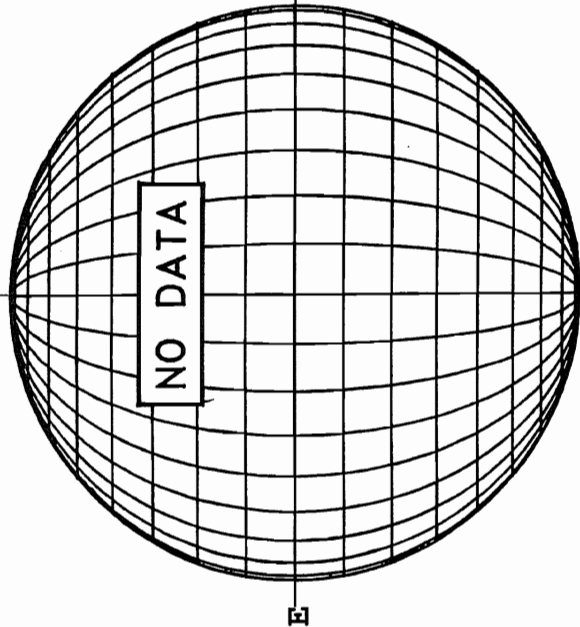
60
Jun 08

June 21, 2008 (P= -7.03, Bo= 1.77, Lo= 211.57)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



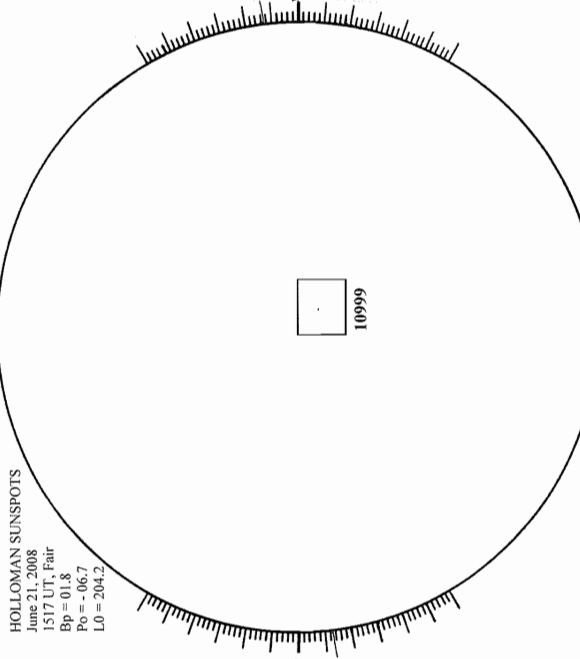
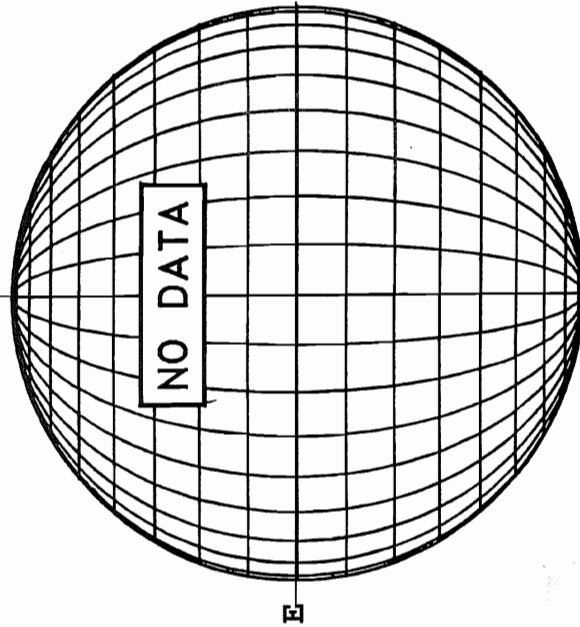
17.22 -
18.15 UT

2333 UT

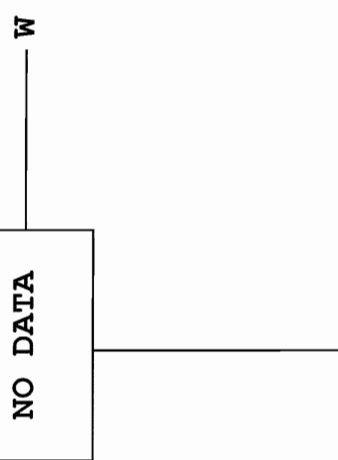
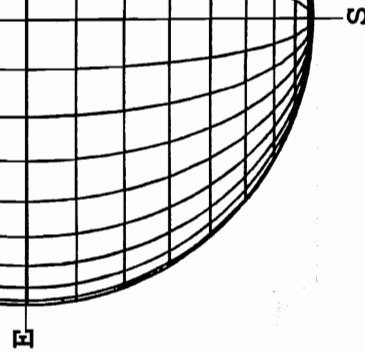
BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS

SACRAMENTO PEAK CORONA (1.15 Radii) -----



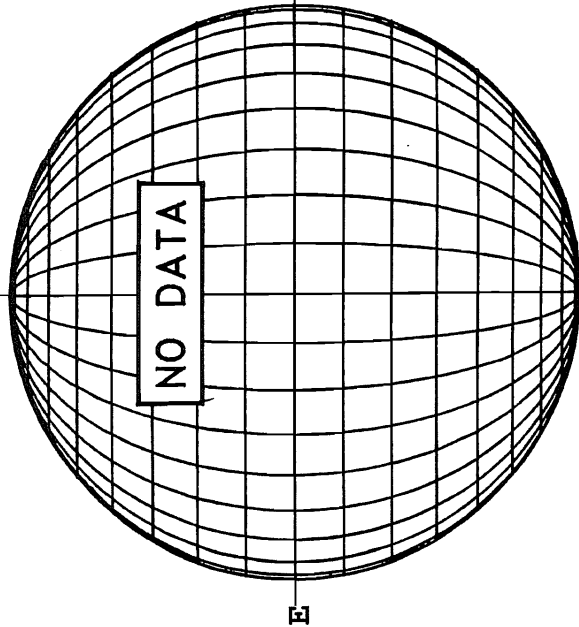
HOLLOMAN SUNSPOTS
June 21, 2008
1517 UT, Fair
Bp = 01.8
Po = -06.7
LO = 204.2



1517 UT

June 22, 2008 (P= -6.59, Bo= 1.88, Lo= 198.33)

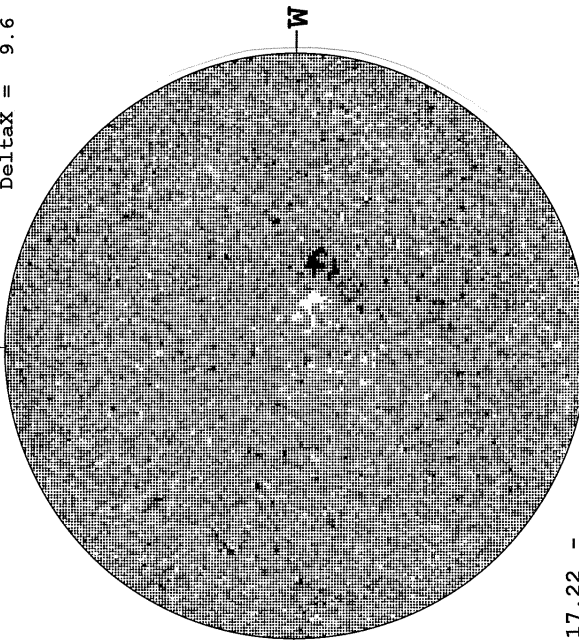
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -



STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



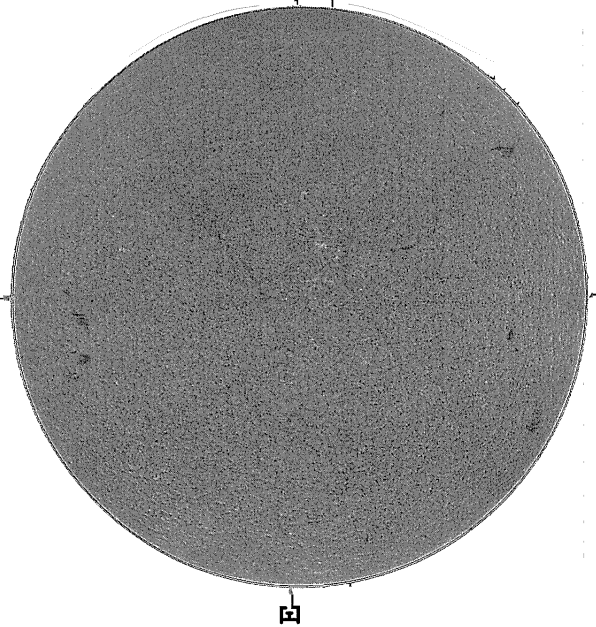
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



17.22 -
18.15 UT

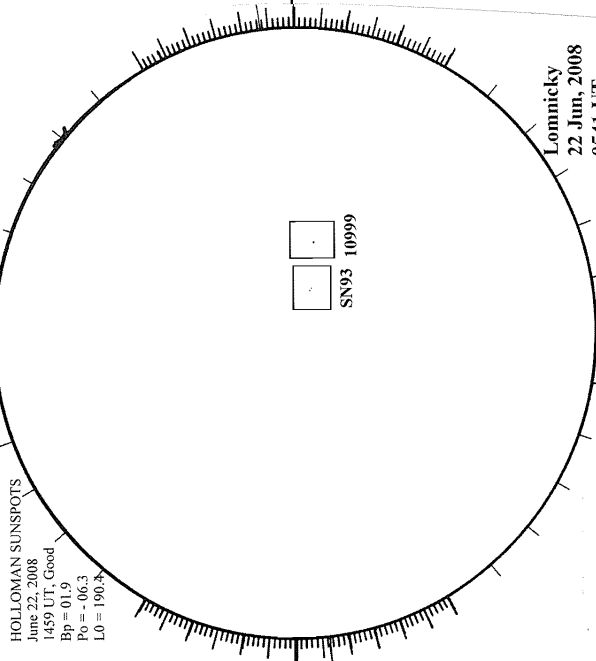
1857 UT

KANZELHOHE H-ALPHA



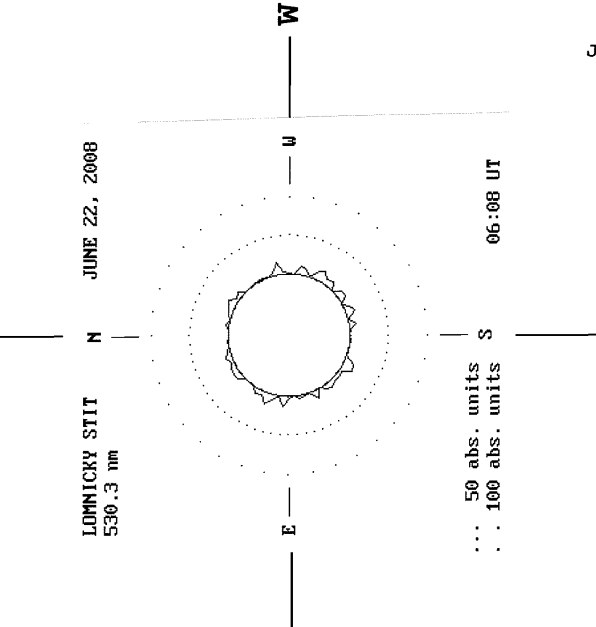
0640 UT

HOLLOMAN SUNSPOTS



1459 UT
0541 UT LOMN FROM

LOMNICKY PEAK CORONA (1.04 Radii) -----

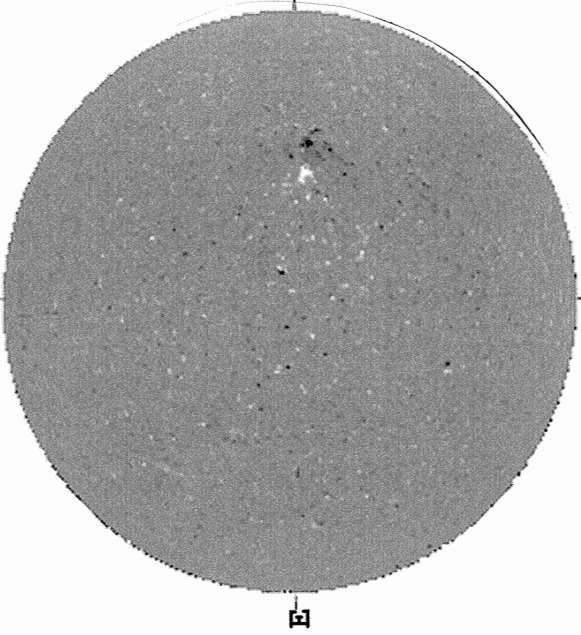


61
Jun 08

62
Jun 08

June 23, 2008 (P= -6.14, Bo= 2.00, Lo= 185.09)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N



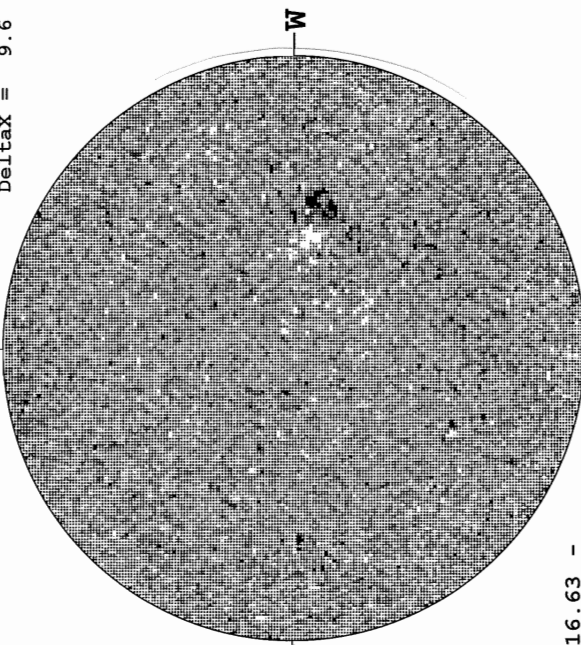
2234 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



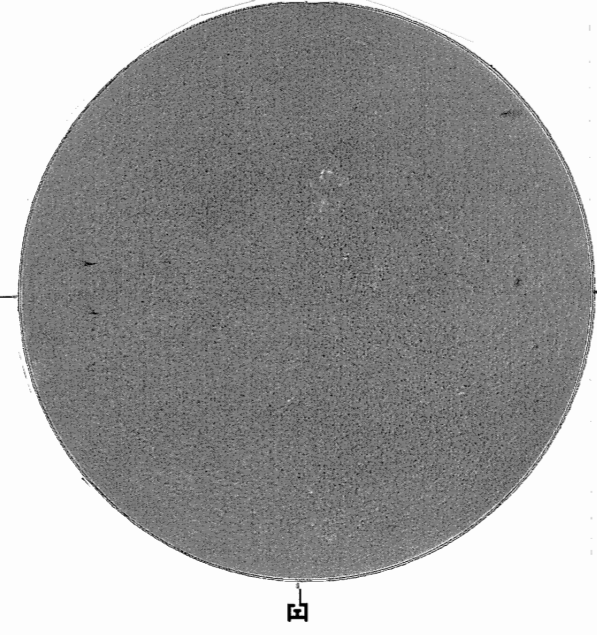
1927 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
DeltaY = 13.0
DeltaX = 9.6



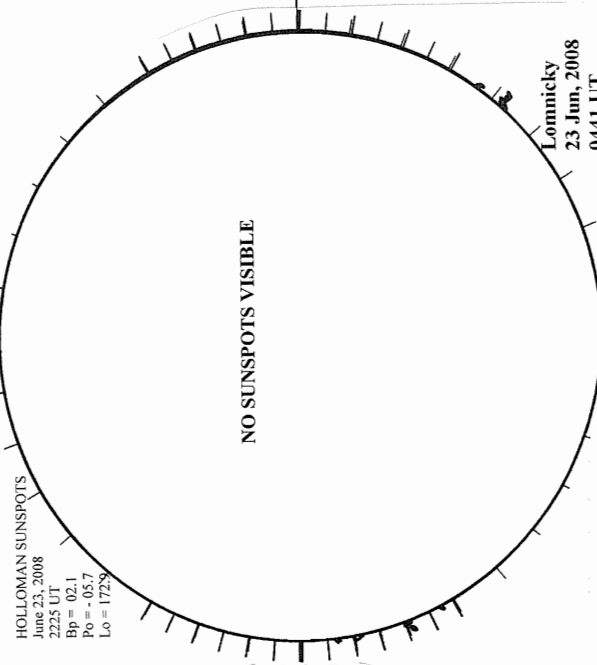
16.63 -
17.56 UT

KANZELHOHE H-ALPHA



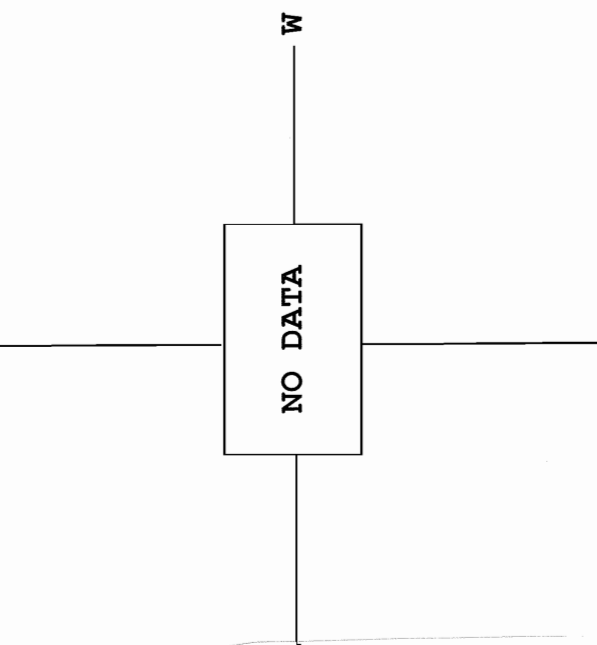
0747UT

HOLLOMAN SUNSPOTS



2225 UT
0441 UT LOMN PROM

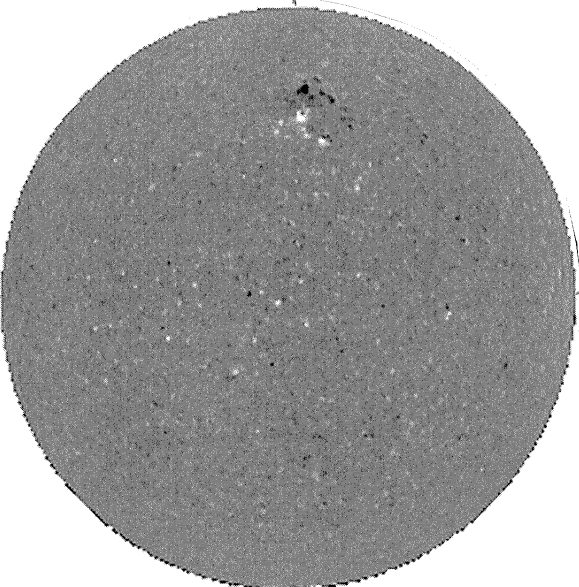
SACRAMENTO PEAK CORONA (1.15 Radii) -----



NO DATA

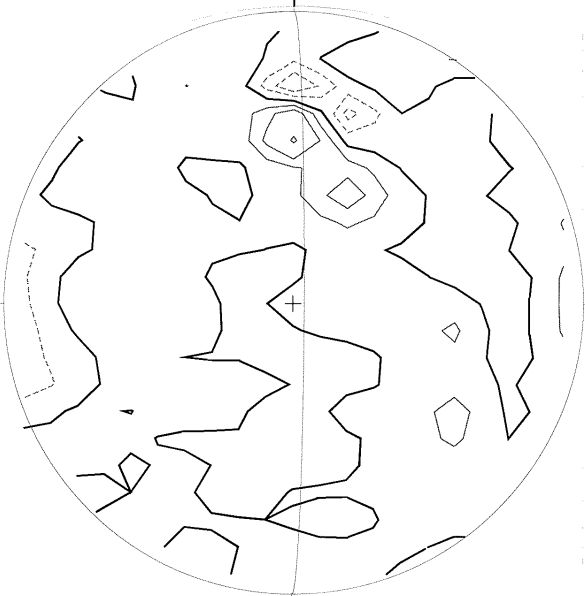
June 24, 2008 (P= -5.70, Bo= 2.11, Lo= 171.86)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N



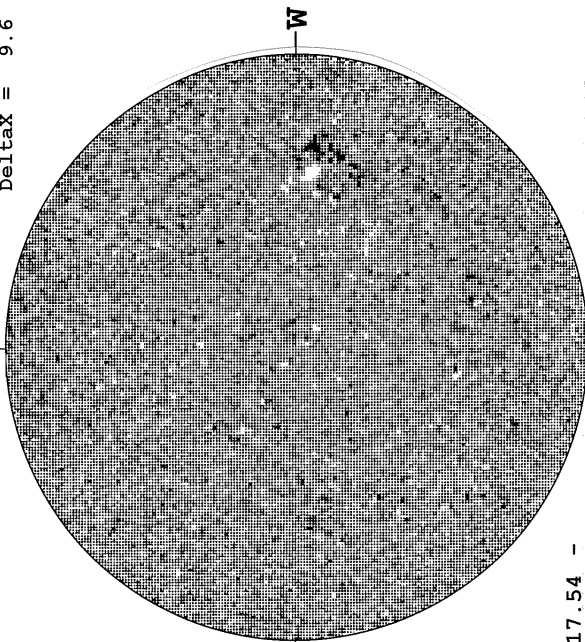
2114 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



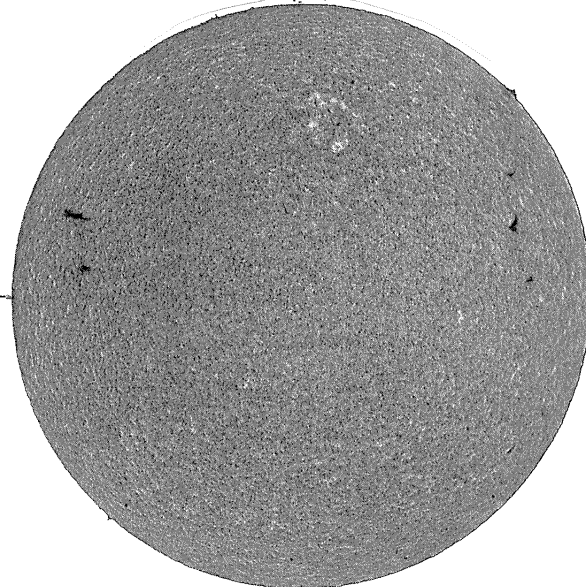
2059 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
DeltaY = 13.1
DeltaX = 9.6



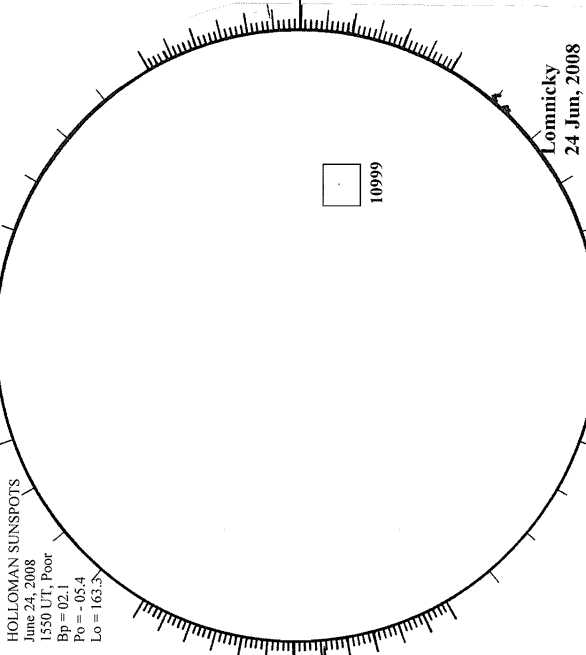
17.54 -
18.46 UT

BIG BEAR H-ALPHA



1754 UT

HOLLOMAN SUNSPOTS



1550 UT
0541 UT LOMN PROM

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

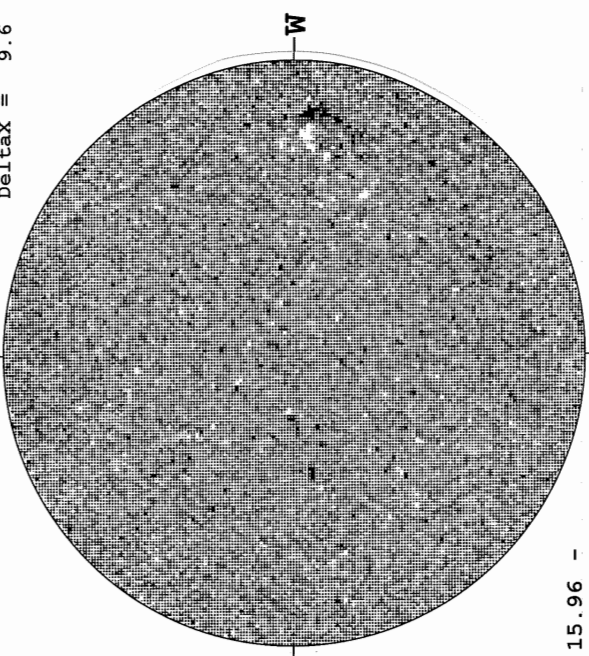
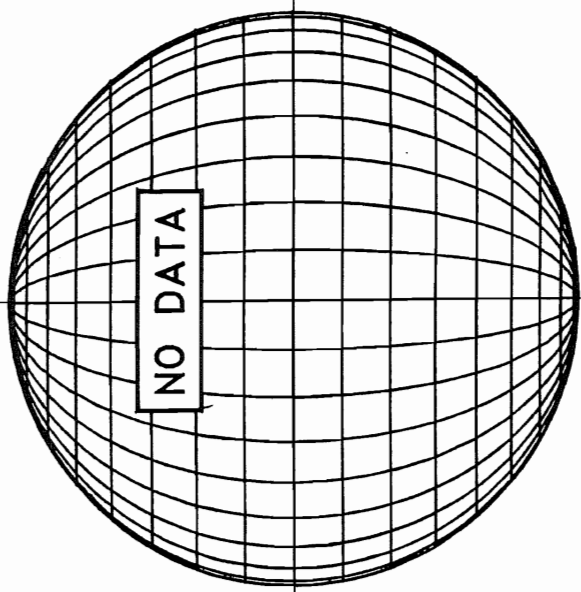
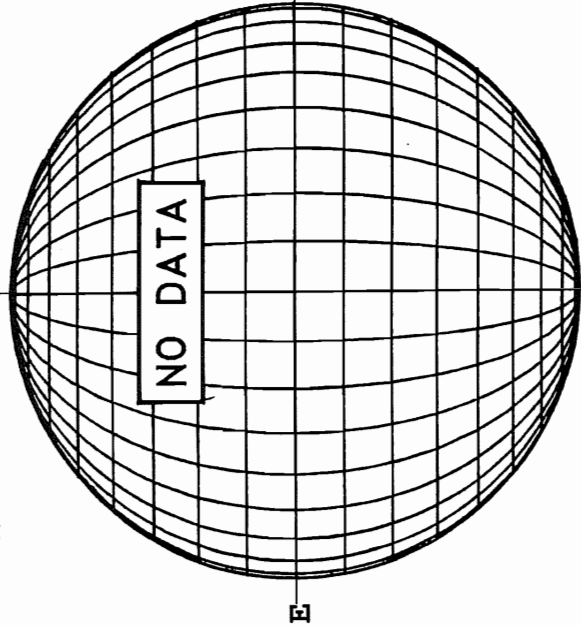
64
Jun 08

June 25, 2008 (P= -5.25, Bo= 2.23, Lo= 158.62)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N ** 854.2NM **

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
N
Deltay = 13.0
Deltax = 9.6

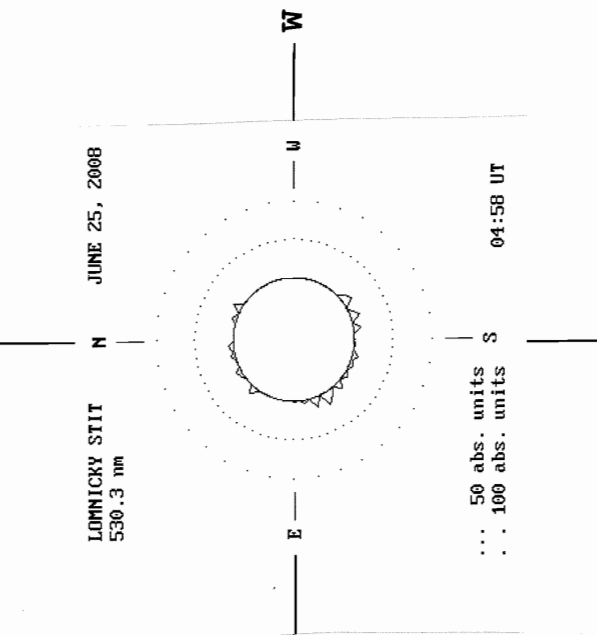
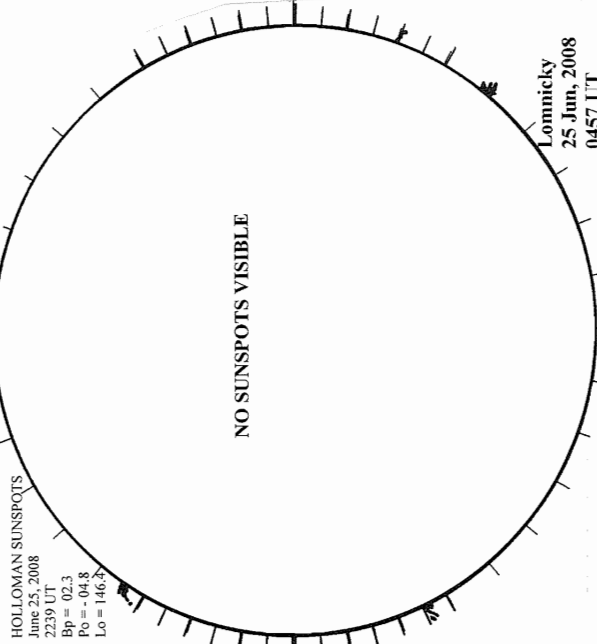
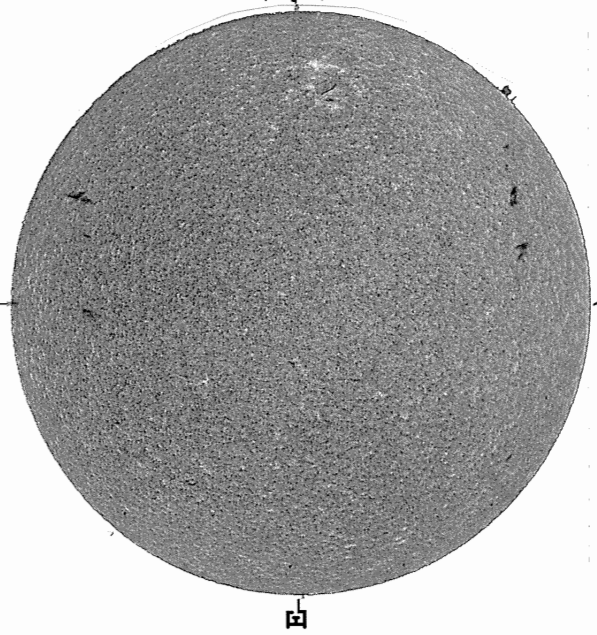


15.96 -
16.88 UT

--- BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS

LOMNICKY PEAK CORONA (1.04 Radii)-----



1601 UT

2239 UT
0457 UT LOMN FROM

Lomnický
25 Jun, 2008
0457 UT

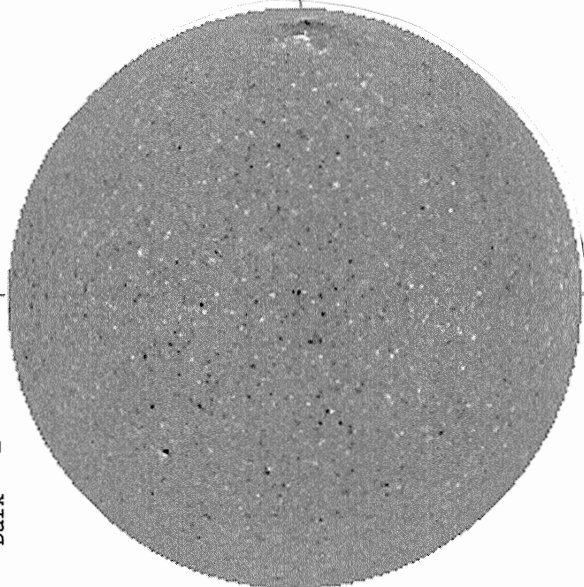
04:58 UT

June 26, 2008 (P= -4.80, Bo= 2.34, Lo= 145.38)

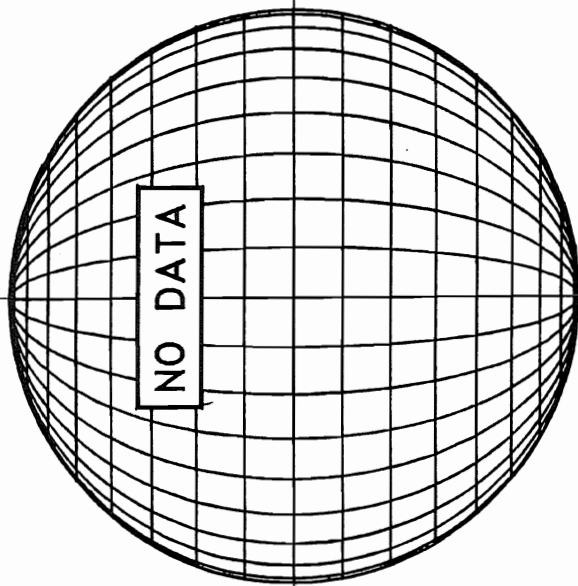
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

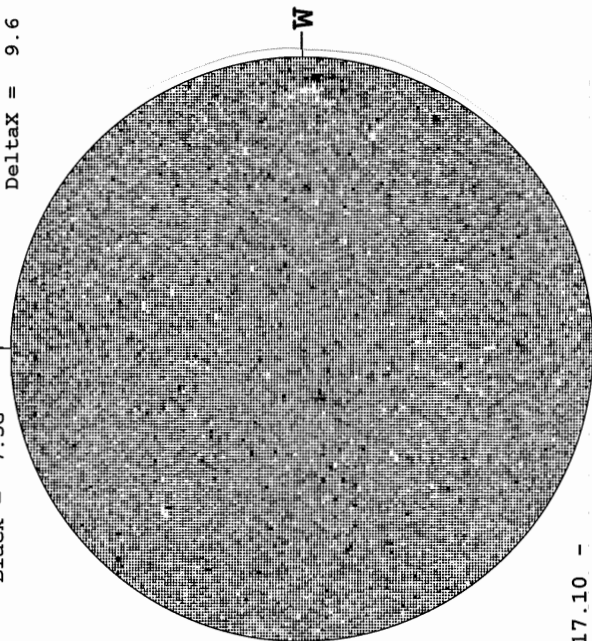
MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



1854 UT



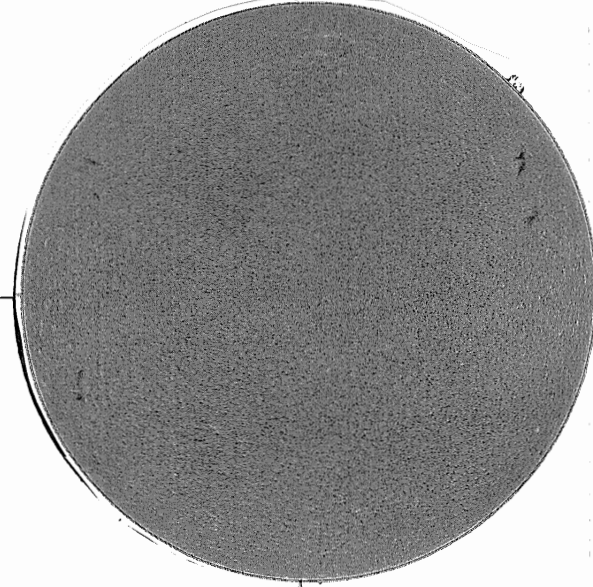
17.10 -
18.03 UT



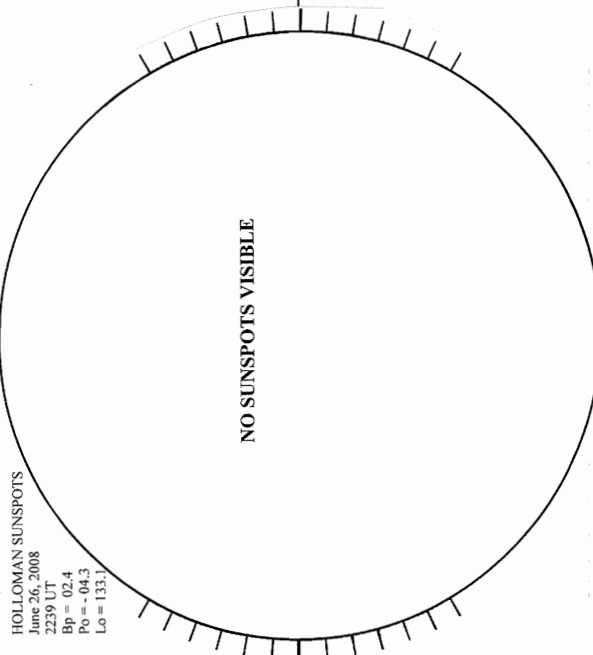
KANZELHOHE H-ALPHA

HOLLOMAN SUNSPOTS

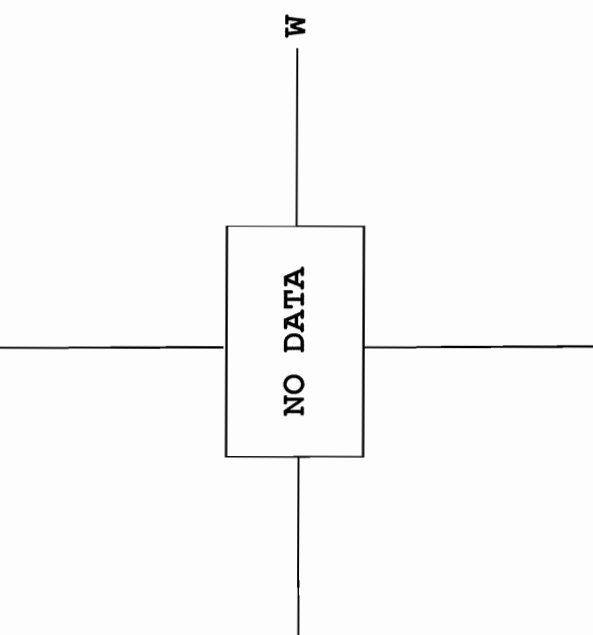
SACRAMENTO PEAK CORONA (1.15 Radii) -----



0552 UT



2239 UT



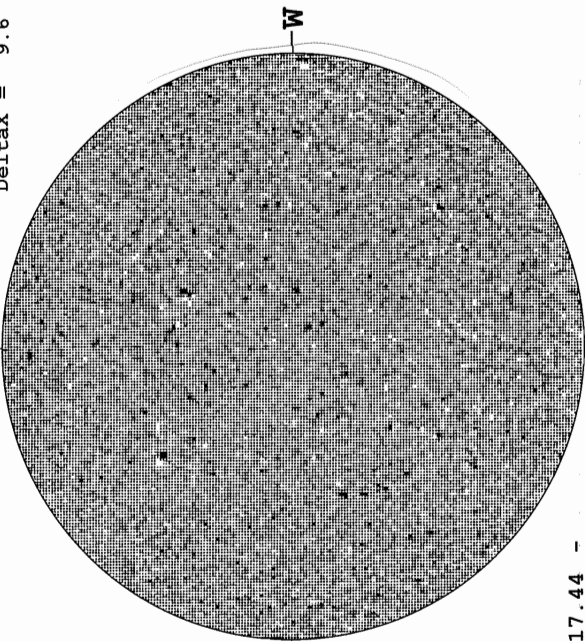
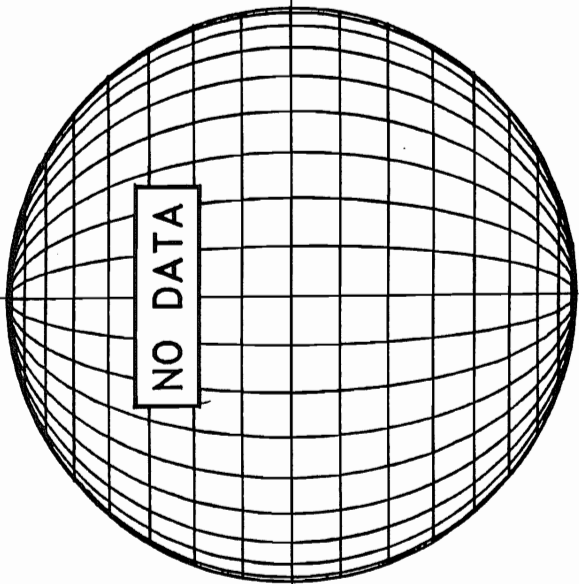
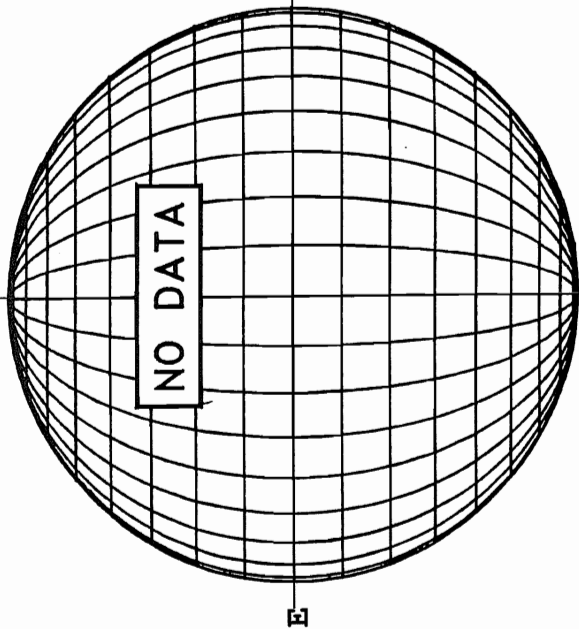
Jun 66
08

June 27, 2008 (P= -4.35, Bo= 2.46, Lo= 132.15)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N
Dark = -

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -

MT, WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6

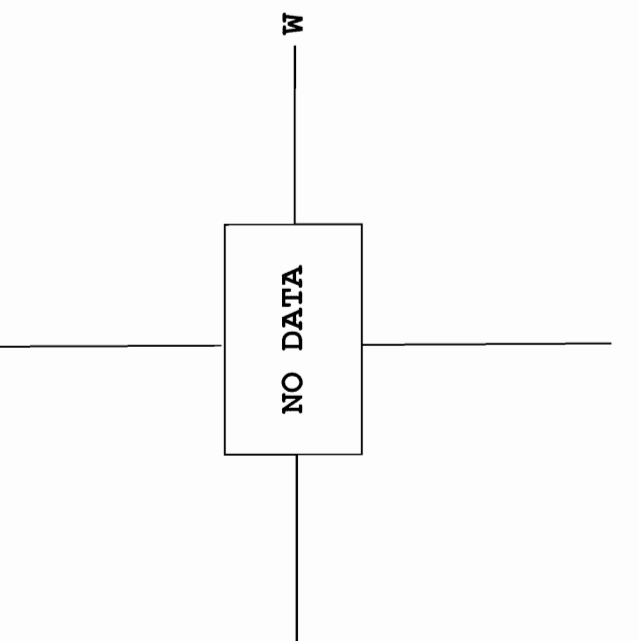
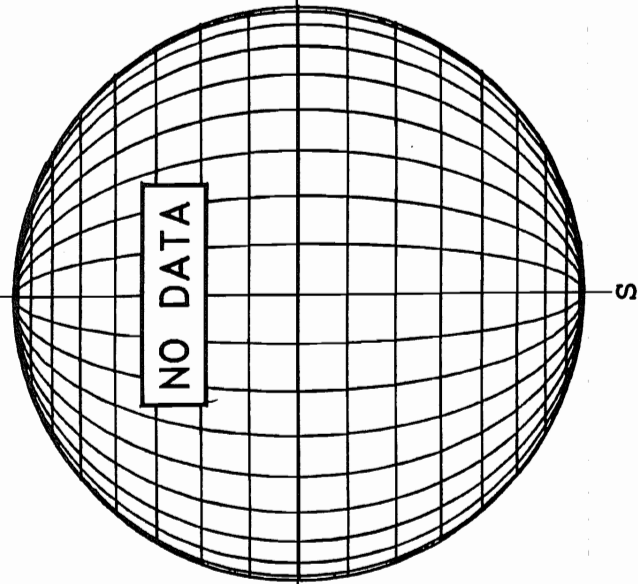
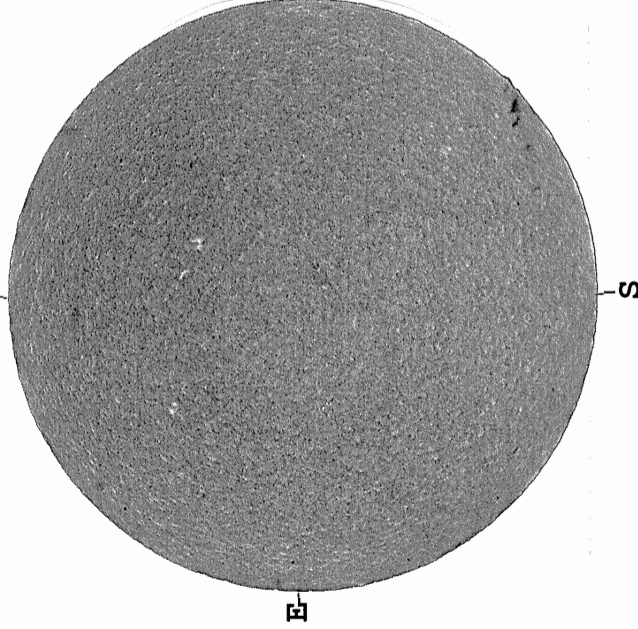


17.44 -
18.36 UT

BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS

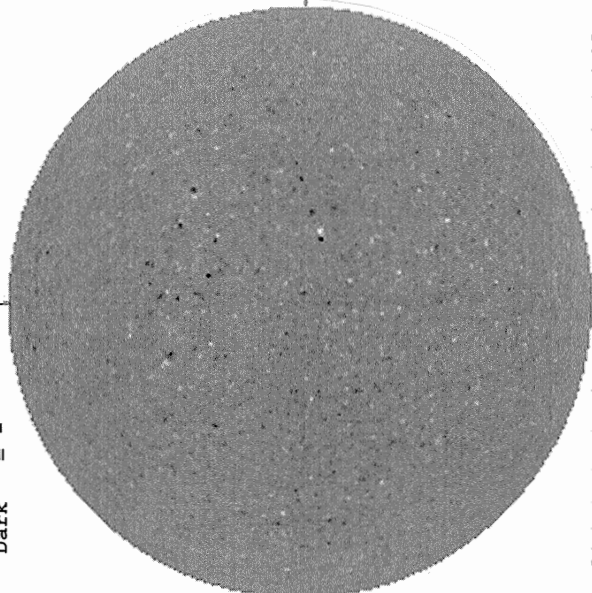
SACRAMENTO PEAK CORONA (1.15 Radii) -----



1834 UT

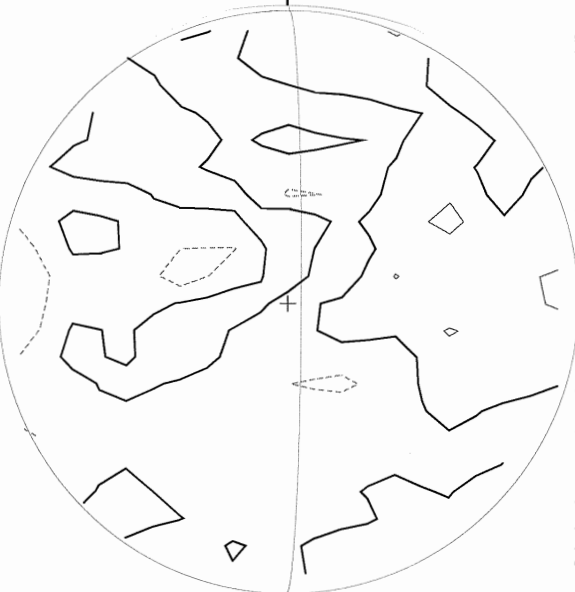
June 28, 2008 (P= -3.90, Bo= 2.57, Lo= 118.91)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -



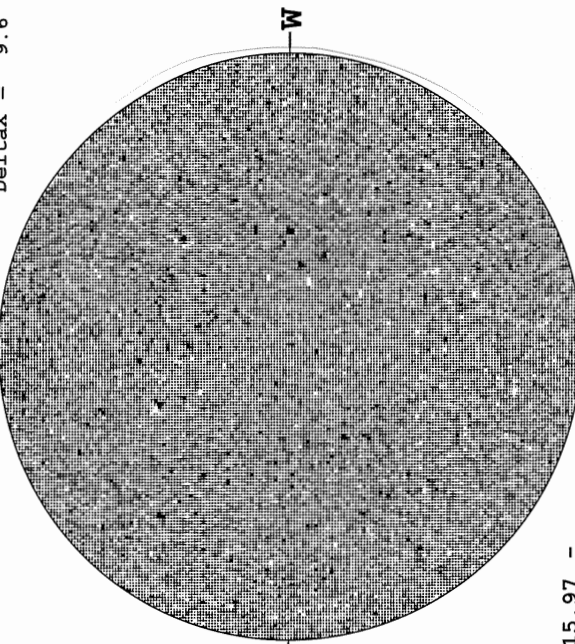
1701 UT

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



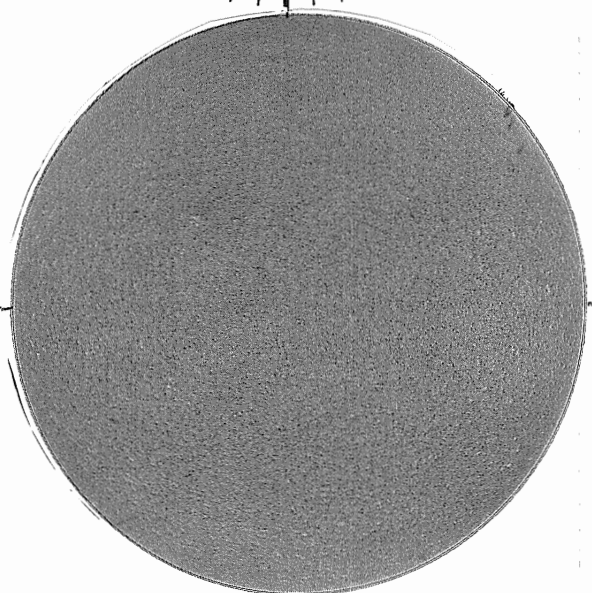
2052 UT

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.0
DeltaX = 9.6



15.97 -
16.89 UT

--- KANZELHOHE H-ALPHA

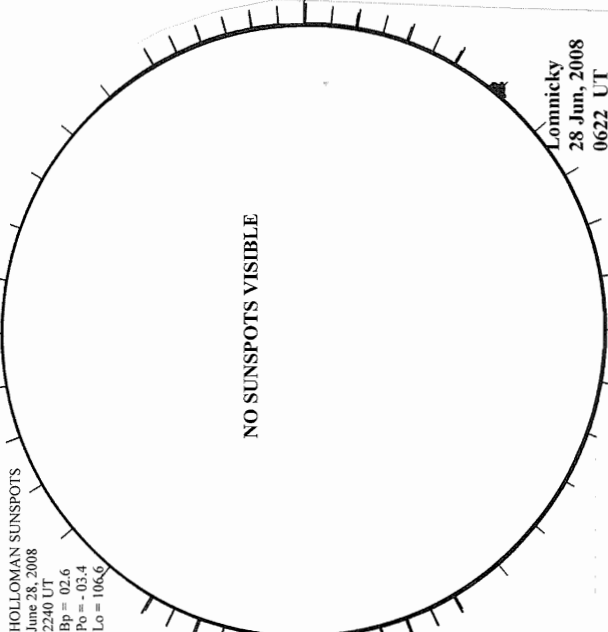


0713 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
June 28, 2008
2240 UT
Bp = 02.6
Po = -03.4
Lo = 106.6

SACRAMENTO PEAK CORONA (1.15 Radii) ----



2240 UT
0622 UT LOMN FROM

NO DATA

W

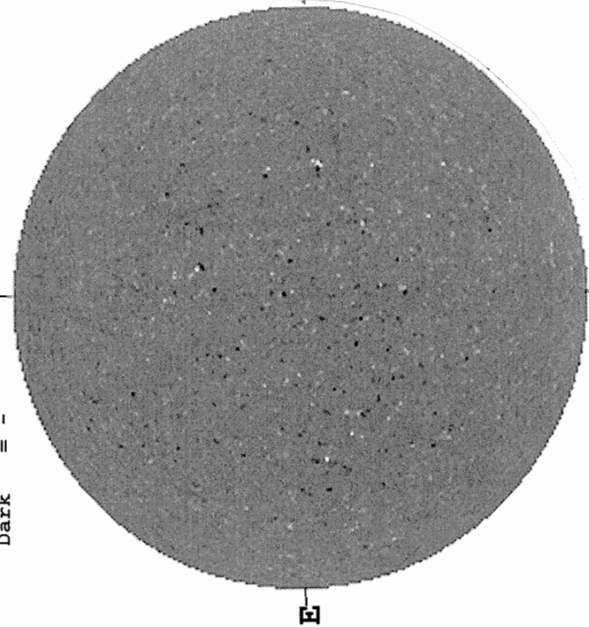
Jun 68
08

June 29, 2008 (P= -3.44, Bo= 2.68, Lo= 105.67)

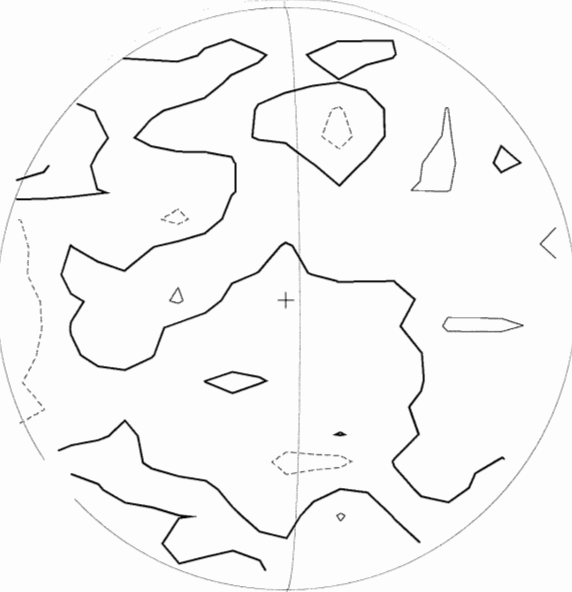
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

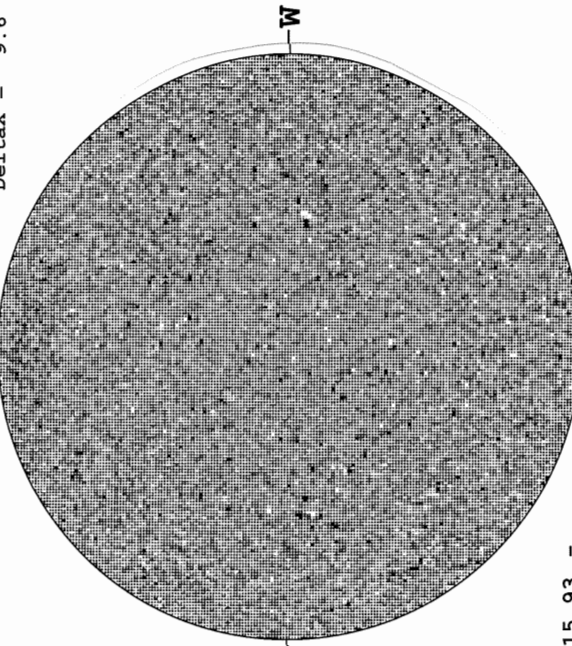
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



1651 UT

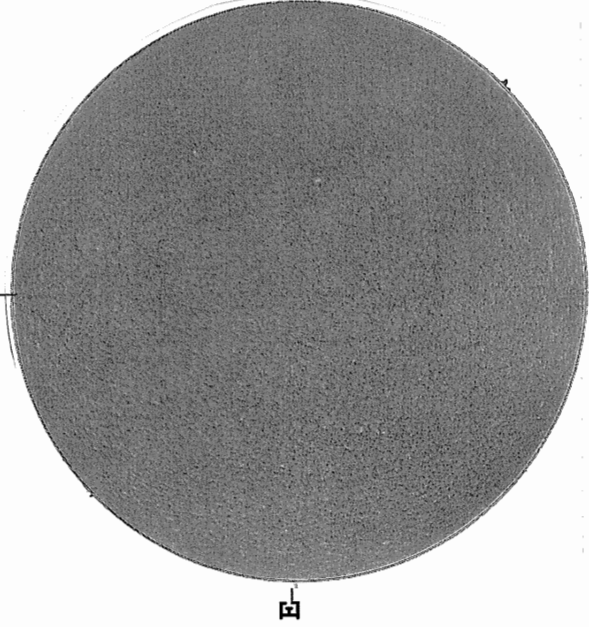


2057 UT



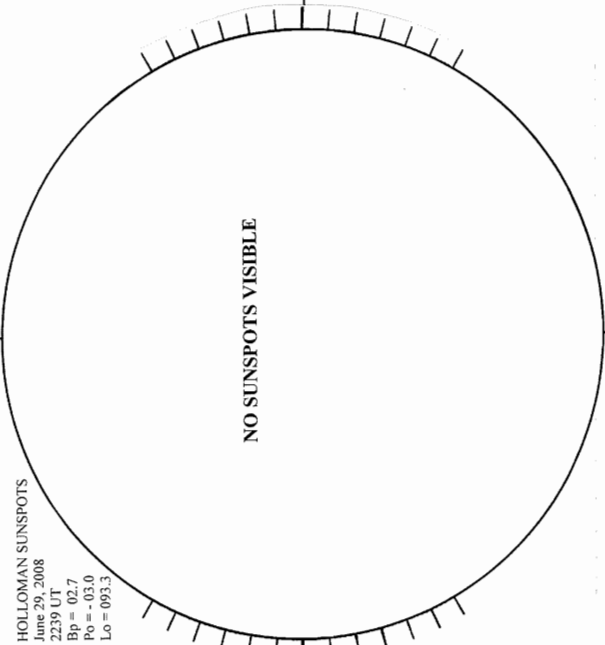
15.93 -
16.86 UT

KANZELHOHE H-ALPHA



0824 UT

HOLLOMAN SUNSPOTS



2239 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

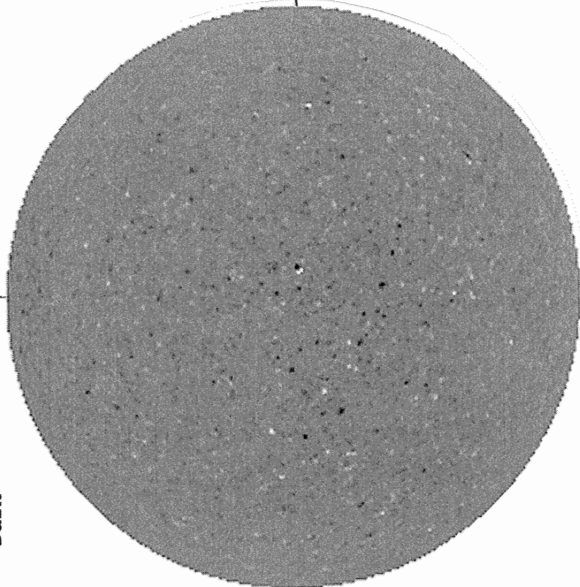
W

S

S

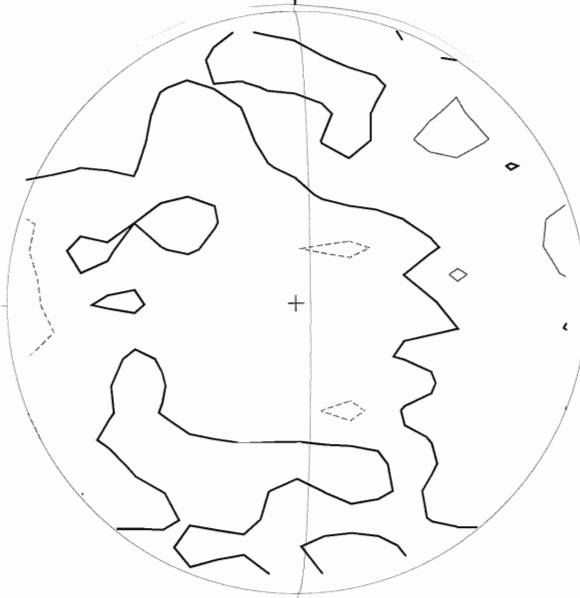
June 30, 2008 (P= -2.99, Bo= 2.79, Lo= 92.44)

KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + N ** 854.2NM **
Dark = -



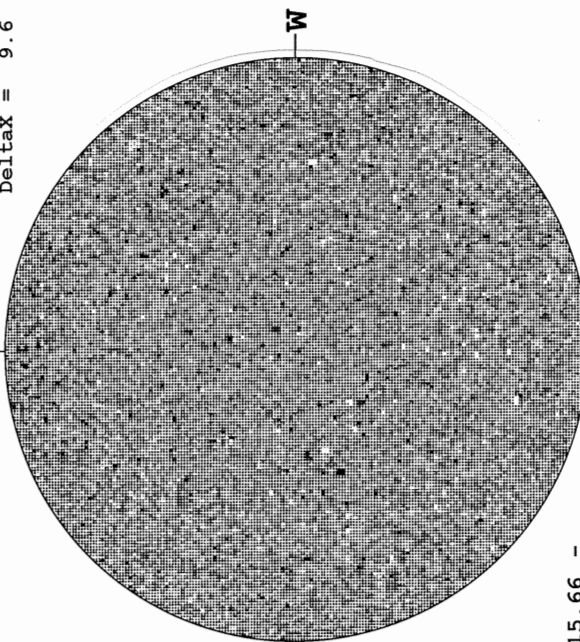
1810 UT

STANFORD MAGNETOGRAM
Solid = + N
Dashed = -



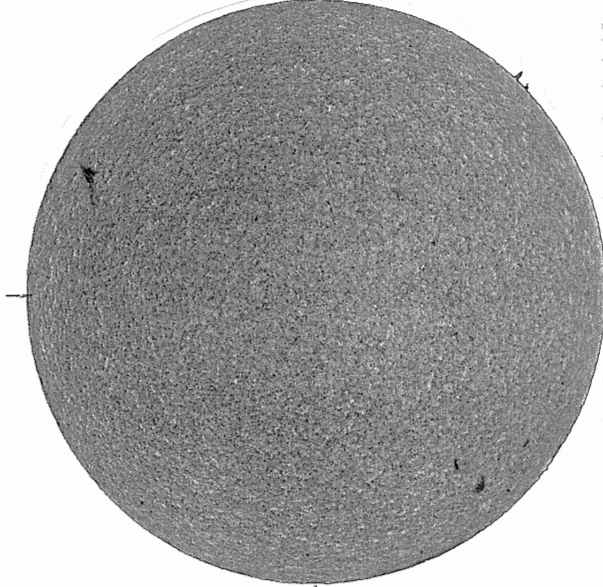
2102 UT

MT. WILSON MAGNETOGRAM
White = +7.5G N
Black = -7.5G
Deltay = 13.1
Deltax = 9.6



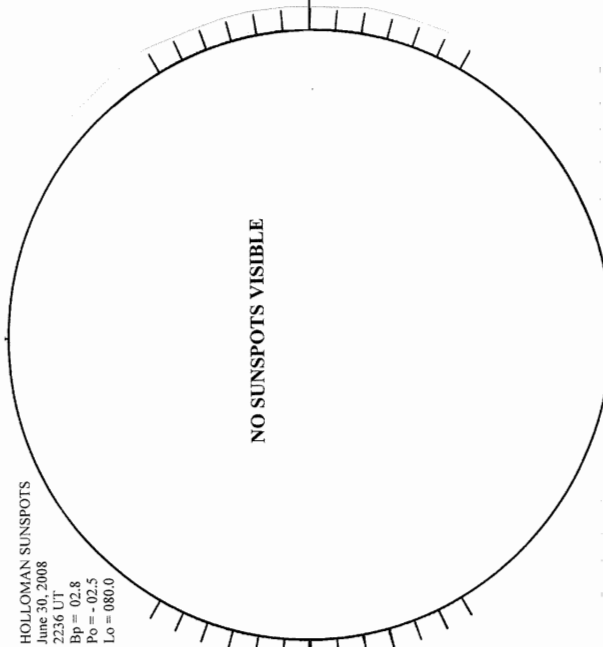
15.66 -
16.58 UT

BIG BEAR H-ALPHA



1546 UT

HOLLOMAN SUNSPOTS



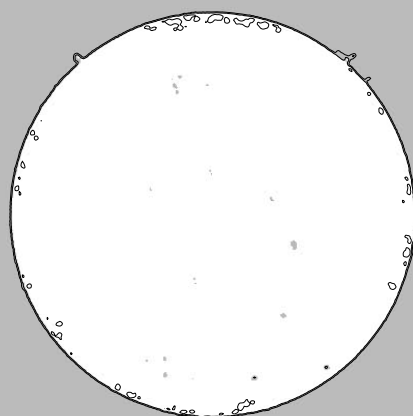
2236 UT

SACRAMENTO PEAK CORONA (1.15 Radii) -----

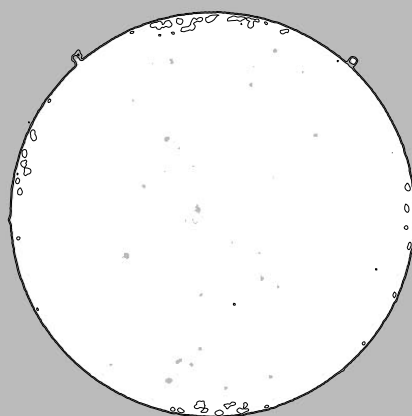
NO DATA

W

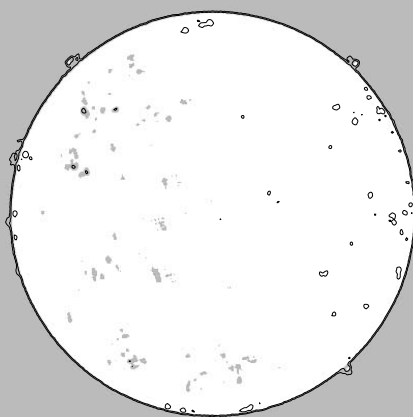
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 June



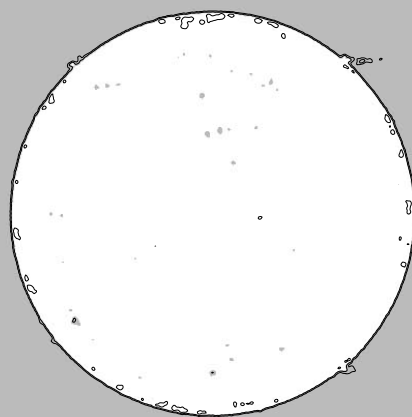
01 02:44 UT



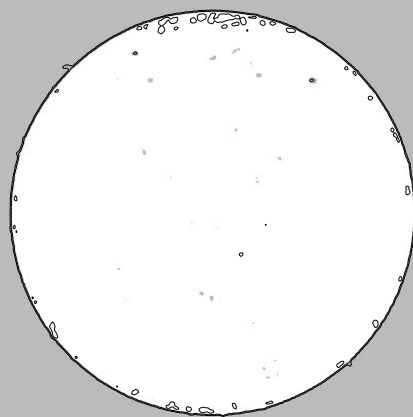
02 02:44 UT



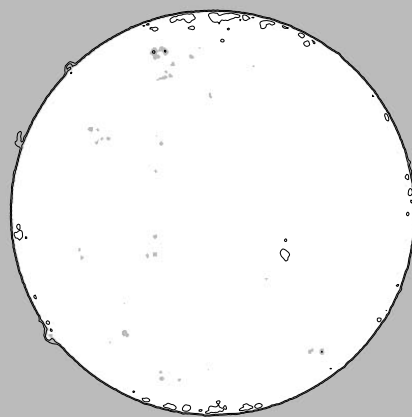
03 02:44 UT



04 02:44 UT



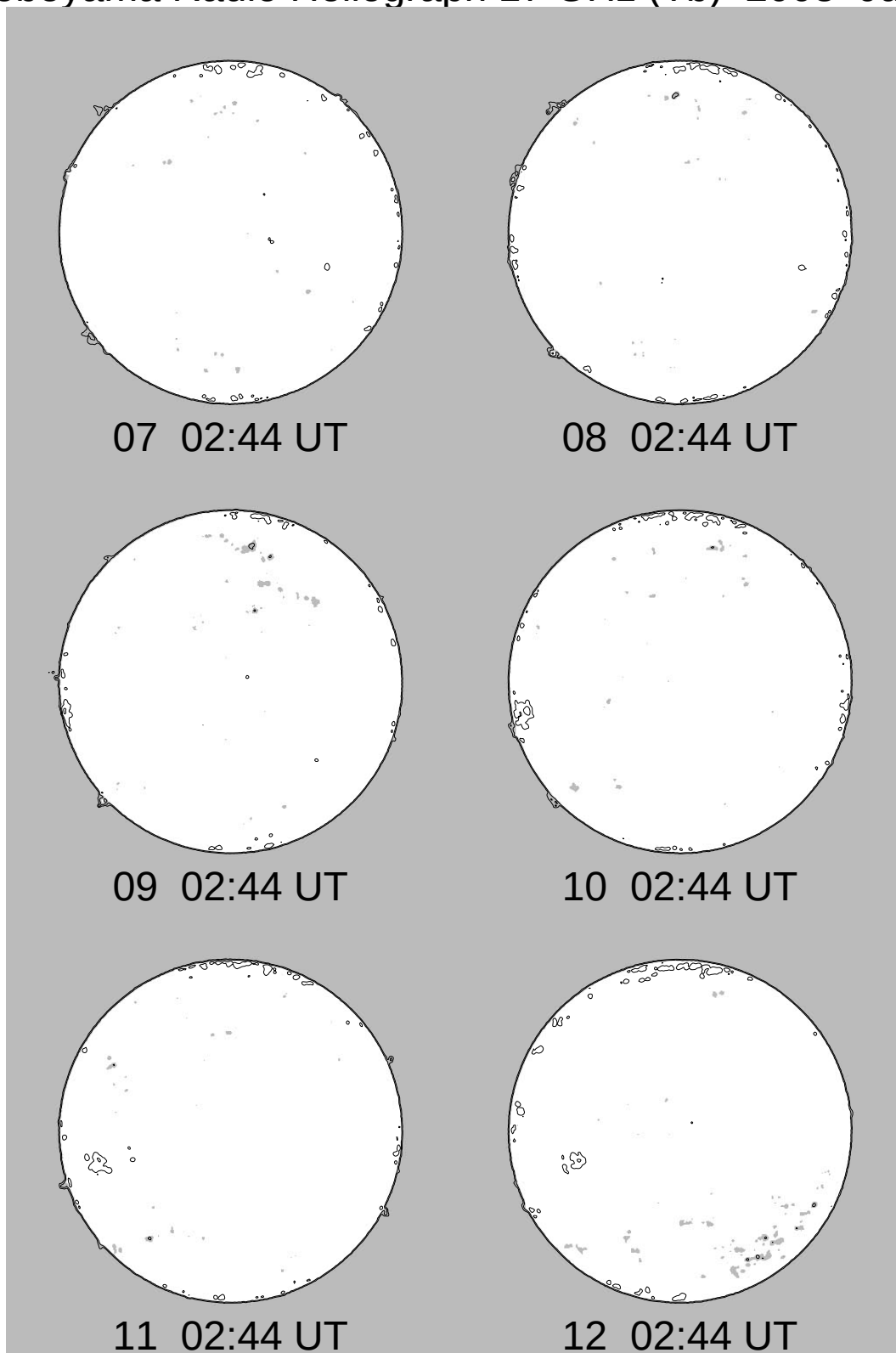
05 02:44 UT



06 02:44 UT

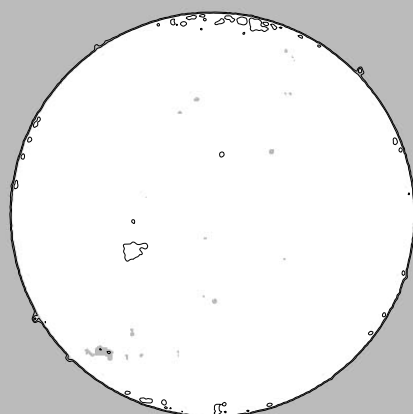
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb ≤ 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 June

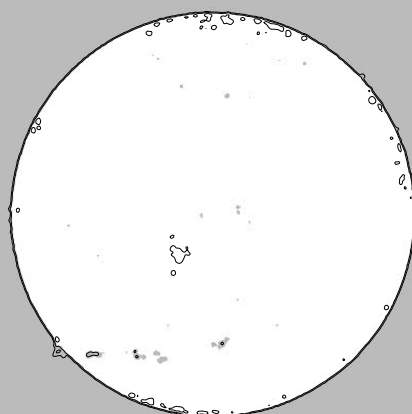


Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb ≤ 9,500 K

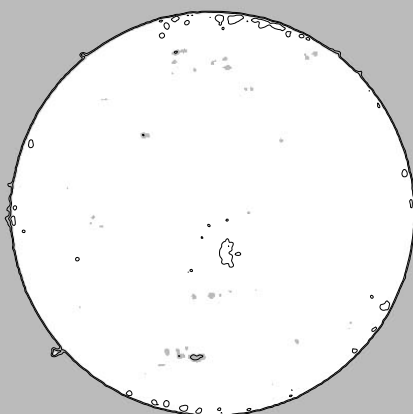
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 June



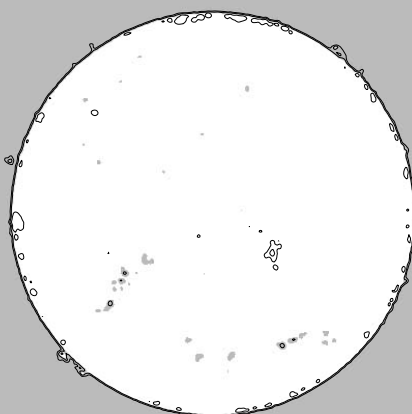
13 02:44 UT



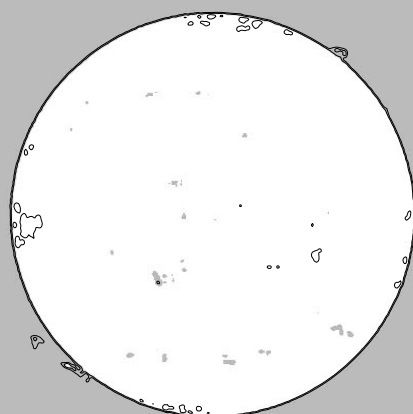
14 02:44 UT



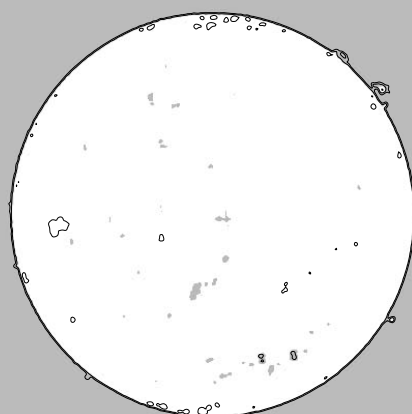
15 02:44 UT



16 02:44 UT



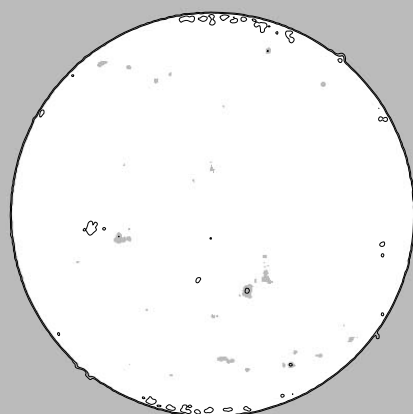
17 02:44 UT



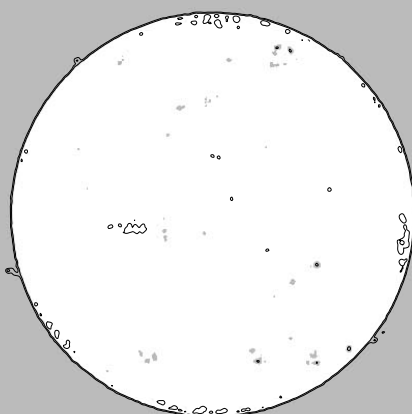
18 02:44 UT

Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb ≤ 9,500 K

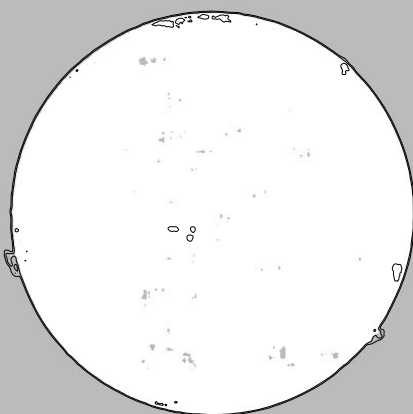
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 June



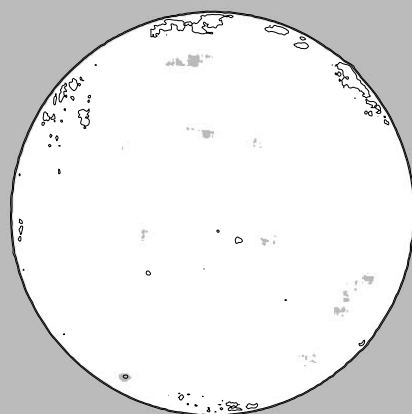
19 02:44 UT



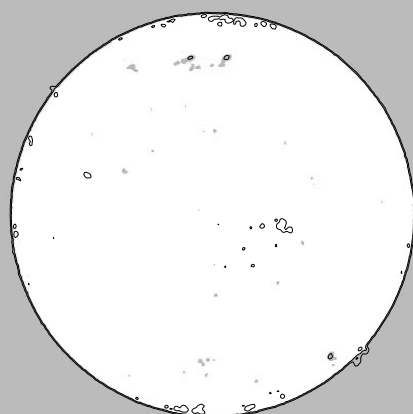
20 02:44 UT



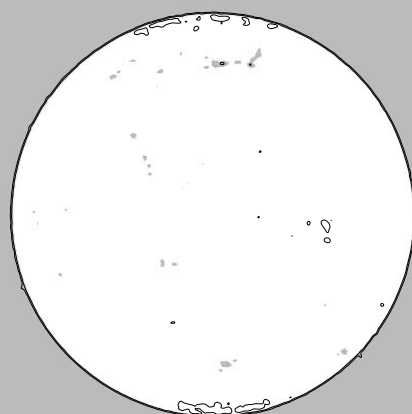
21 03:59 UT



22 04:29 UT



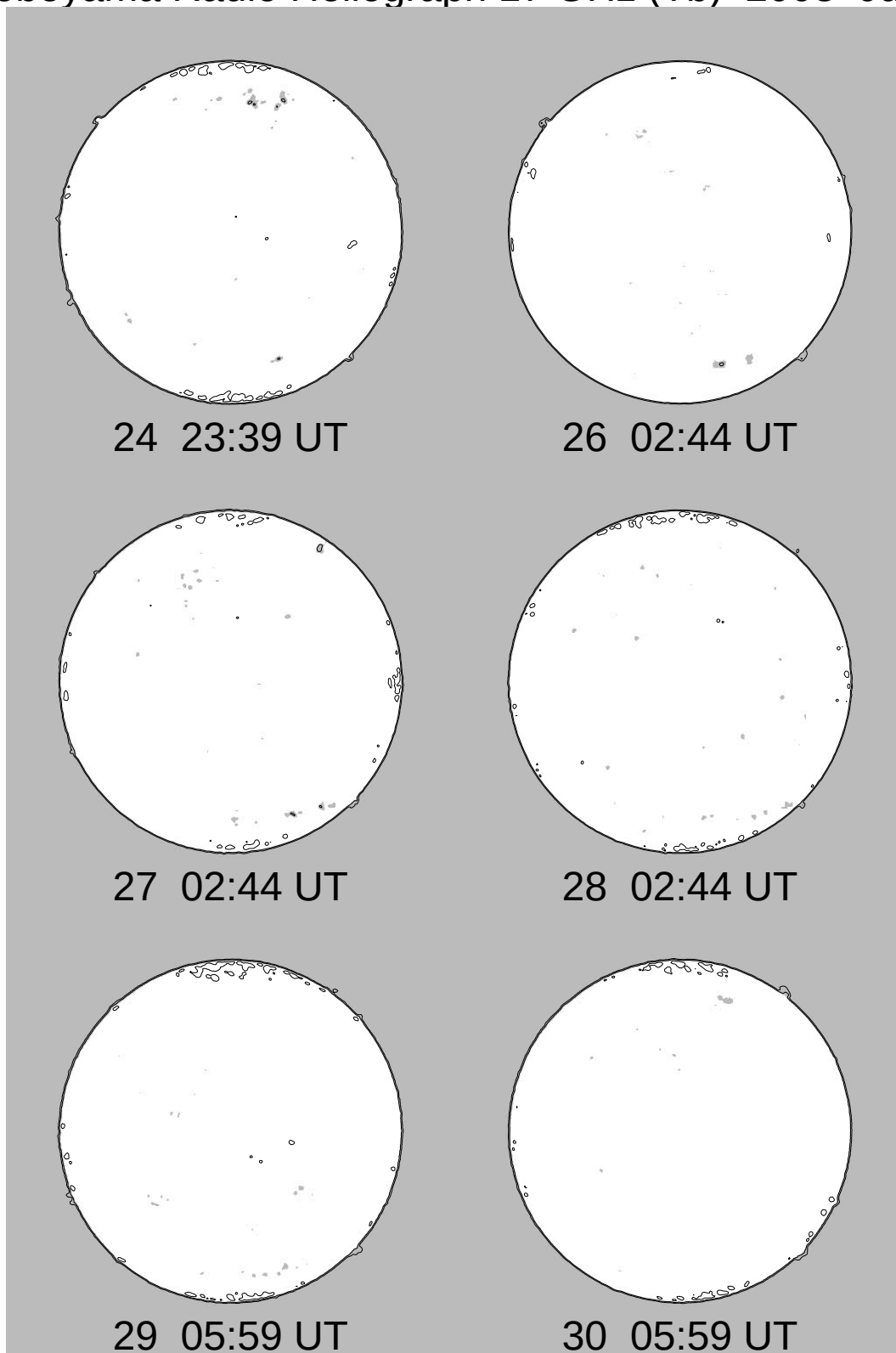
23 01:59 UT



24 02:44 UT

Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb ≤ 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 June



Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb ≤ 9,500 K

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)
JUNE 2008

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10998A		LEAR	06 05 0302	S12	W09	06	4.4		A	AXX	10	2	1	2
10998A		SVTO	06 05 0623	S13	W11	06	4.4		A	AXX	10	2	1	3
10998A		KAND	06 05 0725	S13	W11	06	4.5			AX		3	1	4
10998A		LEAR	06 06 0300	S12	W22	06	4.5		A	AXX	10	1	1	3
10998		HOLL	06 09 1822	S09	E67	06	14.8		A	AXX	20	1	1	3
10998		VORO	06 09 2333	S09	E66	06	14.9			BAI	13	2	2	2
10998		LEAR	06 10 0158	S10	E64	06	14.9		B	BXO	40	3	4	2
10998		SVTO	06 10 0540	S09	E62	06	14.9		B	BXO	40	3	5	3
10998		KAND	06 10 0815	S11	E62	06	15.0			BXO		2	4	5
10998		HOLL	06 10 1637	S09	E58	06	15.0		B	CAO	70	5	4	3
10998		VORO	06 10 2245	S09	E52	06	14.8			AXX	27	1		4
10998		PURP	06 11 0100	S09	E52	06	14.9			CSO	39	3	3	3
10998		SVTO	06 11 0533	S10	E49	06	14.9		A	HSX	30	2	2	3
10998		TACH	06 11 0635	S09	E46	06	14.7			AXX	15	1	1	3
10998		LEAR	06 11 0702	S10	E48	06	14.9		A	HSX	10	1	1	2
10998		KAND	06 11 0855	S11	E46	06	14.8			HS		1	1	3
10998		HOLL	06 11 1445	S08	E42	06	14.8		A	HSX	10	1	1	3
10998		VORO	06 11 2145	S09	E38	06	14.7			AXX	9	1		4
10998		LEAR	06 12 0109	S09	E36	06	14.7		A	AXX	10	1	1	3
10998		KAND	06 12 0730	S10	E33	06	14.8			AX		1	1	4
10998		TACH	06 12 0806	S08	E30	06	14.6			AXX	9	1	1	3
10998		SVTO	06 12 1135	S09	E31	06	14.8		A	AXX	20	1	1	3
10998		HOLL	06 12 1510	S08	E30	06	14.9		B	CSO	30	3	4	3
10998		LEAR	06 13 0100	S09	E25	06	14.9		B	BXO	20	4	1	3
10998		VORO	06 13 0410	S09	E21	06	14.7			AXX	3	2		4
10998		SVTO	06 13 0700	S10	E20	06	14.8		B	CSO	10	2	2	3
10998		KAND	06 13 0710	S10	E19	06	14.7			AX		2	1	4
10998		PURP	06 14 0200	S10	E11	06	14.9			CSO	13	3	2	3
10998B		TACH	06 16 0637	S02	E35	06	18.9			AXX	24	1	1	3
10999		VORO	06 15 2320	S01	E72	06	21.3			AXX	9	1		3
10999		LEAR	06 16 0403	S02	E70	06	21.4		A	AXX	30	1	1	2
10999		SVTO	06 16 0700	S03	E69	06	21.4		A	AXX	30	1	1	3
10999		HOLL	06 16 1653	S02	E63	06	21.4		A	AXX	10	1	1	3
10999		VORO	06 16 2242	S01	E59	06	21.3			ARX	21	1		3
10999		LEAR	06 17 0029	S03	E58	06	21.3		A	HRX	10	1	1	3
10999		SVTO	06 17 0817	S02	E55	06	21.4		A	HRX	30	1	1	3
10999		TACH	06 17 0825	N01	E53	06	21.3			AXX	21	1	1	4
10999		HOLL	06 17 1550	S03	E50	06	21.4		A	HSX	20	1	1	3
10999		VORO	06 17 2217	S01	E46	06	21.4			ARX	14	1		3
10999		LEAR	06 18 0059	S04	E46	06	21.5		A	AXX	10	1	1	3
10999		PURP	06 18 0230	S02	E45	06	21.5			HSX	21	1	1	3
10999		TACH	06 18 0542	N00	E41	06	21.3			AXX	20	1	1	4
10999		SVTO	06 18 1352	S03	E38	06	21.4		A	HRX	20	1	1	2
10999		HOLL	06 18 1515	S03	E47	06	22.1		A	HSX	10	1	1	3
10999		LEAR	06 19 0040	S04	E32	06	21.4		A	AXX	10	1	1	3
10999		PURP	06 19 0106	S02	E32	06	21.4			HSX	15	1	3	3
10999		VORO	06 19 0435	S01	E30	06	21.4			AAX	12	1		3
10999		SVTO	06 19 0515	S02	E30	06	21.4		A	AXX	10	1	1	3
10999		TACH	06 19 0607	N01	E27	06	21.3			HXX	25	1	1	4
10999		KAND	06 19 0825	S03	E28	06	21.4			HS		1	1	4
10999		HOLL	06 19 1623	S02	E23	06	21.4		A	AXX	10	1	1	4
10999		VORO	06 20 0027	S02	E18	06	21.4			AAX	10	1		3
10999		PURP	06 20 0105	S02	E19	06	21.5			HSX	18	1	1	3
10999		LEAR	06 20 0127	S02	E18	06	21.4		A	HSX	10	1	1	2
10999		TACH	06 20 0646	S01	E14	06	21.3			AXX	18	1	1	4
10999		SVTO	06 20 1020	S02	E13	06	21.4		A	HSX	10	1	1	3
10999		HOLL	06 20 1654	S02	E09	06	21.4		A	HSX	10	1	1	3
10999		PURP	06 21 0155	S02	E05	06	21.4			HSX	19	1	1	3
10999		LEAR	06 21 0317	S02	E03	06	21.4		A	HSX	10	1	1	3
10999		VORO	06 21 0504	S01	E03	06	21.4			AAX	8	1		3
10999		TACH	06 21 0545	S01	E01	06	21.3			AXX	15	1	1	4
10999		SVTO	06 21 0710	S02	E02	06	21.4		A	HSX	10	1	1	2
10999		KAND	06 21 1205	S02	W02	06	21.3			HS		1	1	4
10999		HOLL	06 21 1517	S02	W04	06	21.3		A	HSX	10	1	1	3
10999		PURP	06 22 0150	S02	W09	06	21.4			HSX	15	1	1	3
10999		LEAR	06 22 0205	S02	W10	06	21.3		A	AXX	10	2	1	3

Jun 08

S U N S P O T G R O U P S
(Ordered by Central Meridian Passage Date)
JUNE 2008

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time					CMP		Max	Mag	Spot	Corrected Area		Spot	Long. Extent	Qual
			Mo	Day	(UT)	Lat	CMD	Mo	Day	H	Class	Class	(10-6 Hemi)	Count	(Deg)		
10999		VORO	06	22	0240	S02	W10	06	21.4			AAX	7	1		3	
10999		TACH	06	22	0529	S01	W11	06	21.4			AXX	10	1	1	4	
10999		SVTO	06	22	0655	S02	W13	06	21.3		A	HSX	10	1	1	2	
10999		HOLL	06	22	1459	S02	W17	06	21.3		A	HSX	10	1	1	4	
10999		HOLL	06	24	1550	S06	W30	06	22.4		A	AXX	10	1	1	2	
10999A		HOLL	06	22	1459	S01	W08	06	22.0		A	CRO	20	2	2	4	
10999A		KAND	06	23	1115	S02	W15	06	22.3			AX		1		5	
10999B		VORO	06	28	2218	S01	W15	06	27.8			AXX	3	1		3	

Stations reporting:

HOLL = Holloman
KAND = Kandilli

LEAR = Learmonth
PALE = Palehua

PURP = Purple Mountain
SVTO = San Vito

TACH = Tashkent
VORO = Voroshilov

SUDDEN IONOSPHERIC DISTURBANCES
JUNE 2008

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
08	0822	0833	0904	1	1						No flare		
09	0652	0702	0726	1	1						No flare		
15	0739	0744	0805	1	1						No flare		

OBSERVATORIES REPORTING FOR JUNE 2008

Upice, Czech Republic	SEA
-----------------------	-----

Observations are not necessarily continuous.

* = No Flare Patrol

Jun 08

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

Spectral Observations

JUNE 2008

OBSERVATION				EVENT				FREQUENCY			Remarks
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)	Upper (MHz)	
01	0000	0710	CULG								
	0000	0956	HIRA								
	0459	1743	ONDR								
	1915	2400	HIRA								
	2050	2400	CULG								
02	0000	0710	CULG								
	0000	0957	HIRA								
	0459	1744	ONDR								
	1914	2400	HIRA								
	2050	2400	CULG								
03	0000	0710	CULG								
	0000	0957	HIRA								
	0459	1745	ONDR								
	1914	2400	HIRA								
	2050	2400	CULG								
04	0000	0710	CULG								
	0000	0958	HIRA								
	0459	1731	ONDR								
	1914	2400	HIRA								
	2050	2400	CULG								
05	0000	0710	CULG								
	0000	0958	HIRA								
	0459	1731	ONDR								
			LEAR	2317.0	2318.0	III		1	25	131	
			PALE	2318.0	2318.0	III		1	25	84	
	1914	2400	HIRA	2318.0	2318.5	III	B	1	50	110	
	2050	2400	CULG	2318.0	2319.0	III	G	1	20	100	
06	0000	0710	CULG								
	0000	0959	HIRA								
	0459	1747	ONDR								
	1914	2400	HIRA								
	2050	2400	CULG								
07	0000	0710	CULG								
	0000	1000	HIRA								
	0459	1732	ONDR								
	1914	2400	HIRA								
	2050	2400	CULG								
08	0000	0710	CULG								
	0000	1000	HIRA								
	0459	1748	ONDR								
	1913	2400	HIRA								
	2050	2400	CULG								
09	0000	0710	CULG								
	0000	1001	HIRA								
	0459	1749	ONDR								
	1913	2400	HIRA								
	2050	2400	CULG								
10	0000	0710	CULG								
	0000	1001	HIRA								
	0459	1749	ONDR								
	1913	2400	HIRA								
	2050	2400	CULG								
11	0000	0710	CULG								
	0000	1002	HIRA								
	0459	1750	ONDR								
	1913	2400	HIRA								
	2050	2400	CULG								
12	0000	0710	CULG								

S O L A R R A D I O E M I S S I O N
Spectral Observations
JUNE 2008

79
Jun 08

OBSERVATION				EVENT				FREQUENCY			Remarks
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)	Upper (MHz)	
12	0000	1002	HIRA								
	0459	1750	ONDR								
	1913	2400	HIRA								
	2050	2400	CULG								
13	0000	0710	CULG								
	0000	1003	HIRA								
	0459	1751	ONDR								
	1913	2400	HIRA								
	2050	2400	CULG								
14	0000	0710	CULG								
	0000	1003	HIRA								
	0459	1751	ONDR								
	1913	2400	HIRA								
	2100	2400	CULG								
15	0000	0710	CULG								
	0000	1003	HIRA								
	0459	1752	ONDR								
	1913	2400	HIRA								
	2100	2400	CULG								
16	0000	0710	CULG								
	0000	1004	HIRA								
	0459	1752	ONDR								
	1913	2400	HIRA								
	2100	2400	CULG								
17	0000	0710	CULG								
	0000	1004	HIRA								
	0459	1752	ONDR								
	1914	2400	HIRA								
	2100	2400	CULG								
18	0000	0710	CULG								
	0000	1004	HIRA								
	0459	1753	ONDR								
	1914	2400	HIRA								
	2100	2400	CULG								
19	0000	0710	CULG								
	0000	1005	HIRA								
	0459	1753	ONDR								
	1914	2400	HIRA								
	2100	2400	CULG								
20	0000	0710	CULG								
	0000	1005	HIRA								
	0459	1753	ONDR								
	1914	2400	HIRA								
	2100	2400	CULG								
21	0000	0710	CULG								
	0000	1005	HIRA								
	0459	1754	ONDR								
	1914	2400	HIRA								
	2100	2400	CULG								
22	0000	0710	CULG								
	0000	1006	HIRA								
	0459	1754	ONDR								
	1914	2400	HIRA								
	2100	2400	CULG								
23	0000	0710	CULG								
	0000	1006	HIRA								
	0459	1754	ONDR								
	1914	2400	HIRA								

Jun 08

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

Spectral Observations

JUNE 2008

Day	OBSERVATION			EVENT			Int (1-3)	FREQUENCY		Remarks
	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class		Lower (MHz)	Upper (MHz)	
23	2100	2400	CULG							
24	0000	0710	CULG							
	0000	1006	HIRA							
	0459	1754	ONDR							
	1914	2400	HIRA							
	2100	2400	CULG							
25	0000	0710	CULG							
	0000	1006	HIRA							
	0459	1656	ONDR							
	1915	2400	HIRA							
	2100	2400	CULG							
26	0000	0710	CULG							
	0000	1006	HIRA							
	0601	1754	ONDR							
	1915	2400	HIRA							
	2100	2400	CULG							
27	0000	0710	CULG							
	0000	1006	HIRA							
	0459	1754	ONDR							
	1916	2400	HIRA							
	2100	2400	CULG							
28	0000	0710	CULG							
	0000	1007	HIRA							
	0459	1754	ONDR							
	1916	2400	HIRA							
	2100	2400	CULG							
29	0000	0710	CULG							
	0000	1007	HIRA							
	0459	1754	ONDR							
	1916	2400	HIRA							
	2100	2400	CULG							
30	0000	0710	CULG							
	0000	1006	HIRA							
	0459	1754	ONDR							
	1917	2400	HIRA							
	2100	2400	CULG							

Event Remarks:

B = Single burst	N = Intermittent activity in this period
C = Underlying continuum	MOV = Moving (Type IV)
(particularly with Type I)	MWB = Meter wave burst
DC = Drifting chains	RS = Reverse slope burst
DP = Drifting pairs	S = Storm in the sense of intermittent
F = Fundamental emission (Type II)	but apparently connected actively
FS = Fine structures (Type IV)	SH = Secondary harmonic emission
G = Small group of bursts (<10)	STA = Stationary (Type IV)
GG = Large group of bursts (>10)	U = U-shaped burst of Type III
H = Herringbone	UE = Uncertain emission (Type II)
HARM = Harmonic	W = Weak

Frequency qualifiers:

X = Extends beyond instrument range	U = Uncertain frequency
-------------------------------------	-------------------------

Remarks:

SWF = Associated short wave fade observed
ESS = Estimated shock speed in km/s (Type II)
FLA = Associated flare observed (class optional)

Stations Reporting:

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

NOTE 1: Beginning June 26, 2001, the Bleien observatory changed to higher frequencies (1-4Ghz).
NOTE 2: Potsdam has reduced sensitivity in the 400-800 MHz range.

SOLAR RADIO NOISE STORM AT 150.9 MHZ

FROM NANÇAY RADIOHELIOGRAPH

JUNE 2008

	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
DAY	E-W	S-N		START(UT)	END(UT)

SOLAR RADIO NOISE STORM AT 327 MHZ

FROM NANÇAY RADIOHELIOGRAPH

JUNE 2008

	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
DAY	E-W	S-N		START(UT)	END(UT)

OTHERS DAYS: NO DETECTABLE NOISE STORM

- For the days marked by an asterisk, intense ionospheric gravity waves are observed during the whole day. Without a more detailed analysis leading to increase uncertainties in the deviation, the positions which are indicated are estimated within 0.2 R

** Following a large burst

*** importance not well determined due to the proximity of the very strong other source

**** no flux measurements available

¹ POSITIVE E-W AND S-N COORDINATES CORRESPOND TO THE N-W QUADRANT

² IMP1: FLUX < 5 SFU IMP2: 5 < FLUX < 20 SFU IMP3: 20 < FLUX < 100 SFU
IMP4: 100 < FLUX < 300 SFU IMP5 > 300 SFU

³ E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANÇAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANÇAY OBSERVATIONS

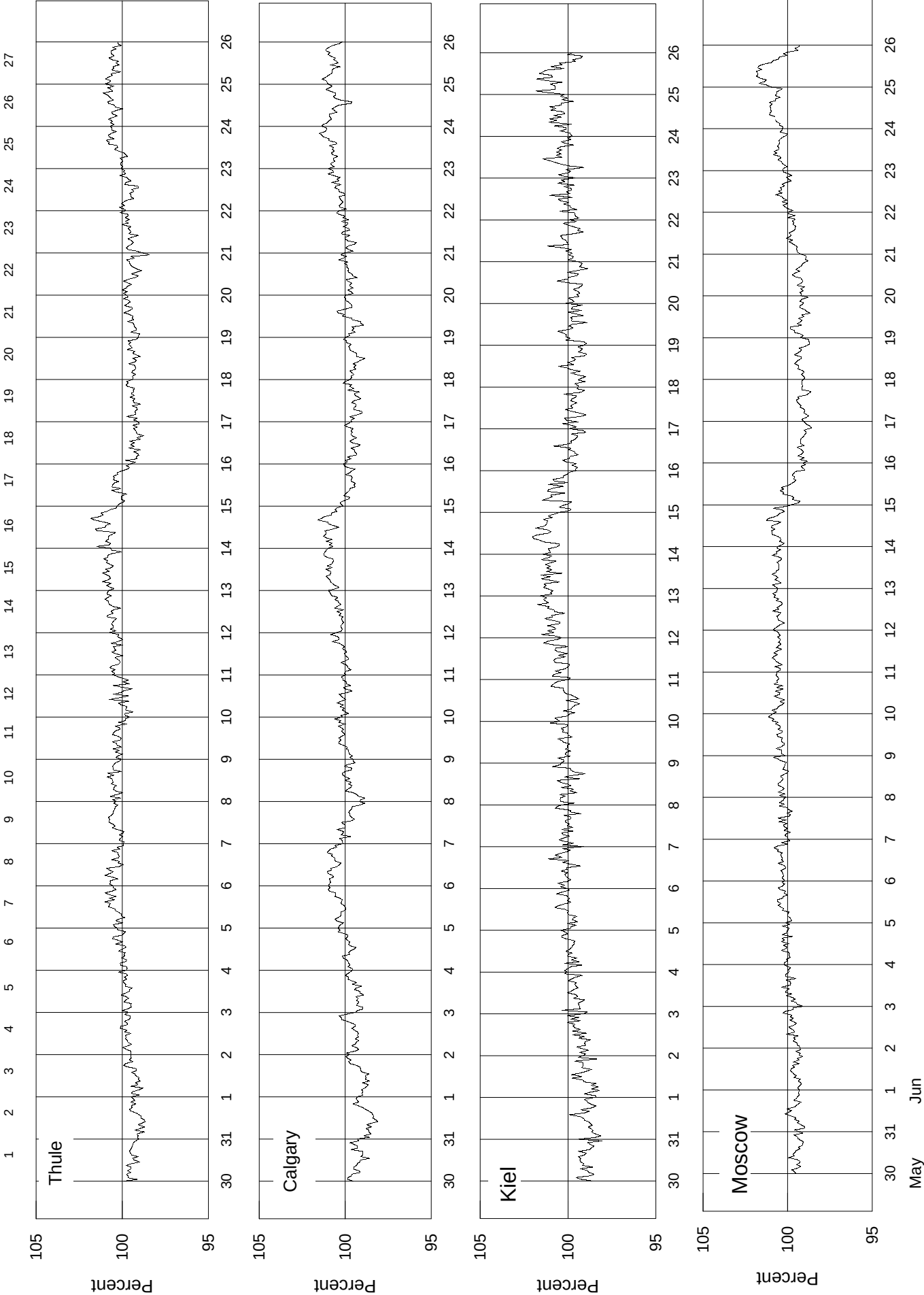
COSMIC RAY INDICES
(Neutron Monitor)
JUNE 2008

Day	THULE Average (cts/h)/100	CALGARY Average (cts/h)/300	KIEL Average (cts/h)/100	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	4523.0	3941.5	6223.5	9463.2		2012.7	
2	4541.0	3959.8	6248.9	9486.1		2024.6	
3	4542.7	3952.0	6261.4	9502.4		2024.4	
4	4553.8	3970.5	6283.0	9523.7		2023.8	
5	4574.4	3991.3	6291.0	9537.5		2018.0	
6	4573.6	4006.2	6300.8	9547.7		2012.8	
7	4570.4	3970.8	6292.0	9528.6	data	2025.0	data
8	4574.5	3963.0	6293.0	9546.6	not	2005.9	not
9	4563.6	3979.7	6301.6	9565.1	available	2020.6	available
10	4550.6	3979.2	6296.8	9569.8		2021.6	
11	4569.5	3980.8	6320.1	9571.0		2019.3	
12	4583.0	3991.3	6349.5	9571.8		2019.5	
13	4588.5	4011.7	6358.3	9574.7		2015.1	
14	4598.6	4013.2	6366.6	9576.8		2008.7	
15	4561.9	3968.7	6321.0	9486.2		2006.1	
16	4519.4	3962.0	6272.6	9427.2		2014.3	
17	4525.0	3956.5	6269.3	9431.1		2002.2	
18	4524.9	3958.8	6258.5	9437.3		2002.3	
19	4529.4	3966.3	6270.0	9442.7		1995.1	
20	4530.2	3969.3	6264.0	9441.7		1990.5	
21	4534.2	3973.5	6284.8	9484.7		2000.8	
22	4539.6	3992.0	6290.9	9530.9		2004.3	
23	4568.4	4010.5	6306.4	9555.7		2005.1	
24	4581.2	4004.0	6313.2	9584.7(23)		2011.1	
25	4578.2	4009.5	6330.6	9608.3		2013.8	
26	4527.0	3960.3	6263.2	9488.6		2003.4	
27	4544.5	3971.0	6268.2	9472.2		2008.5	
28	4543.2	3978.7	6275.4	9501.8		2011.3	
29	4547.0	3983.3	6280.9	9541.2		2013.3	
30	4562.5	3983.3	6284.2	9531.1		2012.6	
Mean	4554.0	3978.6	6291.3	9517.6		2011.6	

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours, and for Haleakala, whenever the sum of all three sections falls below 60 hours.

COSMIC RAY INDICES (Neutron Monitor)

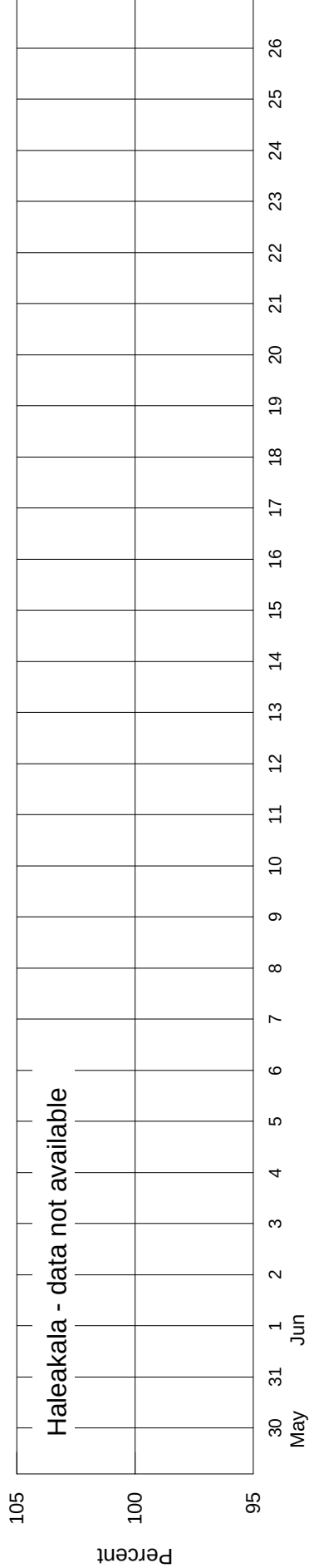
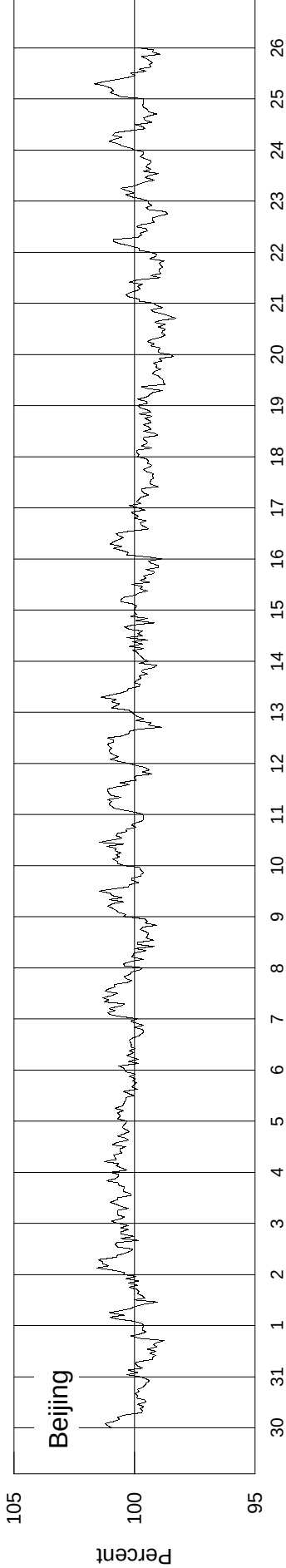
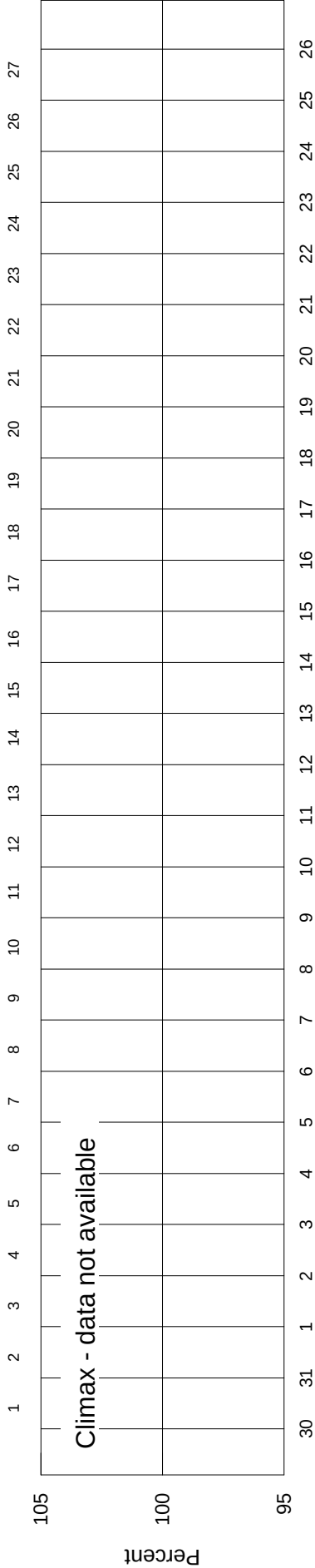
Bartels Rotation 2386 - Beginning 30 May 2008



COSMIC RAY INDICES

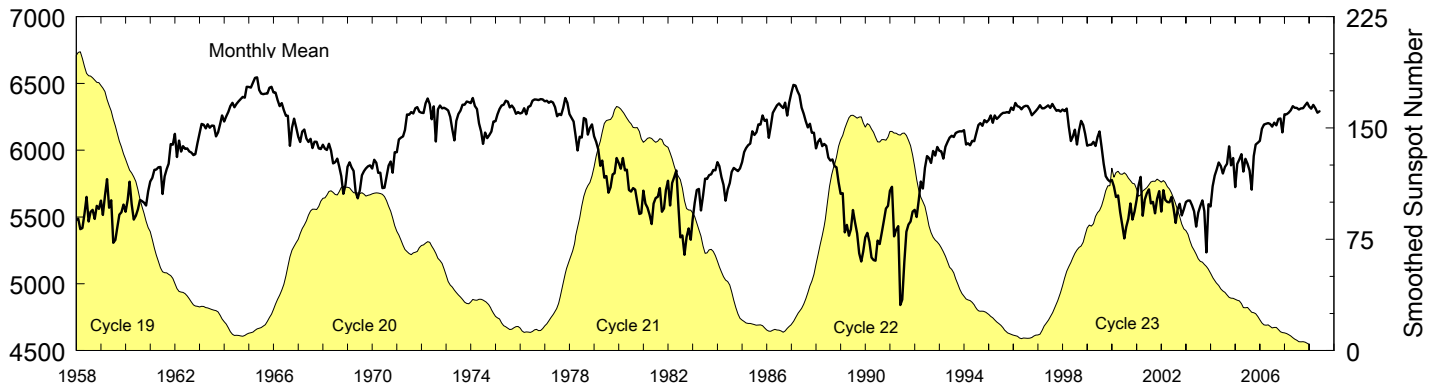
(Neutron Monitor)

Bartels Rotation 2386 - Beginning 30 May 2008



Kiel Neutron Monitor Pressure-Corrected Values Jan 1958 - Jun 2008

85
Jun 08



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1958	5481	5488	5409	5417	5523	5651	5466	5538	5553	5485	5584	5561	5513
1959	5623	5515	5659	5783	5569	5625	5307	5328	5420	5518	5536	5593	5540
1960	5539	5628	5764	5596	5480	5509	5557	5628	5620	5607	5586	5692	5601
1961	5766	5793	5853	5856	5872	5874	5672	5804	5859	5898	6046	6041	5861
1962	6122	5949	6072	5989	6030	6010	6013	5991	5982	5963	5971	6052	6012
1963	6125	6197	6191	6163	6194	6168	6185	6182	6103	6133	6197	6260	6175
1964	6215	6253	6287	6331	6355	6321	6347	6366	6383	6399	6393	6475	6344
1965	6474	6469	6506	6542	6545	6451	6424	6420	6423	6424	6467	6475	6468
1966	6433	6432	6375	6330	6353	6300	6258	6258	6033	6168	6236	6172	6279
1967	6101	6061	6139	6155	6088	6061	6086	6016	6064	6063	6014	6009	6071
1968	6041	6011	6001	6048	5997	5901	5910	5937	5878	5805	5673	5739	5912
1969	5876	5909	5872	5845	5686	5640	5700	5812	5843	5864	5879	5887	5818
1970	5863	5928	5906	5830	5831	5716	5719	5803	5885	5915	5832	5985	5851
1971	5985	6081	6094	6103	6151	6268	6265	6286	6275	6314	6322	6288	6203
1972	6281	6278	6351	6387	6344	6232	6328	6065	6306	6334	6313	6318	6295
1973	6309	6298	6250	6155	6074	6220	6271	6296	6341	6340	6365	6360	6273
1974	6353	6391	6331	6308	6201	6139	6047	6132	6090	6113	6139	6215	6205
1975	6217	6267	6308	6334	6341	6370	6363	6320	6334	6313	6272	6286	6310
1976	6275	6281	6314	6269	6325	6331	6370	6380	6379	6375	6383	6380	6339
1977	6366	6371	6355	6366	6357	6322	6254	6272	6263	6317	6391	6355	6332
1978	6271	6242	6215	6113	5998	6101	6095	6241	6232	6117	6167	6193	6165
1979	6104	6063	6006	5883	5923	5794	5806	5682	5723	5820	5827	5942	5881
1980	5905	5862	5942	5850	5854	5702	5690	5717	5704	5611	5522	5528	5741
1981	5697	5600	5569	5517	5447	5600	5642	5650	5717	5539	5564	5702	5604
1982	5772	5586	5755	5799	5848	5582	5347	5362	5217	5349	5414	5329	5530
1983	5481	5606	5702	5711	5549	5659	5787	5785	5814	5820	5852	5849	5718
1984	5911	5880	5799	5740	5622	5706	5753	5837	5867	5856	5844	5864	5807
1985	5911	5986	6016	6038	6049	6142	6114	6135	6193	6192	6260	6220	6105
1986	6229	6093	6176	6280	6308	6336	6350	6331	6315	6356	6259	6359	6283
1987	6429	6489	6484	6443	6410	6319	6273	6217	6171	6198	6131	6131	6308
1988	6013	6064	6085	6030	6047	6033	5945	5922	5931	5880	5872	5761	5965
1989	5673	5678	5385	5441	5360	5407	5552	5460	5378	5228	5167	5241	5414
1990	5348	5381	5313	5197	5177	5173	5324	5297	5382	5471	5563	5584	5351
1991	5696	5726	5355	5405	5431	4841	4882	5162	5390	5443	5466	5540	5361
1992	5553	5500	5624	5766	5713	5869	5956	5942	5905	5994	5960	6024	5817
1993	5996	5992	5937	6026	6061	6094	6108	6099	6129	6137	6142	6141	6072
1994	6150	6042	6052	6067	6070	6068	6129	6189	6203	6183	6226	6209	6132
1995	6225	6260	6205	6260	6234	6250	6267	6279	6281	6285	6279	6319	6262
1996	6301	6354	6330	6324	6306	6325	6332	6331	6303	6262	6277	6294	6312
1997	6313	6337	6313	6314	6324	6336	6317	6347	6319	6295	6301	6289	6317
1998	6305	6293	6312	6177	6069	6101	6154	6042	6149	6220	6190	6124	6178
1999	6034	6040	6041	6062	6032	6100	6140	6023	5898	5805	5780	5765	5977
2000	5778	5729	5650	5661	5537	5441	5339	5425	5487	5602	5481	5542	5556
2001	5629	5736	5800	5509	5631	5678	5707	5602	5614	5527	5637	5694	5647
2002	5540	5701	5628	5613	5610	5651	5562	5455	5556	5599	5512	5558	5582
2003	5613	5624	5624	5588	5543	5428	5532	5582	5624	5544	5235	5595	5544
2004	5579	5730	5810	5854	5908	5882	5856	5874	5898	6029	5887	5941	5854
2005	5723	5898	5931	5970	5840	5936	5899	5847	5705	5956	6042	6056	5900
2006	6070	6161	6192	6198	6202	6197	6176	6206	6186	6234	6238	6133	6183
2007	6270	6268	6281	6298	6330	6317	6316	6304	6313	6314	6336	6357	6309
2008	6327	6311	6339	6314	6280		6291						6310

Multiply table entries by 100 to obtain hourly counting rate. Kiel, Germany: N54, E10, Alt= 54 m, Cutoff Rigidity= 2.32GV.

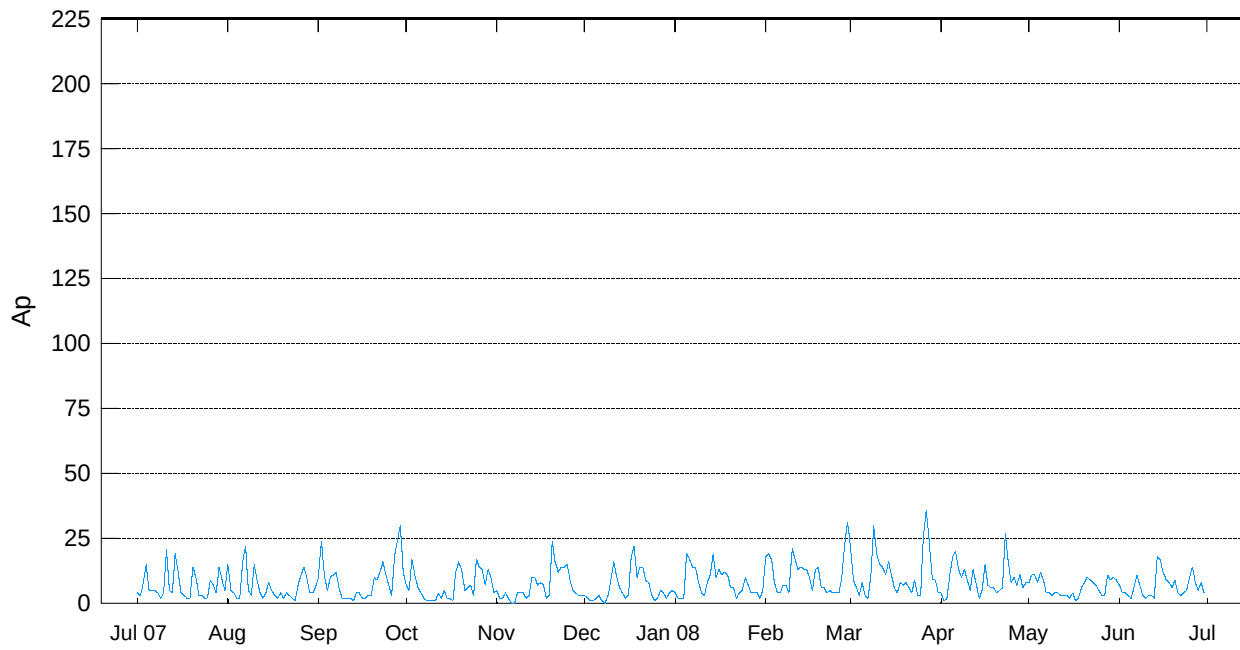
Geomagnetic Activity Indices

JUNE 2008

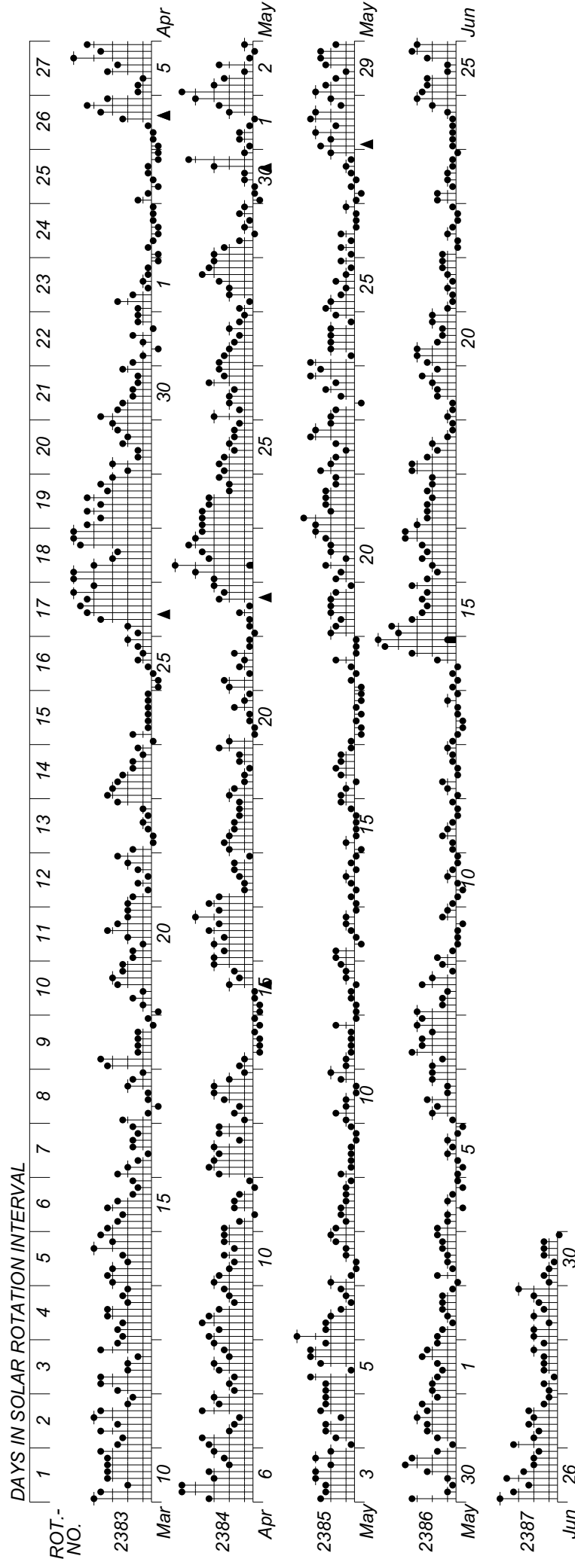
Kp Three-Hourly Indices																														
Day	1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices								Am	aa Provisional									
	1	2	3	4	5	6	7	8				1	2	3	4	5	6	7	8	N	S	M								
1	2	2	2-	1+	2-	3-	2+	2-	15+	7	0.4	2-	20	1+	2-	2-	3-	2-	2-	14	18	18								
2	2-	1+	1-	1	1+	1+	1+	1-	9+	4	0.2	1+	2-	1-	1-	10	2-	1+	10	7	11	8								
3	0+	2-	1-	1	1	1+	1+	2-	9	4	0.2	1-	2-	0+	10	10	10	1+	2-	8	11	6								
4	Q7	2-	1	1	0	1	1-	0	0+	6-	3	0.1	1+	1-	10	00	1-	0+	00	0+	4	7								
5	Q3	0+	0	0+	1	1-	1	0+	0	4-	2	0.0	0+	00	00	10	1-	1-	00	00	3	5								
6		1-	2	2-	2+	1	1	2	2	13-	6	0.3	1-	20	2-	2+	10	10	20	20	11	18								
7	D5*	2	1+	3+	3-	3-	2	3	3-	20-	11	0.6	2-	20	30	30	3-	20	3-	3-	22	23								
8		3	1+	1+	1	3-	2	1-	1+	13+	7	0.4	30	2-	2-	1+	2+	20	10	20	15	19								
9	Q8	2-	1-	0+	0+	0+	0	1+	1	6-	3	0.1	2-	1-	00	0+	0+	00	1+	10	5	7								
10	Q2	1-	0+	0	0+	1	1-	0+	0+	4-	2	0.0	10	00	0+	0+	1+	1-	0+	00	4	5								
11	Q5	1-	1-	1+	1	1-	0+	0+	1-	6-	3	0.1	1-	10	1+	1+	1-	00	00	0+	5	7								
12	Q6	0+	1	1+	0+	0+	1-	1-	1	6-	3	0.1	0+	0+	0+	0+	0+	0+	0+	1+	3	8								
13	Q1	1-	0+	0	0	0+	0+	1	0+	3	2	0.0	1-	0+	00	00	00	0+	0+	0+	2	6								
14	D3*	1-	0+	1-	0+	2-	3+	5-	6-	17+	18	1.0	1-	00	1-	1-	2-	30	30	50	23	32								
15	D1*	4	4+	3+	3-	2+	3-	2+	3+	25	17	0.9	4-	40	4-	3-	3-	2+	20	4-	35	43								
16	D4*	2+	2-	2	3-	2+	3-	4-	4-	21	12	0.7	2+	20	2+	3-	20	3-	30	4-	24	27								
17		3	2+	2+	2+	2	2+	2	2	18+	9	0.5	30	3-	30	3-	2+	2+	20	2+	22	20								
18		3+	3+	2+	2-	2	1	1-	1-	15	8	0.5	30	30	3-	3-	20	10	0+	0+	17	17								
19		1	1-	1-	2-	2-	2	3-	2-	12	6	0.3	10	1-	1-	20	20	2-	2+	2-	11	17								
20		2+	3	3	2-	1+	1+	2	2	17-	9	0.5	2+	30	30	20	2-	10	1+	2-	16	20								
21	Q9	1	1-	1-	1	1-	1	1+	1+	8-	4	0.1	1+	10	10	1+	1-	10	10	1+	7	10								
22	Q4	1+	0+	0+	1	1-	0+	0+	1-	5	3	0.1	1+	1-	0+	10	0+	0+	00	0+	4	6								
23	Q10	2-	2-	1-	1	1	1-	1-	0+	8-	4	0.1	20	2-	10	1+	1+	1-	1-	1+	9	5								
24		1-	1-	1-	1-	1-	1	2	3	9+	5	0.2	1+	10	1-	10	10	1+	20	3+	12	10								
25		3-	2+	2+	1	1	2+	3+	3	18	10	0.6	3-	3-	3-	10	1-	20	2+	3-	18	29								
26	D2*	4	3+	2+	4-	3-	2	2	2-	22-	14	0.8	4-	3+	3-	4-	2+	20	20	1+	27	30								
27		3+	2	2-	2+	2	2+	1+	1	16	8	0.4	4-	2+	2-	3-	2-	3-	1+	1-	18	18								
28		1	1+	1-	1+	1+	1+	2	1+	10+	5	0.2	1-	1+	1-	2-	1+	2-	2-	1+	9	13								
29		2	2	1	2	1+	2-	2	3	15	7	0.4	2-	2+	1+	2+	10	1+	20	3-	14	18								
30		1	1+	1	1-	1+	1+	1+	0+	8+	4	0.1	1+	1+	10	10	1+	1+	1+	0+	8	10								
Mean										7	0.33								12.6								15.7	13.3	14.4	
Ks Three-Hourly Indices																														
Day	1	2	3	4	5	6	7	8	An	1	2	3	4	5	6	7	8	As	Sa	Prov	Ri	Ra								
1	20	20	2-	2-	20	3-	2+	20	16	2-	2-	1+	2-	1+	2+	1+	1+	11	68.5	0	0	12								
2	1+	2-	1+	1+	1+	2-	1+	10	10	10	1+	00	0+	0+	1+	1-	1-	5	69.0	0	0	13								
3	1-	2-	1-	1+	1+	2-	1+	20	10	1-	1+	00	1-	0+	0+	2-	10	6	68.2	0	0	12								
4	2-	10	1+	0+	10	1-	00	1-	6	1+	1-	1-	00	0+	00	00	00	3	67.1	0	0	10								
5	1-	00	00	1+	1-	1+	0+	0+	4	00	00	00	1-	1-	00	00	00	1	68.4	9	2	12								
6	1-	20	20	3-	1+	1+	2+	2+	15	0+	2-	2-	2-	1-	1-	2-	2-	9	67.9	0	0	11								
7	20	20	3+	30	3-	20	3-	3-	23	2-	20	30	30	3-	20	30	3-	21	67.6	0	0	11								
8	3-	2-	2-	2-	3-	2+	10	2-	15	30	2-	2-	10	20	1+	1-	2+	14	66.9	0	0	10								
9	2-	1-	0+	1-	1-	00	2-	1+	6	2-	1-	00	00	00	00	1+	1-	4	68.0	0	2	11								
10	10	00	0+	10	2-	1+	1-	0+	6	1+	00	00	00	0+	00	0+	00	2	68.2	9	9	12								
11	10	10	20	2-	10	0+	00	1-	7	0+	1+	10	1-	00	00	00	00	3	67.8	8	8	11								
12	1-	10	1-	1-	1-	1-	1-	1+	5	0+	00	00	00	00	00	00	10	2	69.2	0	8	13								
13	10	1-	00	0+	0+	0+	10	1-	4	00	00	00	00	00	00	00	00	0	68.6	8	3	12								
14	10	00	10	10	20	4-	4-	50	27	0+	00	0+	0+	1+	20	2+	50	19	69.2	0	0	13								
15	4-	4-	3+	30	30	3-	2+	30	33	40	40	4-	2+	3-	2-	2-	4+	36	68.6	7	2	12								
16	2+	2+	2+	3-	2+	3-	3+	4-	25	2+	2-	2+	3-	2-	30	30	4-	23	67.4	7	7	11								
17	30	3-	30	30	3-	2+	20	2+	23	30	3-	30	2+	20	20	20	3-	21	68.1	7	8	12								
18	3-	30	3-	3-	20	1+	1-	1-	17	4-	3-	3-	3-	2-	1-	00	00	17	67.5	8	8	11								
19	10	1-	1-	2+	2+	20	20	20	13	10	10	0+	2-	1+	2-	2+	1+	9	67.0	7	8	10								
20	3-	3-	30	2+	2-	1+	2-	20	18	2-	30	30	20	2-	0+	1+	2-	15	67.3	8	9	11								
21	1+	1+	1+	2-	10	1+	1+	2-	10	1-	1-	0+	10	00	0+	0+	1+	5	67.0	8	8	10								
22	1+	10	0+	1+	1-	0+	0+	10	6	1+	1-	00	1-	0+	00	00	00	3	67.5	8	7	11								
23	1+	1+	1-	1-	1-	00	00	00	5	2+	2+	1+	20	2-	1+	1+	2+	13	67.5	0	1	11								
24	0+	1-	0+	0+	0+	10	2-	3-	7	20	2-	1+	2-	1+	2-	20	4-	16	68.0	0	0	11								
25	30	3-	30	1+	1+	3-	30	30	22	3-	2+	2+	1-	0+	1+	2-	2+	14	68.1	0	0	12								
26	4-	3+	3-	4-	3-	2+	20	2-	27	4-	3+	3-	4-	20	20	20	10	26	67.5	0	0	11								
27	30	3-	2-	3-	20	3-	1+	10	18	40	20	2-	2+	1+	3-	1+	0+	18	68.3	0	0	12								
28	10	1+	10	2-	2-	2-	2-	20	11	0+	1+	0+	1+	10	2-	20	1-	8	68.1	0	0	12								
29	20	2+	2-	3-	1+	2-	2-	3-	16	1+	2+	10	2-	0+	10	20	3-	12	68.8	0	0	12								
30	1+	2-	1+	1+	1+	1+	2-	0+	9	10	1+	1-	1-	1+	10	1+	0+	6	68.9	0	0	12								
Mean										13.8									11.4								68.0	3.1	3.0	11.4

Daily Average Indices Ap Jul 2007 - Jun 2008

87
Jun 08



Day	Jul 07	Aug	Sep	Oct	Nov	Dec	Jan 08	Feb	Mar	Apr	May	Jun
1	4	15	10	7	5	3	4	18	22	4	8	7
2	3	5	24	8	2	2	2	19	9	1	11	4
3	8	4	10	9	2	1	2	17	6	2	11	4
4	15	2	5	10	4	1	2	8	3	11	8	3
5	5	2	10	11	2	2	19	4	8	18	12	2
6	5	16	11	4	0	3	17	4	3	20	9	6
7	5	22	12	2	0	1	14	7	2	13	4	11
8	4	5	6	1	4	0	14	7	10	10	4	7
9	2	3	2	1	4	3	8	4	30	13	3	3
10	4	15	2	1	4	9	4	21	19	9	4	2
11	21	9	2	1	2	16	3	17	15	5	4	3
12	5	4	2	4	3	10	8	13	14	13	3	3
13	4	2	1	2	10	6	11	14	11	8	3	2
14	19	4	4	5	10	4	19	13	16	2	3	18
15	12	8	4	2	7	2	10	13	11	5	2	17
16	4	5	2	2	8	3	13	10	6	15	4	12
17	3	3	2	1	7	18	11	5	4	7	1	9
18	2	2	3	12	2	22	12	13	8	6	2	8
19	2	4	3	16	3	10	11	14	7	6	6	6
20	14	2	10	13	24	14	6	6	8	4	8	9
21	10	4	9	5	16	14	6	6	6	5	10	4
22	3	3	12	6	12	9	2	4	4	6	9	3
23	3	2	16	7	14	8	4	5	9	27	8	4
24	2	1	11	3	14	3	5	4	3	16	7	5
25	2	7	7	17	15	1	10	4	3	8	5	10
26	9	11	3	14	9	2	7	4	26	10	3	14
27	7	14	18	13	5	5	4	10	36	7	3	8
28	4	10	24	7	4	4	4	23	24	11	11	5
29	14	4	30	13	3	2	4	31	9	6	9	8
30	9	4	12	10	3	4	2		9	8	10	4
31	5	6		4		5	5		4		9	
Mean	7	6	9	7	7	6	8	11	11	9	6	7

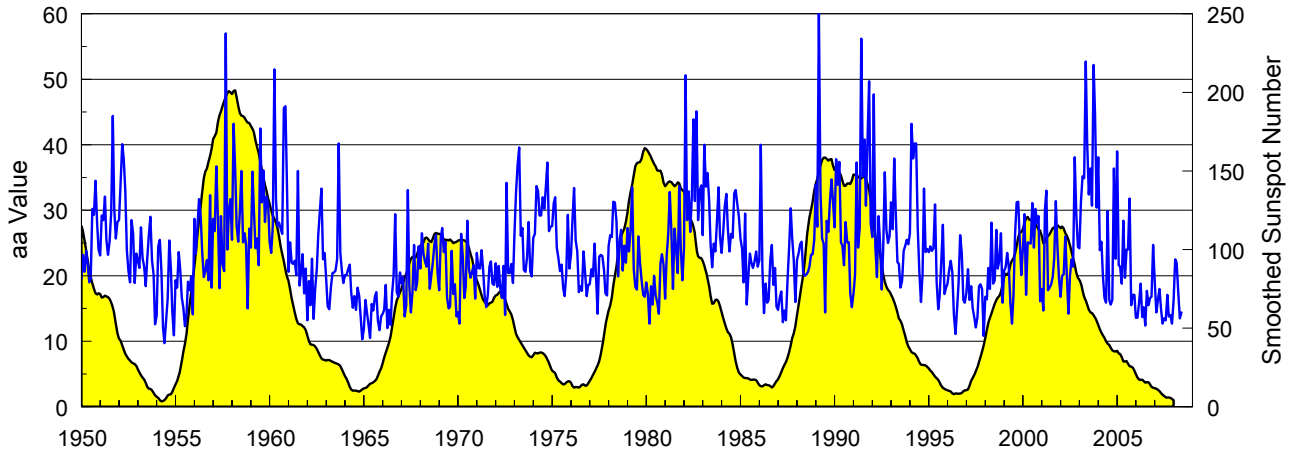


PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 2008 Jun 30

Monthly Mean aa Index Jan 1950 - Jun 2008

89
Jun 08



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.0	17.3	12.7	18.4	15.6	20.0	17.0	15.9	14.2	21.9	23.3	21.7	18.1
1981	16.5	23.1	26.6	32.8	26.9	18.0	27.2	24.0	20.4	33.7	24.1	19.3	24.4
1982	24.2	50.6	28.5	32.9	26.7	32.1	43.9	31.4	45.1	28.5	33.0	33.8	34.2
1983	26.2	40.0	33.6	35.7	31.6	24.9	21.3	24.9	23.7	28.3	33.5	26.0	29.1
1984	23.5	26.7	30.7	32.5	27.2	23.7	26.4	25.8	32.6	33.1	31.0	29.0	28.5
1985	25.7	24.1	19.0	29.5	15.6	19.9	23.4	22.0	21.2	22.2	23.7	21.4	22.3
1986	22.4	40.0	21.1	14.3	18.8	15.9	16.3	22.3	24.7	18.6	21.2	15.3	20.9
1987	14.8	16.6	17.6	12.9	14.7	13.2	19.3	24.3	30.3	25.8	22.4	16.0	19.0
1988	22.4	23.4	24.8	25.2	20.5	20.0	20.2	20.6	21.4	23.2	23.3	25.5	22.5
1989	33.9	27.5	60.1	32.8	25.7	24.9	14.4	28.4	26.7	31.4	34.7	31.4	31.0
1990	27.4	37.8	33.9	37.4	25.1	24.6	21.6	28.2	25.1	25.1	17.4	15.2	26.6
1991	17.2	20.1	37.3	24.3	27.3	56.2	35.2	40.8	30.7	44.1	49.7	28.0	34.2
1992	25.9	47.7	24.5	19.8	29.1	24.8	17.9	24.1	35.8	27.0	25.0	26.1	27.3
1993	31.2	27.1	37.9	29.2	22.1	21.8	18.2	19.2	23.8	24.6	25.5	24.8	25.5
1994	26.5	43.2	37.9	40.2	40.2	27.2	20.6	16.0	20.2	33.3	23.6	24.1	29.4
1995	23.6	24.5	23.8	24.2	30.9	19.1	14.9	17.0	22.2	27.9	17.2	18.2	22.0
1996	18.8	20.8	22.3	20.5	14.0	11.1	14.7	18.8	26.2	23.5	16.3	15.9	18.6
1997	17.4	21.0	16.3	18.4	15.1	13.7	12.1	13.7	18.4	18.7	18.0	10.8	16.1
1998	16.8	16.4	21.2	18.0	28.1	18.8	19.3	27.0	21.1	22.4	26.5	15.9	21.0
1999	20.8	21.3	23.5	21.3	15.8	12.7	16.9	26.2	31.2	31.3	25.1	20.1	22.2
2000	24.2	29.4	17.1	25.1	25.0	24.9	31.1	24.3	30.2	28.1	29.1	16.1	25.4
2001	18.0	14.7	30.2	33.0	17.8	18.2	18.7	19.9	22.7	31.4	24.4	19.5	22.4
2002	16.8	20.0	20.2	26.0	19.9	14.2	19.9	22.5	21.4	38.1	29.3	24.4	22.7
2003	24.2	31.3	35.2	34.9	52.7	40.2	32.4	36.4	30.7	52.2	44.7	30.4	37.1
2004	38.1	23.9	25.2	20.1	16.6	15.9	29.9	16.3	15.6	16.3	36.4	22.6	23.1
2005	39.0	21.6	21.4	18.8	28.4	19.7	24.0	24.0	31.8	15.5	17.1	17.1	23.2
2006	13.6	13.6	15.8	18.8	13.7	15.2	12.4	17.7	15.5	16.6	16.8	24.7	16.2
2007	19.2	14.4	16.3	18.0	15.0	12.7	13.5	13.2	17.1	13.8	14.0	12.7	15.0
2008	16.2	22.5	22.0	17.5	13.5	14.4							17.7

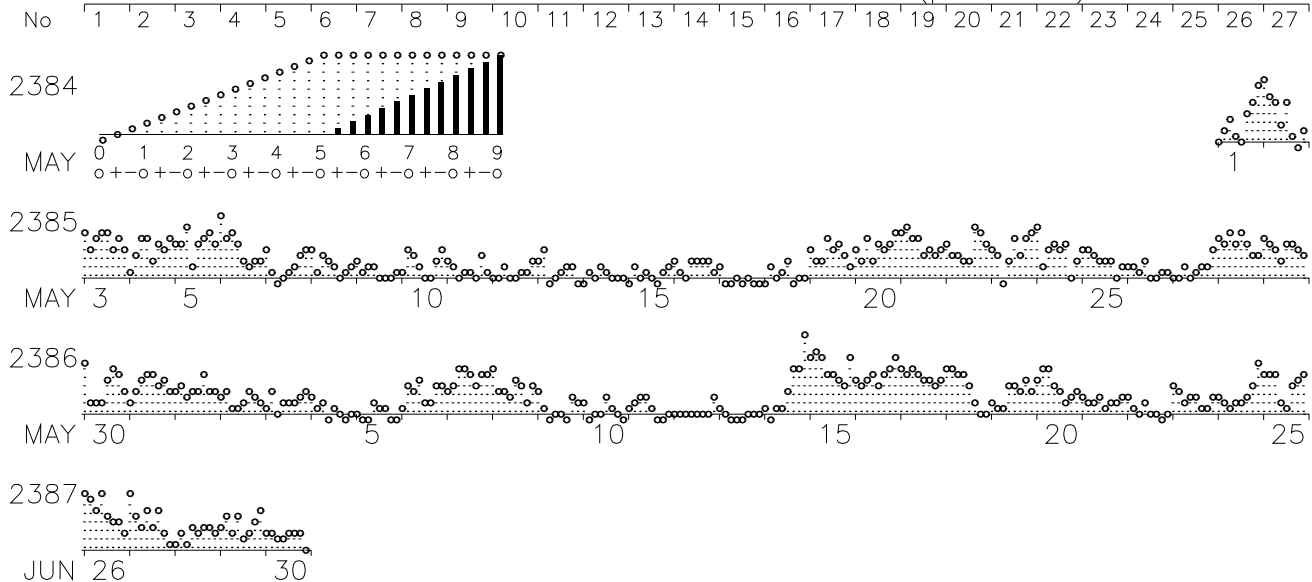
PLANETARY GEOMAGNETIC ACTIVITY

3-HOUR-RANGE INDICES Km AND aa BY 27-DAY SOLAR ROTATION INTERVAL

ISGI PUBLICATION OFFICE – EMAIL : ISGI.PUBOFF@cetp.ipsl.fr

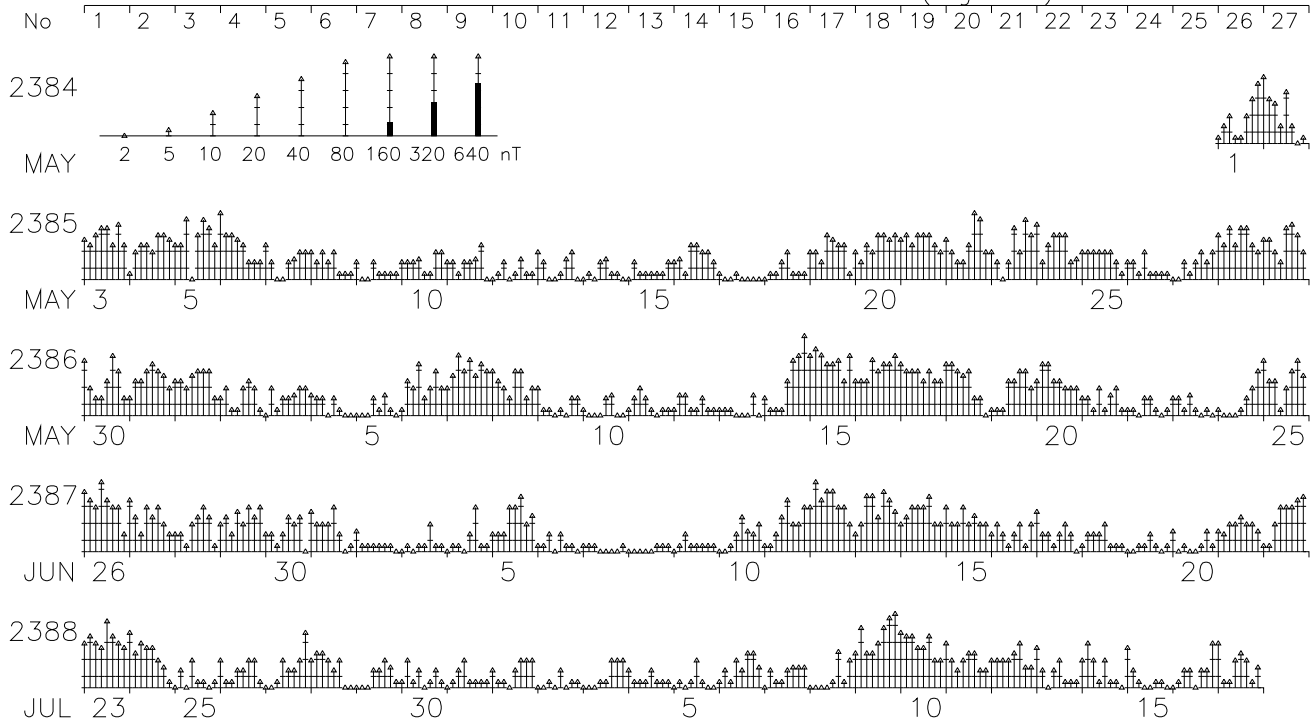
CETP, 4 Avenue de Neptune, F-94107 Saint Maur des Fosses CEDEX – FRANCE

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices Km(provisional) MAY–JUN 2008



Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices aa (logscale) MAY–AUG 2008

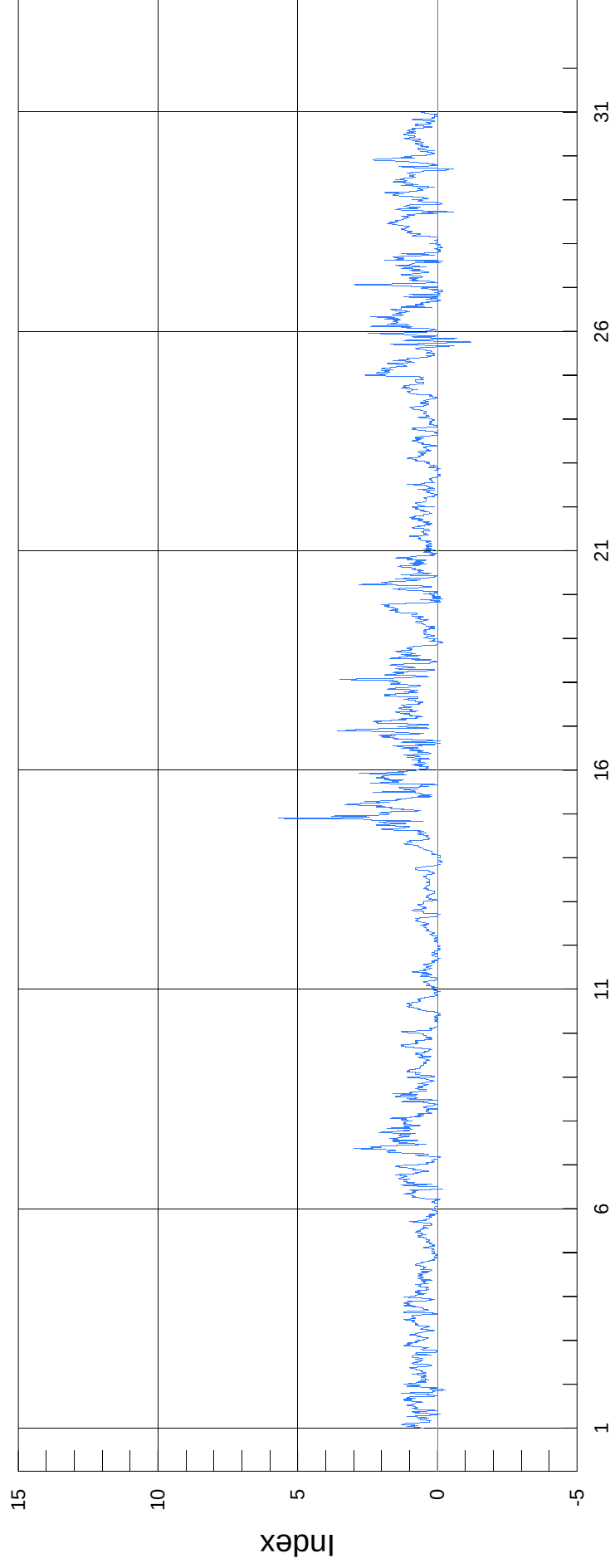


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

Polar Cap Index

Qaanaaq - Thule

WDC C1 for Geomagnetism, Copenhagen



JUNE 2008

Data Source: Geomagnetism and Space Physics
Danish Meteorological Institute

P R I N C I P A L M A G N E T I C S T O R M S
JUNE 2008

		Commencement			SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End	
Sta	Geomag Lat	Day	Time (UT)	Type	D (Min)	H (Gamma)	Z (Gamma)		D (Min)	H (Gamma)	Z (Gamma)	Day	Hour (UT)
HYB	07.6N	06	0000	..	..	..	..	6(4) 7(3)	4	4	95	22	08 19
JAI	17.4N	07	0430	..	..	..	..		-	5	39	34	08 19
NGP	11.3N	07	0430	..	..	..	..		-	3	65	20	08 19
ABG	09.4N	07	0430	..	..	..	..	7(3)	4	3	69	27	08 19
PND	02.0N	07	0430	..	..	..	..		-	3	76	39	08 19
TIR	00.6S	07	0430	..	..	..	..		-	3	103	43	08 19
JAI	17.4N	14	1200	..	..	..	..		-	6	71	28	16 24
NGP	11.3N	14	1200	..	..	..	..		-	5	68	19	16 24
ABG	09.4N	14	1200	..	..	..	..	14(8)	5	5	66	33	16 24
HYB	07.6N	14	1224	SC-	0.3	5.-	1	14(8)	5	5	66	27	18 18
PND	02.0N	14	1200	..	..	..	..		-	-	67	36	16 24
TIR	00.6S	14	1200	..	..	..	..		-	4	87	57	16 24
GNA	43.0S	14	1225	..	..	..	..	14(8)	7	8	66	47	15 18
HYB	07.6N	19	0600	..	..	..	..	20(2)	4	6	60	23	20 24
JAI	17.4N	24	2000	..	..	..	..		-	6	51	31	26 23
NGP	11.3N	24	2000	..	..	..	..		-	5	52	20	26 23
ABG	09.4N	24	2000	..	..	..	..	25(3) 26(1)	4	5	51	42	26 23
HYB	07.6N	24	2008	SC-	0.2	11.-	1	25(6) 26(2,3,4)	3	5	52	24	28 22
PND	02.0N	24	2000	..	..	..	..		-	-	51	38	26 23
TIR	00.6S	24	2000	..	..	..	..		-	4	72	57	26 23

MAGNETIC STORM SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS (PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS)

JUNE 2008

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
14	1223	B: LER* ESK* HAD* C: GCK SPT* HYB	02	1414-1424	GUI
			10	1406-1436	GUI
24	2010	A: LER* ESK* HAD* B: SPT* GUI HYB C: BDV			

REPORTING OBSERVATORIES (up to 01/08/2008):

LER ESK NGK VAL HAD DOU BDV NAG GCK MMB EBR SPT KAK KNY GUI HYB GNA CNB

Three-letter codes identify each observatory. Reporting stations have been grouped by the character of the observed event. The letter A means very remarkable; B means fair, but unmistakable; C means very poor, doubtful; and - means no quality figure given. The * means that the SSC, at least in one component, was preceded by a small reversed impulse. SSCs are given only when five or more stations report the event. SFEs include all reports. If an SFE is confirmed by solar or ionospheric events, the name of the station is identified with a plus sign (+).

Note that we have included data of the Antarctic Station LIVINGSTONE (62° 39' 44" S, 60°23' 41" W) -- Luis F.

Criterion on Provisional SSC data

From December 2002, we are giving as provisional SSC only the SSC reported by more than 4 observatories. This is a change with respect to the previous criterion according to which we used to give the SSC reported by more than 5 observatories. The change, pending IAGA confirmation, has been provisionally taken because of the decreasing number of reporting observatories in order to keep the homogeneity of the data. The idea is to keep the same minimum percentage of the observatories reporting an SSC, relative to the total number of reporting observatories, to be considered as a probable SSC.