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JULY 2008 NUMBER 767 - Part I

# Solar-Geophysical Data prompt reports

Data for May and June 2008

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**NATIONAL GEOPHYSICAL DATA CENTER**
Christopher G. Fox, Director
Boulder, Colorado

JULY 2008 NUMBER 767 - Part I

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Data for May and June 2008
Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

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# SOLAR-GEOPHYSICAL DATA

Number 767

(Issued in Two Parts)

Editor: Edward H. Erwin

Division Chief: William F. Denig
Solar-Terrestrial Physics Division

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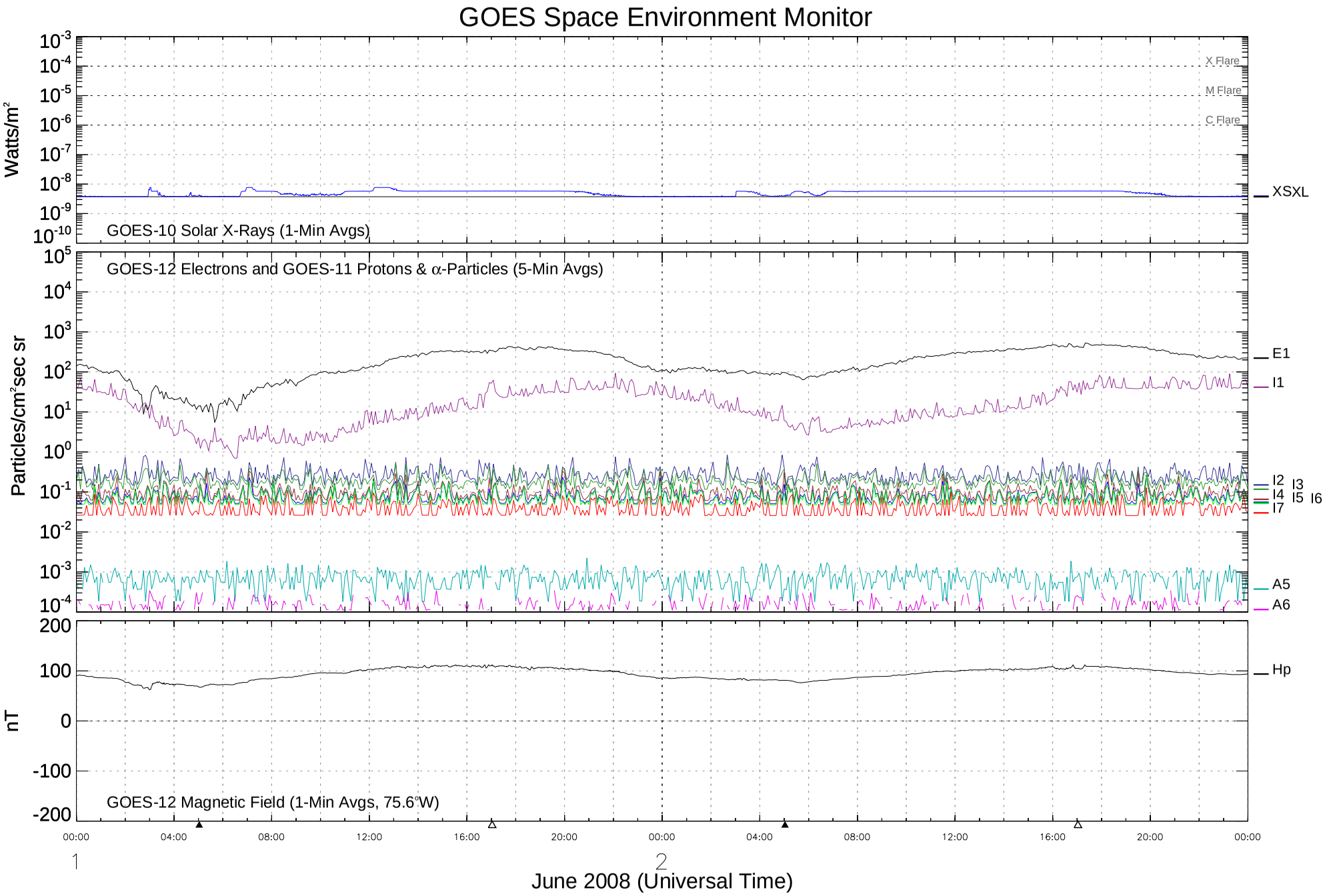
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Particles/cm²sec sr
E1
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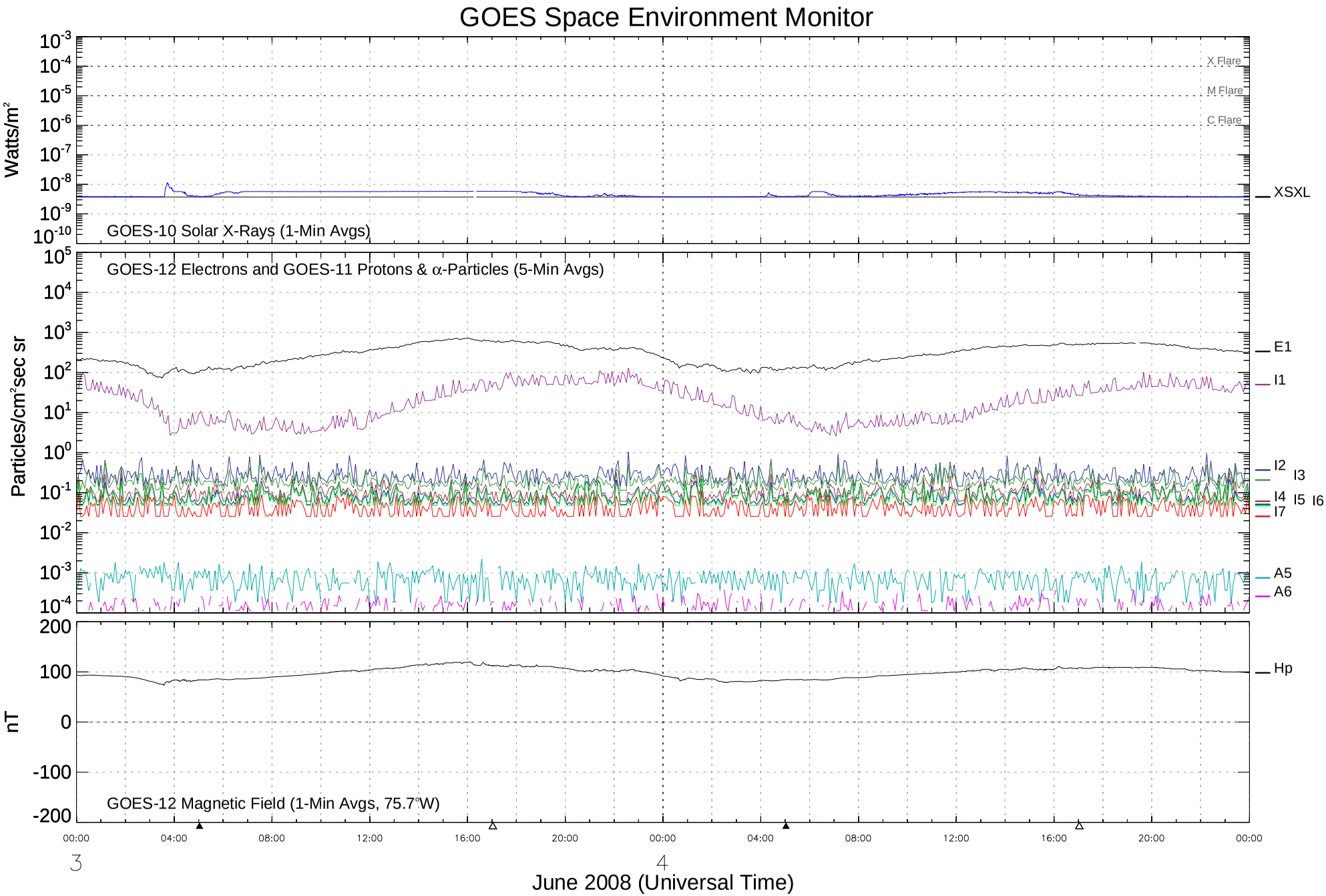
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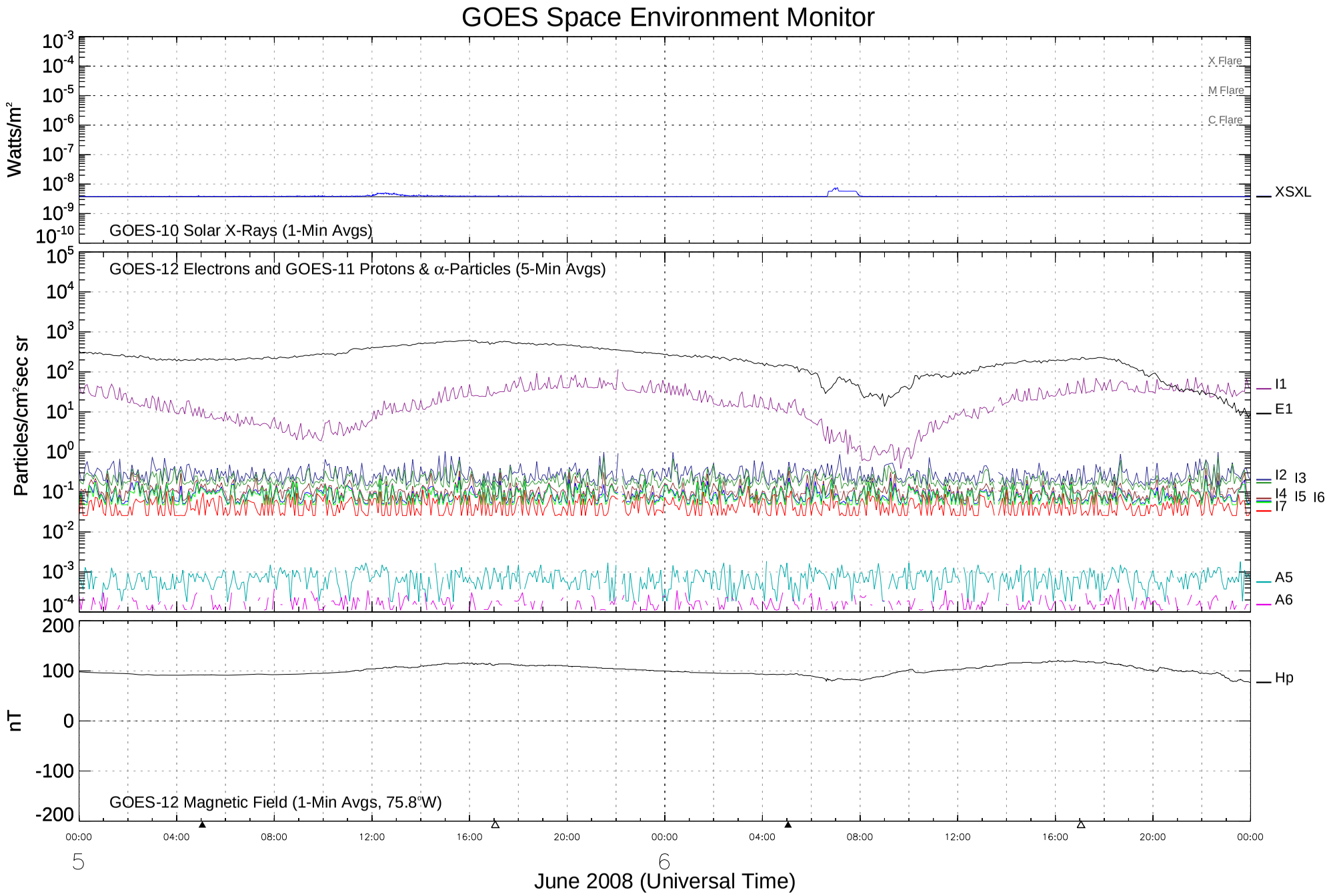
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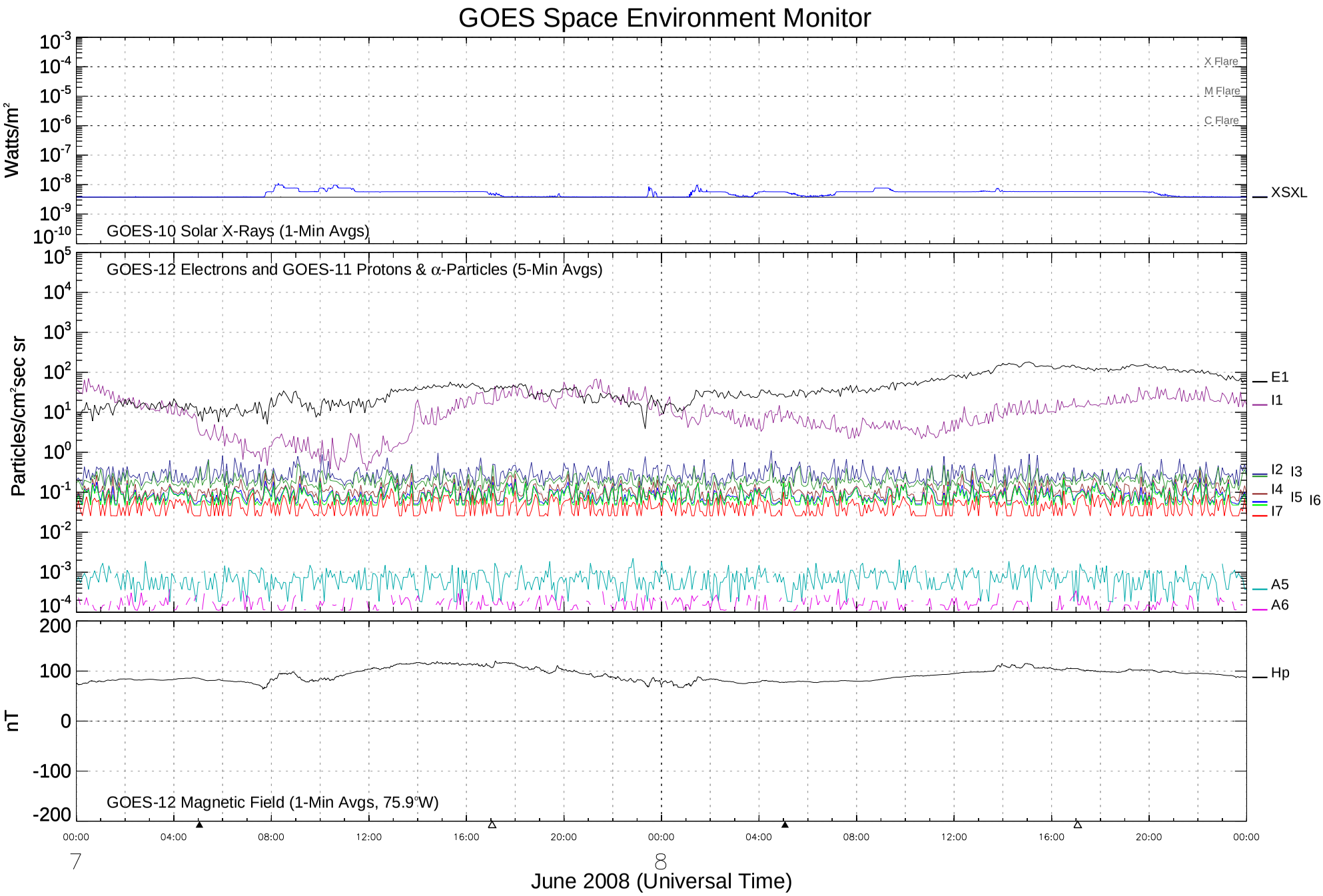
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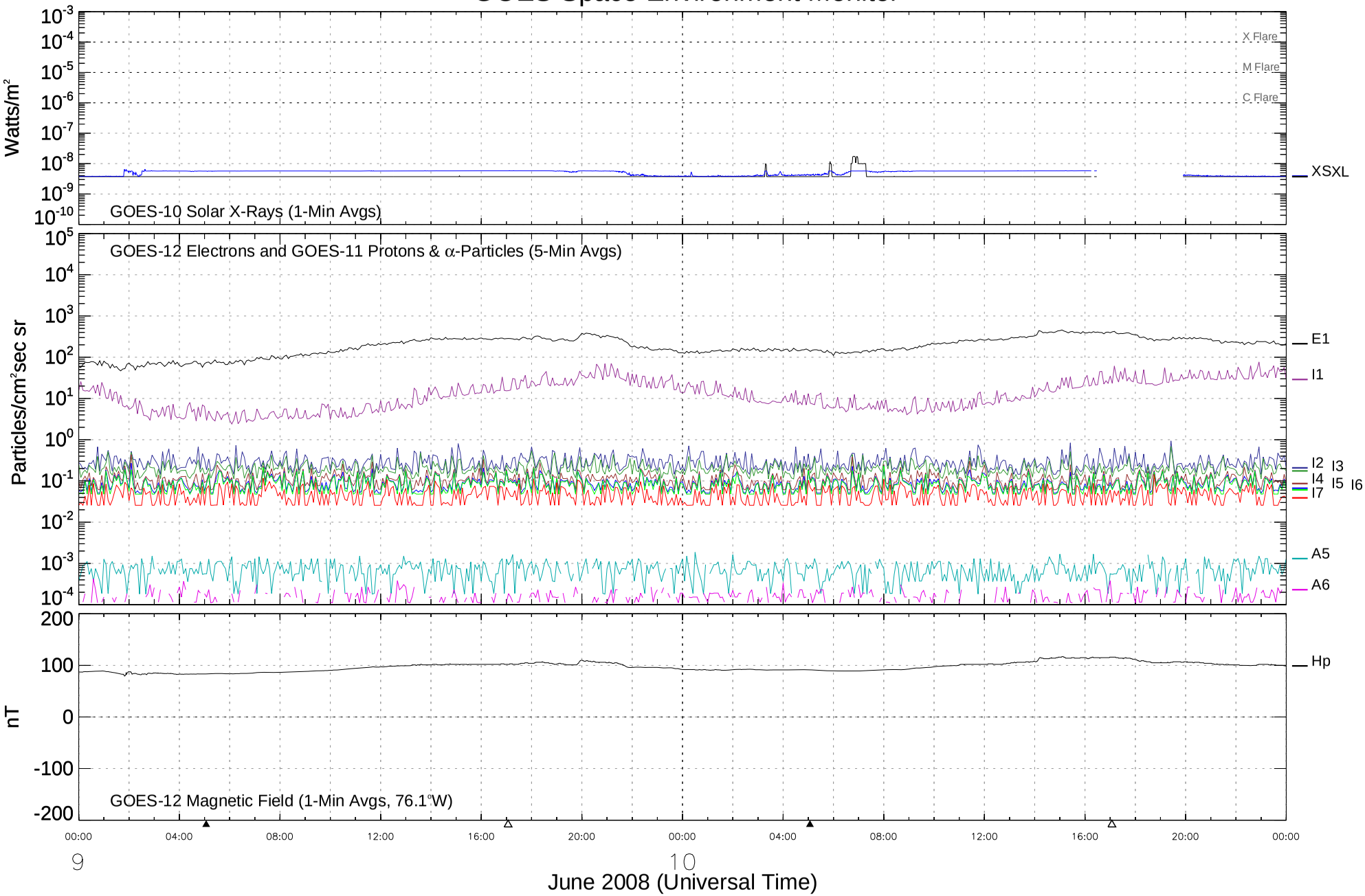

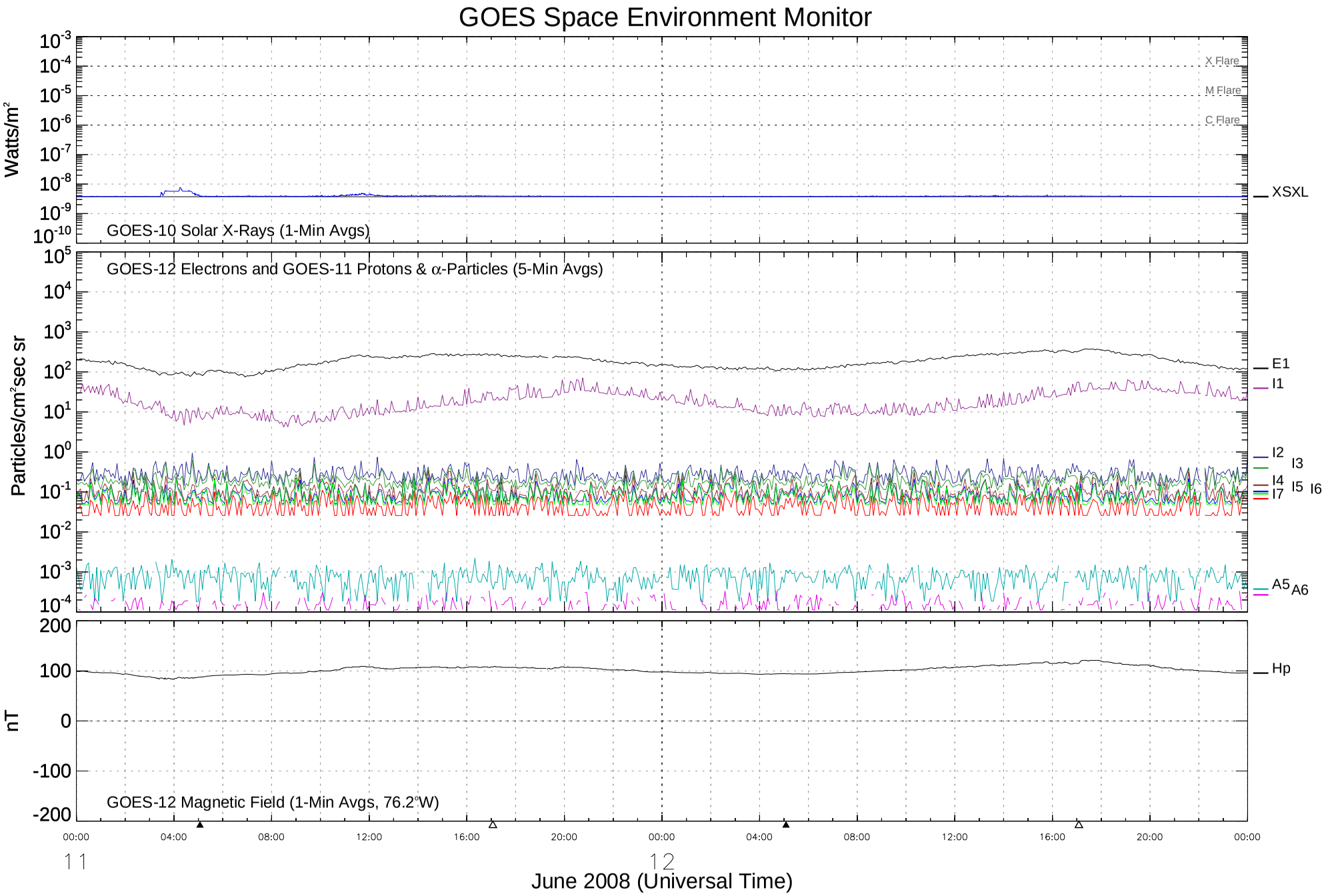
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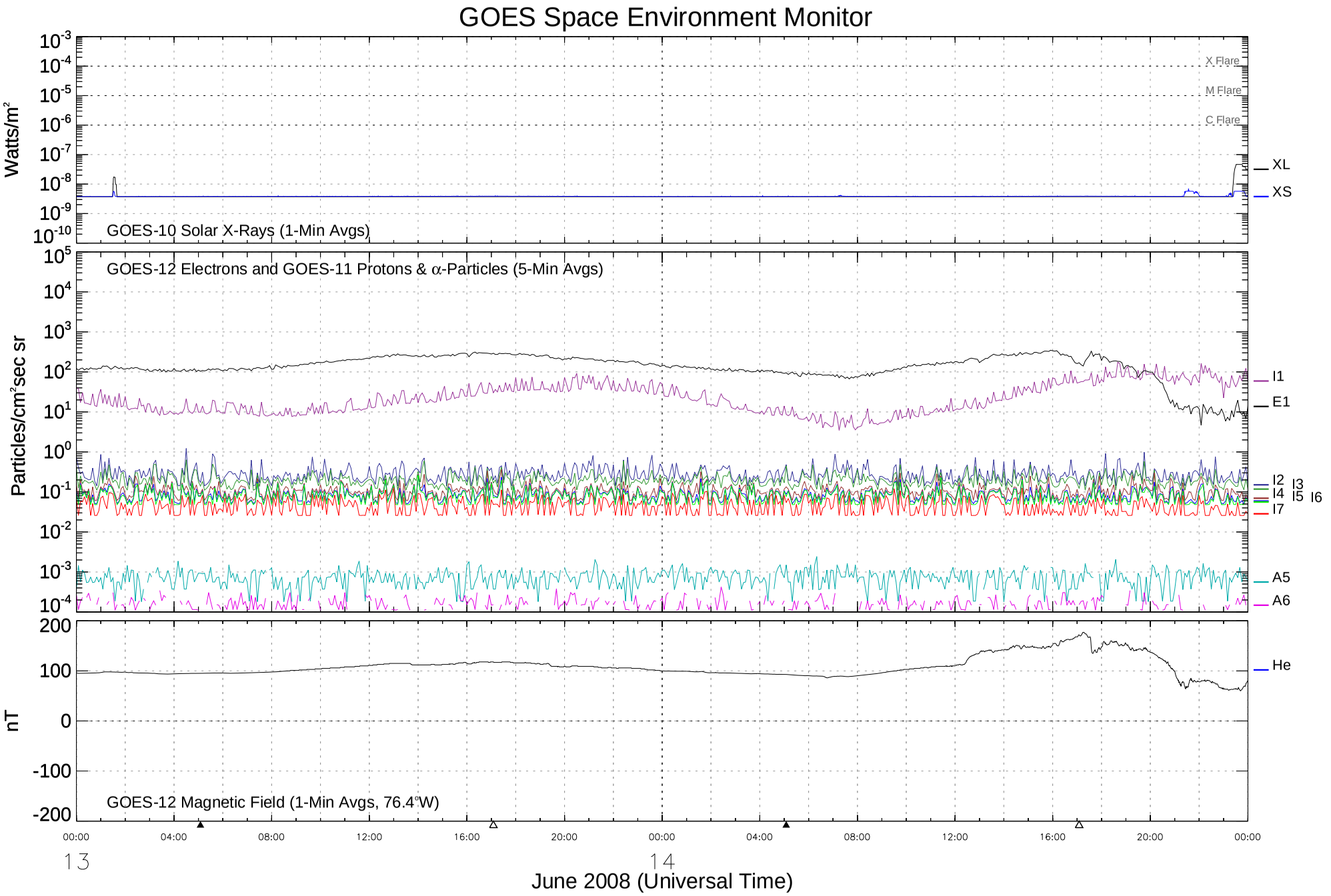
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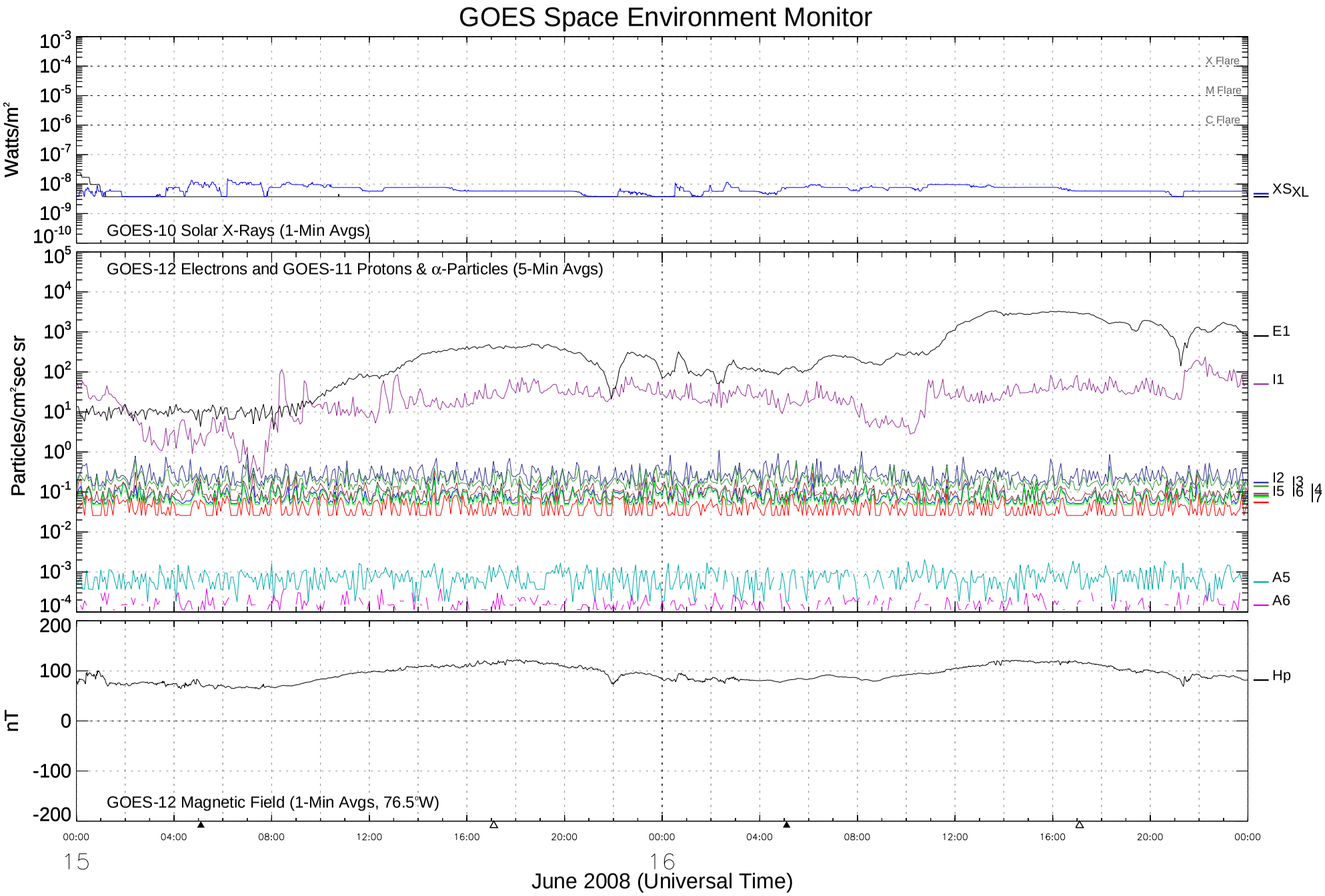
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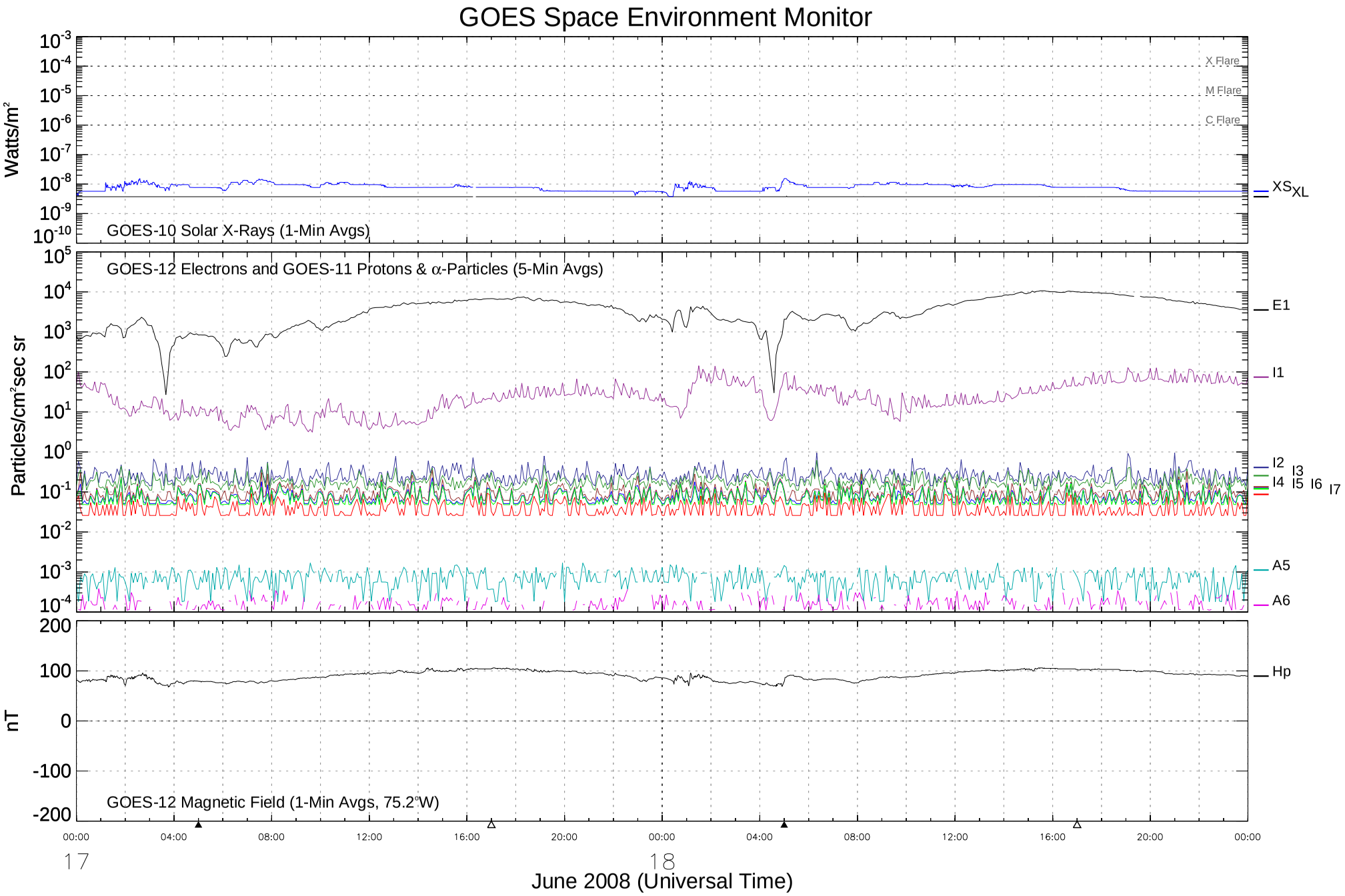
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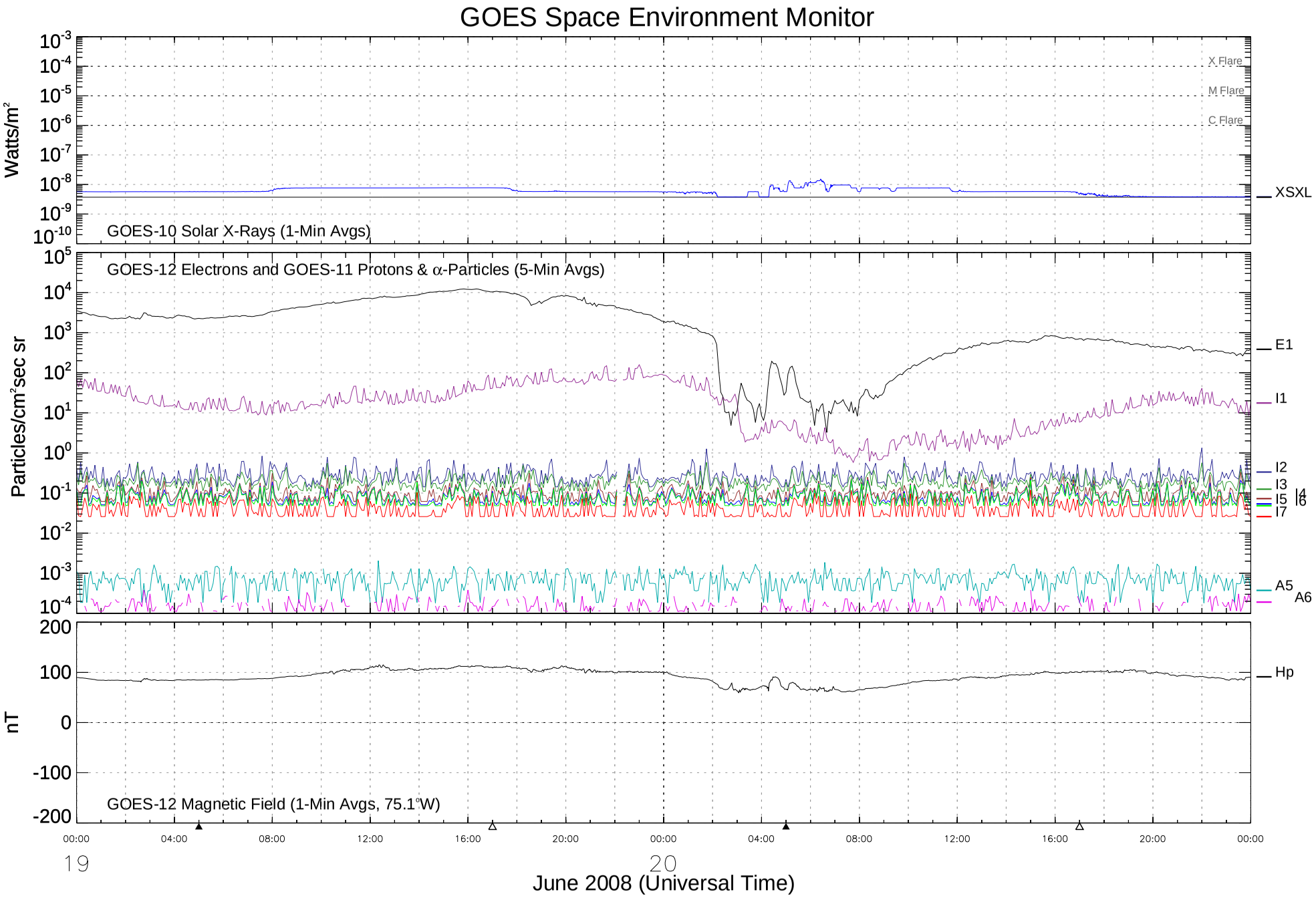
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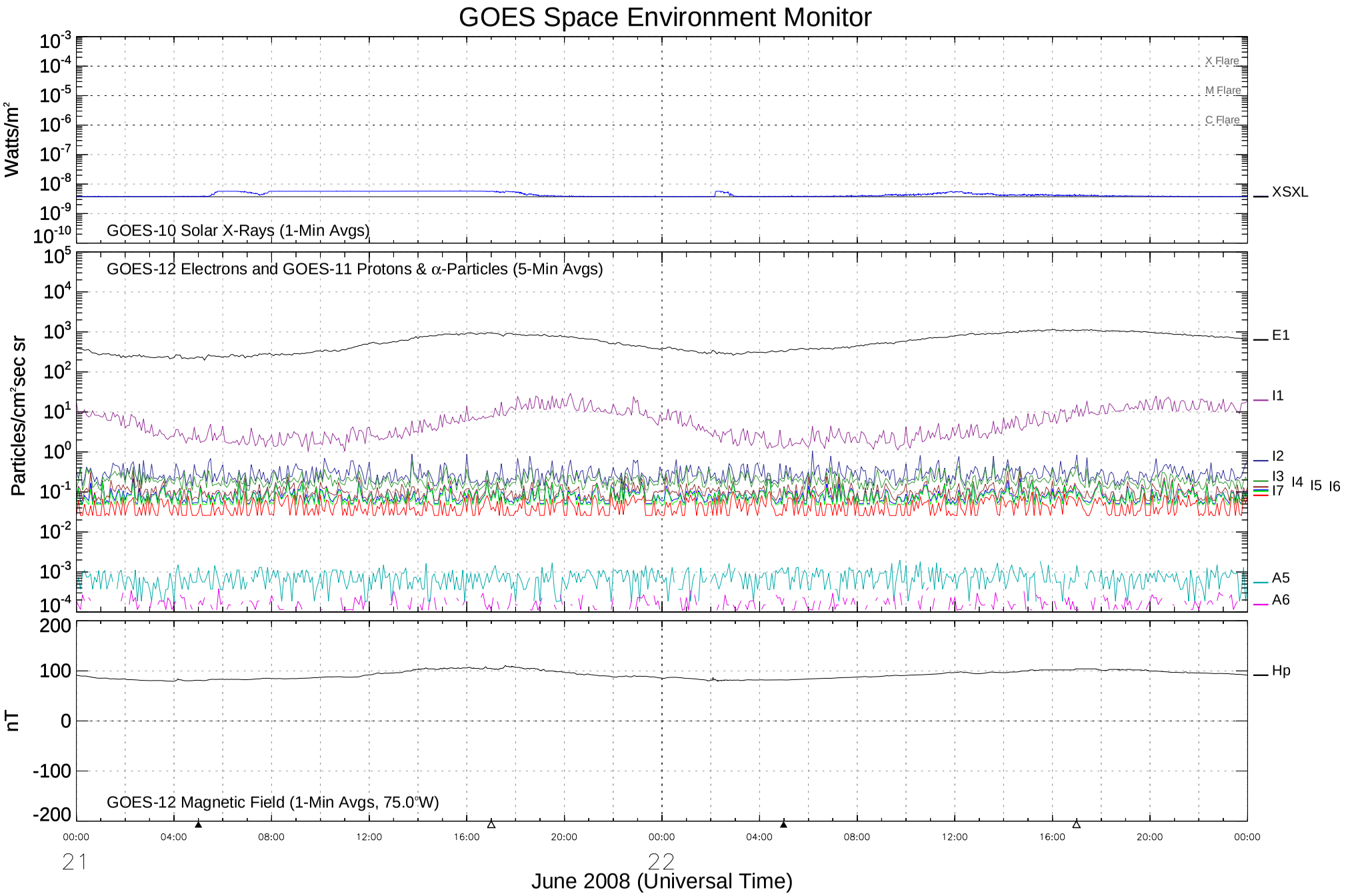
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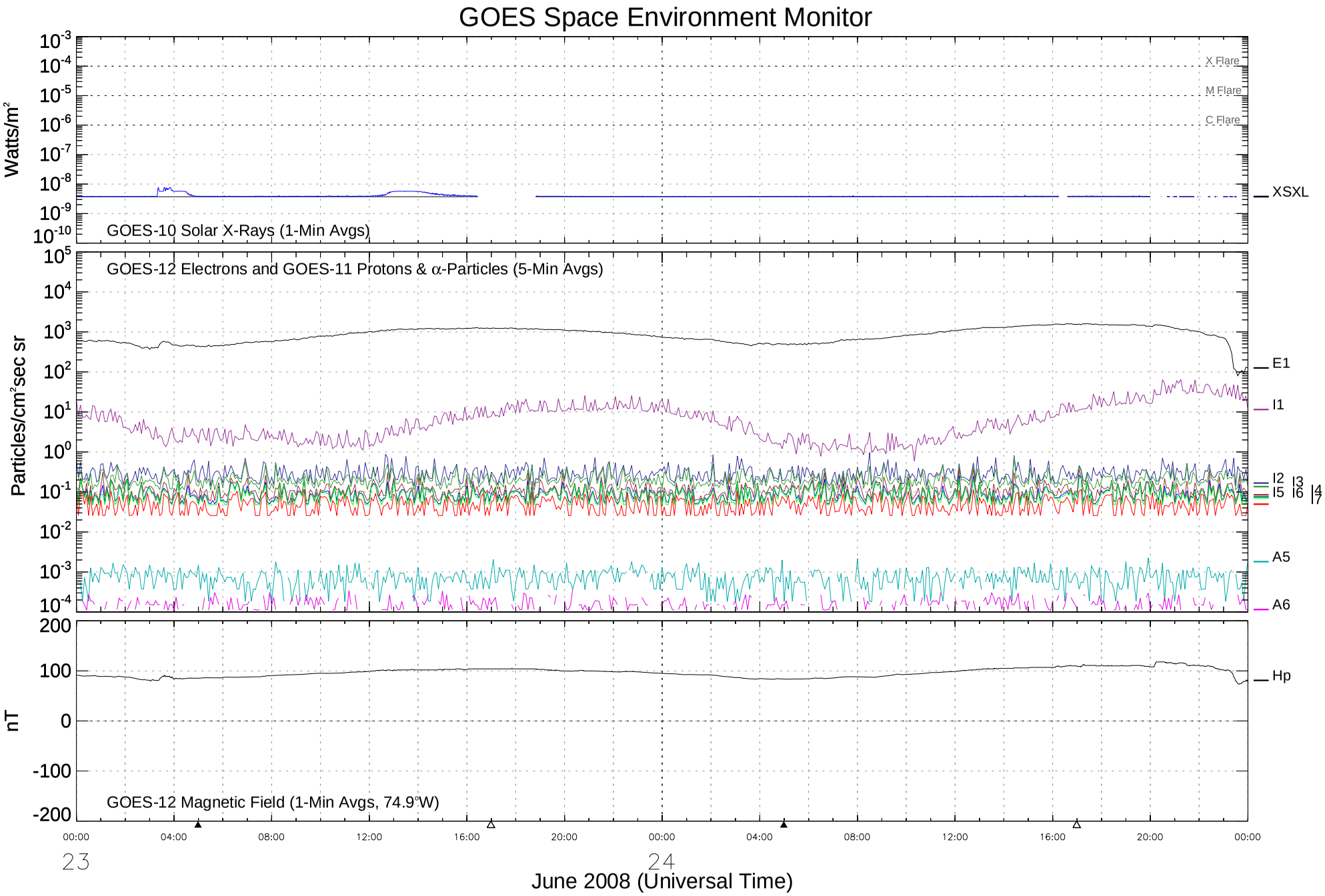
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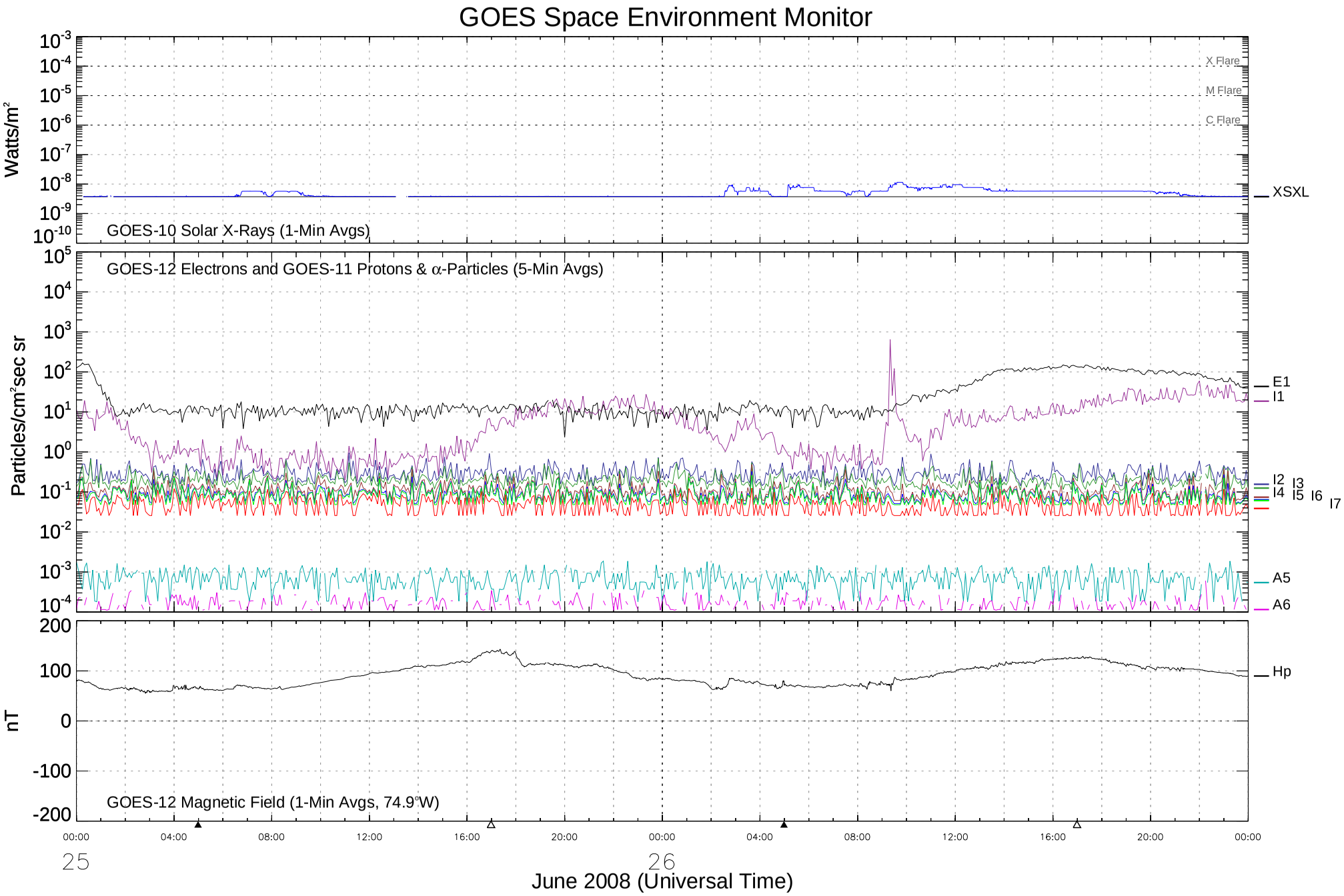
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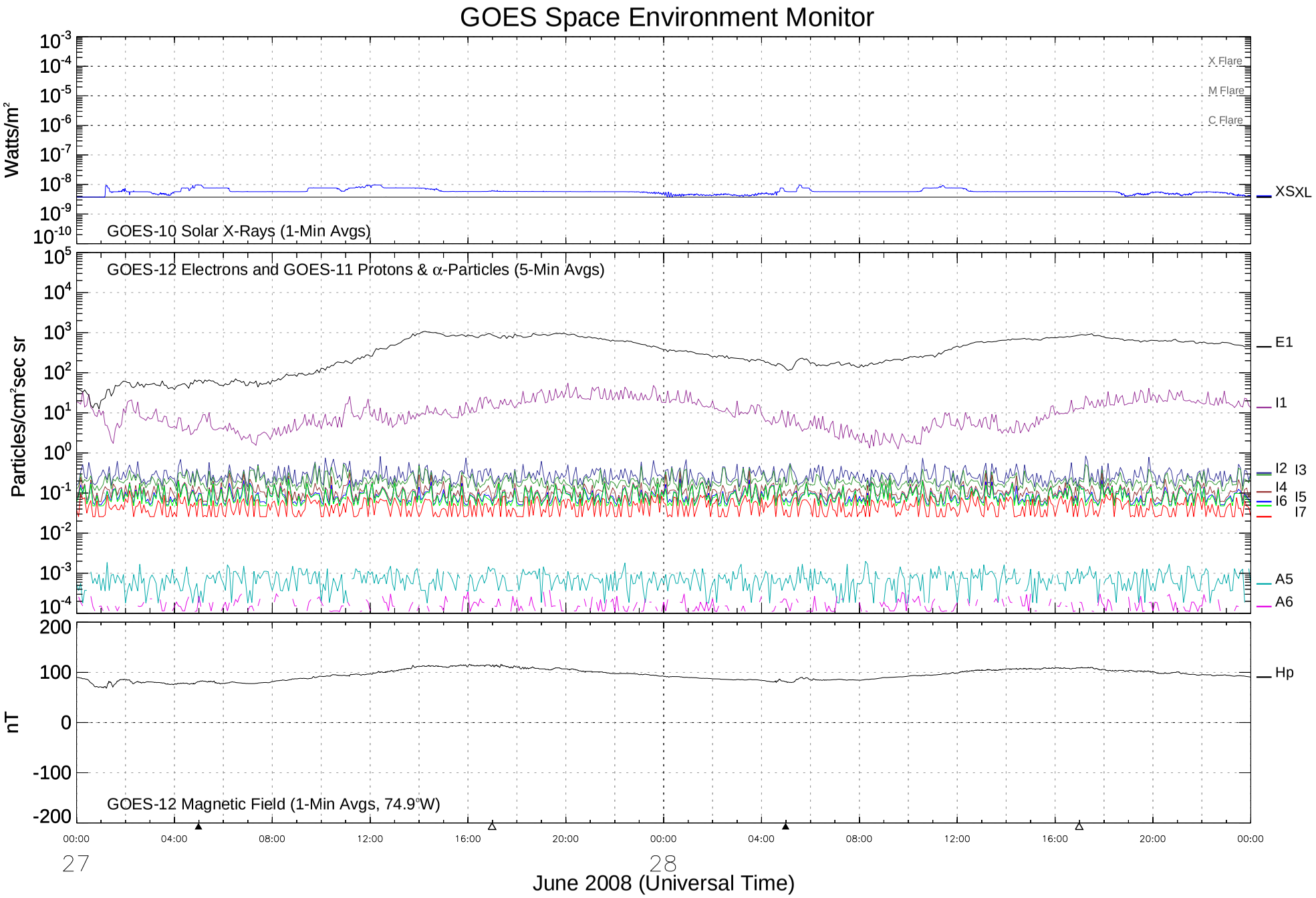
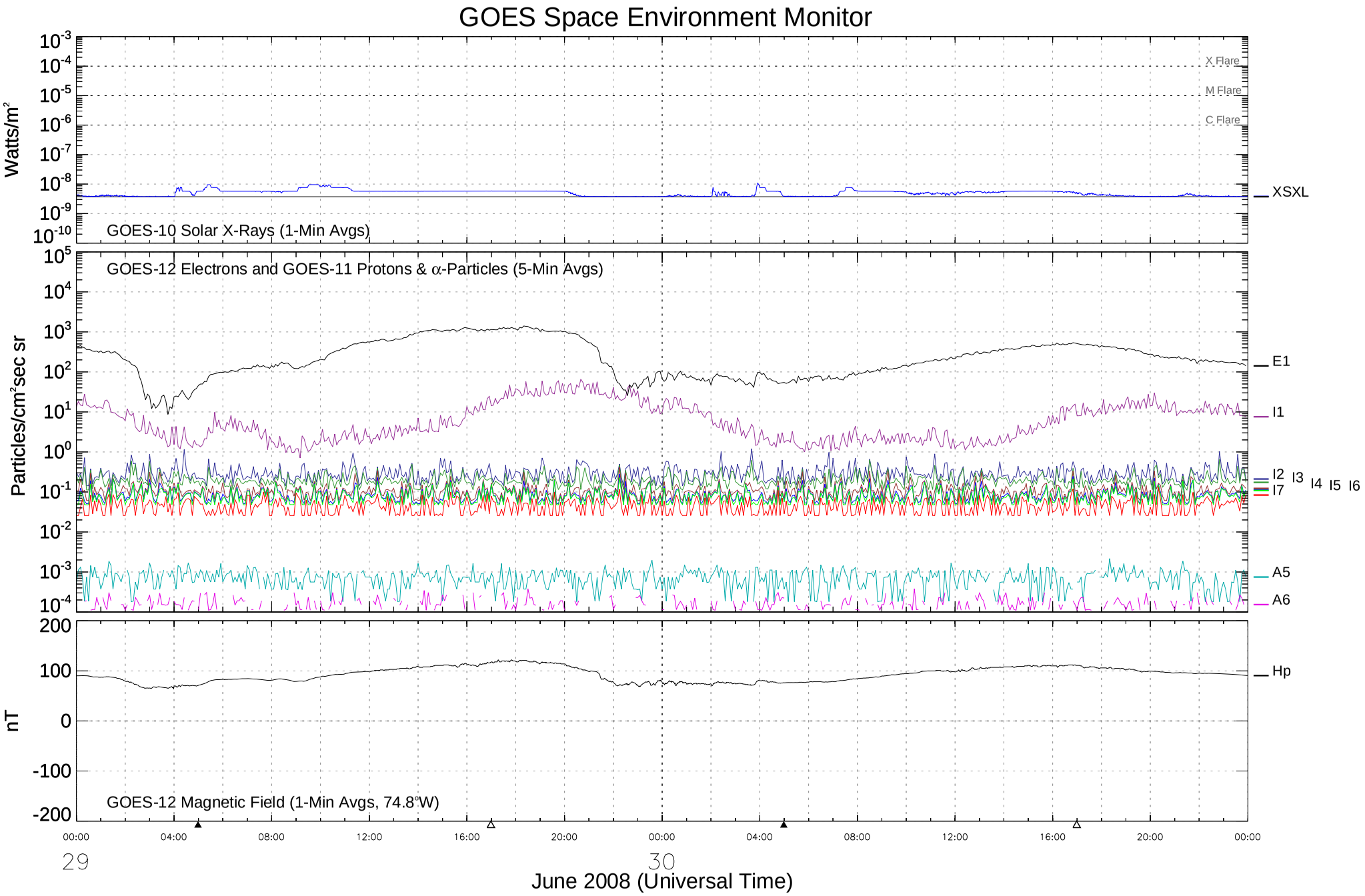
26
June 2008 (Universal Time)


GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XSXL
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3
I4
I6 I5
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 74.9°W)
00:00
04:00
08:00
12:00
16:00
20:00
00:00
04:00
08:00
12:00
16:00
20:00
00:00
27
28
June 2008 (Universal Time)


GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XSXL
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2
I3
I4
I5
I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 74.8°W)
00:00
04:00
08:00
12:00
16:00
20:00
00:00
04:00
08:00
12:00
16:00
20:00
00:00
29
30
June 2008 (Universal Time)

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

## JUNE 2008

| Julian Day | Date of Issue | Date of Obs | Wolf No. | 10-cm Solar Flux | A-index | Rgn No. | Location Lat | Location Lon | Flares Opt | Flares M | Flares X | Date of Fcst | Region Fcst(1) | Geoadvice(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 153 | 01 | 31 | 0 | 67 | 8 | | | | 0 | 0 | 0 | 01 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 01 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 01 | | PRO: Quiet |
| 154 | 02 | 01 | 0 | 67 | 8 | | | | 0 | 0 | 0 | 02 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 02 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 02 | | PRO: Quiet |
| 155 | 03 | 02 | 0 | 67 | 6 | | | | 0 | 0 | 0 | 03 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 03 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 03 | | PRO: Quiet |
| 156 | 04 | 03 | 0 | 66 | 7 | | | | 0 | 0 | 0 | 04 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 04 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 04 | | PRO: Quiet |
| 157 | 05 | 04 | 0 | 65 | 4 | | | | 0 | 0 | 0 | 05 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 05 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 05 | | PRO: Quiet |
| 158 | 06 | 05 | 0 | 66 | 5 | | | | 0 | 0 | 0 | 06 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 06 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 06 | | PRO: Quiet |
| 159 | 07 | 06 | 0 | 66 | 9 | | | | 0 | 0 | 0 | 07 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 07 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 07 | | PRO: Quiet |
| 160 | 08 | 07 | 0 | 66 | 12 | | | | 0 | 0 | 0 | 08 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 08 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 08 | | PRO: Quiet |
| 161 | 09 | 08 | 0 | 65 | 8 | | | | 0 | 0 | 0 | 09 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 09 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 09 | | PRO: Quiet |
| 162 | 10 | 09 | 0 | 66 | 4 | | | | 0 | 0 | 0 | 10 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 10 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 10 | | PRO: Quiet |
| 163 | 11 | 10 | 14 | 66 | 3 | 10998 | S09 | E53 | 0 | 0 | 0 | 11 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 11 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 11 | | PRO: Quiet |
| 164 | 12 | 11 | 11 | 66 | 5 | 10998 | S09 | E38 | 0 | 0 | 0 | 12 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 12 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 12 | | PRO: Quiet |
| 165 | 13 | 12 | 13 | 67 | 3 | 10998 | S09 | E26 | 0 | 0 | 0 | 13 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 13 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 13 | | PRO: Quiet |
| 166 | 14 | 13 | 13 | 67 | 3 | 10998 | S10 | E12 | 0 | 0 | 0 | 14 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 14 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 14 | | PRO: Quiet |
| 167 | 15 | 14 | 0 | 67 | 12 | | | | 0 | 0 | 0 | 15 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 15 | | MAG: Active |
| | | | | | | | | | 0 | 0 | 0 | 15 | | PRO: Quiet |
| 168 | 16 | 15 | 0 | 67 | 22 | | | | 0 | 0 | 0 | 16 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 16 | | MAG: Active |
| | | | | | | | | | 0 | 0 | 0 | 16 | | PRO: Quiet |
| 169 | 17 | 16 | 11 | 65 | 14 | 10999 | S02 | E60 | 0 | 0 | 0 | 17 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 17 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 17 | | PRO: Quiet |

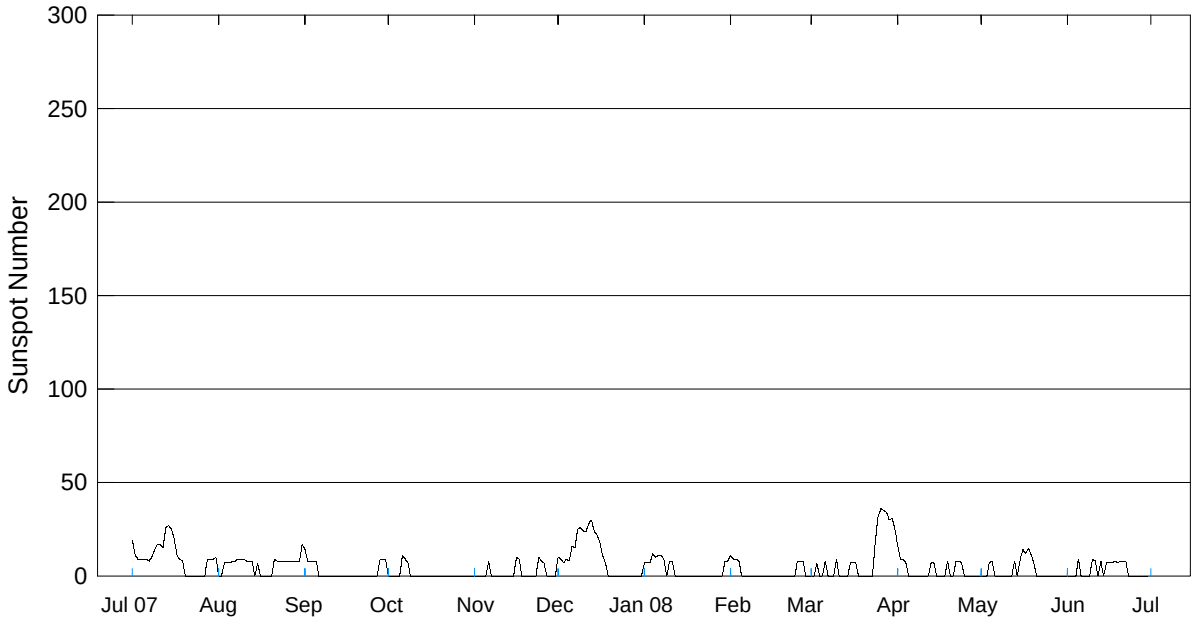
# A L E R T  P E R I O D S
## The International Space Environment Service

## JUNE 2008

| Julian Day | Date of Issue | Date of Obs | Wolf No. | 10-cm Solar Flux | A-index | Rgn No. | Location Lat | Location Lon | Flares Opt | Flares M | Flares X | Date of Fcst | Region Fcst(1) | Geoadvice(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 170 | 18 | 17 | 11 | 66 | 13 | 10999 | S02 | E46 | 0 | 0 | 0 | 18 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 18 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 18 | | PRO: Quiet |
| 171 | 19 | 18 | 11 | 65 | 10 | 10999 | S03 | E37 | 0 | 0 | 0 | 19 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 19 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 19 | | PRO: Quiet |
| 172 | 20 | 19 | 11 | 65 | 7 | 10999 | S03 | E20 | 0 | 0 | 0 | 20 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 20 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 20 | | PRO: Quiet |
| 173 | 21 | 20 | 11 | 65 | 13 | 10999 | S02 | E06 | 0 | 0 | 0 | 21 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 21 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 21 | | PRO: Quiet |
| 174 | 22 | 21 | 11 | 65 | 7 | 10999 | S02 | W08 | 0 | 0 | 0 | 22 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 22 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 22 | | PRO: Quiet |
| 175 | 23 | 22 | 11 | 65 | 5 | 10999 | S02 | W22 | 0 | 0 | 0 | 23 | Q | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 23 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 23 | | PRO: Quiet |
| 176 | 24 | 23 | 0 | 65 | 4 | | | | 0 | 0 | 0 | 24 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 24 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 24 | | PRO: Quiet |
| 177 | 25 | 24 | 0 | 66 | 5 | | | | 0 | 0 | 0 | 25 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 25 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 25 | | PRO: Quiet |
| 178 | 26 | 25 | 0 | 66 | 14 | | | | 0 | 0 | 0 | 26 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 26 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 26 | | PRO: Quiet |
| 179 | 27 | 26 | 0 | 65 | 17 | | | | 0 | 0 | 0 | 27 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 27 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 27 | | PRO: Quiet |
| 180 | 28 | 27 | 0 | 66 | 12 | | | | 0 | 0 | 0 | 28 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 28 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 28 | | PRO: Quiet |
| 181 | 29 | 28 | 0 | 66 | 9 | | | | 0 | 0 | 0 | 29 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 29 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 29 | | PRO: Quiet |
| 182 | 30 | 29 | 0 | 67 | 8 | | | | 0 | 0 | 0 | 30 | | SOL: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 30 | | MAG: Quiet |
| | | | | | | | | | 0 | 0 | 0 | 30 | | PRO: Quiet |

# International Relative Sunspot Numbers
# Jul 2007 - Jun 2008

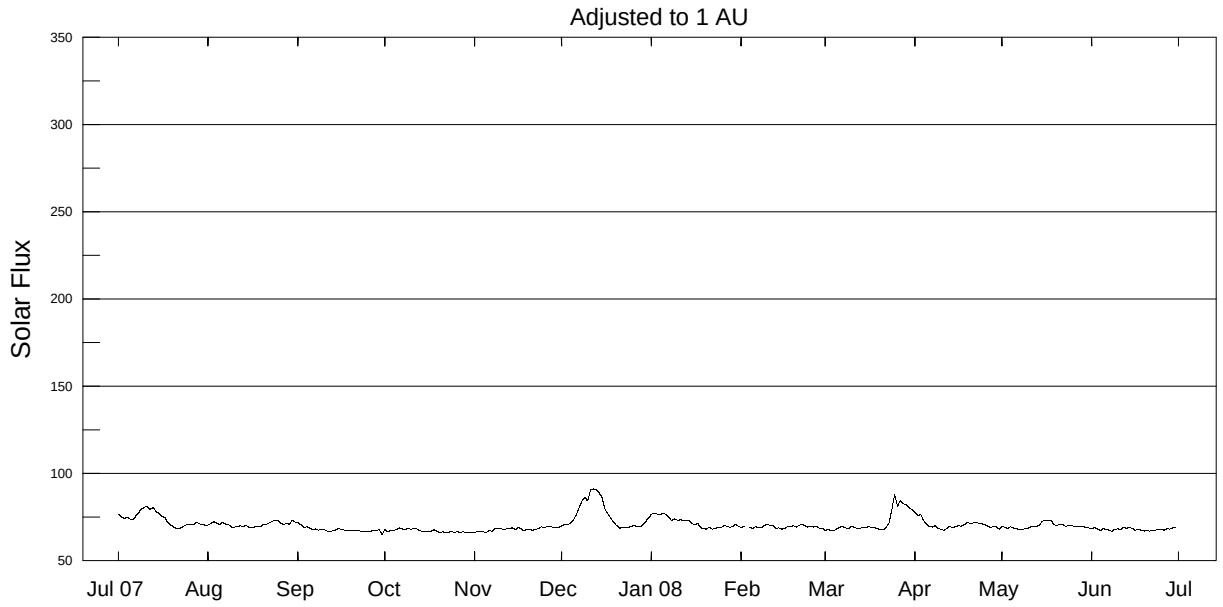





| Day | Jul 07 | Aug | Sep | Oct | Nov | Dec | Jan 08* | Feb* | Mar* | Apr* | May* | Jun* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19 | 0 | 14 | 0 | 0 | 10 | 7 | 11 | 0 | 16 | 0 | 0 |
| 2 | 11 | 0 | 8 | 0 | 0 | 9 | 7 | 9 | 0 | 9 | 0 | 0 |
| 3 | 9 | 7 | 8 | 0 | 0 | 7 | 7 | 9 | 7 | 9 | 0 | 0 |
| 4 | 9 | 7 | 8 | 0 | 0 | 9 | 12 | 8 | 0 | 7 | 7 | 0 |
| 5 | 9 | 7 | 8 | 0 | 0 | 8 | 10 | 0 | 0 | 0 | 8 | 9 |
| 6 | 9 | 8 | 0 | 11 | 8 | 16 | 11 | 0 | 8 | 0 | 0 | 0 |
| 7 | 8 | 8 | 0 | 9 | 0 | 15 | 11 | 0 | 0 | 0 | 0 | 0 |
| 8 | 10 | 9 | 0 | 7 | 0 | 25 | 9 | 0 | 0 | 0 | 0 | 0 |
| 9 | 14 | 9 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 17 | 9 | 0 | 0 | 0 | 24 | 8 | 0 | 9 | 0 | 0 | 9 |
| 11 | 17 | 8 | 0 | 0 | 0 | 24 | 8 | 0 | 0 | 0 | 0 | 8 |
| 12 | 15 | 8 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 26 | 8 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 7 | 8 | 8 |
| 14 | 27 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 7 | 0 | 0 |
| 15 | 25 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 7 | 0 | 9 | 7 |
| 16 | 20 | 0 | 0 | 0 | 10 | 18 | 0 | 0 | 7 | 0 | 14 | 7 |
| 17 | 11 | 0 | 0 | 0 | 9 | 11 | 0 | 0 | 7 | 0 | 12 | 7 |
| 18 | 9 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 15 | 8 |
| 19 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 11 | 7 |
| 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 8 |
| 21 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 22 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 8 |
| 23 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| 24 | 0 | 8 | 0 | 0 | 10 | 0 | 0 | 0 | 19 | 7 | 0 | 0 |
| 25 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 8 | 32 | 0 | 0 | 0 |
| 26 | 0 | 8 | 0 | 0 | 7 | 0 | 0 | 8 | 36 | 0 | 0 | 0 |
| 27 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 8 | 35 | 0 | 0 | 0 |
| 28 | 9 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 |
| 29 | 9 | 8 | 9 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 |
| 30 | 9 | 8 | 9 | 0 | 0 | 0 | 8 | | 31 | 0 | 0 | 0 |
| 31 | 0 | 17 | | 0 | | 0 | 8 | | 25 | | 0 | |
| Mean | 9.7 | 6.0 | 2.4 | 0.9 | 1.7 | 10.1 | 3.4 | 2.1 | 9.3 | 2.9 | 2.9 | 3.1 |

* = Provisional.

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




| Day | Jul 07 | Aug | Sep | Oct | Nov | Dec | Jan 08 | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 76.8 | 70.4 | 72.1 | 67.8 | 66.3 | 69.9 | 76.7 | 69.0 | 67.4 | 77.7 | 69.6 | 68.5 |
| 2 | 75.1 | 71.5 | 70.6 | 66.5 | 66.8 | 71.0 | 77.0 | 69.8 | 68.0 | 75.9 | 69.2 | 69.0 |
| 3 | 74.2 | 72.4 | 69.1 | 67.3 | 66.5 | 70.5 | 76.7 | * | 67.3 | 76.4 | 68.5 | 68.2 |
| 4 | 74.9 | 71.4 | 69.4 | 67.4 | 66.5 | 71.5 | 76.4 | 69.3 | 67.2 | 73.1 | 69.5 | 67.1 |
| 5 | 73.9 | 70.9 | 68.8 | 67.8 | 66.2 | 73.1 | 77.1 | 68.5 | 68.2 | 71.1 | 68.8 | 68.4 |
| 6 | 73.5 | 72.0 | 67.8 | 68.9 | 67.3 | 75.9 | 76.6 | 69.6 | 69.3 | 69.5 | 68.4 | 67.9 |
| 7 | 75.5 | 71.0 | 68.2 | 68.1 | 66.9 | 79.8 | 75.2 | 68.9 | 69.5 | 69.3 | 67.8 | 67.6 |
| 8 | 77.6 | 71.0 | 67.6 | 67.9 | 68.4 | 84.4 | 73.0 | 69.0 | 68.8 | 70.0 | 67.7 | 66.9 |
| 9 | 79.7 | 69.3 | 67.7 | 68.6 | 68.2 | 86.2 | 74.0 | 70.3 | 68.5 | 68.2 | 68.6 | 68.0 |
| 10 | 80.8 | 69.3 | 67.9 | 67.9 | 68.4 | 84.3 | 73.2 | 70.7 | 69.4 | 68.1 | 68.7 | 68.2 |
| 11 | 81.1 | 69.5 | 67.0 | 68.6 | 67.7 | 90.5 | 73.5 | 70.2 | 69.3 | 67.4 | 69.4 | 67.8 |
| 12 | 79.5 | 70.0 | 66.7 | 68.3 | 68.3 | 91.1 | 73.2 | 70.3 | 68.5 | 68.5 | 69.5 | 69.2 |
| 13 | 80.6 | 69.5 | 67.2 | 67.3 | 68.4 | 90.9 | 72.9 | 68.7 | 68.7 | 69.7 | 69.7 | 68.6 |
| 14 | 78.2 | 70.3 | 67.6 | 66.7 | 68.9 | 89.0 | 73.1 | 68.8 | 69.1 | 69.0 | 70.5 | 69.2 |
| 15 | 77.1 | 69.3 | 68.5 | 66.8 | 67.7 | 86.1 | 71.3 | 68.0 | 68.8 | 69.7 | 72.7 | 68.6 |
| 16 | 75.3 | 69.0 | 67.8 | 66.7 | 69.1 | 79.1 | 70.6 | 68.6 | 69.6 | 70.0 | 73.2 | 67.4 |
| 17 | 74.7 | 69.3 | 67.6 | 67.0 | 68.2 | 76.9 | 71.3 | 69.4 | 69.1 | 69.8 | 72.8 | 68.1 |
| 18 | 71.8 | 69.6 | 67.1 | 67.7 | 67.2 | 74.4 | 68.8 | 69.5 | 69.0 | 70.8 | 73.3 | 67.5 |
| 19 | 70.5 | 69.4 | 67.4 | 66.8 | 67.9 | 72.1 | 68.6 | 70.0 | 68.4 | 71.7 | 70.5 | 67.0 |
| 20 | 69.5 | 70.7 | 67.4 | 66.3 | 68.0 | 70.2 | 68.0 | 69.3 | 67.9 | 71.5 | 70.2 | 67.3 |
| 21 | 68.6 | 70.9 | 67.4 | 66.6 | 67.4 | 68.7 | 69.3 | 70.3 | 67.7 | 71.6 | 70.8 | 67.0 |
| 22 | 68.3 | 71.6 | 67.2 | 66.0 | 68.0 | 69.1 | 68.1 | 70.8 | 69.1 | 72.1 | 71.0 | 67.5 |
| 23 | 69.3 | 72.4 | 66.8 | 66.4 | 68.3 | 69.1 | 68.4 | 70.1 | 71.5 | 71.5 | 69.6 | 67.5 |
| 24 | 70.2 | 73.2 | 66.5 | 66.8 | 69.5 | 69.1 | 69.1 | 69.3 | 79.0 | 71.2 | 70.3 | 68.0 |
| 25 | 70.8 | 73.1 | 66.6 | 66.3 | 68.8 | 69.7 | 68.9 | 69.9 | 88.2 | 70.7 | 70.1 | 68.1 |
| 26 | 70.6 | 71.6 | 66.8 | 66.7 | 69.6 | 70.2 | 70.3 | 69.3 | 81.2 | 69.9 | 69.8 | 67.5 |
| 27 | 70.9 | 70.7 | 67.4 | 66.2 | 69.6 | 69.7 | 69.8 | 69.4 | 84.5 | 69.0 | 69.7 | 68.3 |
| 28 | 72.1 | 71.6 | 67.4 | 66.6 | 69.3 | 69.5 | 69.2 | 68.7 | 82.6 | 69.4 | 69.6 | 68.1 |
| 29 | 71.1 | 71.0 | 67.8 | 66.2 | 69.3 | 70.3 | 69.5 | 68.5 | 82.4 | 69.6 | 69.9 | 68.8 |
| 30 | 71.0 | 73.0 | 65.1 | 66.3 | 69.2 | 72.5 | 70.6 |  | 80.4 | 68.0 | 69.0 | 68.9 |
| 31 | 70.1 | 72.2 |  | 66.1 |  | 74.2 | 69.9 |  | 79.1 |  | 68.8 |  |
| Mean | 74.0 | 70.9 | 67.8 | 67.1 | 68.1 | 76.1 | 71.9 | 69.4 | 72.2 | 70.7 | 69.9 | 68.0 |

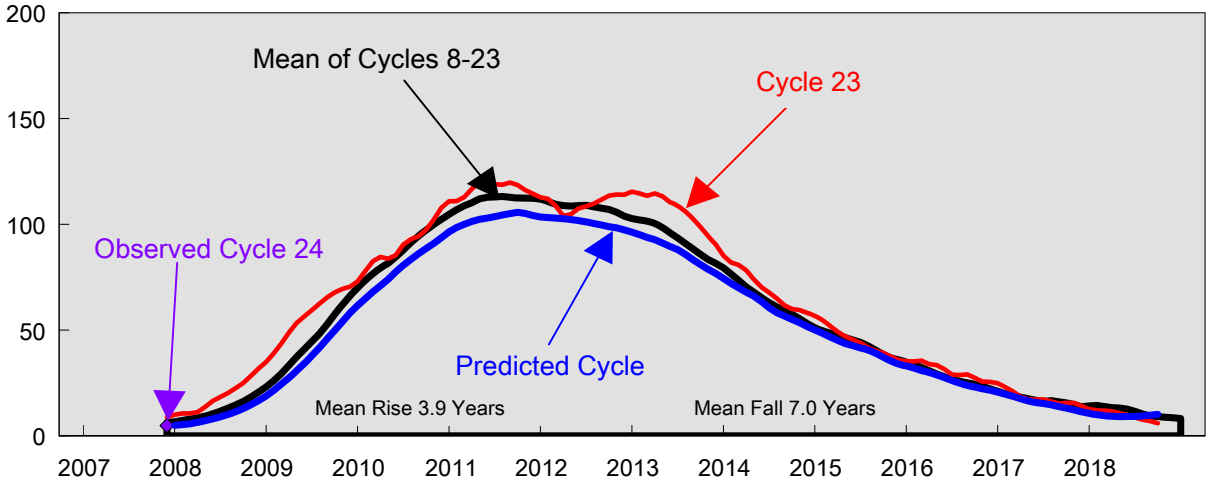
* = No data available.

# DAILY SOLAR INDICES
## JUNE 2008

| | 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 |
| Day | Year | Day | Int | Amer | (2800) | (15400) | (8800) | (4995) | (2800) | (2695) | (1415) | (610) | (410) | (245) |
| 1 | 153 | 3 | 0 | 0 | 66.6 | 445 | 225 | 125 | 68.5 | 64 | 54 | 32 | 22 | 10 |
| 2 | 154 | 4 | 0 | 0 | 67.1 | 446 | 219 | 118 | 69.0 | 58 | 54 | 32 | 23 | 9 |
| 3 | 155 | 5 | 0 | 0 | 66.3 | 451 | 224 | 125 | 68.2 | 62 | 53 | 30 | 23 | 10 |
| 4 | 156 | 6 | 0 | 0 | 65.2 | 229 | 194 | 115 | 67.1 | 63 | 52 | 30 | 22 | 4 |
| 5 | 157 | 7 | 9 | 2 | 66.4 | 319 | 208 | 133 | 68.4 | 66 | 52 | 32 | 23 | 7 |
| 6 | 158 | 8 | 0 | 0 | 65.9 | 340 | 218 | 119 | 67.9 | 69 | 52 | 30 | 23 | 10 |
| 7 | 159 | 9 | 0 | 0 | 65.6 | 444 | 222 | 123 | 67.6 | 59 | 53 | 30 | 23 | 10 |
| 8 | 160 | 10 | 0 | 0 | 64.9 | 444 | 214 | 118 | 66.9 | 59 | 53 | 30 | 23 | 9 |
| 9 | 161 | 11 | 0 | 2 | 66.0 | 438 | 225 | 123 | 68.0 | 57 | 53 | 31 | 22 | 9 |
| 10 | 162 | 12 | 9 | 9 | 66.2 | 443 | 209 | 121 | 68.2 | 58 | 55 | 31 | 22 | 9 |
| 11 | 163 | 13 | 8 | 8 | 65.7 | 448 | 222 | 123 | 67.8 | 62 | 53 | 31 | 22 | 11 |
| 12 | 164 | 14 | 0 | 8 | 67.1 | 447 | 222 | 120 | 69.2 | 65 | 54 | 31 | 23 | 12 |
| 13 | 165 | 15 | 8 | 3 | 66.5 | 436 | 225 | 119 | 68.6 | 60 | 54 | 31 | 23 | 12 |
| 14 | 166 | 16 | 0 | 0 | 67.1 | 445 | 223 | 122 | 69.2 | 61 | 54 | 30 | 23 | 12 |
| 15 | 167 | 17 | 7 | 2 | 66.5 | 276 | 227 | 122 | 68.6 | 69 | 54 | 29 | 24 | 12 |
| 16 | 168 | 18 | 7 | 7 | 65.3 | 395 | 220 | 121 | 67.4 | 61 | 53 | 30 | 22 | 12 |
| 17 | 169 | 19 | 7 | 8 | 65.9 | 450 | 226 | 124 | 68.1 | 61 | 55 | 29 | 23 | 12 |
| 18 | 170 | 20 | 8 | 8 | 65.4 | 447 | 231 | 122 | 67.5 | 67 | 54 | 33 | 23 | 12 |
| 19 | 171 | 21 | 7 | 8 | 64.9 | 448 | 226 | 119 | 67.0 | 62 | 54 | 30 | 23 | 12 |
| 20 | 172 | 22 | 8 | 9 | 65.2 | 448 | 228 | 123 | 67.3 | 61 | 54 | 29 | 23 | 12 |
| 21 | 173 | 23 | 8 | 8 | 64.8 | 447 | 228 | 123 | 67.0 | 62 | 53 | 31 | 23 | 12 |
| 22 | 174 | 24 | 8 | 7 | 65.4 | 445 | 225 | 123 | 67.5 | 61 | 53 | 30 | 23 | 12 |
| 23 | 175 | 25 | 0 | 1 | 65.3 | 313 | 218 | 120 | 67.5 | 64 | 53 | 31 | 24 | 12 |
| 24 | 176 | 26 | 0 | 0 | 65.8 | 435 | 226 | 125 | 68.0 | 65 | 55 | --- | --- | --- |
| 25 | 177 | 27 | 0 | 0 | 65.9 | 447 | 225 | 124 | 68.1 | 61 | 54 | --- | --- | --- |
| 26 | 178 | 1 | 0 | 0 | 65.4 | 429 | 228 | 124 | 67.5 | 62 | 53 | --- | --- | --- |
| 27 | 179 | 2 | 0 | 0 | 66.1 | 443 | 227 | 124 | 68.3 | 60 | 54 | --- | --- | --- |
| 28 | 180 | 3 | 0 | 0 | 65.9 | 419 | 228 | 123 | 68.1 | 68 | 53 | --- | --- | --- |
| 29 | 181 | 4 | 0 | 0 | 66.6 | 427 | 231 | 123 | 68.8 | 64 | 54 | --- | --- | --- |
| 30 | 182 | 5 | 0 | 0 | 66.7 | 445 | 225 | 125 | 68.9 | 60 | 55 | --- | --- | --- |
| MEAN | | | 3.1 | 3.0 | 65.9 | 416 | 222 | 122 | 68.0 | 62 | 53 | 30 | 22 | 10 |

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

## Cycle 24 Smoothed Sunspot Numbers: Observed and Predicted
## PRELIMINARY Based on December 2007 Smoothed Data




**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 | 5 | 5 | 6 | 6 | 7 | 8 | 9 | 10 | 11 | 13 | 15 | 17 | 9 |
| | (1 ) | (1 ) | (2 ) | (3 ) | (4 ) | (5 ) | (6 ) | (7 ) | (8 ) | (10 ) | (12 ) | (14 ) | (6 ) |
| 2009 | 19 | 22 | 24 | 28 | 31 | 34 | 38 | 42 | 46 | 50 | 54 | 58 | 37 |
| | (16 ) | (18 ) | (20 ) | (23 ) | (26 ) | (29 ) | (32 ) | (35 ) | (38 ) | (42 ) | (46 ) | (50 ) | (31 ) |

Solar Cycle 22 | Solar Cycle 23 | Min, Max, and Predictions | ediction.

*** May 1996 marks Cycle 22's mathematical minimum.** **** October 1996 marks the consensus minimum.**

**+ April 2000 marks Cycle 23 maximum.** ## - Preliminary Cycle 24 Minumum

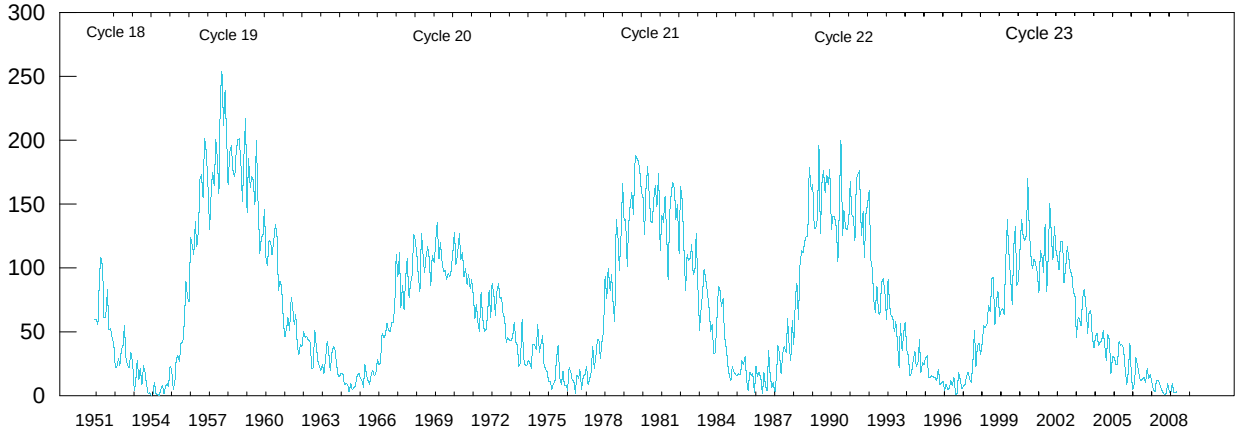
**NOTE: This is a preliminary prediction using December 2007 as solar minimum.**

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 December 2008 prediction. There exists a 90% chance that in December 2008, the actual smoothed sunspot will fall somewhere between 3 and 31.

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 Decembe, 2007. This will be updated monthly until the actual minimum is reached.

# Mean Monthly Sunspot Numbers
# Jan 1951 - Jun 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 | | | | | | | 4.0 | |

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
## JUNE 2008

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

# NO REPORTS

"Remarks"

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

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

# X - R A Y  S O L A R  F L A R E S

## JUNE 2008

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | CMP Day | Dur (Min) | Imp Xray | Total Integrated Flux(1) | Total Area(2) | Total(3) 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 11 is now primary with 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

### JUNE 2008

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

# No Reports

Reports are received routinely from the following observatories:
LEAR = Learmonth  SGMR = Sagamore Hill  SVTO = San Vito

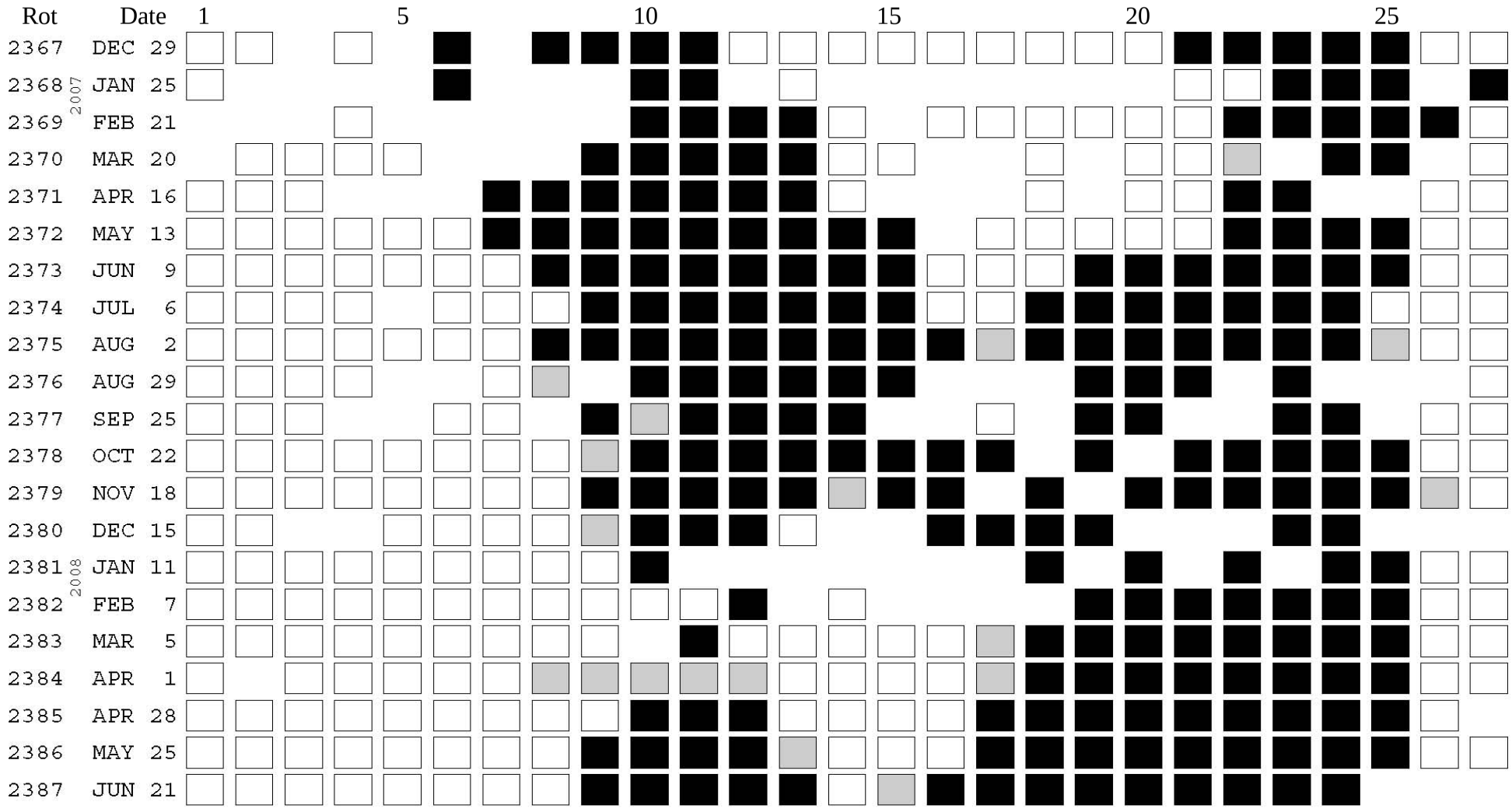
Explanation of Type Code:

| | | | | | |
|---|---|---|---|---|---|
| 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 Precusor | 41 Group of Bursts | 47 Great Burst |
| 6 Minor | 23 Simple 3AF | 29 Post Burst Increase | 42 Series of Bursts | 48 Major |

| | | | |
|---|---|---|---|
| 1A Simple 1A | 4A Simple 2AF | 24PF Post Rise F | 27F Rise and Fall F |
| 3A Simple 2A | 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.

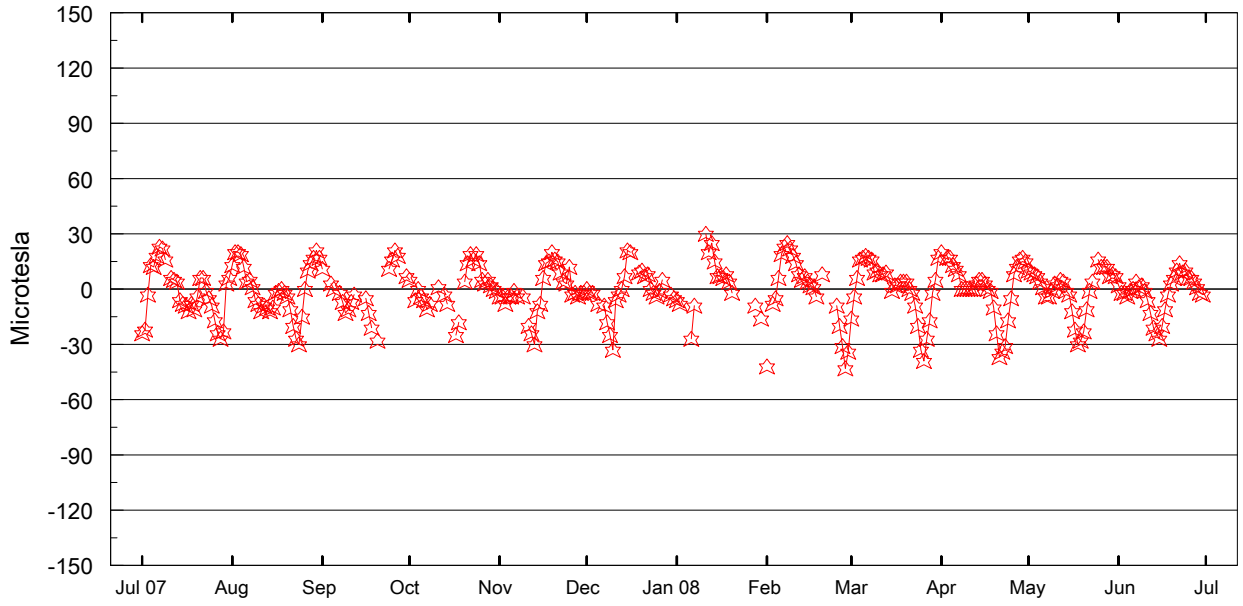
# STANFORD MEAN SOLAR MAGNETIC FIELD




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.

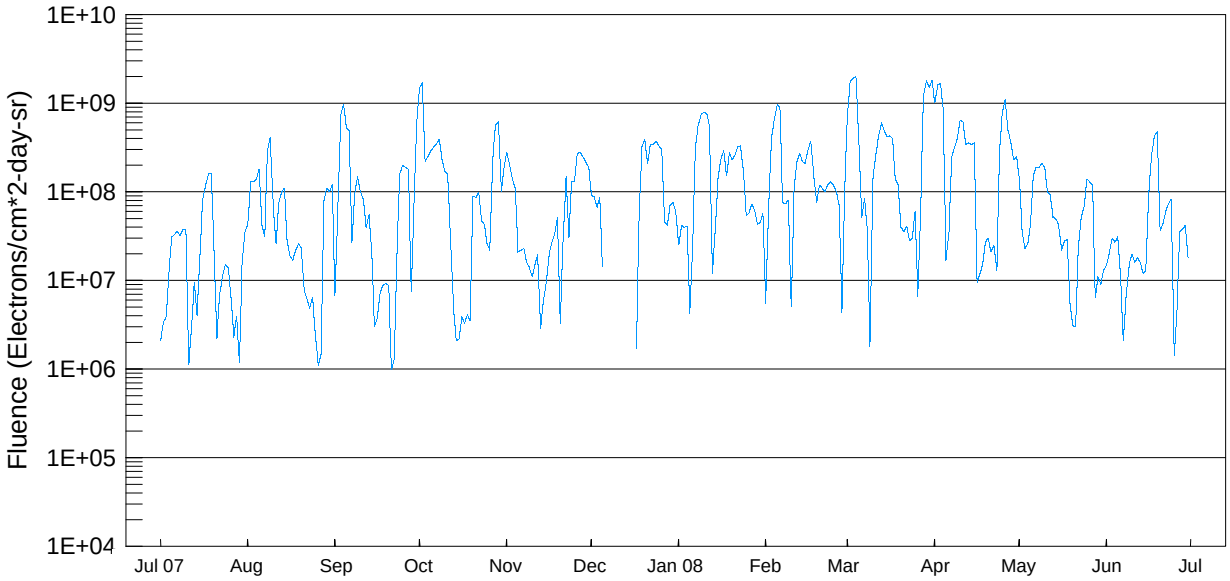
# Stanford Mean Solar Magnetic Field (Microtesla )
## "Sun-As-A-Star"




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

# GOES Daily Electron Fluence
## Jul 2007 - Jun 2008






| Day | Jul 07 | Aug | Sep | Oct | Nov | Dec | Jan 08 | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2.1E+06 | 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 |
| 2 | 3.4E+06 | 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 | 3.9E+06 | 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 |
| 4 | 1.3E+07 | 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 |
| 5 | 3.1E+07 | 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 | 3.3E+07 | 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 |
| 7 | 3.6E+07 | 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 |
| 8 | 3.2E+07 | 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 |
| 9 | 3.8E+07 | 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 |
| 10 | 3.7E+07 | 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 |
| 11 | 1.1E+06 | 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 |
| 12 | 3.0E+06 | 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 |
| 13 | 9.6E+06 | 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 |
| 14 | 4.0E+06 | 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 |
| 15 | 1.9E+07 | 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 |
| 16 | 8.1E+07 | 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 |
| 17 | 1.2E+08 | 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 |
| 18 | 1.6E+08 | 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 |
| 19 | 1.6E+08 | 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 |
| 20 | 2.3E+07 | 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 |
| 21 | 2.2E+06 | 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 |
| 22 | 7.0E+06 | 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 |
| 23 | 1.1E+07 | 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 |
| 24 | 1.5E+07 | 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 |
| 25 | 1.4E+07 | 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 |
| 26 | 6.3E+06 | 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 |
| 27 | 2.3E+06 | 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 |
| 28 | 4.0E+06 | 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 |
| 29 | 1.2E+06 | 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 |
| 30 | 1.6E+07 | 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 |
| 31 | 3.5E+07 | 1.2E+08 | | 1.9E+08 | | 6.1E+07 | 5.7E+07 | | 1.8E+09 | | 1.3E+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 767 Part I

## DATA FOR **MAY 2008**

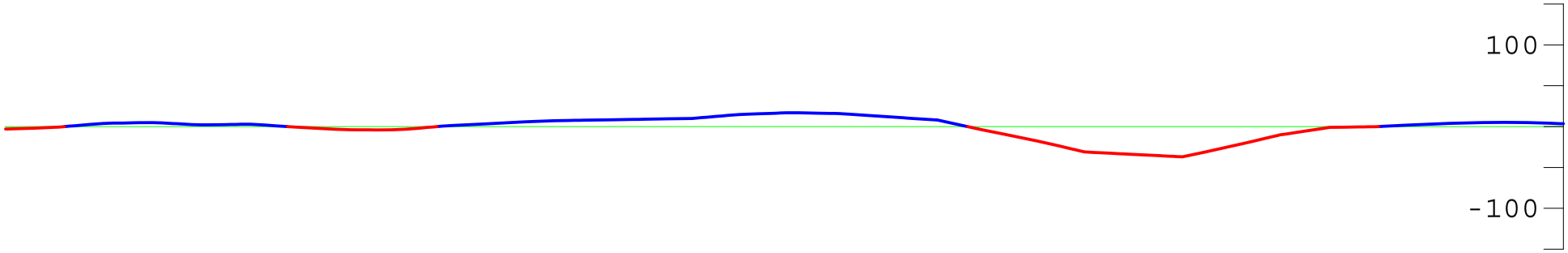
# SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2069

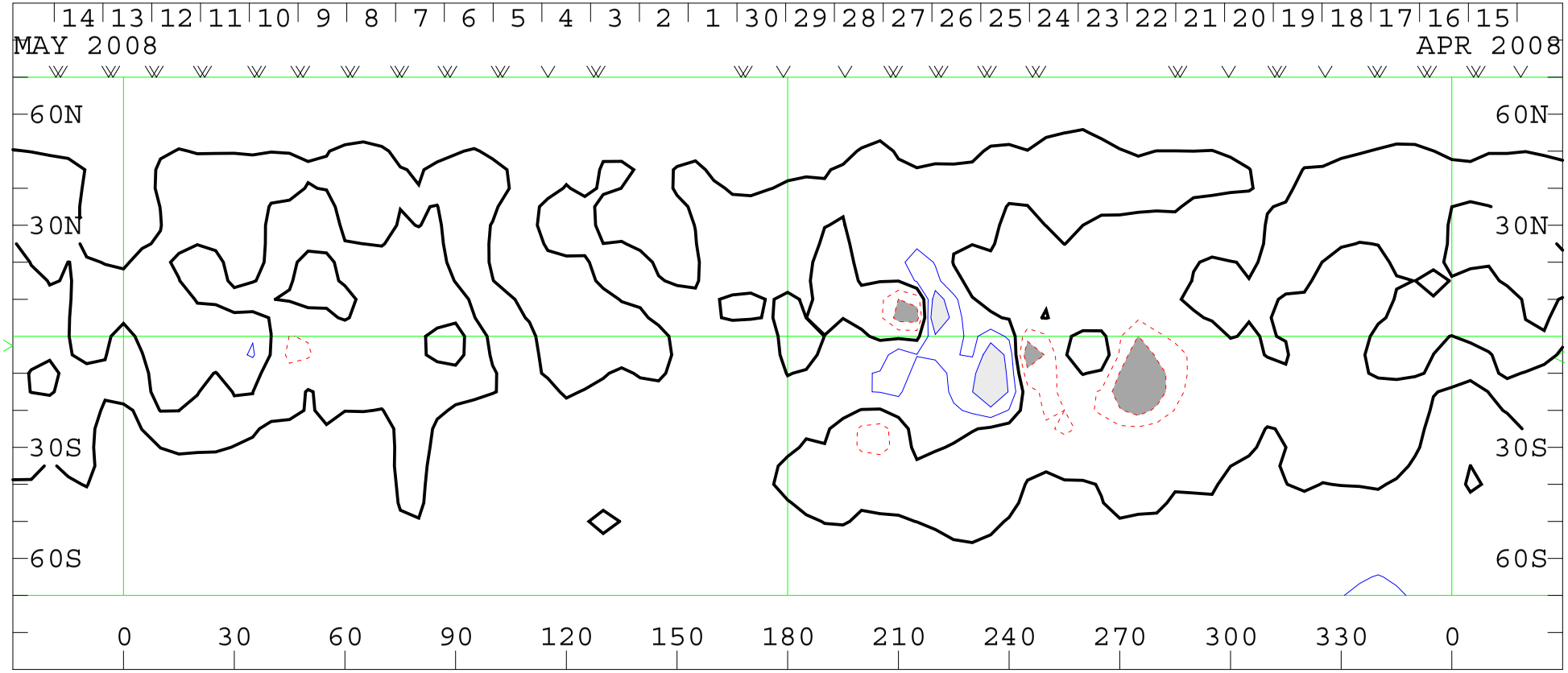
(16 Apr 2008 to 13 May 2008)

**Wilcox Solar Observatory**

Mean Field




WSO - Photospheric Magnetic Field 0, ±100, 200, 500, 1000, 2000 MicroTesla



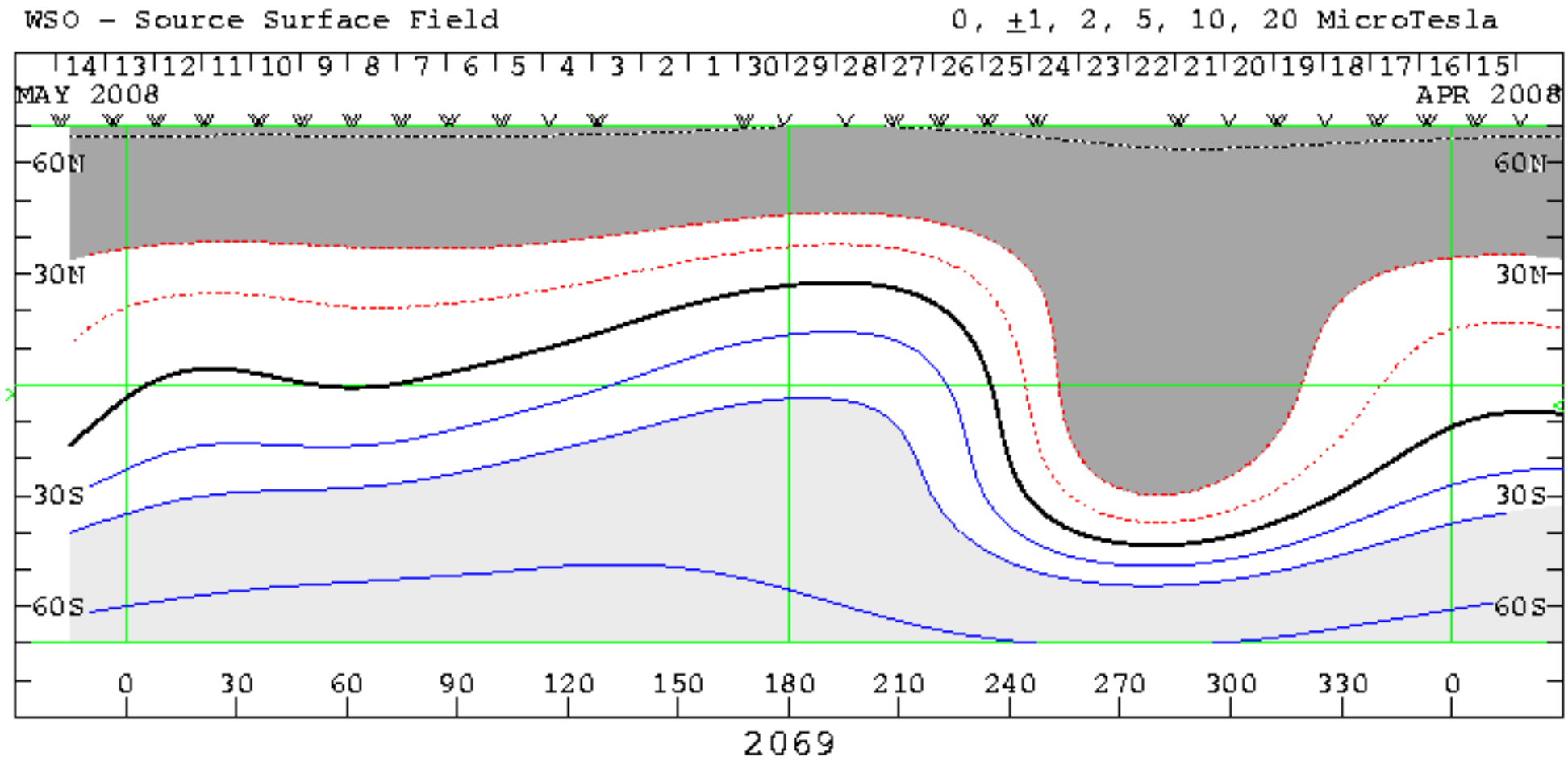

2069

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

**SOURCE SURFACE FIELD**

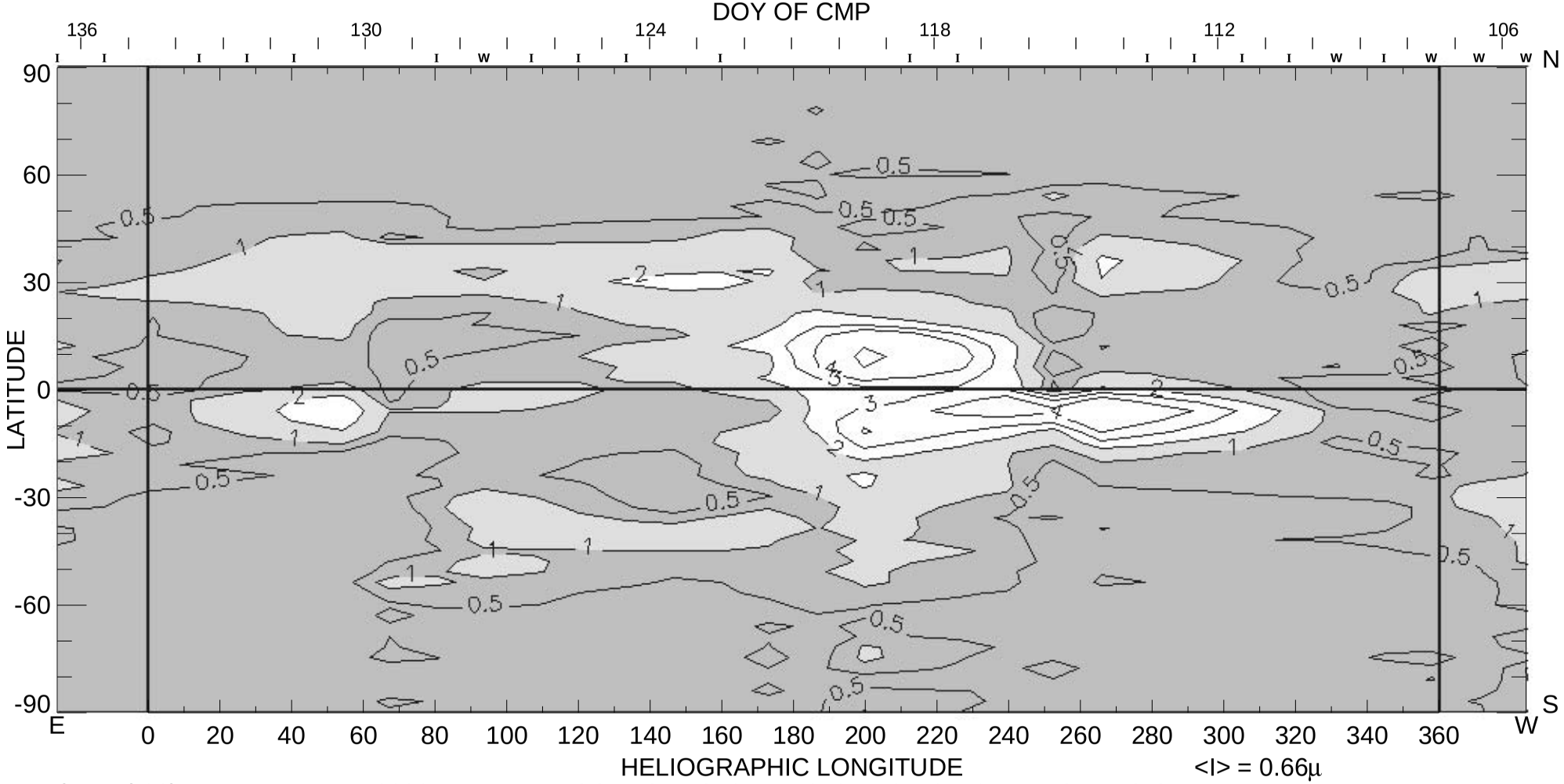
CARRINGTON ROTATION NUMBER 2069

(16 Apr 2008 to 13 May 2008)




Heliographic Longitude

CARRINGTON ROTATION NUMBER 2069 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15$R_o$

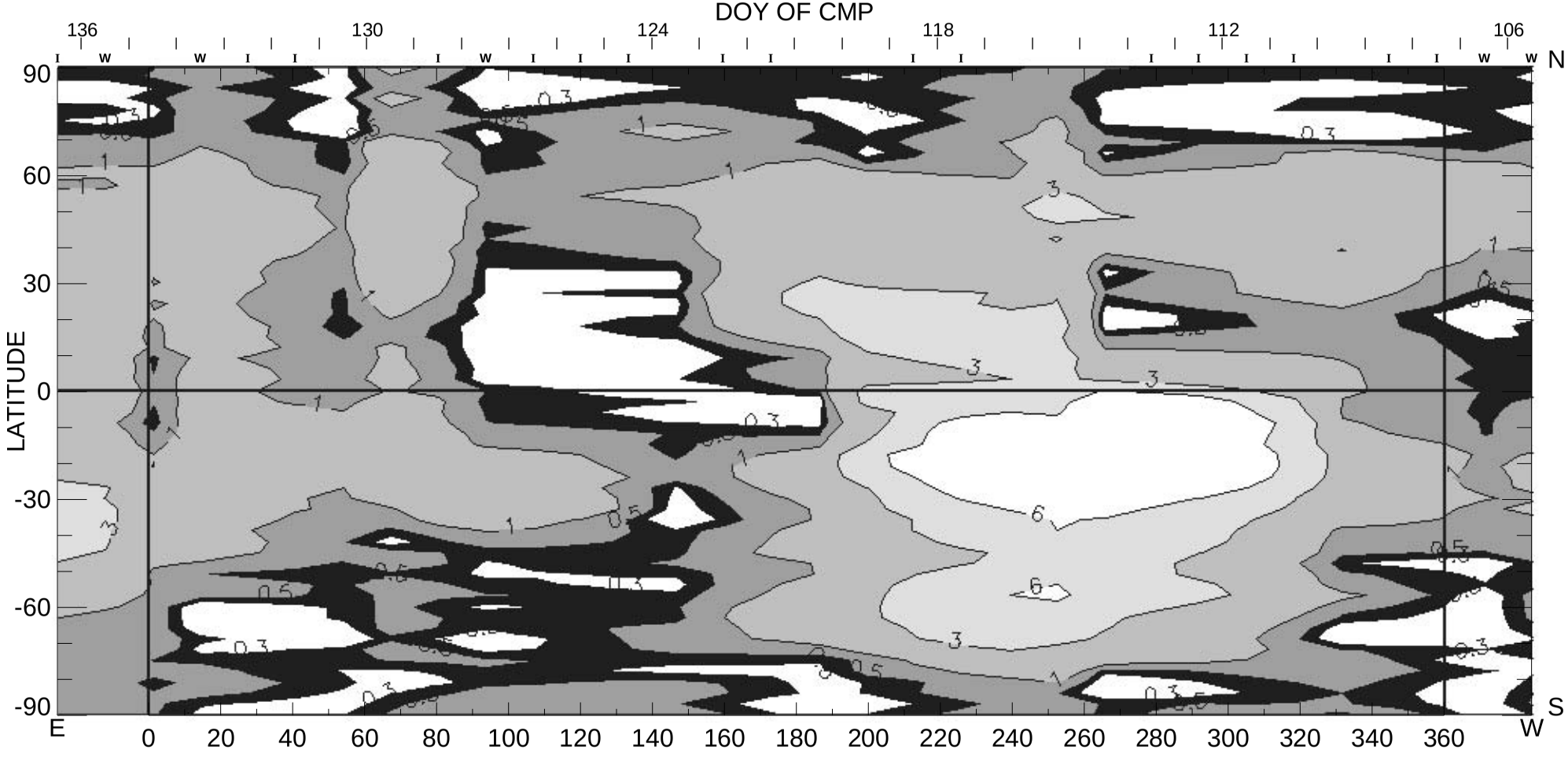



<I> = 0.66μ

(15-Jul-08) 2008 E+W LIMB CONTOURS: 0.5, 1, 2, 3, 4, 8, 12, 16 MILLIONTHS OF $I_o$

tex Tue Jul 15 16:42:08 2008

CARRINGTON ROTATION NUMBER 2069 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15$R_o$

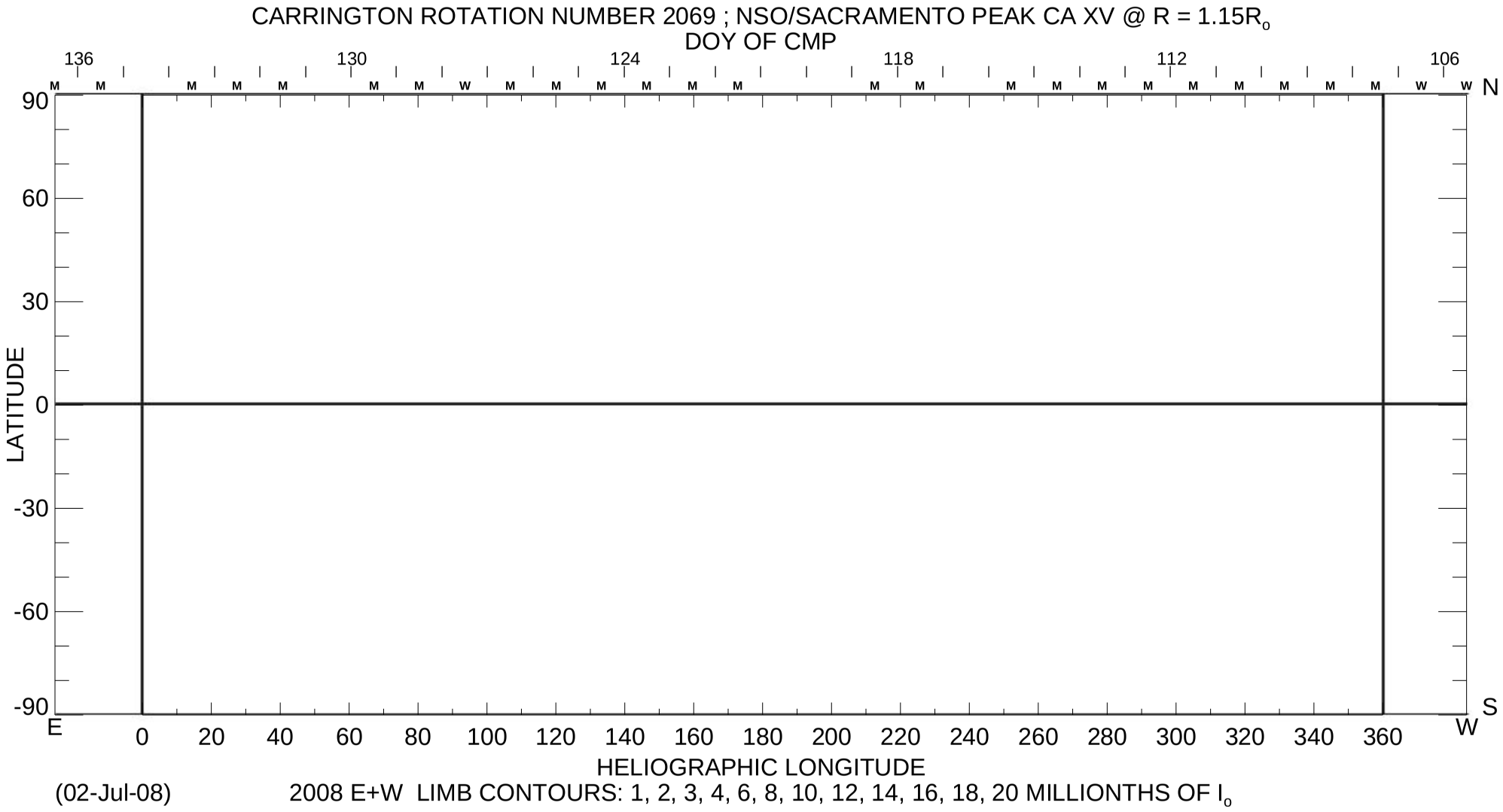



<I> = 1.57μ

(15-Jul-08) 2008 E+W LIMB CONTOURS: 0.3, 0.5, 1, 3, 6, 50, 60, 80, 120, 140, 160 MILLIONTHS OF $I_o$

CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK

tex Tue Jul 15 08:17:12 2008



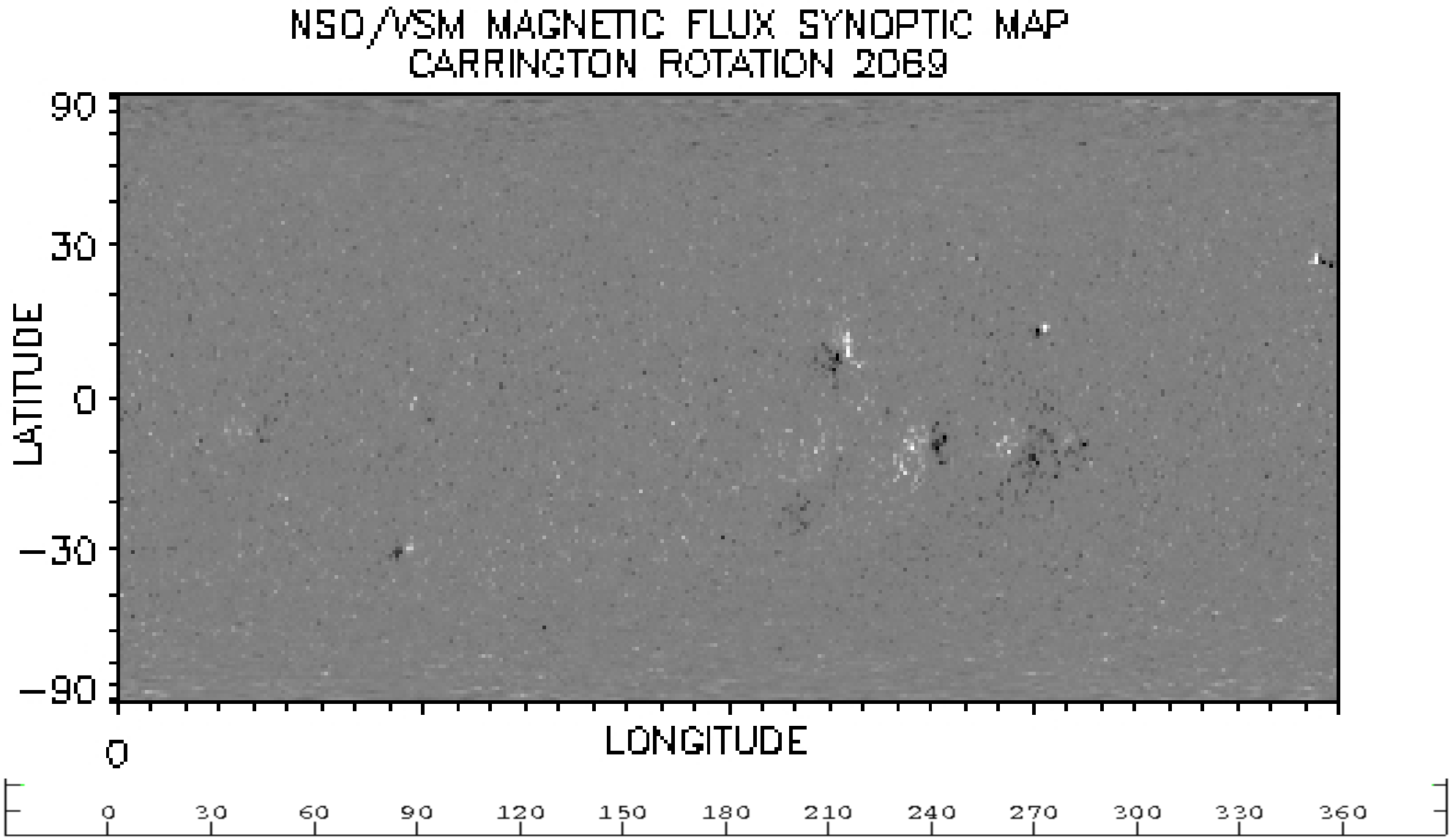

tex Wed Jul 2 16:32:04 2008

**SOLAR MAGNETIC FIELD SYNOPTIC CHART**

CARRINGTON ROTATION NUMBER 2069

(16 Apr 2008 to 13 May 2008)

National Solar Observatory/Kitt Peak




Heliographic Longitude

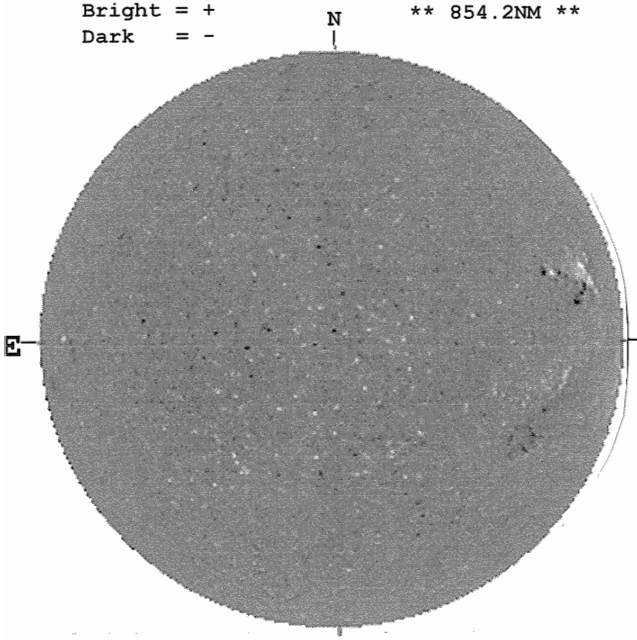
May 01, 2008 (P=-24.08, Bo=-4.14, Lo= 166.30)

May 08 40

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

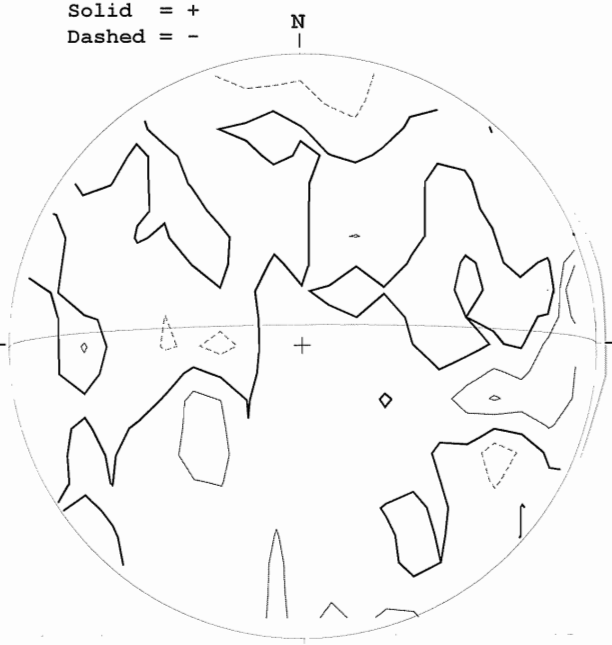
** 854.2NM **




1905 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

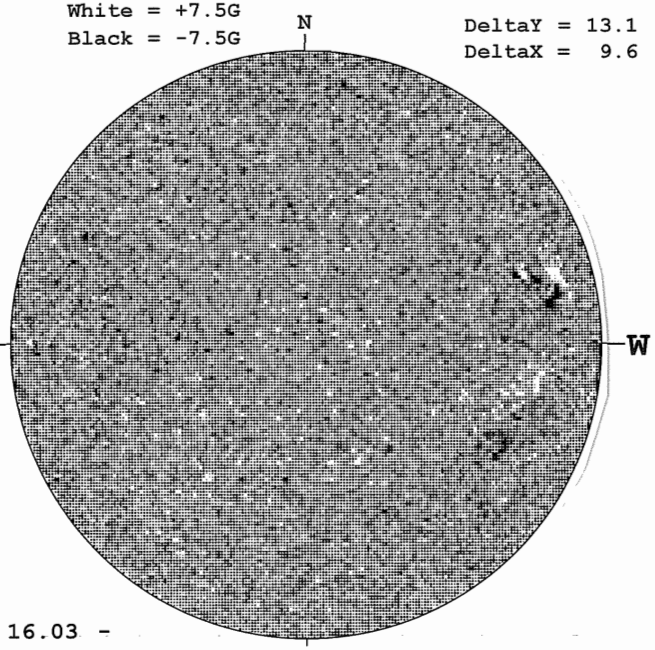



2033 UT

MT. WILSON MAGNETOGRAM

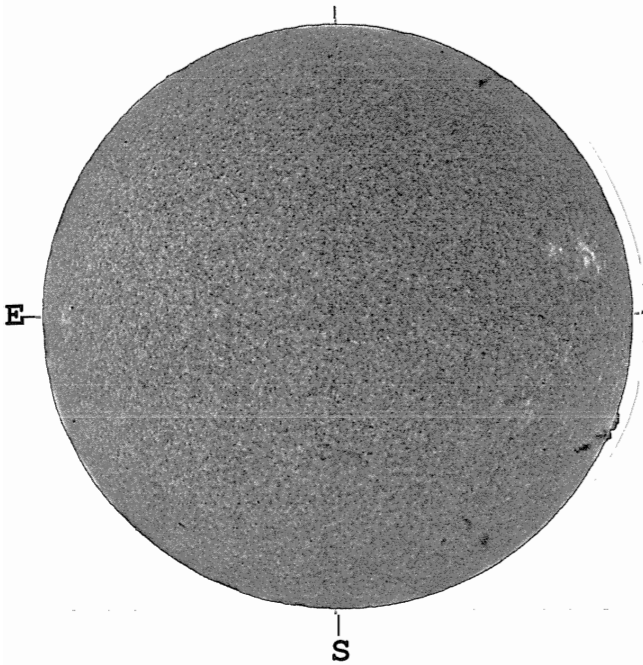
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




16.03 -
16.93 UT

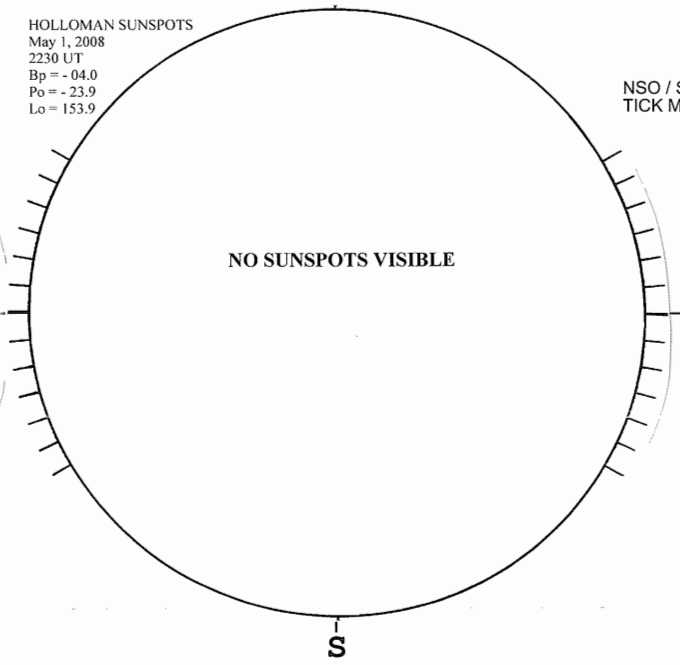
--- BIG BEAR H-ALPHA




1546 UT

HOLLOMAN SUNSPOTS

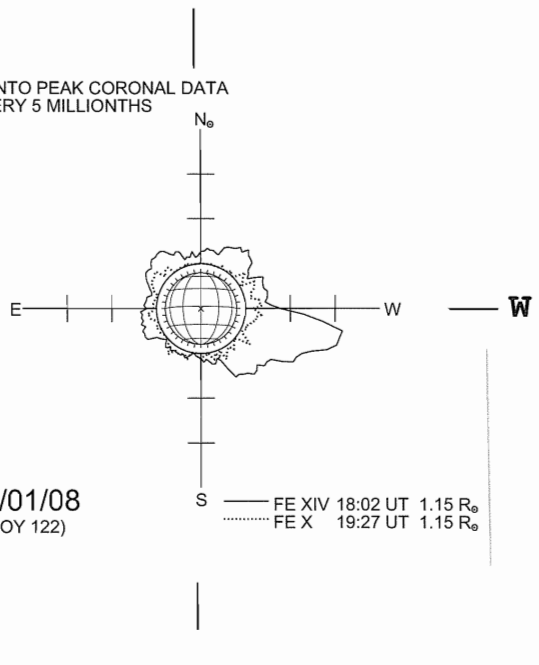
HOLLOMAN SUNSPOTS
May 1, 2008
2230 UT
Bp = - 04.0
Po = - 23.9
Lo = 153.9




2230 UT

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

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS




05/01/08
(DOY 122)

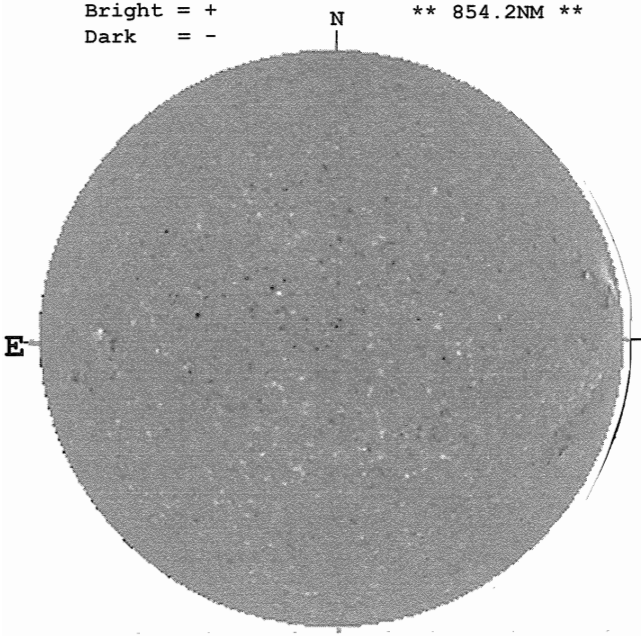
FE XIV 18:02 UT 1.15 R⊙
FE X 19:27 UT 1.15 R⊙

May 02, 2008 (P=-23.89, Bo=-4.04, Lo= 153.08)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

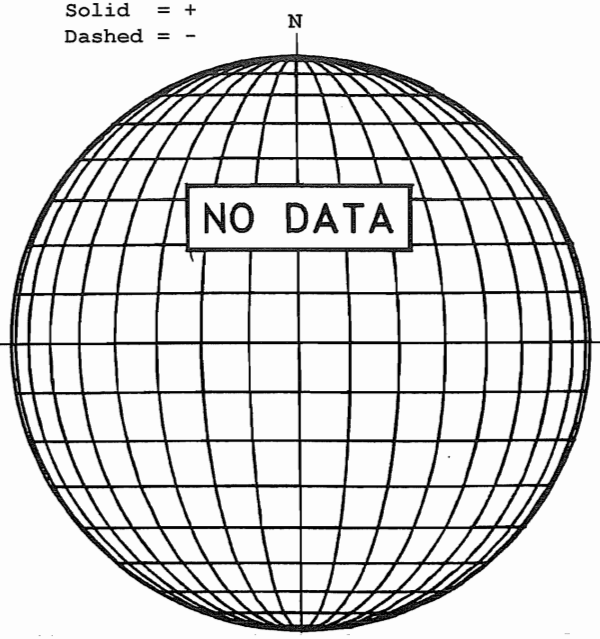
** 854.2NM **




1939 UT

STANFORD MAGNETOGRAM

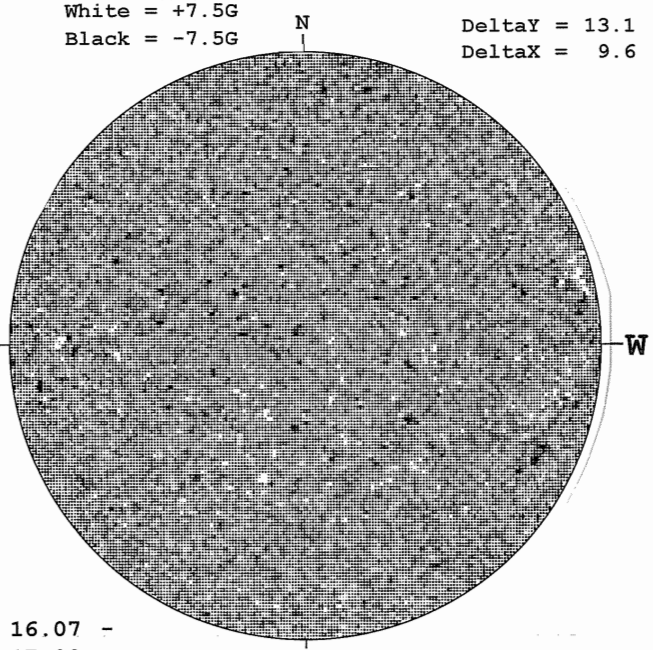
Solid = +
Dashed = -




MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

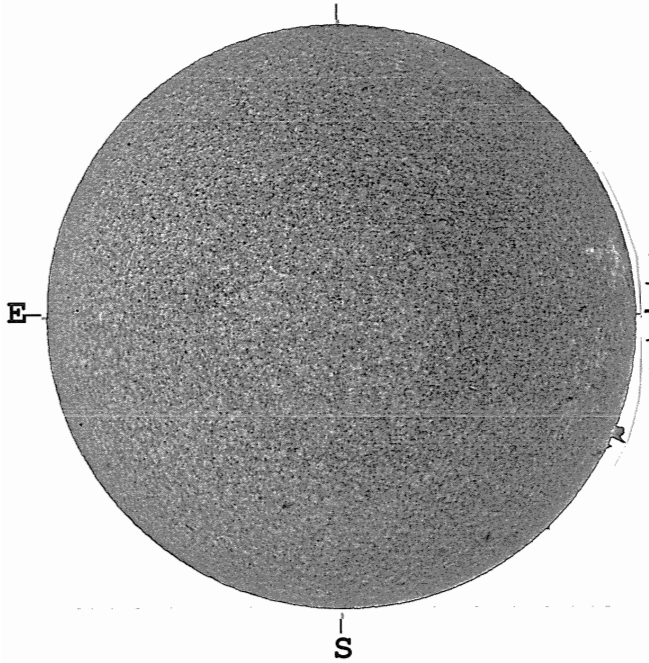
DeltaY = 13.1
DeltaX = 9.6




16.07 -
17.00 UT

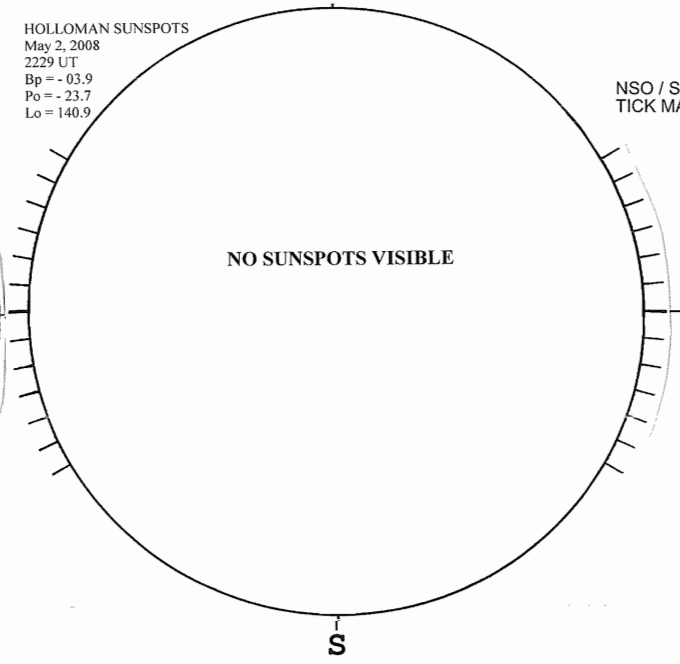
---

BIG BEAR H-ALPHA



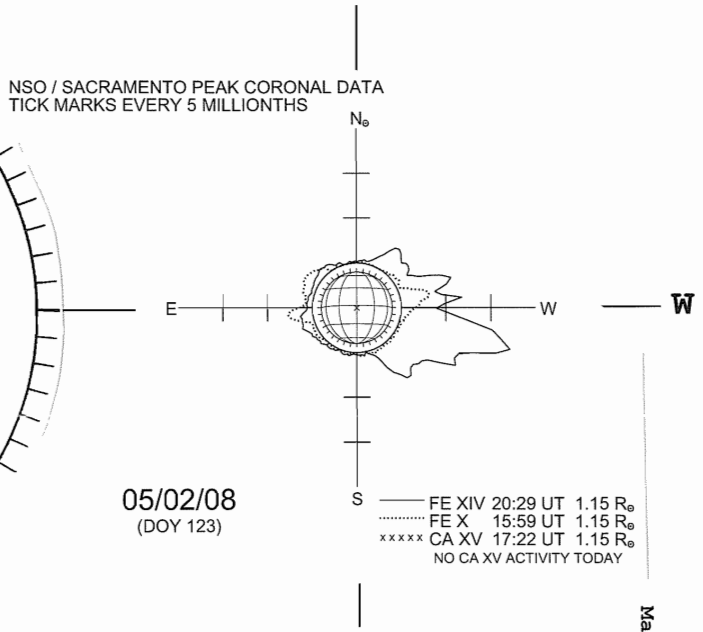

1544 UT

HOLLOMAN SUNSPOTS




2229 UT

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



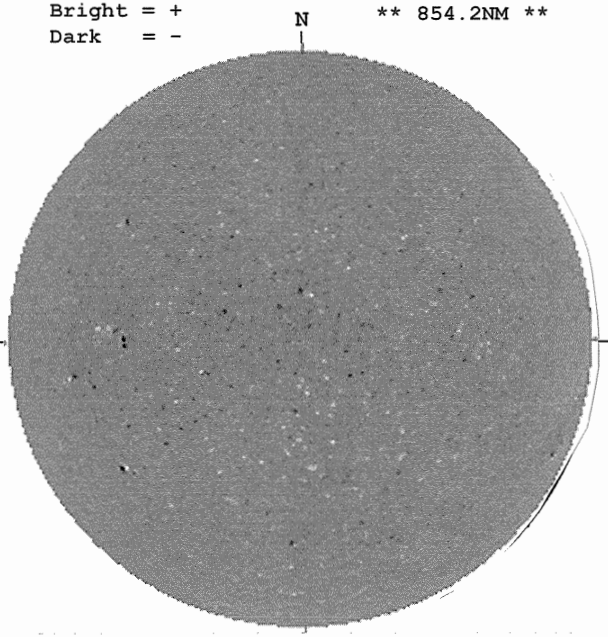
May 03, 2008 (P=-23.70, Bo=-3.94, Lo= 139.86)

May 08 42

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

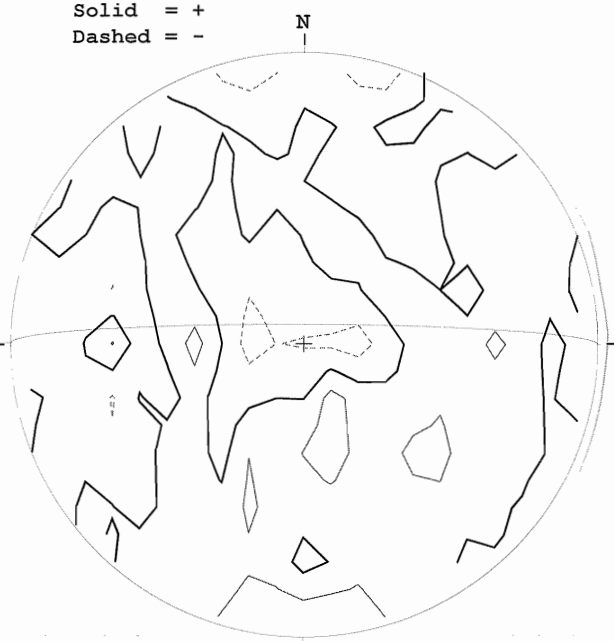
** 854.2NM **




1636 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

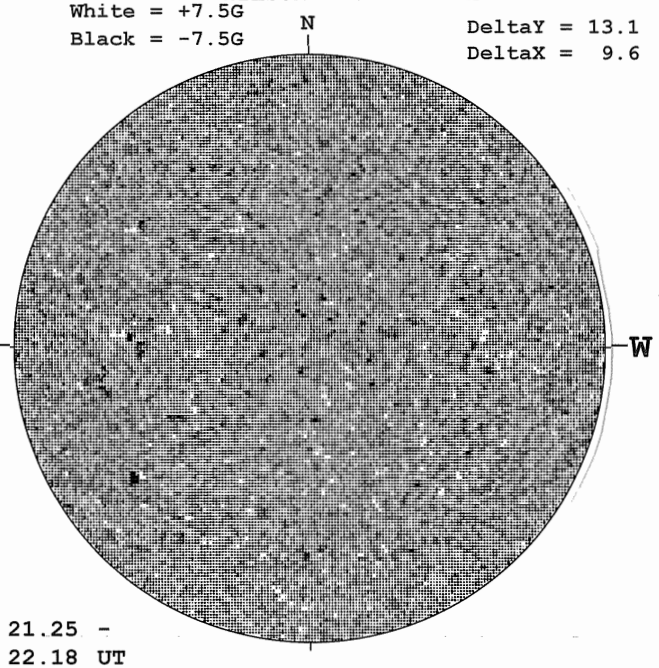



2228 UT

MT. WILSON MAGNETOGRAM

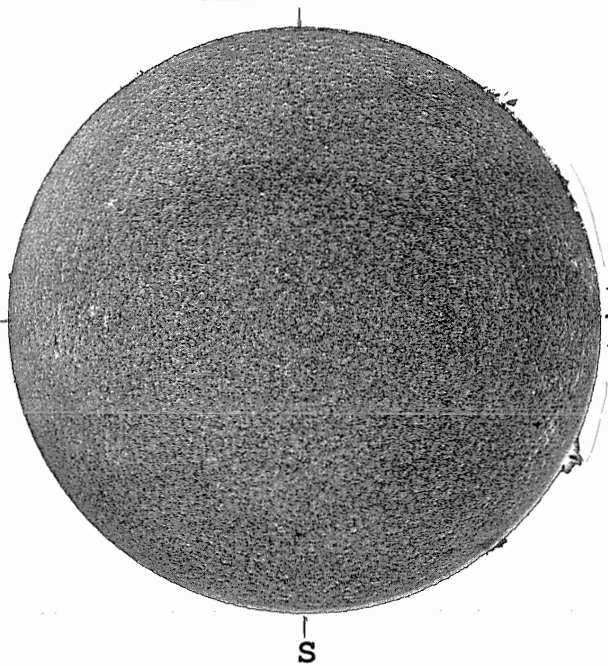
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




21.25 -
22.18 UT

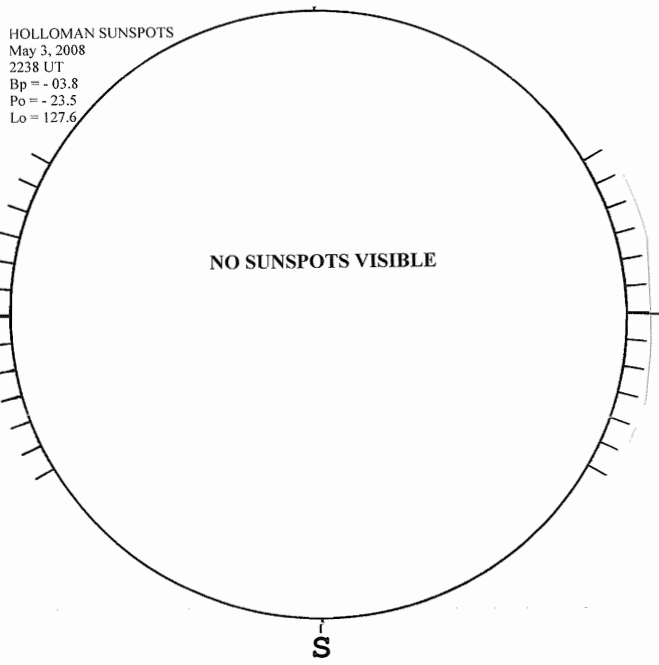
--- CATANIA H-ALPHA




0726 UT

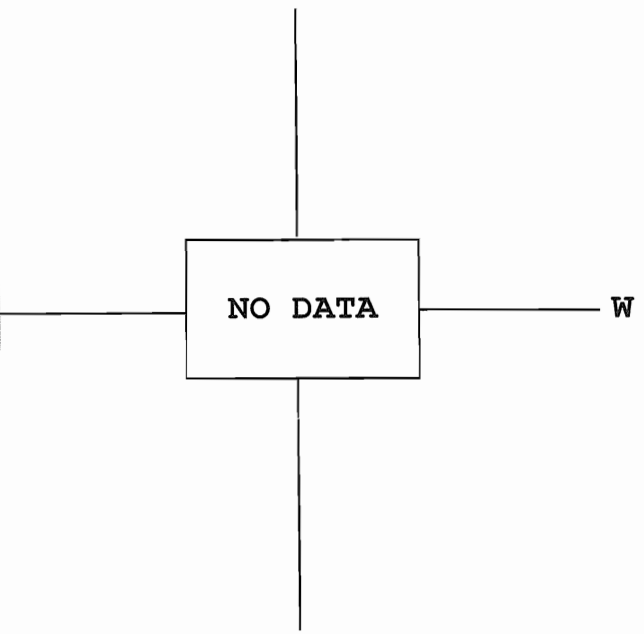
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
May 3, 2008
2238 UT
Bp = - 03.8
Po = - 23.5
Lo = 127.6




2238 UT

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

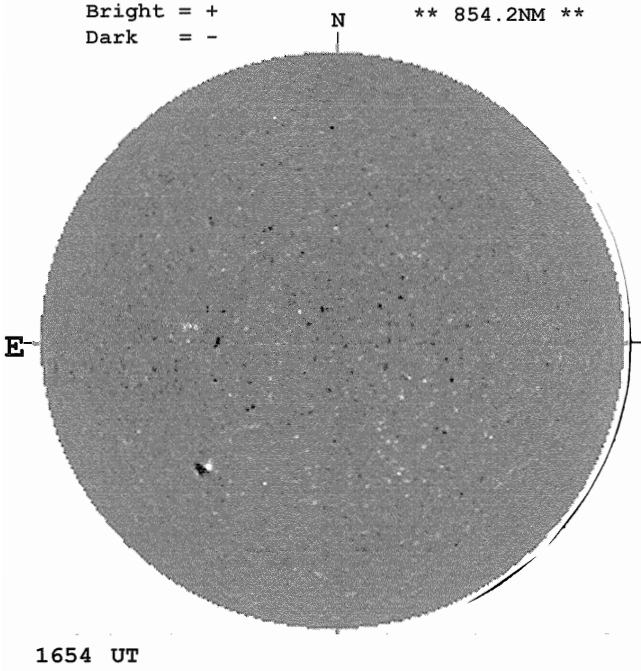


May 04, 2008 (P=-23.51, Bo=-3.83, Lo= 126.64)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

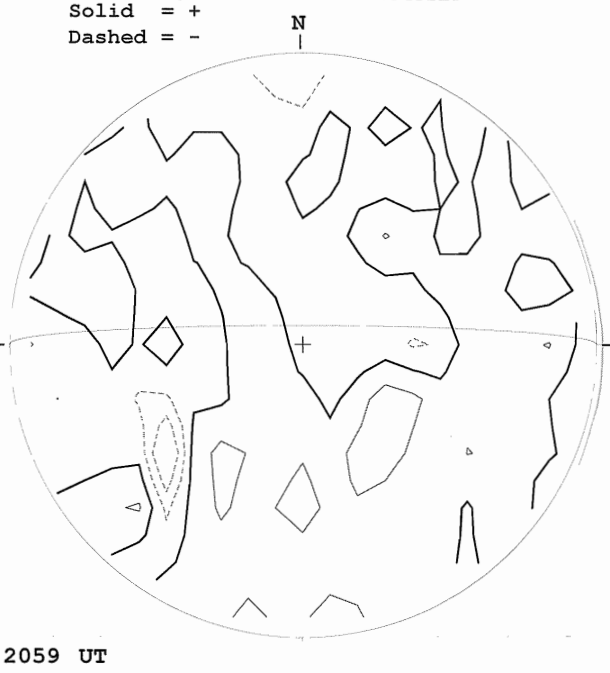
** 854.2NM **




1654 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

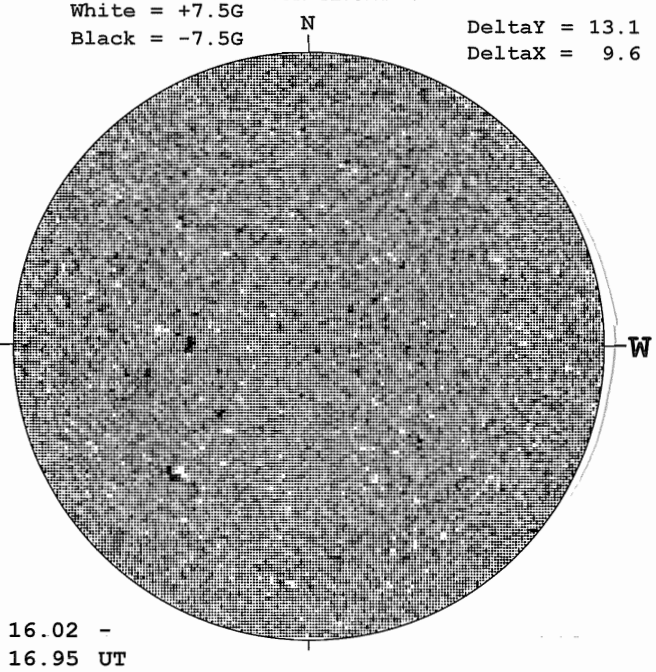



2059 UT

MT. WILSON MAGNETOGRAM

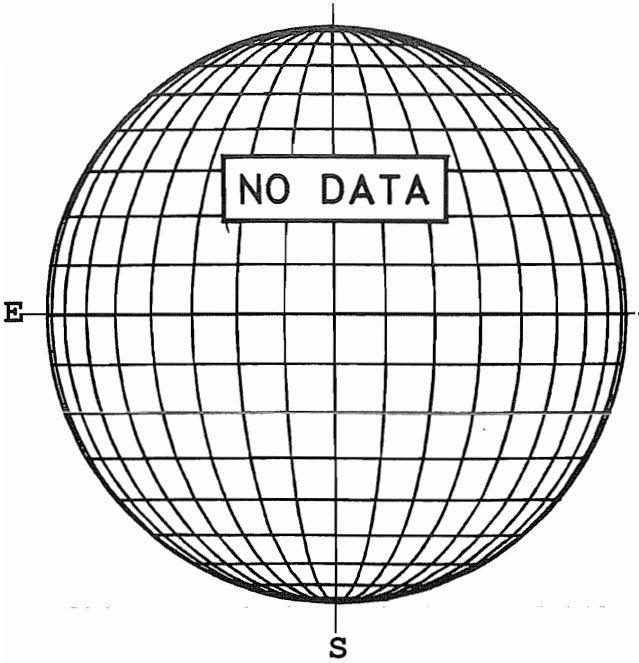
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

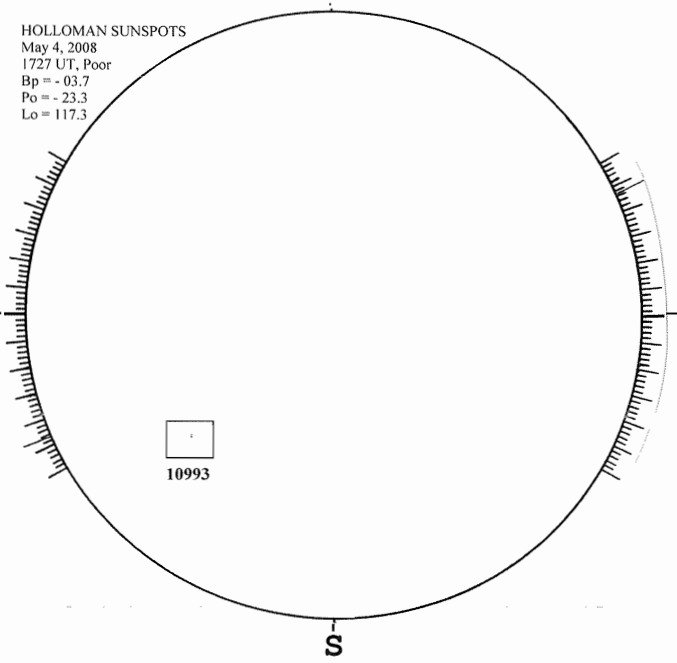



16.02 -
16.95 UT

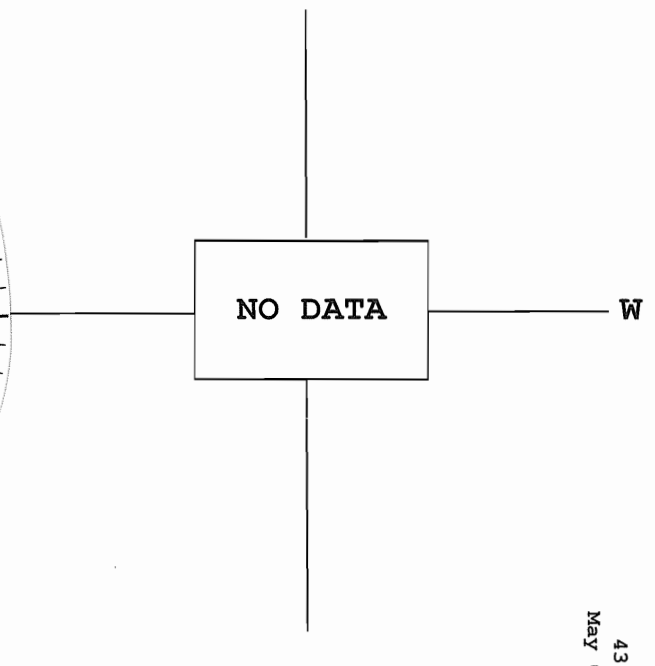
--- MEUDON H-ALPHA




HOLLOMAN SUNSPOTS




SACRAMENTO PEAK CORONA (1.15 Radii)----




1727 UT

43
May 08

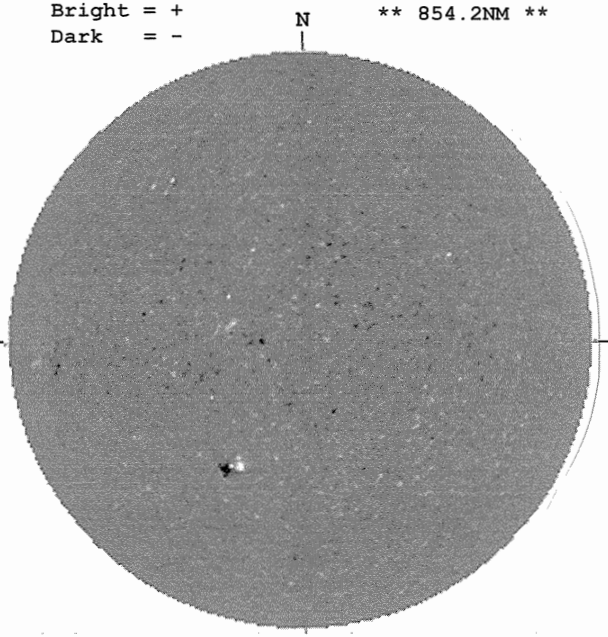
May 05, 2008 (P=-23.30, Bo=-3.73, Lo= 113.43)

May 08 44

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

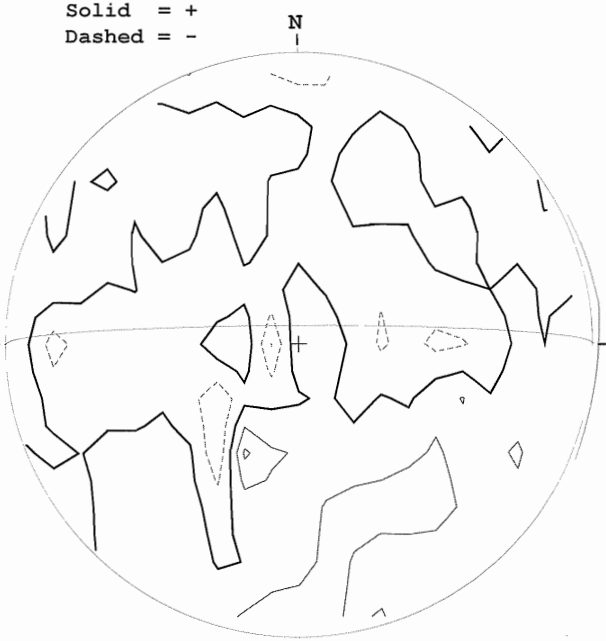
** 854.2NM **




1946 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

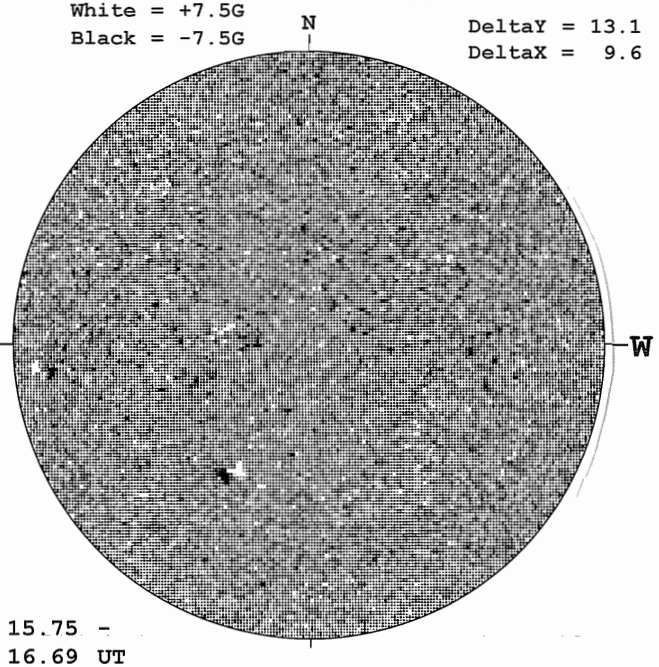



2134 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




15.75 -
16.69 UT

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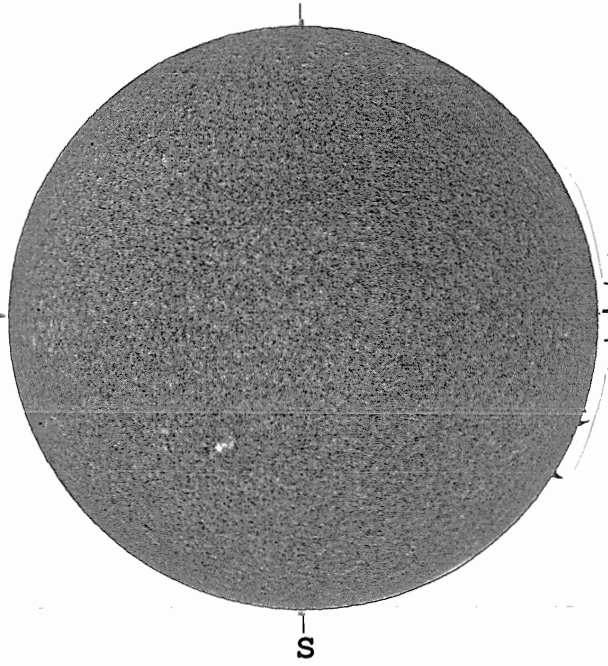
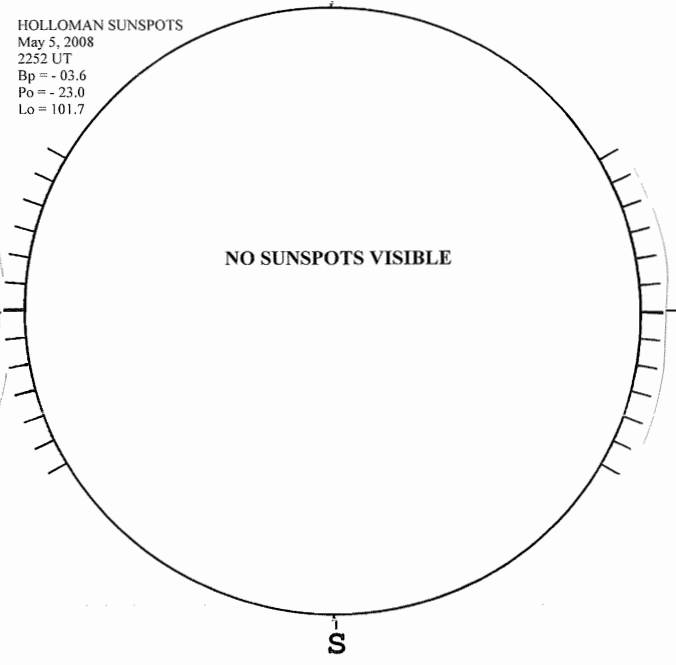
BIG BEAR H-ALPHA



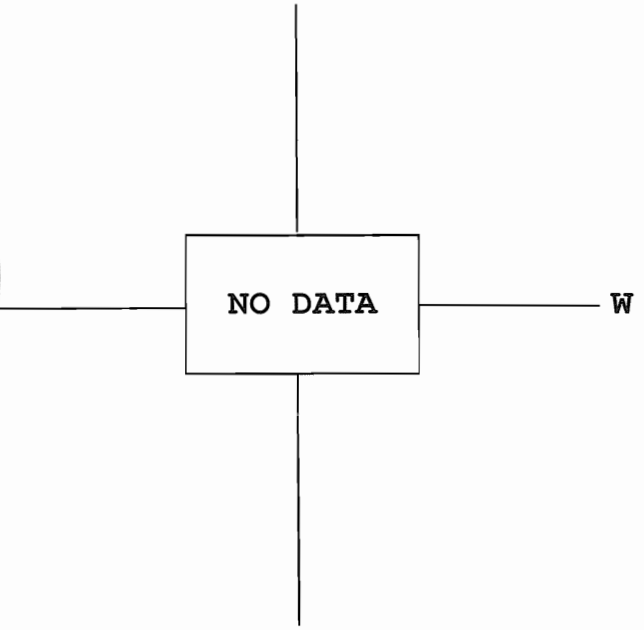

1524 UT

HOLLOMAN SUNSPOTS




2252 UT

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

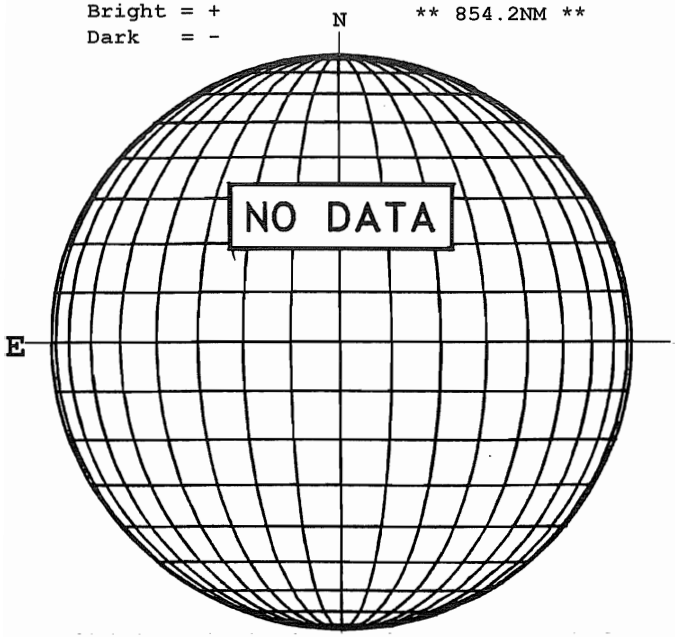


May 06, 2008 (P=-23.09, Bo=-3.62, Lo= 100.21)

KITT PEAK MAGNETOGRAM -- SOLIS

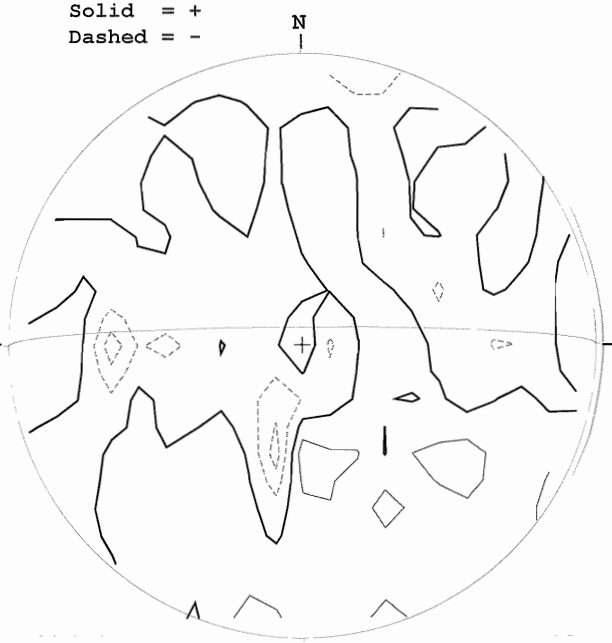
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

Solid = +
Dashed = -

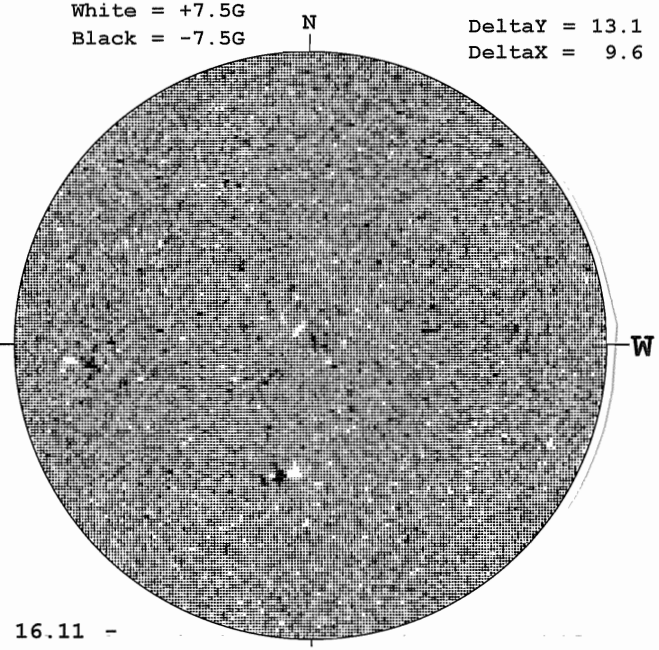



2111 UT

MT. WILSON MAGNETOGRAM

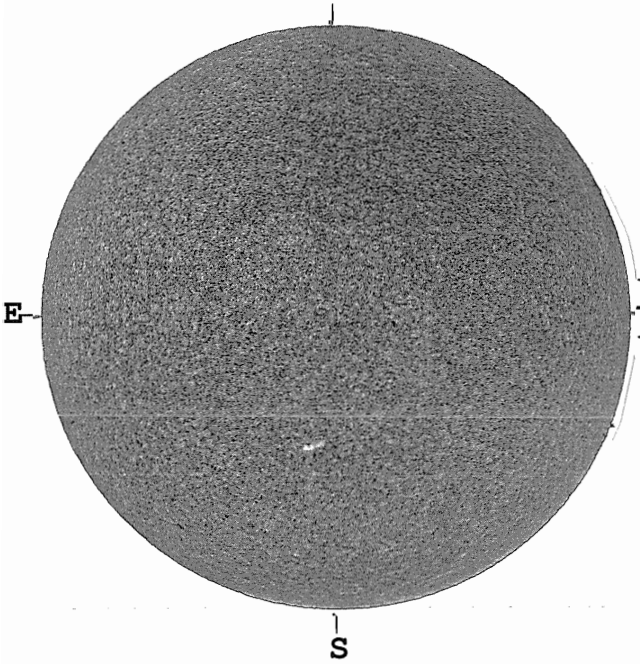
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



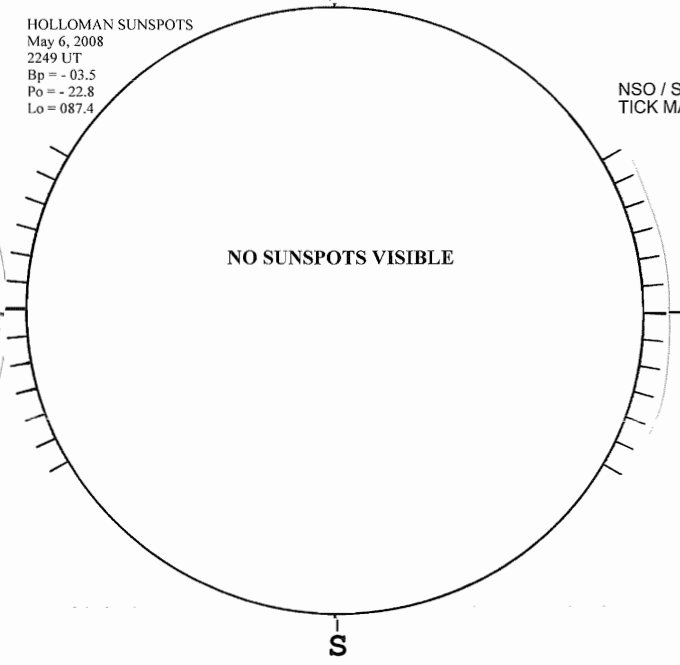

16.11 -
17.04 UT

--- BIG BEAR H-ALPHA



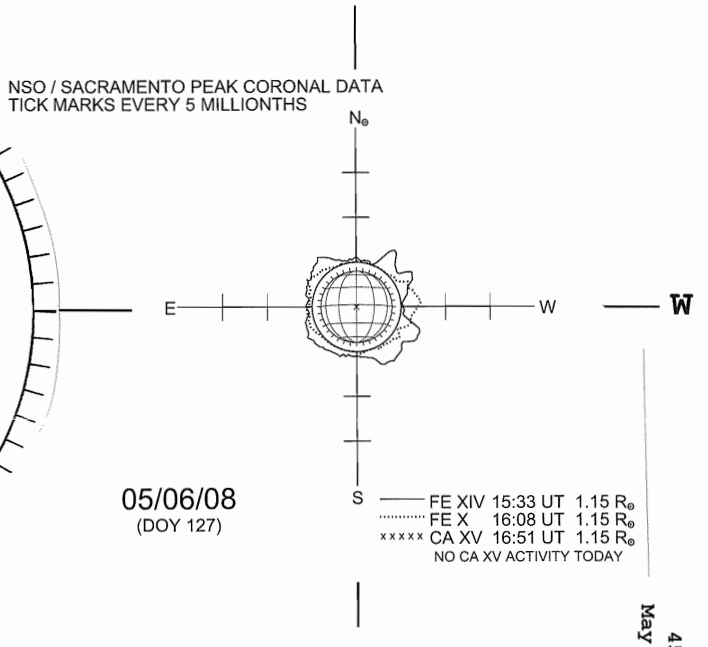

1509 UT

HOLLOMAN SUNSPOTS




2249 UT

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




May 08 45

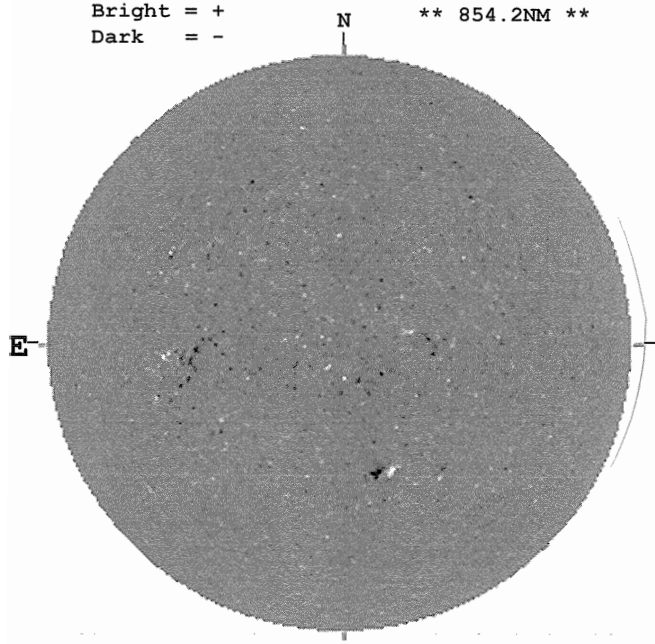
May 07, 2008 (P=-22.87, Bo=-3.52, Lo= 86.99)

May 08 46

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

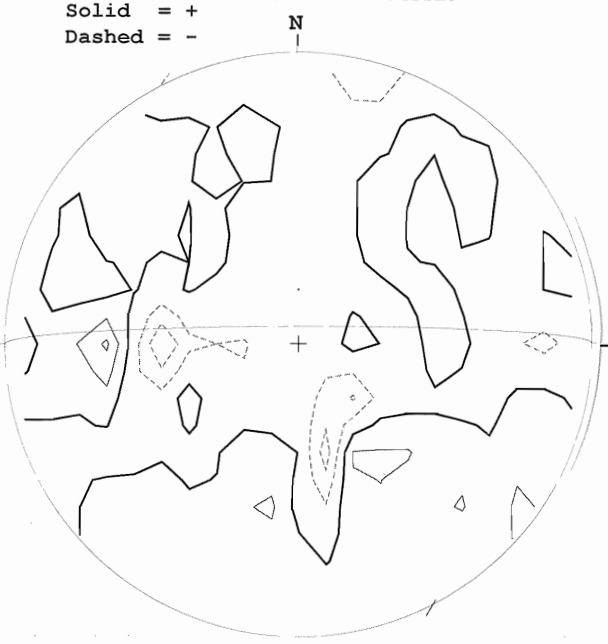
** 854.2NM **




2006 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

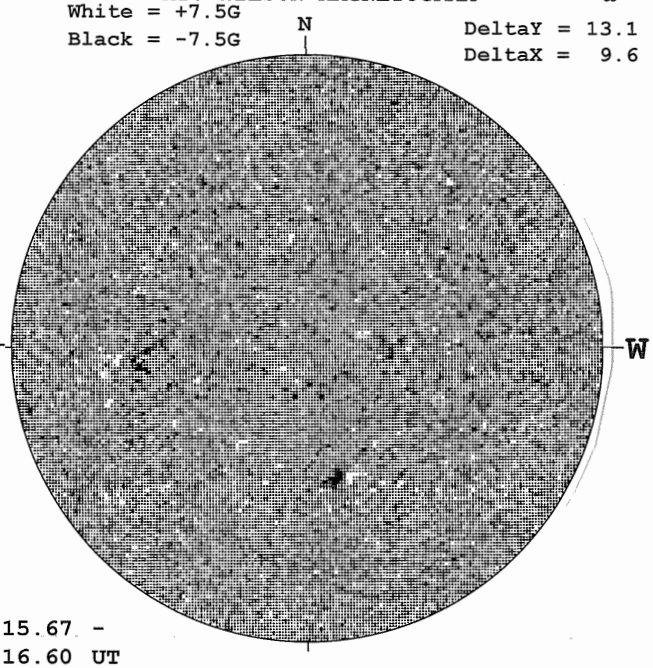



2055 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




15.67 -
16.60 UT

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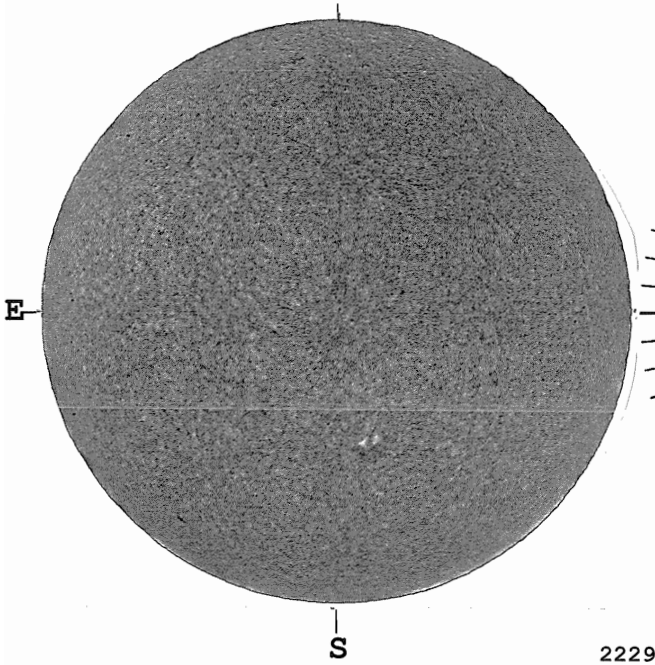
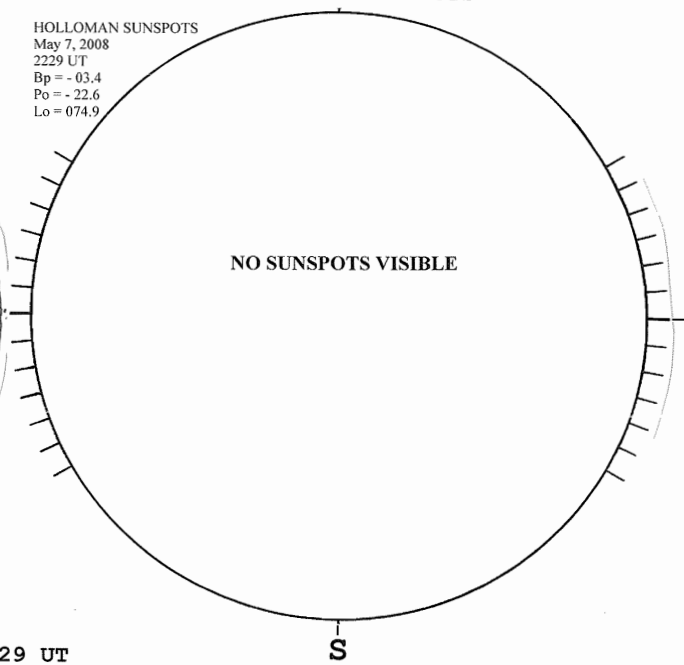
BIG BEAR H-ALPHA



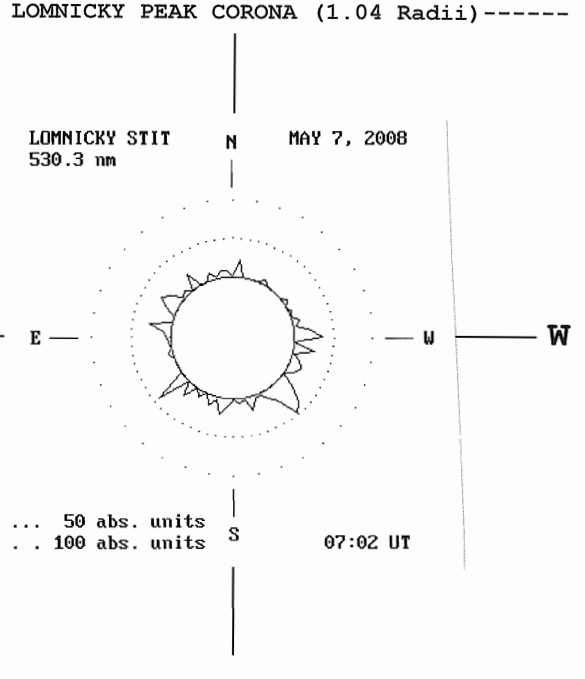

1508 UT

HOLLOMAN SUNSPOTS




2229 UT
0557 UT LOMN PROM

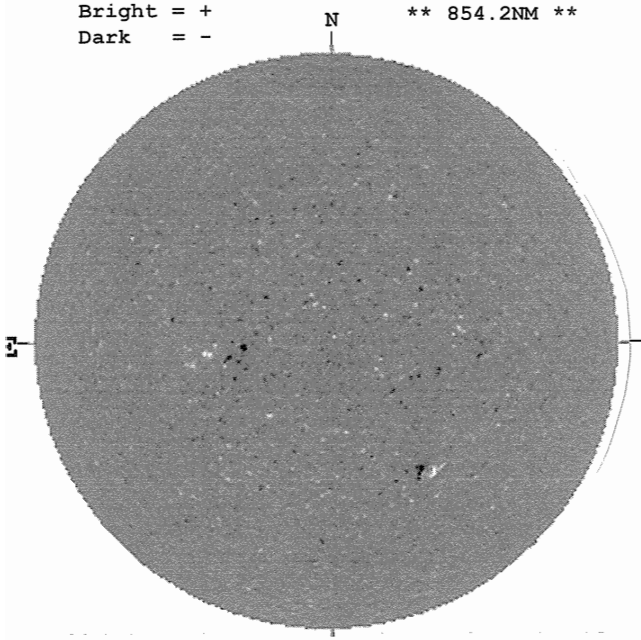
LOMNICKY PEAK CORONA (1.04 Radii)------



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

KITT PEAK MAGNETOGRAM -- SOLIS

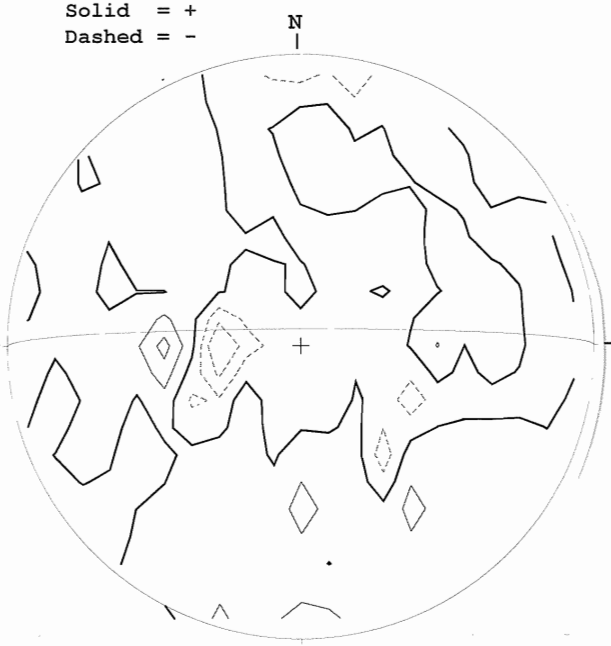
Bright = +
Dark = -




1955 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

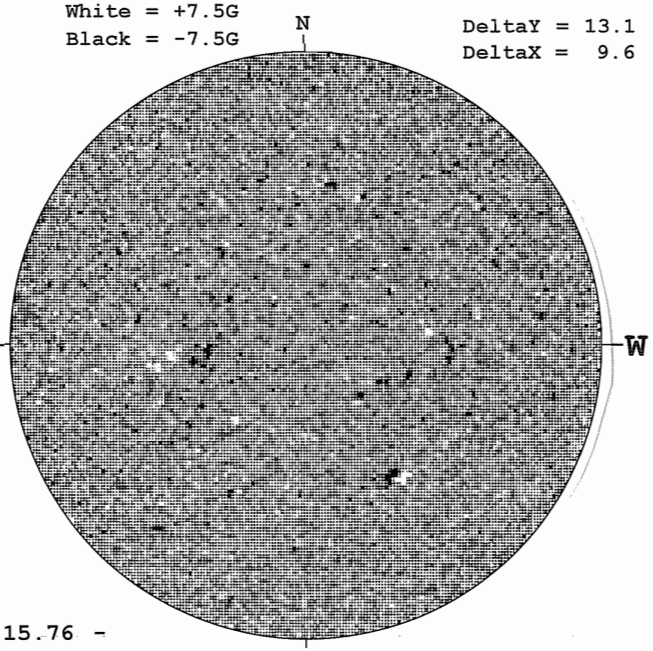



2114 UT

MT. WILSON MAGNETOGRAM

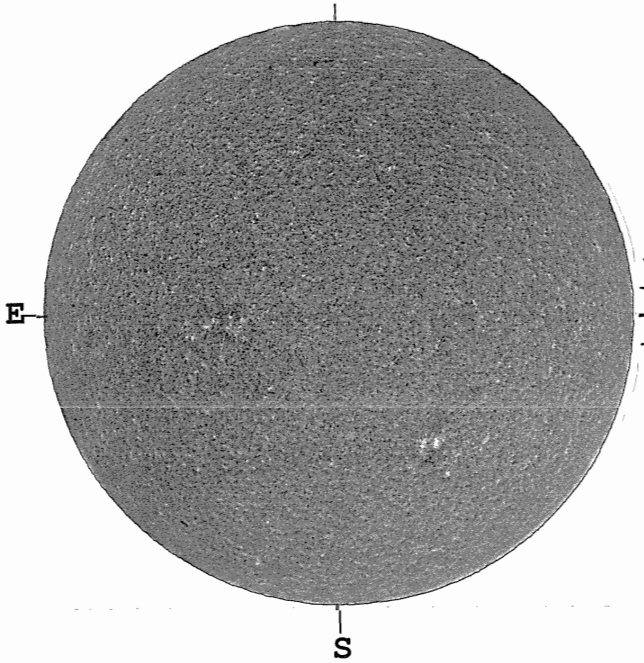
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



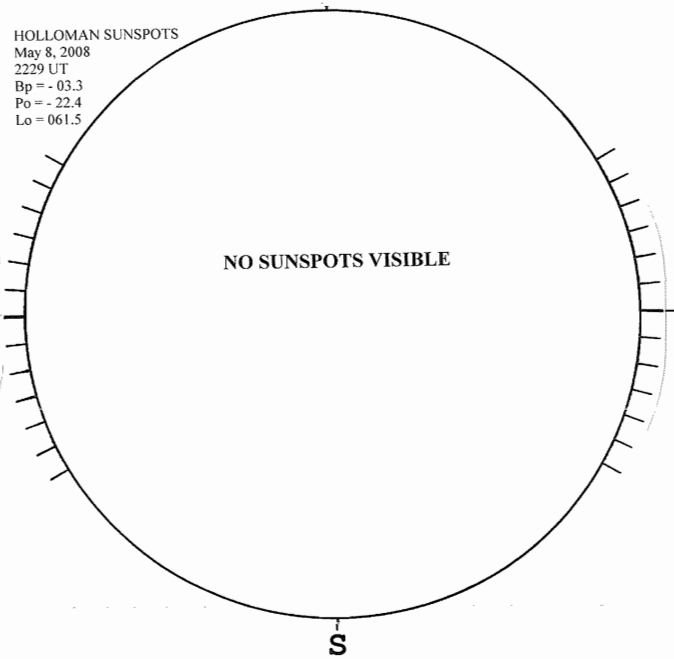

15.76 -
16.60 UT

--- BIG BEAR H-ALPHA



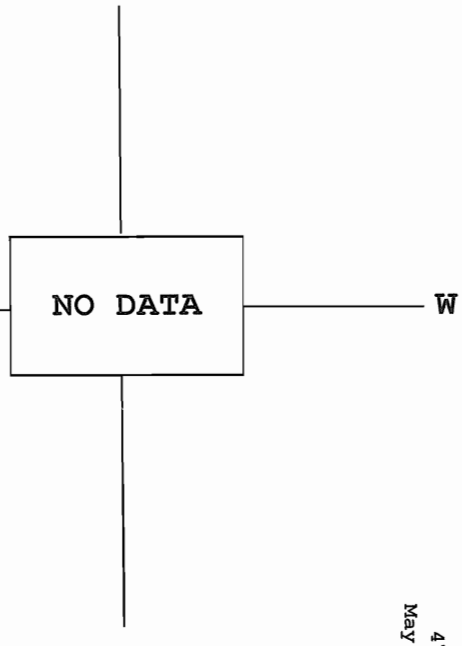

1515 UT

HOLLOMAN SUNSPOTS




2229 UT

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




47
May 08

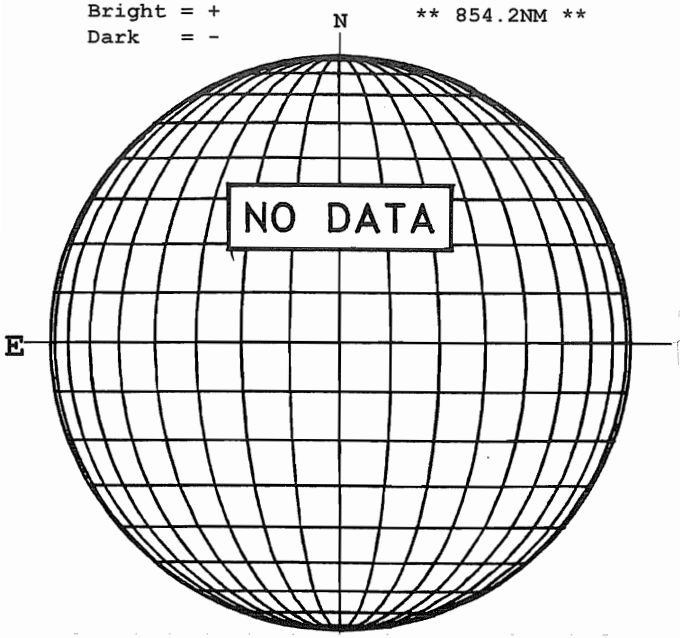
May 09, 2008 (P=-22.41, Bo=-3.30, Lo= 60.54)

May 08 48

KITT PEAK MAGNETOGRAM -- SOLIS

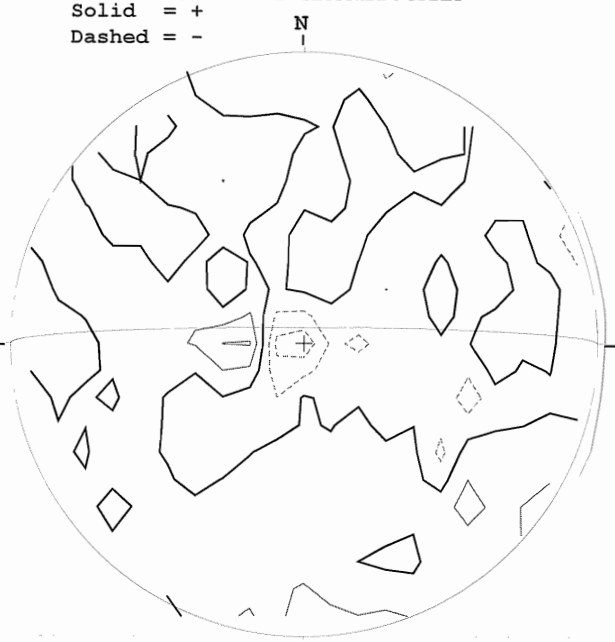
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

Solid = +
Dashed = -

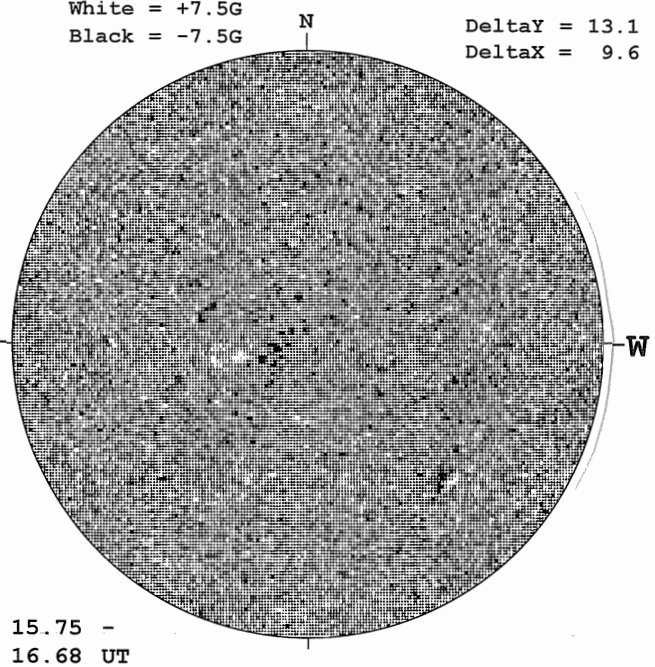



2137 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




15.75 -
16.68 UT

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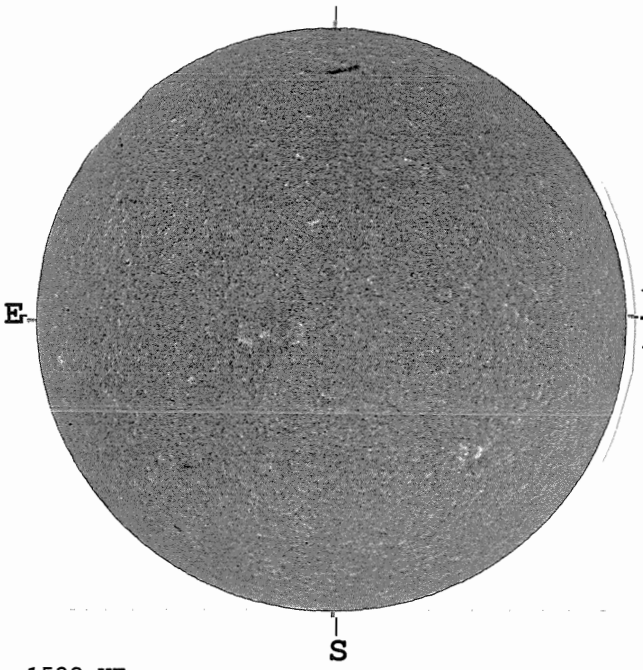
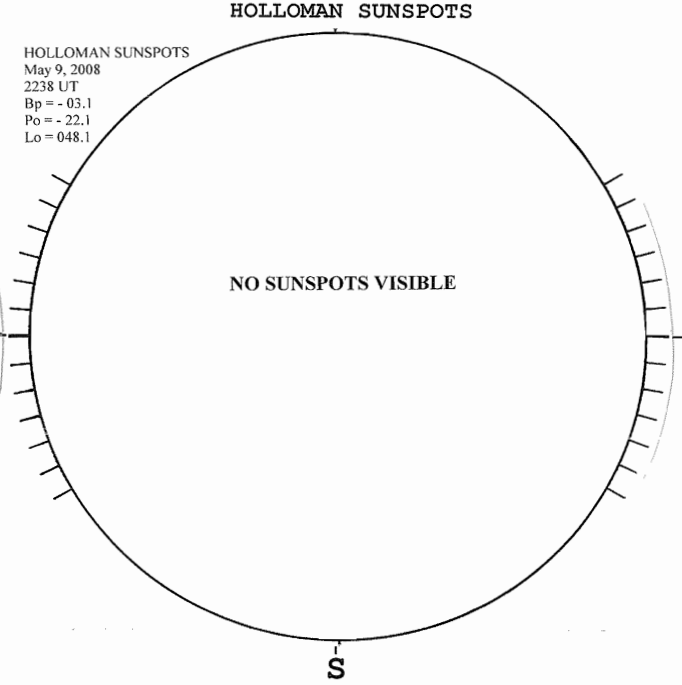
BIG BEAR H-ALPHA



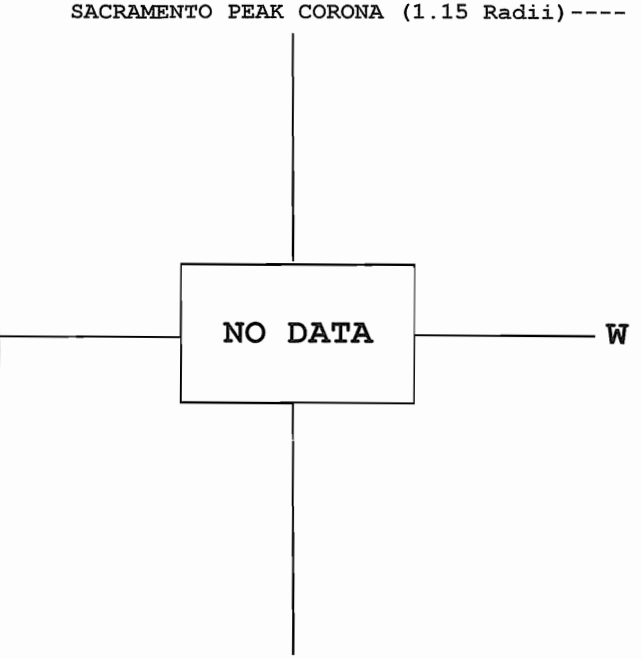

1528 UT

HOLLOMAN SUNSPOTS




2238 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

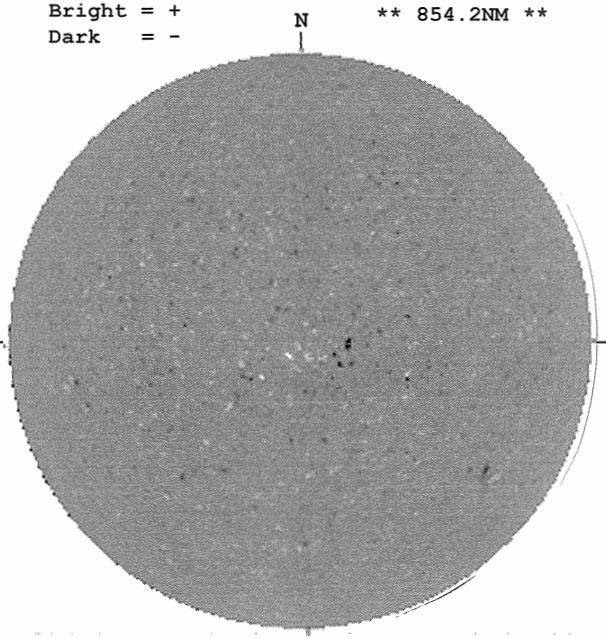


May 10, 2008 (P=-22.17, Bo=-3.19, Lo= 47.32)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

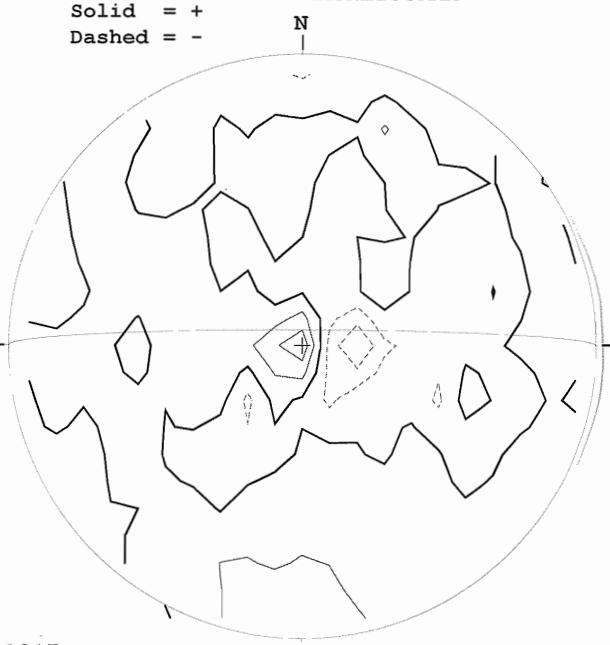
** 854.2NM **




1955 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

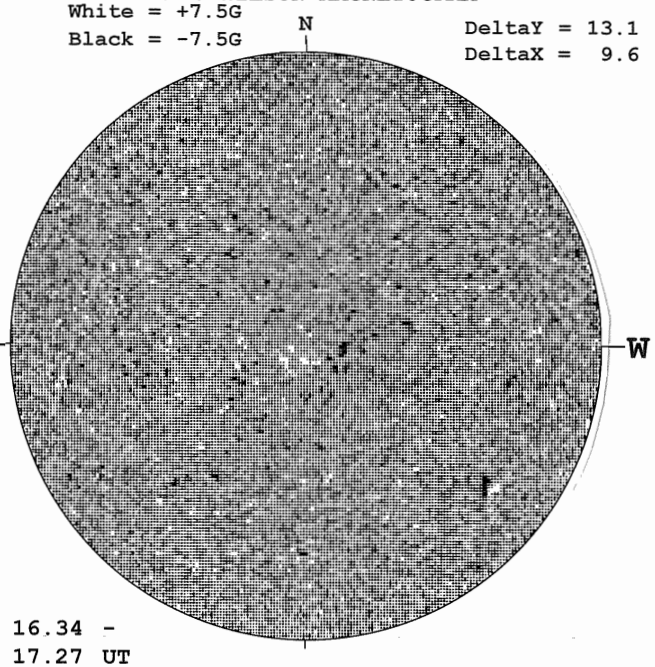



1917 UT

MT. WILSON MAGNETOGRAM

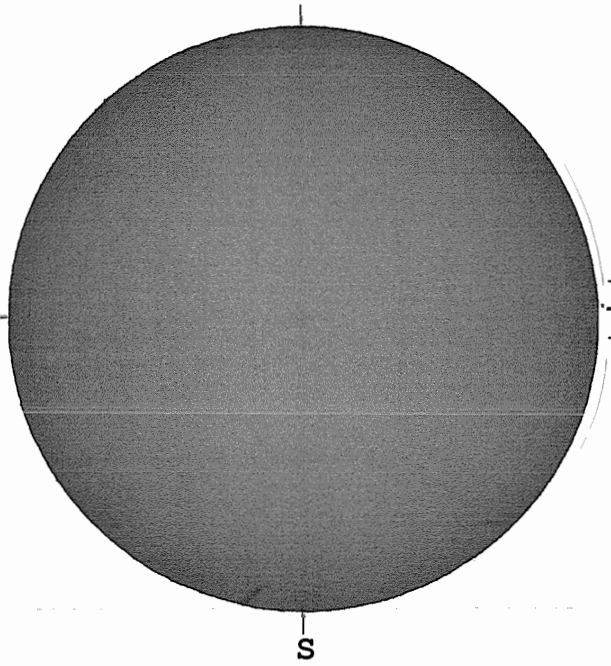
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



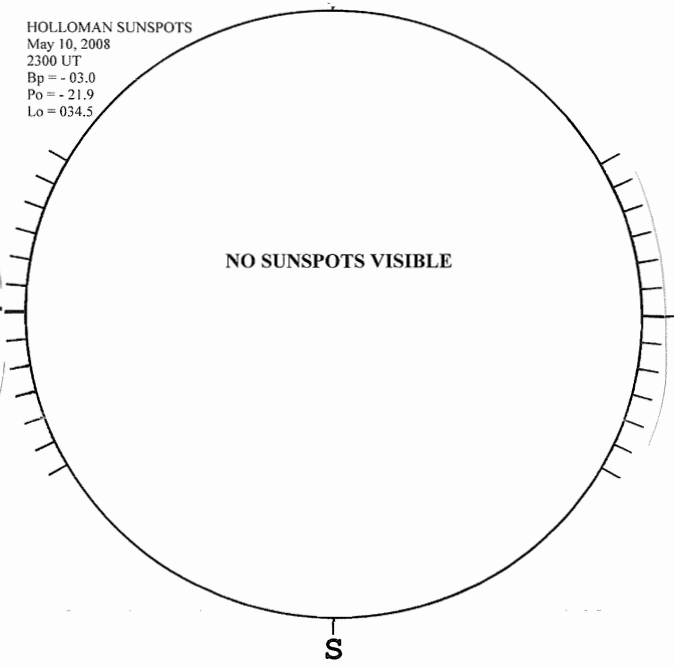

16.34 -
17.27 UT

--- KANZELHOHE H-ALPHA



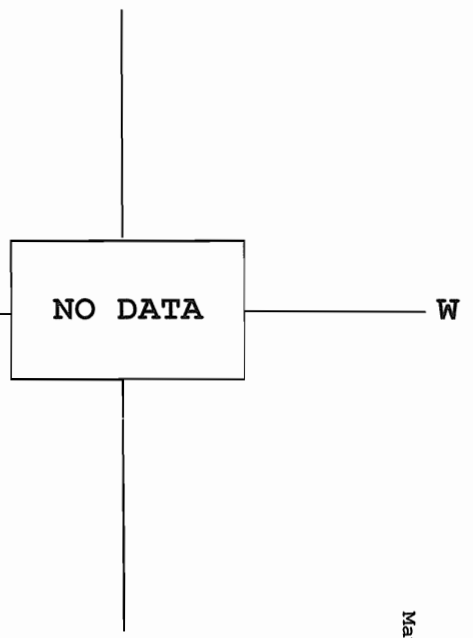

0814 UT

HOLLOMAN SUNSPOTS




2300 UT

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



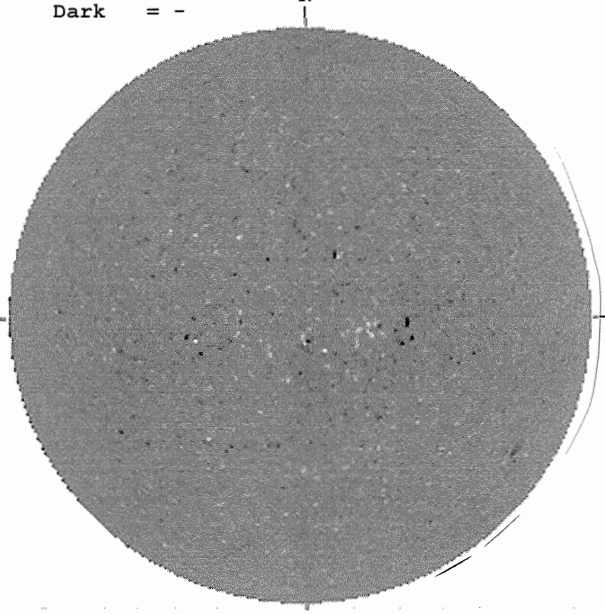
May 11, 2008 (P=-21.93, Bo=-3.08, Lo= 34.10)

May 08 50

KITT PEAK MAGNETOGRAM -- SOLIS

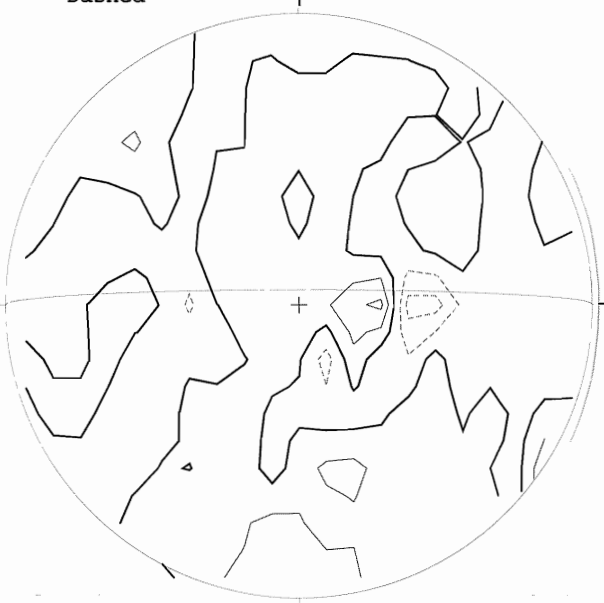
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

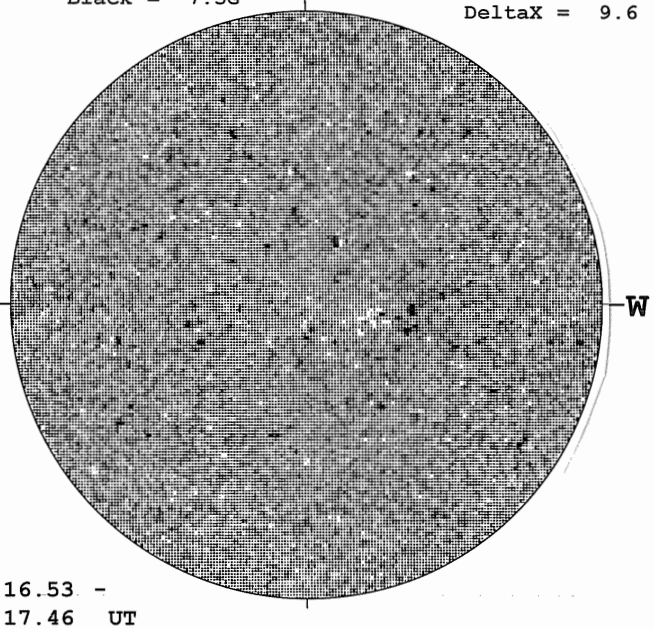
Solid = +
Dashed = -



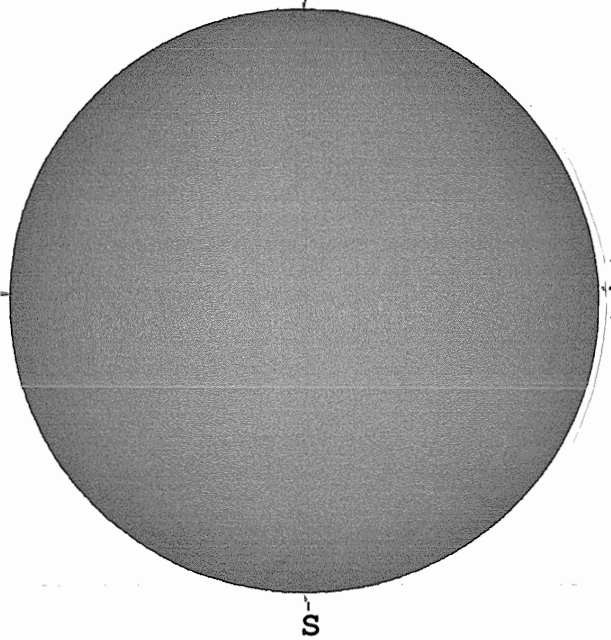

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

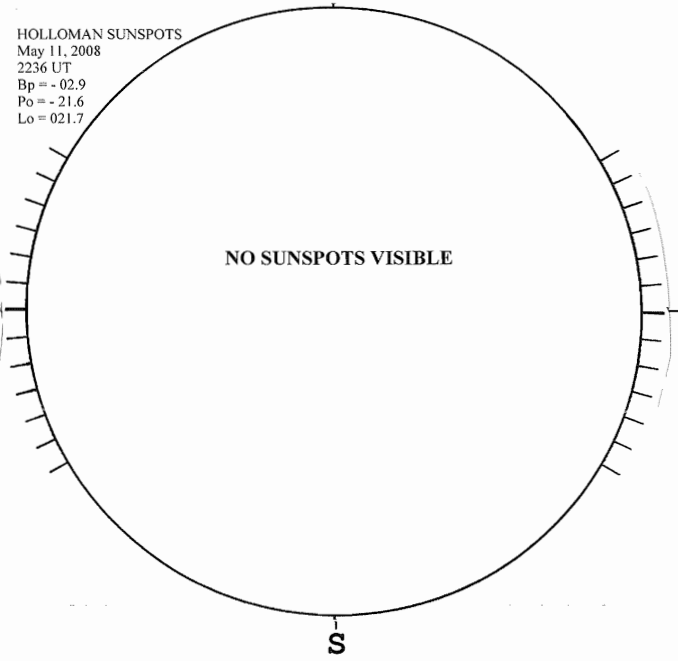
DeltaY = 13.1
DeltaX = 9.6



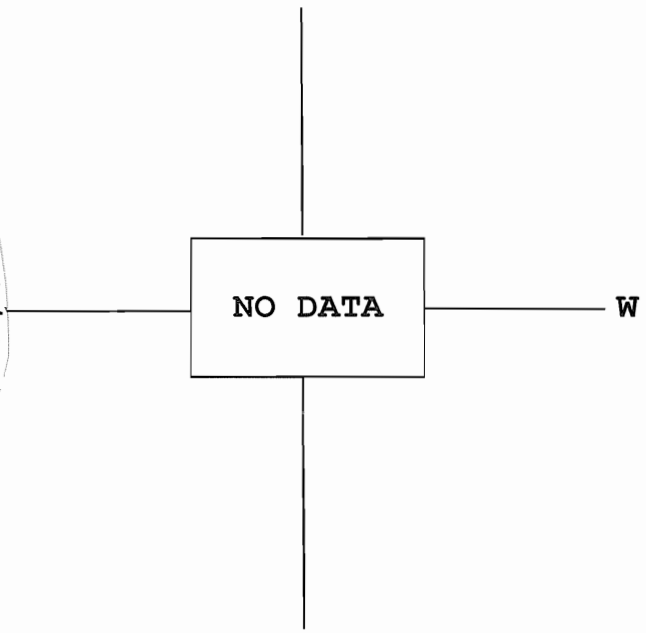

KANZELHOHE H-ALPHA




HOLLOMAN SUNSPOTS




SACRAMENTO PEAK CORONA (1.15 Radii)

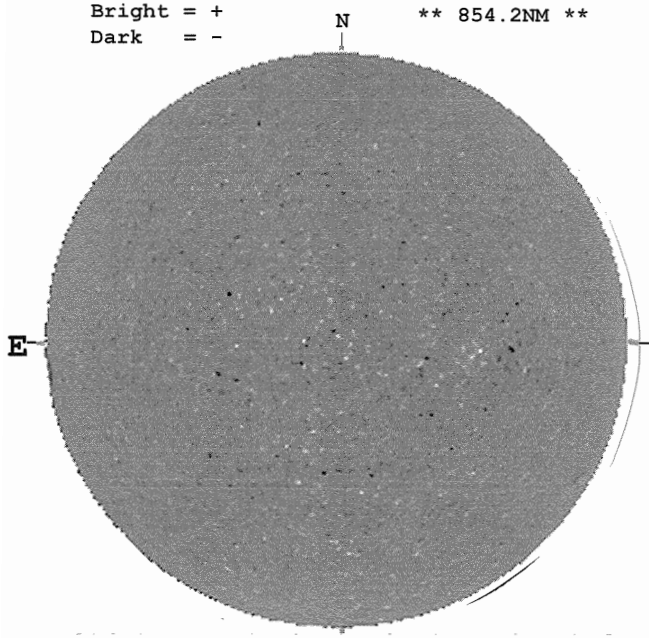


May 12, 2008 (P=-21.67, Bo=-2.97, Lo= 20.88)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

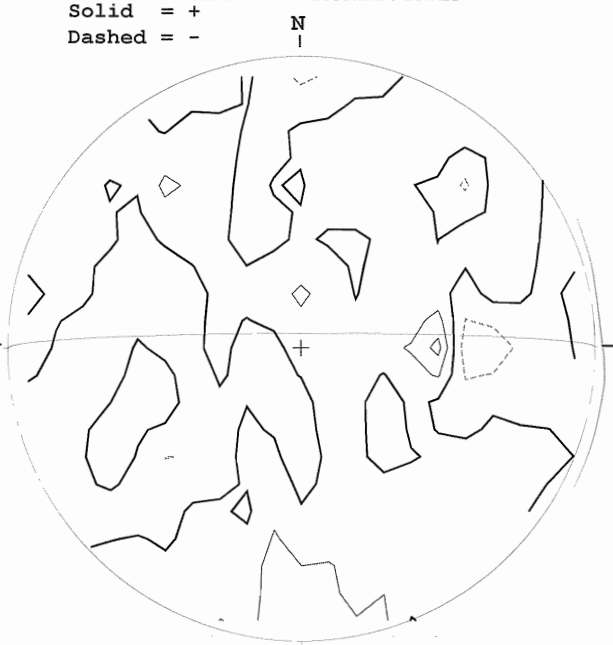
** 854.2NM **




2118 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

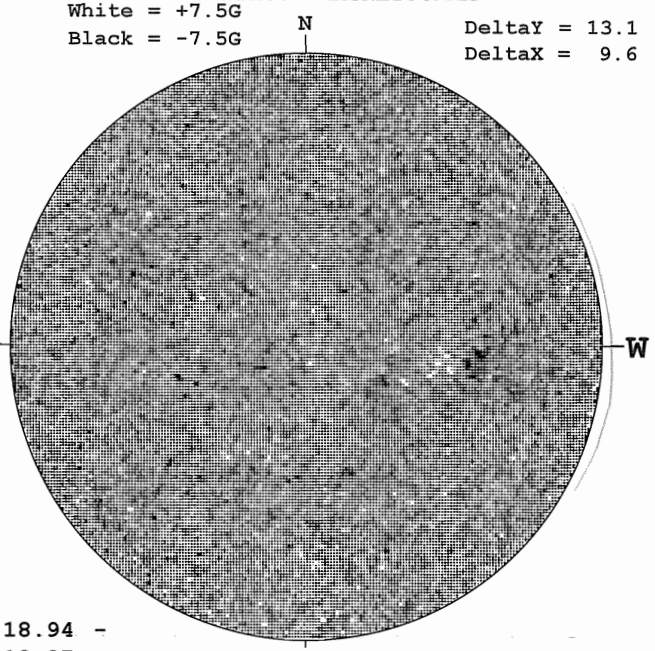



2144 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




18.94 -
18.87 UT

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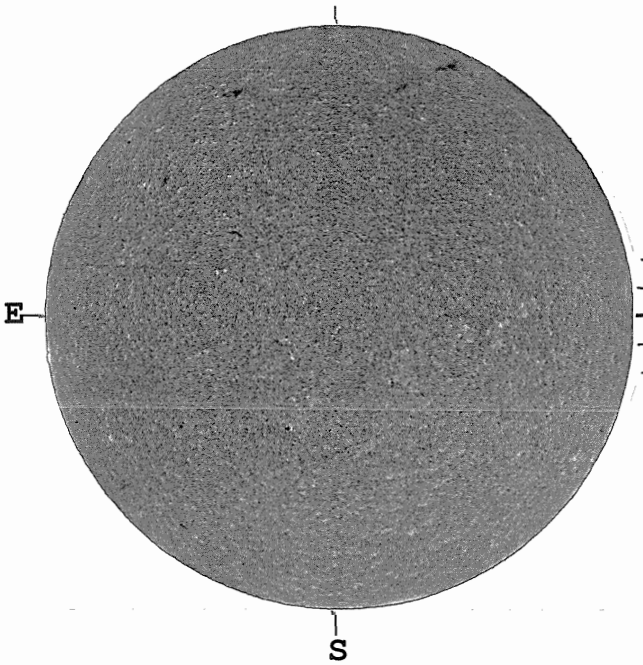
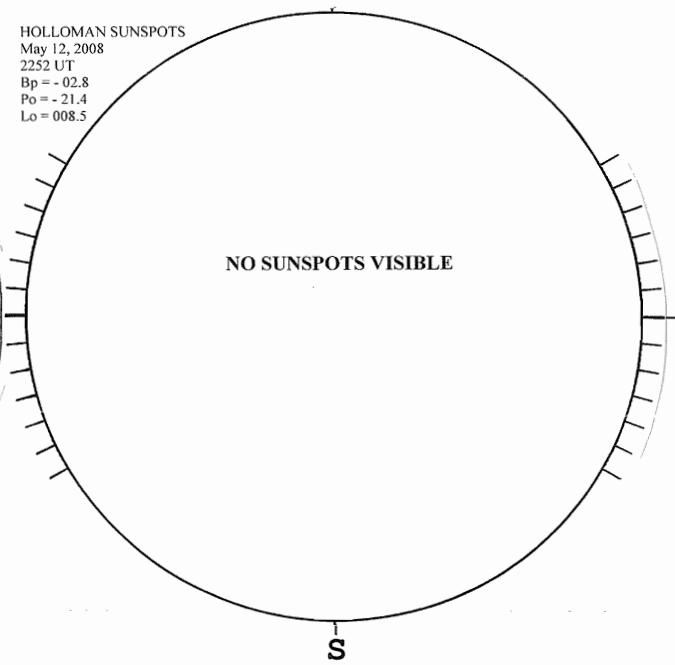
BIG BEAR H-ALPHA




1520 UT

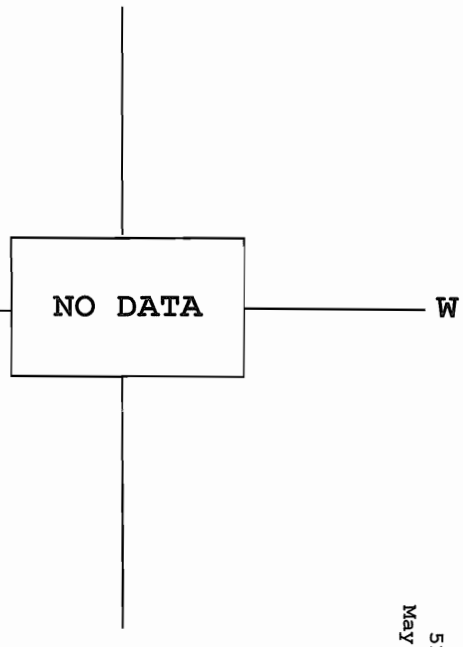
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
May 12, 2008
2252 UT
Bp = - 02.8
Po = - 21.4
Lo = 008.5




2252 UT

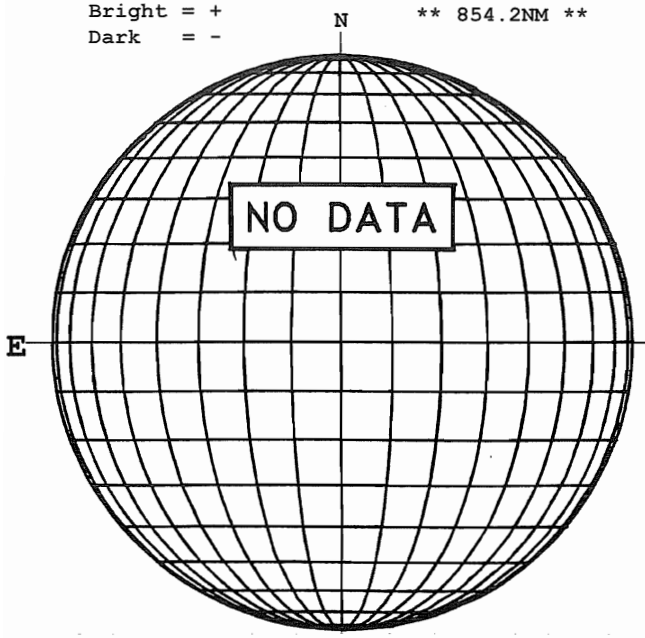
SACRAMENTO PEAK CORONA (1.15 Radii)-----



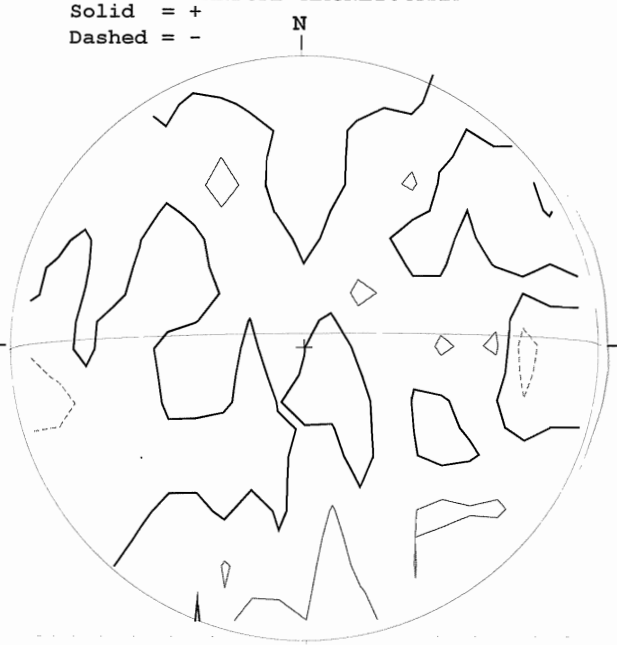
May 13, 2008 (P=-21.41, Bo=-2.86, Lo= 7.65)

52
May 08

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

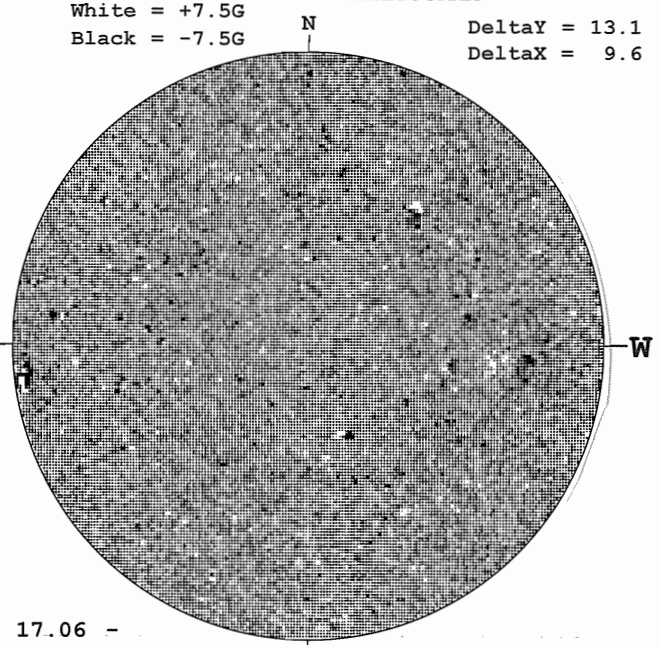



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



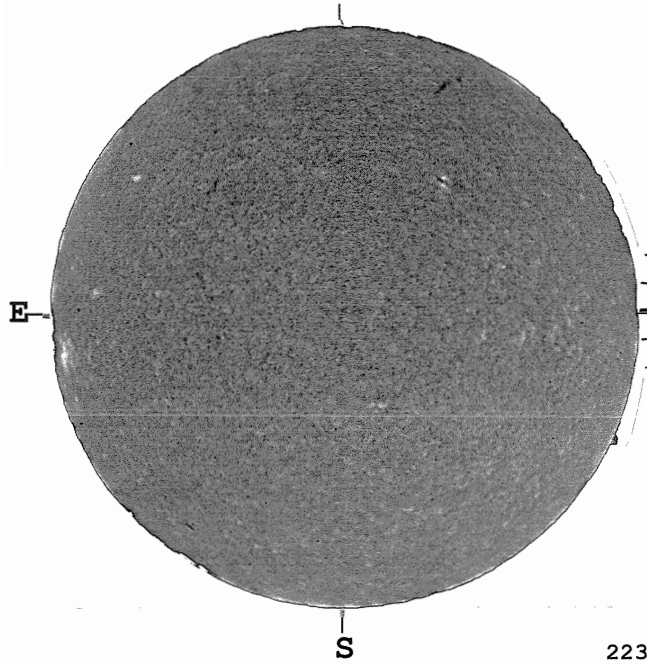

1905 UT

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



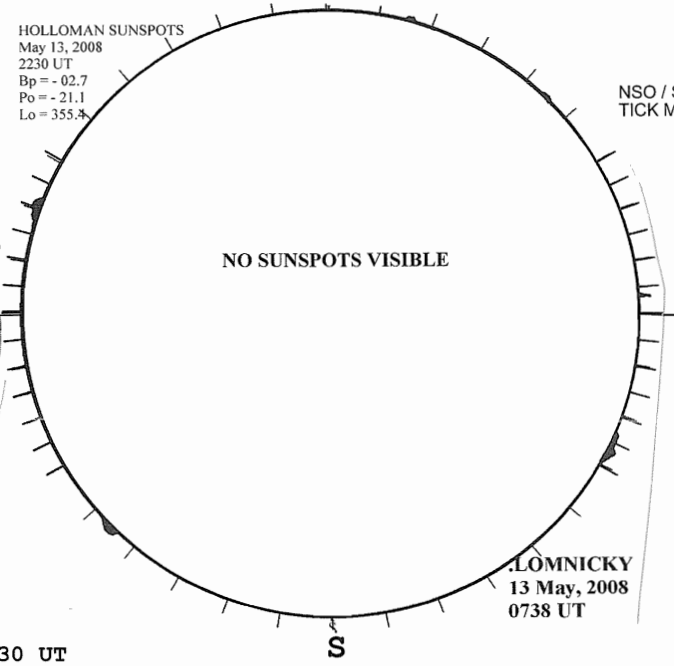

17.06 -
17.99 UT

--- BIG BEAR H-ALPHA



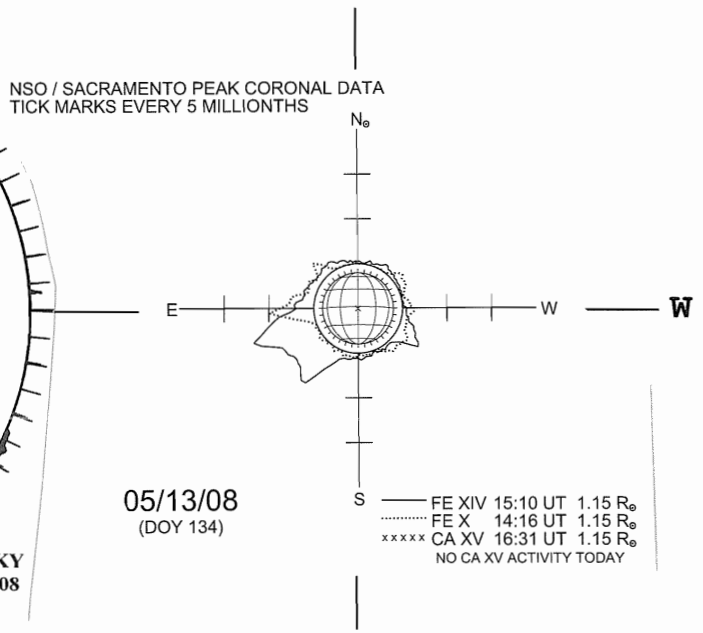

1522 UT

HOLLOMAN SUNSPOTS




2230 UT
0738 UT LOMN PROM

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

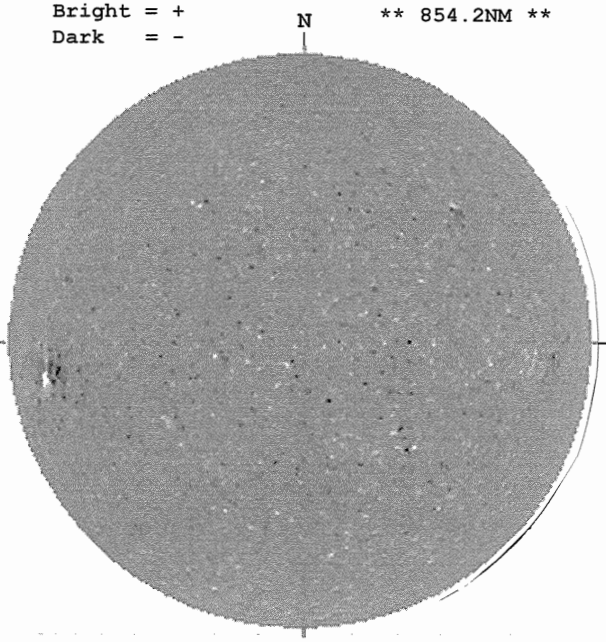


May 14, 2008 (P=-21.15, Bo=-2.74, Lo= 354.43)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

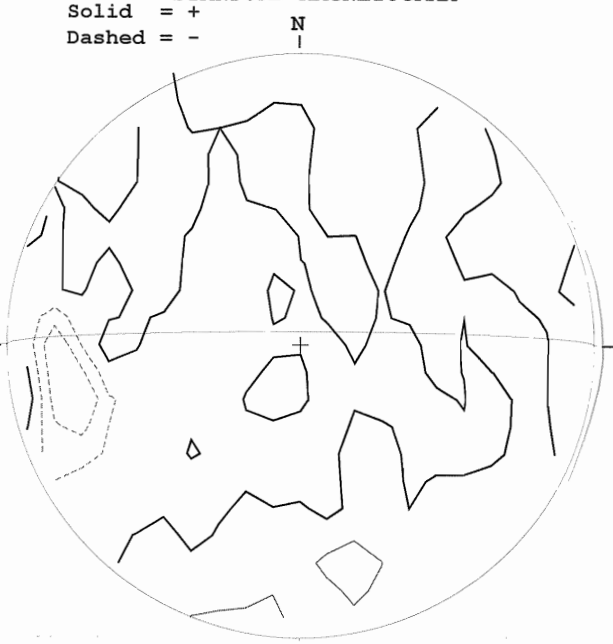
** 854.2NM **




1653 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

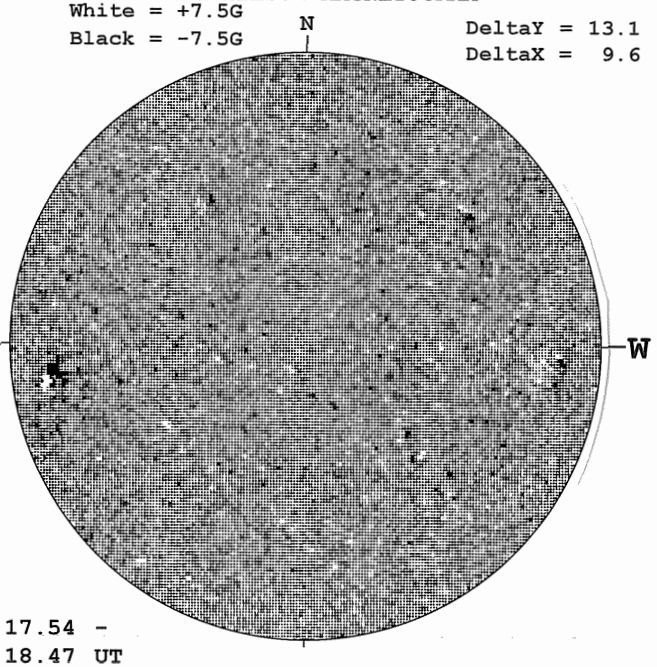



2057 UT

MT. WILSON MAGNETOGRAM

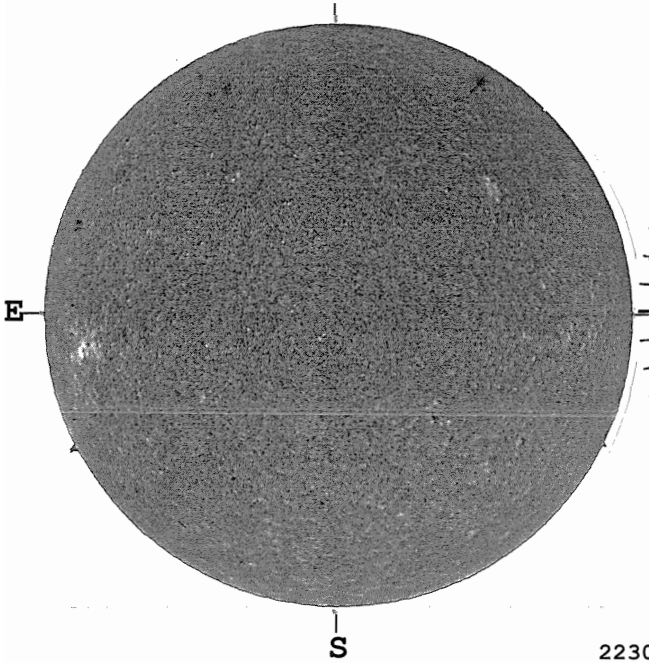
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



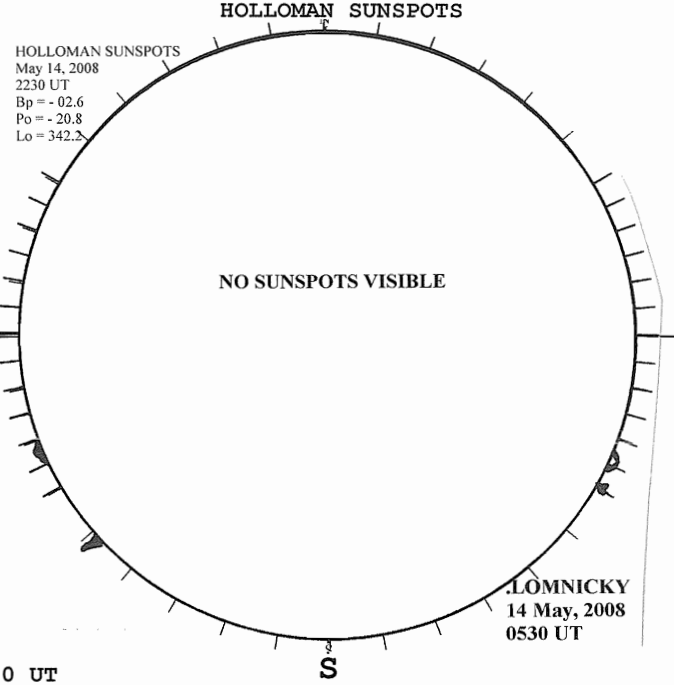

17.54 -
18.47 UT

--- BIG BEAR H-ALPHA



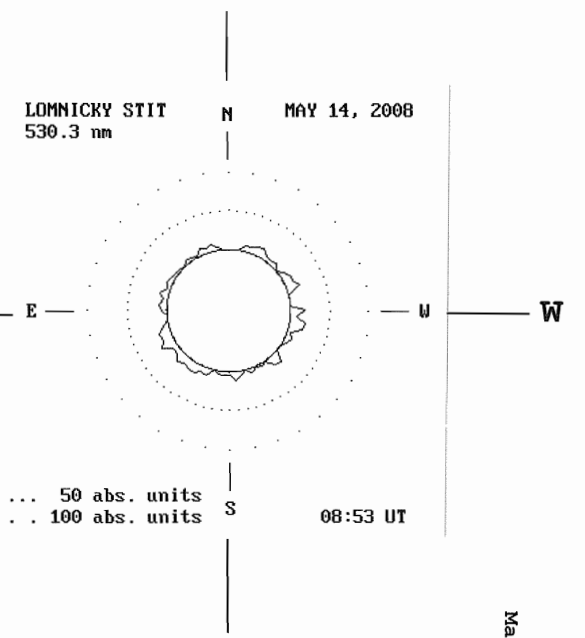

1526 UT

HOLLOMAN SUNSPOTS




2230 UT
0530 UT LOMN PROM

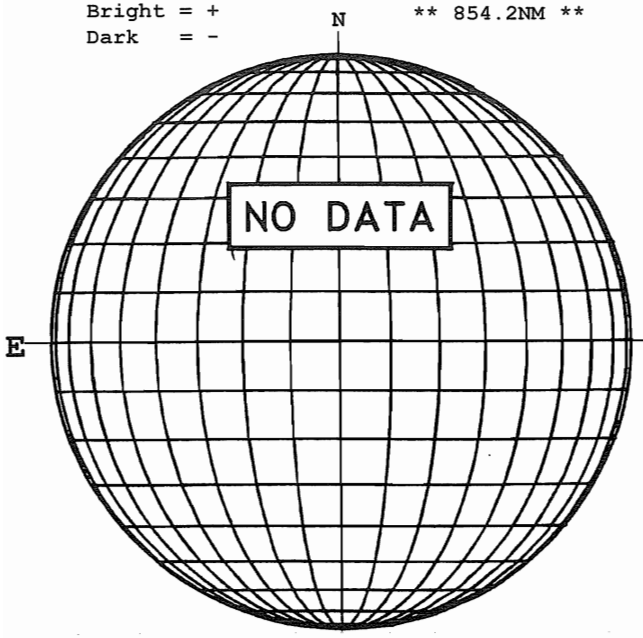
LOMNICKY PEAK CORONA (1.04 Radii)------



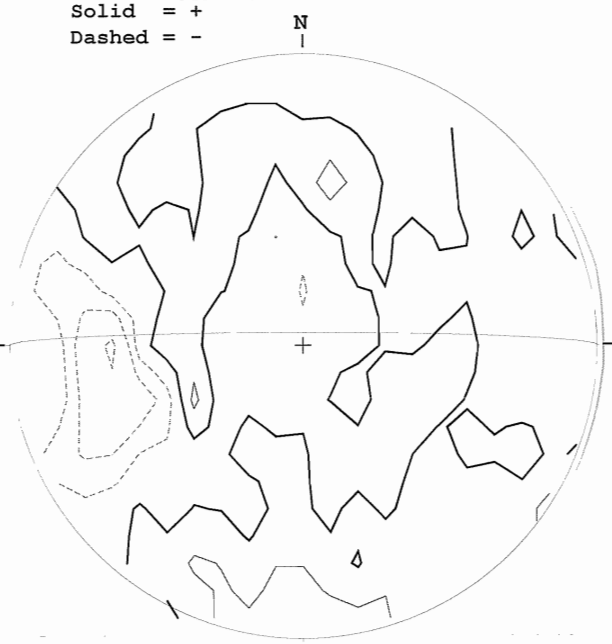
May 15, 2008 (P=-20.88, Bo=-2.63, Lo= 341.20)

54
May 08

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

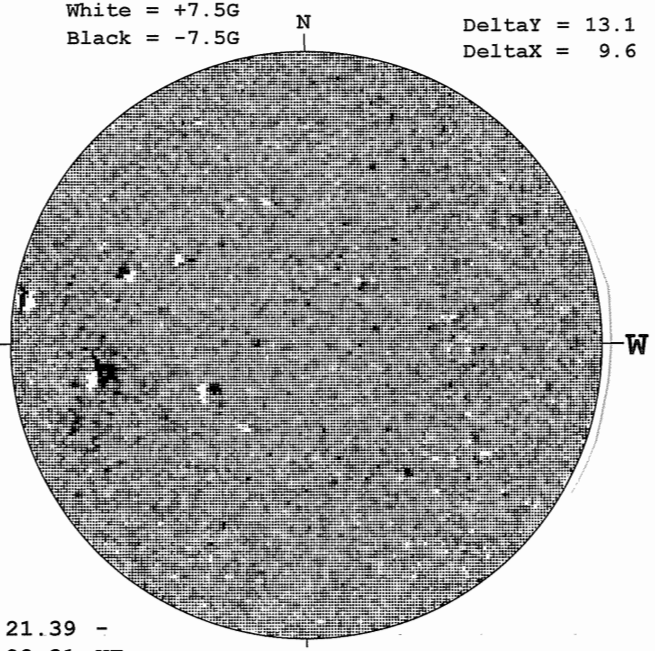



STANFORD MAGNETOGRAM
Solid = +
Dashed = -




2102 UT

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




21.39 -
22.31 UT

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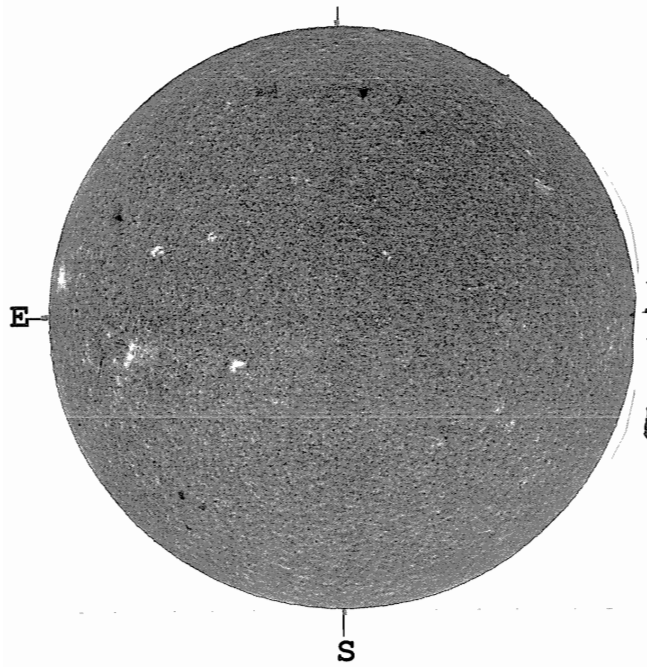
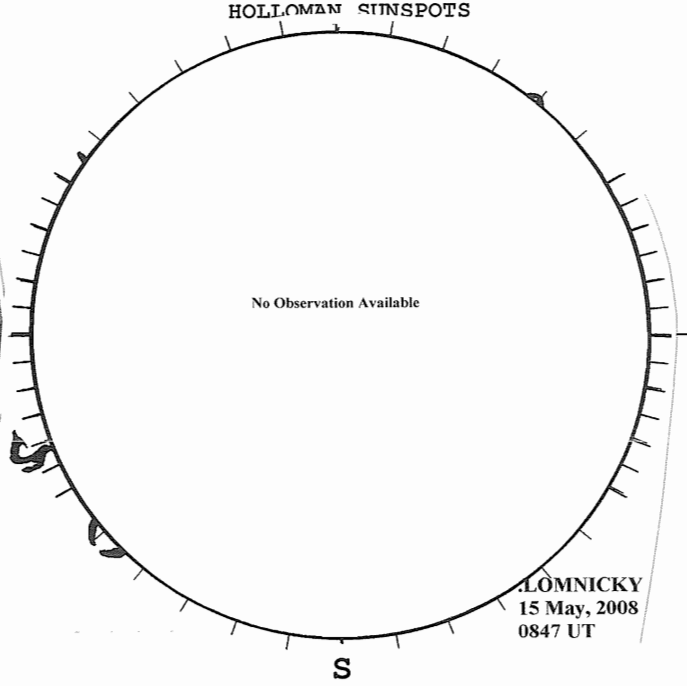
BIG BEAR H-ALPHA




1830 UT

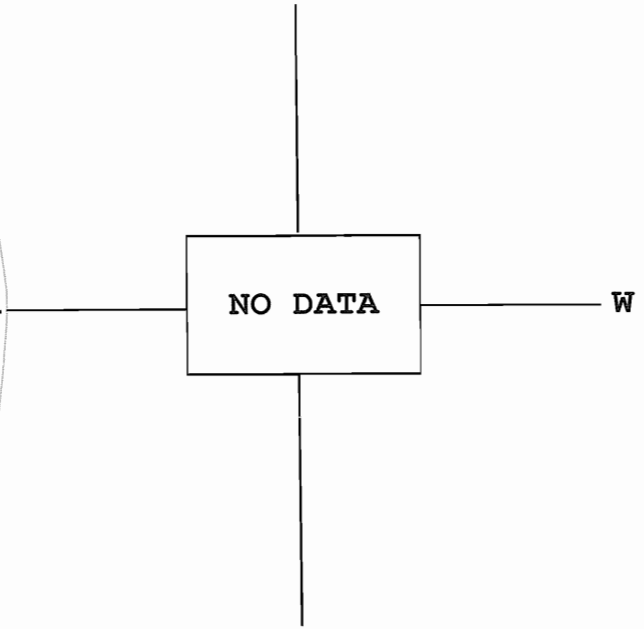
HOLLOMAN SUNSPOTS




.LOMNICKY
15 May, 2008
0847 UT

0847 UT LOMN PROM

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

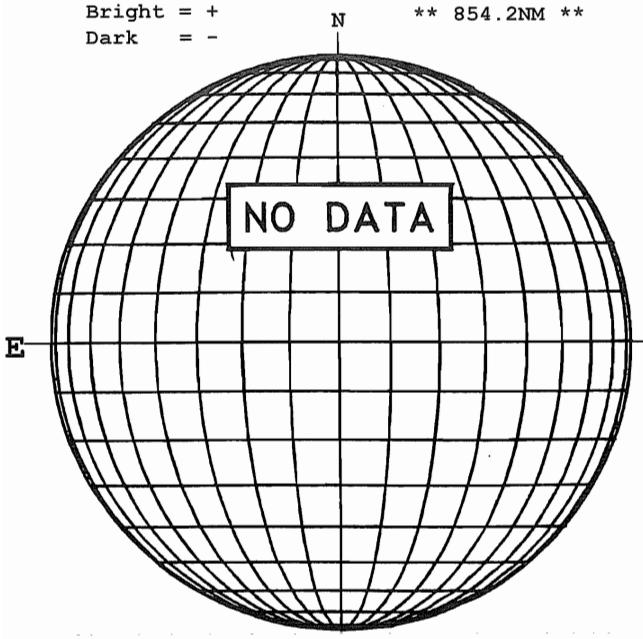


May 16, 2008 (P=-20.60, Bo=-2.52, Lo= 327.97)

KITT PEAK MAGNETOGRAM -- SOLIS

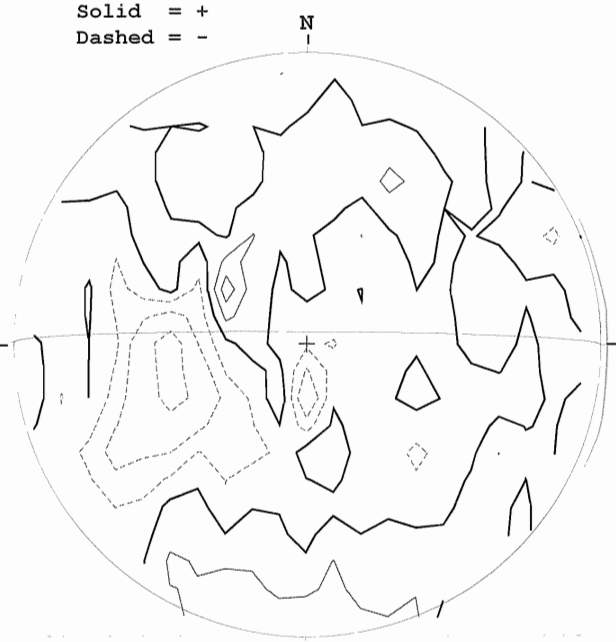
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

Solid = +
Dashed = -

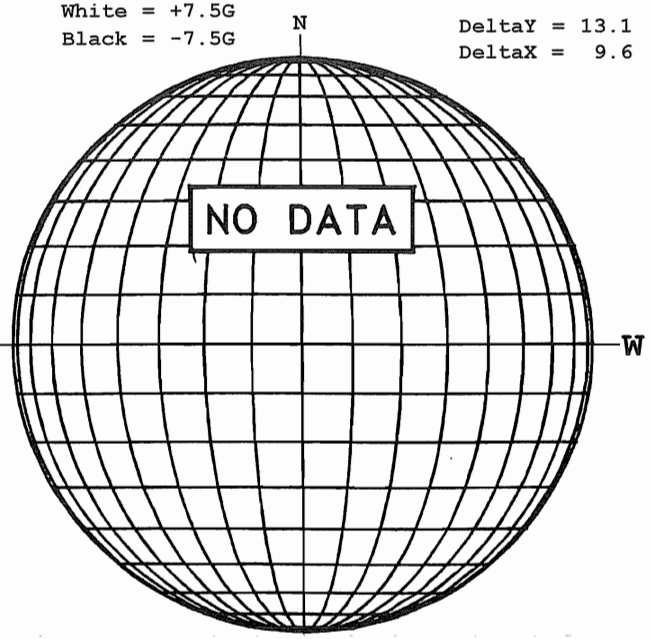



2335 UT

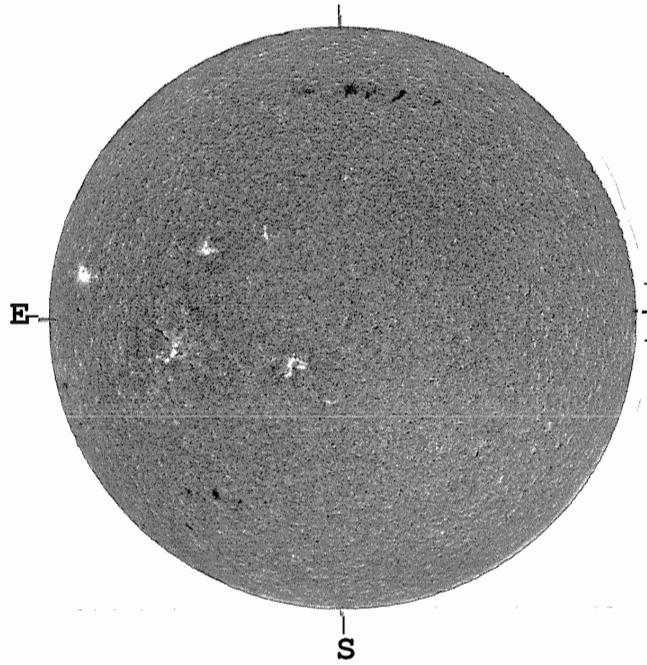
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

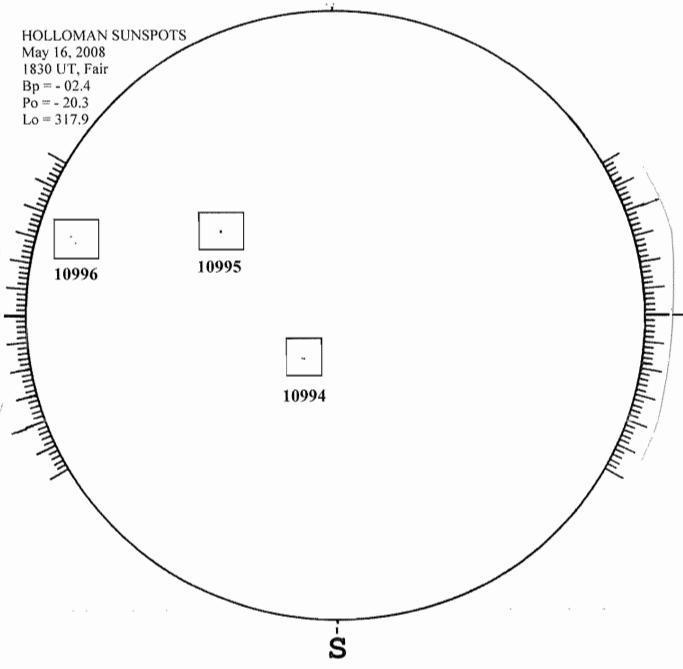



--- BIG BEAR H-ALPHA



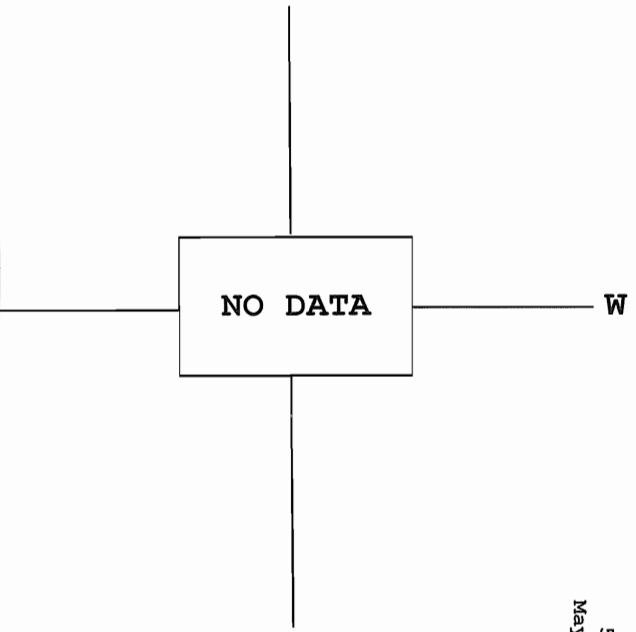

1512 UT

HOLLOMAN SUNSPOTS




1830 UT

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




55
May 08

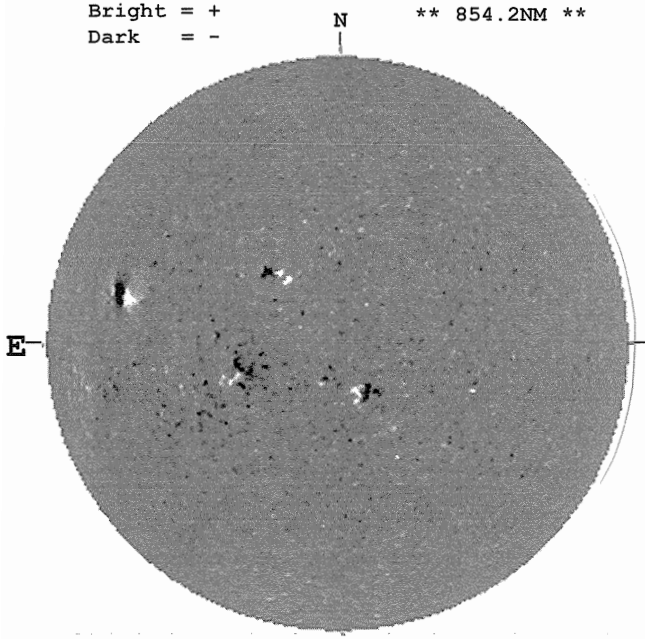
May 17, 2008 (P=-20.31, Bo=-2.40, Lo= 314.75)

May 08 56

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

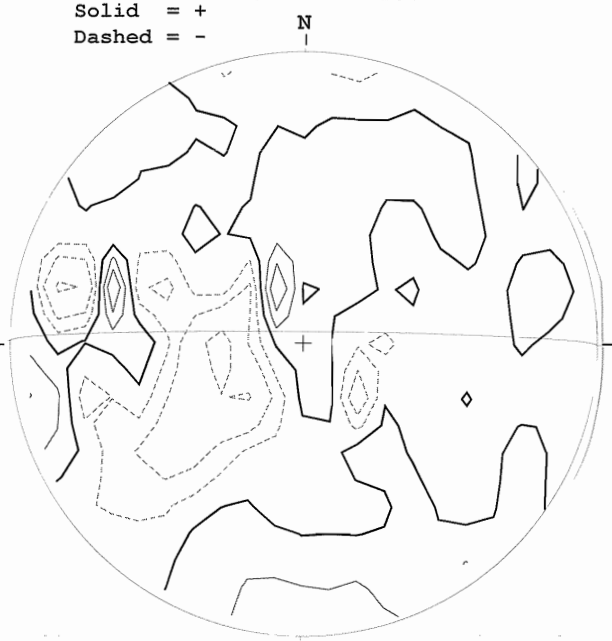
** 854.2NM **




1711 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

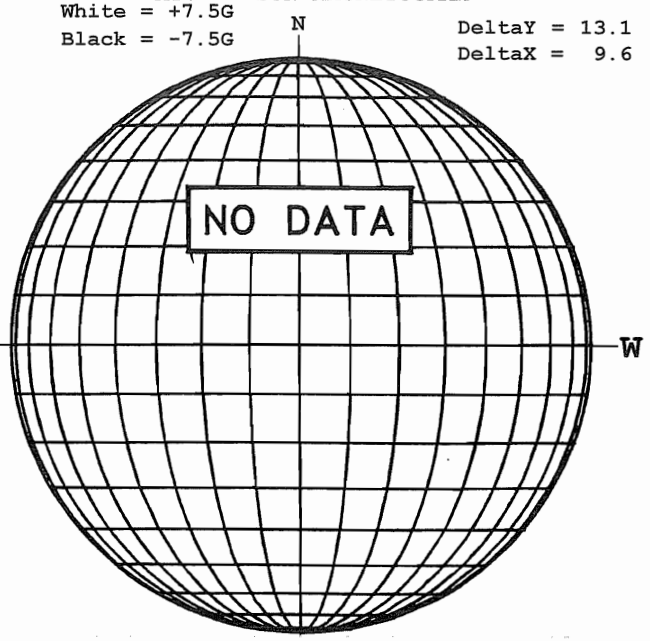



2043 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

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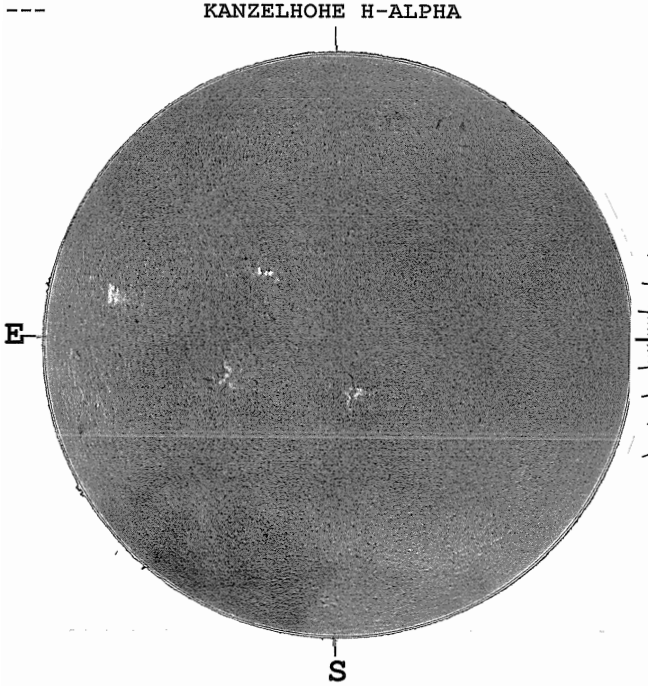
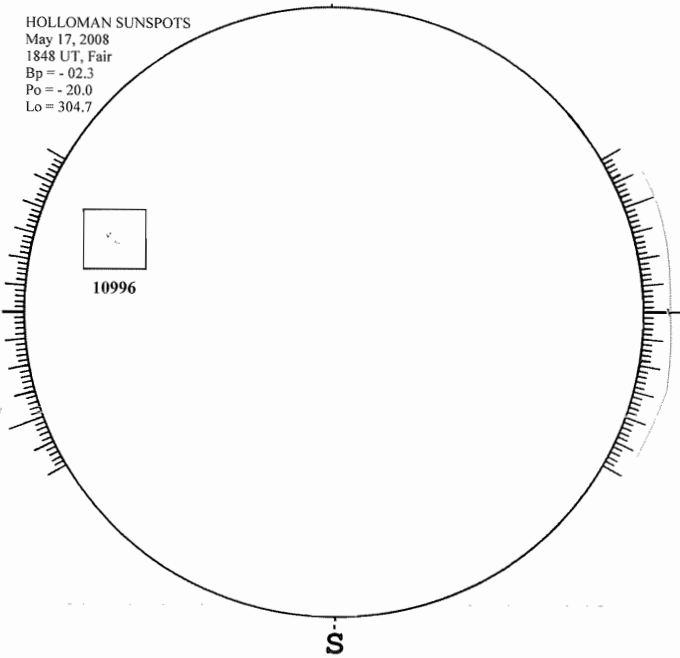
KANZELHOHE H-ALPHA



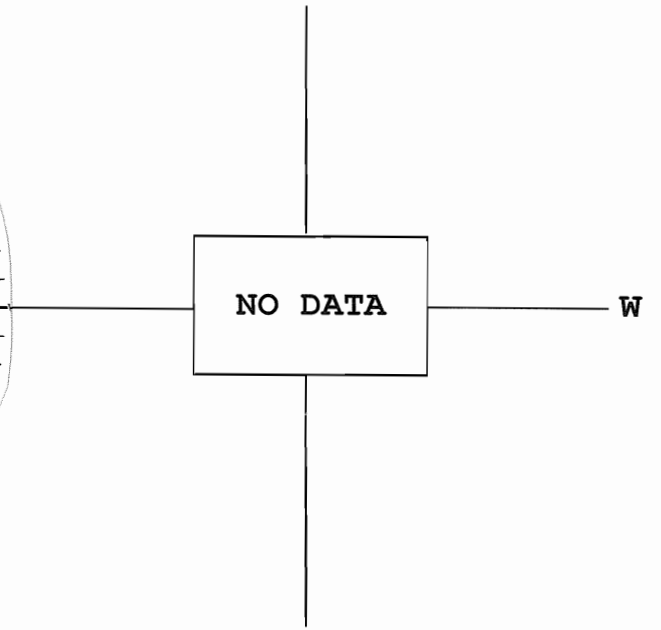

1337 UT

HOLLOMAN SUNSPOTS




1848 UT

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

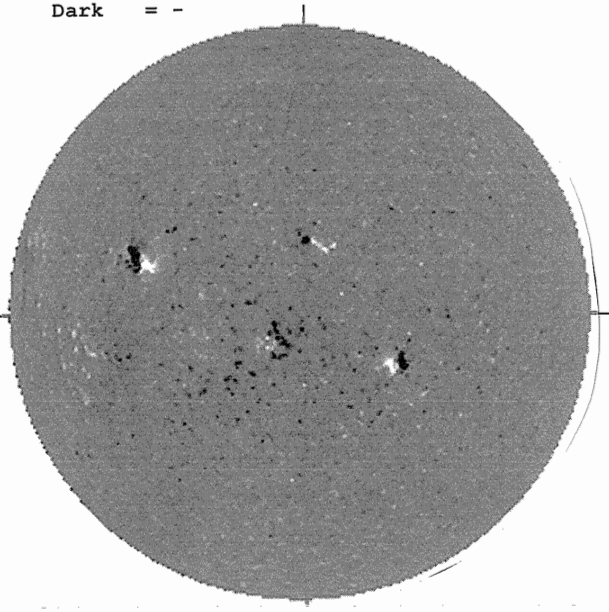


May 18, 2008 (P=-20.02, Bo=-2.29, Lo= 301.52)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

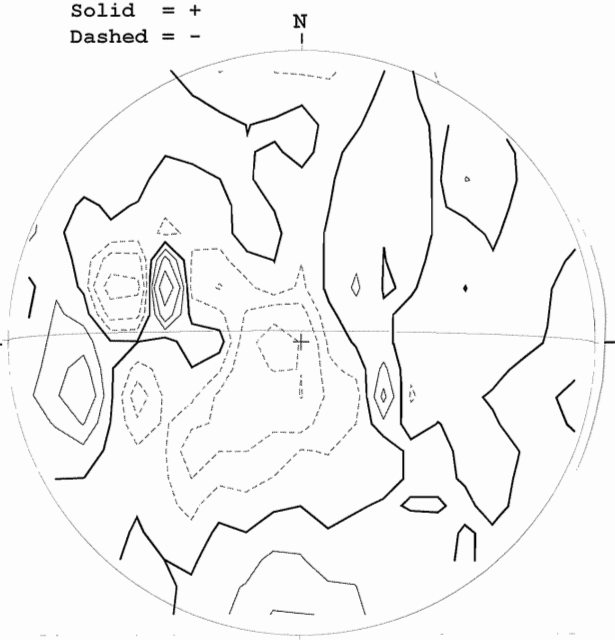
** 854.2NM **




1934 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

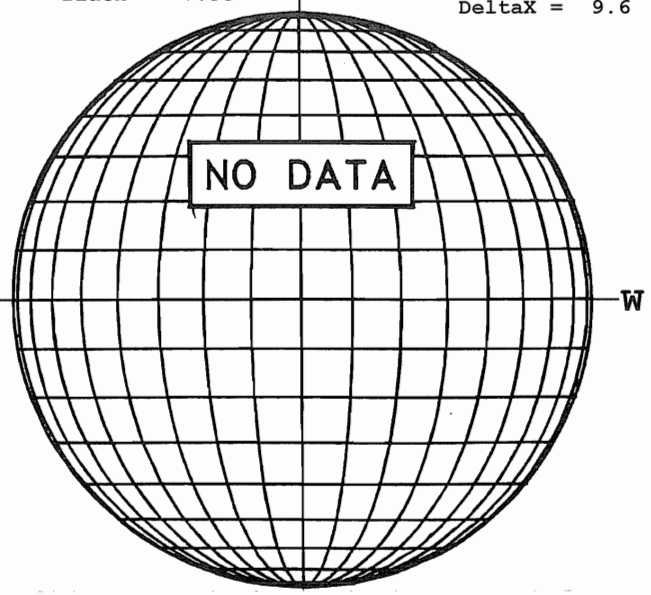



2042 UT

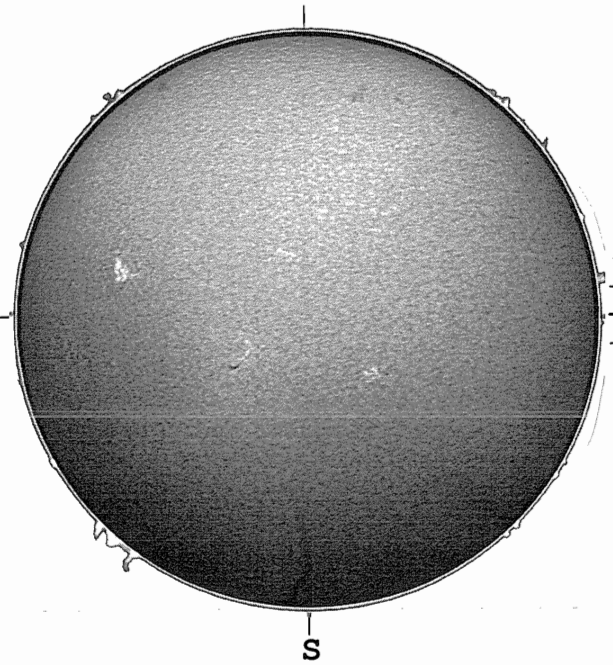
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

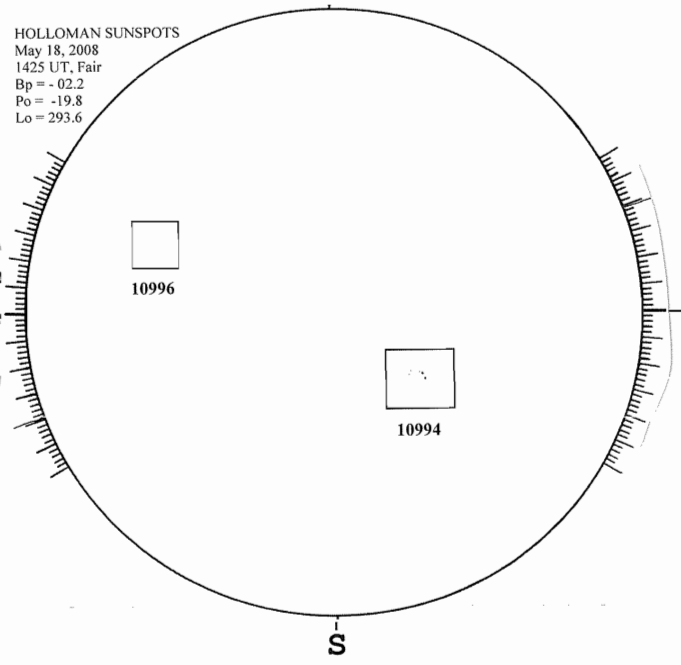



--- PIC DU MIDI H-ALPHA



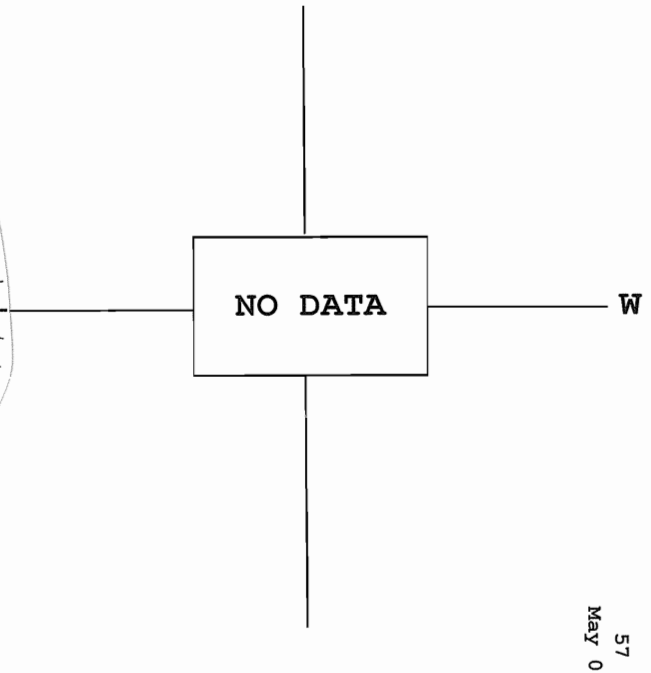

0710 UT

HOLLOMAN SUNSPOTS




1425 UT

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




57
May 08

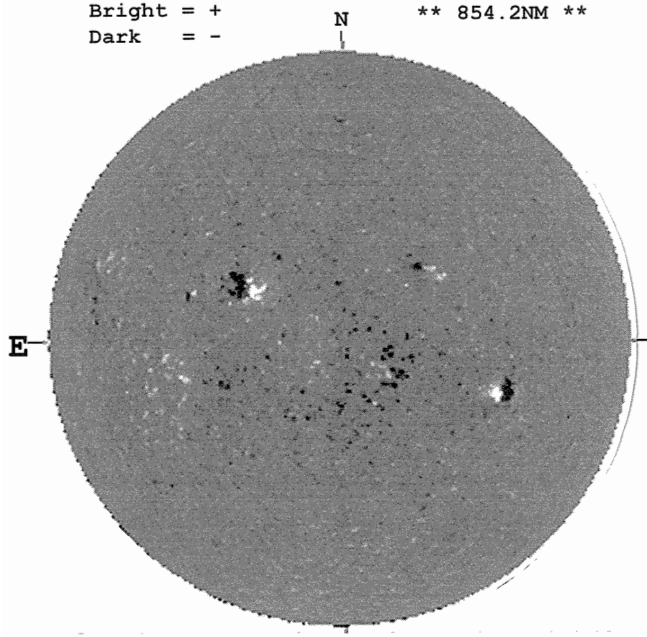
May 19, 2008 (P=-19.72, Bo=-2.17, Lo= 288.29)

May 08 58

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

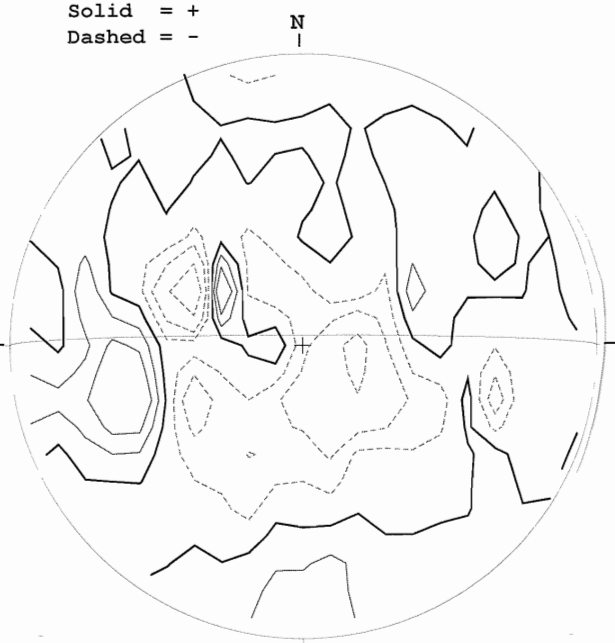
** 854.2NM **




2120 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

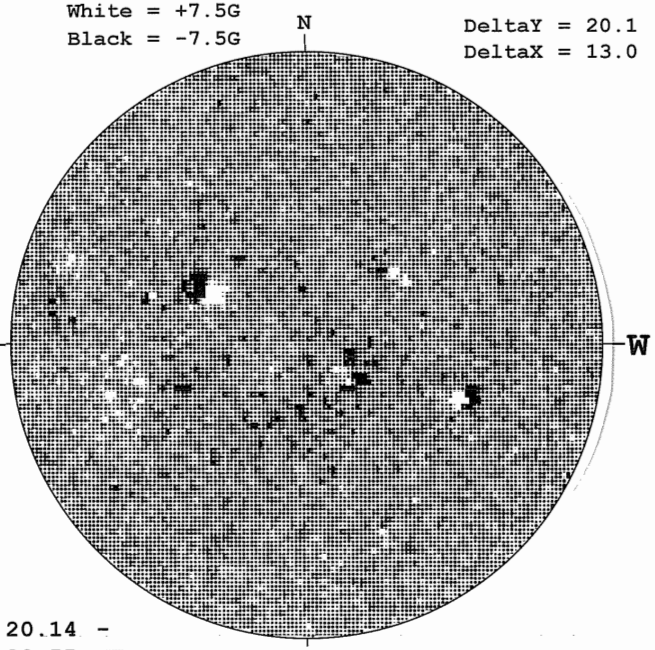



2052 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 20.1
DeltaX = 13.0




20.14 -
20.55 UT

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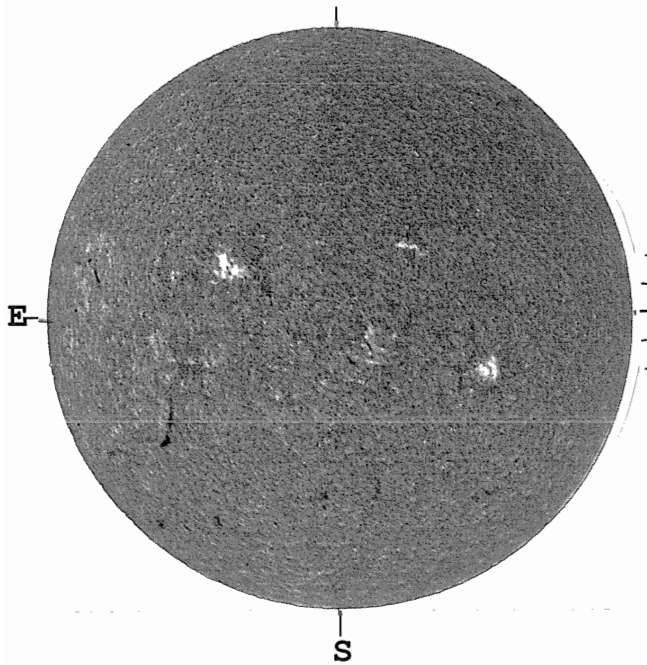
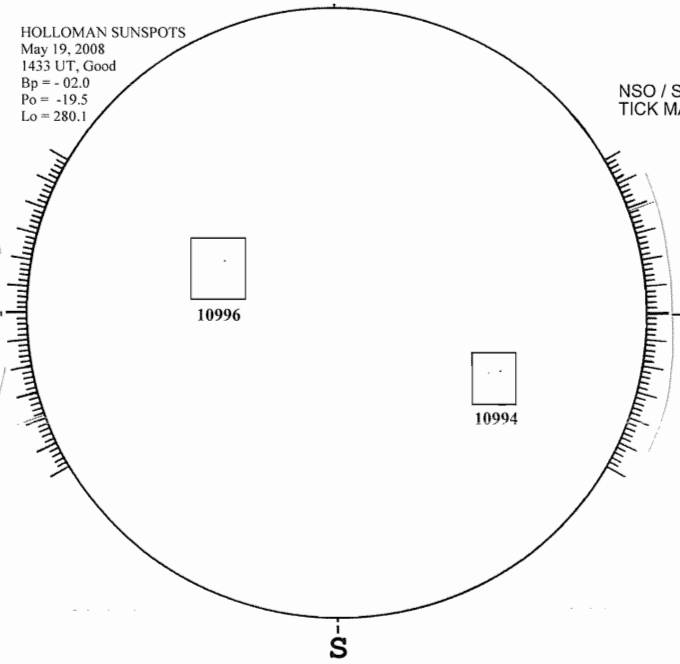
BIG BEAR H-ALPHA




1539 UT

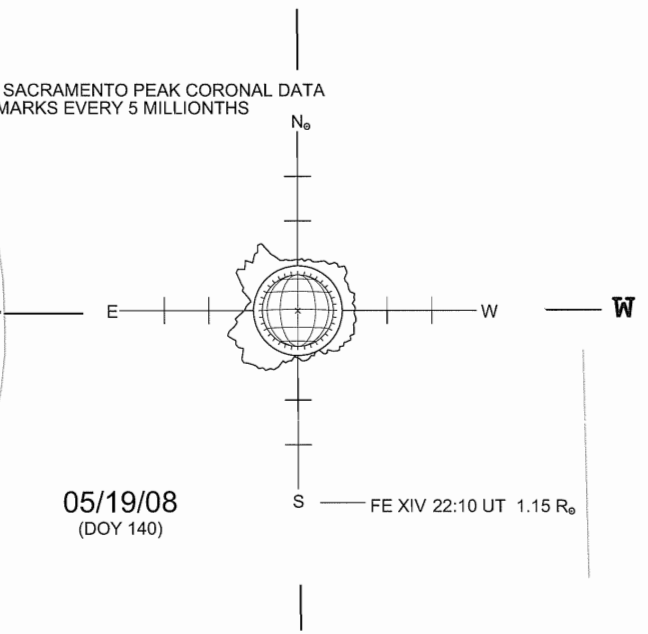
HOLLOMAN SUNSPOTS




1433 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 5 MILLIONTHS




05/19/08
(DOY 140)

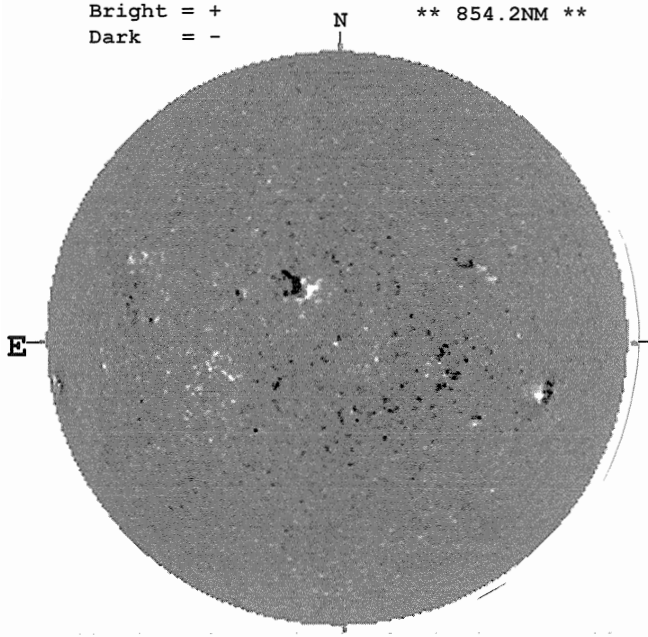
FE XIV 22:10 UT 1.15 R⊙

May 20, 2008 (P=-19.41, Bo=-2.06, Lo= 275.06)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

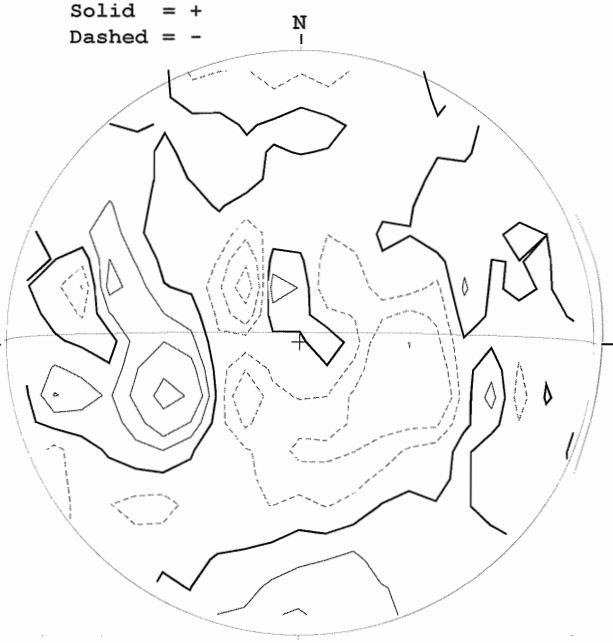
** 854.2NM **




1827 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

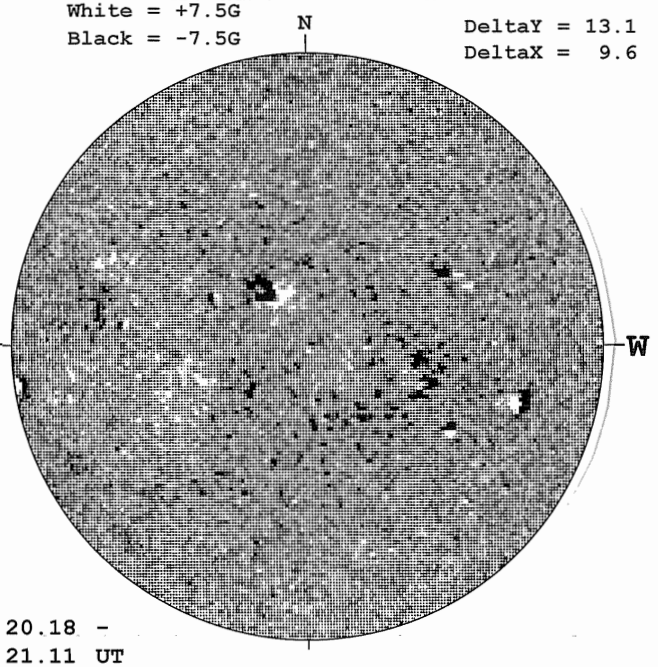



2120 UT

MT. WILSON MAGNETOGRAM

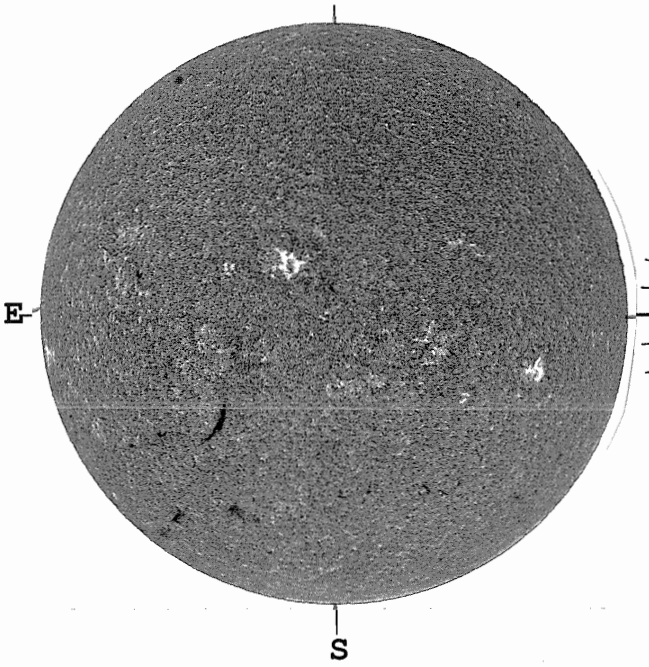
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



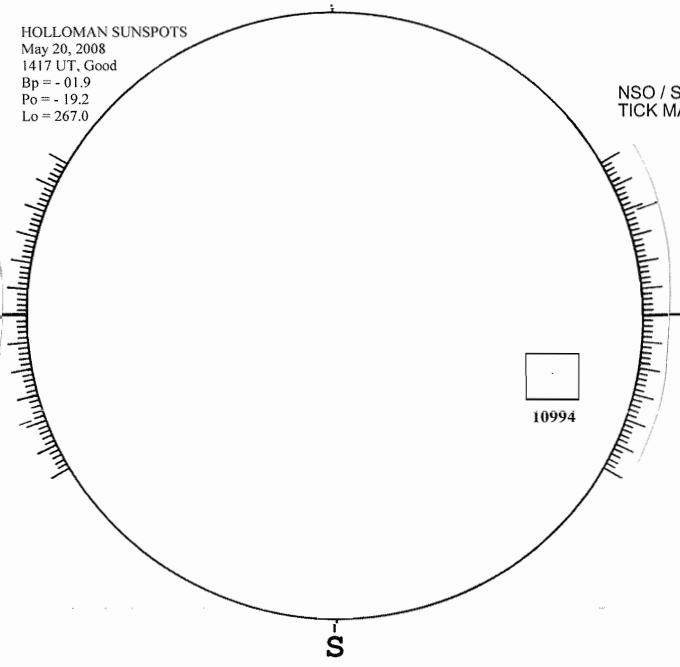

20.18 -
21.11 UT

--- BIG BEAR H-ALPHA



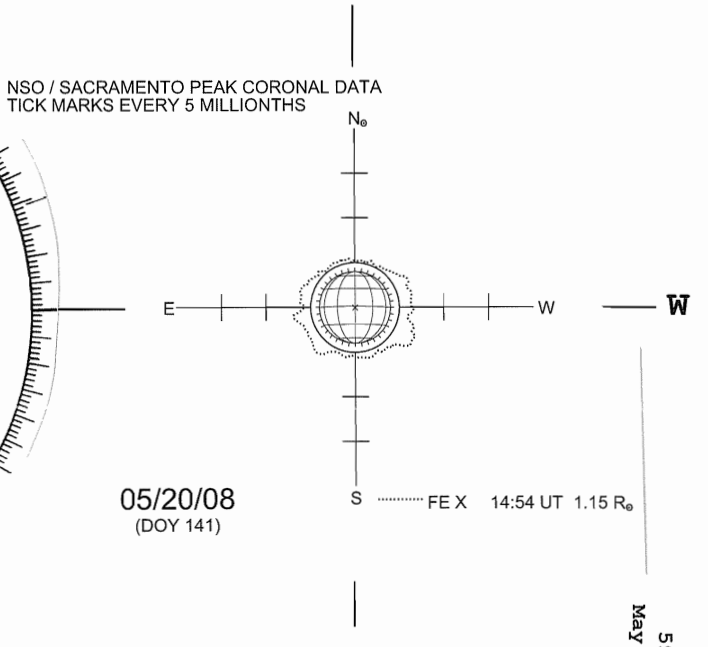

1524 UT

HOLLOMAN SUNSPOTS




1417 UT

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




59
May 08

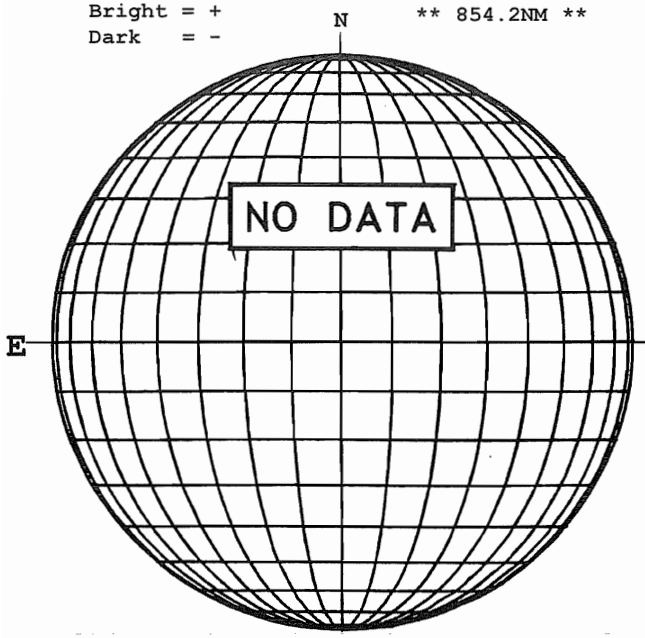
May 21, 2008 (P=-19.10, Bo=-1.94, Lo= 261.83)

May 08 09

KITT PEAK MAGNETOGRAM -- SOLIS

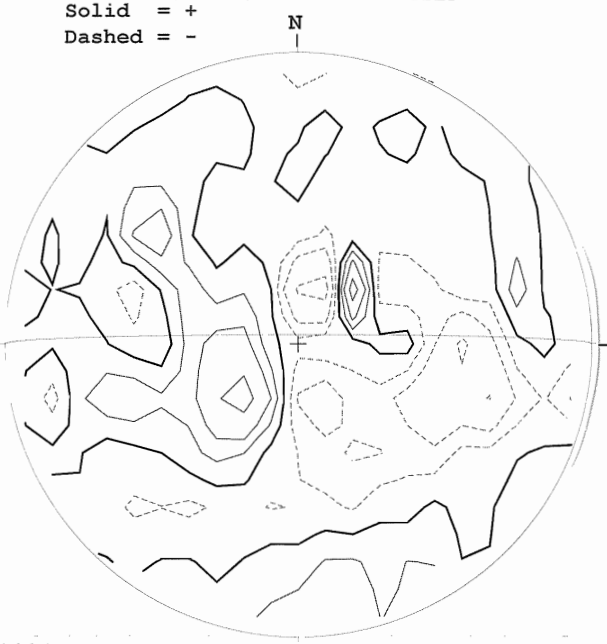
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

Solid = +
Dashed = -

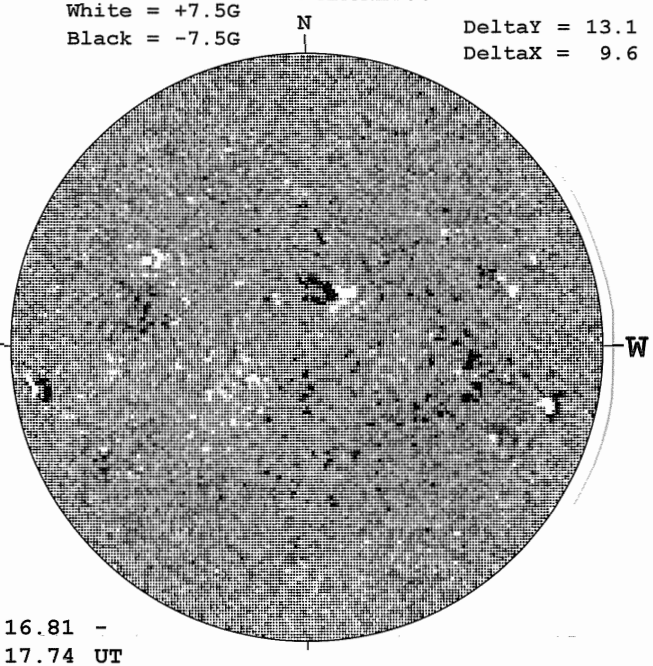



2021 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




16.81 -
17.74 UT

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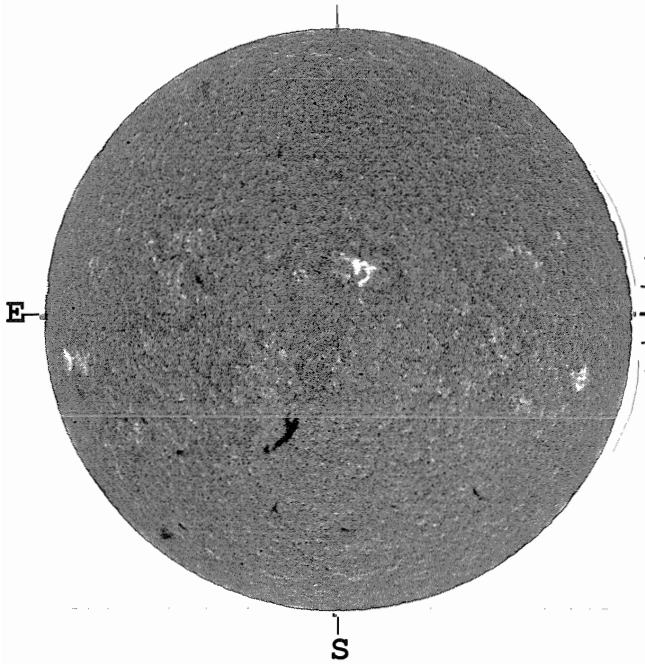
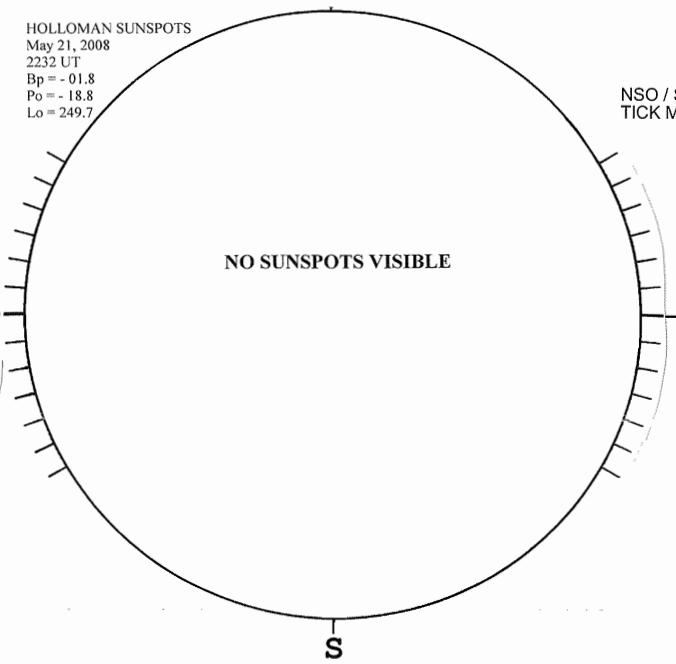
BIG BEAR H-ALPHA



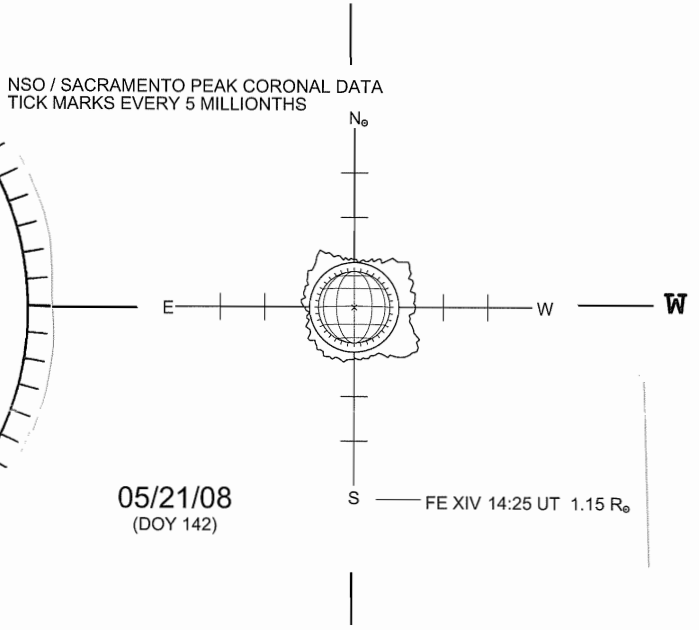

1512 UT

HOLLOMAN SUNSPOTS




2232 UT

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



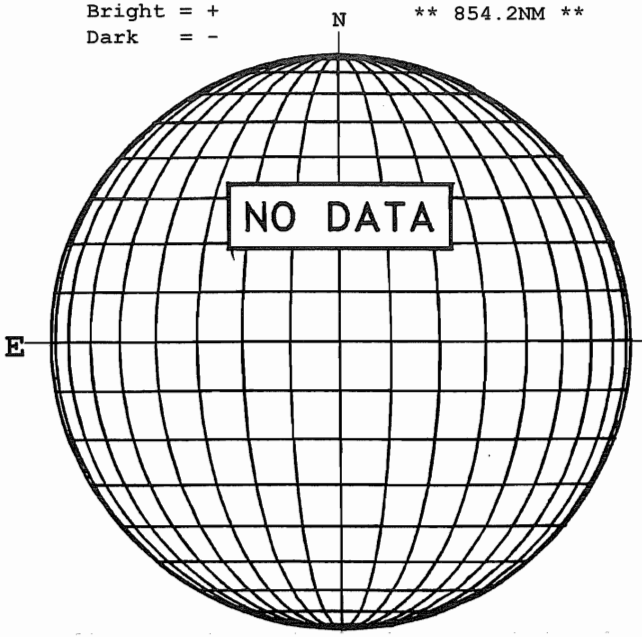

05/21/08
(DOY 142)

May 22, 2008 (P=-18.79, Bo=-1.82, Lo= 248.60)

KITT PEAK MAGNETOGRAM -- SOLIS

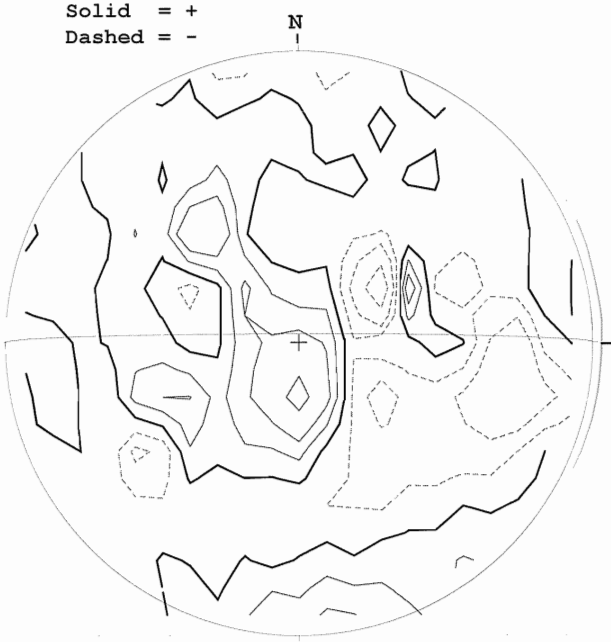
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

Solid = +
Dashed = -

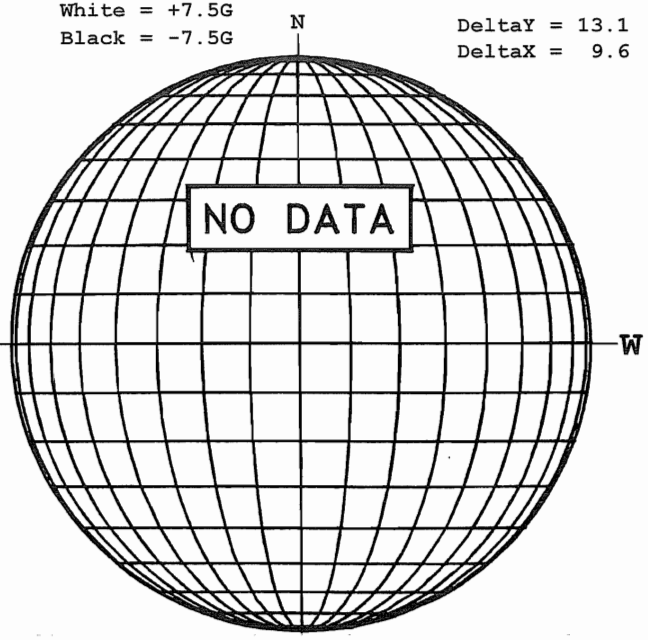



1829 UT

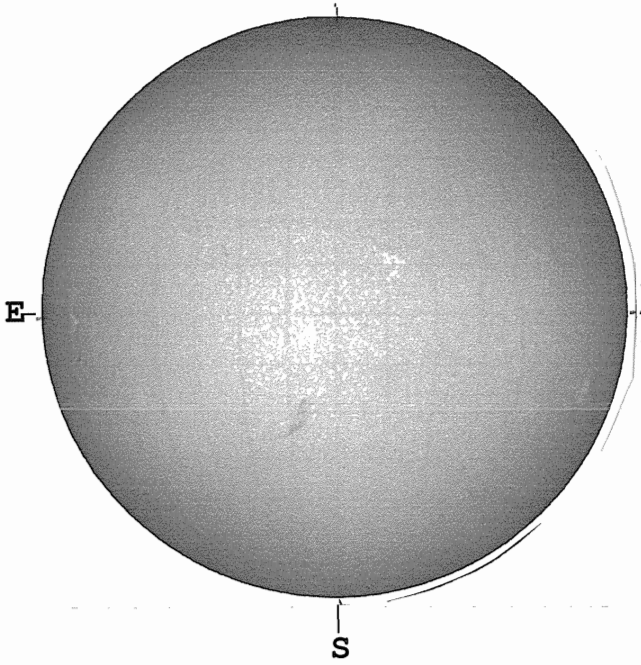
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

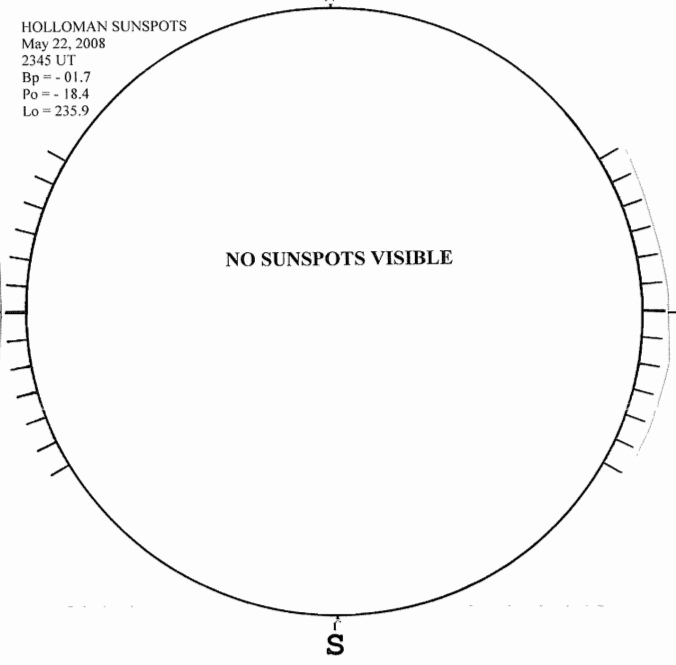



--- YUNNAN H-ALPHA



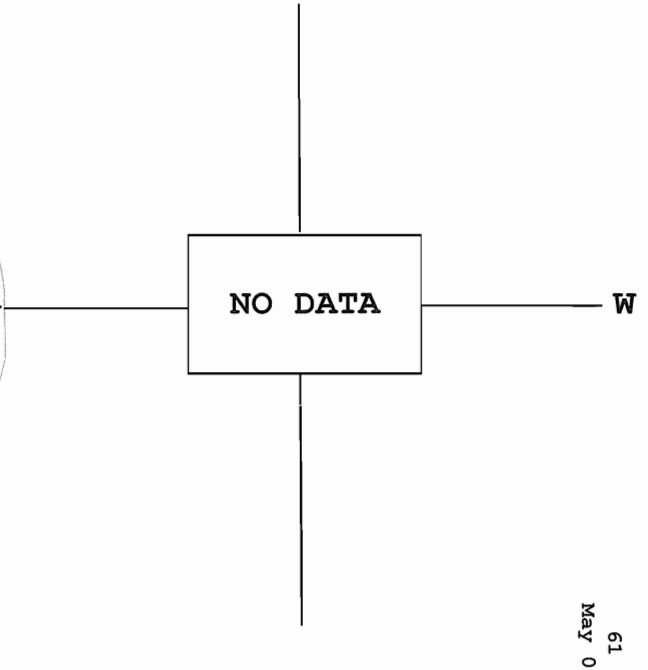

0120 UT

HOLLOMAN SUNSPOTS




2345 UT

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




61
May 08

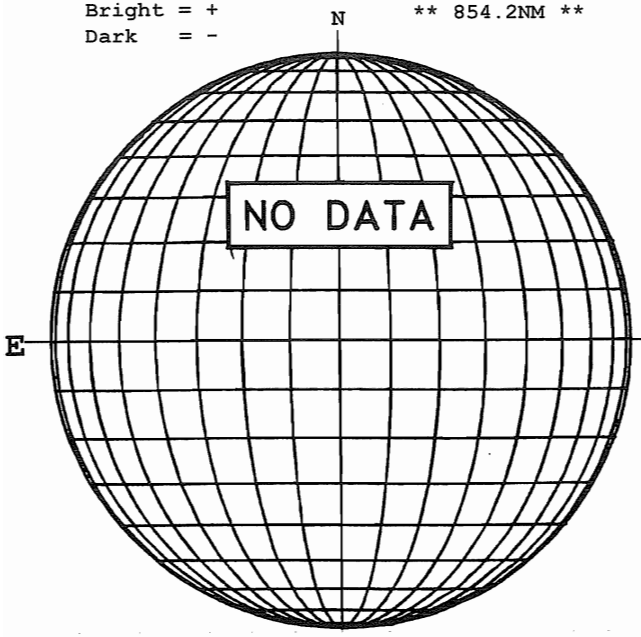
May 23, 2008 (P=-18.46, Bo=-1.70, Lo= 235.37)

May 08 62

KITT PEAK MAGNETOGRAM -- SOLIS

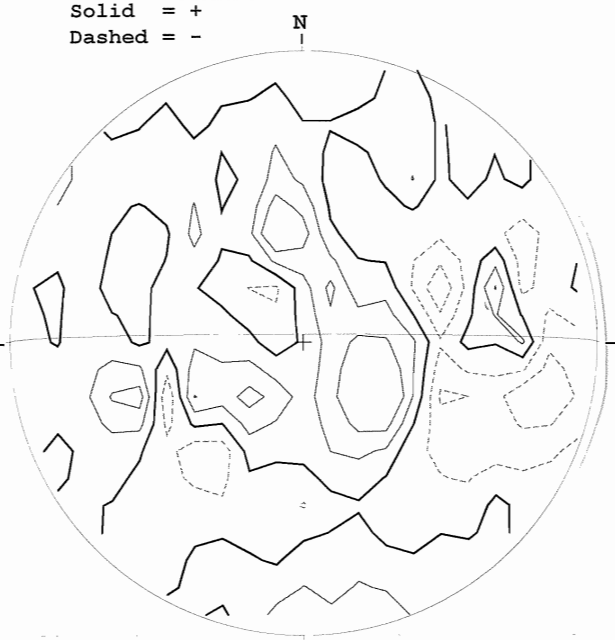
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

Solid = +
Dashed = -

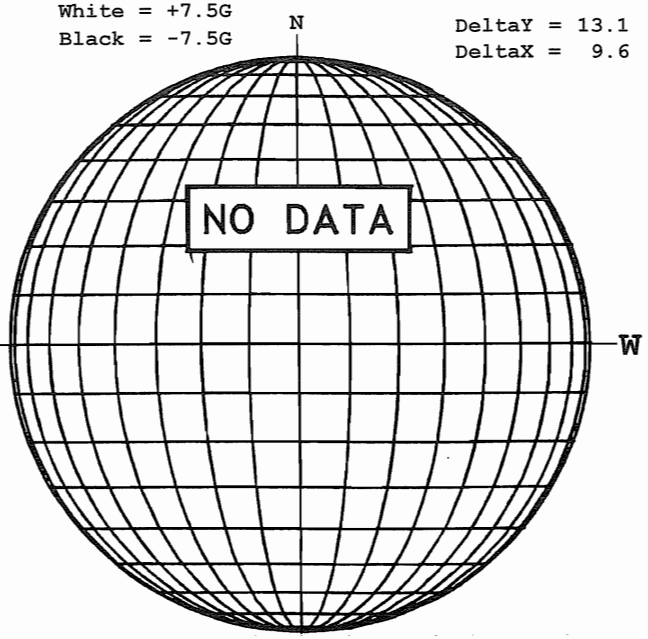



2147 UT

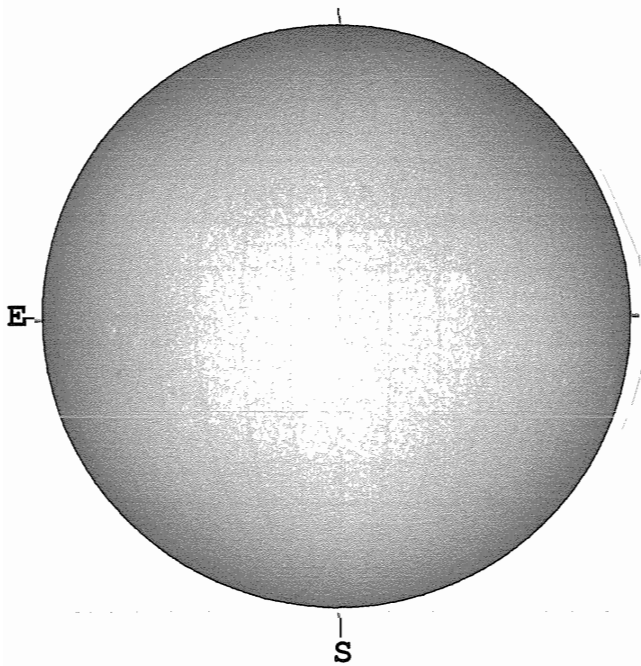
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

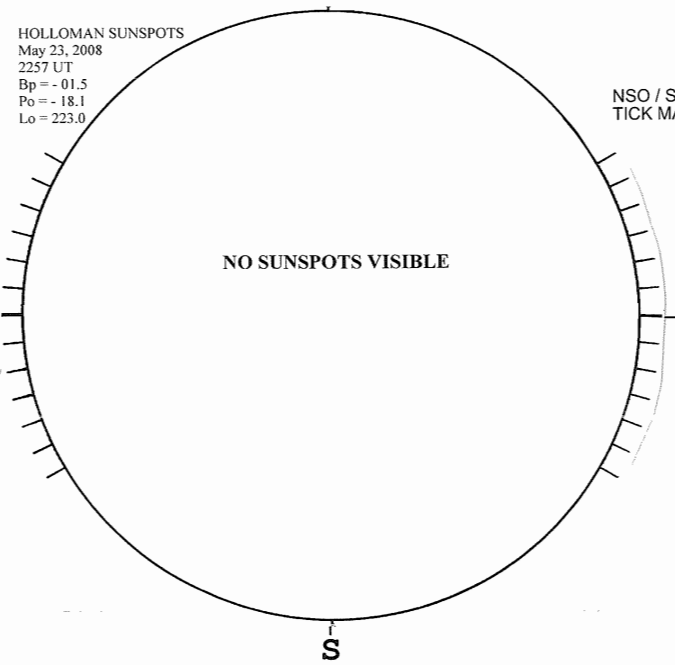



--- YUNNAN H-ALPHA



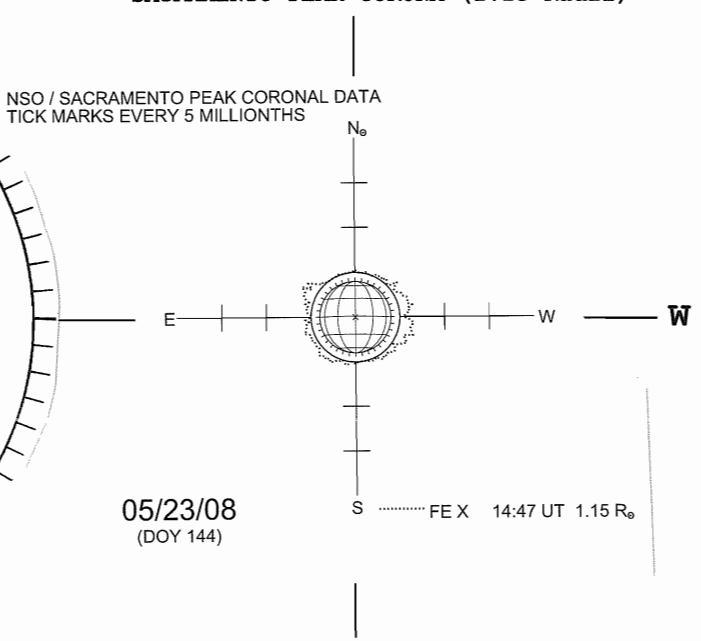

0131 UT

HOLLOMAN SUNSPOTS




2257 UT

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

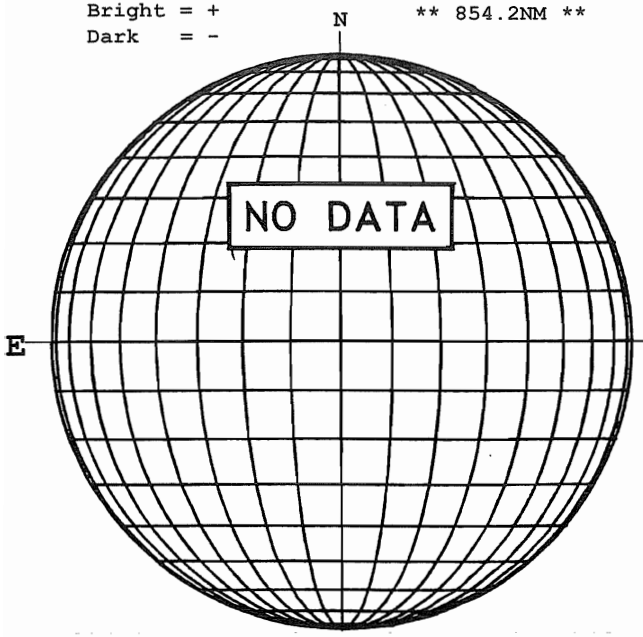


May 24, 2008 (P=-18.14, Bo=-1.59, Lo= 222.14)

KITT PEAK MAGNETOGRAM -- SOLIS

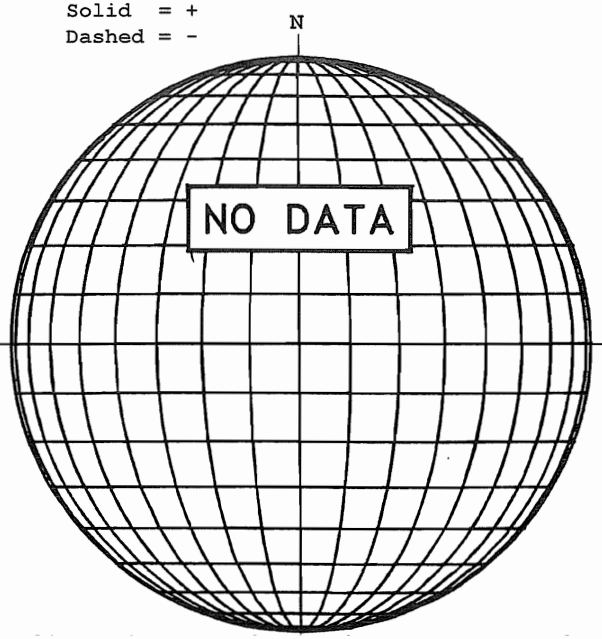
Bright = +
Dark = -

** 854.2NM **




STANFORD MAGNETOGRAM

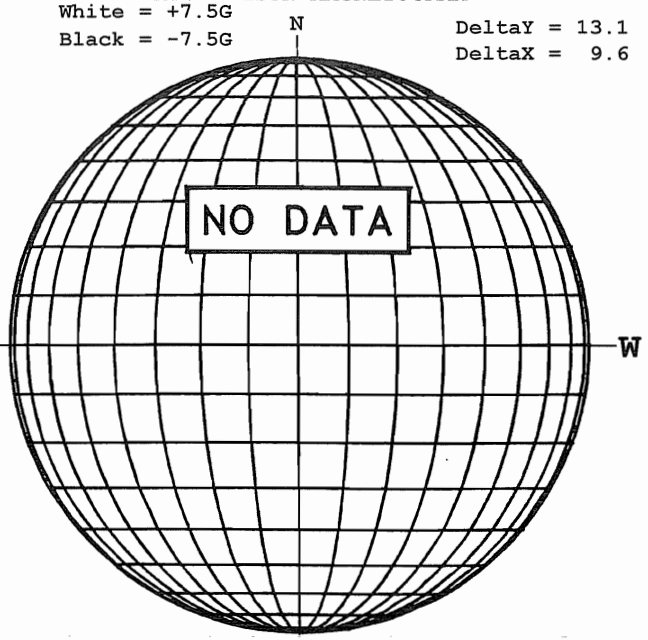
Solid = +
Dashed = -




MT. WILSON MAGNETOGRAM

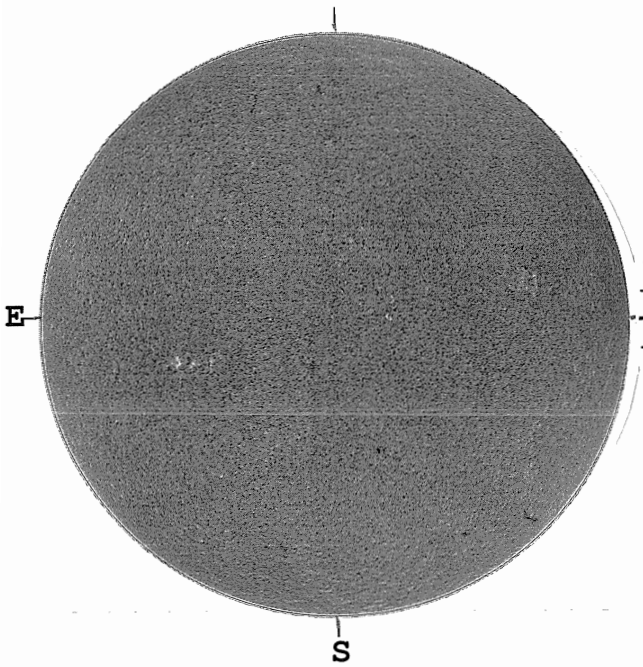
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



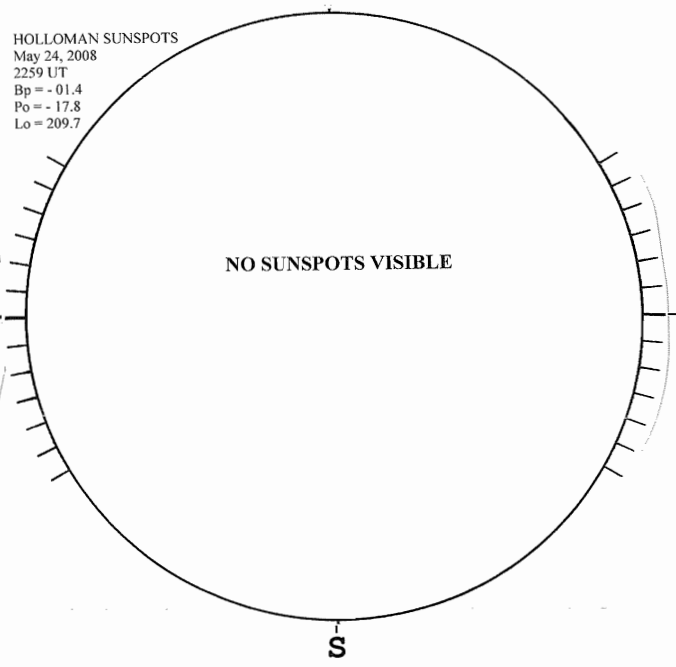

E W

--- KANZELHOHE H-ALPHA



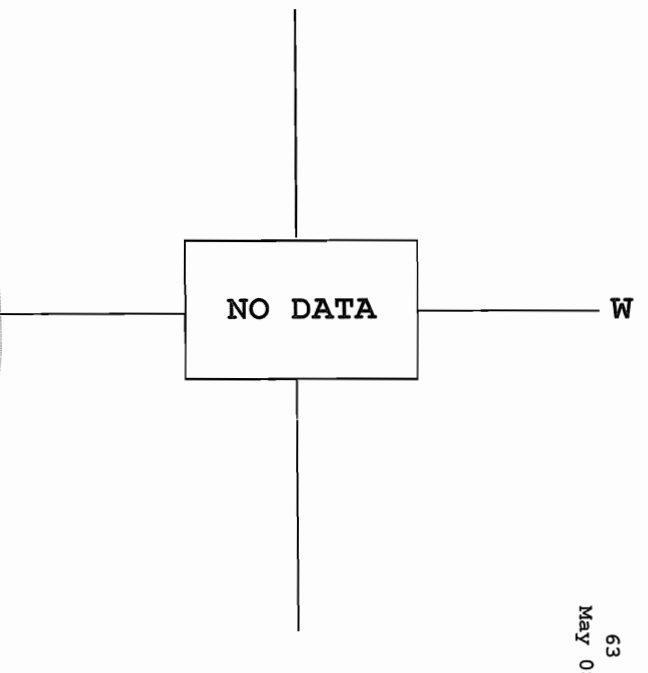

0938 UT

HOLLOMAN SUNSPOTS




2259 UT

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

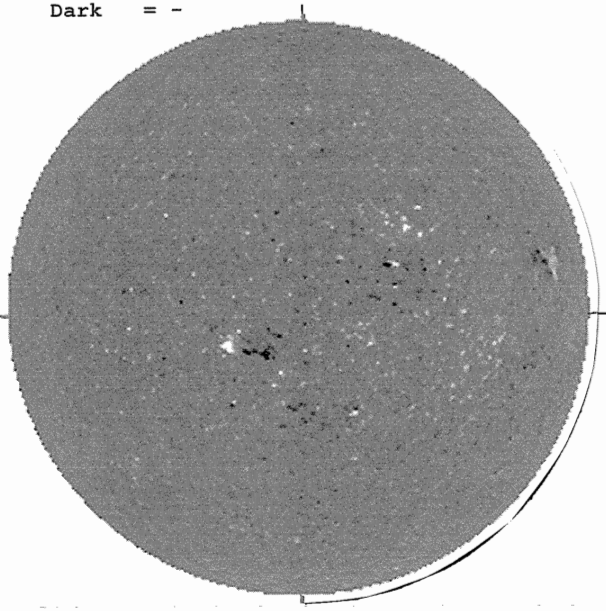



63
May 08

May 25, 2008 (P=-17.80, Bo=-1.47, Lo= 208.91)

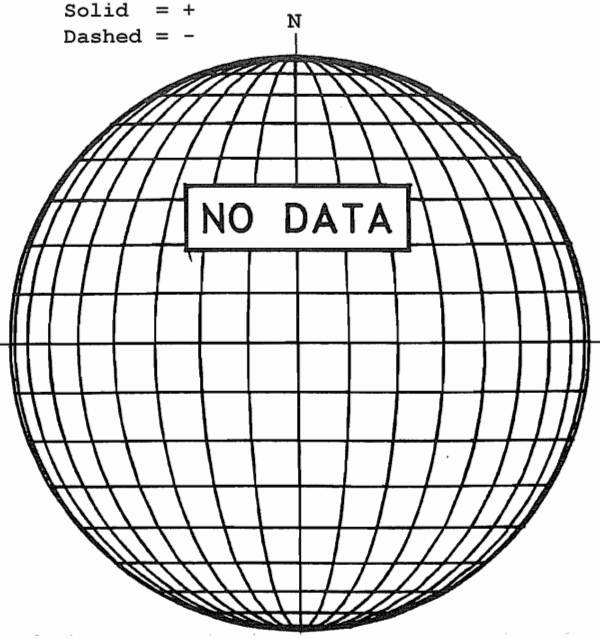
May 08 64

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

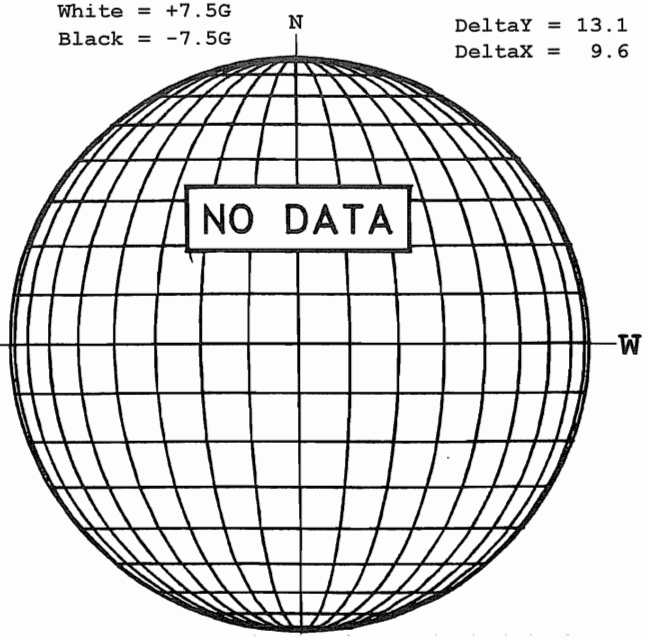



1938 UT

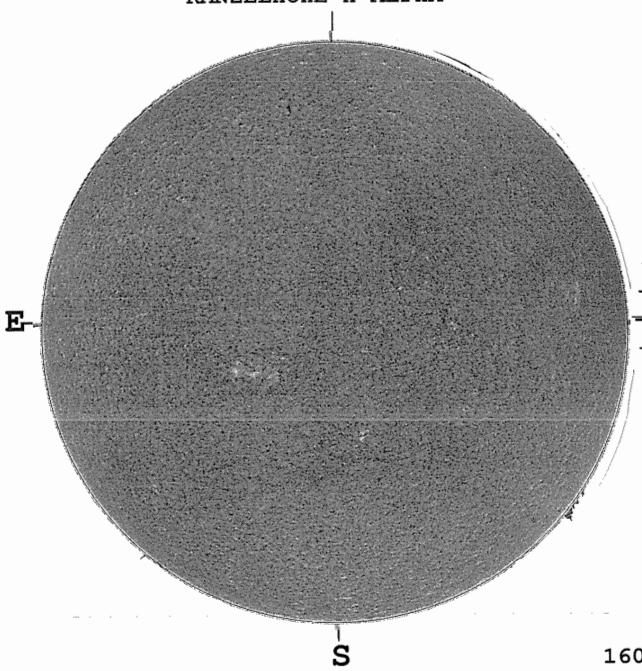
STANFORD MAGNETOGRAM
Solid = +
Dashed = -




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

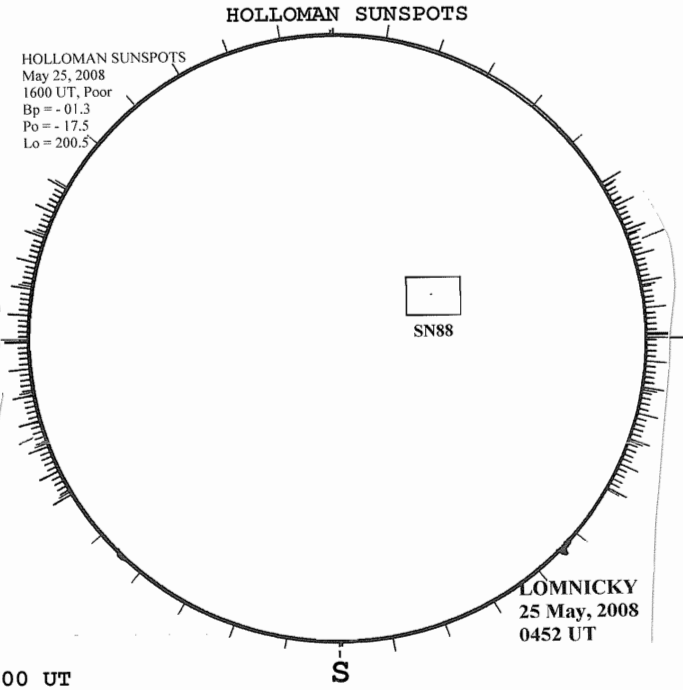



--- KANZELHOHE H-ALPHA



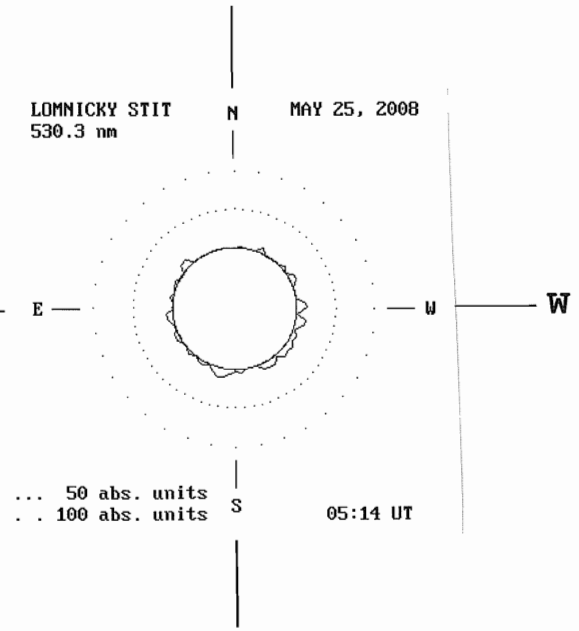

0858 UT

HOLLOMAN SUNSPOTS




1600 UT
0452 UT LOMN PROM

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

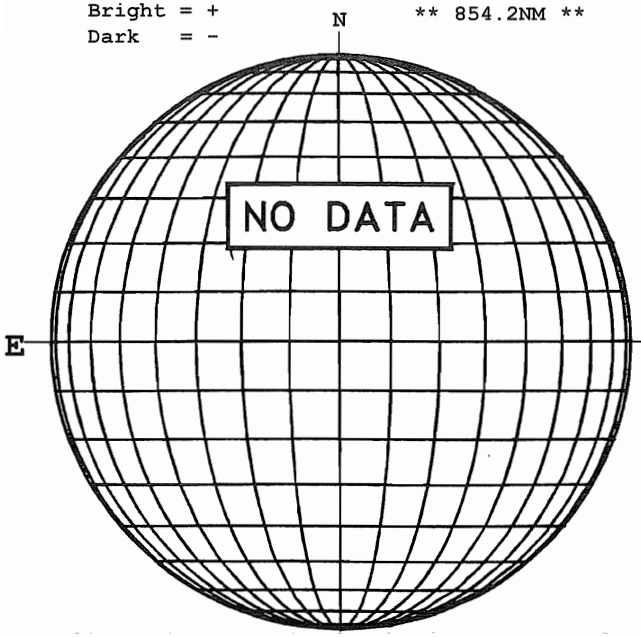


May 26, 2008 (P=-17.46, Bo=-1.35, Lo= 195.68)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

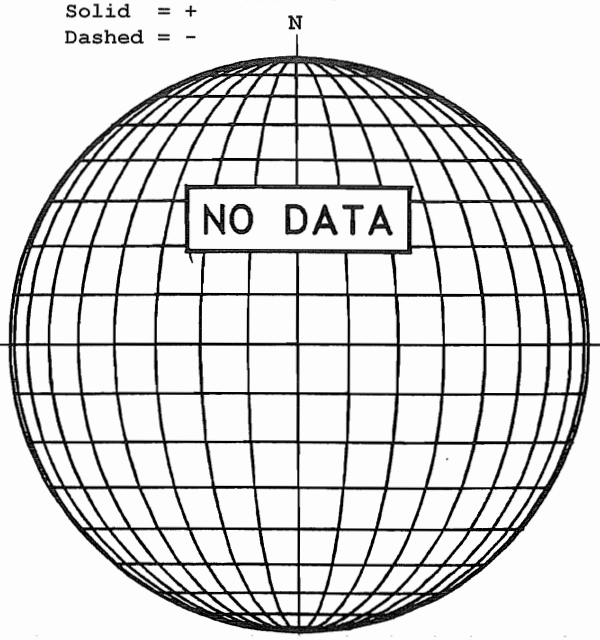
** 854.2NM **




1859 UT

STANFORD MAGNETOGRAM

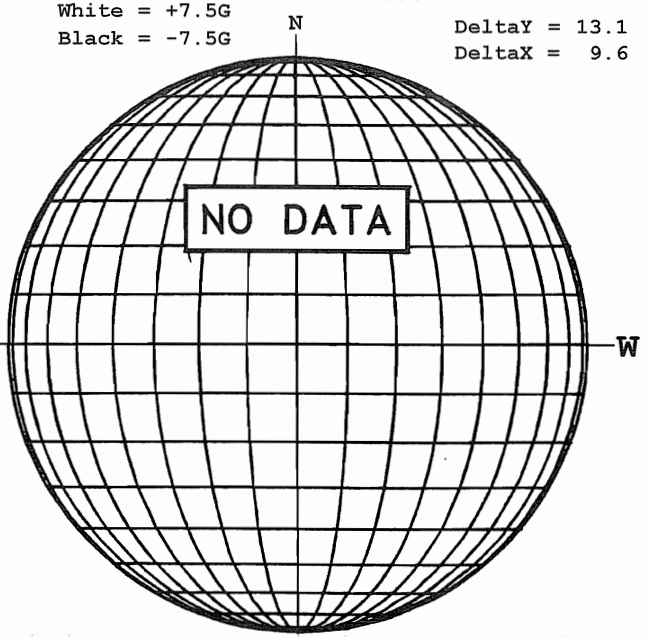
Solid = +
Dashed = -



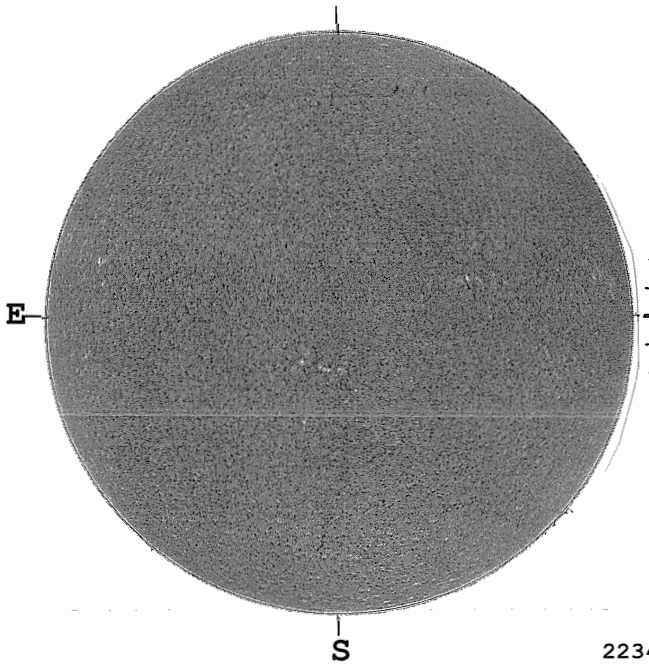

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

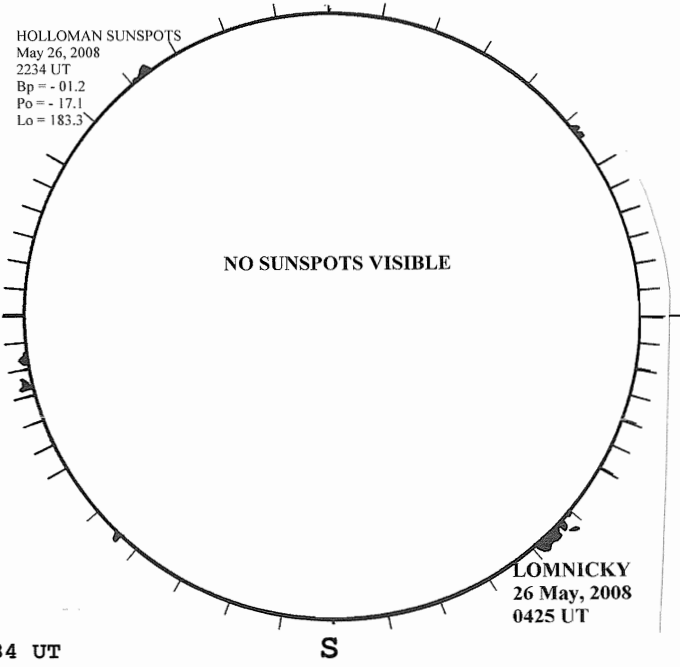



--- KANZELHOHE H-ALPHA




0757 UT

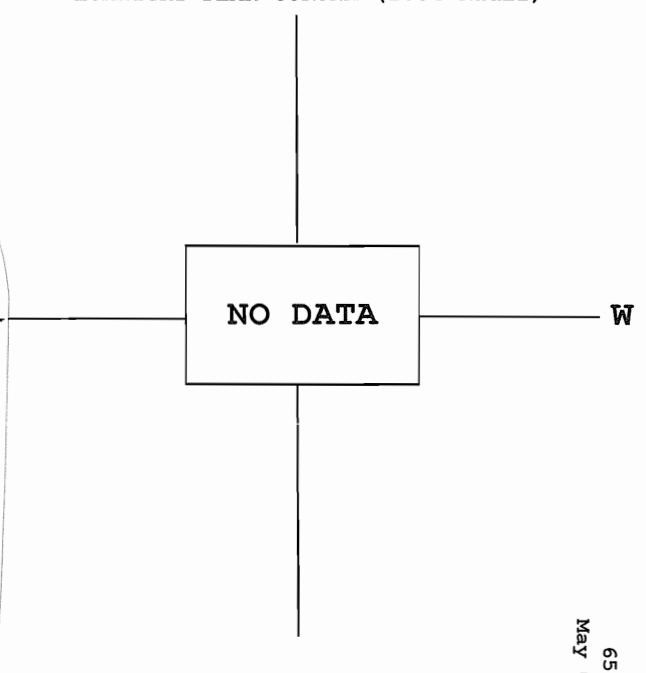
HOLLOMAN SUNSPOTS




2234 UT

0425 UT LOMN PROM

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

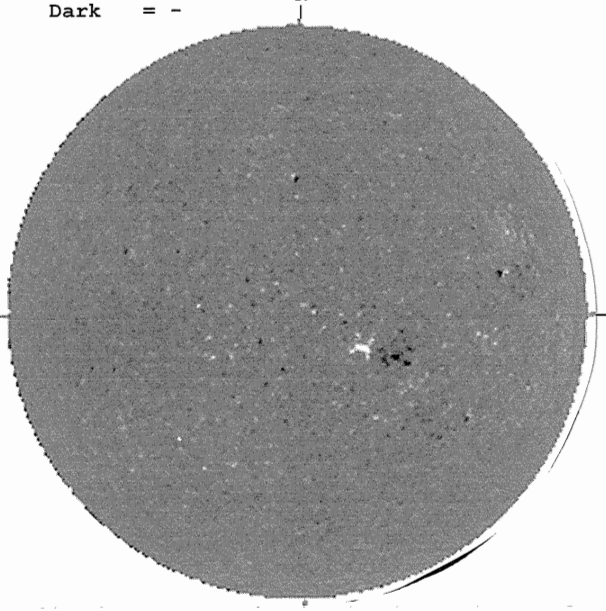



65
May 08

May 27, 2008 (P=-17.11, Bo=-1.23, Lo= 182.45)

May 08 99

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

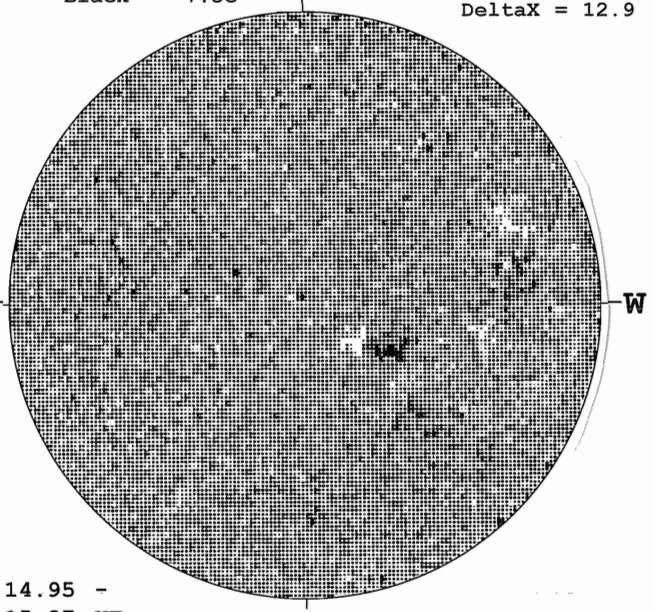



2040 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -


2315 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 20.1
DeltaX = 12.9




14.95 -
15.37 UT

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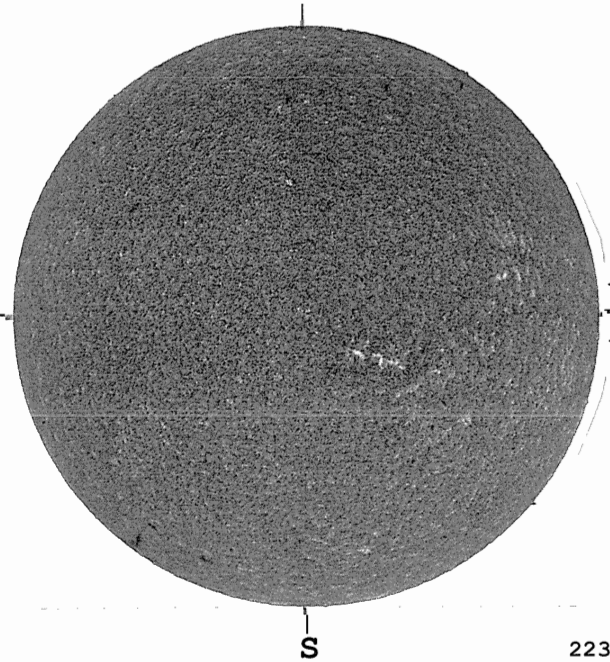
BIG BEAR H-ALPHA

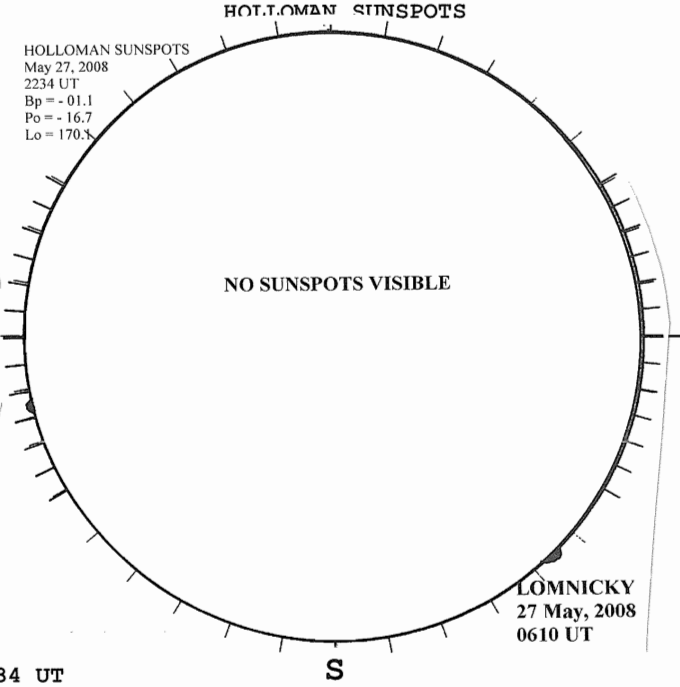



1550 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
May 27, 2008
2234 UT
Bp = - 01.1
Po = - 16.7
Lo = 170.1

NO SUNSPOTS VISIBLE



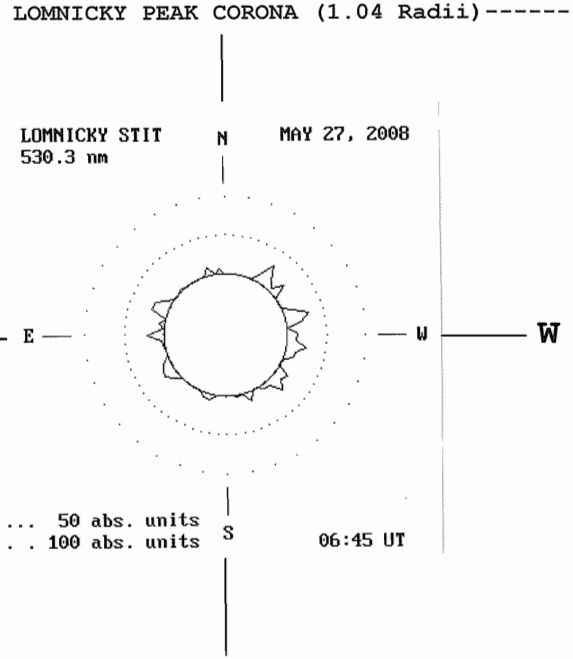

LOMNICKY
27 May, 2008
0610 UT

2234 UT
0610 UT LOMN PROM

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

LOMNICKY STIT
530.3 nm

MAY 27, 2008




... 50 abs. units
. . 100 abs. units

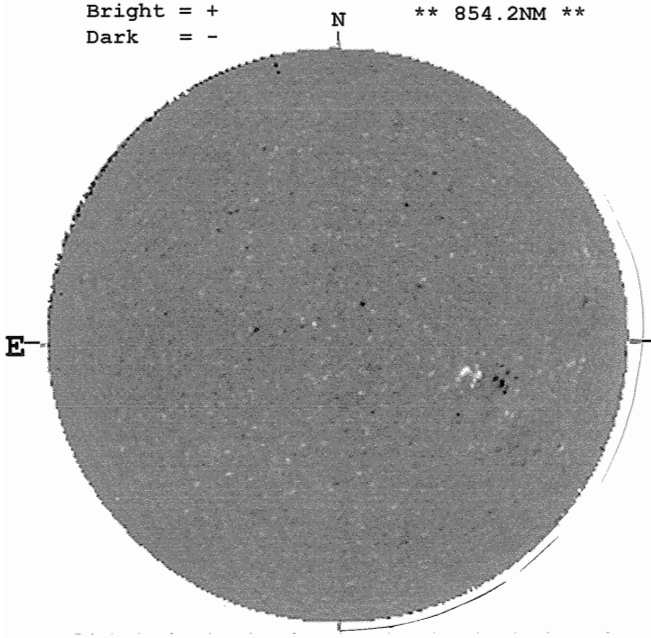
06:45 UT

May 28, 2008 (P=-16.76, Bo=-1.11, Lo= 169.22)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

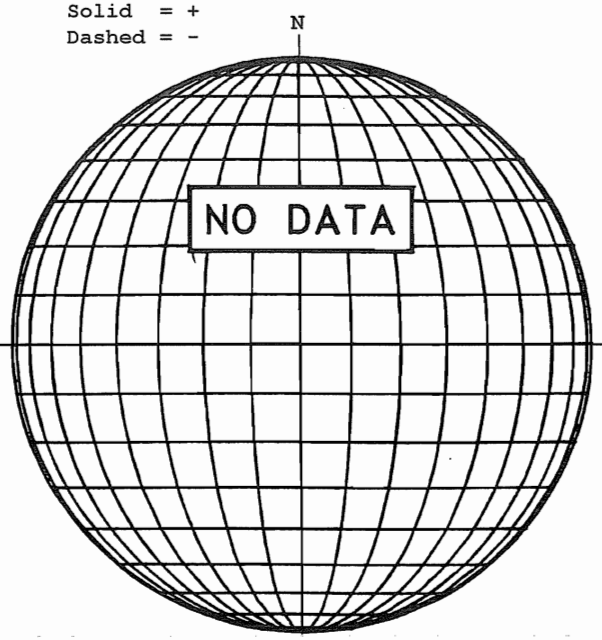
** 854.2NM **




2254 UT

STANFORD MAGNETOGRAM

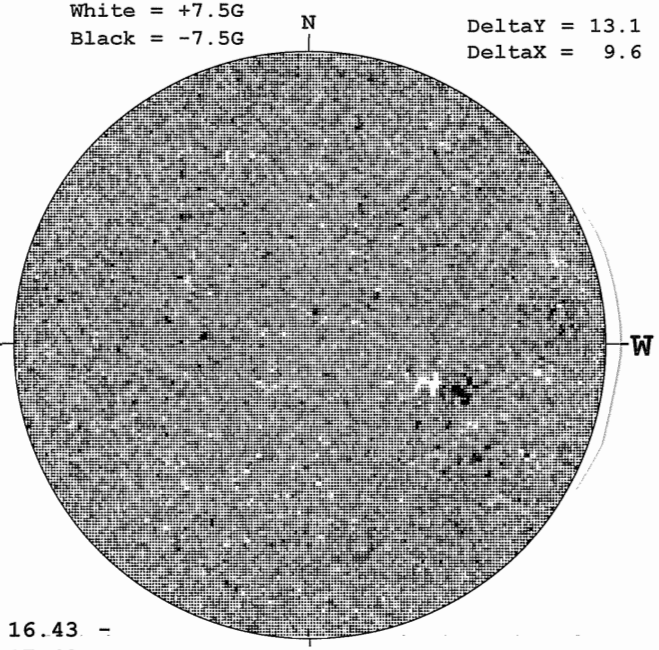
Solid = +
Dashed = -




MT. WILSON MAGNETOGRAM

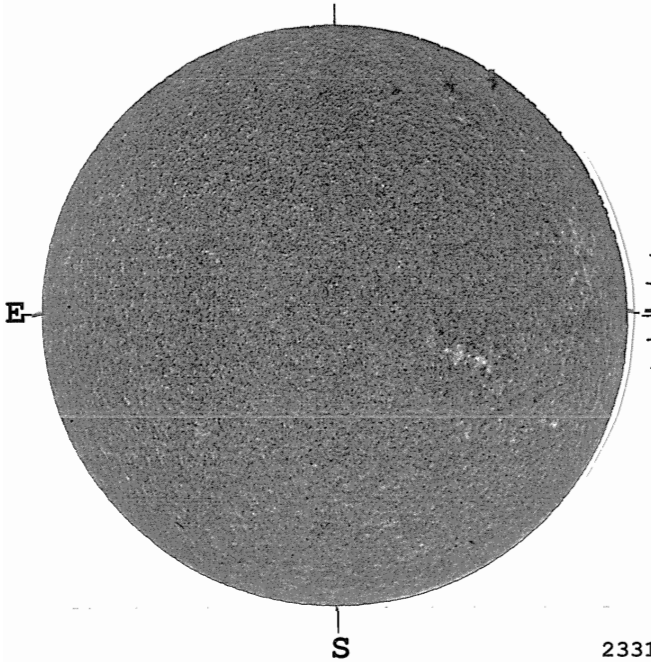
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



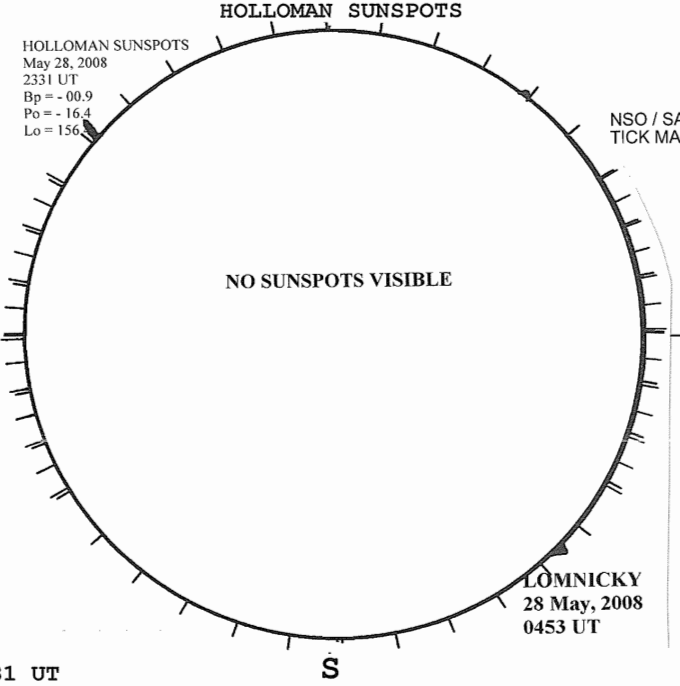

16.43 -
17.40 UT

--- BIG BEAR H-ALPHA



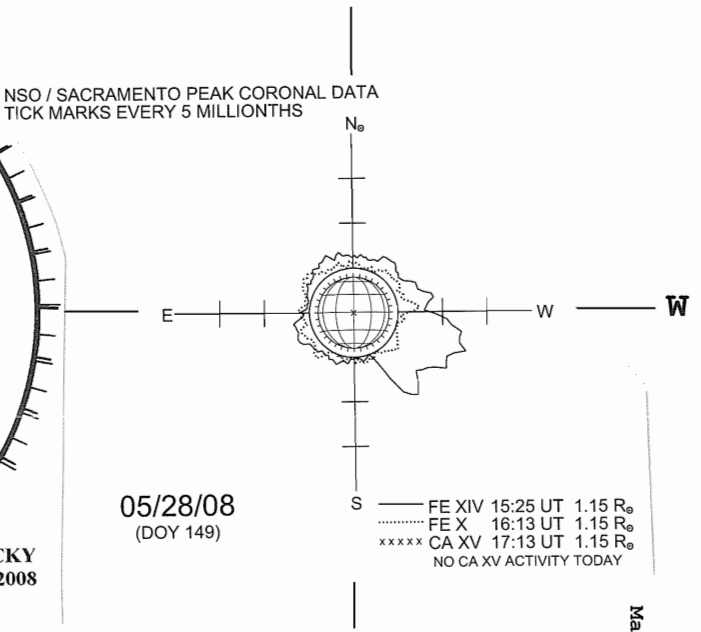

1611 UT

HOLLOMAN SUNSPOTS




2331 UT
0453 UT LOMN PROM

SACRAMENTO PEAK CORONA (1.15 Radii)----



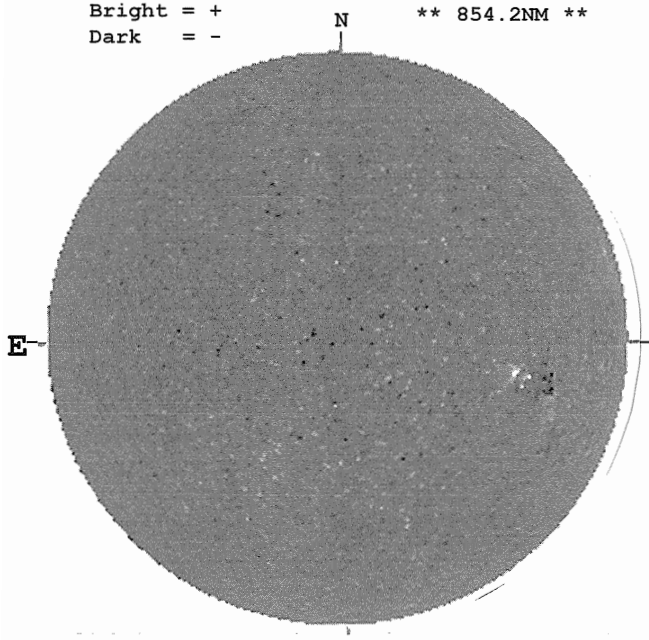
May 29, 2008 (P=-16.41, Bo=-0.99, Lo= 155.98)

May 08 68

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

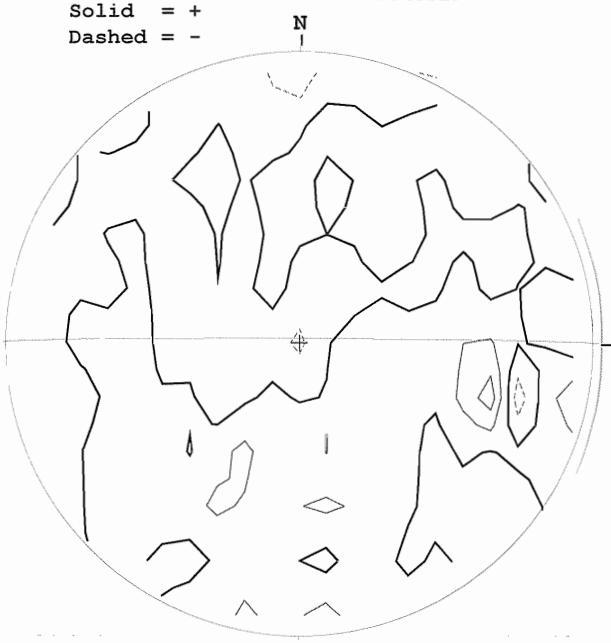
** 854.2NM **




1953 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

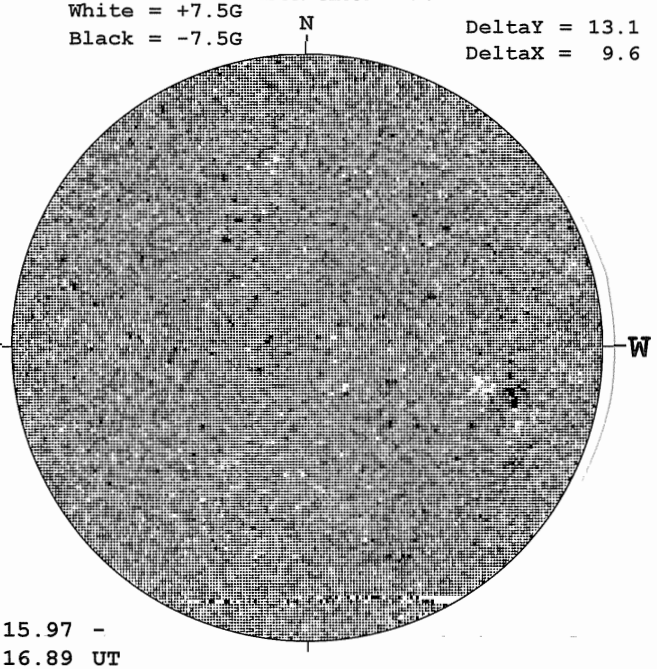



2353 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




15.97 -
16.89 UT

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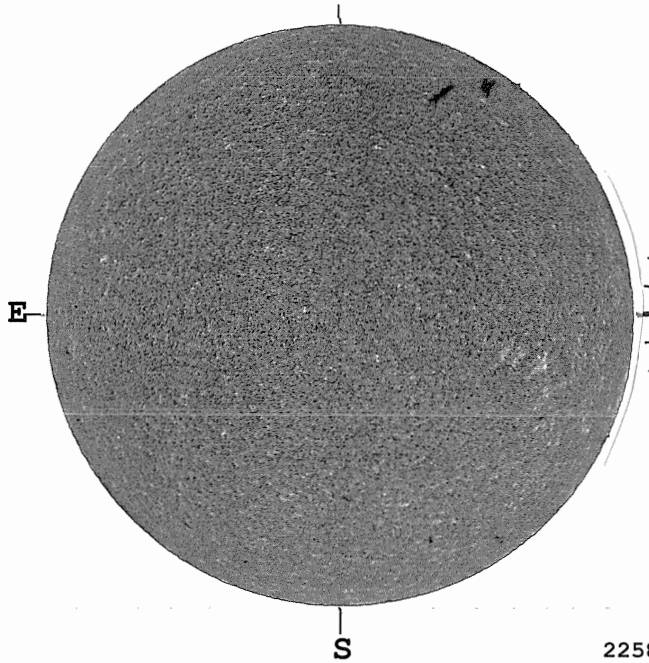
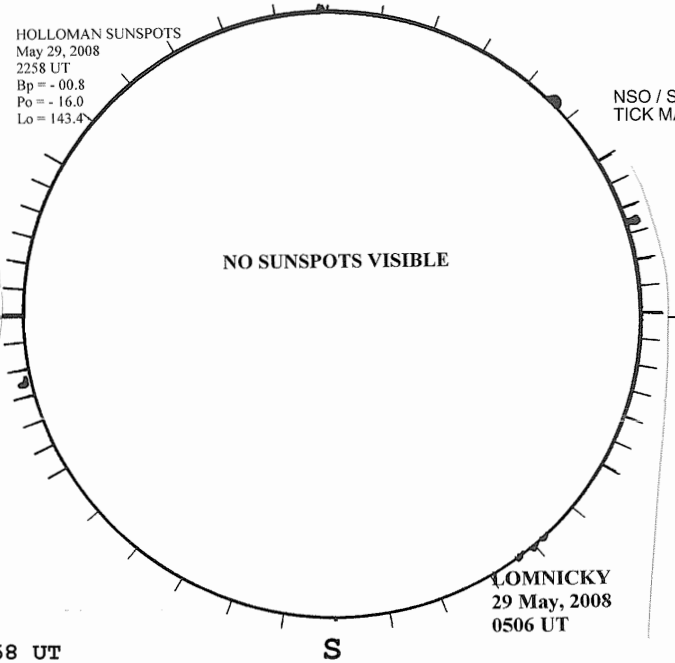
BIG BEAR H-ALPHA



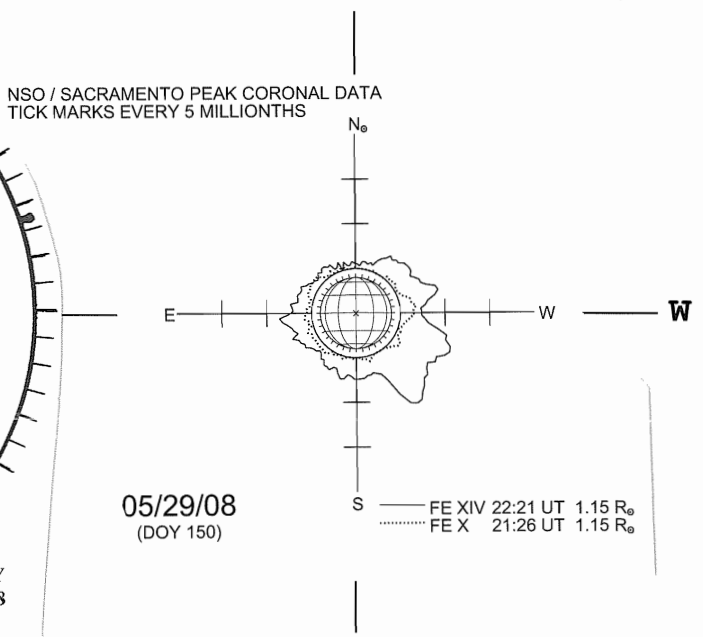

1544 UT

HOLLOMAN SUNSPOTS




2258 UT
0506 UT LOMN PROM

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

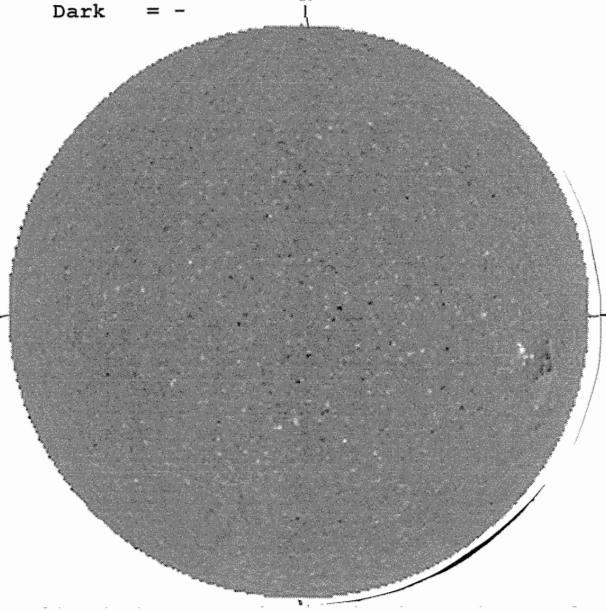


May 30, 2008 (P=-16.04, Bo=-0.87, Lo= 142.75)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

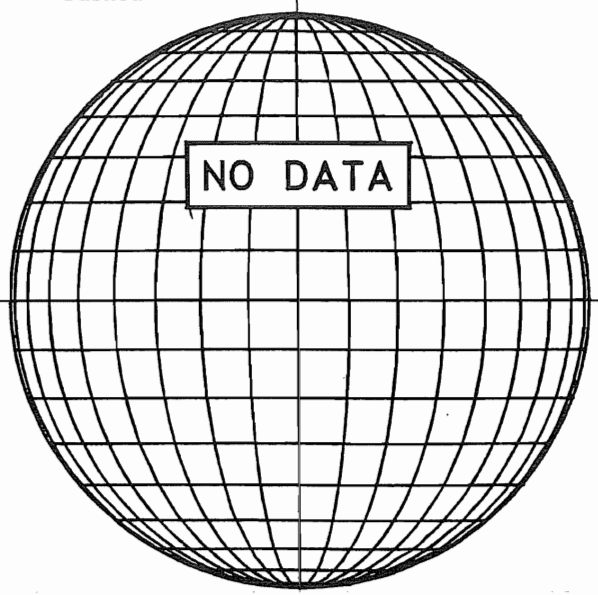
** 854.2NM **




1903 UT

STANFORD MAGNETOGRAM

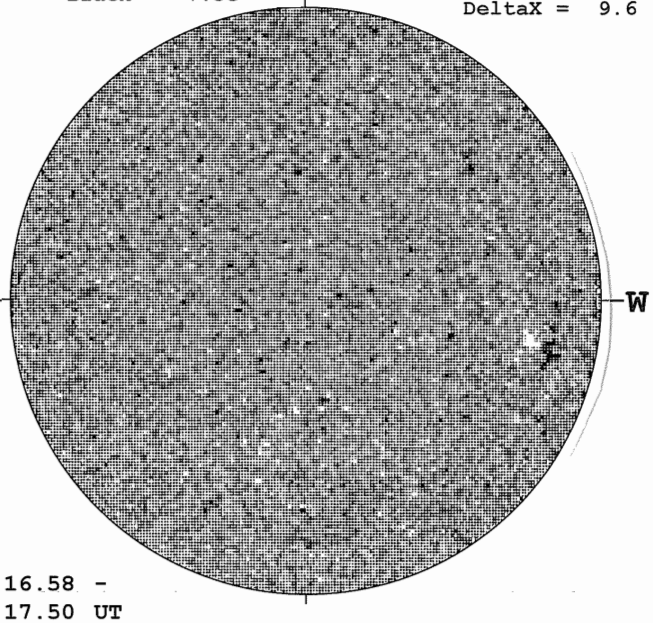
Solid = +
Dashed = -




MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6




16.58 -
17.50 UT

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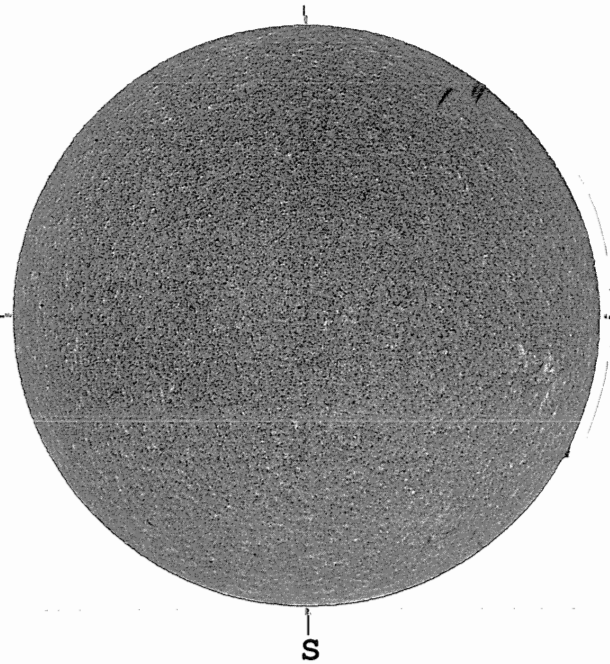
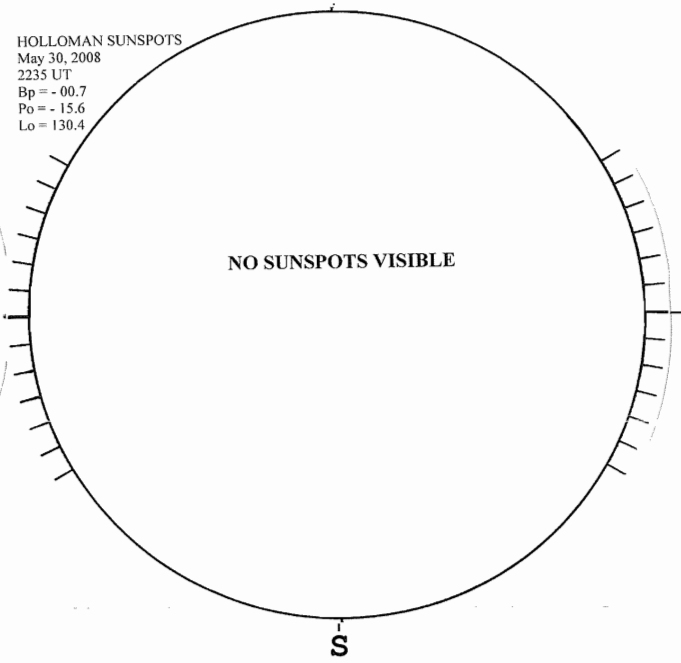
BIG BEAR H-ALPHA



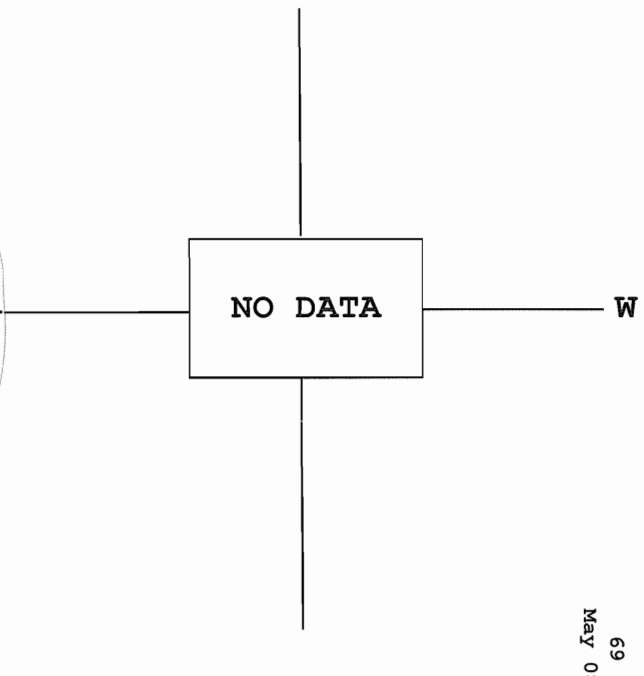

1538 UT

HOLLOMAN SUNSPOTS




2235 UT

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

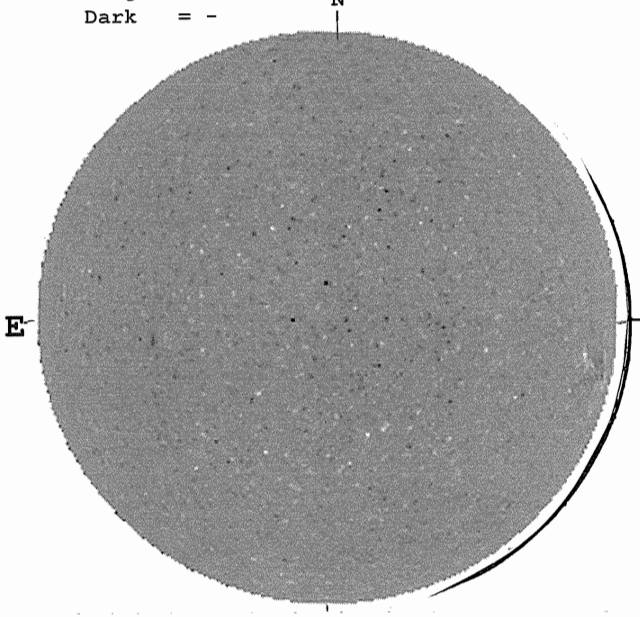



69
May 08

May 31, 2008 (P=-15.68, Bo=-0.75, Lo= 129.52)

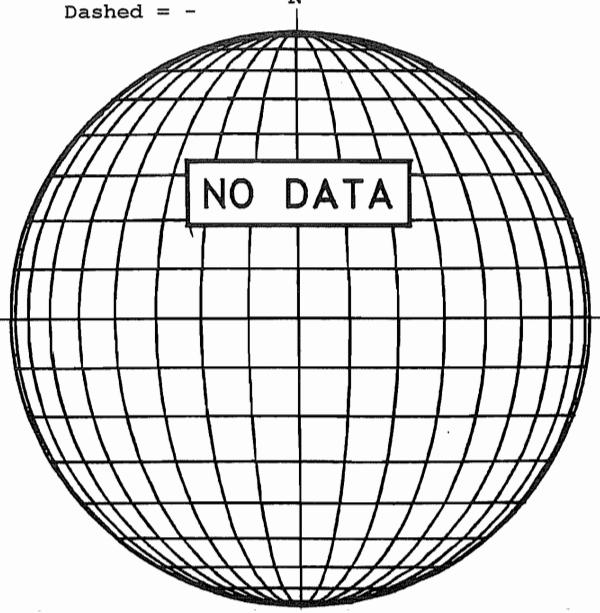
May 08 70

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

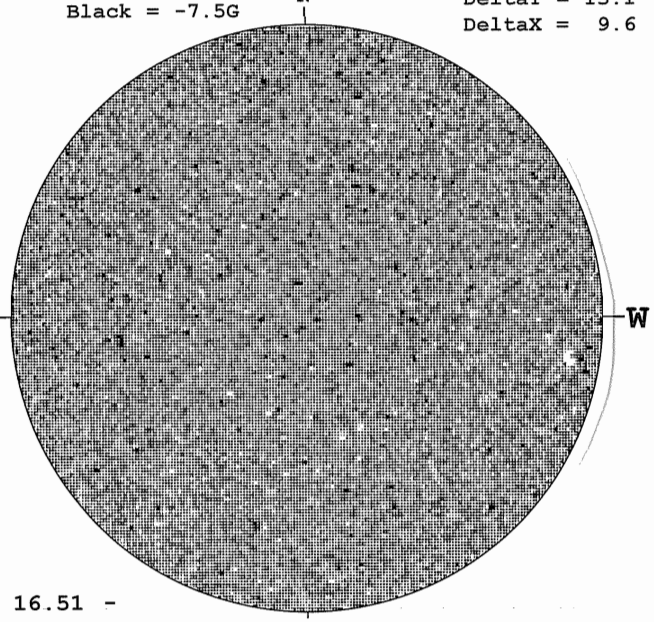



1857 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -




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




16.51 -
17.44 UT

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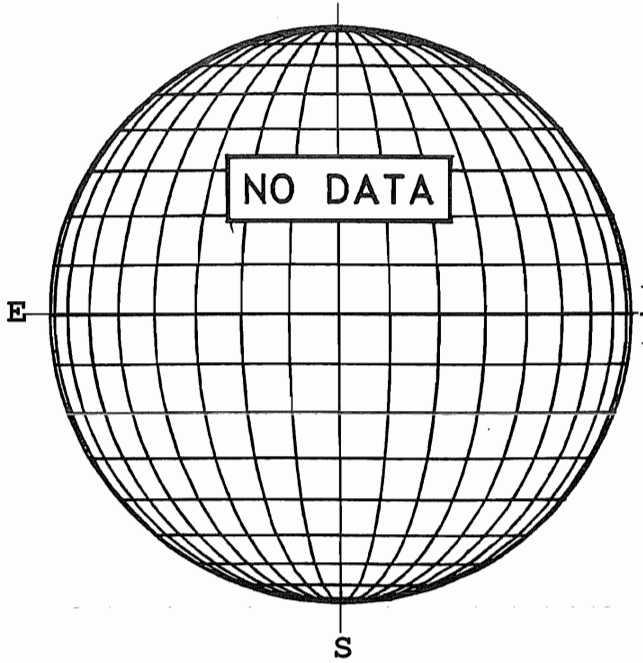
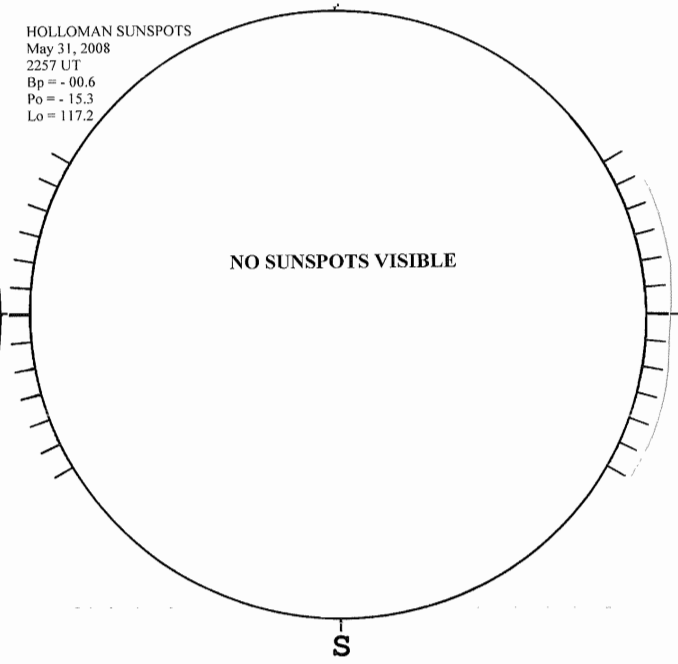
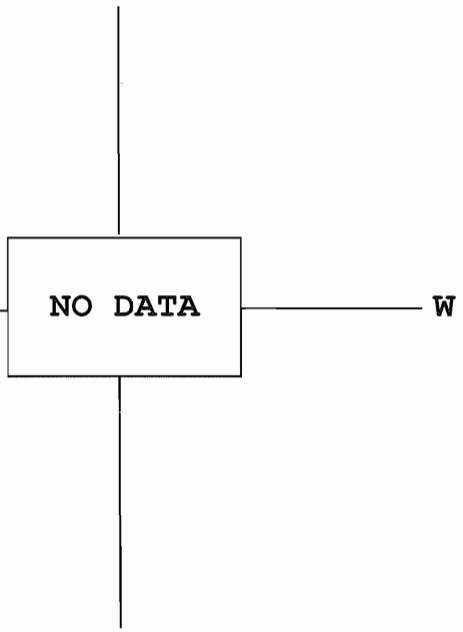
BIG BEAR H-ALPHA




HOLLOMAN SUNSPOTS

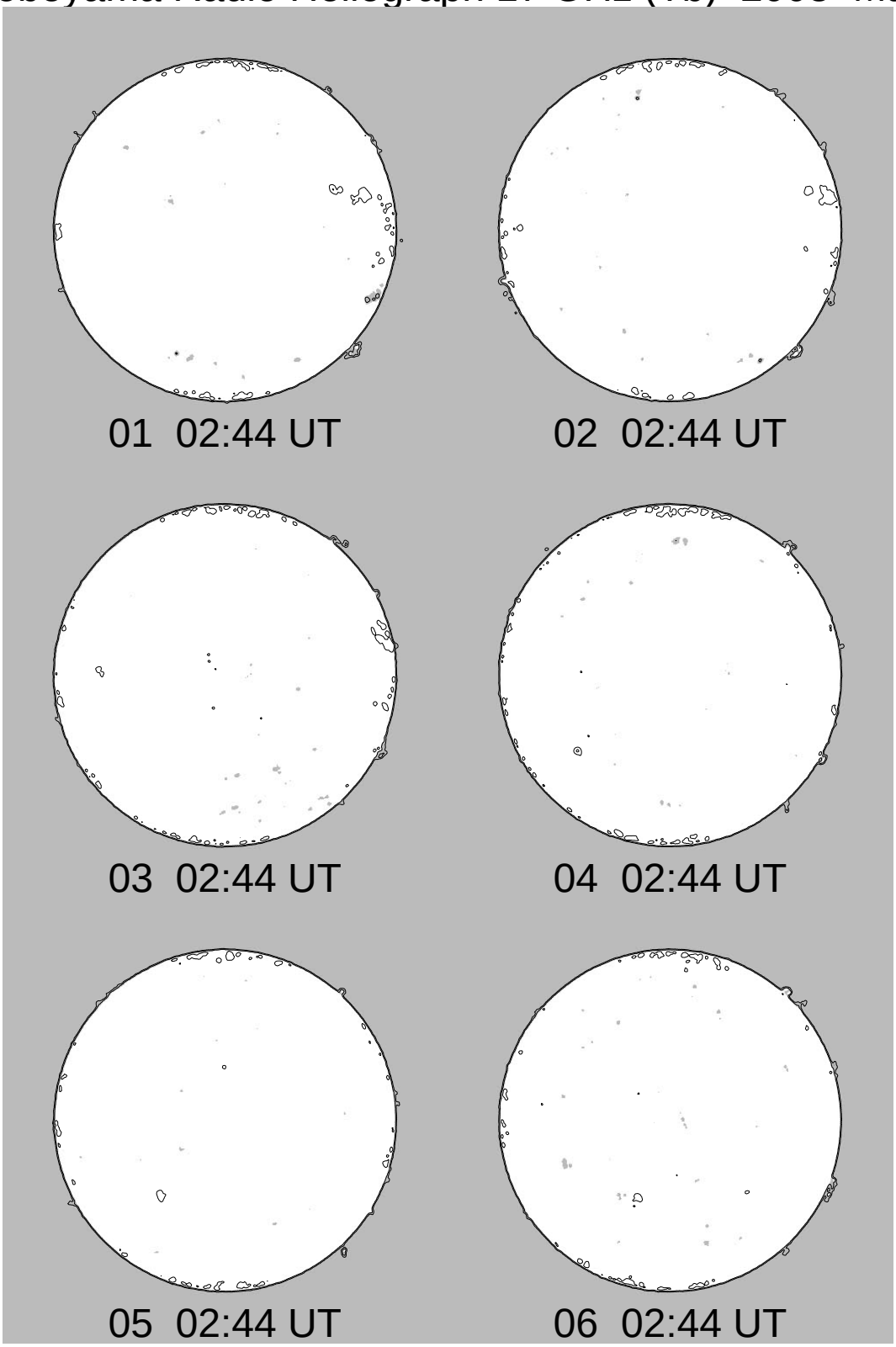



SACRAMENTO PEAK CORONA (1.15 Radii)-----



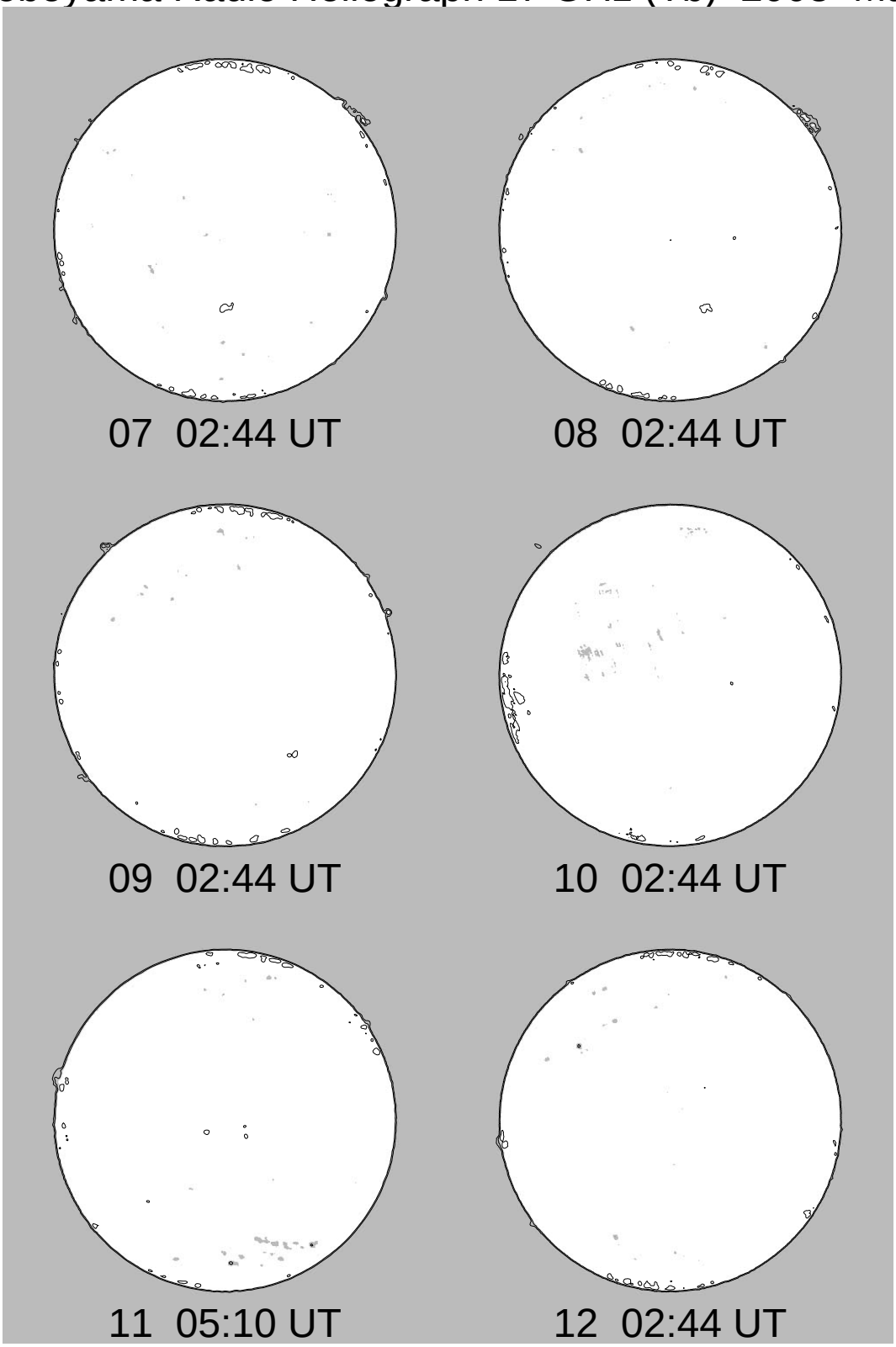

2257 UT

# Nobeyama Radio Heliograph 17 GHz (Tb)  2008  May



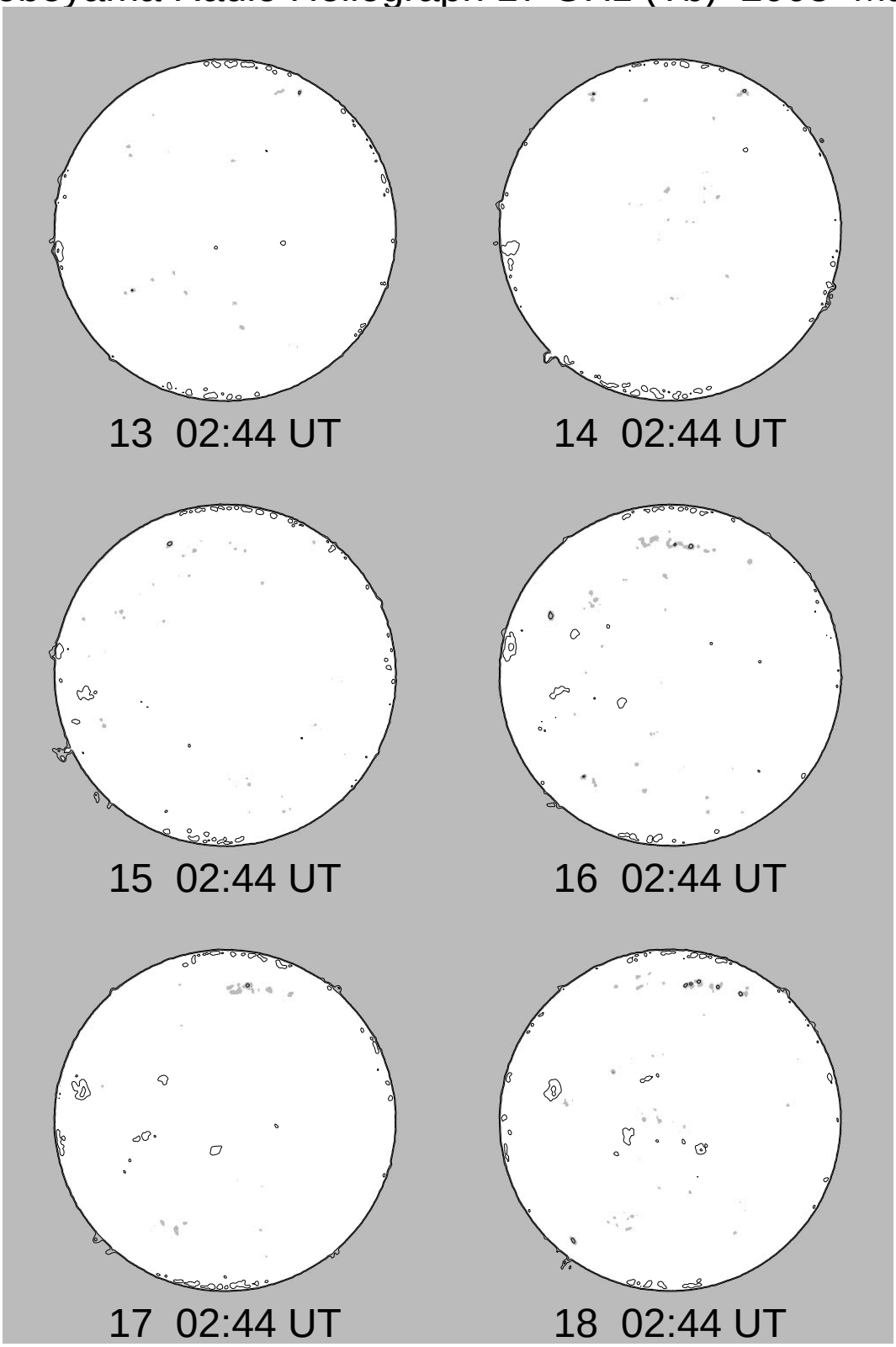

Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

# Nobeyama Radio Heliograph 17 GHz (Tb)  2008  May



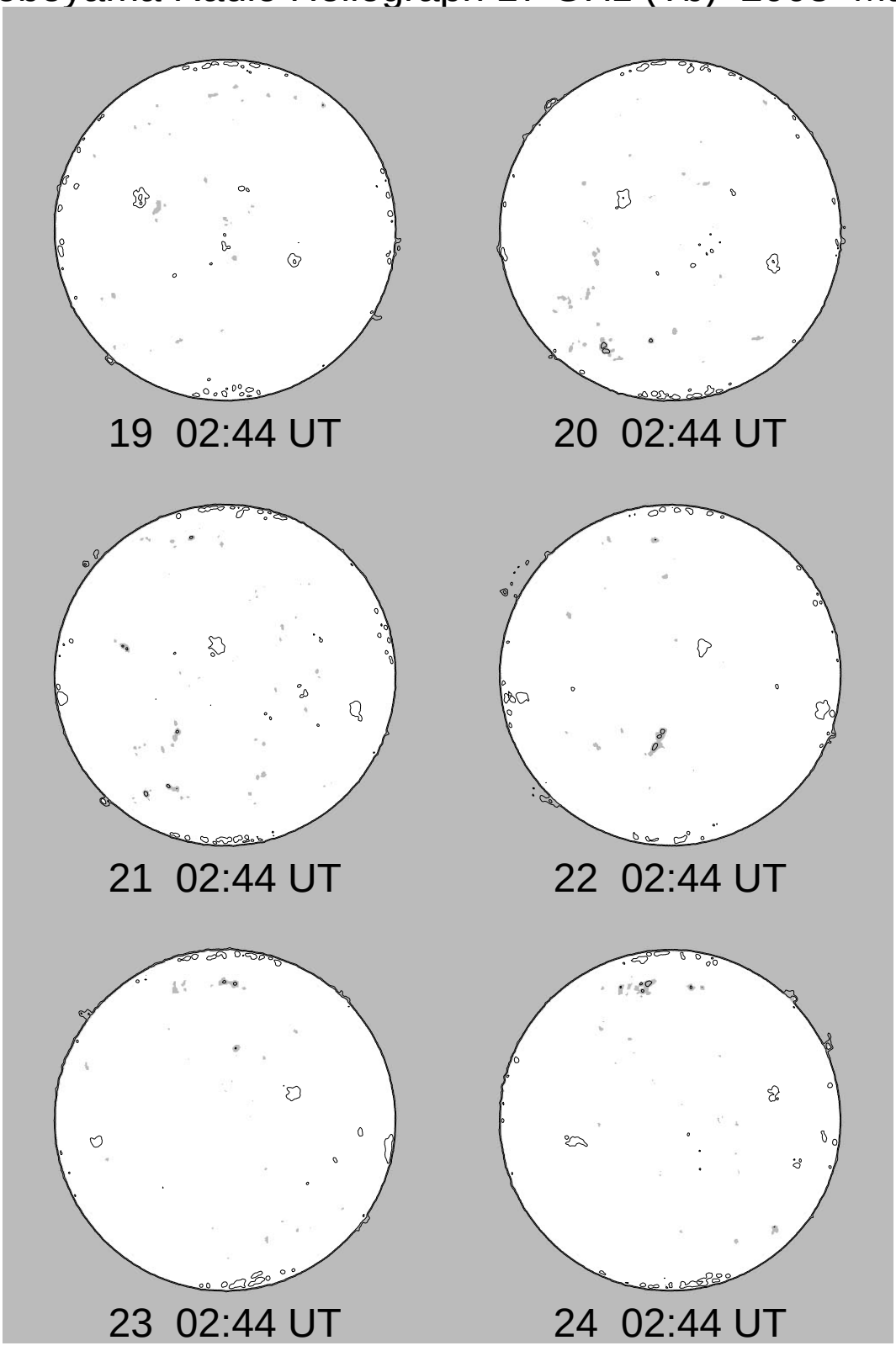

Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

# Nobeyama Radio Heliograph 17 GHz (Tb)  2008  May



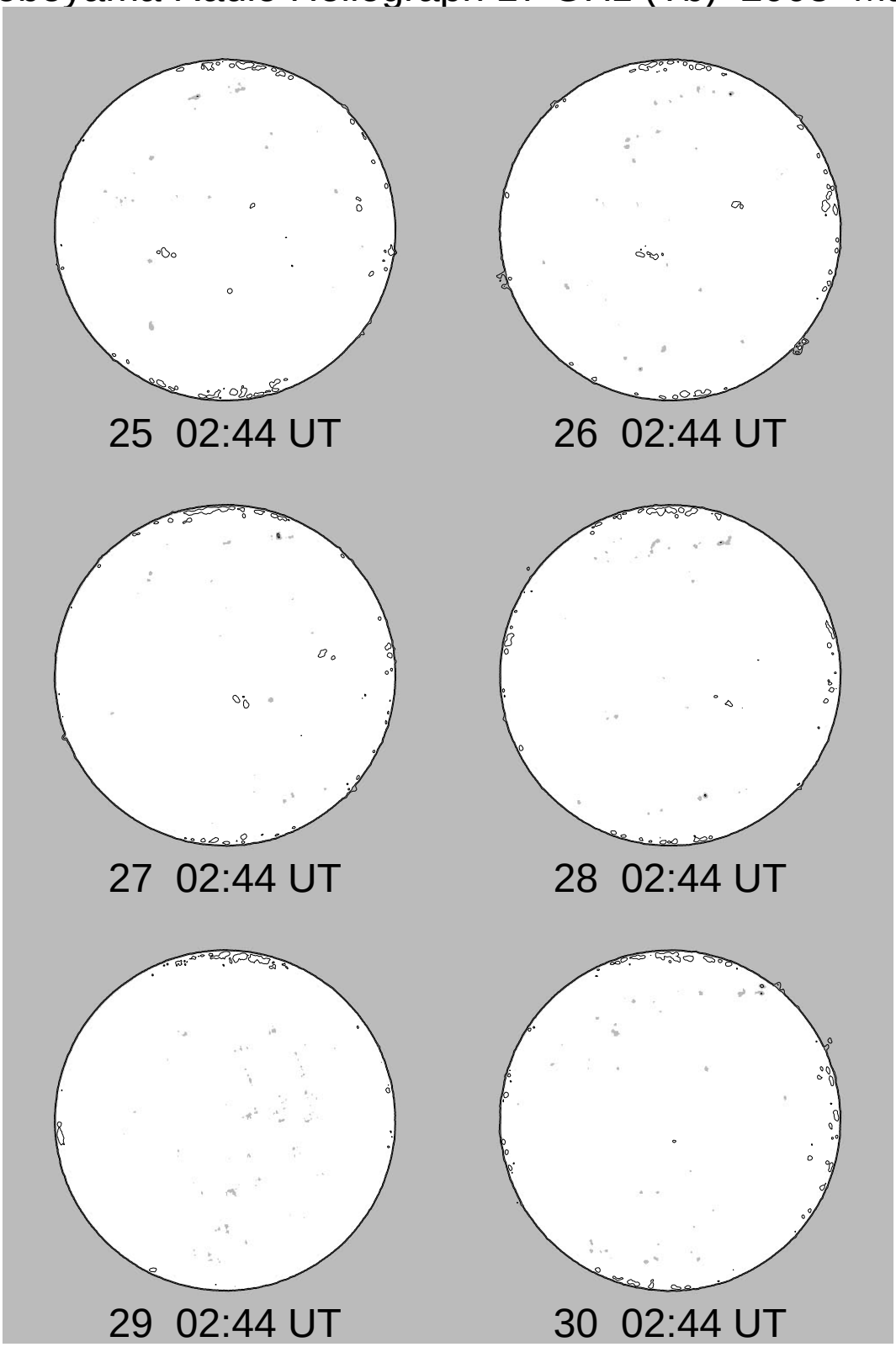

Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

# Nobeyama Radio Heliograph 17 GHz (Tb)  2008  May



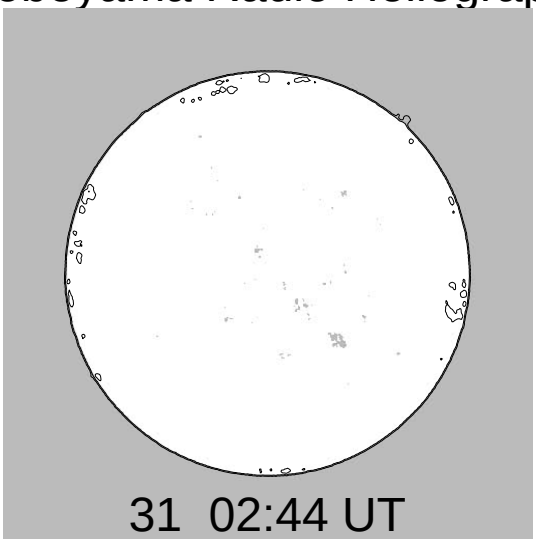

Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

# Nobeyama Radio Heliograph 17 GHz (Tb)  2008  May




Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

# Nobeyama Radio Heliograph 17 GHz (Tb)  2008  May




Contour Levels Tb=[5,8,12,20,50,100] x 10^3 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)

## MAY 2008

| NOAA/ USAF Group | Mt Wilson Group | Sta | Observation Mo | Day | Time (UT) | Lat | CMD | CMP Mo | Day | Max H | Mag Class | Spot Class | Corrected Area (10-6 Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10993 | | LEAR | 05 | 04 | 0205 | S28 | E38 | 05 | 7.0 | | B | BXO | 10 | 3 | 3 | 3 |
| 10993 | | SVTO | 05 | 04 | 0610 | S30 | E36 | 05 | 7.1 | | A | HRX | 30 | 3 | 3 | 3 |
| 10993 | | HOLL | 05 | 04 | 1727 | S28 | E32 | 05 | 7.2 | | A | BXO | 10 | 2 | 2 | 2 |
| 10993 | | LEAR | 05 | 05 | 0235 | S30 | E25 | 05 | 7.1 | | B | BXO | 20 | 5 | 4 | 2 |
| 10993 | | SVTO | 05 | 05 | 0700 | S31 | E23 | 05 | 7.1 | | B | BXO | 30 | 5 | 5 | 3 |
| 10993A | | TACH | 05 | 13 | 0653 | N23 | W18 | 05 | 11.9 | | | BXO | 4 | 2 | 1 | 3 |
| 10993A | | KAND | 05 | 13 | 1055 | N25 | W20 | 05 | 11.9 | | | BXO | | 2 | 1 | 3 |
| 10994 | | KAND | 05 | 15 | 0845 | S12 | E26 | 05 | 17.3 | | | AX | | 1 | | 3 |
| 10994 | | VORO | 05 | 15 | 2156 | S11 | E19 | 05 | 17.3 | | | BSO | 5 | 2 | 3 | 3 |
| 10994 | | LEAR | 05 | 16 | 0042 | S05 | E17 | 05 | 17.3 | | A | AXX | 10 | 1 | 1 | 3 |
| 10994 | | PURP | 05 | 16 | 0434 | S11 | E14 | 05 | 17.2 | | | AXX | 2 | 1 | 1 | 3 |
| 10994 | | KAND | 05 | 16 | 0715 | S12 | E13 | 05 | 17.3 | | | BXO | | 3 | 4 | 5 |
| 10994 | | SVTO | 05 | 16 | 0800 | S12 | E11 | 05 | 17.2 | | A | AXX | 10 | 1 | 1 | 2 |
| 10994 | | HOLL | 05 | 16 | 1830 | S10 | E06 | 05 | 17.2 | | A | AXX | 20 | 2 | 2 | 3 |
| 10994 | | PURP | 05 | 17 | 0210 | S11 | E03 | 05 | 17.3 | | | AXX | 2 | 1 | 1 | 3 |
| 10994 | | LEAR | 05 | 18 | 0100 | S12 | W11 | 05 | 17.2 | | A | AXX | 10 | 1 | 1 | 3 |
| 10994 | | TACH | 05 | 18 | 0649 | S13 | W13 | 05 | 17.3 | | | BRO | 10 | 3 | 3 | 3 |
| 10994 | | KAND | 05 | 18 | 0810 | S12 | W13 | 05 | 17.4 | | | BXO | | 3 | 3 | 4 |
| 10994 | | SVTO | 05 | 18 | 1005 | S11 | W15 | 05 | 17.3 | | B | BXO | 30 | 3 | 4 | 1 |
| 10994 | | HOLL | 05 | 18 | 1425 | S13 | W16 | 05 | 17.4 | | B | CSO | 100 | 7 | 4 | 3 |
| 10994 | | LEAR | 05 | 19 | 0025 | S13 | W23 | 05 | 17.3 | | B | BXO | 30 | 8 | 6 | 2 |
| 10994 | | PURP | 05 | 19 | 0133 | S12 | W25 | 05 | 17.2 | | | CSO | 14 | 7 | 4 | 3 |
| 10994 | | TACH | 05 | 19 | 0622 | S13 | W26 | 05 | 17.3 | | | BXO | 10 | 2 | 1 | 4 |
| 10994 | | SVTO | 05 | 19 | 0630 | S12 | W28 | 05 | 17.2 | | B | CSO | 40 | 6 | 4 | 3 |
| 10994 | | KAND | 05 | 19 | 0825 | S13 | W26 | 05 | 17.4 | | | BXO | | 5 | 3 | 4 |
| 10994 | | HOLL | 05 | 19 | 1433 | S12 | W32 | 05 | 17.2 | | B | BXO | 10 | 2 | 4 | 4 |
| 10994 | | PURP | 05 | 20 | 0230 | S12 | W37 | 05 | 17.3 | | | BXO | 5 | 4 | 4 | 3 |
| 10994 | | LEAR | 05 | 20 | 0252 | S13 | W40 | 05 | 17.1 | | A | AXX | 10 | 1 | 1 | 3 |
| 10994 | | TACH | 05 | 20 | 0535 | S13 | W40 | 05 | 17.2 | | | AXX | 2 | 1 | 1 | 3 |
| 10994 | | SVTO | 05 | 20 | 0615 | S12 | W41 | 05 | 17.2 | | A | AXX | 10 | 1 | 1 | 3 |
| 10994 | | KAND | 05 | 20 | 0855 | S11 | W43 | 05 | 17.1 | | | AX | | 1 | | 3 |
| 10994 | | HOLL | 05 | 20 | 1417 | S12 | W45 | 05 | 17.2 | | A | AXX | 10 | 1 | 1 | 4 |
| 10994 | | PURP | 05 | 21 | 0145 | S13 | W48 | 05 | 17.4 | | | AXX | 1 | 1 | 1 | 3 |
| 10995 | | VORO | 05 | 15 | 2156 | N12 | E36 | 05 | 18.6 | | | AXX | 7 | 1 | | 3 |
| 10995 | | LEAR | 05 | 16 | 0042 | N19 | E35 | 05 | 18.7 | | A | AXX | 10 | 1 | 1 | 3 |
| 10995 | | KAND | 05 | 16 | 0715 | N10 | E31 | 05 | 18.6 | | | AX | | 1 | | 5 |
| 10995 | | SVTO | 05 | 16 | 0800 | N12 | E31 | 05 | 18.7 | | A | AXX | 10 | 1 | 1 | 2 |
| 10995 | | HOLL | 05 | 16 | 1830 | N14 | E22 | 05 | 18.4 | | A | AXX | 10 | 1 | 1 | 3 |
| 10995 | | VORO | 05 | 16 | 2244 | N11 | E21 | 05 | 18.5 | | | AXX | 7 | 1 | | 3 |
| 10995 | | LEAR | 05 | 17 | 0115 | N12 | E22 | 05 | 18.7 | | B | BXO | 10 | 2 | 4 | 3 |
| 10995 | | PURP | 05 | 17 | 0210 | N12 | E21 | 05 | 18.7 | | | AXX | 2 | 1 | 1 | 3 |
| 10995 | | SVTO | 05 | 17 | 0748 | N10 | E16 | 05 | 18.5 | | A | AXX | 10 | 1 | 1 | 2 |
| 10995 | | KAND | 05 | 17 | 1125 | N11 | E14 | 05 | 18.5 | | | AX | | 1 | | 4 |
| 10995 | | KAND | 05 | 20 | 0855 | N18 | W23 | 05 | 18.6 | | | AX | | 1 | | 3 |
| 10996 | | HOLL | 05 | 16 | 1830 | N13 | E62 | 05 | 21.4 | | B | BXO | 20 | 2 | 6 | 3 |
| 10996 | | VORO | 05 | 16 | 2244 | N09 | E60 | 05 | 21.4 | | | AXX | 3 | 2 | 2 | 3 |
| 10996 | | LEAR | 05 | 17 | 0115 | N08 | E58 | 05 | 21.4 | | B | BXO | 20 | 2 | 5 | 3 |
| 10996 | | PURP | 05 | 17 | 0210 | N13 | E58 | 05 | 21.5 | | | BXO | 4 | 2 | 5 | 3 |
| 10996 | | HOLL | 05 | 17 | 1848 | N12 | E47 | 05 | 21.3 | | B | BXO | 50 | 6 | 5 | 3 |
| 10996 | | LEAR | 05 | 18 | 0100 | N08 | E44 | 05 | 21.3 | | B | BXO | 30 | 4 | 5 | 3 |
| 10996 | | TACH | 05 | 18 | 0649 | N08 | E42 | 05 | 21.4 | | | AXX | 3 | 1 | 1 | 3 |
| 10996 | | HOLL | 05 | 18 | 1425 | N12 | E37 | 05 | 21.4 | | B | BXO | 20 | 3 | 2 | 3 |
| 10996 | | LEAR | 05 | 19 | 0025 | N08 | E30 | 05 | 21.3 | | B | BXO | 10 | 3 | 3 | 2 |
| 10996 | | SVTO | 05 | 19 | 0630 | N08 | E27 | 05 | 21.3 | | B | BXO | 20 | 3 | 4 | 3 |
| 10996 | | KAND | 05 | 19 | 0825 | N07 | E30 | 05 | 21.6 | | | BXO | | 3 | 3 | 4 |
| 10996 | | HOLL | 05 | 19 | 1433 | N09 | E23 | 05 | 21.3 | | B | BXO | 10 | 3 | 4 | 4 |
| 10996 | | LEAR | 05 | 20 | 0252 | N08 | E14 | 05 | 21.2 | | B | BXO | 10 | 2 | 2 | 3 |
| 10996 | | SVTO | 05 | 20 | 0615 | N11 | E15 | 05 | 21.4 | | A | AXX | 20 | 2 | 2 | 3 |
| 10996 | | PURP | 05 | 21 | 0145 | N10 | E04 | 05 | 21.4 | | | BXO | 2 | 2 | 2 | 3 |
| 10996A | | HOLL | 05 | 25 | 1600 | N07 | W18 | 05 | 24.3 | | B | CSO | 10 | 2 | 2 | 2 |
| 10996B | | SVTO | 05 | 25 | 0711 | S08 | E22 | 05 | 26.9 | | A | AXX | 10 | 3 | 2 | 3 |
| 10996B | | LEAR | 05 | 25 | 0749 | S08 | E21 | 05 | 26.9 | | A | AXX | 10 | 4 | 2 | 3 |
| 10996B | | KAND | 05 | 25 | 0750 | S09 | E21 | 05 | 26.9 | | | AX | | 1 | | 3 |

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

| NOAA/ USAF Group | Mt Wilson Group | Sta | Observation Time Mo Day (UT) | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10-6 Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10996B | | LEAR | 05 26 0615 | S08 E08 | 05 26.9 | | A | AXX | 10 | 2 | 1 | 2 |
| 10996B | | SVTO | 05 26 0843 | S08 E07 | 05 26.9 | | A | AXX | 10 | 2 | 1 | 3 |
| 10996C | | PURP | 05 29 0230 | N10 E17 | 05 30.4 | | | BXO | 2 | 2 | 4 | 3 |

Stations reporting:

HOLL = Holloman  LEAR = Learmonth  PURP = Purple Mountain  TACH = Tashkent
KAND = Kandilli  PALE = Palehua  SVTO = San Vito  VORO = Voroshilov

# SUDDEN IONOSPHERIC DISTURBANCES

## MAY 2008

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide Spread Index | Number of Station Reports by Type SWF | SEA | SPA | LF-SPA | SES | Flare (UT) | X-ray Class | NOAA Region |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 04 | 0732 | 0742 | 0821 | 1 | 1 | | | | | | No flare | | |
| 06 | 1522 | 1529 | 1625 | 1 | 1 | | | | | | No flare | | |
| 08 | 0726 | 0737 | 0819 | 1 | 1 | | | | | | No flare | | |
| 12 | 0631 | 0645U | 0754 | 1 | 1 | | | | | | No flare | | |
| 17 | 0606 | 0628 | 0800 | 1 | 1 | | | | | | No flare | | |

## OBSERVATORIES REPORTING FOR MAY 2008

Upice, Czech Republic SEA

Observations are not necessarily continuous.
* = No Flare Patrol

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

## Spectral Observations

## MAY 2008

| OBSERVATION | | | EVENT | | | | FREQUENCY | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Day | Start (UT) | End (UT) | Sta | Start (UT) | End (UT) | Spectral Class | Event Remarks | Int (1-3) | Lower (MHz) | Upper (MHz) | Remarks |
| 01 | 0000 | 0730 | CULG | | | | | | | | |
| | 0000 | 0931 | HIRA | | | | | | | | |
| | 0510 | 1740 | BLEN | | | | | | | | |
| | 1937 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 02 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0932 | HIRA | | | | | | | | |
| | 0459 | 1709 | ONDR | | | | | | | | |
| | 0510 | 1740 | BLEN | | | | | | | | |
| | 1936 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 03 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0933 | HIRA | | | | | | | | |
| | 0500 | 1711 | ONDR | | | | | | | | |
| | 0510 | 1740 | BLEN | | | | | | | | |
| | 1935 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 04 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0934 | HIRA | | | | | | | | |
| | 0500 | 1712 | ONDR | | | | | | | | |
| | 0505 | 1740 | BLEN | | | | | | | | |
| | 1934 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 05 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0934 | HIRA | | | | | | | | |
| | 0500 | 1713 | ONDR | | | | | | | | |
| | 0505 | 1740 | BLEN | | | | | | | | |
| | 1933 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 06 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0935 | HIRA | | | | | | | | |
| | 0500 | 0644 | ONDR | | | | | | | | |
| | 0500 | 1745 | BLEN | | | | | | | | |
| | 1932 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 07 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0936 | HIRA | | | | | | | | |
| | 0500 | 1745 | BLEN | | | | | | | | |
| | 0915 | 1716 | ONDR | | | | | | | | |
| | 1931 | 2400 | HIRA | | | | | | | | |
| | 2030 | 2400 | CULG | | | | | | | | |
| 08 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0937 | HIRA | | | | | | | | |
| | 0500 | 1717 | ONDR | | | | | | | | |
| | 0500 | 1745 | BLEN | | | | | | | | |
| | 1930 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 09 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0938 | HIRA | | | | | | | | |
| | 0500 | 1718 | ONDR | | | | | | | | |
| | 0500 | 1745 | BLEN | | | | | | | | |
| | 1929 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 10 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0939 | HIRA | | | | | | | | |
| | 0459 | 1720 | ONDR | | | | | | | | |
| | 0500 | 1745 | BLEN | | | | | | | | |
| | 1928 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |

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



## Spectral Observations

## MAY 2008

| OBSERVATION | | | EVENT | | | | FREQUENCY | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Day | Start (UT) | End (UT) | Sta | Start (UT) | End (UT) | Spectral Class | Event Remarks | Int (1-3) | Lower (MHz) | Upper (MHz) | Remarks |
| 11 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0940 | HIRA | | | | | | | | |
| | 0455 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1721 | ONDR | | | | | | | | |
| | 1927 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 12 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0941 | HIRA | | | | | | | | |
| | 0455 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1722 | ONDR | | | | | | | | |
| | 1927 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 13 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0942 | HIRA | | | | | | | | |
| | 0445 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1723 | ONDR | | | | | | | | |
| | 1926 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 14 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0942 | HIRA | | | | | | | | |
| | 0445 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1724 | ONDR | | | | | | | | |
| | 1925 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 15 | 0000 | 0720 | CULG | | | | | | | | |
| | 0000 | 0943 | HIRA | | | | | | | | |
| | 0445 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1726 | ONDR | | | | | | | | |
| | 1924 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 16 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0944 | HIRA | | | | | | | | |
| | 0445 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1727 | ONDR | | | | | | | | |
| | 1923 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 17 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0945 | HIRA | | | | | | | | |
| | 0445 | 1750 | BLEN | | | | | | | | |
| | 0500 | 1728 | ONDR | | | | | | | | |
| | 1922 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 18 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0946 | HIRA | | | | | | | | |
| | 0445 | 1750 | BLEN | | | | | | | | |
| | 0459 | 1729 | ONDR | | | | | | | | |
| | 1921 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 19 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0947 | HIRA | | | | | | | | |
| | 0445 | 1755 | BLEN | | | | | | | | |
| | 0500 | 1730 | ONDR | | | | | | | | |
| | 1920 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 20 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0947 | HIRA | | | | | | | | |
| | 0445 | 1755 | BLEN | | | | | | | | |
| | 0459 | 1731 | ONDR | | | | | | | | |
| | | | SVTO | 1331.0 | 1333.0 | III | | 2 | 25 | 83 | |
| | 1919 | 2400 | HIRA | | | | | | | | |

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

## Spectral Observations

## MAY 2008

| OBSERVATION | | | EVENT | | | | FREQUENCY | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Day | Start (UT) | End (UT) | Sta | Start (UT) | End (UT) | Spectral Class | Event Remarks | Int (1-3) | Lower (MHz) | Upper (MHz) | Remarks |
| 20 | 2040 | 2400 | CULG | | | | | | | | |
| 21 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0948 | HIRA | | | | | | | | |
| | 0445 | 1755 | BLEN | | | | | | | | |
| | 0459 | 1732 | ONDR | | | | | | | | |
| | 1919 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 22 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0948 | HIRA | | | | | | | | |
| | 0440 | 1755 | BLEN | | | | | | | | |
| | 0459 | 1733 | ONDR | | | | | | | | |
| | 1918 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 23 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0949 | HIRA | | | | | | | | |
| | 0440 | 1755 | BLEN | | | | | | | | |
| | 0459 | 1734 | ONDR | | | | | | | | |
| | 1918 | 2400 | HIRA | | | | | | | | |
| | 2040 | 2400 | CULG | | | | | | | | |
| 24 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0949 | HIRA | | | | | | | | |
| | 0440 | 1800 | BLEN | | | | | | | | |
| | 0459 | 1736 | ONDR | | | | | | | | |
| | 1917 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 25 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0950 | HIRA | | | | | | | | |
| | 0440 | 1800 | BLEN | | | | | | | | |
| | 0459 | 1737 | ONDR | | | | | | | | |
| | 1917 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 26 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0951 | HIRA | | | | | | | | |
| | 0440 | 1800 | BLEN | | | | | | | | |
| | 0459 | 1737 | ONDR | | | | | | | | |
| | 1917 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 27 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0952 | HIRA | | | | | | | | |
| | 0440 | 1800 | BLEN | | | | | | | | |
| | 0459 | 1738 | ONDR | | | | | | | | |
| | 1916 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 28 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0953 | HIRA | | | | | | | | |
| | 0440 | 1805 | BLEN | | | | | | | | |
| | 0459 | 1739 | ONDR | | | | | | | | |
| | 1916 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 29 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0954 | HIRA | | | | | | | | |
| | 0440 | 1805 | BLEN | | | | | | | | |
| | 0459 | 1740 | ONDR | | | | | | | | |
| | 1916 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 30 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0955 | HIRA | | | | | | | | |
| | 0435 | 1805 | BLEN | | | | | | | | |
| | 0459 | 1741 | ONDR | | | | | | | | |

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



## Spectral Observations

## MAY 2008

| OBSERVATION Day | Start (UT) | End (UT) | Sta | EVENT Start (UT) | End (UT) | Spectral Class | Event Remarks | FREQUENCY Int (1-3) | Lower (MHz) | Upper (MHz) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 1915 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |
| 31 | 0000 | 0710 | CULG | | | | | | | | |
| | 0000 | 0956 | HIRA | | | | | | | | |
| | 0435 | 1805 | BLEN | | | | | | | | |
| | 0459 | 1742 | ONDR | | | | | | | | |
| | 1915 | 2400 | HIRA | | | | | | | | |
| | 2050 | 2400 | CULG | | | | | | | | |

Event Remarks:

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

## MAY 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

## MAY 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 mode detailed analysis leadind 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 off 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 NANCAY OBSERVATIONS

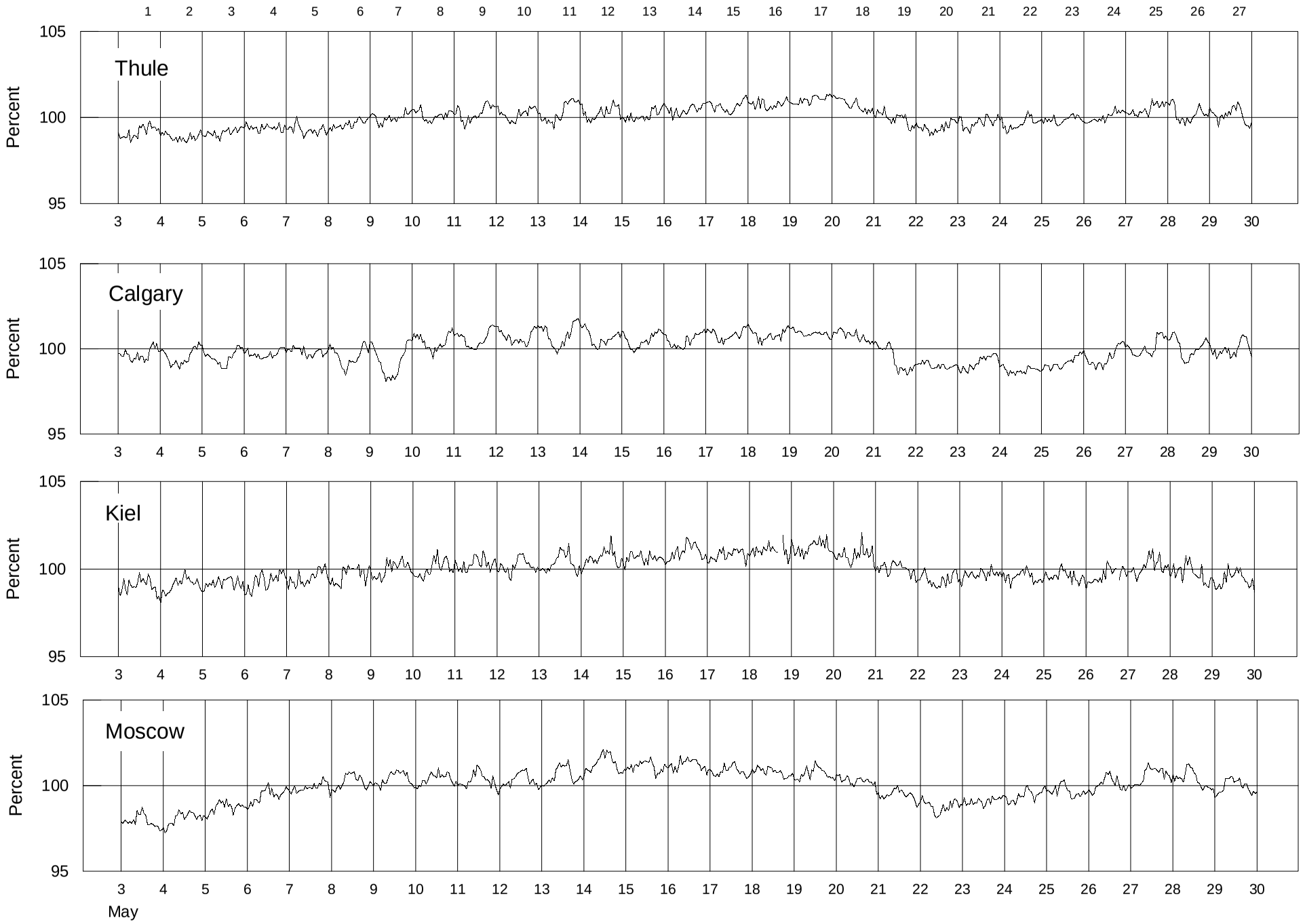
# COSMIC RAY INDICES
## (Neutron Monitor)
## MAY 2008

| 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 | 4524.0 | 3971.3 | 6288.0 | 9340.6 | | 2028.2 | |
| 2 | 4507.7 | 3953.3 | 6253.2 | 9305.3 | | 2019.9 | |
| 3 | 4521.0 | 3964.3 | 6227.2 | 9308.0 | | 2022.6 | |
| 4 | 4507.6 | 3959.2 | 6229.8 | 9323.7 | | 2033.5 | |
| 5 | 4519.2 | 3958.7 | 6236.4 | 9384.7 | | 2030.5 | |
| 6 | 4532.1 | 3965.3 | 6242.4 | 9451.0 | | 2024.4 | |
| 7 | 4526.8 | 3970.2 | 6254.8 | 9495.9 | data | 2029.5 | data |
| 8 | 4541.1 | 3960.0 | 6265.7 | 9527.1 | not | 2032.1 | not |
| 9 | 4558.3 | 3947.8 | 6286.4 | 9544.5 | available | 2041.9 | available |
| 10 | 4565.5 | 3992.8 | 6287.9 | 9542.7 | | 2045.5 | |
| 11 | 4570.3 | 4000.3 | 6306.0 | 9535.1 | | 2058.1 | |
| 12 | 4569.1 | 4005.5 | 6298.0 | 9536.0 | | 2058.0 | |
| 13 | 4572.8 | 4009.2 | 6308.6 | 9562.5 | | 2053.5 | |
| 14 | 4572.8 | 4004.3 | 6324.7 | 9627.5 | | 2051.2 | |
| 15 | 4563.8 | 3997.7 | 6325.7 | 9612.2 | | 2045.3 | |
| 16 | 4579.5 | 3997.0 | 6347.8 | 9622.2 | | 2040.0 | |
| 17 | 4589.4 | 4010.0 | 6336.9 | 9585.6 | | 2047.3 | |
| 18 | 4594.4 | 4010.3 | 6345.6(23) | 9582.6 | | 2049.5 | |
| 19 | 4606.0 | 4014.2 | 6365.7 | 9572.0 | | 2049.0 | |
| 20 | 4594.7 | 4008.2 | 6336.5 | 9532.7 | | 2042.8 | |
| 21 | 4557.0 | 3956.3 | 6288.4 | 9454.0 | | 2028.4 | |
| 22 | 4533.5 | 3938.7 | 6249.3 | 9391.5 | | 2011.8 | |
| 23 | 4546.2 | 3945.0 | 6266.4 | 9420.2 | | 2015.0 | |
| 24 | 4543.5 | 3927.5 | 6258.6 | 9450.6 | | 2006.6 | |
| 25 | 4554.0 | 3943.7 | 6261.8 | 9475.3 | | 2008.5 | |
| 26 | 4560.4 | 3957.5 | 6240.1 | 9513.6 | | 2011.4 | |
| 27 | 4580.8 | 3980.5 | 6295.9 | 9560.8 | | 2019.6 | |
| 28 | 4569.4 | 3981.2 | 6272.0 | 9541.7 | | 2023.7 | |
| 29 | 4566.2 | 3977.3 | 6251.7 | 9502.2 | | 2018.9 | |
| 30 | 4529.6 | 3950.0 | 6223.8 | 9461.0 | | 2012.2 | |
| 31 | 4513.5 | 3927.0 | 6217.5 | 9468.4 | | 2003.2 | |
| Mean | 4553.0 | 3973.7 | 6280.3 | 9491.3 | | 2031.0 | |

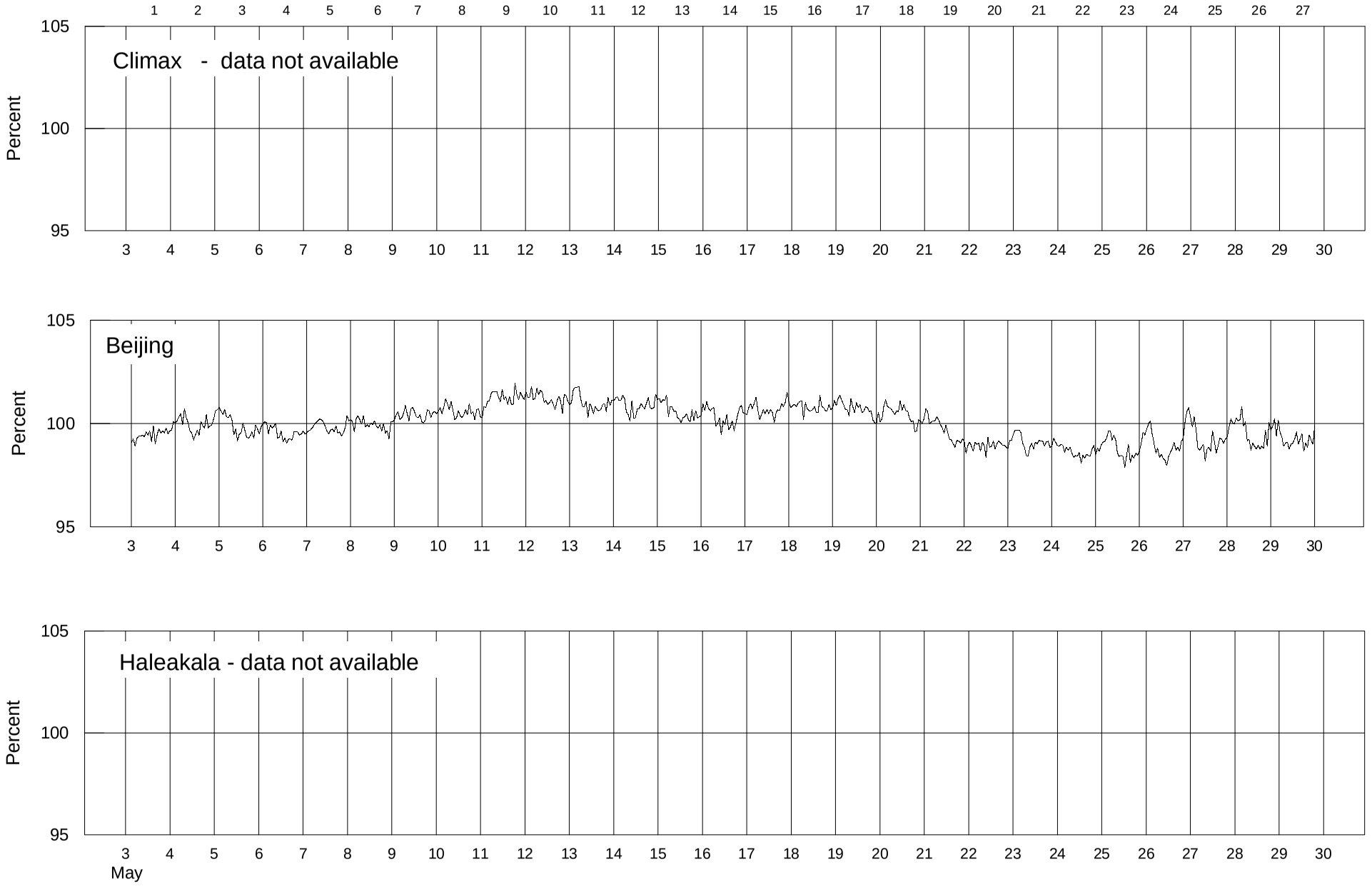
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours, and for Haleakala, whenever the sum of all three sections falls below 60 hours.

# COSMIC RAY INDICES
## (Neutron Monitor)

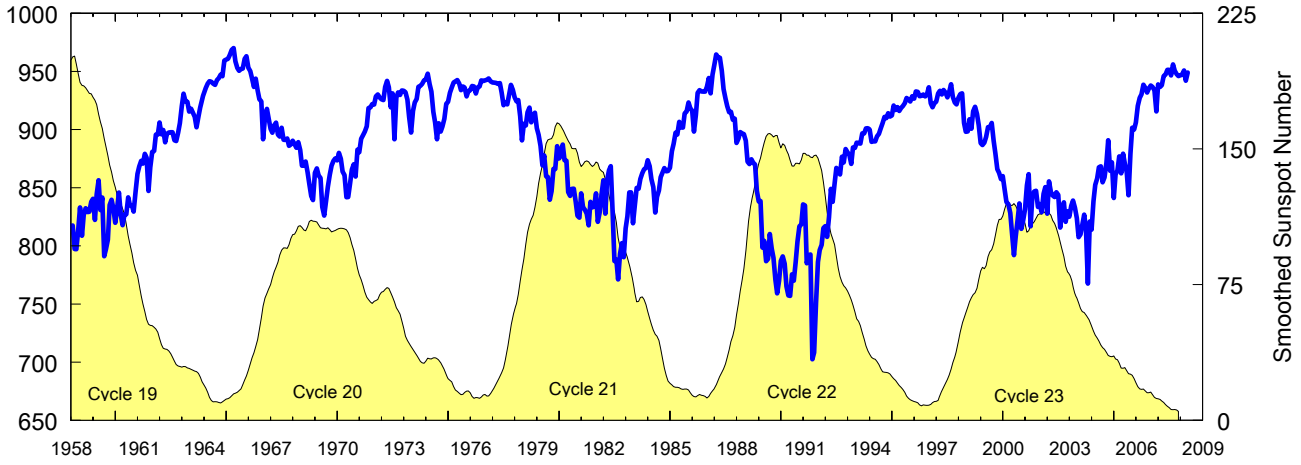
Bartels Rotation 2385 - Beginning 3 May 2008



# COSMIC RAY INDICES
## (Neutron Monitor)
Bartels Rotation 2385 - Beginning 3 May 2008



# Moscow Neutron Monitor Pressure-Corrected Values
## Jan 1958 - May 2008




| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1958 | 8171* | 8175* | 7973* | 7971* | 8145* | 8330* | 8087* | 8266* | 8324* | 8291* | 8294* | 8378* | 8200* |
| 1959 | 8405 | 8223 | 8443 | 8565 | 8309 | 8416 | 7911 | 7972 | 8054 | 8351 | 8397 | 8325 | 8281 |
| 1960 | 8199 | 8313 | 8459 | 8264* | 8178* | 8272* | 8272* | 8417 | 8348 | 8348 | 8295 | 8464 | 8319* |
| 1961 | 8619 | 8682 | 8731* | 8708* | 8791* | 8759* | 8472 | 8676 | 8808 | 8816 | 8957 | 8956 | 8748* |
| 1962 | 9061 | 8959 | 8996 | 8891 | 8964* | 8974 | 8977 | 8977 | 8908 | 8902 | 8973 | 9056 | 8940* |
| 1963 | 9201 | 9308 | 9243 | 9239 | 9154 | 9180 | 9147 | 9109 | 9020 | 9110 | 9194 | 9259 | 9180 |
| 1964 | 9321 | 9353 | 9395 | 9416 | 9410 | 9396 | 9384 | 9425 | 9442 | 9473 | 9458 | 9594 | 9422 |
| 1965 | 9602 | 9608 | 9642 | 9685 | 9701 | 9586 | 9530 | 9505 | 9520 | 9525 | 9608 | 9630 | 9595 |
| 1966 | 9531 | 9502 | 9439 | 9367 | 9438 | 9336 | 9261 | 9242* | 8916 | 9105* | 9178 | 9094 | 9284* |
| 1967 | 9006 | 8973 | 9038 | 9059 | 8956 | 8940 | 9015 | 8913 | 8911 | 8924 | 8860 | 8873 | 8956 |
| 1968 | 8904 | 8875* | 8844* | 8892* | 8825* | 8690* | 8689 | 8725 | 8635* | 8533* | 8428 | 8394 | 8703* |
| 1969 | 8628 | 8666 | 8606 | 8584 | 8334 | 8261 | 8378 | 8510 | 8612 | 8689 | 8731 | 8751 | 8562 |
| 1970 | 8735 | 8799 | 8749 | 8639 | 8608 | 8418 | 8420 | 8540 | 8656 | 8702 | 8596 | 8827 | 8641 |
| 1971 | 8805 | 8921 | 8952 | 8982 | 9028 | 9185 | 9190 | 9219 | 9215 | 9285 | 9302 | 9276 | 9113 |
| 1972 | 9260 | 9254 | 9367 | 9419 | 9364 | 9192 | 9311 | 8916 | 9275 | 9319 | 9298 | 9336 | 9275 |
| 1973 | 9333 | 9321 | 9258 | 9107 | 8975 | 9160 | 9233 | 9263 | 9368 | 9376 | 9392 | 9423 | 9267 |
| 1974 | 9431 | 9481 | 9390 | 9327 | 9153 | 9062 | 8916 | 9054 | 8983 | 9027 | 9092 | 9222 | 9178 |
| 1975 | 9238 | 9317 | 9361 | 9405 | 9415 | 9425 | 9395 | 9339 | 9370 | 9361 | 9285* | 9330 | 9353* |
| 1976 | 9339 | 9375 | 9370 | 9310 | 9363 | 9371 | 9423 | 9418 | 9423 | 9428 | 9440 | 9415 | 9380 |
| 1977 | 9405 | 9404 | 9401 | 9392 | 9399 | 9318 | 9209 | 9236 | 9216 | 9302 | 9384* | 9341 | 9334* |
| 1978 | 9279 | 9243 | 9254 | 9113 | 8907 | 9050 | 9035 | 9149 | 9189 | 9062 | 9118 | 9145 | 9216 |
| 1979 | 9012 | 8955 | 8860 | 8693 | 8778 | 8599 | 8592 | 8396 | 8470 | 8662 | 8661 | 8857 | 8740 |
| 1980 | 8752 | 8776 | 8871 | 8737 | 8732 | 8463 | 8430 | 8490 | 8491 | 8379 | 8259 | 8242 | 8552 |
| 1981 | 8451 | 8330 | 8311 | 8277 | 8176 | 8379 | 8332 | 8338 | 8452 | 8206 | 8289 | 8439 | 8332 |
| 1982 | 8565 | 8277 | 8565 | 8649 | 8686 | 8279 | 7870 | 7882 | 7712 | 7931 | 8023 | 7902 | 8195 |
| 1983 | 8150 | 8253 | 8460 | 8460 | 8194 | 8343 | 8498 | 8492 | 8575 | 8625 | 8658 | 8670 | 8448 |
| 1984 | 8736 | 8686 | 8574 | 8505 | 8286 | 8421 | 8476 | 8590 | 8632 | 8669 | 8641 | 8644 | 8575 |
| 1985 | 8671 | 8813 | 8878 | 8973 | 8958 | 9066 | 9018 | 9017 | 9140 | 9155 | 9233 | 9183 | 9009 |
| 1986 | 9162 | 8982 | 9125 | 9316 | 9339 | 9328 | 9326 | 9327 | 9368 | 9444 | 9312 | 9472 | 9292 |
| 1987 | 9553 | 9646 | 9619 | 9618 | 9505 | 9349 | 9268 | 9202 | 9149 | 9153 | 9085 | 9094 | 9353 |
| 1988 | 8885 | 8922 | 8979 | 8968 | 8961 | 8904 | 8724 | 8704 | 8745 | 8716 | 8699 | 8474 | 8807 |
| 1989 | 8381 | 8385 | 7985 | 8043 | 7868 | 7888 | 8102 | 7977 | 7897 | 7709 | 7592 | 7701 | 7961 |
| 1990 | 7871 | 7910 | 7846 | 7652 | 7574 | 7569 | 7755 | 7701 | 7864 | 8037 | 8168 | 8185 | 7844 |
| 1991 | 8356 | 8347 | 7850 | 7915 | 7926 | 7025 | 7082 | 7510 | 7863 | 7964 | 8008 | 8153 | 7833 |
| 1992 | 8169 | 8078 | 8247 | 8490 | 8378 | 8535 | 8670 | 8649 | 8614 | 8767 | 8717 | 8833 | 8512 |
| 1993 | 8804 | 8784 | 8705 | 8846 | 8842 | 8888 | 8884 | 8880 | 8968 | 8968 | 9010 | 9011 | 8882 |
| 1994 | 9001 | 8895 | 8899 | 8898 | 8942 | 8963 | 9013 | 9055 | 9110 | 9098 | 9141 | 9112 | 9011 |
| 1995 | 9122 | 9206 | 9169 | 9193 | 9159 | 9186 | 9203 | 9228 | 9272 | 9257 | 9241 | 9286 | 9210 |
| 1996 | 9266 | 9328 | 9324 | 9287 | 9291 | 9302 | 9295 | 9302 | 9364 | 9226 | 9192 | 9227 | 9284 |
| 1997 | 9240 | 9311 | 9334 | 9302 | 9340 | 9318 | 9277 | 9322 | 9390 | 9281 | 9233 | 9217 | 9297 |
| 1998 | 9273 | 9306 | 9312 | 9057 | 8981 | 8983 | 9088 | 9007 | 9157 | 9196 | 9133 | 9036 | 9127 |
| 1999 | 8883 | 8867 | 8887 | 8937 | 9021 | 9018 | 9058 | 8904 | 8794 | 8660 | 8627 | 8574 | 8853 |
| 2000 | 8600 | 8481 | 8377 | 8358 | 8283 | 8107 | 7921 | 8081 | 8224 | 8365 | 8146 | 8215 | 8263 |
| 2001 | 8314 | 8521 | 8617 | 8168 | 8428 | 8468 | 8473 | 8334 | 8359 | 8289 | 8447 | 8505 | 8410 |
| 2002 | 8277 | 8555 | 8462 | 8434 | 8420 | 8462 | 8438 | 8157 | 8289 | 8374 | 8207 | 8297 | 8364 |
| 2003 | 8251 | 8344 | 8398 | 8329 | 8238 | 8075 | 8099 | 8178 | 8268 | 8150 | 7675 | 8209 | 8185 |
| 2004 | 8139 | 8385 | 8525 | 8580 | 8676 | 8684 | 8546 | 8589 | 8715 | 8909 | 8646 | 8718 | 8593 |
| 2005 | 8411 | 8614 | 8649 | 8770 | 8624 | 8792 | 8707 | 8632 | 8436 | 8793 | 9015 | 9001 | 8704 |
| 2006 | 9061 | 9204 | 9273 | 9303 | 9385 | 9361 | 9318 | 9353 | 9379 | 9367 | 9339 | 9156 | 9292 |
| 2007 | 9389 | 9367 | 9381 | 9461 | 9473 | 9513 | 9514 | 9465 | 9561 | 9506 | 9477 | 9460 | 9464 |
| 2008 | 9467 | 9472 | 9508 | 9420 | 9490 | | | | | | | | 9471 |

Multiply table entries by 64 to obtain hourly counting rate. Moscow, Russia: N55, E37, Alt= 200 m, Cutoff Rigidity= 2.42GV.

NOTE: * Indicates data have been restored using the corresponding data of other cosmic ray stations.

# Geomagnetic Activity Indices

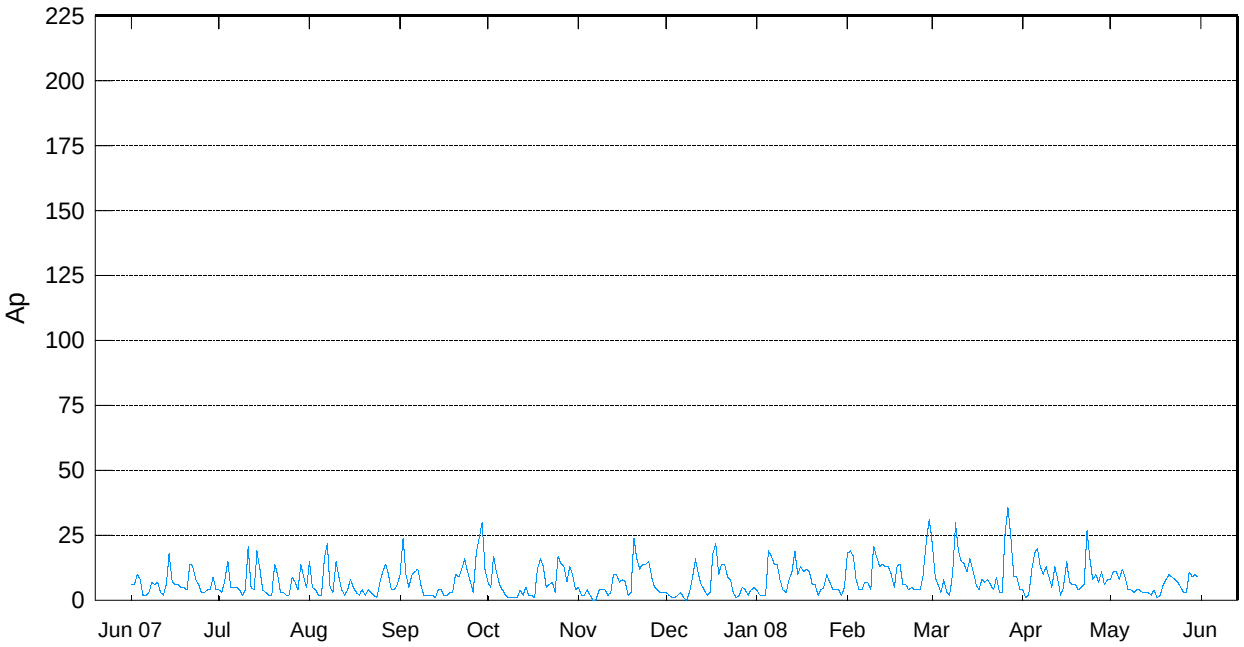
## May 2008



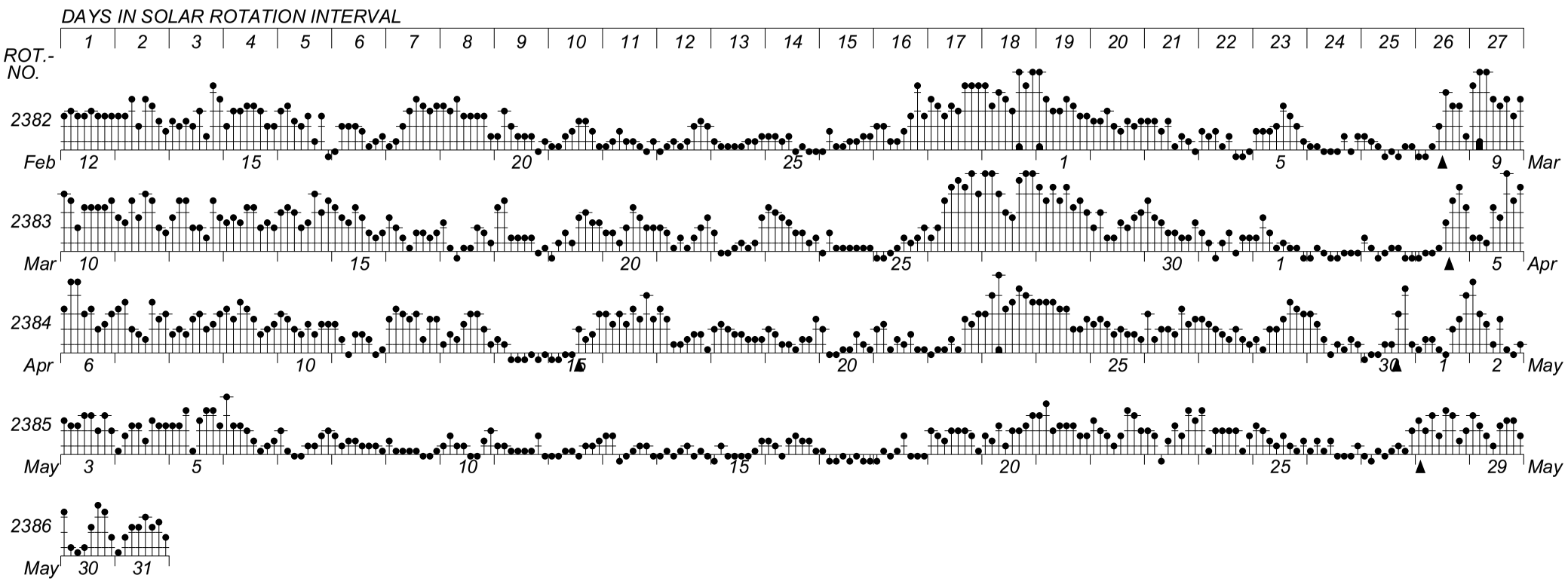
| | | Kp Three-Hourly Indices | | | | | | | | | | Km Three-Hourly Indices | | | | | | | | aa Provisional | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Sum | Ap | Cp | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Am | N | S | M | |
| 1 | | 1- | 1+ | 1+ | 1- | 0+ | 2 | 3- | 4 | 13 | 8 | 0.4 | 0+ | 1o | 2- | 1- | 0+ | 2o | 3- | 4- | 14 | 17 | 12 | 8 | 22 |
| 2 | | 5- | 3 | 2+ | 1 | 3- | 1- | 0+ | 1 | 16- | 11 | 0.6 | 4o | 3o | 3- | 1+ | 3- | 1- | 0o | 1o | 18 | 17 | 22 | 28 | 12 |
| 3 | D2* | 3- | 2+ | 2+ | 3 | 3 | 2 | 3 | 2 | 20+ | 11 | 0.6 | 3o | 2o | 3- | 3o | 3o | 2o | 3- | 2o | 22 | 27 | 21 | 23 | 25 |
| 4 | | 1- | 2- | 2+ | 2+ | 1+ | 3- | 2+ | 2+ | 16- | 8 | 0.4 | 1- | 2- | 3- | 3- | 1+ | 2+ | 2o | 3- | 16 | 18 | 14 | 12 | 20 |
| 5 | D1* | 2+ | 2+ | 3+ | 1- | 3- | 3+ | 3+ | 2+ | 20+ | 12 | 0.7 | 2+ | 2+ | 3+ | 1o | 2+ | 3- | 3o | 2+ | 22 | 25 | 24 | 20 | 29 |
| 6 | | 4 | 2+ | 2+ | 2 | 1+ | 1- | 1 | 1+ | 15 | 9 | 0.5 | 4o | 3- | 3o | 2+ | 1+ | 1o | 1+ | 1+ | 19 | 17 | 25 | 32 | 10 |
| 7 | | 2 | 1- | 0+ | 0+ | 1 | 1 | 2- | 2 | 9 | 4 | 0.2 | 2o | 1- | 0o | 0+ | 1- | 1o | 2- | 2o | 7 | 10 | 7 | 7 | 10 CC |
| 8 | | 2- | 1 | 1+ | 1+ | 1 | 1 | 1 | 1- | 9 | 4 | 0.2 | 2o | 1- | 2- | 1+ | 1o | 0+ | 1- | 1o | 8 | 8 | 9 | 10 | 7 CC |
| 9 | Q5 | 1+ | 1- | 1- | 1- | 1- | 0+ | 0+ | 1- | 5+ | 3 | 0.1 | 1+ | 1- | 1o | 1o | 0+ | 0+ | 0+ | 1- | 5 | 6 | 4 | 5 | 5 CC |
| 10 | | 1 | 2- | 1 | 1 | 0+ | 0+ | 1+ | 2 | 9- | 4 | 0.1 | 1- | 2o | 2- | 1o | 0+ | 0+ | 1+ | 2o | 8 | 9 | 8 | 8 | 9 CC |
| 11 | Q9 | 1 | 1 | 1- | 1- | 1- | 1- | 2- | 0+ | 7- | 4 | 0.1 | 1+ | 1o | 0+ | 1- | 1- | 0+ | 2- | 1- | 6 | 9 | 7 | 7 | 9 CC |
| 12 | Q6 | 0+ | 0+ | 1- | 1- | 0+ | 1 | 1 | 1+ | 6- | 3 | 0.1 | 0+ | 0+ | 1o | 0+ | 0+ | 1- | 1- | 1+ | 4 | 6 | 5 | 4 | 6 CC |
| 13 | Q10 | 2- | 2- | 0 | 0+ | 1- | 1 | 1 | 0+ | 7- | 3 | 0.1 | 1+ | 2o | 0o | 0+ | 1- | 1o | 1o | 0o | 6 | 8 | 5 | 6 | 7 CC |
| 14 | Q2 | 0+ | 1- | 0+ | 1- | 1 | 0+ | 1- | 0+ | 4+ | 3 | 0.0 | 0o | 1- | 0+ | 1o | 1- | 0+ | 0+ | 0+ | 3 | 7 | 3 | 4 | 5 CC |
| 15 | Q3 | 0 | 1 | 0+ | 0+ | 0+ | 0+ | 1- | 1+ | 4+ | 2 | 0.0 | 0o | 1o | 0+ | 1- | 0+ | 0o | 1- | 1o | 4 | 6 | 5 | 5 | 6 CC |
| 16 | | 1+ | 1 | 0+ | 1+ | 2- | 1+ | 1+ | 1- | 9 | 4 | 0.2 | 1+ | 1- | 0+ | 1+ | 1+ | 1+ | 1+ | 1- | 7 | 13 | 9 | 10 | 12 CC |
| 17 | Q1 | 1- | 0 | 0 | 0+ | 0 | 0+ | 0 | 0 | 1+ | 1 | 0.0 | 1o | 0o | 0o | 0+ | 0o | 0+ | 0o | 0o | 2 | 4 | 2 | 4 | 2 CC |
| 18 | Q4 | 0 | 1- | 0+ | 1- | 2- | 0+ | 0+ | 0+ | 4+ | 2 | 0.0 | 0o | 1o | 0+ | 1- | 1+ | 0o | 0+ | 0+ | 4 | 8 | 4 | 5 | 7 CC |
| 19 | | 2 | 2- | 1+ | 2 | 2 | 2 | 2- | 1- | 13+ | 6 | 0.3 | 2o | 1+ | 1+ | 3- | 2o | 2+ | 2- | 1o | 14 | 16 | 12 | 14 | 14 C |
| 20 | | 2- | 1+ | 2+ | 1 | 2 | 2 | 2+ | 3 | 16- | 8 | 0.4 | 2o | 1+ | 3- | 1+ | 2+ | 2o | 2+ | 3o | 18 | 20 | 15 | 12 | 23 |
| 21 | D3* | 3 | 4- | 2 | 2+ | 2+ | 2+ | 2- | 2- | 19 | 10 | 0.6 | 3o | 3+ | 3- | 3- | 2- | 2o | 2- | 2o | 21 | 24 | 16 | 21 | 19 |
| 22 | | 3- | 2 | 2- | 1 | 2- | 3+ | 3 | 2 | 17+ | 9 | 0.5 | 2+ | 2- | 2- | 1+ | 1+ | 3+ | 3o | 2+ | 18 | 23 | 22 | 12 | 33 |
| 23 | | 2 | 2- | 0 | 1+ | 2+ | 2- | 3+ | 3- | 15 | 8 | 0.4 | 2o | 2- | 0o | 1+ | 3- | 2- | 3- | 3o | 16 | 21 | 14 | 8 | 28 |
| 24 | | 3+ | 1- | 2 | 2 | 2 | 2 | 1- | 2- | 14+ | 7 | 0.4 | 3+ | 1o | 2o | 2+ | 2o | 2+ | 0+ | 1+ | 15 | 21 | 17 | 21 | 16 |
| 25 | | 2+ | 2 | 1+ | 1 | 2- | 1 | 1- | 1+ | 11+ | 5 | 0.2 | 2o | 2o | 2- | 1+ | 1+ | 1+ | 0+ | 1o | 10 | 11 | 10 | 12 | 9 CC |
| 26 | Q7 | 1- | 1+ | 1- | 1+ | 0+ | 0+ | 0+ | 1 | 6 | 3 | 0.1 | 1o | 1o | 1- | 1+ | 0+ | 0+ | 1- | 1- | 5 | 8 | 6 | 8 | 5 CC |
| 27 | Q8 | 0+ | 0 | 1- | 0+ | 1- | 1 | 1- | 2 | 6- | 3 | 0.1 | 0+ | 0+ | 1o | 0+ | 1- | 1o | 1o | 2o | 6 | 8 | 7 | 4 | 10 CK |
| 28 | D4* | 3- | 2 | 3 | 2- | 3+ | 3 | 1+ | 2 | 19 | 11 | 0.6 | 3- | 2+ | 3o | 2+ | 3o | 2+ | 2- | 2- | 20 | 24 | 21 | 22 | 23 |
| 29 | | 3 | 2+ | 2- | 1 | 2+ | 3- | 3- | 2- | 17+ | 9 | 0.5 | 3- | 2+ | 2o | 1+ | 2+ | 2+ | 2o | 2- | 17 | 27 | 14 | 15 | 26 |
| 30 | D5* | 3+ | 1 | 1- | 1 | 2+ | 4- | 3+ | 2- | 17 | 10 | 0.6 | 3+ | 1o | 1o | 1o | 2+ | 3o | 3- | 2- | 18 | 24 | 15 | 16 | 23 |
| 31 | | 1- | 2- | 2+ | 2+ | 3 | 2+ | 3- | 2- | 17- | 9 | 0.5 | 1o | 2- | 2+ | 3- | 3- | 2o | 2+ | 2- | 16 | 21 | 17 | 16 | 22 |
| Mean | | | | | | | | | | | 6 | 0.31 | | | | | | | | | 11.9 | 15.1 | 12.0 | 13.5 | |

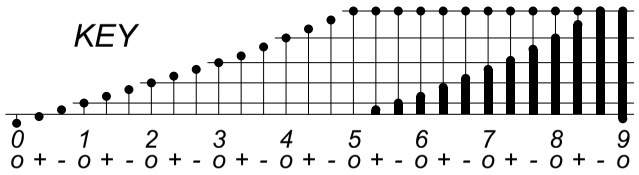
| | Kn Three-Hourly Indices | | | | | | | | | Ks Three-Hourly Indices | | | | | | | | | | Prov | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | An | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | As | Sa | Ri | Ra | Rs | IMF |
| 1 | 0+ | 1o | 2- | 1- | 1- | 2+ | 3o | 4- | 15 | 0+ | 1o | 2- | 1- | 0o | 1+ | 2+ | 4- | 12 | 69.6 | 0 | 1 | 13 | |
| 2 | 4- | 3o | 3- | 2- | 3- | 1- | 0o | 2- | 19 | 4+ | 3- | 2+ | 1o | 3- | 1- | 0o | 0+ | 18 | 69.2 | 0 | 0 | 13 | |
| 3 | 3- | 2+ | 3- | 3+ | 3+ | 2o | 3- | 2+ | 25 | 3o | 2o | 2+ | 3- | 3- | 2o | 2+ | 2- | 19 | 68.5 | 0 | 0 | 12 | |
| 4 | 1- | 2- | 3o | 3- | 1+ | 3- | 2+ | 3- | 17 | 0+ | 2- | 2+ | 3- | 1+ | 2o | 2o | 3- | 14 | 69.5 | 7 | 5 | 13 | |
| 5 | 2+ | 2+ | 4- | 1+ | 3- | 3o | 3o | 2+ | 23 | 2+ | 2+ | 3o | 1- | 2o | 3- | 3o | 3- | 21 | 68.8 | 8 | 3 | 12 | |
| 6 | 3+ | 3- | 3o | 2+ | 1+ | 1o | 1+ | 1+ | 18 | 4+ | 2+ | 3o | 2+ | 1o | 1- | 1+ | 1+ | 20 | 68.4 | 0 | 0 | 12 | |
| 7 | 2- | 1- | 0o | 1- | 1+ | 1+ | 2- | 2- | 8 | 2o | 1o | 0o | 0+ | 0o | 0+ | 1+ | 2o | 7 | 67.8 | 0 | 0 | 11 | |
| 8 | 2- | 1- | 2- | 2- | 1o | 1o | 1- | 1o | 8 | 2+ | 1o | 2- | 1o | 1- | 0o | 0+ | 1- | 7 | 67.7 | 0 | 0 | 11 | |
| 9 | 1+ | 1- | 1+ | 1o | 1- | 1- | 1- | 1o | 6 | 1o | 1- | 1o | 1- | 0o | 0o | 0o | 0+ | 3 | 68.6 | 0 | 0 | 12 | |
| 10 | 1o | 2o | 1+ | 1+ | 1- | 0+ | 2- | 2+ | 10 | 1- | 2o | 2- | 1o | 0o | 0o | 1o | 2- | 7 | 68.7 | 0 | 0 | 12 | |
| 11 | 1+ | 1o | 1- | 1o | 1+ | 1- | 2- | 1- | 7 | 1+ | 1- | 0+ | 0+ | 0+ | 0o | 2- | 1o | 5 | 69.4 | 0 | 0 | 13 | |
| 12 | 1- | 0+ | 1o | 0+ | 1- | 1+ | 1o | 2- | 6 | 0o | 0o | 1- | 0+ | 0+ | 0o | 0+ | 1- | 2 | 69.5 | 0 | 0 | 13 | |
| 13 | 1+ | 2- | 0o | 0+ | 1o | 1+ | 1+ | 0o | 6 | 1+ | 2+ | 0o | 0o | 0o | 0+ | 1- | 0o | 5 | 69.7 | 8 | 2 | 13 | |
| 14 | 0o | 1- | 0+ | 1+ | 1+ | 1- | 1- | 0+ | 5 | 0o | 1o | 0o | 1- | 0o | 0o | 0+ | 0o | 2 | 70.5 | 0 | 0 | 14 | |
| 15 | 0+ | 1+ | 0+ | 1o | 1- | 0+ | 1o | 2- | 6 | 0o | 1o | 0+ | 0o | 0o | 0o | 0o | 0+ | 2 | 72.7 | 9 | 7 | 17 | |
| 16 | 2- | 1- | 1- | 2- | 2o | 1+ | 1+ | 1o | 10 | 1- | 1- | 0+ | 1+ | 1- | 1o | 1o | 0+ | 5 | 73.2 | 14 | 12 | 17 | |
| 17 | 1+ | 0+ | 0o | 1- | 0+ | 0+ | 0o | 0o | 3 | 1- | 0o | 0o | 0o | 0o | 0o | 0o | 0o | 1 | 72.8 | 12 | 11 | 17 | |
| 18 | 0o | 1o | 0+ | 1o | 2- | 0+ | 1- | 1- | 5 | 0o | 1- | 0o | 0+ | 1- | 0o | 0o | 0o | 2 | 73.3 | 15 | 12 | 17 | |
| 19 | 2- | 2- | 2- | 3o | 2+ | 2+ | 2- | 1+ | 15 | 2o | 1+ | 1+ | 2+ | 2- | 2o | 2- | 1o | 12 | 70.5 | 11 | 15 | 14 | |
| 20 | 2- | 2- | 3- | 1+ | 3- | 2+ | 3- | 3- | 18 | 2+ | 1+ | 3o | 1+ | 2+ | 1+ | 2o | 3+ | 18 | 70.2 | 7 | 6 | 14 | |
| 21 | 3- | 3+ | 3- | 3- | 2o | 2+ | 2- | 2+ | 21 | 3+ | 3+ | 2+ | 3- | 2- | 2o | 2- | 2- | 20 | 70.8 | 0 | 2 | 14 | |
| 22 | 2+ | 2o | 2- | 2- | 2- | 3- | 3- | 2o | 17 | 2+ | 1+ | 1+ | 1+ | 1+ | 4- | 3+ | 2+ | 18 | 71.0 | 0 | 0 | 15 | |
| 23 | 2o | 1+ | 0o | 2- | 3- | 2- | 3- | 3- | 15 | 2+ | 2+ | 0o | 1o | 3- | 2- | 3- | 3+ | 17 | 69.6 | 0 | 0 | 13 | |
| 24 | 3o | 1o | 2o | 2+ | 2+ | 2o | 1o | 2- | 15 | 4- | 1o | 2- | 2+ | 2o | 2+ | 0o | 1+ | 15 | 70.3 | 0 | 0 | 14 | |
| 25 | 2- | 2o | 2o | 1+ | 2- | 1+ | 1- | 1+ | 11 | 2o | 2+ | 2- | 1- | 1o | 1+ | 0+ | 1- | 9 | 70.1 | 0 | 1 | 14 | |
| 26 | 1- | 1o | 1o | 1+ | 0+ | 1- | 1- | 1o | 6 | 1+ | 1+ | 1- | 2- | 0o | 0+ | 0+ | 1- | 5 | 69.8 | 0 | 0 | 13 | |
| 27 | 0+ | 0o | 1o | 1- | 1o | 1+ | 1+ | 2+ | 7 | 0o | 1- | 1- | 0+ | 0+ | 1- | 1- | 2- | 5 | 69.7 | 0 | 0 | 13 | |
| 28 | 3- | 2+ | 3+ | 2+ | 3+ | 3- | 1+ | 2o | 23 | 2o | 2o | 3o | 2o | 2+ | 2o | 2- | 1+ | 16 | 69.6 | 0 | 0 | 13 | |
| 29 | 3- | 2+ | 2o | 1+ | 3- | 3- | 2+ | 2o | 19 | 3o | 2+ | 2o | 1+ | 2o | 2+ | 2- | 1o | 15 | 69.9 | 0 | 0 | 13 | |
| 30 | 3o | 1- | 1+ | 1+ | 3- | 4- | 3- | 2o | 20 | 3+ | 1+ | 1o | 1- | 2o | 3- | 3- | 1o | 16 | 69.0 | 0 | 0 | 13 | |
| 31 | 1+ | 2o | 2+ | 3- | 3o | 2+ | 2+ | 2o | 19 | 0+ | 1+ | 2o | 3- | 3- | 2o | 2o | 1o | 13 | 68.8 | 0 | 0 | 12 | |
| Mean | | | | | | | | | 13.0 | | | | | | | | | 10.7 | 69.9 | 2.9 | 2.5 | 13.5 | |

# Daily Average Indices Ap
## Jun 2007 - May 2008




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



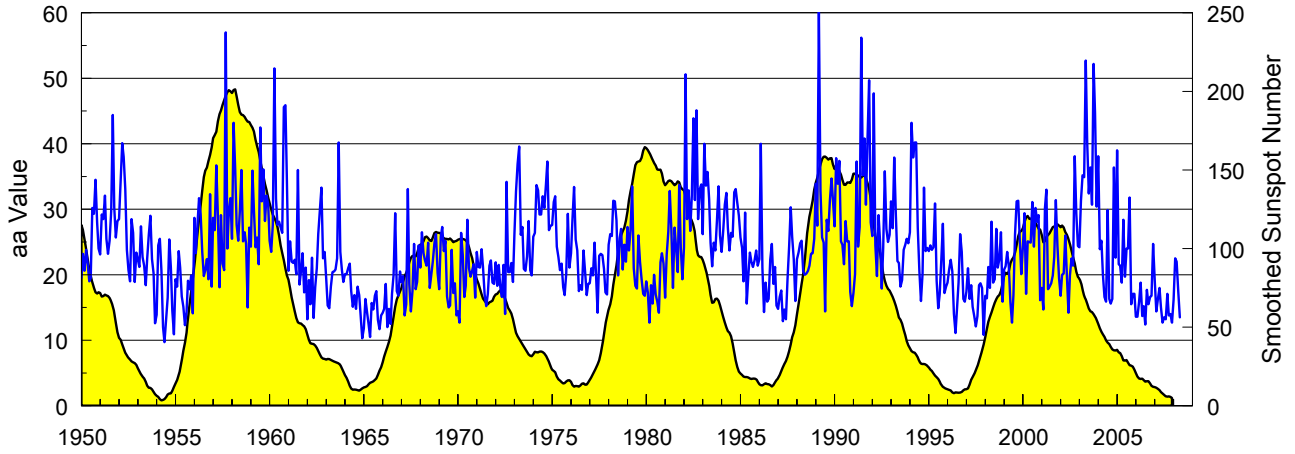




▲ = sudden commencement

# PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

## Kp till 2008 May 31

# Monthly Mean aa Index Jan 1950 - May 2008



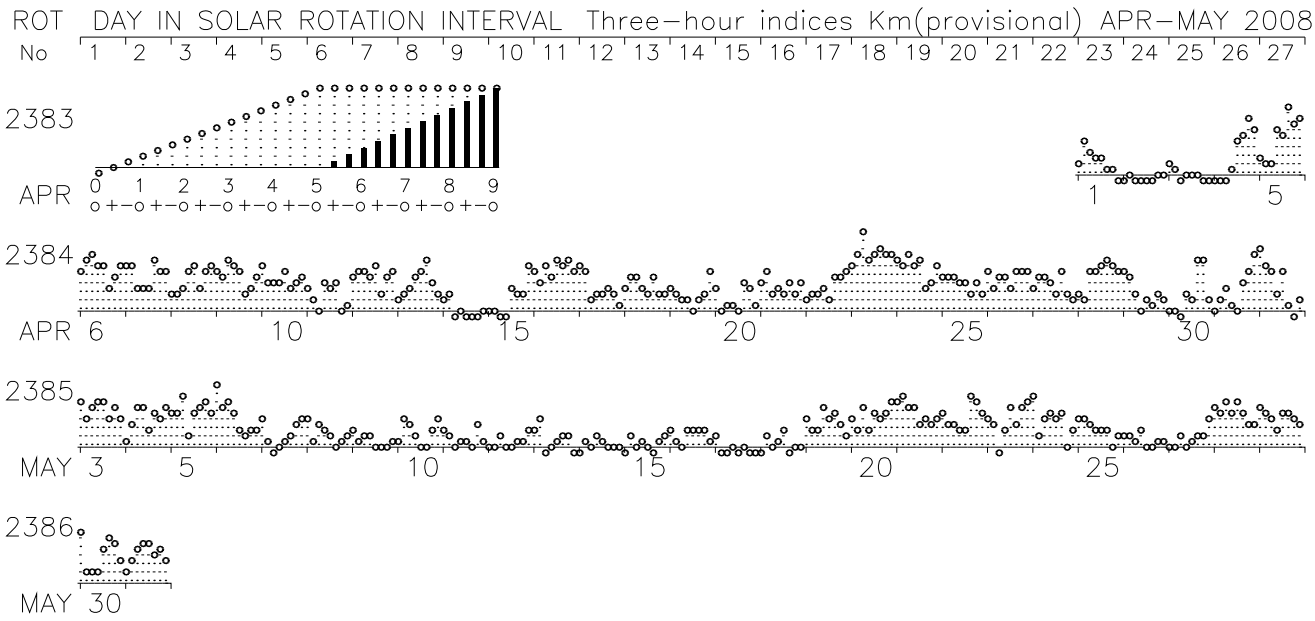

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1950 | 19.5 | 23.2 | 20.6 | 23.8 | 21.7 | 19.0 | 19.5 | 30.2 | 29.3 | 34.5 | 28.0 | 24.0 | 24.4 |
| 1951 | 23.1 | 29.2 | 28.5 | 32.1 | 25.5 | 23.2 | 25.2 | 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 | | | | | | | | 18.3 |

# PLANETARY GEOMAGNETIC ACTIVITY

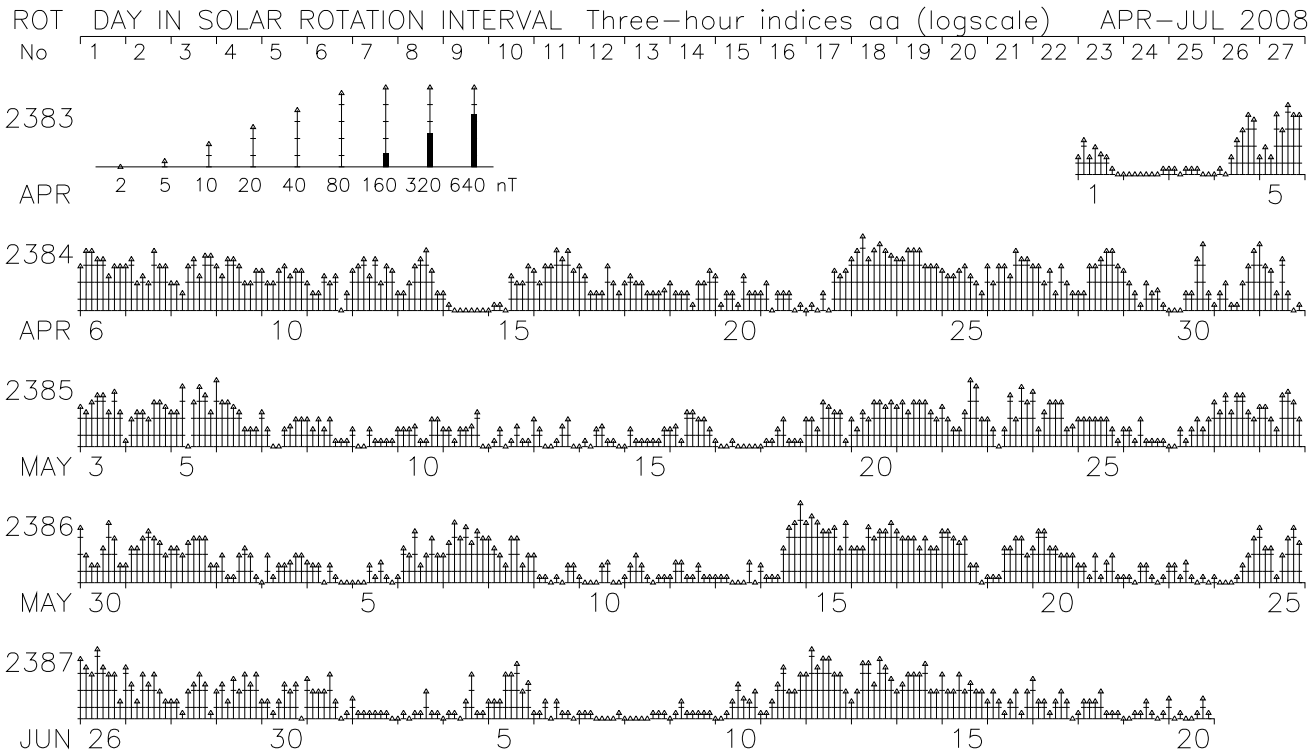
## 3-HOUR-RANGE INDICES Km AND aa BY 27-DAY SOLAR ROTATION INTERVAL

ISGI PUBLICATION OFFICE - EMail : ISGI.PUBOFF@cetp.ipsl.fr

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




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

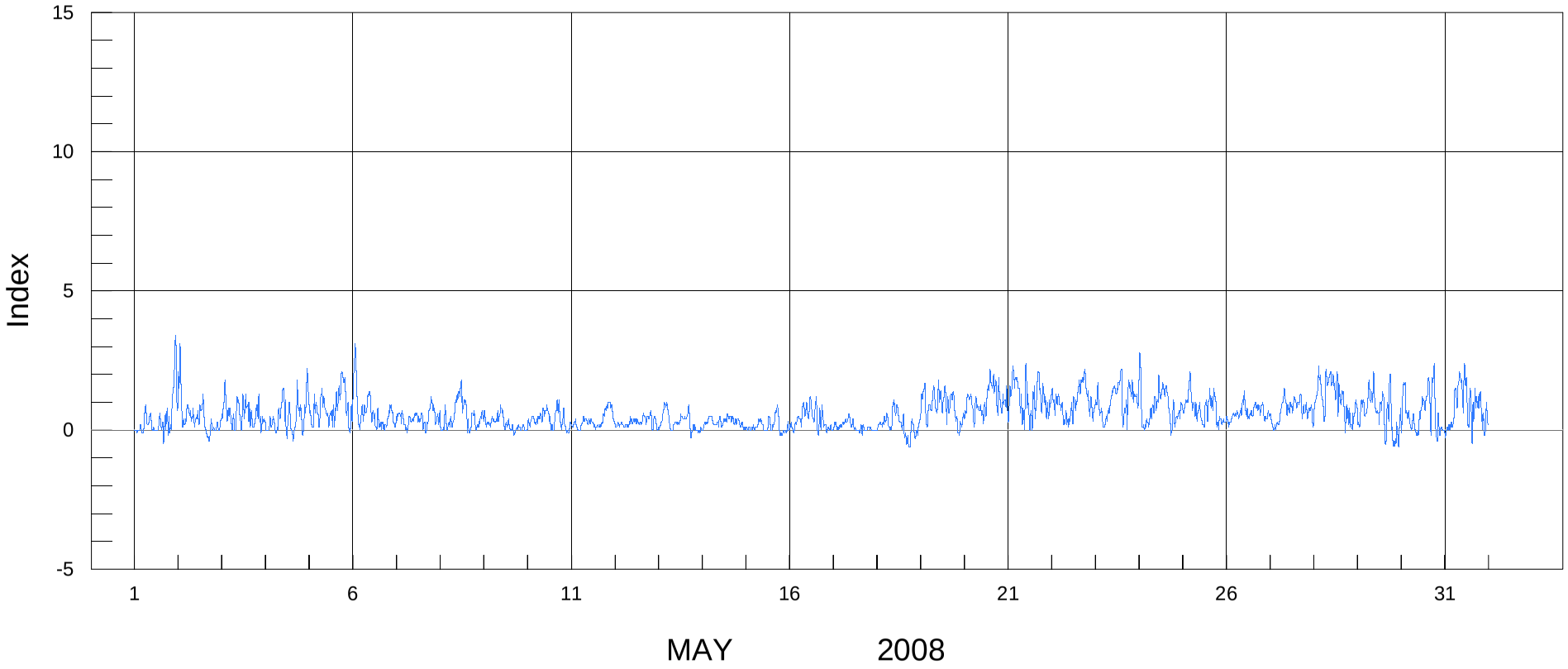



Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

# Polar Cap Index

## Qaanaaq - Thule

### WDC C1 for Geomagnetism, Copenhagen




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
## MAY 2008

| Sta | Geomag Lat | Commencement Day | Time (UT) | Type | SC Amplitudes D (Min) | H (Gamma) | Z (Gamma) | Maximum 3-Hour K Index Day(3-Hour Periods) | K | Ranges D (Min) | H (Gamma) | Z (Gamma) | End Day | Hour (UT) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JAI | 17.4N | 01 | 1500 | .. | .. | .. | .. | | - | 6 | 59 | 41 | 05 | 23 |
| NGP | 11.3N | 01 | 1500 | .. | .. | .. | .. | | - | 5 | 67 | 33 | 05 | 23 |
| ABG | 09.4N | 01 | 1500 | .. | .. | .. | .. | 3(2,3) | 4 | 6 | 70 | 46 | 05 | 23 |
| PND | 02.0N | 01 | 1500 | .. | .. | .. | .. | | - | 4 | 82 | 41 | 05 | 23 |
| TIR | 00.6S | 01 | 1500 | .. | - 0.1 | 22 | 18 | | - | 4 | 140 | 46 | 05 | 23 |
| HYB | 07.6N | 03 | 0700 | .. | .. | .. | .. | 3(3,5) 5(3) | 4 | 5 | 77 | 25 | 05 | 24 |
| HYB | 07.6N | 19 | 0500 | .. | .. | .. | .. | 20(5) | 4 | 6 | 88 | 23 | 21 | 24 |
| JAI | 17.4N | 20 | 0530 | .. | .. | .. | .. | | - | 7 | 53 | 31 | 22 | 22 |
| NGP | 11.3N | 20 | 0530 | .. | .. | .. | .. | | - | 6 | 58 | 23 | 22 | 22 |
| ABG | 09.4N | 20 | 0530 | .. | .. | .. | .. | 20(5) | - | 7 | 45 | 43 | 22 | 22 |
| PND | 02.0N | 20 | 0530 | .. | .. | .. | .. | | - | - | 62 | 50 | 22 | 22 |
| TIR | 00.6S | 20 | 0530 | .. | .. | .. | .. | | - | 6 | 112 | 52 | 22 | 22 |
| HYB | 07.6N | 22 | 1500 | .. | .. | .. | .. | 22(6,7) 23(4,5) | 3 | 4 | 63 | 12 | 24 | 03 |
| JAI | 17.4N | 28 | 0224 | .. | .. | .. | .. | | - | 6 | 67 | 40 | 28 | 22 |
| NGP | 11.3N | 28 | 0224 | SC | 0.7 | 18.- | 2 | | - | 5 | 92 | 23 | 28 | 22 |
| ABG | 09.4N | 28 | 0224 | SC | 0.4 | 16 | 2 | 28(2,3) 29(5) | - | 5 | 100 | 50 | 28 | 22 |
| HYB | 07.6N | 28 | 0228 | SC | - 0.5 | 20 | 5 | 28(1,3) 29(5) | 4 | 5 | 111 | 26 | 30 | 24 |
| PND | 02.0N | 28 | 0224 | SC | .. | 16 | 5 | | - | - | 103 | 32 | 28 | 22 |
| TIR | 00.6S | 28 | 0224 | SC | .. | .. | .. | | - | 3 | 121 | 52 | 28 | 22 |
| JAI | 17.4N | 29 | 1200 | .. | .. | .. | .. | | - | 6 | 46 | 33 | 31 | 20 |
| NGP | 11.3N | 29 | 1200 | .. | .. | .. | .. | | - | 5 | 61 | 25 | 31 | 20 |
| ABG | 09.4N | 29 | 1200 | .. | .. | .. | .. | 29(5) 31(4) | 4 | 4 | 70 | 37 | 31 | 20 |
| PND | 02.0N | 29 | 1200 | .. | .. | .. | .. | | - | - | 81 | 25 | 31 | 20 |
| TIR | 00.6S | 29 | 1200 | .. | .. | .. | .. | | - | 4 | 96 | 34 | 31 | 20 |

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

## MAY 2008

| Storm Sudden Commencements (SSC) | | | Solar Flare Effects (sfe) | | |
|---|---|---|---|---|---|
| **Day** | **Time** | **Quality: Station Group*** | **Day** | **Begin-End** | **Station(s)** |
| 28 | 0225 | A: SPT GUI | 12 | 1236-1252 | GUI |
| | | B: LER* ESK* HAD* CLF NAG | 16 | 0543-0552 | NAG |
| | | C: NUR NGK DOU BDV* GCK HYB | 24 | 0657-0708 | GUI |
| | | SI: EBR | | | |

REPORTING OBSERVATORIES (up to 27/06/2008):
NUR LER ESK NGK VAL HAD DOU BDV CLF HRB 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 Antartic Station LIVINGSTONE (62º 39' 44" S, 60º23' 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.