SOLAR-GEOPHYSICAL DATA

Number 772

(Issued in Two Parts)

Editor: Edward H. Erwin

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

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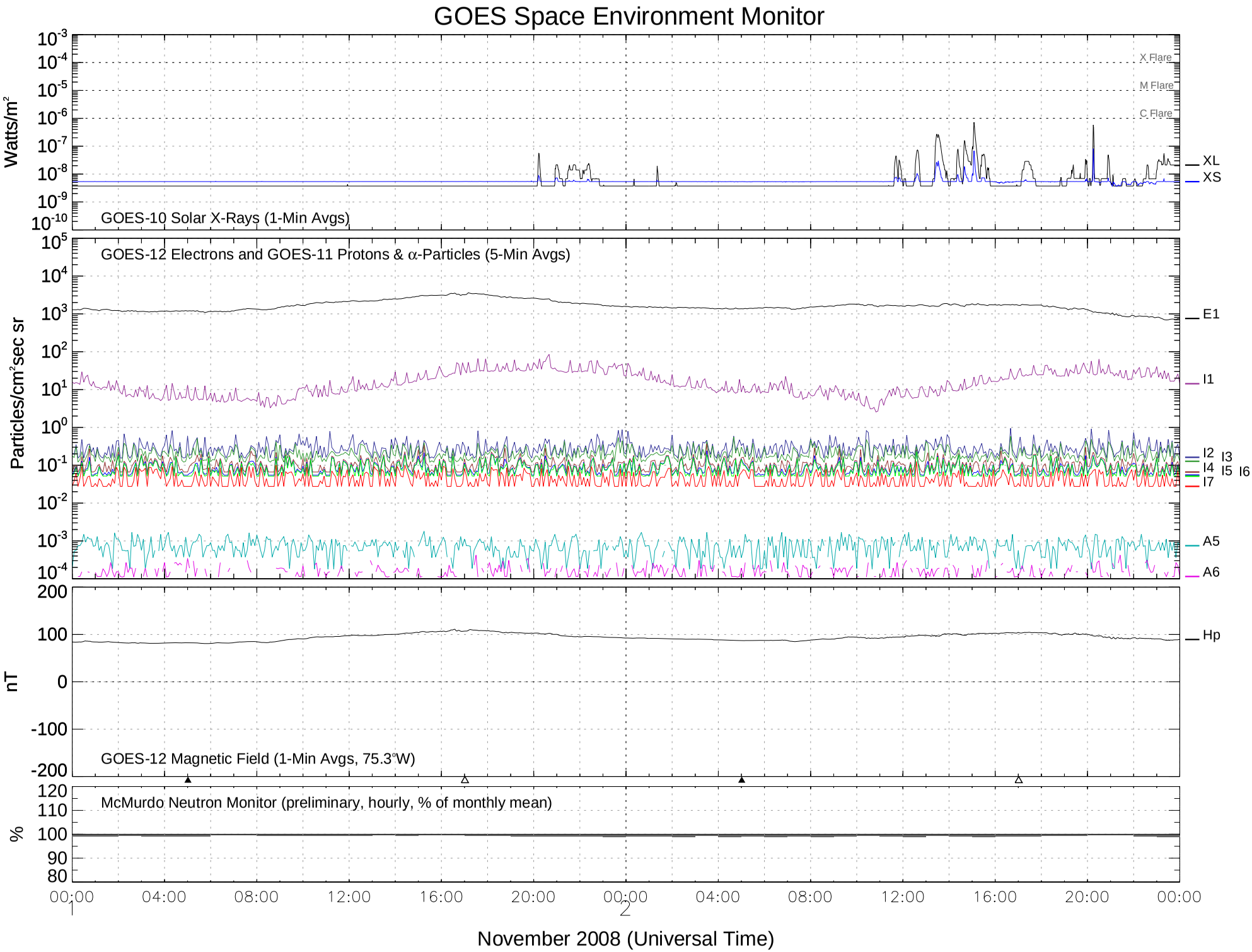
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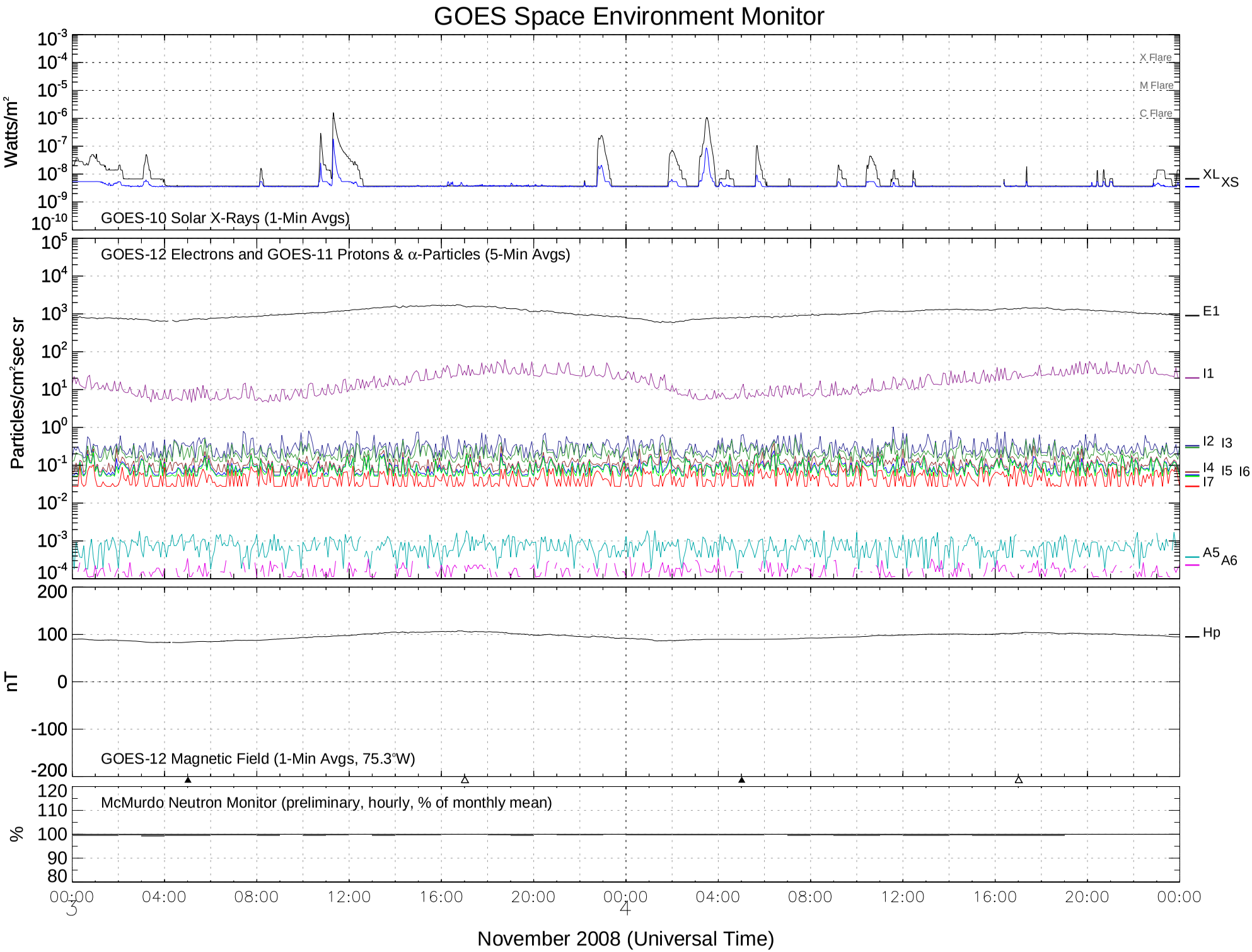
Watts/m²
X Flare
M Flare
C Flare
XL
XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2
I3
I4
I5
I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.3°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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
1
2
November 2008 (Universal Time)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Watts/m²
X Flare
M Flare
C Flare
XL
XS
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, 75.3°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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
3
4
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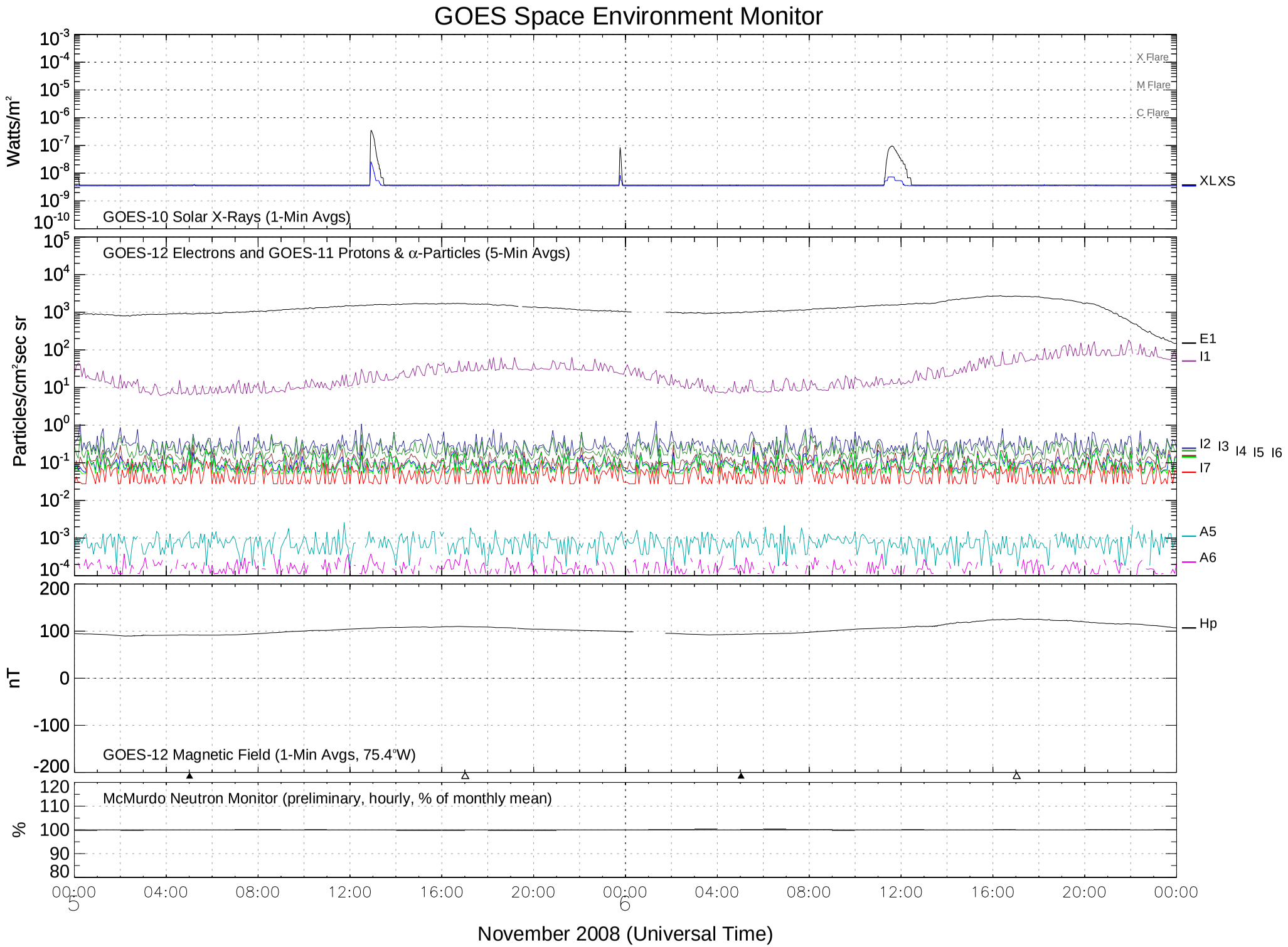
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Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3 I4 I5 I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.4°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
00:00
04:00
08:00
12:00
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5
6
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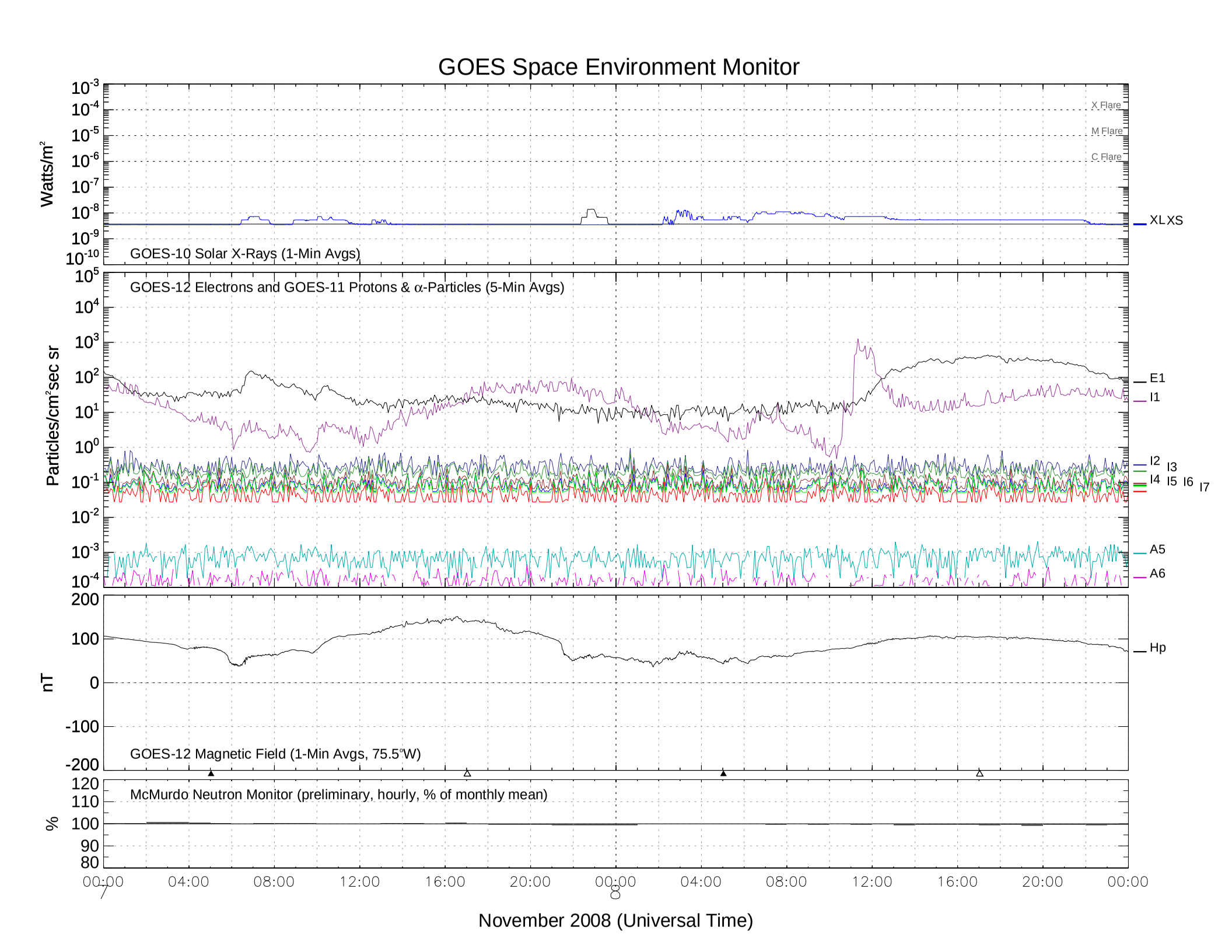
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Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3
I4 I5 I6 I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.5°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
00:00
04:00
08:00
12:00
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08:00
12:00
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20:00
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7
8
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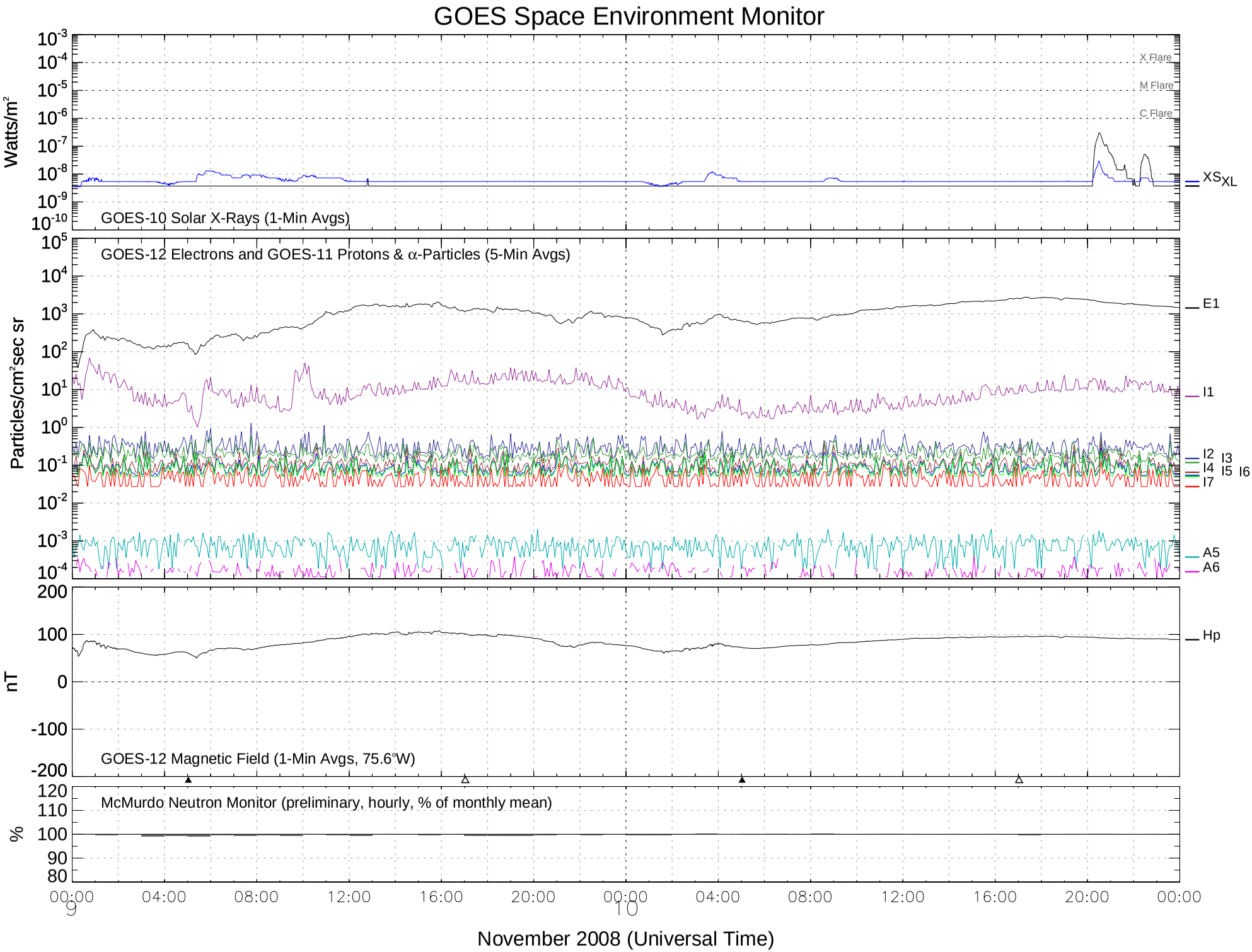
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Watts/m²
X Flare
M Flare
C Flare
XS
XL
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2
I3
I4
I5
I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.6°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
00:00
04:00
08:00
12:00
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20:00
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9
10
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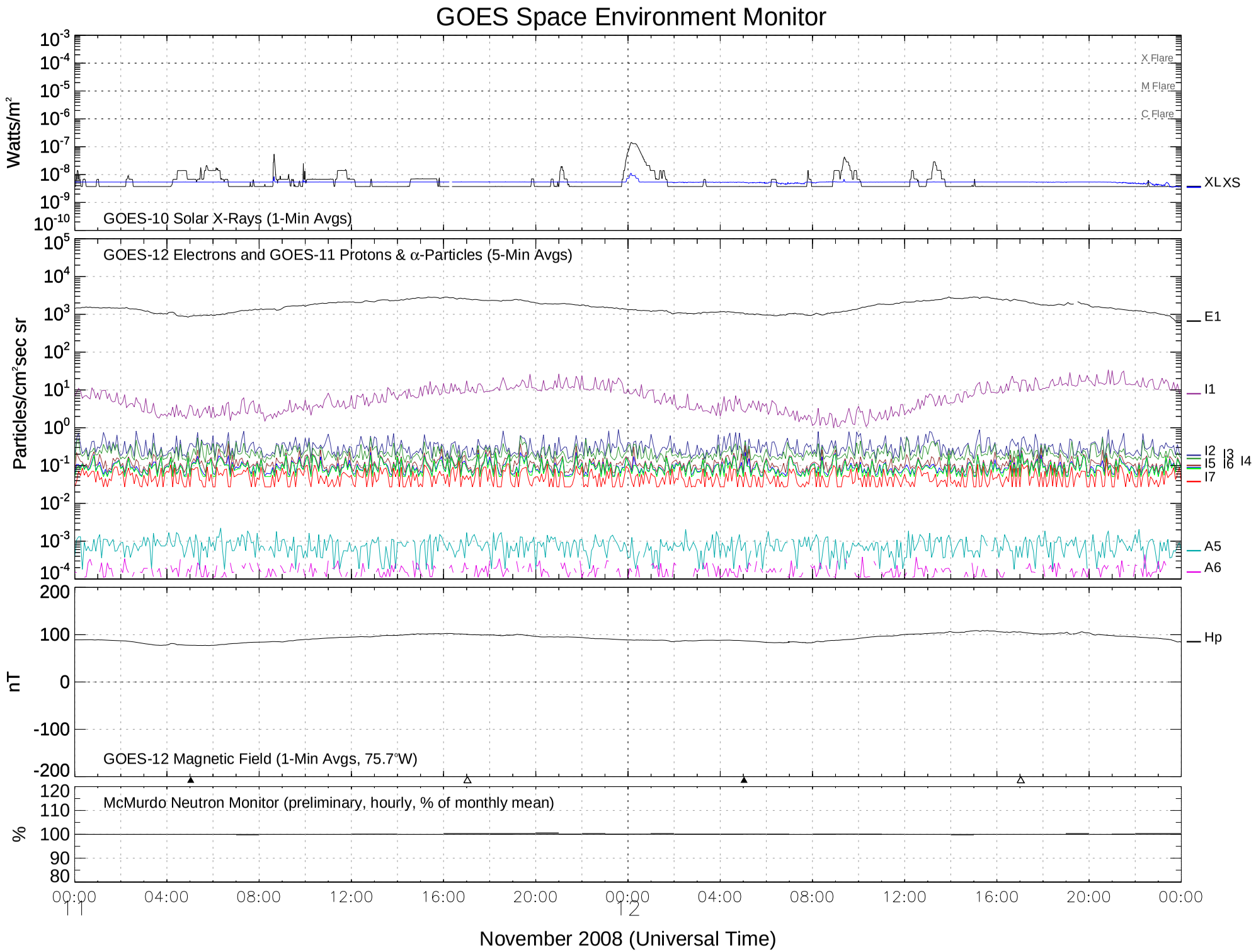
GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3
I5 I6 I4
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.7°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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11
12
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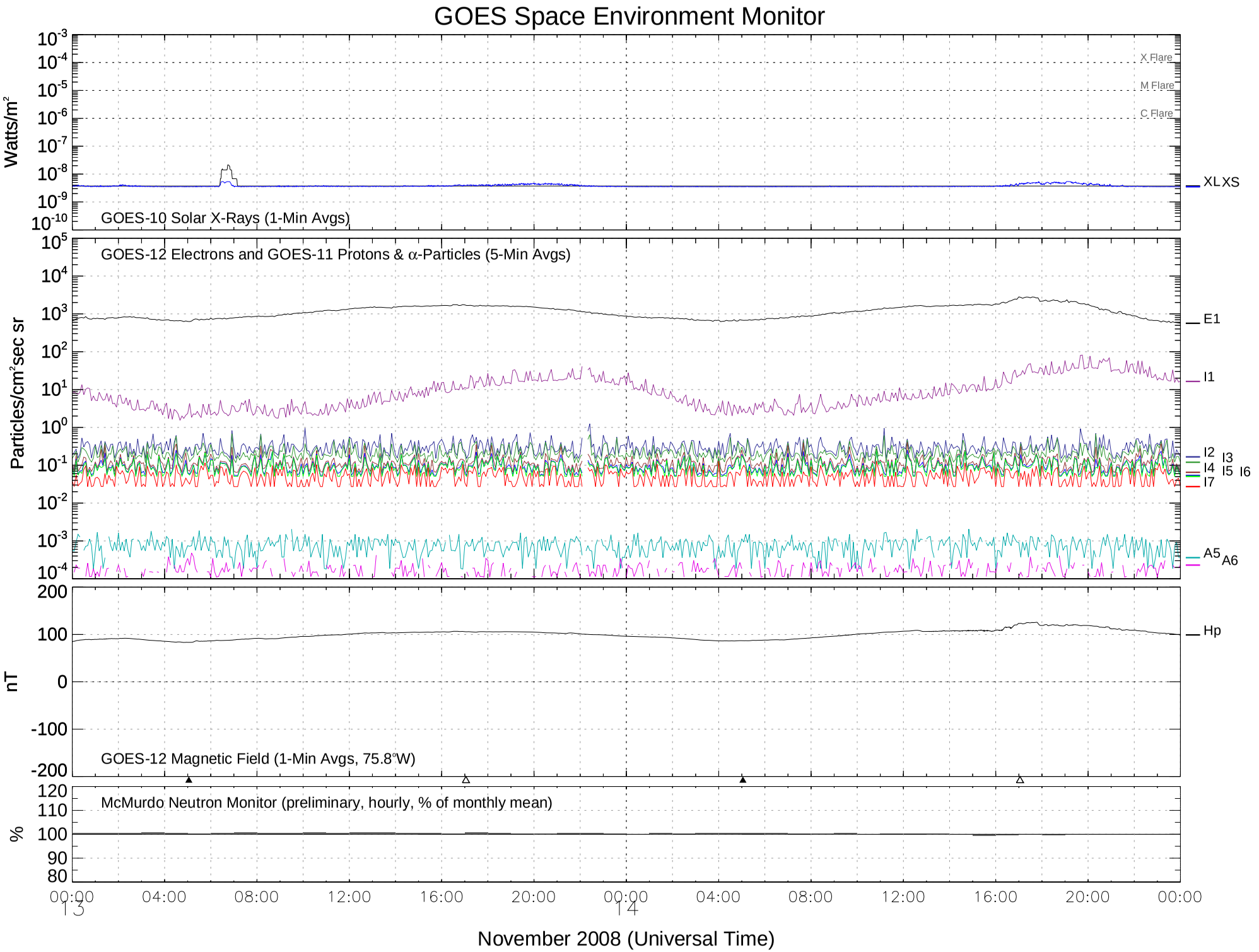
GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
GOES-10 Solar X-Rays (1-Min Avgs)
XL XS
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3
I4 I5 I6
I7
A5 A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.8°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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13
14
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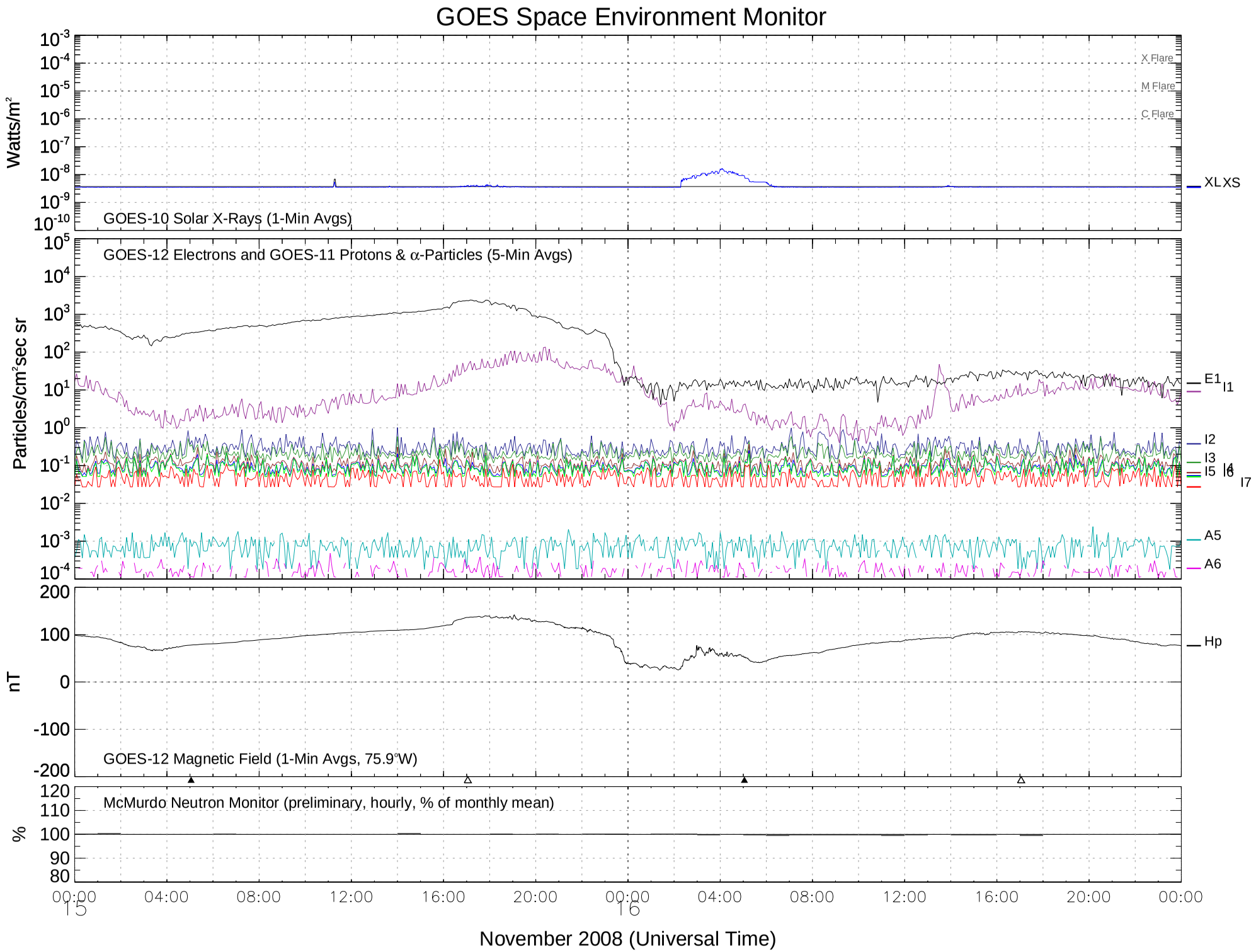
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Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2
I3
I4
I5
I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.9°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
00:00
04:00
08:00
12:00
16:00
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15
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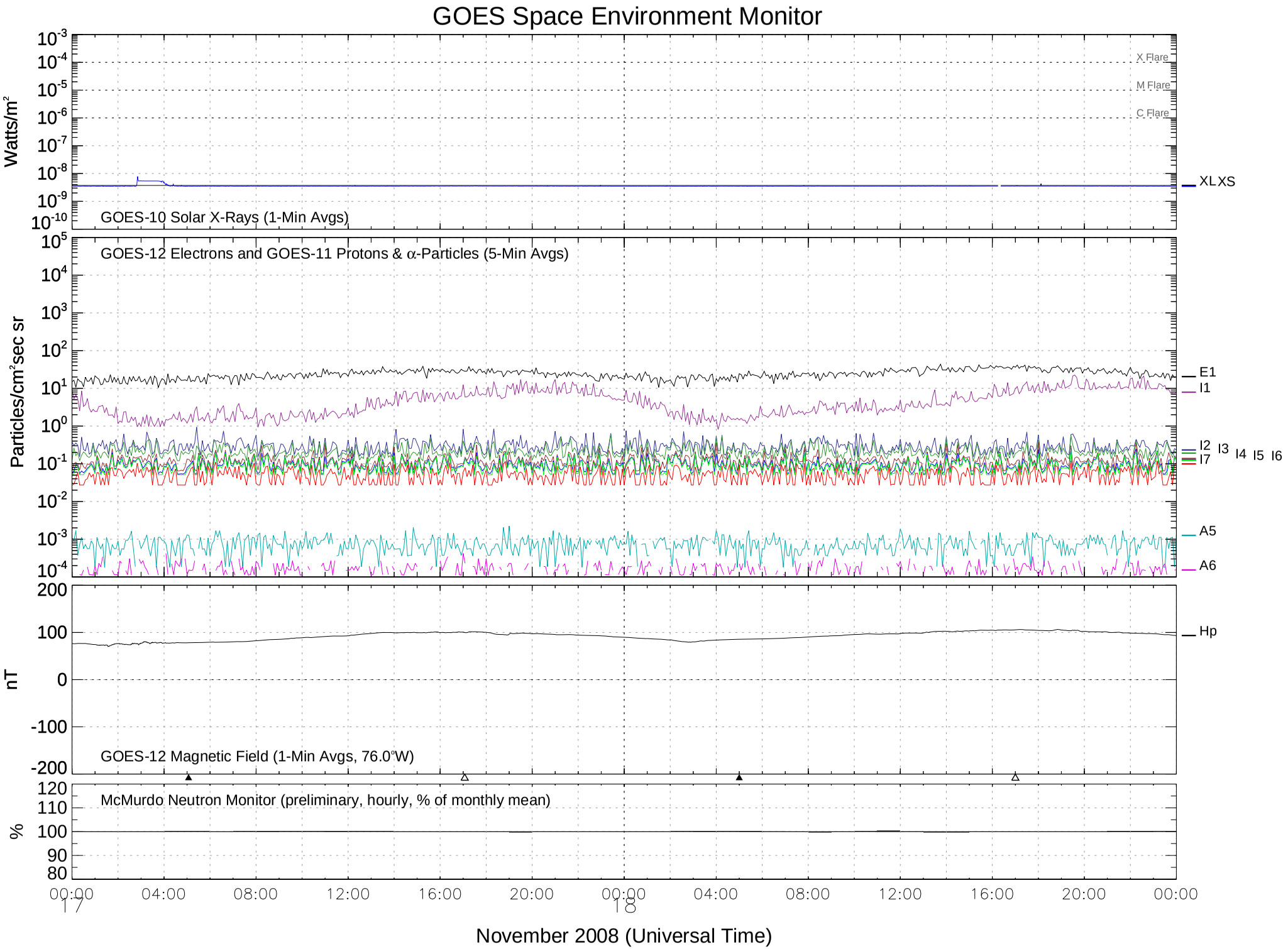
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Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3 I4 I5 I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 76.0°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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17
18
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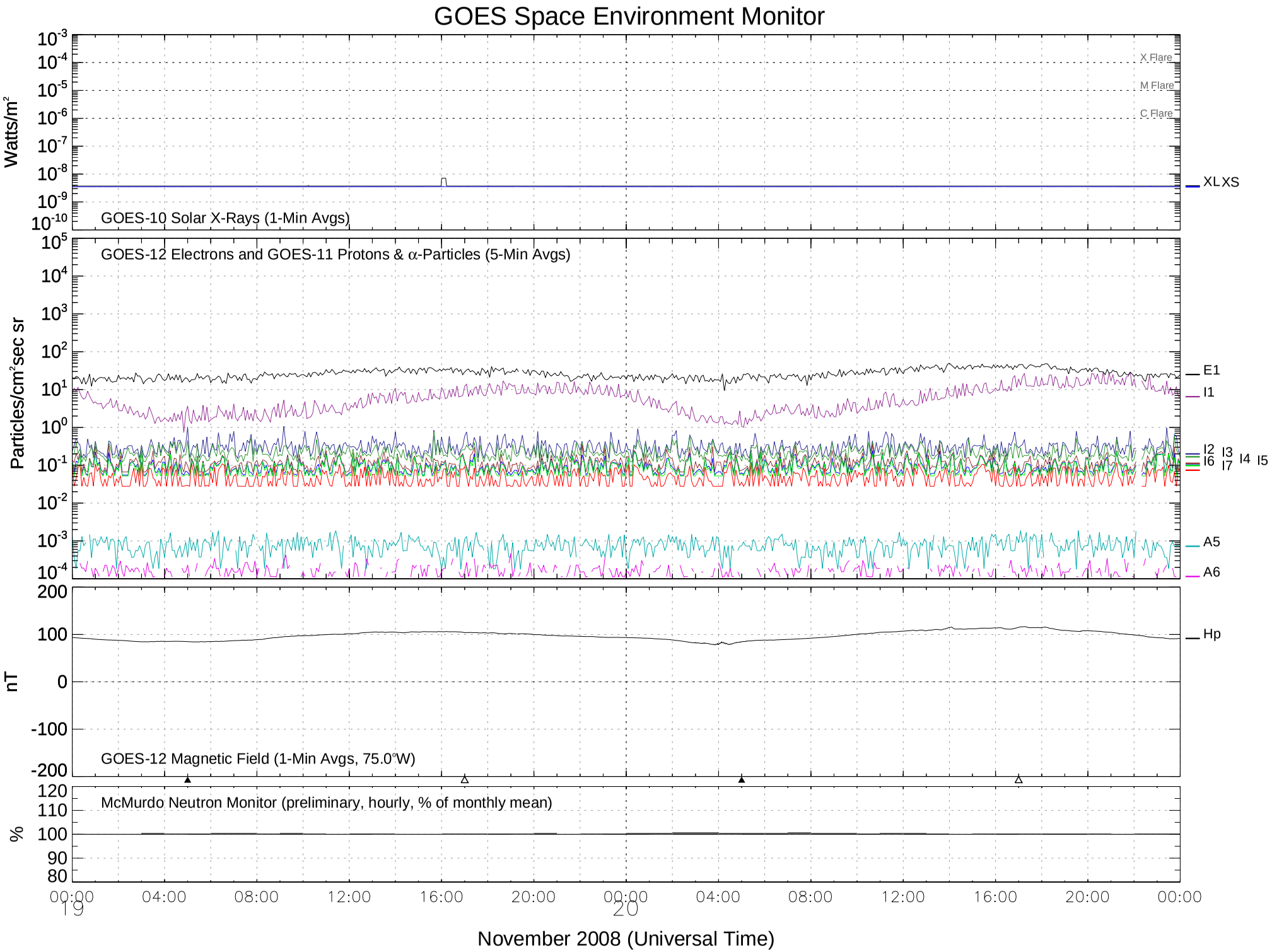
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Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3 I4 I5
I6 I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.0°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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19
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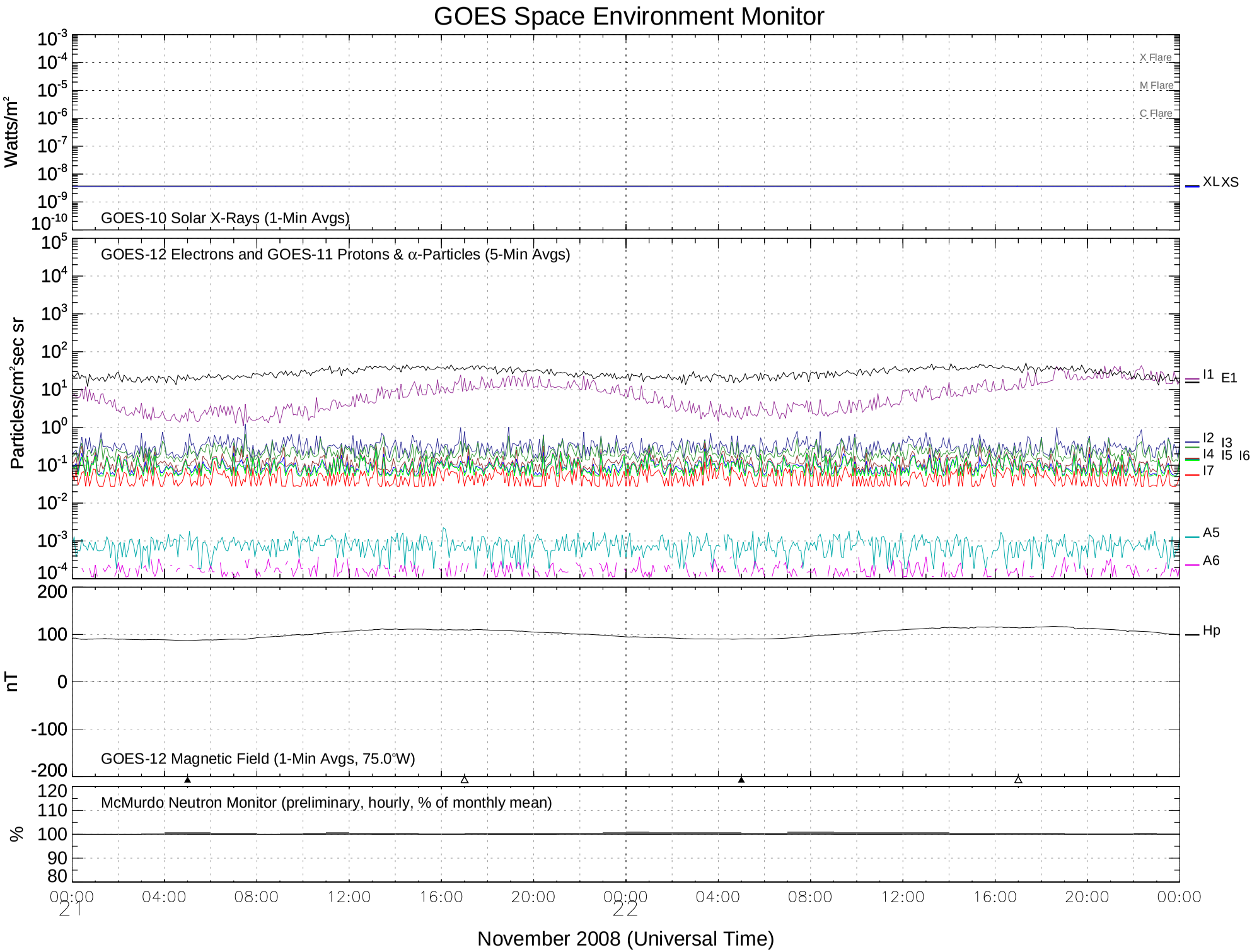
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Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
I1 E1
I2 I3
I4 I5 I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.0°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
00:00
04:00
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12:00
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22
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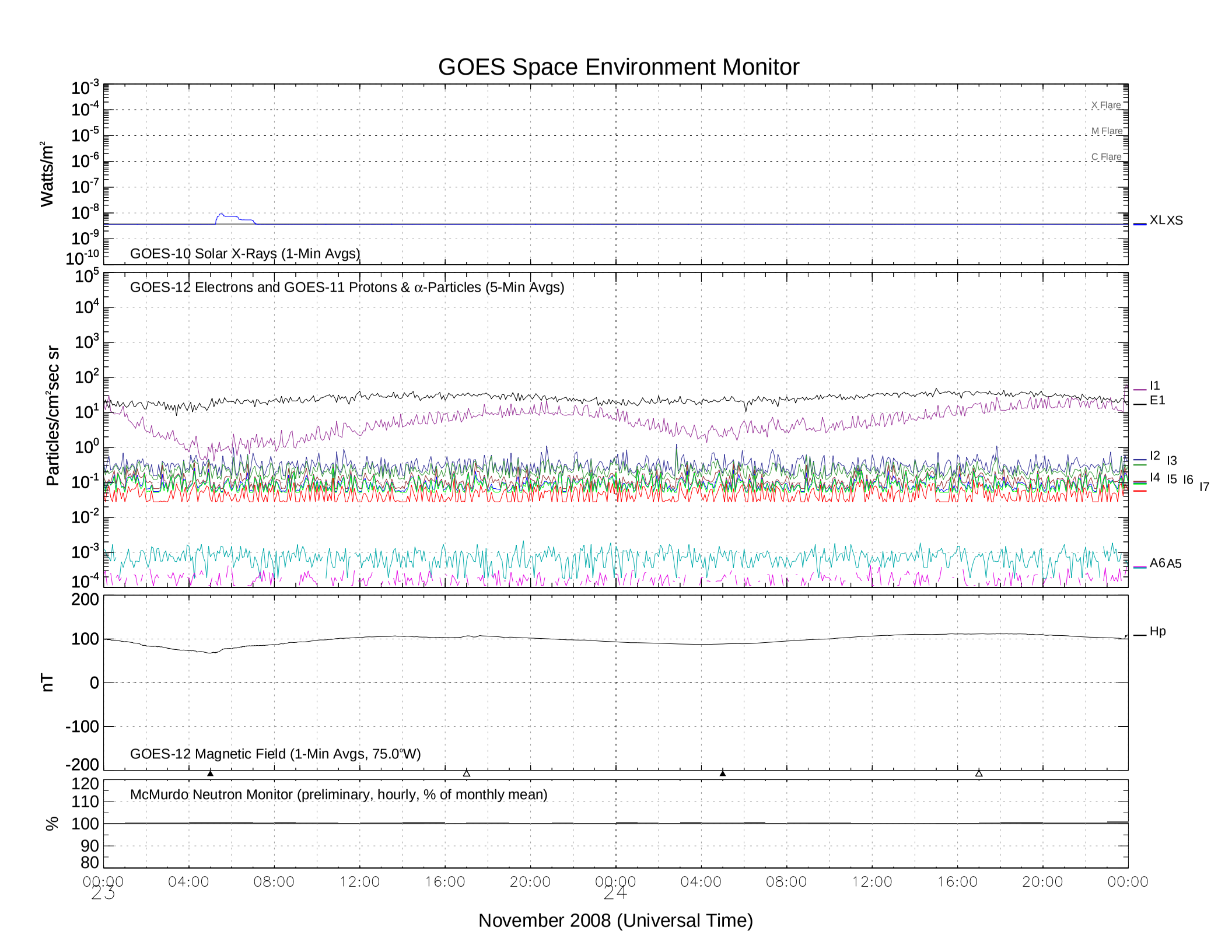
GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
GOES-10 Solar X-Rays (1-Min Avgs)
XL XS
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
I1
E1
I2 I3
I4 I5 I6 I7
A6 A5
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.0°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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23
24
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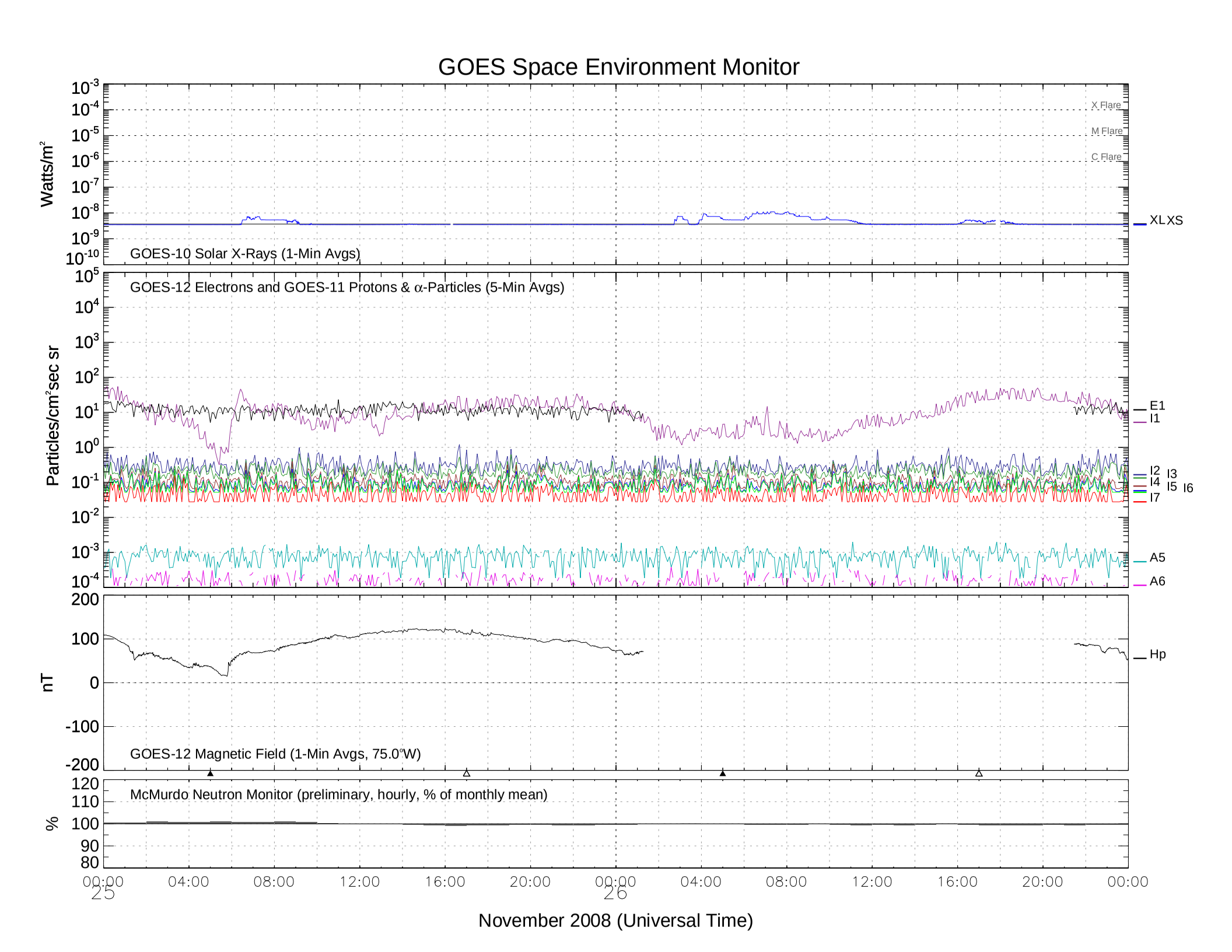
GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2 I3
I4 I5 I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.0°W)
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
%
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25
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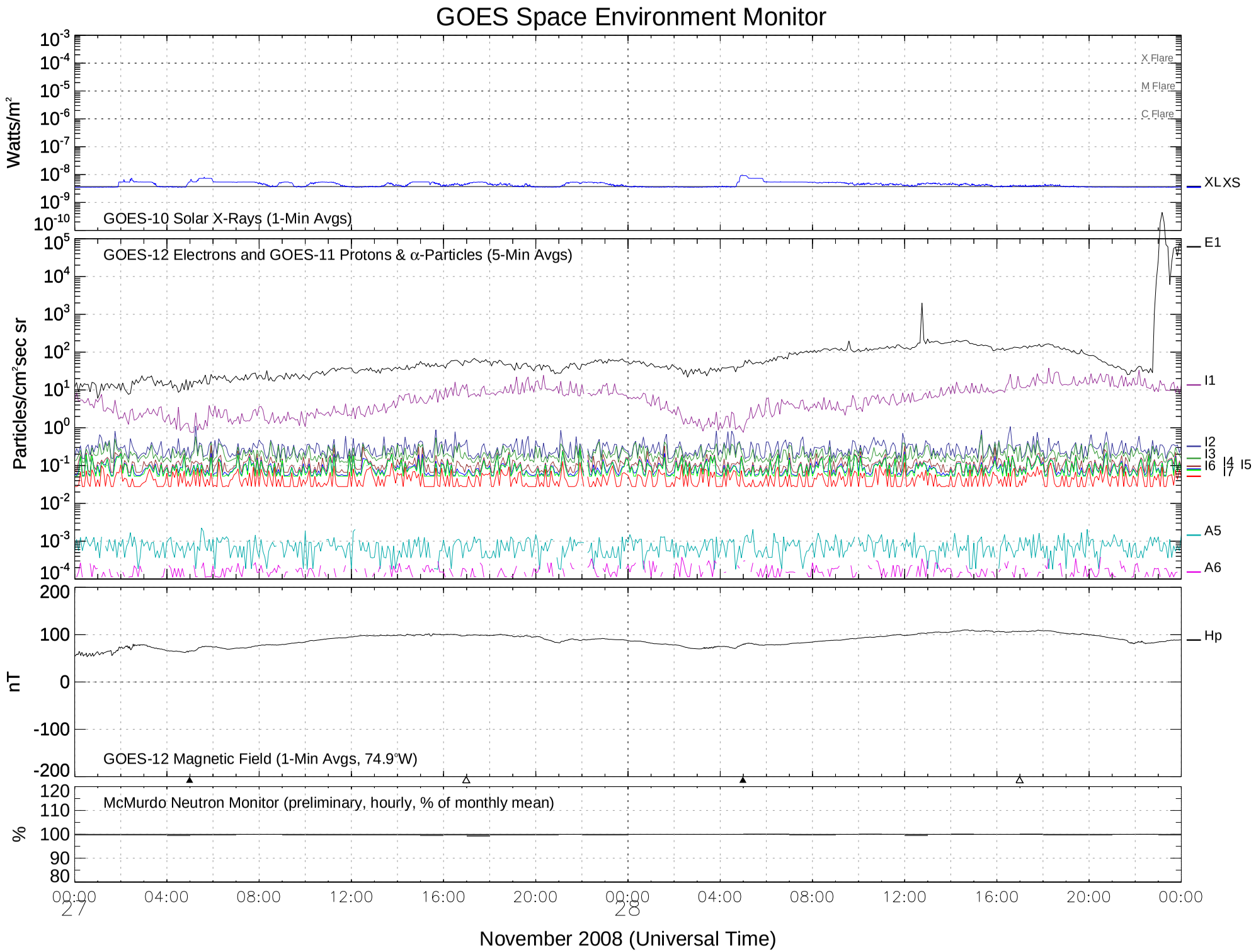
GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
Particles/cm²sec sr
E1
I1
I2
I3
I4
I5
I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 74.9°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
00:00
04:00
08:00
12:00
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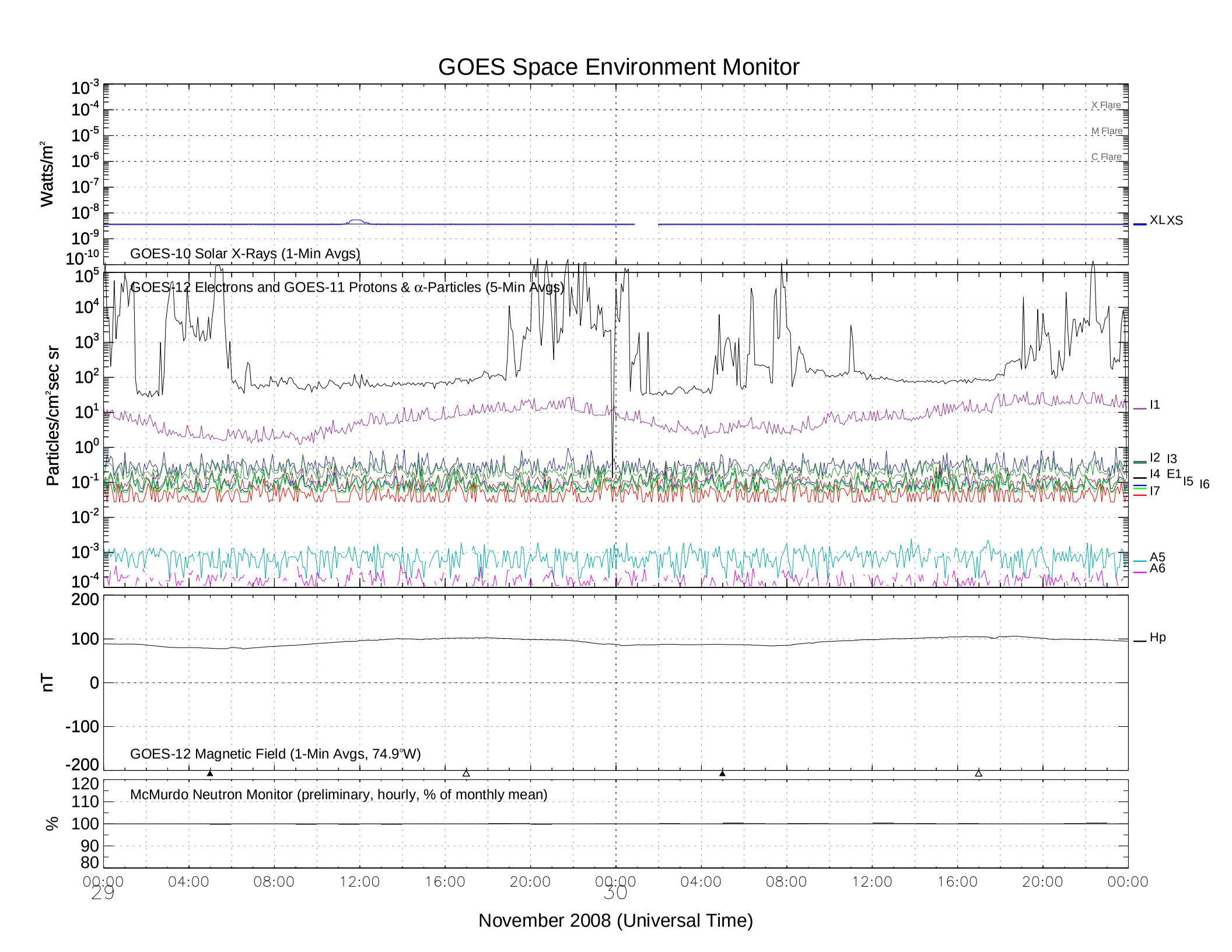

GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XL XS
GOES-10 Solar X-Rays (1-Min Avgs)
Particles/cm²sec sr
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
I1
I2 I3
I4 E1
I5 I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 74.9°W)
%
McMurdo Neutron Monitor (preliminary, hourly, % of monthly mean)
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
November 2008 (Universal Time)

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

NOVEMBER 2008

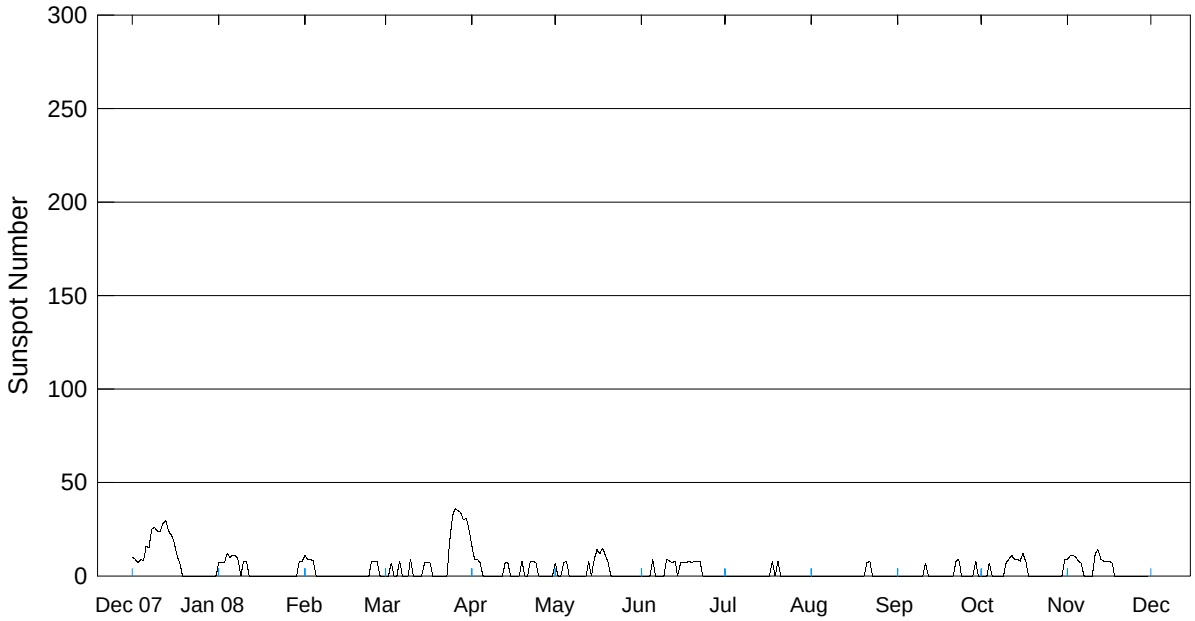
Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
306	01	31	16	68	6	11007	N34	E04	0	0	0	01	Q	SOL: Quiet
									0	0	0	01		MAG: Quiet
									0	0	0	01		PRO: Quiet
307	02	01	16	67	1	11007	N35	W10	0	0	0	02	Q	SOL: Quiet
									0	0	0	02		MAG: Quiet
									0	0	0	02		PRO: Quiet
308	03	02	17	69	2	11007	N35	W25	2	0	0	03	Q	SOL: Quiet
									0	0	0	03		MAG: Quiet
									0	0	0	03		PRO: Quiet
309	04	03	18	70	1	11007	N35	W38	1	0	0	04	Q	SOL: Quiet
									0	0	0	04		MAG: Quiet
									0	0	0	04		PRO: Quiet
310	05	04	14	68	1	11007	N36	W52	1	0	0	05	Q	SOL: Eruptive
									0	0	0	05		MAG: Quiet
									0	0	0	05		PRO: Quiet
311	06	05	11	68	0	11007	N35	W72	0	0	0	06	Q	SOL: Quiet
									0	0	0	06		MAG: Quiet
									0	0	0	06		PRO: Quiet
312	07	06	11	69	0	11007	N35	W84	0	0	0	07	Q	SOL: Quiet
									0	0	0	07		MAG: Minor
									0	0	0	07		PRO: Quiet
313	08	07	0	68	10				0	0	0	08		SOL: Quiet
									0	0	0	08		MAG: Active
									0	0	0	08		PRO: Quiet
314	09	08	0	68	16				0	0	0	09		SOL: Quiet
									0	0	0	09		MAG: Quiet
									0	0	0	09		PRO: Quiet
315	10	09	0	68	14				0	0	0	10		SOL: Quiet
									0	0	0	10		MAG: Quiet
									0	0	0	10		PRO: Quiet
316	11	10	16	69	3	11008	N33	E01	0	0	0	11	Q	SOL: Quiet
									0	0	0	11		MAG: Quiet
									0	0	0	11		PRO: Quiet
317	12	11	18	71	2	11008	N33	W09	0	0	0	12	Q	SOL: Quiet
									0	0	0	12		MAG: Quiet
									0	0	0	12		PRO: Quiet
318	13	12	21	71	2	11008	N33	W24	0	0	0	13	Q	SOL: Quiet
									0	0	0	13		MAG: Quiet
									0	0	0	13		PRO: Quiet
319	14	13	16	69	3	11008	N33	W38	0	0	0	14	Q	SOL: Quiet
									0	0	0	14		MAG: Quiet
									0	0	0	14		PRO: Quiet
320	15	14	12	68	2	11008	N33	W53	0	0	0	15	Q	SOL: Quiet
									0	0	0	15		MAG: Quiet
									0	0	0	15		PRO: Quiet
321	16	15	11	68	3	11008	N32	W65	0	0	0	16	Q	SOL: Quiet
									0	0	0	16		MAG: Quiet
									0	0	0	16		PRO: Quiet
322	17	16	11	68	10	11008	N33	W78	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

NOVEMBER 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)
323	18	17	11	68	1	11008	N33	W91	0	0	0	18	Q	SOL: Quiet
									0	0	0	18		MAG: Quiet
									0	0	0	18		PRO: Quiet
324	19	18	0	70	0				0	0	0	19		SOL: Quiet
									0	0	0	19		MAG: Quiet
									0	0	0	19		PRO: Quiet
325	20	19	0	69	0				0	0	0	20		SOL: Quiet
									0	0	0	20		MAG: Quiet
									0	0	0	20		PRO: Quiet
326	21	20	0	70	1				0	0	0	21		SOL: Quiet
									0	0	0	21		MAG: Quiet
									0	0	0	21		PRO: Quiet
327	22	21	0	69	0				0	0	0	22		SOL: Quiet
									0	0	0	22		MAG: Quiet
									0	0	0	22		PRO: Quiet
328	23	22	0	69	1				0	0	0	23		SOL: Quiet
									0	0	0	23		MAG: Quiet
									0	0	0	23		PRO: Quiet
329	24	23	0	69	3				0	0	0	24		SOL: Quiet
									0	0	0	24		MAG: Quiet
									0	0	0	24		PRO: Quiet
330	25	24	0	68	1				0	0	0	25		SOL: Quiet
									0	0	0	25		MAG: Quiet
									0	0	0	25		PRO: Quiet
331	26	25	0	68	12				0	0	0	26		SOL: Quiet
									0	0	0	26		MAG: Quiet
									0	0	0	26		PRO: Quiet
332	27	26	0	68	11				0	0	0	27		SOL: Quiet
									0	0	0	27		MAG: Quiet
									0	0	0	27		PRO: Quiet
333	28	27	0	68	7				0	0	0	28		SOL: Quiet
									0	0	0	28		MAG: Quiet
									0	0	0	28		PRO: Quiet
334	29	28	0	67	5				0	0	0	29		SOL: Quiet
									0	0	0	29		MAG: Quiet
									0	0	0	29		PRO: Quiet
335	30	29	0	68	2				0	0	0	30		SOL: Quiet
									0	0	0	30		MAG: Quiet
									0	0	0	30		PRO: Quiet

International Relative Sunspot Numbers
Dec 2007 - Nov 2008

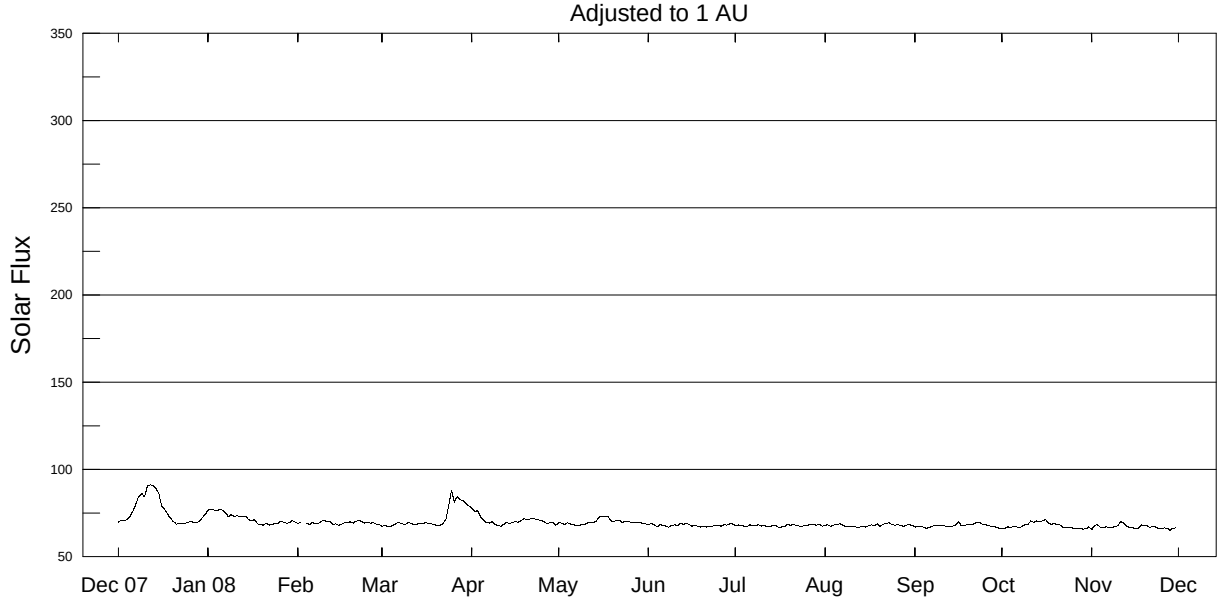


Day	Dec 07	Jan 08	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*	Oct*	Nov*
1	10	7	11	0	16	7	0	0	0	0	0	9
2	9	7	9	0	9	0	0	0	0	0	0	11
3	7	7	9	7	9	0	0	0	0	0	0	11
4	9	10	8	0	7	7	0	0	0	0	7	10
5	8	8	0	0	0	8	9	0	0	0	0	8
6	16	11	0	8	0	0	0	0	0	0	0	7
7	15	11	0	0	0	0	0	0	0	0	0	0
8	25	9	0	0	0	0	0	0	0	0	0	0
9	26	0	0	0	0	0	0	0	0	0	0	0
10	24	8	0	9	0	0	9	0	0	0	7	0
11	24	8	0	0	0	0	8	0	0	7	9	12
12	28	0	0	0	0	0	0	0	0	0	11	14
13	30	0	0	0	7	8	8	0	0	0	9	9
14	24	0	0	0	7	0	7	0	0	0	9	8
15	22	0	0	7	0	9	7	0	0	0	8	8
16	18	0	0	7	0	14	7	0	0	0	12	8
17	11	0	0	7	0	12	7	0	0	0	8	7
18	7	0	0	0	0	15	8	8	0	0	0	0
19	0	0	0	0	8	11	7	0	0	0	0	0
20	0	0	0	0	0	7	8	8	0	0	0	0
21	0	0	0	0	0	0	8	0	7	0	0	0
22	0	0	0	0	8	0	8	0	8	8	0	0
23	0	0	0	0	8	0	0	0	0	9	0	0
24	0	0	0	19	7	0	0	0	0	0	0	0
25	0	0	8	32	0	0	0	0	0	0	0	0
26	0	0	8	36	0	0	0	0	0	0	0	0
27	0	0	8	35	0	0	0	0	0	0	0	0
28	0	0	0	34	0	0	0	0	0	0	0	0
29	0	0	0	30	0	0	0	0	0	8	0	0
30	0	8		31	0	0	0	0	0	0	0	0
31	0	8		25		0		0	0		9	
Mean	10.1	3.3	2.1	9.3	2.9	3.2	3.4	0.5	0.5	1.1	2.9	4.1

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux
Dec 2007 - Nov 2008

Adjusted to 1 AU



Day	Dec 07	Jan 08	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	69.9	76.7	69.0	67.4	77.7	69.6	68.5	67.8	68.1	67.0	65.9	65.6
2	71.0	77.0	69.8	68.0	75.9	69.2	69.0	68.2	68.2	67.2	66.4	68.0
3	70.5	76.7	*	67.3	76.4	68.5	68.2	67.7	67.4	67.3	67.2	68.3
4	71.5	76.4	69.3	67.2	73.1	69.5	67.1	67.6	68.2	67.0	66.6	66.8
5	73.1	77.1	68.5	68.2	71.1	68.8	68.4	67.3	68.4	66.3	67.4	66.5
6	75.9	76.6	69.6	69.3	69.5	68.4	67.9	68.3	68.9	66.8	67.2	67.3
7	79.8	75.2	68.9	69.5	69.3	67.8	67.6	67.7	68.0	67.6	66.6	66.5
8	84.4	73.0	69.0	68.8	70.0	67.7	66.9	67.8	67.3	68.0	67.5	67.0
9	86.2	74.0	70.3	68.5	68.2	68.6	68.0	68.3	67.3	68.0	68.5	67.1
10	84.3	73.2	70.7	69.4	68.1	68.7	68.2	67.6	67.4	68.1	68.7	67.9
11	90.5	73.5	70.2	69.3	67.4	69.4	67.8	67.9	67.5	67.8	70.5	70.0
12	91.1	73.2	70.3	68.5	68.5	69.5	69.2	67.1	66.9	67.1	69.7	69.5
13	90.9	72.9	68.7	68.7	69.7	69.7	68.6	67.4	67.0	67.2	70.5	67.6
14	89.0	73.1	68.8	69.1	69.0	70.5	69.2	67.8	67.6	67.6	70.0	66.8
15	86.1	71.3	68.0	68.8	69.7	72.7	68.6	67.9	67.0	68.2	70.5	66.7
16	79.1	70.6	68.6	69.6	70.0	73.2	67.4	66.7	67.8	70.1	71.4	66.2
17	76.9	71.3	69.4	69.1	69.8	72.8	68.1	67.1	68.2	67.7	69.5	66.2
18	74.4	68.8	69.5	69.0	70.8	73.3	67.5	67.4	67.8	67.8	68.6	68.2
19	72.1	68.6	70.0	68.4	71.7	70.5	67.0	68.5	68.9	68.4	69.0	67.7
20	70.2	68.0	69.3	67.9	71.5	70.2	67.3	68.0	67.4	68.4	68.6	67.9
21	68.7	69.3	70.3	67.7	71.6	70.8	67.0	68.4	68.7	68.4	68.2	66.8
22	69.1	68.1	70.8	69.1	72.1	71.0	67.5	68.0	69.1	69.6	67.0	67.3
23	69.1	68.4	70.1	71.5	71.5	69.6	67.5	67.6	69.4	69.8	66.5	67.2
24	69.1	69.1	69.3	79.0	71.2	70.3	68.0	67.5	68.6	68.8	66.7	66.1
25	69.7	68.9	69.9	88.2	70.7	70.1	68.1	67.9	68.0	68.6	66.7	66.0
26	70.2	70.3	69.3	81.2	69.9	69.8	67.5	68.1	68.3	68.0	66.0	66.5
27	69.7	69.8	69.4	84.5	69.0	69.7	68.3	68.4	68.0	67.6	66.1	66.4
28	69.5	69.2	68.7	82.6	69.4	69.6	68.1	68.3	67.4	67.3	66.2	65.2
29	70.3	69.5	68.5	82.4	69.6	69.9	68.8	68.1	68.1	67.0	65.8	66.4
30	72.5	70.6		80.4	68.0	69.0	68.9	68.5	68.4	66.4	65.9	66.5
31	74.2	69.9		79.1		68.8		67.5	67.9		67.1	
Mean	76.1	71.9	69.4	72.2	70.7	69.9	68.0	67.8	68.0	67.8	67.8	67.1

* = No data available.

DAILY SOLAR INDICES
NOVEMBER 2008

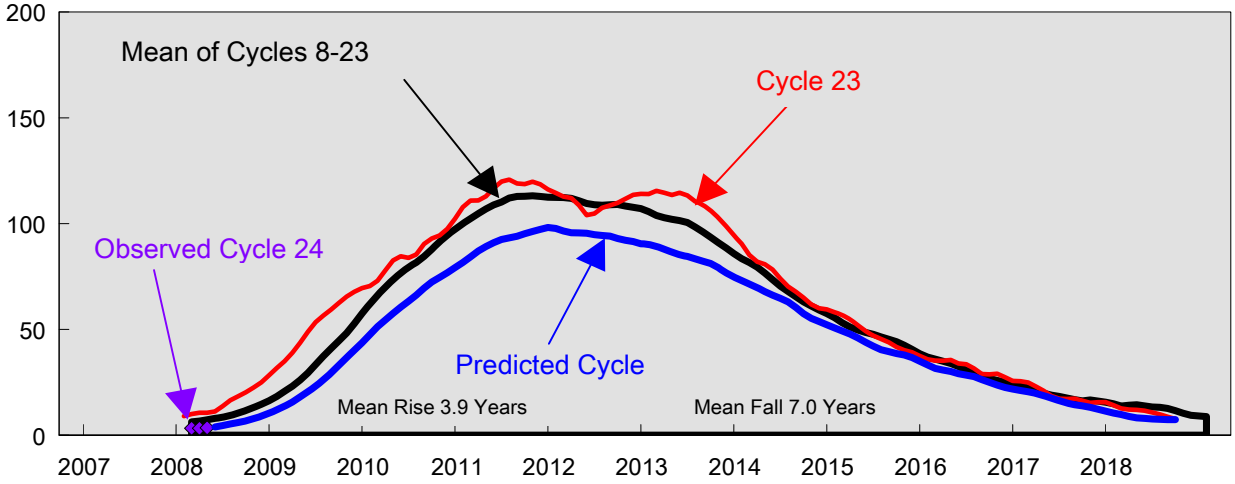
	Day	Bartels	Sunspot		Obs Flux			-----Solar Flux Adjusted to 1 Astronomical Unit--------					
	of	Cycle	Numbers		Penticton	SGMR	SGMR	SGMR	Penticton	SGMR	SGMR	SGMR	SGMR	SGMR
Day	Year	Day	Int	Amer	(2800)	(15400)	(8800)	(4995)	(2800)	(2695)	(1415)	(610)	(410)	(245)
1	306	21	9	4	66.7	459	206	132	65.6	62	54	38	21	10
2	307	22	11	11	69.1	459	202	127	68.0	61	54	39	23	21
3	308	23	11	11	69.5	451	200	129	68.3	69	55	40	21	11
4	309	24	10	10	68.0	458	209	134	66.8	61	57	39	21	11
5	310	25	8	7	67.7	449	209	137	66.5	63	55	38	22	11
6	311	26	7	4	68.6	374	195	125	67.3	63	55	36	21	10
7	312	27	0	1	67.8	348	202	125	66.5	64	54	35	21	11
8	313	1	0	0	68.3	364	209	132	67.0	63	57	36	21	10
9	314	2	0	0	68.4	461	206	128	67.1	65	56	40	22	11
10	315	3	0	3	69.3	---	---	---	67.9	---	---	38	21	11
11	316	4	12	13	71.4	457	213	129	70.0	69	58	41	22	15
12	317	5	14	14	70.9	459	218	129	69.5	68	59	40	22	12
13	318	6	9	10	69.1	451	207	128	67.6	64	58	40	22	11
14	319	7	8	7	68.3	341	197	123	66.8	63	56	38	20	11
15	320	8	8	6	68.2	342	206	130	66.7	64	56	37	21	11
16	321	9	8	5	67.7	452	212	128	66.2	67	54	39	22	11
17	322	10	7	1	67.7	459	209	126	66.2	64	55	40	21	11
18	323	11	0	0	69.8	457	211	125	68.2	69	55	40	22	11
19	324	12	0	0	69.4	459	212	125	67.7	71	54	39	21	11
20	325	13	0	1	69.6	457	220	127	67.9	68	55	39	22	12
21	326	14	0	0	68.5	455	210	125	66.8	64	54	39	22	11
22	327	15	0	0	69.0	457	214	126	67.3	92	53	39	22	11
23	328	16	0	0	69.0	454	218	127	67.2	68	53	39	22	10
24	329	17	0	0	67.9	454	211	124	66.1	61	53	38	21	11
25	330	18	0	0	67.7	---	---	---	66.0	---	---	---	---	---
26	331	19	0	0	68.3	453	210	125	66.5	60	52	38	21	11
27	332	20	0	0	68.2	455	225	123	66.4	63	54	38	22	11
28	333	21	0	0	67.0	433	200	120	65.2	60	52	37	20	11
29	334	22	0	0	68.2	454	209	125	66.4	61	52	38	21	11
30	335	23	0	0	68.4	453	220	124	66.5	66	54	37	21	12
MEAN			4.1	3.6	68.6	436	209	127	67.1	65	54	38	21	11

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

24
Nov 08

Cycle 24 Smoothed Sunspot Numbers: Observed and Predicted

PRELIMINARY Based on March 2008 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	4	4	3.3###	3.3	3.5	4	5	5	6	7	8	9	5
						(1)	(2)	(3)	(4)	(5)	(7)	(8)	(3)
2009	10	12	14	16	18	21	23	26	29	33	37	40	23
	(9)	(11)	(13)	(15)	(18)	(20)	(23)	(26)	(29)	(32)	(35)	(38)	(22)

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

*** May 1996 marks Cycle 23's mathematical minimum.** **** October 1996 marks the consensus minimum.**

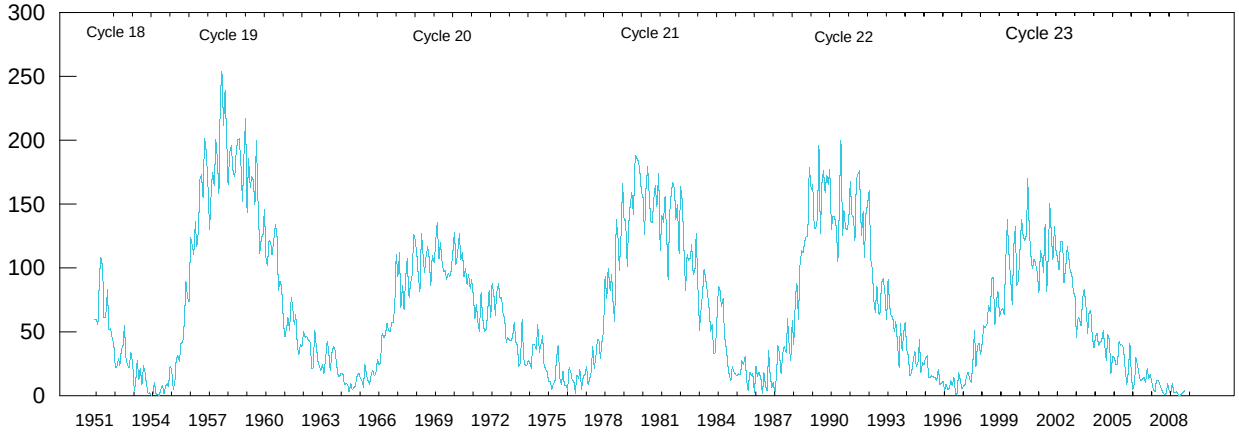
+ April 2000 marks Cycle 23 maximum. ## - Preliminary Cycle 24 Minumum

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

OBSERVED AND PREDICTED NUMBERS: For the end of Cycle 23, and the rise and decline of Cycle 24, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through Mar 2008 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 May 2009 prediction. There exists a 90% chance that in May 2009, the actual smoothed sunspot will fall somewhere between 0 and 36.

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 March, 2009. This will be updated monthly until the actual minimun is reached.

Mean Monthly Sunspot Numbers
Jan 1951 - Nov 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	3.3	2.1	9.3	2.9	2.9	3.1	0.5	0.5	1.1	2.9	4.1		3.0	

Values are preliminary after Mar 08. 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
NOVEMBER 2008

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	02	1504	1505	1511	N35	W19	11007	11	1.1	7	SF		3	E		16		FH
HOLL		2015	2016	2020	N36	W29	11007	10	31.5	5	SF		3	E		27		E
KANZ	03	1116	1119	1122	N36	W28				6	SF		2	E				
HOLL		2248	2249	2302	N37	W42	11007	10	31.6	14	SF		3	E		13		FE
LEAR	04	0326	0329	0332	N35	W38	11007	11	1.1	6	SF		3	E		28		
KANZ	05	1254	1254	1256	N36	W54				2	SF		2	E				

"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
NOVEMBER 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
GOES	02	1322	1328	1338						16	B 2.7	1.7E-04		
GOES		1436	1440	1444						8	B 1.5	4.5E-05		
GOES		1502	1505	1507	N35	W19	11007			5	B 7.2	1.3E-04		
GOES		2012	2015	2017	N36	W29	11007			5	B 5.7	7.5E-05		
GOES	03	1042	1046	1048						6	B 2.9	5.2E-05		
GOES		1115	1119	1122						7	C 1.6	3.5E-04		
GOES		2245	2256	2303	N37	W42	11007			18	B 2.4	1.9E-04		
GOES	04	0317	0330	0336	N35	W38	11007			19	C 1.0	6.2E-04		
GOES		0537	0541	0544						7	B 1.0	3.2E-05		
GOES	05	1252	1256	1303						11	B 3.4	1.6E-04		
GOES	10	2018	2031	2038			11008			20	B 3.0	2.5E-04		
GOES	12	0002	0009	0025			11008			23	B 1.4	1.7E-04		

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

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

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

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

NOVEMBER 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
02	410	SGMR	8 S	2014.0	2015.0	1.0	160.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2015.0	2016.0	1.0	260.0			QL=4 ST=2 TYP=3
	245	SGMR	8 S	2015.0	2015.0	U	290.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2016.0	2016.0	U	380.0			QL=4 ST=2 TYP=3
	1415	PALE	8 S	2016.0	2016.0	U	200.0			QL=4 ST=2 TYP=3
	245	PALE	8 S	2130.0	2130.0	U	130.0			QL=4 ST=2 TYP=3
	245	PALE	48 C	2140.0	2141.0	140.0	510.0			QL=4 ST=2 TYP=8
	410	PALE	48 C	2141.0	2147.0	139.0	110.0			QL=4 ST=2 TYP=8
	410	LEAR	4 S/F	2156.0	2159.0	124.0	140.0			QL=4 ST=1 TYP=3
	245	LEAR	48 C	2156.0	2159.0U	124.0	240.0			QL=4 ST=1 TYP=8
	410	LEAR	8 S	2302.0	2302.0	U	190.0			QL=4 ST=2 TYP=3
	610	LEAR	8 S	2303.0	2303.0	U	100.0			QL=4 ST=2 TYP=3
	410	PALE	8 S	2303.0	2303.0	U	220.0			QL=4 ST=2 TYP=3
	610	PALE	8 S	2304.0	2304.0	U	110.0			QL=4 ST=2 TYP=3
03	410	LEAR	49 GB	0313.0	0314.0	2.0	600.0			QL=4 ST=2 TYP=6
	245	LEAR	4 S/F	0313.0	0315.0	3.0	230.0			QL=4 ST=2 TYP=3
	410	PALE	49 GB	0314.0	0314.0	2.0	650.0			QL=4 ST=2 TYP=6
	245	PALE	4 S/F	0314.0	0316.0	3.0	250.0			QL=4 ST=2 TYP=3

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

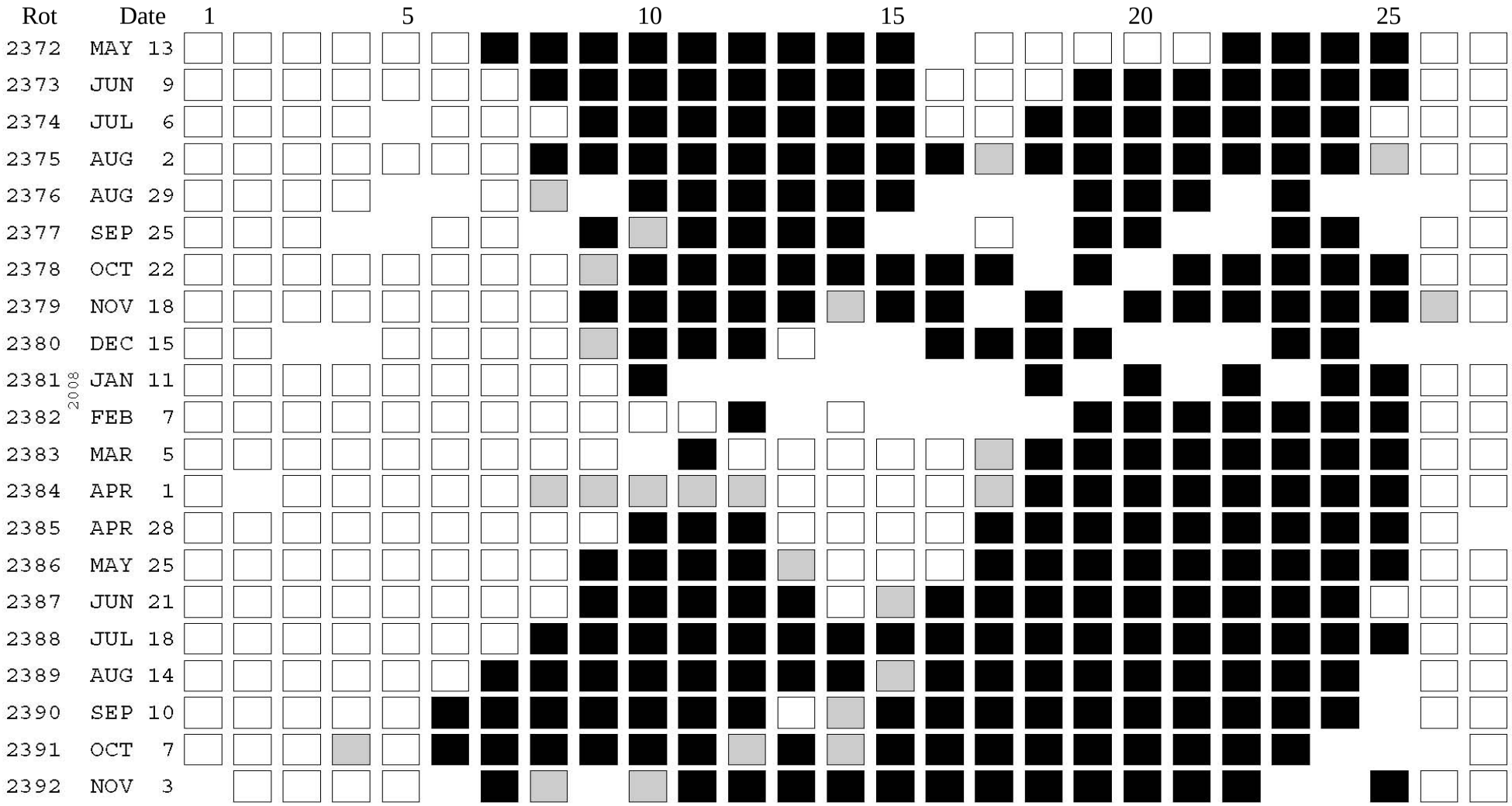
Explanation of Type Code:

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

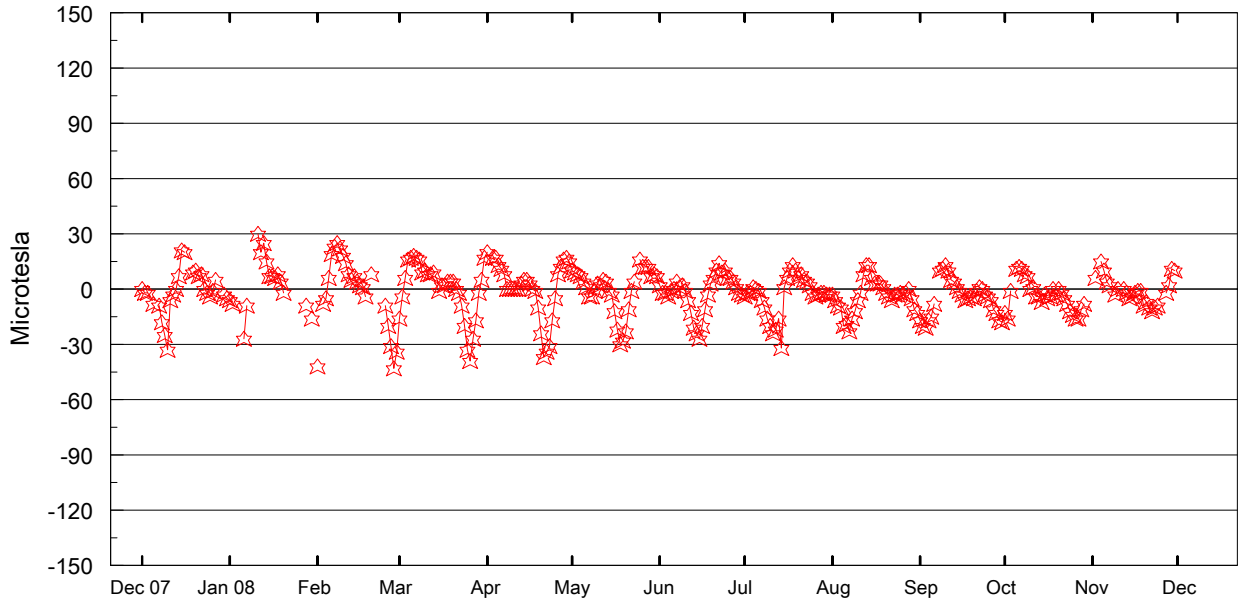


Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT = field < -2 microT; No box = no data available

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.

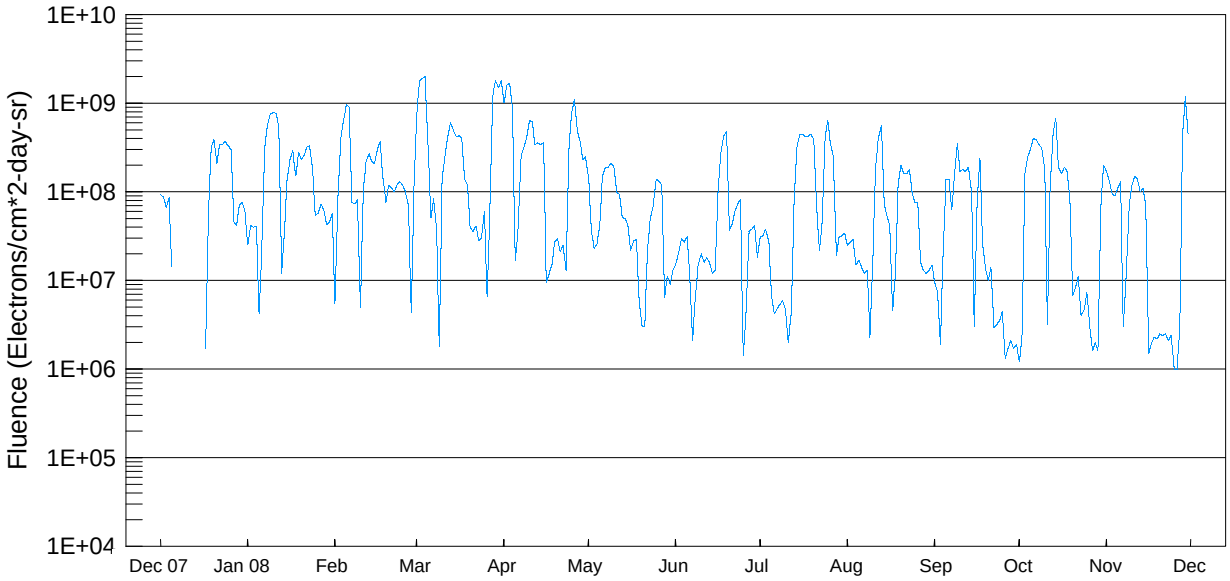
30
Nov 08

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



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

GOES Daily Electron Fluence
Dec 2007 - Nov 2008



Day	Dec 07	Jan 08	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	9.3E+07	2.5E+07	5.5E+06	7.5E+08	1.0E+09	1.4E+08	1.5E+07	3.1E+07	2.5E+07	9.4E+06	1.2E+06	1.7E+08
2	8.8E+07	4.2E+07	8.0E+07	1.8E+09	1.6E+09	3.6E+07	2.1E+07	3.2E+07	2.7E+07	7.3E+06	2.5E+06	1.3E+08
3	6.7E+07	4.0E+07	4.1E+08	1.9E+09	1.7E+09	2.3E+07	3.0E+07	3.8E+07	2.9E+07	1.9E+06	1.6E+08	9.4E+07
4	8.6E+07	4.1E+07	6.5E+08	2.0E+09	8.9E+08	2.6E+07	2.7E+07	2.7E+07	1.5E+07	2.0E+07	2.5E+08	9.1E+07
5	1.4E+07	4.2E+06	9.7E+08	3.6E+08	1.7E+07	4.2E+07	3.1E+07	6.6E+06	1.7E+07	1.4E+08	3.0E+08	1.1E+08
6	---	2.3E+07	9.1E+08	5.1E+07	3.6E+07	1.5E+08	1.1E+07	4.2E+06	1.4E+07	1.4E+08	4.0E+08	1.3E+08
7	---	3.2E+08	7.6E+07	8.4E+07	2.5E+08	1.9E+08	2.1E+06	4.8E+06	1.2E+07	6.2E+07	3.9E+08	3.0E+06
8	---	5.6E+08	7.3E+07	3.8E+07	3.2E+08	1.9E+08	6.7E+06	5.4E+06	1.3E+07	1.6E+08	3.4E+08	1.1E+07
9	---	7.5E+08	8.1E+07	1.8E+06	4.0E+08	2.1E+08	1.5E+07	5.9E+06	2.3E+06	3.6E+08	3.1E+08	7.0E+07
10	---	7.9E+08	5.0E+06	1.4E+08	6.4E+08	1.9E+08	2.0E+07	4.7E+06	1.8E+07	1.7E+08	1.8E+08	1.2E+08
11	---	7.7E+08	1.1E+08	2.5E+08	6.2E+08	1.0E+08	1.6E+07	2.0E+06	1.9E+08	1.8E+08	3.2E+06	1.5E+08
12	---	5.5E+08	2.2E+08	4.1E+08	3.4E+08	9.4E+07	1.8E+07	4.3E+06	4.0E+08	1.7E+08	1.1E+08	1.4E+08
13	---	1.2E+07	2.7E+08	6.0E+08	3.6E+08	5.2E+07	1.6E+07	7.8E+07	5.7E+08	1.9E+08	4.5E+08	1.0E+08
14	---	3.5E+07	2.2E+08	4.9E+08	3.4E+08	5.0E+07	1.2E+07	3.2E+08	7.2E+07	1.0E+08	6.8E+08	1.1E+08
15	---	1.4E+08	2.1E+08	4.2E+08	3.6E+08	4.3E+07	1.3E+07	4.4E+08	5.4E+07	3.0E+06	1.9E+08	6.8E+07
16	---	2.3E+08	3.0E+08	4.3E+08	9.4E+06	2.2E+07	9.6E+07	4.5E+08	4.1E+07	7.3E+07	1.6E+08	1.5E+06
17	1.7E+06	2.9E+08	3.7E+08	4.0E+08	1.2E+07	2.8E+07	2.7E+08	4.2E+08	4.5E+06	2.4E+08	1.9E+08	2.0E+06
18	6.4E+07	1.5E+08	1.5E+08	1.4E+08	1.5E+07	2.9E+07	4.3E+08	4.2E+08	1.1E+07	2.6E+07	1.7E+08	2.3E+06
19	3.2E+08	2.8E+08	7.6E+07	1.2E+08	2.7E+07	5.6E+06	4.8E+08	4.5E+08	1.2E+08	1.4E+07	8.0E+07	2.2E+06
20	3.9E+08	2.3E+08	1.2E+08	4.0E+07	3.0E+07	3.1E+06	3.7E+07	3.9E+08	2.0E+08	1.0E+07	6.7E+06	2.5E+06
21	2.1E+08	2.6E+08	1.1E+08	3.6E+07	2.1E+07	3.0E+06	4.3E+07	6.4E+07	1.6E+08	1.4E+07	8.4E+06	2.4E+06
22	3.4E+08	3.2E+08	1.0E+08	4.1E+07	2.5E+07	2.3E+07	6.0E+07	2.2E+07	1.6E+08	2.9E+06	1.1E+07	2.5E+06
23	3.4E+08	3.3E+08	1.2E+08	2.8E+07	1.3E+07	5.0E+07	7.3E+07	4.5E+07	1.8E+08	3.2E+06	4.0E+06	2.1E+06
24	3.7E+08	1.8E+08	1.3E+08	3.0E+07	3.0E+08	7.0E+07	8.3E+07	4.0E+08	9.6E+07	3.5E+06	4.7E+06	2.4E+06
25	3.3E+08	5.4E+07	1.2E+08	6.0E+07	7.8E+08	1.4E+08	1.4E+06	6.4E+08	7.5E+07	4.5E+06	7.3E+06	1.0E+06
26	3.0E+08	5.8E+07	1.0E+08	6.6E+06	1.1E+09	1.3E+08	4.8E+06	3.5E+08	7.7E+07	1.3E+06	3.1E+06	1.0E+06
27	4.6E+07	7.3E+07	7.1E+07	5.7E+07	5.0E+08	1.2E+08	3.6E+07	2.5E+08	1.6E+07	1.7E+06	1.6E+06	2.8E+06
28	4.2E+07	6.2E+07	4.4E+06	1.2E+09	3.7E+08	6.4E+06	3.8E+07	1.9E+07	1.3E+07	2.1E+06	2.0E+06	4.5E+08
29	7.1E+07	4.3E+07	1.1E+08	1.8E+09	2.3E+08	1.1E+07	4.2E+07	3.1E+07	1.2E+07	1.7E+06	1.6E+06	1.2E+09
30	7.6E+07	4.5E+07		1.5E+09	2.5E+08	9.1E+06	1.8E+07	3.2E+07	1.3E+07	1.9E+06	7.0E+07	4.5E+08
31	6.1E+07	5.7E+07		1.8E+09		1.3E+07		3.4E+07	1.5E+07		2.0E+08	

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.

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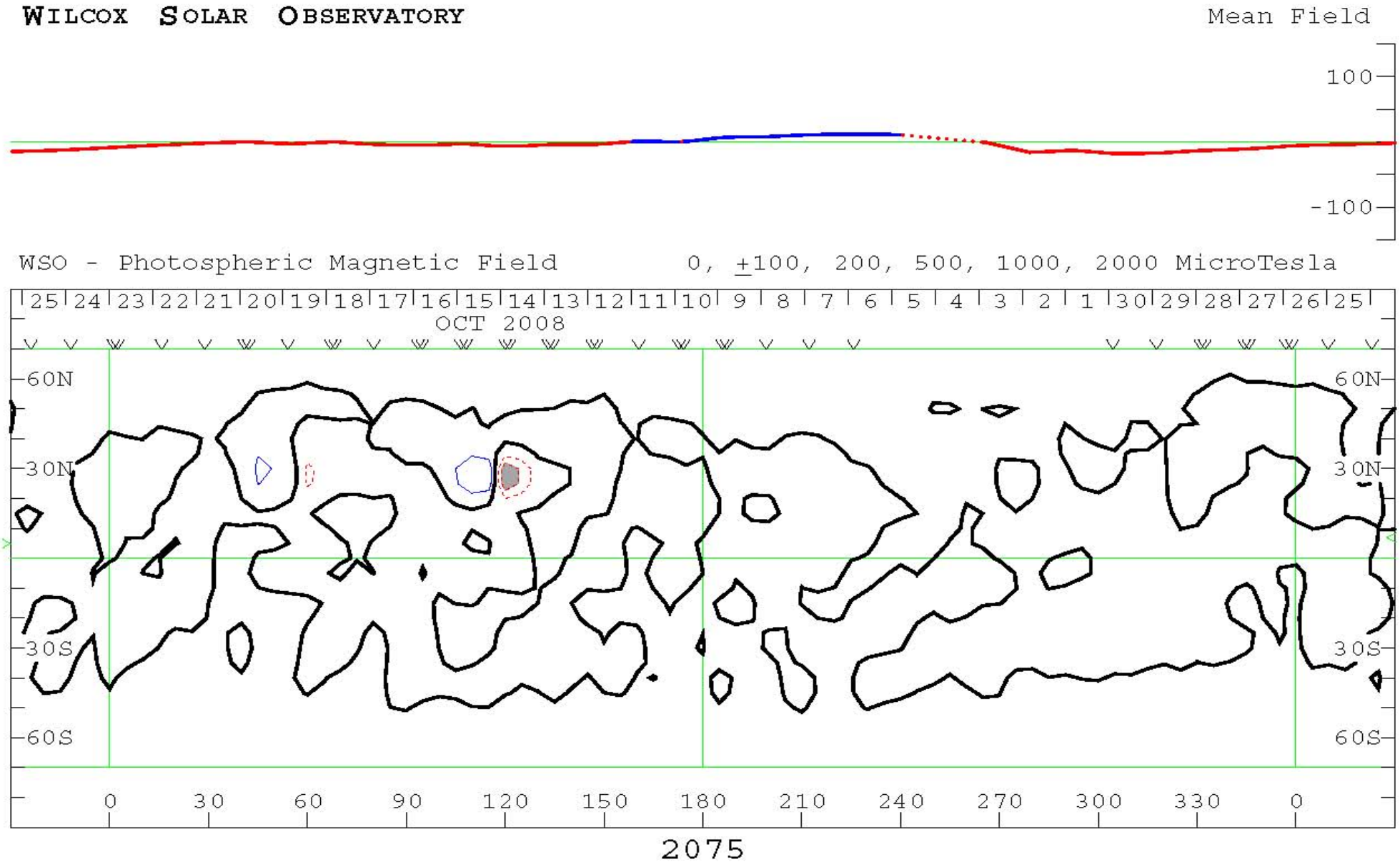
Prompt Reports Number 772 Part I

DATA FOR **OCTOBER 2008**

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2075

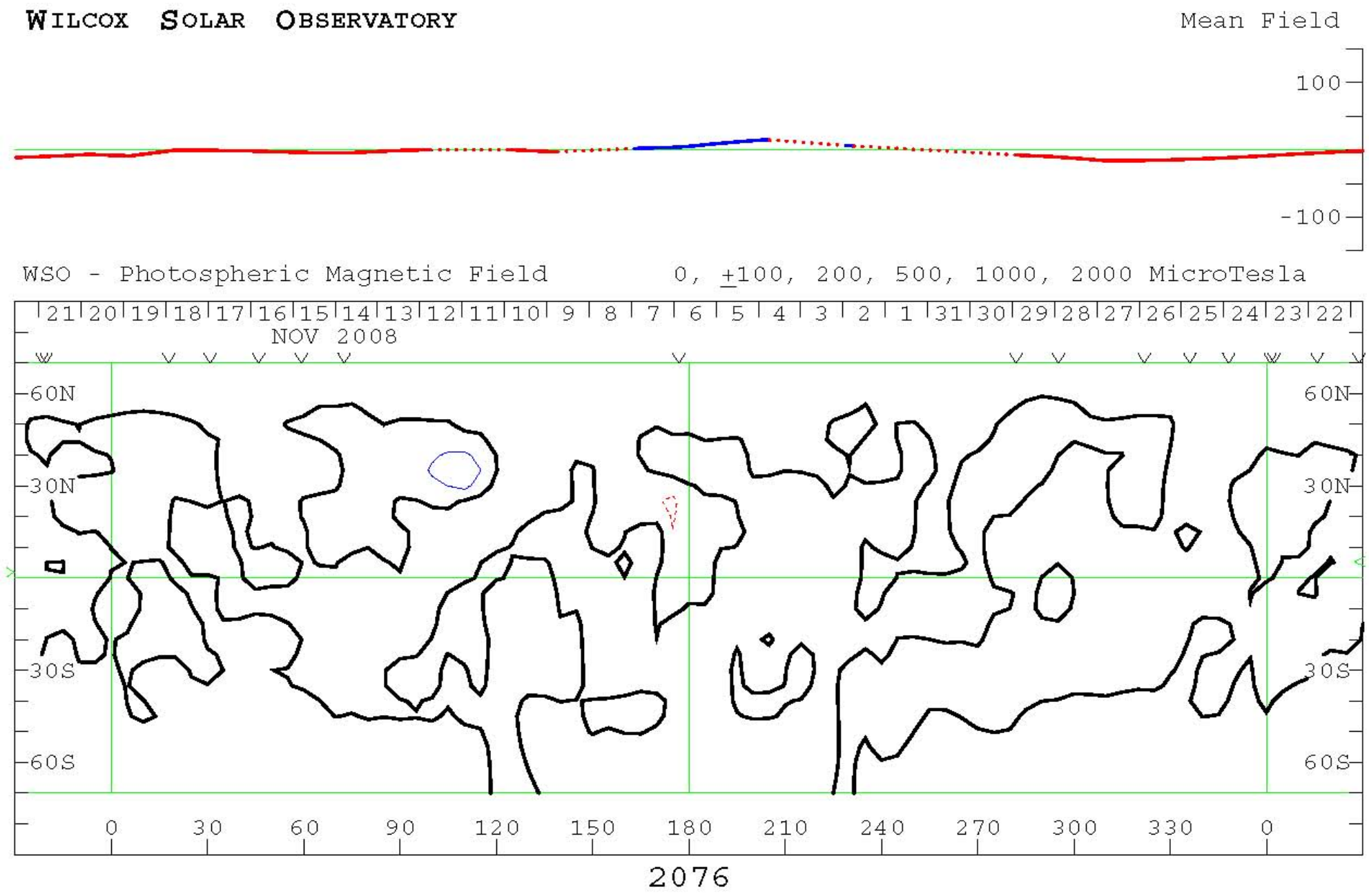
(26 Sep 2008 – 23 Oct 2008)



SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2076

(23 Oct 2008 – 20 Nov 2008)



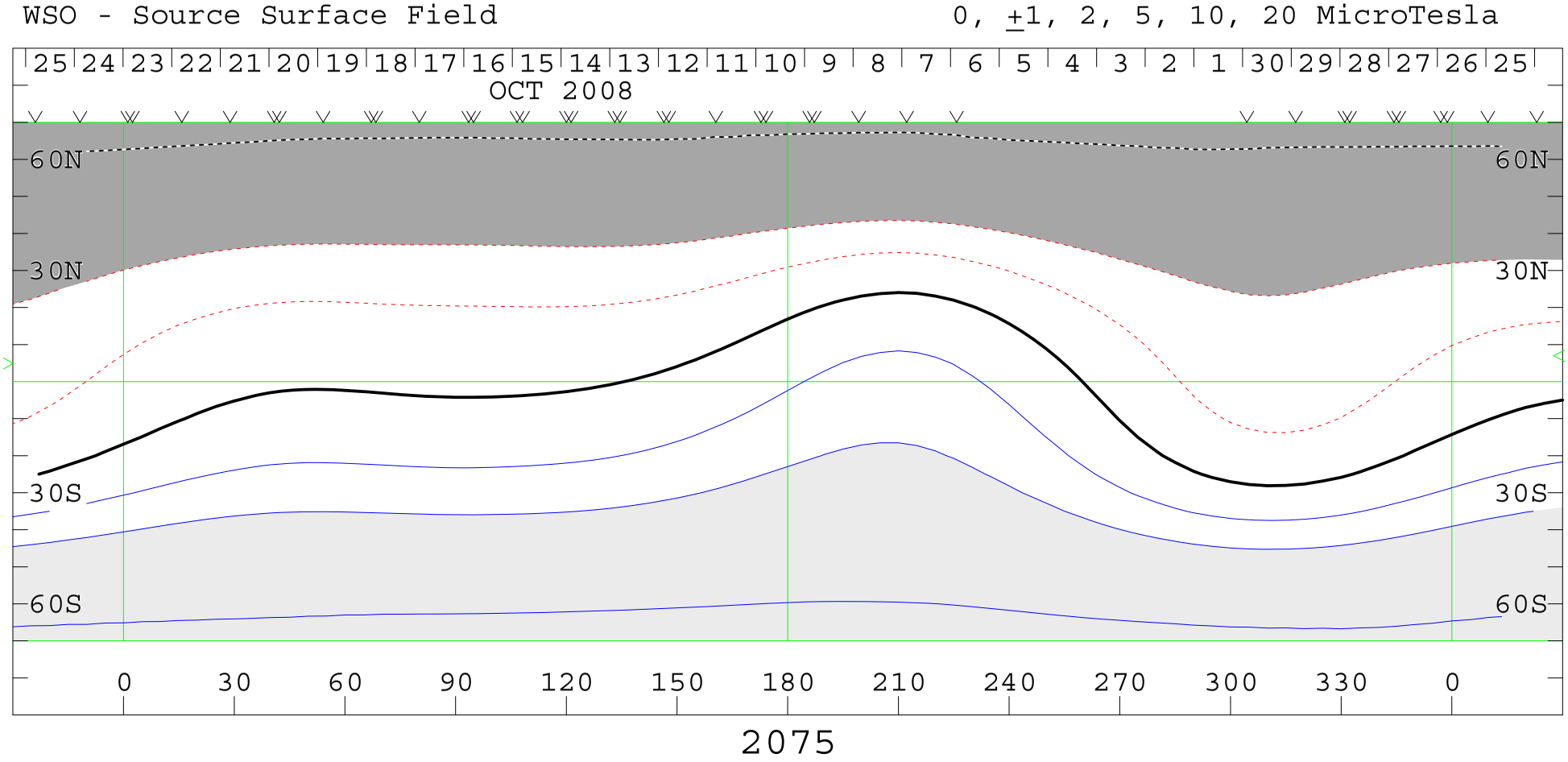
SOLAR MAGNETIC FIELD SYNOPTIC CHART

SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 2075

(26 Sep 2008 - 23 Oct 2008)

WILCOX SOLAR OBSERVATORY

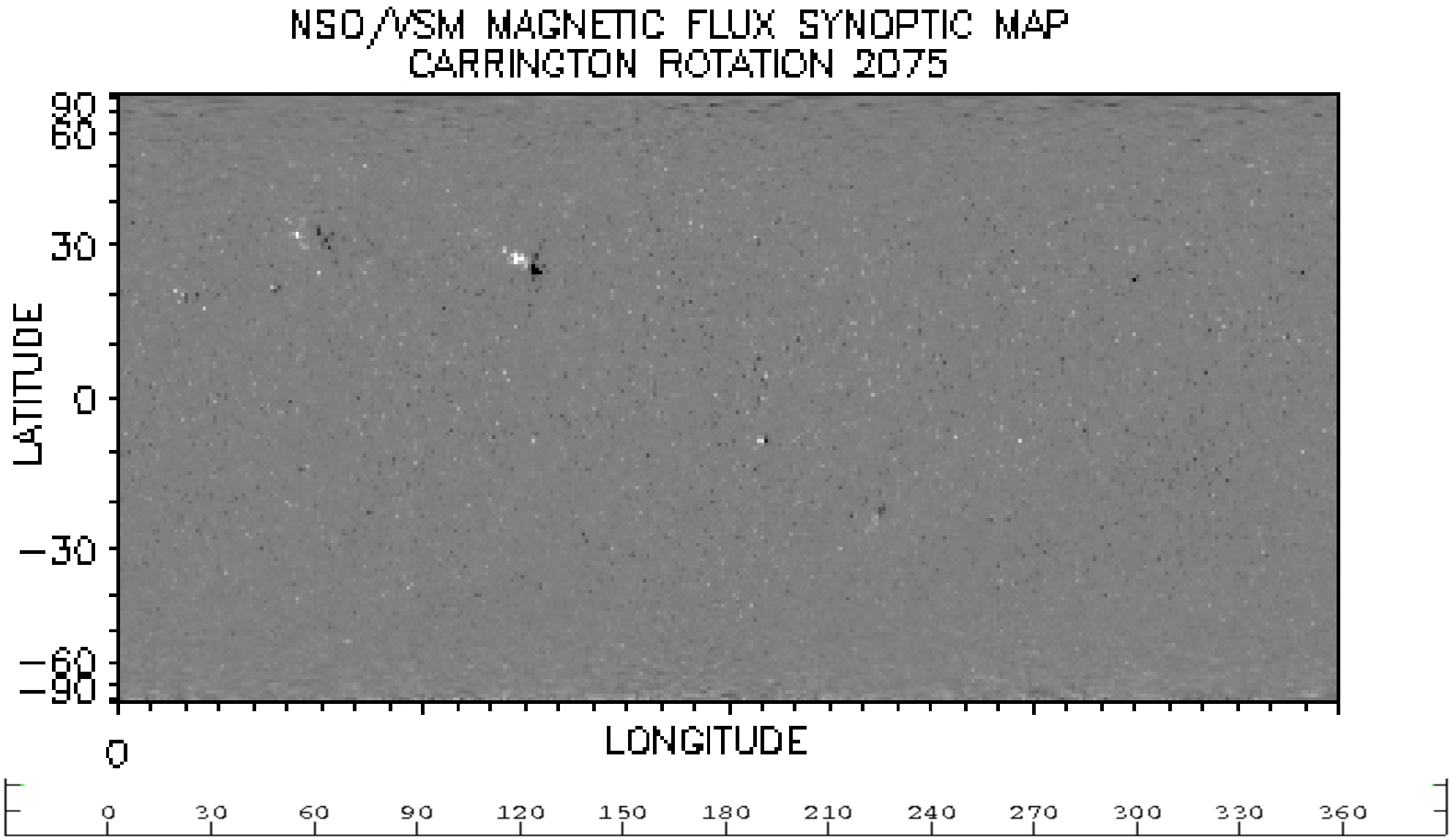


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2075

(26 Sep 2008 – 23 Oct 2008)

National Solar Observatory/Kitt Peak



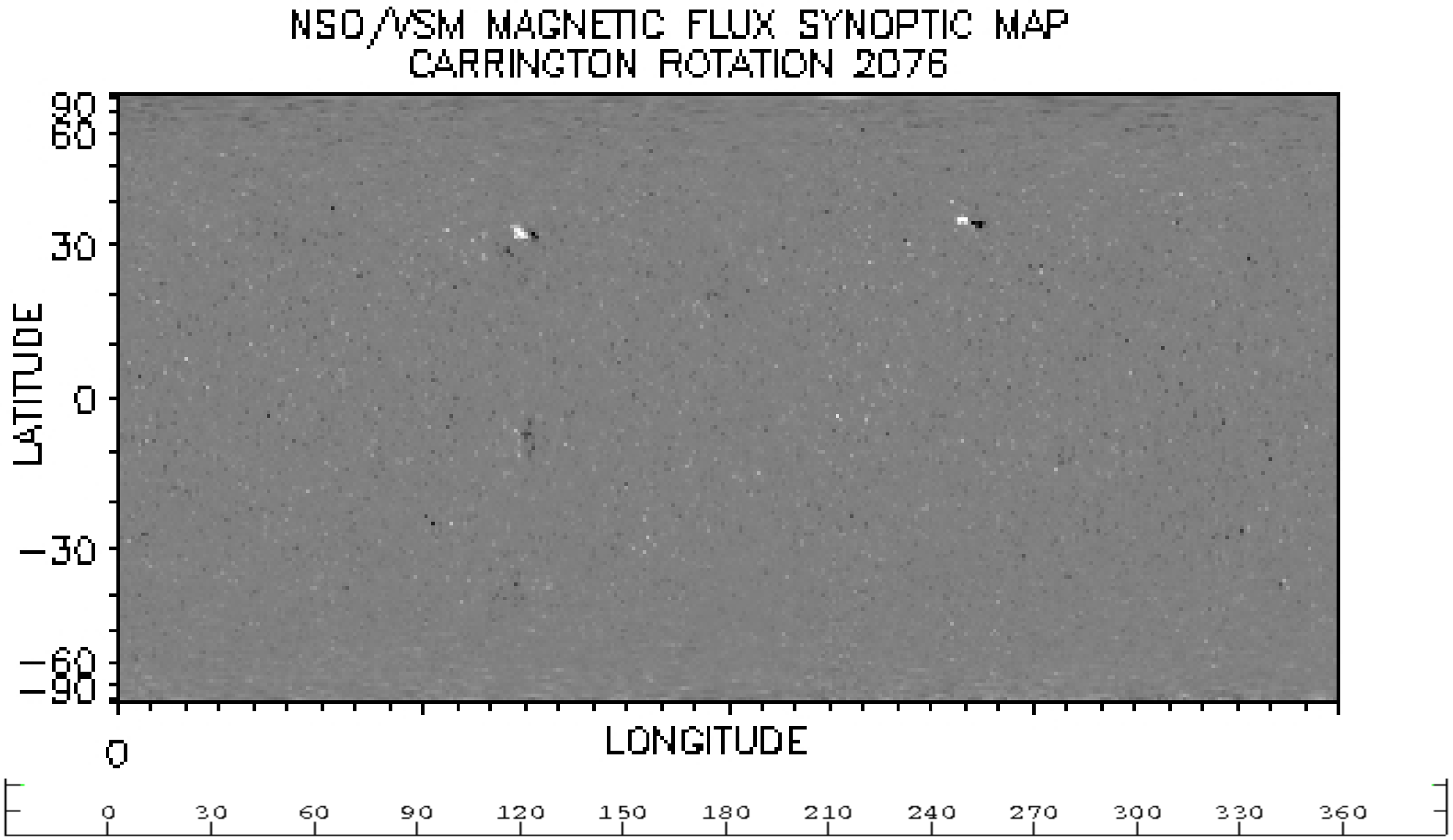
Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2076

(23 Oct 2008 – 20 Nov 2008)

National Solar Observatory/Kitt Peak



Heliographic Longitude

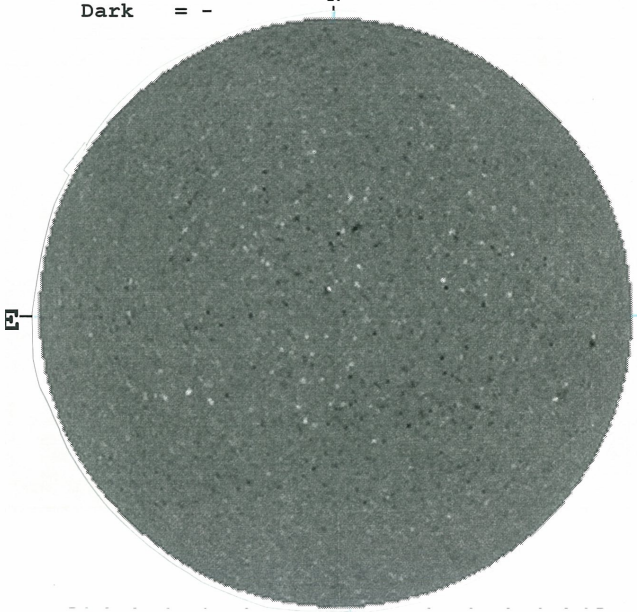
October 01, 2008 (P= 25.99, Bo= 6.71, Lo= 303.21)

Oct 08 40

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

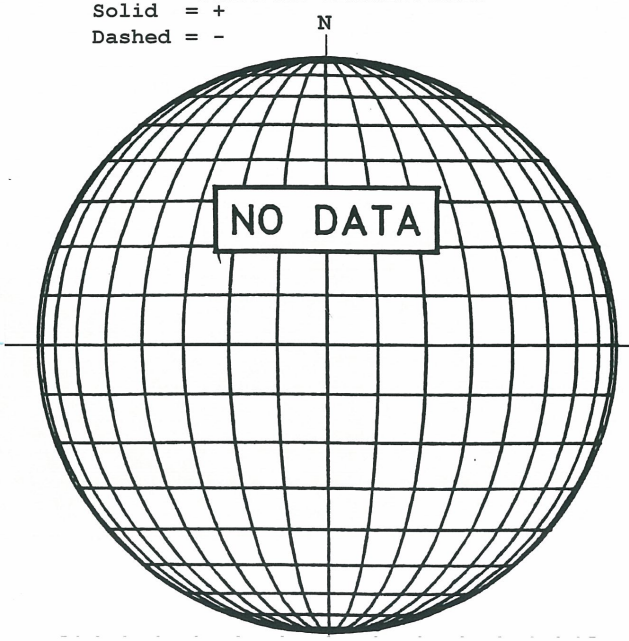
** 854.2NM **



1827 UT

STANFORD MAGNETOGRAM

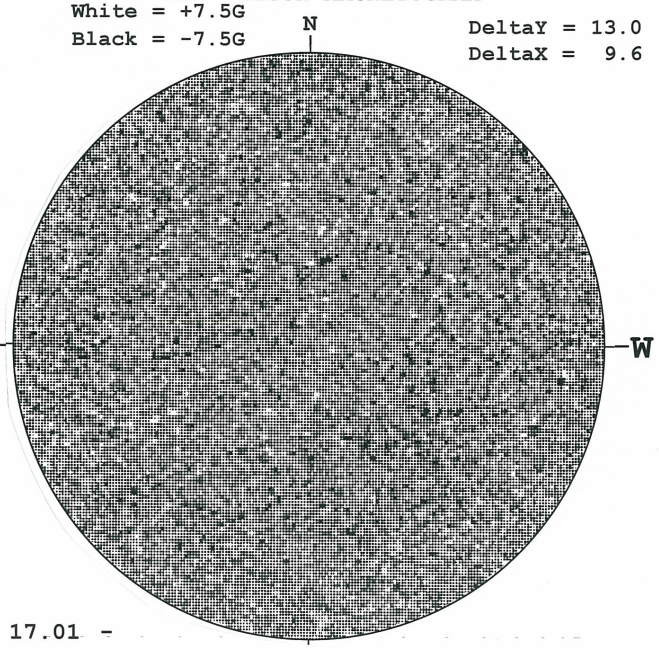
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

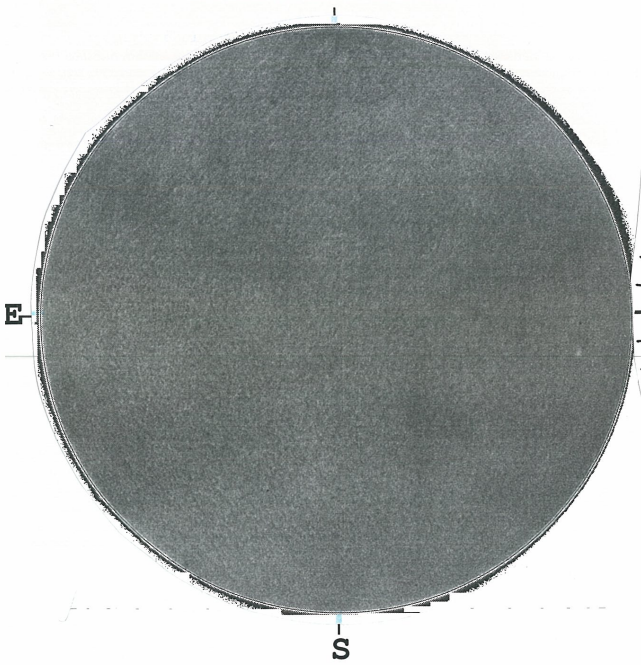
White = +7.5G
Black = -7.5G

DeltaY = 13.0
DeltaX = 9.6



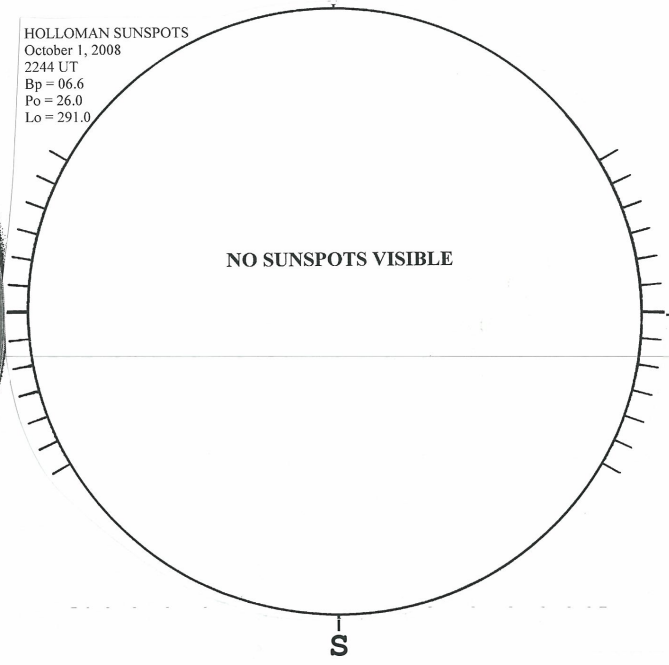
17.01 -
17.97 UT

--- KANZELHOHE H-ALPHA



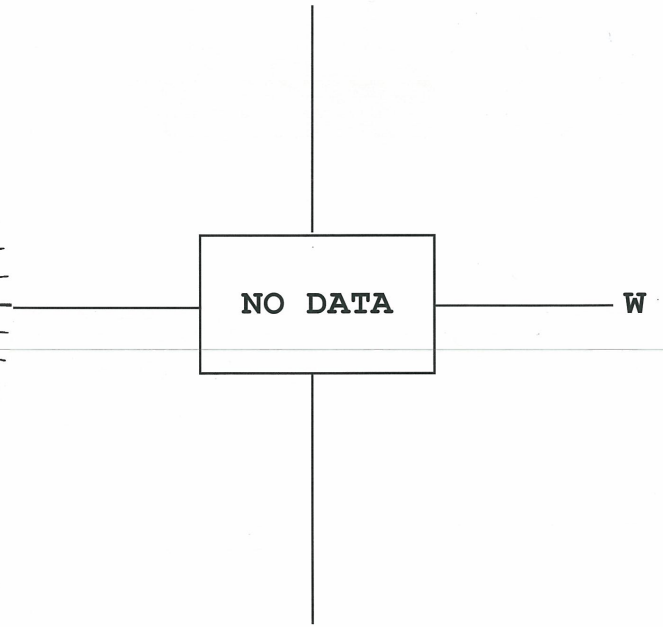
0956 UT

HOLLOMAN SUNSPOTS



2244 UT

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

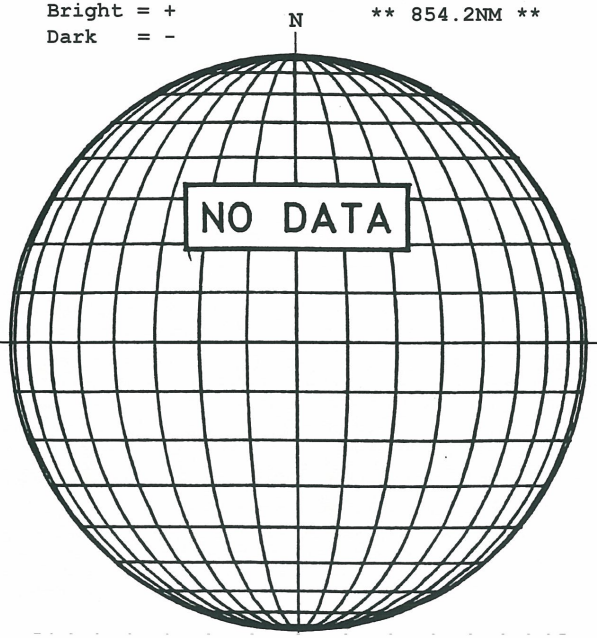


October 02, 2008 (P= 26.05, Bo= 6.66, Lo= 290.02)

KITT PEAK MAGNETOGRAM -- SOLIS

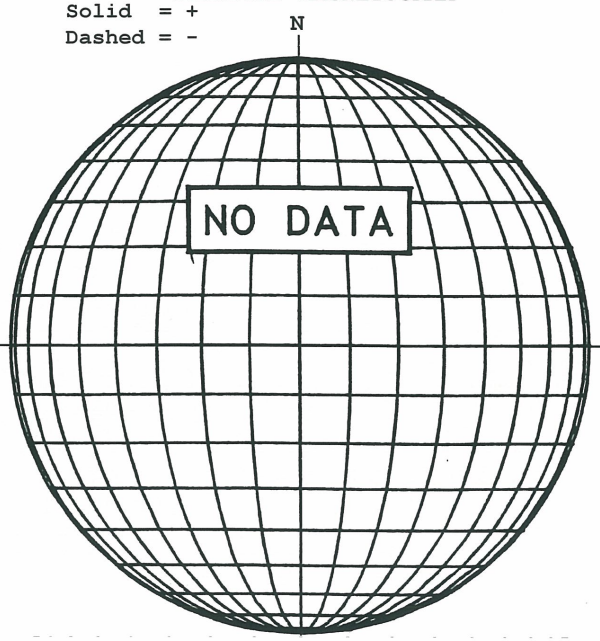
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

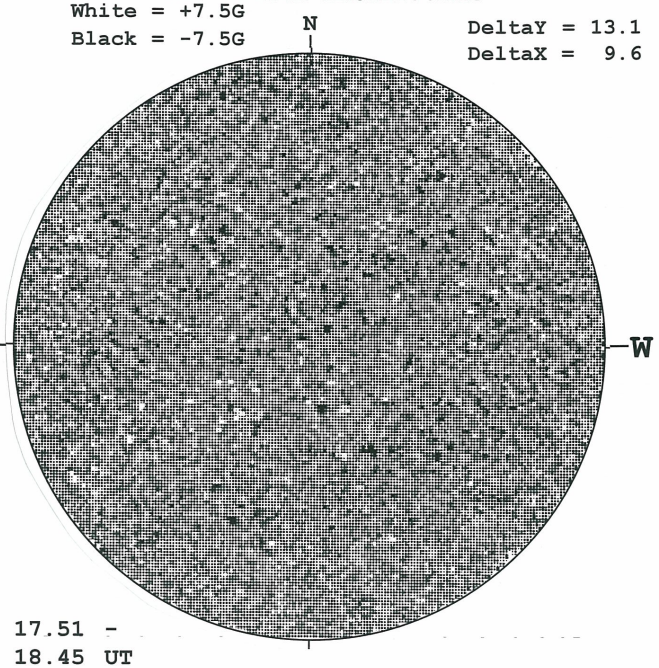
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

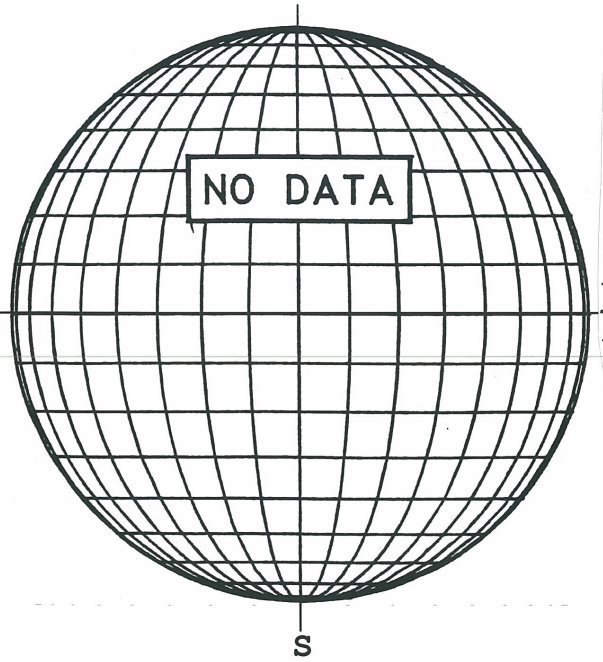
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



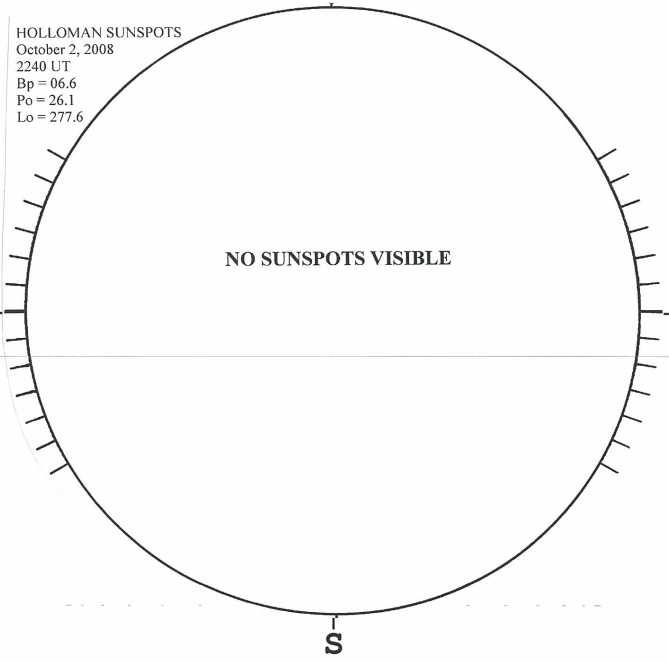
17.51 -
18.45 UT

BIG BEAR H-ALPHA

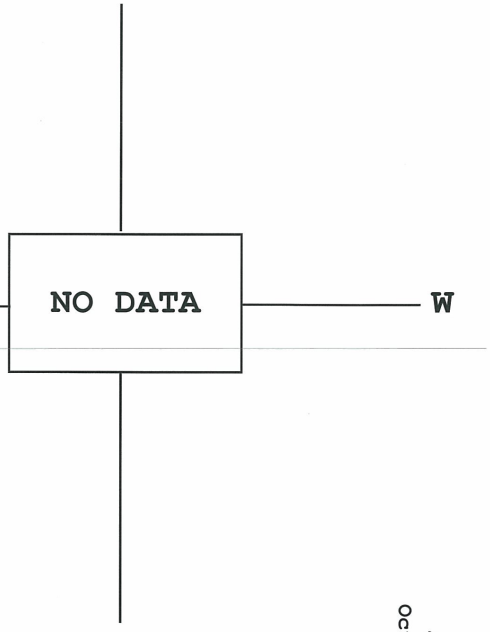


2240 UT

HOLLOMAN SUNSPOTS



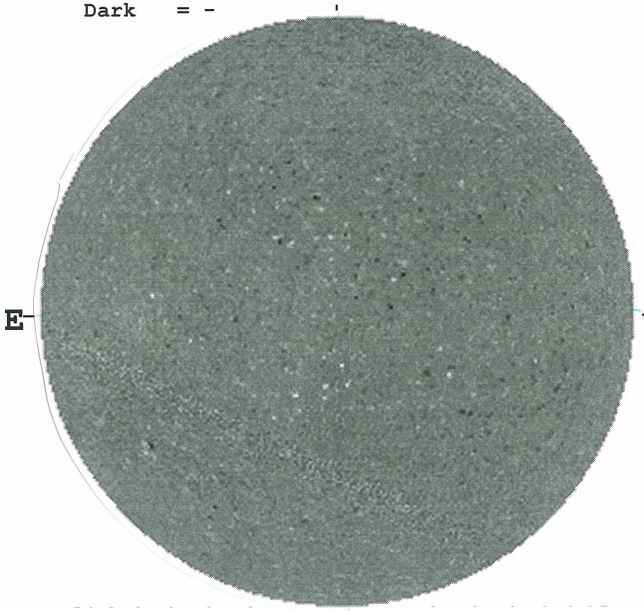
SACRAMENTO PEAK CORONA (1.15 Radii)-----



41
Oct 08

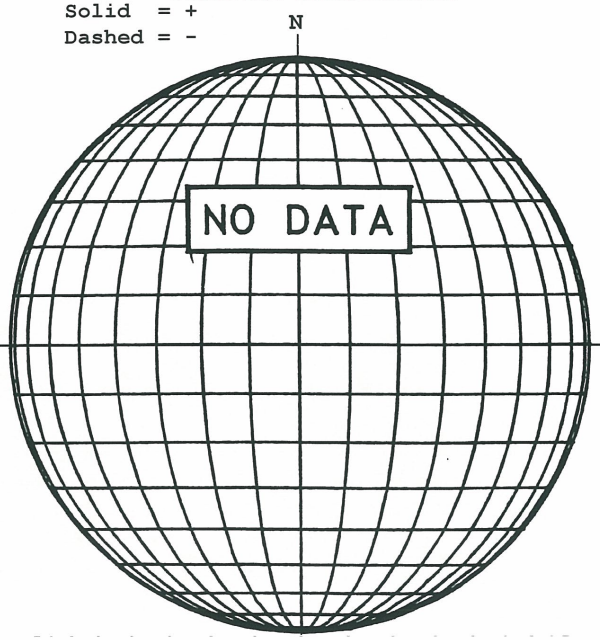
October 03, 2008 (P= 26.10, Bo= 6.61, Lo= 276.82)

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

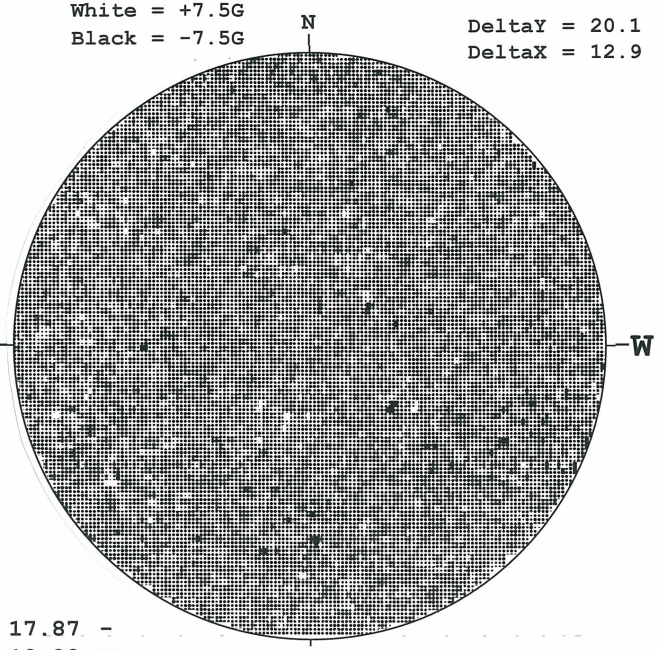


1933 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

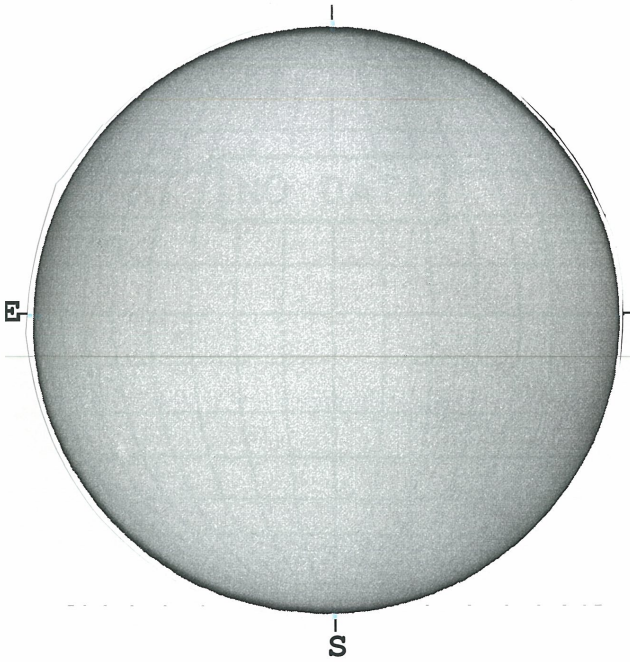


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 20.1
DeltaX = 12.9



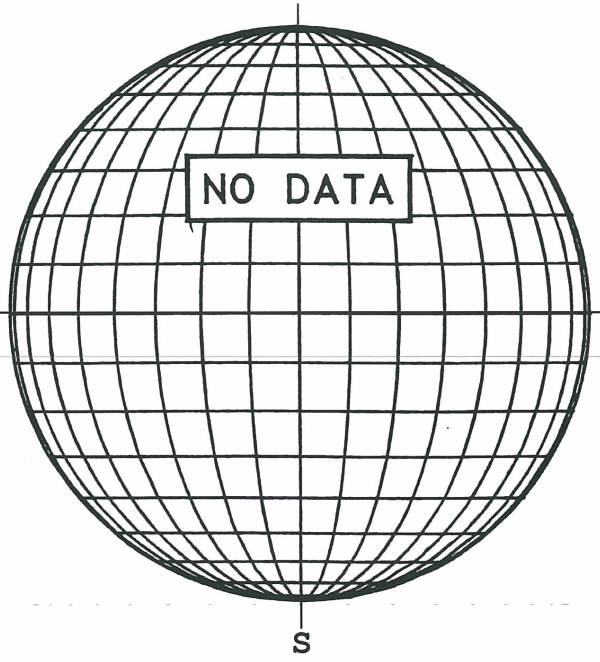
17.87 -
18.28 UT

--- MEUDON H-ALPHA

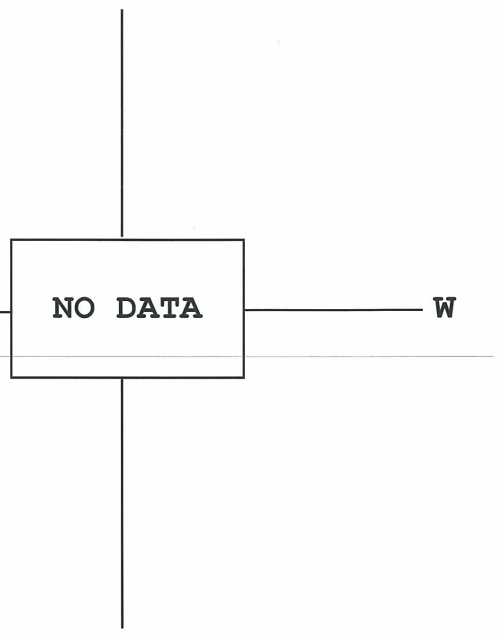


1109 UT

HOLLOMAN SUNSPOTS



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

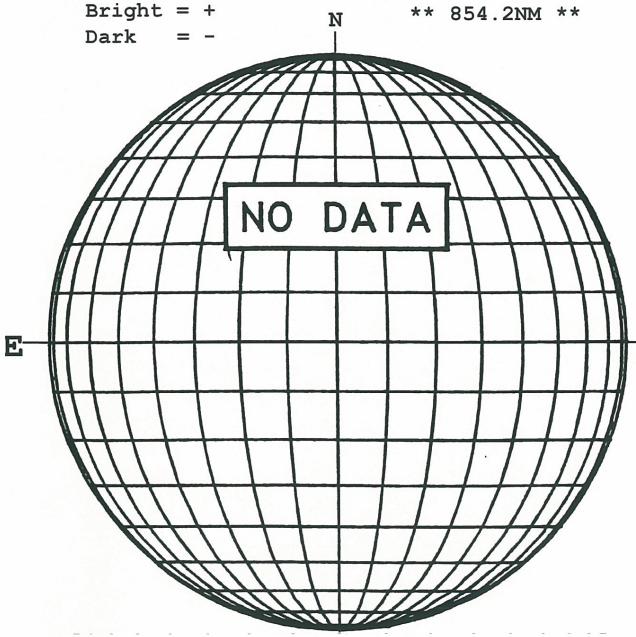


October 04, 2008 (P= 26.15, Bo= 6.56, Lo= 263.63)

KITT PEAK MAGNETOGRAM -- SOLIS

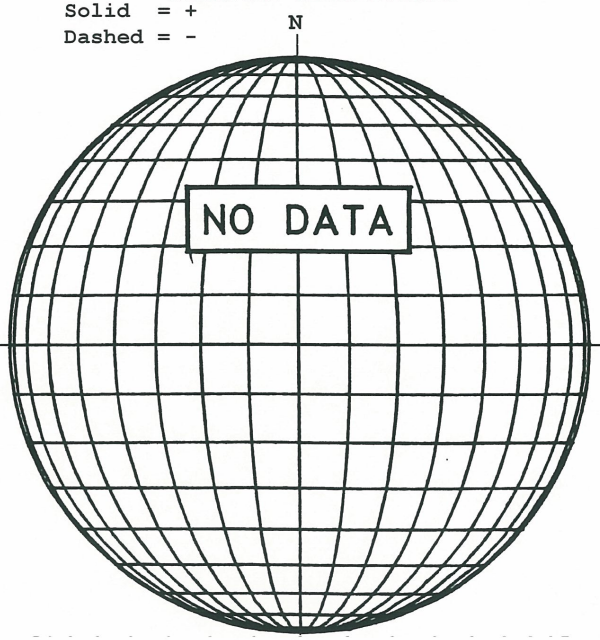
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

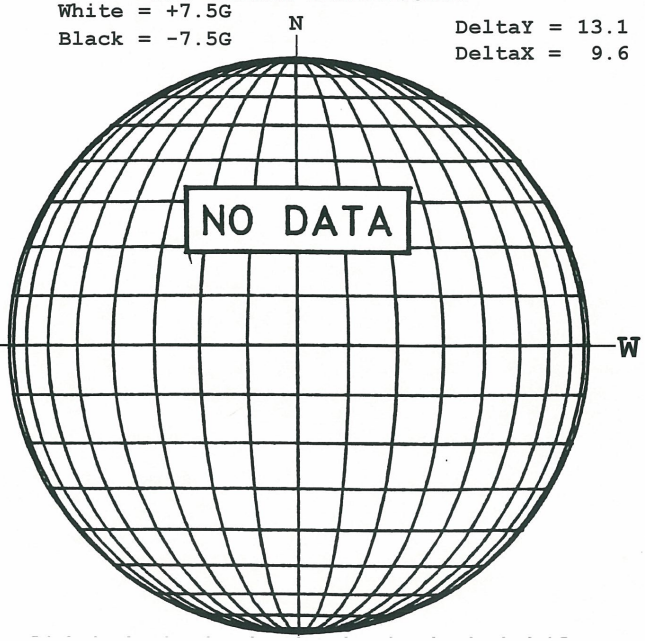
Solid = +
Dashed = -



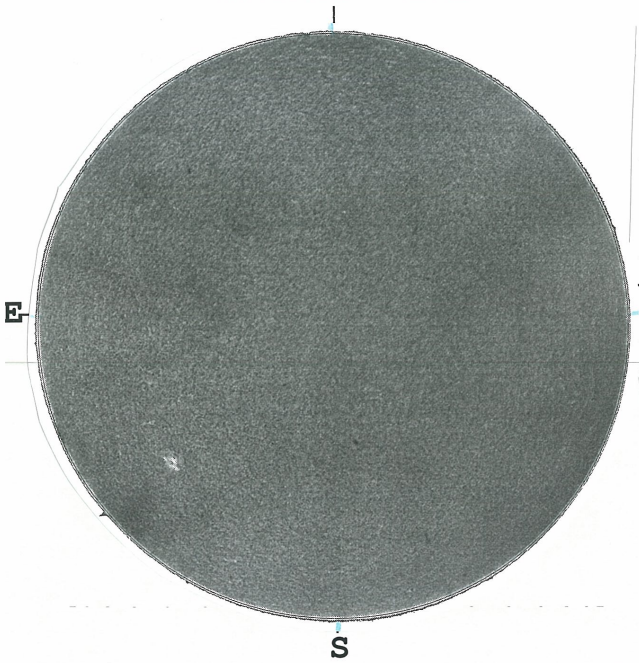
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

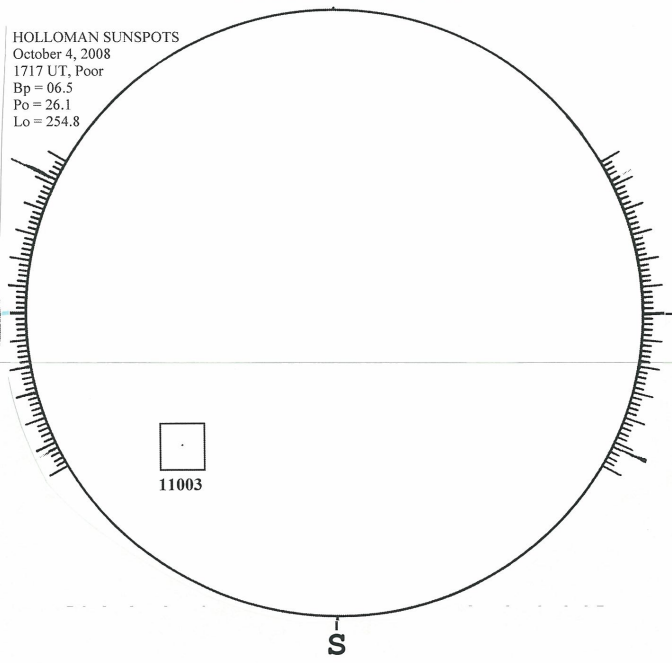


--- KANZELHOHE H-ALPHA



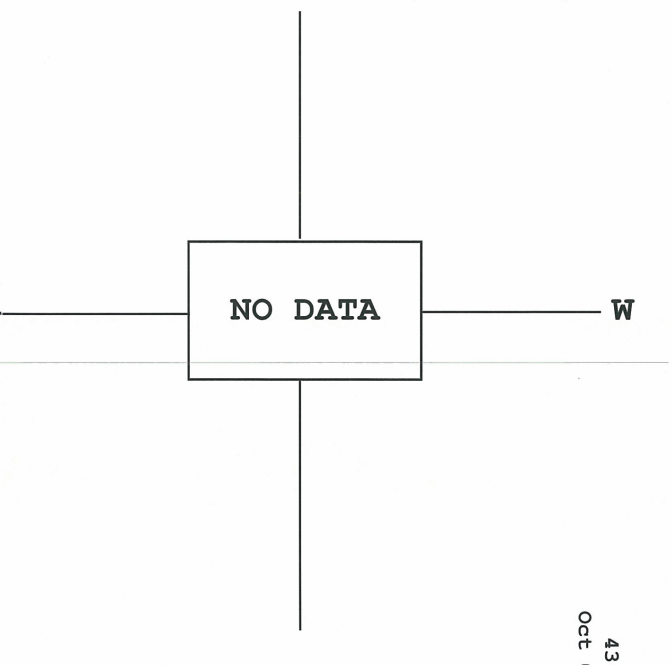
0904 UT

HOLLOMAN SUNSPOTS



1717 UT

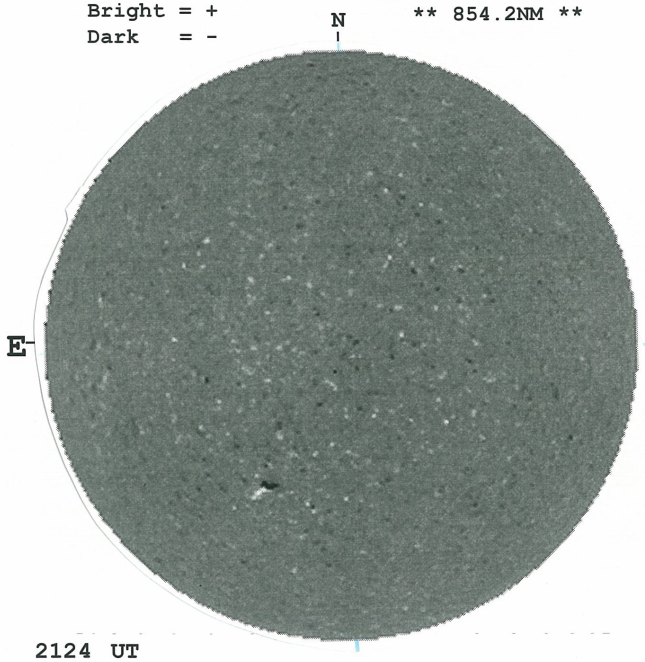
SACRAMENTO PEAK CORONA (1.15 Radii)-----



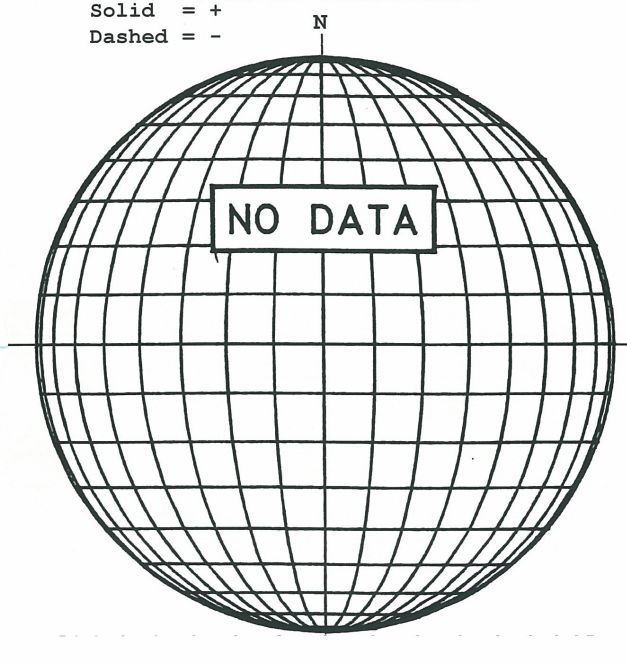
43
Oct 08

October 05, 2008 (P= 26.19, Bo= 6.50, Lo= 250.43)

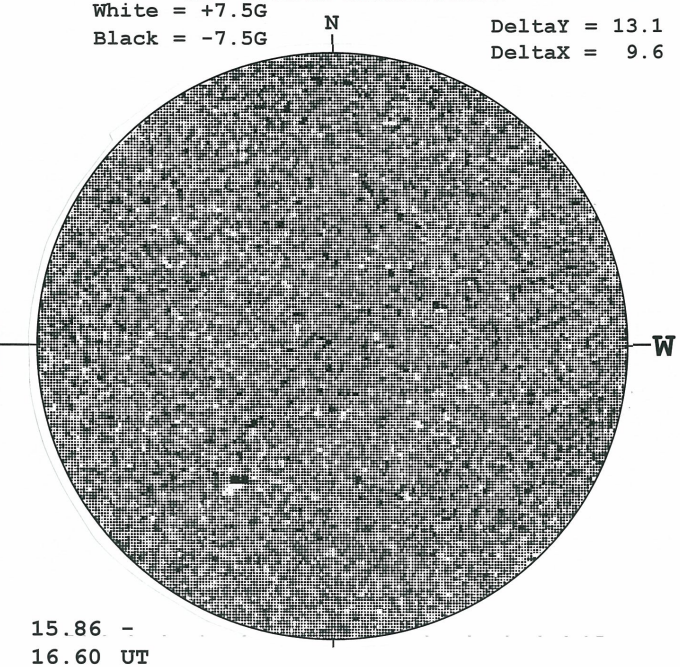
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
** 854.2NM **



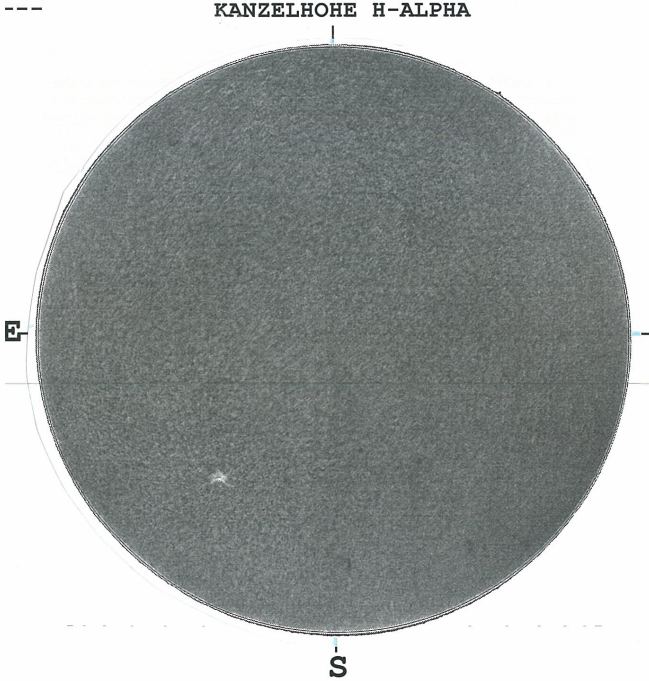
STANFORD MAGNETOGRAM
Solid = +
Dashed = -



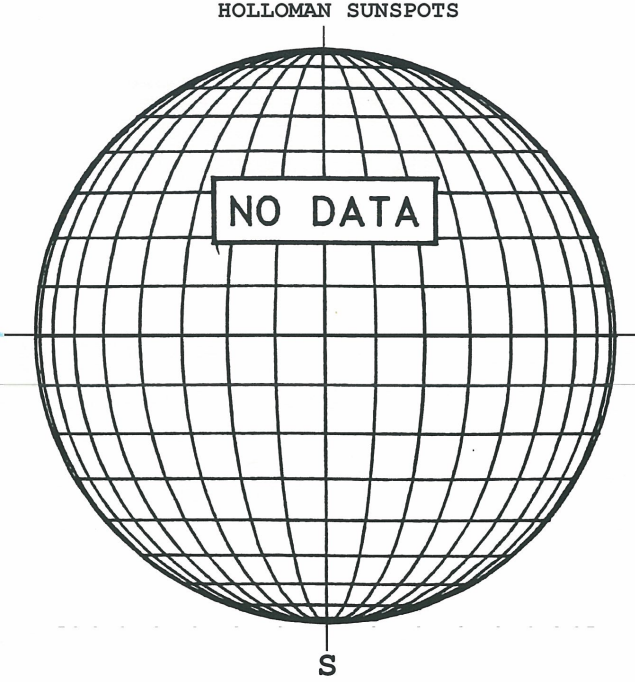
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



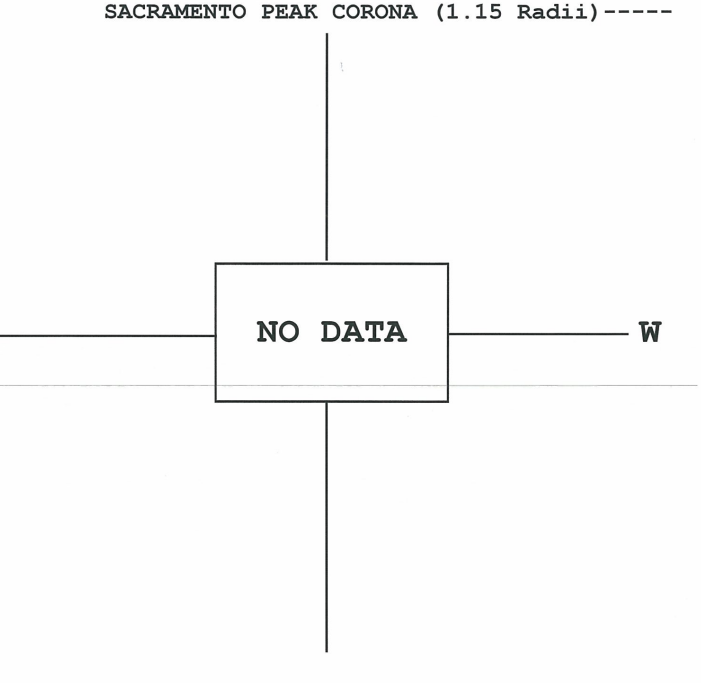
KANZELHOHE H-ALPHA



HOLLOMAN SUNSPOTS



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

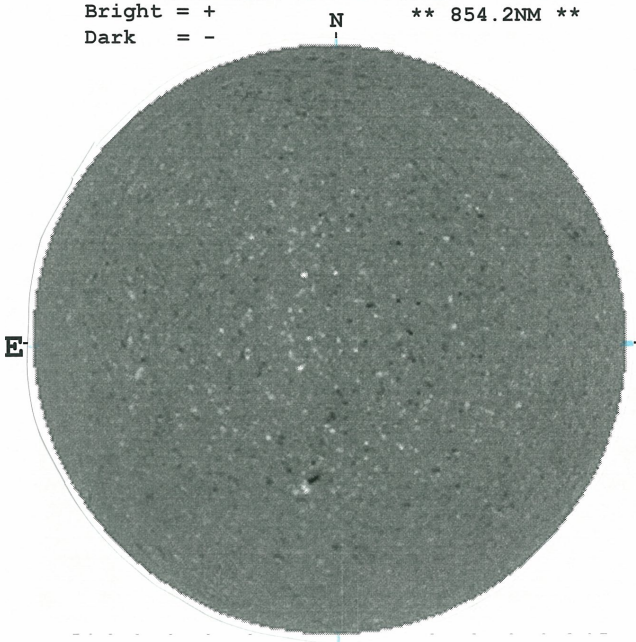


October 06, 2008 (P= 26.22, Bo= 6.44, Lo= 237.24)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

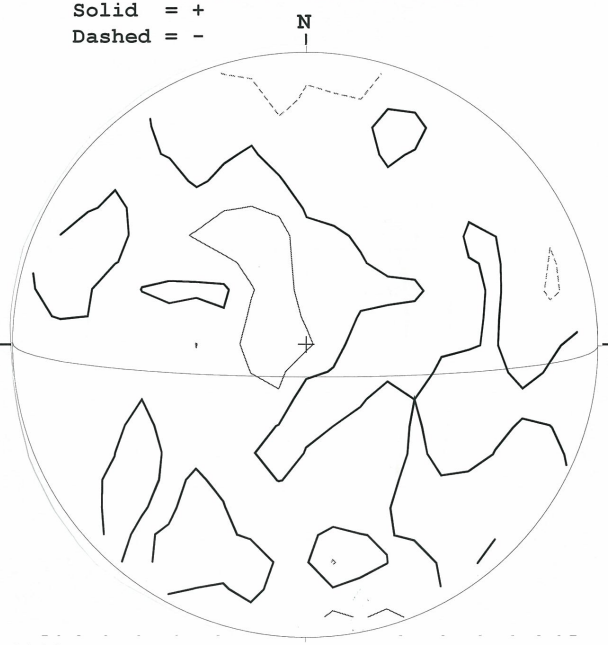
** 854.2NM **



2028 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

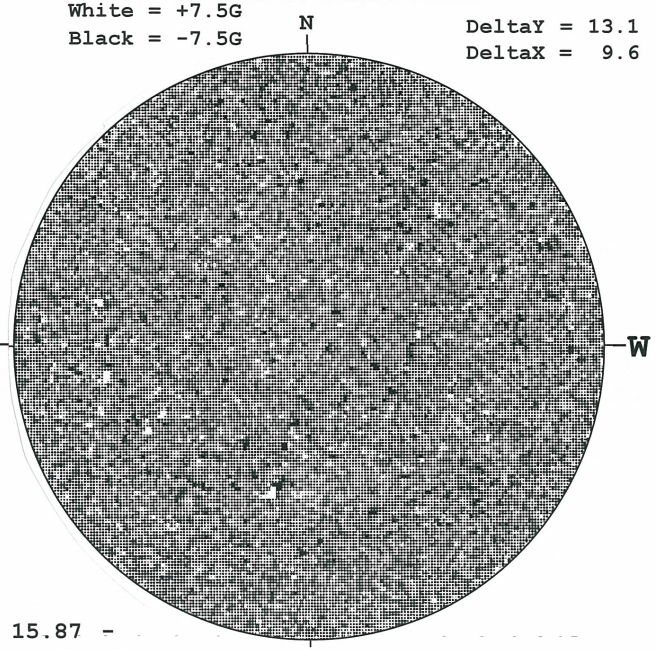


2100 UT

MT. WILSON MAGNETOGRAM

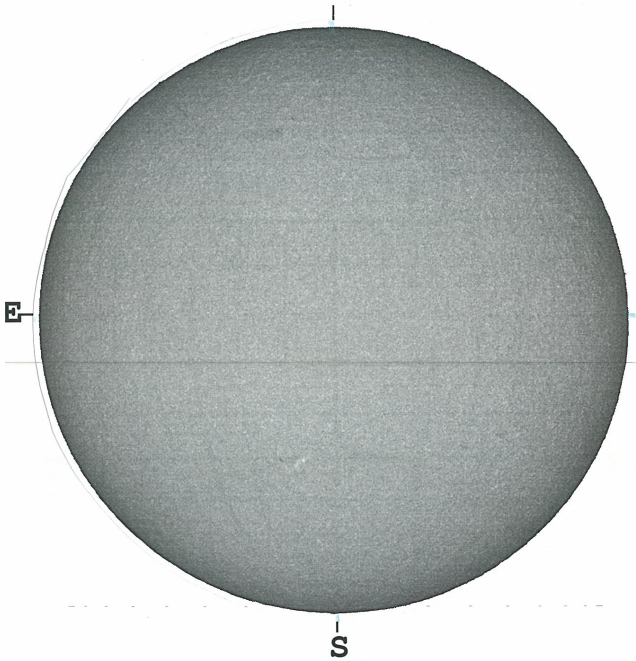
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



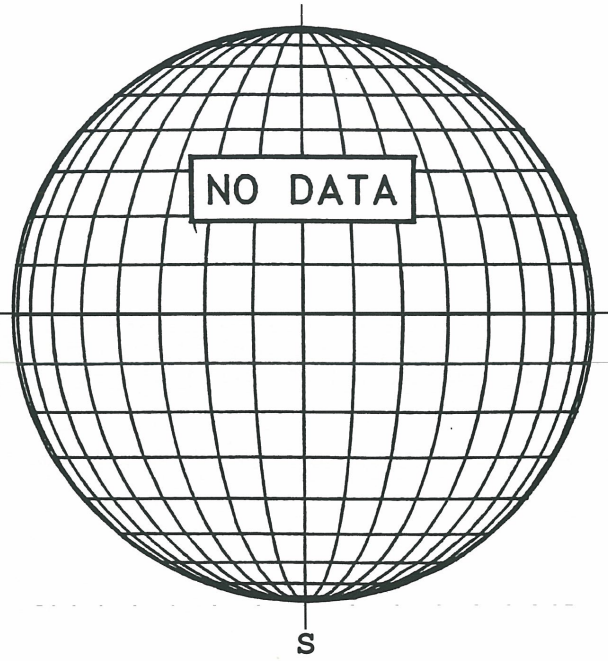
15.87 -
16.80 UT

BIG BEAR H-ALPHA

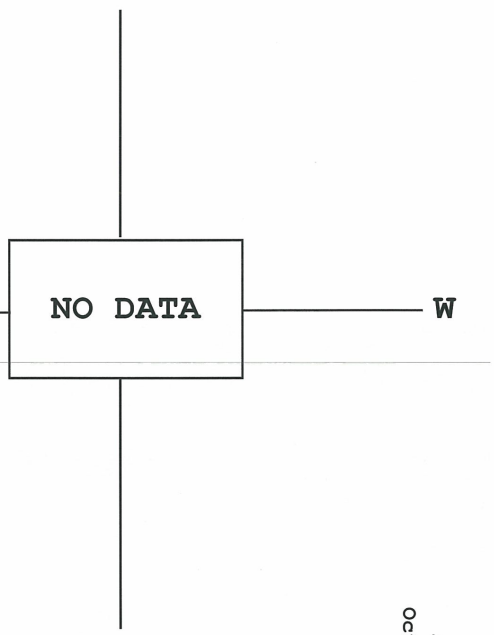


1529 UT

HOLLOMAN SUNSPOTS



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



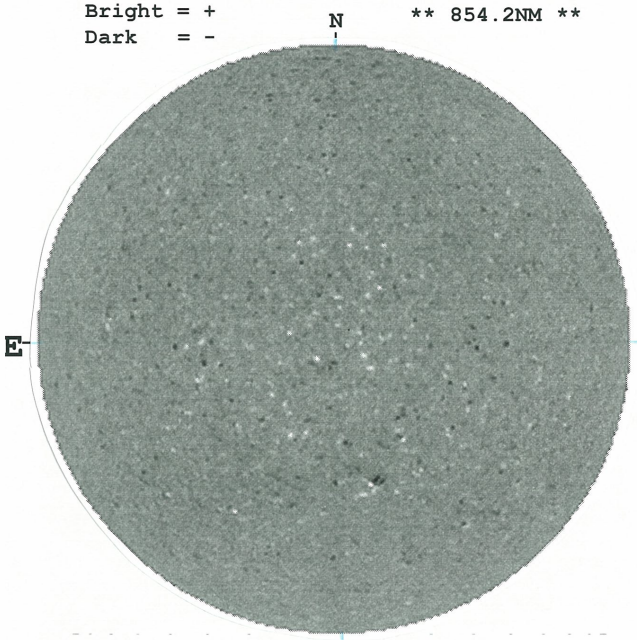
45
Oct 08

October 07, 2008 (P= 26.25, Bo= 6.39, Lo= 224.05)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

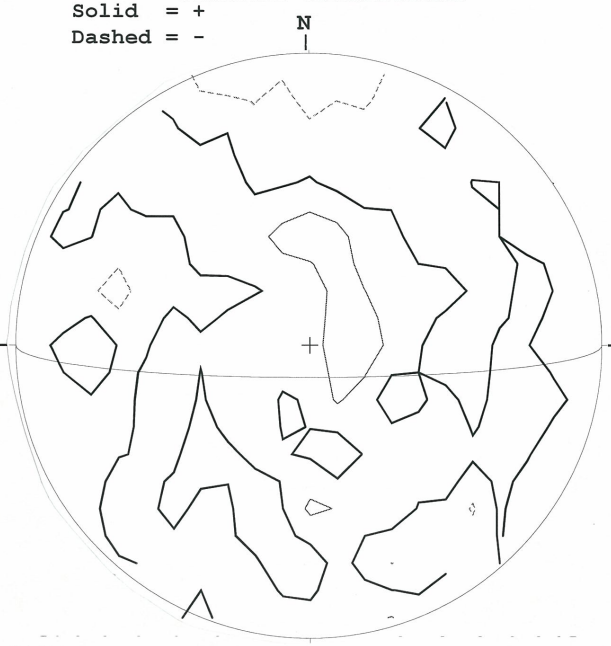
** 854.2NM **



1854 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

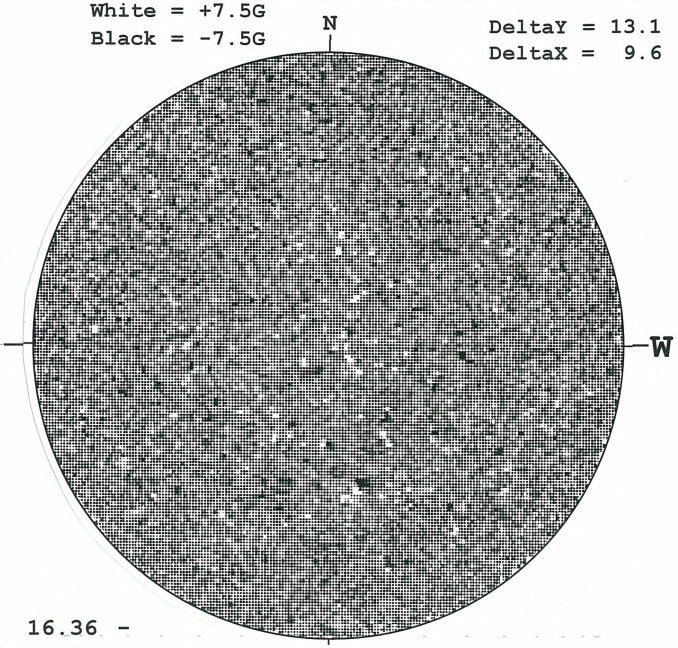


2137 UT

MT. WILSON MAGNETOGRAM

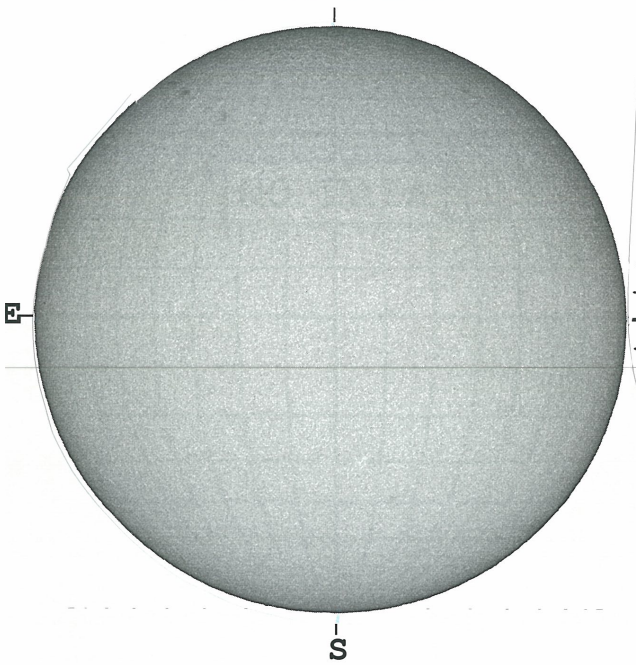
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



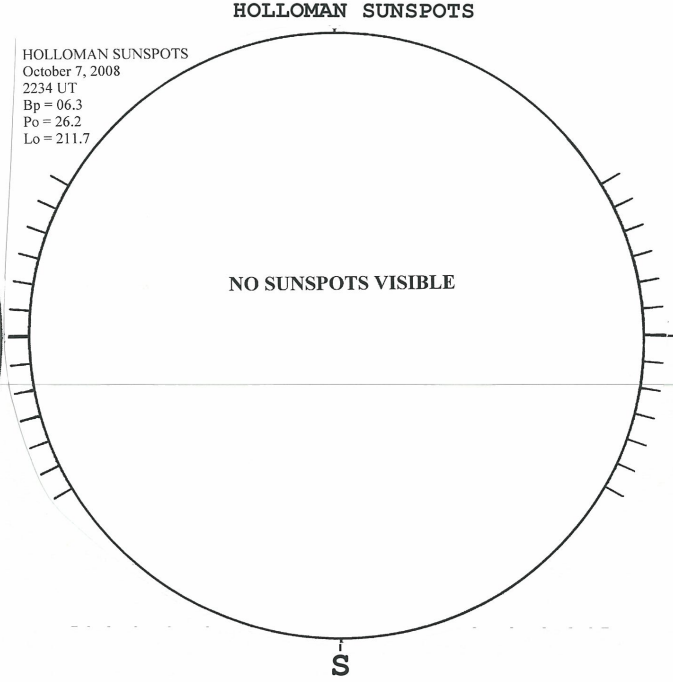
16.36 -
17.30 UT

BIG BEAR H-ALPHA



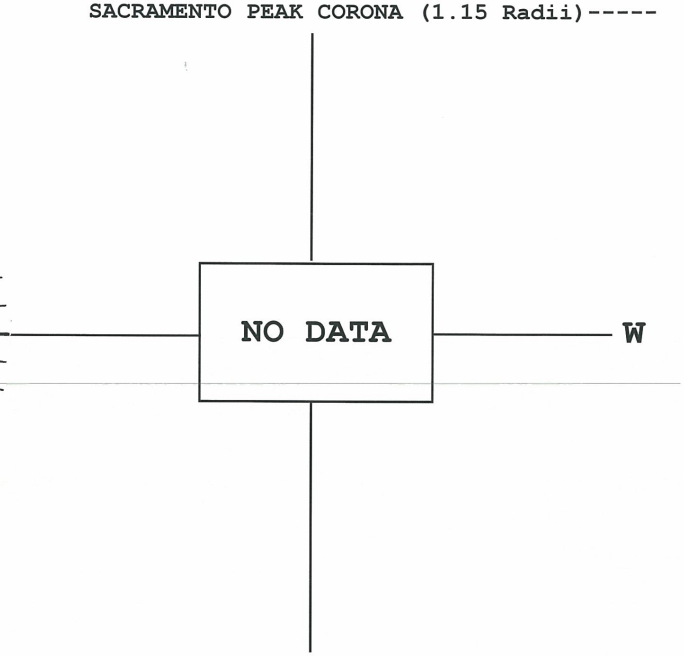
1615 UT

HOLLOMAN SUNSPOTS



2234 UT

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

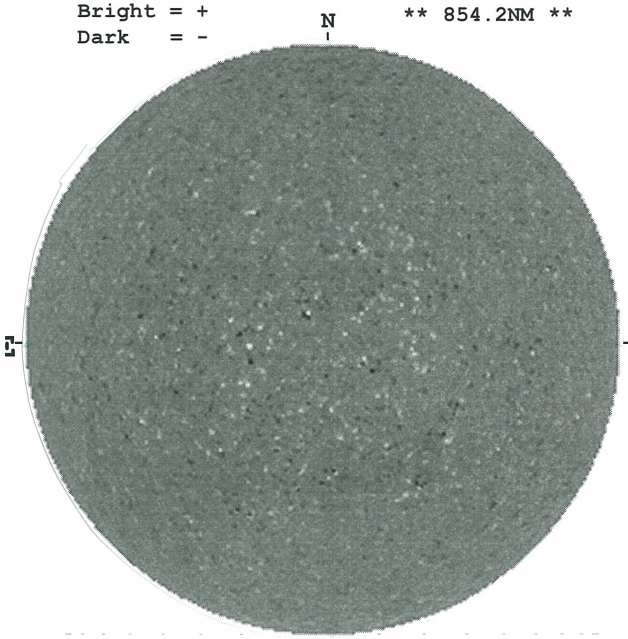


October 08, 2008 (P= 26.27, Bo= 6.33, Lo= 210.85)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

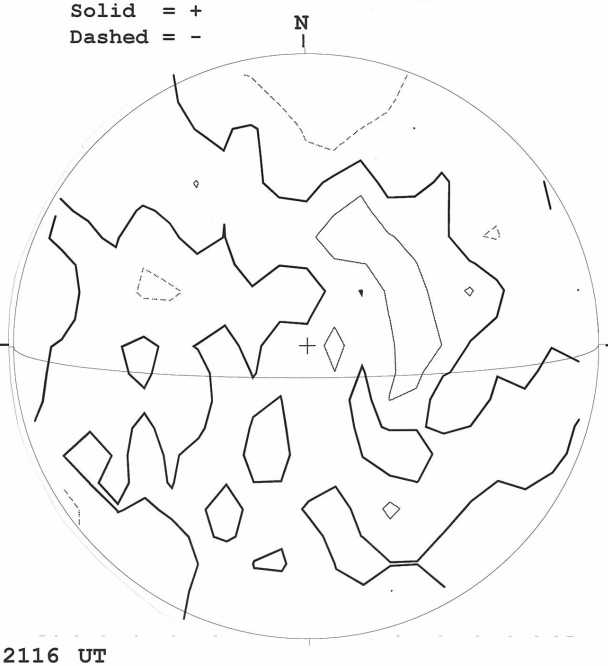
** 854.2NM **



1620 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

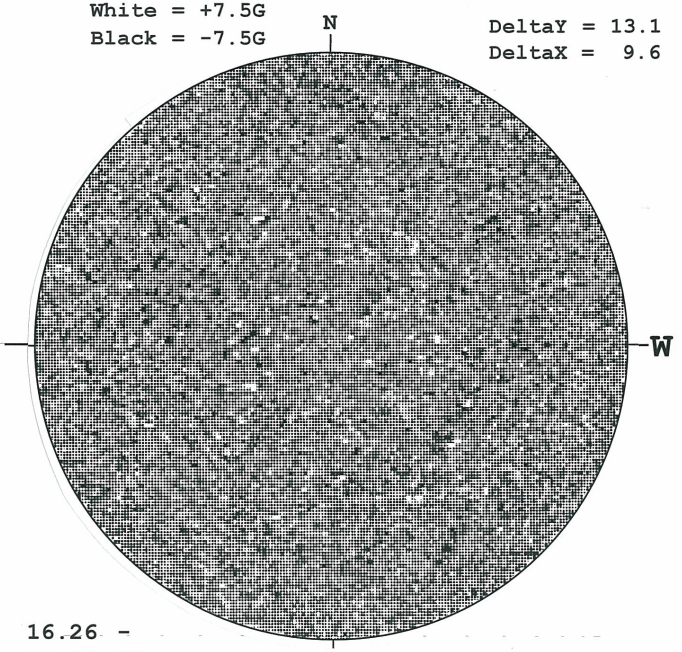


2116 UT

MT. WILSON MAGNETOGRAM

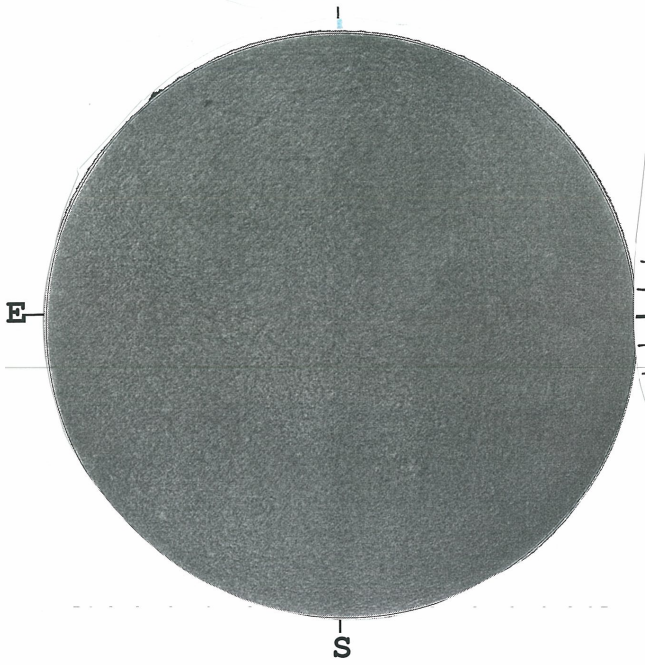
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



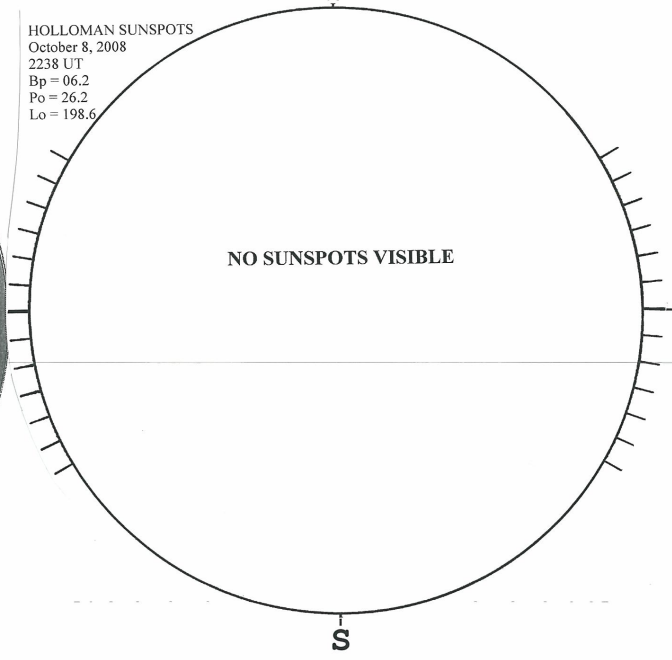
16.26 -
17.20 UT

KANZELHOHE H-ALPHA



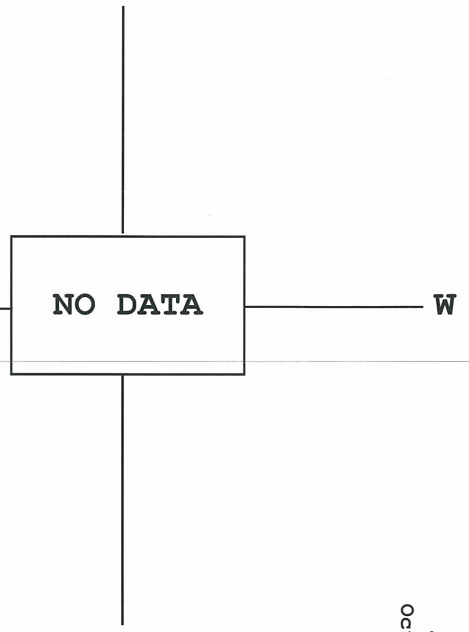
0651 UT

HOLLOMAN SUNSPOTS



2238 UT

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



47
Oct 08

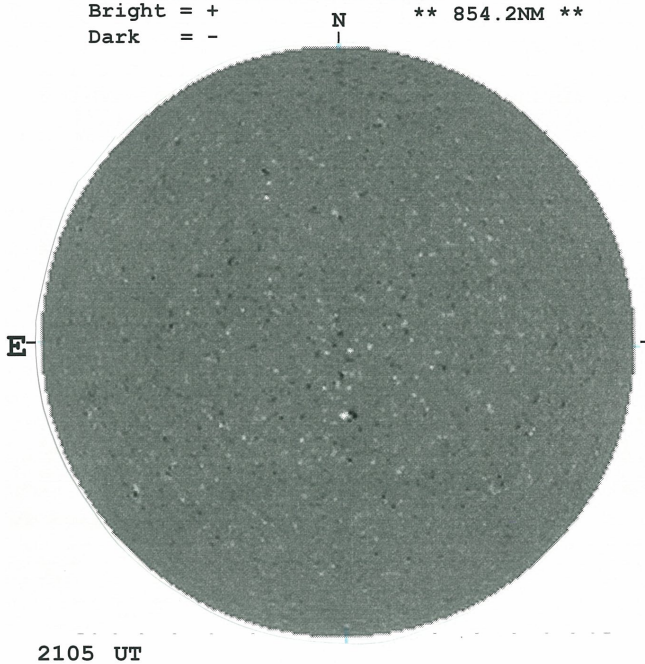
October 09, 2008 (P= 26.28, Bo= 6.26, Lo= 197.66)

Oct 08 48

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

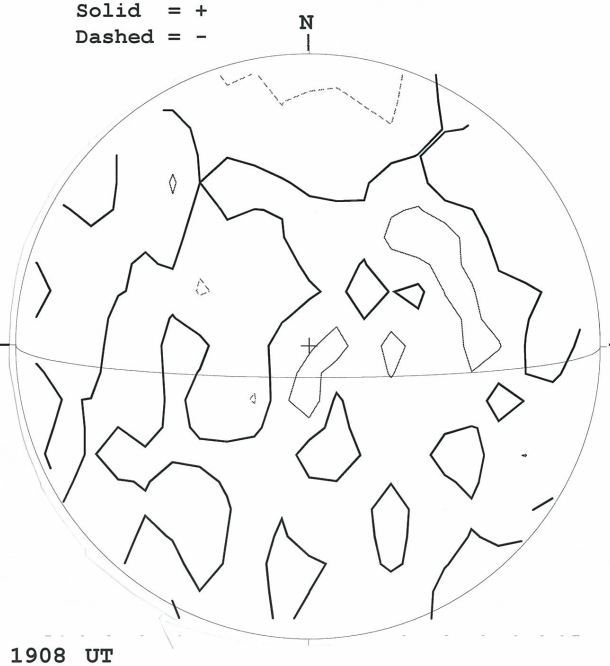
** 854.2NM **



2105 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

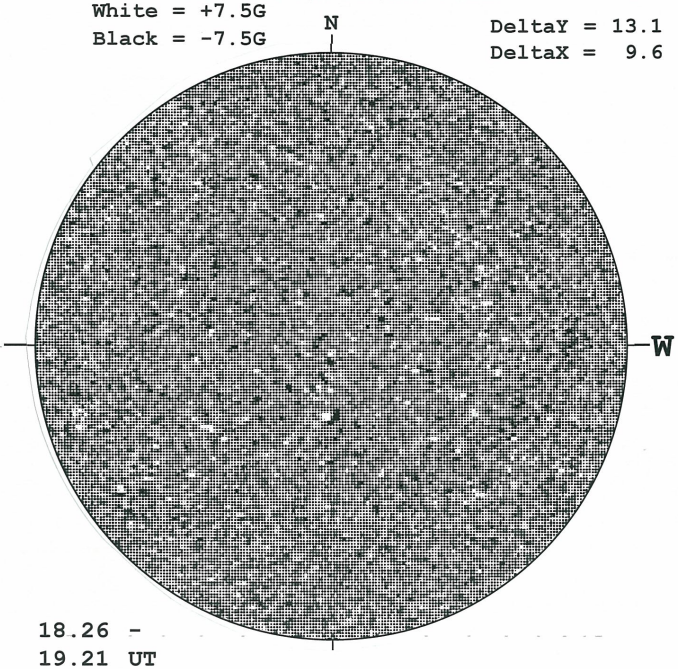


1908 UT

MT. WILSON MAGNETOGRAM

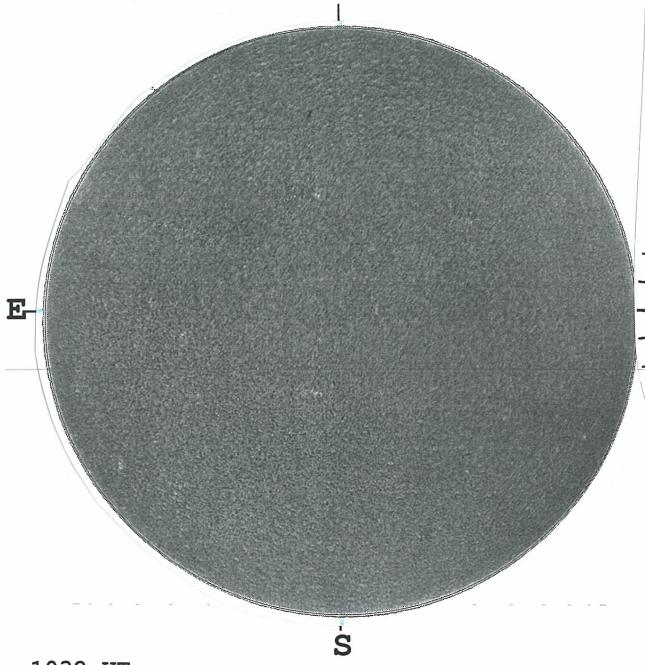
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



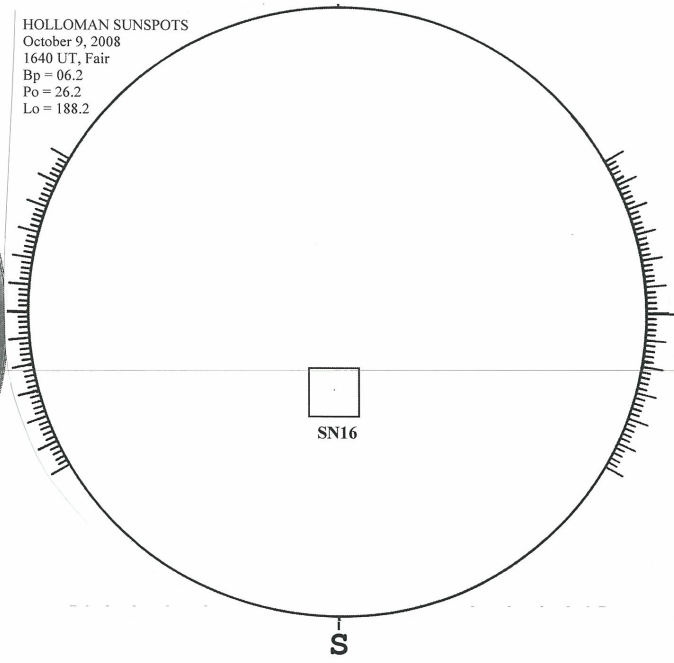
18.26 -
19.21 UT

KANZELHOHE H-ALPHA



1032 UT

HOLLOMAN SUNSPOTS



1640 UT

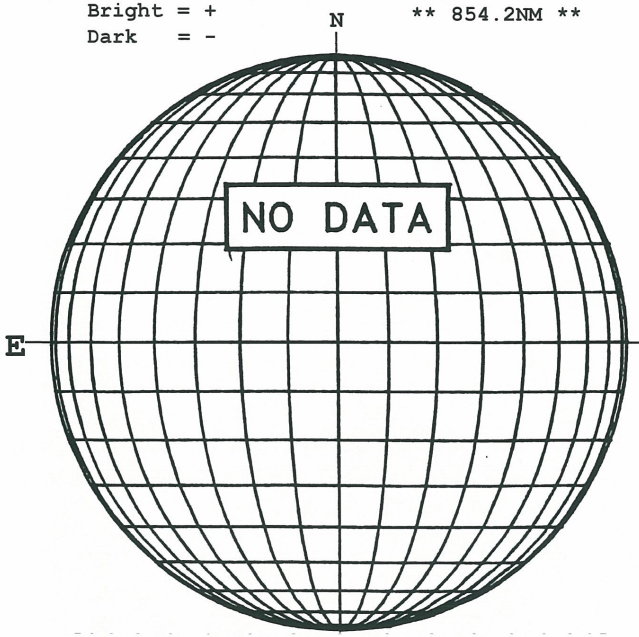
SACRAMENTO PEAK CORONA (1.15 Radii)

October 10, 2008 (P= 26.28, Bo= 6.20, Lo= 184.47)

KITT PEAK MAGNETOGRAM -- SOLIS

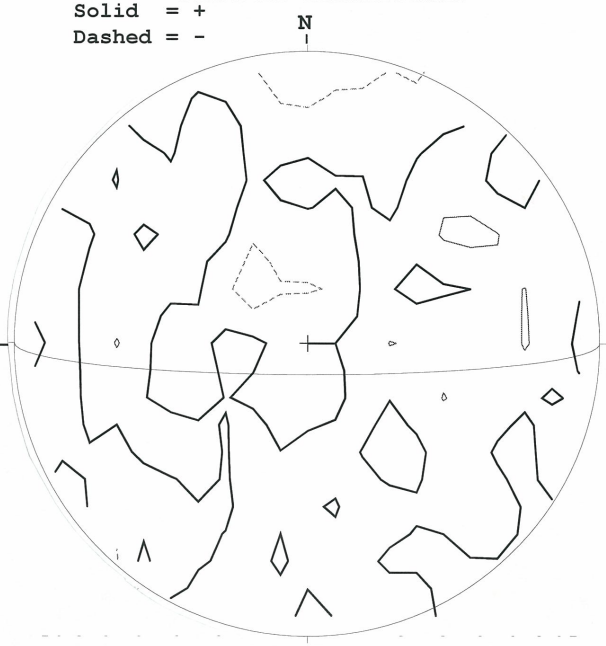
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

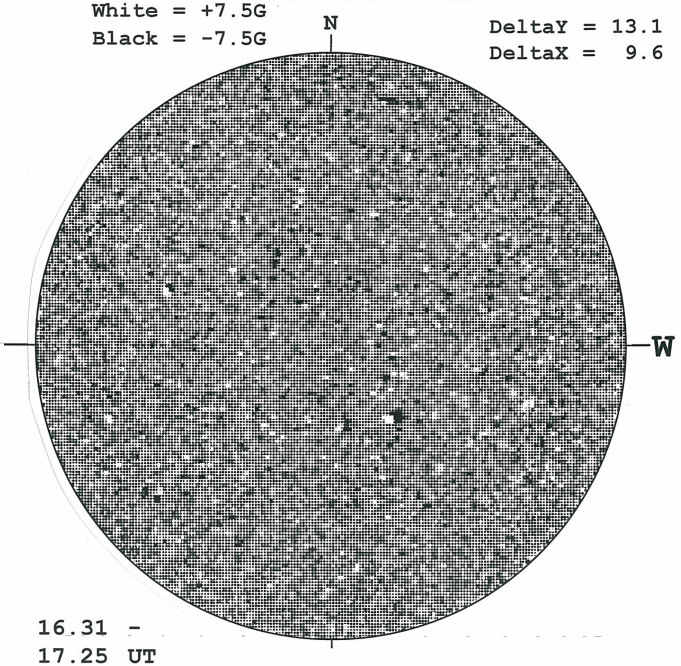


1900 UT

MT. WILSON MAGNETOGRAM

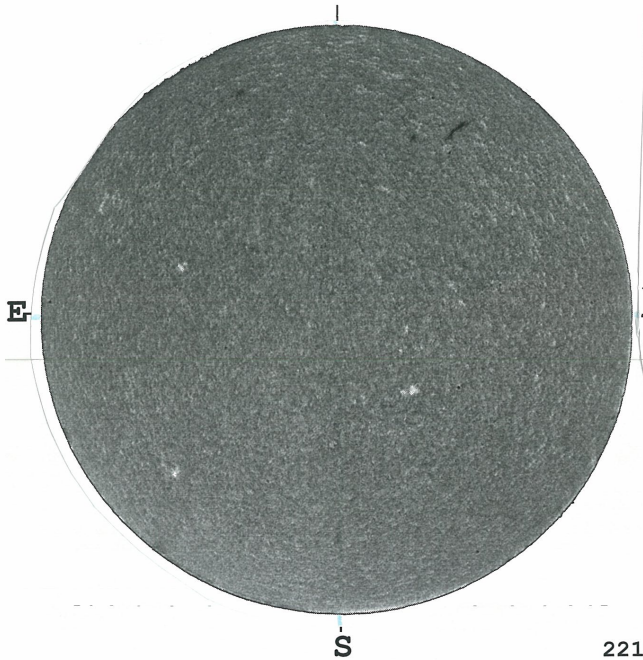
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



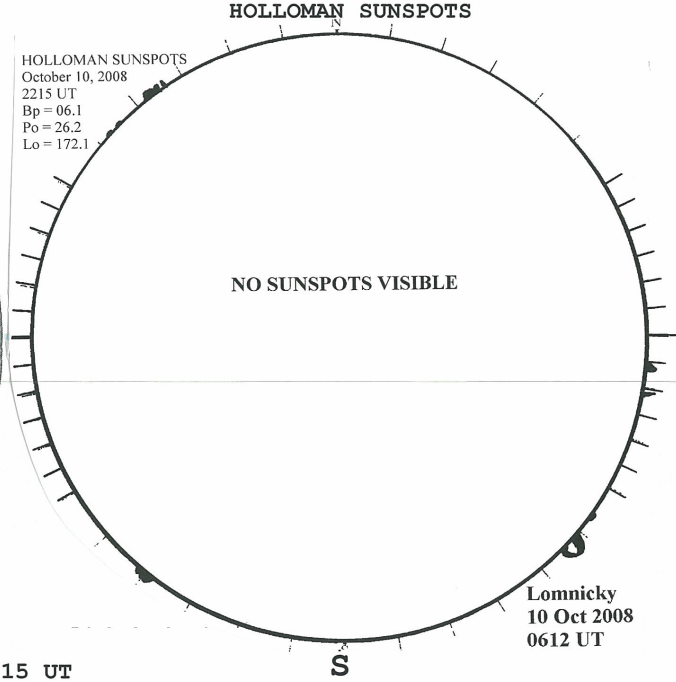
16.31 -
17.25 UT

--- BIG BEAR H-ALPHA



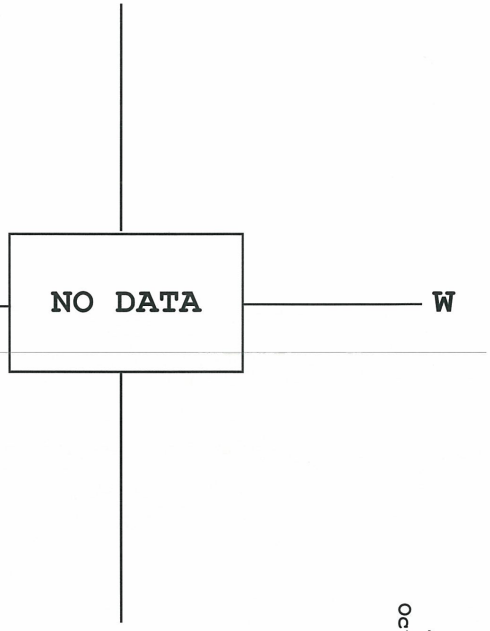
1854 UT

HOLLOMAN SUNSPOTS



2215 UT
0612 UT LOMN PROM

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

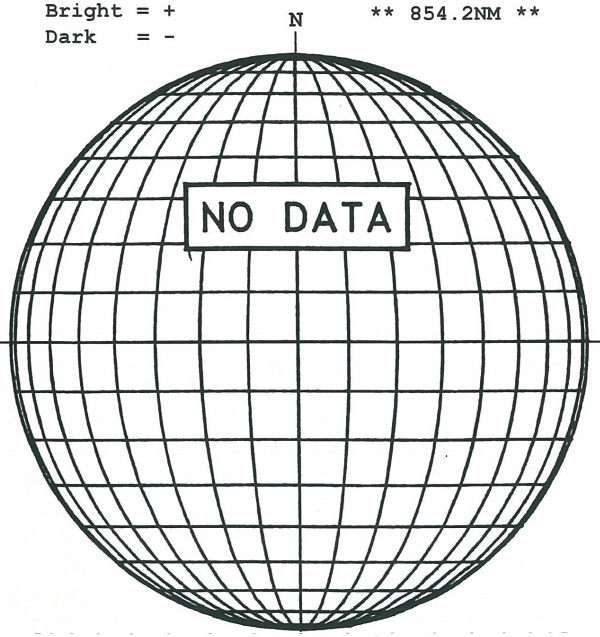


49
Oct 08

October 11, 2008 (P= 26.28, Bo= 6.13, Lo= 171.28)

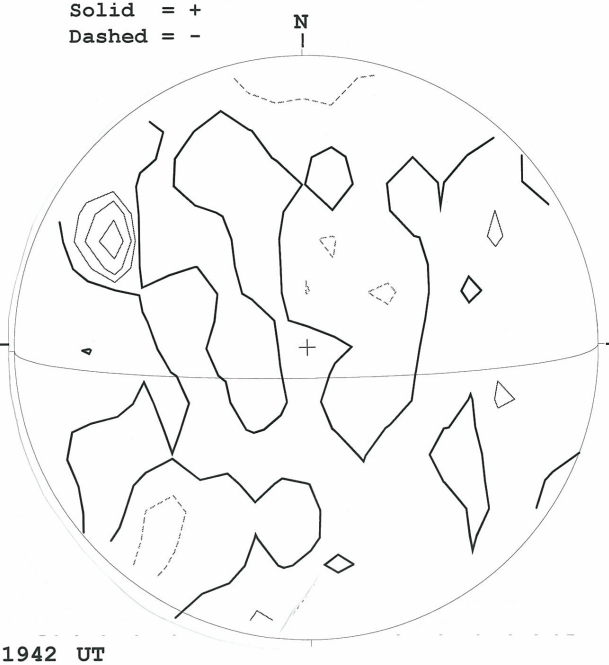
Oct 08 50

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

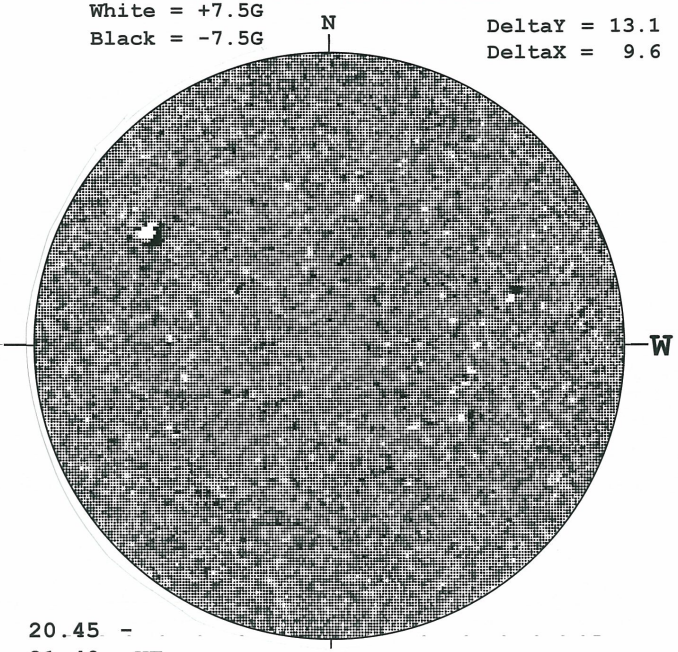


1942 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

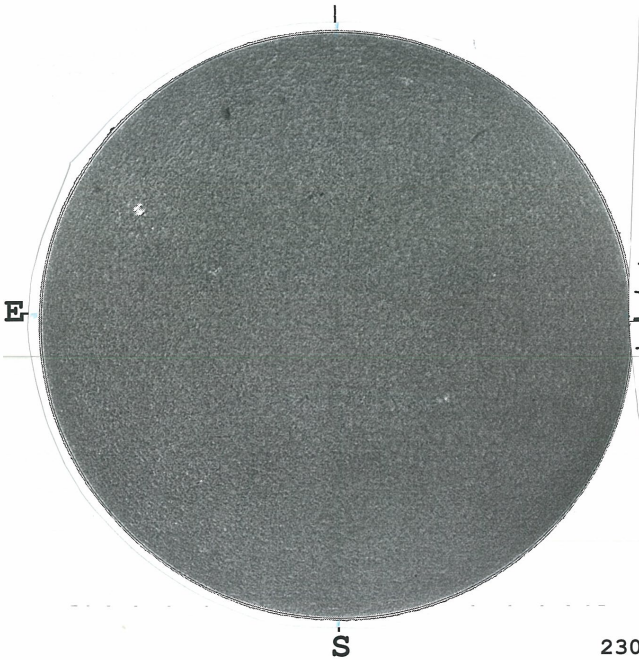


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



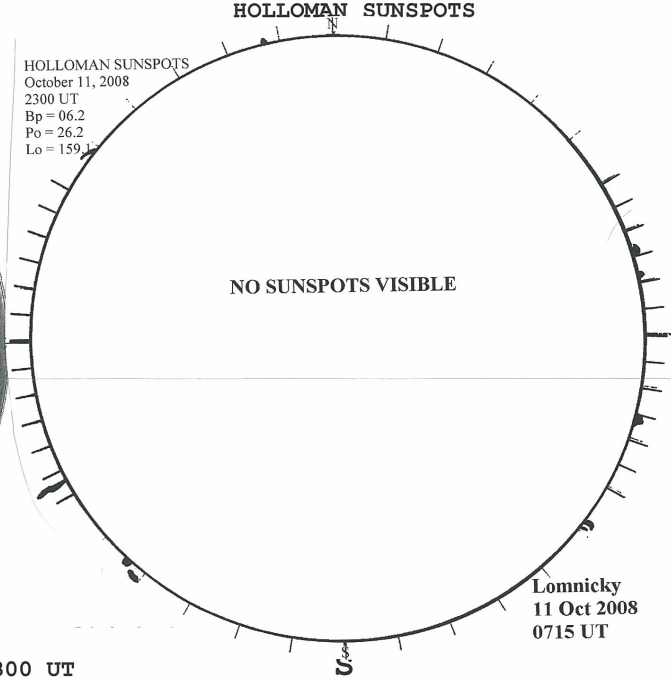
20.45 -
21.40 UT

KANZELHOHE H-ALPHA



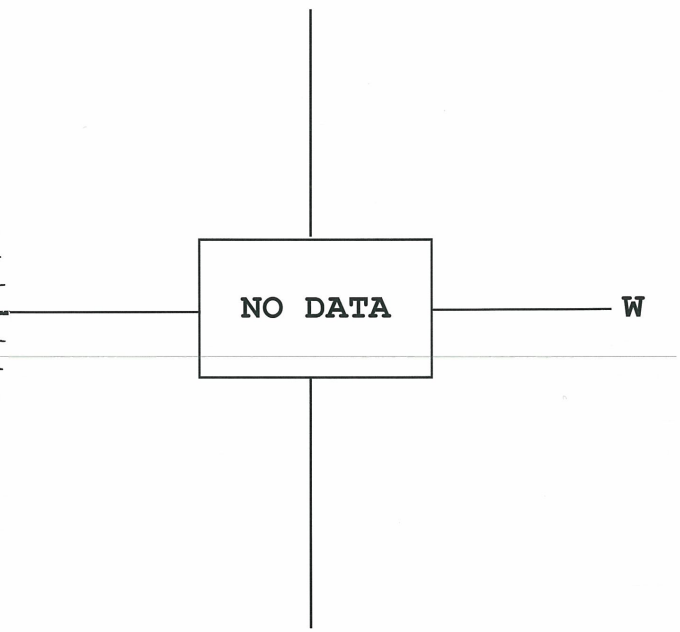
0833 UT

HOLLOMAN SUNSPOTS



2300 UT
0715 UT LOMN PROM

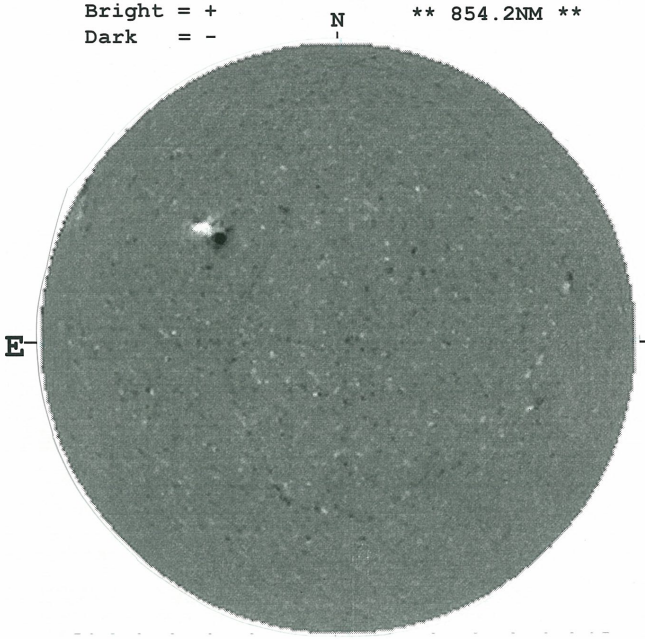
SACRAMENTO PEAK CORONA (1.15 Radii)-----



October 12, 2008 (P= 26.27, Bo= 6.07, Lo= 158.08)

KITT PEAK MAGNETOGRAM -- SOLIS

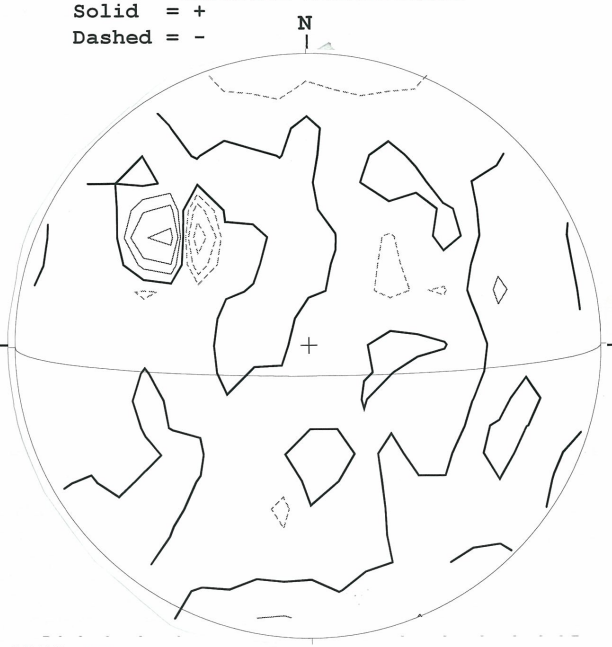
Bright = +
Dark = -



2041 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

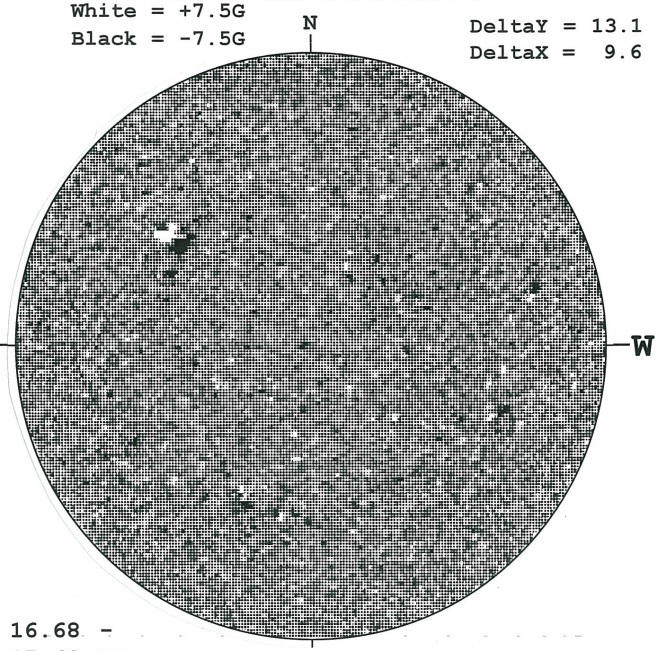


1853 UT

MT. WILSON MAGNETOGRAM

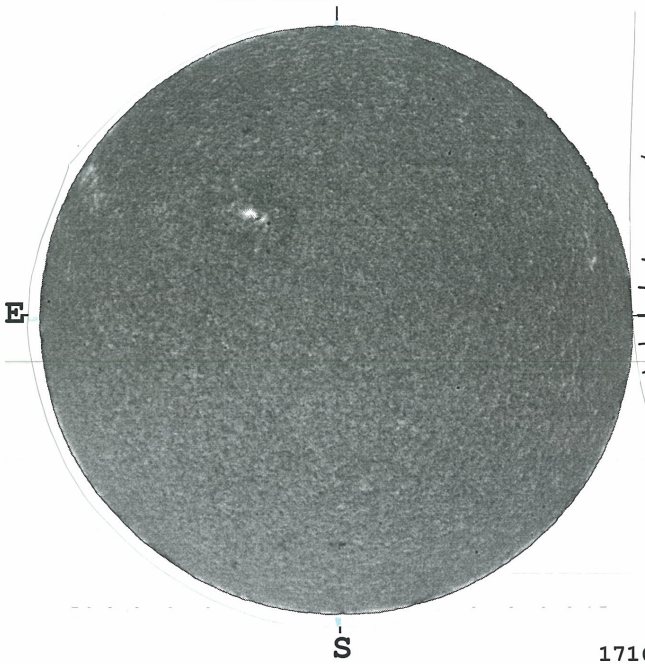
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

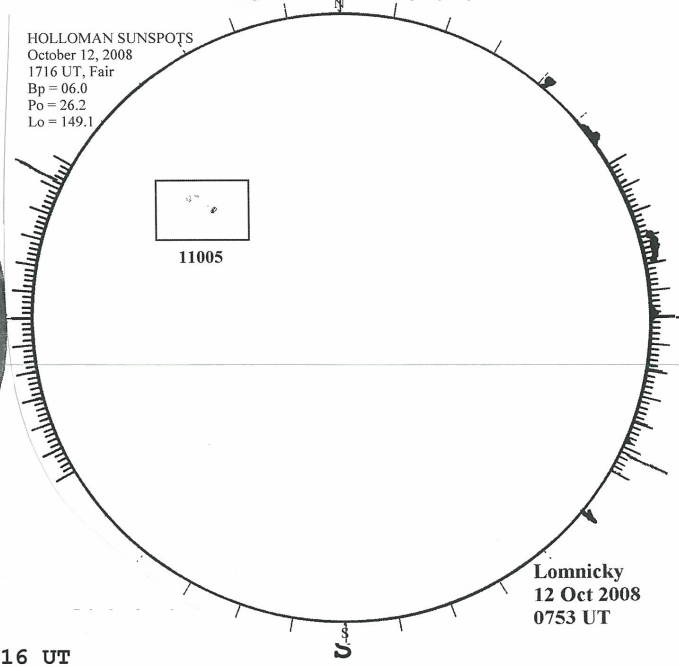


16.68 -
17.63 UT

BIG BEAR H-ALPHA

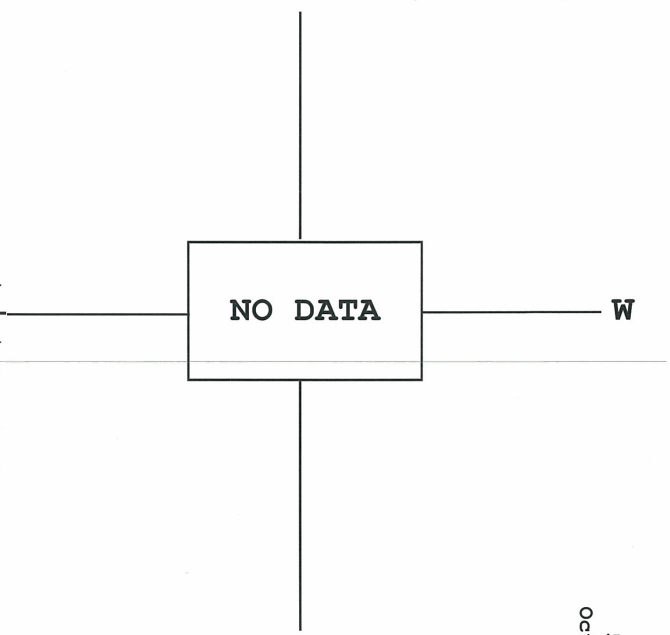


HOLLOMAN SUNSPOTS



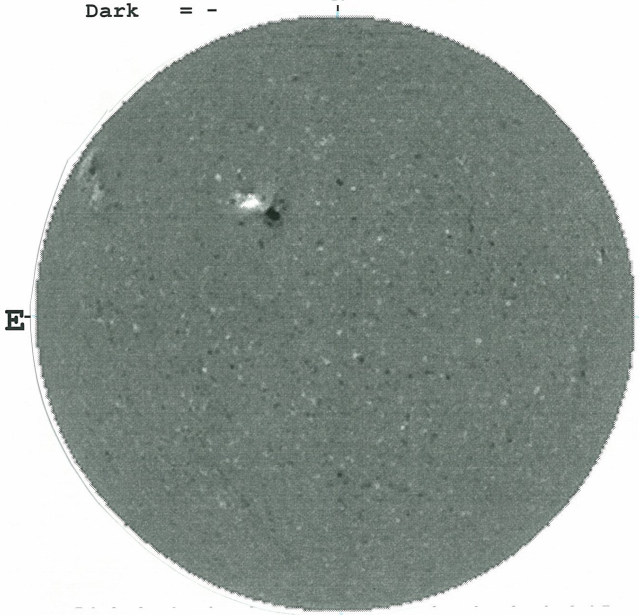
1716 UT
0753 UT LOMN PROM

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



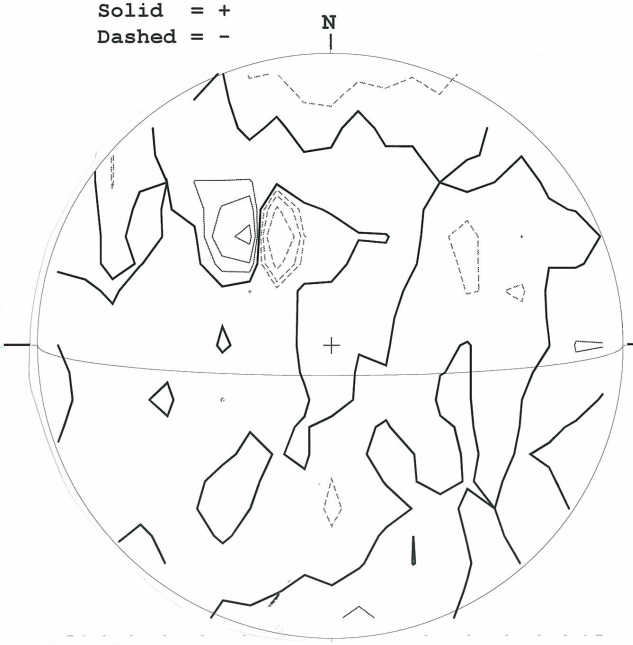
October 13, 2008 (P= 26.25, Bo= 6.00, Lo= 144.89)

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



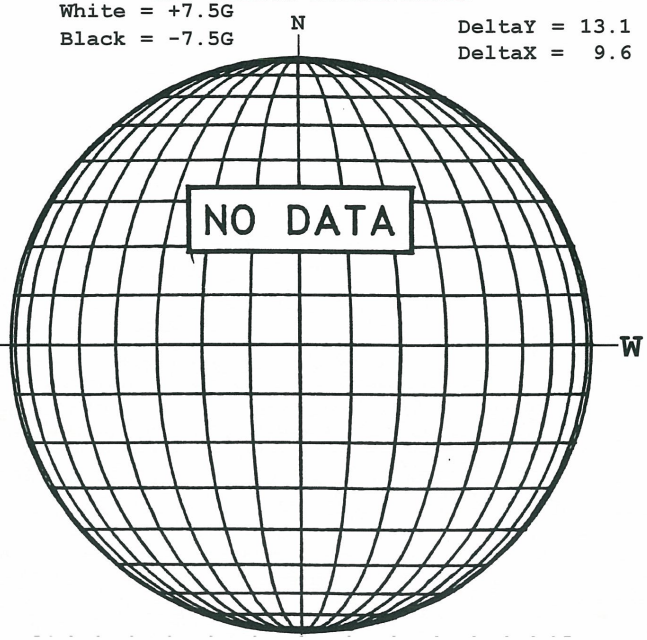
2003 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

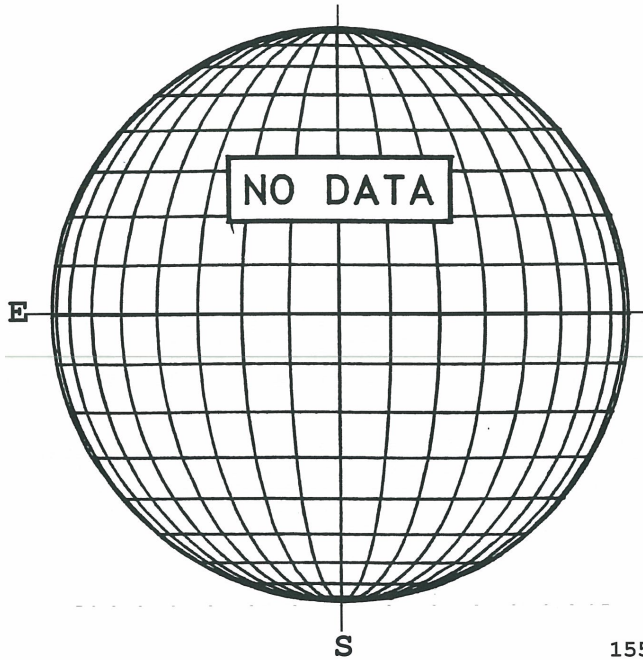


2131 UT

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

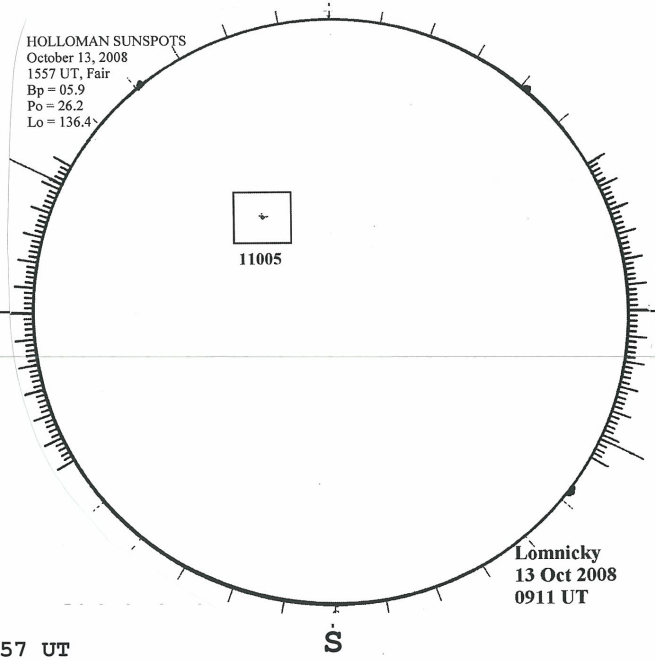


BIG BEAR H-ALPHA



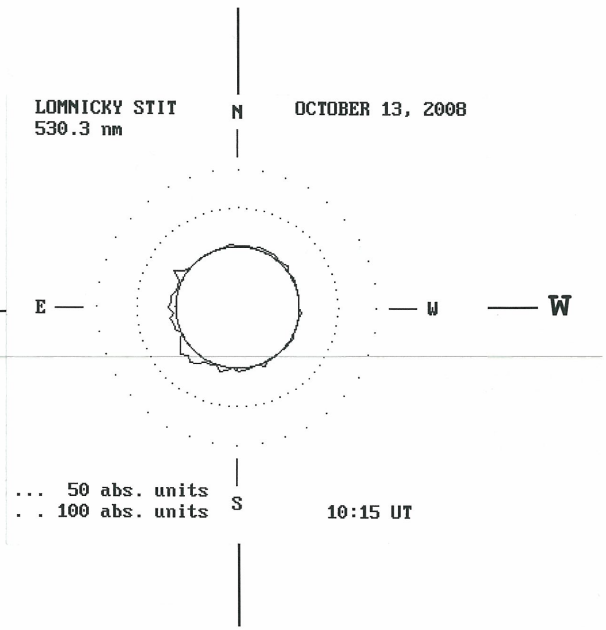
1646 UT

HOLLOMAN SUNSPOTS



1557 UT
0911 UT LOMN PROM

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

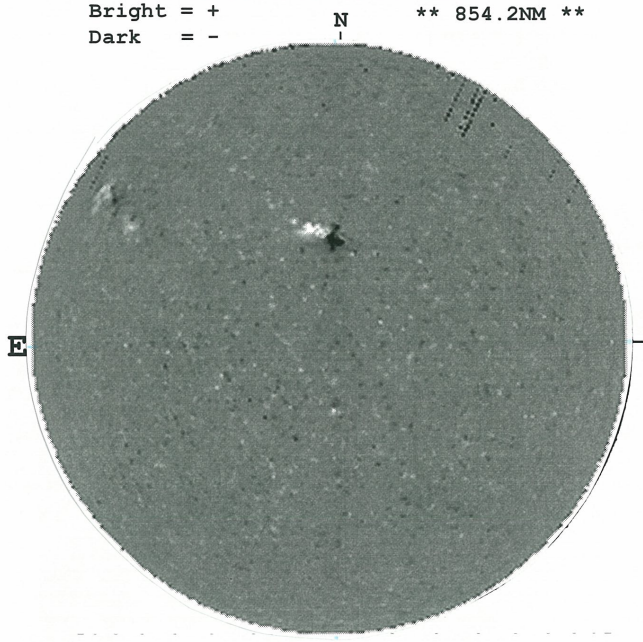


October 14, 2008 (P= 26.22, Bo= 5.92, Lo= 131.70)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

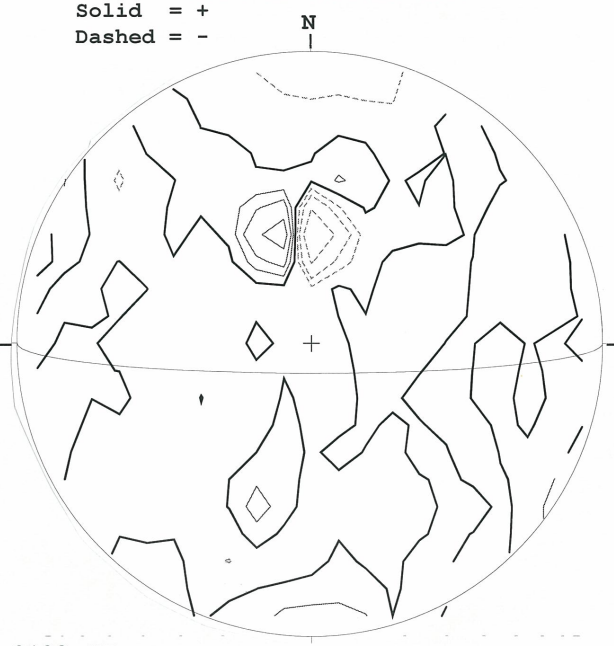
** 854.2NM **



2232 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

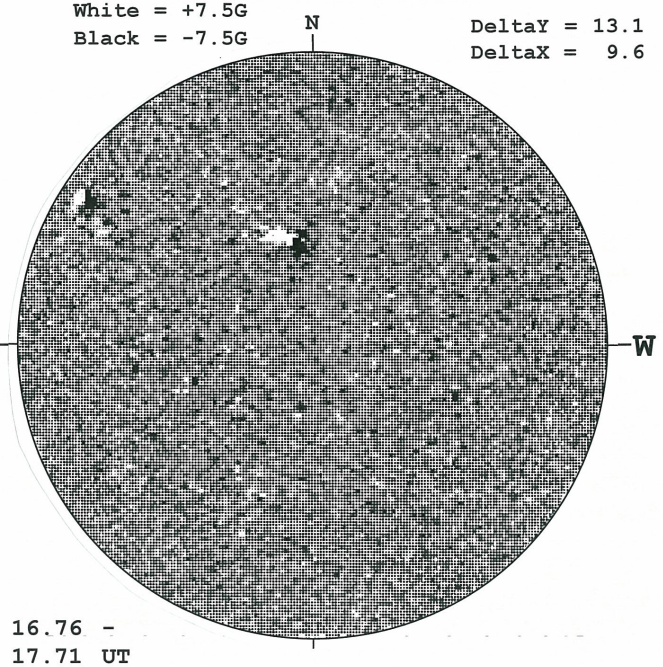


2122 UT

MT. WILSON MAGNETOGRAM

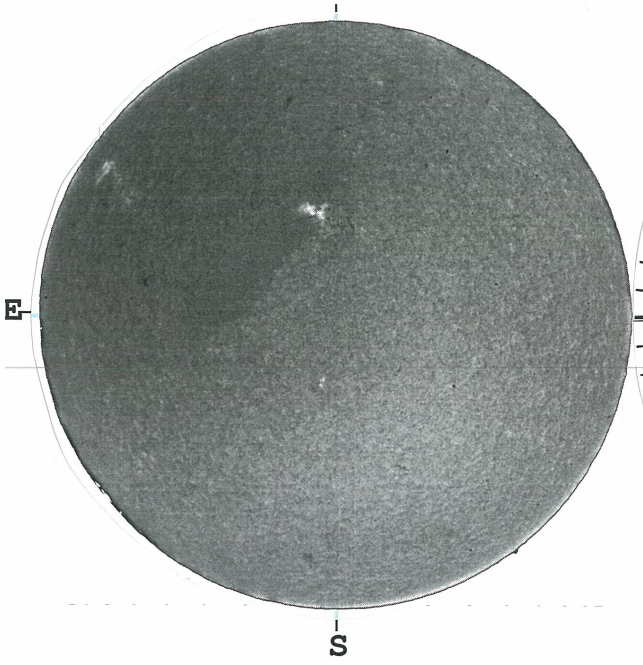
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



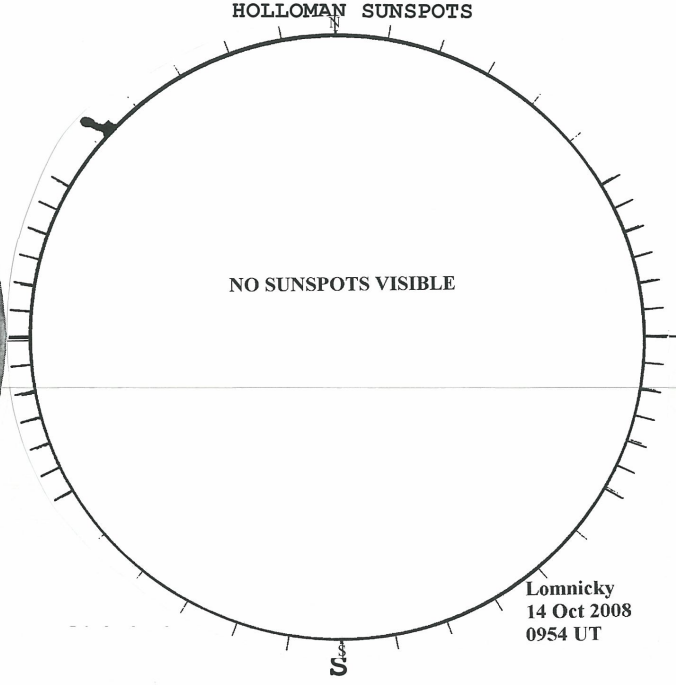
16.76 -
17.71 UT

BIG BEAR H-ALPHA



1615 UT

HOLLOMAN SUNSPOTS

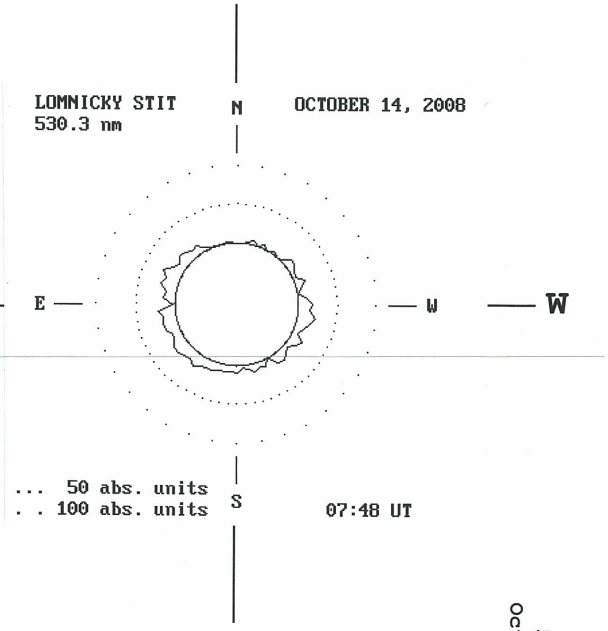


0954 UT LOMN PROM

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

LOMNICKY STIT
530.3 nm

OCTOBER 14, 2008



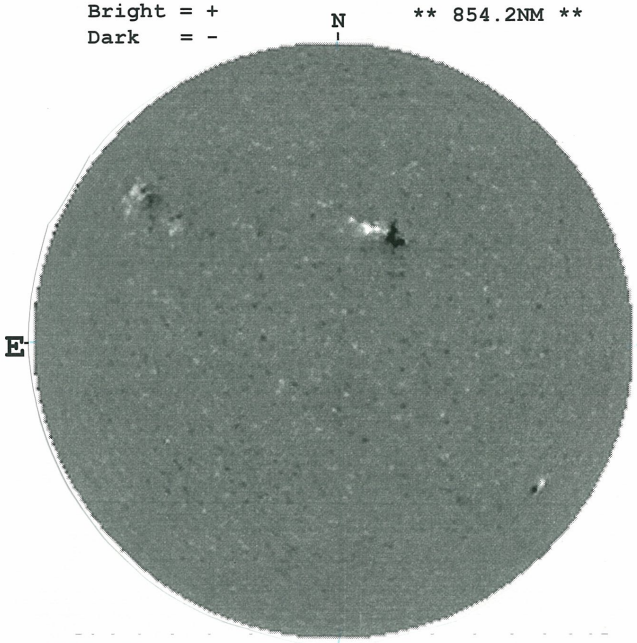
... 50 abs. units
. . 100 abs. units

07:48 UT

53
Oct 08

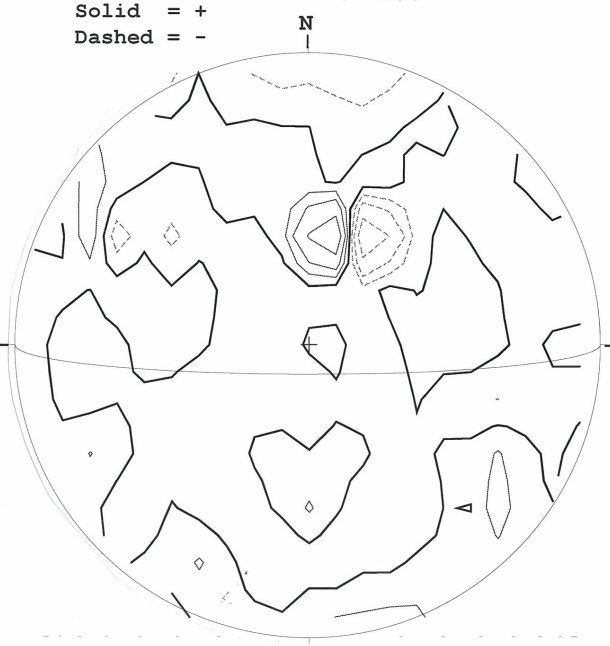
October 15, 2008 (P= 26.19, Bo= 5.85, Lo= 118.51)

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



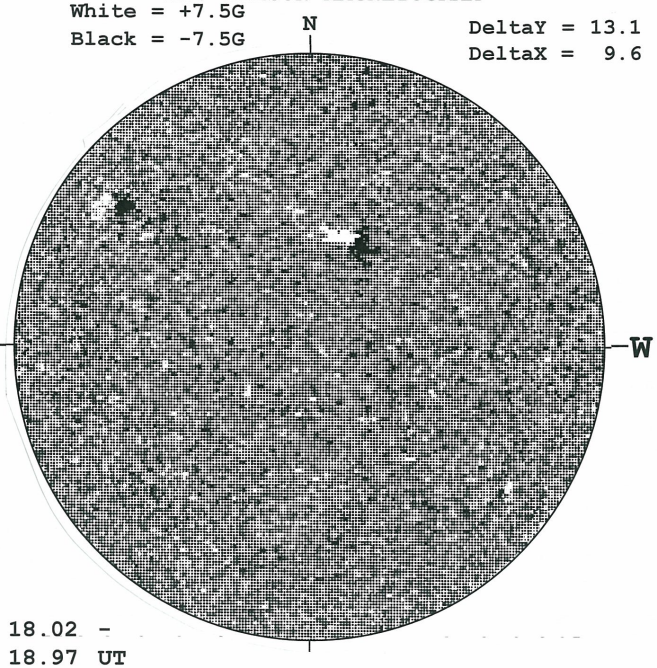
2052 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -



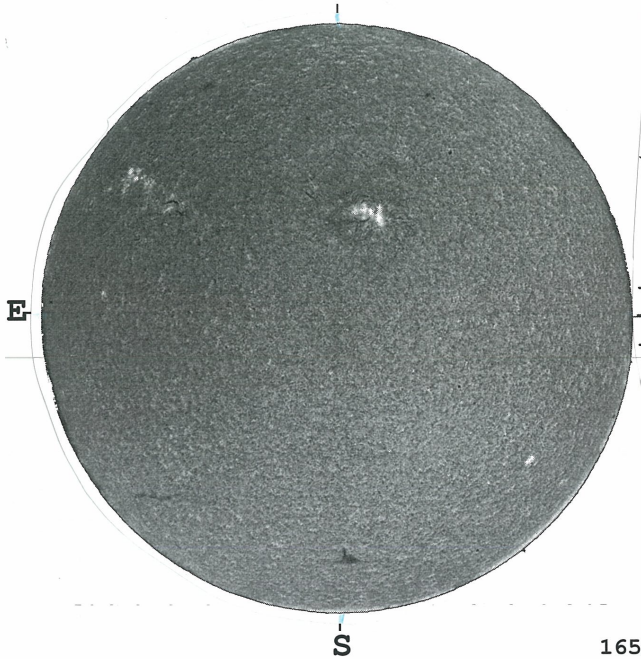
1859 UT

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



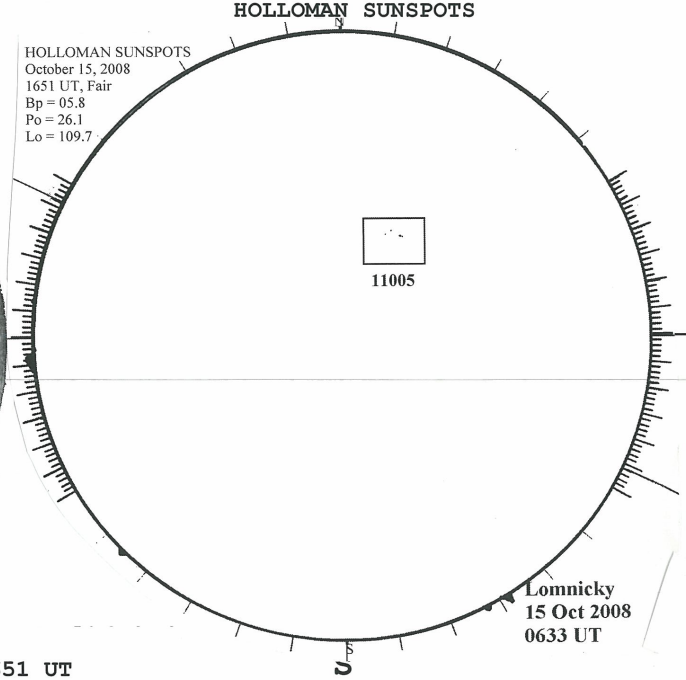
18.02 -
18.97 UT

--- BIG BEAR H-ALPHA



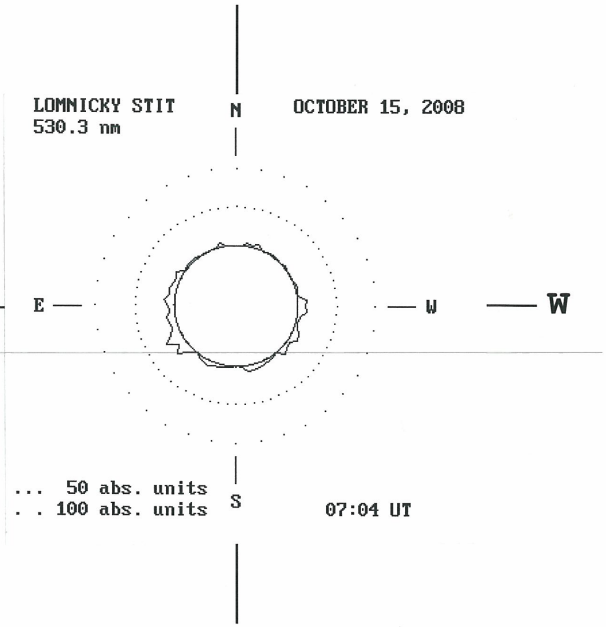
1513 UT

HOLLOMAN SUNSPOTS



1651 UT
0633 UT LOMN PROM

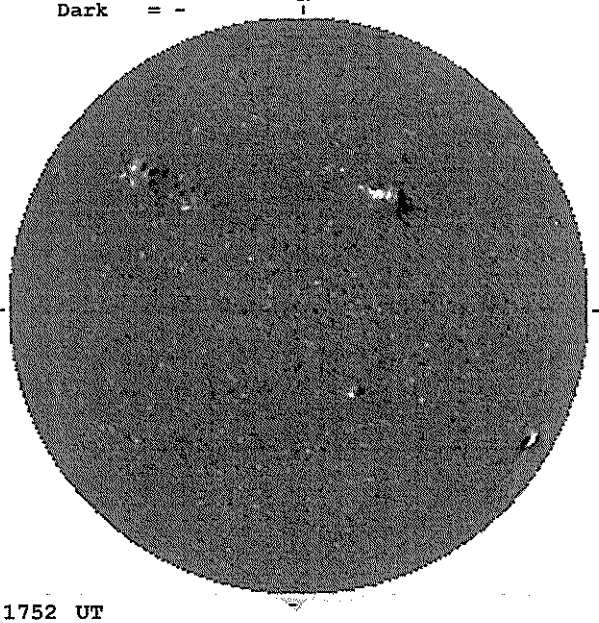
LOMNICKY PEAK CORONA (1.04 Radii)------



October 16, 2008 (P= 26.15, Bo= 5.78, Lo= 105.32)

KITT PEAK MAGNETOGRAM -- SOLIS

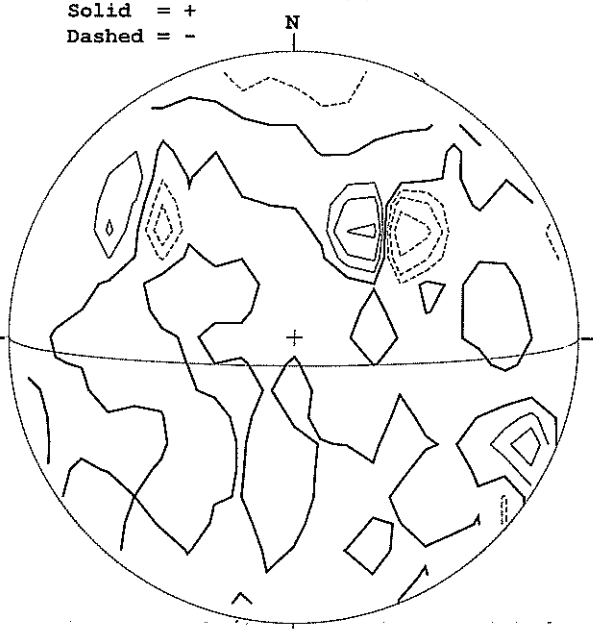
Bright = +
Dark = -



1752 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

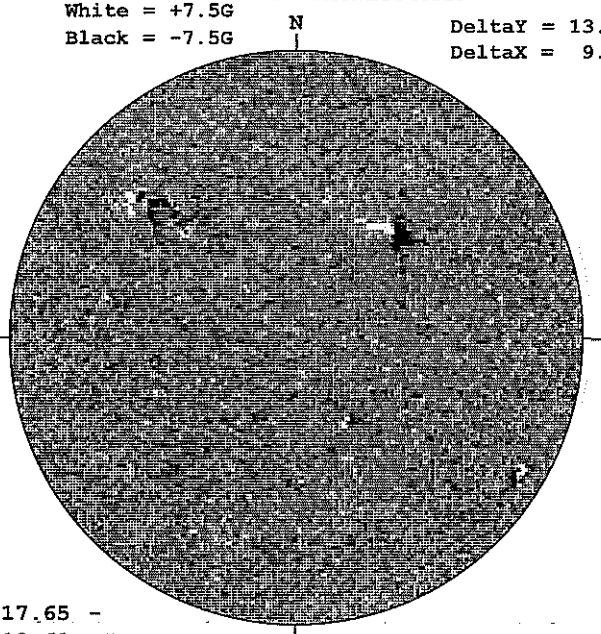


1908 UT

MT. WILSON MAGNETOGRAM

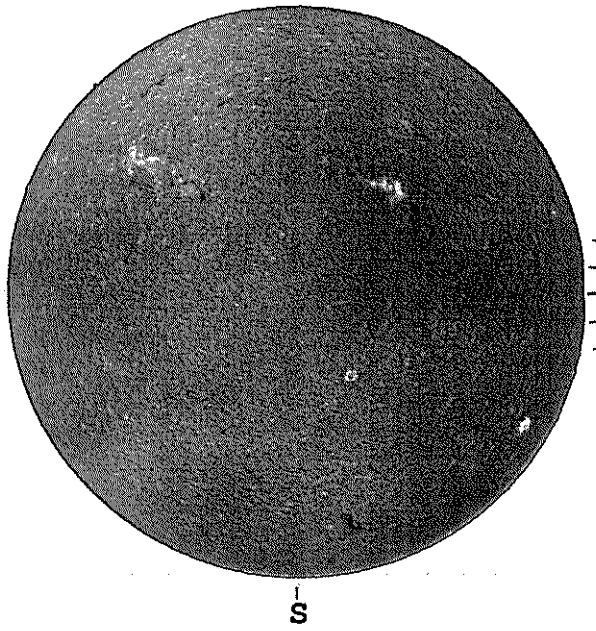
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



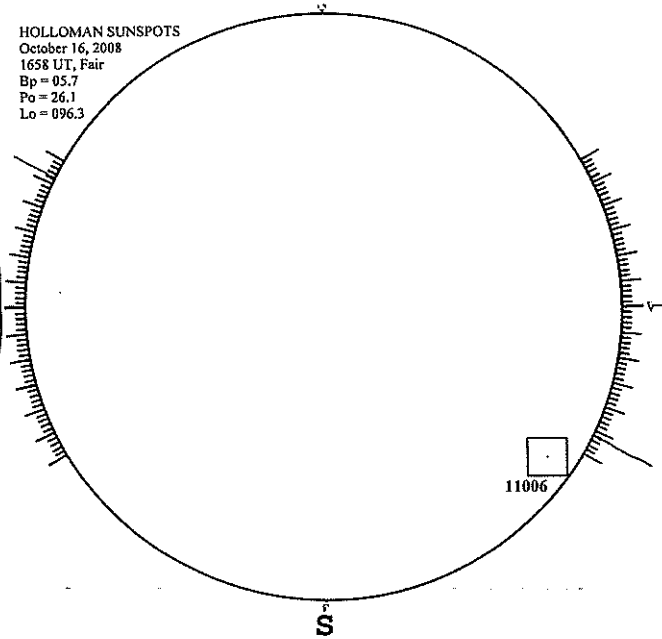
17.65 -
18.60 UT

BIG BEAR H-ALPHA



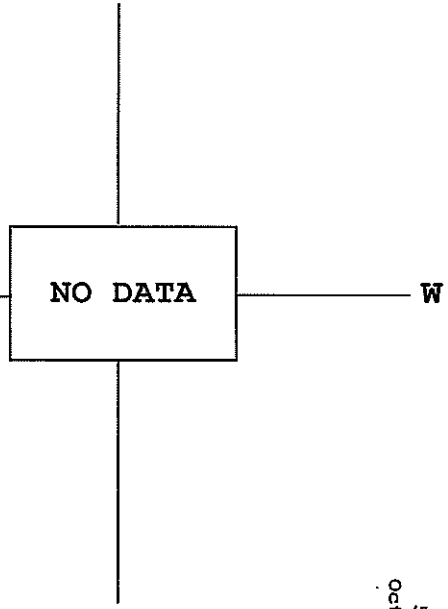
1729 UT

HOLLOMAN SUNSPOTS



1658 UT

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



55
Oct 08

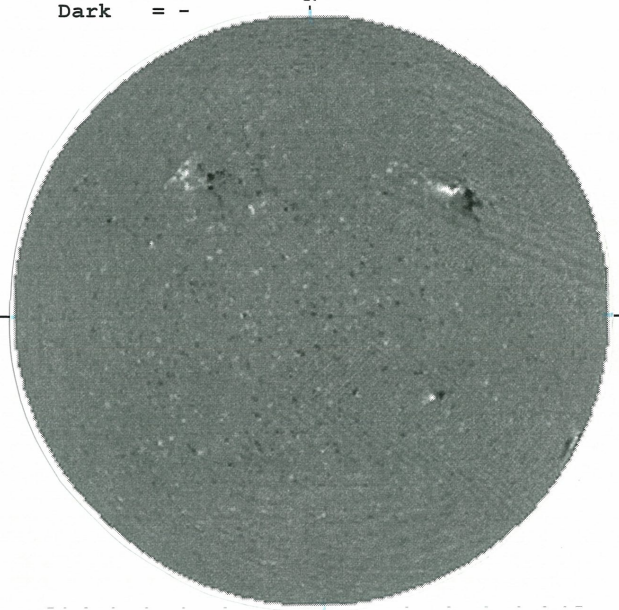
October 17, 2008 (P= 26.10, Bo= 5.70, Lo= 92.13)

Oct 08 56

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

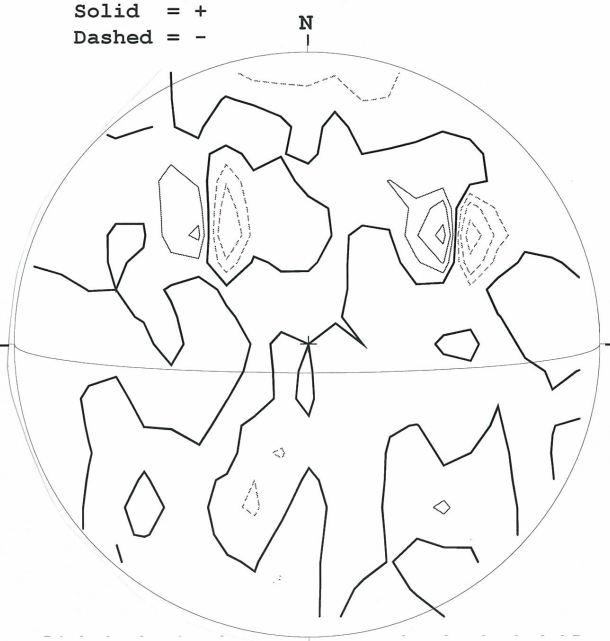
** 854.2NM **



1822 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

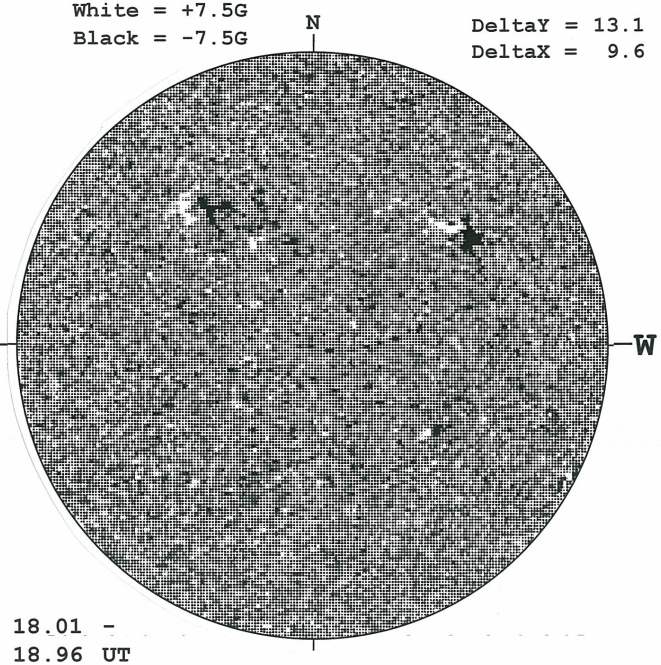


2153 UT

MT. WILSON MAGNETOGRAM

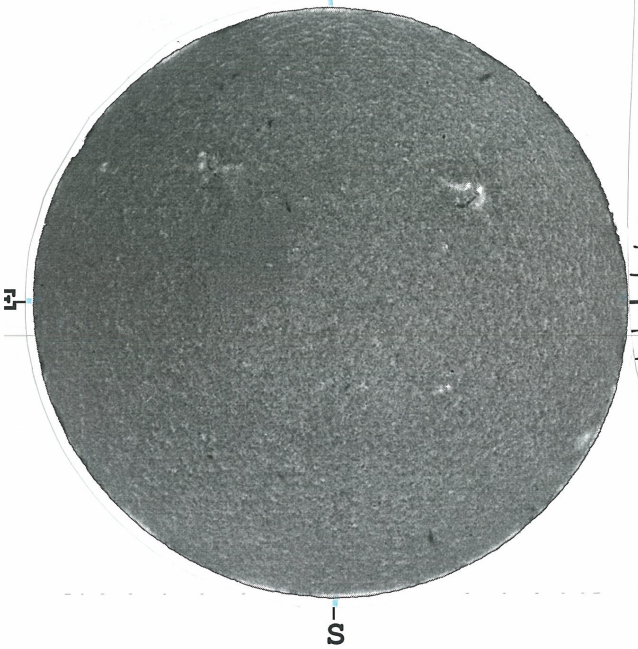
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



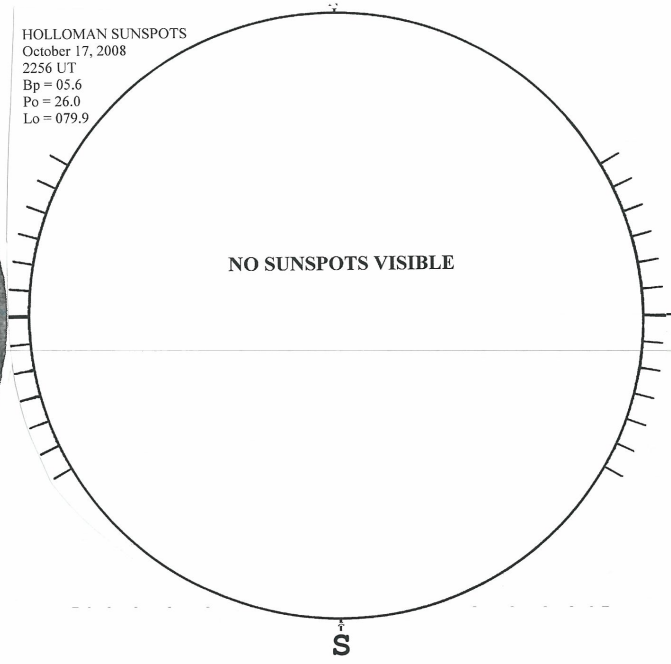
18.01 -
18.96 UT

BIG BEAR H-ALPHA



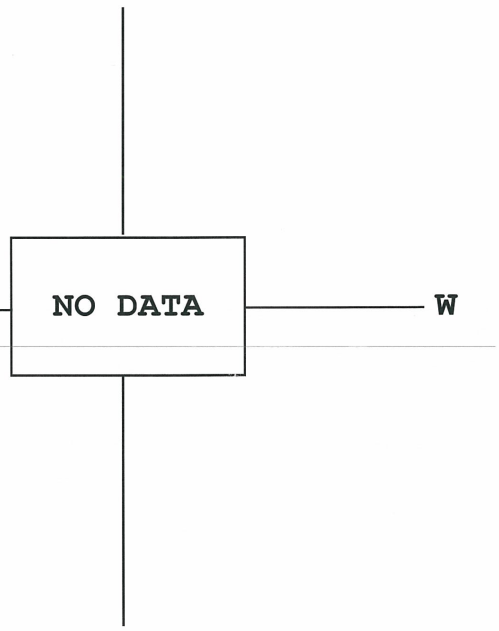
1518 UT

HOLLOMAN SUNSPOTS



2256 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

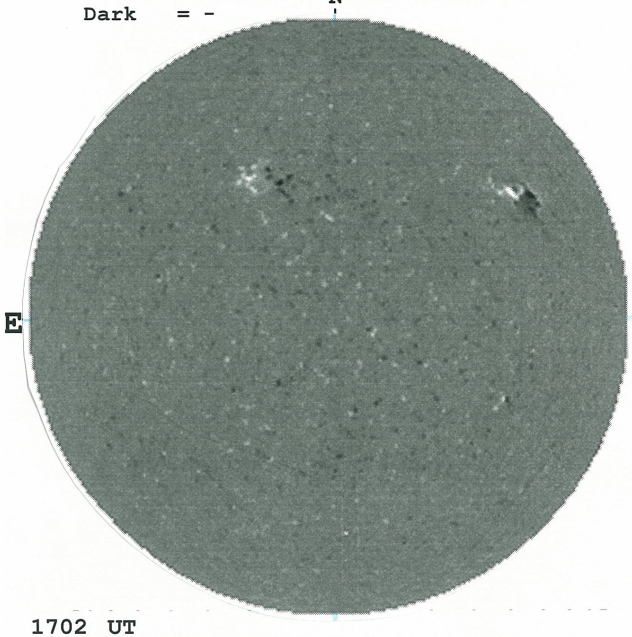


October 18, 2008 (P= 26.04, Bo= 5.62, Lo= 78.94)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

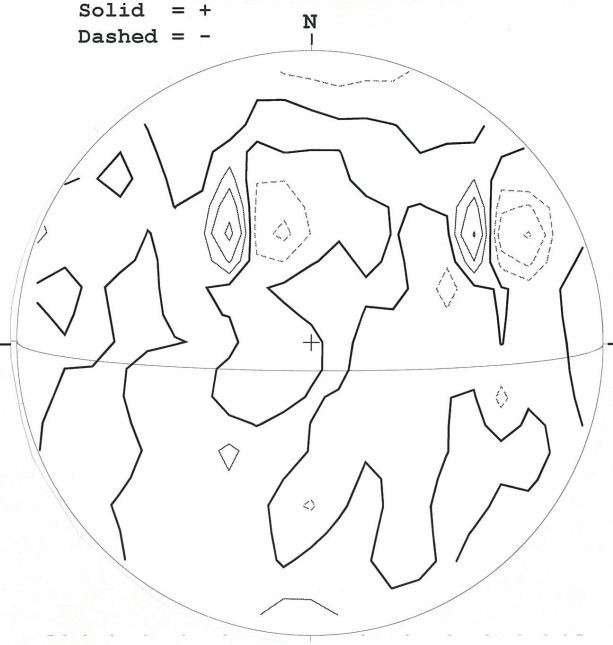
** 854.2NM **



1702 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

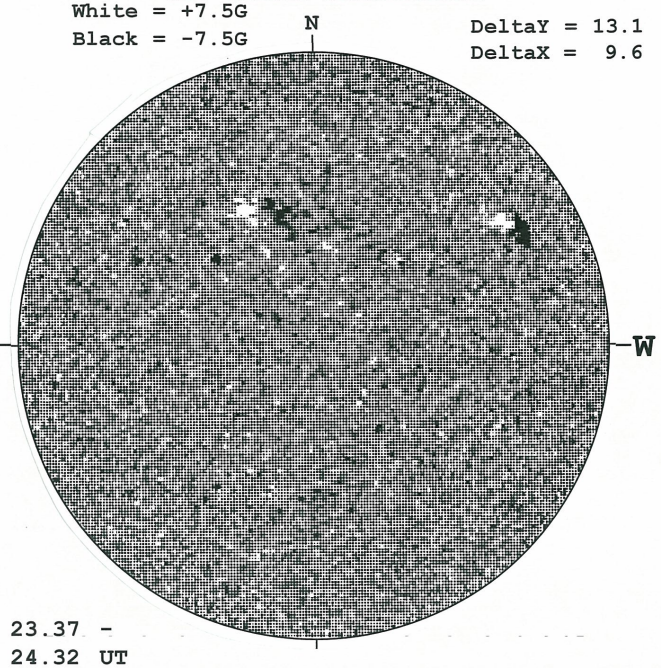


1919 UT

MT. WILSON MAGNETOGRAM

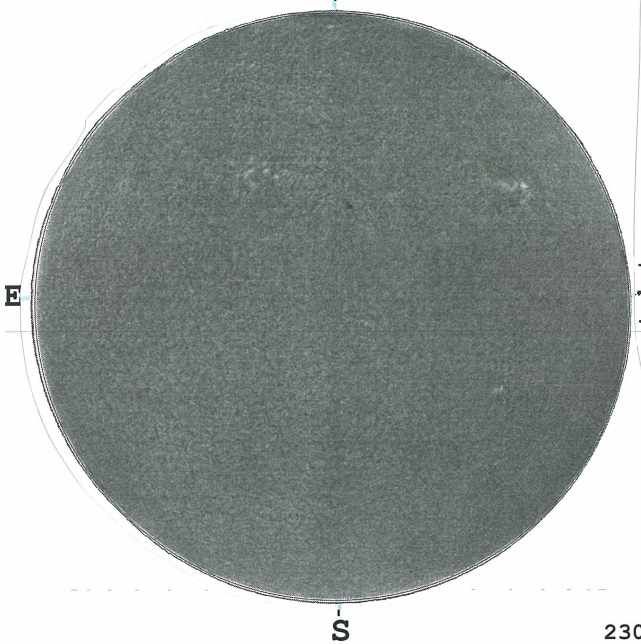
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



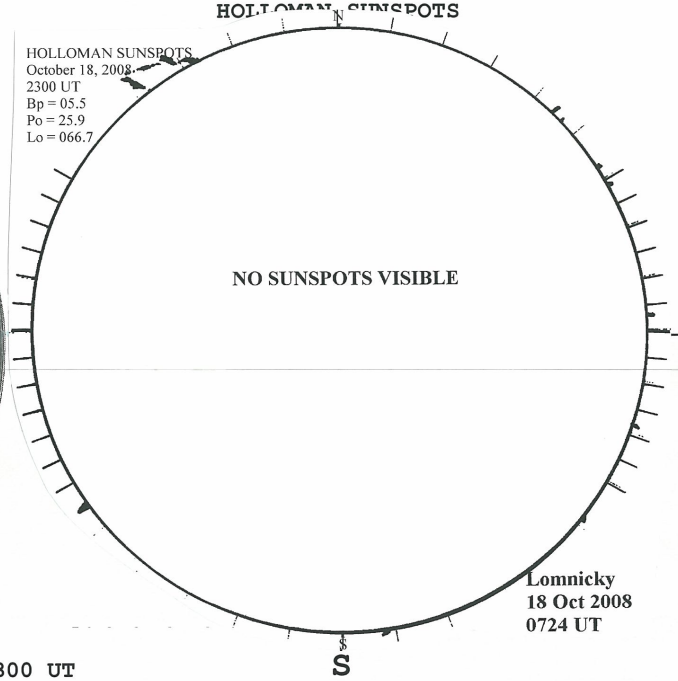
23.37 -
24.32 UT

KANZELHOHE H-ALPHA



1328 UT

HOLLOMAN SUNSPOTS

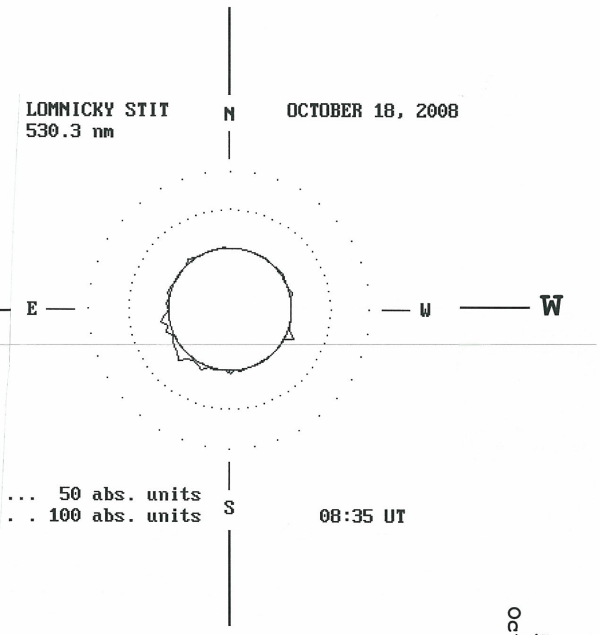


2300 UT
0724 UT LOMN PROM

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

LOMNICKY STIT
530.3 nm

OCTOBER 18, 2008



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

08:35 UT

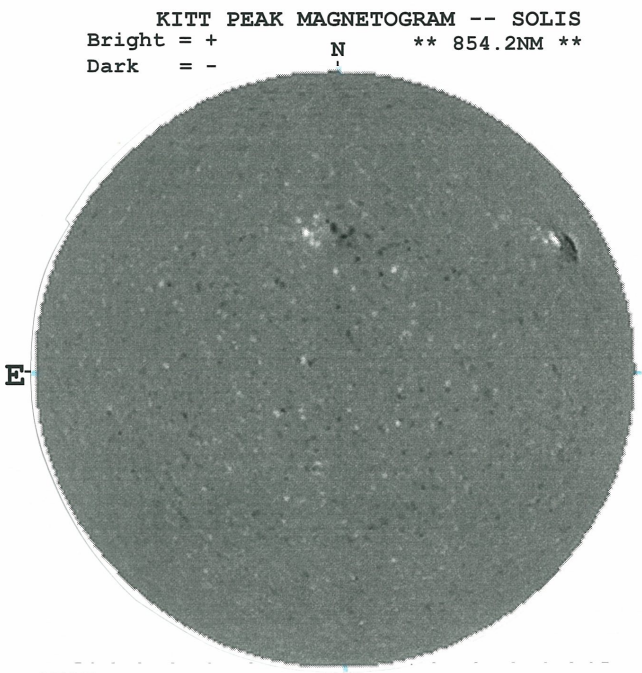
57
Oct 08

October 19, 2008 (P= 25.98, Bo= 5.54, Lo= 65.75)

Oct 08 58

KITT PEAK MAGNETOGRAM -- SOLIS

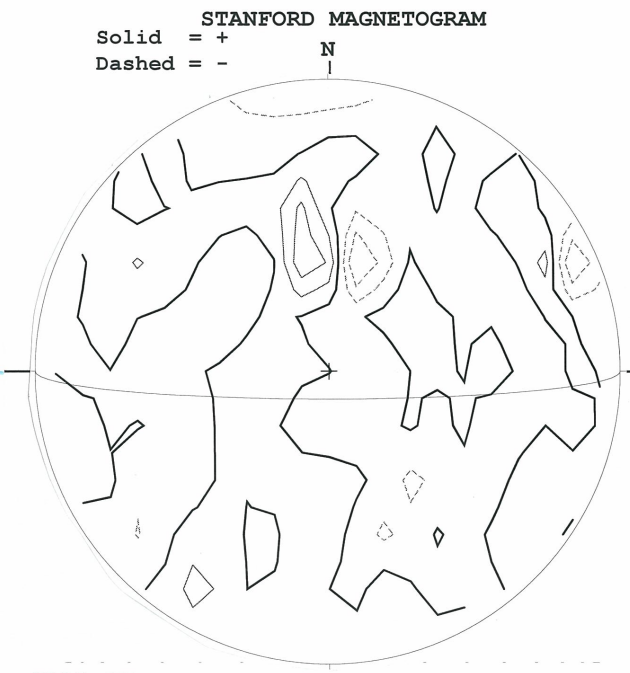
Bright = +
Dark = -



1707 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

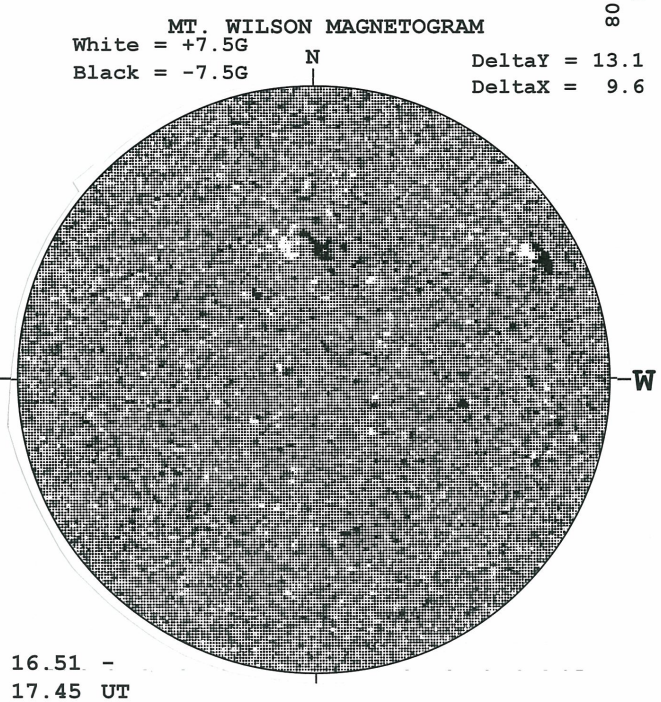


2119 UT

MT. WILSON MAGNETOGRAM

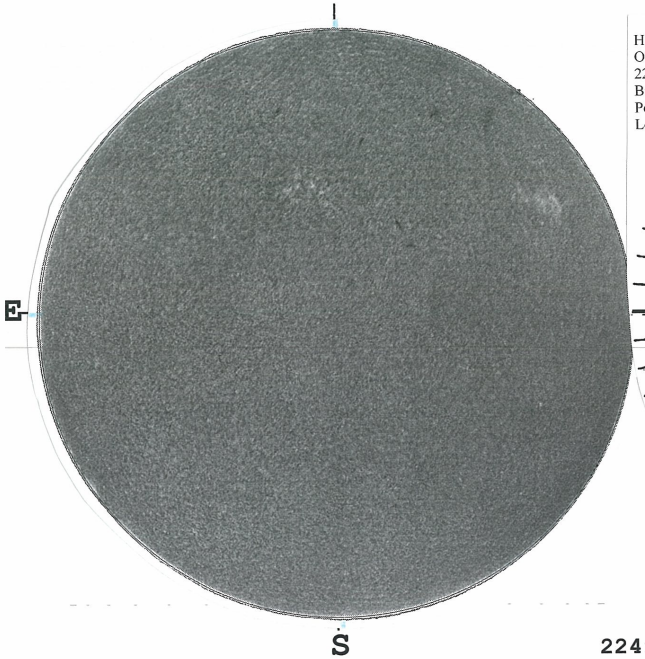
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



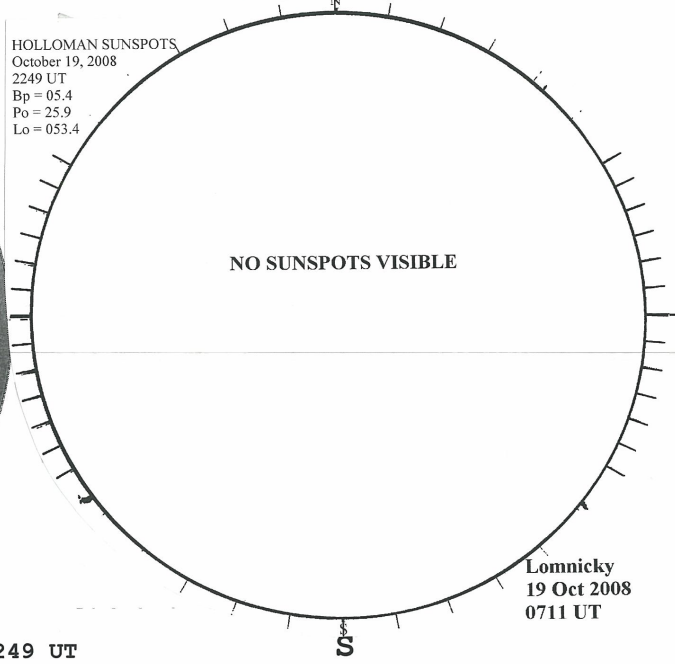
16.51 -
17.45 UT

KANZELHOHE H-ALPHA



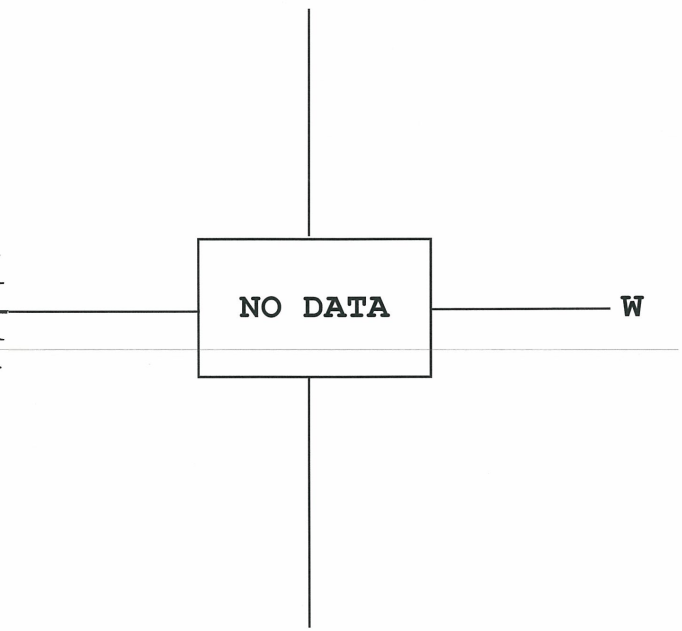
0712 UT

HOLLOMAN SUNSPOTS



2249 UT
0711 UT LOMN PROM

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



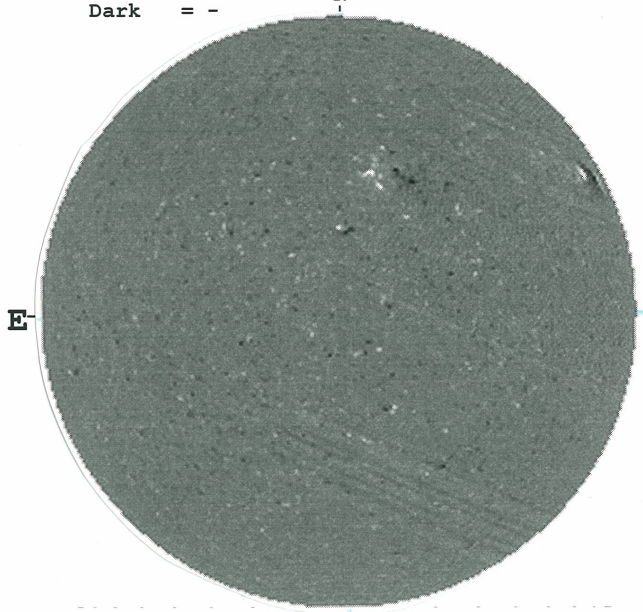
October 20, 2008 (P= 25.91, Bo= 5.46, Lo= 52.56)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

N

** 854.2NM **

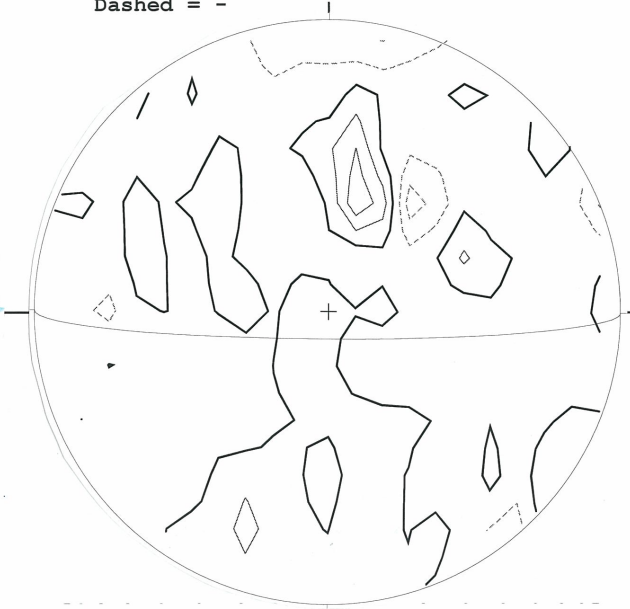


1853 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

N



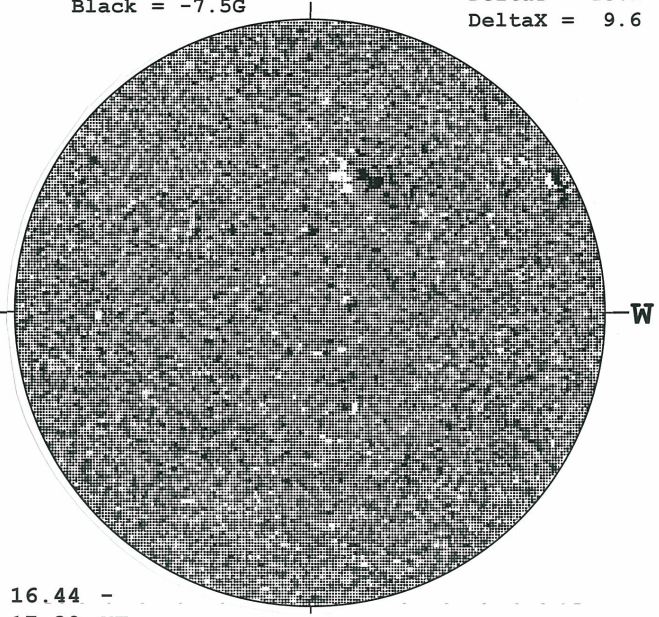
2126 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

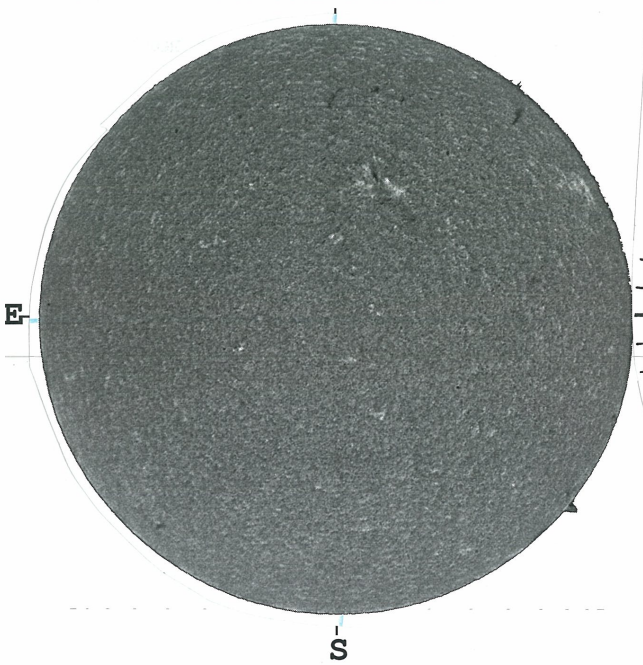
N

DeltaY = 13.1
DeltaX = 9.6



16.44 -
17.39 UT

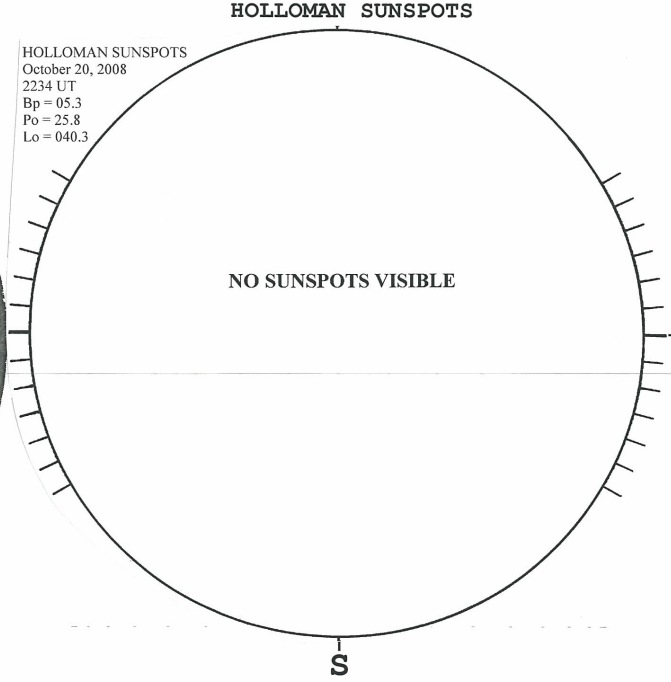
BIG BEAR H-ALPHA



1631 UT

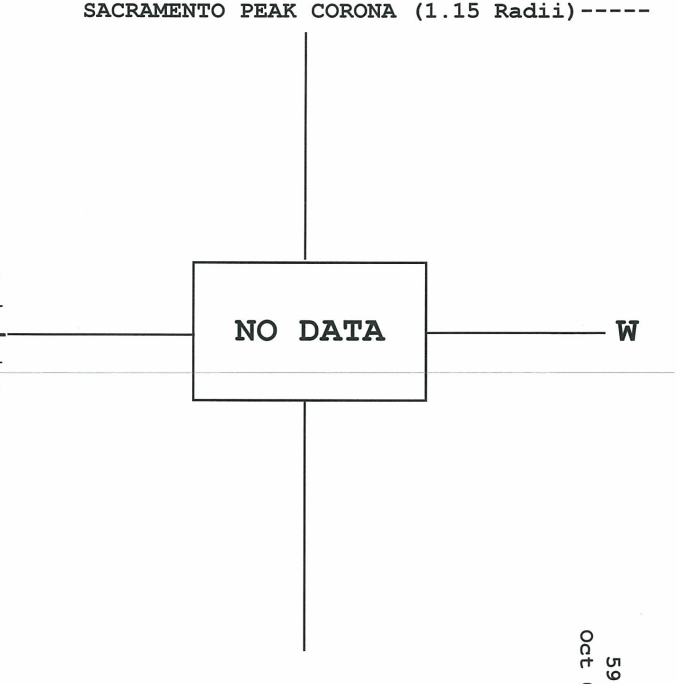
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
October 20, 2008
2234 UT
Bp = 05.3
Po = 25.8
Lo = 040.3



2234 UT

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



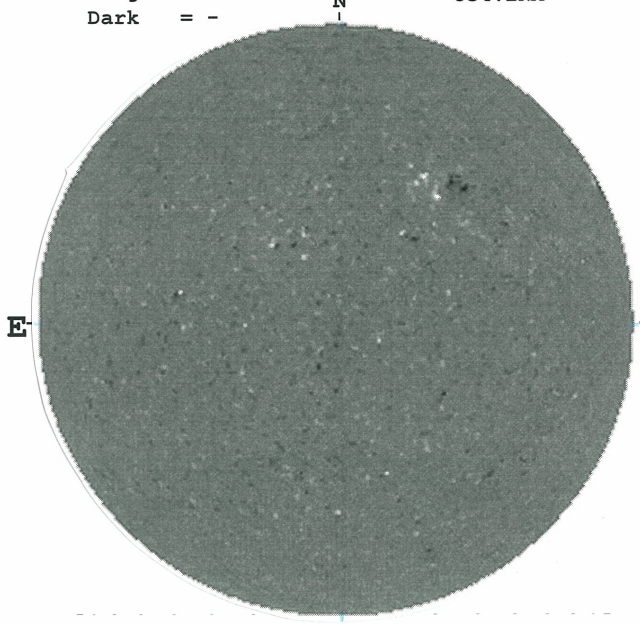
59
Oct 08

October 21, 2008 (P= 25.83, Bo= 5.38, Lo= 39.37)

Oct 08 60

KITT PEAK MAGNETOGRAM -- SOLIS

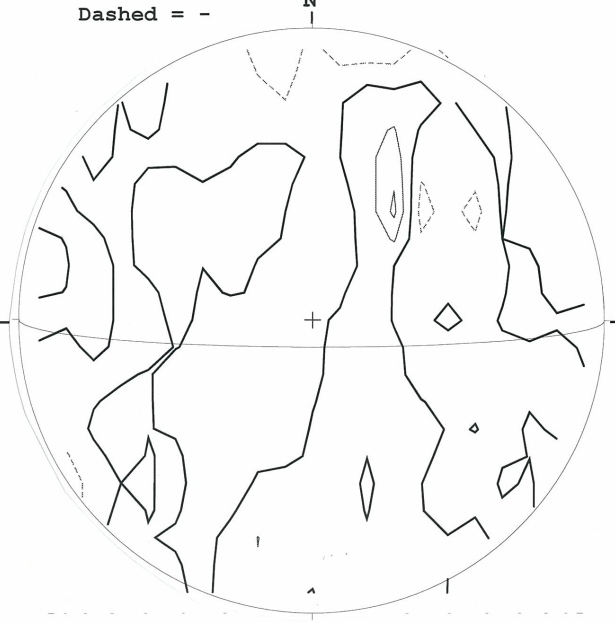
Bright = +
Dark = -



1938 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

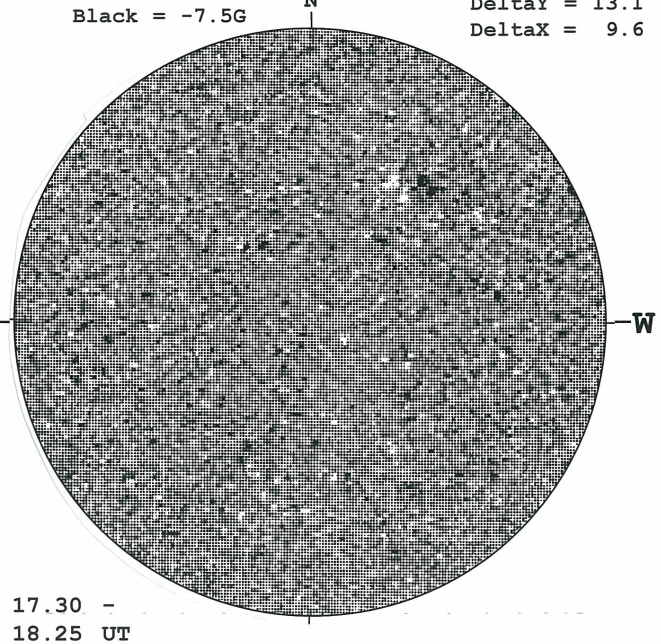


1912 UT

MT. WILSON MAGNETOGRAM

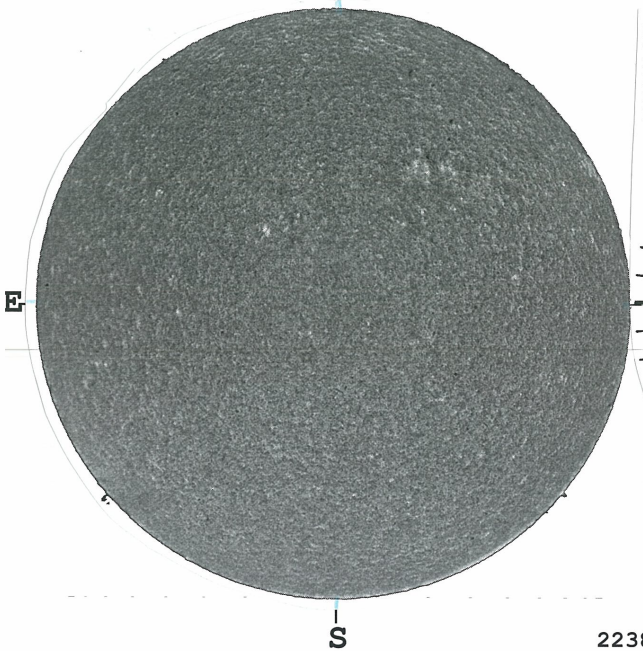
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



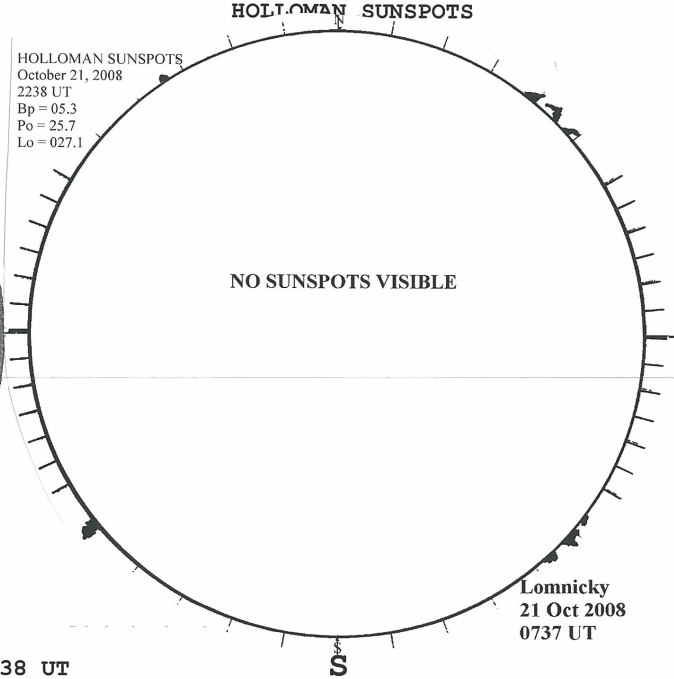
17.30 -
18.25 UT

BIG BEAR H-ALPHA



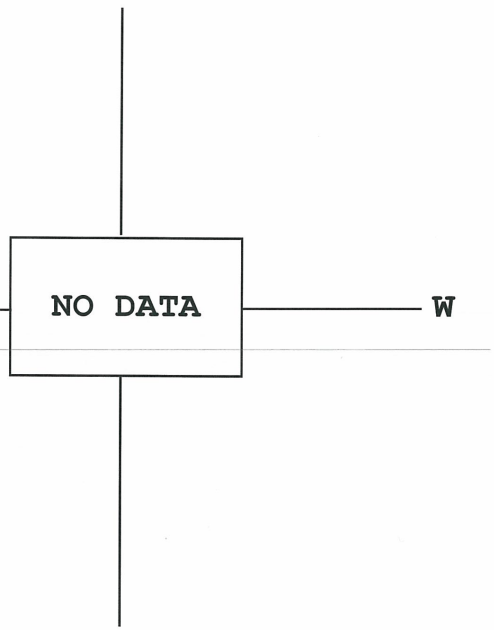
1716 UT

HOLLOMAN SUNSPOTS



2238 UT
0737 UT LOMN PROM

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



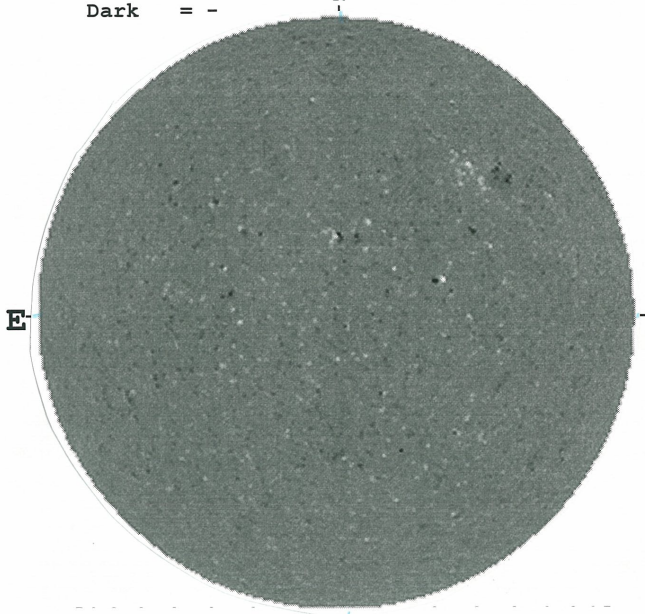
October 22, 2008 (P= 25.74, Bo= 5.29, Lo= 26.18)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

N

** 854.2NM **

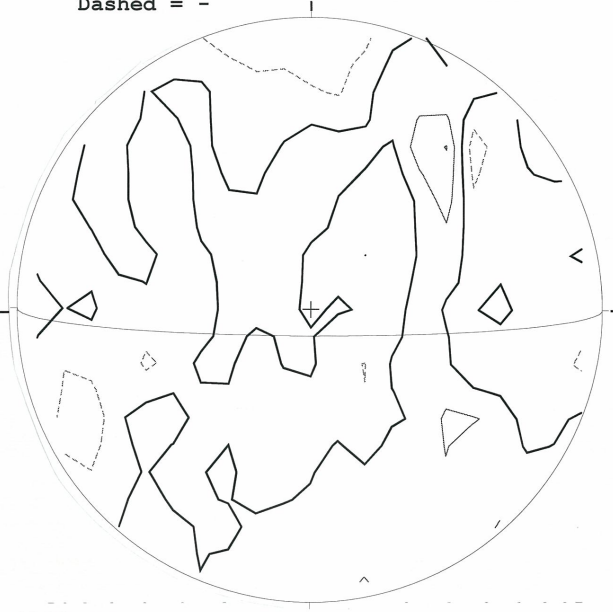


1817 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

N



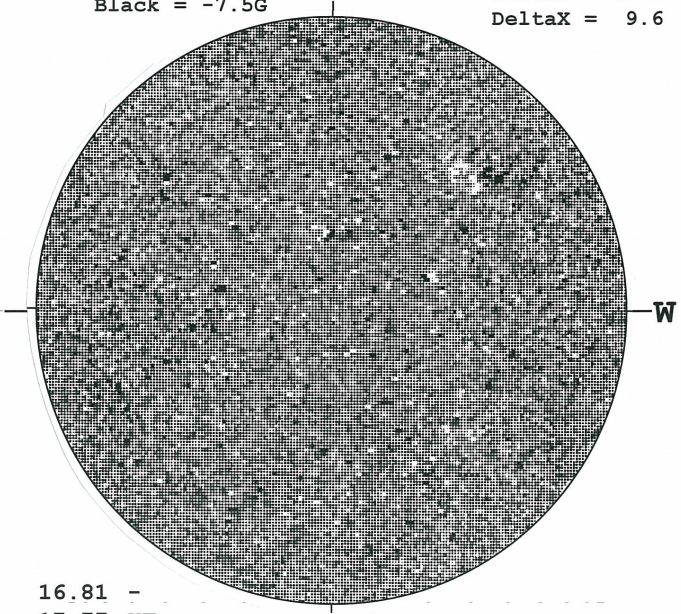
1902 UT

MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

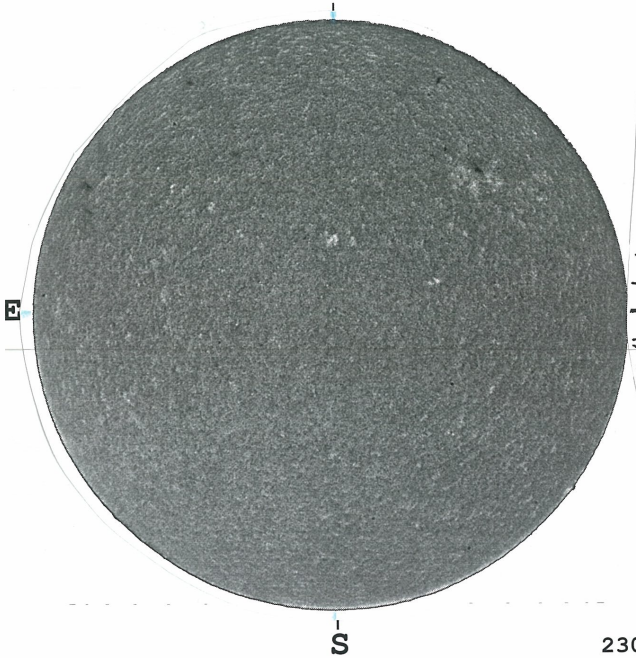
N

DeltaY = 13.1
DeltaX = 9.6



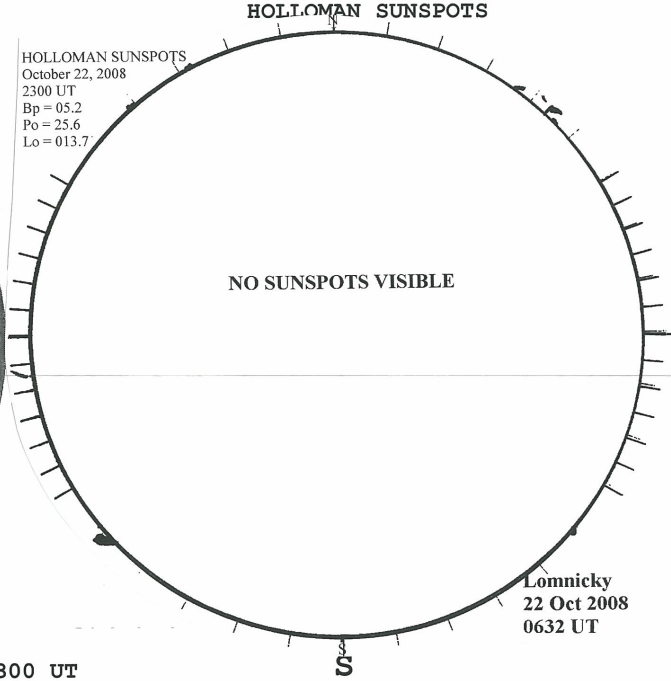
16.81 -
17.77 UT

BIG BEAR H-ALPHA



1859 UT

HOLLOMAN SUNSPOTS



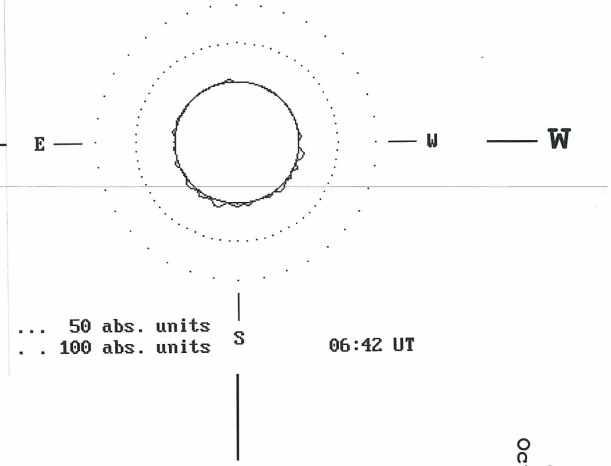
2300 UT
0632 UT LOMN PROM

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

LOMNICKY STIT
530.3 nm

N

OCTOBER 22, 2008



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

S

06:42 UT

61
Oct 08

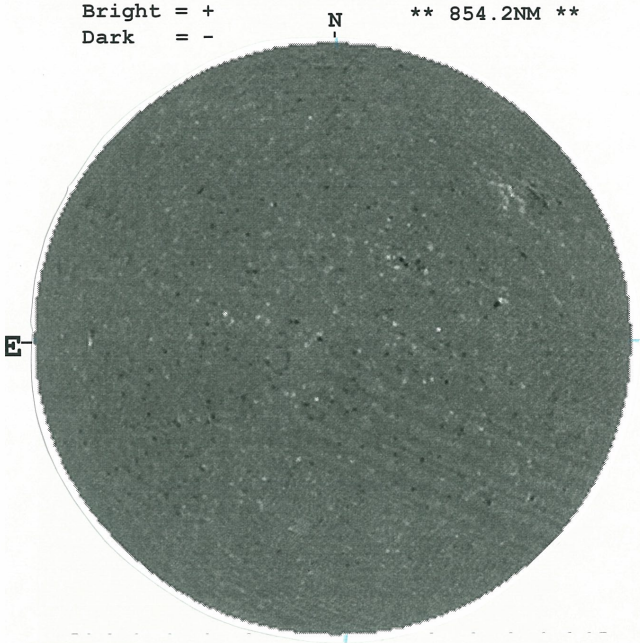
October 23, 2008 (P= 25.65, Bo= 5.20, Lo= 12.99)

Oct 08 '62

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

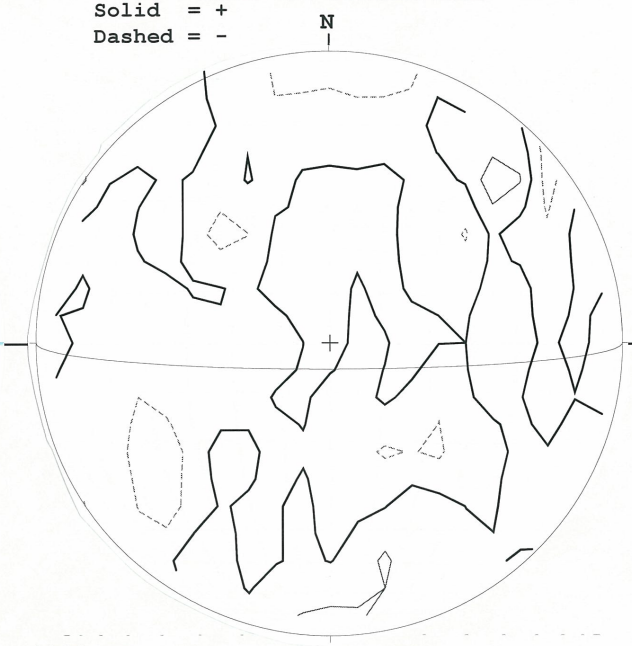
** 854.2NM **



1855 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

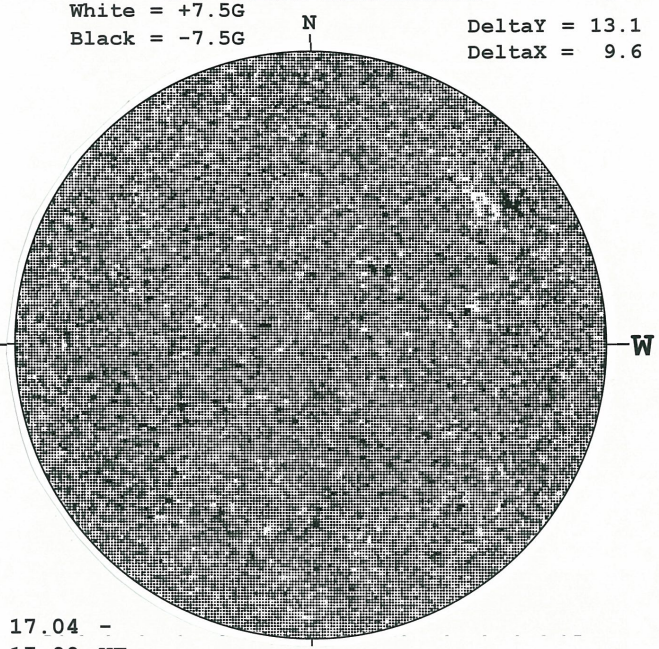


1920 UT

MT. WILSON MAGNETOGRAM

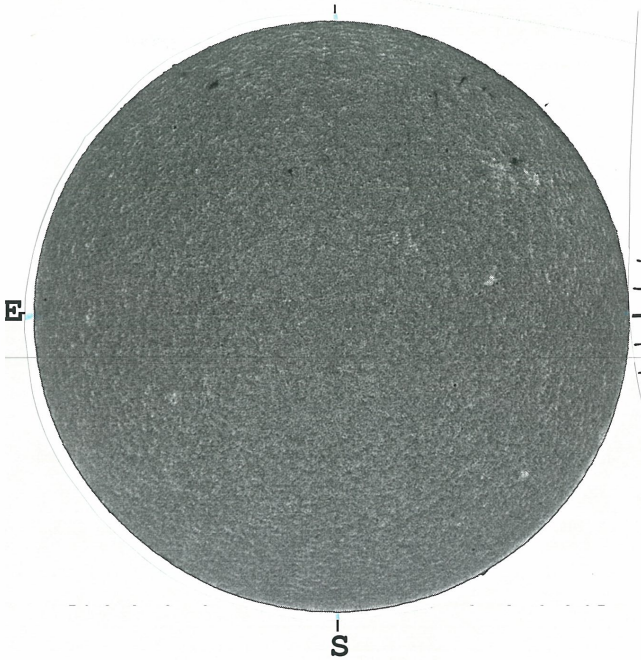
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



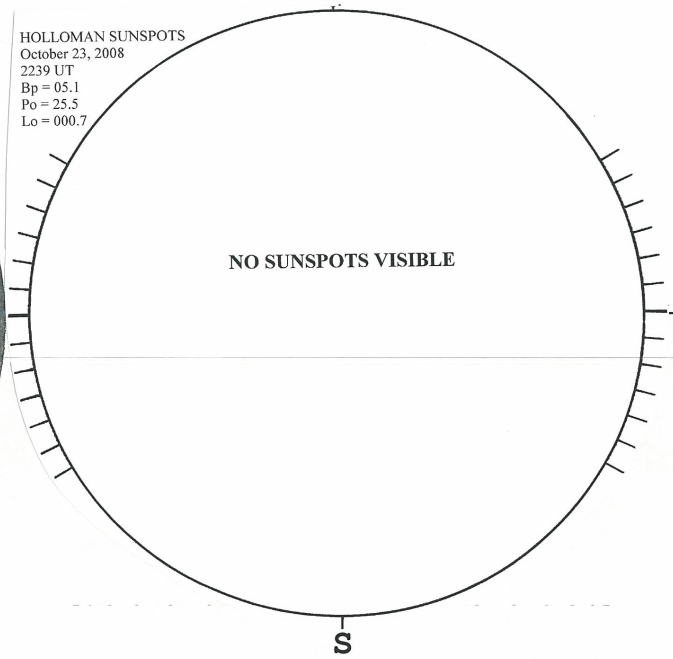
17.04 -
17.99 UT

BIG BEAR H-ALPHA



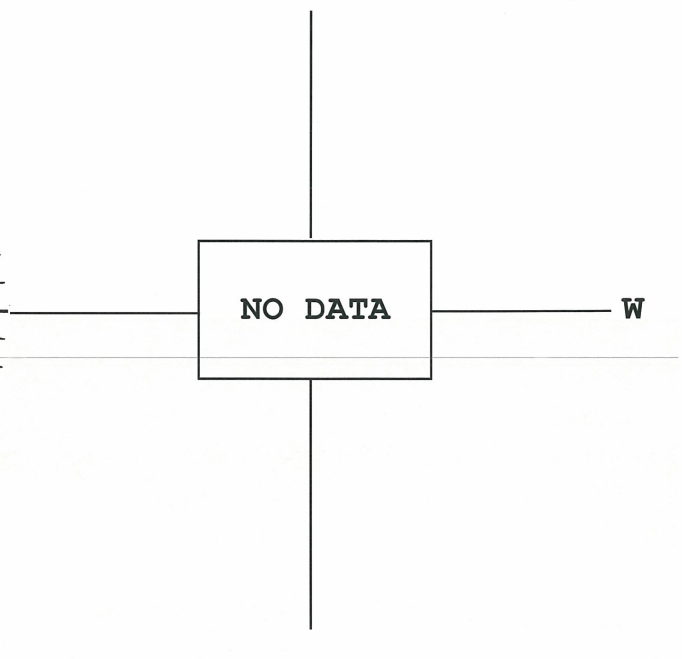
1651 UT

HOLLOMAN SUNSPOTS



2239 UT

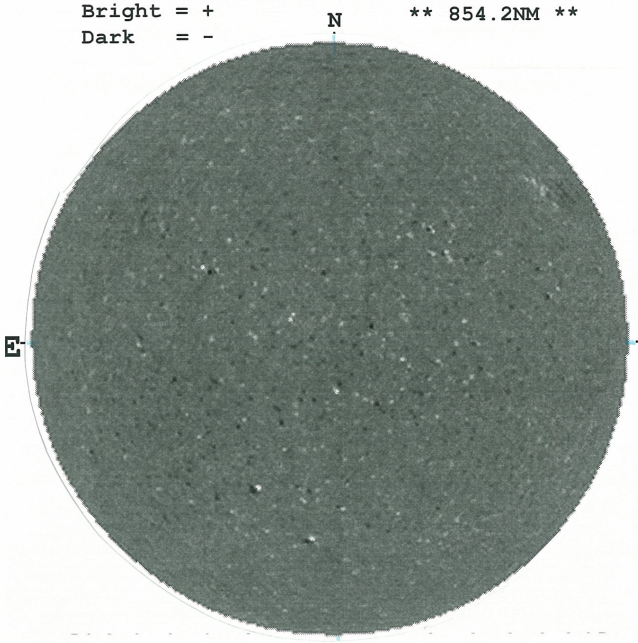
SACRAMENTO PEAK CORONA (1.15 Radii)-----



October 24, 2008 (P= 25.54, Bo= 5.11, Lo= 359.80)

KITT PEAK MAGNETOGRAM -- SOLIS

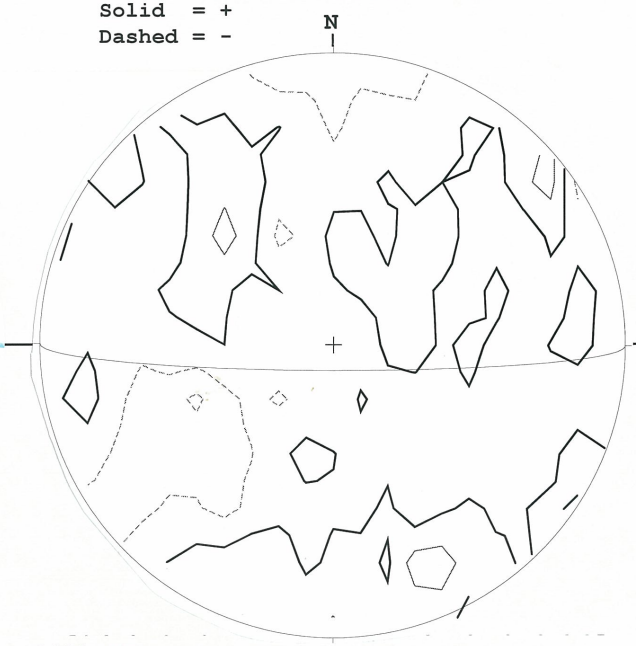
Bright = +
Dark = -



2014 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

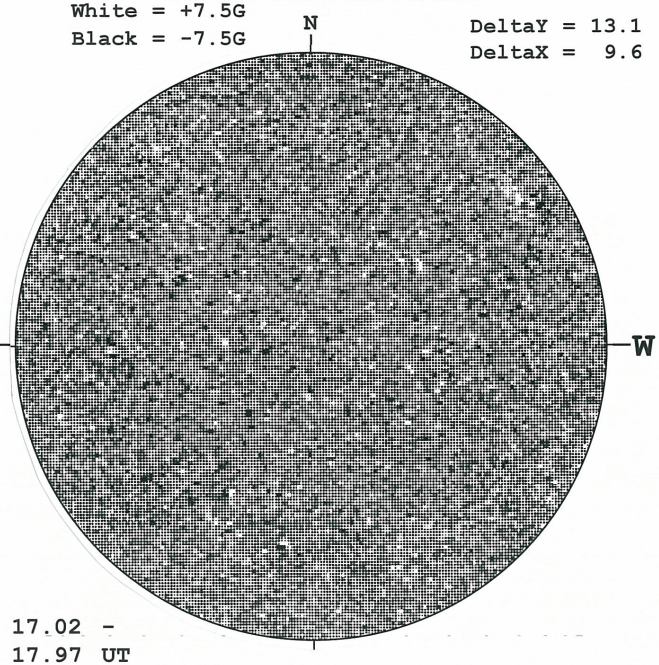


2111 UT

MT. WILSON MAGNETOGRAM

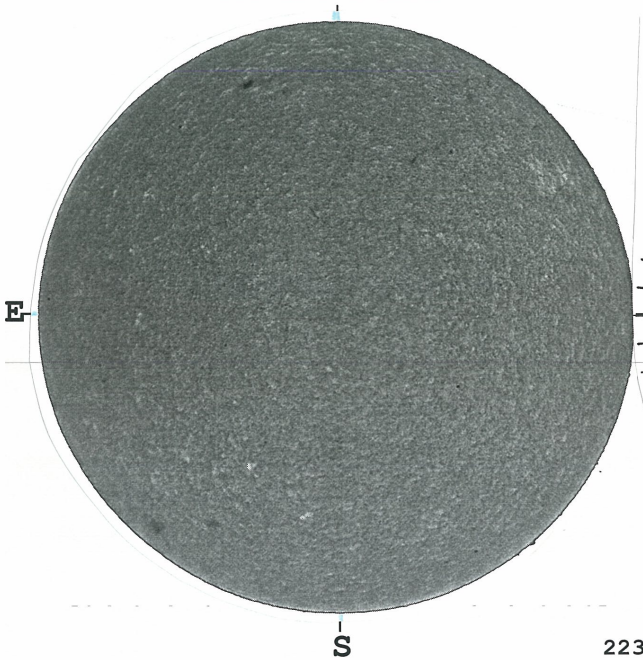
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



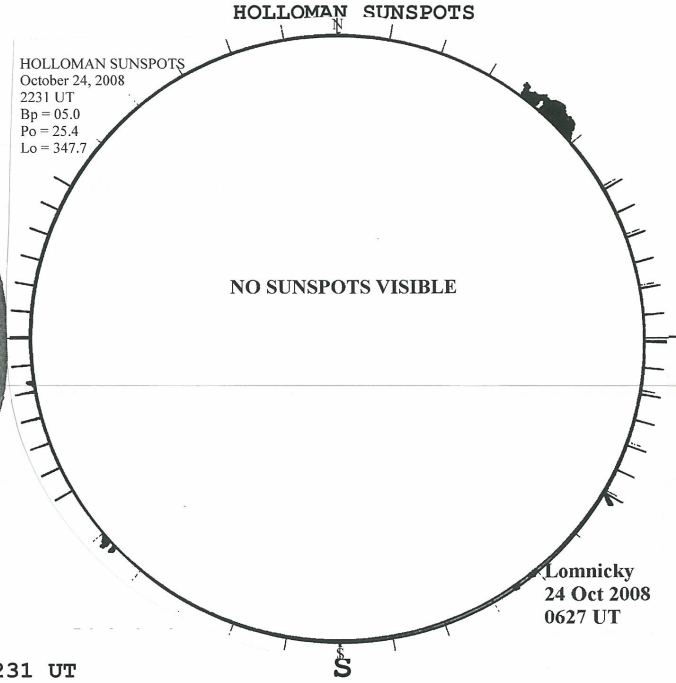
17.02 -
17.97 UT

BIG BEAR H-ALPHA



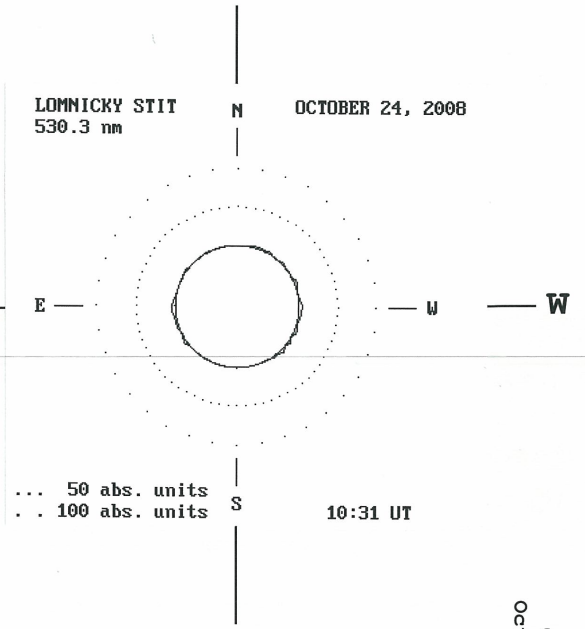
1609 UT

HOLLOMAN SUNSPOTS



2231 UT
0627 UT LOMN PROM

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



63
Oct 08

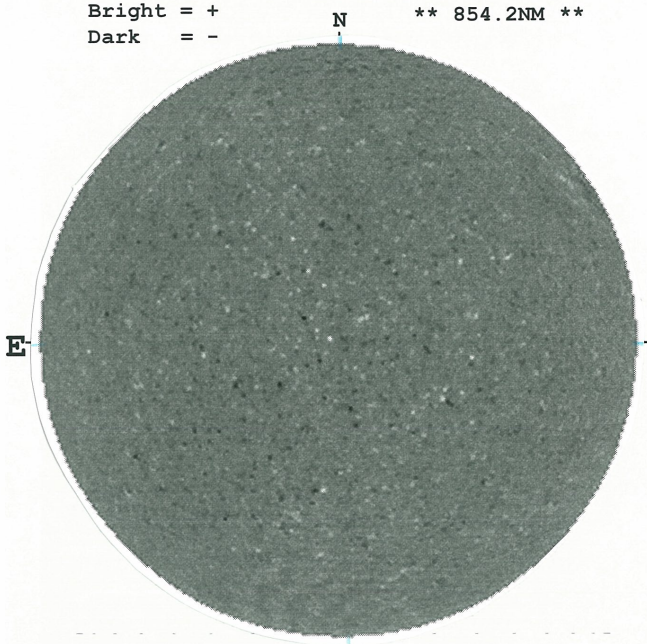
October 25, 2008 (P= 25.43, Bo= 5.02, Lo= 346.61)

64
Oct 08

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

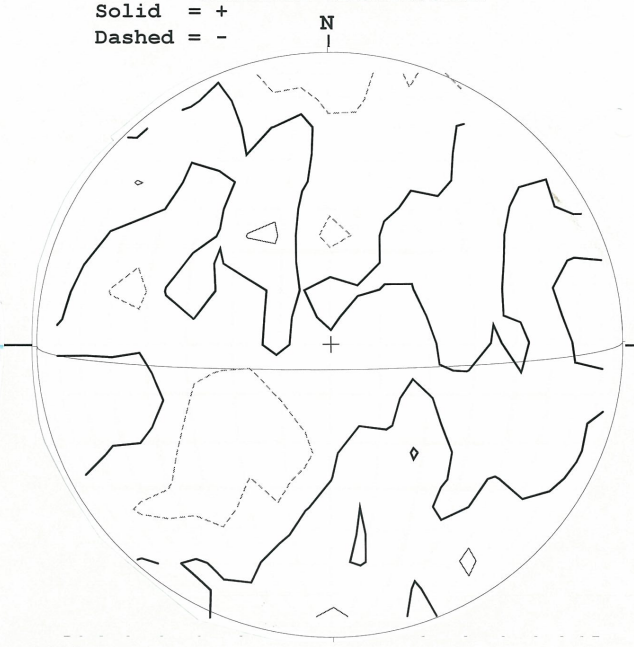
** 854.2NM **



1823 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

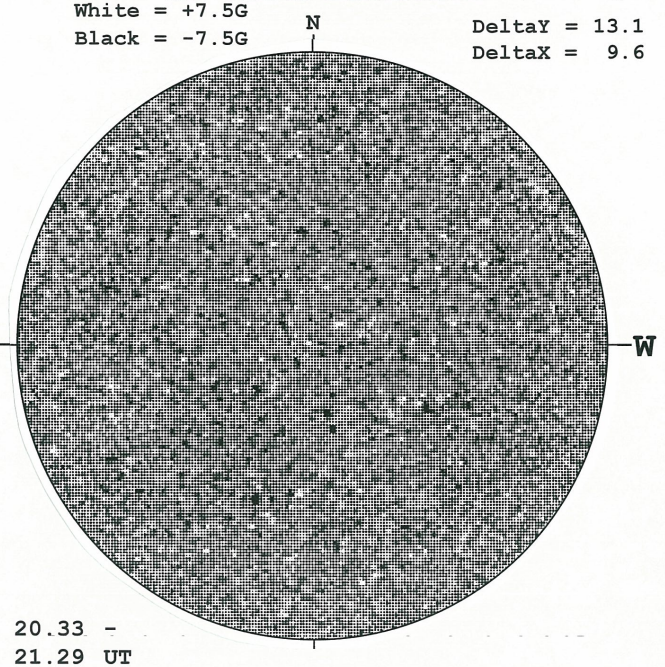


1913 UT

MT. WILSON MAGNETOGRAM

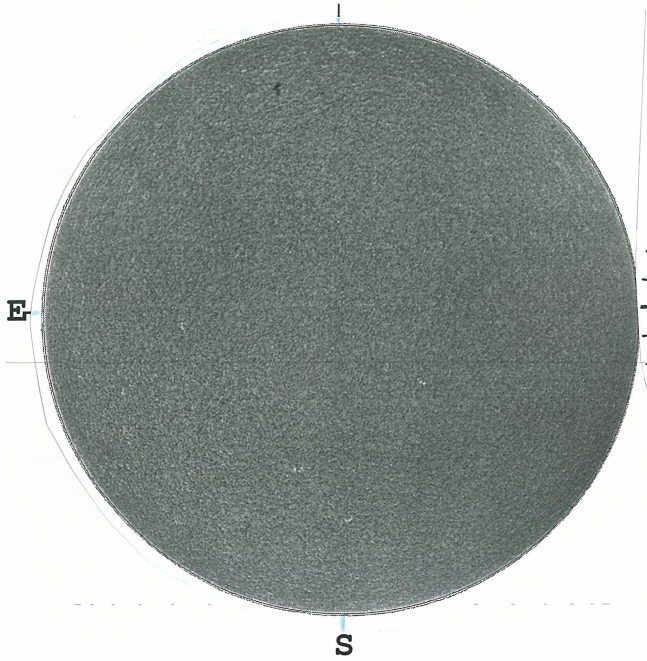
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



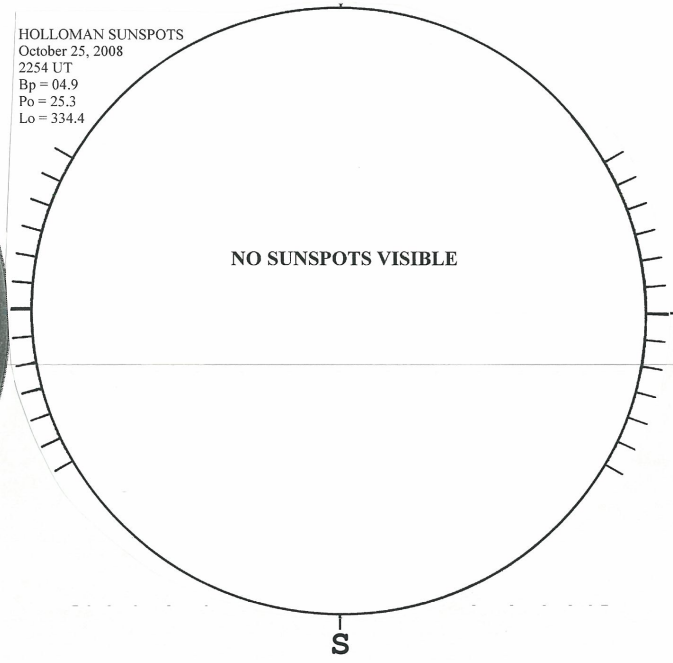
20.33 -
21.29 UT

KANZELHOHE H-ALPHA



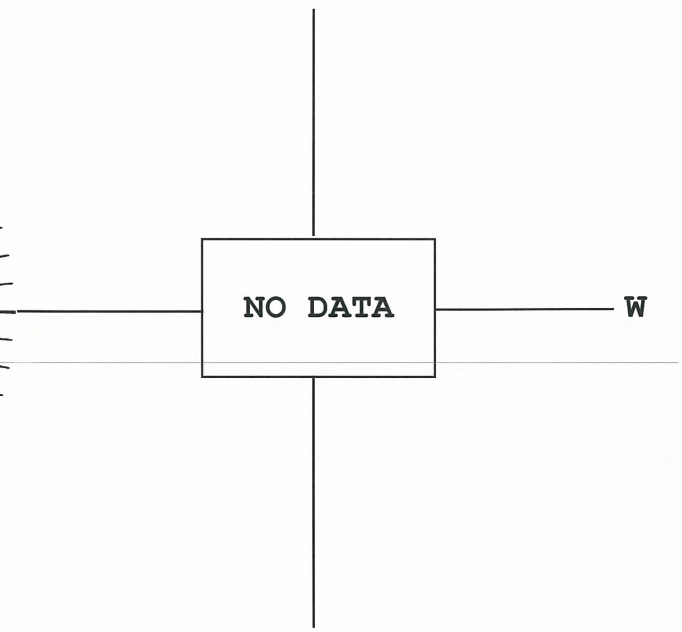
0944 UT

HOLLOMAN SUNSPOTS



2254 UT

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

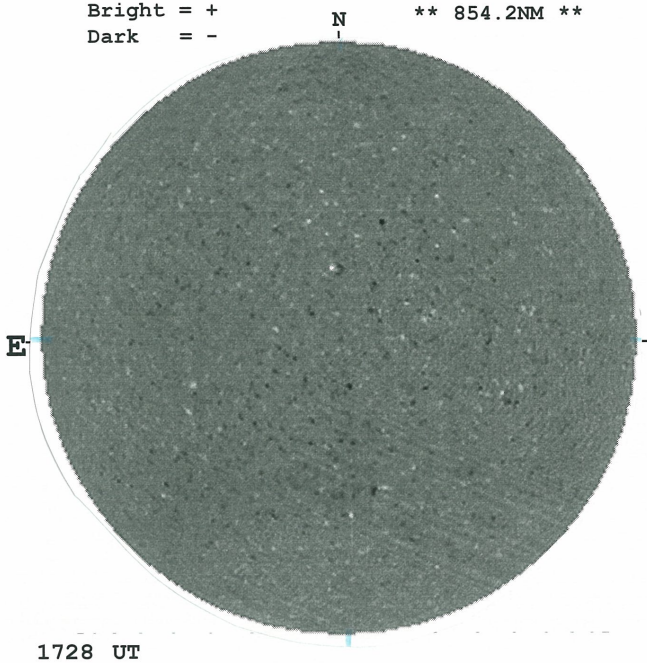


October 26, 2008 (P= 25.31, Bo= 4.93, Lo= 333.43)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

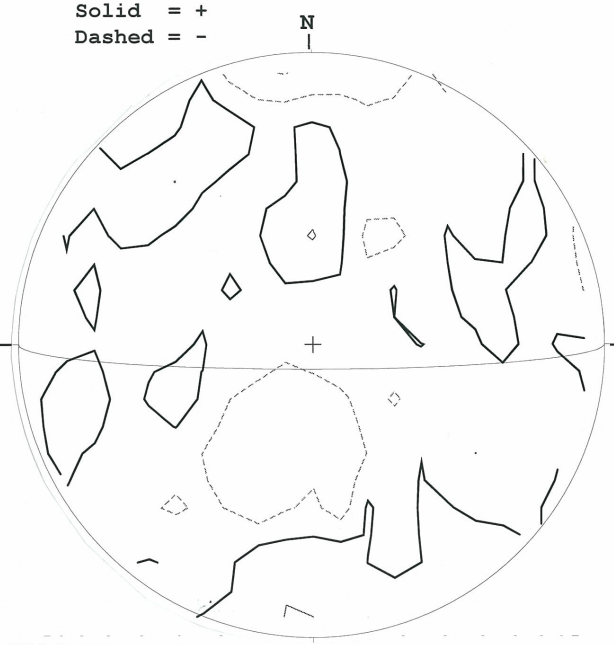
** 854.2NM **



1728 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

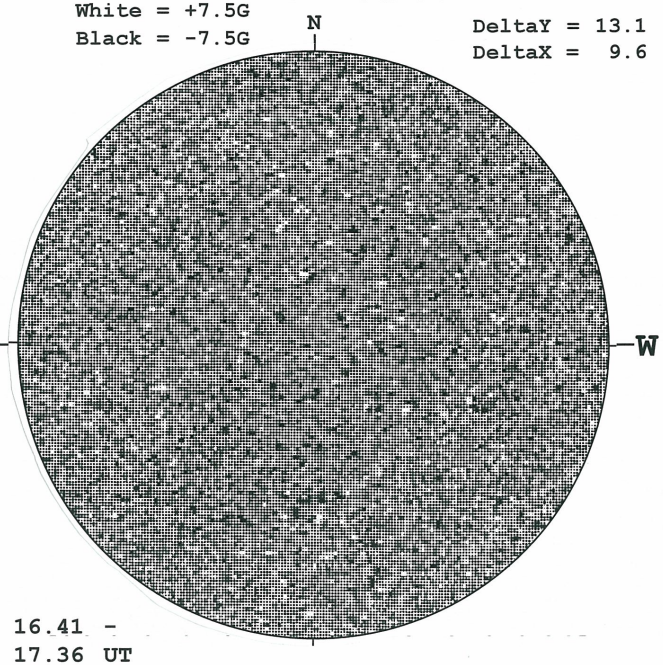


2016 UT

MT. WILSON MAGNETOGRAM

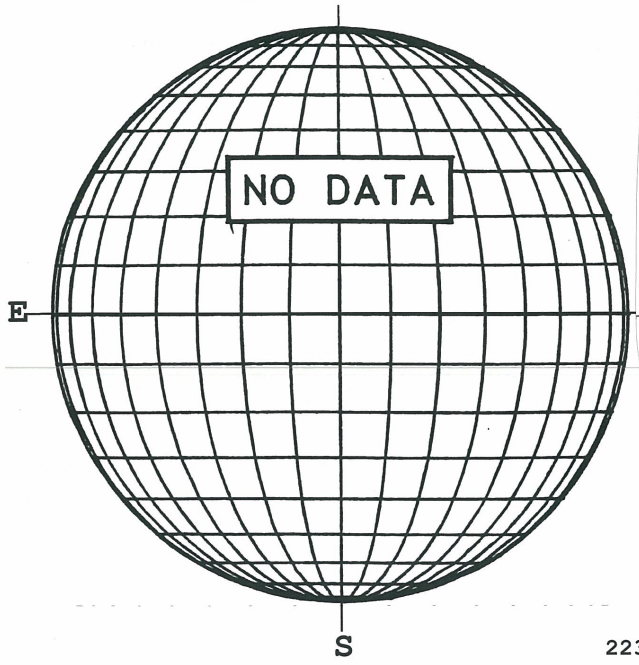
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

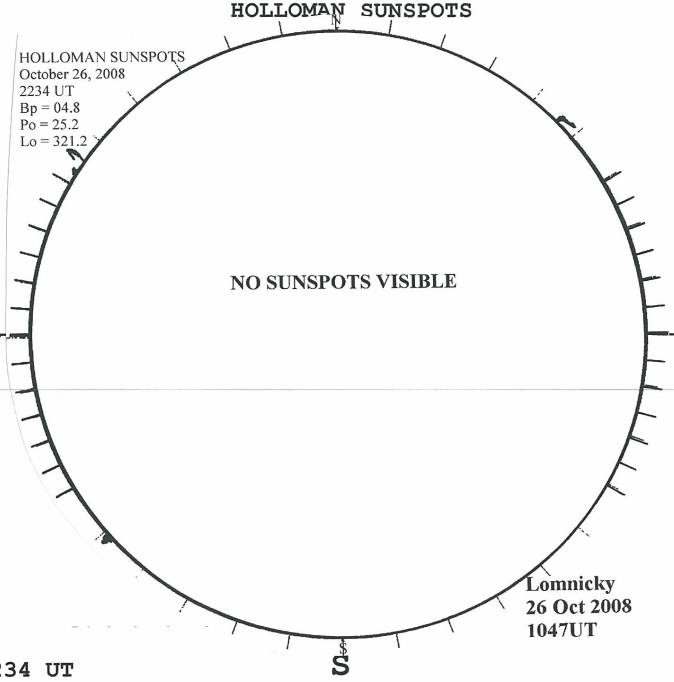


16.41 -
17.36 UT

--- BIG BEAR H-ALPHA

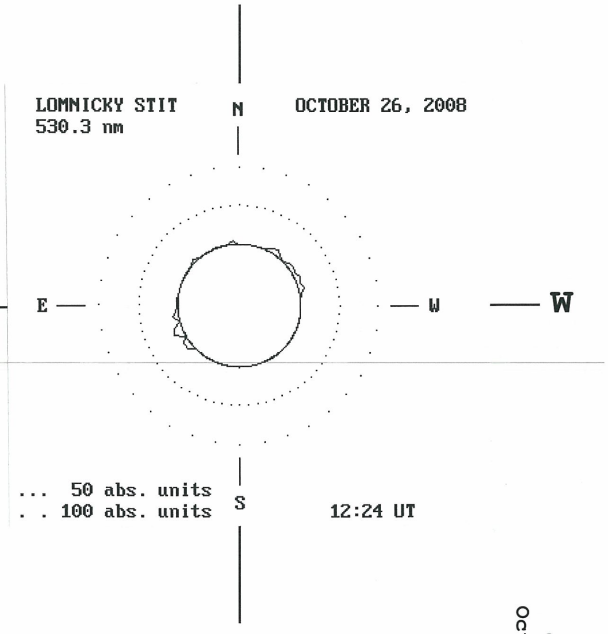


HOLLOMAN SUNSPOTS



2234 UT
1047 UT LOMN PROM

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



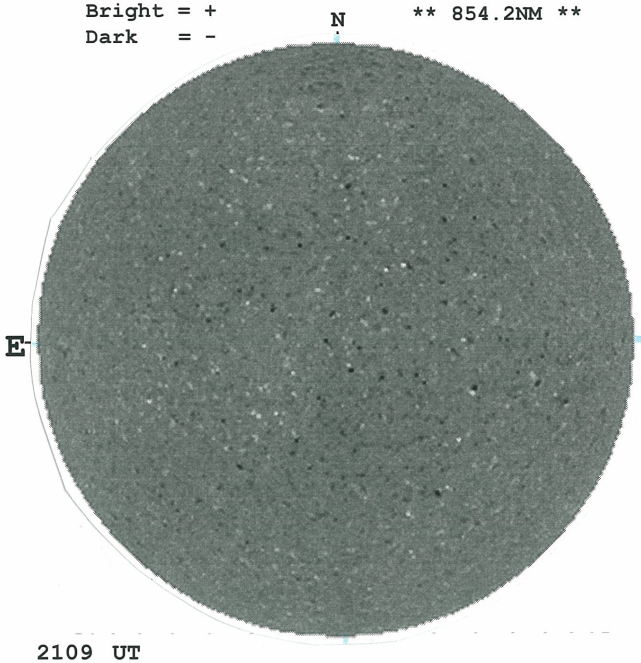
October 27, 2008 (P= 25.19, Bo= 4.84, Lo= 320.24)

Oct 08 99

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

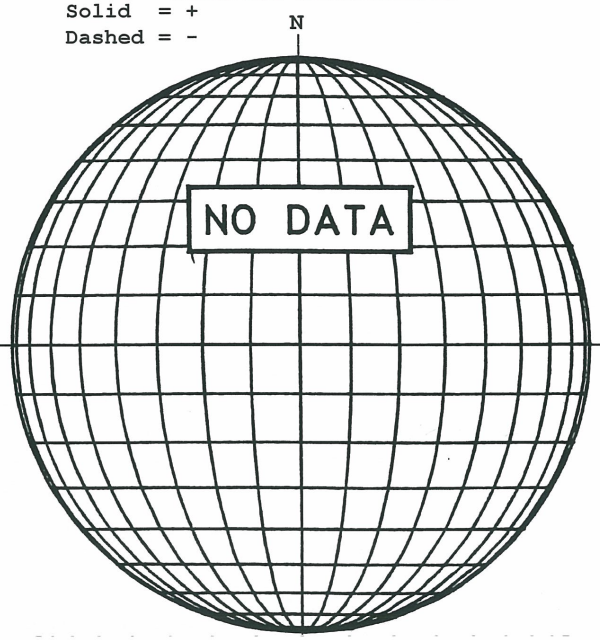
** 854.2NM **



2109 UT

STANFORD MAGNETOGRAM

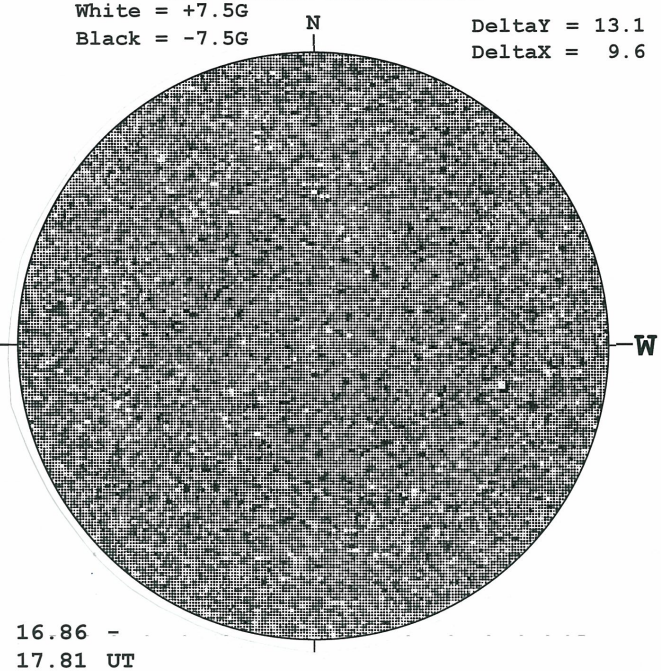
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

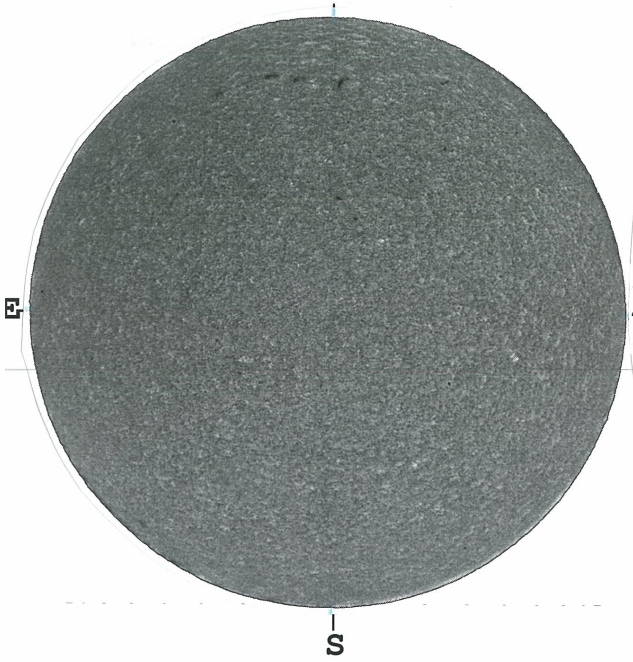
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



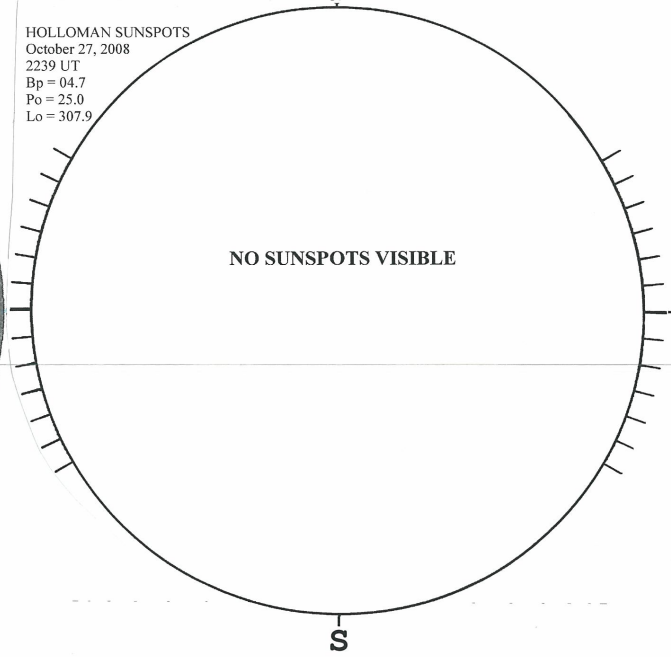
16.86 -
17.81 UT

BIG BEAR H-ALPHA



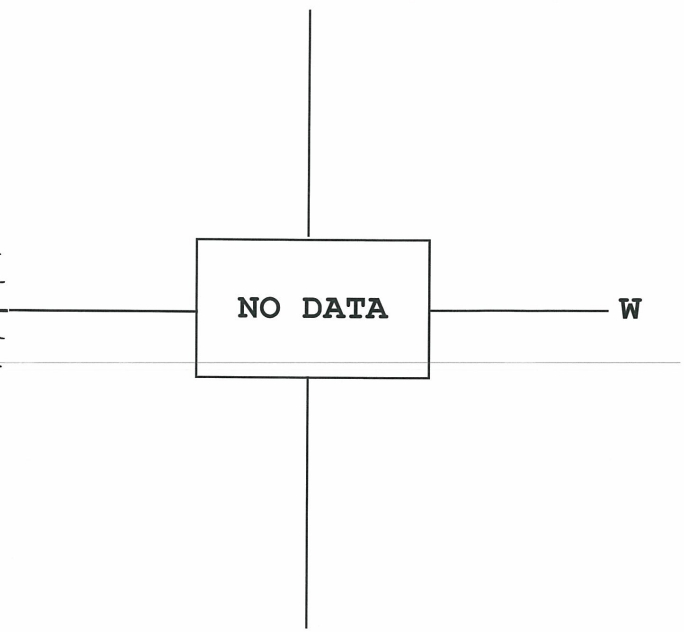
1611 UT

HOLLOMAN SUNSPOTS



2239 UT

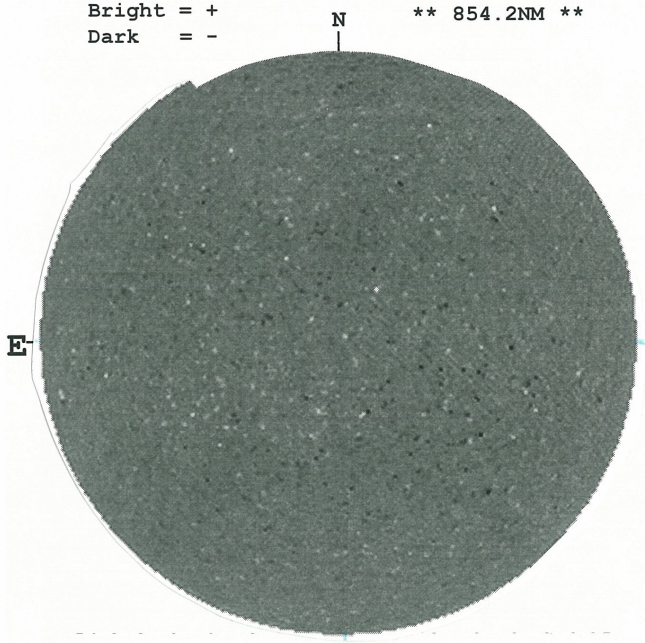
SACRAMENTO PEAK CORONA (1.15 Radii)------



October 28, 2008 (P= 25.06, Bo= 4.74, Lo= 307.05)

KITT PEAK MAGNETOGRAM -- SOLIS

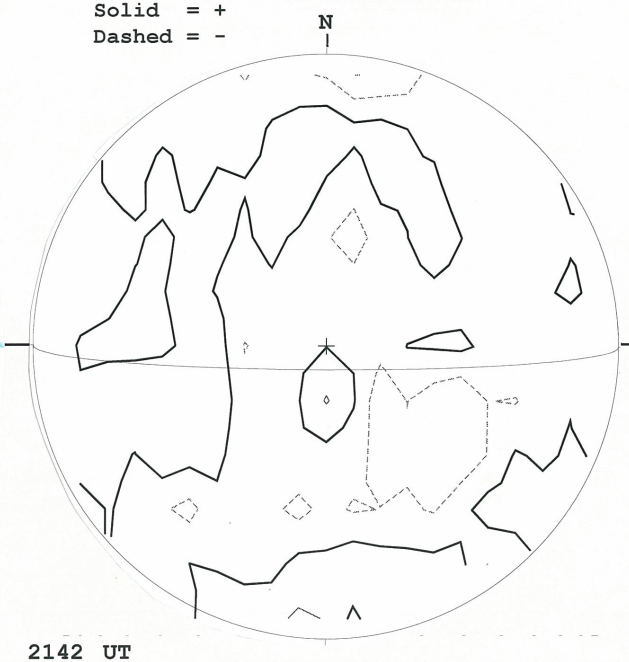
Bright = +
Dark = -



1848 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

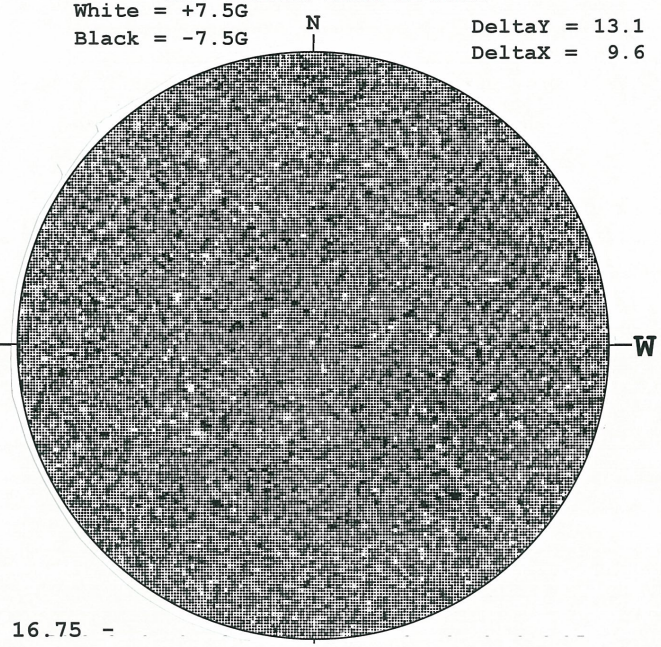


2142 UT

MT. WILSON MAGNETOGRAM

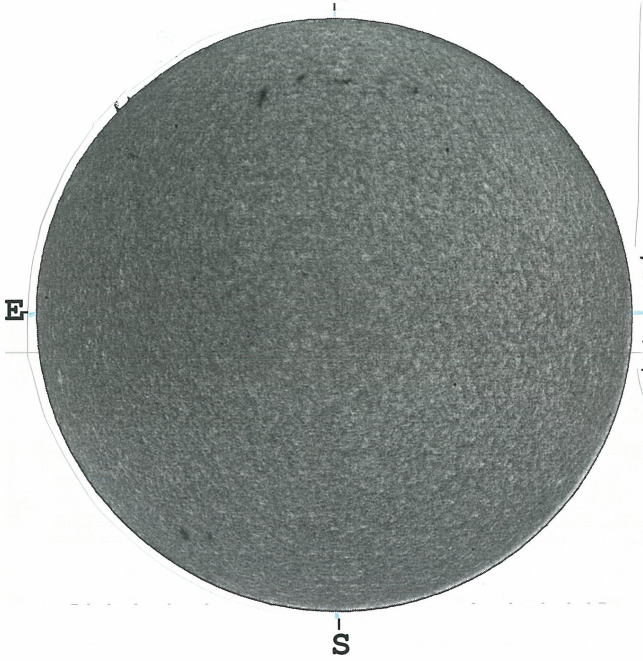
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



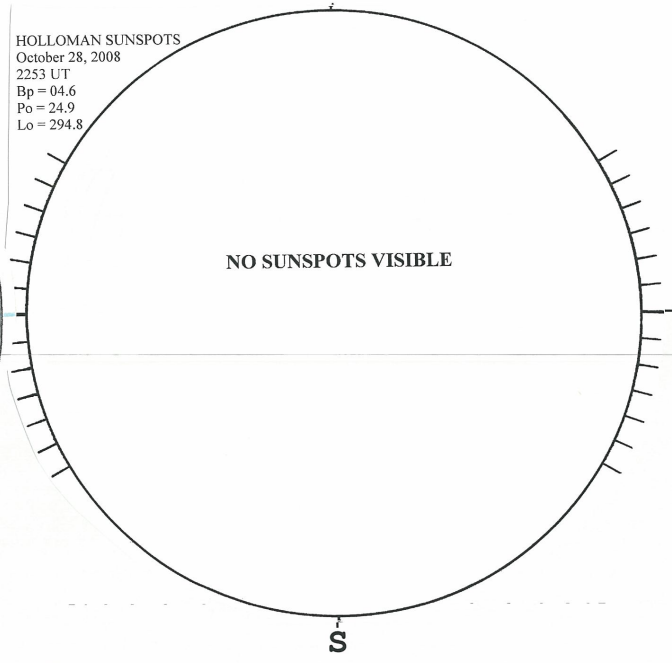
16.75 -
17.70 UT

--- BIG BEA H-ALPHA



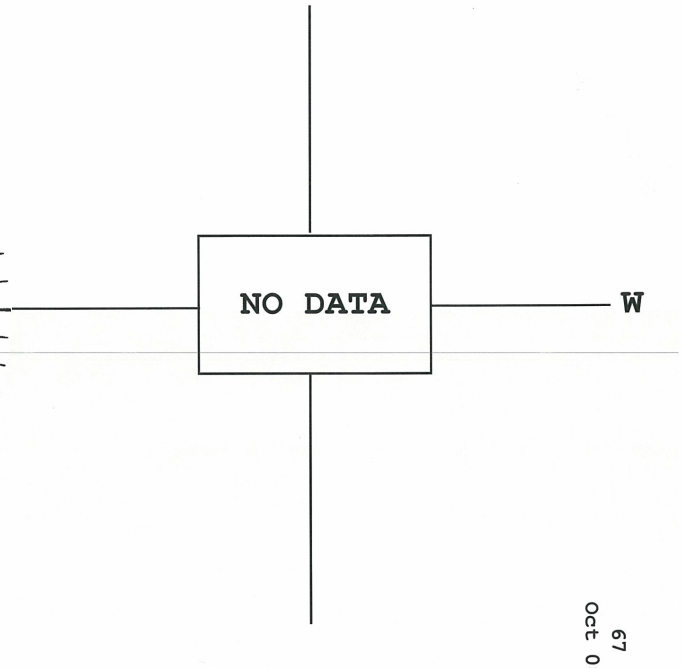
1754 UT

HOLLOMAN SUNSPOTS



2253 UT

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



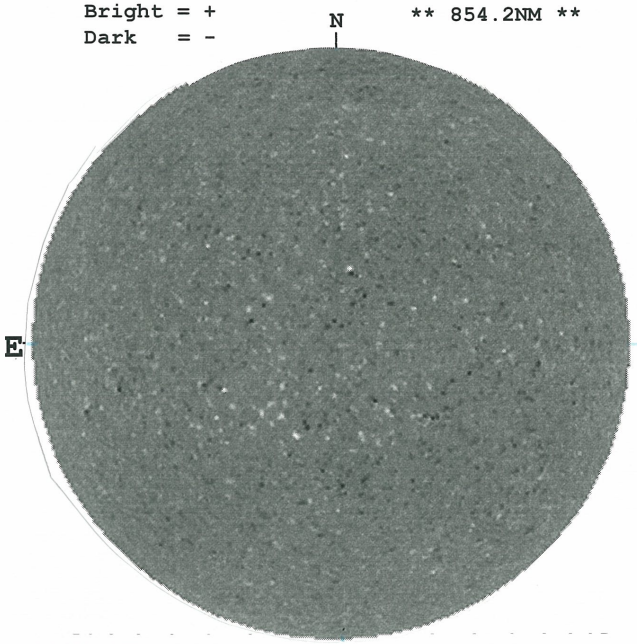
Oct 08 67

October 29, 2008 (P= 24.91, Bo= 4.65, Lo= 293.86)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

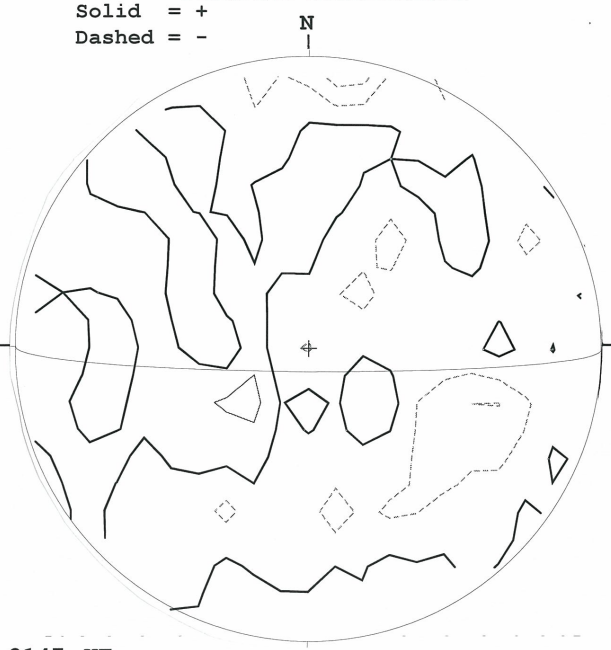
** 854.2NM **



2023 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

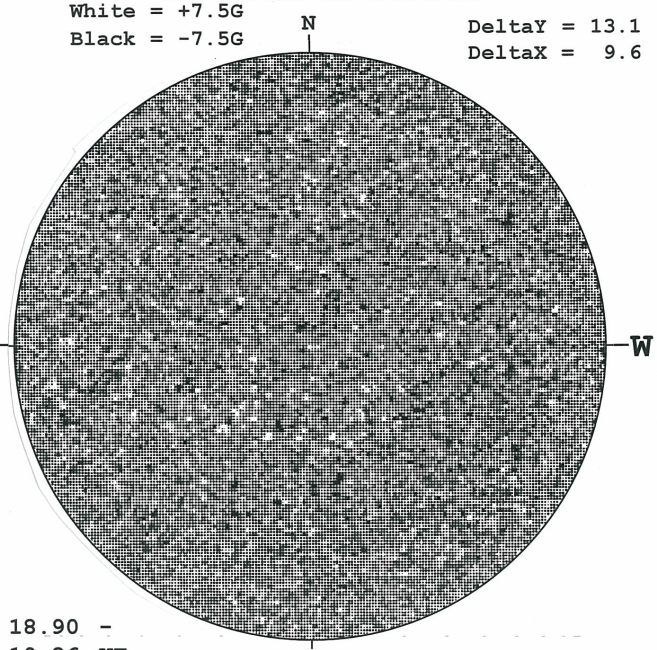


2147 UT

MT. WILSON MAGNETOGRAM

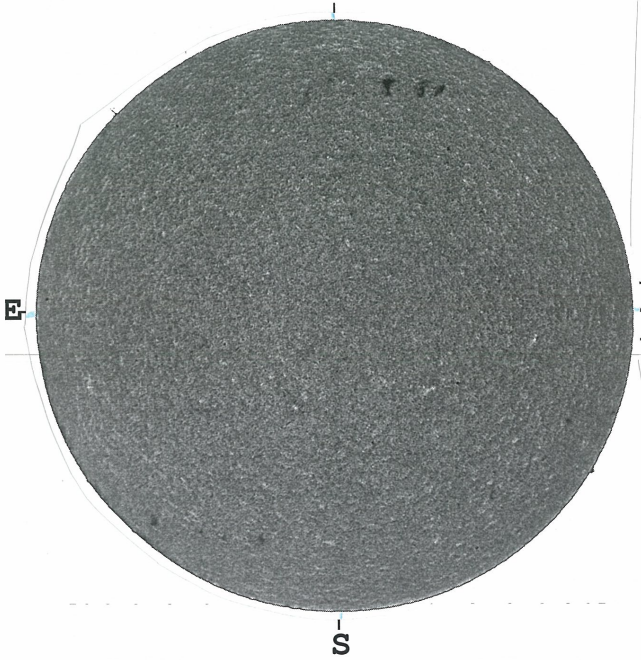
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



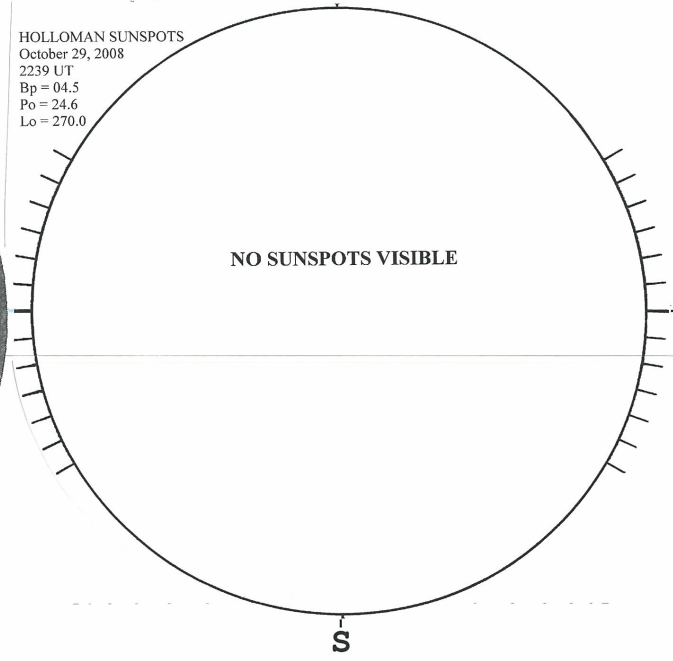
18.90 -
19.86 UT

--- BIG BEAR H-ALPHA



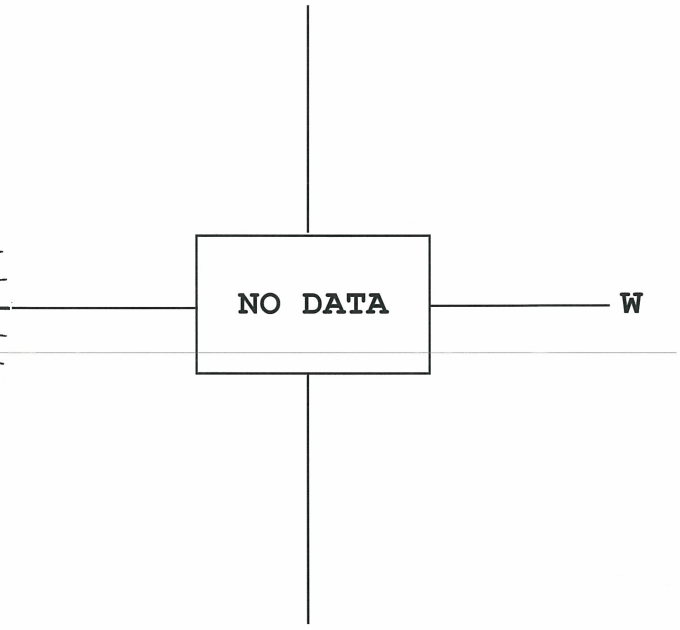
1825 UT

HOLLOMAN SUNSPOTS



2239 UT

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

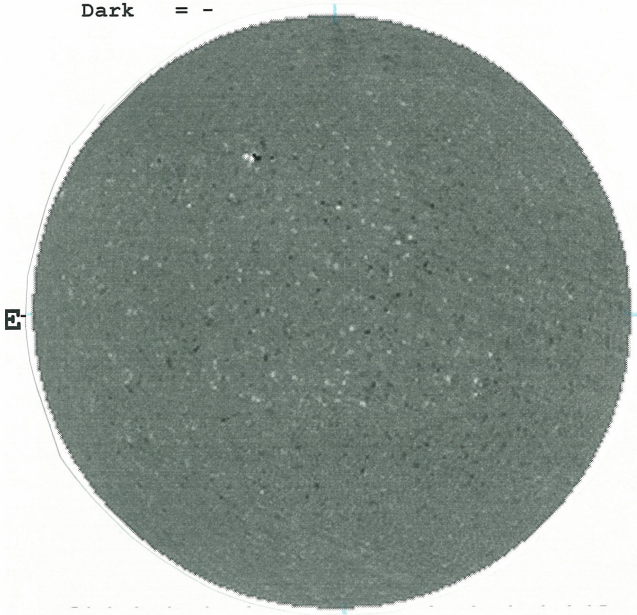


October 30, 2008 (P= 24.76, Bo= 4.55, Lo= 280.68)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

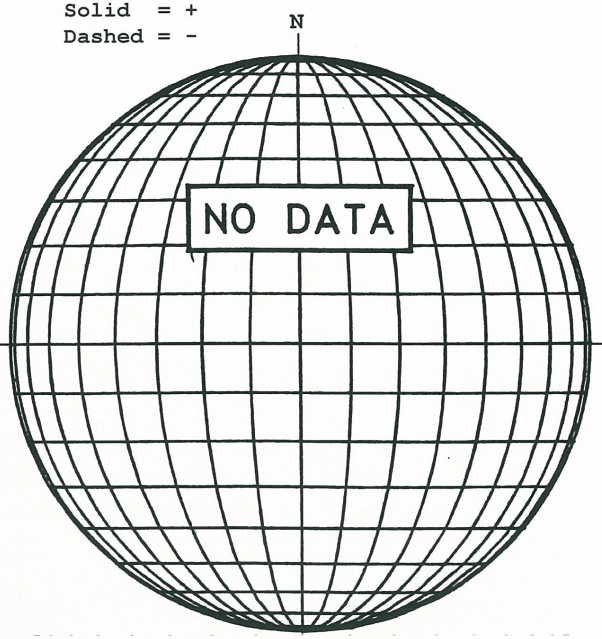
** 854.2NM **



1842 UT

STANFORD MAGNETOGRAM

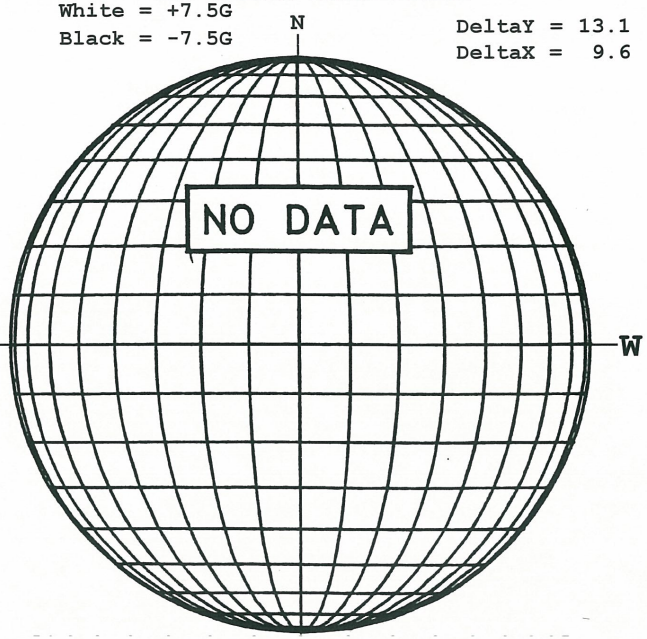
Solid = +
Dashed = -



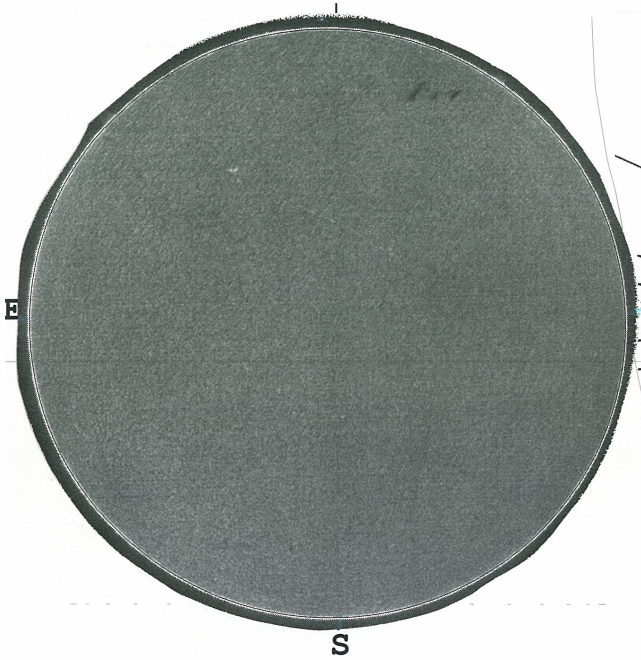
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

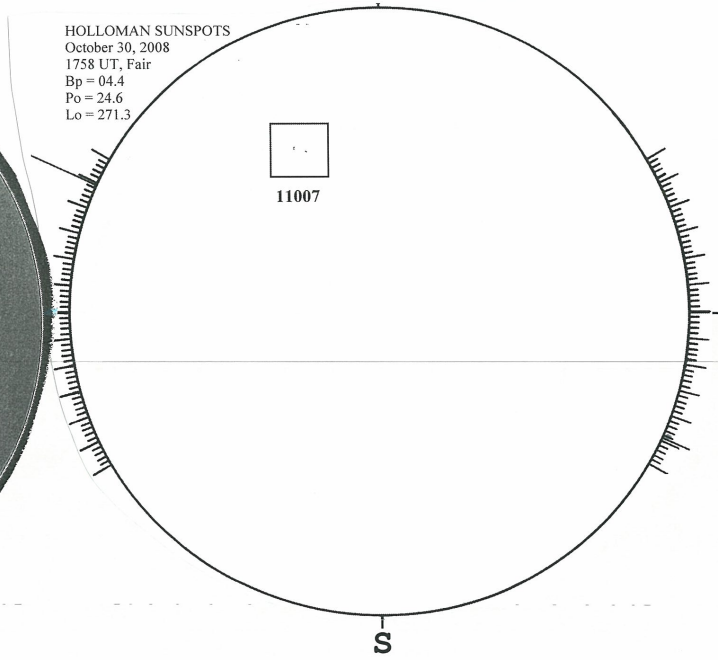


KANZELHOHE H-ALPHA



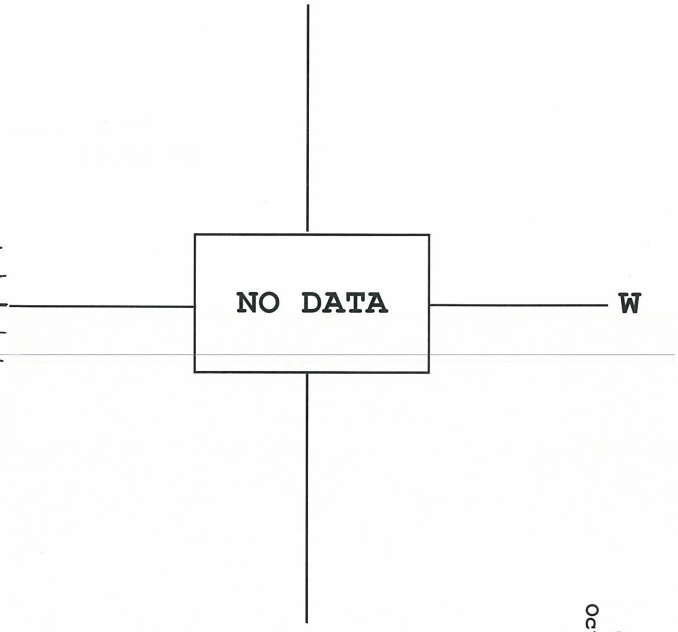
1318 UT

HOLLOMAN SUNSPOTS



1758 UT

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

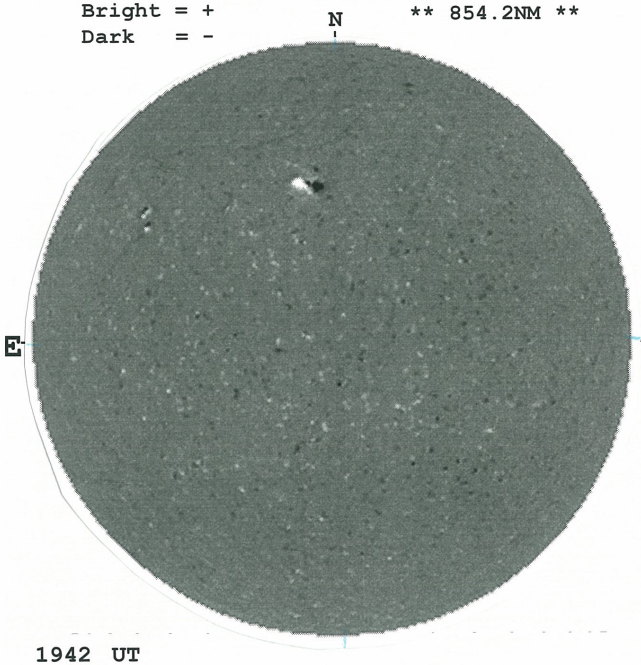


69
Oct 08

October 31, 2008 (P= 24.61, Bo= 4.45, Lo= 267.49)

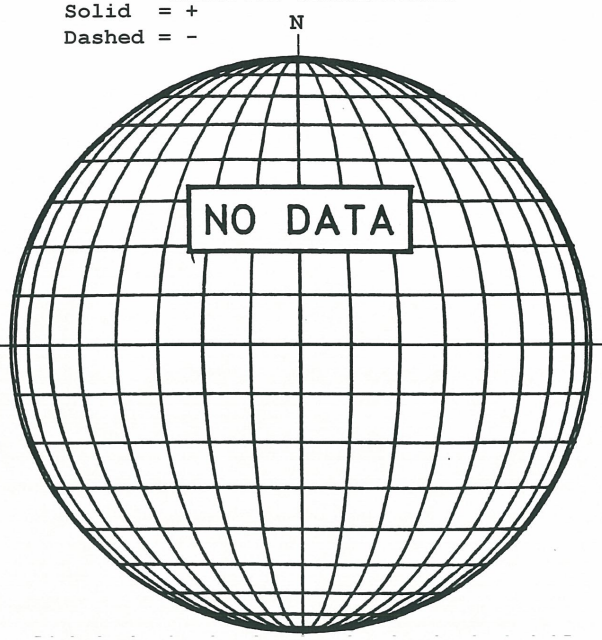
Oct 08 70

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

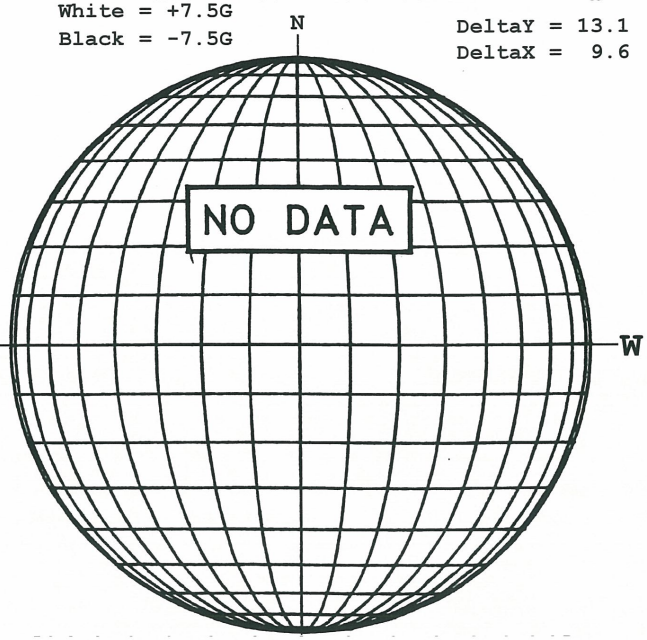


1942 UT

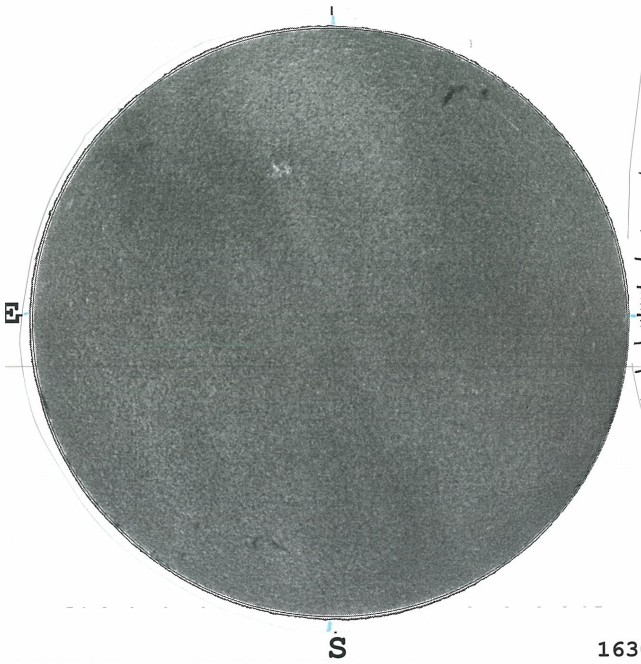
STANFORD MAGNETOGRAM
Solid = +
Dashed = -



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

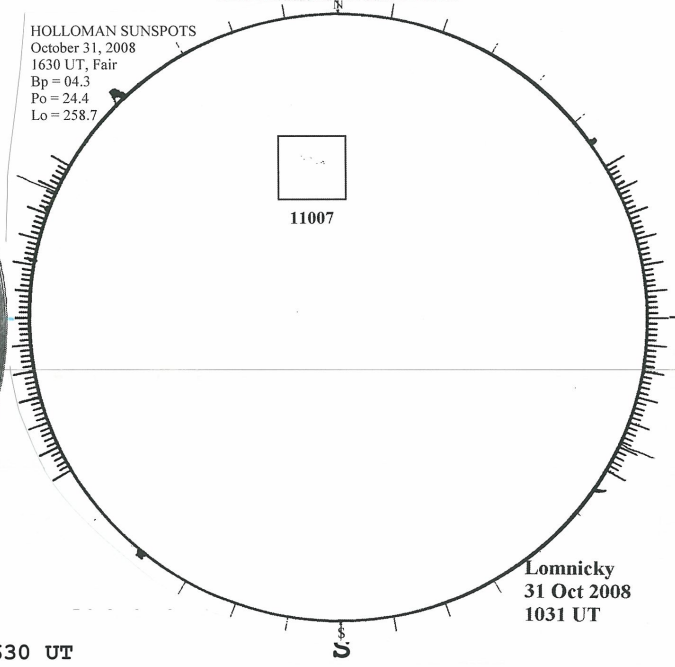


--- KANZELHOHE H-ALPHA



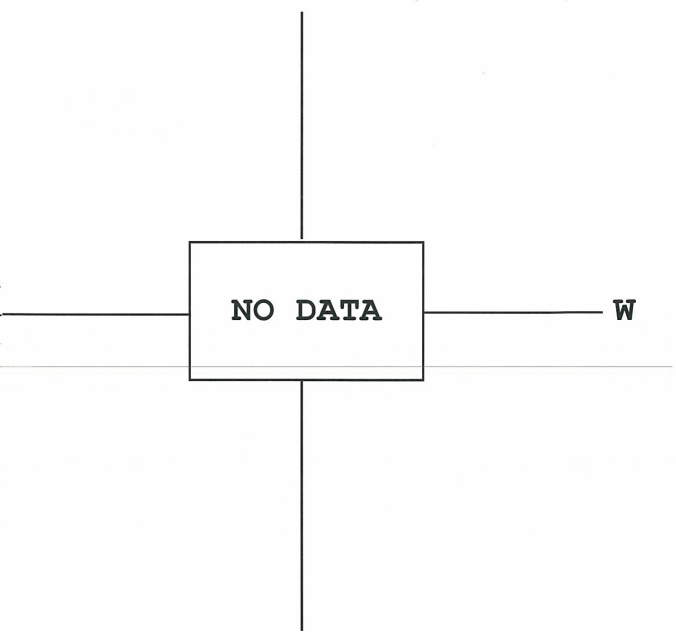
0728 UT

HOLLOMAN SUNSPOTS

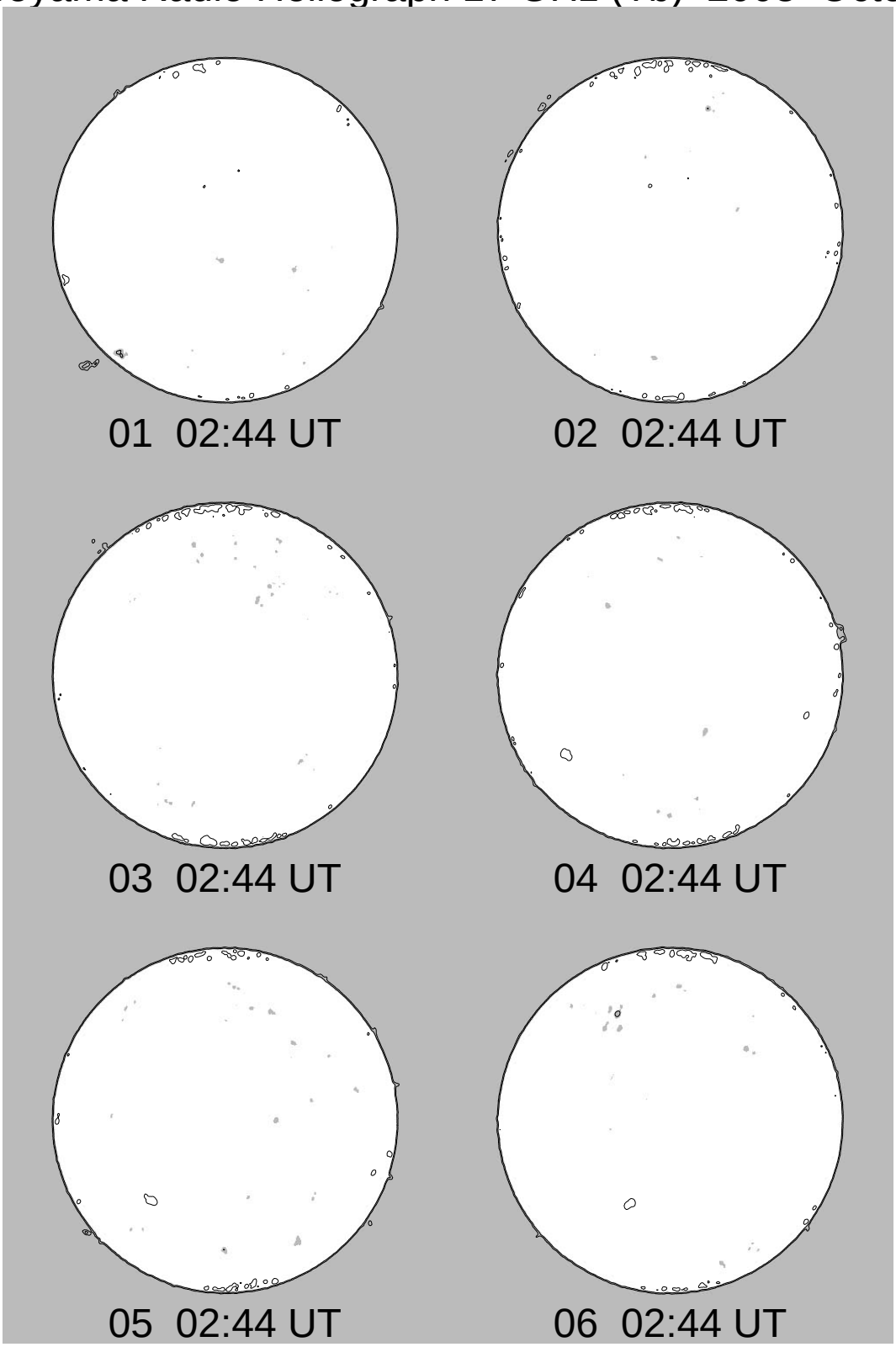


1630 UT
1031 UT LOMN PROM

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

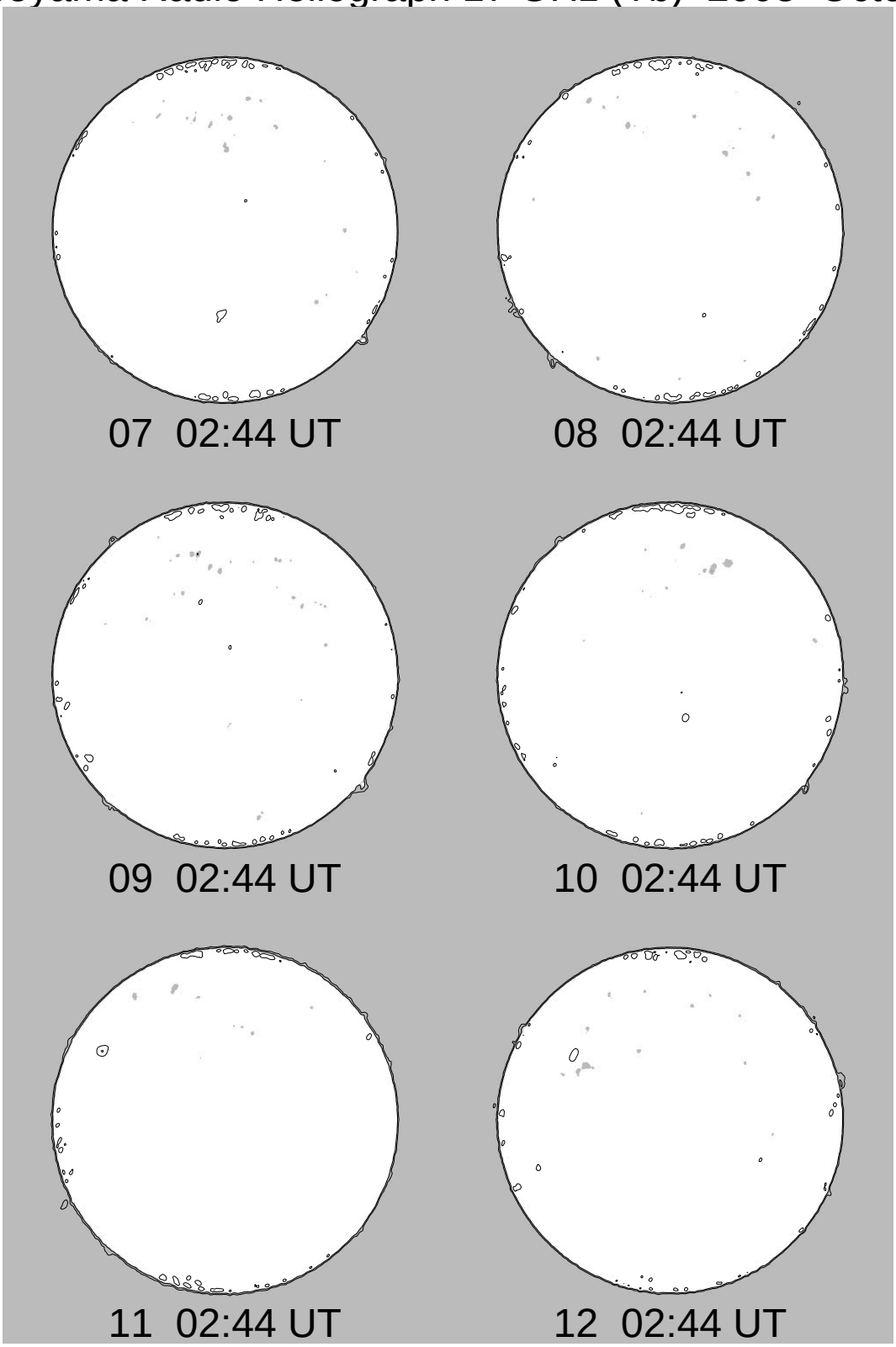


Nobeyama Radio Heliograph 17 GHz (Tb) 2008 October



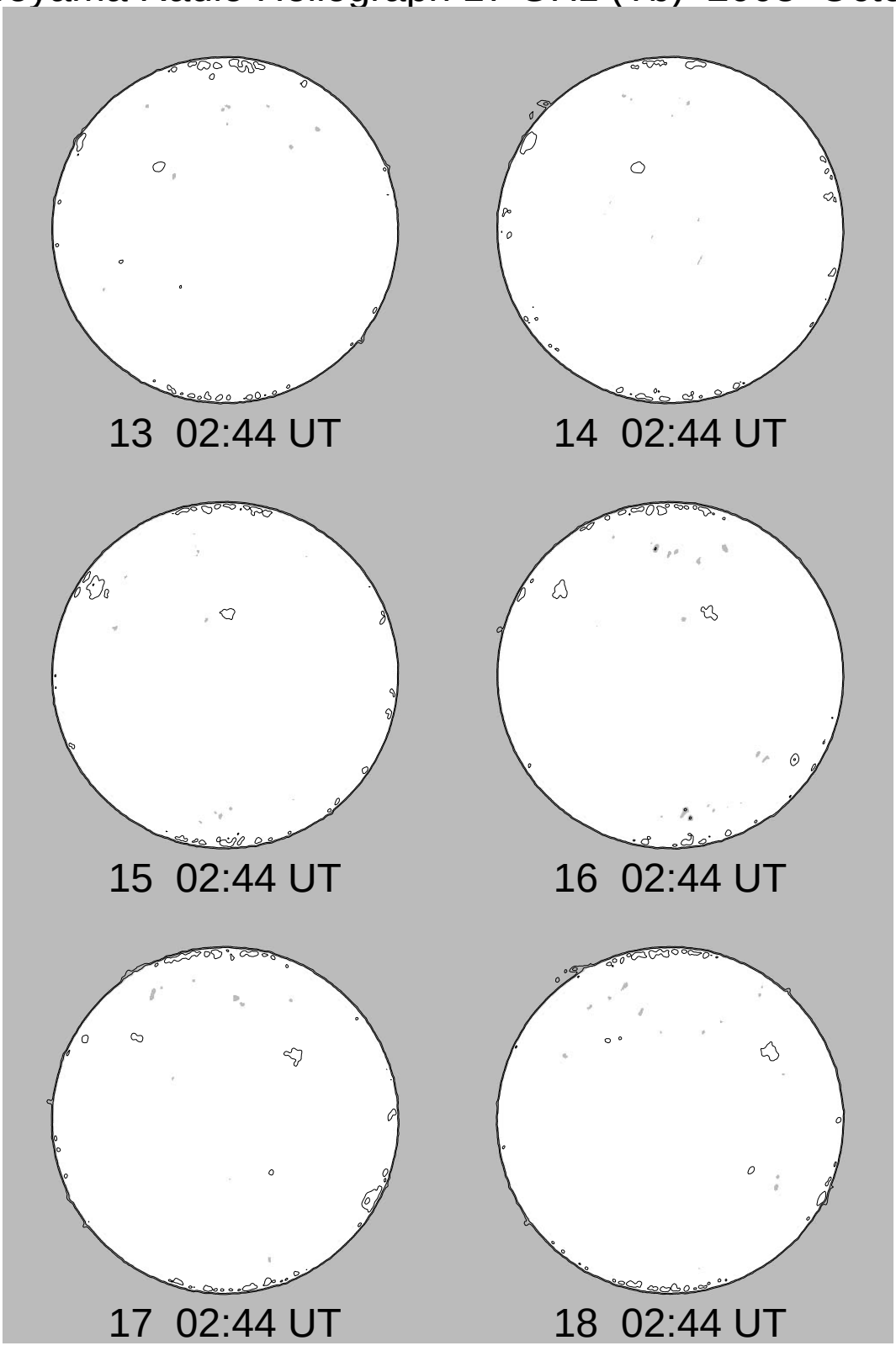
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 October



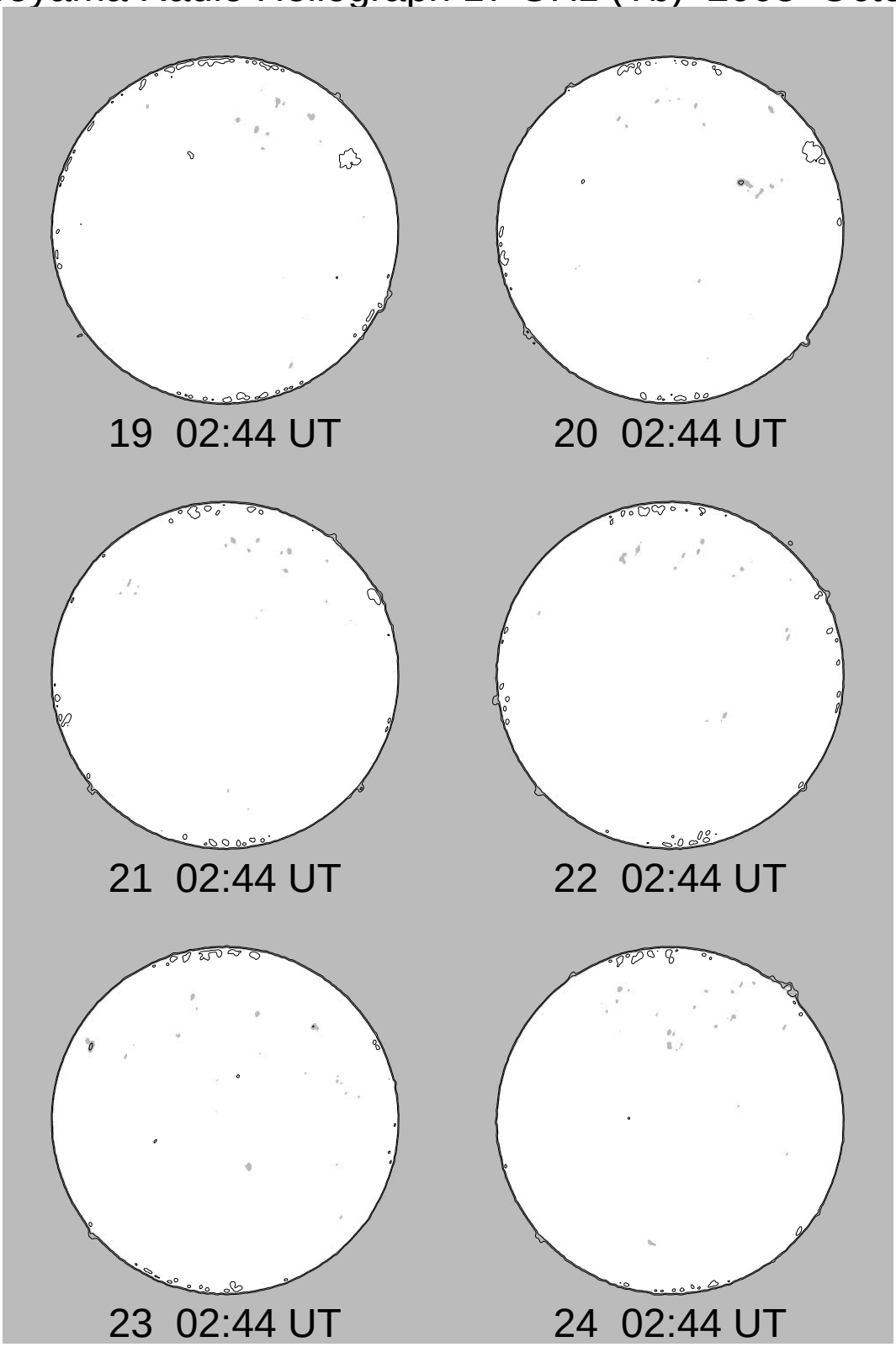
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 October



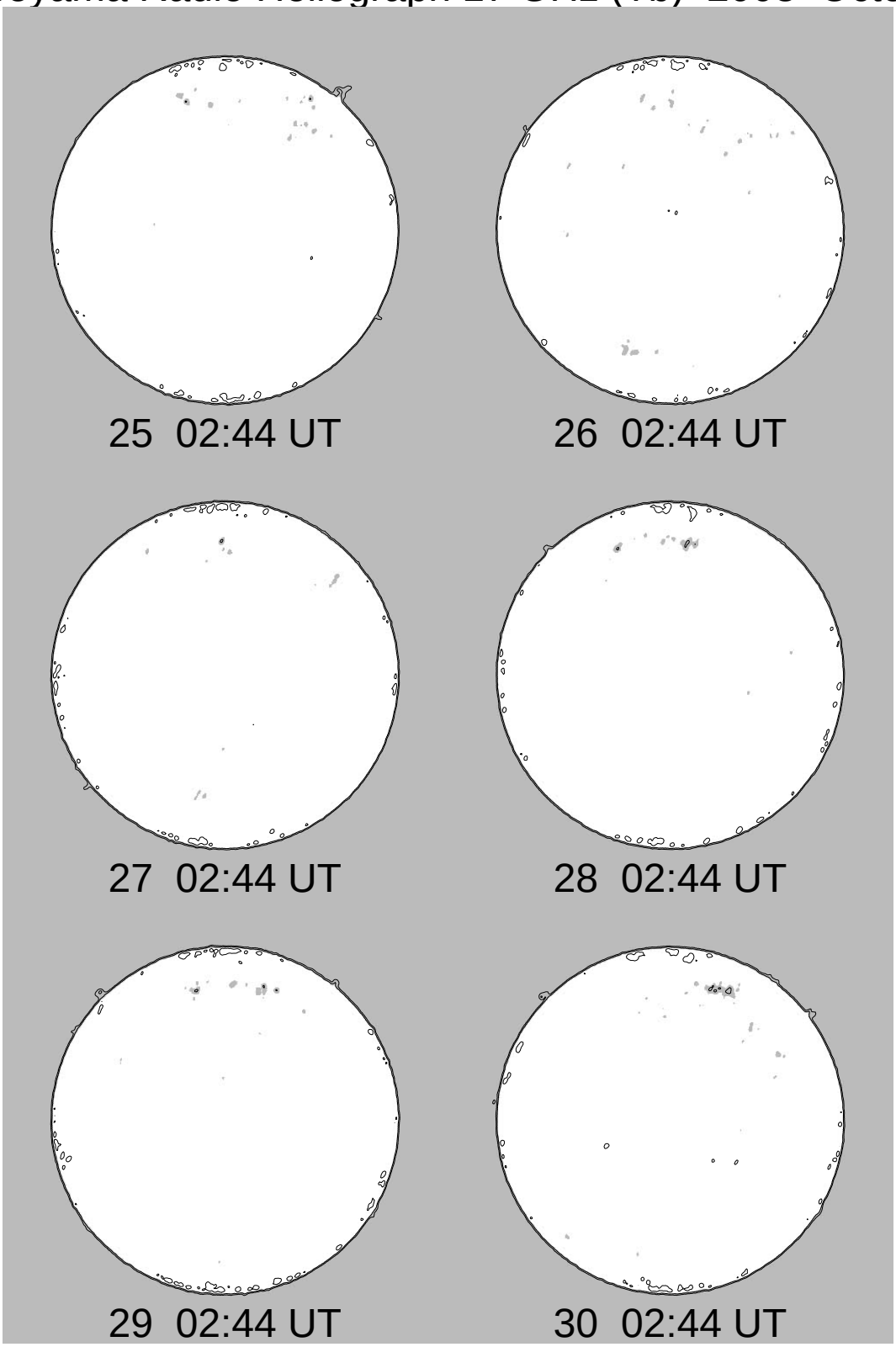
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 October



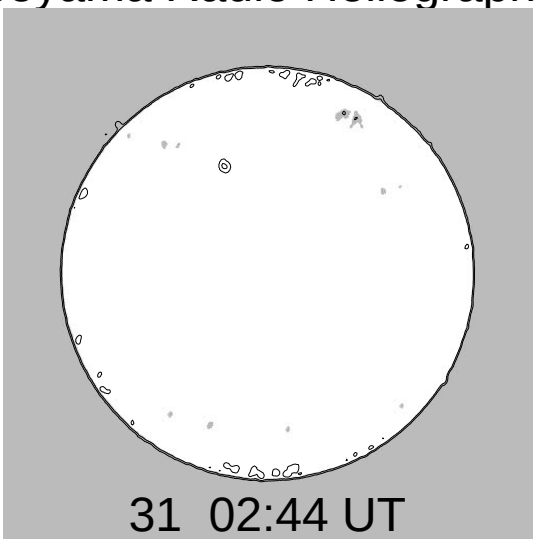
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 October



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 October



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)

OCTOBER 2008

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	CMP Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
11002B		HOLL	09	29	1941	N24	E22	10	1.5		A	AXX		1	1	3
11002B		LEAR	09	30	0108	N23	E20	10	1.6		A	AXX	10	1	1	2
11002B		PURP	09	30	0120	N24	E19	10	1.5			HSX	7	1	1	3
11002B		PURP	10	01	0055	N20	E08	10	1.6			AXX	2	1	1	3
11003		LEAR	10	04	0254	S25	E38	10	7.1		A	AXX	10	1	1	3
11003		SVTO	10	04	0641	S23	E37	10	7.1		A	AXX	20	3	2	3
11003		KAND	10	04	0945	S23	E36	10	7.2			AX		1		3
11003		HOLL	10	04	1717	S20	E32	10	7.2		A	AXX	10	1	1	2
11003		PURP	10	05	0250	S23	E26	10	7.1			AXX	3	1	1	3
11004		SVTO	10	09	1525	S08	E02	10	9.8		A	AXX	10	1		3
11004		HOLL	10	09	1640	S08	E01	10	9.8		A	AXX	10	1	1	3
11004		LEAR	10	10	0018	S08	W05	10	9.6		A	AXX	10	1	1	3
11004		KAND	10	10	0645	S09	W08	10	9.7			AX		2	1	3
11004		SVTO	10	10	0715	S08	W08	10	9.7		A	AXX	10	2	1	3
11006		LEAR	10	16	0016	S27	W53	10	11.9		B	BXO	30	2	4	3
11006		KAND	10	16	0725	S24	W53	10	12.2			BXO		2	4	4
11006		SVTO	10	16	1000	S27	W56	10	12.0		A	AXX	10	1	1	2
11006		HOLL	10	16	1658	S27	W58	10	12.2		A	AXX	10	1	1	3
11006		LEAR	10	17	0217	S23	W69	10	11.8		A	AXX	30	1	1	3
11006		KAND	10	17	0725	S24	W72	10	11.7			AX		1	1	3
11006		SVTO	10	17	1100	S29	W70	10	12.0		A	AXX	30	1	1	3
11005		LEAR	10	11	0209	N26	E54	10	15.3		B	BXI	40	6	3	3
11005		PURP	10	11	0250	N27	E52	10	15.2			DRO	25	4	4	3
11005		TACH	10	11	0620	N26	E50	10	15.1			BXO	27	2	3	4
11005		KAND	10	11	1005	N25	E49	10	15.2			DSO		3	4	3
11005		VORO	10	11	2228	N27	E40	10	15.0			CAO	52	5	5	3
11005		LEAR	10	12	0140	N27	E40	10	15.2		B	CRO	40	6	5	3
11005		PURP	10	12	0150	N27	E39	10	15.1			DAO	71	3	6	3
11005		TACH	10	12	0436	N26	E38	10	15.1			CSI	46	4	5	4
11005		KAND	10	12	0610	N25	E38	10	15.2			CAO		6	6	4
11005		SVTO	10	12	0635	N27	E38	10	15.2		B	CRO	60	7	5	3
11005		HOLL	10	12	1716	N28	E31	10	15.1		B	DSO	120	6	8	3
11005		PURP	10	13	0040	N26	E26	10	15.0			DSO	45	4	8	4
11005		LEAR	10	13	0149	N27	E26	10	15.1		B	CSO	40	7	8	3
11005		VORO	10	13	0330	N25	E22	10	14.8			HAX	34	1		3
11005		KAND	10	13	0650	N24	E21	10	14.9			HA		3	1	4
11005		SVTO	10	13	0705	N27	E24	10	15.2		B	CSO	30	5	7	2
11005		HOLL	10	13	1557	N25	E15	10	14.8		B	CSO	50	4	3	3
11005		VORO	10	13	2317	N25	E12	10	14.9			CAI	28	4	1	3
11005		LEAR	10	14	0114	N27	E10	10	14.8		B	BXO	20	4	3	3
11005		PURP	10	14	0250	N26	E11	10	15.0			CSI	27	7	3	3
11005		KAND	10	14	0630	N25	E10	10	15.0			CAO		8	6	4
11005		SVTO	10	14	0730	N26	E07	10	14.8		B	CSO	30	4	4	2
11005		VORO	10	14	2327	N25	W01	10	14.9			CAI	27	4	2	3
11005		PURP	10	15	0036	N26	W02	10	14.9			CSO	16	4	2	4
11005		LEAR	10	15	0247	N26	W04	10	14.8		B	CRO	20	3	3	2
11005		TACH	10	15	0638	N25	W03	10	15.0			BRO	10	3	3	4
11005		SVTO	10	15	0920	N26	W08	10	14.8		B	CRO	30	3	4	2
11005		HOLL	10	15	1651	N25	W12	10	14.8		B	BXO	30	3	4	3
11005		VORO	10	15	2348	N24	W15	10	14.8			HAX	8	1		3
11005		LEAR	10	16	0016	N26	W15	10	14.8		B	BXO	30	3	3	3
11005		PURP	10	16	0036	N26	W15	10	14.8			BXO	7	4	3	3
11005		TACH	10	16	0554	N26	W17	10	14.9			BXO	7	2	3	3
11005		KAND	10	16	0725	N26	W18	10	14.9			BXO		3	3	4
11005		SVTO	10	16	1000	N26	W23	10	14.6		B	BXO	20	3	4	2
11005		PURP	10	17	0050	N26	W28	10	14.8			BXO	2	2	2	3
11005A		KAND	10	17	0725	S10	W19	10	15.9			AX		1		3

Stations reporting:

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

SUDDEN IONOSPHERIC DISTURBANCES
OCTOBER 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
10	0857	0920	1002	1	1						No flare		
18	1545	1502	1546	1	1						No flare		
23	0832	0858U	0942	1	1						No flare		
29	0930	0957	1034	1	1						No flare		

OBSERVATORIES REPORTING FOR OCTOBER 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

OCTOBER 2008

OBSERVATION			EVENT				FREQUENCY		
Start	End		Start	End	Spectral	Event	Int	Lower	Upper	Remarks
Day (UT)	(UT)	Sta	(UT)	(UT)	Class	Remarks	(1-3)	(MHz)	(MHz)	
01 0000	0122	HIRA								
0000	0800	CULG								
0613	1517	ONDR								
0625	1600	BLEN								
0638	0827	HIRA								
2000	2400	CULG								
2028	2400	HIRA								
02 0000	0800	CULG								
0000	0826	HIRA								
0614	1527	ONDR								
0630	1600	BLEN								
2000	2400	CULG								
2026	2400	HIRA								
03 0000	0800	CULG								
0000	0829	HIRA								
0616	1525	ONDR								
0630	1600	BLEN								
2000	2400	CULG								
2024	2400	HIRA								
04 0000	0800	CULG								
0000	0830	HIRA								
0618	1523	ONDR								
0630	1600	BLEN								
2000	2400	CULG								
2022	2400	HIRA								
05 0000	0800	CULG								
0000	0830	HIRA								
0620	1520	ONDR								
0630	1550	BLEN								
2000	2400	CULG								
2021	2400	HIRA								
06 0000	0800	CULG								
0000	0831	HIRA								
0621	1518	ONDR								
0640	1545	BLEN								
2000	2400	CULG								
2019	2400	HIRA								
07 0000	0800	CULG								
0000	0832	HIRA								
0623	1516	ONDR								
0640	1545	BLEN								
2000	2400	CULG								
2033	2400	HIRA								
08 0000	0800	CULG								
0000	0816	HIRA								
0625	1514	ONDR								
0640	1540	BLEN								
2000	2400	CULG								
2034	2400	HIRA								
09 0000	0800	CULG								
0000	0815	HIRA								
0627	1511	ONDR								
0640	1540	BLEN								
2000	2400	CULG								
2035	2400	HIRA								
10 0000	0800	CULG								
0000	0814	HIRA								
0628	1509	ONDR								
0640	1540	BLEN								
2000	2400	CULG								

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

Spectral Observations

OCTOBER 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
10	2036	2400	HIRA								
11	0000	0800	CULG								
	0000	0813	HIRA								
	0630	1507	ONDR								
	0645	1540	BLEN								
	2000	2400	CULG								
	2037	2400	HIRA								
12	0000	0812	HIRA								
	0632	1504	ONDR								
	0645	1540	BLEN								
			LEAR	0649.0	0650.0	III		1	25	88	
			SVTO	0649.0	0650.0	III		1	25	81	
	0000	0800	CULG	0650.0	0651.0	III	G	1	20	90	
	2000	2400	CULG								
	2037	2400	HIRA								
13	0000	0800	CULG								
	0000	0811	HIRA								
	0634	1502	ONDR								
	0645	1535	BLEN								
	2000	2025	CULG								
	2038	2400	HIRA								
	2120	2400	CULG								
14	0000	0800	CULG								
	0000	0809	HIRA								
	0636	1500	ONDR								
	0645	1535	BLEN								
	2000	2400	CULG								
	2039	2400	HIRA								
15	0000	0800	CULG								
	0000	0807	HIRA								
	0637	1457	ONDR								
	0645	1535	BLEN								
	2000	2400	CULG								
	2040	2400	HIRA								
16	0000	0800	CULG								
	0000	0805	HIRA								
	0639	1455	ONDR								
	0655	1535	BLEN								
	2000	2400	CULG								
	2041	2400	HIRA								
17	0000	0800	CULG								
	0000	0804	HIRA								
	0641	1453	ONDR								
	0700	1525	BLEN								
	2000	2400	CULG								
	2043	2400	HIRA								
18	0000	0800	CULG								
	0000	0802	HIRA								
	0643	1451	ONDR								
	0700	1525	BLEN								
	2000	2400	CULG								
	2043	2400	HIRA								
19	0000	0800	CULG								
	0000	0801	HIRA								
	0645	1448	ONDR								
	0700	1525	BLEN								
	2000	2400	CULG								
	2044	2400	HIRA								
20	0000	0800	CULG								

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

Spectral Observations

OCTOBER 2008

OBSERVATION			EVENT				FREQUENCY		
Start	End		Start	End	Spectral	Event	Int	Lower	Upper	Remarks
Day (UT)	(UT)	Sta	(UT)	(UT)	Class	Remarks	(1-3)	(MHz)	(MHz)	
20 0000	0801	HIRA								
0657	1446	ONDR								
0700	1525	BLEN								
2000	2400	CULG								
2044	2400	HIRA								
21 0000	0800	CULG								
0000	0800	HIRA								
0649	1444	ONDR								
0700	1520	BLEN								
2000	2400	CULG								
2045	2400	HIRA								
22 0000	0759	HIRA								
0000	0800	CULG								
0651	1441	ONDR								
0705	1520	BLEN								
2000	2400	CULG								
2046	2400	HIRA								
23 0000	0757	HIRA								
0000	0800	CULG								
0655	1439	ONDR								
0705	1520	BLEN								
2000	2400	CULG								
2047	2400	HIRA								
24 0000	0756	HIRA								
0000	0800	CULG								
0655	1437	ONDR								
0705	1520	BLEN								
2000	2400	CULG								
2047	2400	HIRA								
25 0000	0754	HIRA								
0000	0800	CULG								
0657	1435	ONDR								
0705	1520	BLEN								
2000	2400	CULG								
2048	2400	HIRA								
26 0000	0753	HIRA								
0000	0800	CULG								
0659	1433	ONDR								
0705	1515	BLEN								
2000	2400	CULG								
2049	2400	HIRA								
27 0000	0752	HIRA								
0000	0800	CULG								
0701	1430	ONDR								
0710	1515	BLEN								
2000	2400	CULG								
2050	2400	HIRA								
28 0000	0750	HIRA								
0000	0800	CULG								
0703	1428	ONDR								
0710	1515	BLEN								
2000	2400	CULG								
2051	2400	HIRA								
29 0000	0749	HIRA								
0000	0800	CULG								
0705	1426	ONDR								
0830	1510	BLEN								
2015	2400	CULG								
2052	2400	HIRA								

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

Spectral Observations

OCTOBER 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
30	0000	0748	HIRA								
	0000	0800	CULG								
	0707	1424	ONDR								
	0850	1510	BLEN								
	2000	2400	CULG								
	2054	2400	HIRA								
31	0000	0747	HIRA								
	0000	0800	CULG								
	0709	1422	ONDR								
	0715	1505	BLEN								
	2000	2400	CULG								
	2055	2400	HIRA								

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

OCTOBER 2008

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
11/10/08	-0.72	+0.46	I	8H07E	15H07 D
12/10/08	-0.62	+0.25	I	8H07E	15H07 D
14/10/08	-0.13	+0.33	I	8H11 E	15H07 D

SOLAR RADIO NOISE STORM AT 327 MHZ

FROM NANÇAY RADIOHELIOGRAPH

OCTOBER 2008

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
11/10/08	-0.72	+0.40	I	8H07E	15H07 D
12/10/08	-0.63	+0.32	I	8H07E	15H07 D

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

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[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

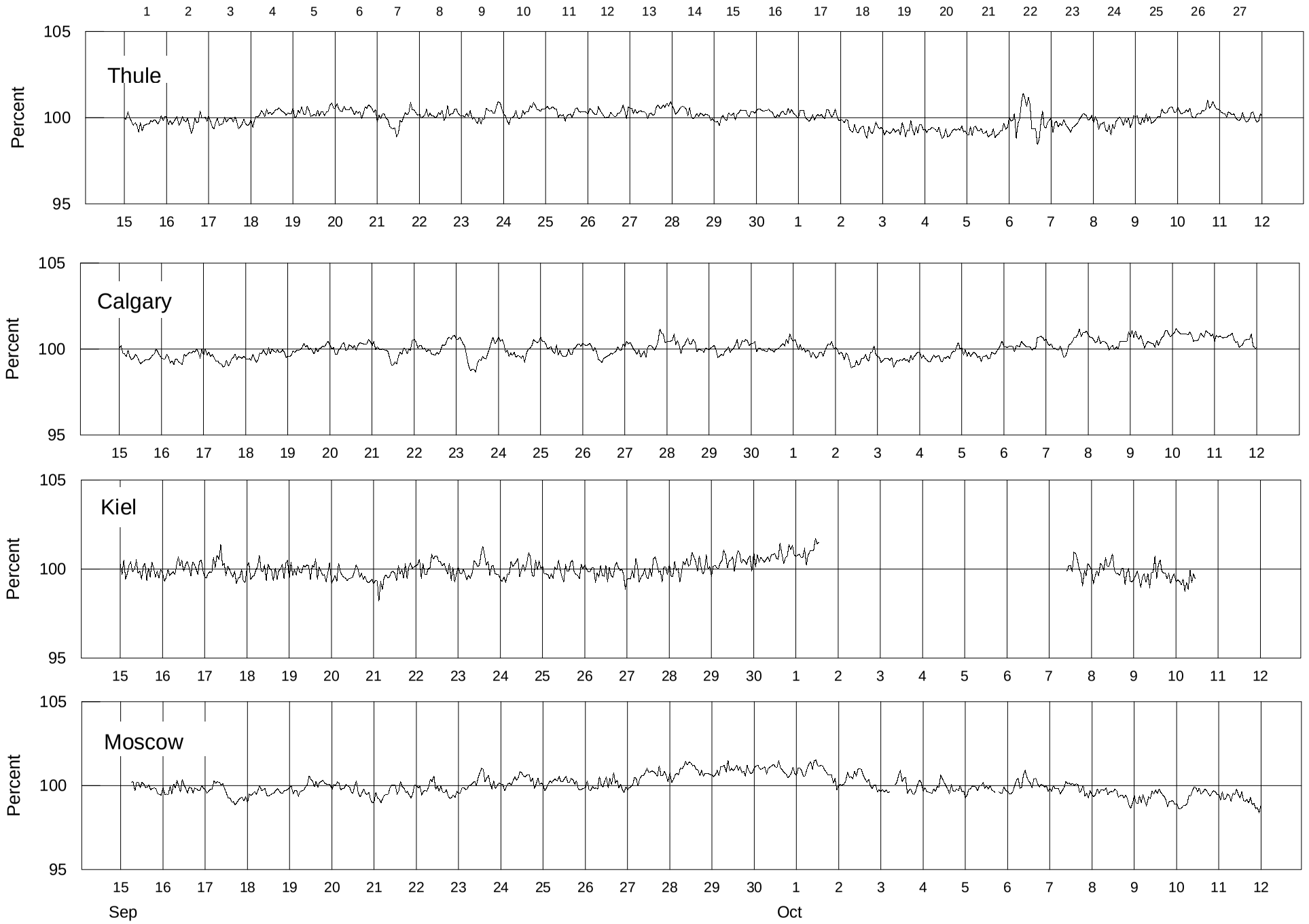
COSMIC RAY INDICES
(Neutron Monitor)
OCTOBER 2008

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	4633.3	4042.0	6421.7(14)	9728.9		2037.0	
2	4600.1	4024.0	---	9676.4		2030.7	
3	4594.0	4019.3	---	9641.5(22)		2030.5	
4	4591.2	4027.5	---	9628.2		2037.8	
5	4589.9	4032.7	---	9623.7(23)		2045.9	
6	4623.4	4053.0	---	9651.3		2057.3	
7	4614.2	4057.2	6366.1(14)	9628.8	data	2053.7	data
8	4611.7	4059.3	6354.2	9592.8	not	2058.9	not
9	4631.7	4067.2	6339.5	9573.5	available	2058.6	available
10	4646.6	4076.7	6316.3(12)	9584.4		2066.6	
11	4630.9	4065.2	---	9568.0		2070.6	
12	4625.9	4044.7	---	9570.5		2062.8	
13	4636.1	4039.0	---	9582.2		2061.8	
14	4640.0	4035.8	---	9576.0		2059.0	
15	4633.9	4038.0	---	9580.4		2058.3	
16	4652.8	4047.0	---	9592.9		2057.6	
17	4652.9	4045.0	6392.5(13)	9602.6		2057.9	
18	4652.7	4051.8	6371.2	9603.2		2056.8	
19	4665.7	4064.7	6376.3	9605.9		2063.2	
20	4653.9	4066.7	6382.7	9605.1		2065.5	
21	4646.9	4061.5	6383.2	9551.0		2062.2	
22	4640.7	4052.3	6358.4	9521.4		2065.2	
23	4628.6	4052.0	6362.9	9519.9		2078.1	
24	4641.8	4064.2	6362.2	9532.2		2086.3	
25	4649.5	4070.8	6374.4	9528.0		2089.8	
26	4641.4	4071.3	6368.1	9542.6		2086.8	
27	4649.9	4060.5	6414.2	9564.5		2083.5	
28	4644.2	4050.0	6409.5	9547.9		2077.9	
29	4612.7	4033.7	6396.9	9509.9		2085.3	
30	4619.2	4028.5	6407.5	9490.9		2081.1	
31	4604.6	4026.2	6384.5	9477.4		2085.8	
Mean	4630.0	4049.3	6377.6	9580.5		2063.6	

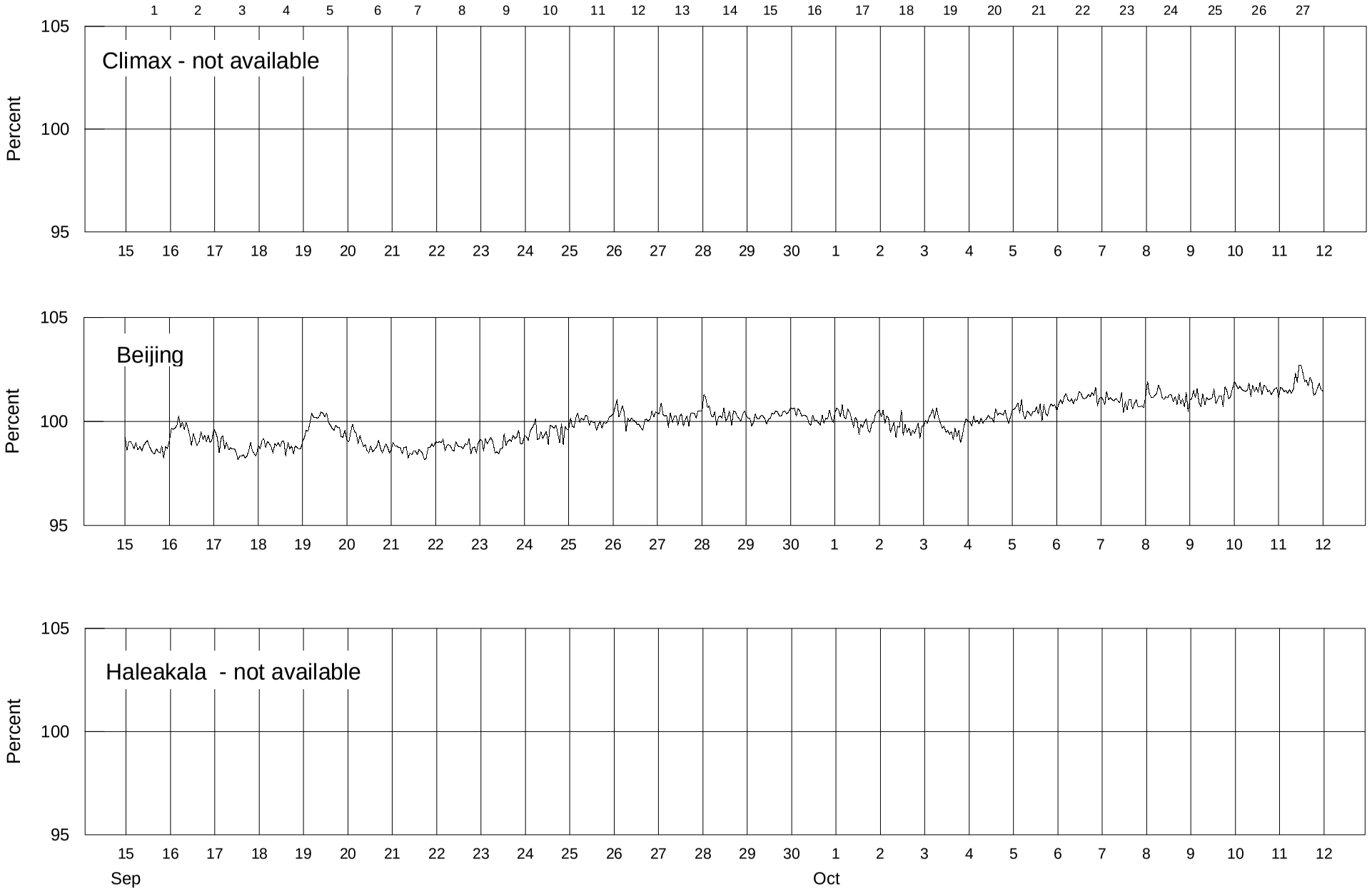
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours, and for Haleakala, whenever the sum of all three sections falls below 60 hours.

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2390 - Beginning 15 Sep 2008

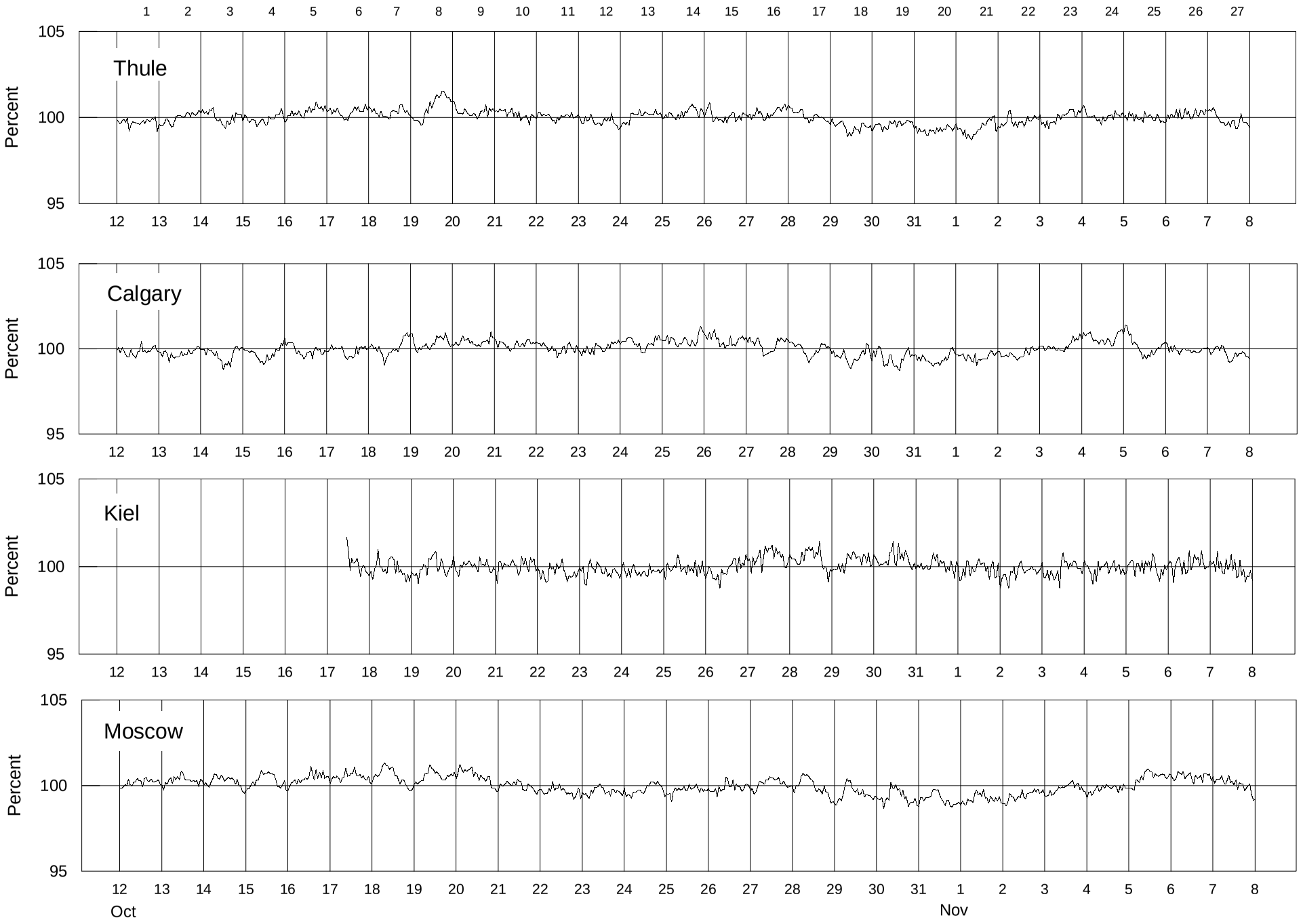


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2390 - Beginning 15 Sep 2008

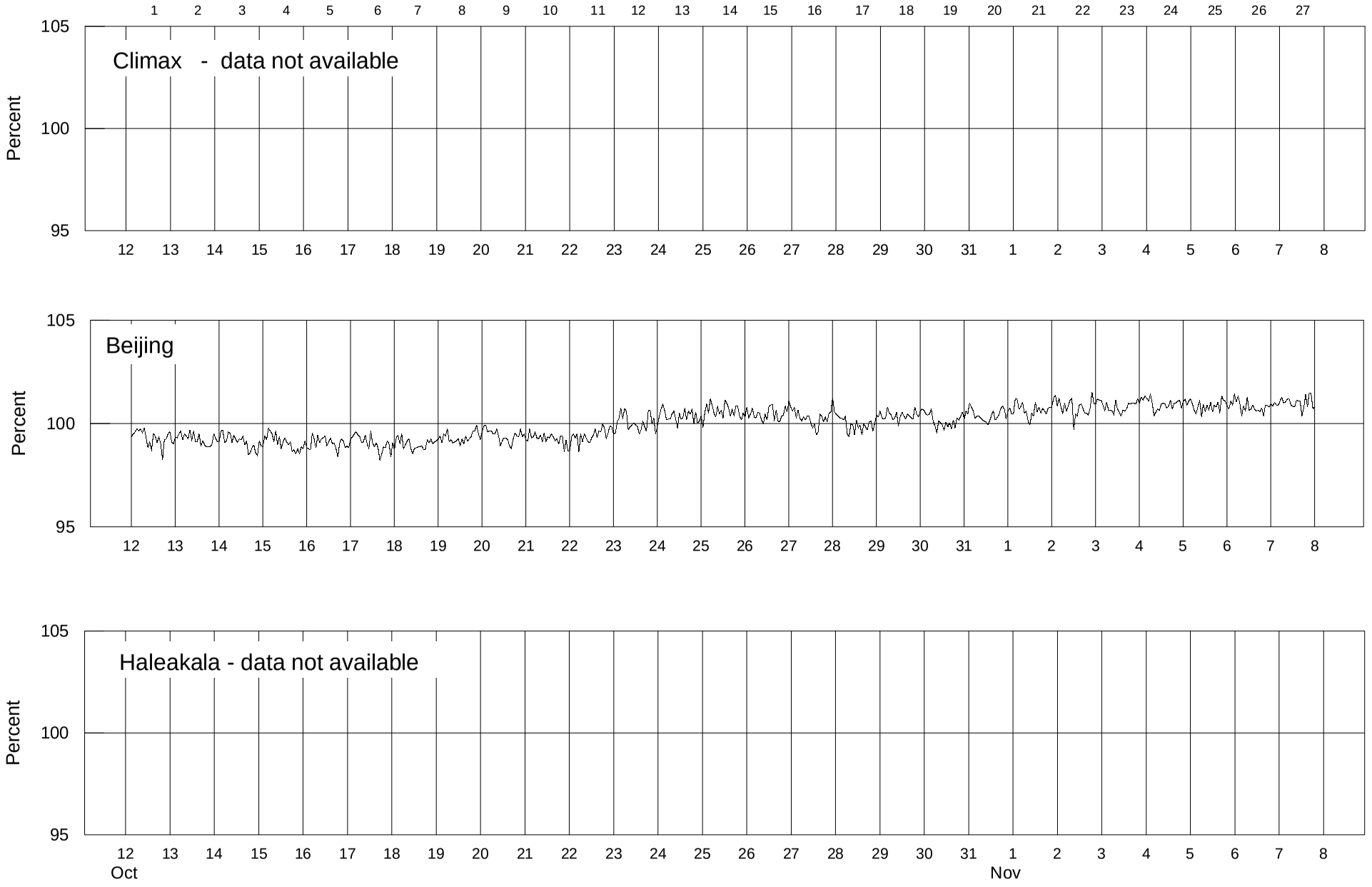


COSMIC RAY INDICES
(Neutron Monitor)

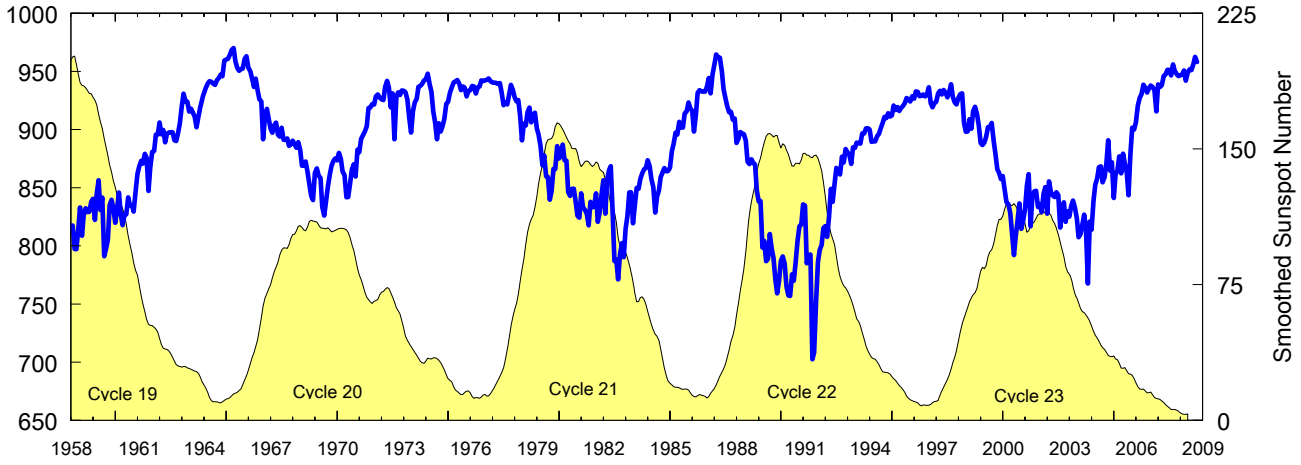
Bartels Rotation 2391 - Beginning 12 Oct 2008



COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2391 - Beginning 12 Oct 2008



Moscow Neutron Monitor Pressure-Corrected Values
Jan 1958 - Oct 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	9518	9512	9560	9625	9581			9515

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.

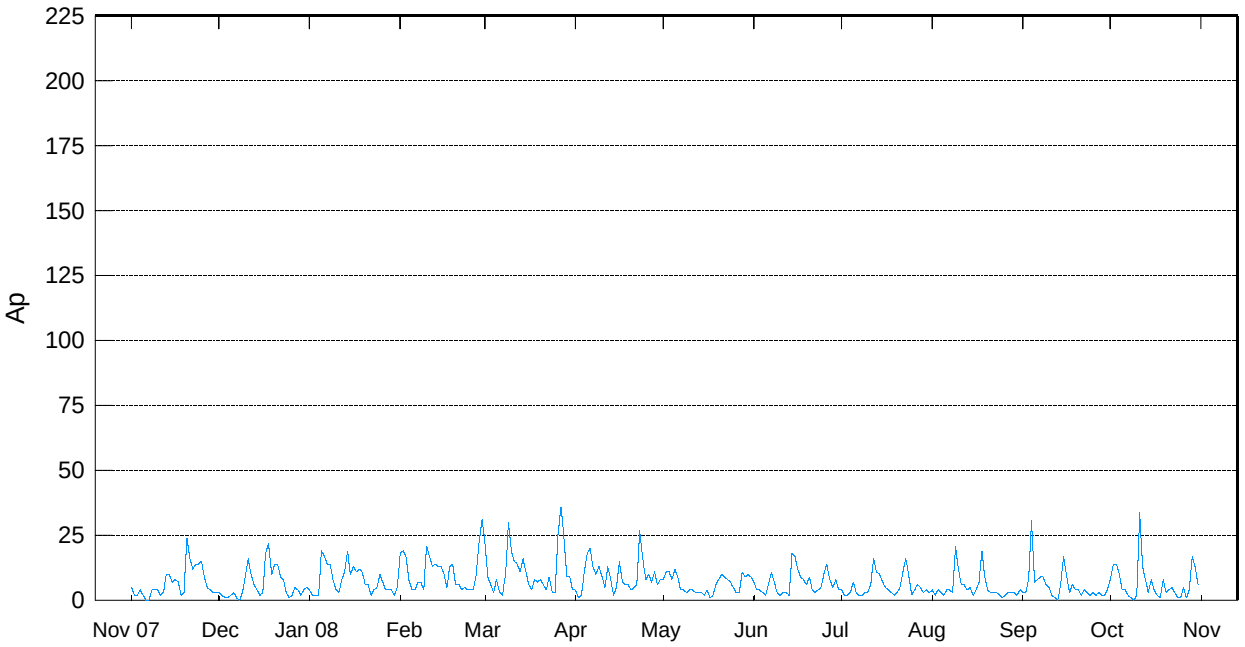
Geomagnetic Activity Indices

Oct 08 **OCTOBER 2008**

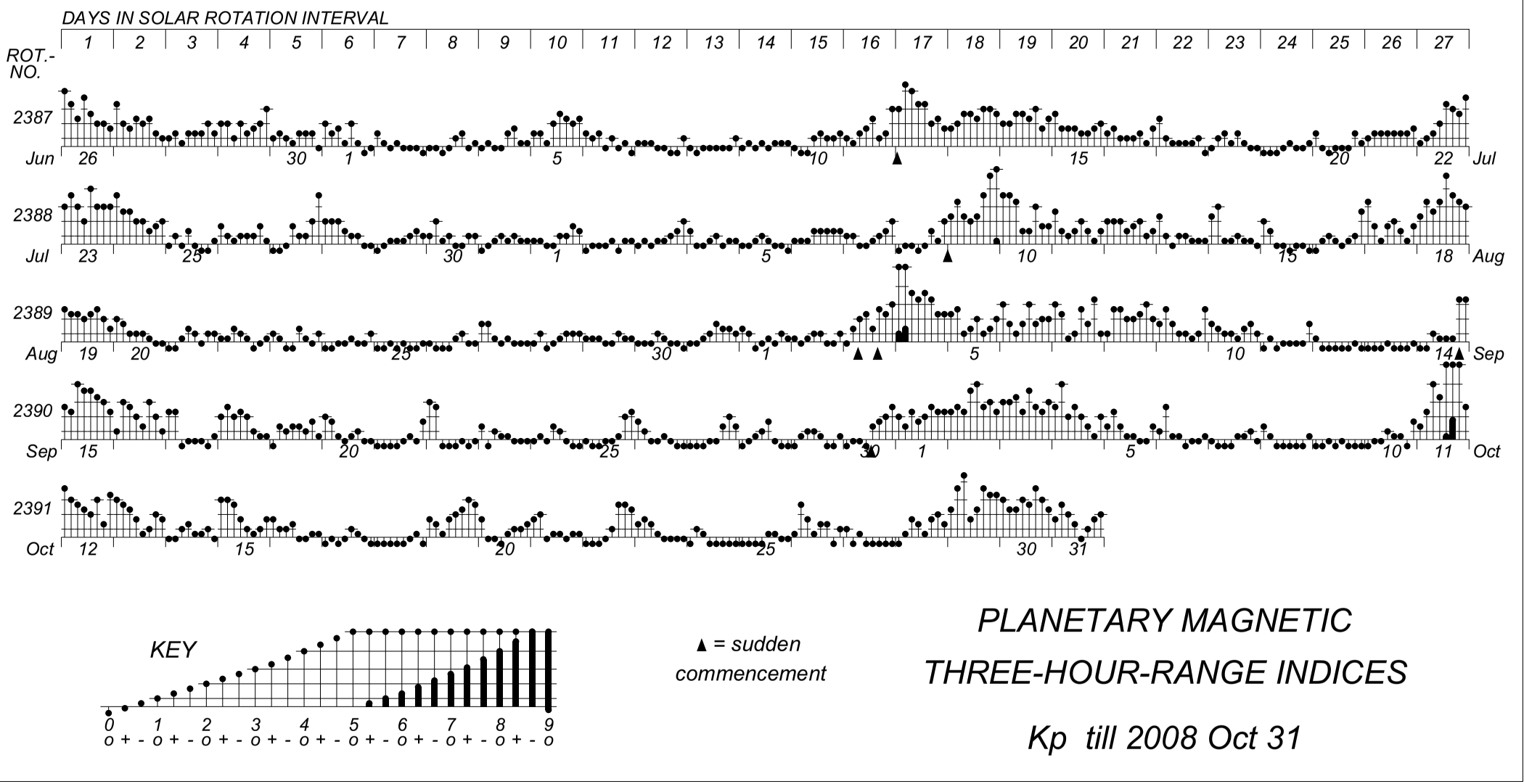
Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	aa Provisional Am	N	S	M	
1		2	1+	2+	2-	2	3-	2+	2+	17-	8	0.4	1+	1+	2+	2-	2o	2+	2o	2+	14	19	15	13	21	
2	D4*	2+	3-	2+	4-	4	3-	3	2+	23	14	0.8	2+	3-	2+	3+	4-	3-	3-	2+	26	29	30	29	31	
3	D3*	3	3	3+	2+	4-	3-	2+	3	23+	14	0.8	3-	2o	3-	3o	3+	3-	2o	3o	24	31	27	24	34	
4		3-	4	2	3-	2	1+	1-	2	17+	10	0.6	3-	4-	2o	3-	2o	1+	0+	2o	18	19	18	24	12	
5		1+	2+	1+	1-	1-	0+	0+	1+	8+	4	0.1	1o	2-	2-	1-	1o	1-	0+	1+	7	9	8	11	6	CC
6		1	3-	1-	1-	0	0+	0+	1-	6+	4	0.1	1-	2o	1o	1o	0o	0+	0o	1-	5	7	6	9	4	CC
7	Q7	0+	0	0	0	1-	1-	1	0+	3	2	0.0	0+	0o	0o	0o	1o	1o	1o	0+	3	4	6	3	7	CC
8	Q8	1+	1-	0	0	0	0	0	1-	3-	1	0.0	1o	1-	0o	0o	0o	0o	0o	1-	3	5	4	5	4	CC
9	Q1	0	0	0+	0	0+	0	0	0	1-	0	0.0	0o	0o	0+	0o	0o	0o	0o	0o	1	2	2	2	2	CC
10	Q9	0	0+	0+	1	1-	1-	0	2-	5-	2	0.0	0o	0+	0+	1-	1o	1o	0+	2-	5	8	6	5	9	CK
11	D1	1+	2+	4	3+	5+	6+	5	3-	30+	34	1.3	1+	2-	3+	4-	5o	5o	4o	2+	47	63	43	30	76	
12		4-	3	3-	2+	2	3	1+	3+	21+	13	0.7	3+	2+	2+	3-	3-	3-	2-	3o	23	30	19	20	30	
13		3	3-	2+	2-	1-	1	2	2-	15	8	0.4	2+	2o	2o	2o	1o	1+	2-	1+	13	17	9	17	9	C
14	Q10	0+	0+	1	1+	1-	1-	1	0+	6-	3	0.1	0+	0+	1+	2-	1+	1+	1o	0o	6	6	7	8	6	CC
15		3	3	3-	2-	1	1-	1	2-	15-	8	0.4	2o	3-	2+	2o	1+	2-	1-	2-	14	14	9	15	8	CC
16		2-	1	1	1+	0+	0+	1-	1-	7	4	0.1	1+	1-	1+	1+	0+	1-	0+	0+	6	7	8	9	6	CC
17	Q6	0	0+	0	0+	1	1-	0+	0	3-	2	0.0	0o	0+	0o	1-	1+	0+	0o	0o	2	3	6	4	5	CC
18	Q2	0	0	0	0	0	0+	1-	0	1	1	0.0	0o	0o	0o	0o	0o	0o	1-	0o	1	3	3	2	4	CC
19		2-	1+	1-	2-	2	2+	3	3-	15+	8	0.4	1o	1-	0+	2-	2+	3-	3o	2+	15	14	18	7	25	K
20		2-	0+	0+	0	1-	1	1	1+	6+	3	0.1	1+	0+	0+	0o	1o	1+	1o	1o	5	5	7	4	7	CK
21		2-	2	0+	1-	1-	0+	1-	1-	7	4	0.1	1o	1+	1-	1o	1+	0+	0+	1-	6	8	10	9	9	CC
22		0	0	0	0+	1	3-	3-	2+	9	5	0.2	0o	0o	0o	0+	2-	3-	3-	2+	11	18	10	4	24	K
23		1+	2-	1+	1-	0+	0+	0+	0+	6+	3	0.1	1o	1+	1+	1-	0+	1-	1-	0+	5	6	8	9	5	CK
24	Q4	0	1	1-	0	0	0	0	0	2-	1	0.0	0+	1o	1-	0o	0o	0o	0o	0o	2	2	4	4	2	CC
25	Q3	0	0	0	0	1-	1-	0+	0+	2	1	0.0	0o	0o	0o	0o	1-	1o	1o	0+	3	4	4	2	5	CC
26		1-	3-	2-	1-	1+	1+	0	1	9+	5	0.2	1-	2+	2-	1+	2o	2o	0o	1o	9	10	11	13	9	CC
27	Q5	1	0	1-	0	0	0	0	0	2-	1	0.0	1-	0o	1-	0o	0o	0o	0o	0o	2	4	5	6	2	CC
28		0	1-	2-	1+	1-	2-	2	1+	9+	4	0.2	0o	1-	2-	2-	1+	2o	2o	2o	10	9	12	9	13	CK
29	D2*	2+	4-	4+	2-	2+	4-	3+	3+	25-	17	0.9	2+	3+	4o	2-	2+	3+	3o	3o	30	41	24	27	38	
30	D5*	3	2+	2+	3	3-	4-	3	2+	22+	13	0.8	3-	2+	2+	3o	3-	4-	3o	2+	24	36	22	24	35	
31		2-	3-	2	1+	0+	1	2-	2	13-	6	0.3	1+	2+	2-	2-	1-	1+	2o	2o	12	11	12	12	11	C---
Mean											7	0.29									11.4	14.5	12.1	13.2		

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	1+	1+	2+	2o	2o	2+	2o	3-	16	1+	2-	2o	2-	2o	2+	2o	2o	13	65.9	0	0	9	
2	2o	2+	3-	3+	4-	3-	3o	2+	26	2+	3-	2o	3+	3+	3-	3-	2+	25	66.4	0	0	10	
3	3-	2+	3o	3o	4-	3-	2+	3-	26	3-	2-	3-	3-	3o	2+	2-	3+	23	67.2	0	0	11	
4	2+	4-	2o	3-	2o	2-	1-	2o	18	3-	3+	2o	3-	2o	1+	0o	2o	17	66.6	7	2	10	
5	1-	2-	2-	1o	1o	1o	0+	1+	7	1o	1+	2-	0+	1o	1-	0+	1+	7	67.4	0	0	11	
6	1-	2o	1-	1o	0o	0+	0o	1-	5	1o	2-	1o	1+	0o	0+	0o	1o	6	67.2	0	0	11	
7	0o	0o	0o	0o	1o	1+	1o	0o	3	1o	0o	0o	0o	1o	1-	1+	1-	4	66.6	0	0	10	
8	1o	1-	0o	0o	0o	0o	0o	1-	2	1+	1o	0o	0o	0o	0o	0o	1-	3	67.5	0	0	11	
9	0o	0o	0+	0o	0+	0o	0o	0o	1	0+	0o	0+	0o	0o	0o	0o	0o	1	68.5	0	0	12	
10	0o	0o	0o	1-	1o	1+	0+	2-	5	0o	1-	1-	1o	1o	1-	0o	2-	5	68.7	7	1	12	
11	1+	2o	4-	4o	5o	6-	4+	3-	55	1+	2-	3o	3+	5-	5-	4-	2+	40	70.5	9	8	14	
12	3o	2+	3-	3o	3-	3-	2o	3+	26	3+	2o	2o	2+	2+	2+	2-	3o	20	69.7	11	11	13	
13	3-	2+	2+	2o	1-	1+	2-	1+	14	2o	2-	2-	2o	1o	1o	2-	2-	11	70.5	9	10	14	
14	1-	0+	2-	2+	1+	1+	1o	0o	8	0o	0+	1+	1+	1o	1+	1o	0+	6	70.0	9	9	14	
15	2o	3-	3-	3-	1+	2o	1o	2-	17	2o	2+	2+	1+	1+	1o	1-	2-	12	70.5	8	10	14	
16	1+	1-	1+	2-	0+	1o	0+	0+	7	1+	1o	1o	1o	0o	0+	0+	0+	4	71.4	12	9	15	
17	0o	0+	0o	1-	1+	1-	0o	0o	2	0+	0+	0+	0+	1+	0o	0o	0o	3	69.5	8	4	13	
18	0o	0o	0o	0o	0o	0o	1-	0o	1	0o	0o	0o	0o	0o	0o	1-	0+	1	68.6	0	0	12	
19	1-	0+	0o	2-	2+	3o	3o	2+	14	1+	1-	1-	2o	2+	3-	3-	2o	15	69.0	0	0	13	
20	1+	0o	0o	0o	1o	1+	1o	1-	5	1o	1-	1-	0+	1-	1+	1+	1+	6	68.6	0	0	12	
21	1o	1+	0+	1-	1o	1-	0o	0+	5	1+	1+	1o	1+	1+	0+	1-	1o	7	68.2	0	1	12	
22	0o	0o	0o	0o	2-	3o	3o	2+	11	0o	0+	0o	1-	2-	2+	3-	2+	10	67.0	0	0	10	
23	1o	1+	2-	1-	0+	1o	0+	0o	5	1o	1+	1+	1o	0o	0+	1-	1-	5	66.5	0	0	10	
24	0o	1-	0+	0o	0o	0o	0o	0o	2	1-	1+	1-	0o	0o	0o	0o	0o	2	66.7	0	0	10	
25	0o	0o	0o	0o	1-	1o	1-	0+	3	0o	0o	0+	0+	1-	1-	1+	1-	3	66.7	0	0	10	
26	0+	2o	1+	1o	2o	2o	0o	1o	9	1-	2+	2-	1+	2-	2-	0o	1o	10	66.0	0	0	9	
27	1-	0o	1-	0o	0o	0o	0o	0o	1	1-	0+	1o	0+	0o	0o	0o	0o	2	66.1	0	0	9	
28	0o	1-	1+	1+	1+	2o	2o	2-	10	0+	1o	2o	2o	1o	2-	2o	2o	11	66.2	0	0	9	
29	2+	3+	4o	2-	2+	4-	3-	3o	30	2+	3+	4o	2o	2+	3o	3o	3-	29	65.8	0	0	9	
30	3-	2+	3-	3o	3o	4-	3+	2+	28	2+	2o	2-	3-	2+	3+	3-	2+	21	65.9	0	0	9	
31	1+	2+	2-	2-	1-	1+	2o	2o	12	1+	2o	2-	2-	0+	1+	2-	2o	11	67.1	9	8	10	
Mean									12.1									10.7	67.8	2.9	2.4	11.2	

Daily Average Indices Ap
Nov 2007 - Oct 2008



Day	Nov 07	Dec	Jan 08	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	5	3	4	18	22	4	8	7	4	4	3	8
2	2	2	2	19	9	1	11	4	2	2	3	14
3	2	1	2	17	6	2	11	4	2	4	8	14
4	4	1	2	8	3	11	8	3	3	3	31	10
5	2	2	19	4	8	18	12	2	7	2	7	4
6	0	3	17	4	3	20	9	6	3	4	8	4
7	0	1	14	7	2	13	4	11	2	4	9	2
8	4	0	14	7	10	10	4	7	2	3	9	1
9	4	3	8	4	30	13	3	3	3	21	6	0
10	4	9	4	21	19	9	4	2	3	12	5	2
11	2	16	3	17	15	5	4	3	6	6	2	34
12	3	10	8	13	14	13	3	3	16	6	1	13
13	10	6	11	14	11	8	3	2	11	4	0	8
14	10	4	19	13	16	2	3	18	10	5	6	3
15	7	2	10	13	11	5	2	17	7	2	17	8
16	8	3	13	10	6	15	4	12	5	4	9	4
17	7	18	11	5	4	7	1	9	4	7	3	2
18	2	22	12	13	8	6	2	8	3	19	6	1
19	3	10	11	14	7	6	6	6	2	9	4	8
20	24	14	6	6	8	4	8	9	3	4	4	3
21	16	14	6	6	6	5	10	4	5	3	2	4
22	12	9	2	4	4	6	9	3	11	3	4	5
23	14	8	4	5	9	27	8	4	16	3	3	3
24	14	3	5	4	3	16	7	5	10	2	2	1
25	15	1	10	4	3	8	5	10	2	1	3	1
26	9	2	7	4	26	10	3	14	4	2	2	5
27	5	5	4	10	36	7	3	8	6	3	3	1
28	4	4	4	23	24	11	11	5	5	3	2	4
29	3	2	4	31	9	6	9	8	3	3	2	17
30	3	4	2		9	8	10	4	4	2	4	13
31		5	5		4		9		3	4		6
Mean	7	6	8	11	11	9	6	7	5	5	6	7

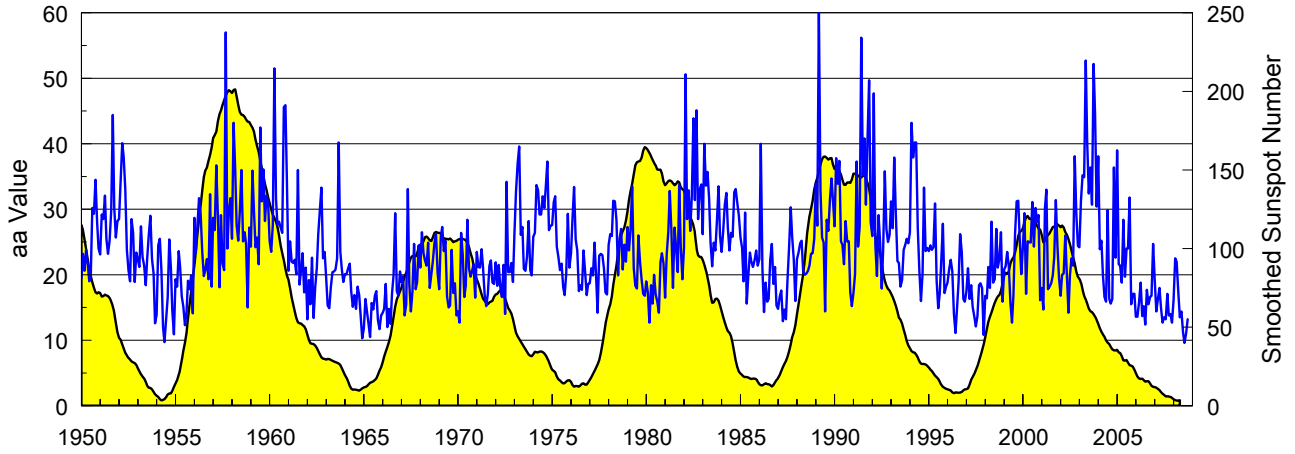


▲ = sudden commencement

PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 2008 Oct 31

Monthly Mean aa Index Jan 1950 - Oct 2008



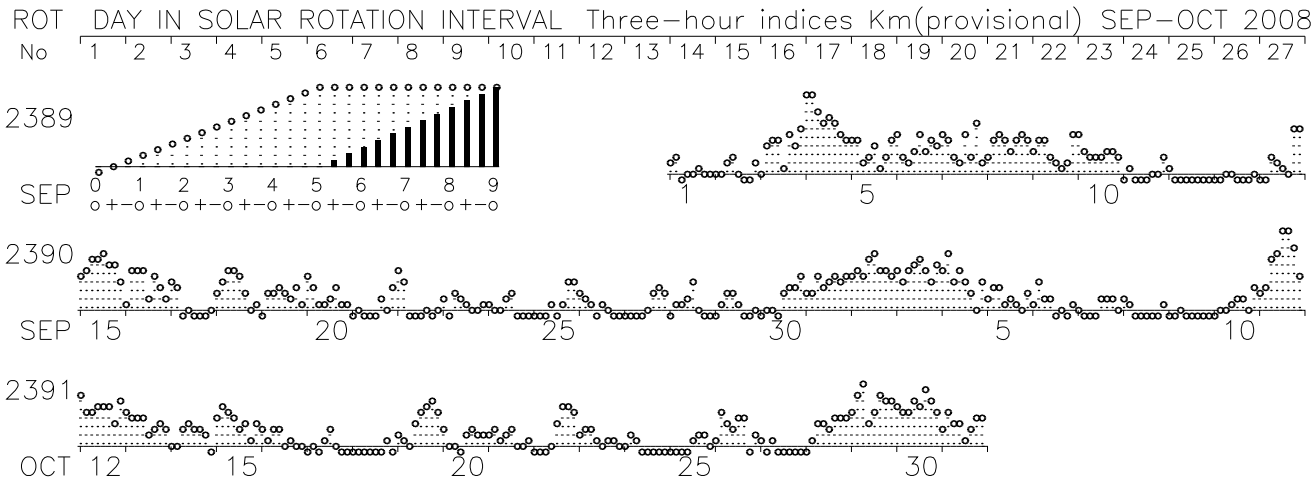
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	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	14.4	11.2	9.6	11.0	13.2			15.1

PLANETARY GEOMAGNETIC ACTIVITY

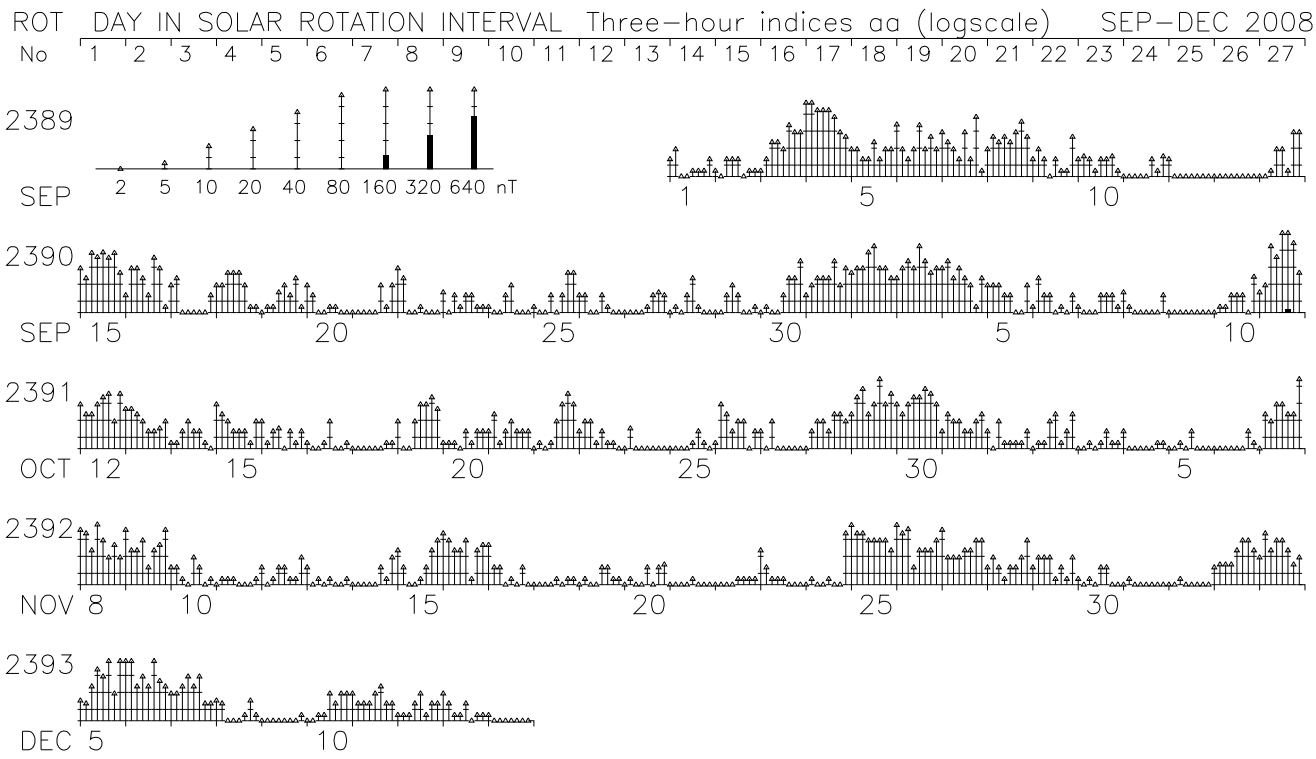
3-HOUR-RANGE INDICES Km AND aa BY 27-DAY SOLAR ROTATION INTERVAL

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.

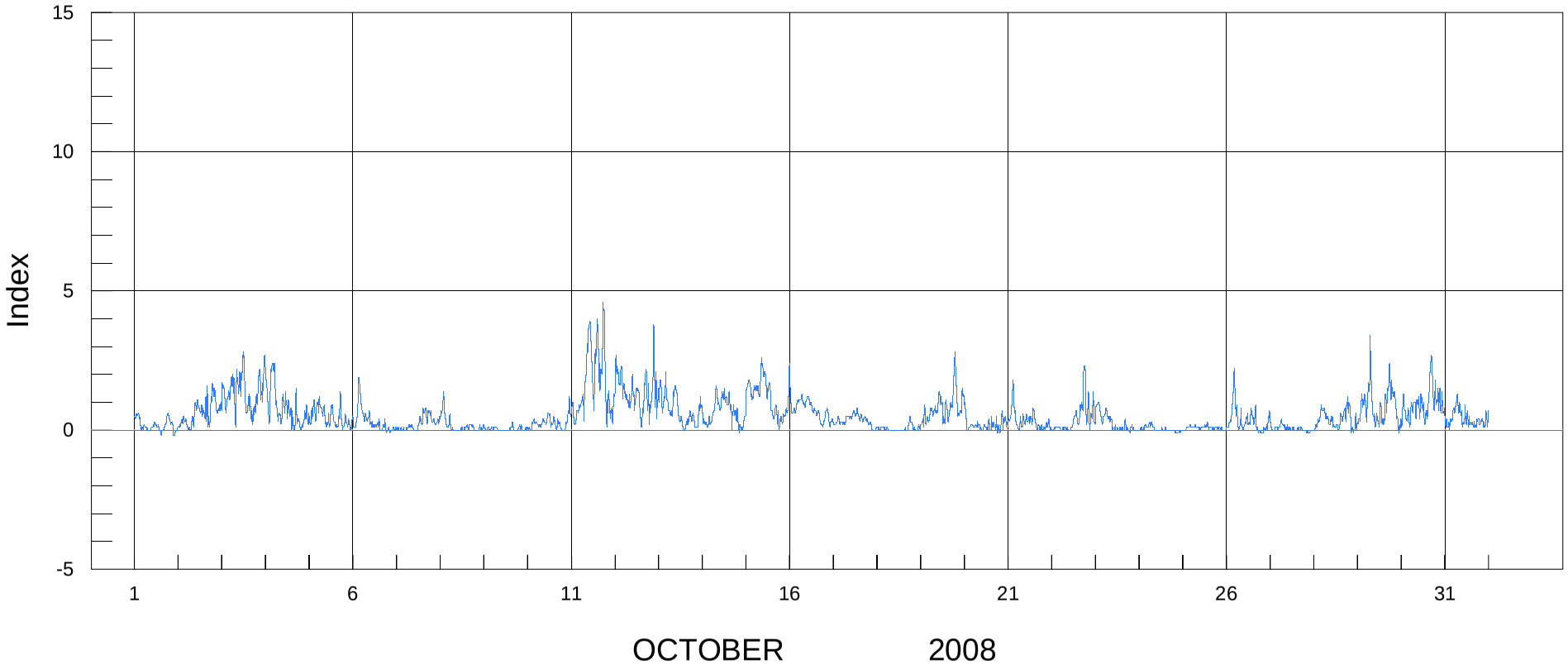


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

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

OCTOBER 2008

		Commencement			SC Amplitudes					Ranges			End	
	Geomag	Time			D	H	Z	Maximum 3-Hour K Index		D	H	Z	Hour	
Sta	Lat	Day	(UT)	Type	(Min)	(Gamma)	(Gamma)	Day(3-Hour Periods)	K	(Min)	(Gamma)	(Gamma)	Day	(UT)
HYB	07.6N	01	0100	..	..	..	..	2(4,5)	5	5	113	23	03	22
JAI	17.4N	02	0500	..	..	..	..		-	6	87	29	03	23
NGP	11.3N	02	0500	..	..	..	..		-	5	89	27	03	23
ABG	09.4N	02	0500	..	..	..	..	2(4)	5	5	91	36	03	23
PND	02.0N	02	0500	..	..	..	..		-	4	106	38	03	23
TIR	00.6S	02	0500	..	..	..	..		-	4	151	54	03	23
JAI	17.4N	11	0600	..	..	..	..		-	6	141	27	12	24
NGP	11.3N	11	0600	..	..	..	..		-	5	145	18	12	24
ABG	09.4N	11	0600	..	..	..	..	11(6)	6	4	147	27	12	24
HYB	07.6N	11	0500	..	..	..	..	11(6)	6	4	150	14	11	23
PND	02.0N	11	0600	..	..	..	..		-	3	150	78	12	24
TIR	00.6S	11	0600	..	..	..	..		-	4	177	92	12	24
GNA	43.0S	11	0517	..	..	..	..		6	21	106	145	11	23
JAI	17.4N	28	0400	..	..	..	..		-	3	66	18	30	23
NGP	11.3N	28	0400	..	..	..	..		-	2	71	17	30	23
ABG	09.4N	28	0400	..	..	..	..	29(2,6),30(6)	4	2	69	25	30	23
HYB	07.6N	28	0500	..	..	..	..	29(3)	4	2	72	13	30	24
PND	02.0N	28	0400	..	..	..	..		-	2	75	52	30	23
TIR	00.6S	28	0400	..	..	..	..		-	2	115	55	30	23

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

OCTOBER 2008

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
NONE			NONE		

REPORTING OBSERVATORIES (up to 28/11/2008):
SOD NUR LER ESK NGK VAL HAD DOU BDV CLF HRB NAG GCK MMB EBR SPT KAK
KNY GUI HYB GNA CNB LIV

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.