NOVEMBER 2008 NUMBER 771 - Part I

Solar-Geophysical Data prompt reports

Data for October and September 2008
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Data for October and September 2008

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NATIONAL GEOPHYSICAL DATA CENTER
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Boulder, Colorado

SOLAR-GEOPHYSICAL DATA

Number 771

(Issued in Two Parts)

Editor: Edward H. Erwin

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Solar-Terrestrial Physics Division

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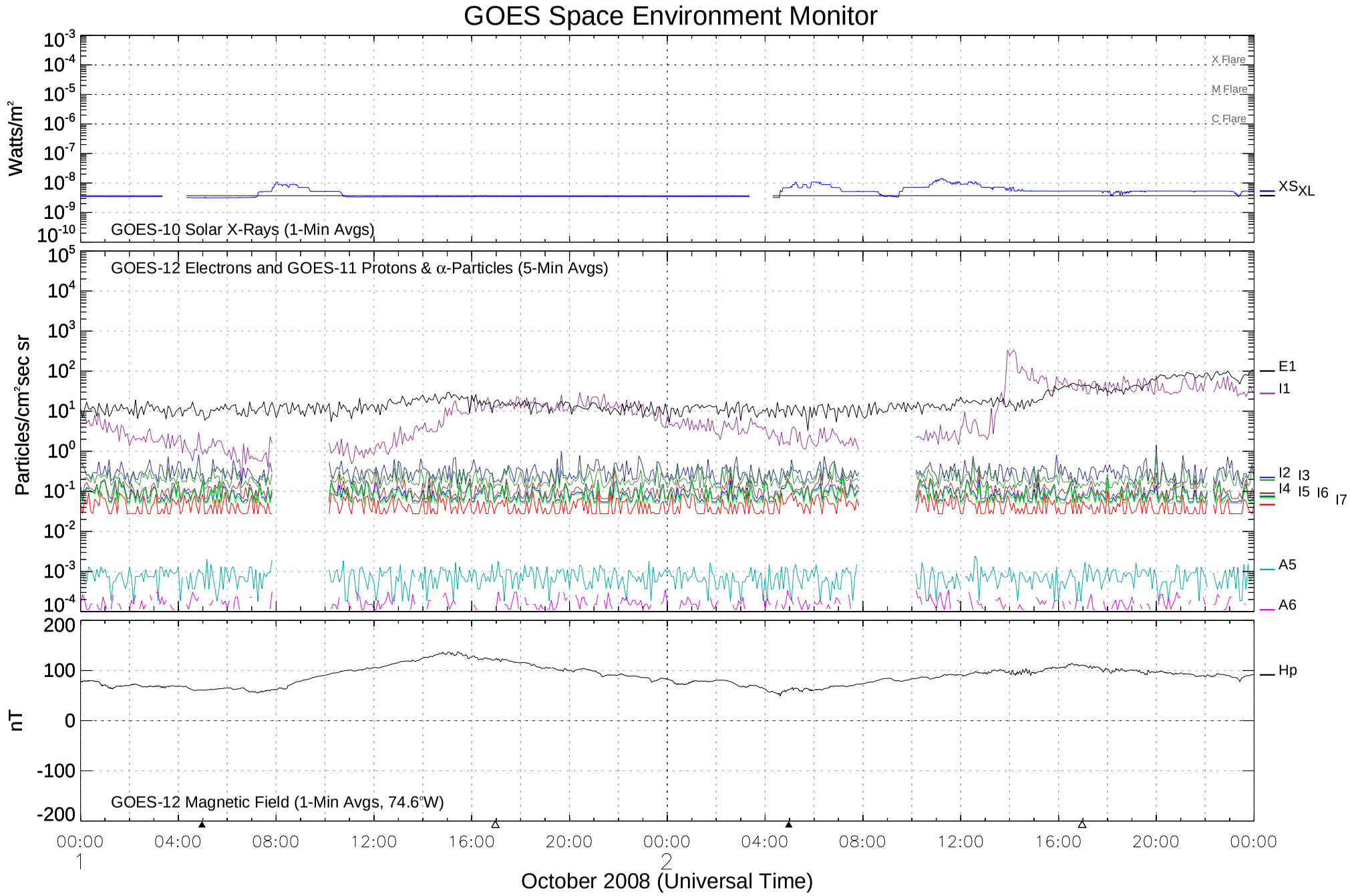
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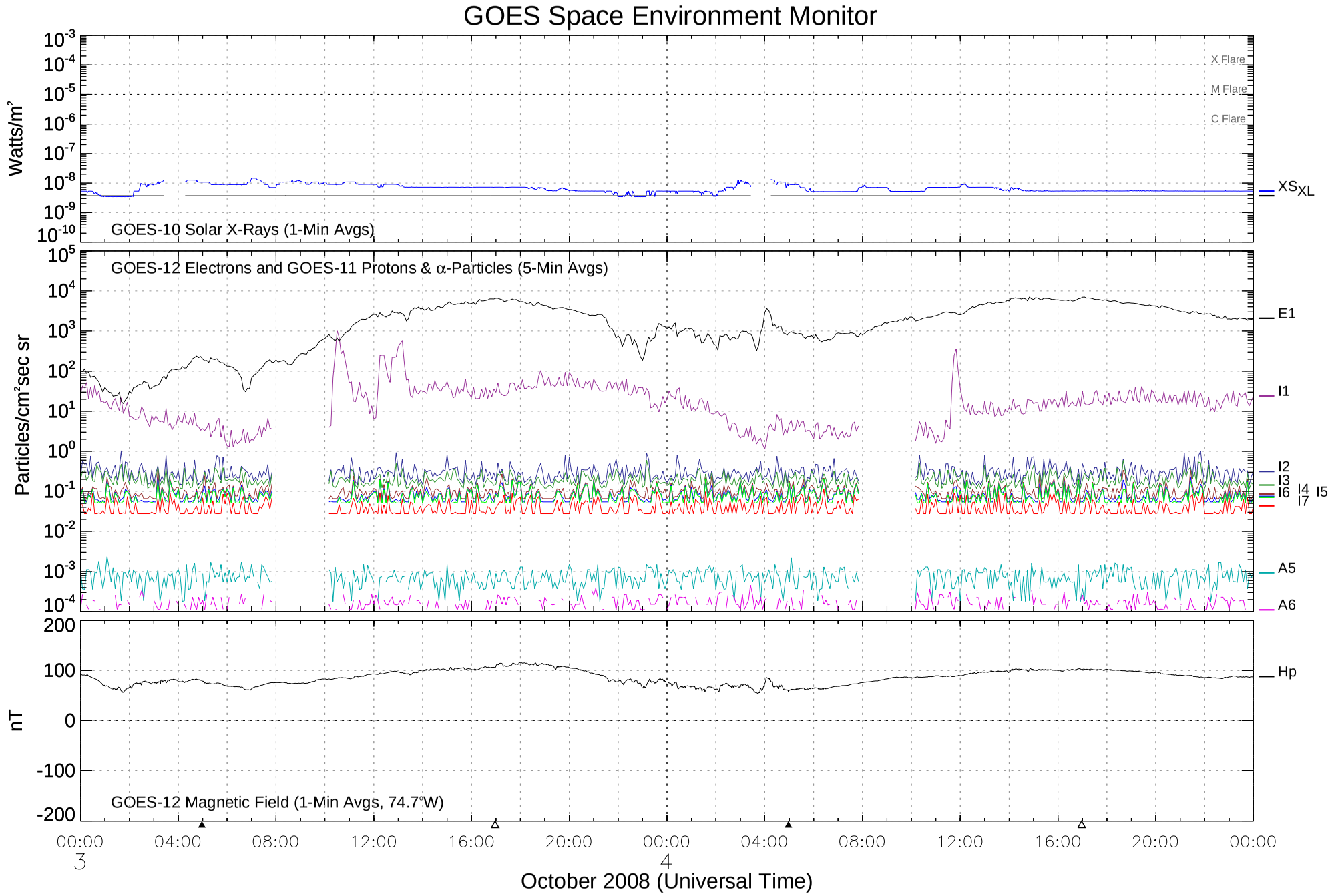
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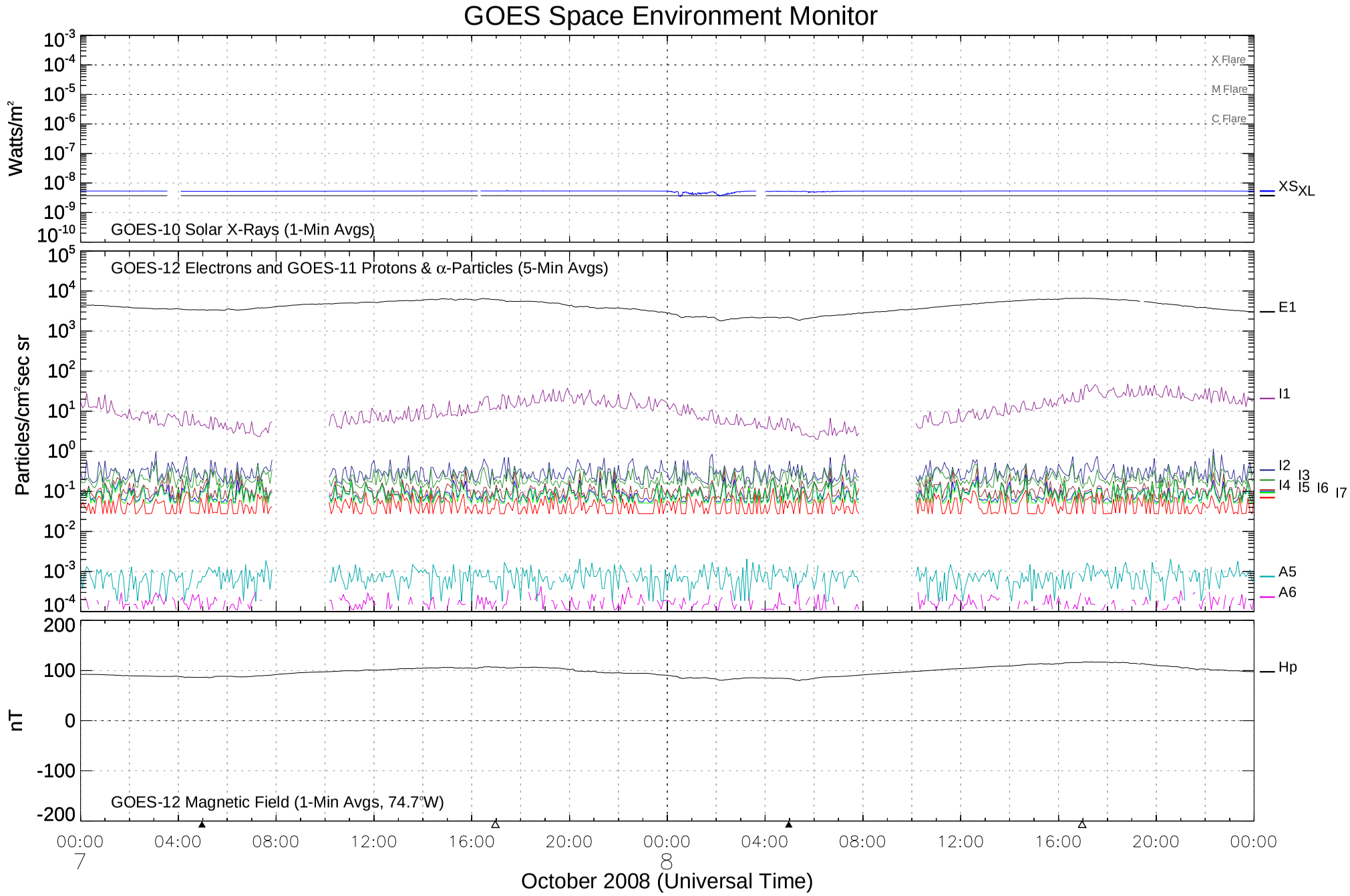
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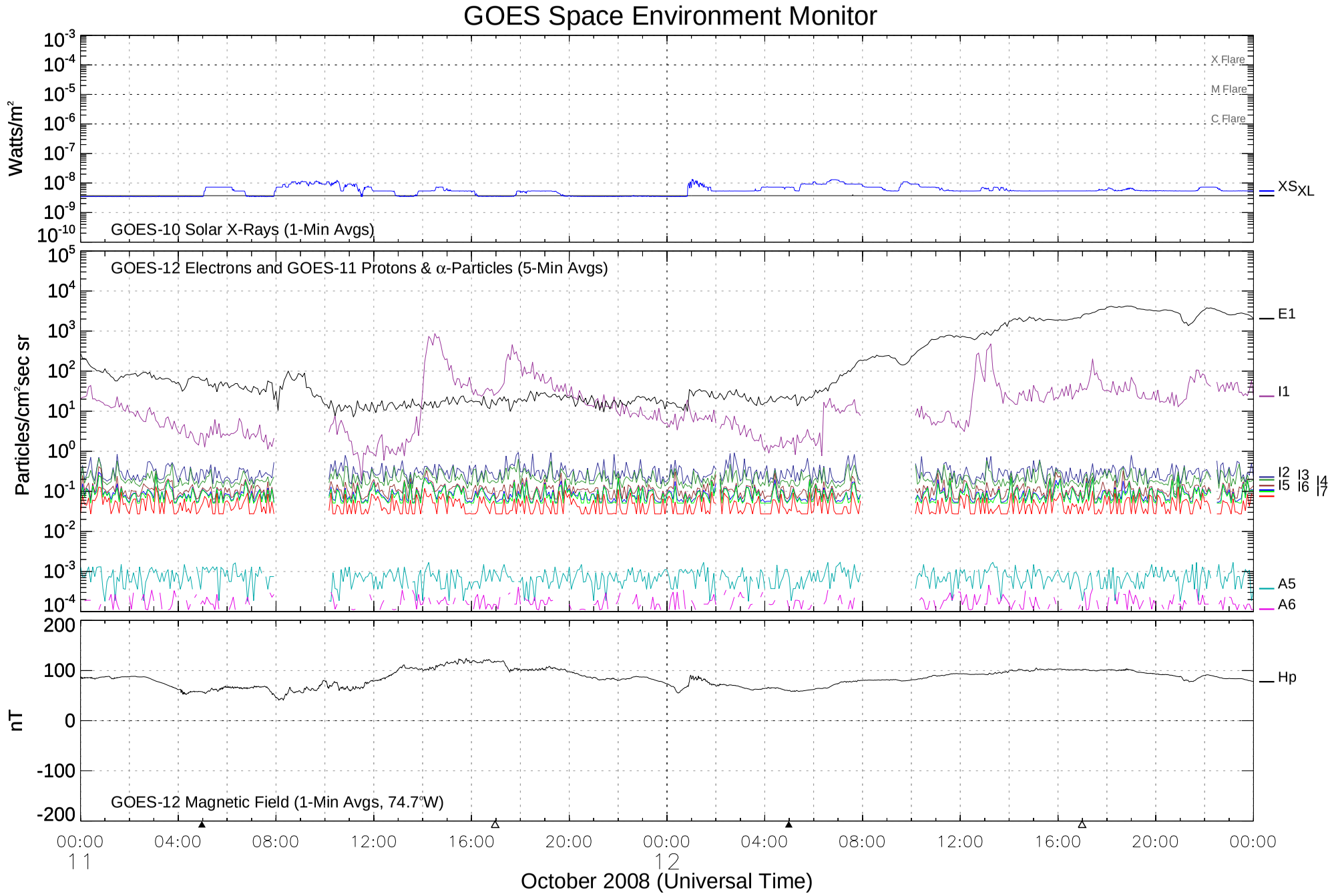
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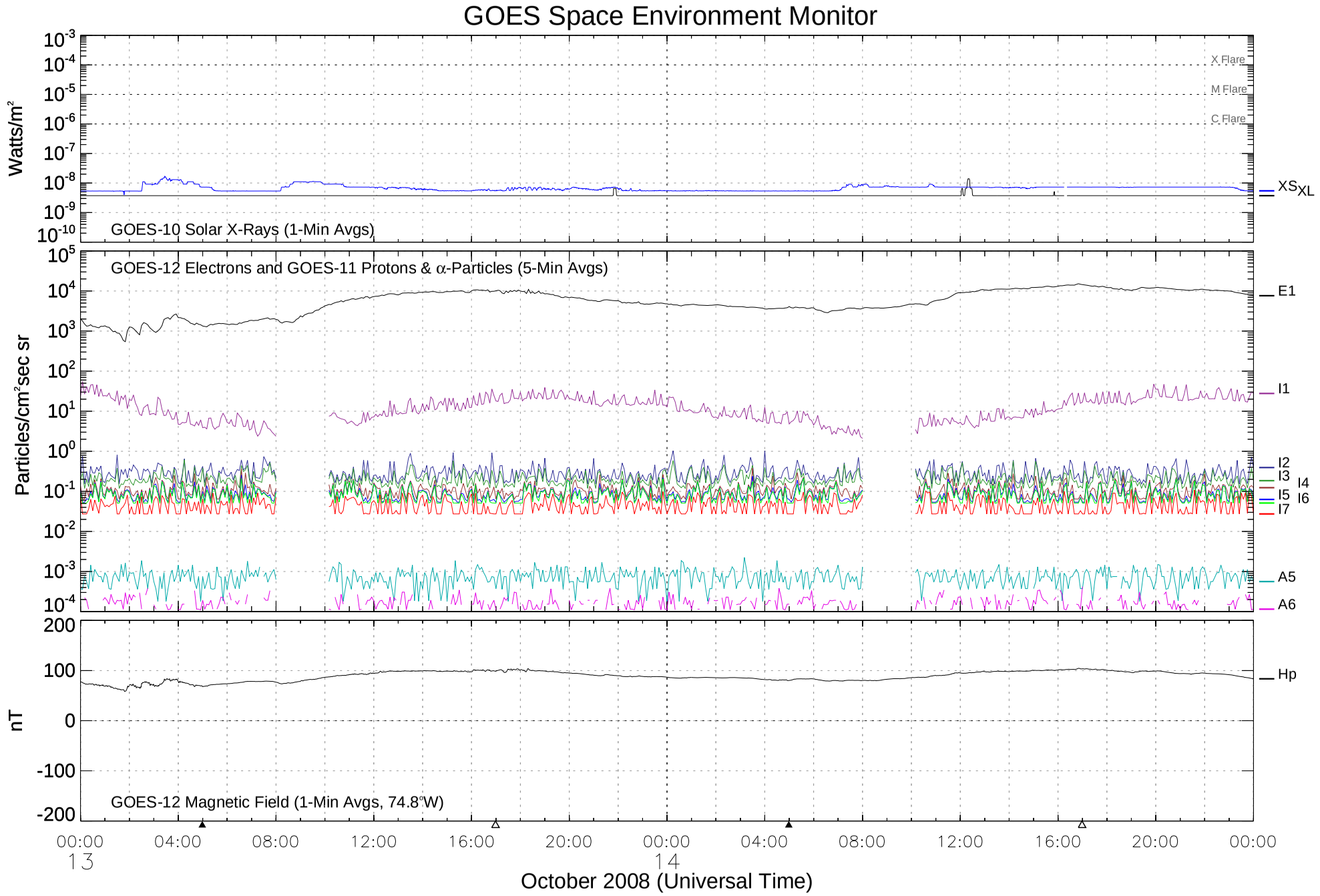
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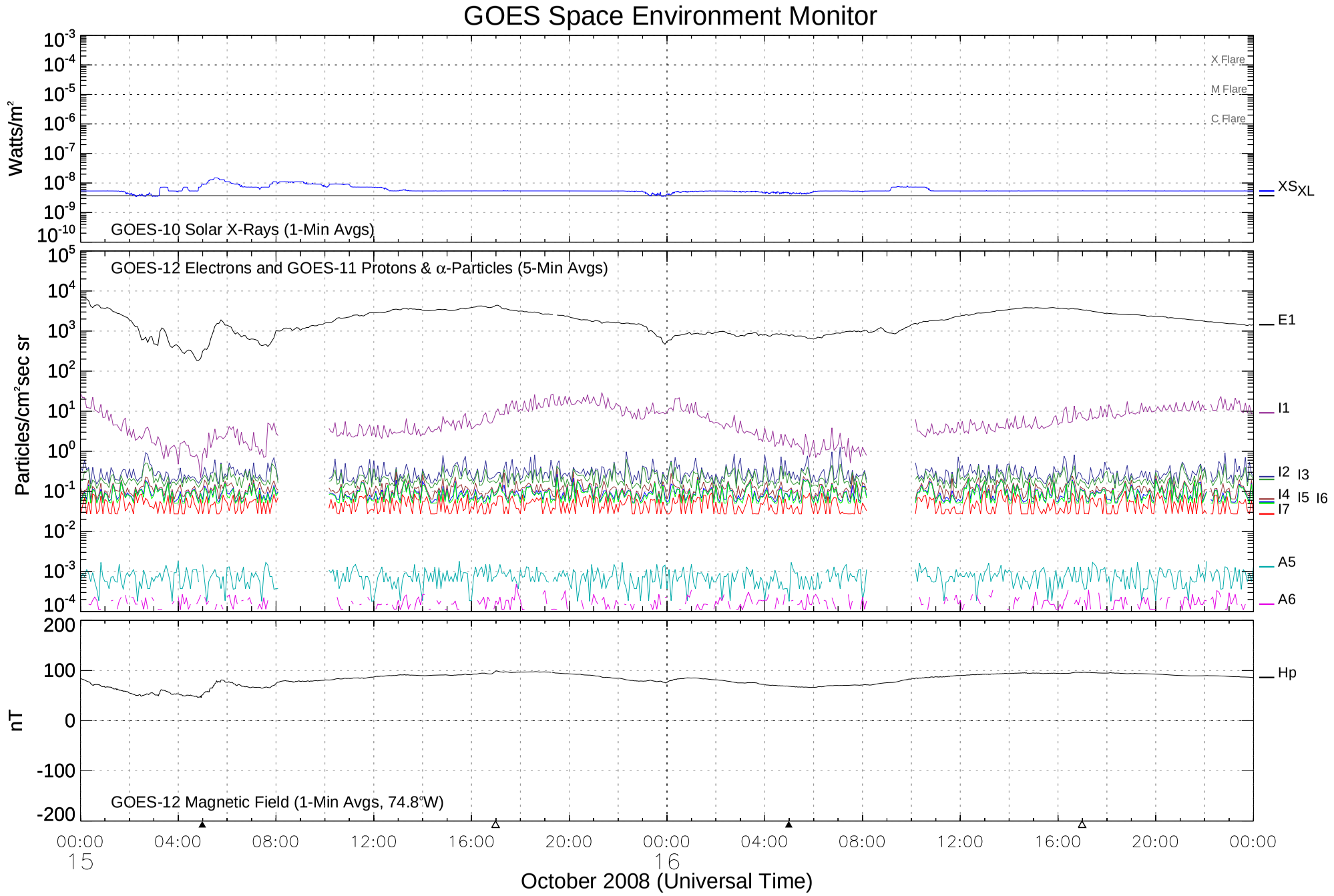
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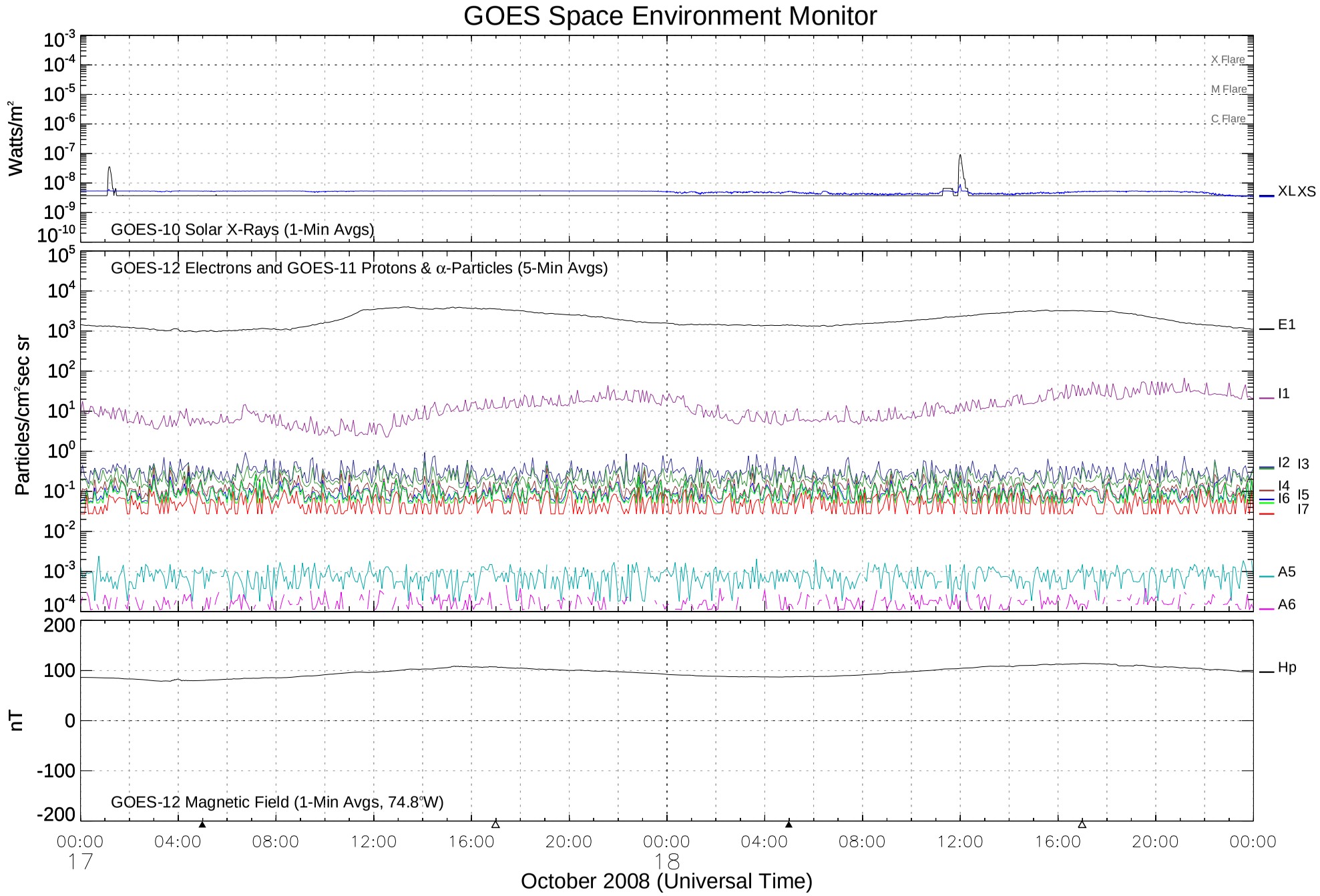
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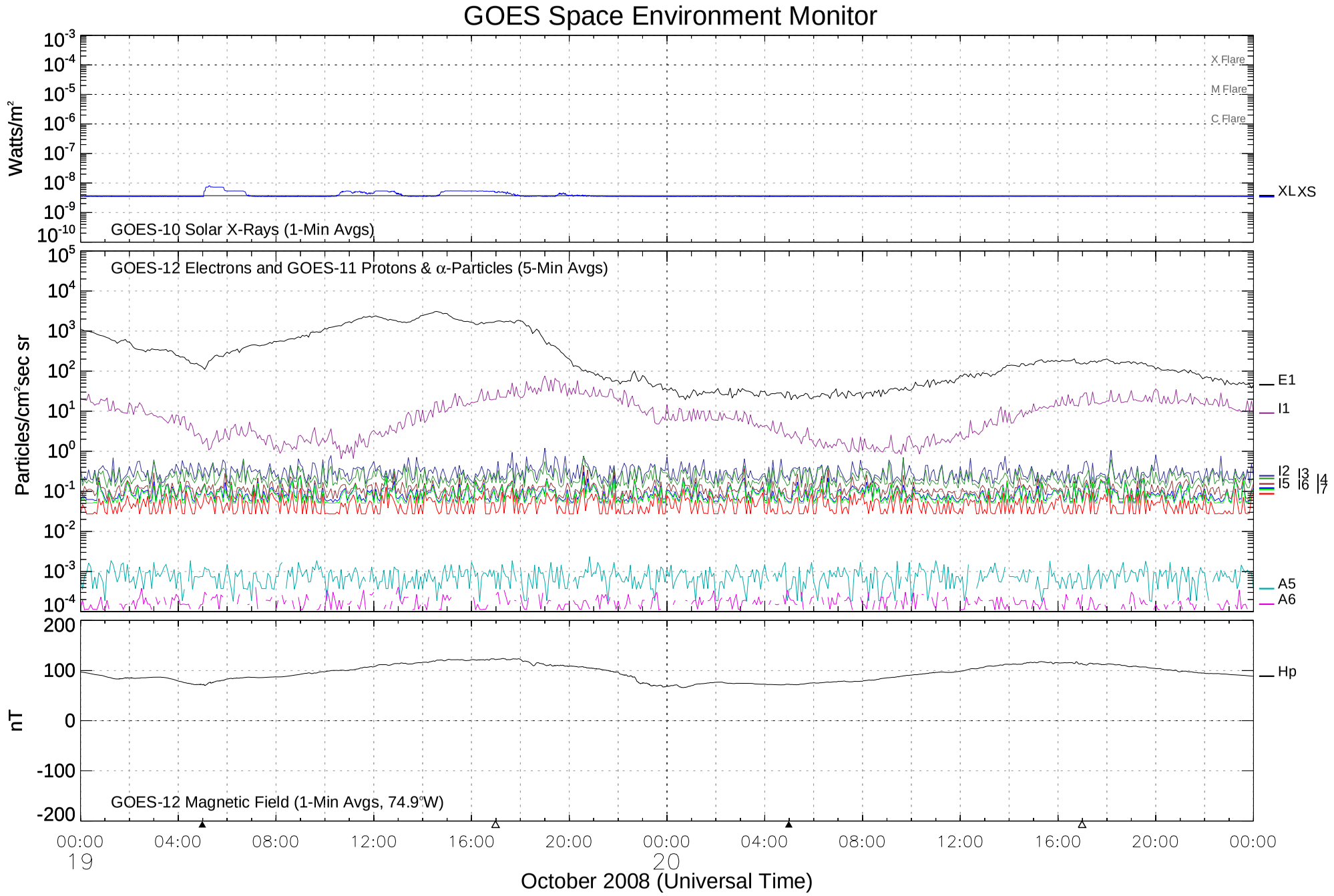
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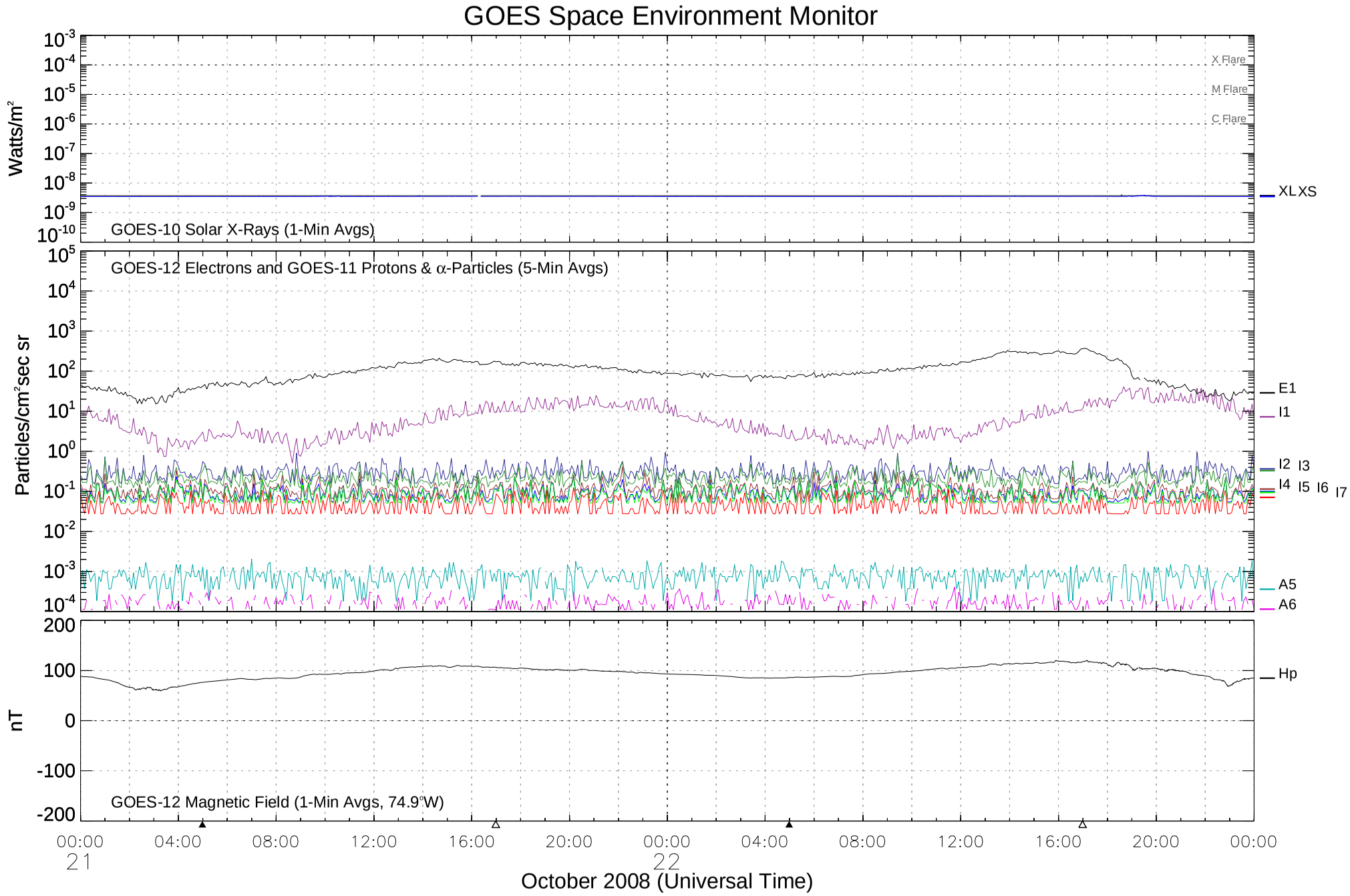
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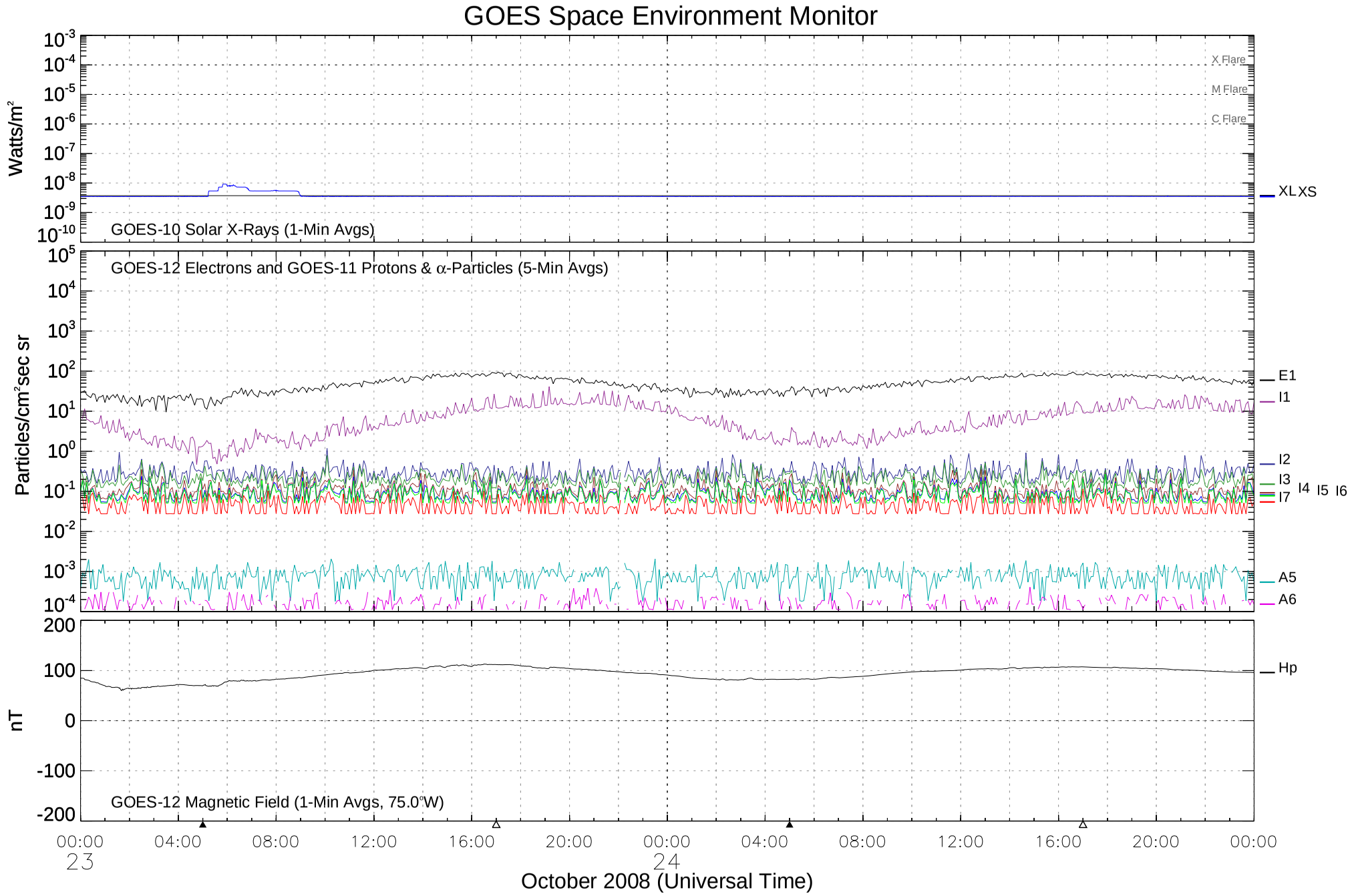
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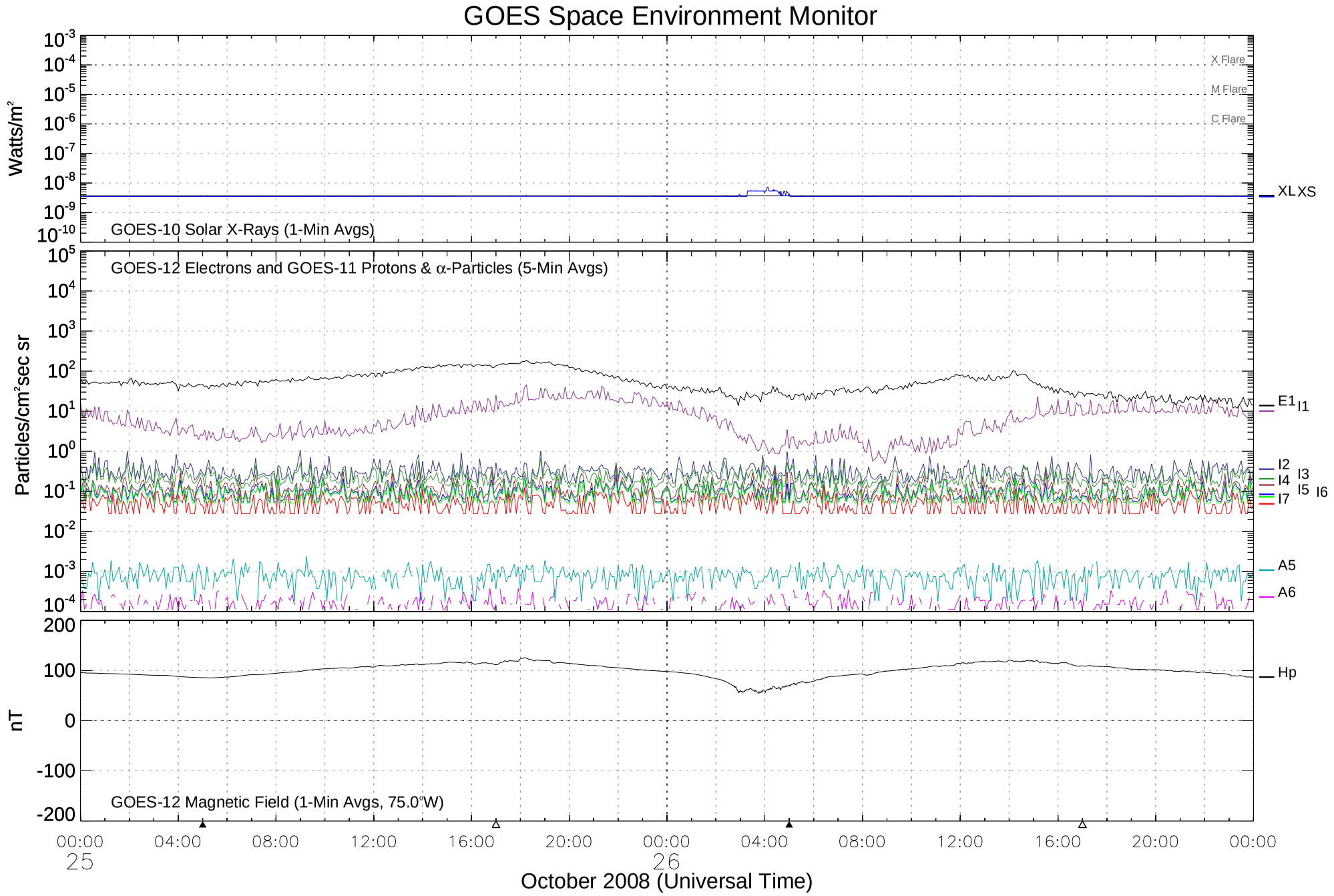
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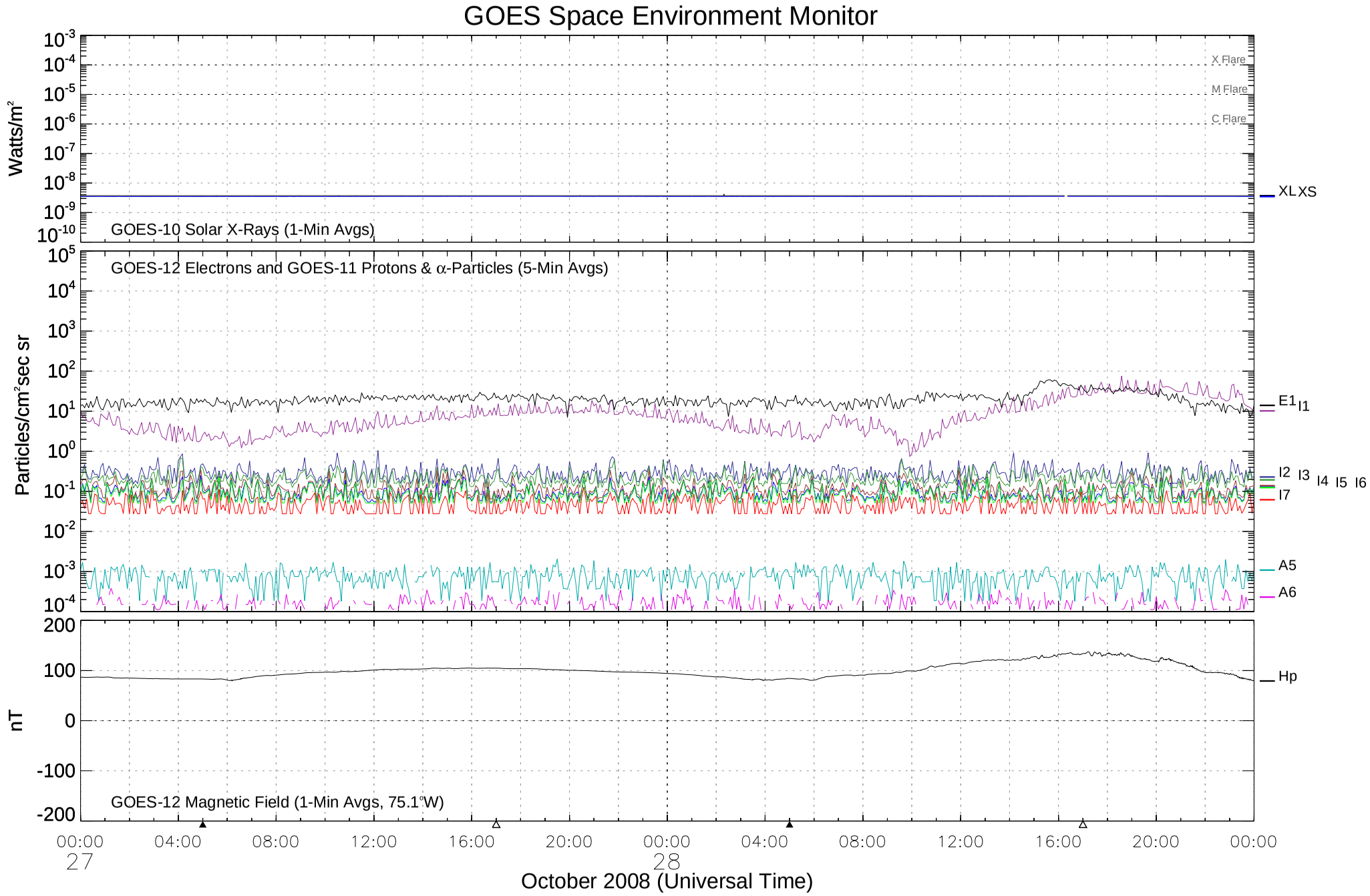
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GOES-10 Solar X-Rays (1-Min Avgs)
Particles/cm²sec sr
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
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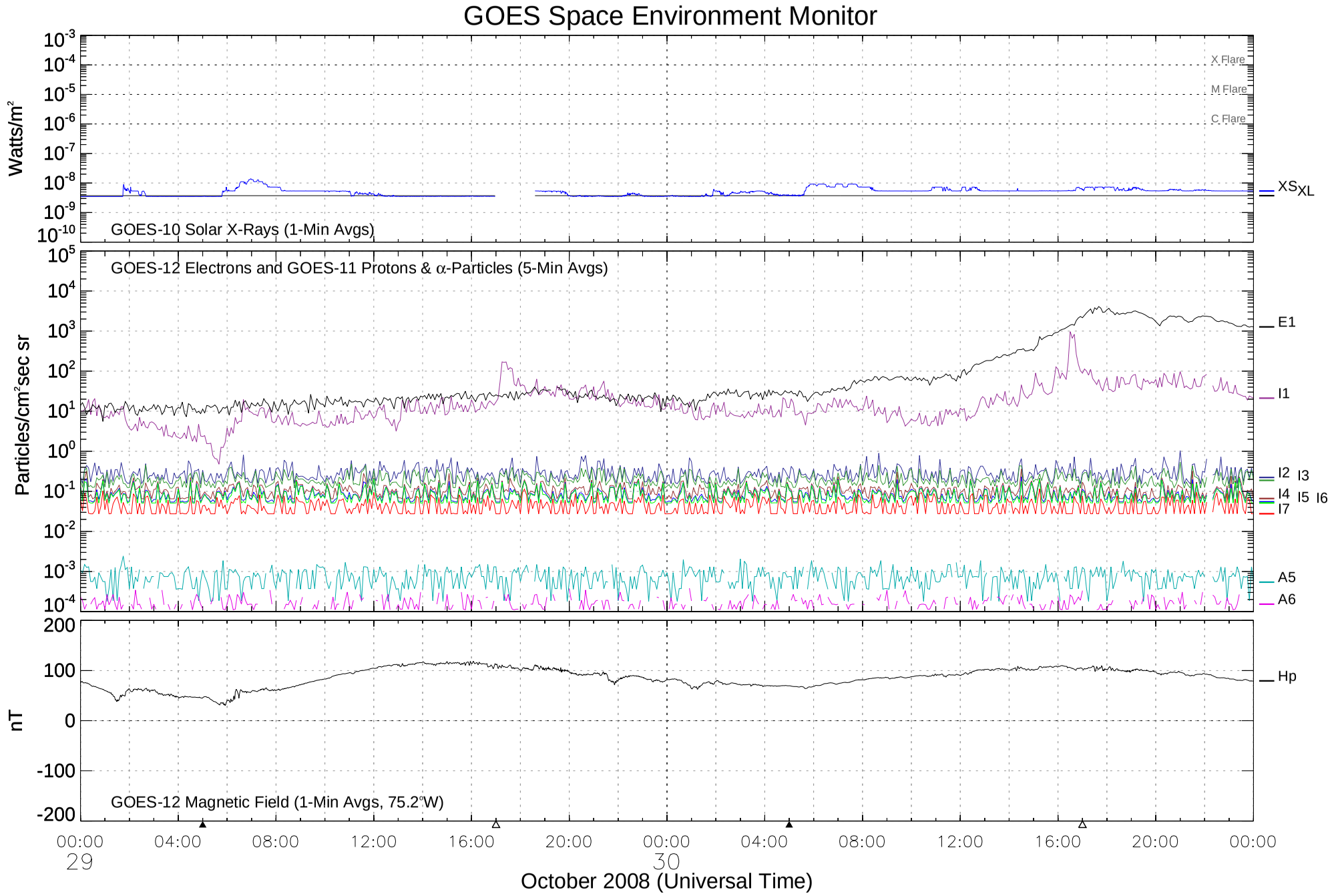
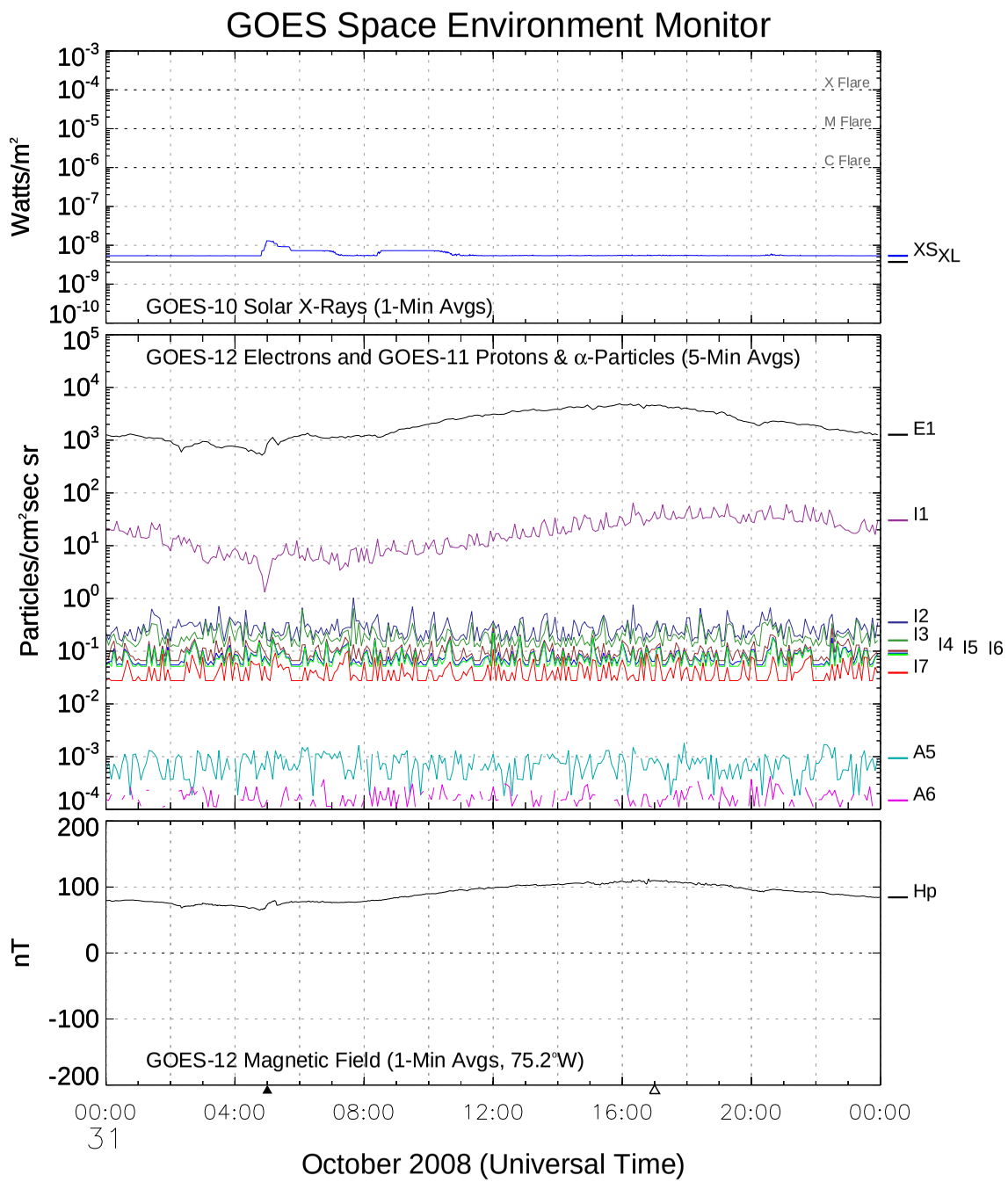
00:00 04:00 08:00 12:00 16:00 20:00 00:00 04:00 08:00 12:00 16:00 20:00 00:00
27
28
October 2008 (Universal Time)


GOES Space Environment Monitor
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, 75.2°W)
00:00
04:00
08:00
12:00
16:00
20:00
00:00
04:00
08:00
12:00
16:00
20:00
00:00
29
30
October 2008 (Universal Time)


GOES Space Environment Monitor
Watts/m²
X Flare
M Flare
C Flare
XS
XL
GOES-10 Solar X-Rays (1-Min Avgs)
Particles/cm²sec sr
GOES-12 Electrons and GOES-11 Protons & α-Particles (5-Min Avgs)
E1
I1
I2
I3
I4
I5
I6
I7
A5
A6
nT
Hp
GOES-12 Magnetic Field (1-Min Avgs, 75.2°W)
00:00
04:00
08:00
12:00
16:00
20:00
00:00
31
October 2008 (Universal Time)

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

OCTOBER 2008

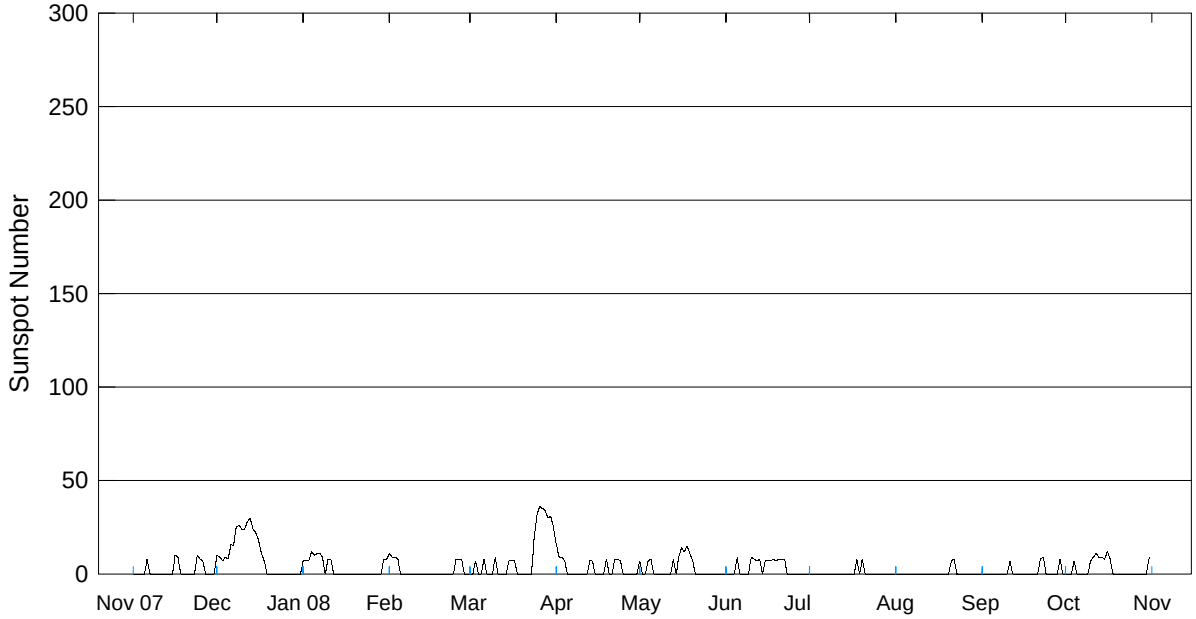
Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
275	01	30	0	66	4				0	0	0	01		SOL: Quiet
									0	0	0	01		MAG: Active
									0	0	0	01		PRO: Quiet
276	02	01	0	66	8				0	0	0	02		SOL: Quiet
									0	0	0	02		MAG: Active
									0	0	0	02		PRO: Quiet
277	03	02	0	66	13				0	0	0	03		SOL: Quiet
									0	0	0	03		MAG: Active
									0	0	0	03		PRO: Quiet
278	04	03	0	67	14				0	0	0	04		SOL: Quiet
									0	0	0	04		MAG: Active
									0	0	0	04		PRO: Quiet
279	05	04	12	67	14	11003	S23	E28	0	0	0	05	Q	SOL: Quiet
									0	0	0	05		MAG: Quiet
									0	0	0	05		PRO: Quiet
280	06	05	0	67	6				0	0	0	06		SOL: Quiet
									0	0	0	06		MAG: Quiet
									0	0	0	06		PRO: Quiet
281	07	06	0	67	4				0	0	0	07		SOL: Quiet
									0	0	0	07		MAG: Quiet
									0	0	0	07		PRO: Quiet
282	08	07	0	67	2				0	0	0	08		SOL: Quiet
									0	0	0	08		MAG: Quiet
									0	0	0	08		PRO: Quiet
283	09	08	0	68	1				0	0	0	09		SOL: Quiet
									0	0	0	09		MAG: Quiet
									0	0	0	09		PRO: Quiet
284	10	09	0	69	0				0	0	0	10		SOL: Quiet
									0	0	0	10		MAG: Quiet
									0	0	0	10		PRO: Quiet
285	11	10	12	69	2	11004	S08	W17	0	0	0	11	Q	SOL: Quiet
									0	0	0	11		MAG: Quiet
									0	0	0	11		PRO: Quiet
286	12	11	16	71	25	11005	N26	E42	0	0	0	12	Q	SOL: Quiet
									0	0	0	12		MAG: Active
									0	0	0	12		PRO: Quiet
287	13	12	16	70	16	11005	N27	E28	0	0	0	13	Q	SOL: Quiet
									0	0	0	13		MAG: Quiet
									0	0	0	13		PRO: Quiet
288	14	13	15	71	10	11005	N26	E13	0	0	0	14	Q	SOL: Quiet
									0	0	0	14		MAG: Quiet
									0	0	0	14		PRO: Quiet
289	15	14	14	70	6	11005	N27	W02	0	0	0	15	Q	SOL: Quiet
									0	0	0	15		MAG: Quiet
									0	0	0	15		PRO: Quiet
290	16	15	13	71	7	11005	N26	W15	0	0	0	16	Q	SOL: Quiet
									0	0	0	16		MAG: Quiet
									0	0	0	16		PRO: Quiet
291	17	16	24	72	5	11005	N26	W29	0	0	0	17	Q	SOL: Quiet
						11006	S27	W63	0	0	0	17	Q	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

OCTOBER 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)
292	18	17	11	70	4	11006	S26	W78	0	0	0	18	Q	SOL: Quiet
									0	0	0	18		MAG: Quiet
									0	0	0	18		PRO: Quiet
293	19	18	0	69	1				0	0	0	19		SOL: Quiet
									0	0	0	19		MAG: Quiet
									0	0	0	19		PRO: Quiet
294	20	19	0	70	7				0	0	0	20		SOL: Quiet
									0	0	0	20		MAG: Quiet
									0	0	0	20		PRO: Quiet
295	21	20	0	69	5				0	0	0	21		SOL: Quiet
									0	0	0	21		MAG: Quiet
									0	0	0	21		PRO: Quiet
296	22	21	0	69	4				0	0	0	22		SOL: Quiet
									0	0	0	22		MAG: Quiet
									0	0	0	22		PRO: Quiet
297	23	22	0	68	6				0	0	0	23		SOL: Quiet
									0	0	0	23		MAG: Quiet
									0	0	0	23		PRO: Quiet
298	24	23	0	67	4				0	0	0	24		SOL: Quiet
									0	0	0	24		MAG: Quiet
									0	0	0	24		PRO: Quiet
299	25	24	0	68	1				0	0	0	25		SOL: Quiet
									0	0	0	25		MAG: Quiet
									0	0	0	25		PRO: Quiet
300	26	25	0	68	1				0	0	0	26		SOL: Quiet
									0	0	0	26		MAG: Quiet
									0	0	0	26		PRO: Quiet
301	27	26	0	67	3				0	0	0	27		SOL: Quiet
									0	0	0	27		MAG: Quiet
									0	0	0	27		PRO: Quiet
302	28	27	0	67	1				0	0	0	28		SOL: Quiet
									0	0	0	28		MAG: Quiet
									0	0	0	28		PRO: Quiet
303	29	28	0	67	5				0	0	0	29		SOL: Quiet
									0	0	0	29		MAG: Quiet
									0	0	0	29		PRO: Quiet
304	30	29	0	67	13				0	0	0	30		SOL: Quiet
									0	0	0	30		MAG: Active
									0	0	0	30		PRO: Quiet
305	31	30	13	67	13	11007	N35	E15	0	0	0	31	Q	SOL: Quiet
									0	0	0	31		MAG: Quiet
									0	0	0	31		PRO: Quiet

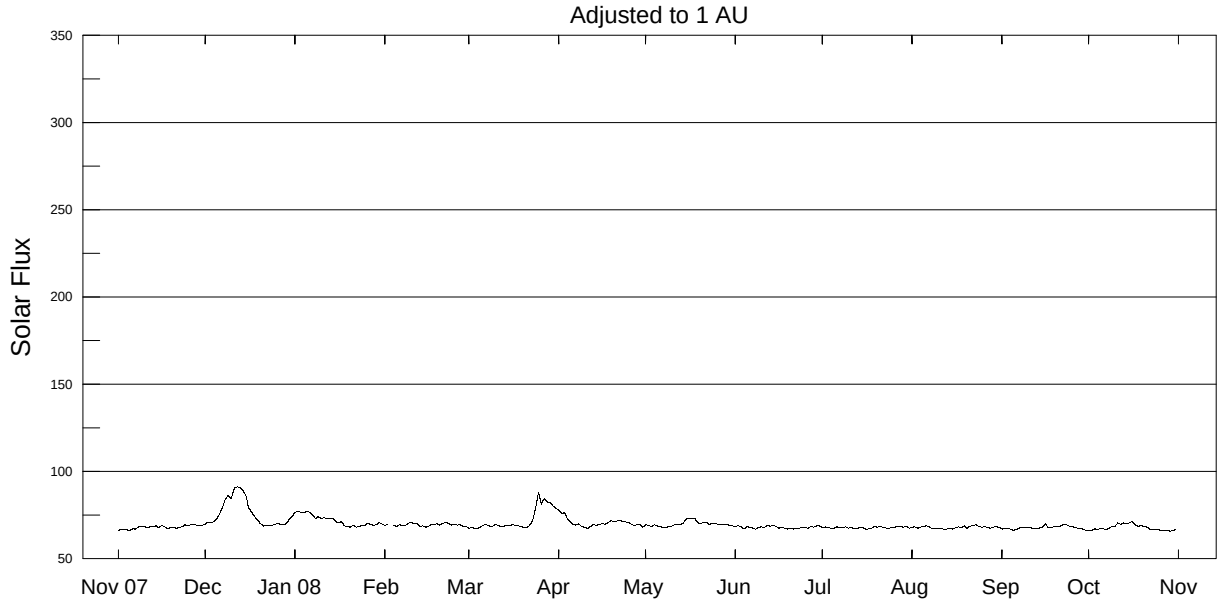
International Relative Sunspot Numbers
Nov 2007 - Oct 2008



Day	Nov 07	Dec	Jan 08	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*	Oct*
1	0	10	7	11	0	16	7	0	0	0	0	0
2	0	9	7	9	0	9	0	0	0	0	0	0
3	0	7	7	9	7	9	0	0	0	0	0	0
4	0	9	10	8	0	7	7	0	0	0	0	7
5	0	8	8	0	0	0	8	9	0	0	0	0
6	8	16	11	0	8	0	0	0	0	0	0	0
7	0	15	11	0	0	0	0	0	0	0	0	0
8	0	25	9	0	0	0	0	0	0	0	0	0
9	0	26	0	0	0	0	0	0	0	0	0	0
10	0	24	8	0	9	0	0	9	0	0	0	7
11	0	24	8	0	0	0	0	8	0	0	7	9
12	0	28	0	0	0	0	0	0	0	0	0	11
13	0	30	0	0	0	7	8	8	0	0	0	9
14	0	24	0	0	0	7	0	7	0	0	0	9
15	0	22	0	0	7	0	9	7	0	0	0	8
16	10	18	0	0	7	0	14	7	0	0	0	12
17	9	11	0	0	7	0	12	7	0	0	0	8
18	0	7	0	0	0	0	15	8	8	0	0	0
19	0	0	0	0	0	8	11	7	0	0	0	0
20	0	0	0	0	0	0	7	8	8	0	0	0
21	0	0	0	0	0	0	0	8	0	7	0	0
22	0	0	0	0	0	8	0	8	0	8	8	0
23	0	0	0	0	0	8	0	0	0	0	9	0
24	10	0	0	0	19	7	0	0	0	0	0	0
25	8	0	0	8	32	0	0	0	0	0	0	0
26	7	0	0	8	36	0	0	0	0	0	0	0
27	0	0	0	8	35	0	0	0	0	0	0	0
28	0	0	0	0	34	0	0	0	0	0	0	0
29	0	0	0	0	30	0	0	0	0	0	8	0
30	0	0	8		31	0	0	0	0	0	0	0
31		0	8		25		0		0	0		9
Mean	1.7	10.1	3.3	2.1	9.3	2.9	3.2	3.4	0.5	0.5	1.1	2.9

* = Provisional.

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



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

* = No data available.

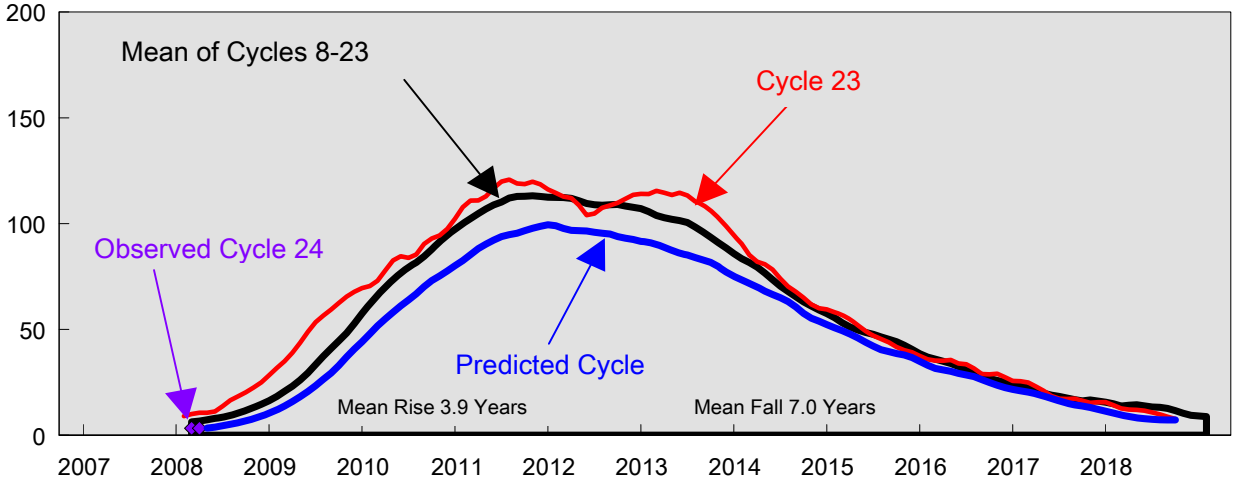
DAILY SOLAR INDICES
OCTOBER 2008

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Penticton (2800)	SGMR (15400)	SGMR (8800)	SGMR (4995)	Penticton (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
						-----Solar Flux Adjusted to 1 Astronomical Unit--------								
1	275	17	0	0	65.8	442	229	120	65.9	64	52	36	21	11
2	276	18	0	0	66.3	---	---	---	66.4	---	---	---	---	---
3	277	19	0	0	67.2	450	228	121	67.2	63	53	36	21	10
4	278	20	7	2	66.6	453	226	125	66.6	63	53	36	21	9
5	279	21	0	0	67.4	452	238	120	67.4	62	53	36	21	11
6	280	22	0	0	67.2	451	228	125	67.2	62	54	37	21	10
7	281	23	0	0	66.7	450	223	124	66.6	62	54	36	19	11
8	282	24	0	0	67.7	---	---	---	67.5	---	---	---	---	---
9	283	25	0	0	68.7	451	227	123	68.5	62	56	37	21	10
10	284	26	7	1	68.9	453	227	123	68.7	61	54	39	21	10
11	285	27	9	8	70.8	452	227	125	70.5	63	57	39	23	15
12	286	1	11	11	70.1	451	225	125	69.7	65	58	40	22	10
13	287	2	9	10	70.9	448	221	125	70.5	64	56	40	22	11
14	288	3	9	9	70.4	452	231	126	70.0	64	55	40	22	10
15	289	4	8	10	70.9	453	229	125	70.5	66	59	39	22	11
16	290	5	12	9	71.9	---	233	127	71.4	65	59	39	21	11
17	291	6	8	4	70.0	457	231	125	69.5	65	57	39	21	10
18	292	7	0	0	69.2	455	216	129	68.6	69	57	39	21	10
19	293	8	0	0	69.6	459	209	128	69.0	70	57	40	22	11
20	294	9	0	0	69.2	454	204	127	68.6	64	55	39	21	10
21	295	10	0	1	68.8	452	236	125	68.2	67	56	39	21	10
22	296	11	0	0	67.7	369	195	121	67.0	70	55	38	20	9
23	297	12	0	0	67.2	469	224	142	66.5	61	54	38	21	11
24	298	13	0	0	67.5	466	210	125	66.7	62	56	38	21	11
25	299	14	0	0	67.5	452	209	128	66.7	65	53	38	21	10
26	300	15	0	0	66.9	459	204	121	66.0	58	55	37	21	11
27	301	16	0	0	67.0	456	191	121	66.1	60	55	36	21	10
28	302	17	0	0	67.1	376	195	122	66.2	61	52	37	19	9
29	303	18	0	0	66.7	457	212	126	65.8	63	55	38	21	10
30	304	19	0	0	66.8	461	206	126	65.9	63	55	38	22	10
31	305	20	9	8	68.1	460	204	125	67.1	63	54	38	21	10
MEAN			2.9	2.4	68.3	448	218	125	67.8	63	55	38	21	10

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

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	4	5	5	6	7	8	9	5
					(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(3)
2009	11	12	14	16	18	21	23	26	29	33	37	41	23
	(10)	(12)	(14)	(16)	(19)	(21)	(23)	(26)	(29)	(33)	(36)	(39)	(23)

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

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

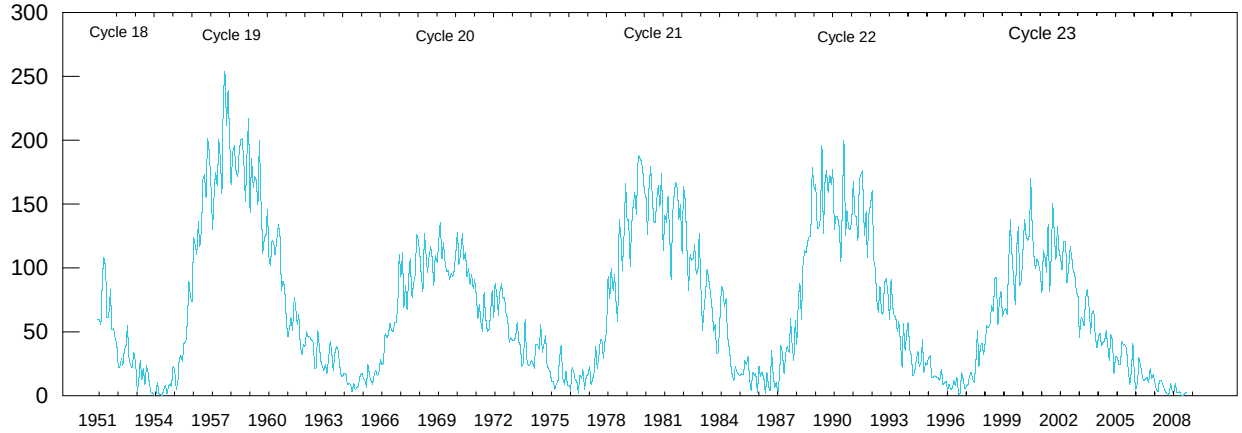
\+ April 2000 marks Cycle 23 maximum. ## - Preliminary Cycle 24 Minumum

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 April 2009 prediction. There exists a 90% chance that in Aprl 2009, the actual smoothed sunspot will fall somewhere between 0 and 32.

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 - Oct 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			2.9	

Values are preliminary after Mar 08. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

Hà SOLAR FLARES
OCTOBER 2008

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

NO REPORTS

"Remarks"

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

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

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

OCTOBER 2008

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

No Reports

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

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

IMPORTANT NOTE: The xray sensor on GOES 12 was turned off on April 12, 2007, at 2250UT. The GOES SXI instrument is also inoperative. GOES 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

OCTOBER 2008

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

No Reports

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

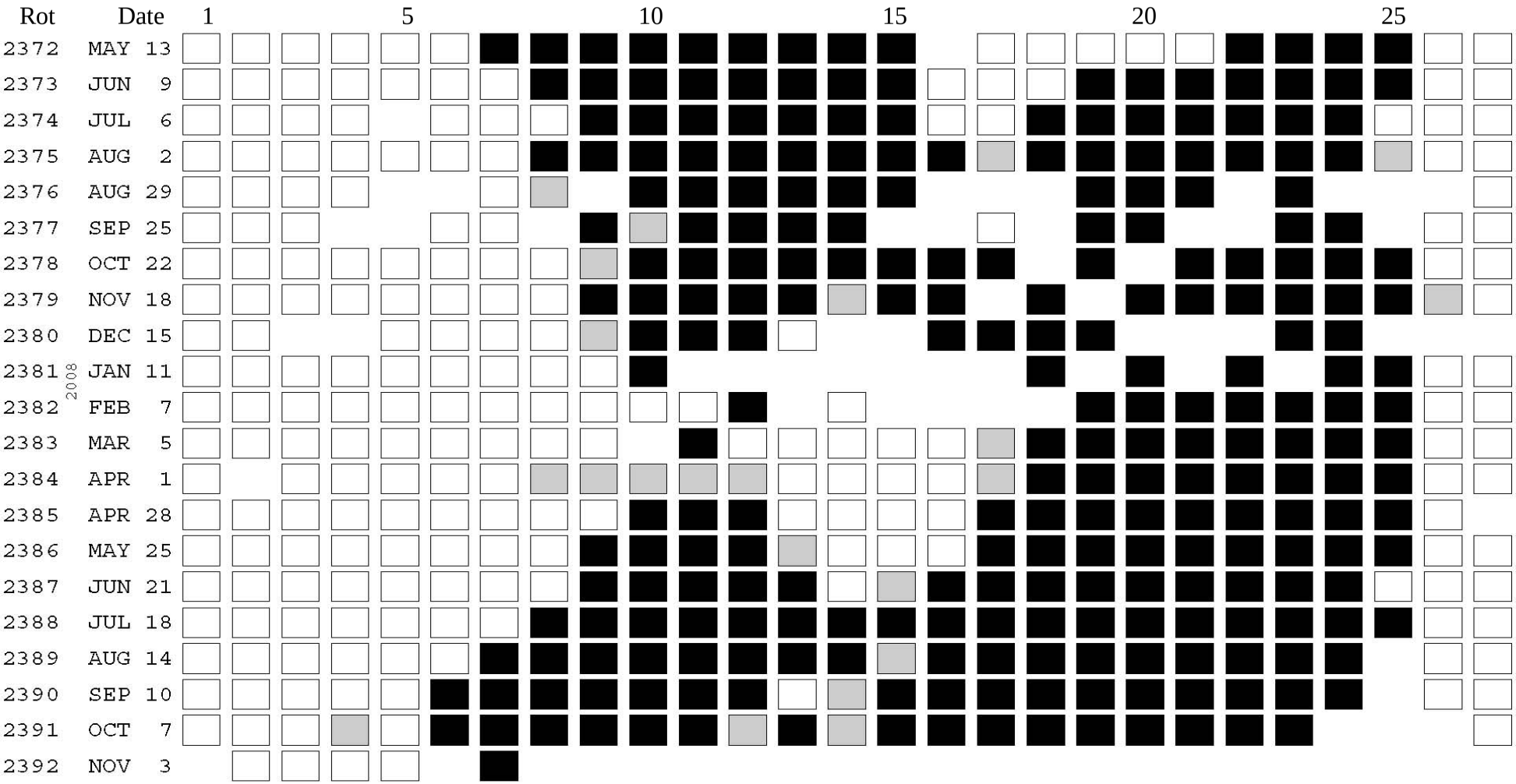
Explanation of Type Code:

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

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

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

STANFORD MEAN SOLAR MAGNETIC FIELD



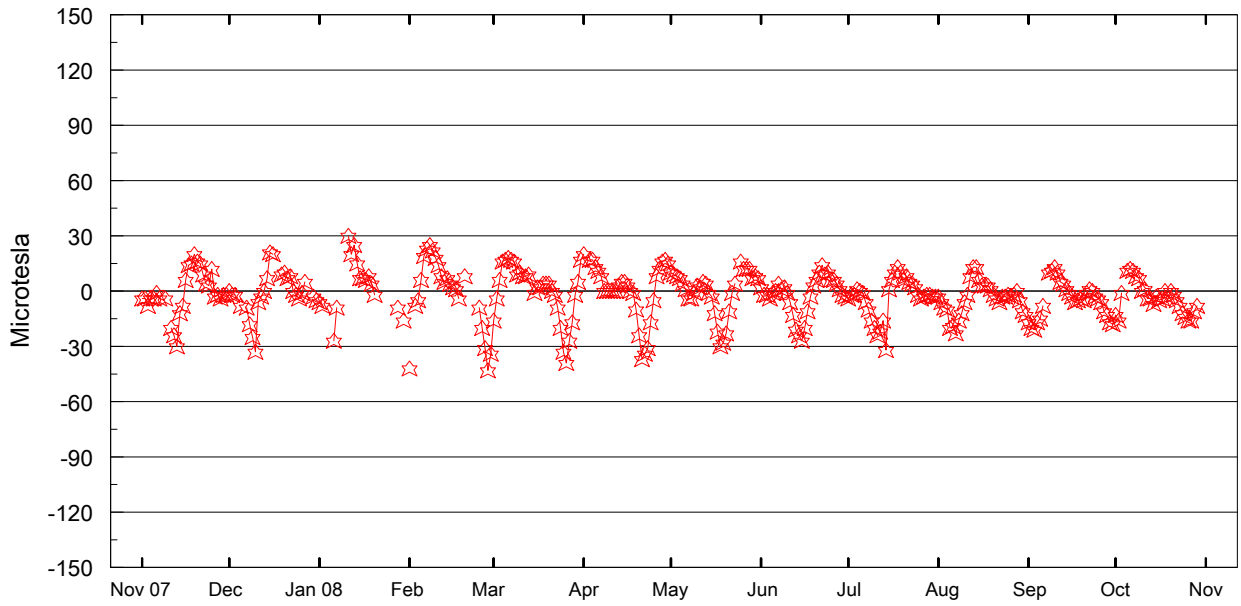
Mean Solar Magnetic Field Polarity:

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

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

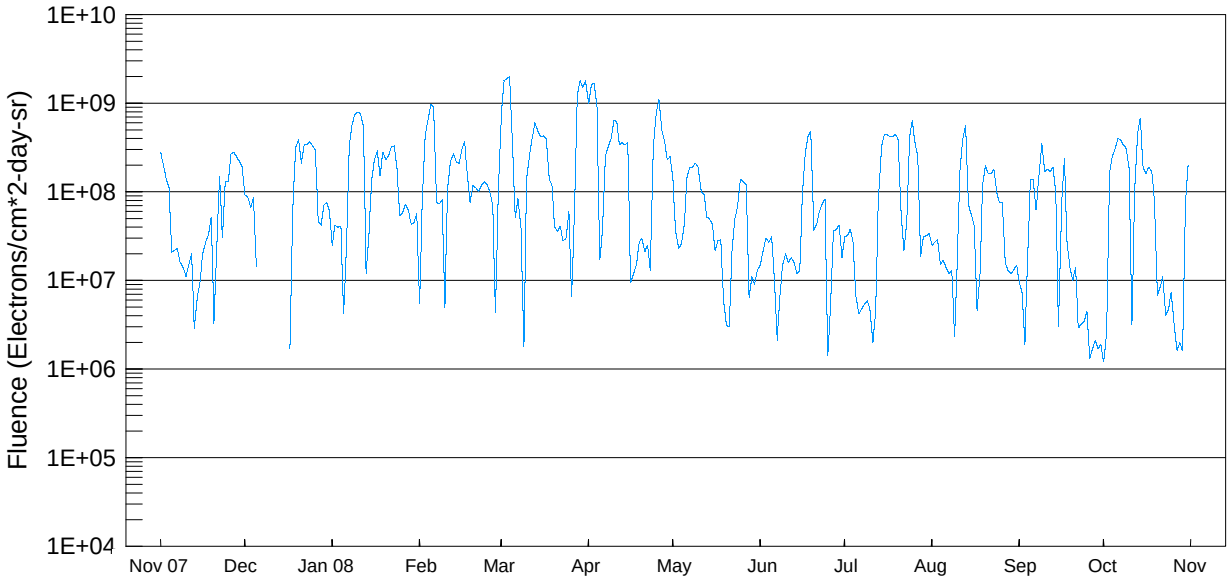
Observations are taken at 2000 UT. Rotation numbers given are the Bartels series, but the dates are not; these dates are five days earlier, to mark times of occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

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



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

GOES Daily Electron Fluence
Nov 2007 - Oct 2008



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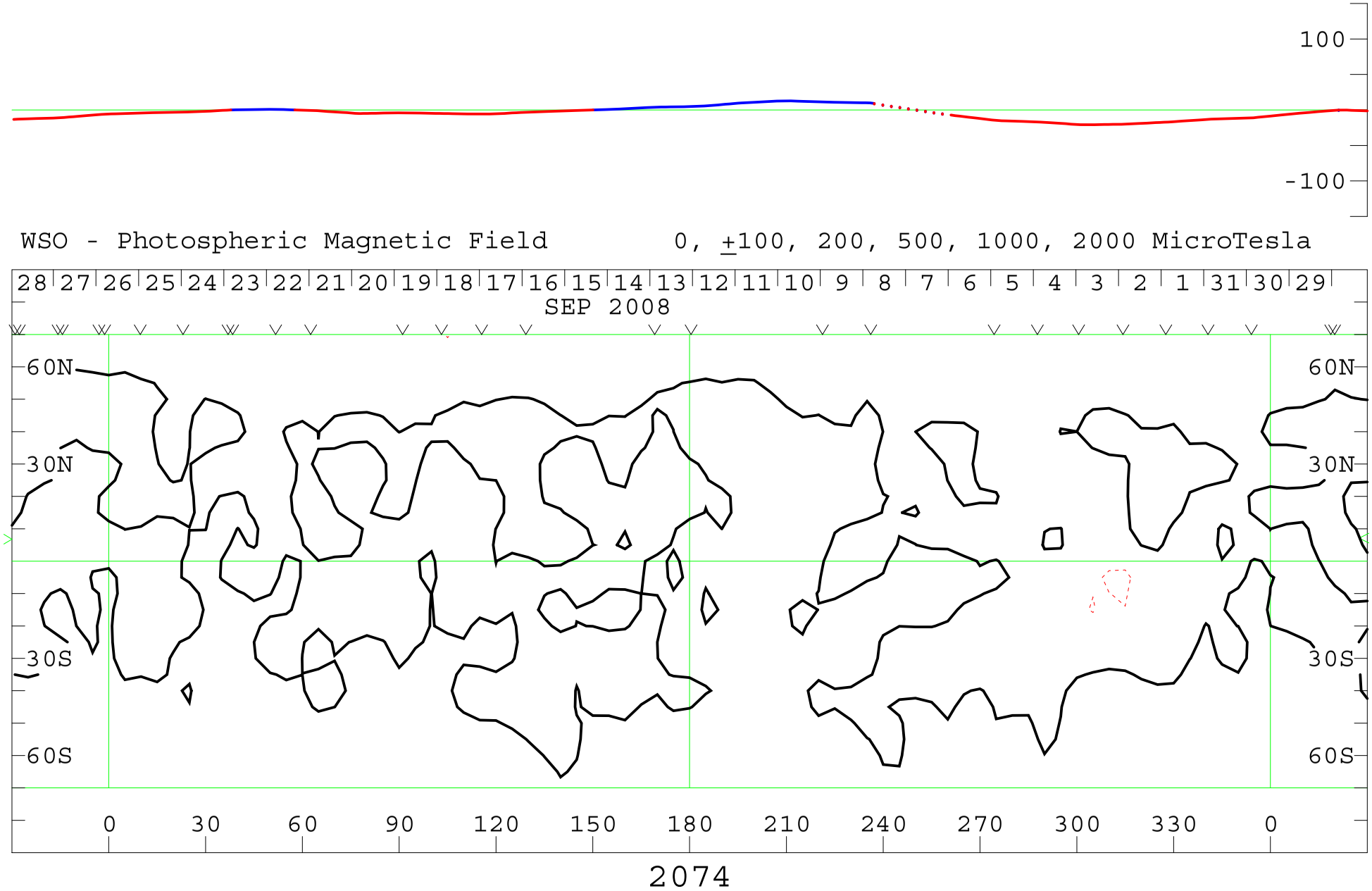
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2074

(30 Aug 2008 to 26 Sep 2008)

Wilcox Solar Observatory Mean Field

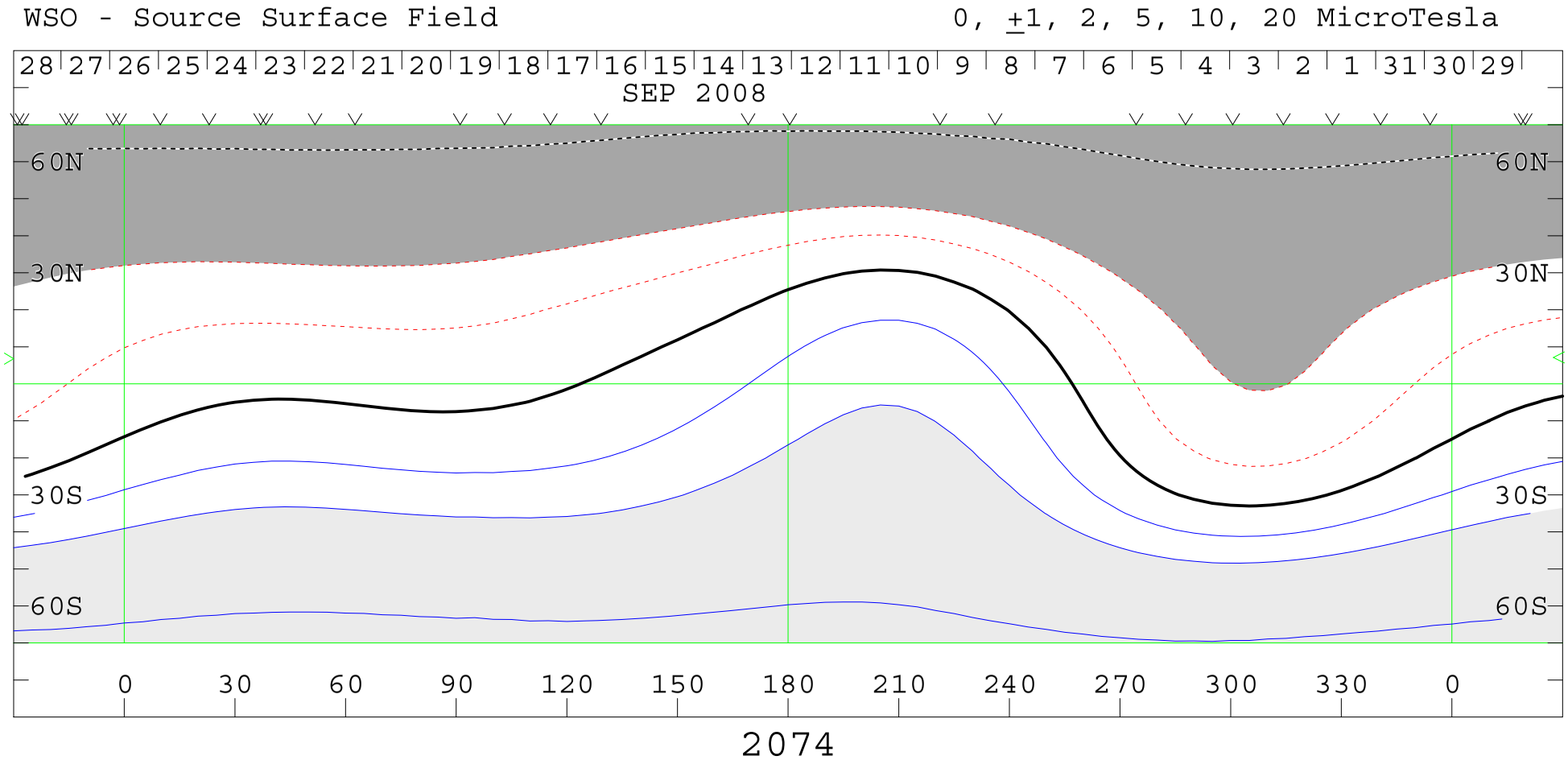


S O L A R M A G N E T I C F I E L D S Y N O P T I C C H A R T

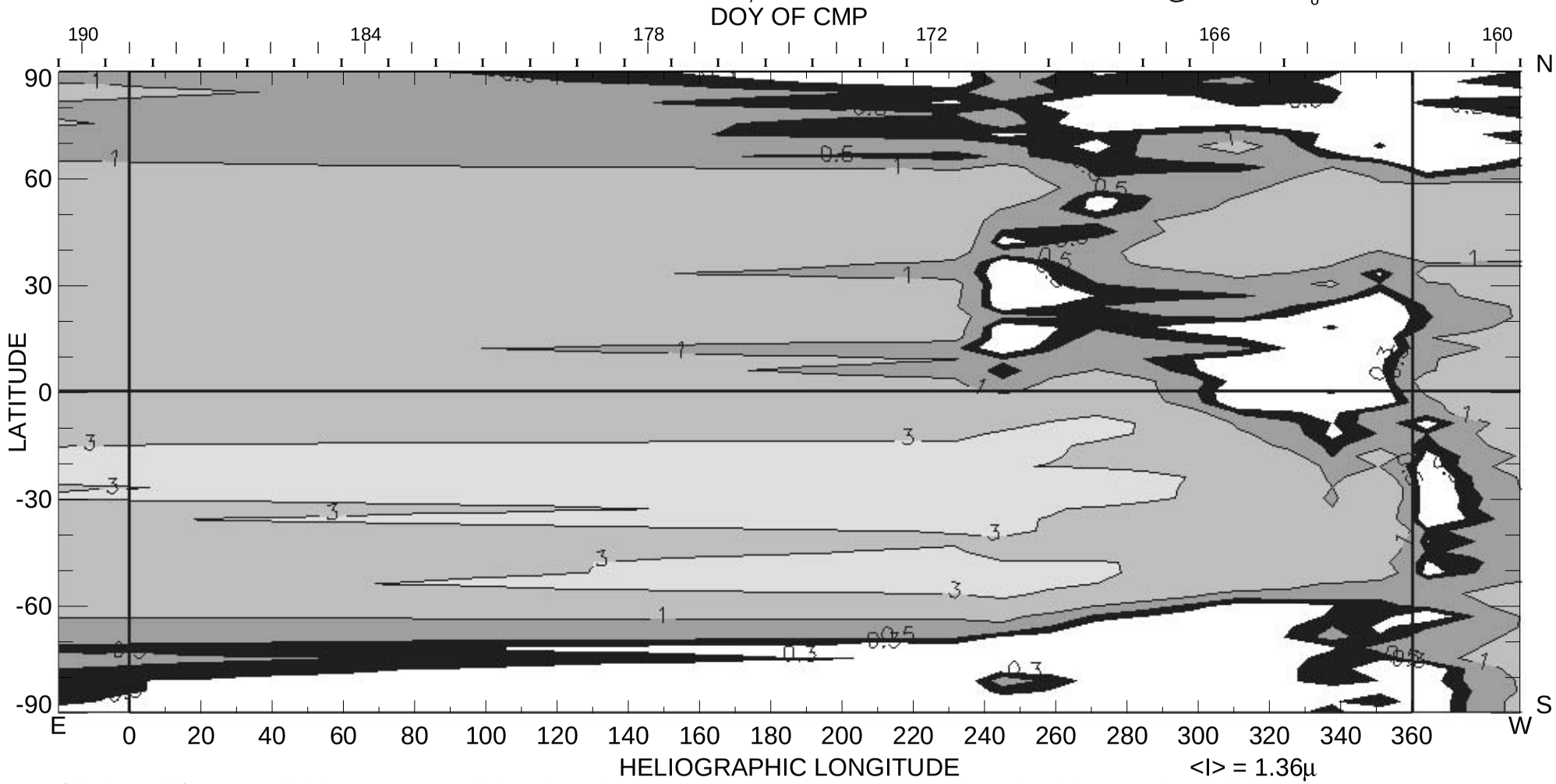
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 2074

(30 Aug 2008 to 26 Sep 2008)



CARRINGTON ROTATION NUMBER 2071 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15R_o

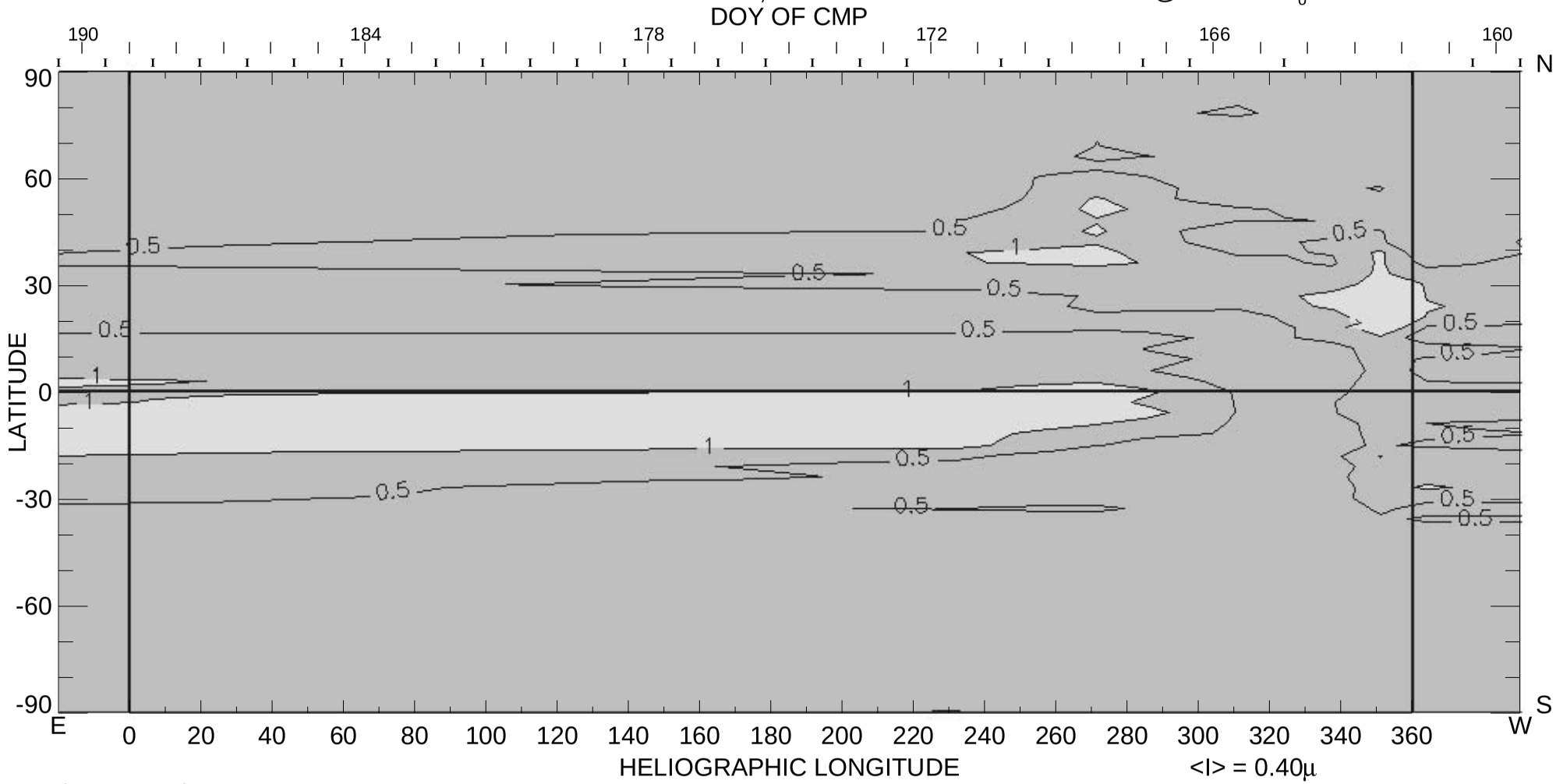


(30-Sep-08) 2008 E+W LIMB CONTOURS: 0.3, 0.5, 1, 3, 6, 50, 60, 80, 120, 140, 160 MILLIONTHS OF I_o

CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK

tex Tue Sep 30 09:41:20 2008

CARRINGTON ROTATION NUMBER 2071 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15R_o

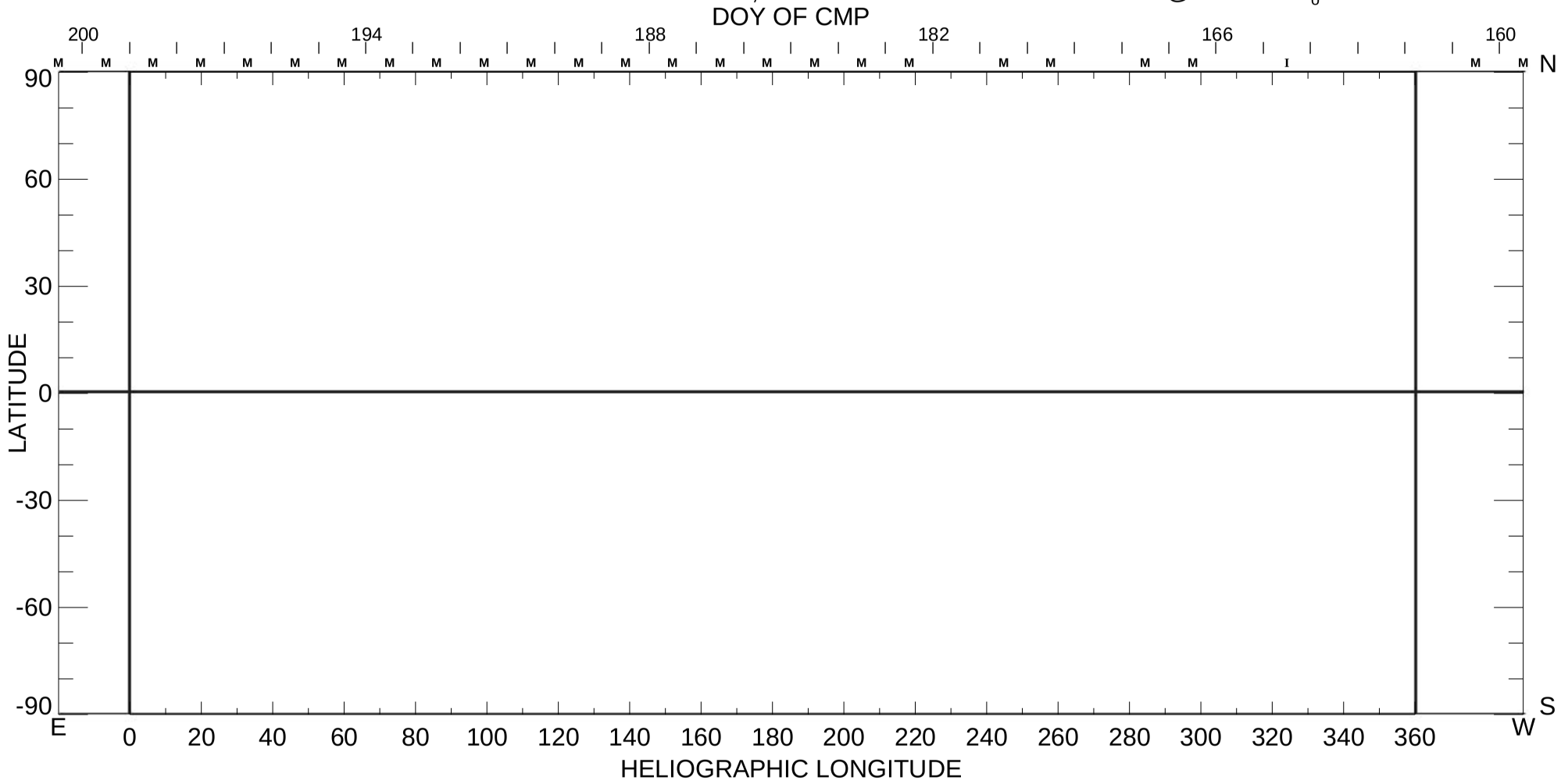


<I> = 0.40μ

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

tex Tue Sep 30 09:41:28 2008

CARRINGTON ROTATION NUMBER 2071 ; NSO/SACRAMENTO PEAK CA XV @ R = 1.15R_o



(30-Sep-08) 2008 E+W LIMB CONTOURS: 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF I_o

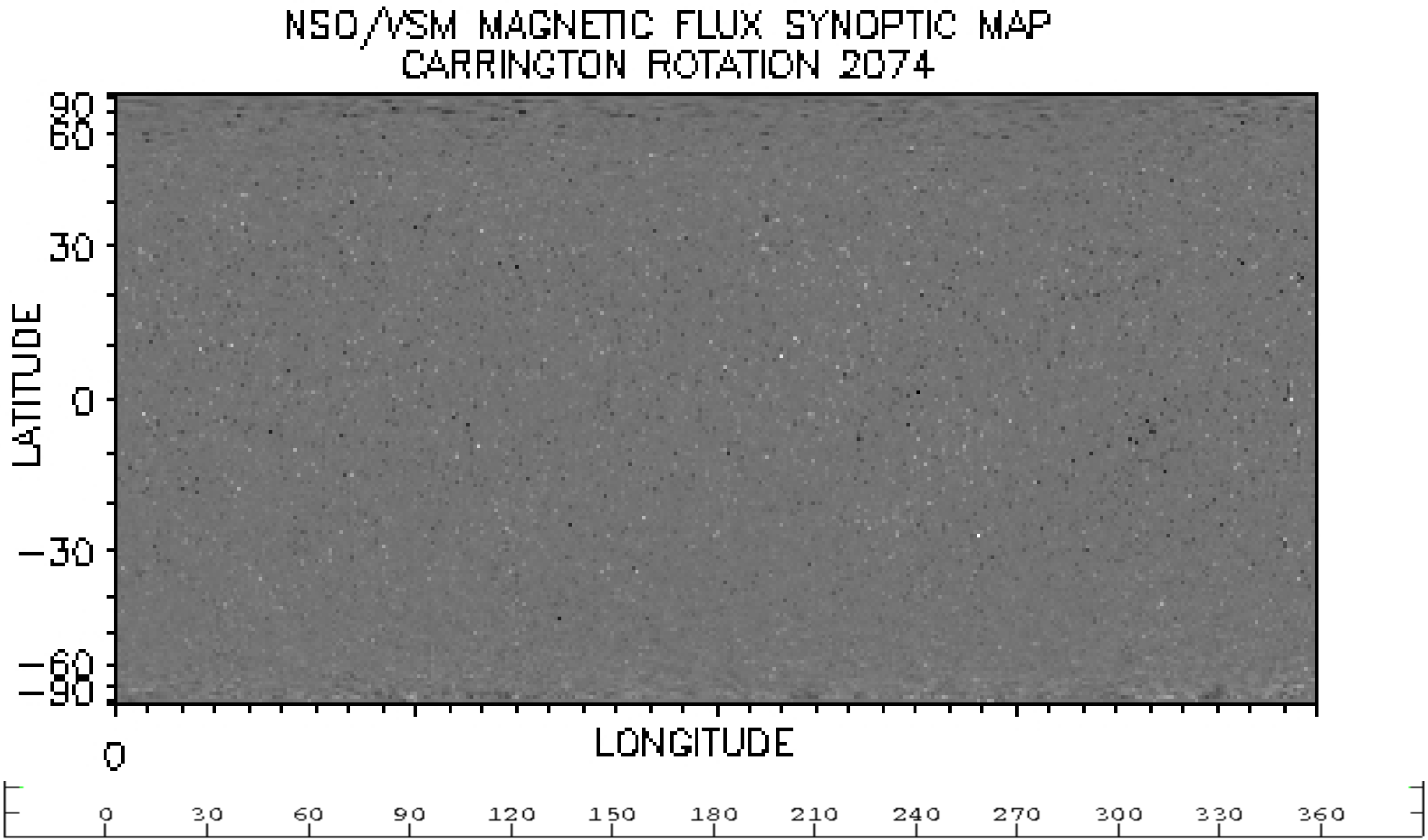
tex Tue Sep 30 09:54:55 2008

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 2074

(30 Aug 2008 – 26 Sep 2008)

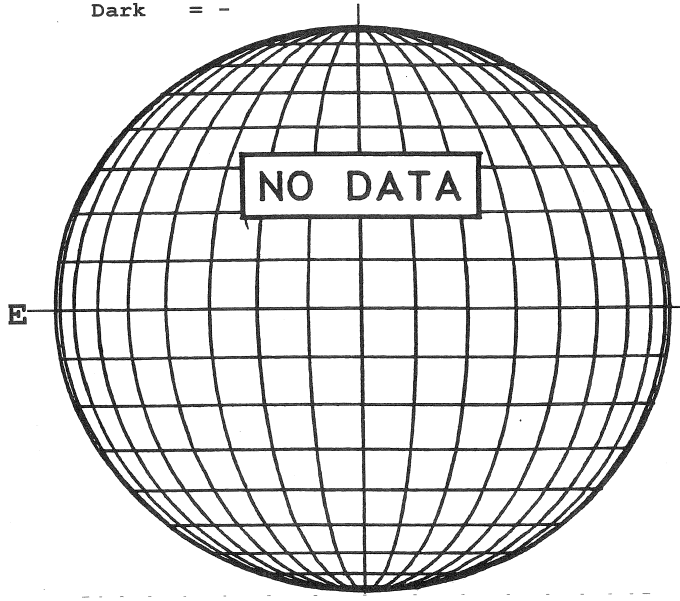
National Solar Observatory/Kitt Peak



Heliographic Longitude

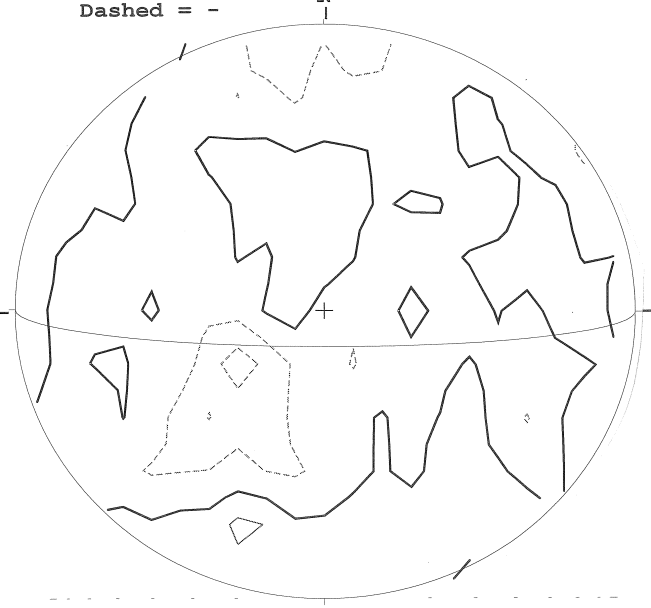
September 01, 2008 (P= 21.14, Bo= 7.20, Lo= 339.27)

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

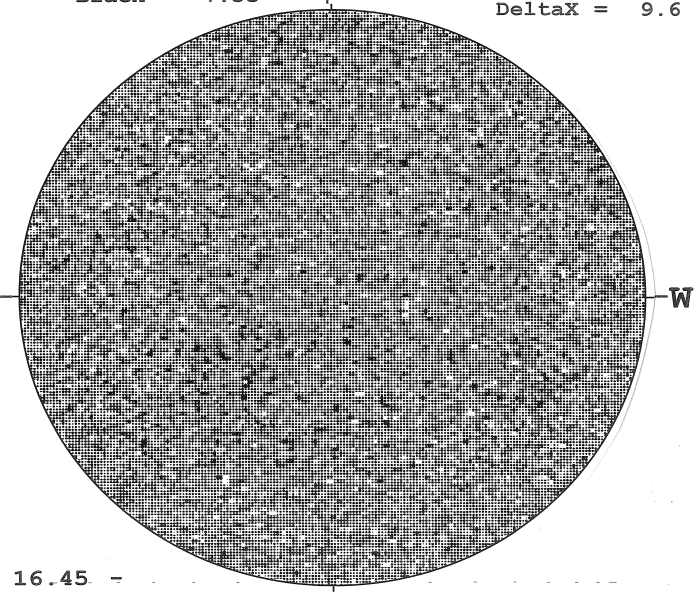


2122 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

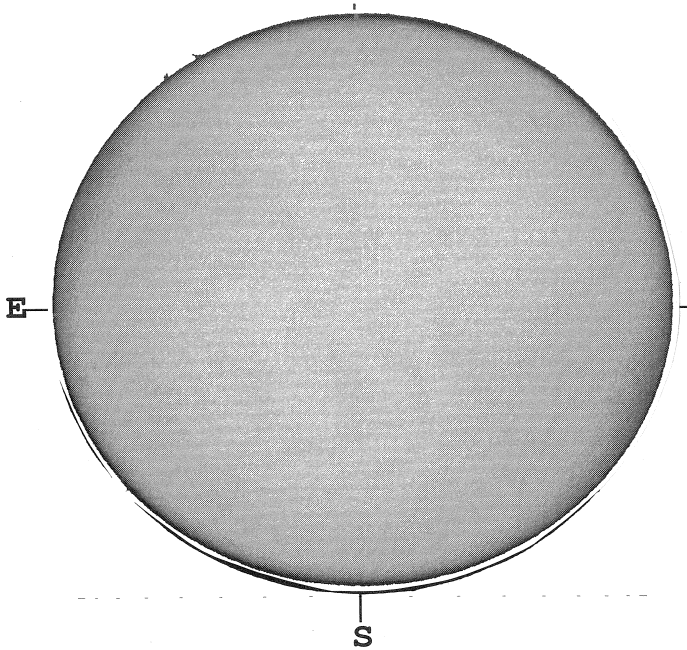


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



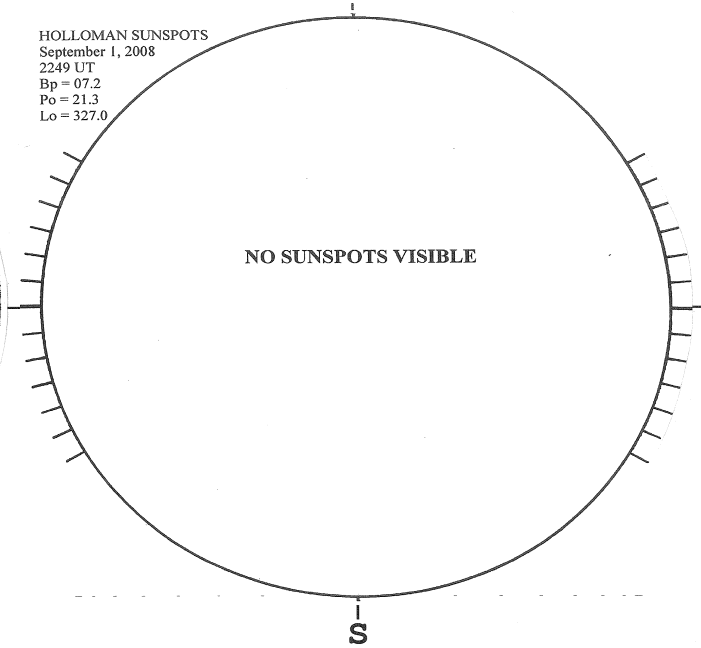
16.45 -
17.39 UT

MEUDON H-ALPHA



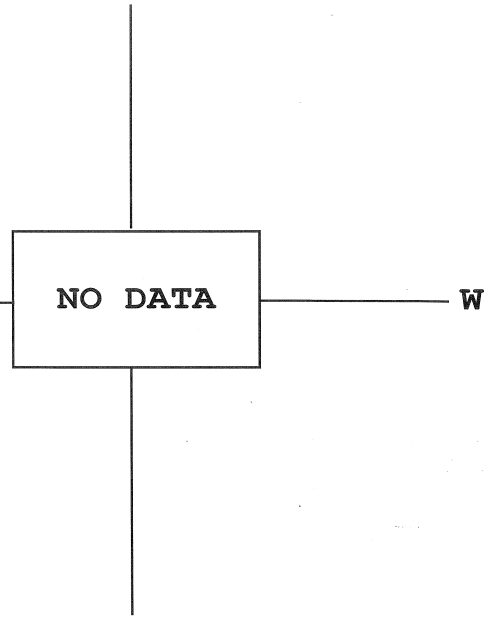
1541 UT

HOLLOMAN SUNSPOTS



2249 UT

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

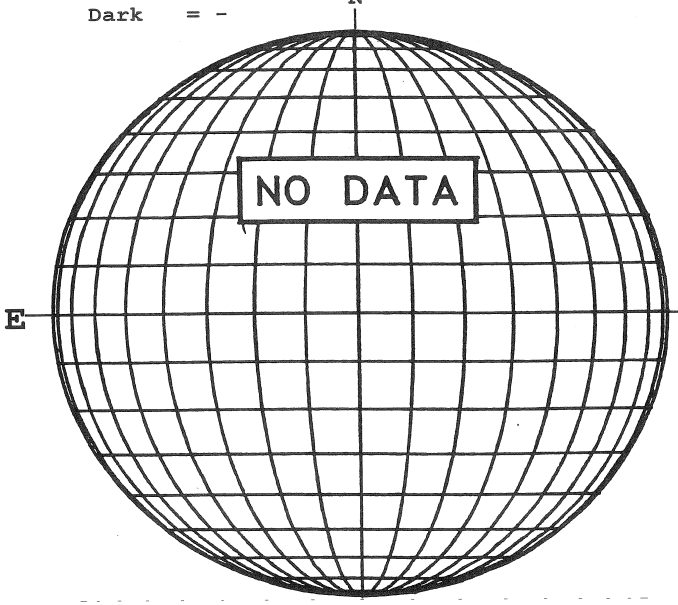


September 02, 2008 (P= 21.39, Bo= 7.21, Lo= 326.07)

KITT PEAK MAGNETOGRAM -- SOLIS

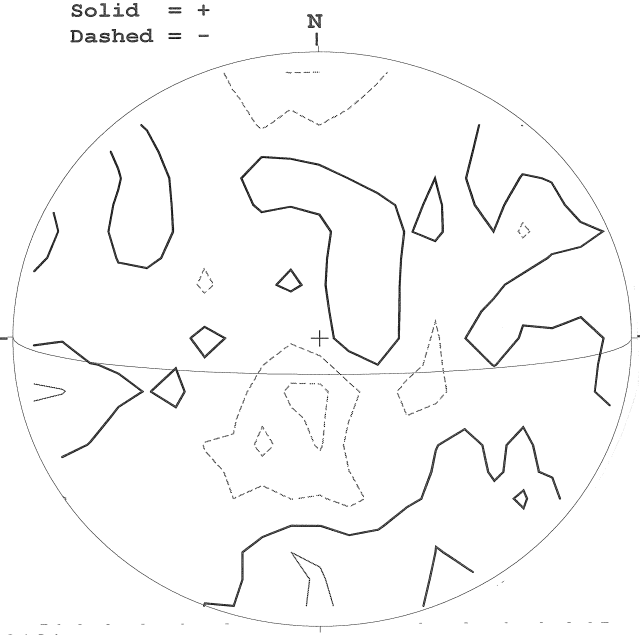
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

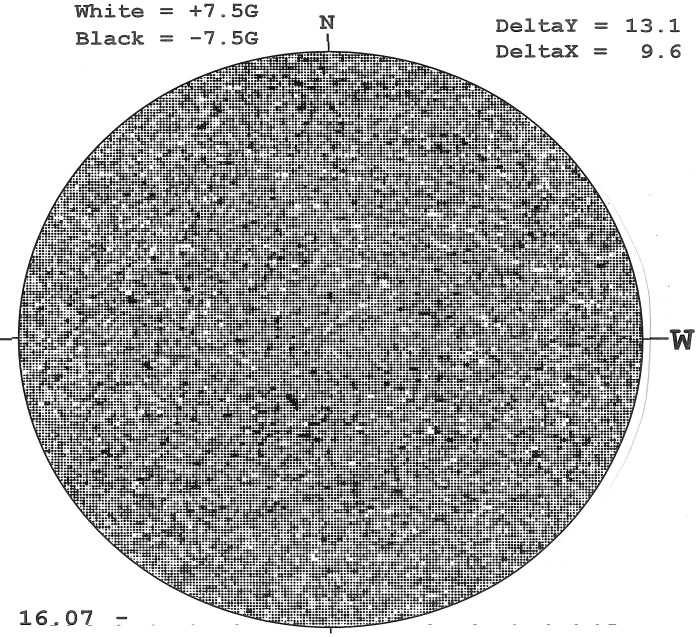


2131 UT

MT. WILSON MAGNETOGRAM

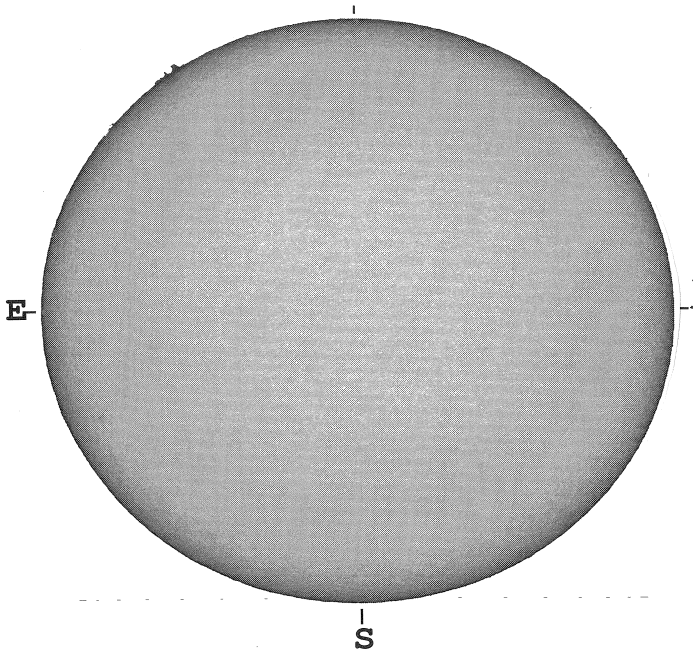
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



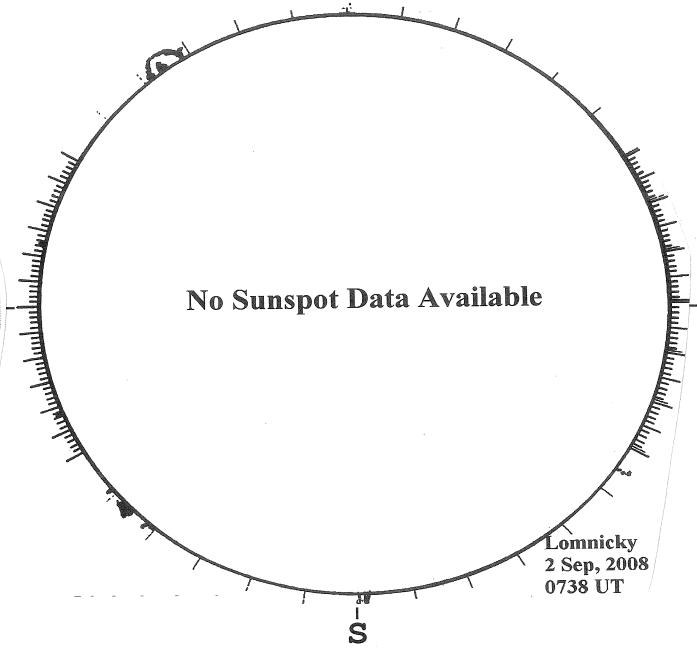
16.07 -
16.99 UT

BIG BEAR H-ALPHA



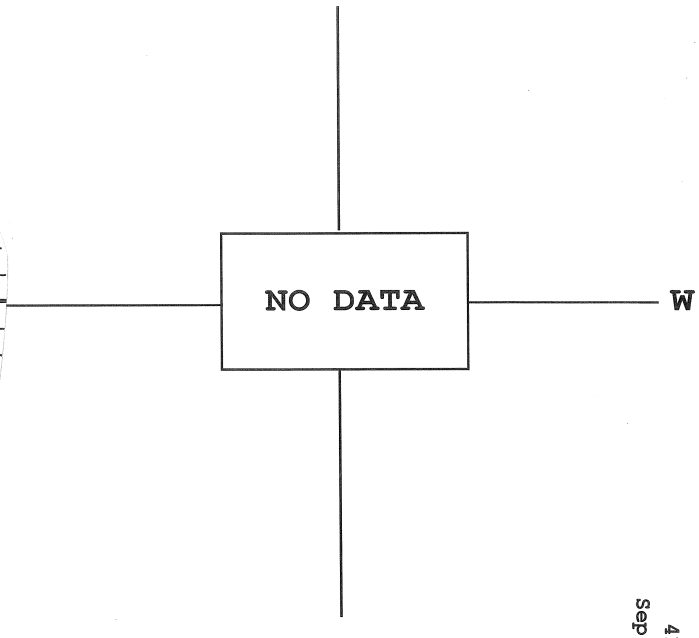
1956 UT

HOLLOMAN SUNSPOTS



0738 UT LOMN PROM

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



41
Sep 08

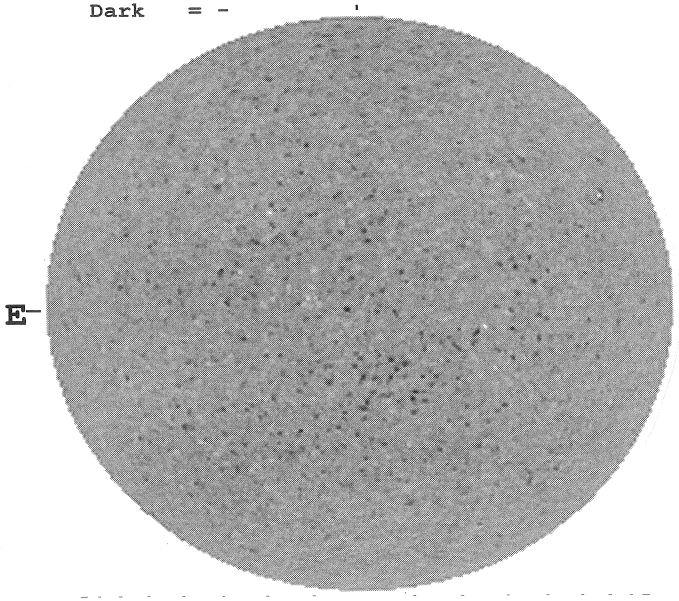
September 03, 2008 (P= 21.64, Bo= 7.22, Lo= 312.86)

Sep 08 42

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

** 854.2NM **



1625 UT

STANFORD MAGNETOGRAM

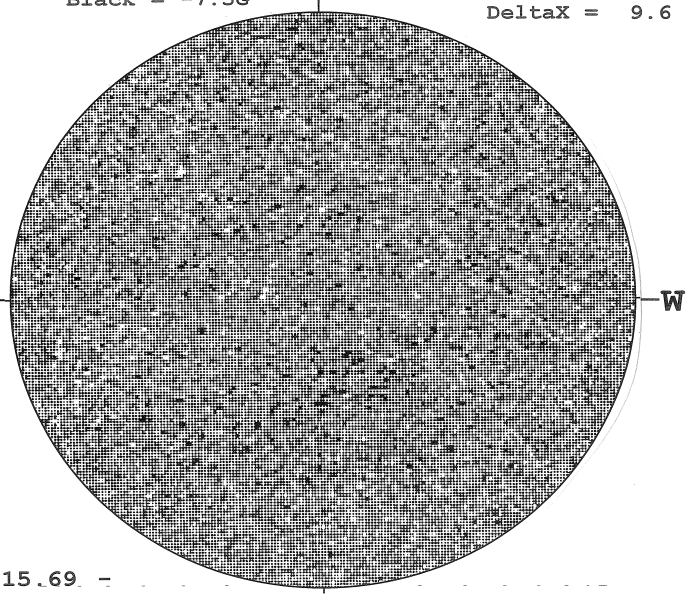
Solid = +
Dashed = -

2228 UT

MT. WILSON MAGNETOGRAM

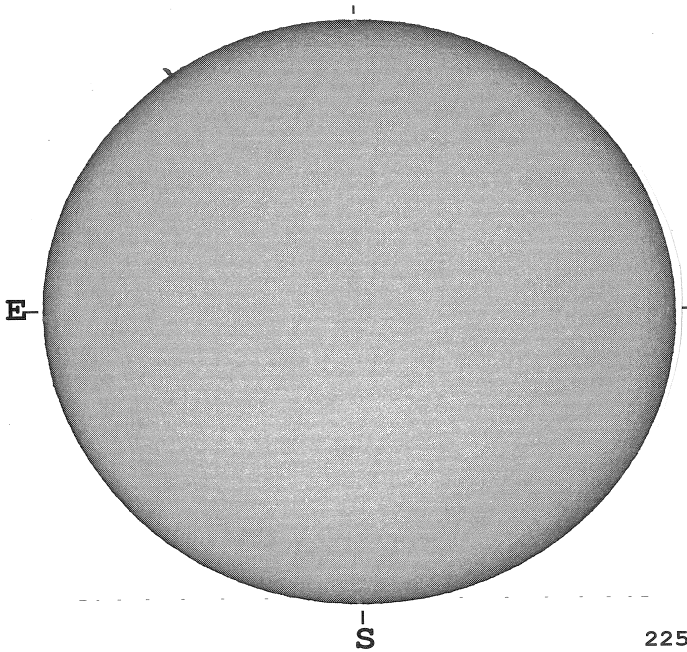
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



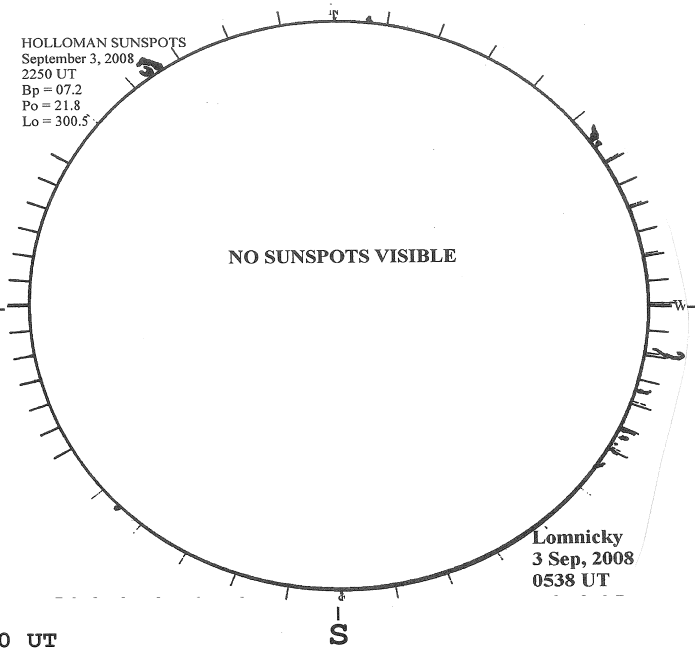
15.69 -
16.62 UT

BIG BEAR H-ALPHA



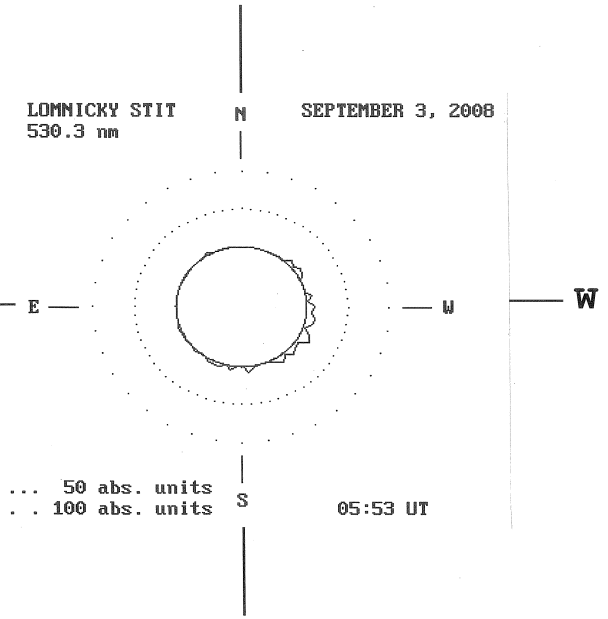
1530 UT

HOLLOMAN SUNSPOTS



2250 UT
0538 UT LOMN PROM

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

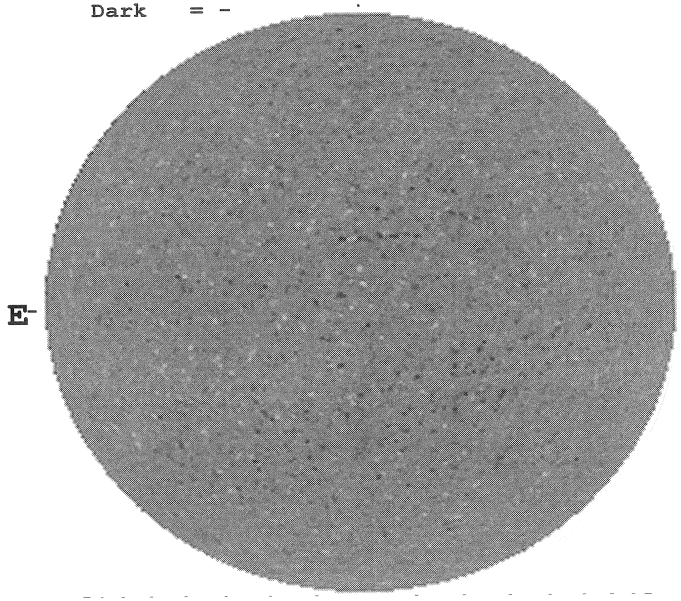


September 04, 2008 (P= 21.88, Bo= 7.23, Lo= 299.65)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

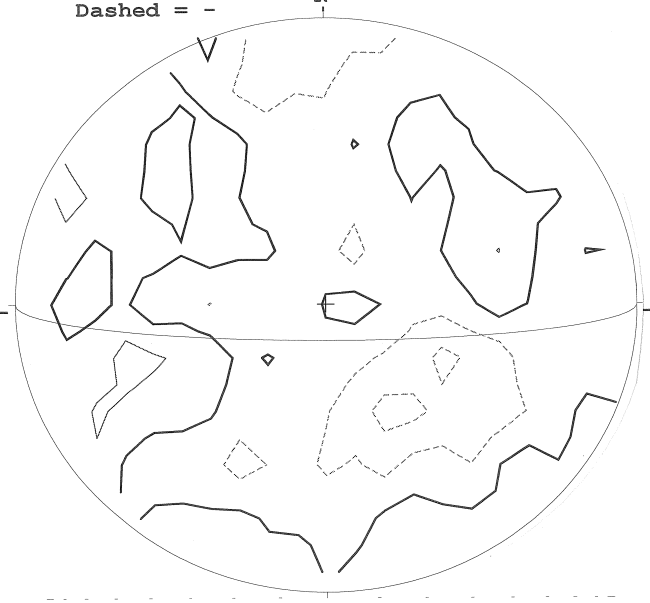
** 854.2NM **



2220 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

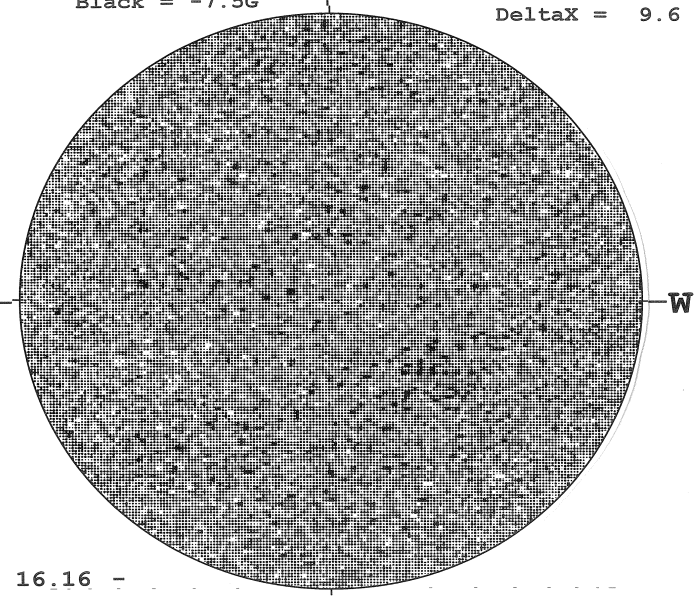


2142 UT

MT. WILSON MAGNETOGRAM

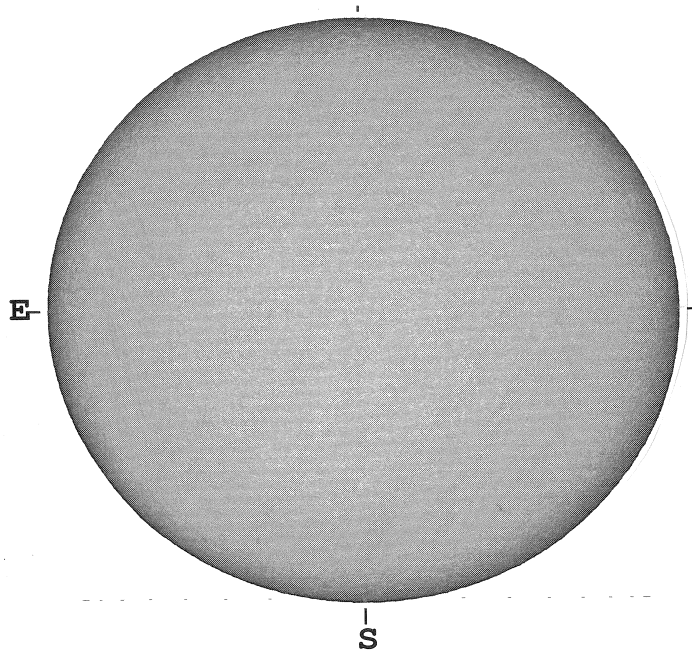
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



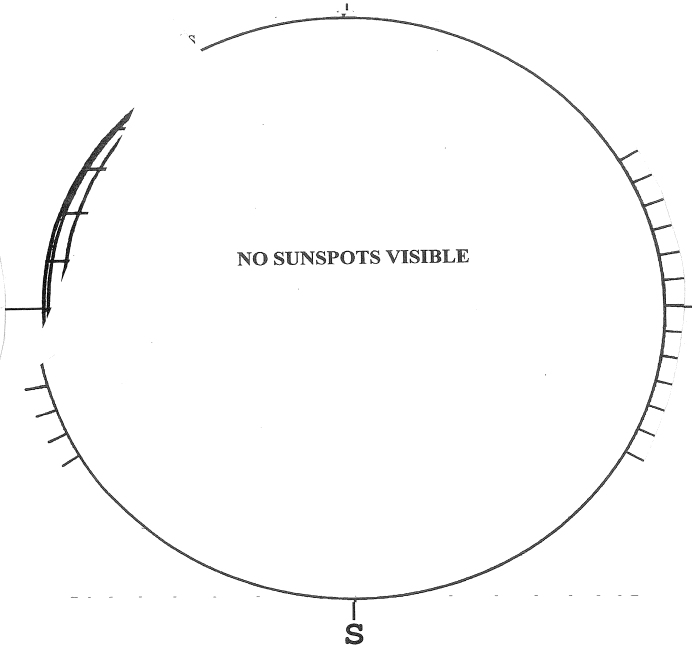
16.16 -
17.10 UT

BIG BEAR H-ALPHA



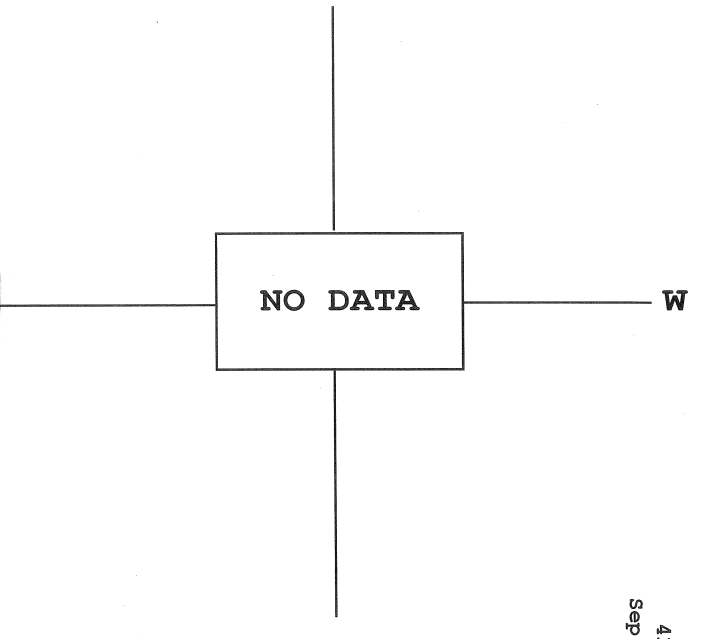
1528 UT

HOLLOMAN SUNSPOTS



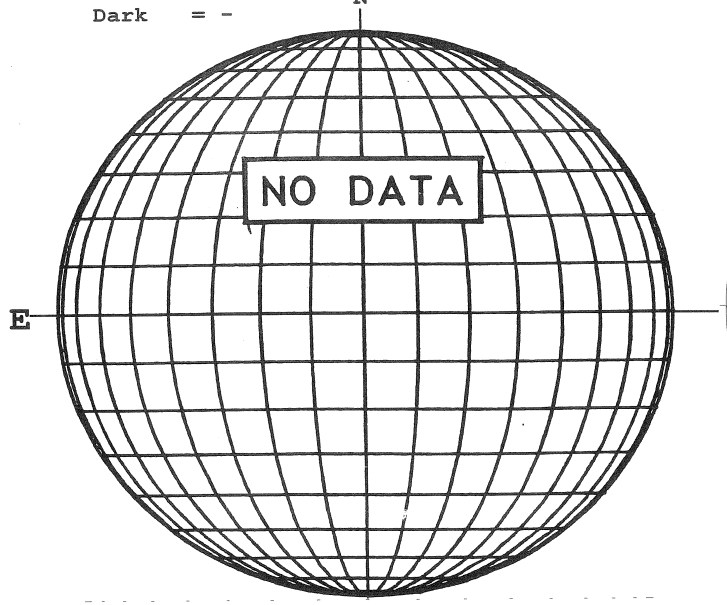
2251 UT

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

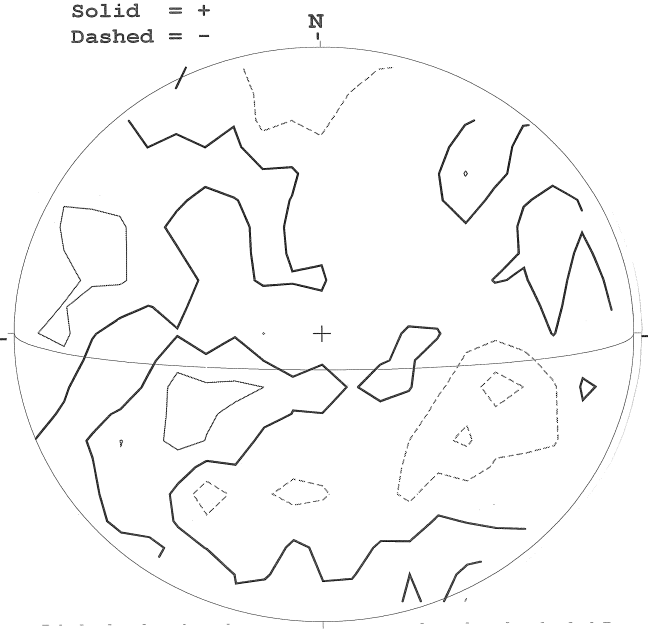


September 05, 2008 (P= 22.11, Bo= 7.24, Lo= 286.44)

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

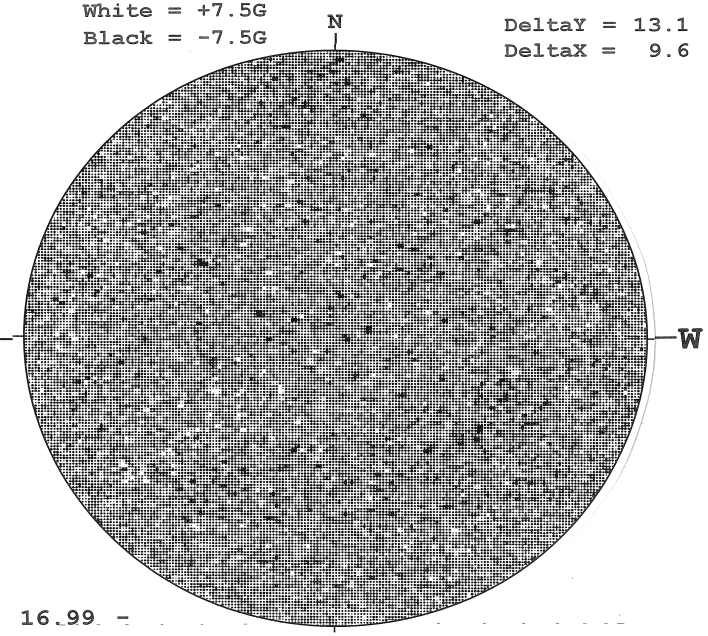


STANFORD MAGNETOGRAM
Solid = +
Dashed = -



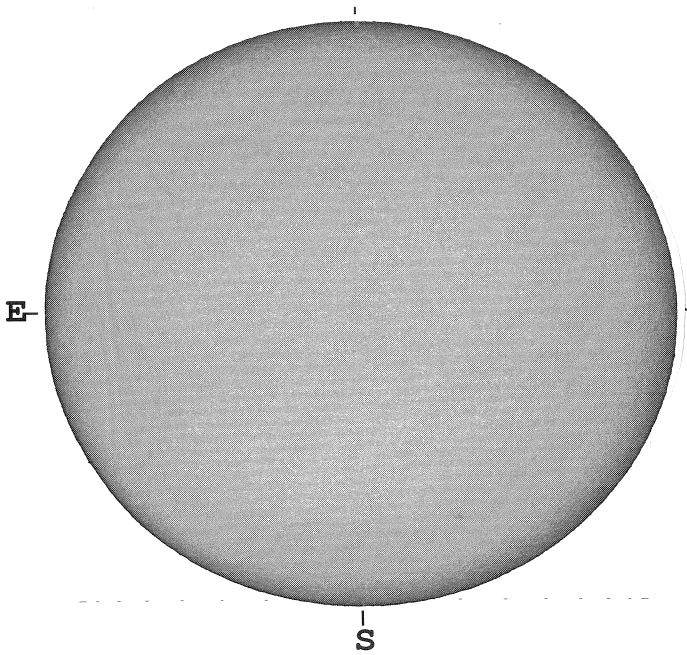
2205 UT

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



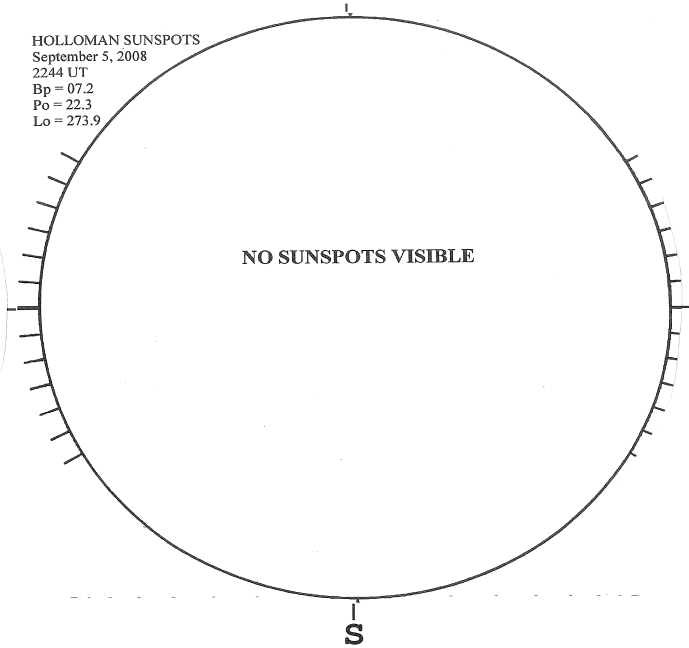
16.99 -
17.92 UT

BIG BEAR H-ALPHA



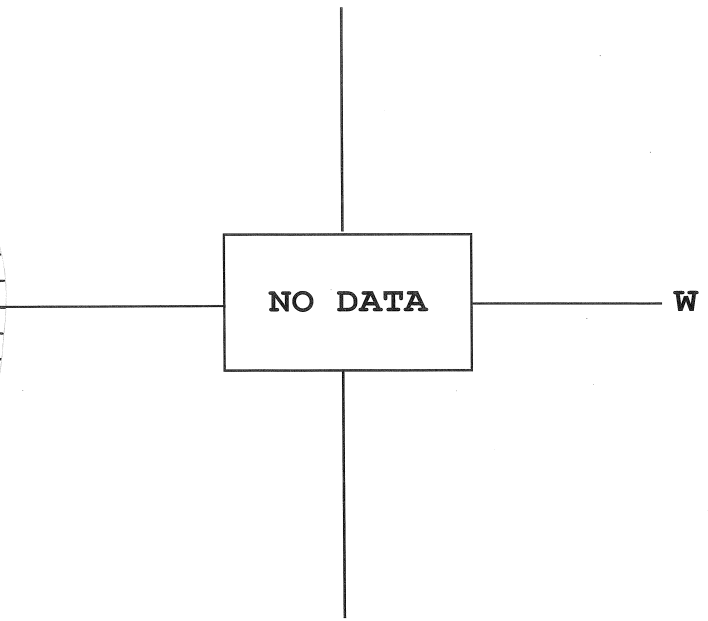
1527 UT

HOLLOMAN SUNSPOTS



2244 UT

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

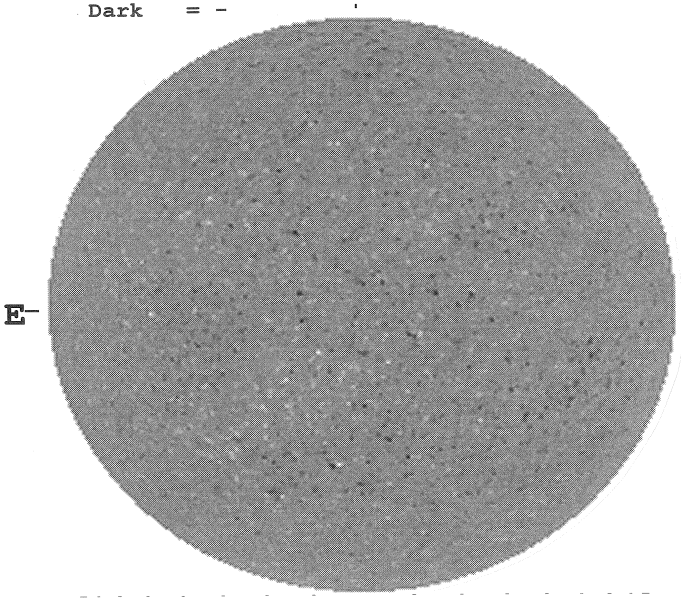


September 06, 2008 (P= 22.33, Bo= 7.25, Lo= 273.24)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

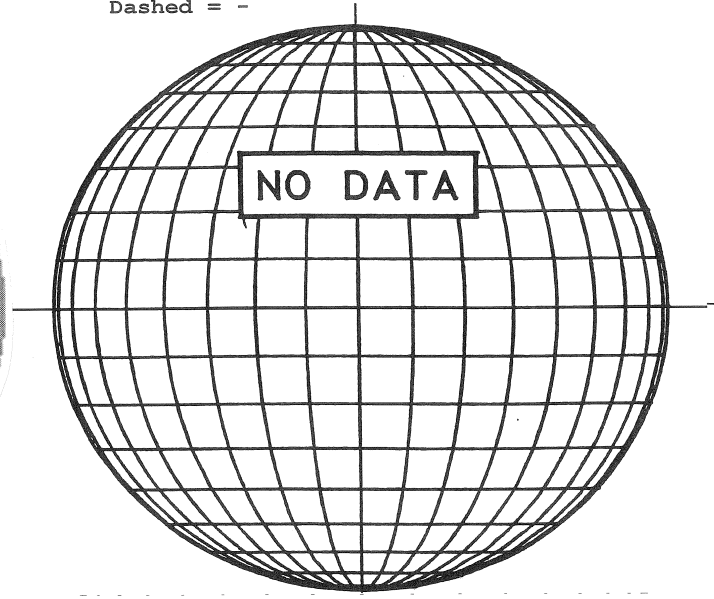
** 854.2NM **



1836 UT

STANFORD MAGNETOGRAM

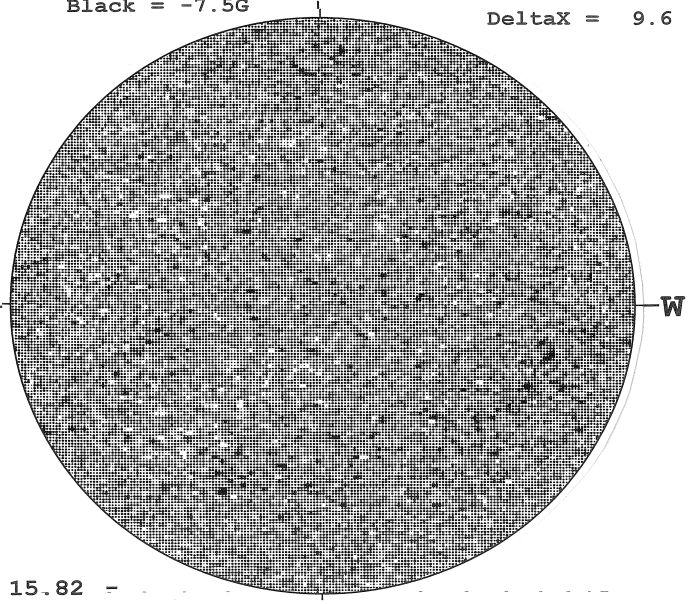
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

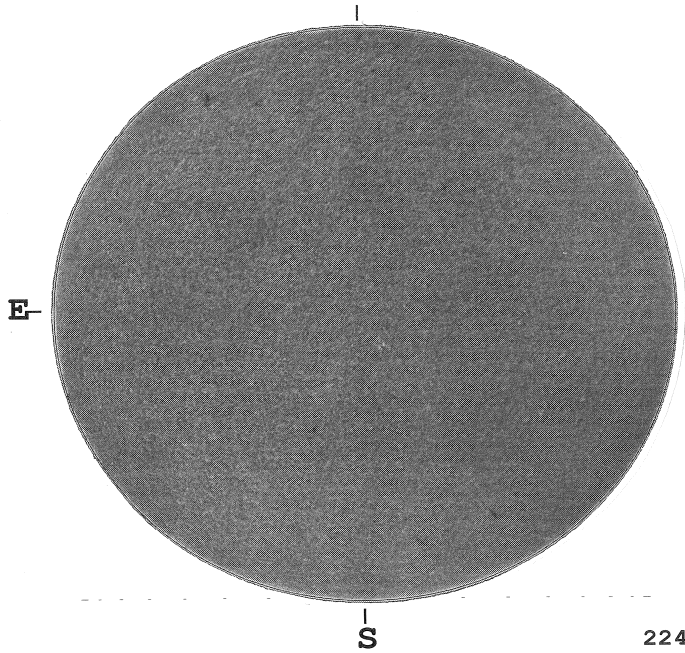
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



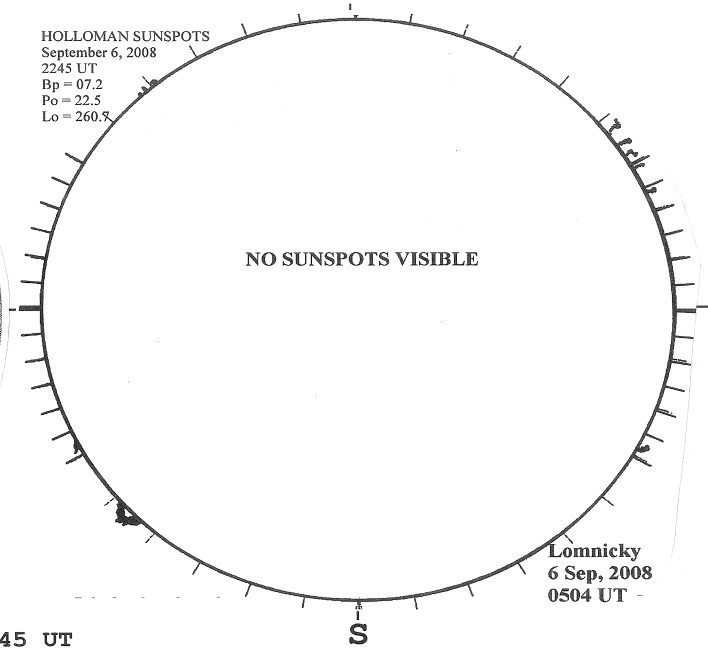
15.82 -
16.75 UT

KANZELHOHE H-ALPHA



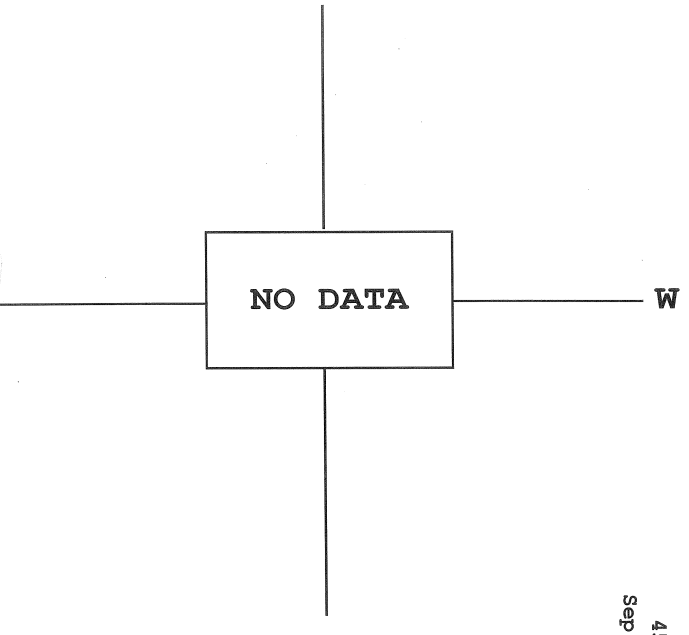
0645 UT

HOLLOMAN SUNSPOTS



2245 UT
0504 UT LOMN PROM

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



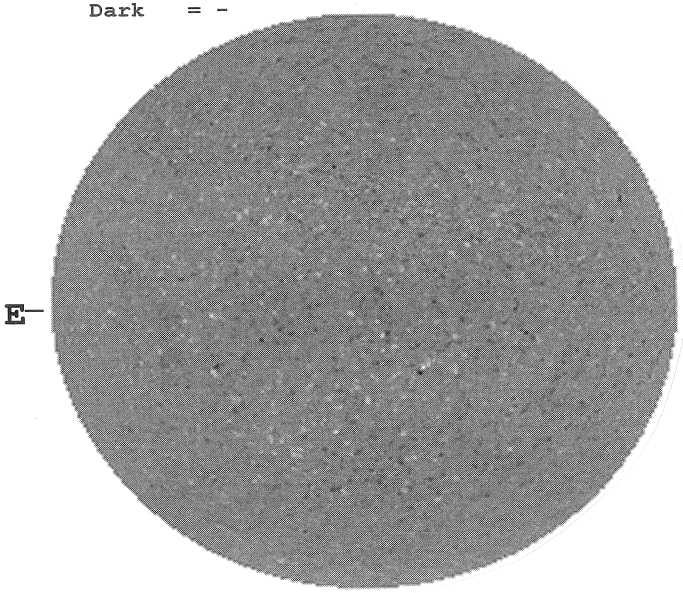
September 07, 2008 (P= 22.55, Bo= 7.25, Lo= 260.03)

Sep 08 46

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

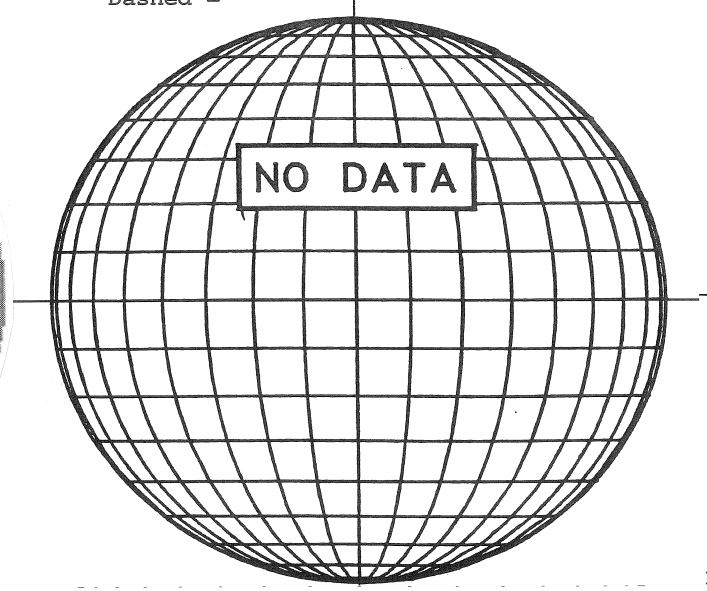
** 854.2NM **



1917 UT

STANFORD MAGNETOGRAM

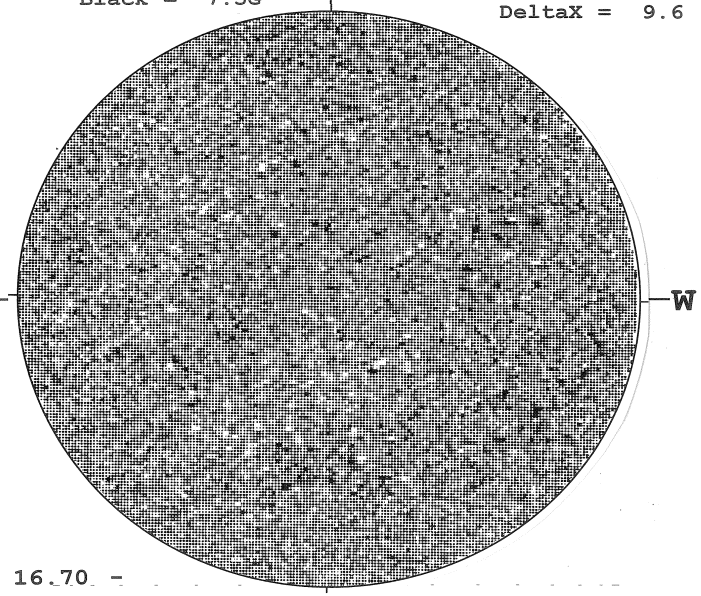
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

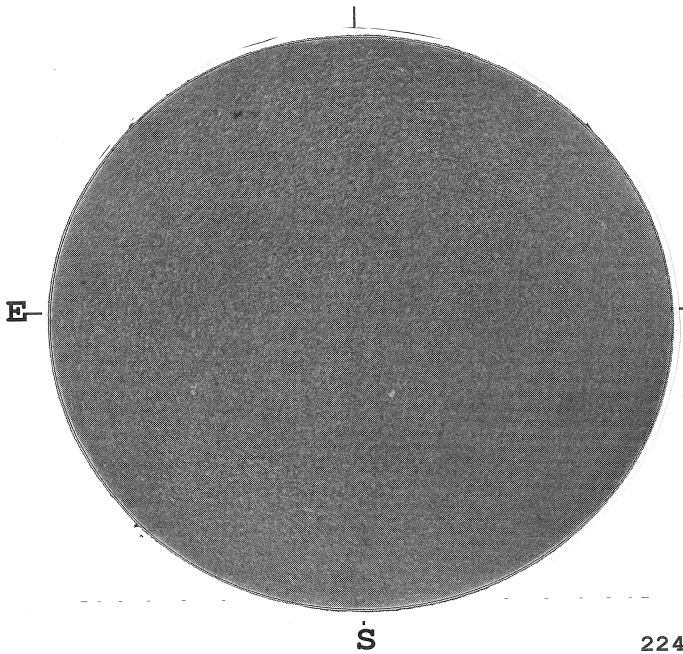
White = +7.5G
Black = -7.5G

DeltaY = 13.0
DeltaX = 9.6



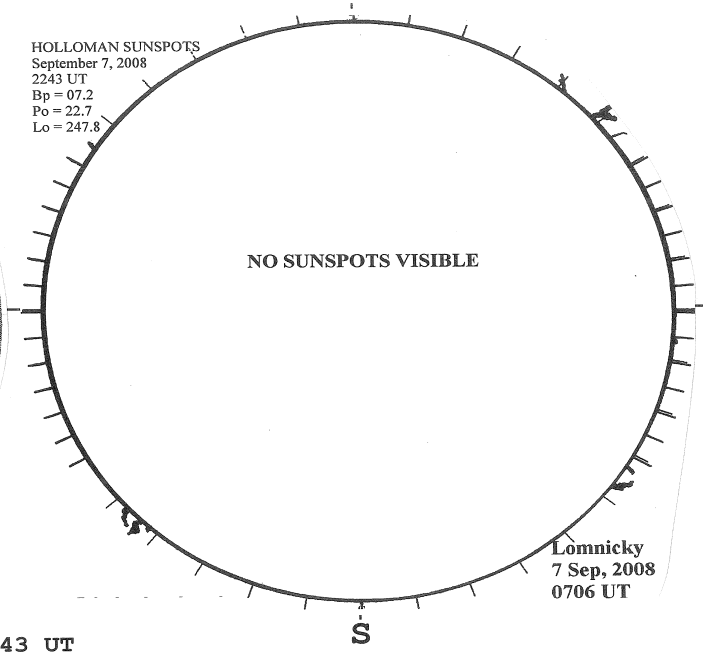
16.70 -
17.93 UT

KANZELHOHE H-ALPHA



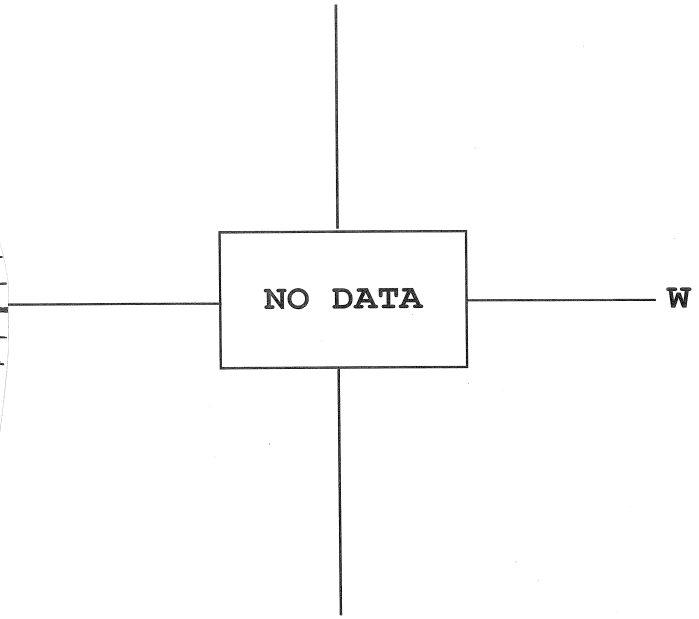
1213 UT

HOLLOMAN SUNSPOTS



2243 UT
0706 UT LOMN PROM

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

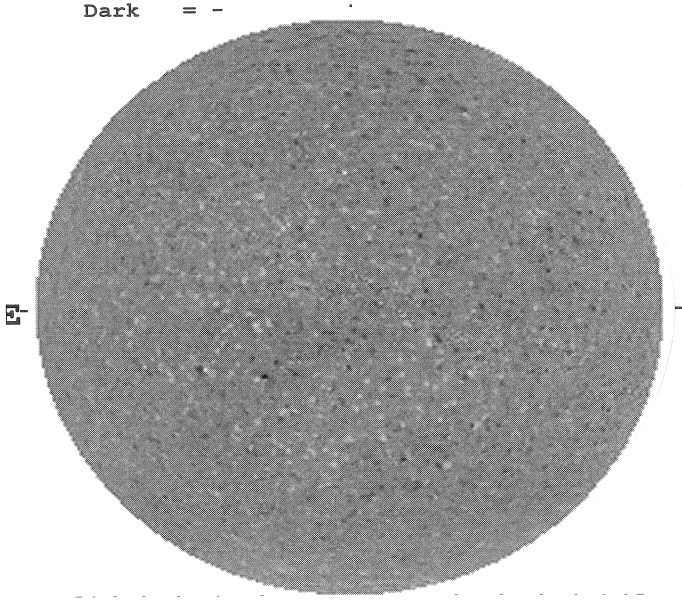


September 08, 2008 (P= 22.77, Bo= 7.25, Lo= 246.82)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

** 854.2NM **



1652 UT

STANFORD MAGNETOGRAM

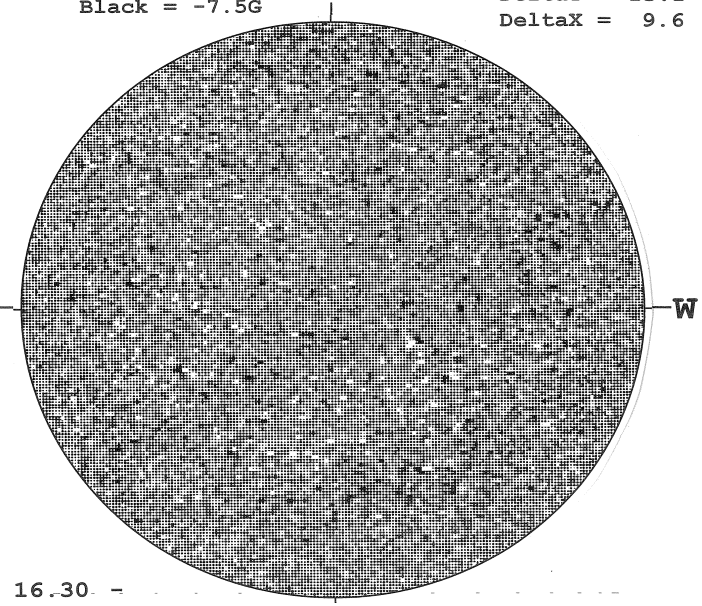
Solid = +
Dashed = -

1935 UT

MT. WILSON MAGNETOGRAM

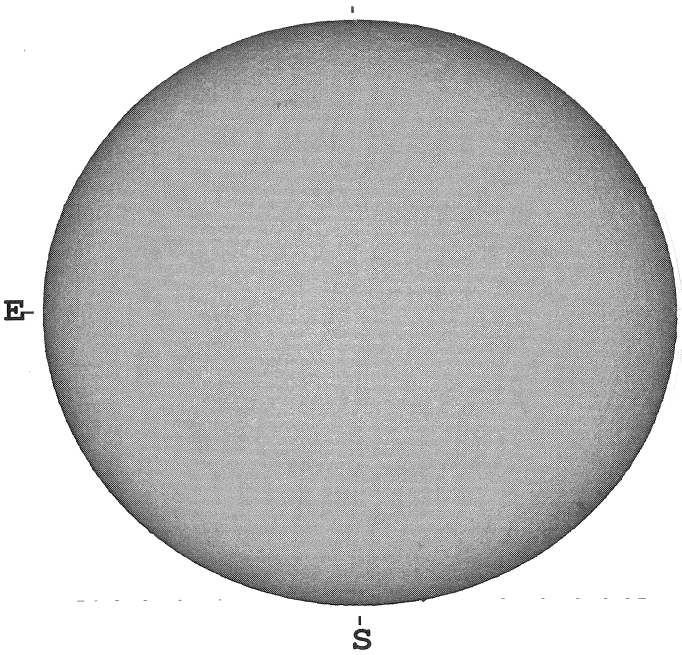
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



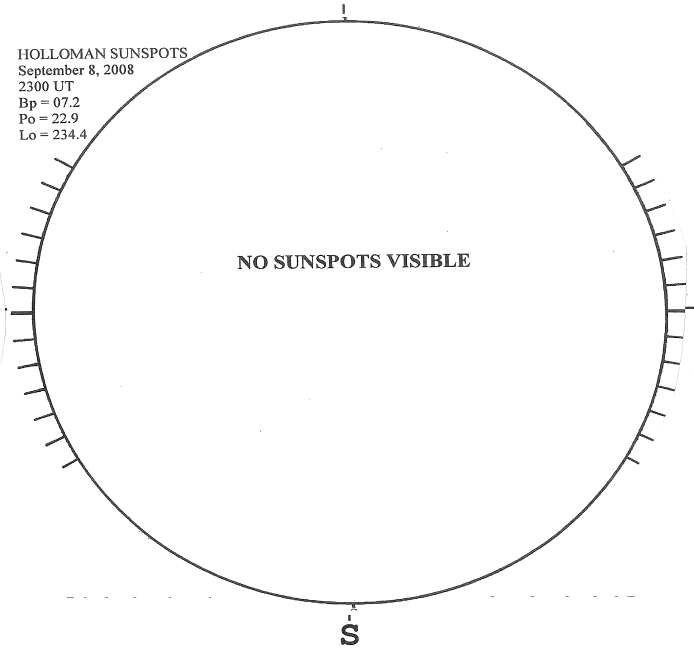
16.30 -
17.23 UT

BIG BEAR H-ALPHA



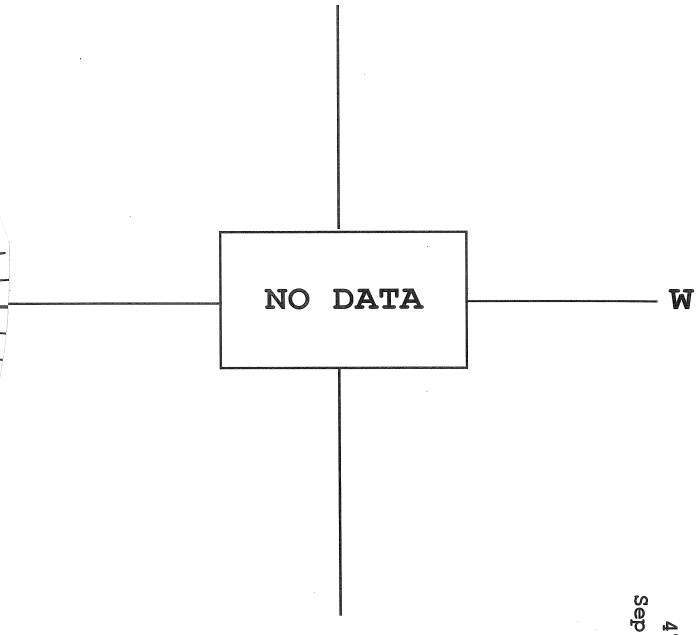
1539 UT

HOLLOMAN SUNSPOTS



2300 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



47
Sep 08

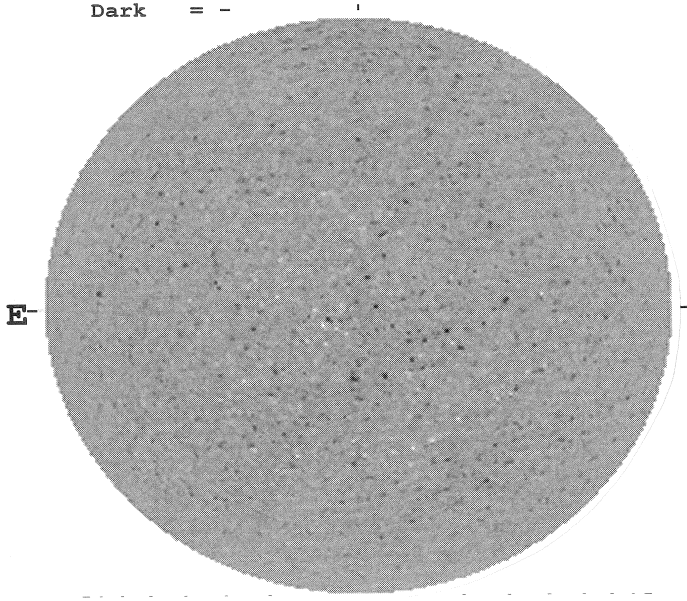
September 09, 2008 (P= 22.98, Bo= 7.25, Lo= 233.62)

Sep 08 48

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

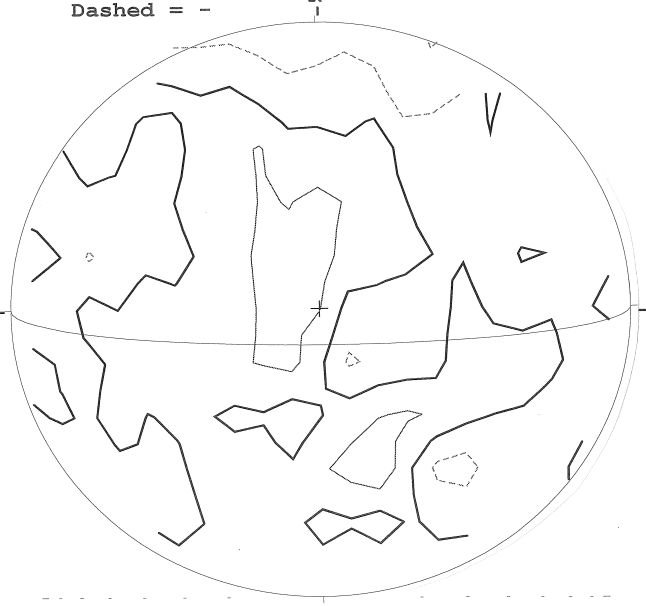
** 854.2NM **



1817 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

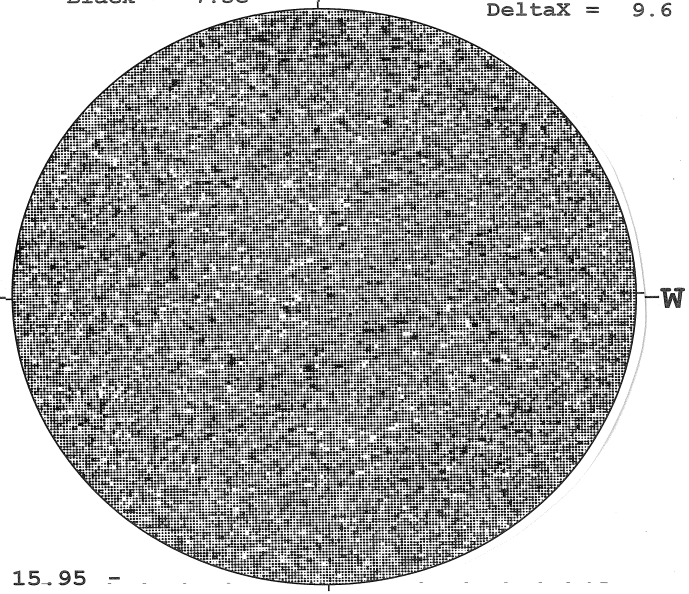


2246 UT

MT. WILSON MAGNETOGRAM

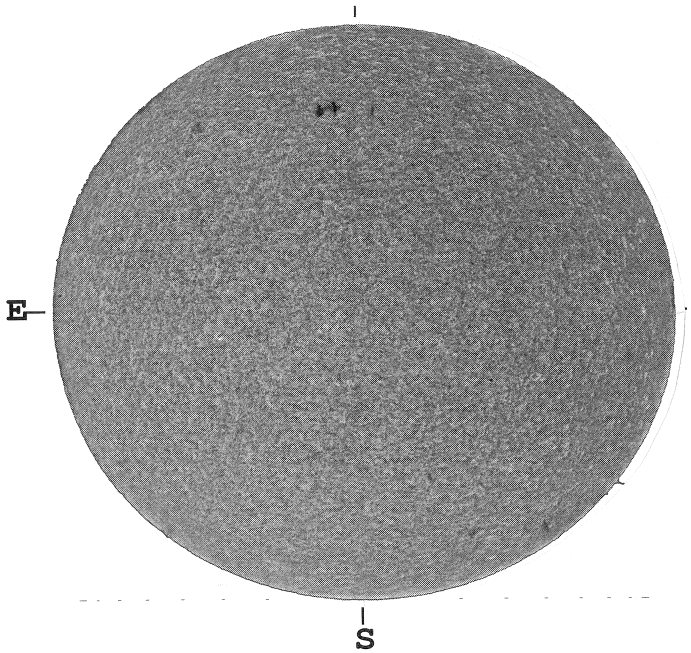
White = +7.5G
Black = -7.5G

DeltaY = 13.0
DeltaX = 9.6



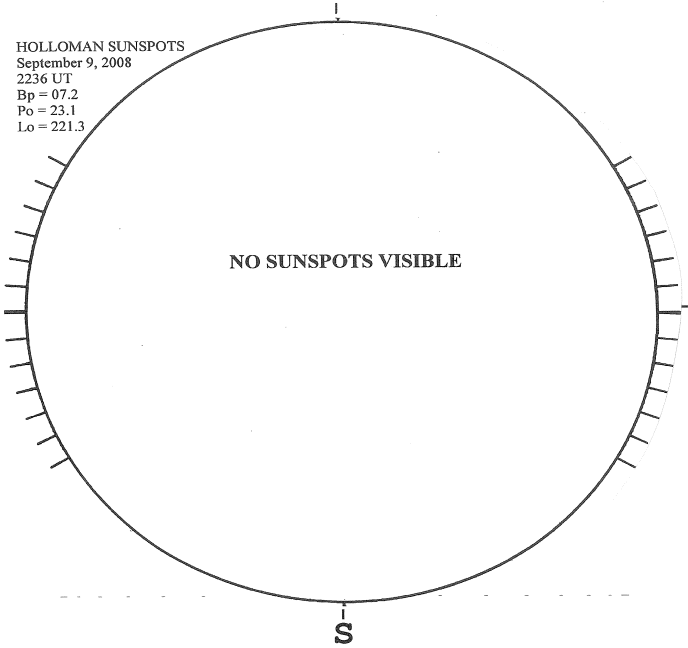
15.95 -
16.88 UT

BIG BEAR H-ALPHA



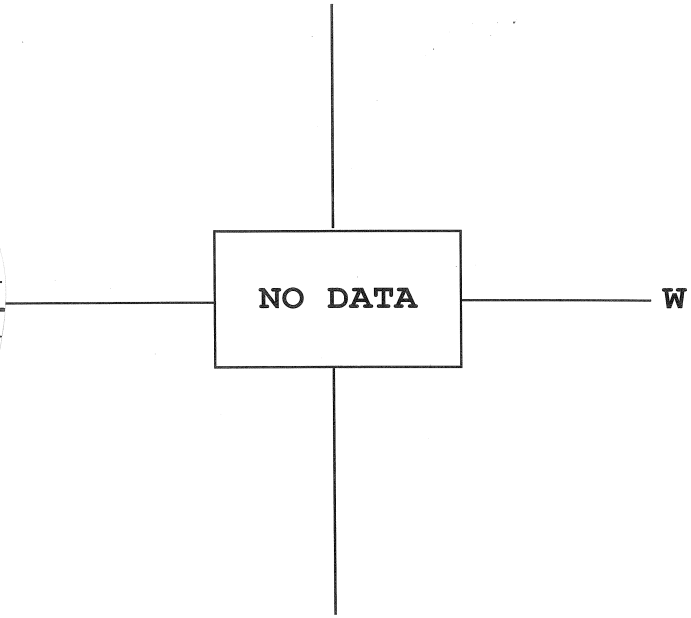
1600 UT

HOLLOMAN SUNSPOTS



2236 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

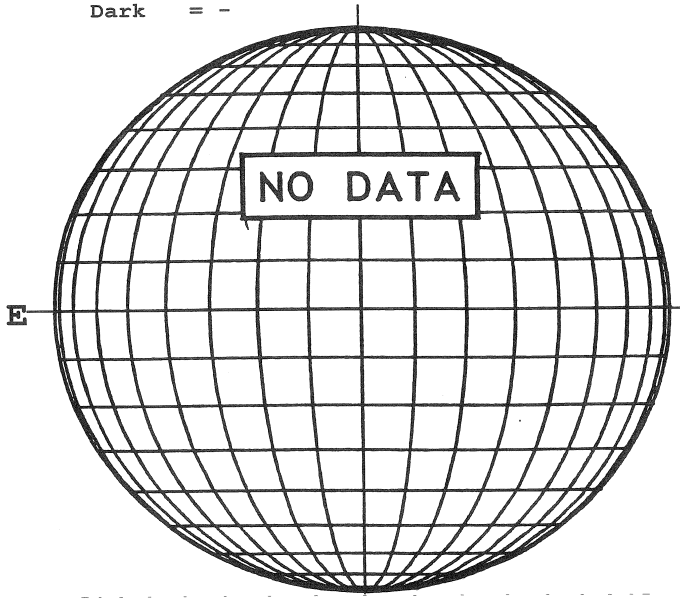


September 10, 2008 (P= 23.18, Bo= 7.25, Lo= 220.41)

KITT PEAK MAGNETOGRAM -- SOLIS

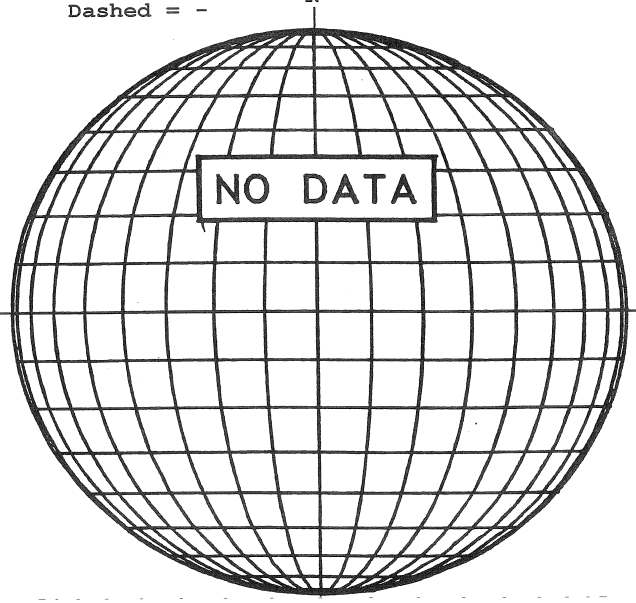
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

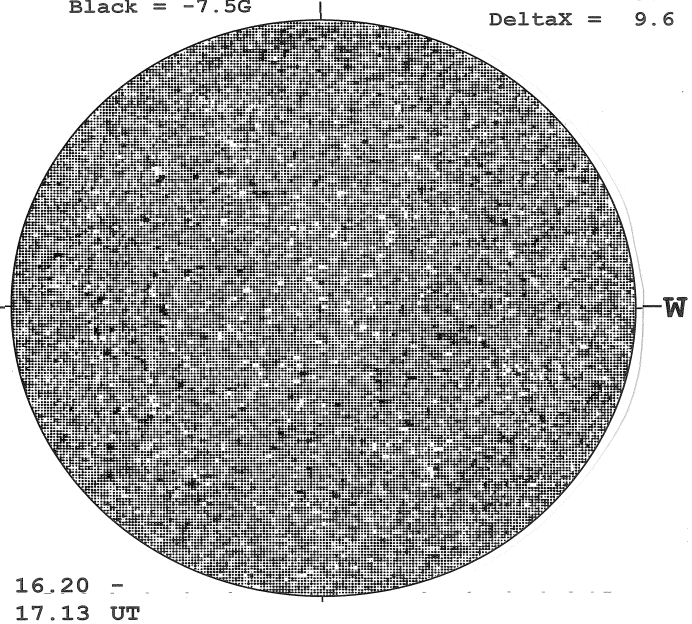
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

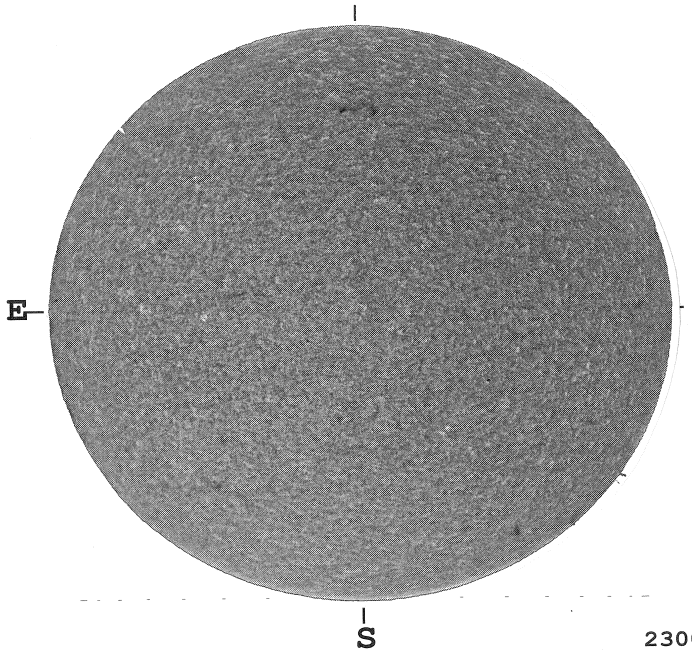
White = +7.5G
Black = -7.5G

DeltaY = 13.0
DeltaX = 9.6



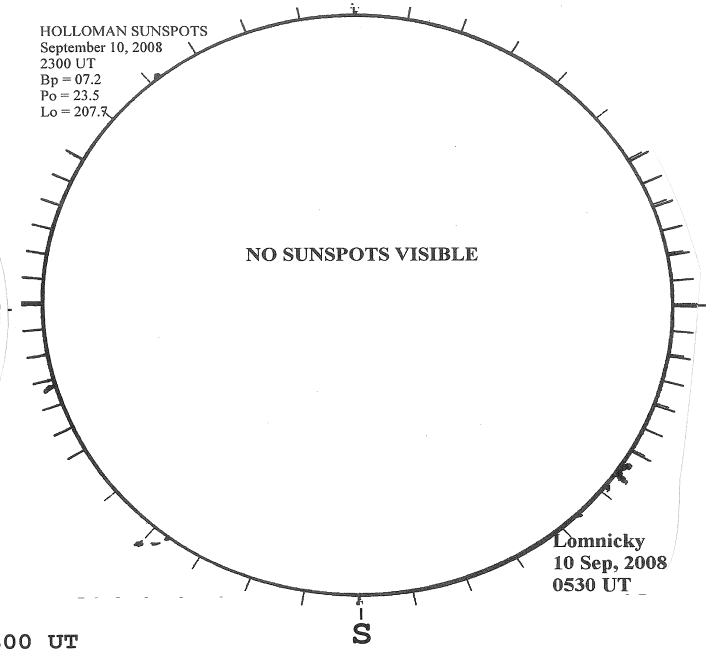
16.20 -
17.13 UT

BIG BEAR H-ALPHA



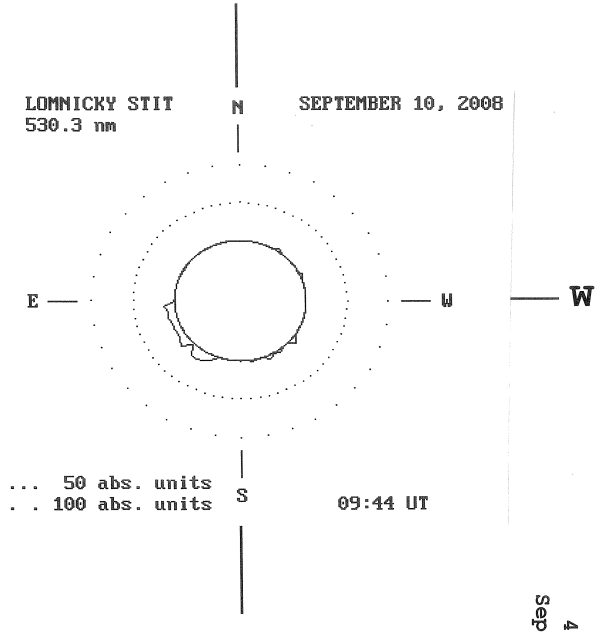
1604 UT

HOLLOMAN SUNSPOTS



2300 UT
0530 UT LOMN PROM

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



49
Sep 08

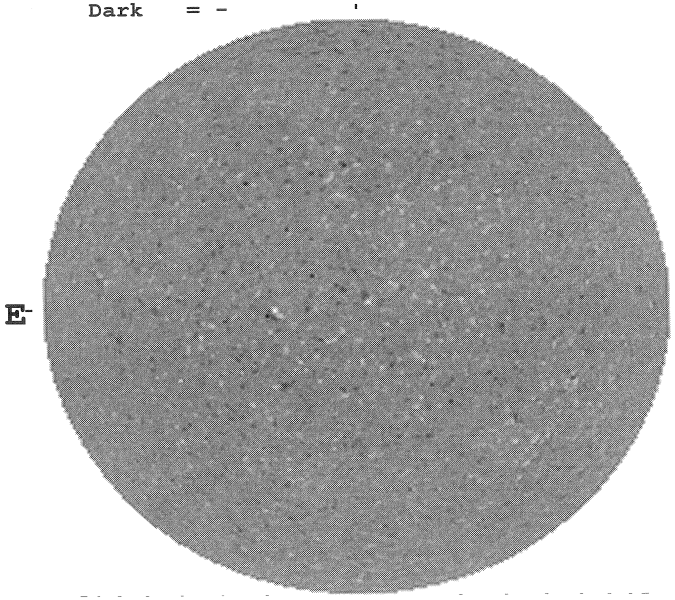
September 11, 2008 (P= 23.38, Bo= 7.24, Lo= 207.21)

Sep 08 50

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

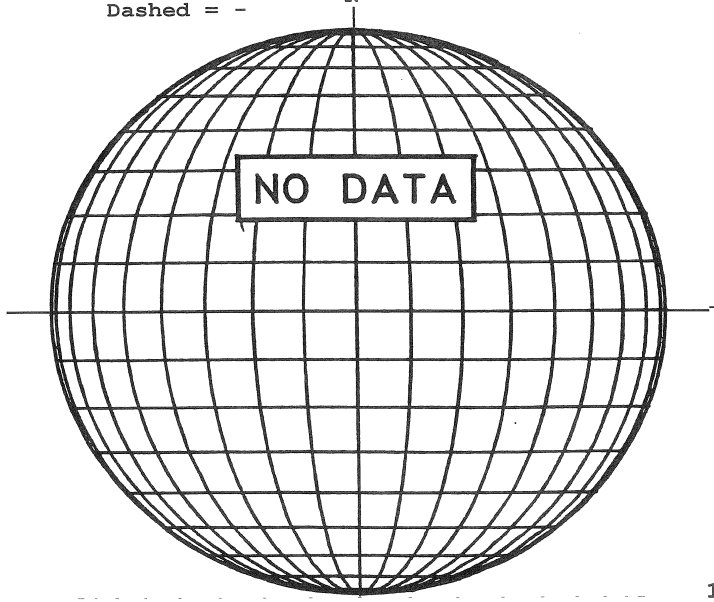
** 854.2NM **



1825 UT

STANFORD MAGNETOGRAM

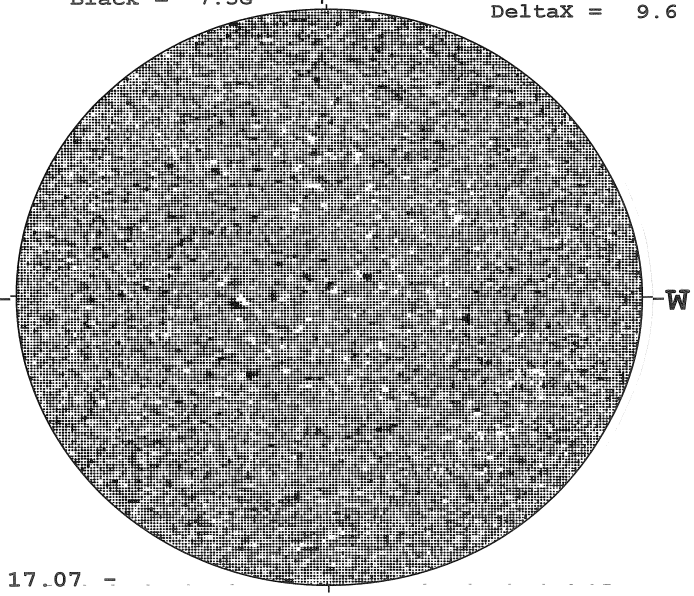
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

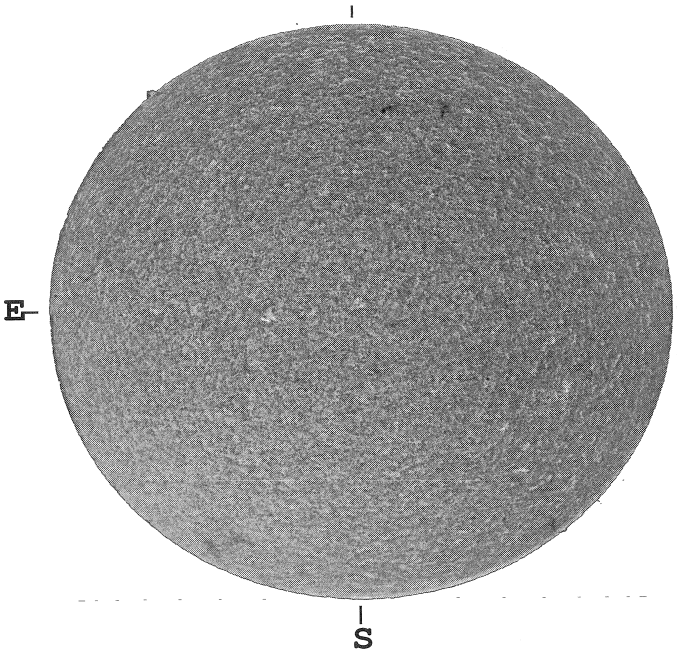
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



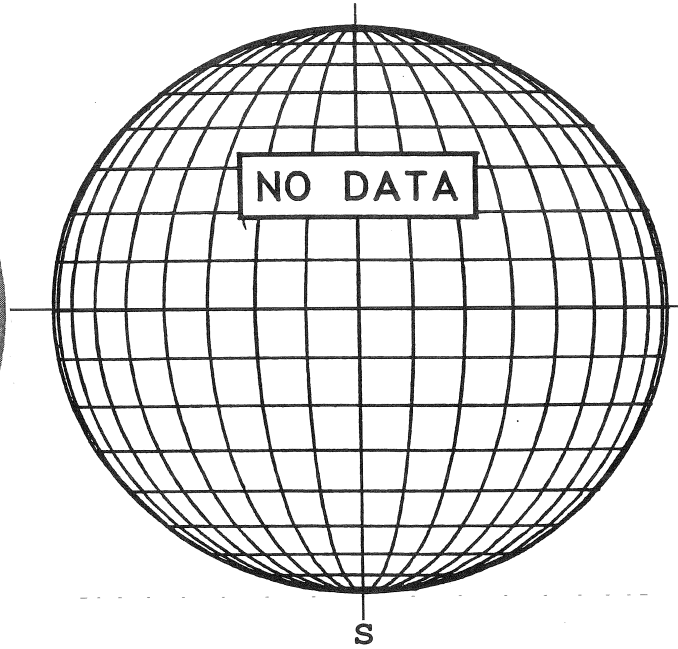
17.07 -
18.01 UT

BIG BEAR H-ALPHA

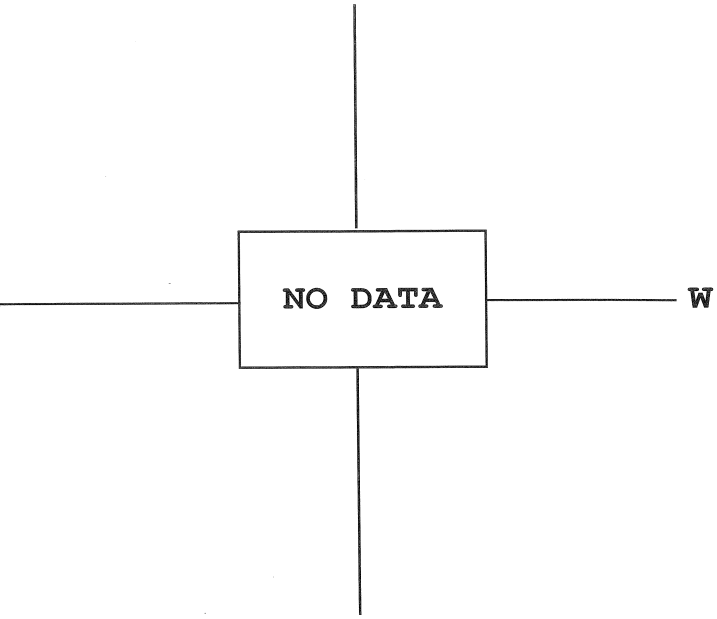


1524 UT

HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

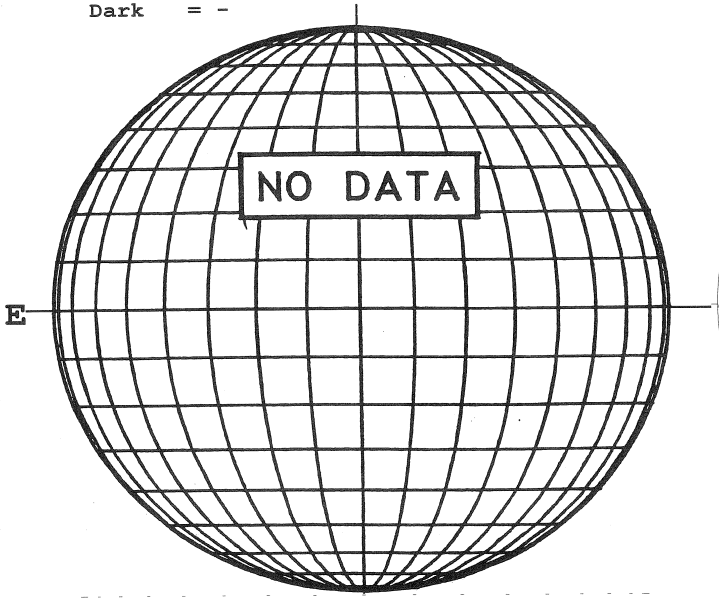


September 12, 2008 (P= 23.57, Bo= 7.24, Lo= 194.00)

KITT PEAK MAGNETOGRAM -- SOLIS

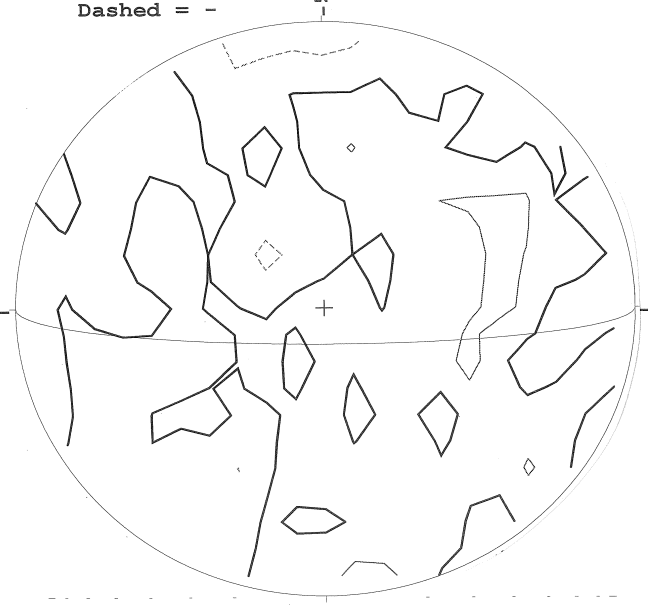
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

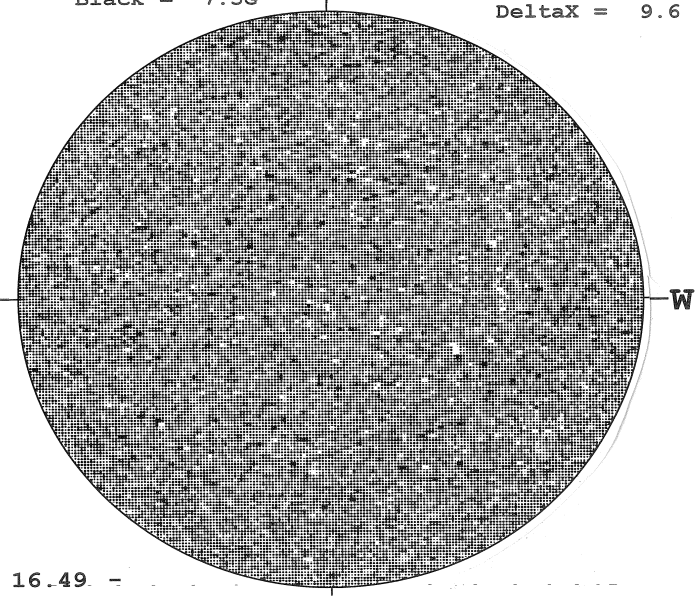


13/0047 UT

MT. WILSON MAGNETOGRAM

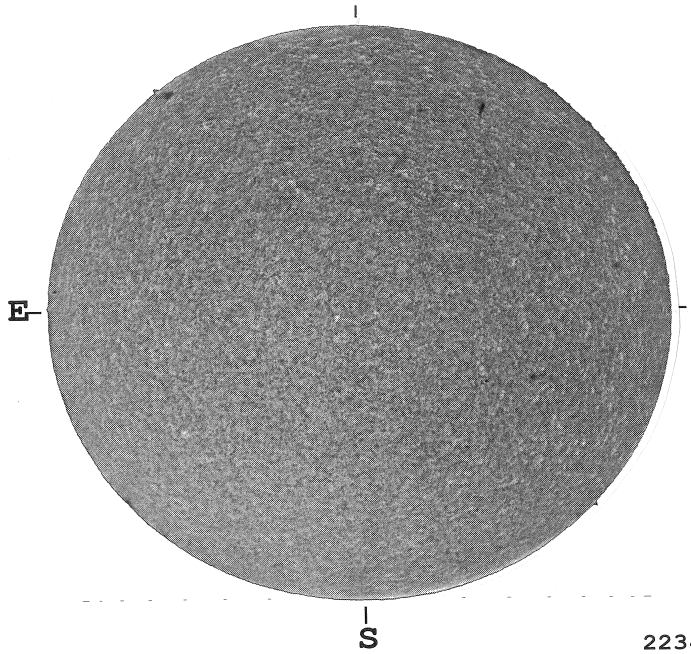
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



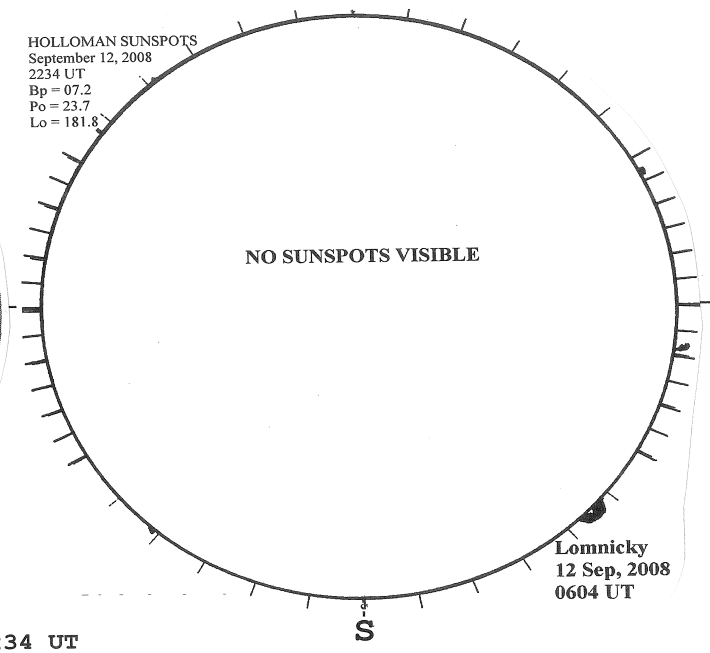
16.49 -
17.42 UT

BIG BEAR H-ALPHA



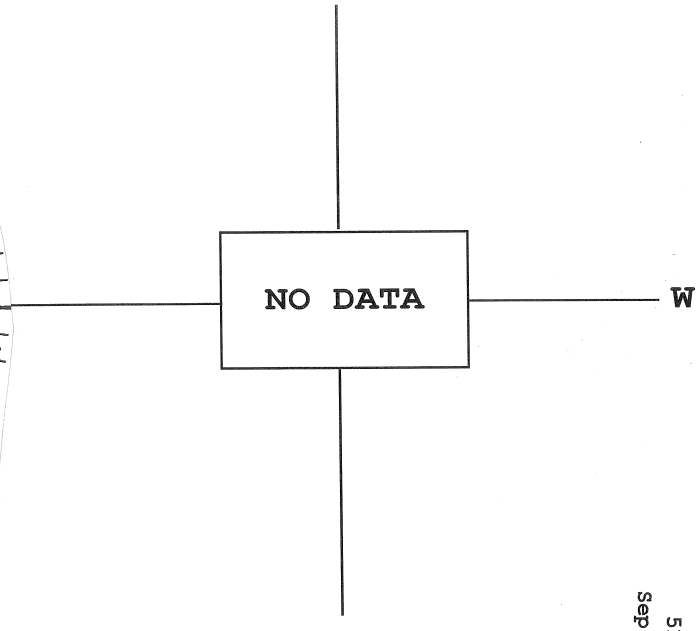
1516 UT

HOLLOMAN SUNSPOTS



2234 UT
0604 UT LOMN PROM

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



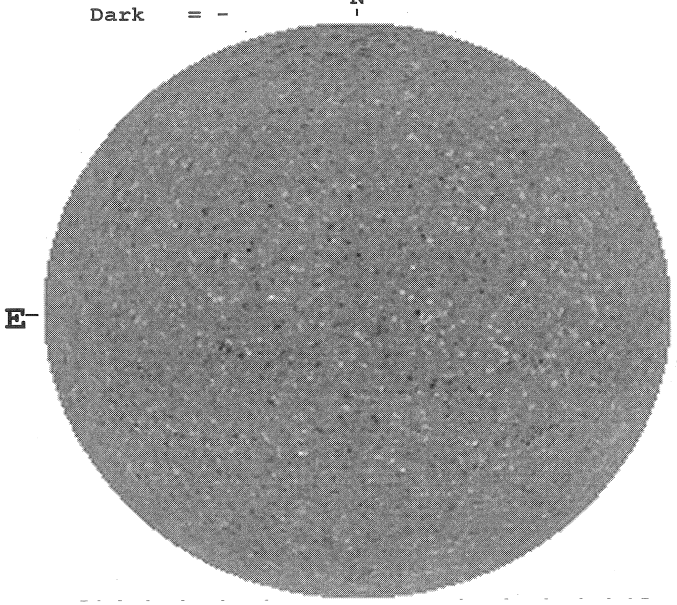
September 13, 2008 (P= 23.75, Bo= 7.23, Lo= 180.80)

Sep 08 52

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

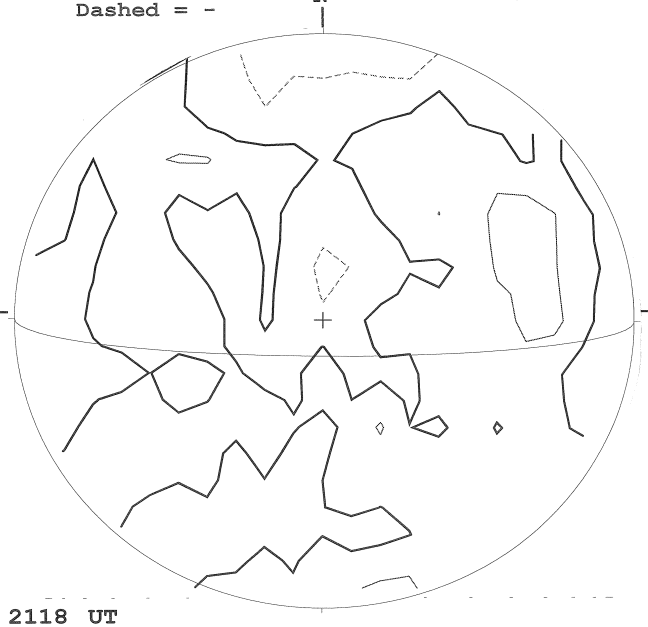
** 854.2NM **



2010 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

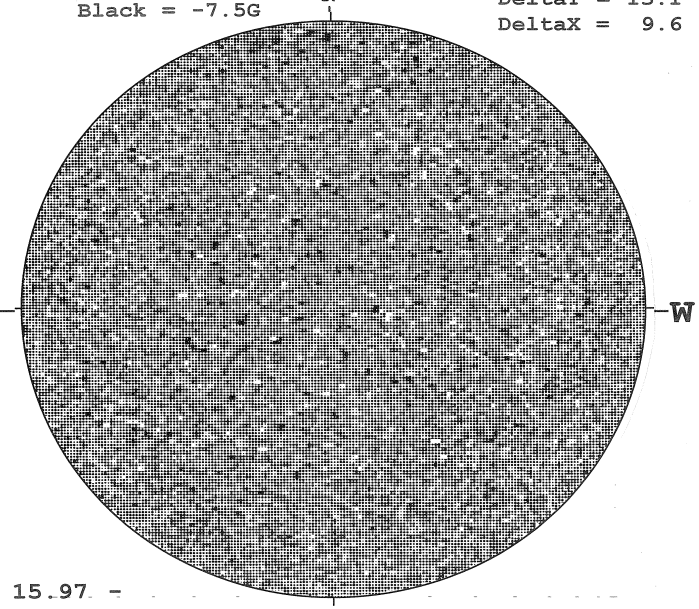


2118 UT

MT. WILSON MAGNETOGRAM

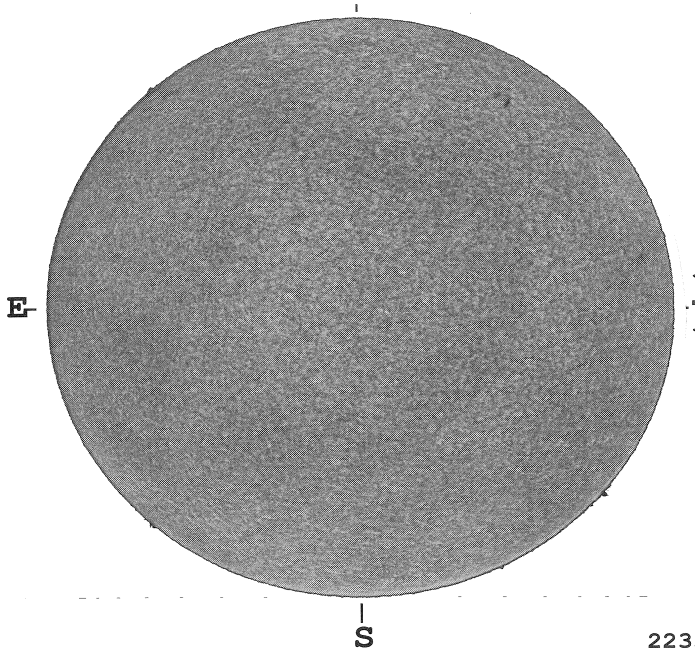
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



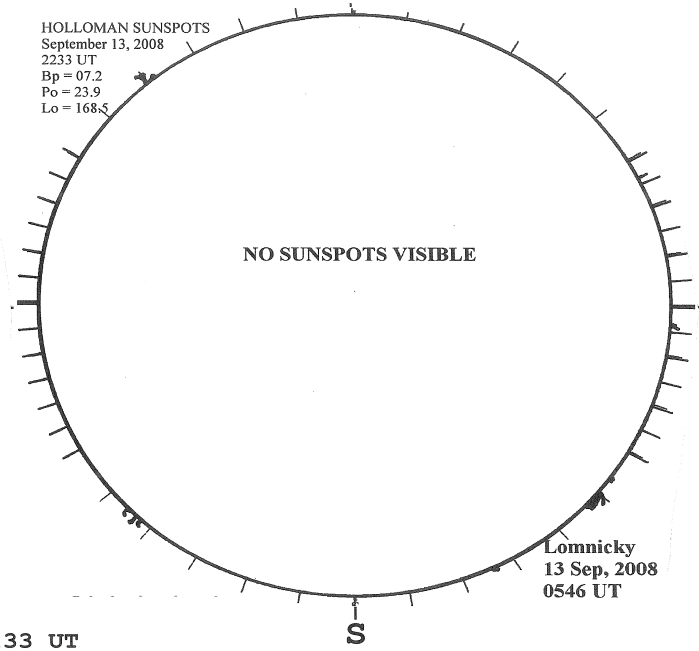
15.97 -
16.91 UT

CATANIA H-ALPHA



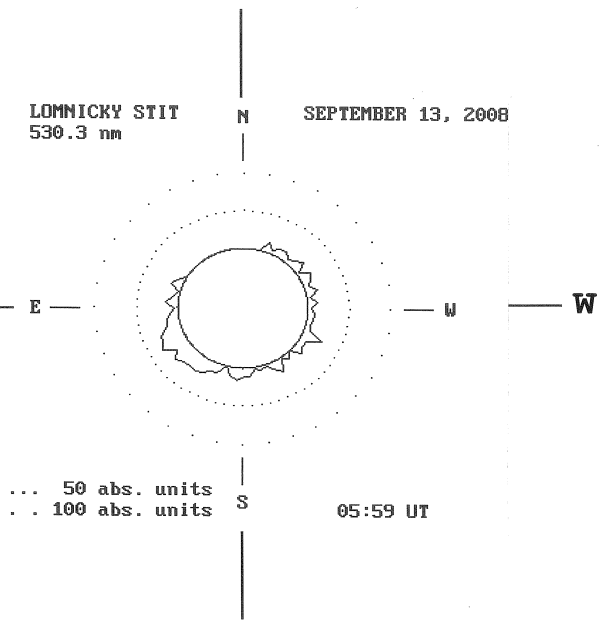
0802 UT

HOLLOMAN SUNSPOTS



2233 UT
0546 UT LOMN PROM

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

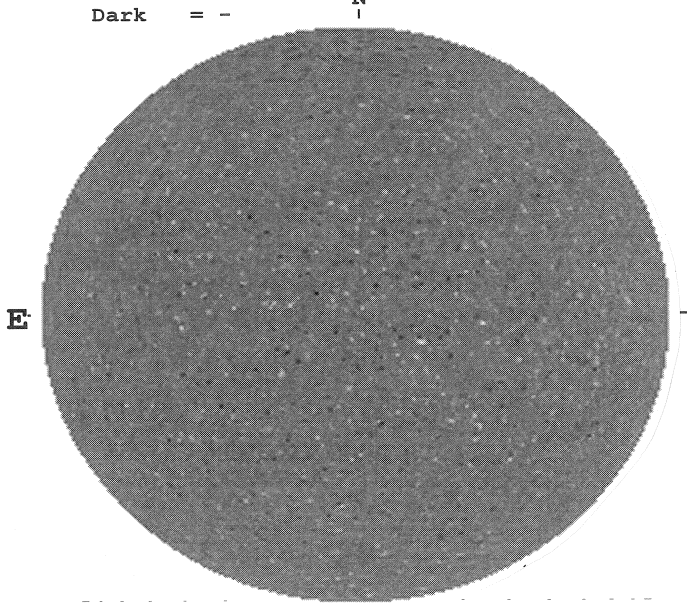


September 14, 2008 (P= 23.93, Bo= 7.22, Lo= 167.60)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

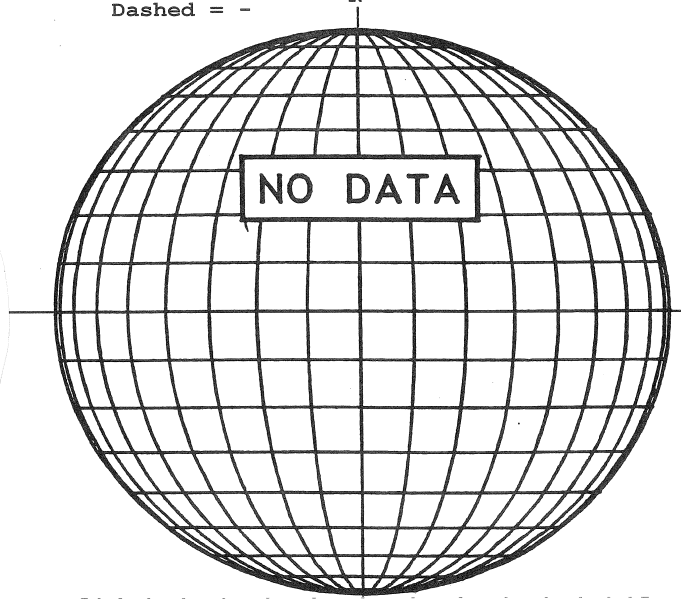
** 854.2NM **



1632 UT

STANFORD MAGNETOGRAM

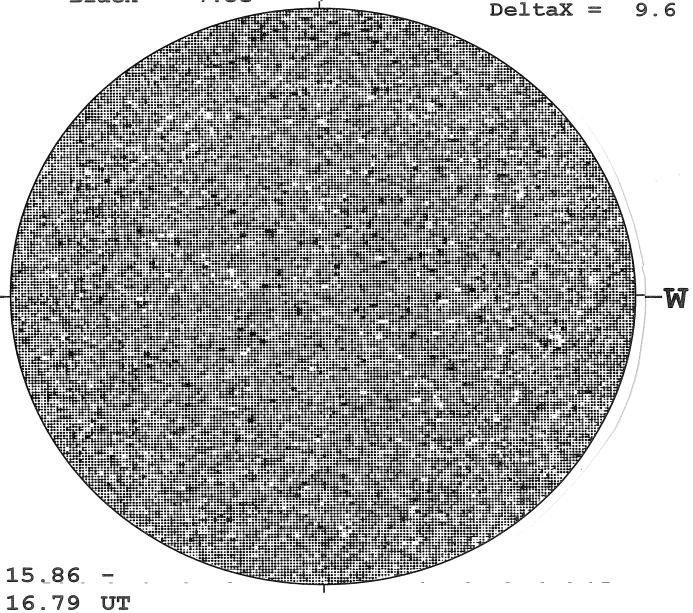
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

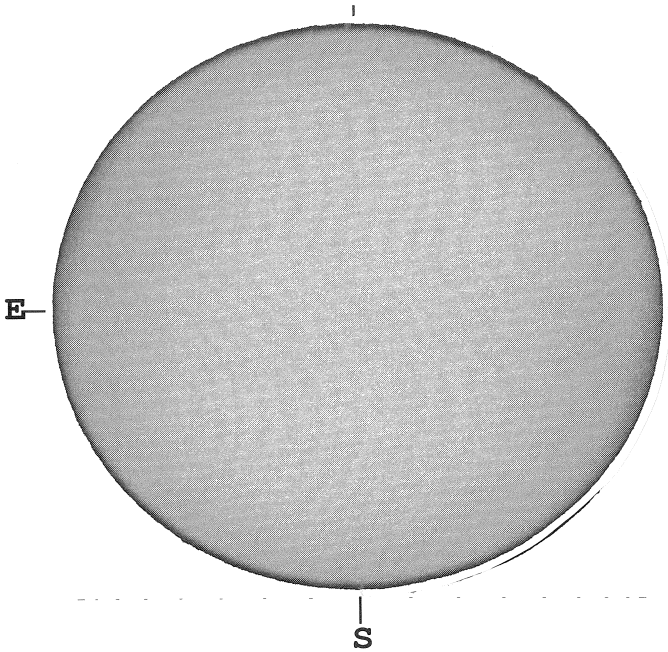
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



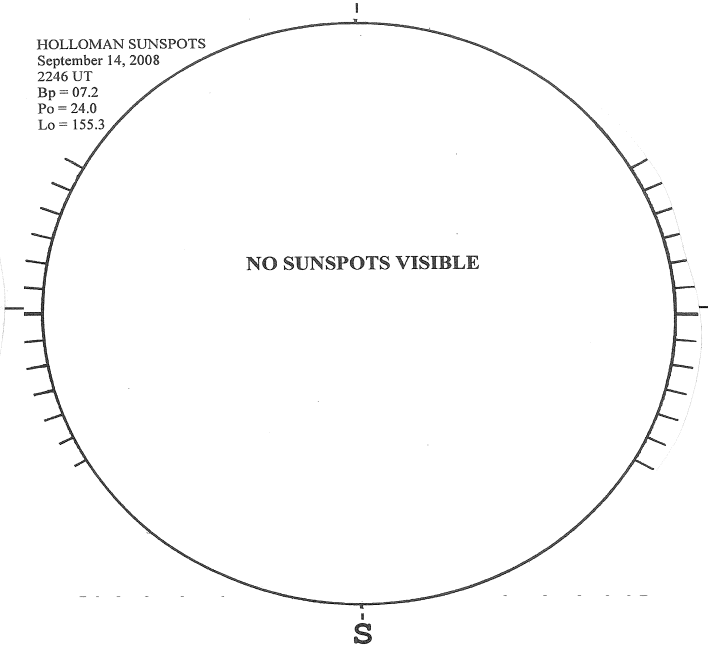
15.86 -
16.79 UT

MEUDON H-ALPHA



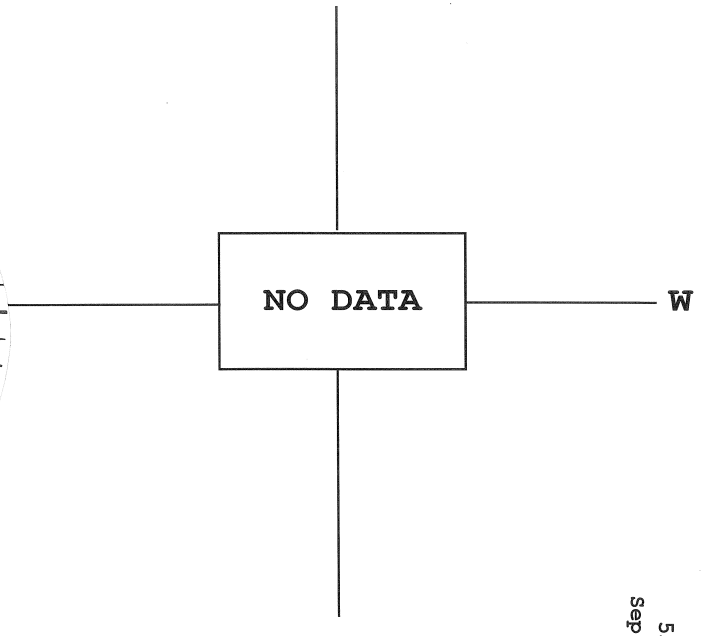
1524 UT

HOLLOMAN SUNSPOTS



2246 UT

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

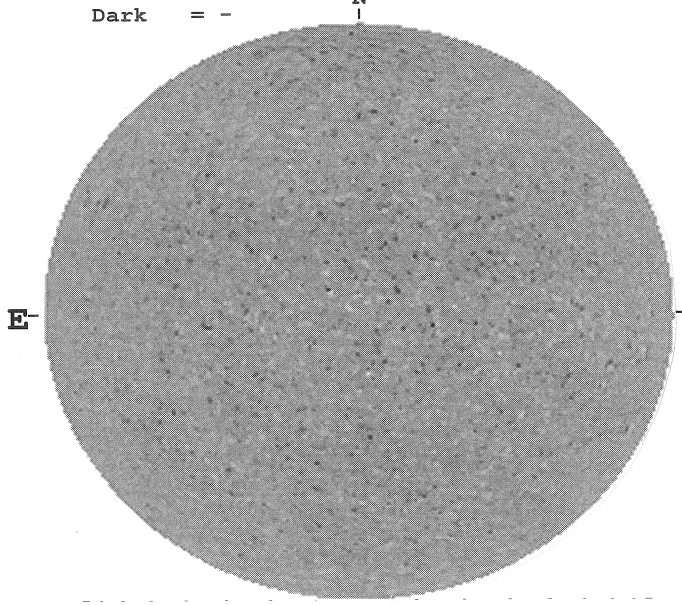


September 15, 2008 (P= 24.10, Bo= 7.20, Lo= 154.39)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

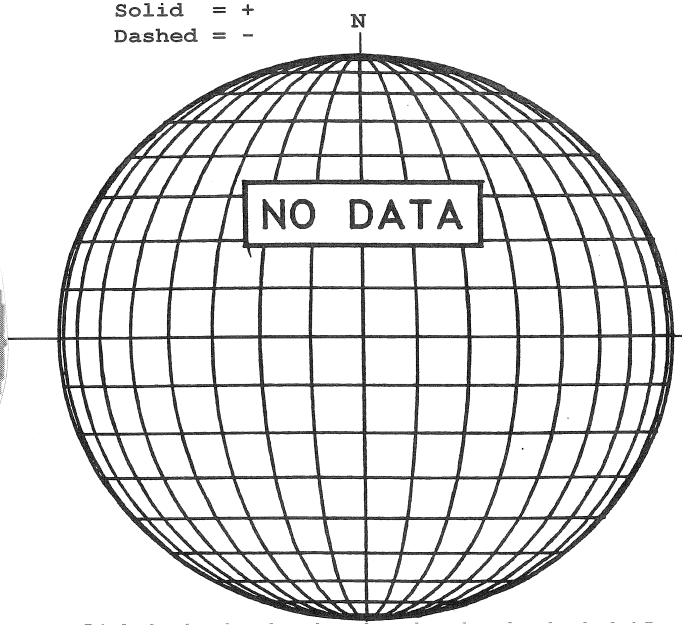
** 854.2NM **



1930 UT

STANFORD MAGNETOGRAM

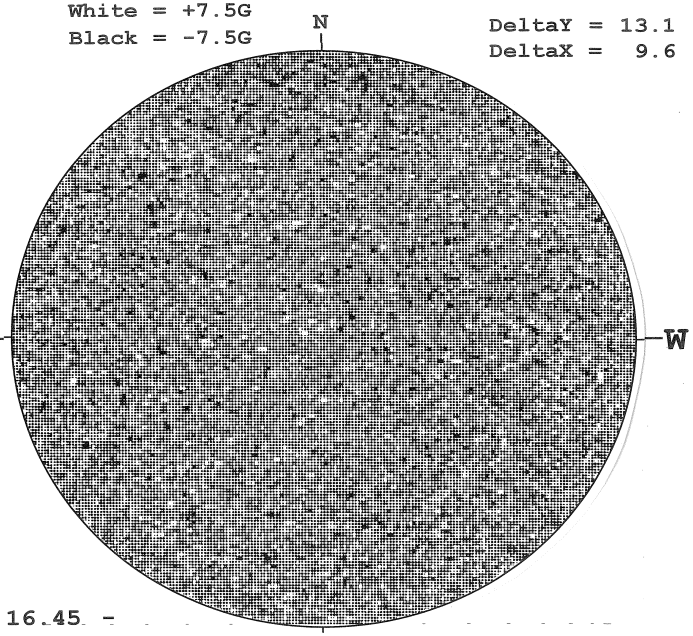
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

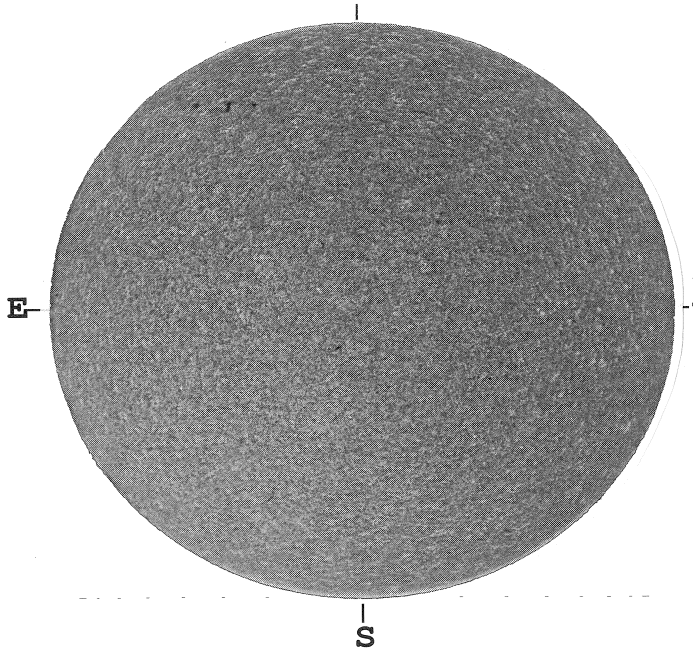
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



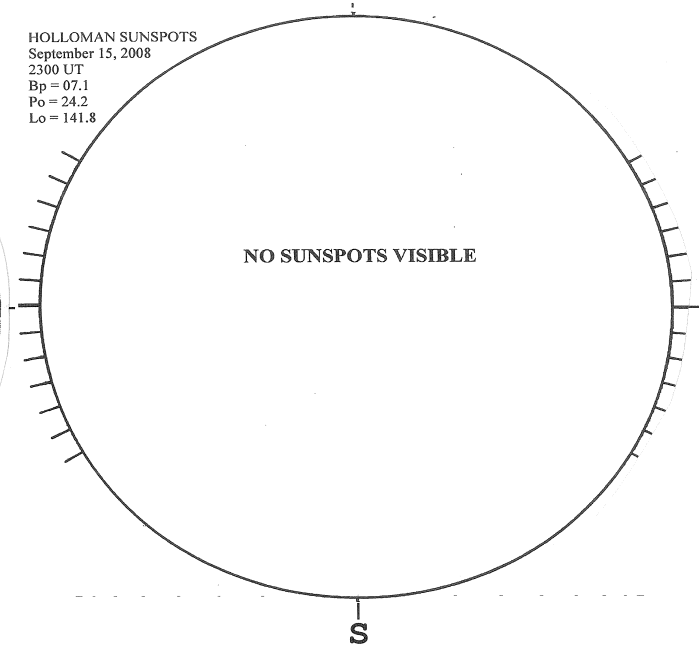
16.45 -
17.38 UT

BIG BEAR H-ALPHA



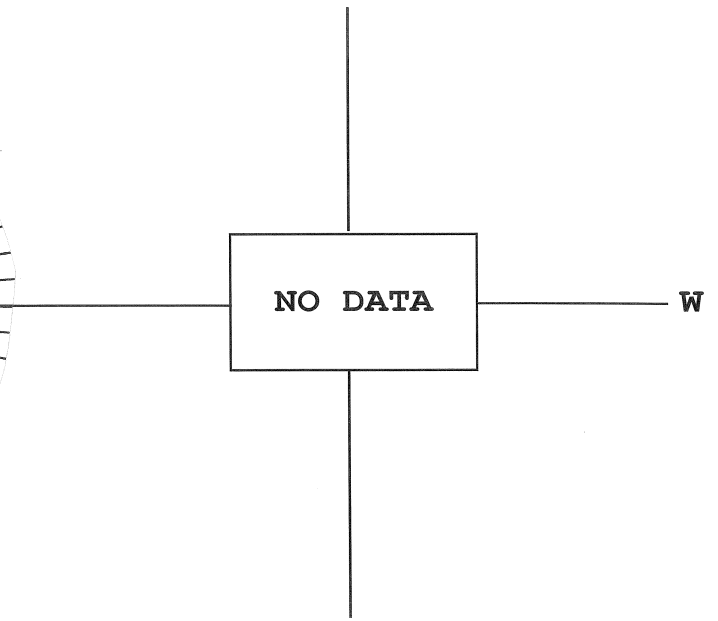
1523 UT

HOLLOMAN SUNSPOTS



2300 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

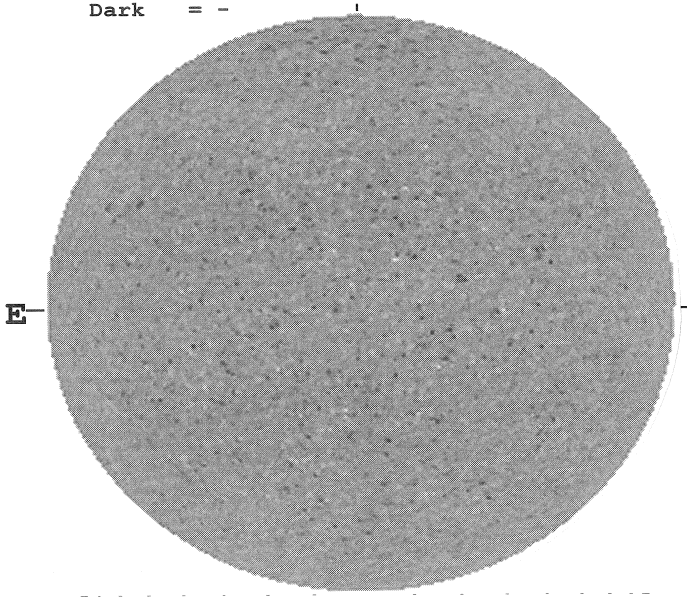


September 16, 2008 (P= 24.27, Bo= 7.19, Lo= 141.19)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

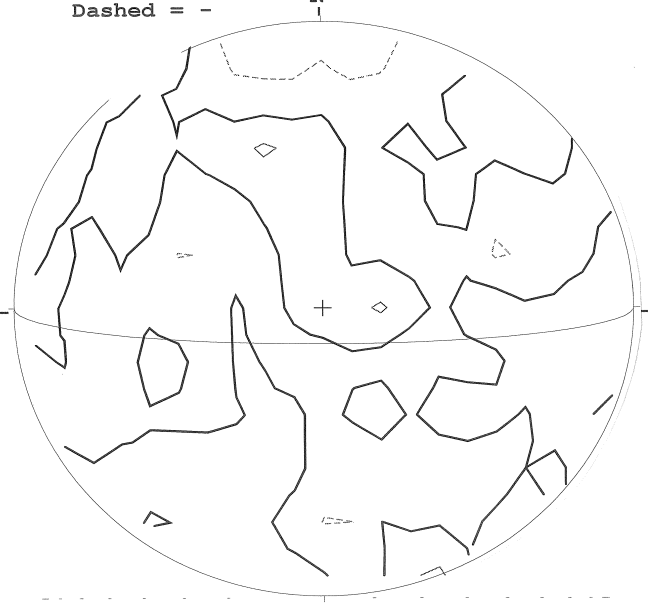
** 854.2NM **



1757 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

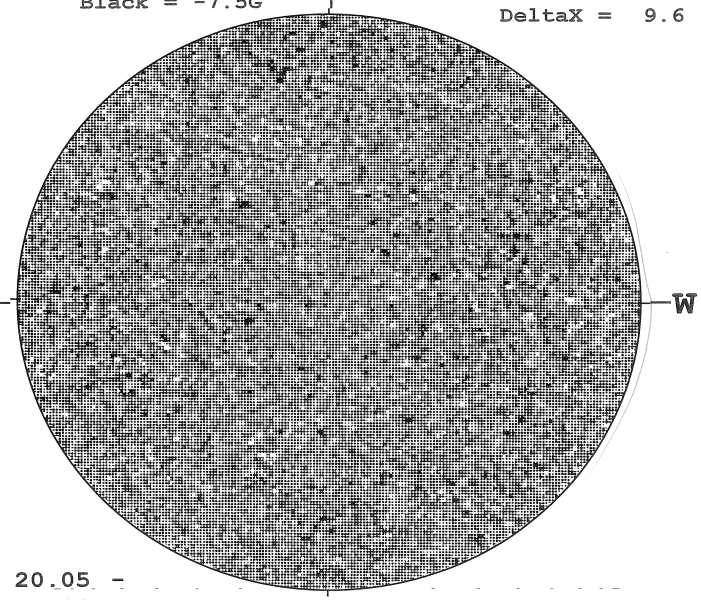


2150 UT

MT. WILSON MAGNETOGRAM

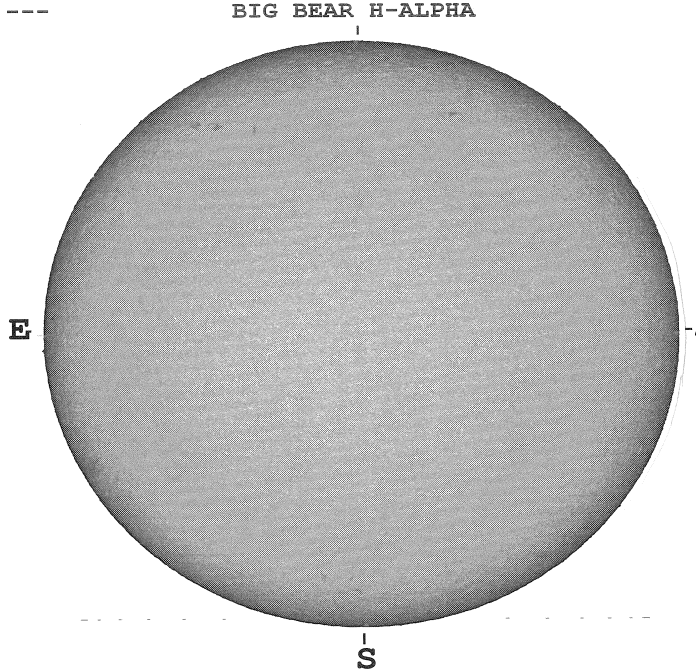
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



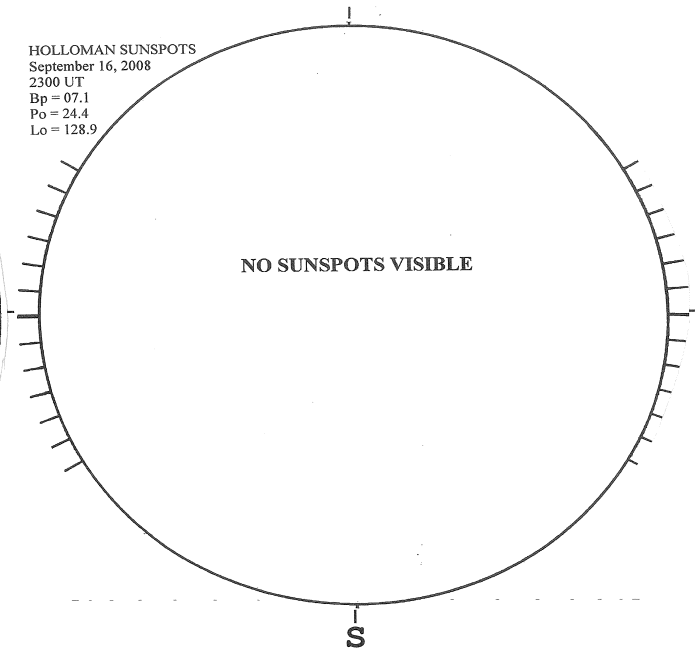
20.05 -
20.99 UT

BIG BEAR H-ALPHA



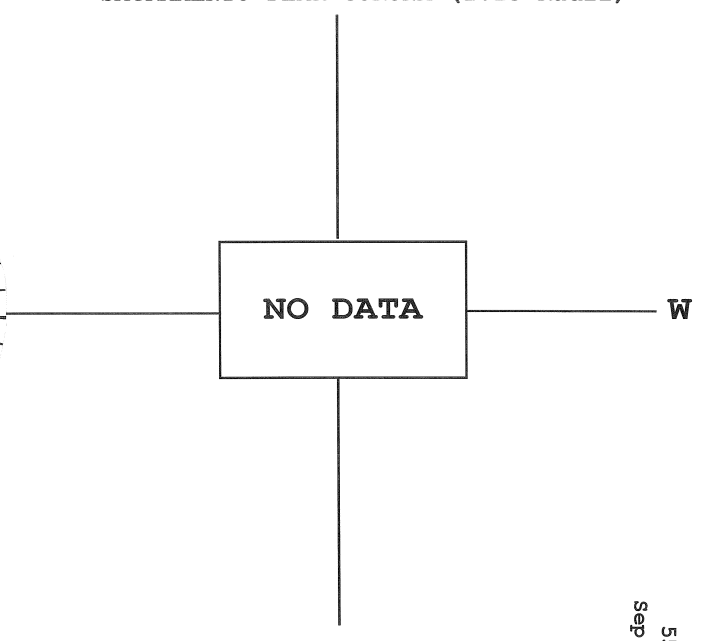
1546 UT

HOLLOMAN SUNSPOTS



2300 UT

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



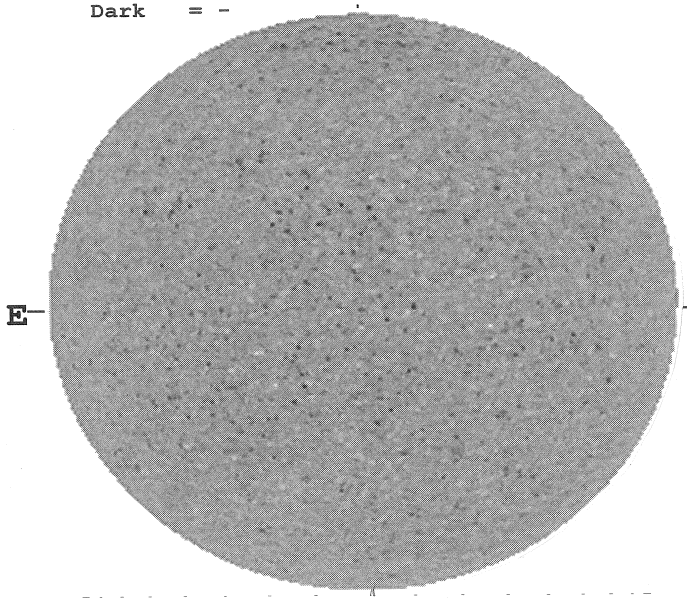
55
Sep 08

September 17, 2008 (P= 24.43, Bo= 7.17, Lo= 127.99)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

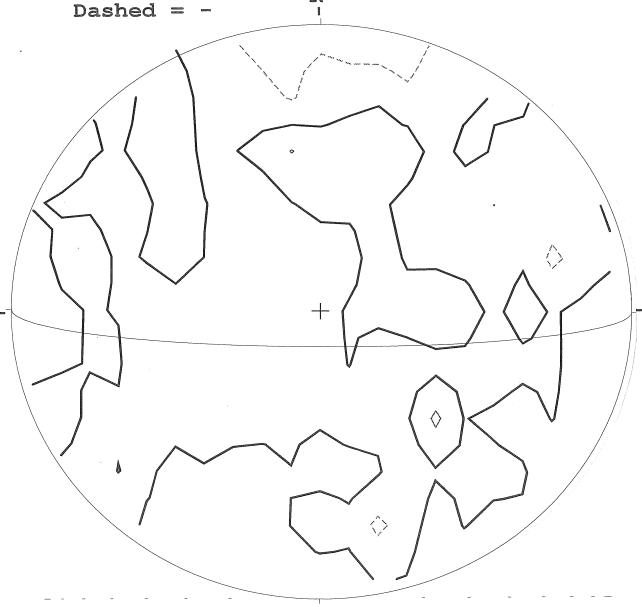
** 854.2NM **



1750 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

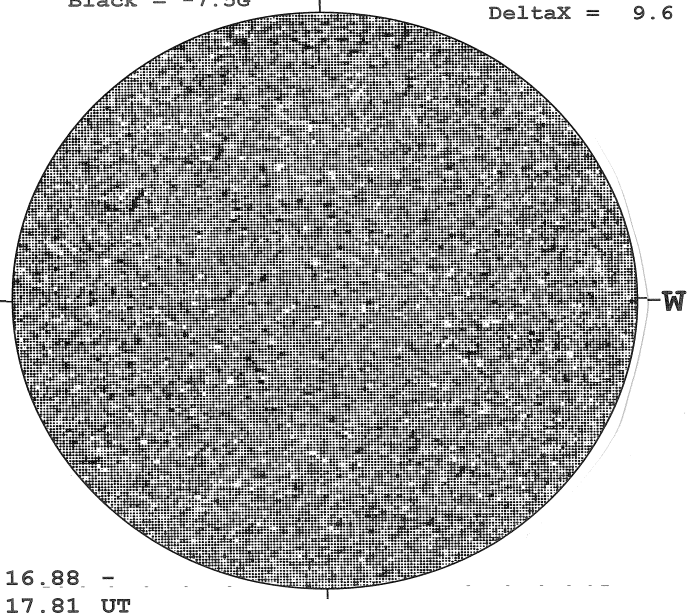


2247 UT

MT. WILSON MAGNETOGRAM

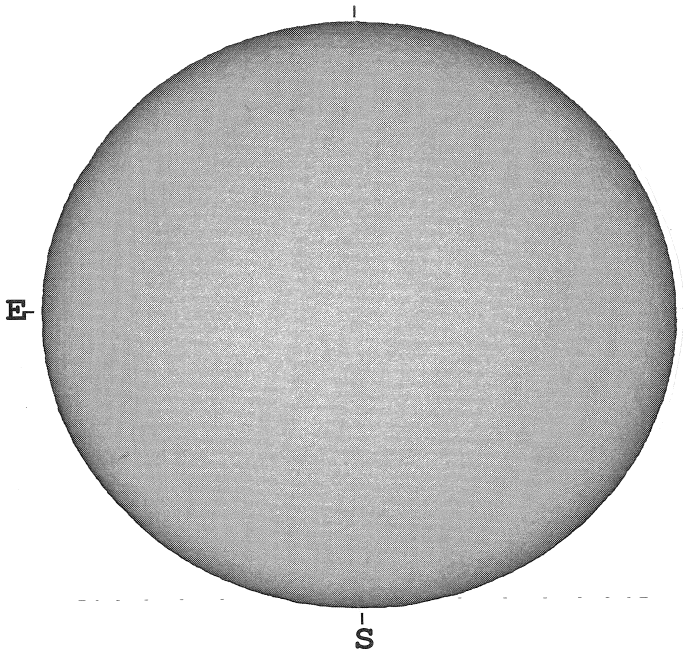
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



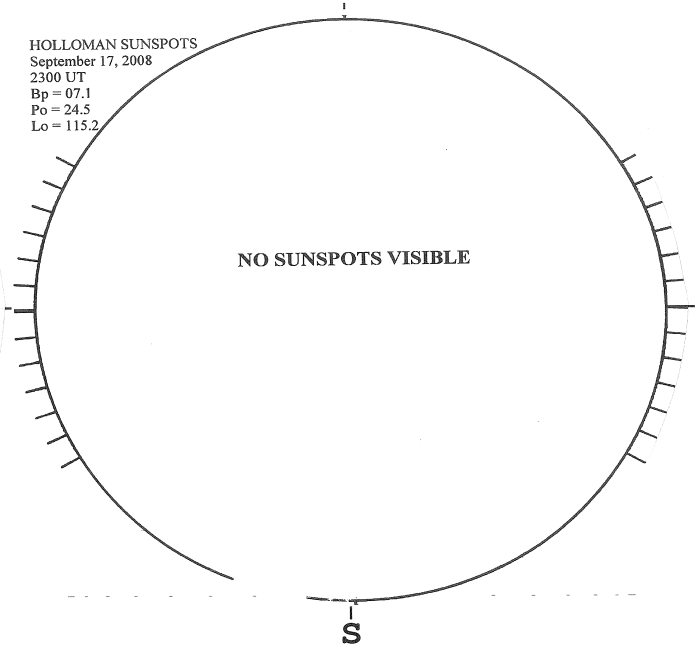
16.88 -
17.81 UT

BIG BEAR H-ALPHA



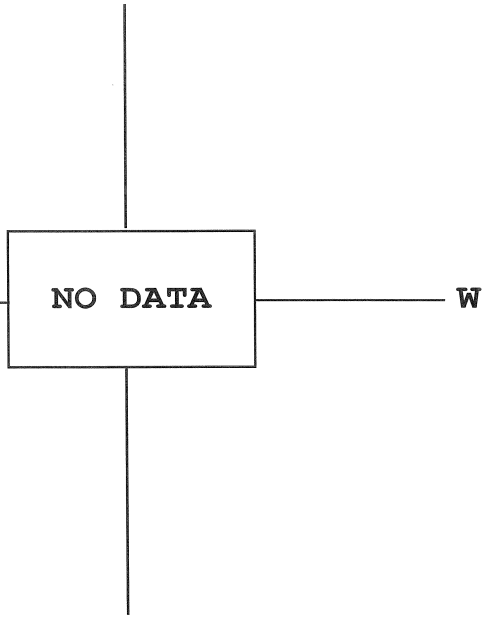
1528 UT

HOLLOMAN SUNSPOTS



2300 UT

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

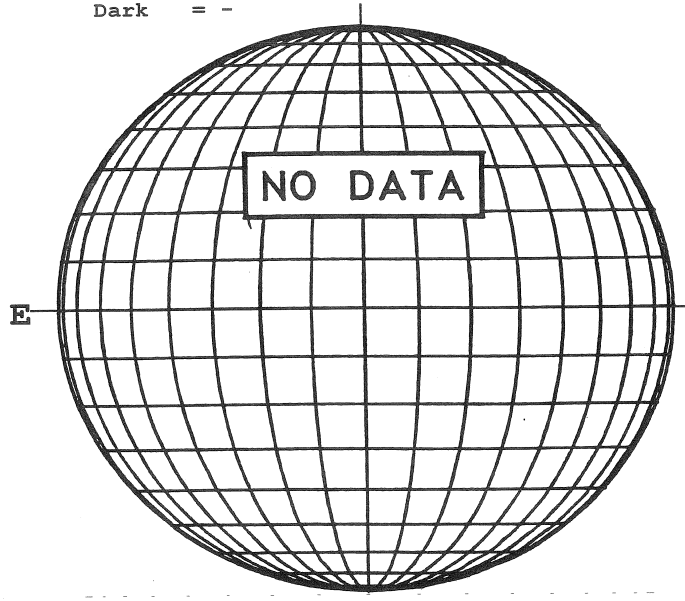


September 18, 2008 (P= 24.58, Bo= 7.15, Lo= 114.79)

KITT PEAK MAGNETOGRAM -- SOLIS

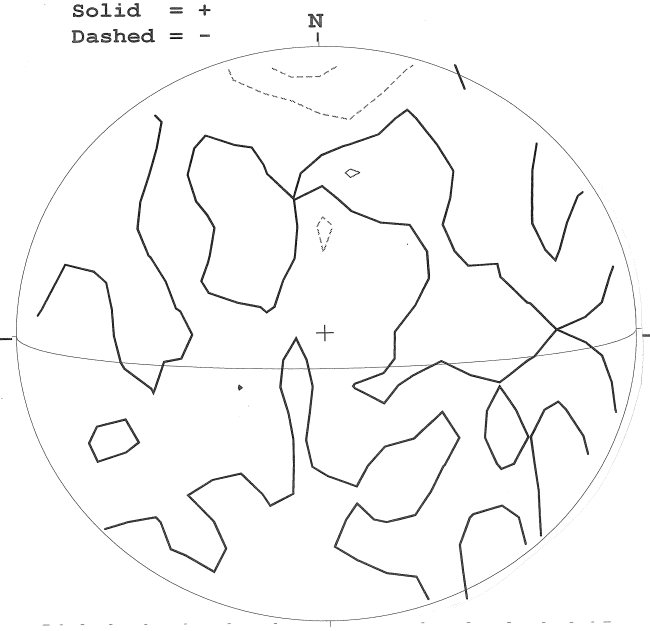
Bright = +
Dark = -

** 854.2NM **



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

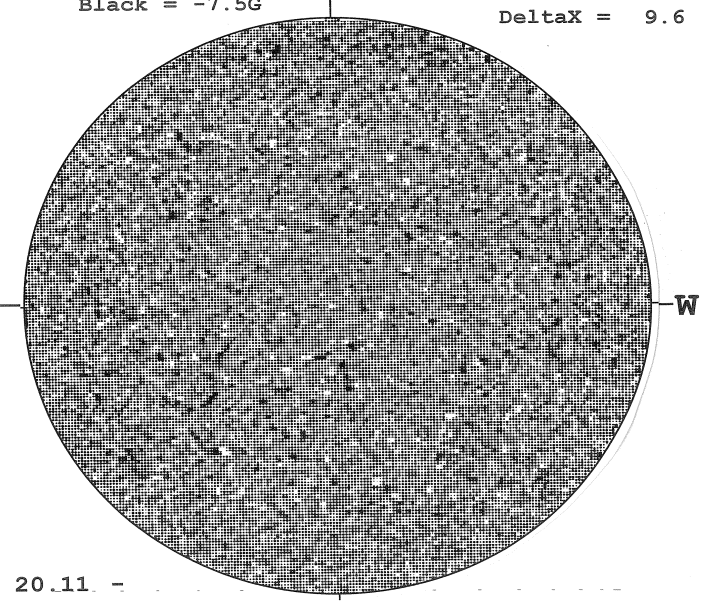


2122 UT

MT. WILSON MAGNETOGRAM

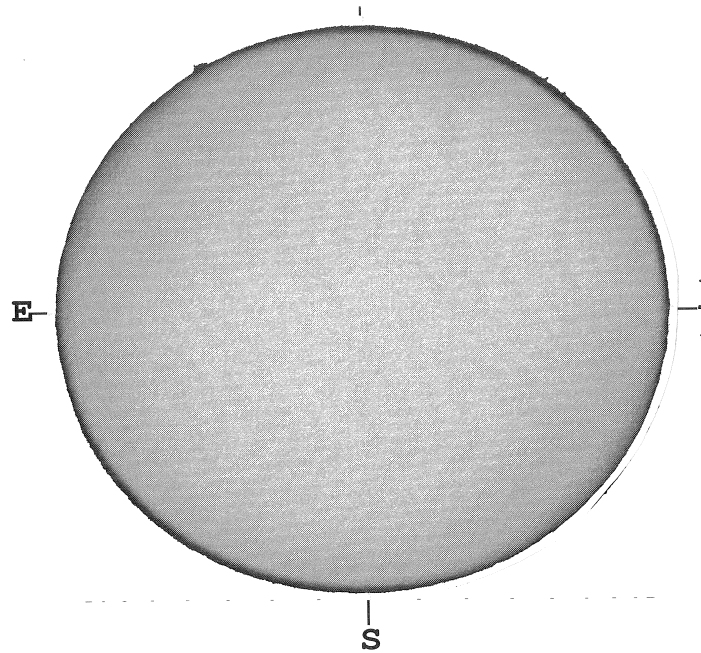
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



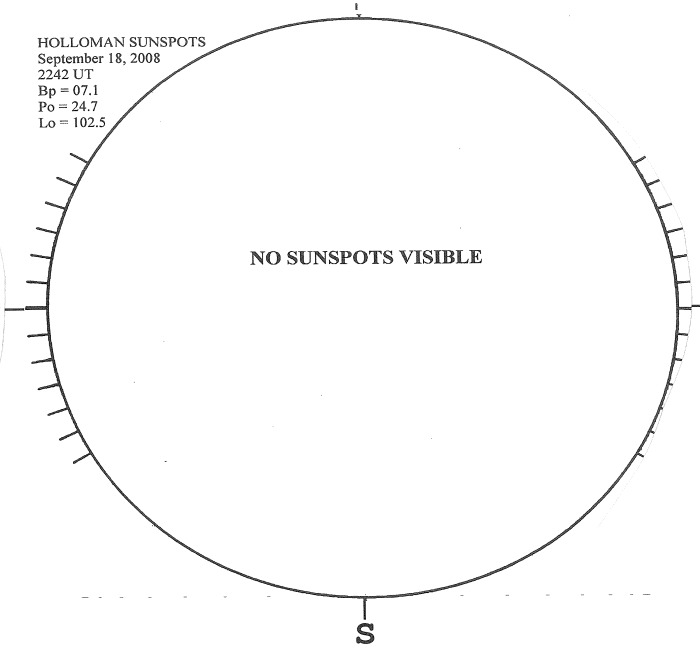
20.11 -
21.05 UT

MEUDON H-ALPHA



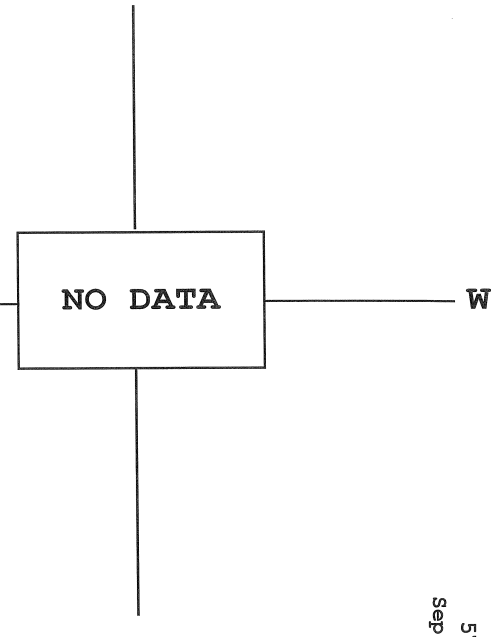
1214 UT

HOLLOMAN SUNSPOTS



2242 UT

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



57
Sep 08

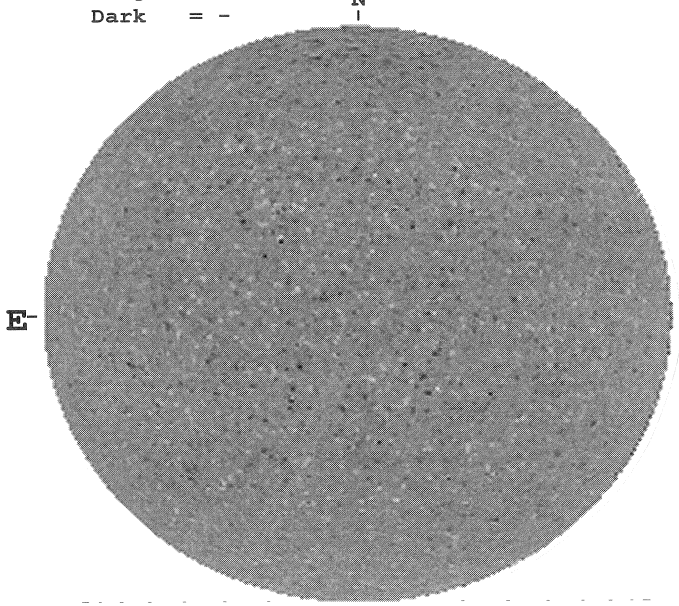
September 19, 2008 (P= 24.73, Bo= 7.13, Lo= 101.59)

Sep 08 58

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

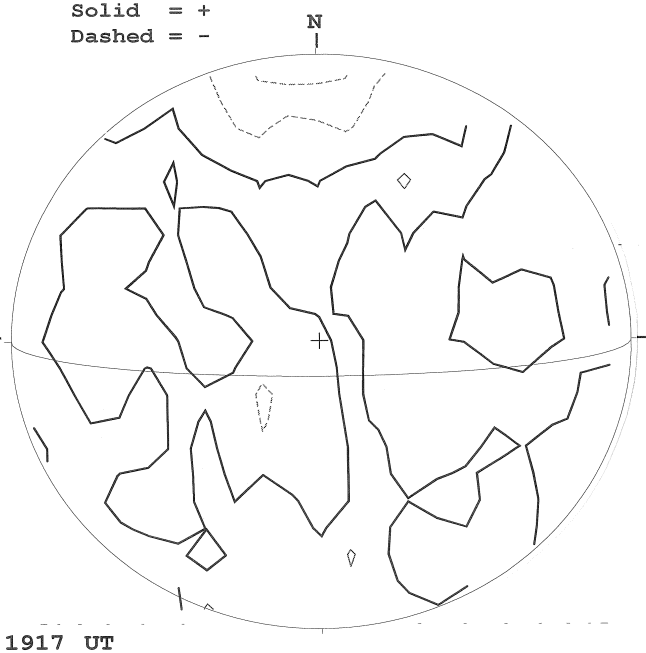
** 854.2NM **



1709 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

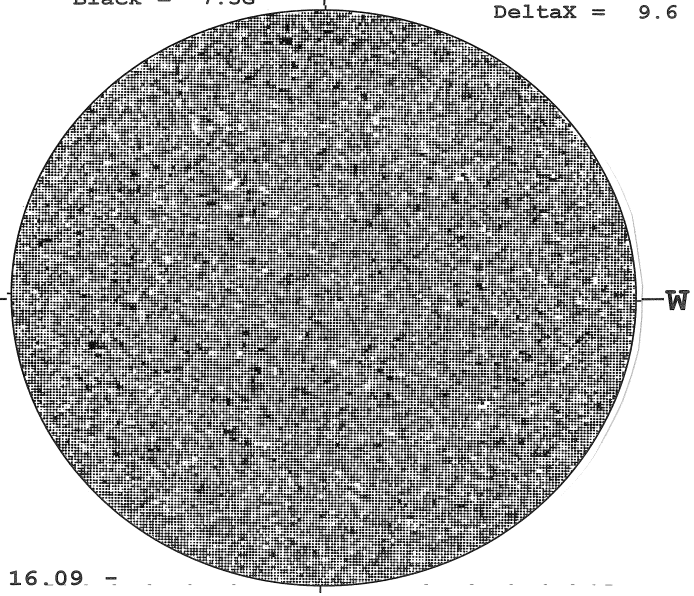


1917 UT

MT. WILSON MAGNETOGRAM

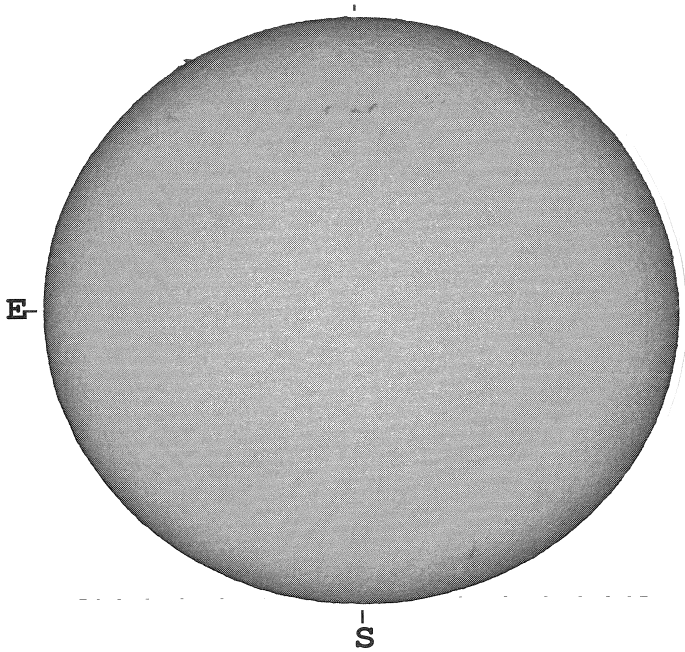
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



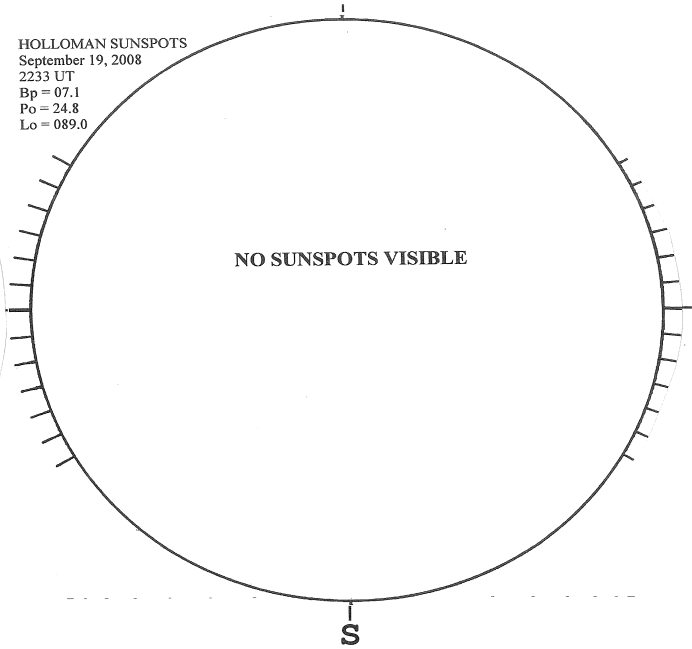
16.09 -
17.02 UT

BIG BEAR H-ALPHA



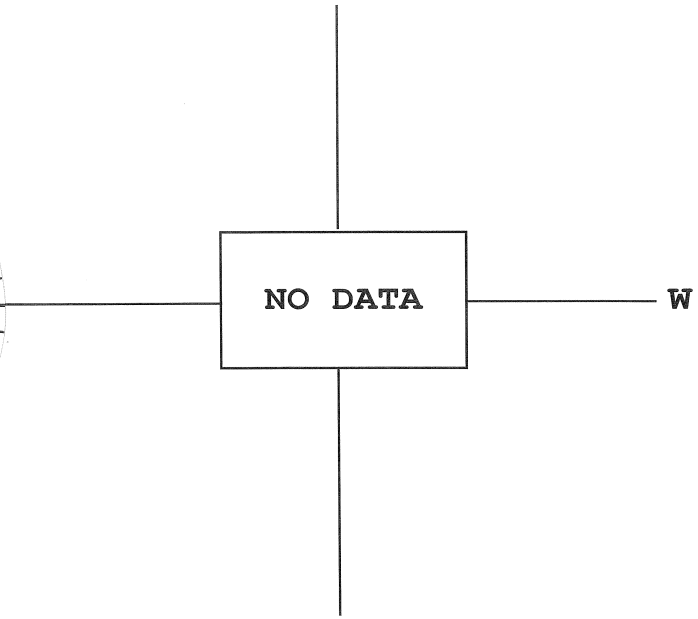
1549 UT

HOLLOMAN SUNSPOTS



2233 UT

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

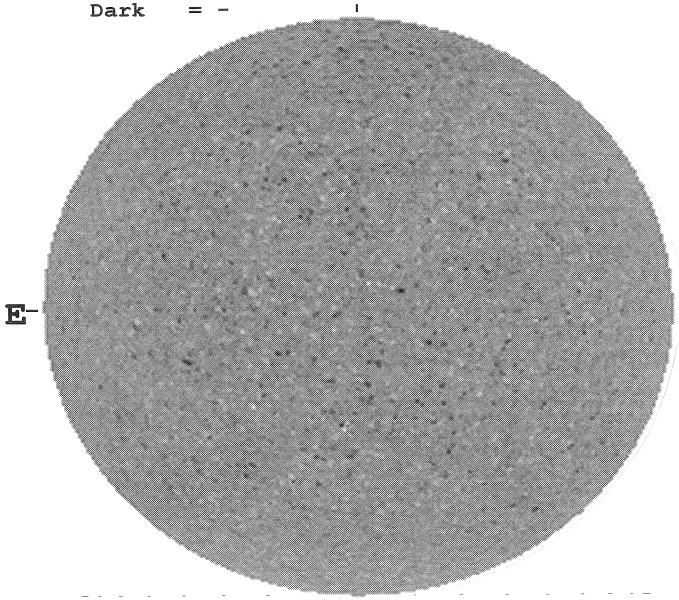


September 20, 2008 (P= 24.87, Bo= 7.10, Lo= 88.39)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

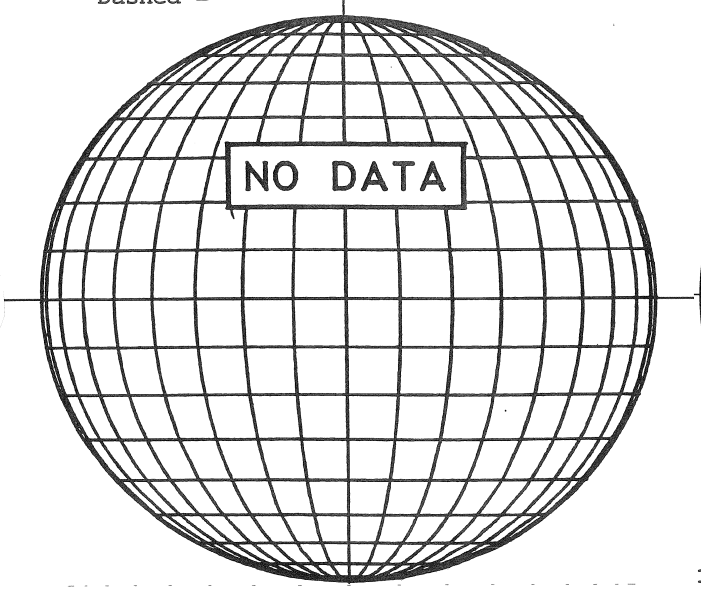
** 854.2NM **



1725 UT

STANFORD MAGNETOGRAM

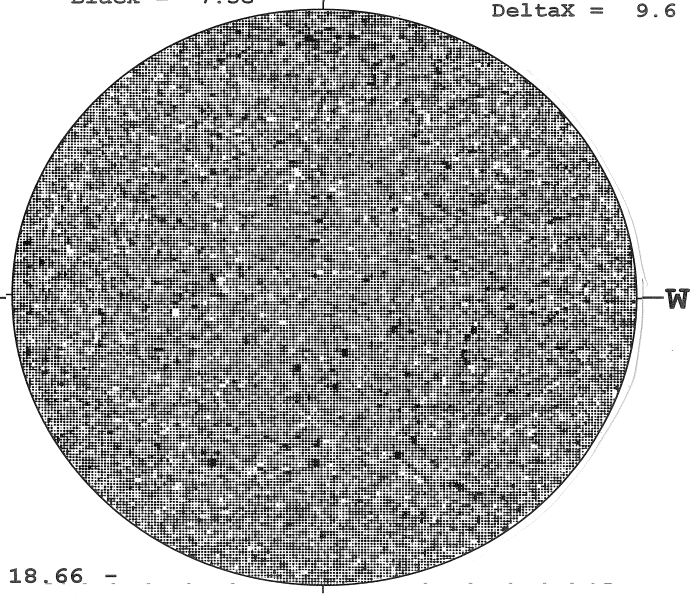
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

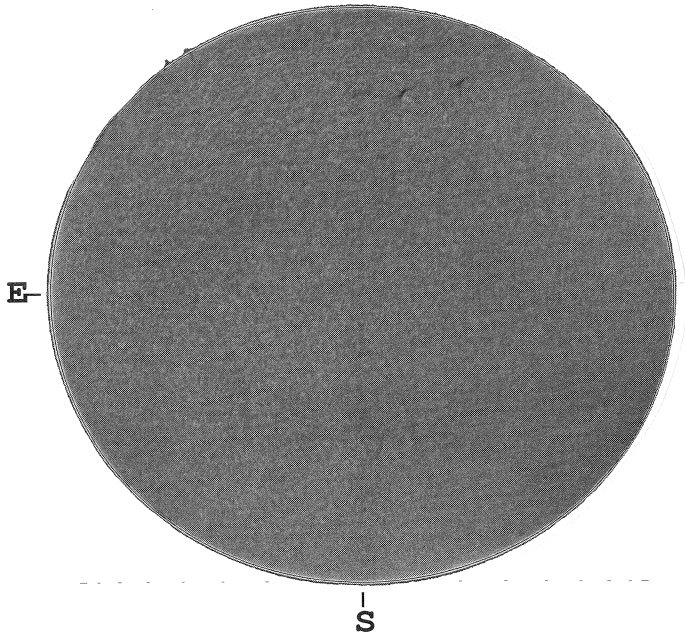
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



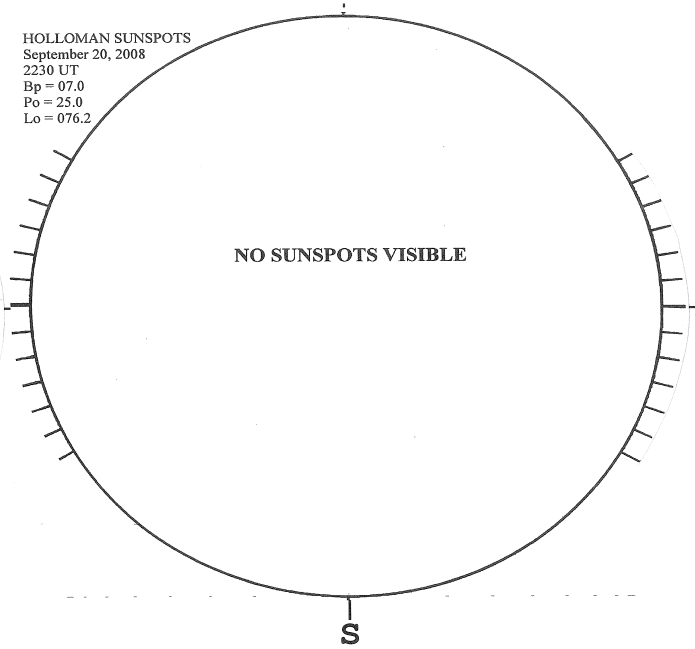
18.66 -
19.60 UT

--- KANZELHOHE H-ALPHA



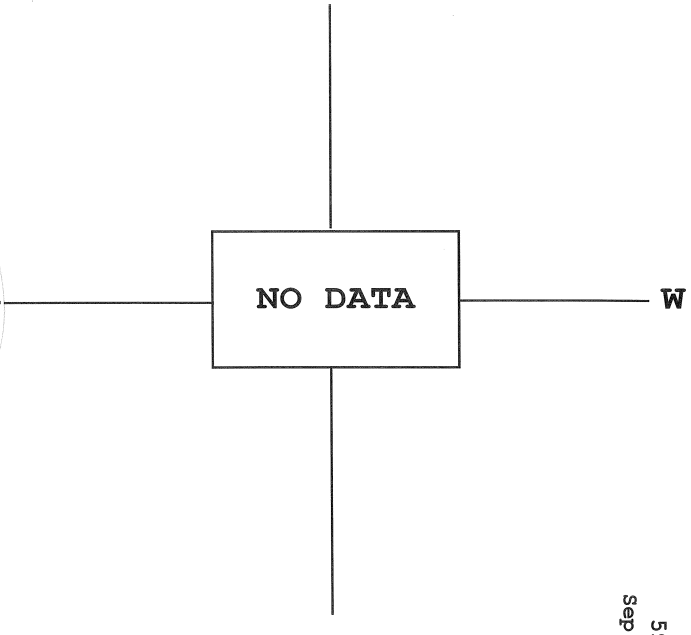
1019 UT

HOLLOMAN SUNSPOTS



2230 UT

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



59
Sep 08

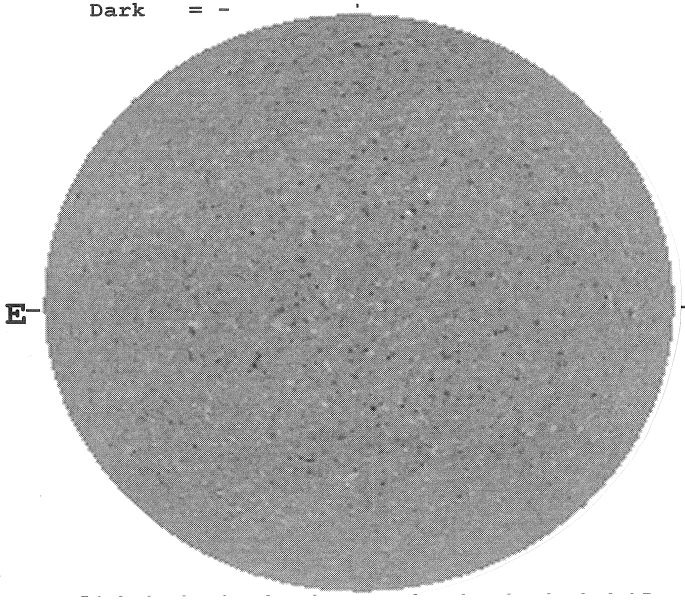
September 21, 2008 (P= 25.01, Bo= 7.08, Lo= 75.19)

sep 08 60

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

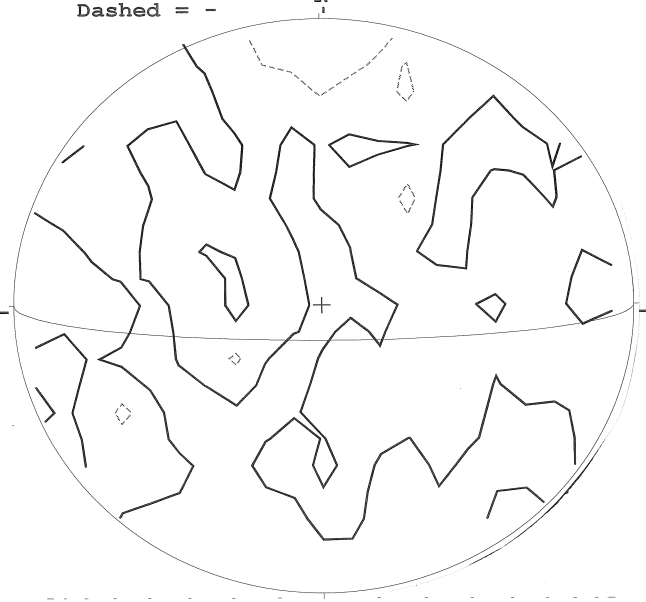
** 854.2NM **



1734 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

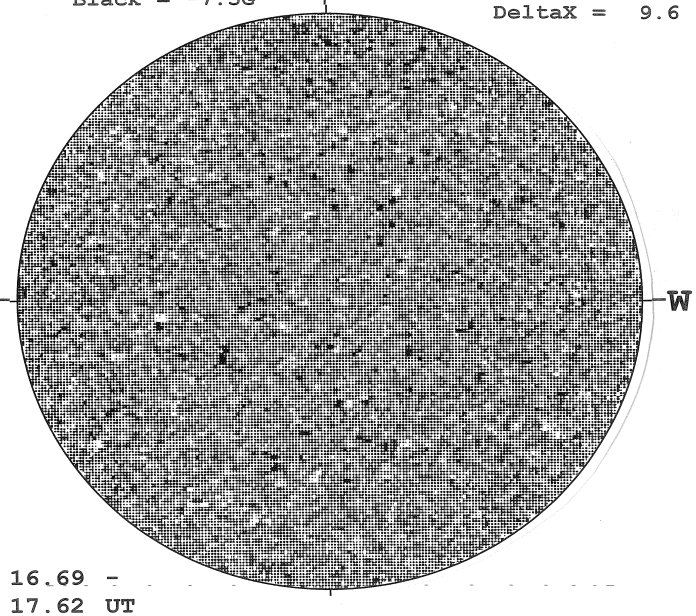


2304 UT

MT. WILSON MAGNETOGRAM

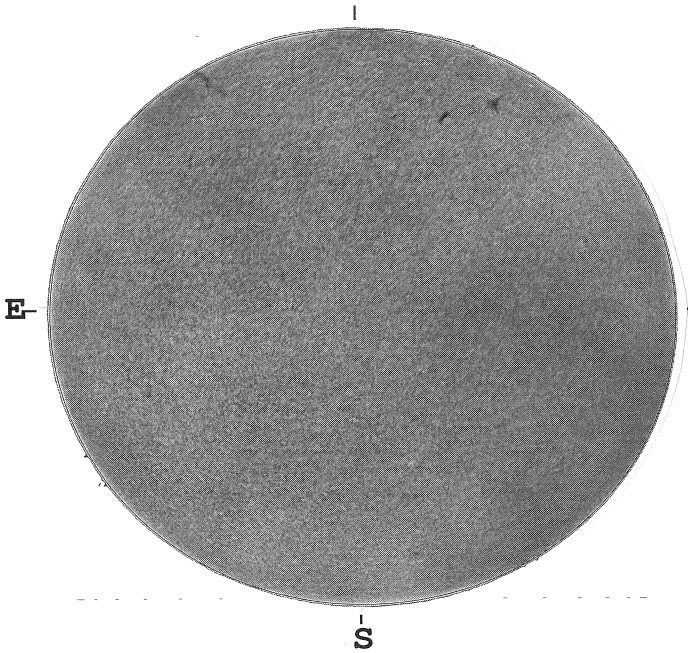
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



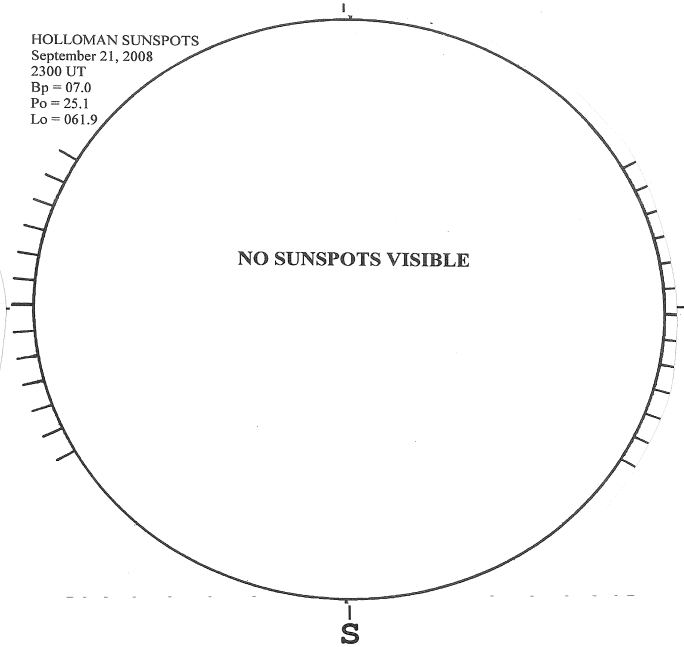
16.69 -
17.62 UT

KANZELHOHE H-ALPHA



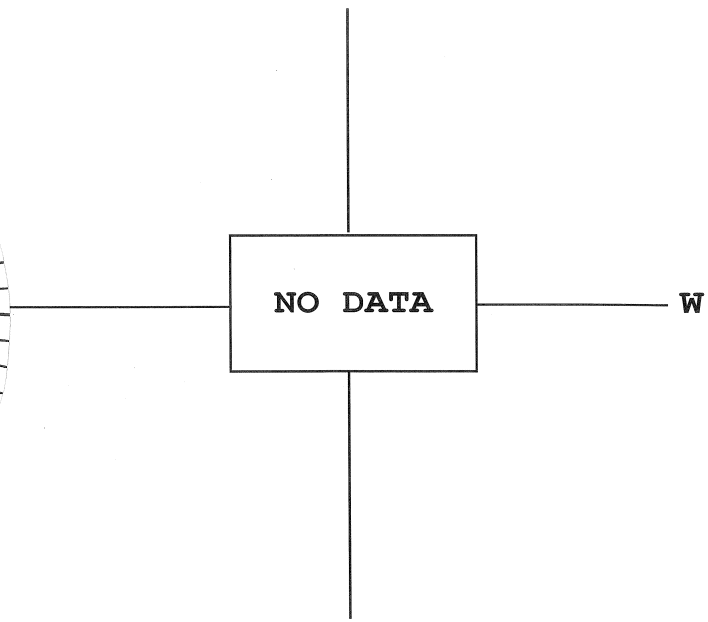
0832 UT

HOLLOMAN SUNSPOTS



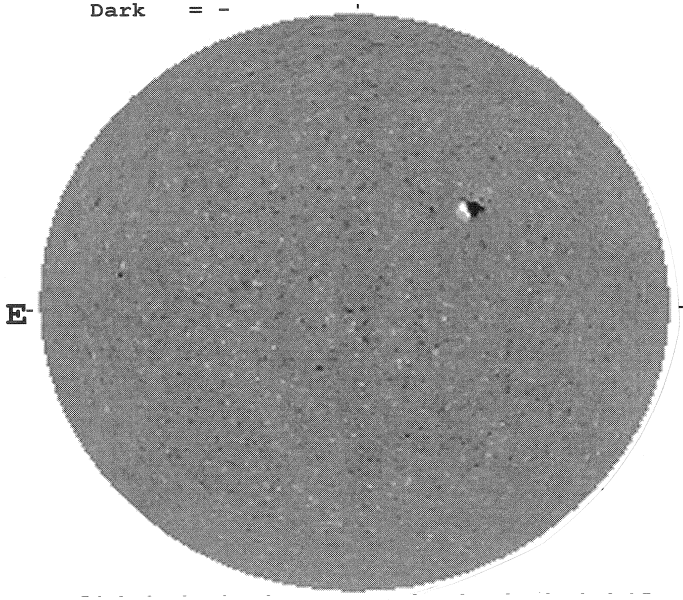
2300 UT

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



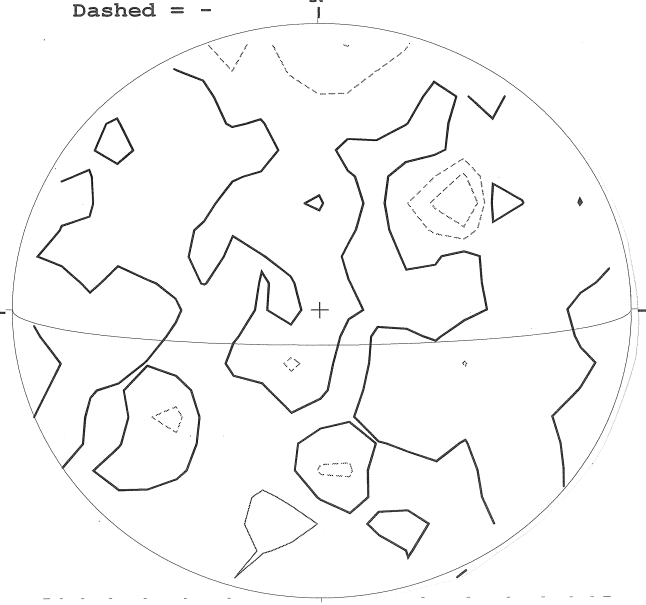
September 22, 2008 (P= 25.14, Bo= 7.05, Lo= 61.99)

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



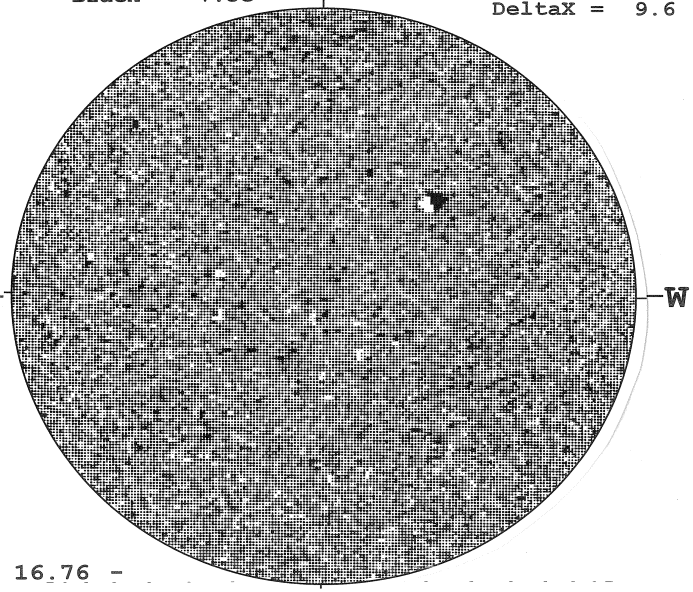
1822 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -



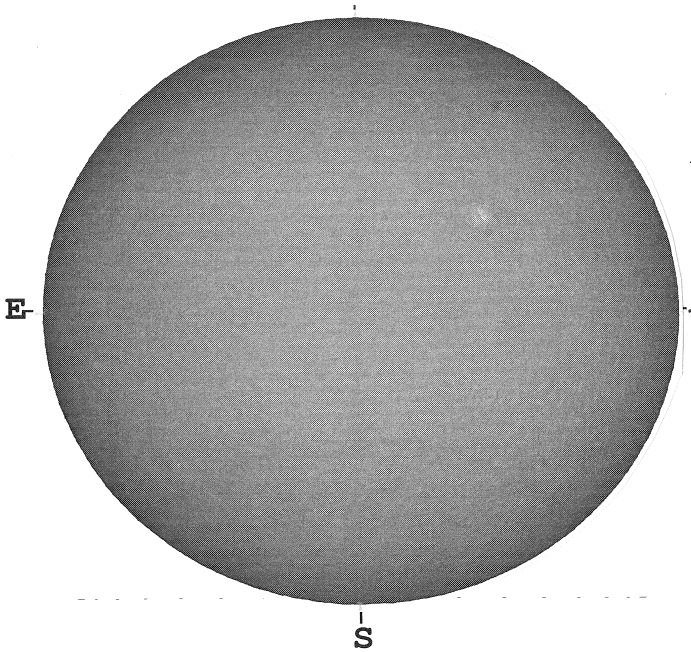
1847 UT

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



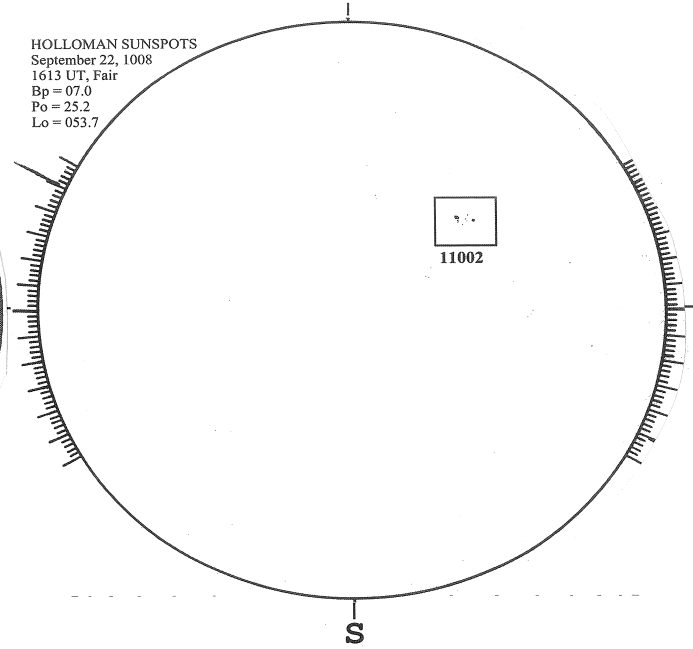
16.76 -
17.71 UT

BIG BEAR H-ALPHA



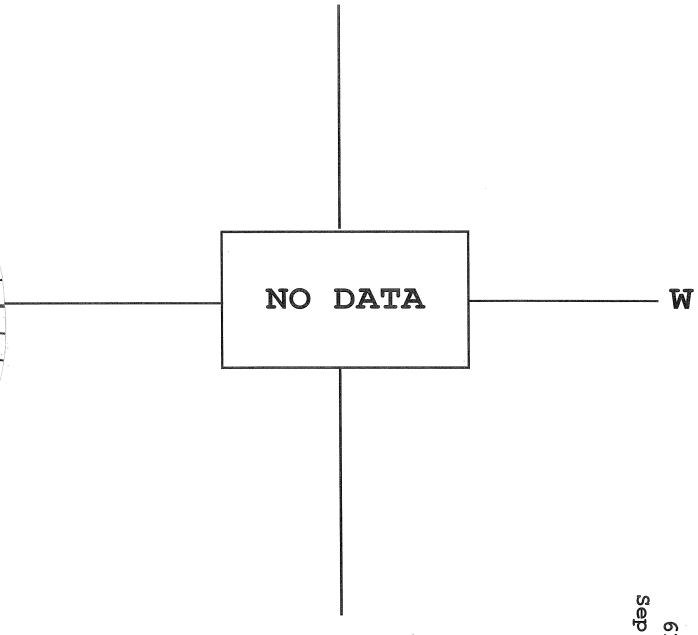
1956 UT

HOLLOMAN SUNSPOTS



1613 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



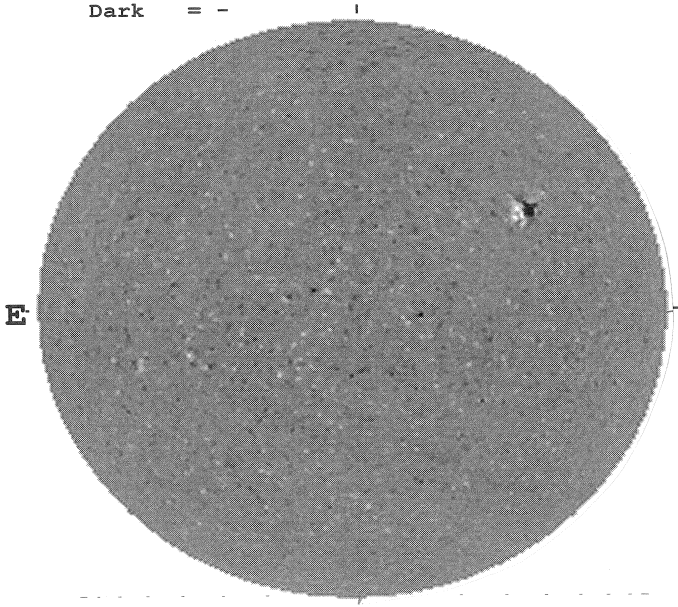
September 23, 2008 (P= 25.26, Bo= 7.02, Lo= 48.79)

Sep 08 62

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

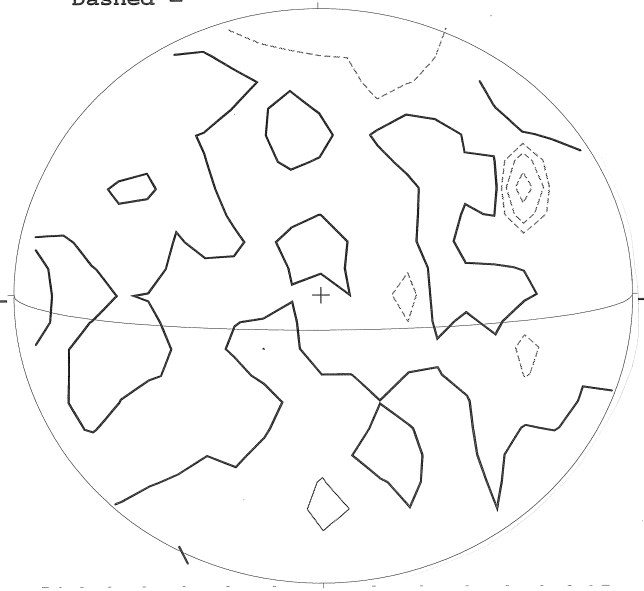
** 854.2NM **



1903 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

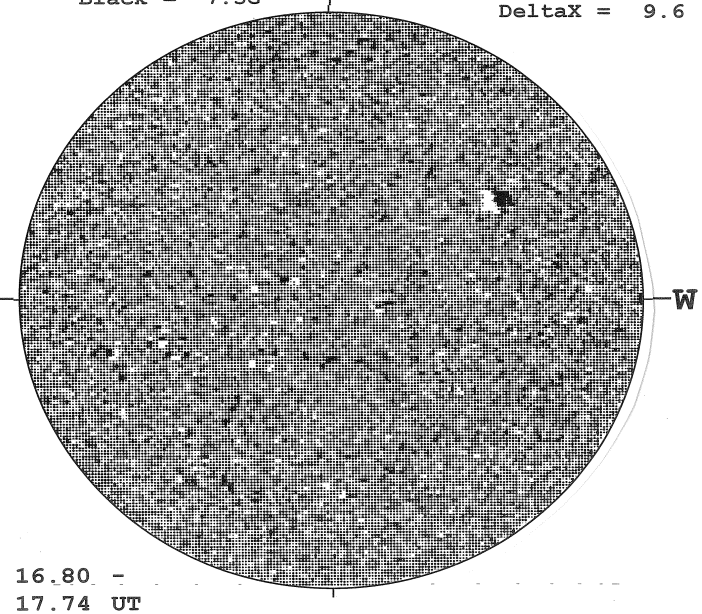


1900 UT

MT. WILSON MAGNETOGRAM

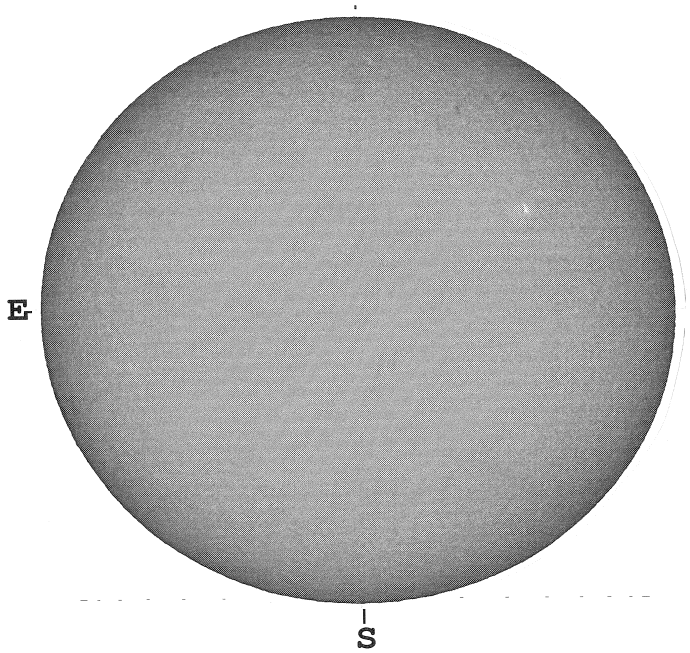
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



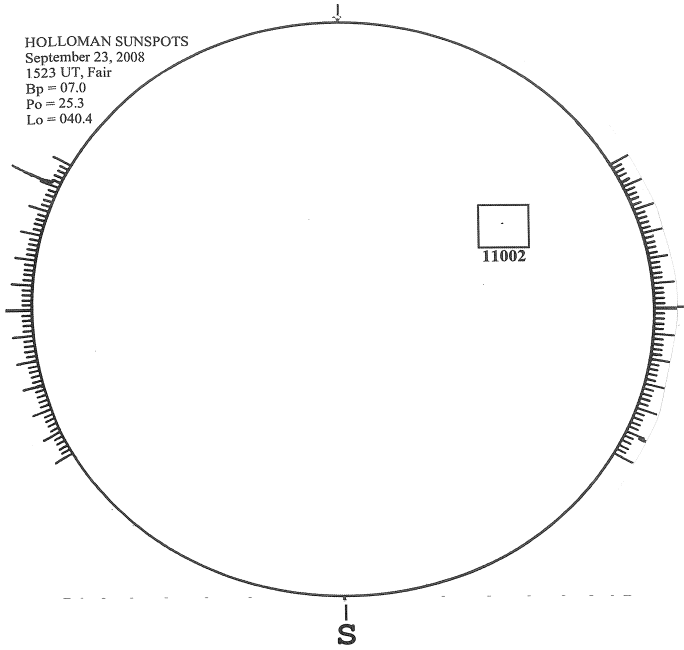
16.80 -
17.74 UT

BIG BEAR H-ALPHA



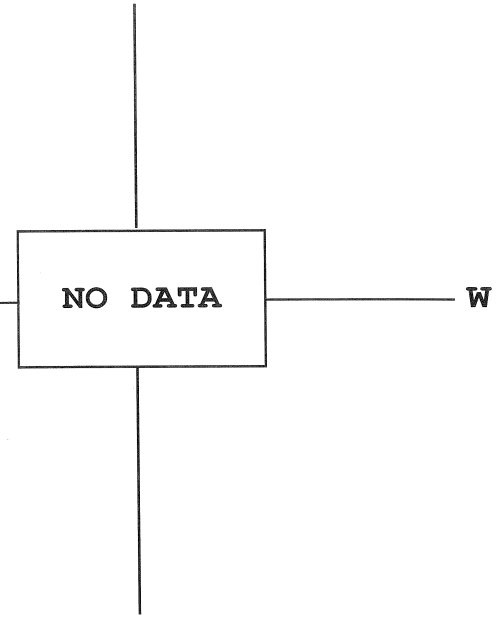
1542 UT

HOLLOMAN SUNSPOTS



1523 UT

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

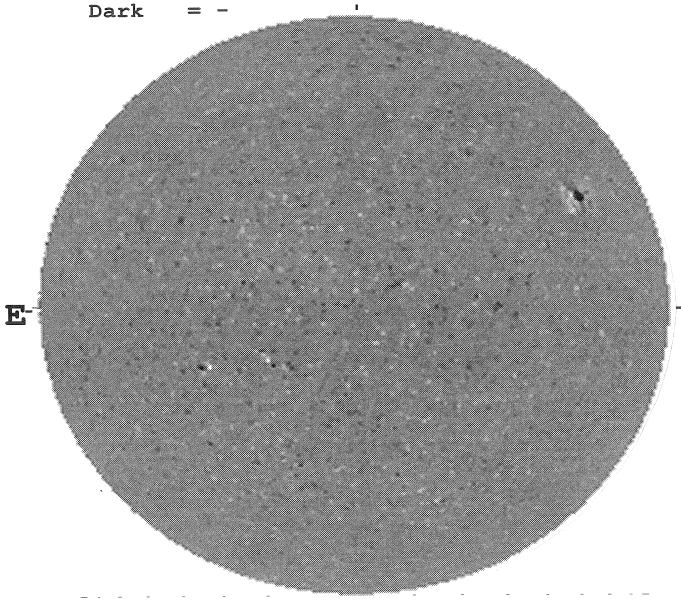


September 24, 2008 (P= 25.37, Bo= 6.99, Lo= 35.59)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

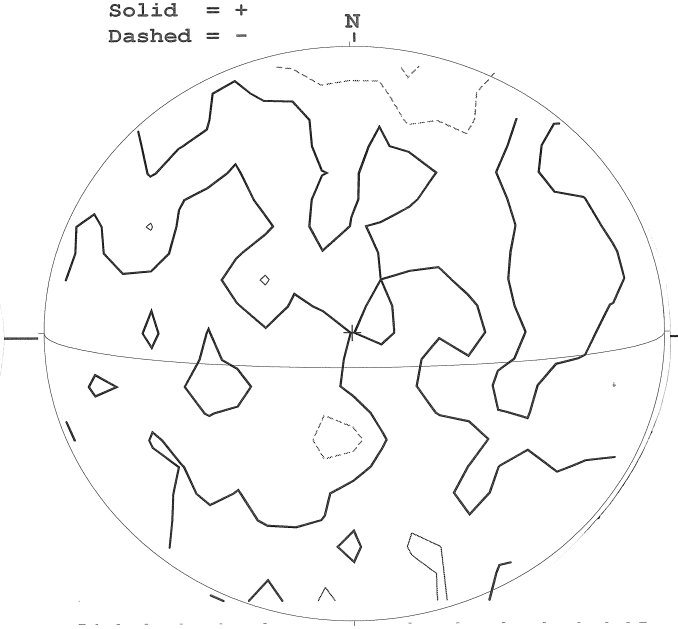
** 854.2NM **



2137 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

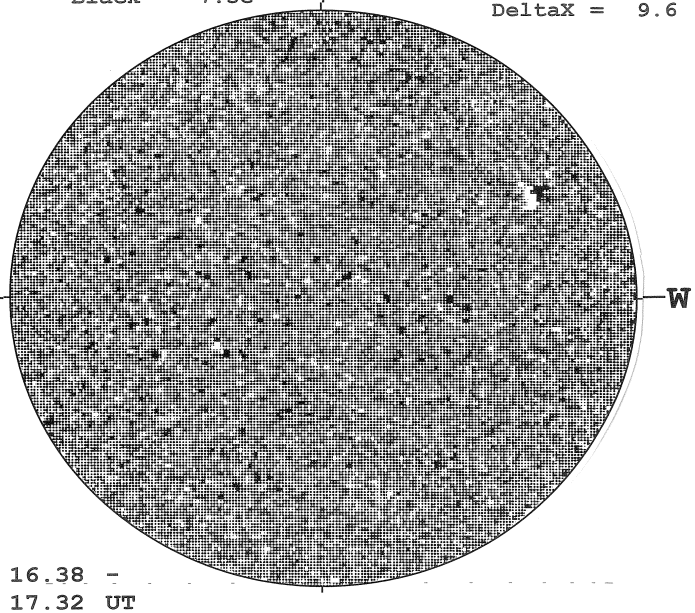


2300 UT

MT. WILSON MAGNETOGRAM

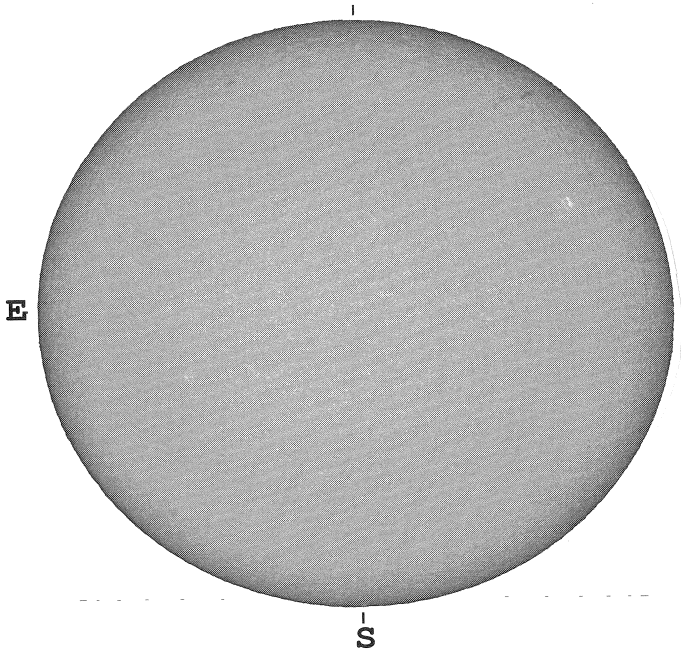
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



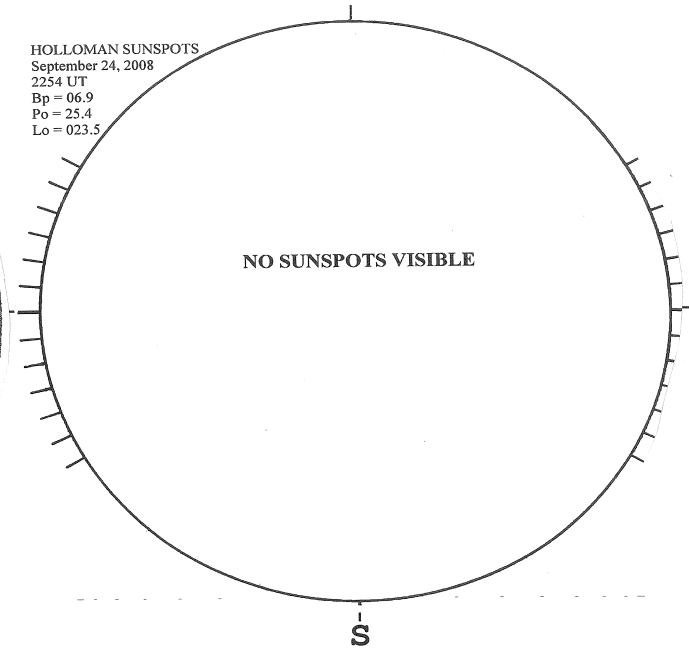
16.38 -
17.32 UT

BIG BEAR H-ALPHA



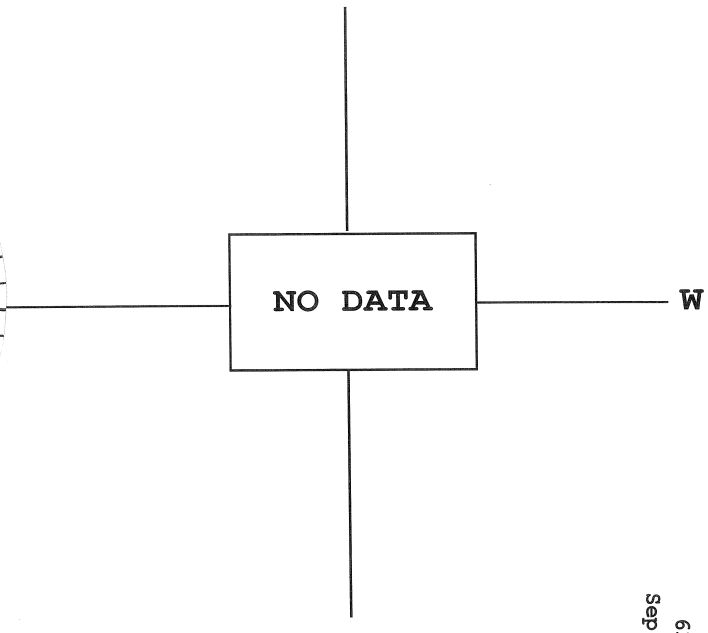
1554 UT

HOLLOMAN SUNSPOTS



2254 UT

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



63
Sep 08

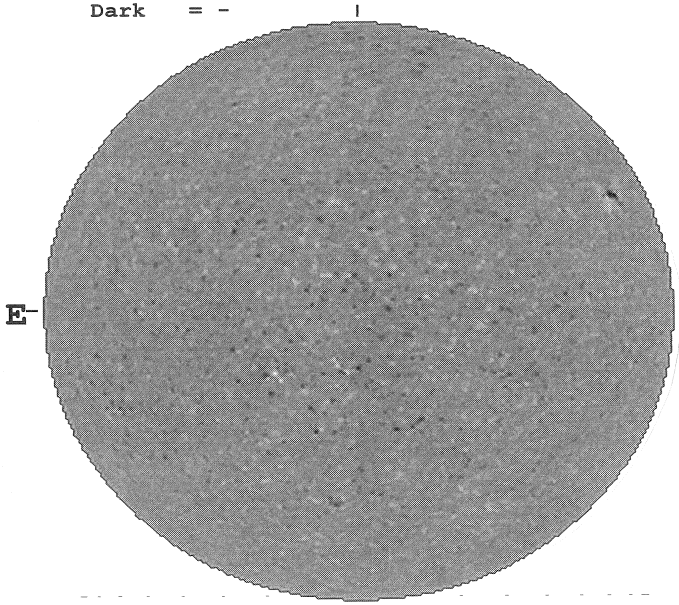
September 25, 2008 (P= 25.48, Bo= 6.95, Lo= 22.39)

Sep 08 64

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

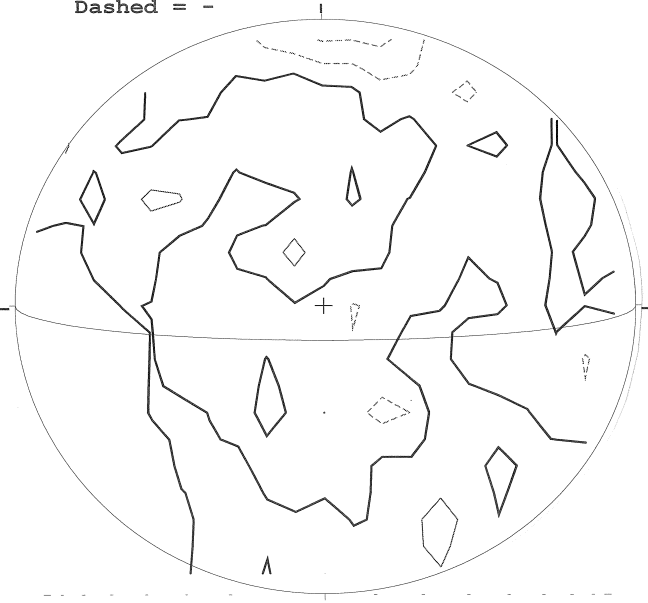
** 854.2NM **



1852 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

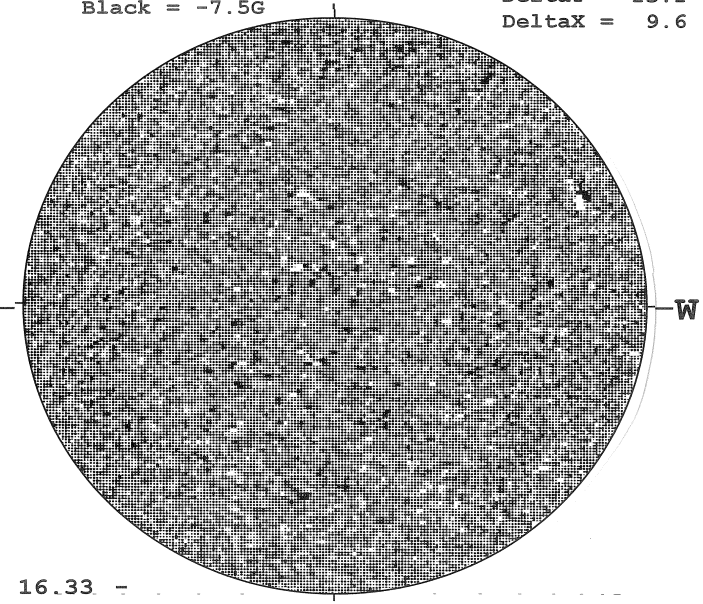


2304 UT

MT. WILSON MAGNETOGRAM

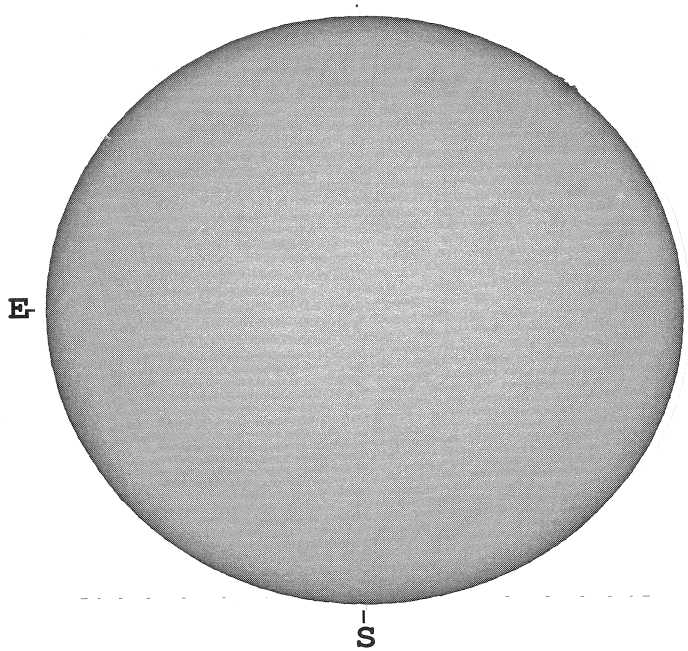
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



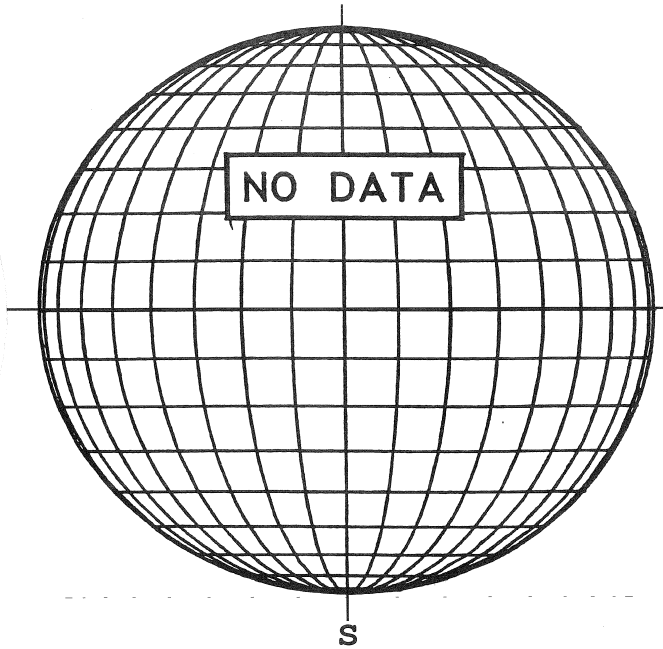
16.33 -
17.27 UT

BIG BEAR H-ALPHA

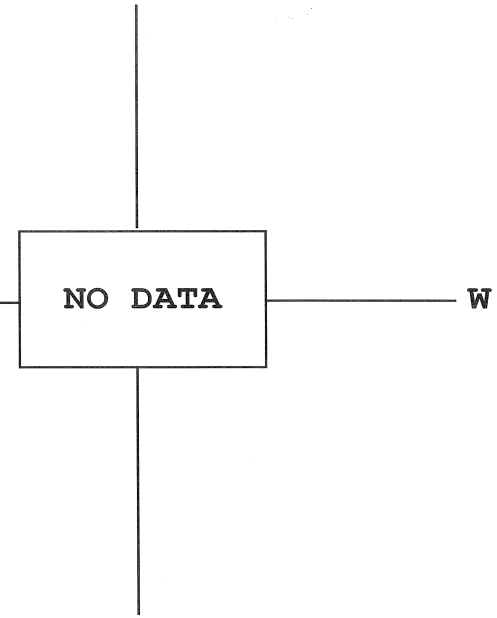


1954 UT

HOLLOMAN SUNSPOTS



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

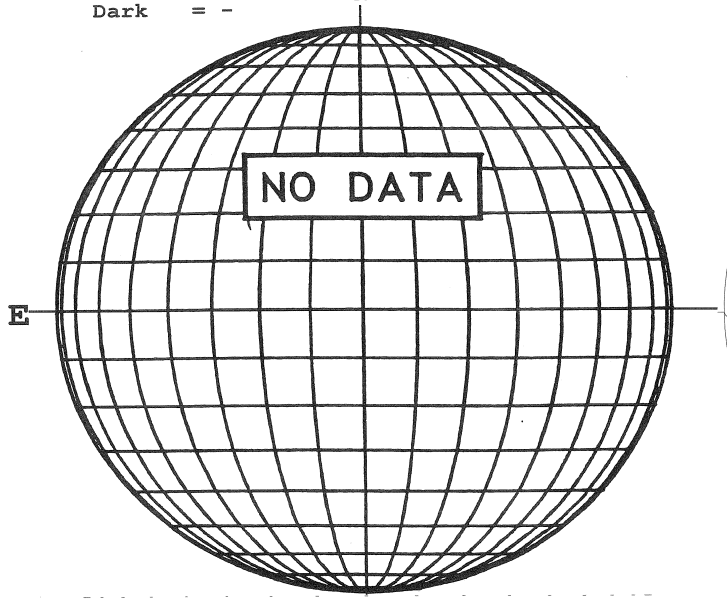


September 26, 2008 (P= 25.58, Bo= 6.92, Lo= 9.19)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

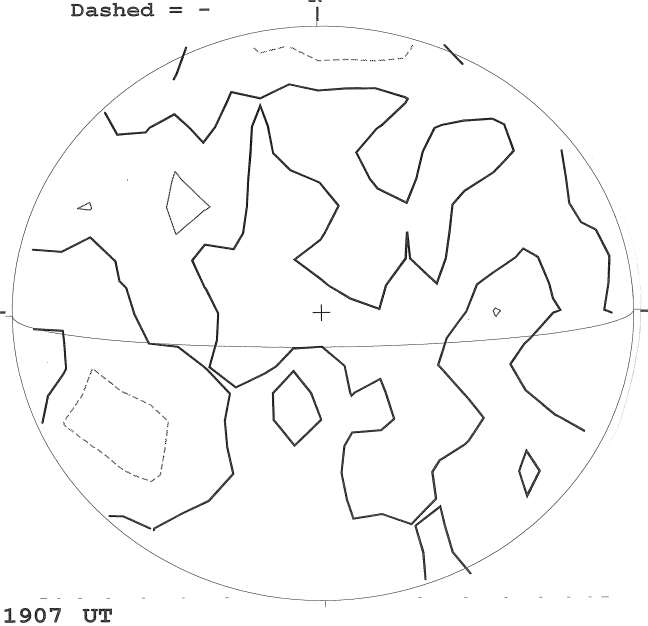
** 854.2NM **



1907 UT

STANFORD MAGNETOGRAM

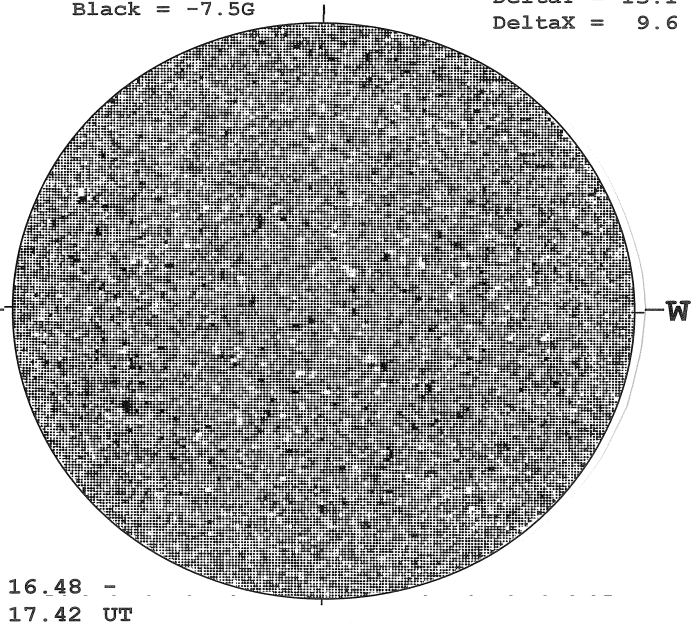
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

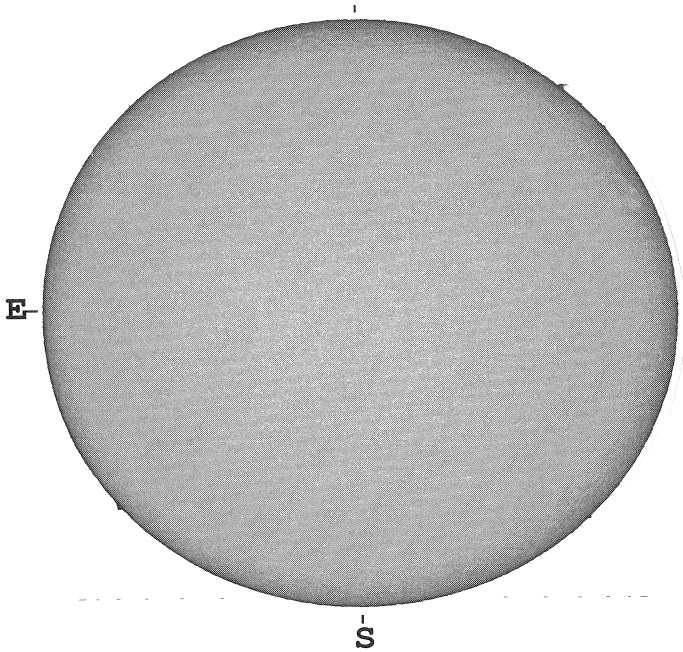
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



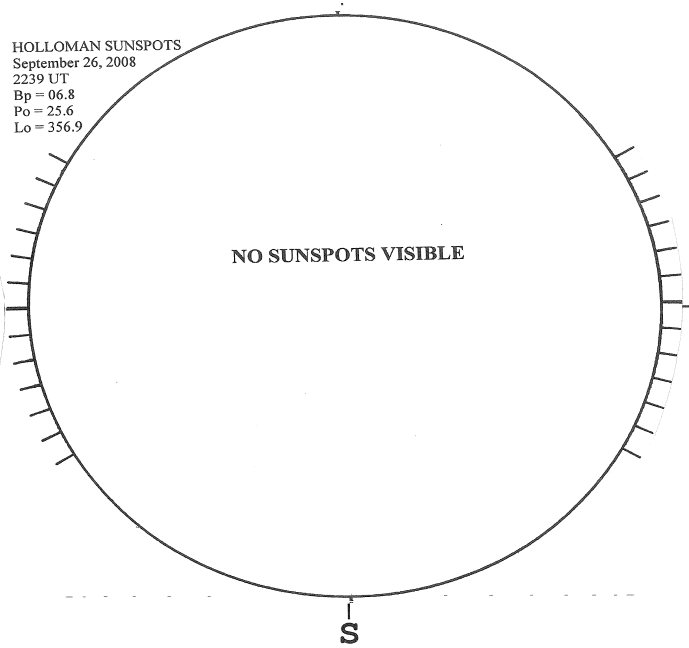
16.48 -
17.42 UT

BIG BEAR H-ALPHA



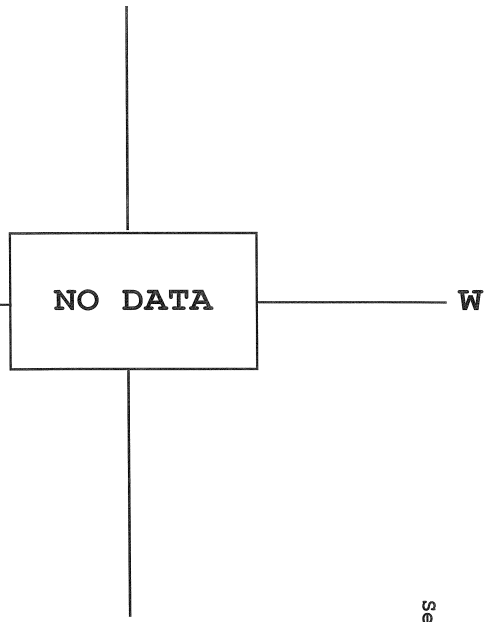
1545 UT

HOLLOMAN SUNSPOTS



2239 UT

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



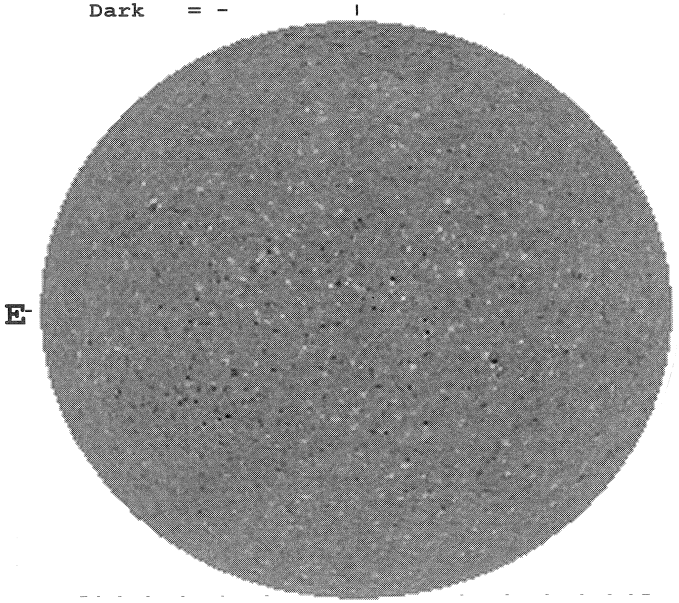
September 27, 2008 (P= 25.68, Bo= 6.88, Lo= 356.00)

Sep 08 66

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

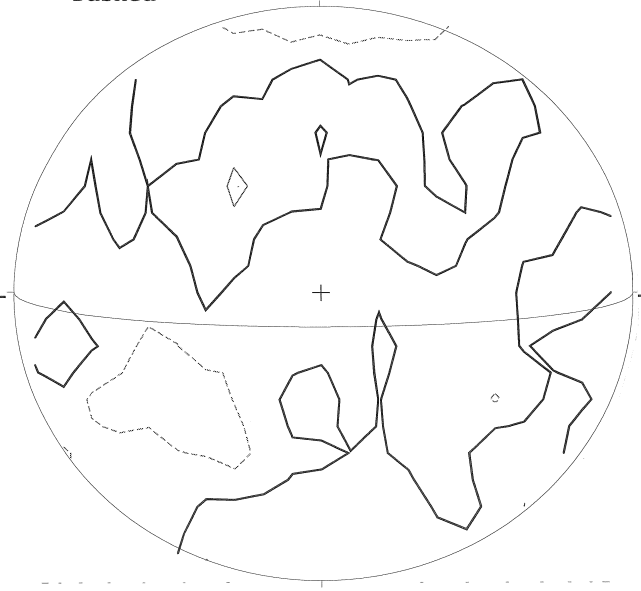
** 854.2NM **



1820 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

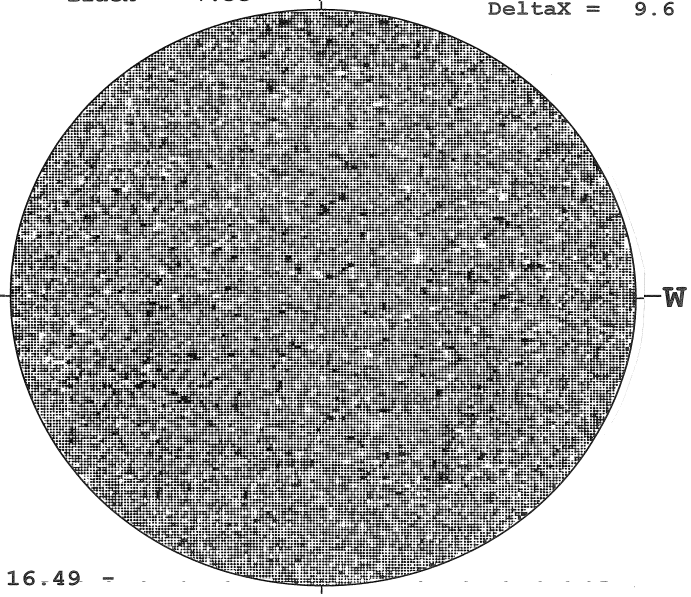


1857 UT

MT. WILSON MAGNETOGRAM

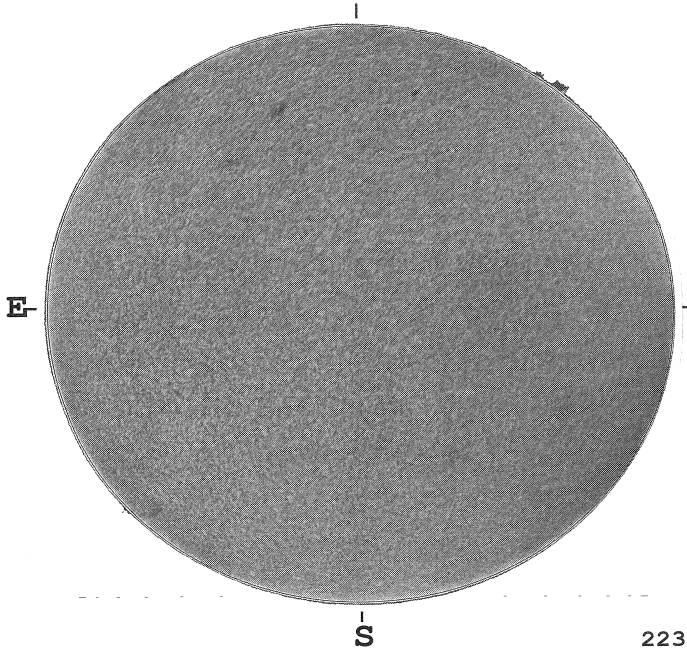
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



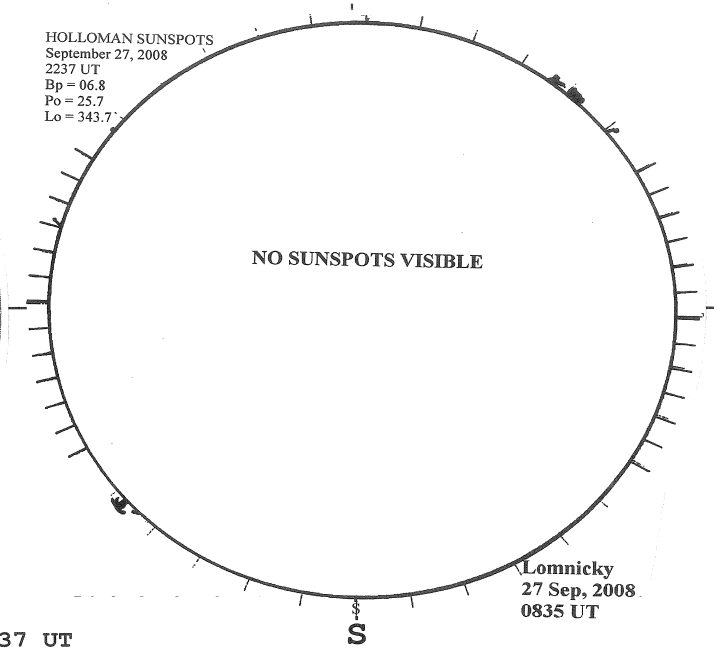
16.49 -
17.42 UT

--- KANZELHOHE H-ALPHA



1011 UT

HOLLOMAN SUNSPOTS

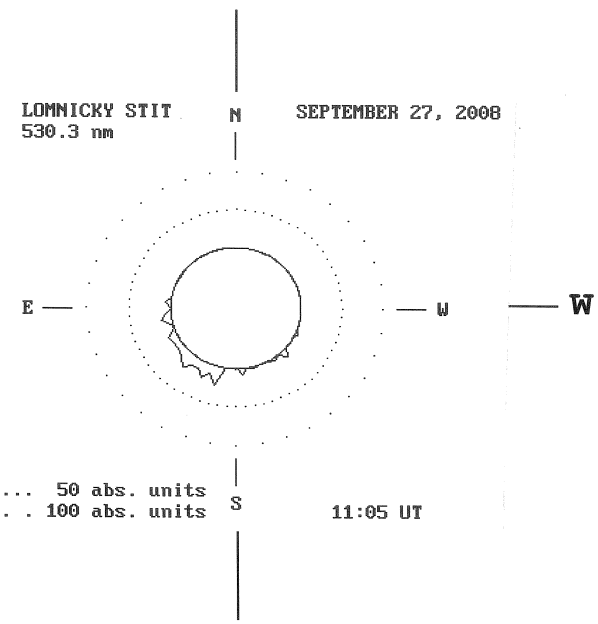


2237 UT
0835 UT LOMN PROM

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

LOMNICKY STIT
530.3 nm

SEPTEMBER 27, 2008



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

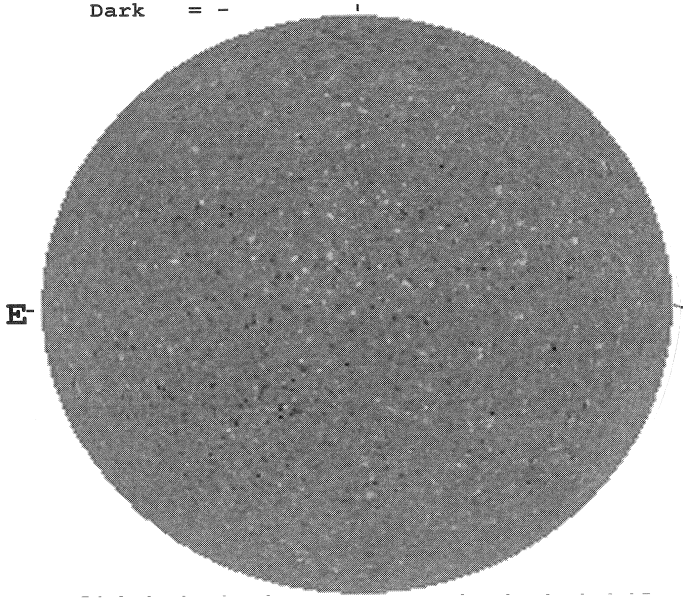
11:05 UT

September 28, 2008 (P= 25.77, Bo= 6.84, Lo= 342.80)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

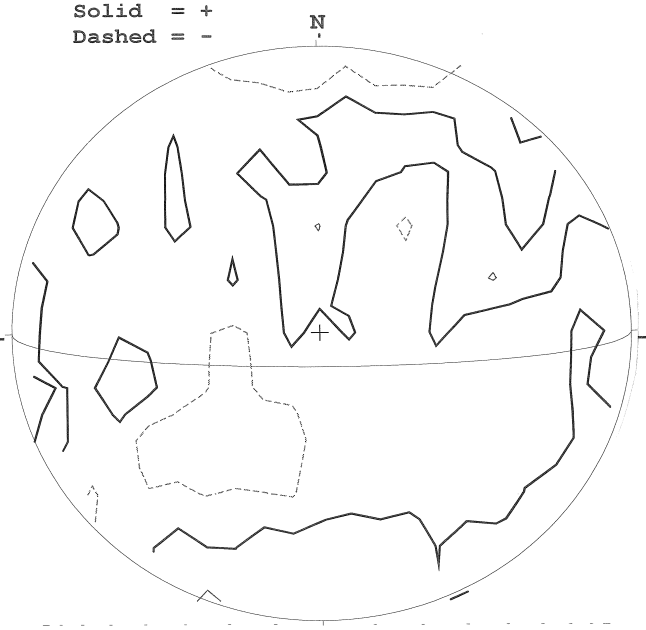
** 854.2NM **



1721 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

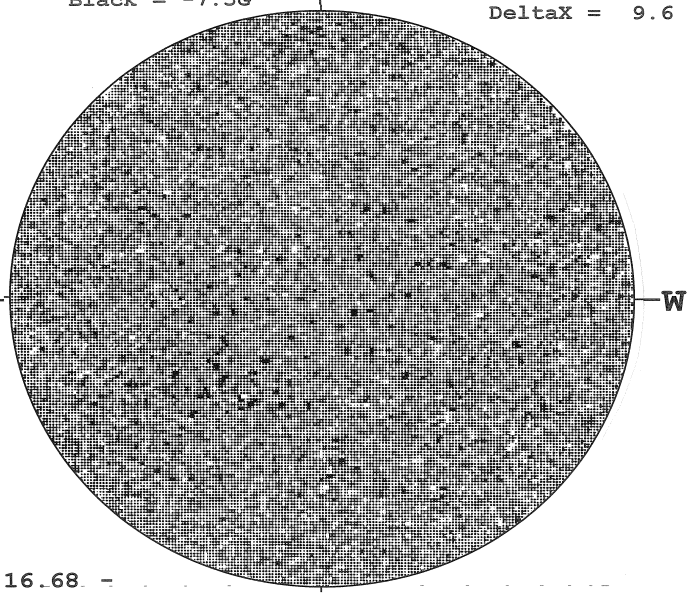


2133 UT

MT. WILSON MAGNETOGRAM

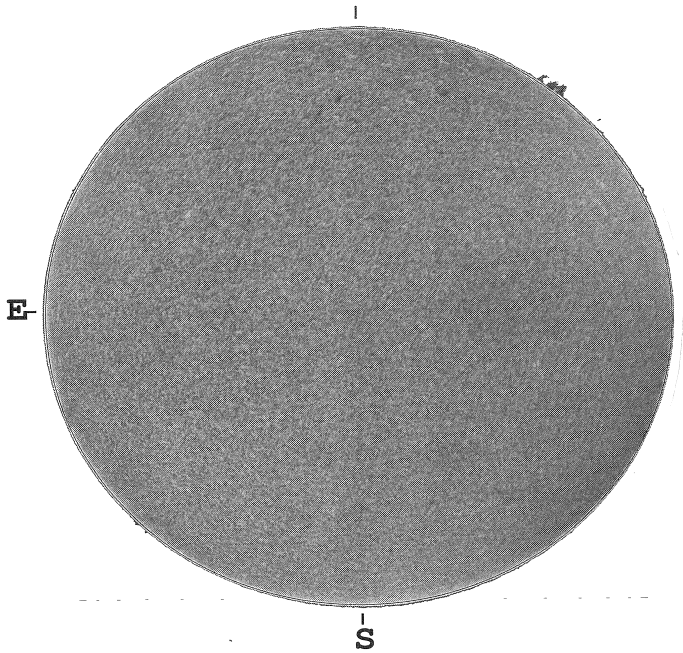
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



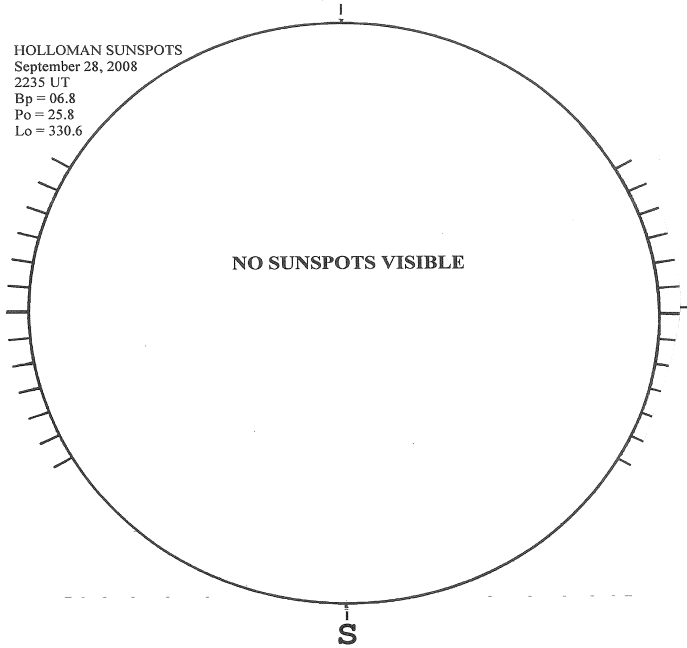
16.68 -
17.62 UT

KANZELHOHE H-ALPHA



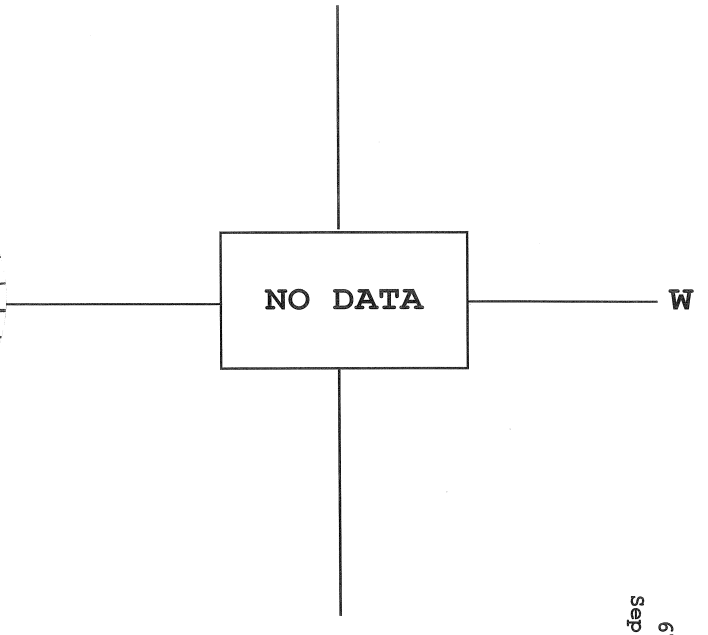
1056 UT

HOLLOMAN SUNSPOTS



2235 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



67
Sep 08

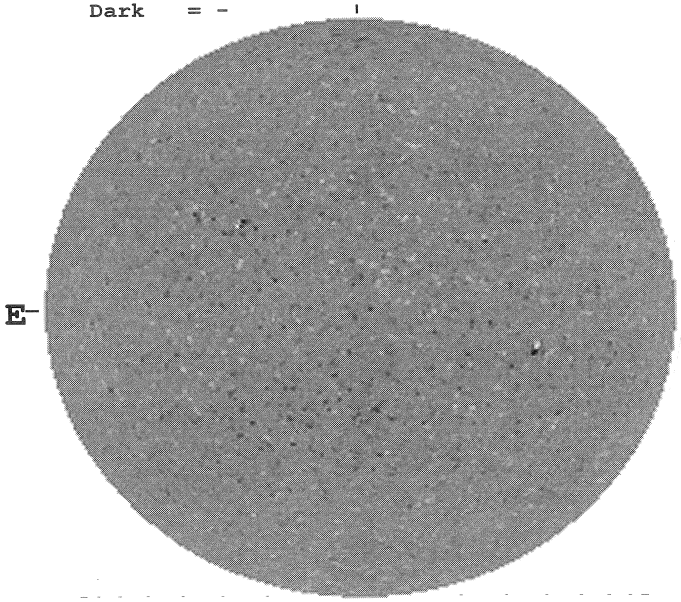
September 29, 2008 (P= 25.85, Bo= 6.80, Lo= 329.60)

Sep 08 68

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

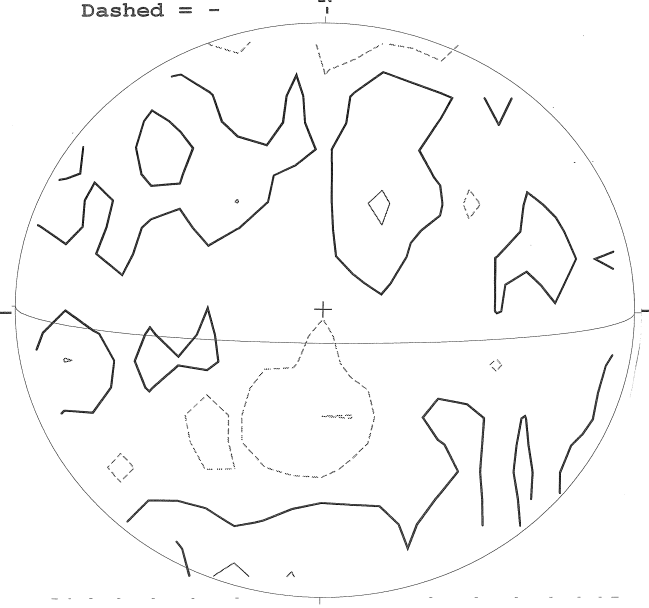
** 854.2NM **



1842 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

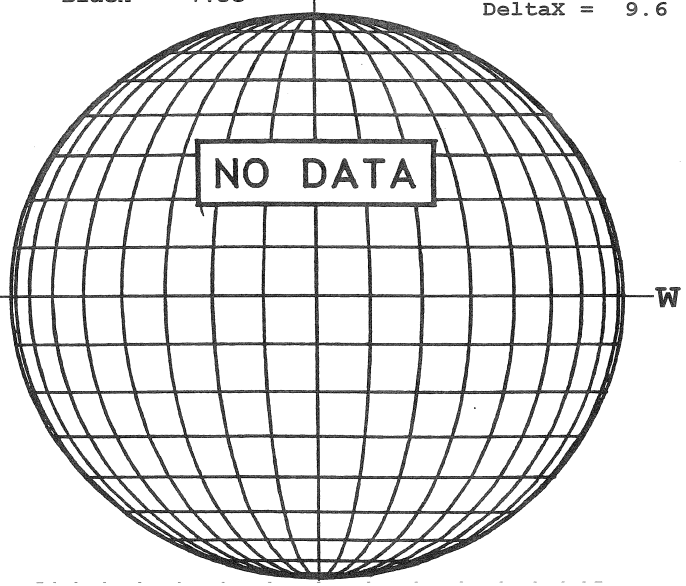


2151 UT

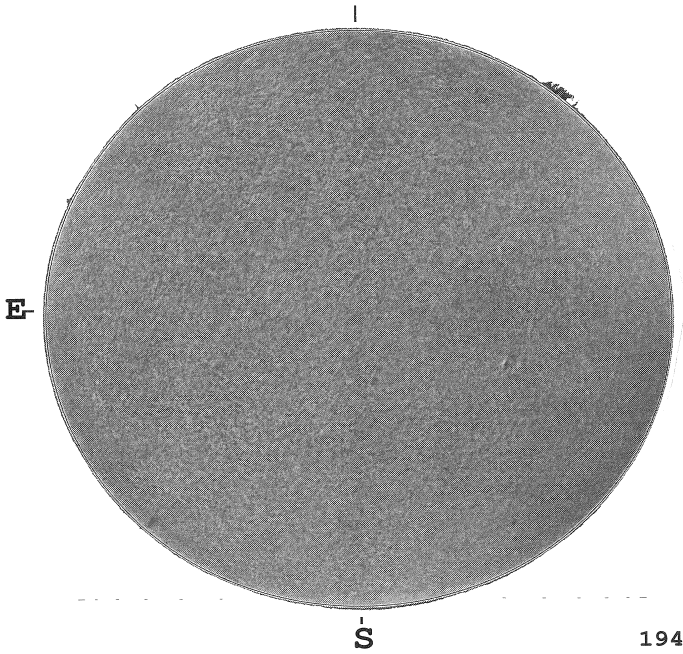
MT. WILSON MAGNETOGRAM

White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6

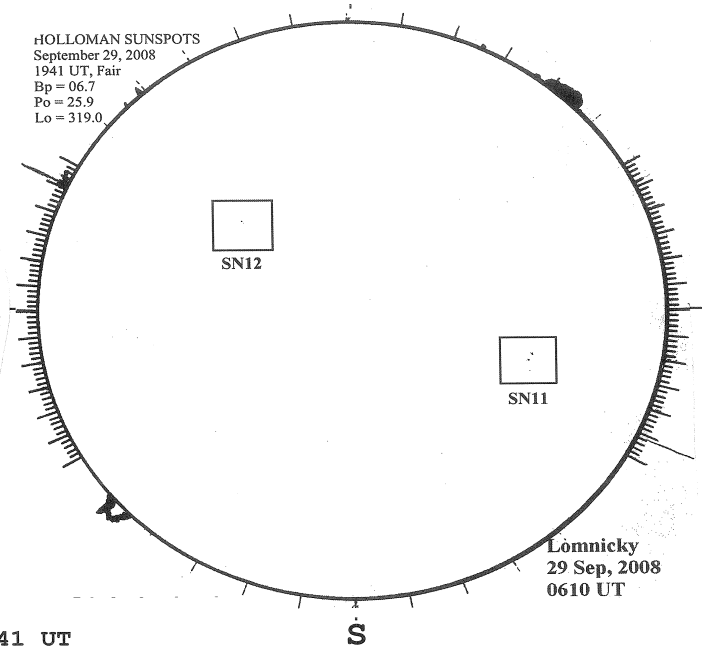


--- KANZELHOHE H-ALPHA



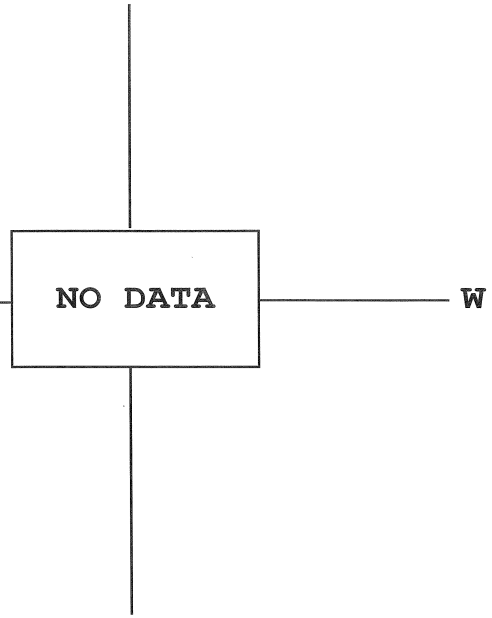
0816 UT

HOLLOMAN SUNSPOTS



1941 UT
0610 UT LOMN PROM

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

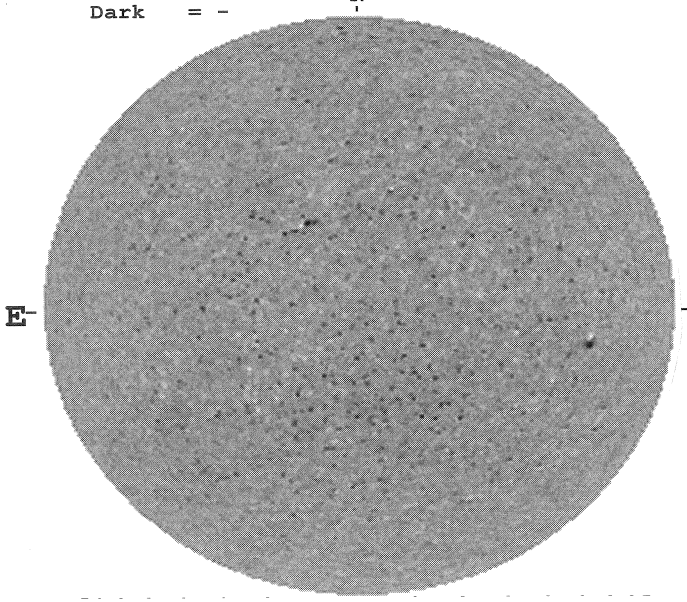


September 30, 2008 (P= 25.92, Bo= 6.75, Lo= 316.41)

KITT PEAK MAGNETOGRAM -- SOLIS

Bright = +
Dark = -

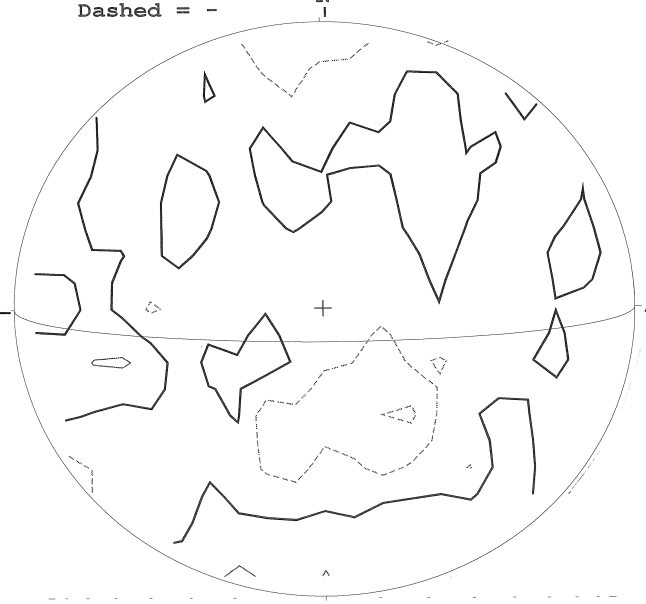
** 854.2NM **



1833 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

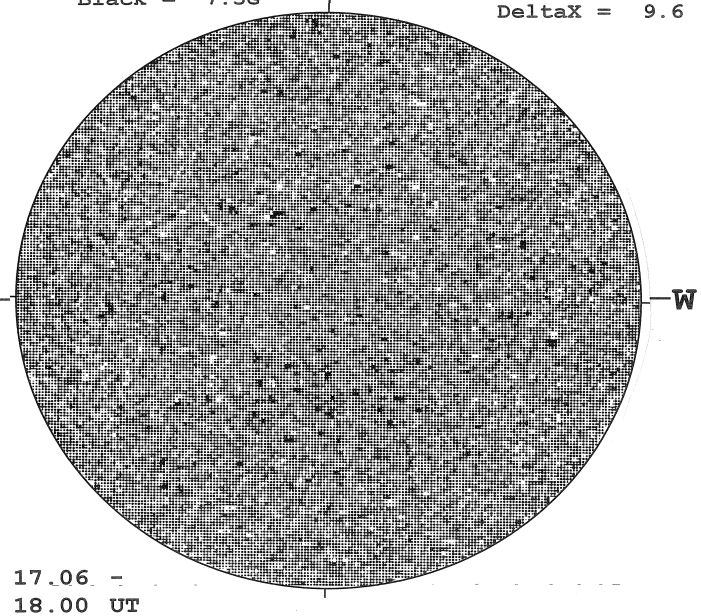


2152 UT

MT. WILSON MAGNETOGRAM

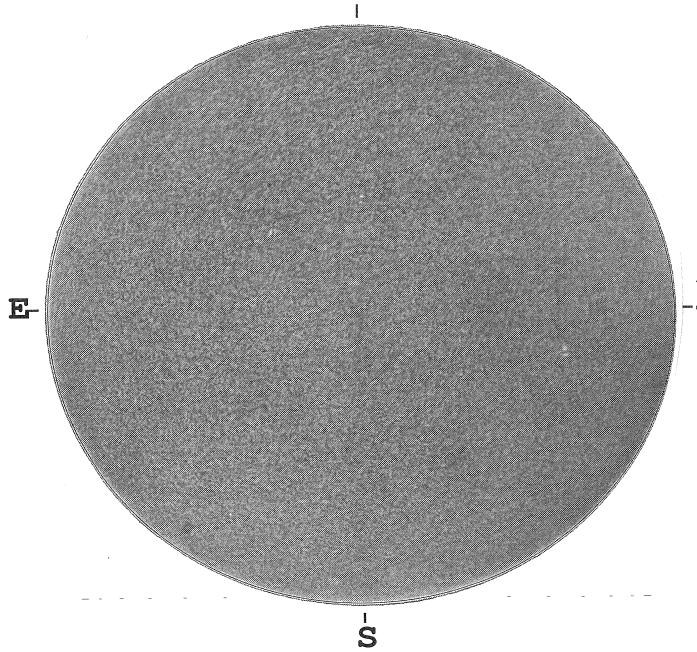
White = +7.5G
Black = -7.5G

DeltaY = 13.1
DeltaX = 9.6



17.06 -
18.00 UT

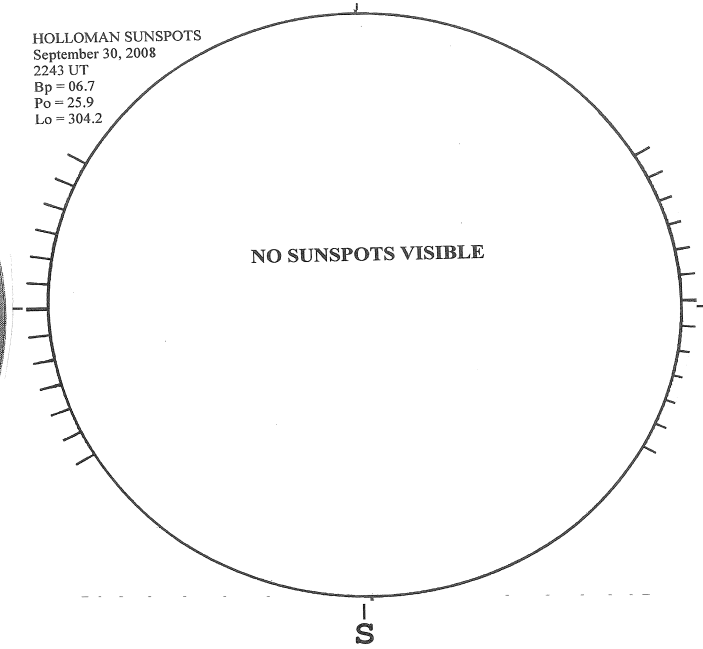
KANZELHOHE H-ALPHA



0645 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
September 30, 2008
2243 UT
Bp = 06.7
Po = 25.9
Lo = 304.2

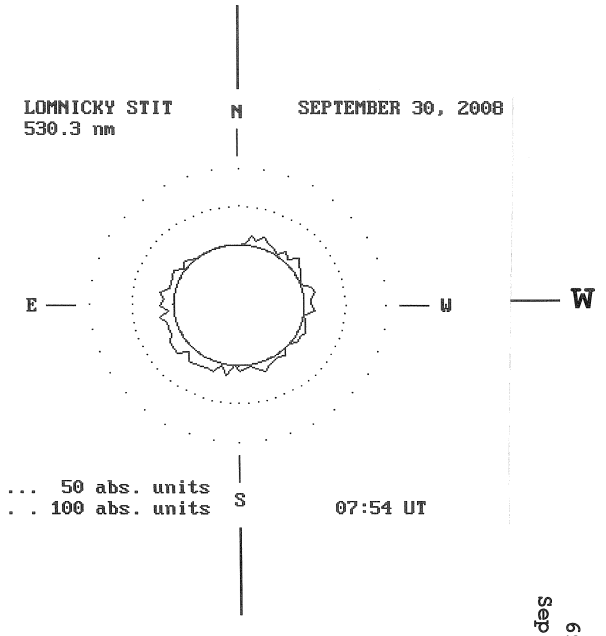


2243 UT

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

LOMNICKY STIT
530.3 nm

SEPTEMBER 30, 2008



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

07:54 UT

Sep 08

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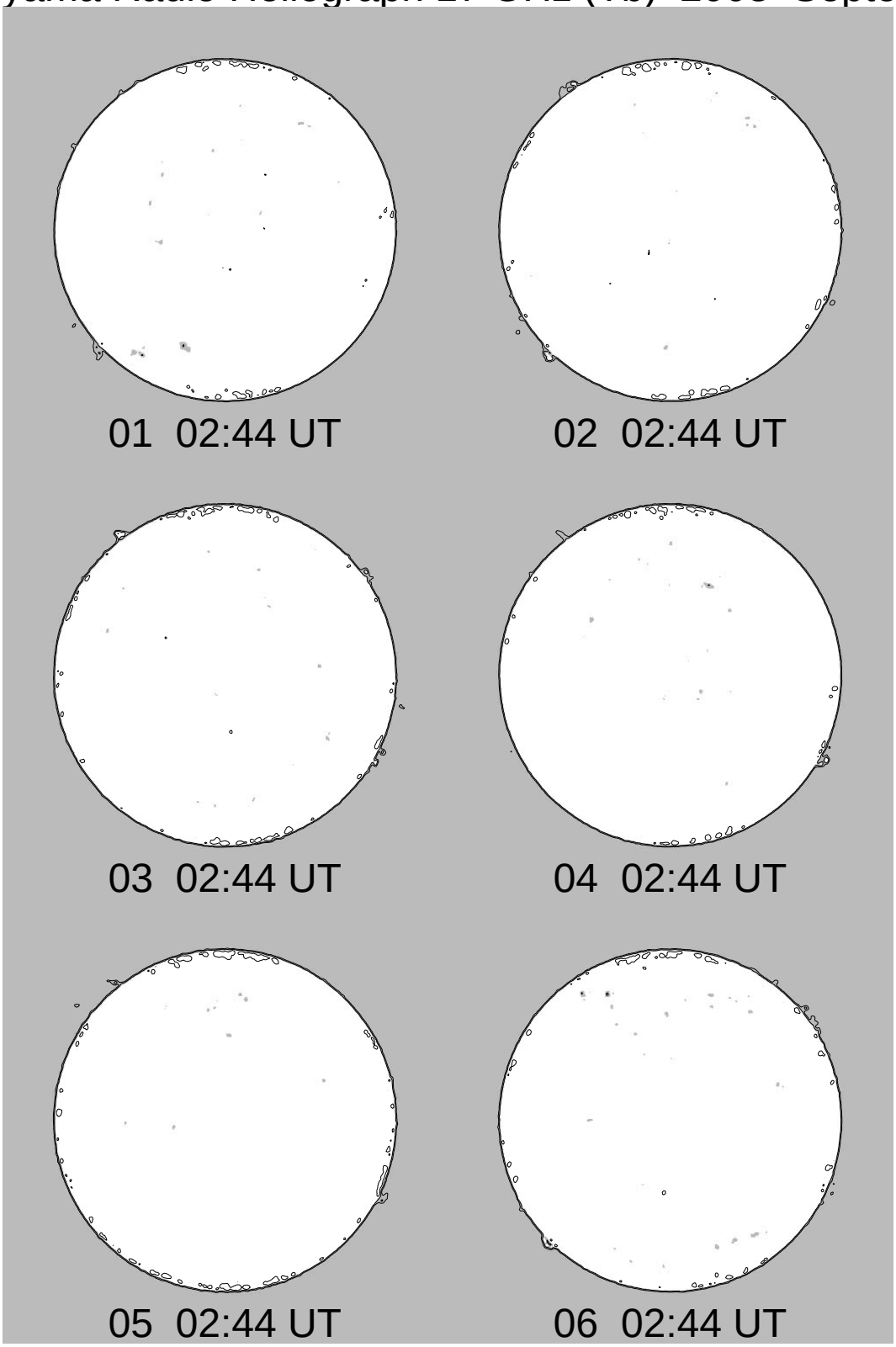
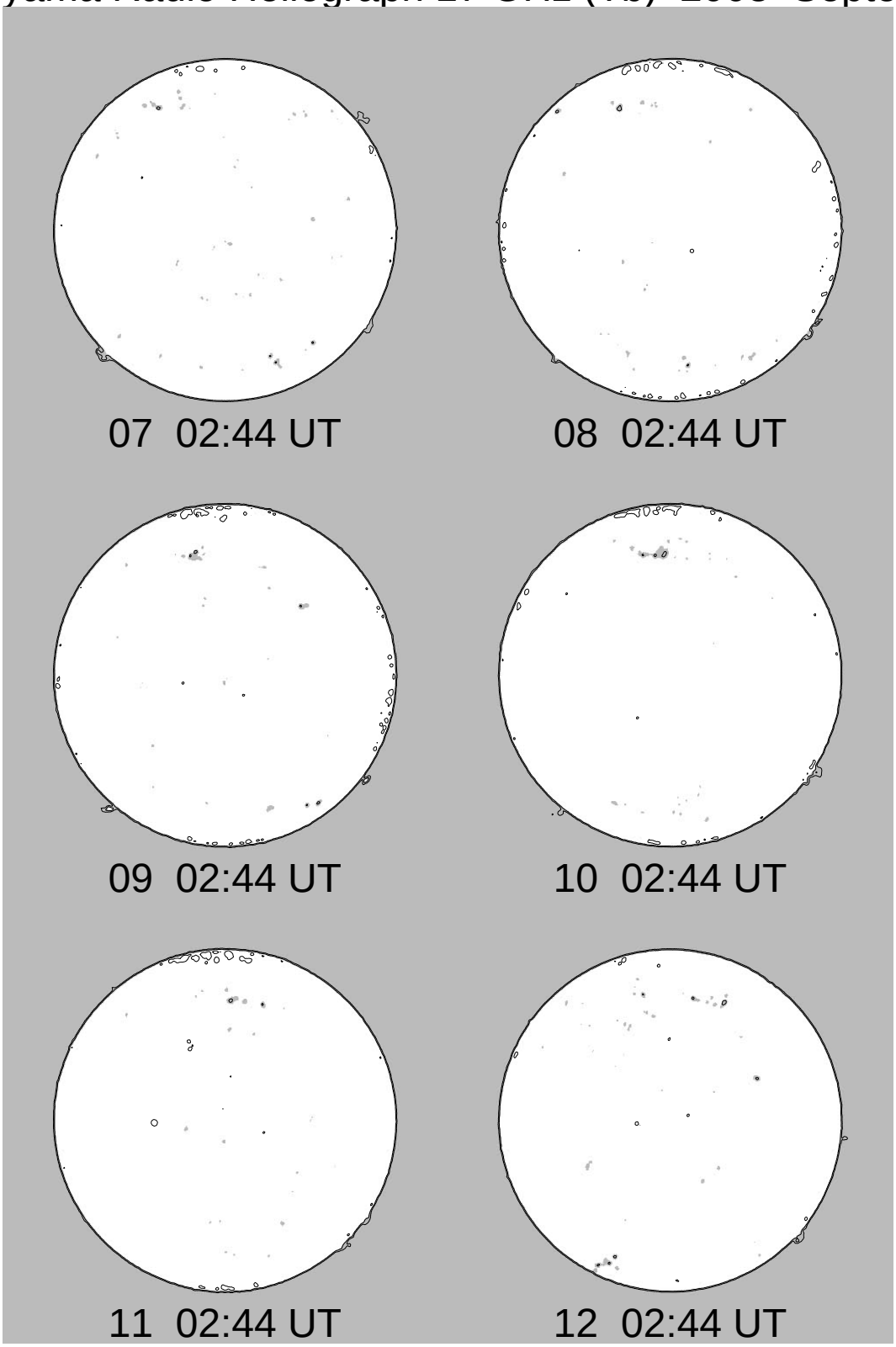
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 September



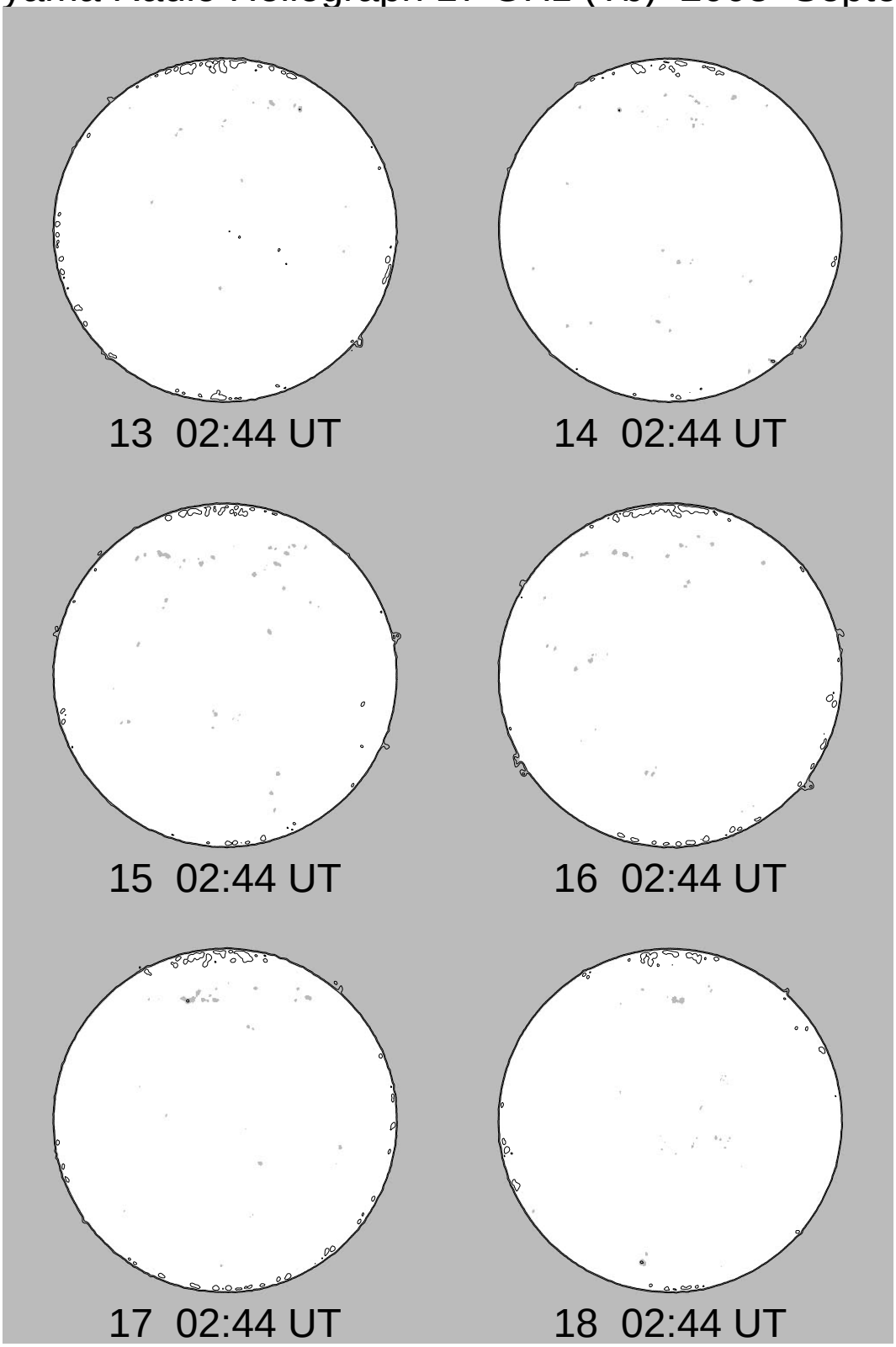
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 September



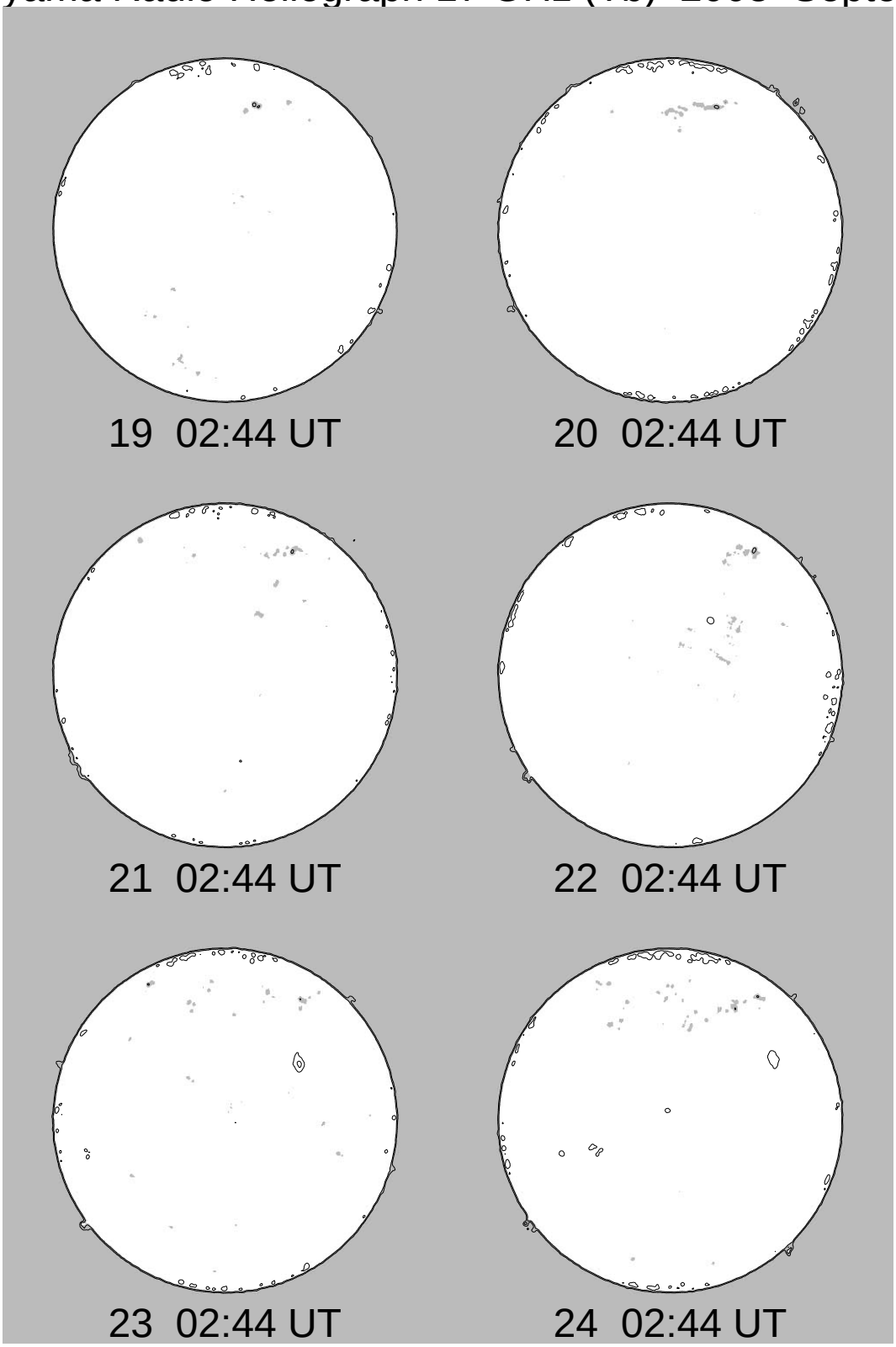
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 September



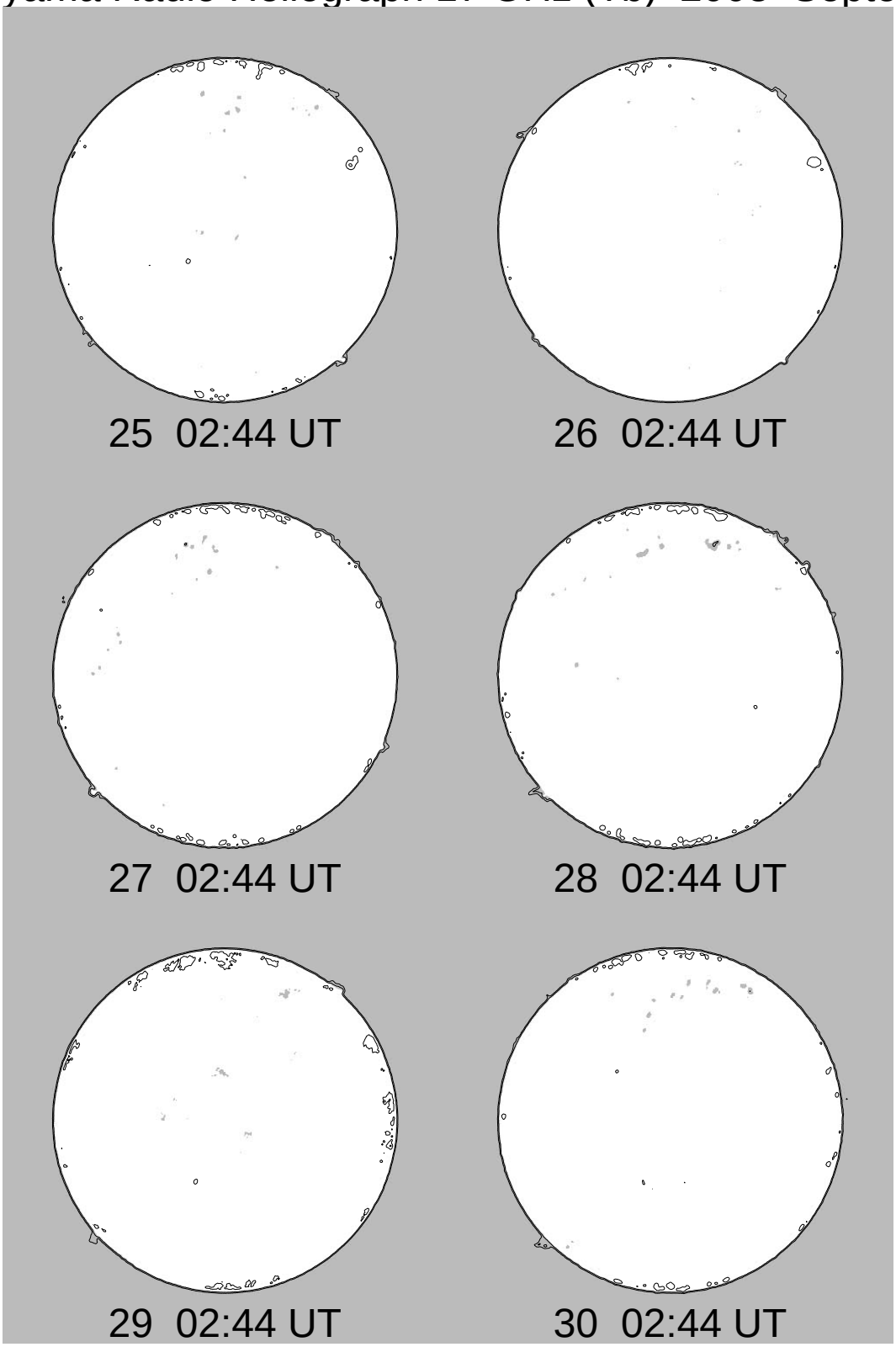
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 September



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 September



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)
SEPTEMBER 2008

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day	(UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
11001		LEAR	09 11	0607	N06 E23	09 13.0		B	BXO	10	2	2	2
11001		SVTO	09 11	0730	N07 E23	09 13.0		B	BXO	20	2	3	2
11002		LEAR	09 22	0130	N26 W12	09 21.1		A	AXX	10	1	1	3
11002		PURP	09 22	0145	N26 W15	09 20.9			CSO	7	2	2	3
11002		TACH	09 22	0606	N25 W17	09 20.9			BRO	12	3	3	4
11002		SVTO	09 22	0655	N24 W21	09 20.7		B	CSO	30	3	4	2
11002		KAND	09 22	0900	N26 W18	09 21.0			CAO		3	4	2
11002		HOLL	09 22	1613	N25 W23	09 20.9		B	DSO	40	8	5	3
11002		VORO	09 22	2237	N25 W24	09 21.1			BAO	22	4	1	3
11002		LEAR	09 23	0112	N26 W28	09 20.9		B	CRI	30	7	4	3
11002		PURP	09 23	0300	N26 W29	09 20.9			CRO	5	2	2	2
11002		TACH	09 23	0549	N25 W28	09 21.1			BXI	12	4	4	4
11002		SVTO	09 23	0650	N27 W32	09 20.8		B	CRO	30	5	4	3
11002		KAND	09 23	0840	N25 W30	09 21.0			BXO		3	2	3
11002		HOLL	09 23	1523	N24 W35	09 20.9		A	AXX	10	1	1	3
11002A		HOLL	09 29	1941	S03 W34	09 27.3		B	BXO	10	2	3	3
11002A		LEAR	09 30	0108	S04 W37	09 27.3		A	AXX	10	1	1	2
11002A		SVTO	09 30	0851	S03 W42	09 27.2		A	AXX	10	1	1	2

Stations reporting:

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

SUDDEN IONOSPHERIC DISTURBANCES
SEPTEMBER 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
25	1041	1052	1132	1	1						No flare		
26	0812	1821	0901	1	1						No flare		

OBSERVATORIES REPORTING FOR AUGUST 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

SEPTEMBER 2008

OBSERVATION				EVENT					FREQUENCY		
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)	Upper (MHz)	Remarks
01	0000	0740	CULG								
	0000	0912	HIRA								
	0527	1636	ONDR								
	0545	1705	BLEN								
	2003	2400	HIRA								
	2020	2400	CULG								
02	0000	0740	CULG								
	0000	0910	HIRA								
	0529	1634	ONDR								
	0545	1705	BLEN								
	2004	2400	HIRA								
	2010	2400	CULG								
03	0000	0740	CULG								
	0000	0908	HIRA								
	0530	1632	ONDR								
	0545	1705	BLEN								
	2005	2400	HIRA								
	2010	2400	CULG								
04	0000	0740	CULG								
	0000	0907	HIRA								
	0531	1630	ONDR								
	0550	1700	BLEN								
	2006	2400	HIRA								
	2010	2400	CULG								
05	0000	0740	CULG								
	0000	0905	HIRA								
	0533	1628	ONDR								
	0550	1700	BLEN								
	2007	2400	HIRA								
	2010	2400	CULG								
06	0000	0750	CULG								
	0000	0903	HIRA								
	0534	1626	ONDR								
	0550	1700	BLEN								
	2007	2400	HIRA								
	2010	2400	CULG								
07	0000	0750	CULG								
	0000	0902	HIRA								
	0536	1623	ONDR								
	0555	1655	BLEN								
	2008	2400	HIRA								
	2010	2400	CULG								
08	0000	0750	CULG								
	0000	0901	HIRA								
	0537	1621	ONDR								
	0555	1655	BLEN								
	2010	2400	CULG								
	2010	2400	HIRA								
09	0000	0750	CULG								
	0000	0900	HIRA								
	0539	1619	ONDR								
	0600	1655	BLEN								
	2010	2400	CULG								
	2011	2400	HIRA								
10	0000	0750	CULG								
	0000	0859	HIRA								
	0540	1617	ONDR								
	0600	1655	BLEN								
	2010	2400	CULG								
	2012	2400	HIRA								

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

Spectral Observations

SEPTEMBER 2008

OBSERVATION				EVENT					FREQUENCY		
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)	Upper (MHz)	Remarks
11	0000	0750	CULG								
	0000	0857	HIRA								
	0542	1615	ONDR								
	0605	1645	BLEN								
	2010	2400	CULG								
	2013	2400	HIRA								
12	0000	0750	CULG								
	0000	0856	HIRA								
	0543	1613	ONDR								
	0605	1645	BLEN								
	2010	2400	CULG								
	2013	2400	HIRA								
13	0000	0750	CULG								
	0000	0855	HIRA								
	0544	1610	ONDR								
	0605	1645	BLEN								
	2010	2400	CULG								
	2014	2400	HIRA								
14	0000	0750	CULG								
	0000	0852	HIRA								
	0546	1608	ONDR								
	0605	1645	BLEN								
	2010	2400	CULG								
	2014	2400	HIRA								
15	0000	0750	CULG								
	0000	0850	HIRA								
	0547	1606	ONDR								
	0605	1640	BLEN								
	2010	2400	CULG								
	2015	2400	HIRA								
16	0000	0750	CULG								
	0000	0848	HIRA								
	0549	1604	ONDR								
	0605	1635	BLEN								
	2000	2400	CULG								
	2016	2400	HIRA								
17	0000	0750	CULG								
	0000	0847	HIRA								
	0551	1602	ONDR								
	0605	1635	BLEN								
	2000	2400	CULG								
	2016	2400	HIRA								
18	0000	0750	CULG								
	0000	0846	HIRA								
	0552	1559	ONDR								
	0605	1635	BLEN								
	2000	2400	CULG								
	2017	2400	HIRA								
19	0000	0750	CULG								
	0000	0845	HIRA								
	0554	1557	ONDR								
	0605	1635	BLEN								
	2000	2400	CULG								
	2018	2400	HIRA								
20	0000	0800	CULG								
	0000	0843	HIRA								
	0555	1555	ONDR								
	0605	1635	BLEN								
	2000	2400	CULG								
	2018	2400	HIRA								

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

Spectral Observations

SEPTEMBER 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
21	0000	0800	CULG								
	0000	0842	HIRA								
	0557	1553	ONDR								
	0605	1630	BLEN								
	2000	2400	CULG								
	2019	2400	HIRA								
22	0000	0800	CULG								
	0000	0840	HIRA								
	0558	1550	ONDR								
	0605	1625	BLEN								
	2000	2400	CULG								
	2020	2400	HIRA								
23	0000	0800	CULG								
	0000	0838	HIRA								
	0600	1548	ONDR								
	0605	1625	BLEN								
	2000	2400	CULG								
	2022	2400	HIRA								
24	0000	0800	CULG								
	0000	0836	HIRA								
	0601	1546	ONDR								
	0610	1620	BLEN								
	2000	2400	CULG								
	2023	2400	HIRA								
25	0000	0800	CULG								
	0000	0835	HIRA								
	0603	1543	ONDR								
	0610	1620	BLEN								
	2000	2400	CULG								
	2023	2400	HIRA								
26	0000	0800	CULG								
	0000	0834	HIRA								
	0605	1541	ONDR								
	0615	1615	BLEN								
	2000	2400	CULG								
	2024	2400	HIRA								
27	0000	0800	CULG								
	0000	0832	HIRA								
	0606	1539	ONDR								
	0615	1610	BLEN								
	2000	2400	CULG								
	2025	2400	HIRA								
28	0000	0800	CULG								
	0000	0831	HIRA								
	0608	1537	ONDR								
	0620	1610	BLEN								
	2000	2400	CULG								
	2026	2400	HIRA								
29	0000	0800	CULG								
	0000	0830	HIRA								
	0609	1534	ONDR								
	0620	1610	BLEN								
	2000	2400	CULG								
	2027	2400	HIRA								
30	0000	0800	CULG								
	0000	0829	HIRA								
	0611	1532	ONDR								
	0620	1605	BLEN								
	2000	2400	CULG								
	2028	2400	HIRA								

SOLAR RADIO NOISE STORM AT 150.9 MHZ

FROM NANÇAY RADIOHELIOGRAPH

SEPTEMBER 2008

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
22/09/08	+0.35	+0.26	I	9H30	11H20

SOLAR RADIO NOISE STORM AT 327 MHZ

FROM NANÇAY RADIOHELIOGRAPH

SEPTEMBER 2008

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
22/09/08	+0.28	+0.26	I	8H13 E	15H13 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

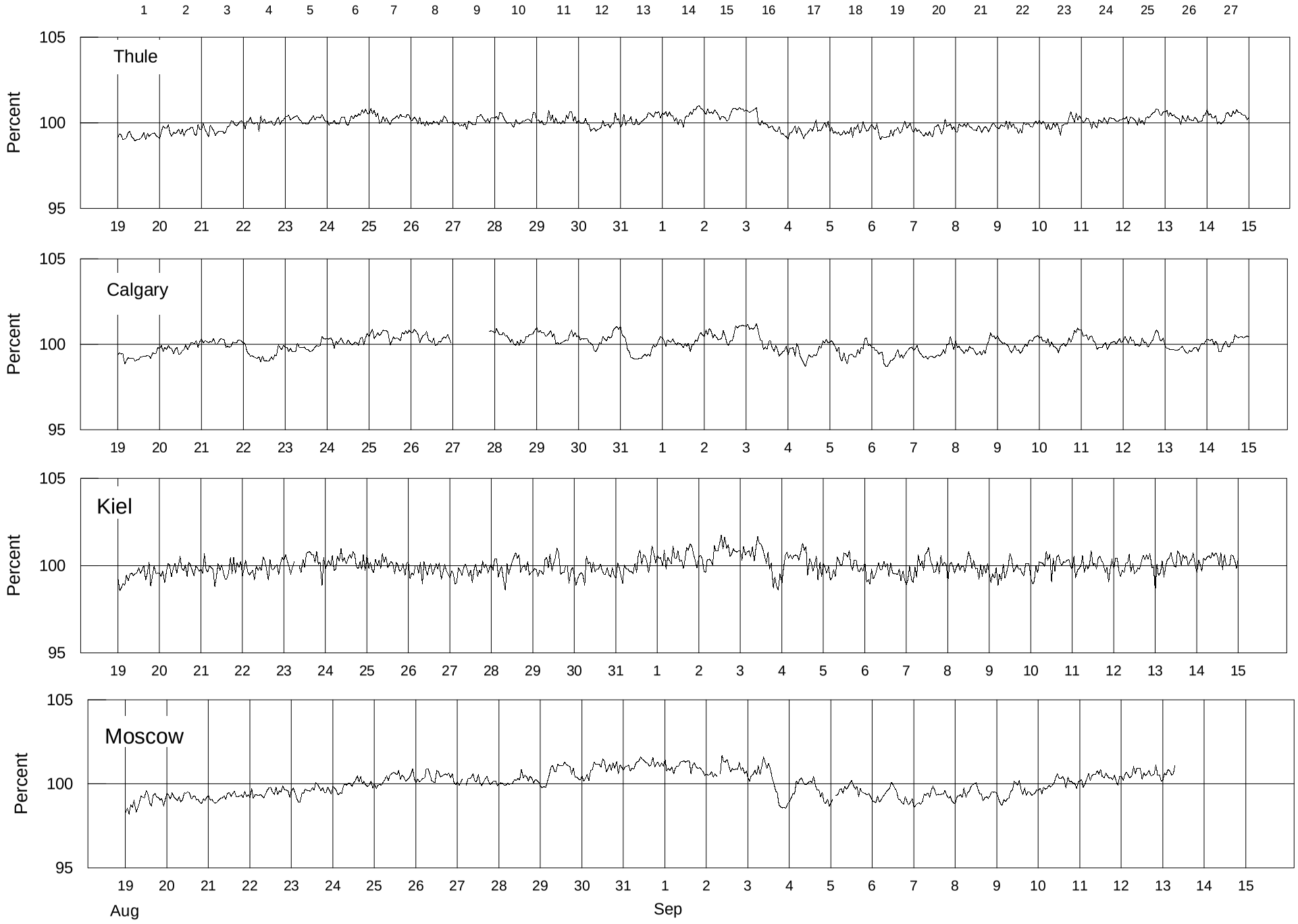
COSMIC RAY INDICES
(Neutron Monitor)
SEPTEMBER 2008

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	4631.1	4033.0	6381.1	9683.8		2014.9	
2	4636.2	4052.2	6395.5	9668.4(23)		2025.6	
3	4609.1	4036.2	6374.2	9596.5		2002.9	
4	4590.5	4010.3	6368.6	9553.3		2022.6	
5	4588.2	4013.5	6350.6	9543.4(23)		2000.3	
6	4588.2	4003.2	6327.2	9512.5		2006.8	
7	4590.6	4009.8	6347.2	9511.1	data	1998.8	data
8	4596.8	4021.0	6345.0	9532.2	not	2017.7	not
9	4600.8	4027.7	6332.6	9532.9	available	2002.0	available
10	4609.2	4035.7	6351.9	9586.7		2025.0	
11	4613.9	4034.5	6351.2	9621.7		2014.5	
12	4624.4	4037.0	6354.0	9643.2		2025.6	
13	4623.2	4018.0	6359.5	9647.9(8)		2009.5	
14	4627.8	4034.7	6368.5	---		2010.5	
15	4615.6	4027.0	6356.1	9635.2(18)		2009.3	
16	4618.1	4024.5	6361.5	9627.2		2023.0	
17	4614.7	4020.0	6355.2	9602.3		2008.4	
18	4637.0	4030.7	6357.0	9605.8		2010.7	
19	4642.5	4042.5	6355.0	9643.4		2031.6	
20	4648.2	4049.3	6333.6	9620.5		2013.0	
21	4623.9	4035.8	6336.3	9605.9		2006.5	
22	4636.5	4049.5	6367.7	9620.7		2011.0	
23	4637.0	4033.7	6364.1	9658.6		2014.2	
24	4639.9	4042.2	6361.4	9672.4		2023.9	
25	4642.0	4043.3	6352.5	9660.0		2034.5	
26	4639.7	4037.8	6349.2	9649.2		2038.5	
27	4648.0	4050.0	6350.1	9695.4		2039.7	
28	4639.4	4053.0	6370.6	9729.5		2042.5	
29	4632.5	4045.8	6385.4	9732.6		2039.6	
30	4641.7	4049.2	6406.7	9739.5		2039.4	
31							
Mean	4622.0	4033.4	6359.0	9624.7		2018.7	

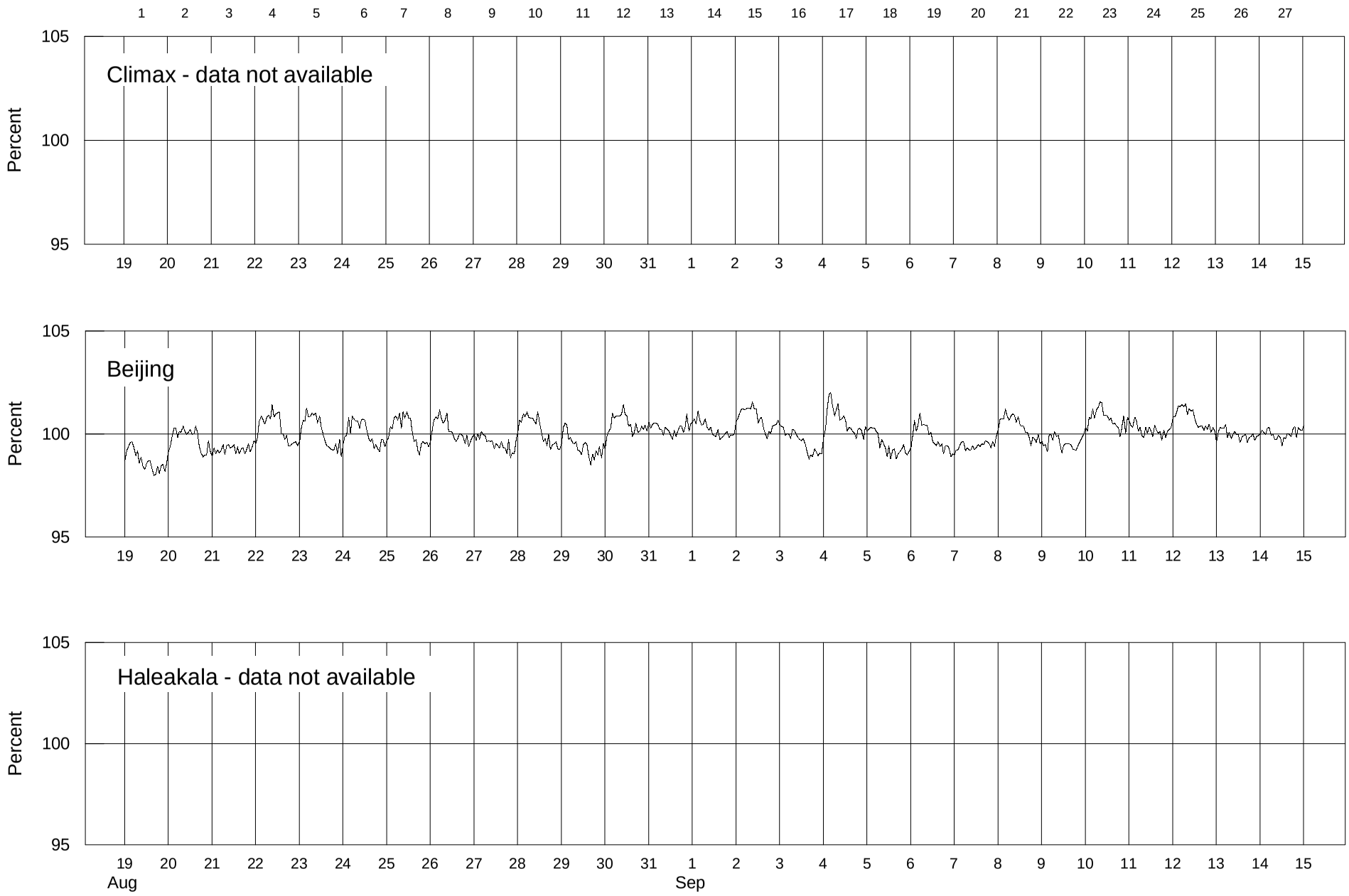
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours, and for Haleakala, whenever the sum of all three sections falls below 60 hours.

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2389 - Beginning 19 Aug 2008

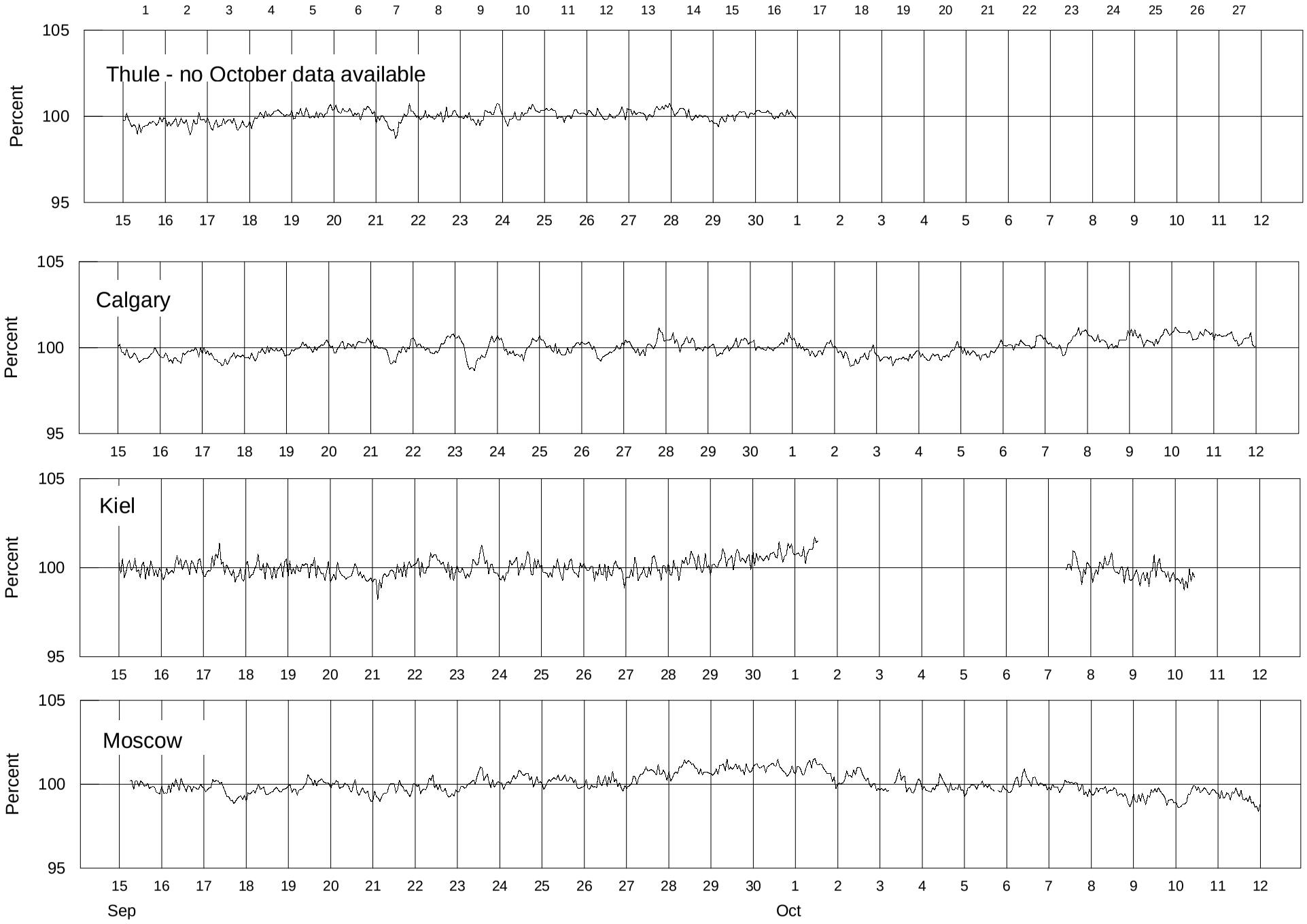


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2389 - Beginning 19 Aug 2008

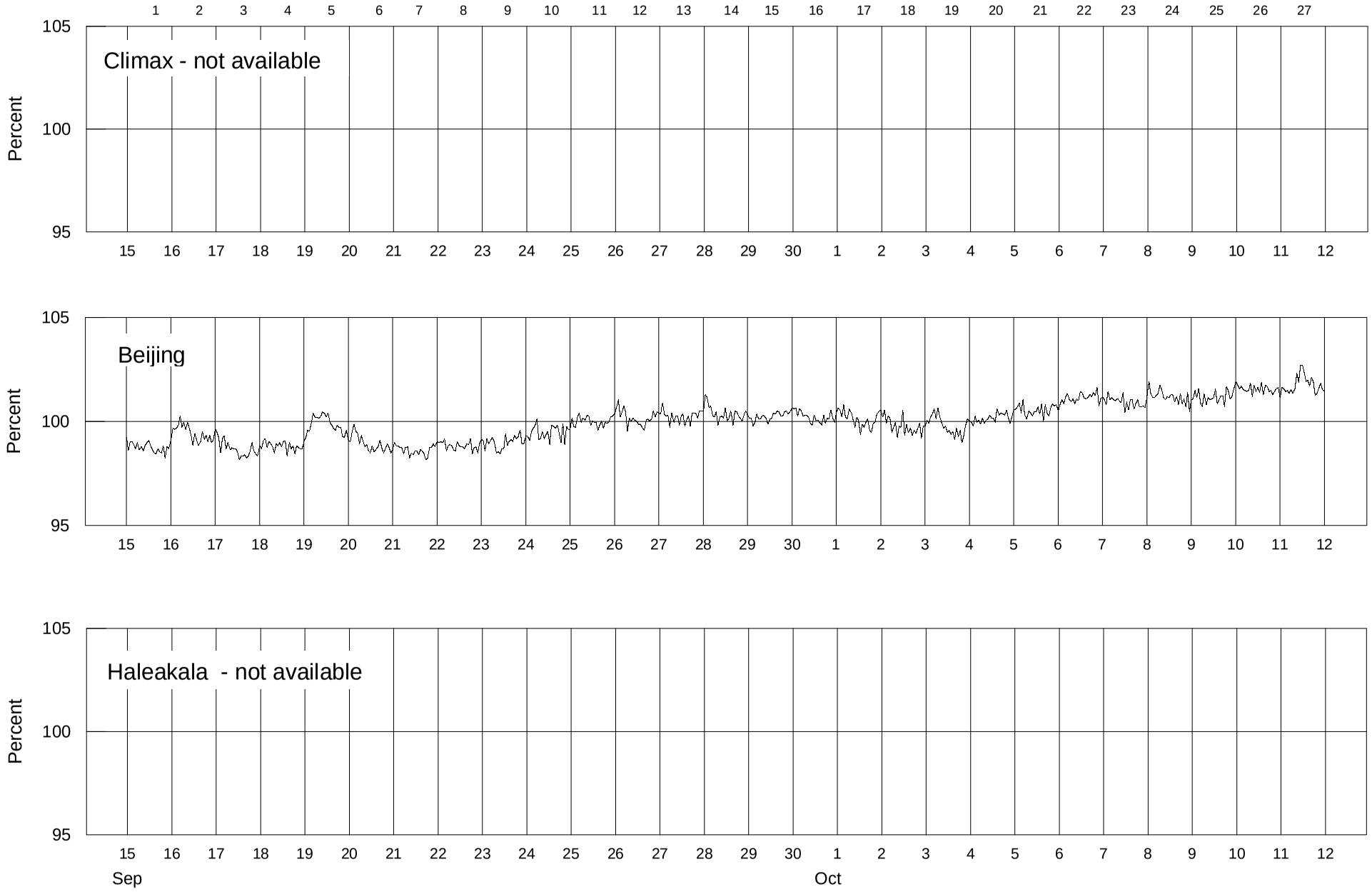


COSMIC RAY INDICES
(Neutron Monitor)

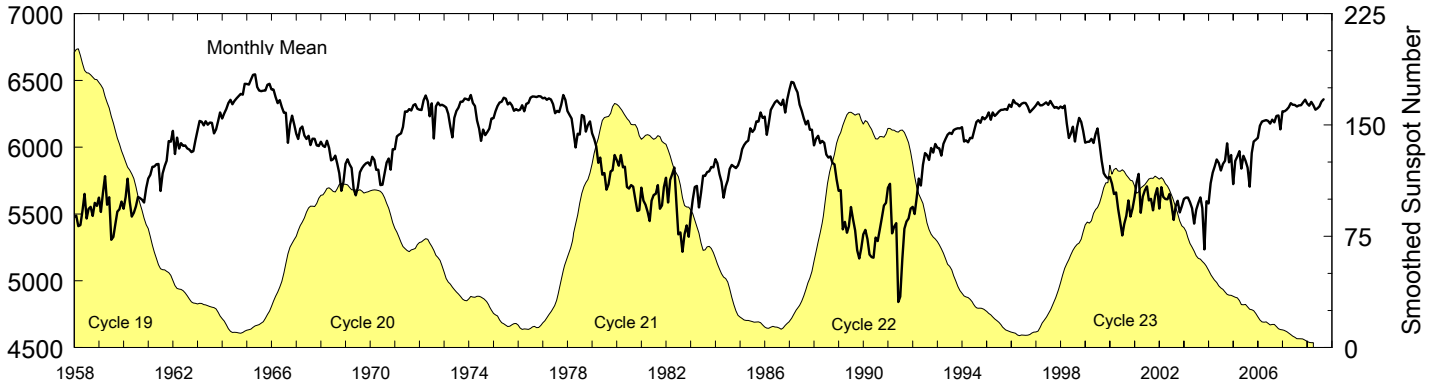
Bartels Rotation 2390 - Beginning 15 Sep 2008



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



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



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

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

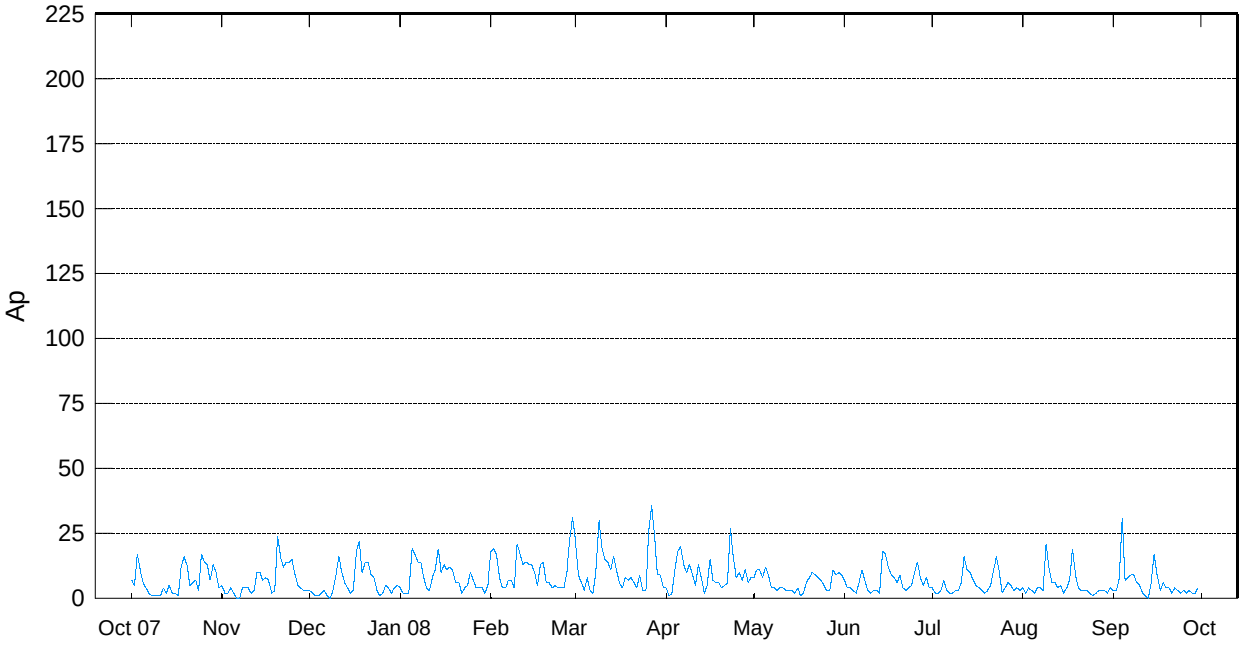
Geomagnetic Activity Indices

SEPTEMBER 2008

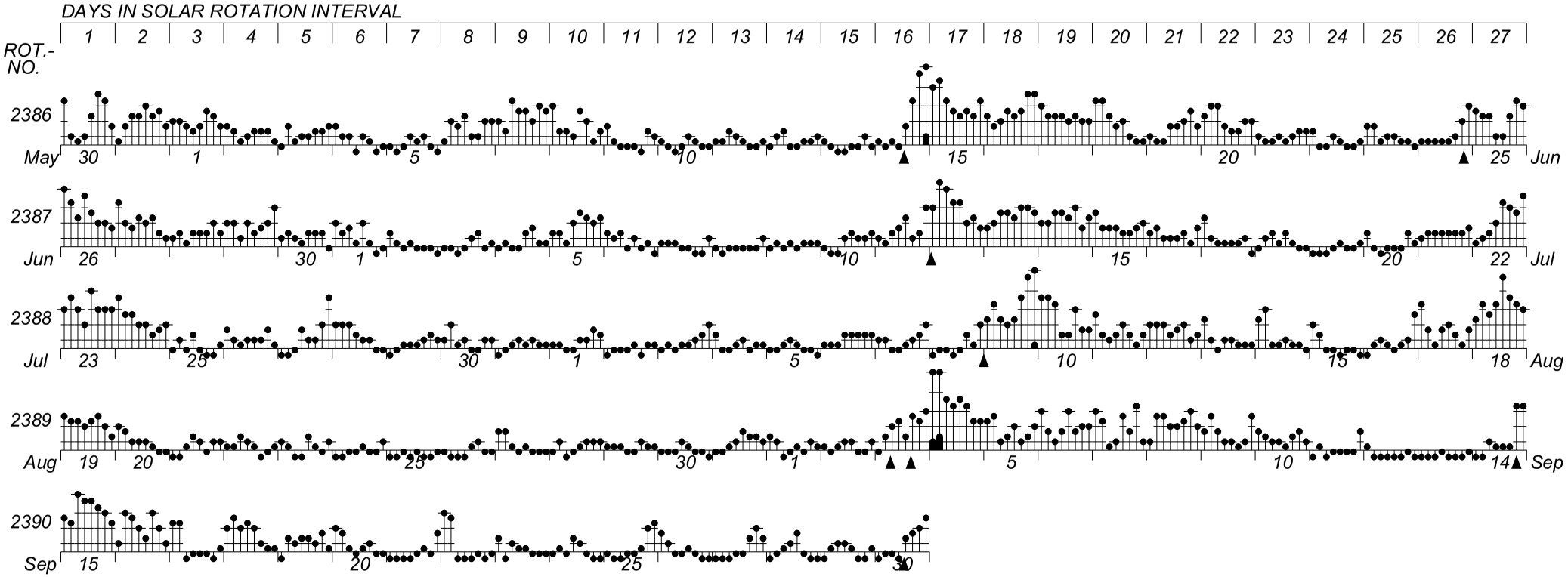
Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	aa Provisional N	S	M	
1		1+	1	0	0+	1-	0+	1	1-	5+	3	0.1	1o	1+	0o	0+	0+	1-	0+	0+	4	6	6	6	6	CC
2	Q8	1-	0+	1-	1	1	0+	0+	1	5+	3	0.1	0+	0+	1o	1+	0+	0o	0o	1o	4	6	5	6	5	CC
3		0+	1+	2	2+	1+	3-	2+	3	15+	8	0.4	0+	2o	2+	2+	1-	3-	2o	3o	15	20	14	11	23	
4	D1	6-	6	4-	3+	4-	3+	2+	2+	30+	31	1.3	5o	5o	4o	3+	4-	3+	3-	2+	52	57	50	70	37	
5		2+	3-	1	1+	2	1	1+	2	14-	7	0.3	2+	2+	1o	1+	2o	1-	1+	2+	13	13	9	10	12	C
6		3	2-	1	2-	3	2-	2	2	16	8	0.4	3-	1+	1o	2-	3-	2-	2+	2o	15	23	12	16	19	
7	D4*	3	2+	1-	1	3-	2-	3+	1	16-	9	0.5	3-	2+	1+	1o	3-	1+	3+	1o	16	19	17	15	21	
8	D3*	1	3-	3-	2	2	2+	3	2	18-	9	0.5	1+	2+	3-	2+	2-	2+	3-	2+	17	25	16	17	24	
9		2-	3-	2-	1	1	1-	1	3-	12+	6	0.3	2-	2+	2+	1+	1o	1-	1o	3-	13	11	6	8	10	CK
10		2-	1+	1	1	1-	1+	2-	1	10-	5	0.2	3-	2-	1+	1+	1+	2-	2-	1+	12	7	8	8	8	CC
11	Q6	0	1-	0	0+	0+	0+	0+	2-	4-	2	0.0	0o	1-	0o	0o	0o	0+	0+	1+	3	5	3	2	6	CC
12	Q2	1-	0	0	0	0	0	0+	0	1	1	0.0	1-	0o	0o	0o	0o	0o	0o	0o	1	3	3	4	2	CC
13	Q1	0	0	0	0+	0	0	0	0+	1-	0	0.0	0o	0o	0+	0+	0o	0o	0o	0+	1	2	2	2	2	CC
14		0	0	1	1-	1-	1-	3+	3+	10-	6	0.3	0o	0o	1+	1o	1-	0+	3o	3o	11	12	9	5	16	K
15	D2*	3-	2+	4	4-	4-	3+	3	2+	25	17	0.9	2+	3-	3+	3+	4-	3o	3o	2o	28	38	30	31	37	
16	D5*	1	3	3-	2	1+	3	2	1	16	9	0.5	1-	3-	3-	3-	1o	2+	2-	1o	15	22	14	18	19	
17		2+	2+	0	0+	0+	0+	0	1-	6+	3	0.1	2o	2-	0o	0+	0o	0o	0o	0+	5	6	6	8	4	CK
18		2	3-	2	2+	2	1	1-	1-	13+	6	0.3	1+	2o	3-	3-	2+	1+	0+	1-	13	10	17	16	11	CC
19		0	1+	1	1+	1+	1	2-	1-	8+	4	0.1	0o	1+	1+	2-	1+	1o	2-	1-	8	7	8	5	10	CC
20		2	2-	1-	0+	1-	1	0+	0+	7	4	0.1	2+	2-	1-	1-	1o	2-	1-	1-	8	5	5	6	4	CC
21	Q4	0	0	0	0	0+	1-	0+	2-	3	2	0.0	0o	0+	0o	0o	0o	1o	0+	2-	3	5	5	2	8	CC
22		3	3-	0	0	0	0+	0	0+	6+	4	0.1	3-	2o	0o	0o	0o	0+	0o	0+	6	8	6	11	3	CC
23	Q7	1+	0	1	1-	1-	0+	0+	0+	5-	3	0.0	1o	0o	1+	1o	1-	0+	0+	1-	4	7	5	6	7	CC
24	Q5	0+	1-	0+	1+	1	0+	0	0	4	2	0.0	1-	0+	0+	1o	1+	0o	0o	0o	3	4	5	4	5	CC
25		0+	0	0	0+	0+	1-	2	2+	6	3	0.1	0o	0o	0o	1-	0o	1-	2o	2o	6	12	5	4	13	CC
26	Q10	2-	1	0+	0+	1-	0+	0	0	4+	2	0.0	1+	1o	1-	0o	1-	0+	0o	0o	4	4	5	5	4	CC
27		0	0	0	0+	0+	1+	2	1+	5+	3	0.0	0o	0o	0o	0o	0+	1+	2-	1+	4	6	4	2	8	CC
28	Q9	0	0+	1-	1	2-	0+	0	0	4	2	0.0	0o	1-	1-	1o	2o	0+	0o	0o	4	6	5	4	6	CC
29	Q3	0	1-	1	1	1-	0	0	1-	4	2	0.0	0o	1-	1+	1+	1-	0o	0o	0+	4	5	6	6	4	CC
30		0	0+	0+	0	1+	2-	2	3-	8+	4	0.1	0o	0+	0+	0o	1+	2-	2-	2+	7	10	11	3	18	KC
Mean											6	0.22									10.0	12.4	9.9	11.0	

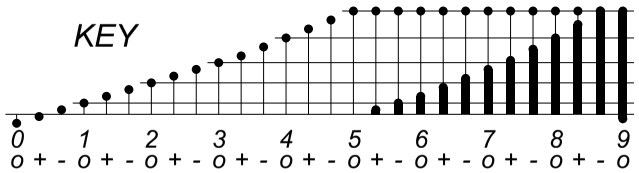
Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	1o	1o	0o	0+	1-	1o	1-	1-	5	1+	1+	0+	0o	0o	0+	0+	0+	3	67.0	0	0	10	
2	1-	0o	1o	1+	1-	0o	0+	1+	5	0+	0+	1o	1o	0o	0o	0o	0o	3	67.2	0	0	11	
3	0+	2-	2+	2+	1+	3-	2+	3o	16	1-	2o	2o	2o	0+	2+	2o	3-	14	67.3	0	0	11	
4	5o	5o	4-	4-	4-	4-	2+	2+	51	5+	5o	4o	3+	4-	3-	3o	2+	52	67.0	0	0	10	
5	2o	2+	1o	1+	2o	1+	1+	2+	13	2+	2+	1o	1o	2o	0+	1+	3-	12	66.3	0	0	10	
6	3-	1+	1o	2-	3o	2-	2+	2+	16	3-	2-	1o	2-	2+	2-	2o	1+	13	66.8	0	0	10	
7	3-	2o	1+	1+	3-	2-	3+	1o	17	3-	2+	1+	0+	3-	1+	3+	1-	15	67.6	0	0	11	
8	1o	3-	3-	2+	2-	3-	3-	2+	19	1+	2+	2+	2o	2-	2o	3-	2o	15	68.0	0	0	11	
9	1o	2+	2o	1o	0+	0o	1-	3-	9	2+	2+	2+	2-	2-	1+	1+	3o	16	68.0	0	0	11	
10	1+	1o	1-	1-	1-	1o	1+	1-	6	3o	2+	2o	2o	2o	2o	2o	1+	17	68.1	0	0	12	
11	0o	1-	0o	0+	0+	1-	1-	2-	4	0+	1-	0o	0o	0o	0+	0+	1+	3	67.8	7	1	11	
12	0+	0o	0o	0o	0o	0o	0+	0+	1	1o	0o	0o	0o	0o	0o	0o	0o	1	67.1	0	0	10	
13	0o	0+	0o	0+	0o	0o	0o	0+	1	0o	0o	0+	0+	0o	0o	0o	0o	1	67.2	0	0	11	
14	0o	0o	1+	1+	1-	1-	3+	3+	13	0o	0+	1+	1-	1-	0o	3-	3o	9	67.6	0	0	11	
15	3-	3-	4-	4-	4o	3+	3+	2+	34	2o	2+	3o	3+	3o	2+	3-	2-	23	68.2	0	0	12	
16	1-	3o	3-	3-	1o	3-	2o	1+	17	0+	3-	3-	2+	1o	2o	2-	1-	14	70.1	0	0	14	
17	2+	2o	0o	0+	0o	0o	0o	1-	5	2-	2-	0o	0o	0o	0o	0o	0+	4	67.7	0	0	11	
18	1+	2o	3o	3o	2+	1+	1-	1-	15	1+	2o	2+	3-	2o	1+	0+	1-	12	67.8	0	0	11	
19	0o	1+	1+	2-	2-	1o	2o	1-	8	0o	1+	1+	2-	1+	1o	2-	1-	7	68.4	0	0	12	
20	2-	1+	0o	0o	0o	0+	0o	0o	3	3-	2+	1+	1+	2-	2+	1+	1+	13	68.4	0	0	12	
21	0o	0o	0o	0o	0o	1o	1-	2-	3	0o	0+	0o	0o	0o	1-	0+	1+	3	68.4	0	0	12	
22	3-	2+	0o	0o	0o	1-	0o	0+	7	3-	2-	0o	0o	0o	0o	0o	0+	5	69.6	8	8	13	
23	1-	0o	1+	1o	1-	0+	1-	1-	5	1+	0o	1+	1-	0+	0o	0o	0+	4	69.8	9	5	13	
24	0+	0+	0+	1o	1o	0+	0o	0o	3	1o	0+	1-	1o	1+	0o	0o	0o	4	68.8	0	0	12	
25	0o	0o	0o	1-	0o	1o	2+	2o	6	0+	0o	0o	1o	0o	1-	2-	2-	5	68.6	0	0	12	
26	1+	1o	0+	0o	1-	0+	0o	0+	4	1+	1o	1-	0o	1-	0o	0o	0o	3	68.0	0	0	11	
27	0o	0o	0o	0o	0+	2-	2o	1+	5	0o	0o	0+	0o	0+	1o	1+	1o	4	67.6	0	0	11	
28	0o	0+	1-	1o	2o	1-	0o	0o	5	0o	1-	1o	1o	2-	0o	0o	0o	4	67.3	0	0	11	
29	0o	1-	1+	1+	1-	0o	0o	1-	4	0o	1o	1+	1+	1o	0o	0o	0+	4	67.0	8	1	10	
30	0o	0o	0+	0o	1+	2o	2-	2+	7	0o	0+	0+	0o	1+	2-	2-	3-	8	66.4	0	1	10	
Mean									10.2									9.7	67.8	1.1	0.5	11.2	

Daily Average Indices Ap
Oct 2007 - Sep 2008



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



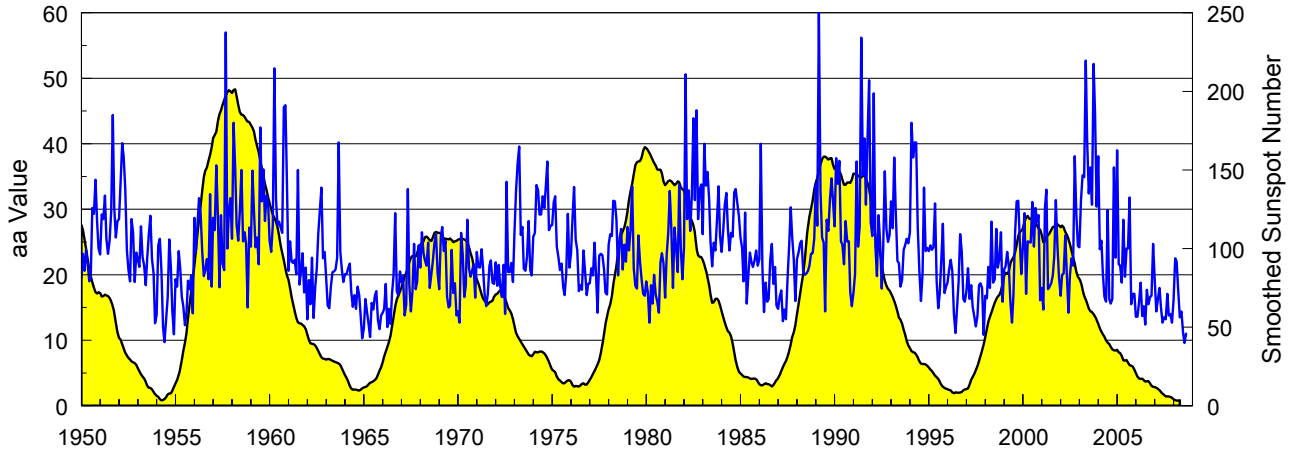


▲ = sudden commencement

PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 2008 Sep 30

Monthly Mean aa Index Jan 1950 - Sep 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				15.3

PLANETARY GEOMAGNETIC ACTIVITY

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

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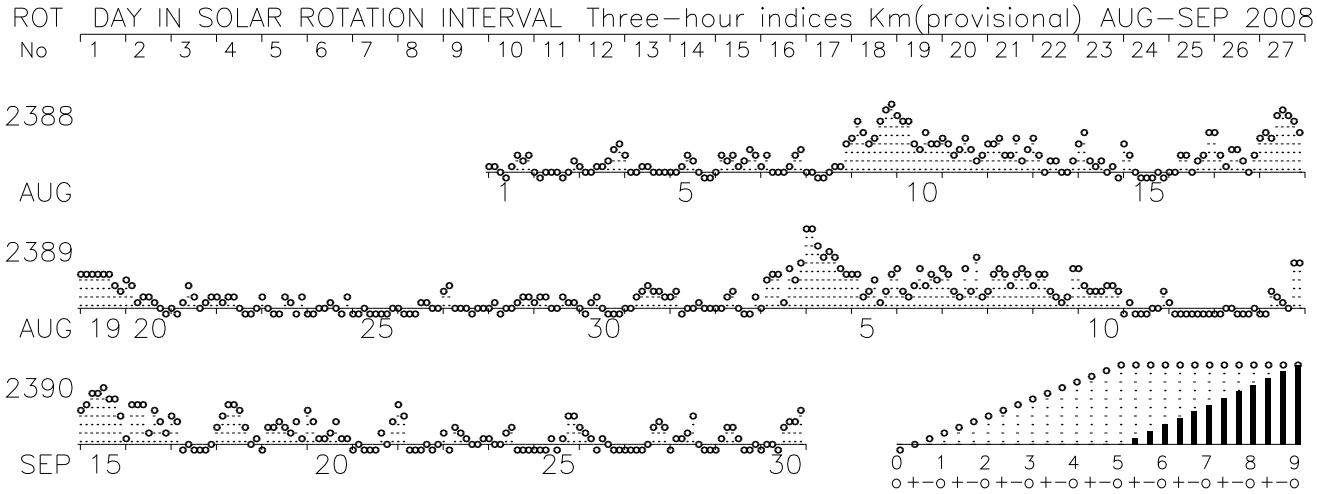
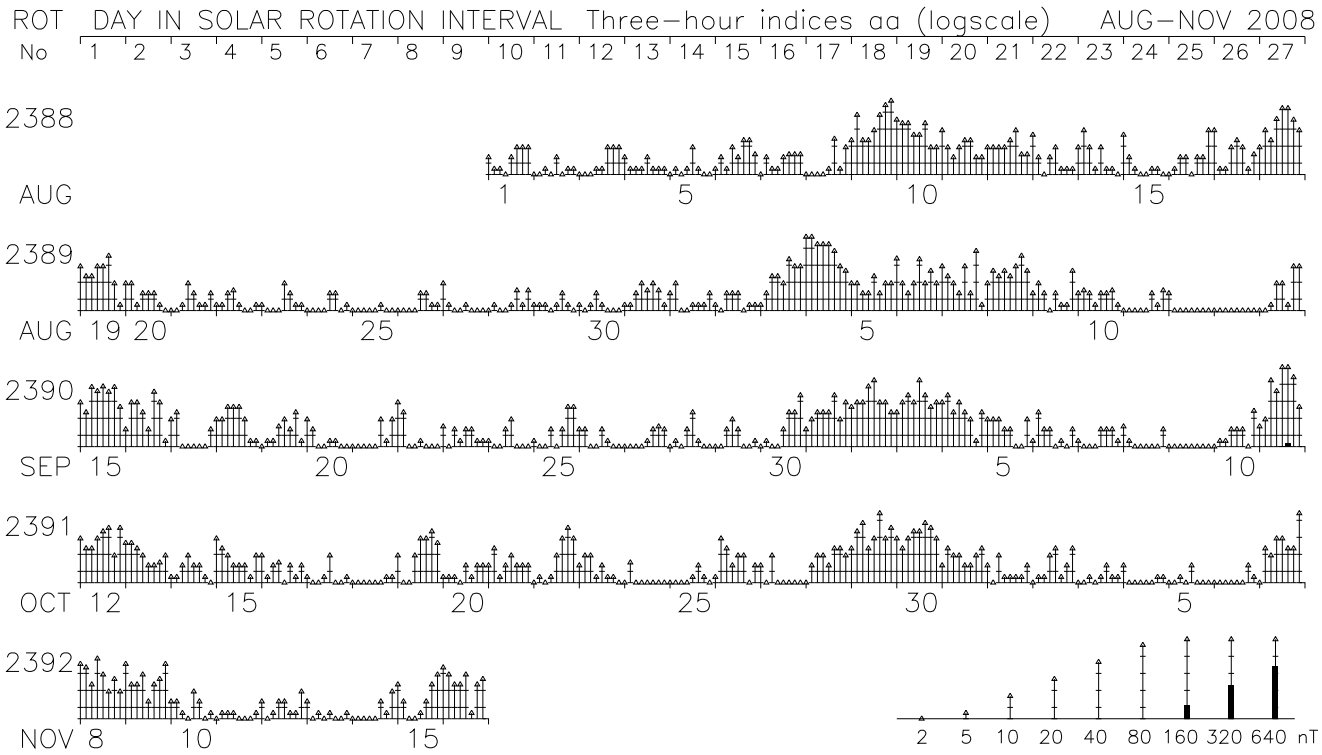


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

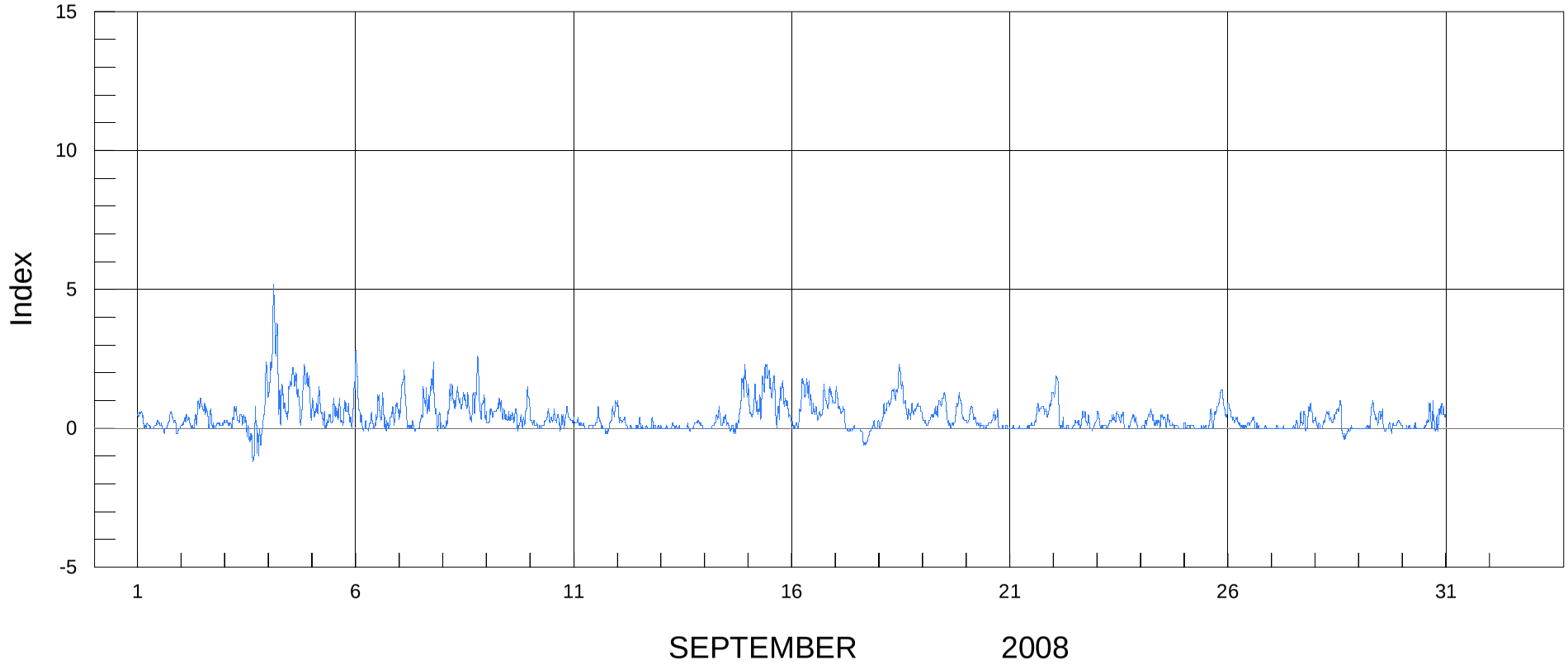


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

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
SEPTEMBER 2008

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day	(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
JAI	17.4N	03	0500	..	..	..	..			-	10	117	44	04	23
NGP	11.3N	03	0500	..	..	..	..			-	7	131	27	04	23
ABG	09.4N	03	0500	..	..	..	..	4	(1,2)	5	6	135	50	04	23
HYB	07.6N	03	0300	..	..	..	..	3	(3),4(1,2,4)	5	6	138	21	04	22
PND	02.0N	03	0500	..	..	..	..			-	7	132	59	04	23
TIR	00.6S	03	0500	..	..	..	..			-	6	163	57	04	23
HYB	07.6N	05	0800	..	..	..	..	7	(7)	4	6	55	23	08	22
JAI	17.4N	14	1900	..	..	..	..			-	6	90	37	15	24
NGP	11.3N	14	1900	..	..	..	..			-	5	98	30	15	24
ABG	09.4N	14	1900	..	..	..	..	14	(8),15(3,4,5,6)	-	5	102	45	15	24
HYB	07.6N	14	1800	..	..	..	..	15	(5,6),16(3)	4	6	116	30	16	21
PND	02.0N	14	1900	..	..	..	..			-	4	122	52	15	24
TIR	00.6S	14	1900	..	..	..	..			-	5	180	60	15	24
GNA	43.0S	30	1234	SC	3.7	7.5	4.0			-	--	--	---	--	--
CAN	43.6S	30	1234	SC	1.1	8.1	1.4			-	--	---	---	--	--

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

SEPTEMBER 2008

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
03	1543	B: LER* ESK* HAD* GUI			
		C: NGK* BDV* HRB MMB KAK KNY			
14	1913	B: LER* ESK* HAD* GUI			
		C: NUR NGK VAL DOU BDV CLF NAG*			
30	1234	A: LER* ESK* HAD* GNA			
		B: GUI*			
		C: NUR NGK* BDV* CLF*			

REPORTING OBSERVATORIES (up to 03-11-2008):
SOD NUR LER ESK NGK VAL HAD DOU BDV CLF HRB NAG GCK MMB EBR SPT KAK KNY GUI HYB GNA CNB

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

Note that we have included data of the Antartic Station LIVINGSTONE (62º 39' 44" S, 60º23' 41" W) -- Luis F.

Criterion on Provisional SSC data

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