

SEPTEMBER 2008 NUMBER 769 - Part I

Solar-Geophysical Data prompt reports



Data for July and August 2008

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

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NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE,
DATA, AND INFORMATION SERVICE

NATIONAL GEOPHYSICAL
DATA CENTER

BOULDER,
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SEPTEMBER 2008 NUMBER 769 - Part I

Solar-Geophysical Data prompt reports

Data for July and August 2008

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NATIONAL GEOPHYSICAL DATA CENTER

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SOLAR-GEOPHYSICAL DATA

Number 769

(Issued in Two Parts)

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Solar-Terrestrial Physics Division

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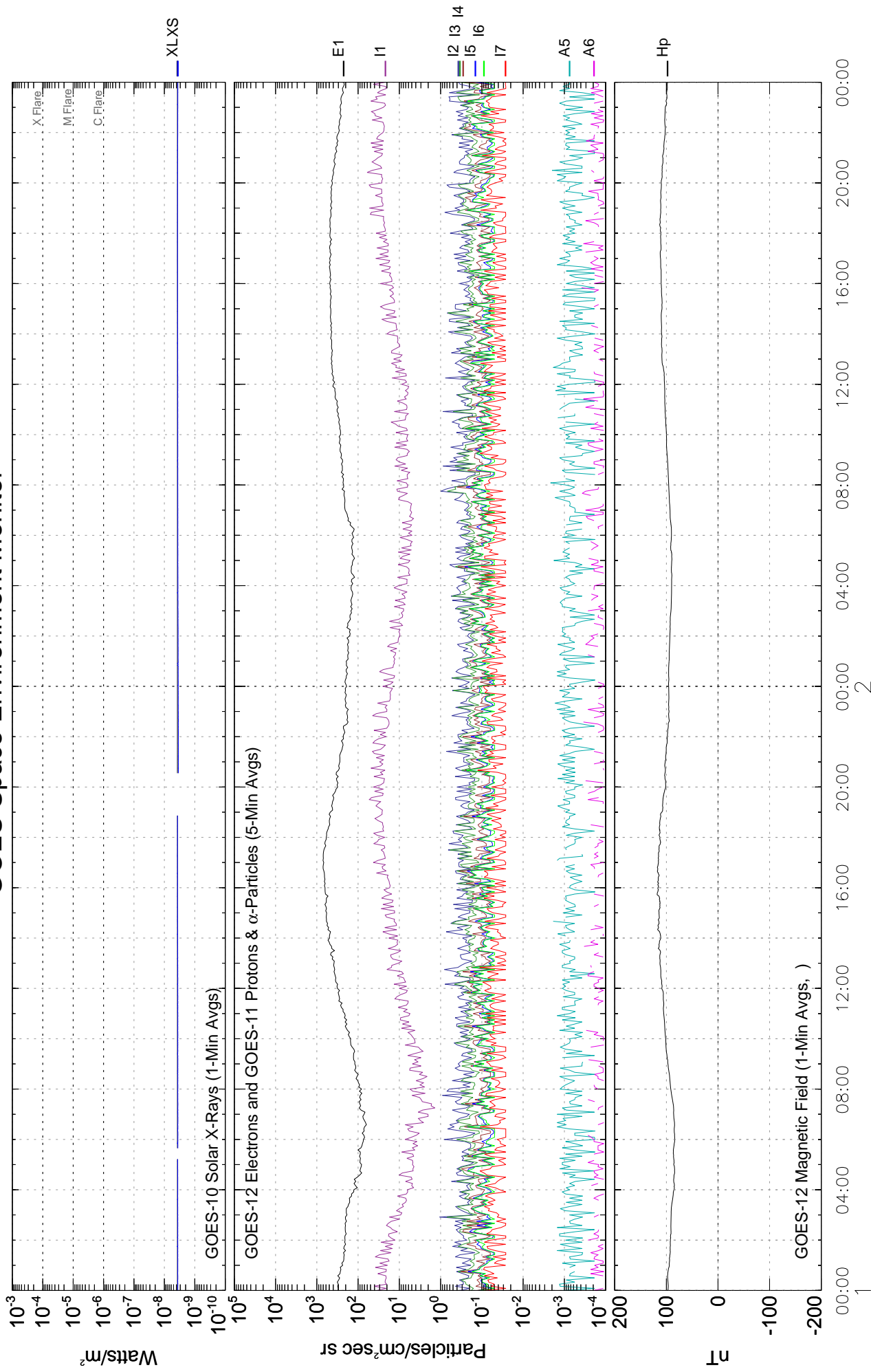
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DATA FOR AUGUST 2008

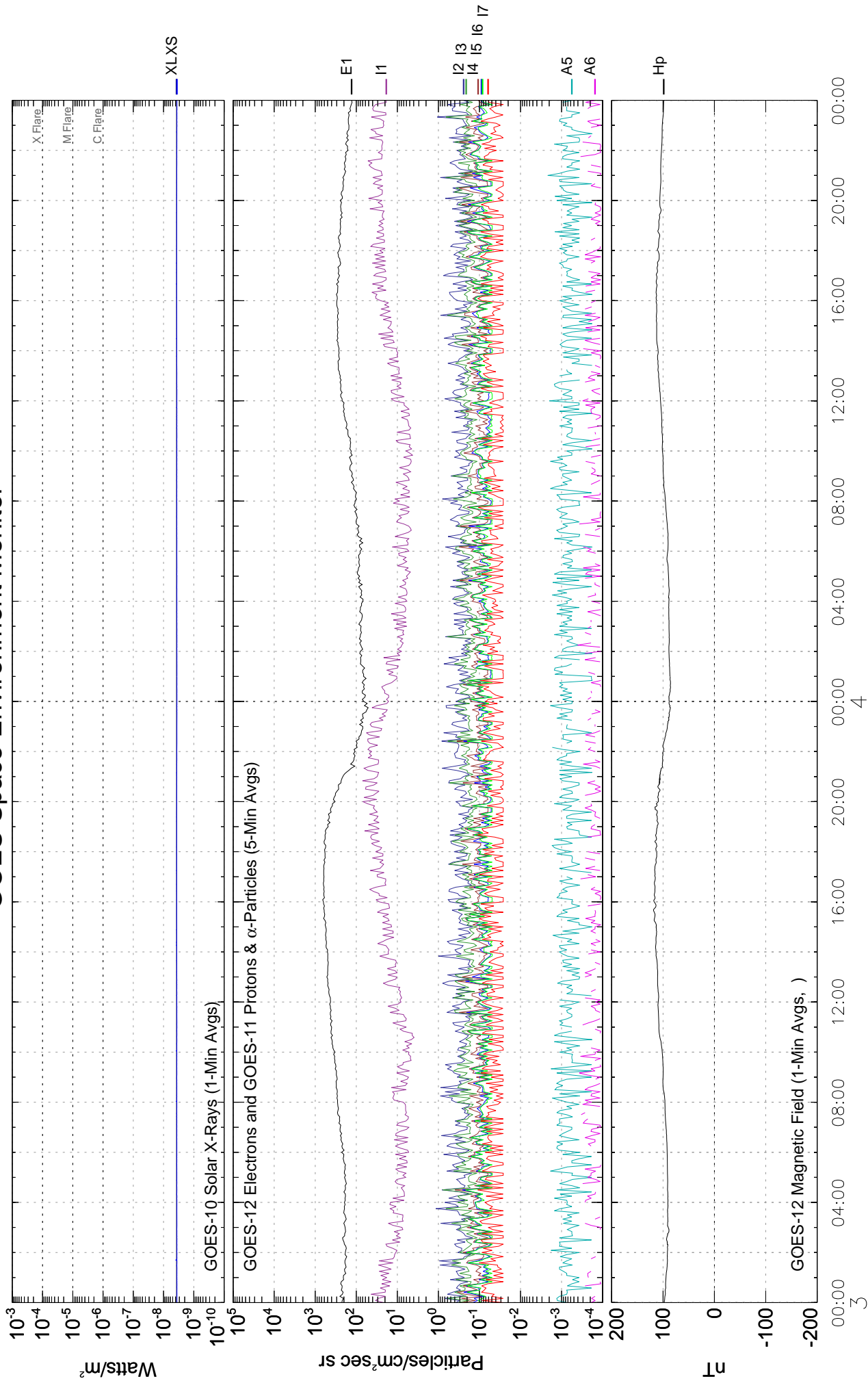
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GOES Space Environment Monitor



August 2008 (Universal Time)

GOES Space Environment Monitor

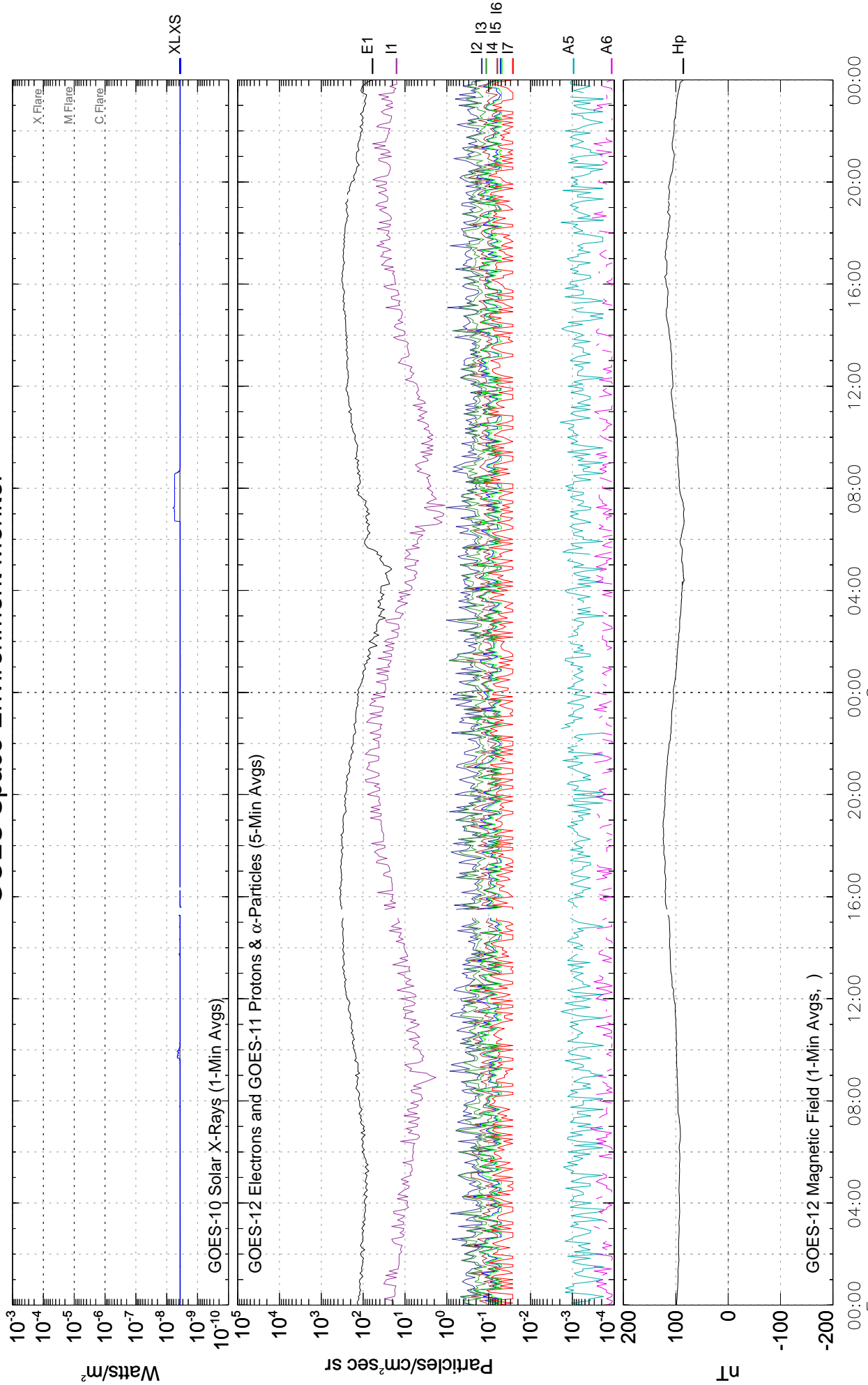


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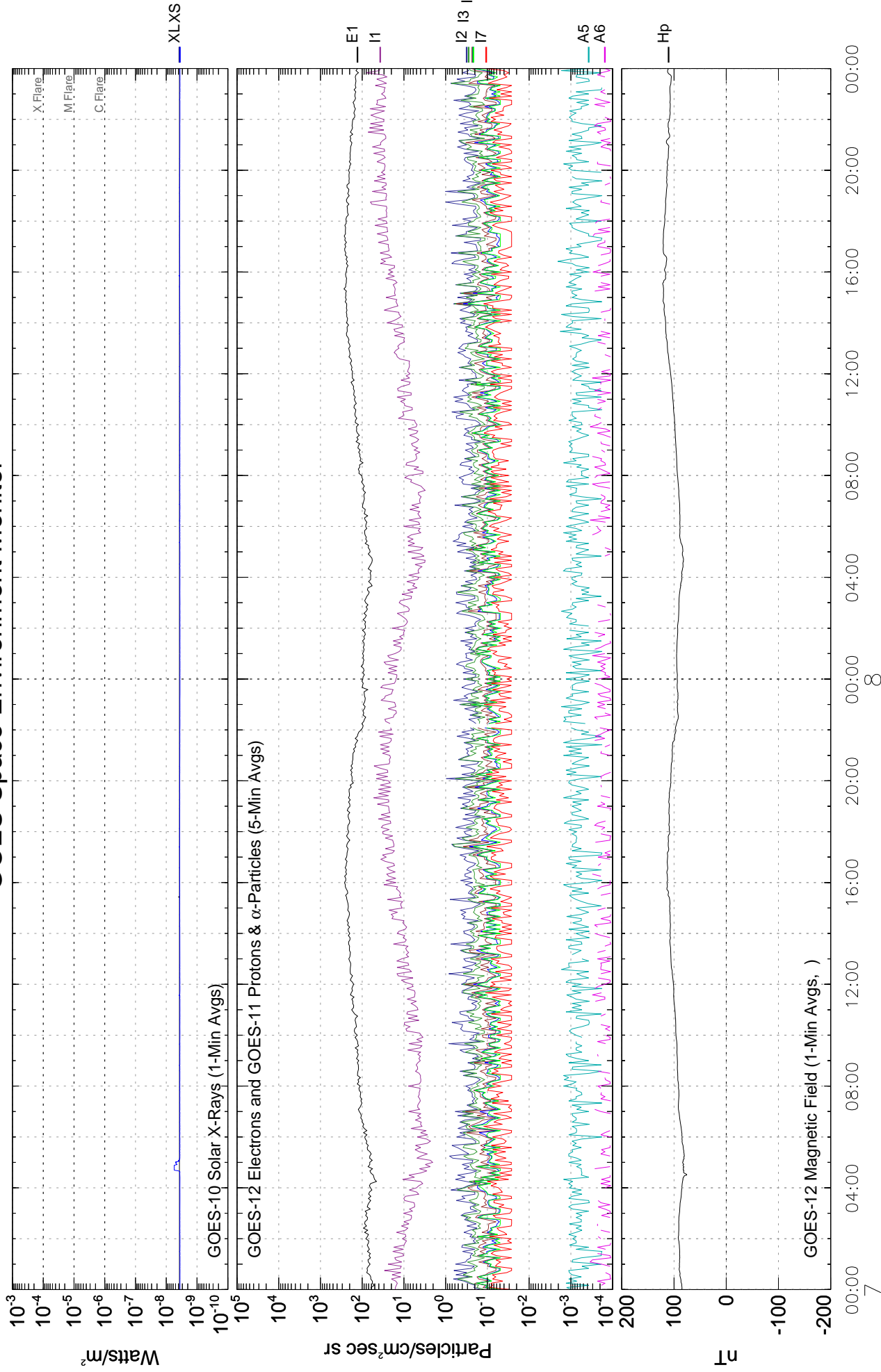
August 2008 (Universal Time)

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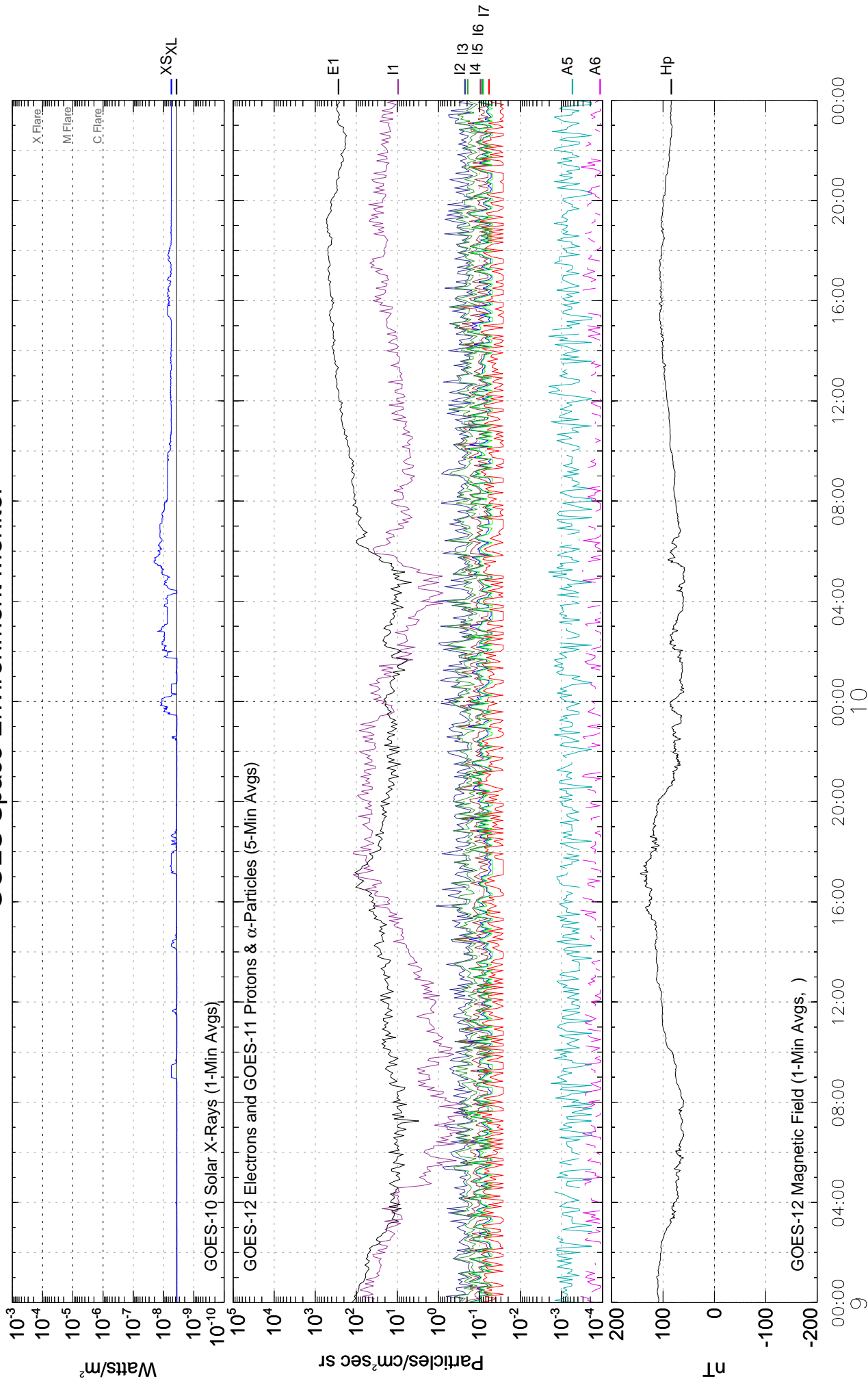
GOES Space Environment Monitor



GOES Space Environment Monitor

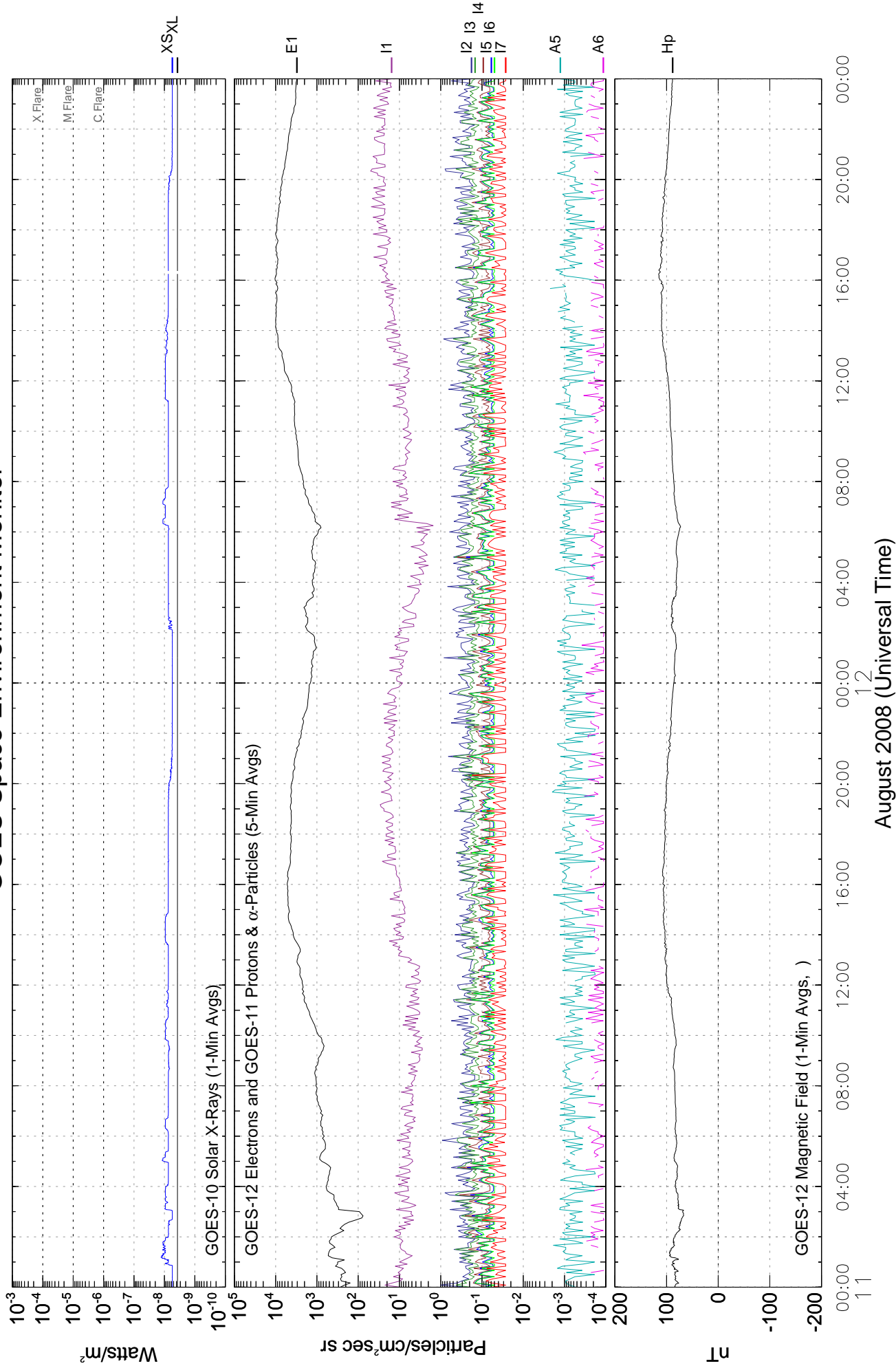


GOES Space Environment Monitor



August 2008 (Universal Time)

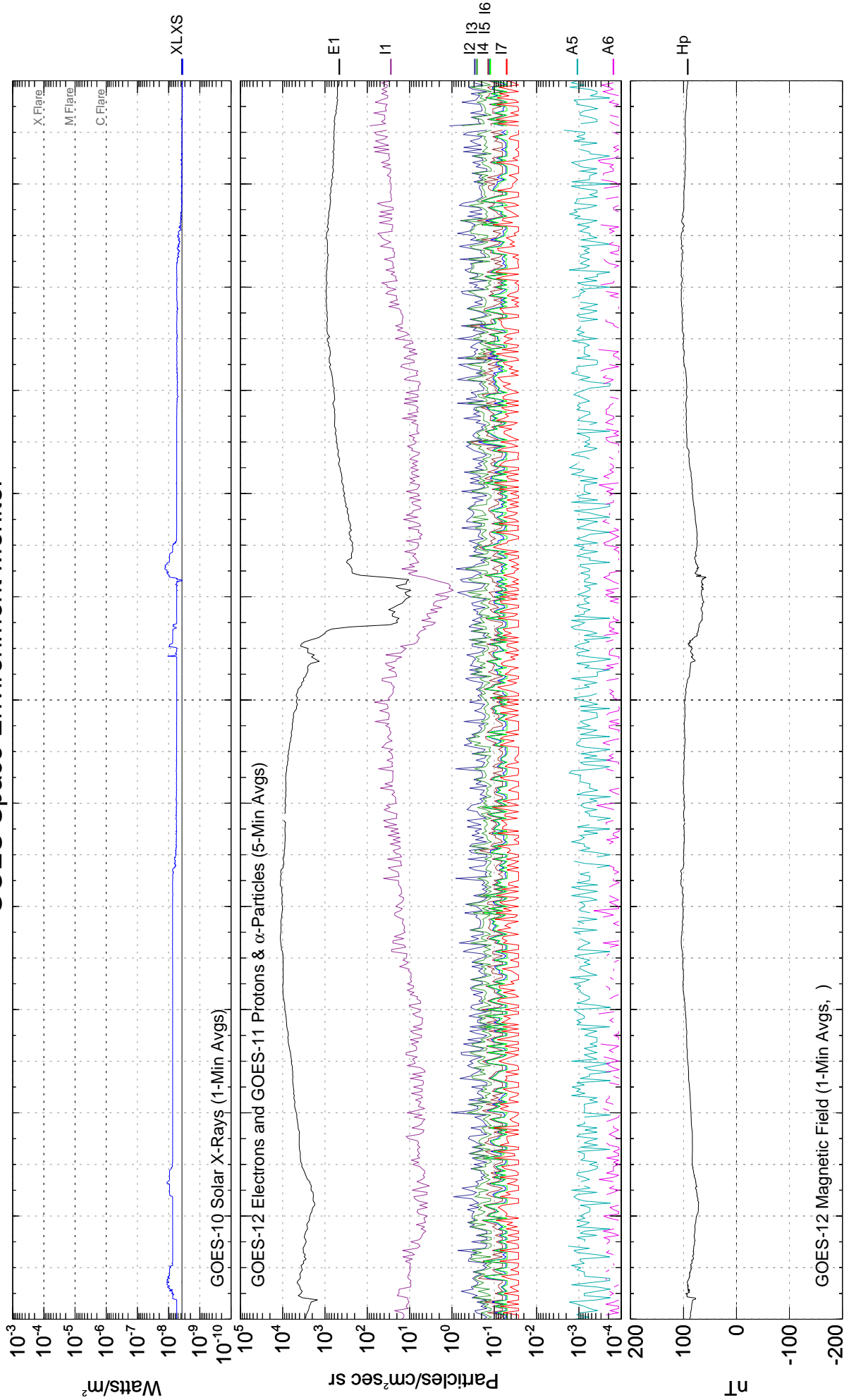
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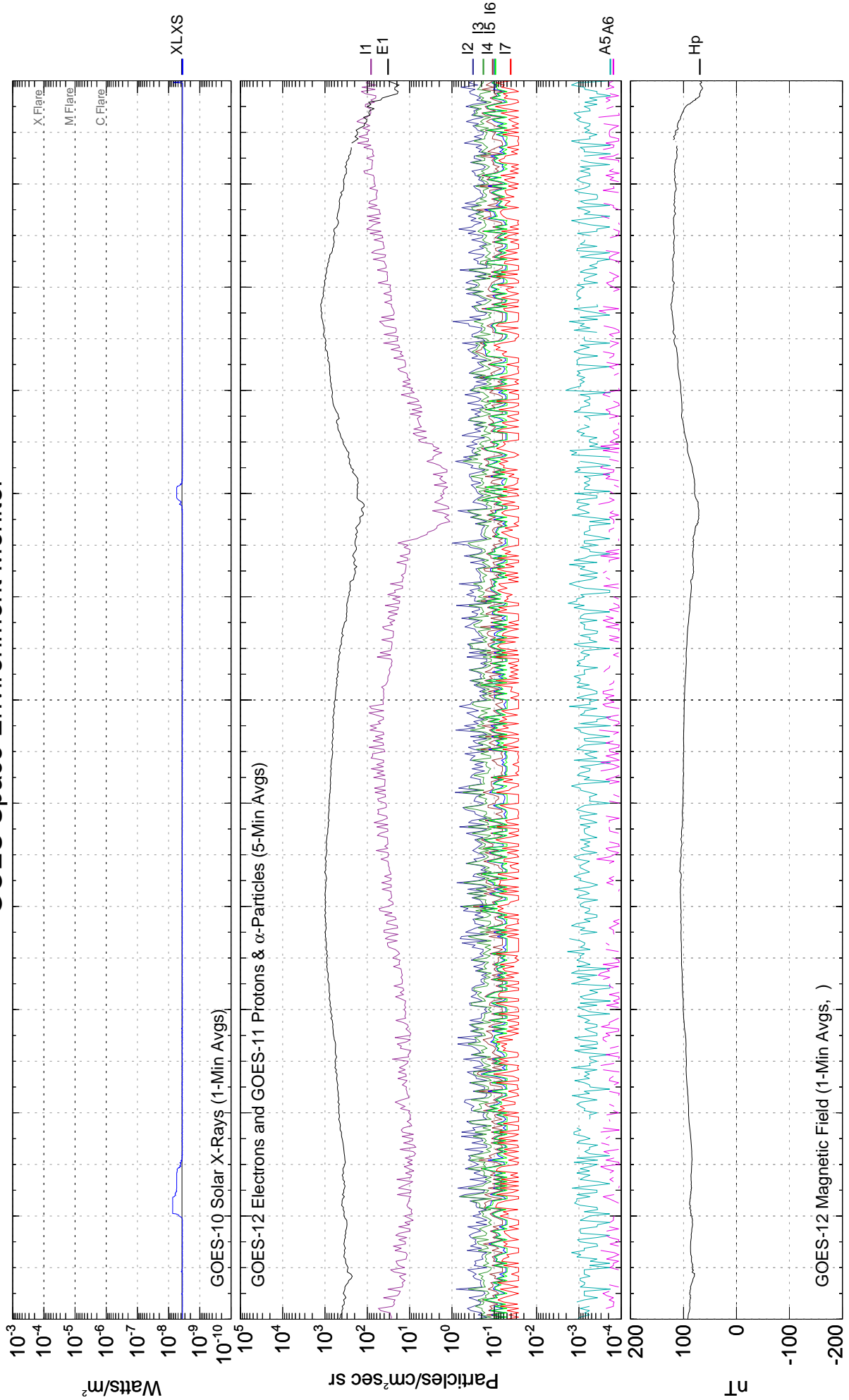
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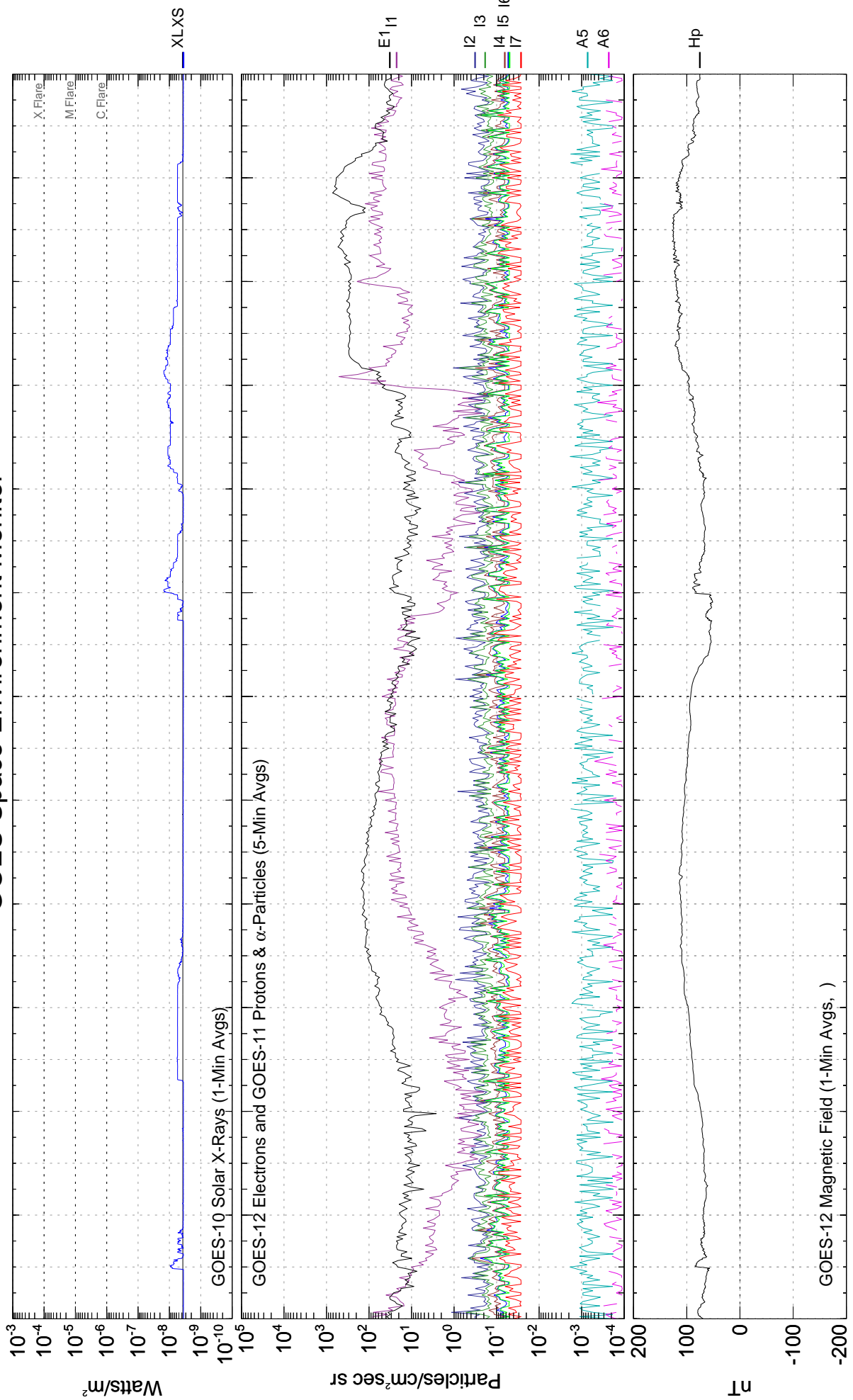


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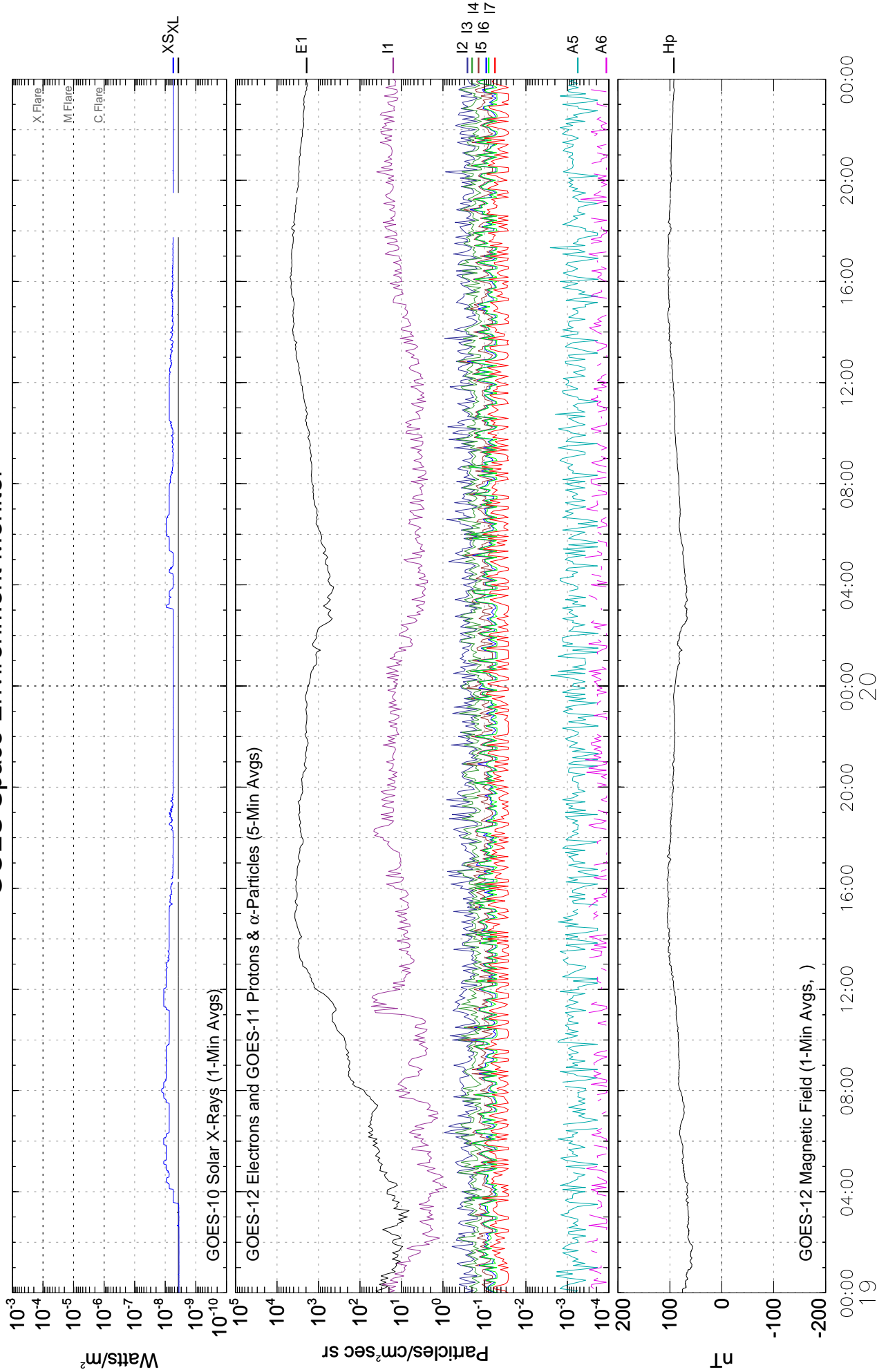


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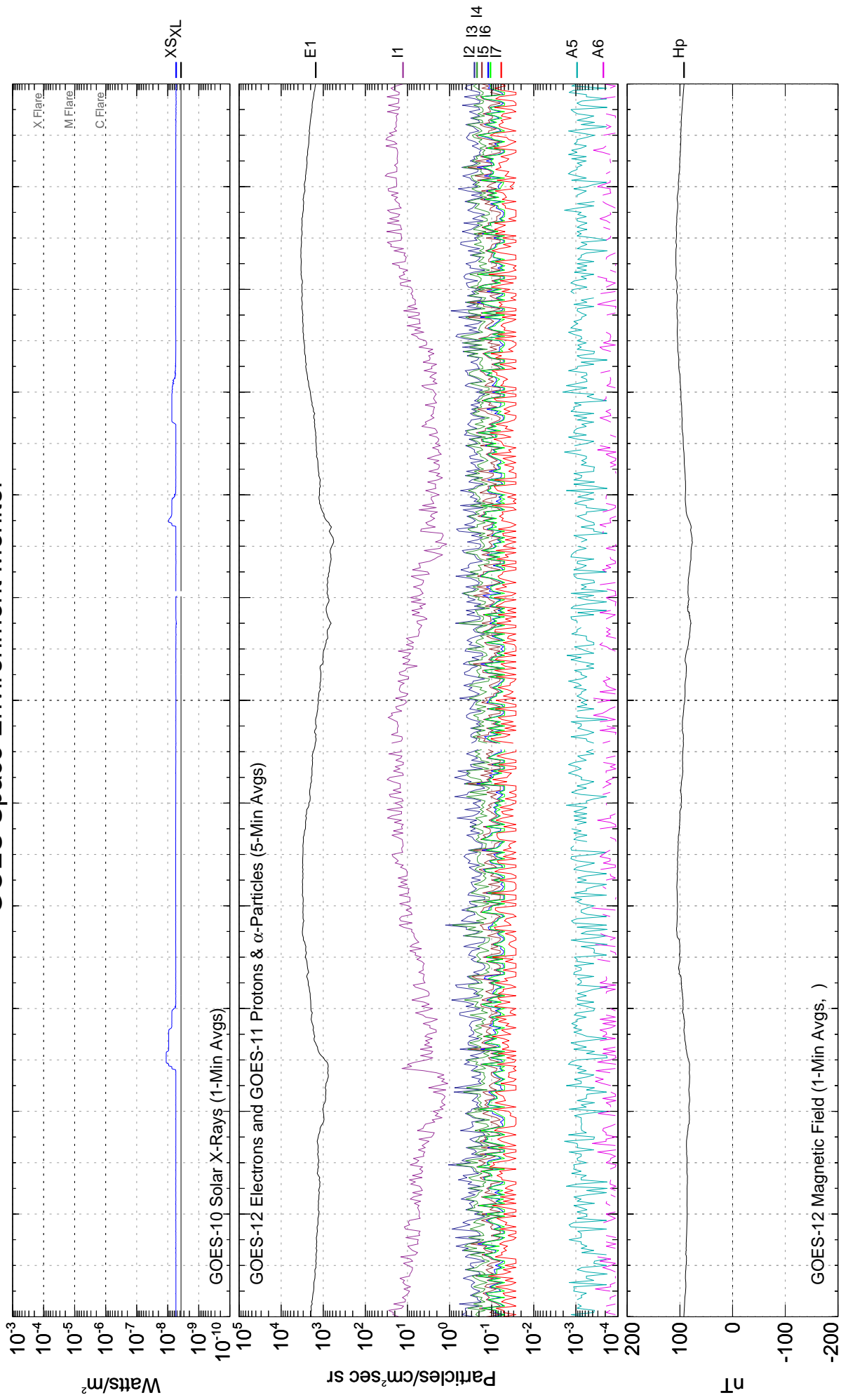
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August 2008 (Universal Time)

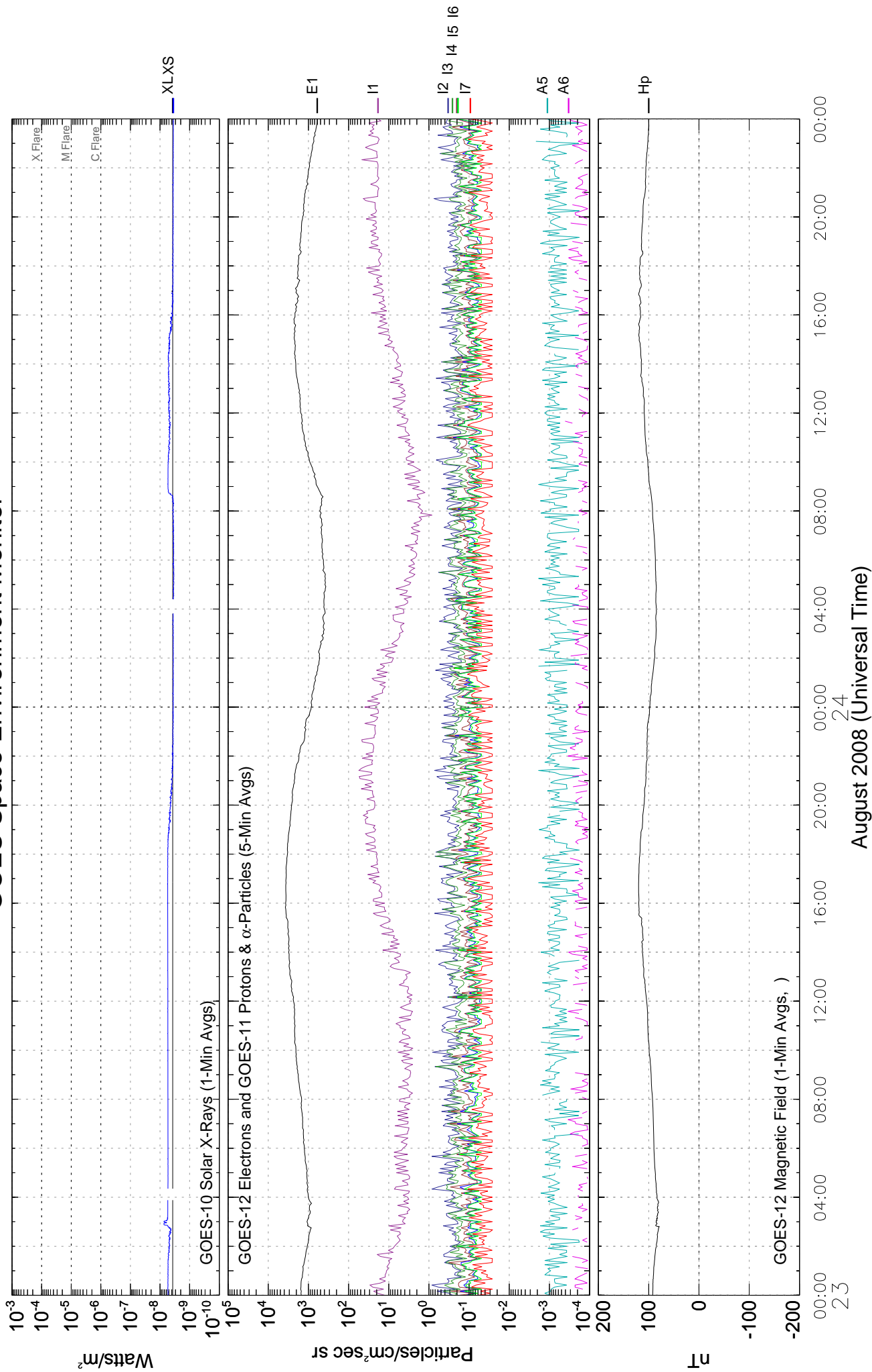
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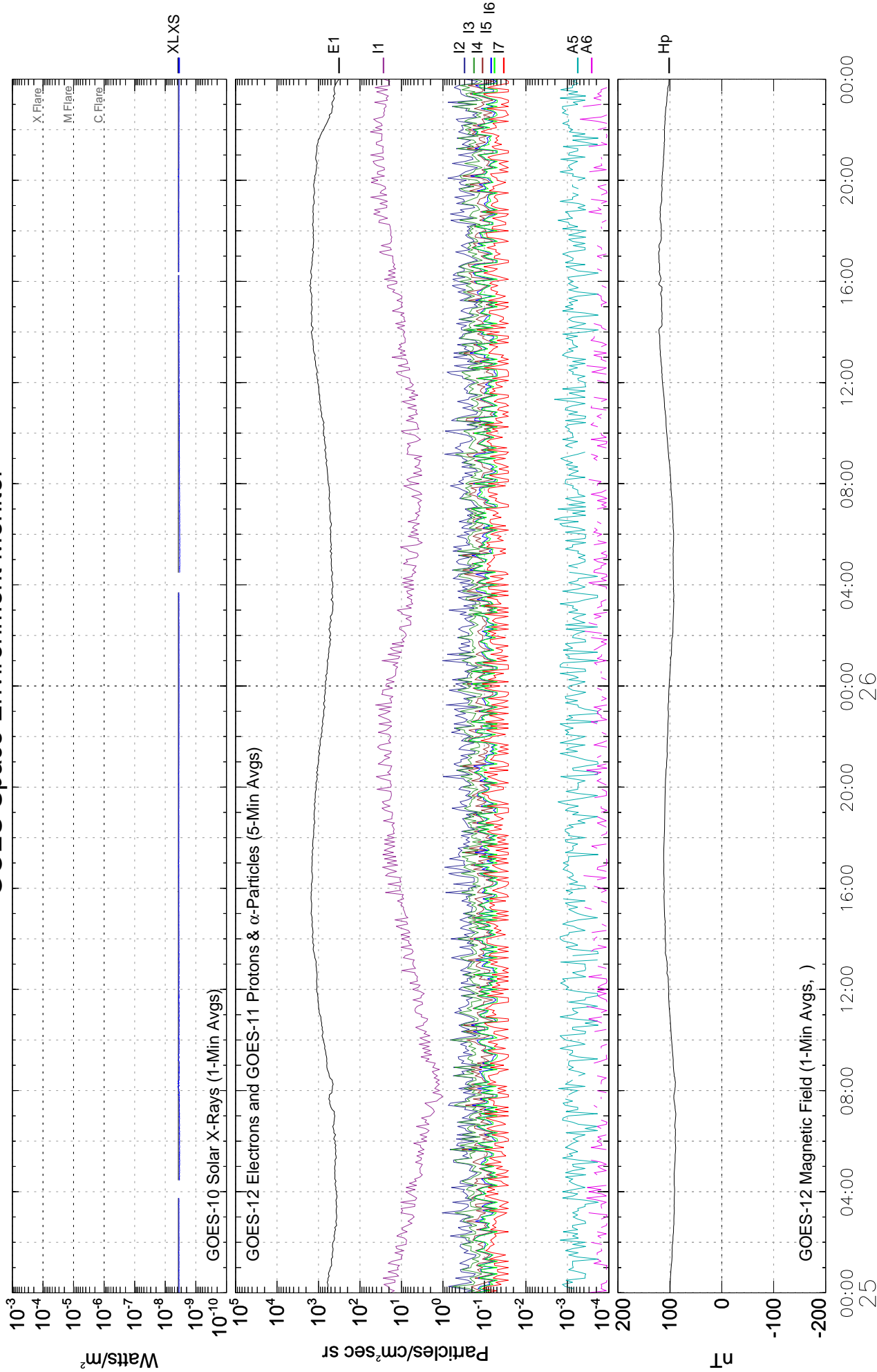
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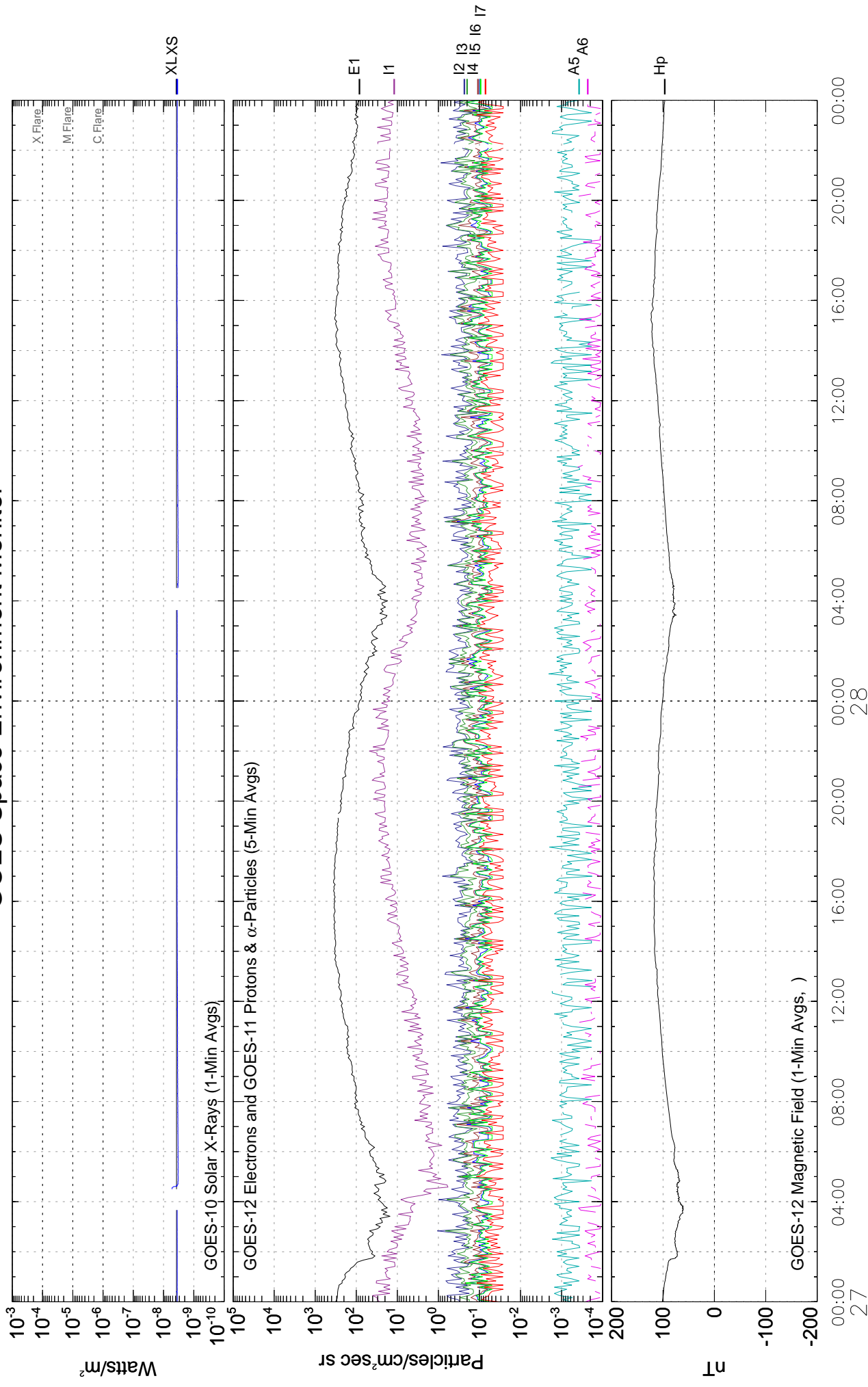
GOES Space Environment Monitor



GOES Space Environment Monitor



GOES Space Environment Monitor

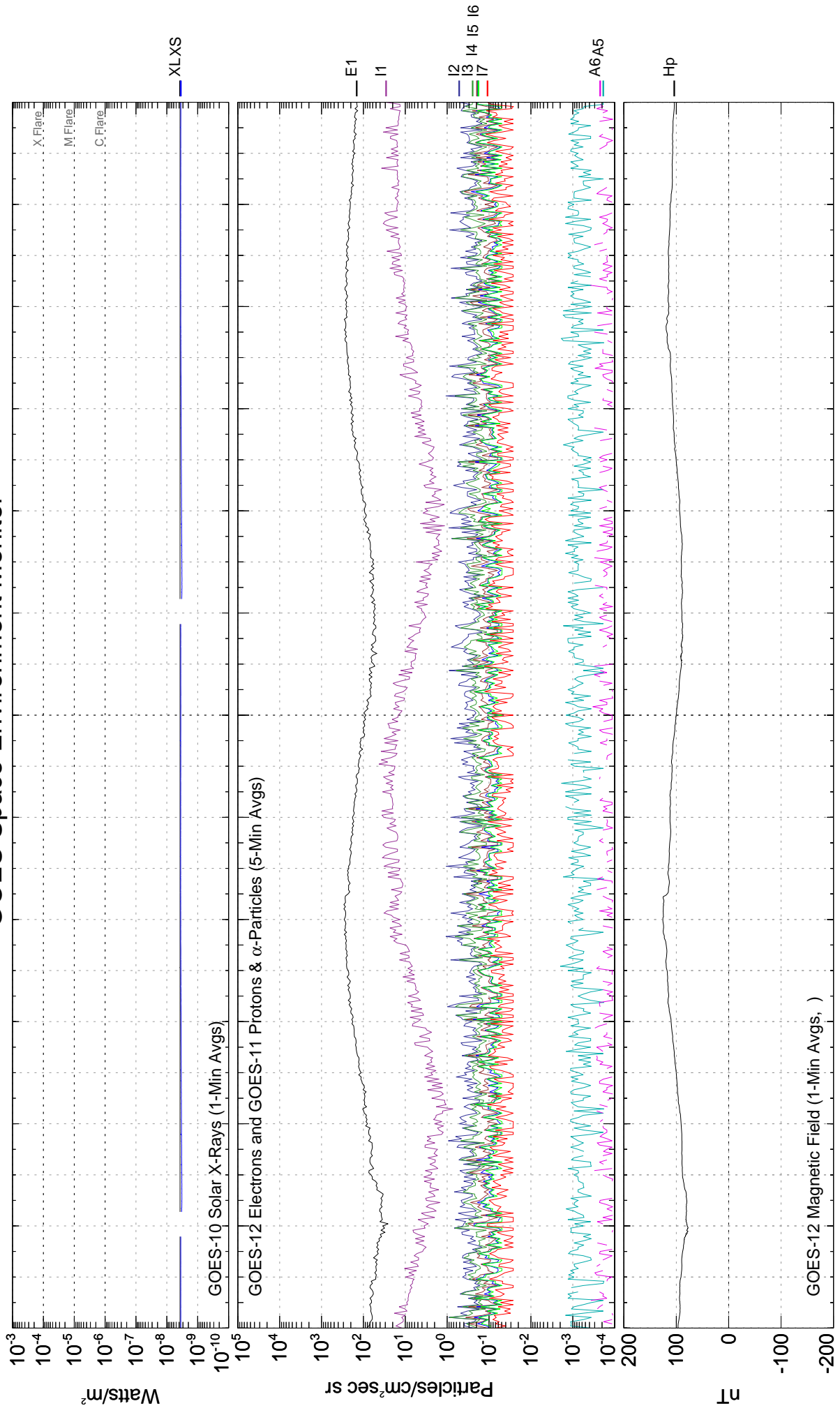


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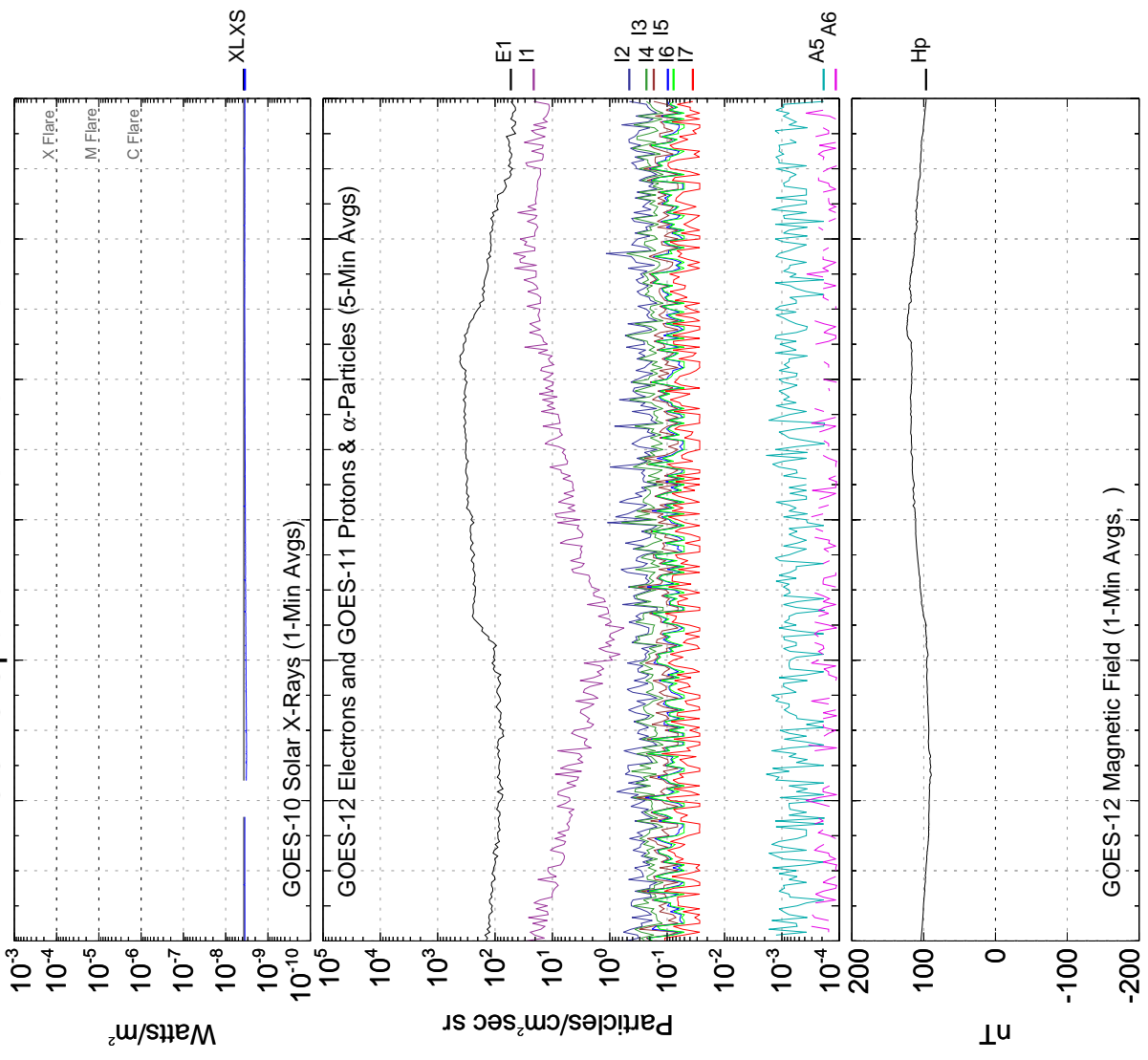
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August 2008 (Universal Time)

GOES Space Environment Monitor



00:00 04:00 08:00 12:00 16:00 20:00 00:00

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Aug 08

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

AUGUST 2008

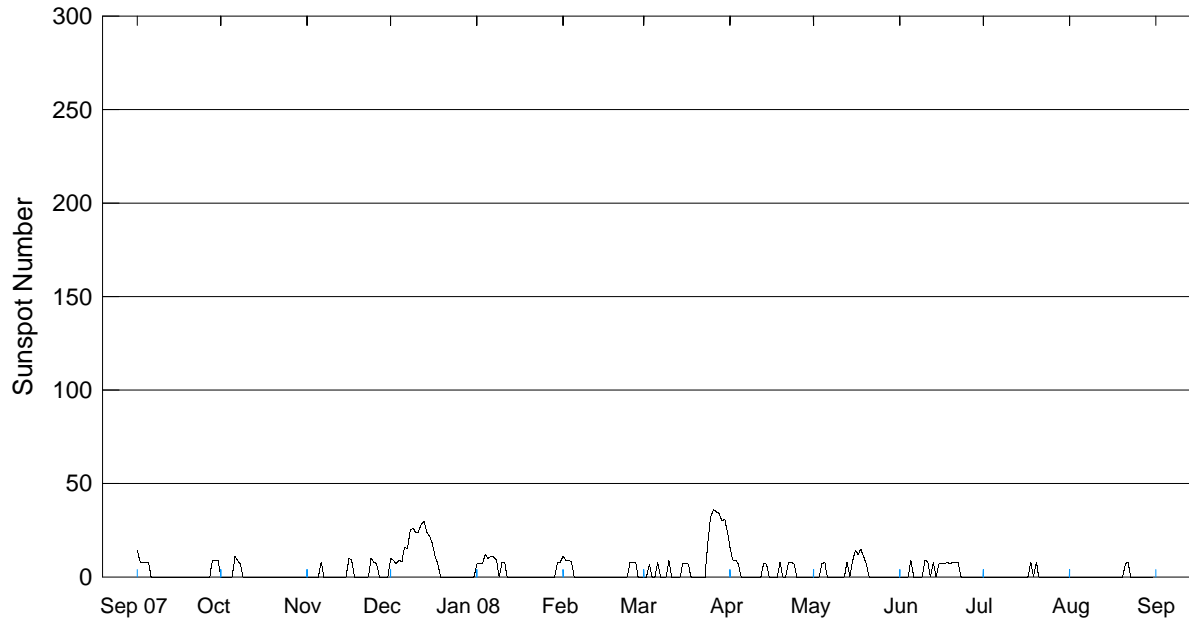
Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst (1)	Geoadvice (1)
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									0	0	0	01		
									0	0	0	01		
215	02	01	0	66	4				0	0	0	02		SOL: Quiet MAG: Quiet PRO: Quiet
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									0	0	0	15		
229	16	15	0	65	3				0	0	0	16		SOL: Quiet MAG: Quiet PRO: Quiet
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									0	0	0	16		
230	17	16	0	66	5				0	0	0	17		SOL: Quiet MAG: Quiet PRO: Quiet
									0	0	0	17		
									0	0	0	17		

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

AUGUST 2008

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst (1)	Geoadvice (1)
							Lat	Lon	Opt	M	X			
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									0	0	0	18		MAG: Quiet
									0	0	0	18		PRO: Quiet
232	19	18	0	66	27				0	0	0	19		SOL: Quiet
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235	22	21	0	67	6				0	0	0	22		SOL: Quiet
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International Relative Sunspot Numbers Sep 2007 - Aug 2008

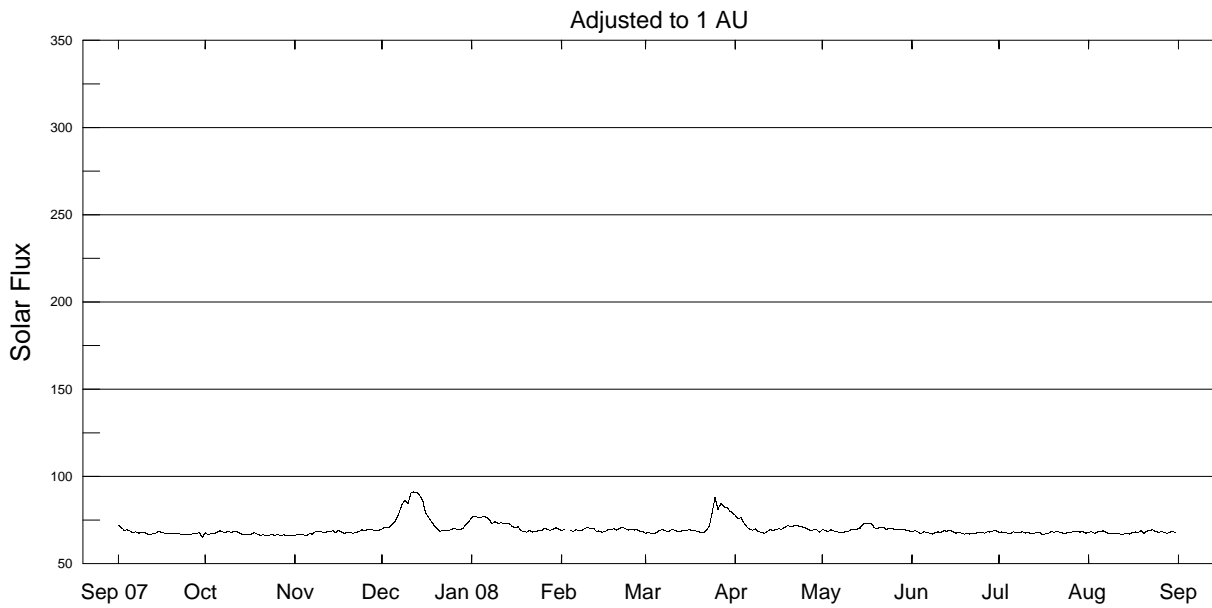


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2	8	0	0	9	7	9	0	9	0	0	0	0
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24	0	0	10	0	0	0	19	7	0	0	0	0
25	0	0	8	0	0	8	32	0	0	0	0	0
26	0	0	7	0	0	8	36	0	0	0	0	0
27	0	0	0	0	0	8	35	0	0	0	0	0
28	9	0	0	0	0	0	34	0	0	0	0	0
29	9	0	0	0	0	0	30	0	0	0	0	0
30	9	0	0	0	8		31	0	0	0	0	0
31		0		0	8		25		0		0	0
Mean	2.4	0.9	1.7	10.1	3.4	2.1	9.3	2.9	2.9	3.1	0.5	0.5

* = Provisional.

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

23
Aug 08



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

* = No data available.

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Aug 08

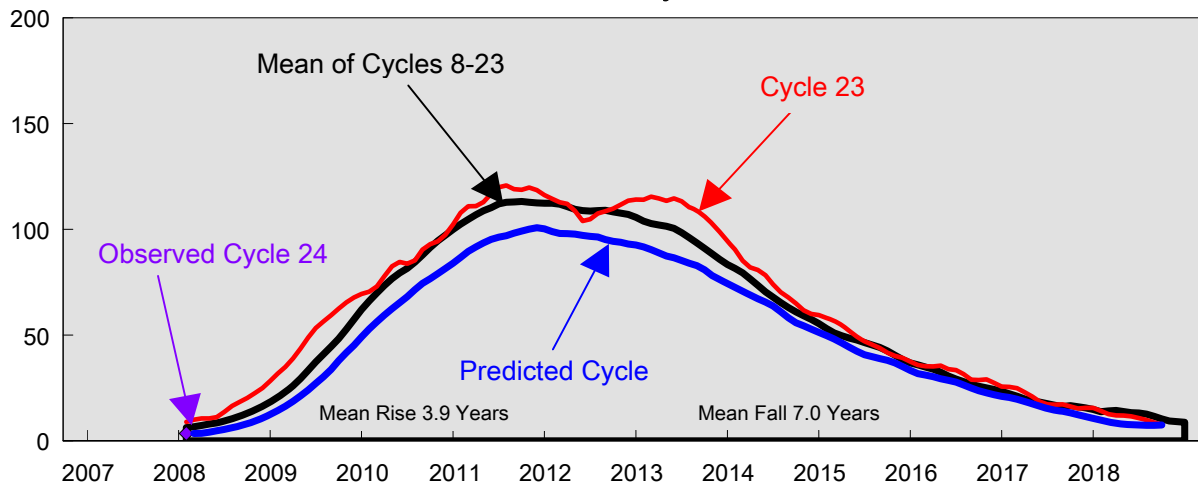
DAILY SOLAR INDICES
AUGUST **2008**

Day	Day of Year	Bartels Cycle Day	Sunspot		Obs Flux		-----Solar Flux Adjusted to 1 Astronomical Unit-----							
			Numbers Int	Amer	Penticton (2800)	SGMR (15400)	SGMR (8800)	SGMR (4995)	Penticton (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
1	214	10	0	0	66.1	448	229	124	68.1	63	54	33	22	11
2	215	11	0	0	66.2	446	230	123	68.2	64	55	34	22	11
3	216	12	0	0	65.5	449	226	123	67.4	57	54	32	21	11
4	217	13	0	0	66.2	446	226	122	68.2	59	54	33	21	10
5	218	14	0	0	66.5	446	231	124	68.4	56	54	35	20	10
6	219	15	0	0	67.0	332	228	122	68.9	61	54	36	18	9
7	220	16	0	0	66.1	444	225	120	68.0	61	54	33	21	10
8	221	17	0	0	65.5	390	218	120	67.3	59	54	36	20	12
9	222	18	0	0	65.5	446	228	121	67.3	61	53	35	20	10
10	223	19	0	0	65.6	449	229	124	67.4	59	54	35	20	12
11	224	20	0	0	65.7	394	224	124	67.5	61	53	36	20	12
12	225	21	0	0	65.2	390	228	122	66.9	59	52	35	21	10
13	226	22	0	0	65.3	448	226	122	67.0	59	53	36	20	11
14	227	23	0	0	65.9	449	225	122	67.6	58	53	34	22	11
15	228	24	0	0	65.3	447	226	121	67.0	61	54	36	21	10
16	229	25	0	0	66.2	448	224	120	67.8	59	54	37	20	10
17	230	26	0	0	66.5	449	224	120	68.2	59	54	37	21	11
18	231	27	0	0	66.2	447	225	121	67.8	61	55	37	21	10
19	232	1	0	0	67.3	445	229	122	68.9	61	56	37	22	10
20	233	2	0	0	65.9	451	229	123	67.4	65	54	36	21	10
21	234	3	7	2	67.1	449	223	123	68.7	59	54	36	21	11
22	235	4	8	2	67.6	450	226	123	69.1	61	56	38	21	11
23	236	5	0	0	67.9	449	226	123	69.4	62	56	36	22	9
24	237	6	0	0	67.1	448	224	122	68.6	60	54	37	21	11
25	238	7	0	0	66.6	445	225	121	68.0	61	54	37	21	9
26	239	8	0	0	66.9	451	226	123	68.3	60	54	37	20	10
27	240	9	0	0	66.6	449	227	121	68.0	65	53	37	21	11
28	241	10	0	0	66.1	448	225	123	67.4	58	55	38	21	11
29	242	11	0	0	66.8	447	226	121	68.1	57	54	38	21	10
30	243	12	0	0	67.1	443	227	122	68.4	62	53	37	20	11
31	244	13	0	0	66.7	451	226	121	67.9	58	54	37	21	10
MEAN			0.5	0.2	66.3	438	226	122	68.0	60	54	35	20	10

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

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

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Jul 08



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

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1996	10	10	10	9	8*	9	8	8	8	9**	10	10	8
1997	11	11	14	17	18	20	23	25	28	32	35	39	23
1998	44	49	53	57	59	63	65	68	69	71	73	78	62
1999	83	85	84	85	90	93	94	98	102	108	111	111	95
2000	113	117	120	120.8+	119	119	120	119	116	115	113	112	107
2001	109	104	105	108	109	110	112	114	114	114	115	115	111
2002	114	115	113	111	109	106	103	99	95	91	85	82	102
2003	81	79	74	70	68	65	62	60	60	58	57	57	66
2004	53	49	47	46	46	42	40	39	38	36	35	35	42
2005	35	34	34	32	29	29	29	27	26	26	25	23	29
2006	21	19	17	17	17	16	15	16	16	14	13	13	16
2007	12	12	11	10	9	8	7	6	6	6	6	5	8
2008	4	3.5##	4	4	4	5	6	6	7	8	9	11	6
			(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(9)	(10)	(4)
2009	13	14	16	19	21	24	27	30	34	38	42	45	27
	(12)	(14)	(16)	(19)	(21)	(24)	(27)	(30)	(33)	(36)	(39)	(44)	(26)

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.

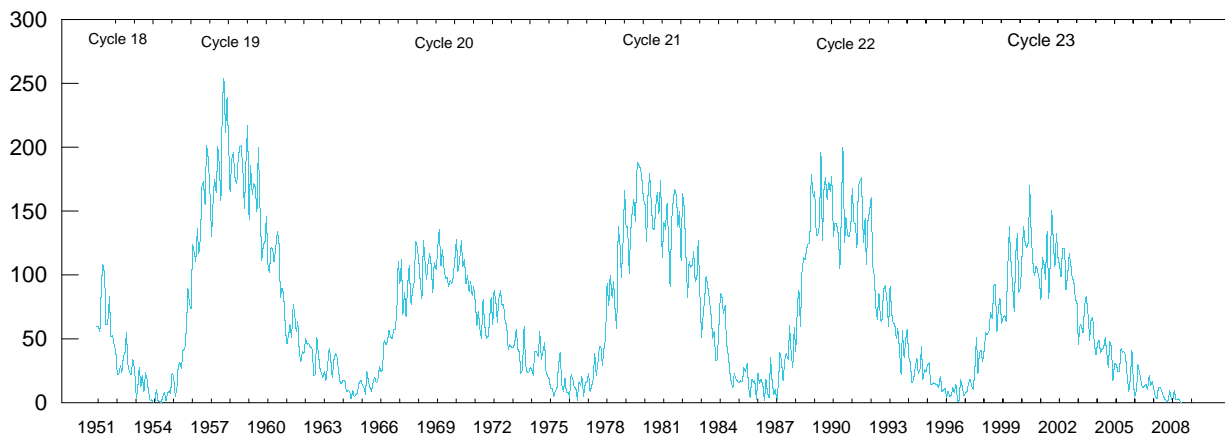
- Preliminary Cycle 24 Minimum

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

OBSERVED AND PREDICTED NUMBERS: For the end of Cycle 23, and the rise and decline of Cycle 24, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through Dec 2007 and on provisional numbers thereafter. Table entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. See page 9 in the Jul 1987 supplement to Solar-Geophysical Data. Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval. Subtracting the number from the predicted value generates the lower limit. Consider, for example, the February 2009 prediction. There exists a 90% chance that in February 2009, the actual smoothed sunspot will fall somewhere between 0 and 28.

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 February, 2009. This will be updated monthly until the actual minimum is reached.

Mean Monthly Sunspot Numbers Jan 1951 - Aug 2008



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4 m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2 M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	122.3
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2 m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	105.9 M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6 m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4 M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4 m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.4
1988	59.0	40.0	76.2	88.0	60.1	101.8	113.8	111.6	120.1	125.1	125.1	179.2	100.2
1989	161.3	165.1	131.4	130.6	138.5	196.2	126.9	168.9	176.7	159.4	173.0	165.5	157.6 M
1990	177.3	130.5	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.5	131.4	129.7	142.6
1991	136.9	167.5	141.9	140.0	121.3	169.7	173.7	176.3	125.3	144.1	108.2	144.4	145.7
1992	150.0	161.1	106.7	99.8	73.8	65.2	85.7	64.5	63.9	88.7	91.8	82.6	94.3
1993	59.3	91.0	69.8	62.2	61.3	49.8	57.9	42.2	22.4	56.4	35.6	48.9	54.6
1994	57.8	35.5	31.7	16.1	17.8	28.0	35.1	22.5	25.7	44.0	18.0	26.2	29.9
1995	24.2	29.9	31.1	14.0	14.5	15.6	14.5	14.3	11.8	21.1	9.0	10.0	17.5
1996	11.5	4.4	9.2	4.8	5.5	11.8	8.2	14.4	1.6	0.9	17.9	13.3	8.6 m
1997	5.7	7.6	8.7	15.5	18.5	12.7	10.4	24.4	51.3	22.8	39.0	41.2	21.5
1998	31.9	40.3	54.8	53.4	56.3	70.7	66.6	92.2	92.9	55.5	74.0	81.9	64.3
1999	62.0	66.3	68.8	63.7	106.4	137.7	113.5	93.7	71.5	116.7	133.2	84.6	93.2
2000	90.1	112.9	138.5	125.5	121.6	124.9	170.1	130.5	109.7	99.4	106.8	104.4	119.6 M
2001	95.6	80.6	113.5	107.7	96.6	134.0	81.8	106.4	150.7	125.5	106.5	132.2	111.0
2002	114.1	107.4	98.4	120.7	120.8	88.3	99.9	116.4	109.3	97.5	95.5	80.8	104.0
2003	79.7	46.0	61.1	60.0	54.6	77.4	83.3	72.7	48.7	65.5	67.3	46.5	63.9
2004	37.7	45.8	49.1	39.3	41.5	43.2	51.0	40.9	27.7	48.0	43.5	17.9	40.4
2005	31.3	29.1	24.8	24.2	42.7	39.3	40.1	36.4	21.9	8.7	18.0	41.1	29.8
2006	15.4	4.7	10.8	30.2	22.2	13.9	12.2	12.9	14.4	10.5	21.4	13.6	15.2
2007	16.8	10.7	4.5	3.4	11.7	12.1	9.7	6.0	2.4	0.9	1.7	10.1	7.5
2008	3.4	2.1	9.3	2.9	2.9	3.1	0.5	0.5					3.1

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

HÀ S O L A R F L A R E S
AUGUST 2008

Sta	Day	(UT)	Start	Max	End	(UT)	Lat	CMD	NOAA/		Dur	Imp	Obs	Area Measurement			Remarks
									USAF	CMP				Region	Mo	Day	

NO REPORTS

"Remarks"

- | | |
|---|---|
| <p>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.</p> | <p>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.</p> |
|---|---|

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

28
Aug 08

X - R A Y S O L A R F L A R E S
AUGUST 2008

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

No Reports

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

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

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

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

29
Aug 08

AUGUST 2008

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

No Reports

Reports are received routinely from the following observatories:

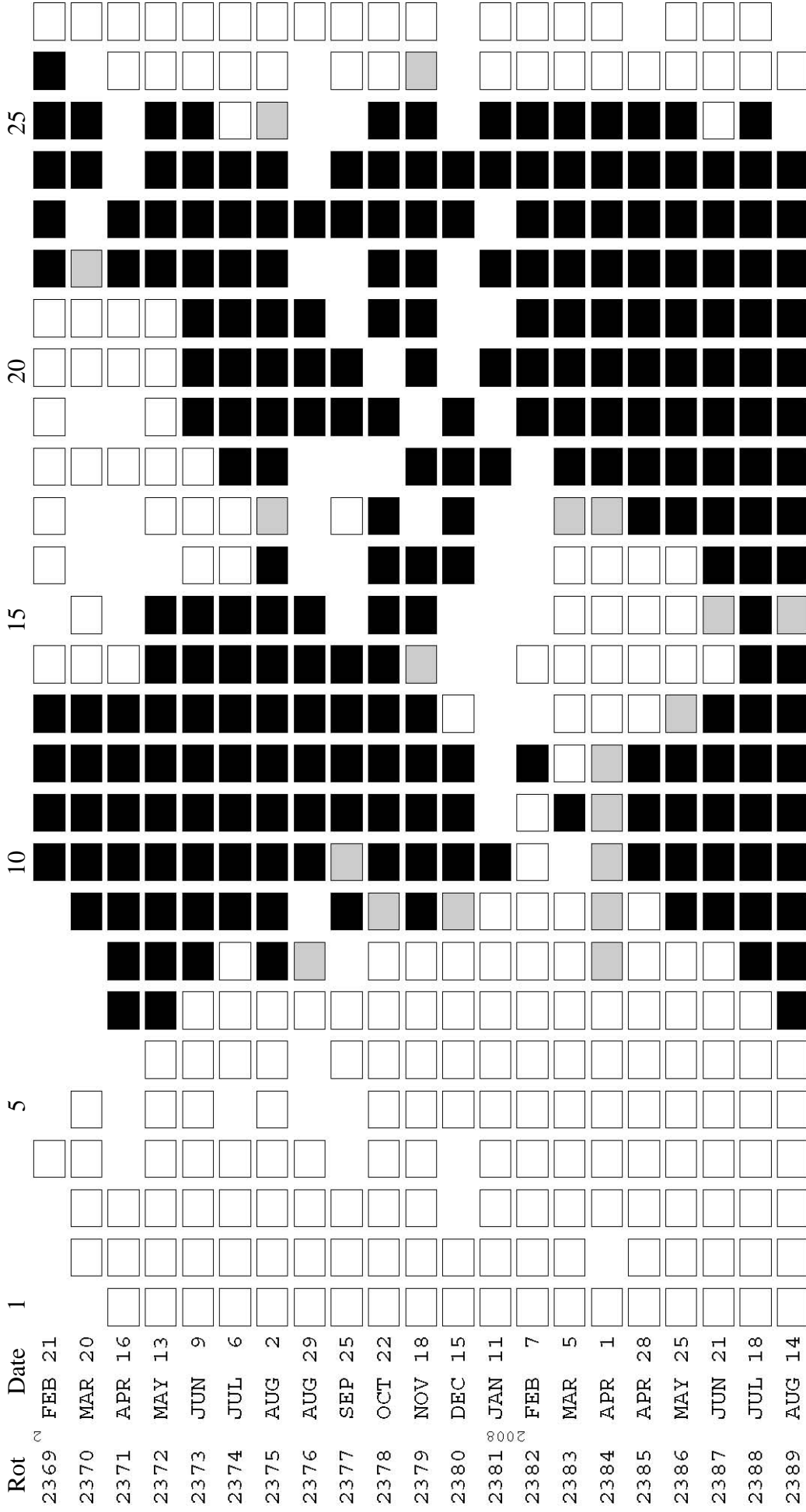
LEAR = Learmonth SGMR = Sagamore Hill SVTO = San Vito

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F	
3A Simple 2A	4O Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	4OF Rise Only F	26O Fall Only	31A Post Burst Decrease A	
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A	

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

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity:

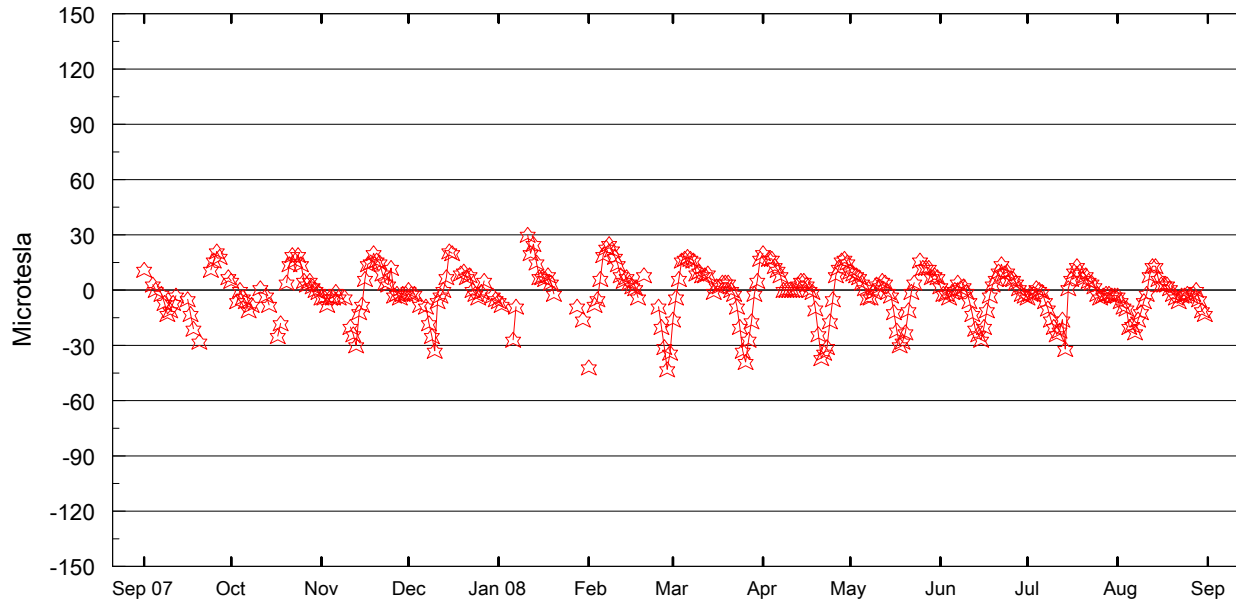
- = field > 2 microT;
- = field < -2 microT;
- = -2 microT ≤ field ≤ 2 microT
- No box = no data available

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

Stanford Mean Solar Magnetic Field (Microtesla)

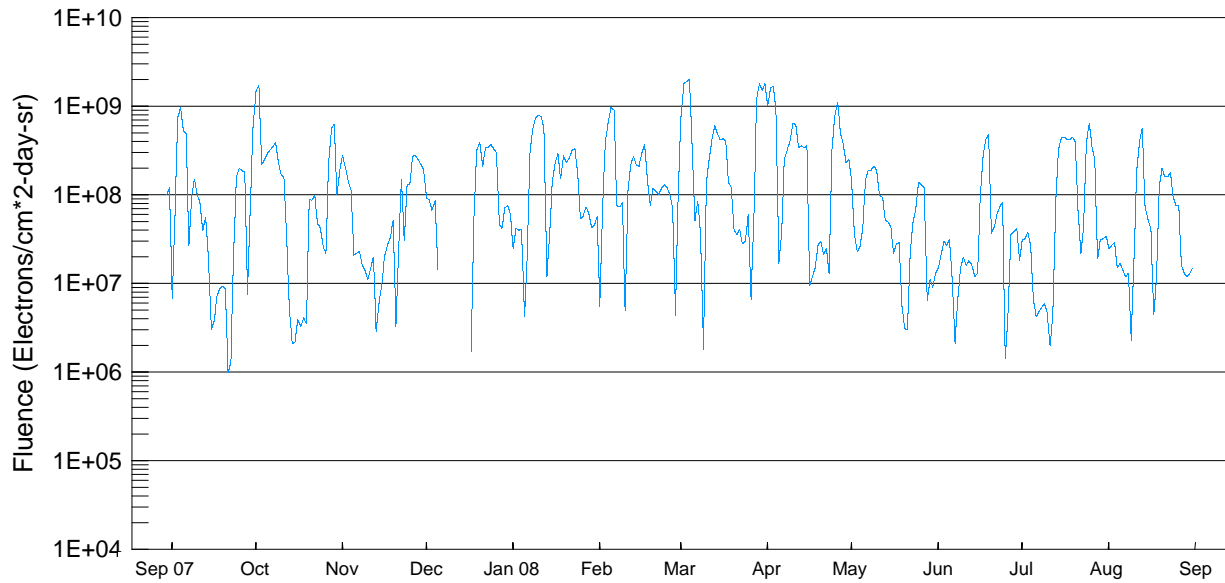
"Sun-As-A-Star"

31
Aug 08



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

GOES Daily Electron Fluence Sep 2007 - Aug 2008



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

NOTE: The electron detector responds significantly to protons above 32 MeV; therefore, electron data are contaminated when a proton event is in progress. These days are indicated with '999' in the table and are not plotted. '--' indicates data not available.
 NOTE: GOES9 data began April, 1996 and ended on 26 July, 1998. GOES12 is primary satellite as of 15 May 2003.

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Prompt Reports

Number 769 Part I

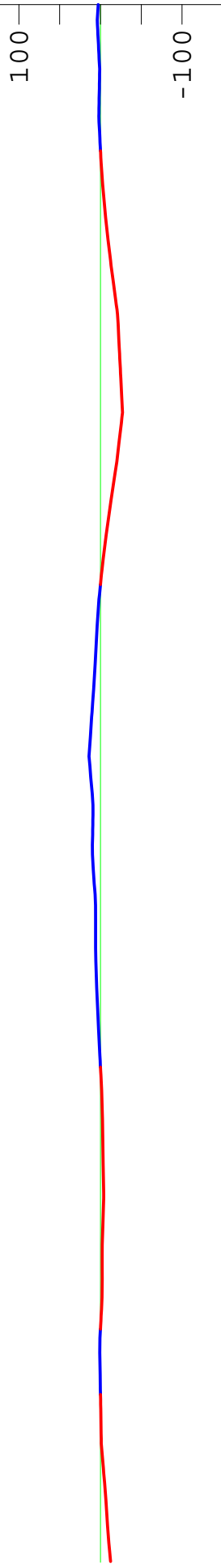
DATA FOR JULY 2008

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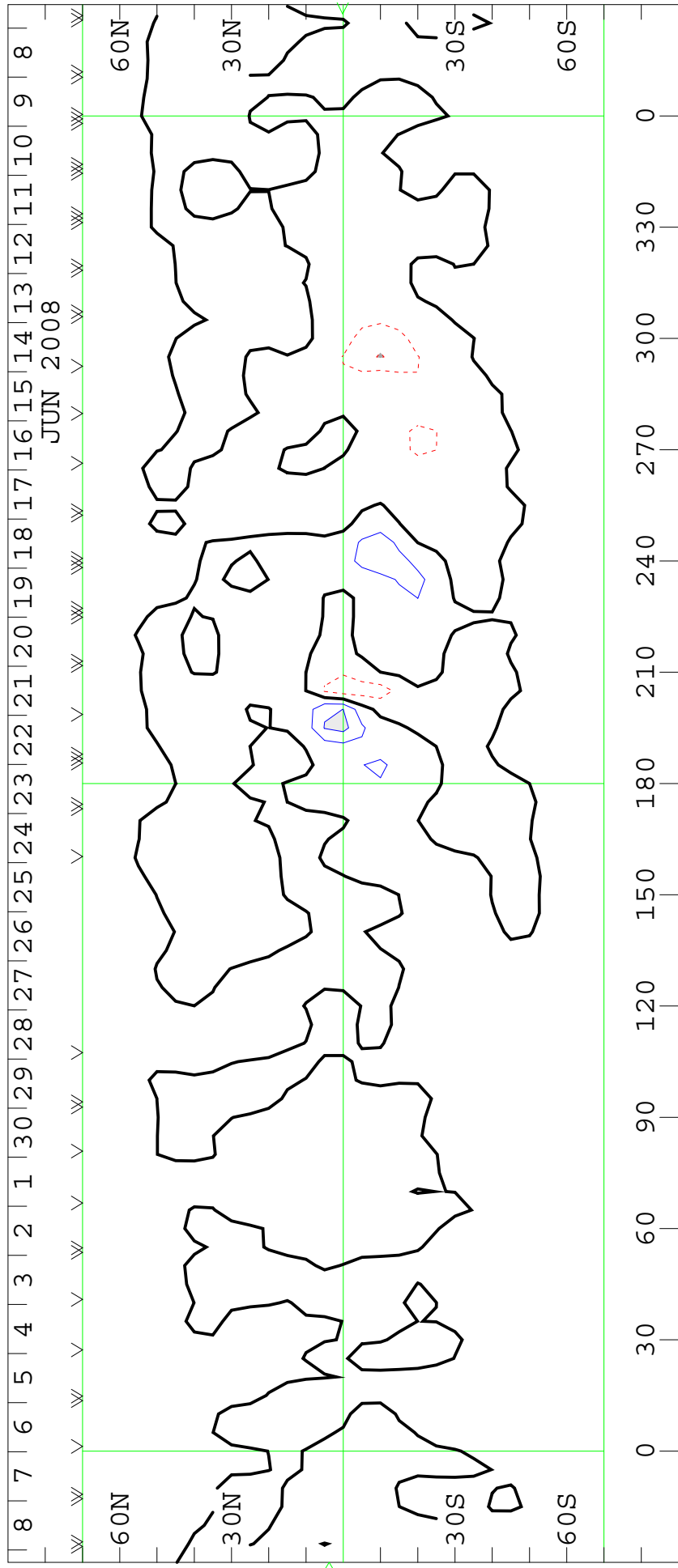
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 2071
(9 Jun 2008 to 6 Jul 2008)

Wilcox Solar Observatory

Mean Field



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



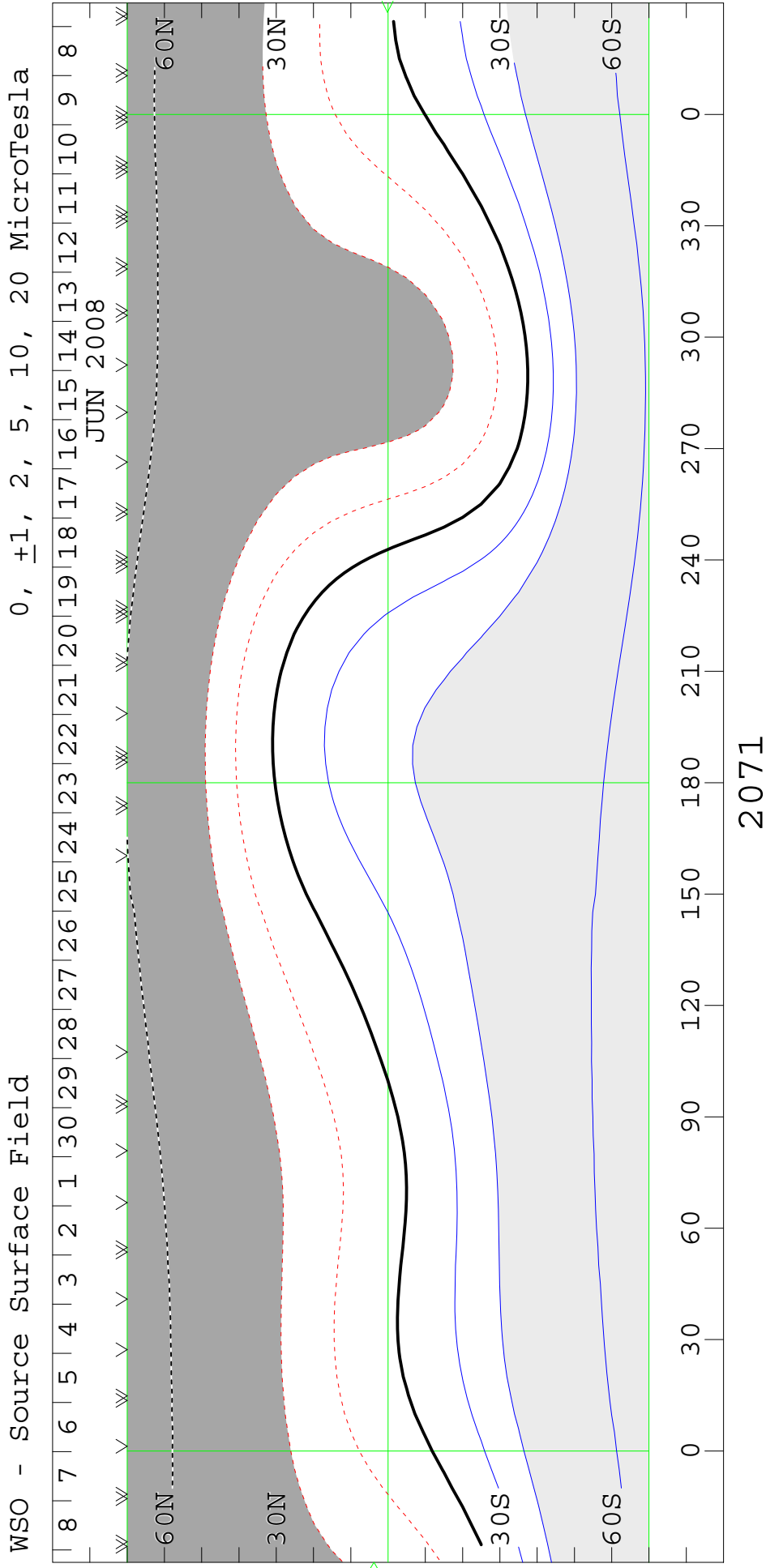
2071

SOLAR MAGNETIC FIELD SYNOPSIS CHART

SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 2071

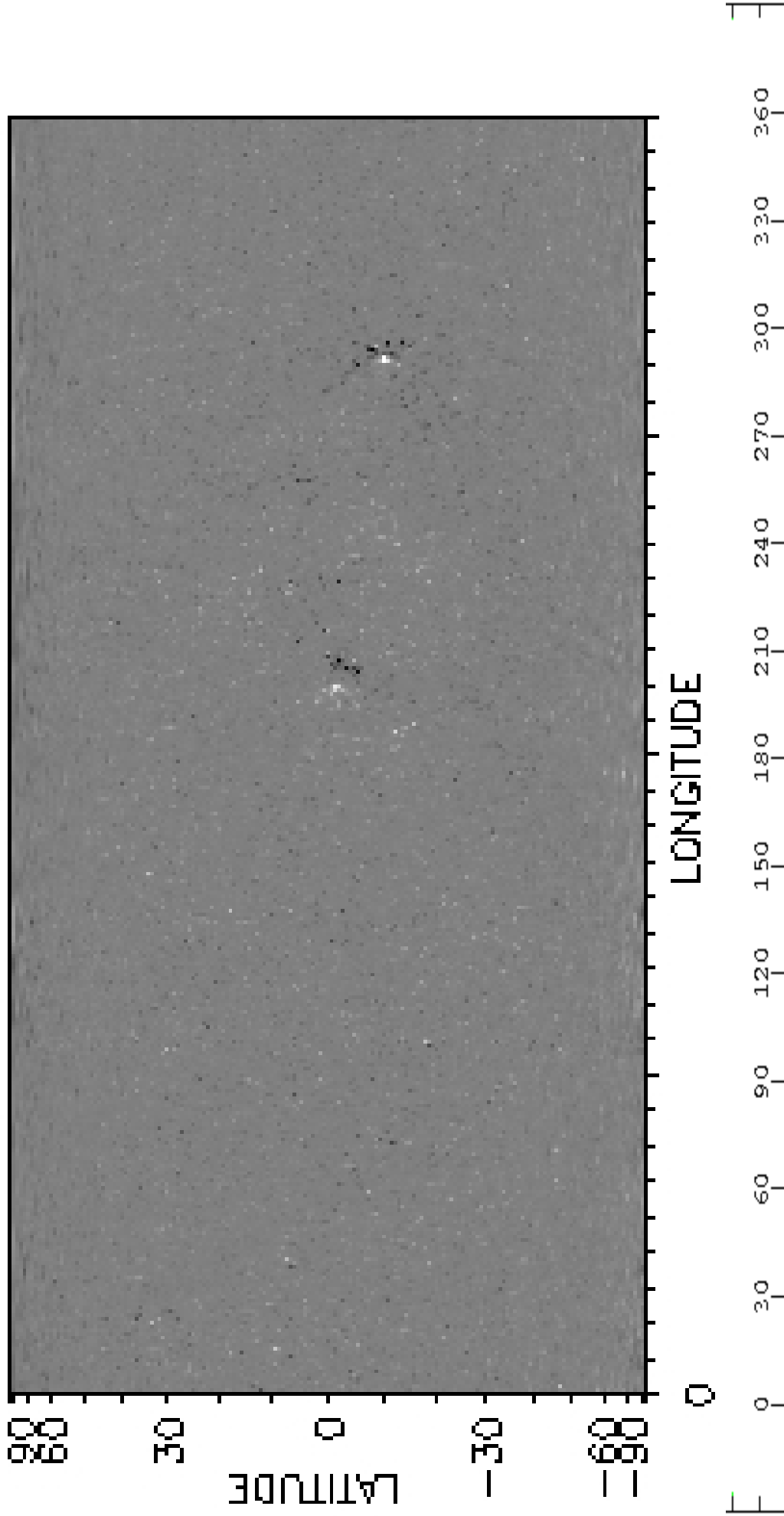
(9 Jun 2008 to 6 Jul 2008)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 2071
(9 Jun 2008 to 6 Jul 2008)

National Solar Observatory/Kitt Peak

NSO/VSM MAGNETIC FLUX SYNOPTIC MAP
CARRINGTON ROTATION 2071



Heliographic Longitude

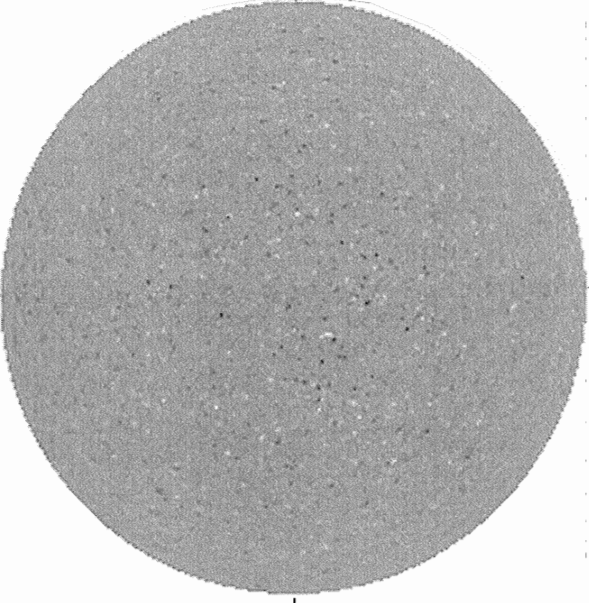
Sl 40
08

July 01, 2008 (P= -2.54, Bc= 2.90, Lo= 79.20)

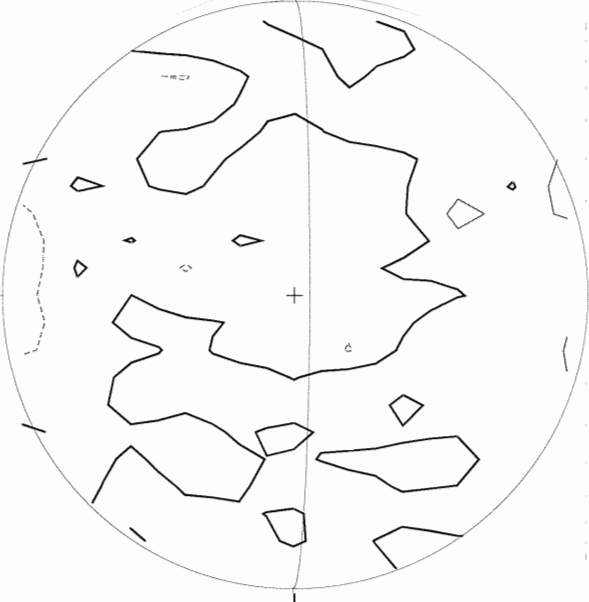
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

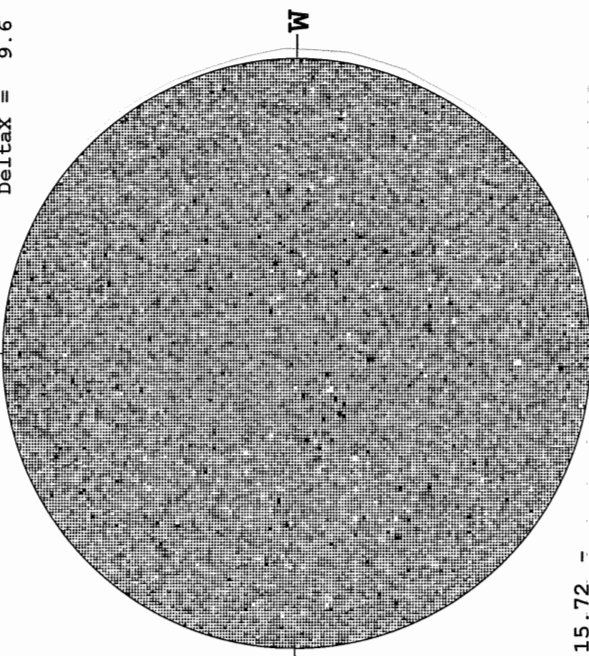
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



1555 UT

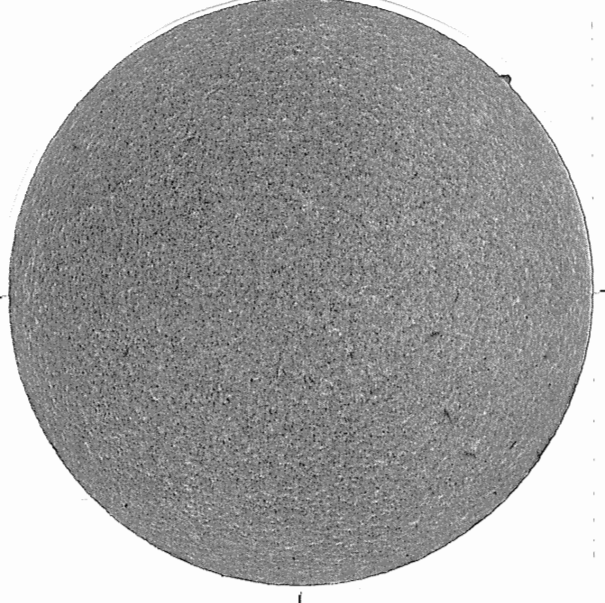


2223 UT



15.72 -
16.64 UT

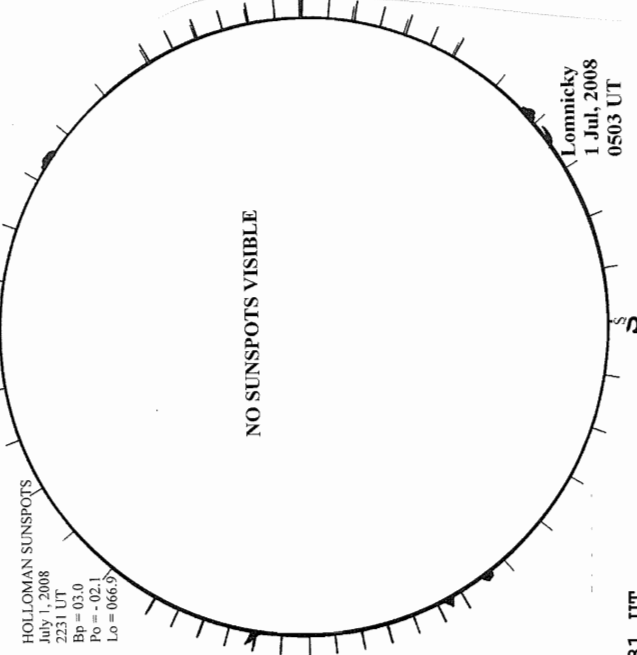
BIG BEAR H-ALPHA



1532 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 1, 2008
2231 UT
Bp = 03.0
Po = -02.1
Lo = 066.9

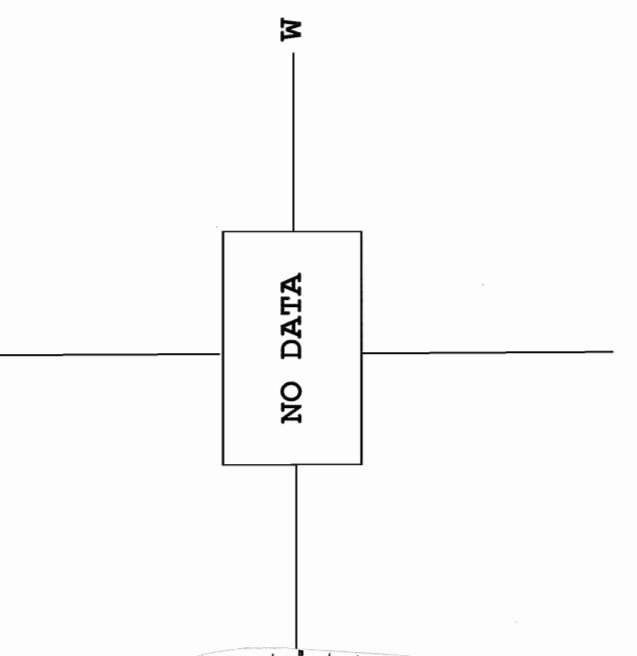


2231 UT
0503 UT LOMN FROM

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

NO DATA

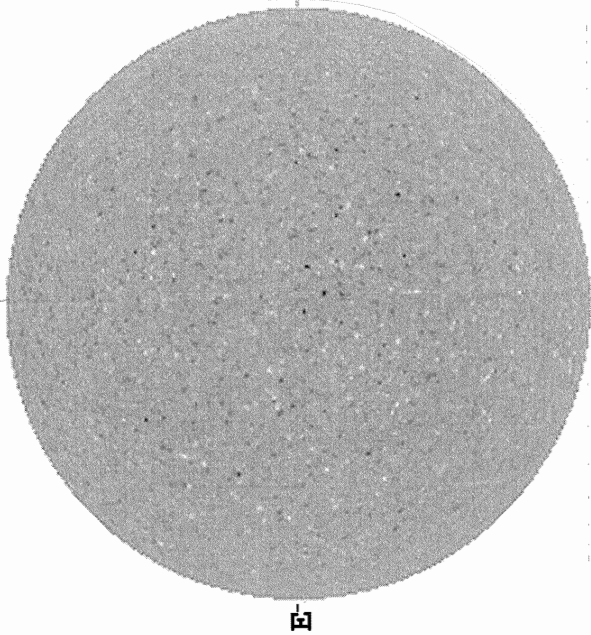
W



Lonnicky
1 Jul, 2008
0503 UT

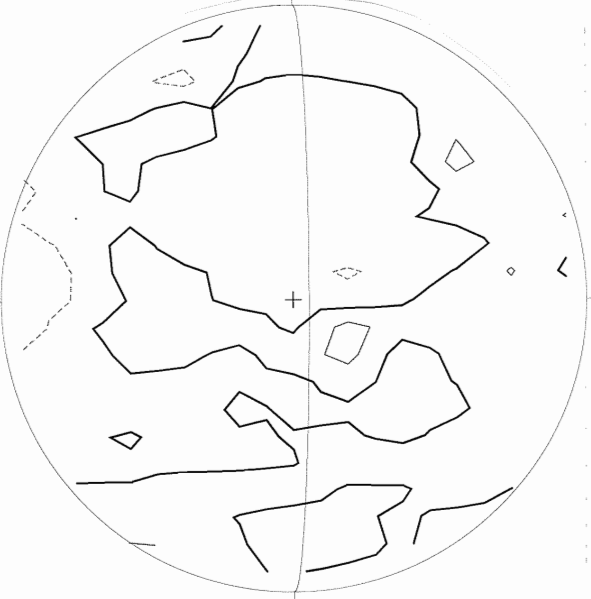
July 02, 2008 (P= -2.08, Bo= 3.01, Io= 65.97)

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



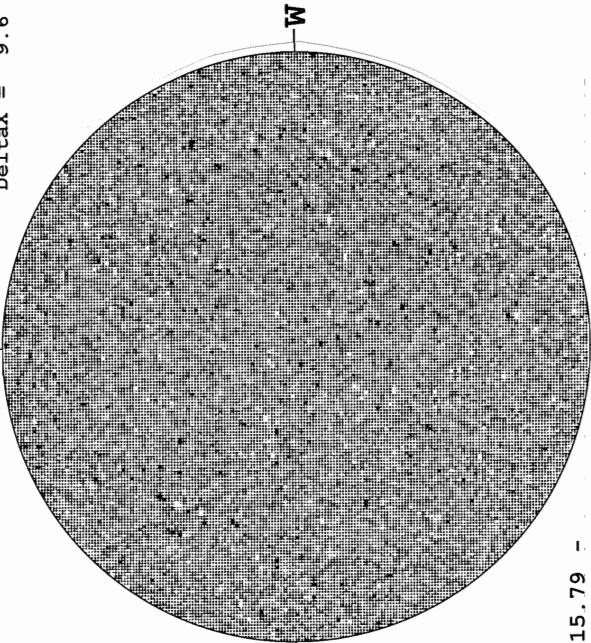
1818 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -



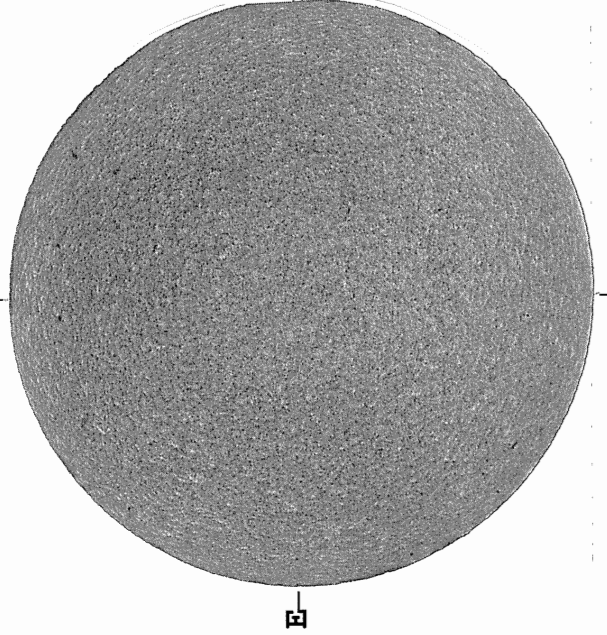
2231 UT

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



15.79 -
16.71 UT

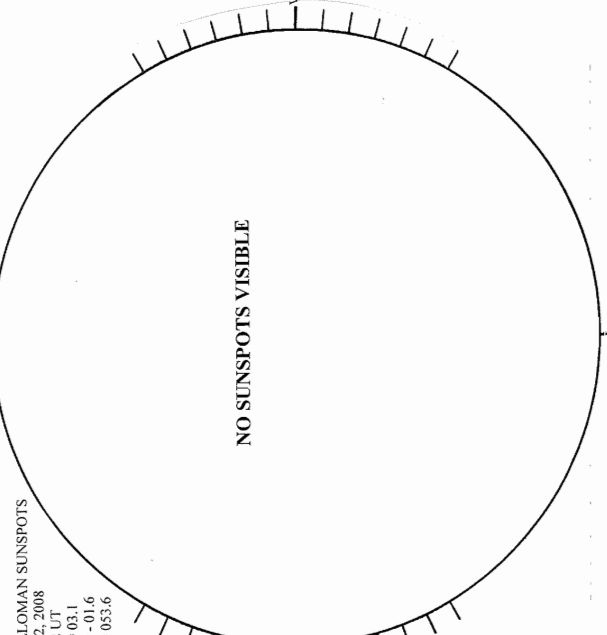
BIG BEAR H-ALPHA



1532 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 2, 2008
2242 UT
Bp = 03.1
Po = -01.6
Lo = 053.6



2242 UT

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

NO DATA

NO DATA

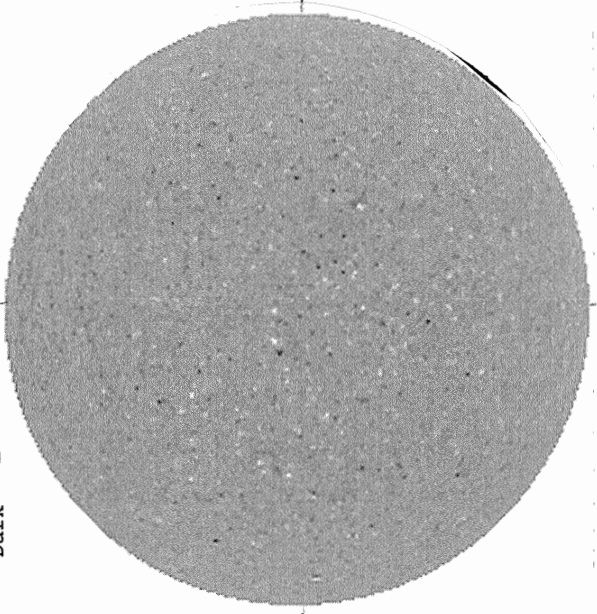
Jul 08 42

July 03, 2008 (P= -1.63, Bo= 3.12, Lo= 52.73)

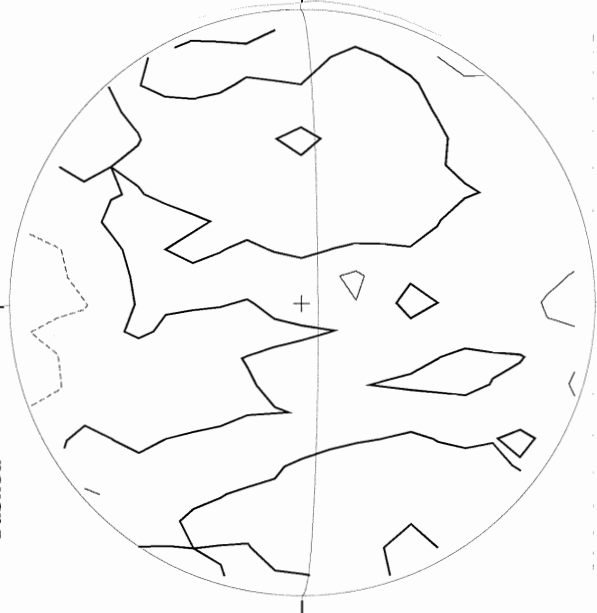
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

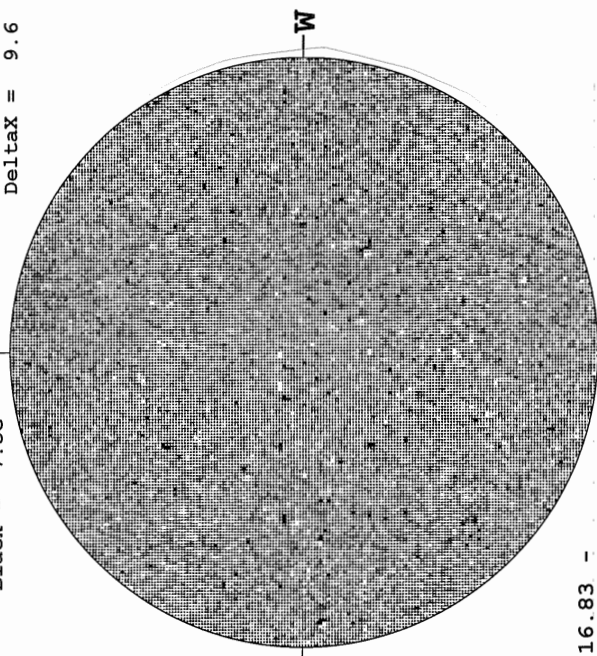
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
Delta Y = 13.0
Delta X = 9.6
N



1747 UT

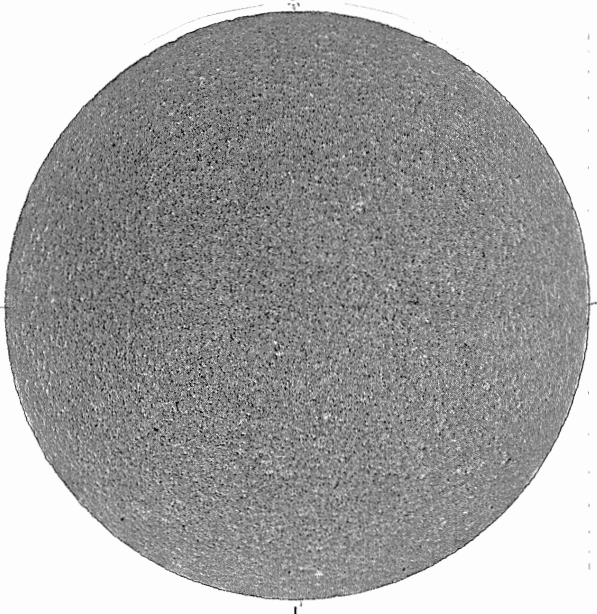


2131 UT



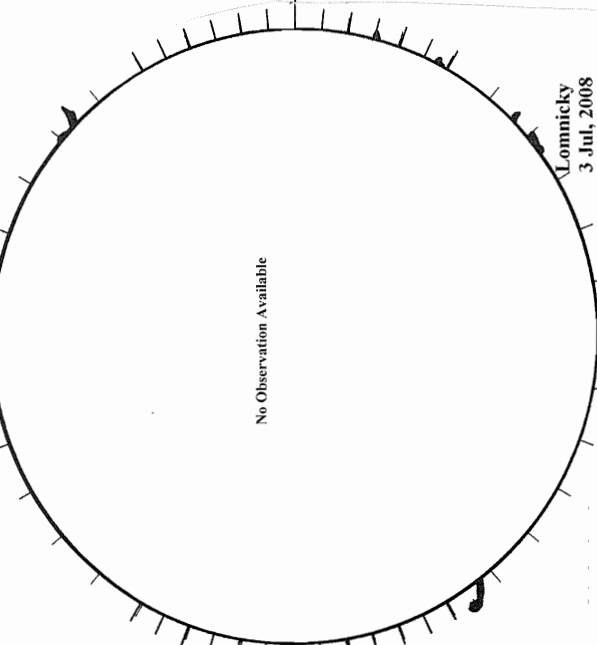
16.83 -
17.75 UT

BIG BEAR H-ALPHA



1543 UT

HOLLOMAN SUNSPOTS



0512 UT LOMN FROM

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

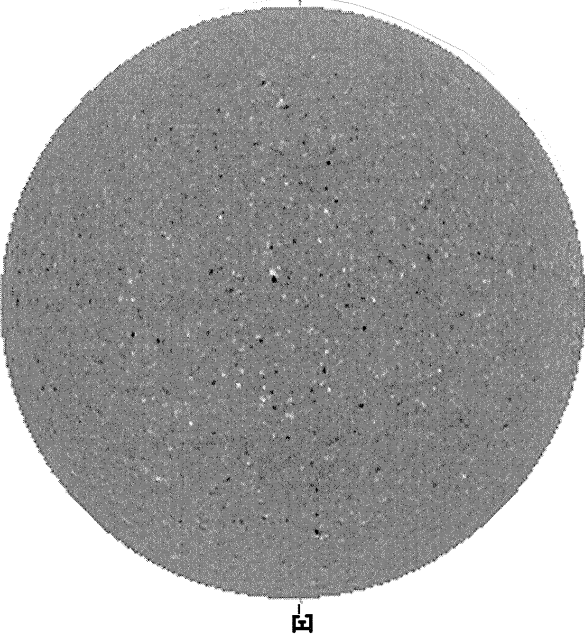
NO DATA

W

Lomnický
3 Jul, 2008
0512 UT

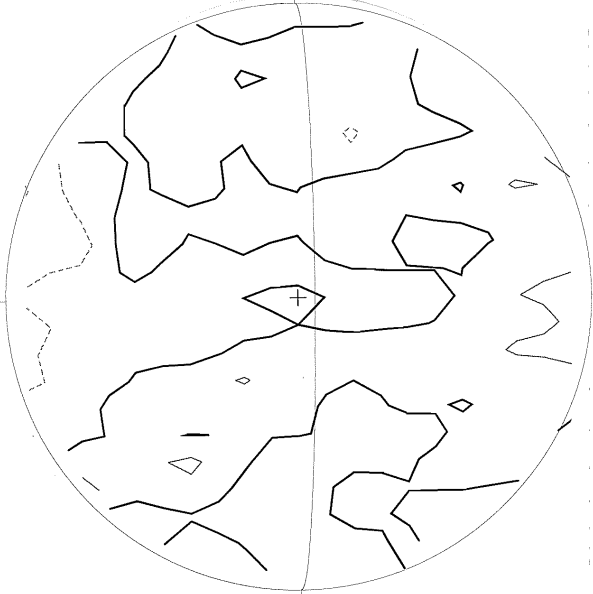
July 04, 2008 (P= -1.18, Bo= 3.23, Lo= 39.49)

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



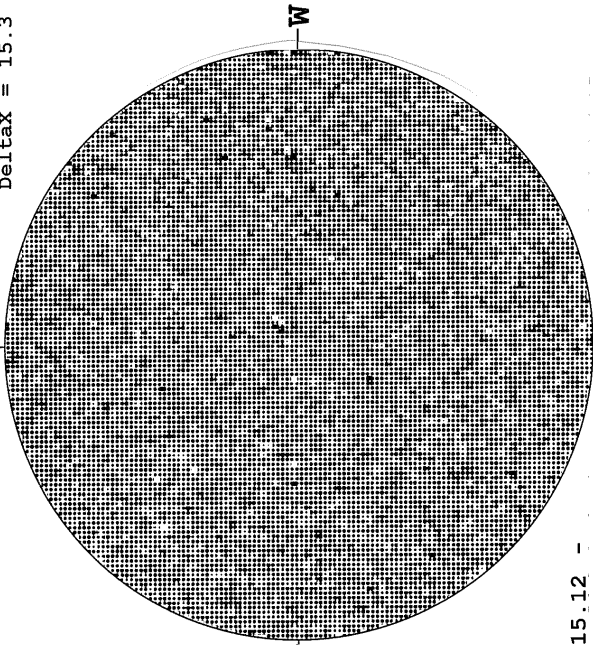
1614 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -



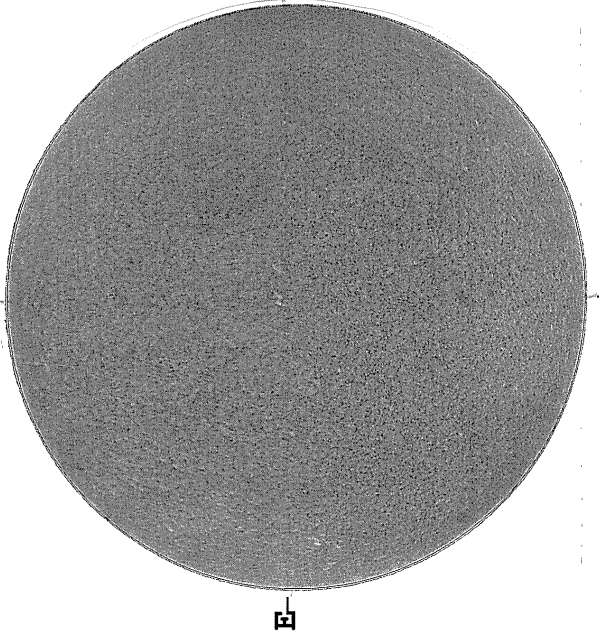
2212 UT

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 20.1
DeltaX = 15.3



15.12 -
15.53 UT

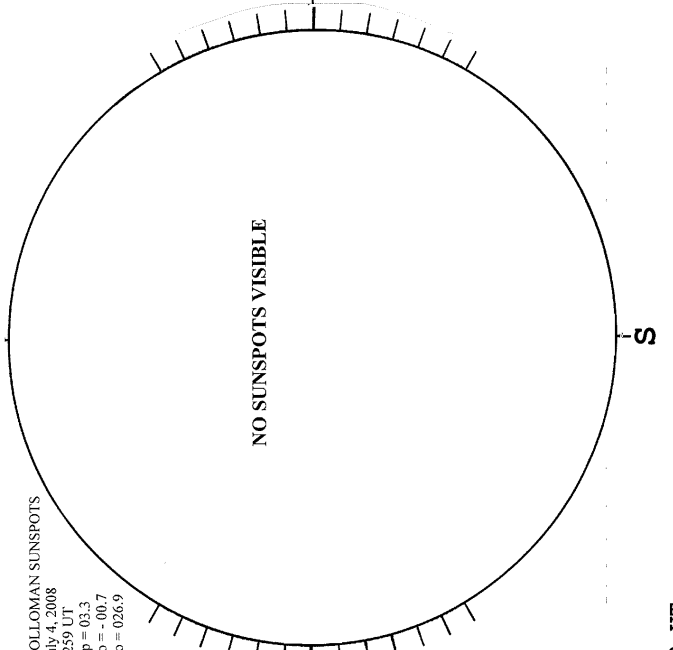
--- KANZELHOHE H-ALPHA



0637 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 4, 2008
2259 UT
Bp = 03.3
P0 = -00.7
Lo = 026.9



2259 UT

SACRAMENTO PEAK CORONA (1.15 Radii) ----

NO DATA

NO DATA

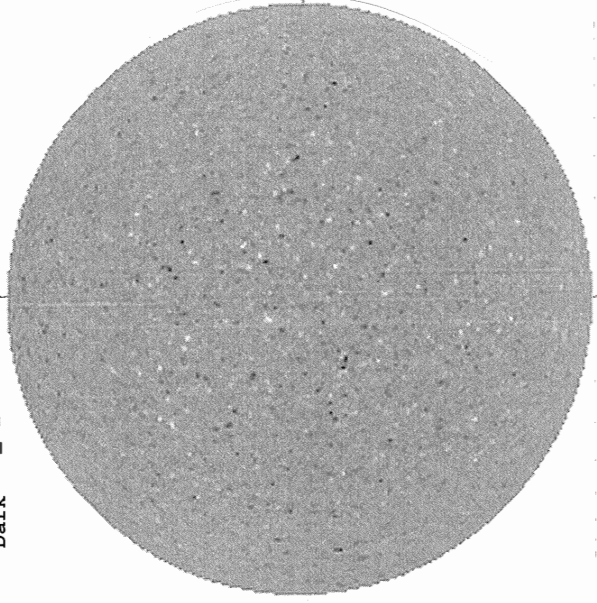
Jul 08 44

July 05, 2008 (P= -0.72, Bo= 3.34, Lo= 26.26)

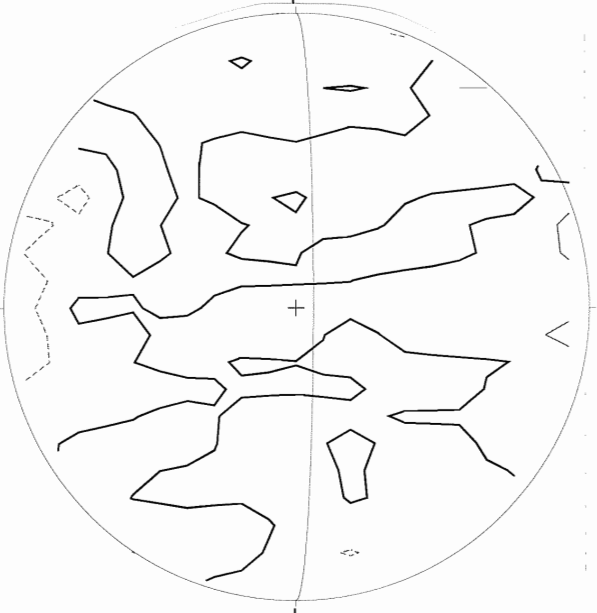
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

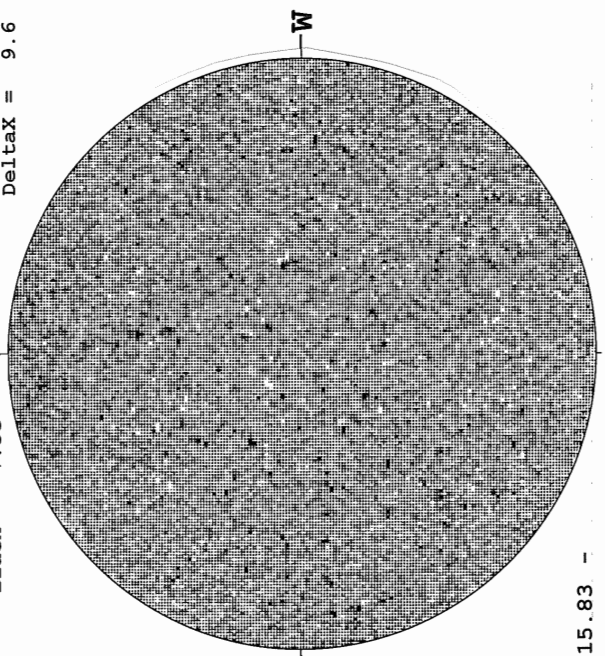
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



2008 UT

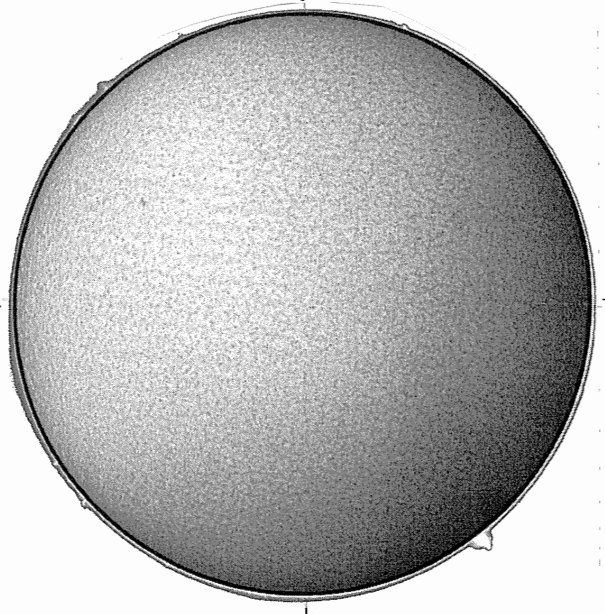


2048 UT



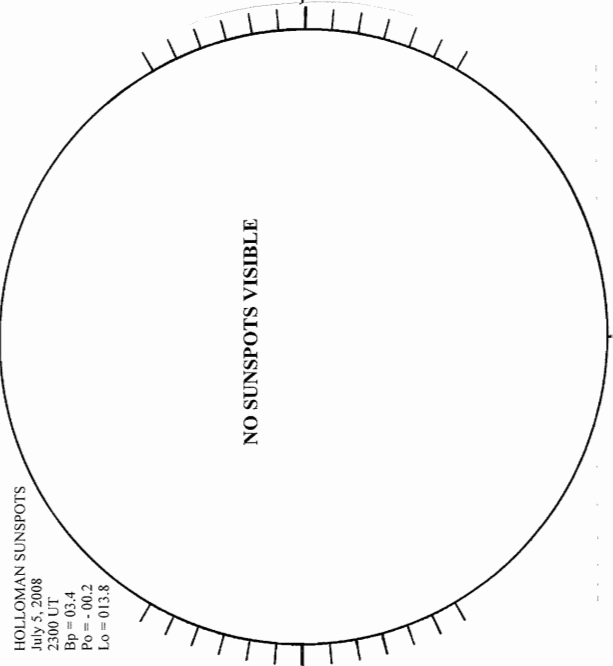
15.83 -
16.75 UT

--- PIC DU MIDI H-ALPHA



0846 UT

HOLLOMAN SUNSPOTS



2300 UT

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

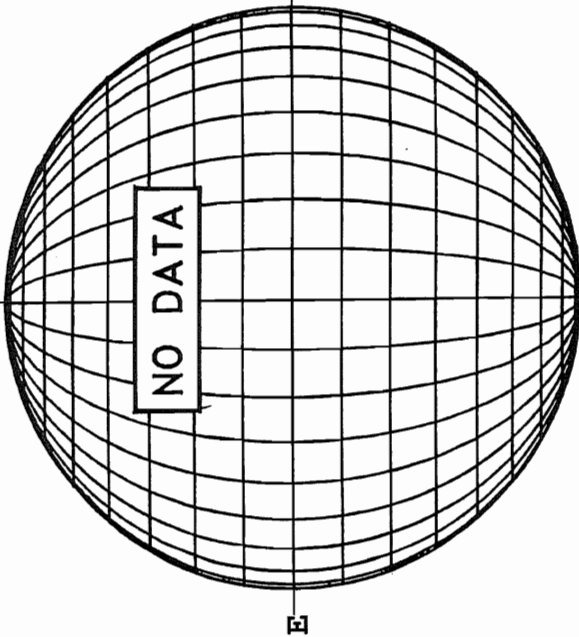
NO DATA

NO DATA

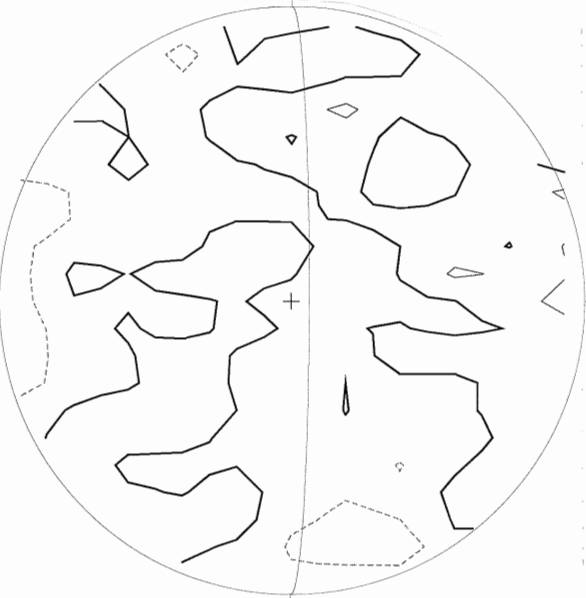
NO SUNSPOTS VISIBLE

July 06, 2008 (P= -0.27, Bo= 3.45, Lo= 13.02

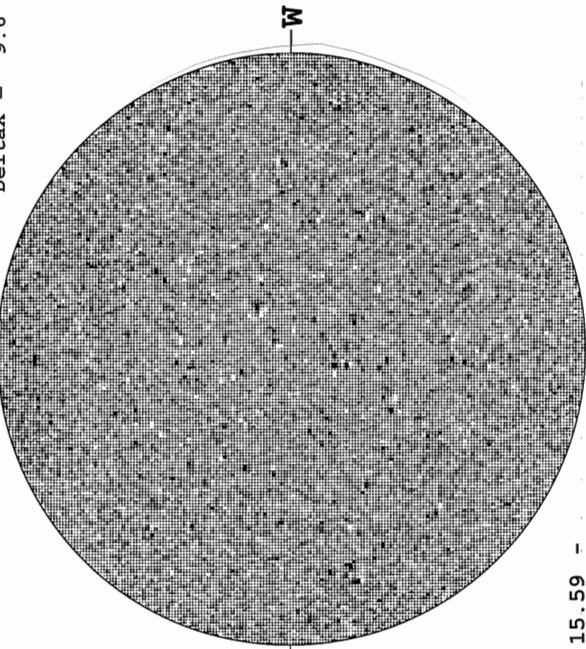
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N ** 854.2NM **



STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



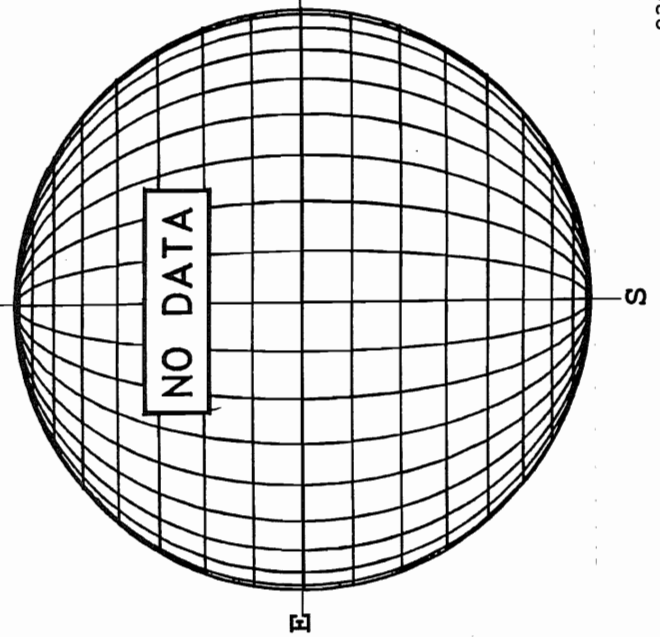
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6
N



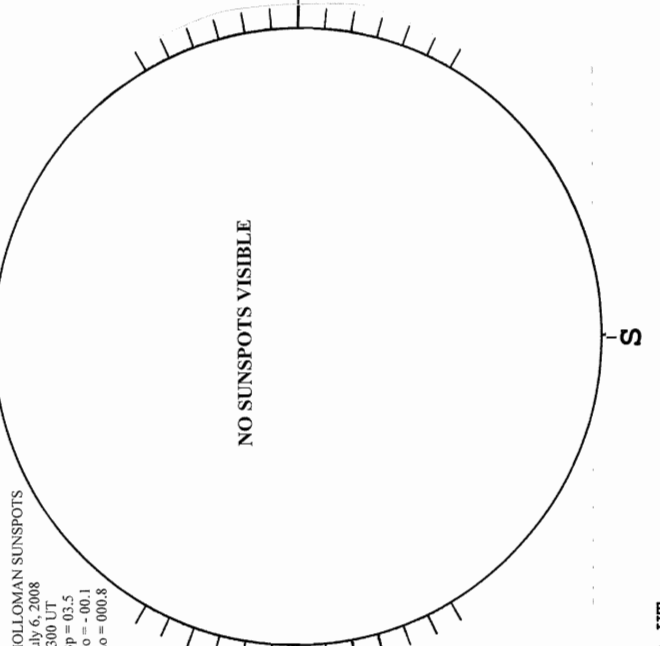
15.59 -
16.51 UT

2123 UT

BIG BEAR H-ALPHA



HOLLOMAN SUNSPOTS



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

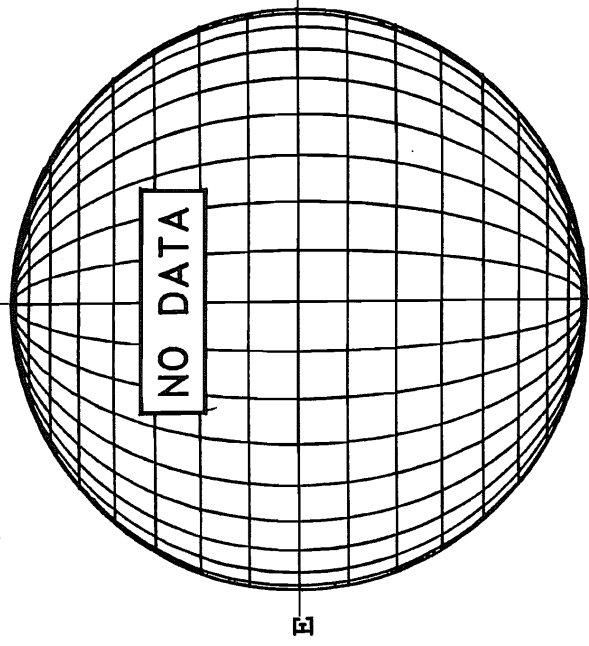
NO DATA

2300 UT

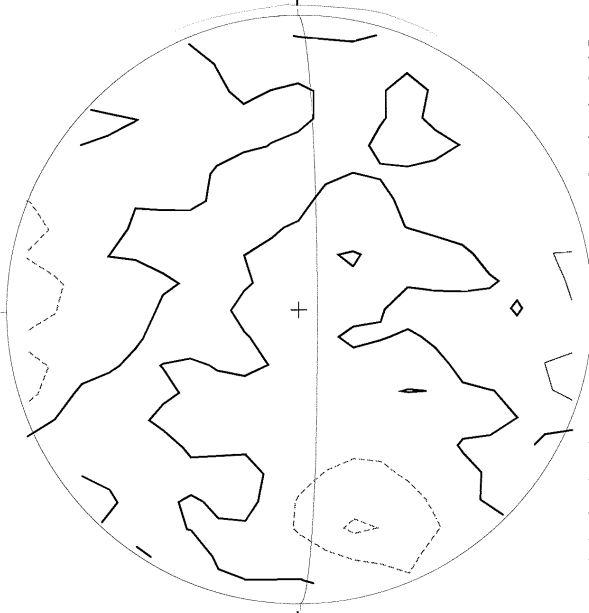
Jul 08 46

July 07, 2008 (P= 0.18, Bo= 3.55, Lo= 359.79)

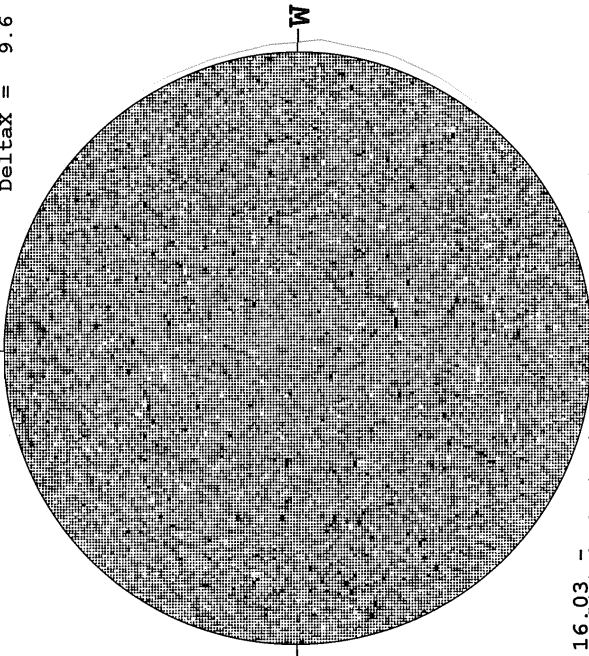
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N ** 854.2NM **



STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

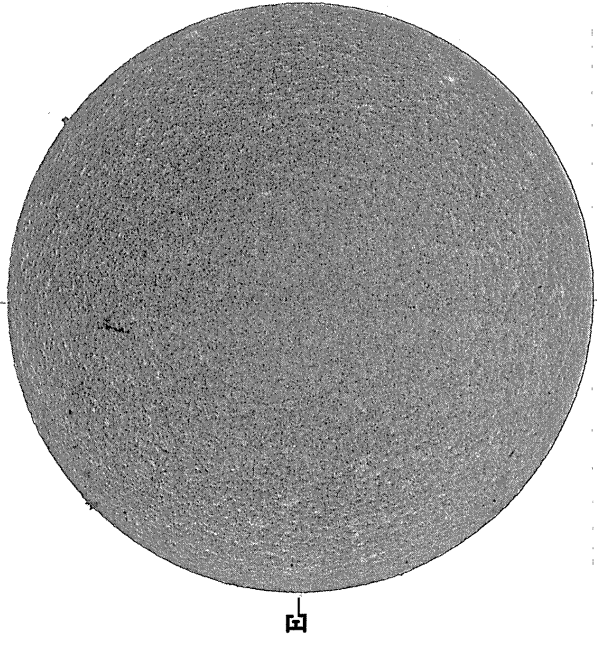


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6
N



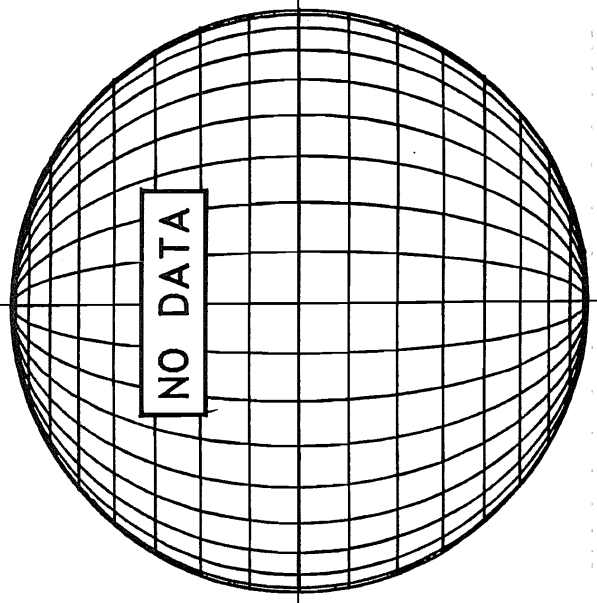
16.03 -
16.95 UT

BIG BEAR H-ALPHA
E S

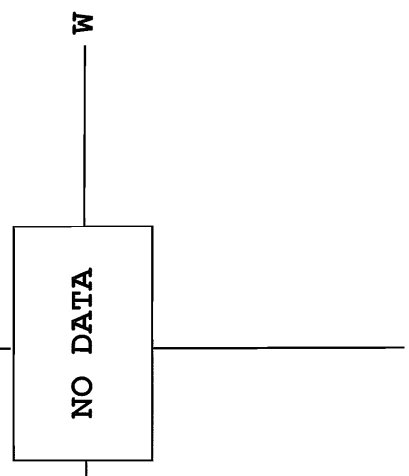


BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS



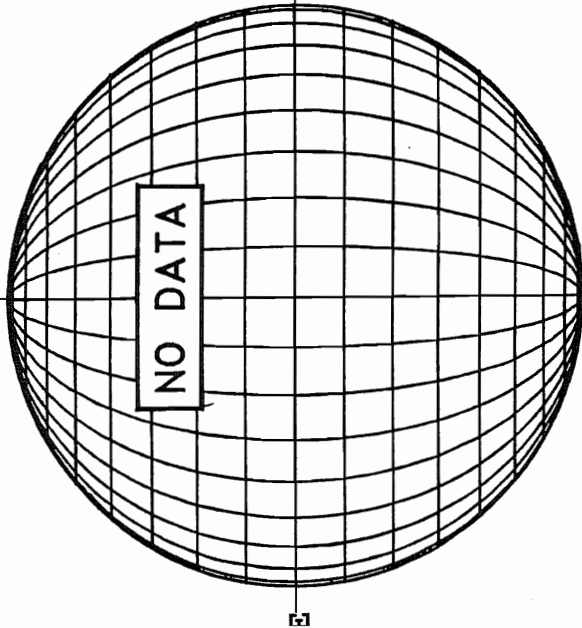
SACRAMENTO PEAK CORONA (1.15 Radii) -----



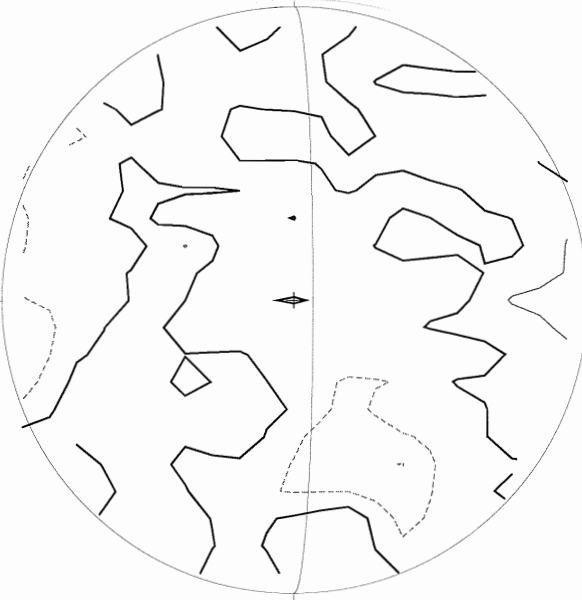
1546 UT

July 08, 2008 (P= 0.64, Bo= 3.66, Lo= 346.55)

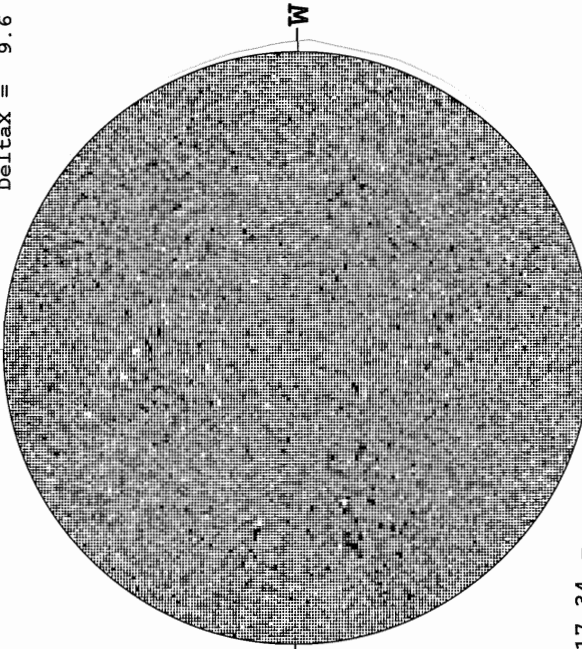
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -

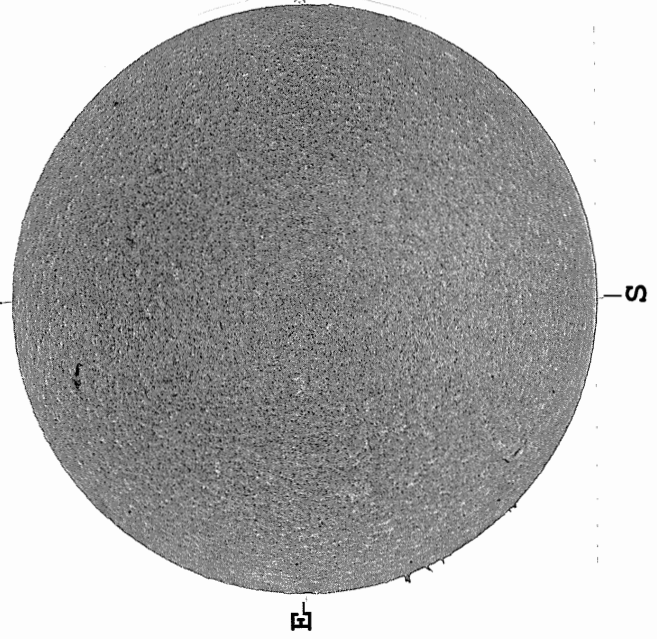


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



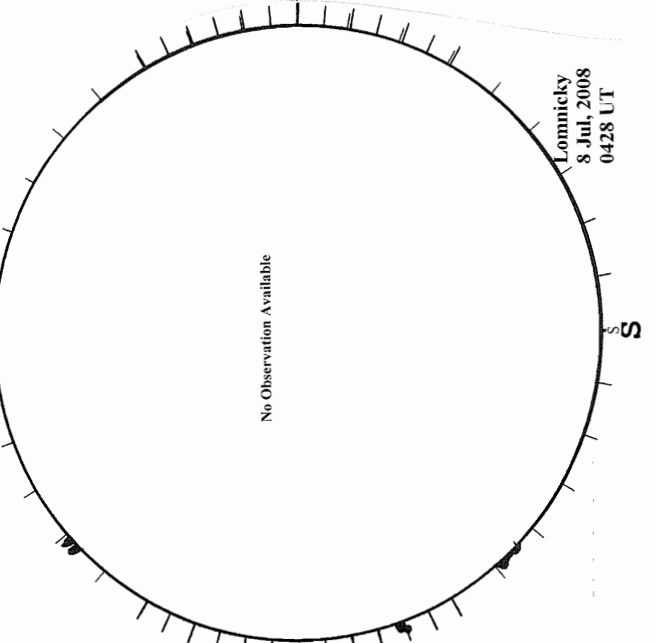
17.34 -
18.26 UT

BIG BEAR H-ALPHA



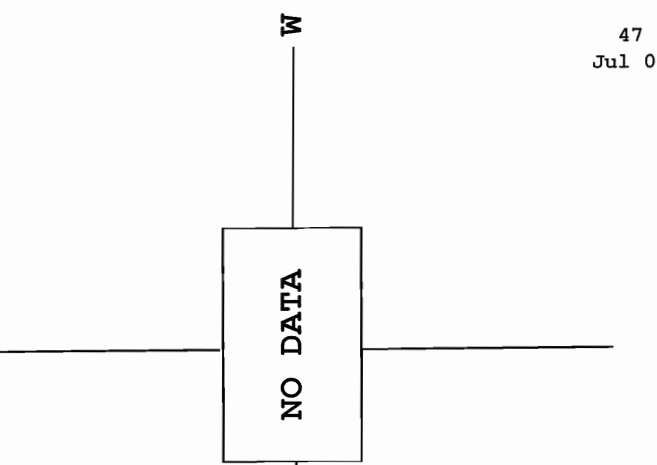
1532 UT

HOLLOMAN SUNSPOTS



0428 UT IOMN PROM

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

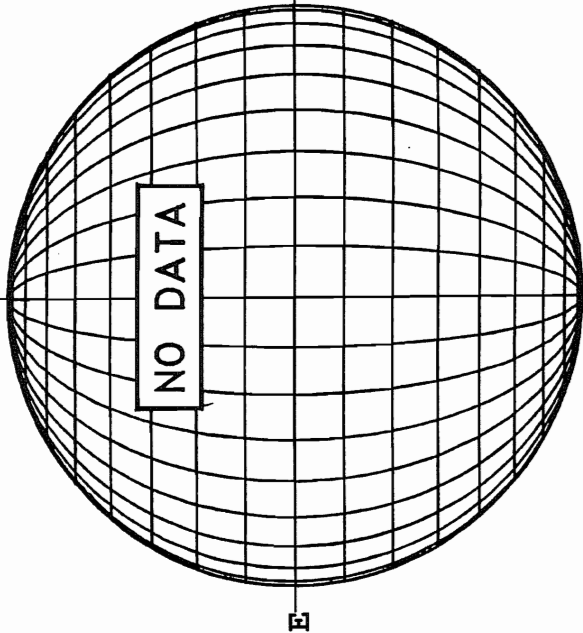


47
Jul 08

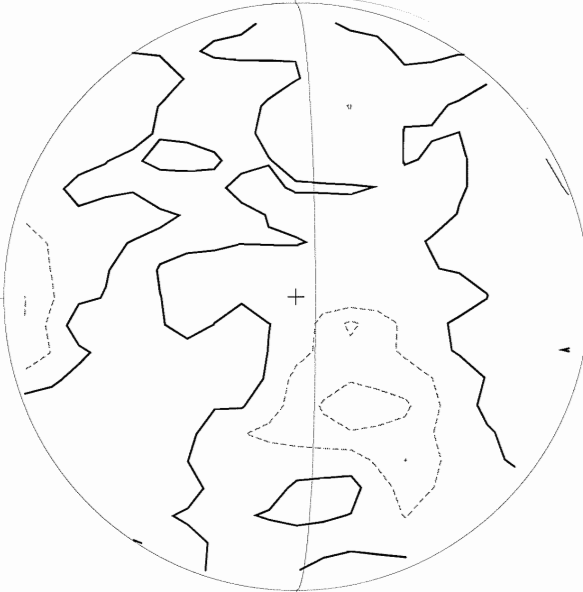
Jul 08 48

July 09, 2008 (P= 1.09, Bo= 3.76, Io= 333.32)

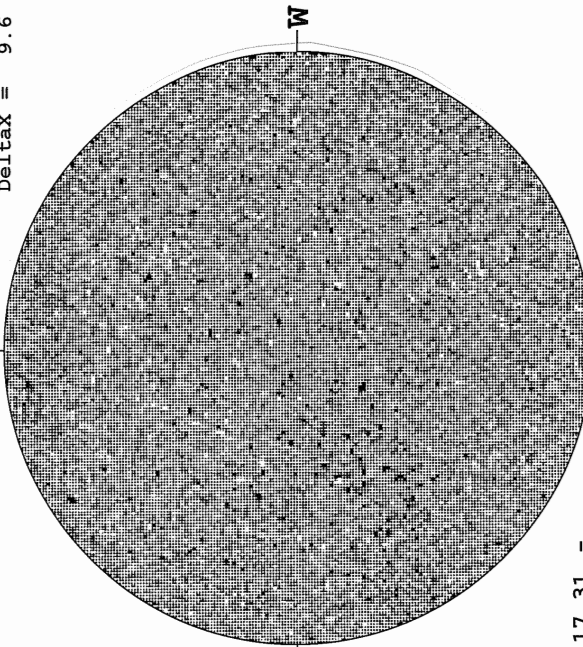
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -

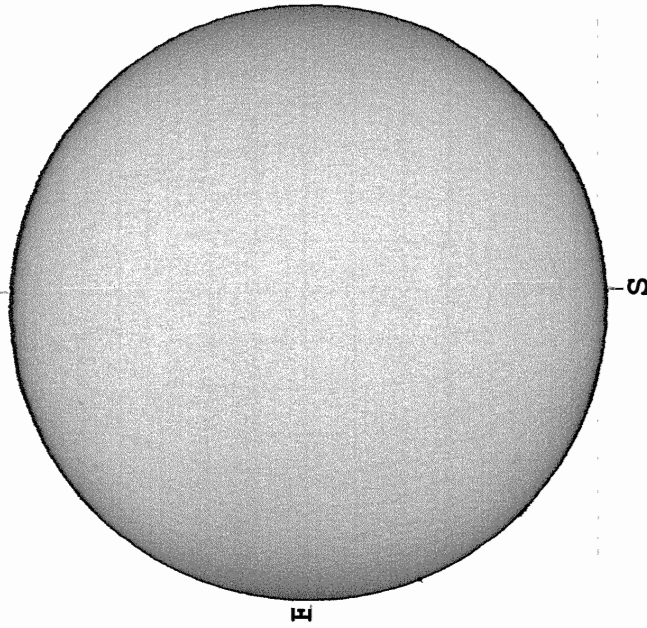


MT, WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



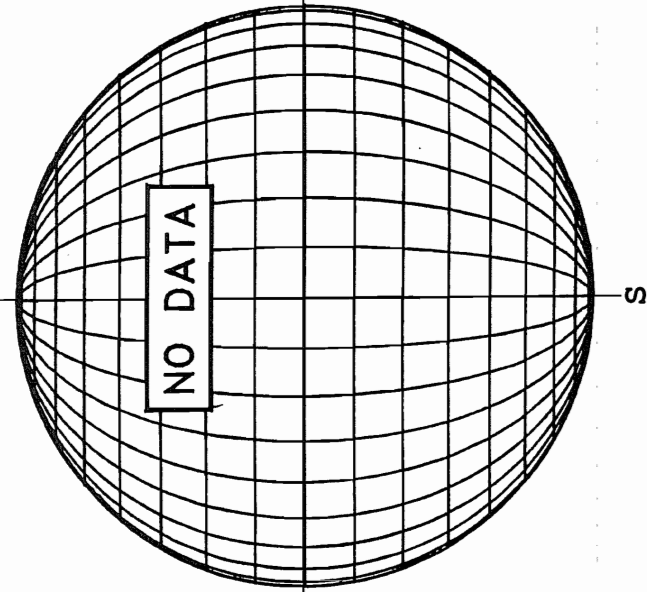
17.31 -
18.24 UT

MEUDON H-ALPHA



1612 UT

HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii) ----

NO DATA

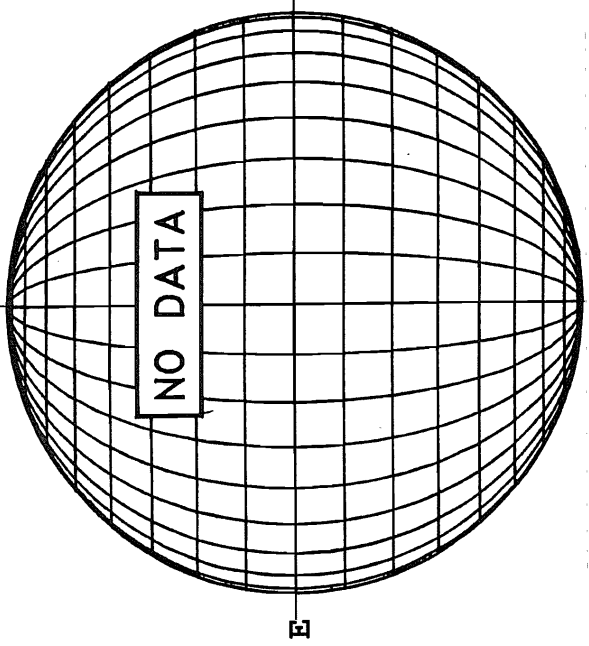
NO DATA

W

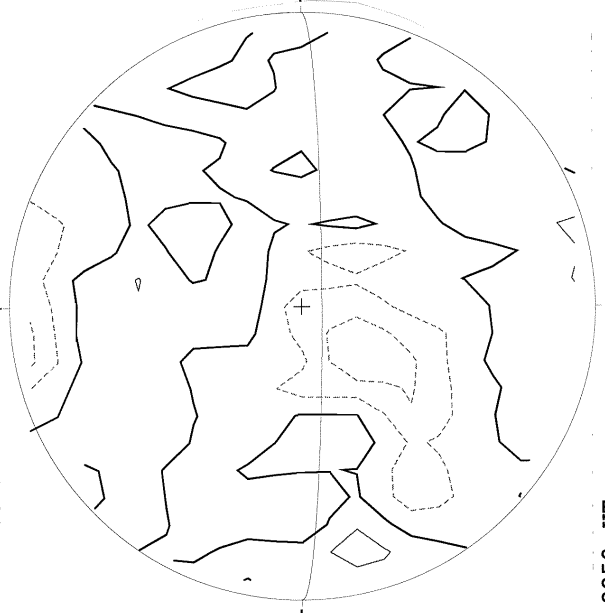
2031 UT

July 10, 2008 (P= 1.54, Bo= 3.86, Lo= 320.09)

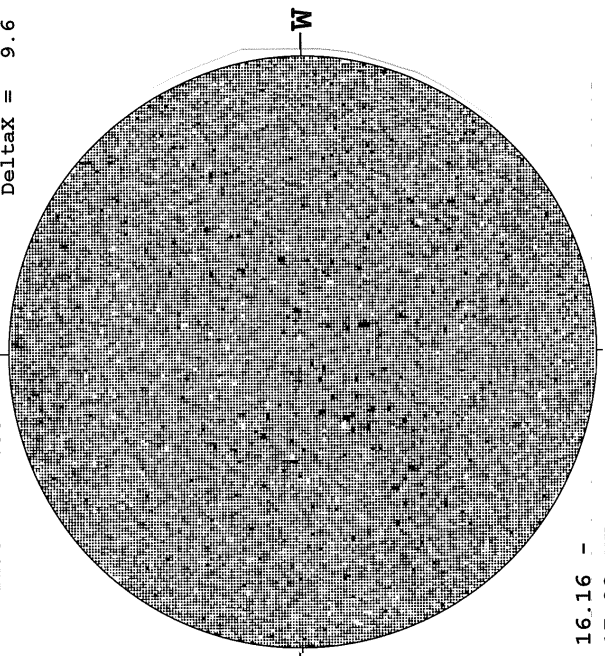
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -

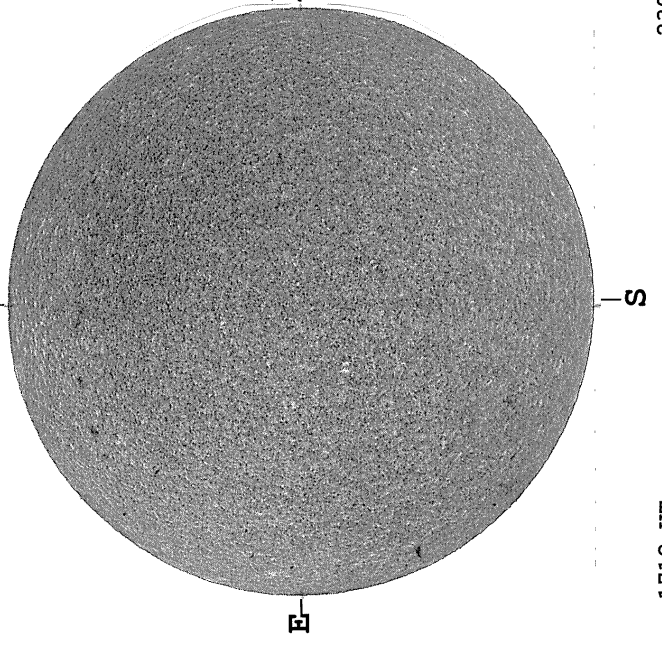


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



16.16 -
17.08 UT

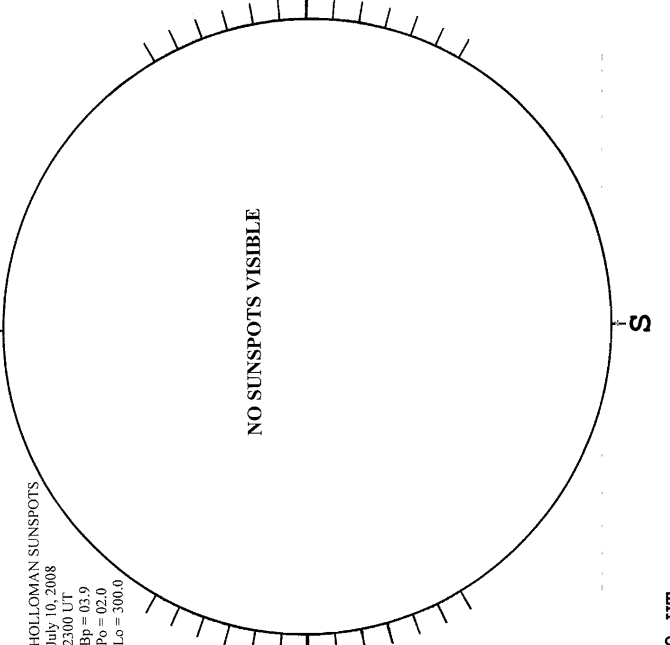
--- BIG BEAR H-ALPHA



1718 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 10, 2008
2300 UT
Bp = 03.9
Pb = 02.0
Lo = 300.0



2300 UT

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

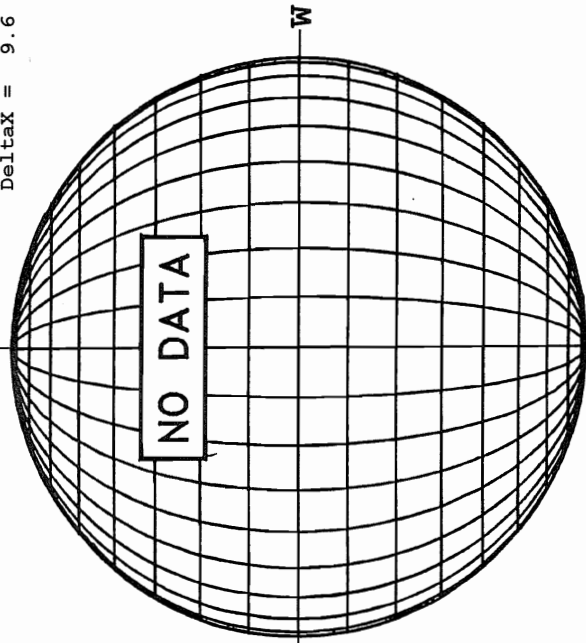
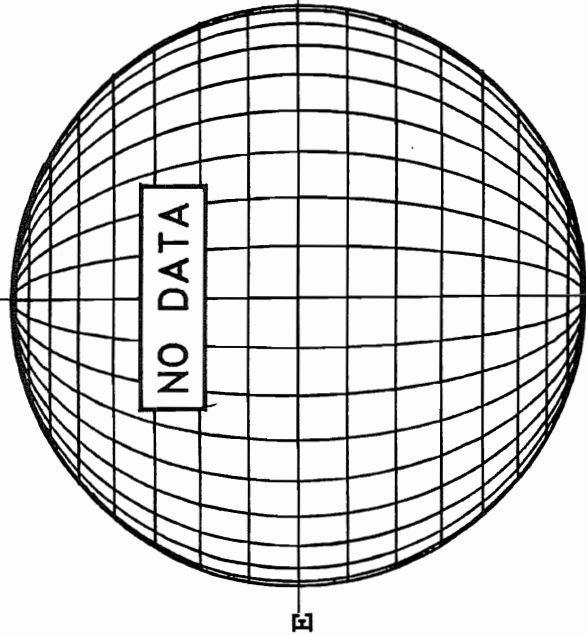
NO DATA

July 11, 2008 (P= 1.99, Bo= 3.96, Lo= 306.85)

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

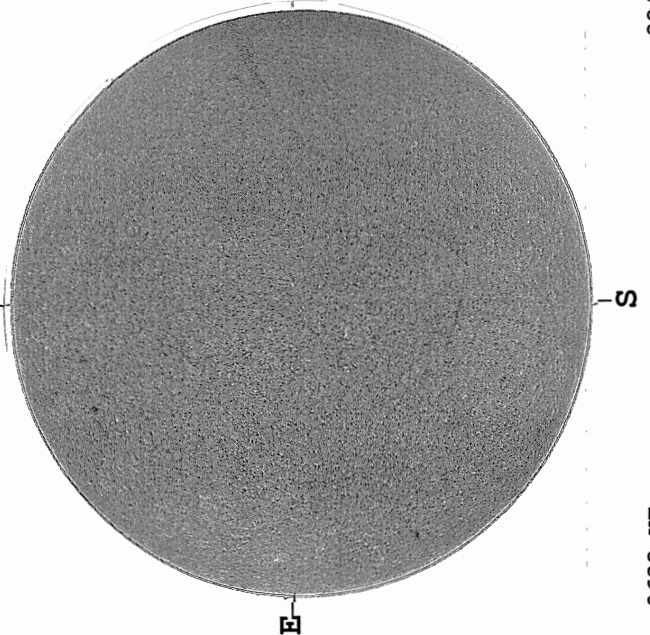
STANFORD MAGNETOGRAM
Solid = +
Dashed = -

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



2155 UT

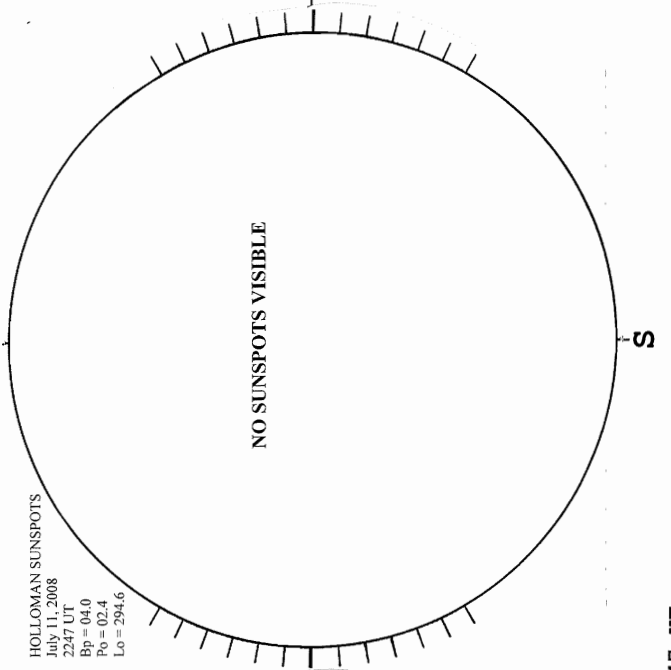
KANZELHOHE H-ALPHA



0638 UT

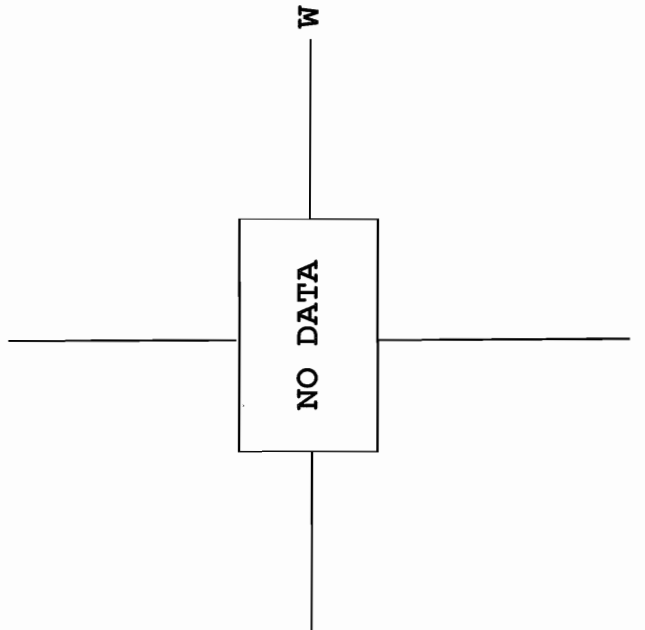
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 11, 2008
2247 UT
Bp = 04.0
Po = 02.4
Lo = 294.6



2247 UT

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

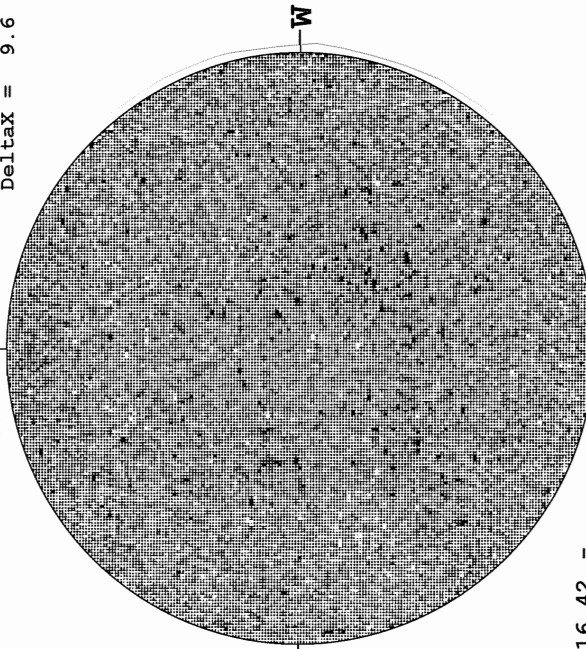
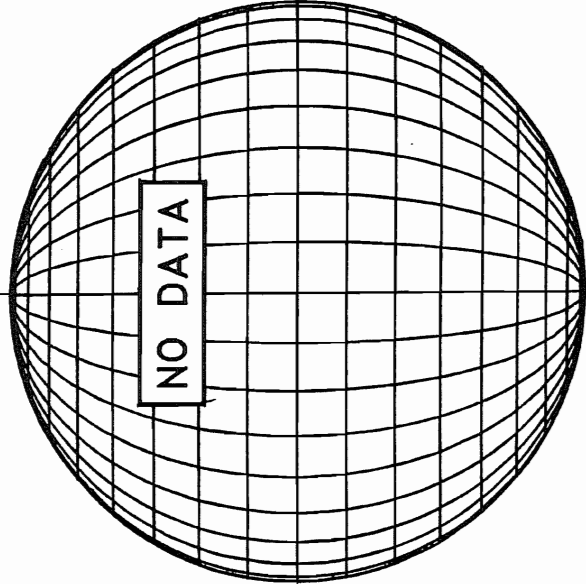
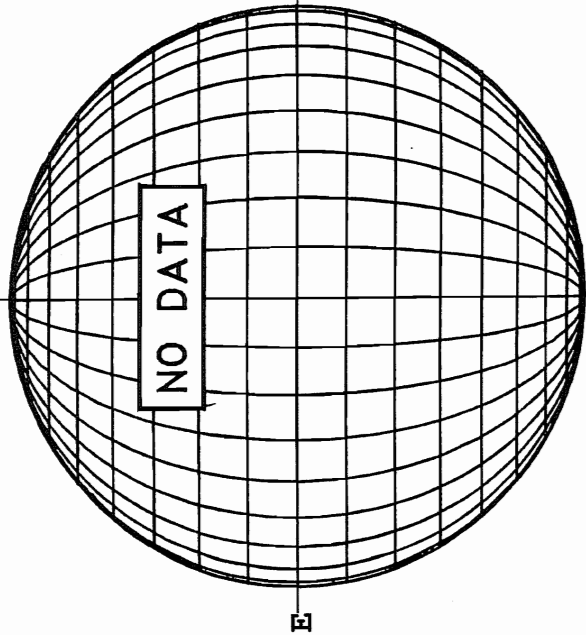


July 12, 2008 (P= 2.43, Bo= 4.06, Io= 293.62)

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

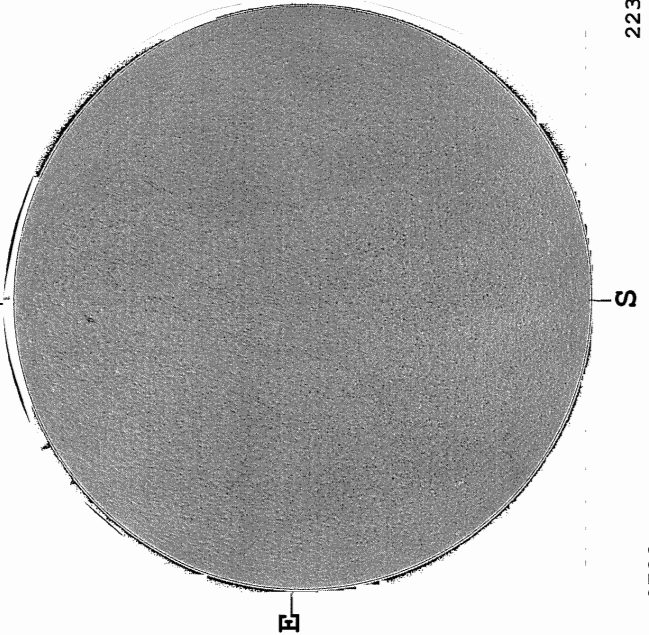
STANFORD MAGNETOGRAM
 Solid = +
 Dashed = -

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



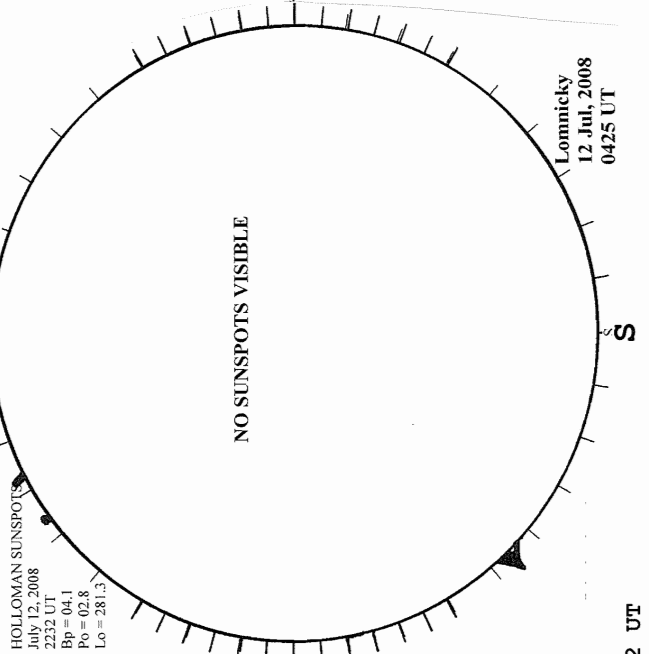
16.42 -
 17.34 UT

--- KANZELHOHE H-ALPHA



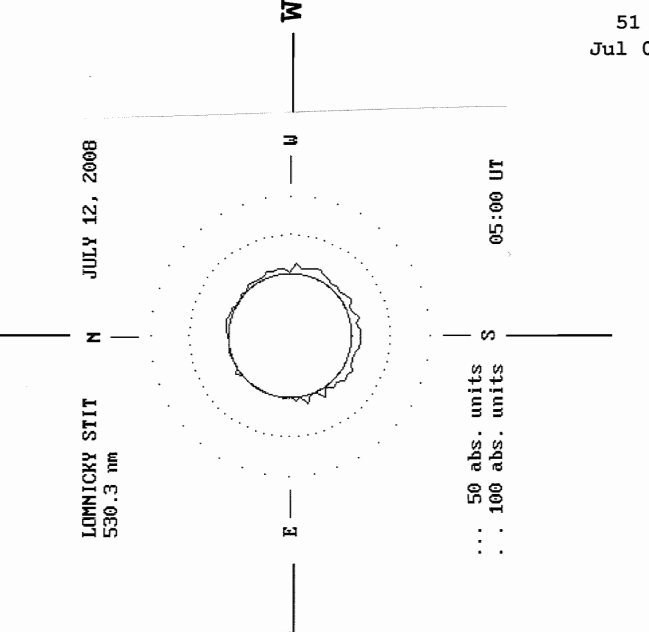
0722 UT

HOLLOMAN SUNSPOTS



2232 UT
 0425 UT LOMN PROM

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



LOMNICKY STIT
 530.3 nm
 ... 50 abs. units
 . . . 100 abs. units

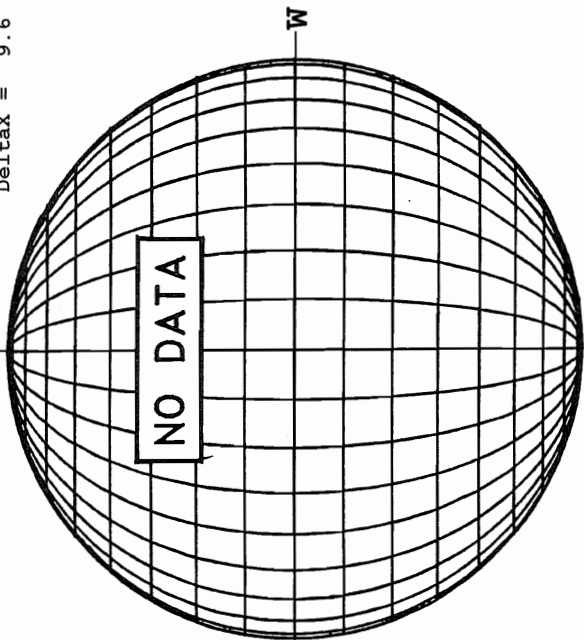
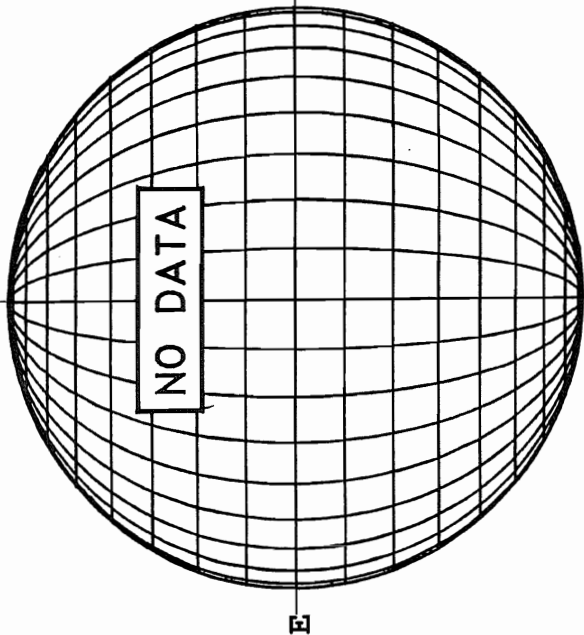
51
 Jul 08

July 13, 2008 (P= 2.88, Bo= 4.16, Lo= 280.38)

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

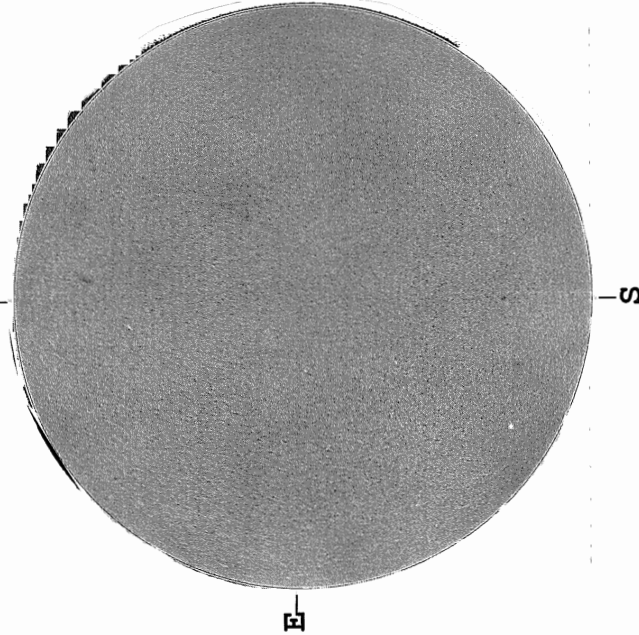
STANFORD MAGNETOGRAM
Solid = +
Dashed = -

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



14/0045 UT

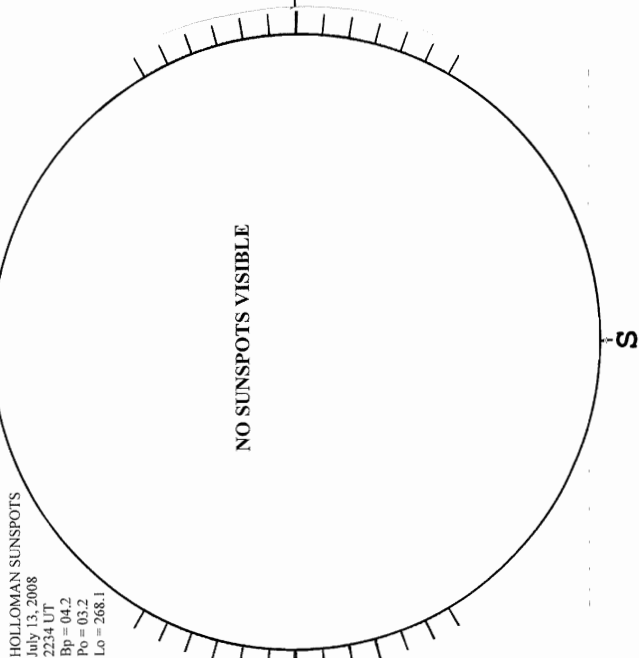
--- KANZELHOHE H-ALPHA



0735 UT

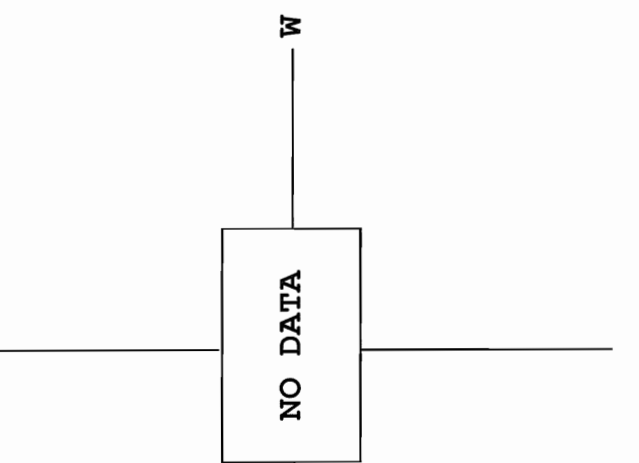
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 13, 2008
2234 UT
Bp = 04.2
Po = 03.2
Lo = 268.1



2234 UT

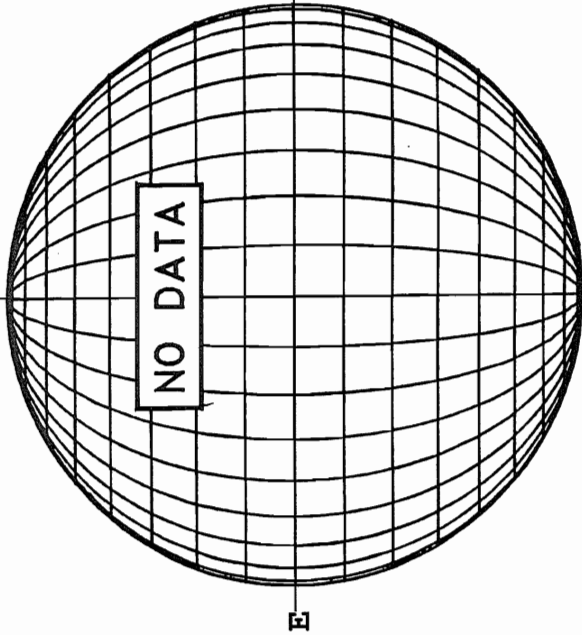
SACRAMENTO PEAK CORONA (1.15 Radii) -----



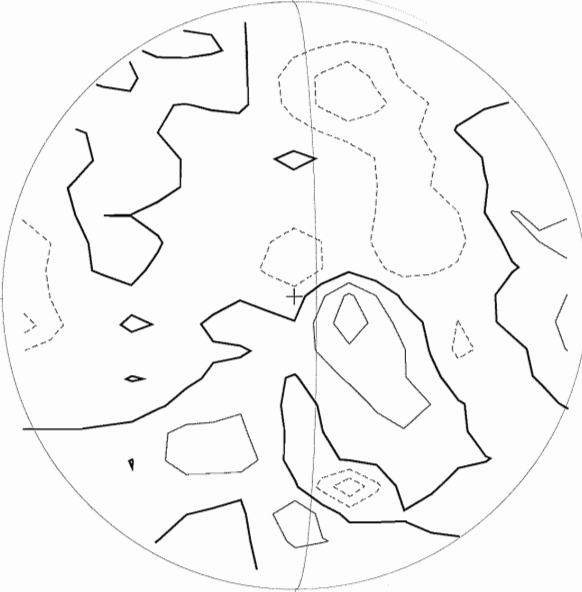
0735 UT

July 14, 2008 (P= 3.33, Bo= 4.26, Io= 267.15)

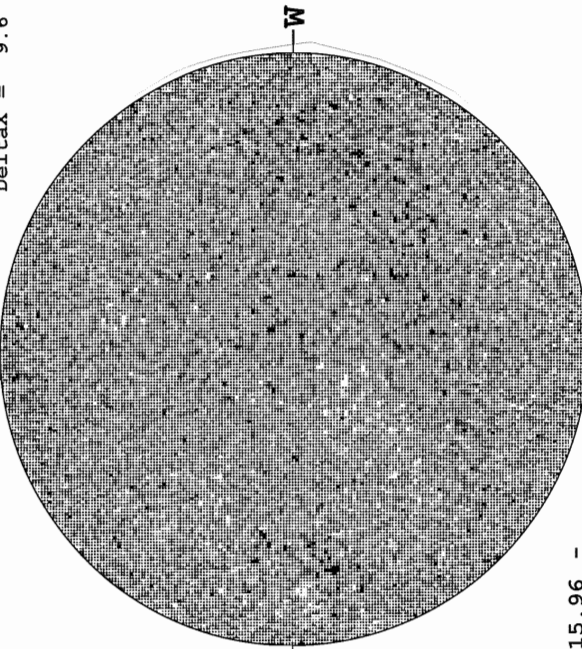
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



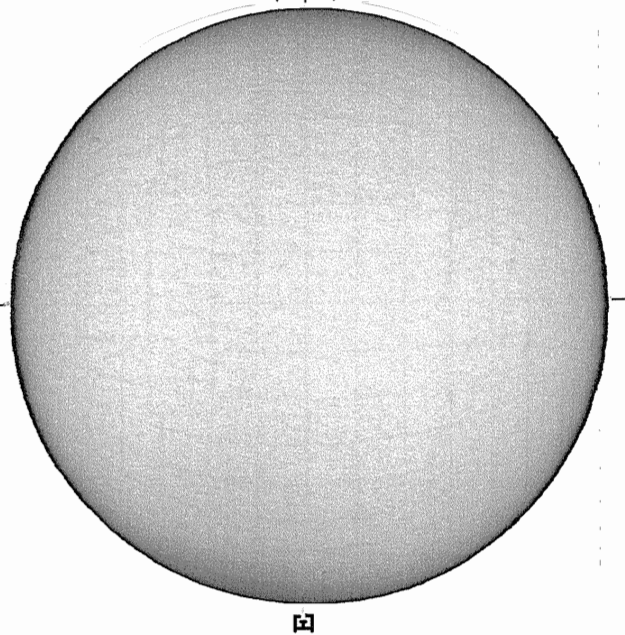
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



15.96 -
16.88 UT

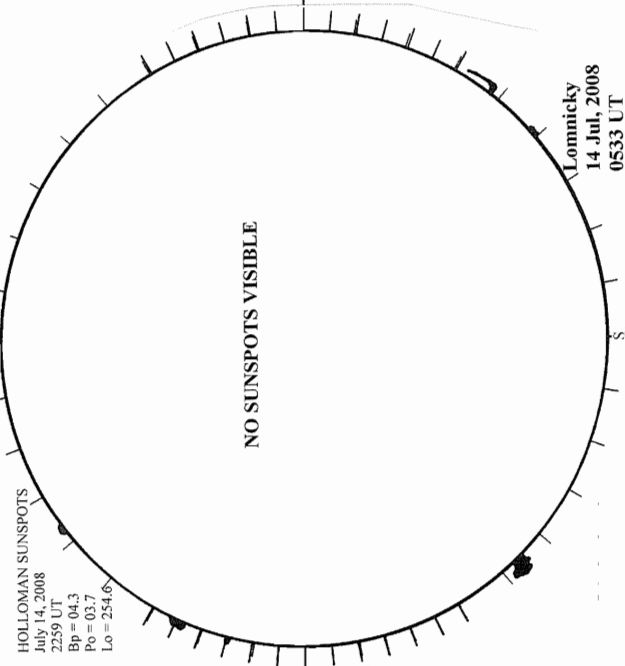
2256 UT

MEUDON H-ALPHA



0654 UT

HOLLOMAN SUNSPOTS



2259 UT
0533 UT LOMN PROM

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

NO DATA

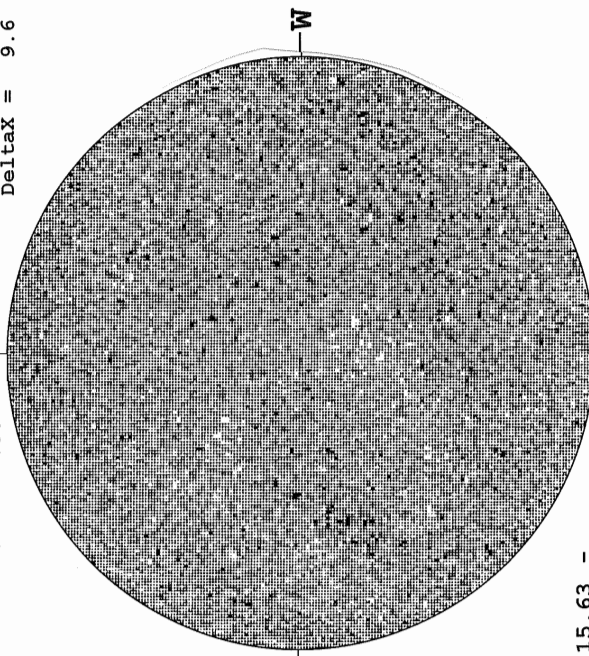
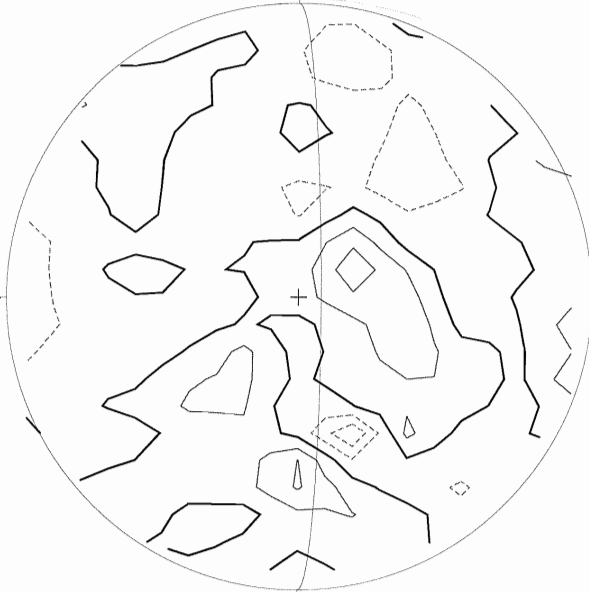
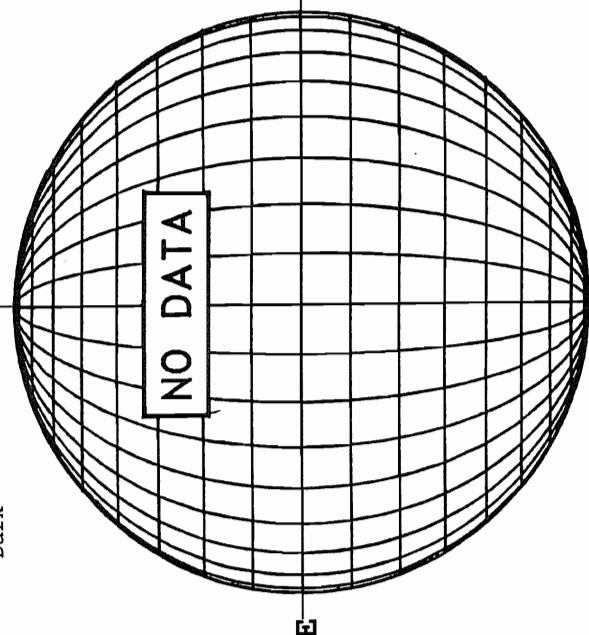
Lomnický
14 Jul, 2008
0533 UT

July 15, 2008 (P= 3.77, Bo= 4.36, Lo= 253.92)

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

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

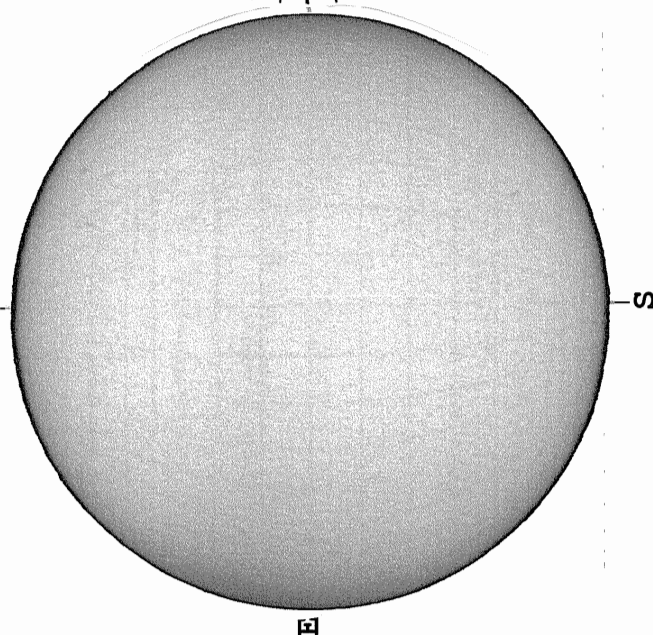
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



15.63 -
16.55 UT

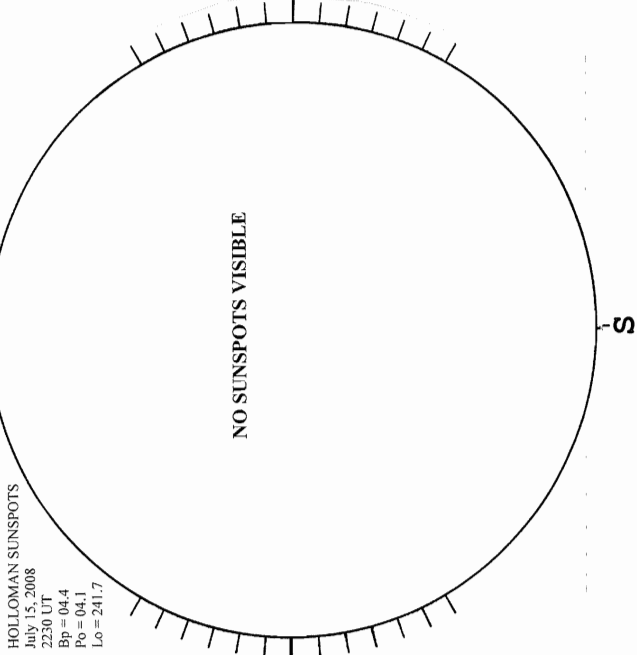
2249 UT

MEUDON H-ALPHA



0702 UT

HOLLOMAN SUNSPOTS



2230 UT

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

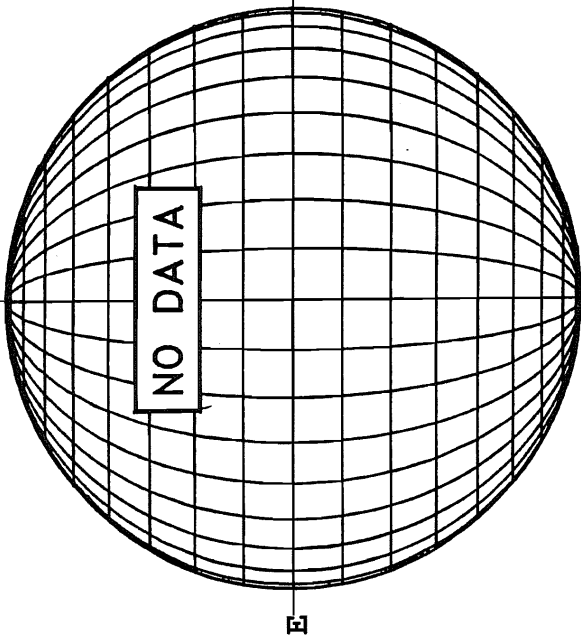
NO DATA

NO DATA

0702 UT

July 16, 2008 (P= 4.21, Bo= 4.45, Lo= 240.68)

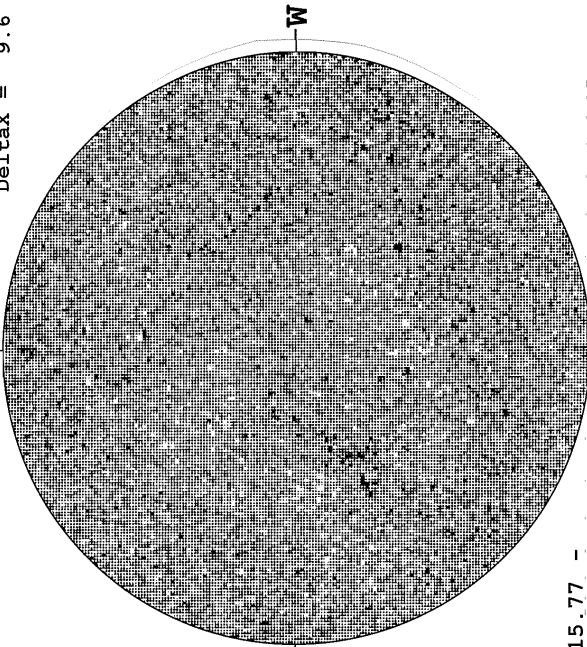
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



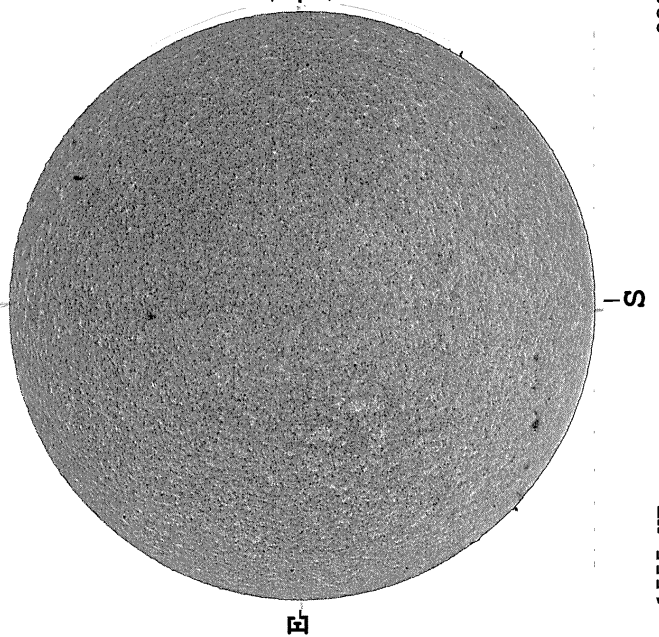
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



15.77 -
16.69 UT

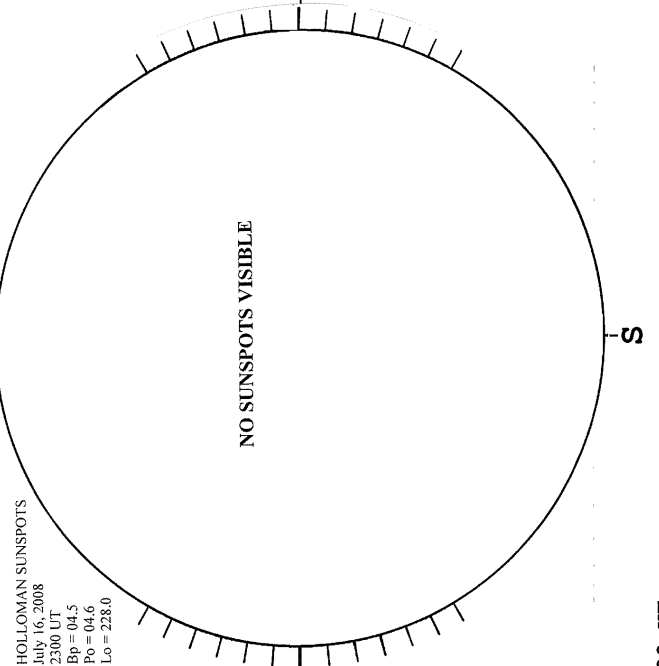
2011 UT

--- BIG BEAR H-ALPHA



1555 UT

HOLLOMAN SUNSPOTS



2300 UT

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

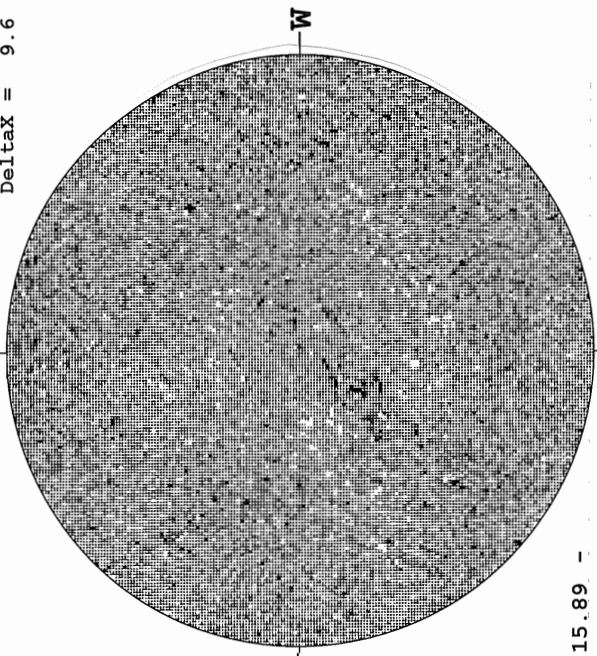
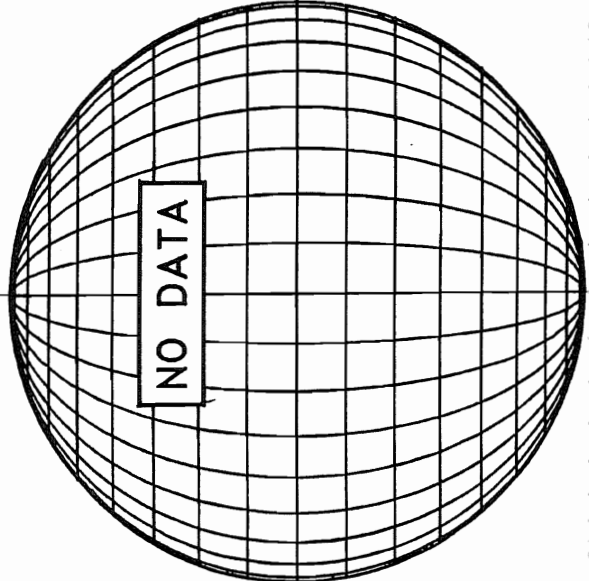
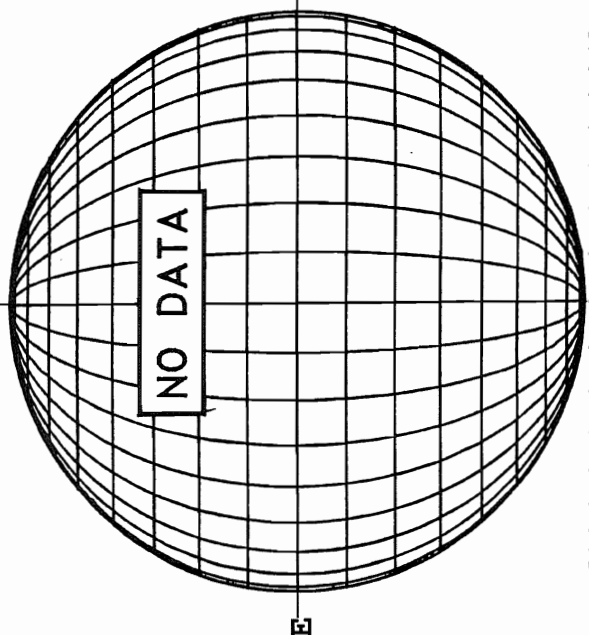
NO DATA

July 17, 2008 (P= 4.65, Bo= 4.55, Lo= 227.45)

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

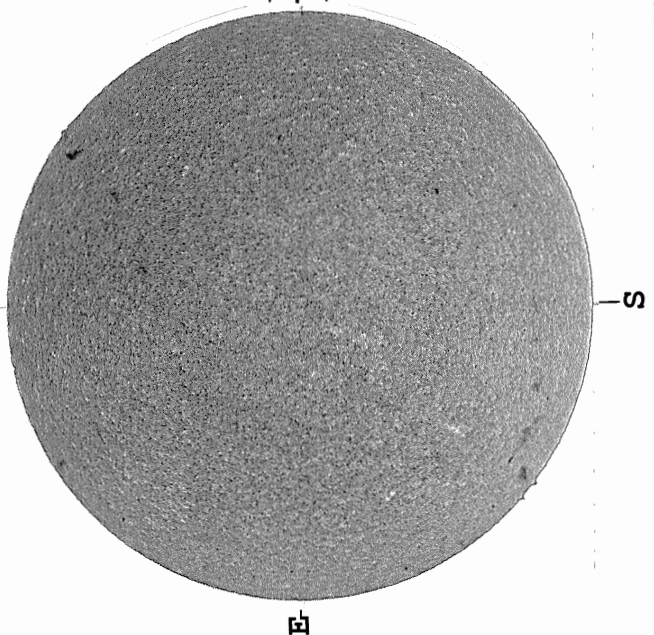
STANFORD MAGNETOGRAM
Solid = +
Dashed = -

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



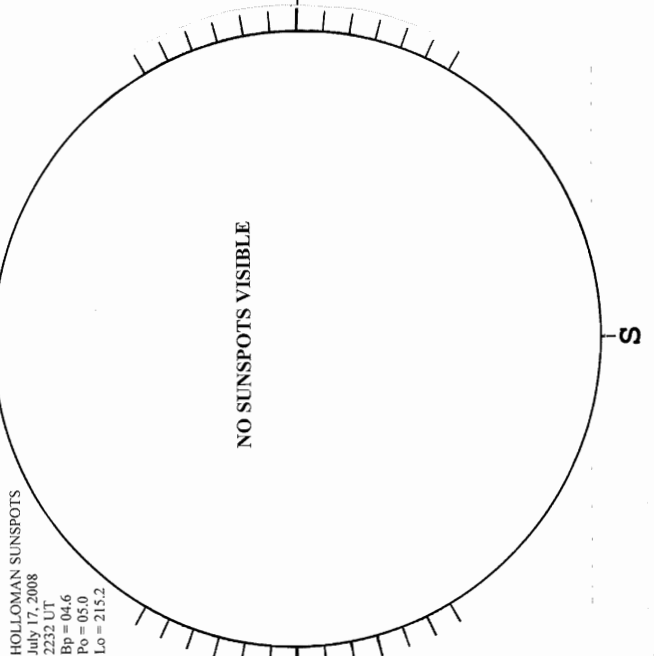
15.89 -
16.81 UT

BIG BEAR H-ALPHA



1611 UT

HOLLOMAN SUNSPOTS



2232 UT

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

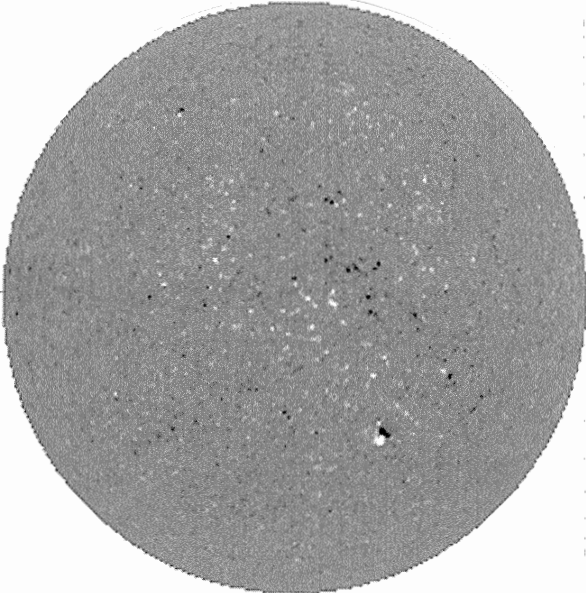
NO DATA

W

1611 UT

July 18, 2008 (P= 5.09, Bo= 4.64, Io= 214.22)

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



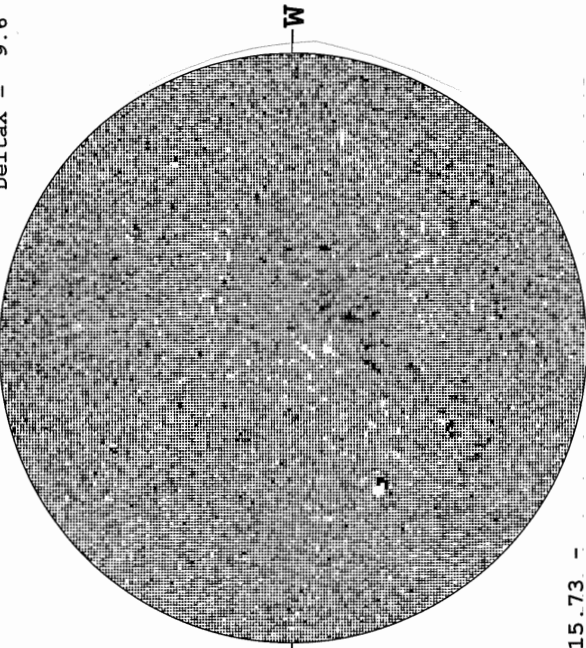
1508 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



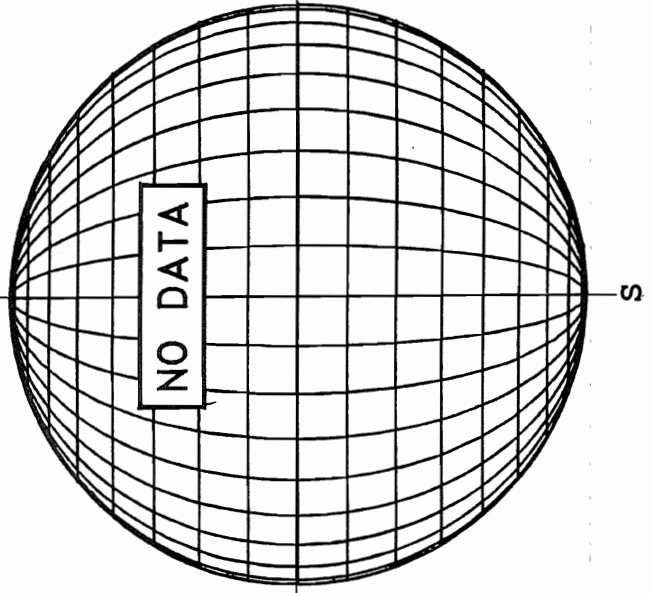
2048 UT

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

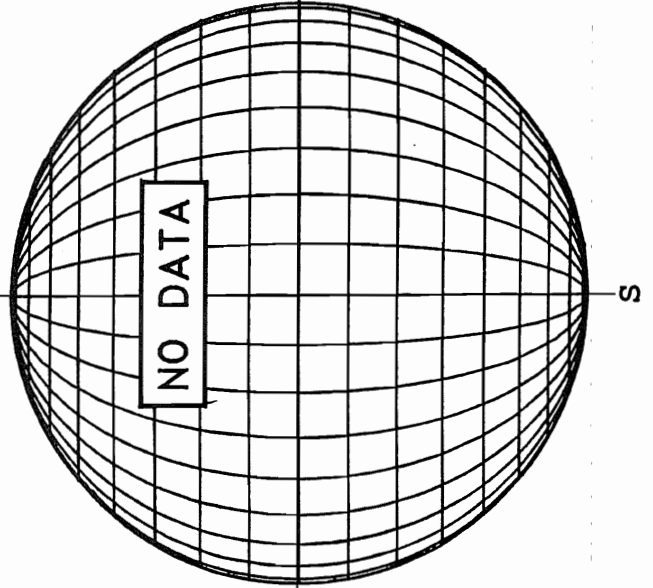


15.73 -
16.65 UT

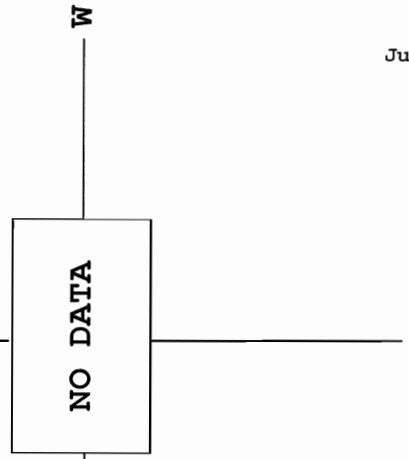
--- BIG BEAR H-ALPHA



HOLLOMAN SUNSPOTS



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



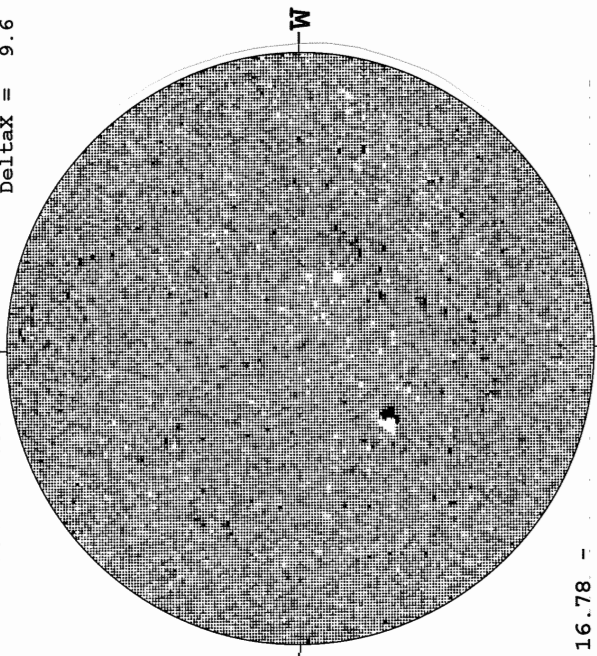
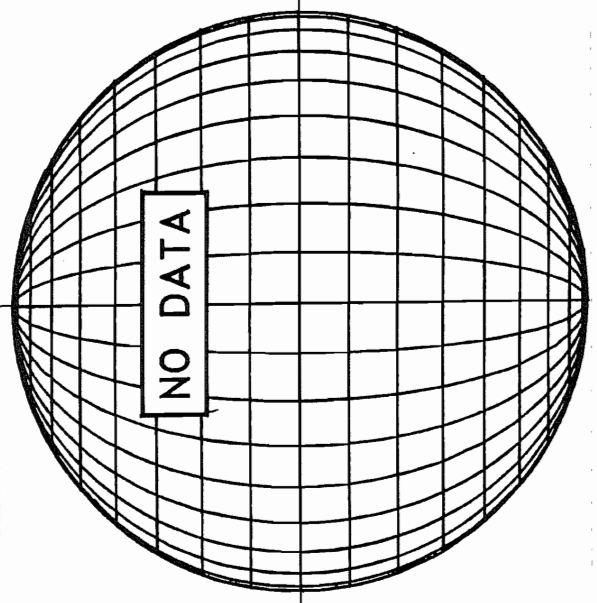
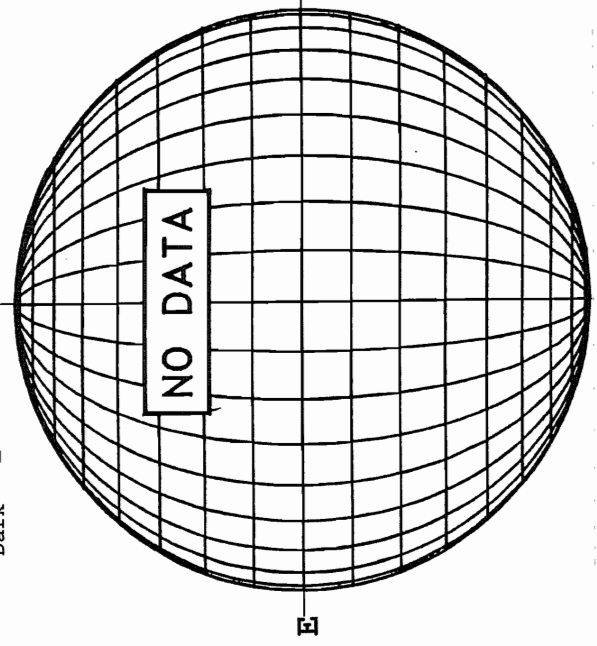
Jul 58
08

July 19, 2008 (P= 5.52, Bo= 4.73, Io= 200.99)

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

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

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

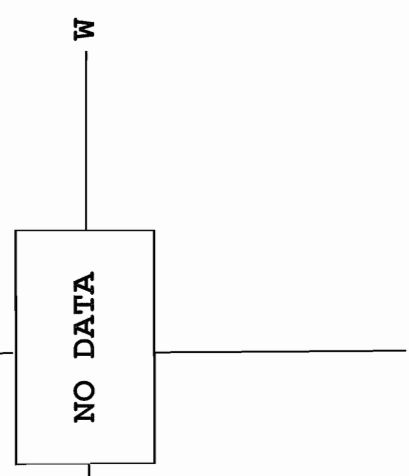
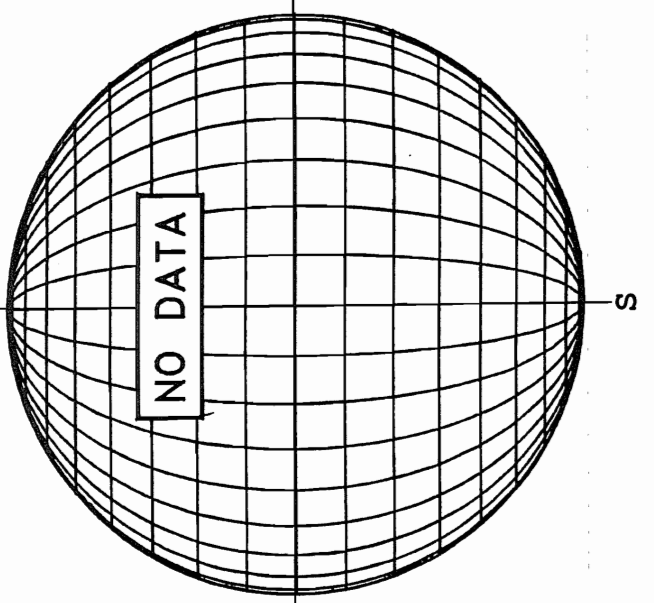
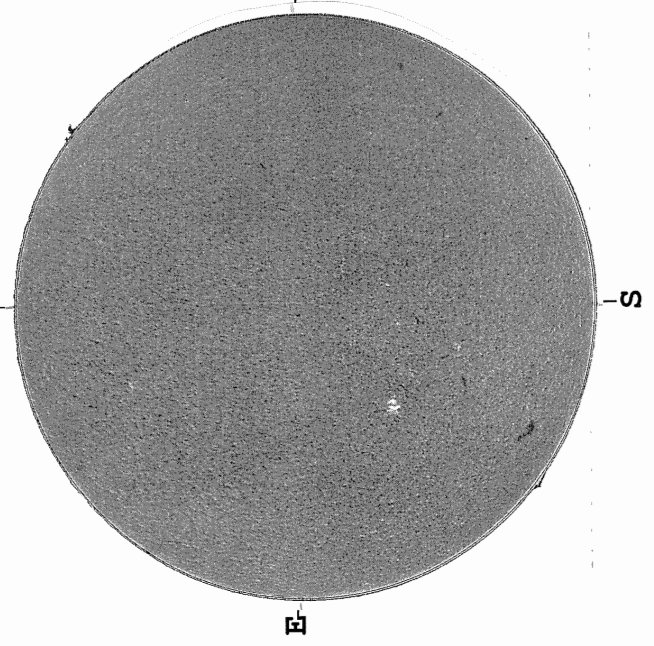


16.78 -
17.70 UT

--- KANZELHOHE H-ALPHA

HOLLOMAN SUNSPOTS

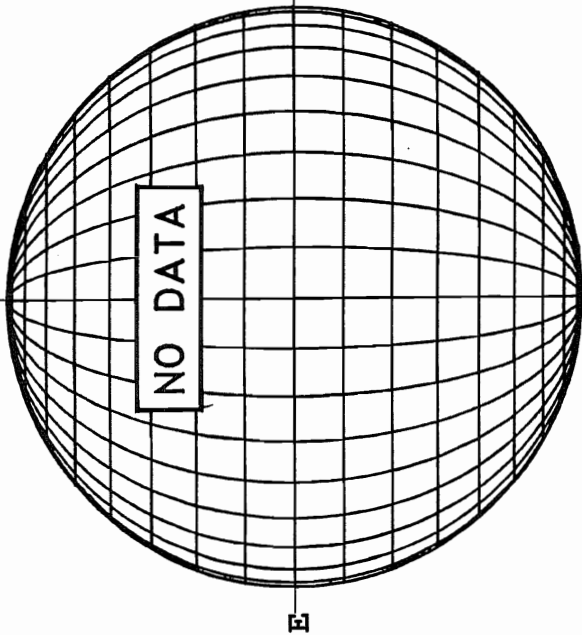
SACRAMENTO PEAK CORONA (1.15 Radii) ----



0544 UT

July 20, 2008 (P= 5.96, Bo= 4.82, Lo= 187.76)

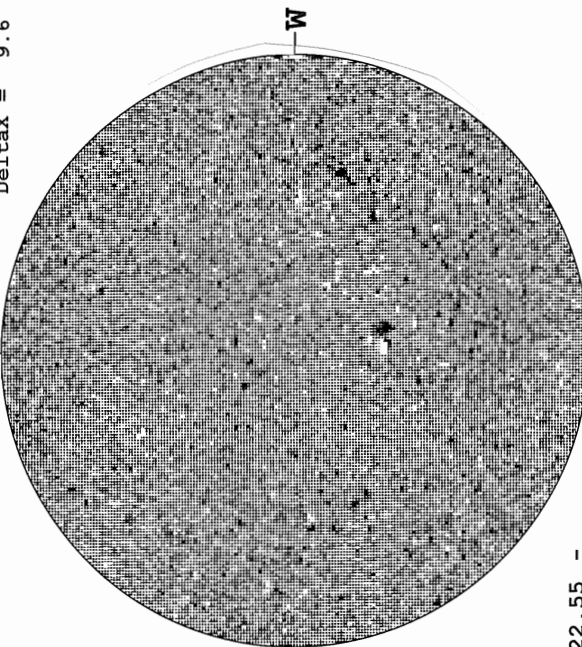
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



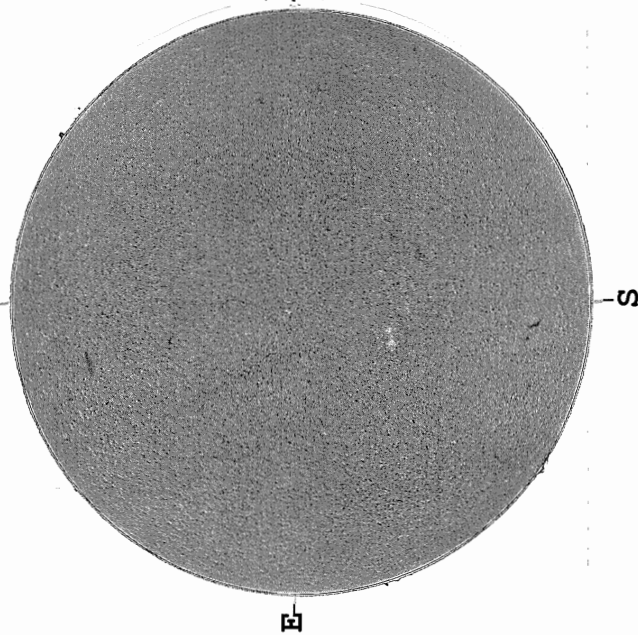
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



22.55 -
23.47 UT

2204 UT

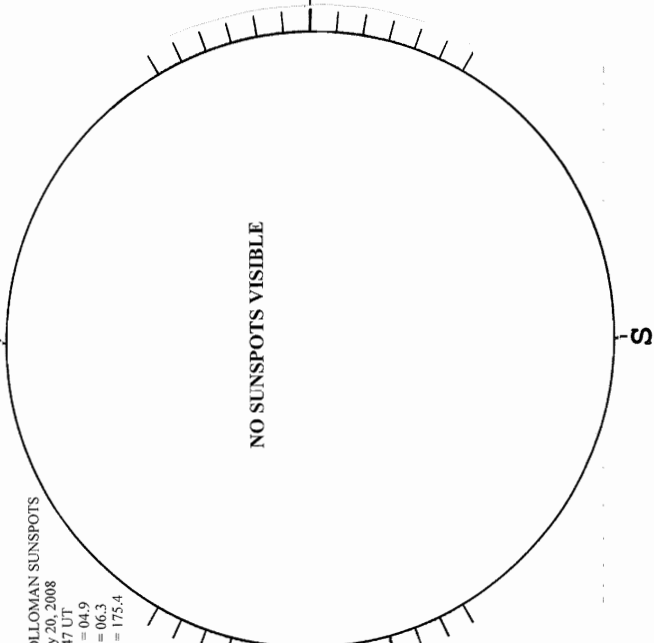
--- KANZELHOHE H-ALPHA



0510 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 20, 2008
2247 UT
Bp = 04.9
Po = 06.3
Lo = 175.4



2247 UT

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

NO DATA

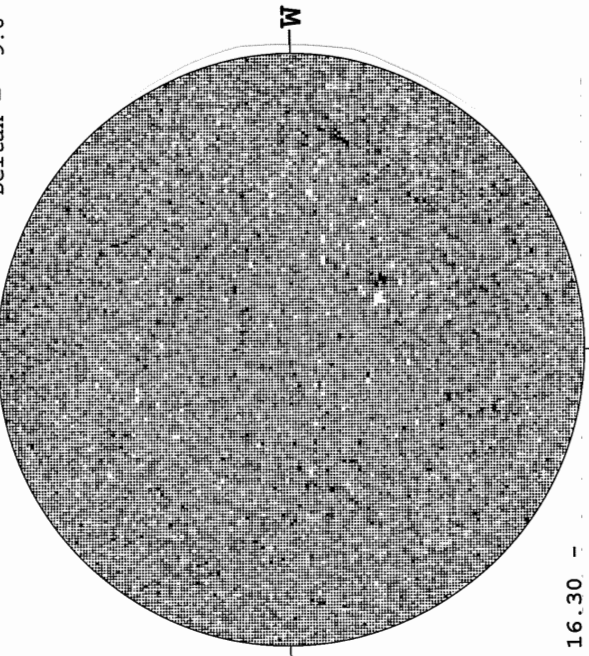
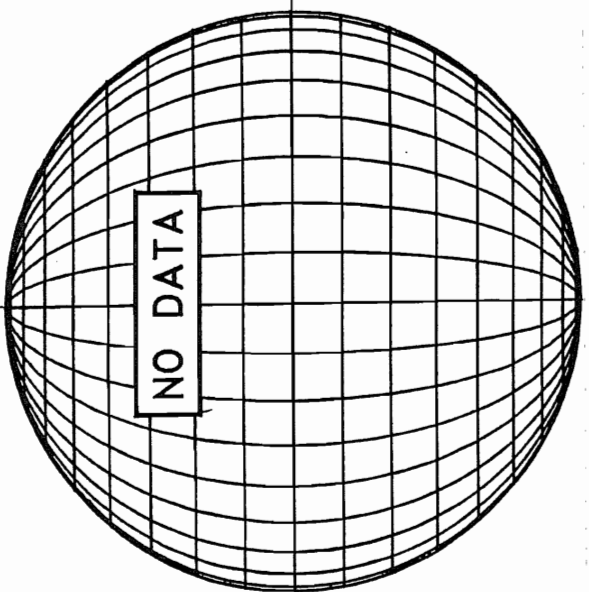
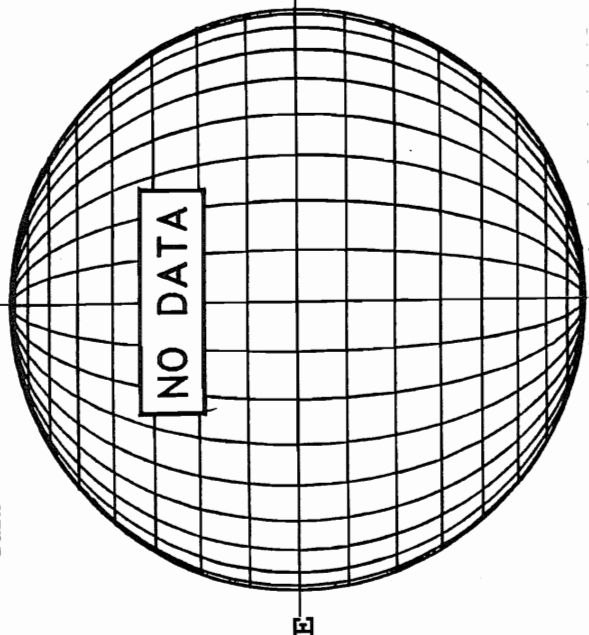
Jul 08 60

July 21, 2008 (P= 6.39, Bo= 4.91, Lo= 174.53)

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

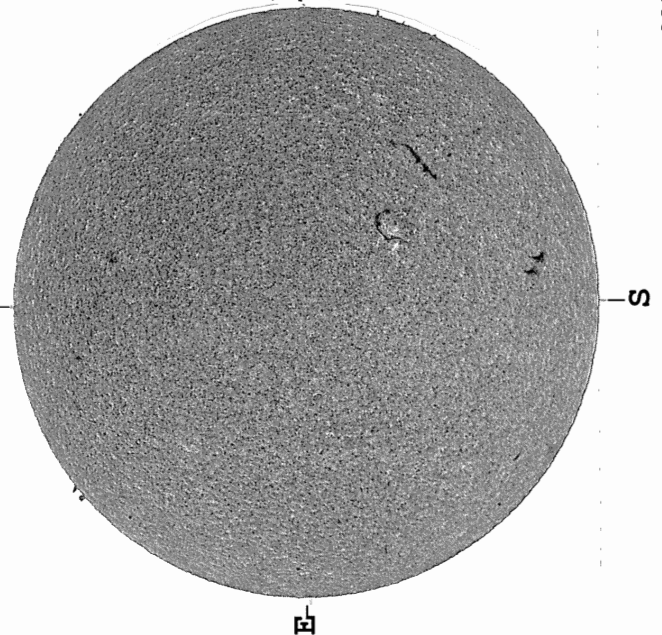
STANFORD MAGNETOGRAM
Solid = +
Dashed = -

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



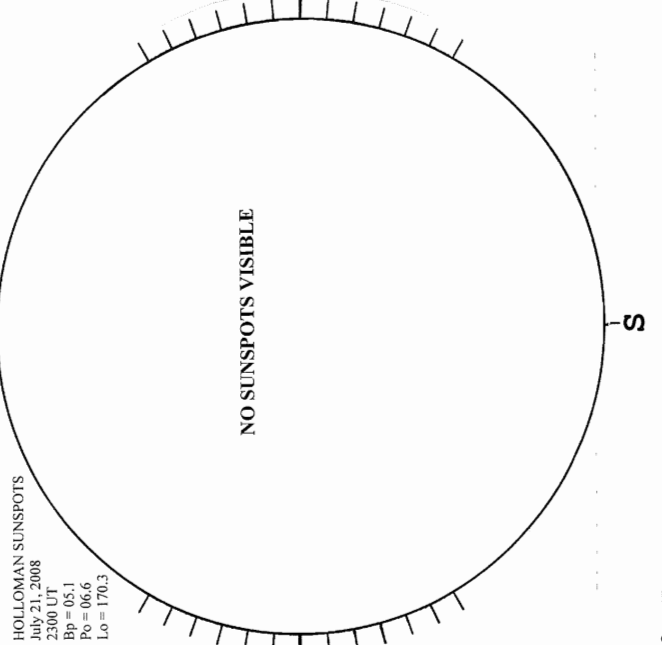
16.30 -
17.22 UT

BIG BEAR H-ALPHA



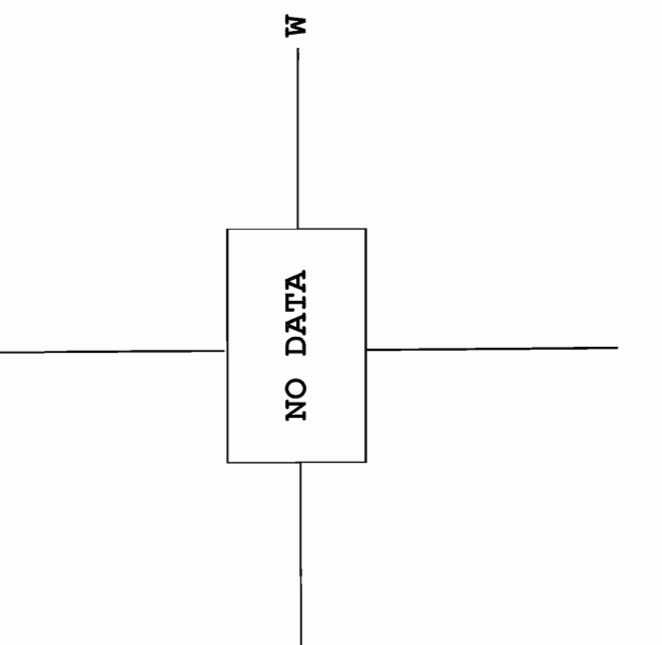
1554 UT

HOLLOMAN SUNSPOTS



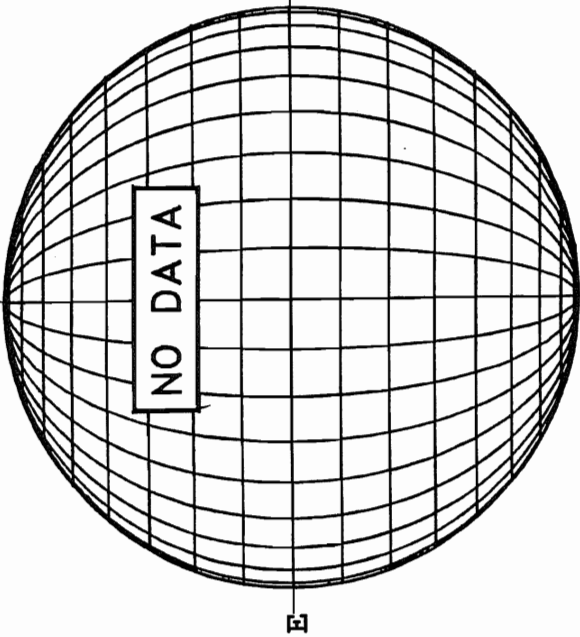
2300 UT

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



July 22, 2008 (P= 6.82, Bo= 5.00, Lo= 161.30)

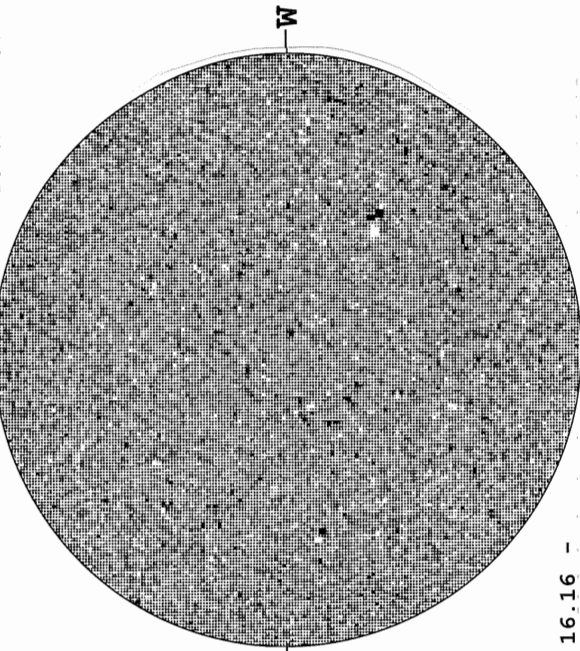
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
** 854.2NM **



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



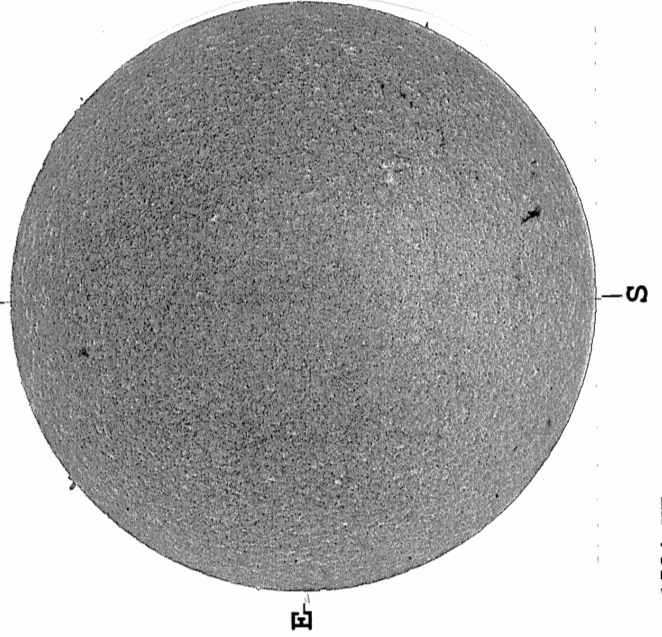
MT, WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.0
DeltaX = 9.6



16.16 -
17.08 UT

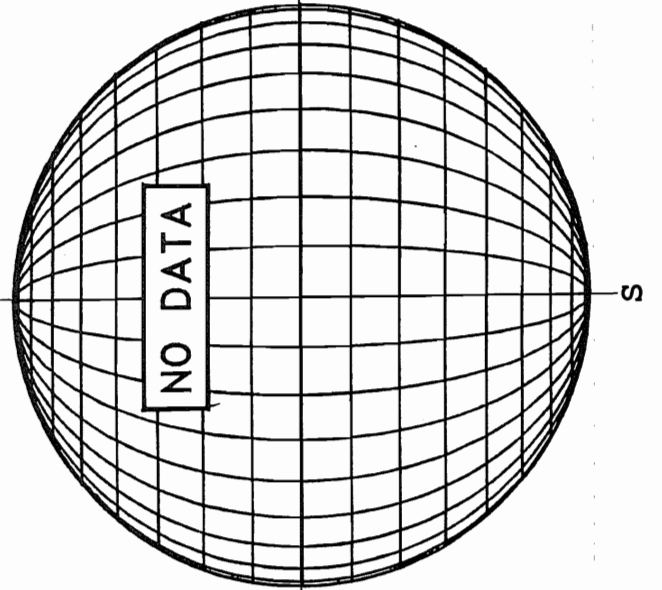
2227 UT

--- BIG BEAR H-ALPHA B



1524 UT

HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii) ----

NO DATA

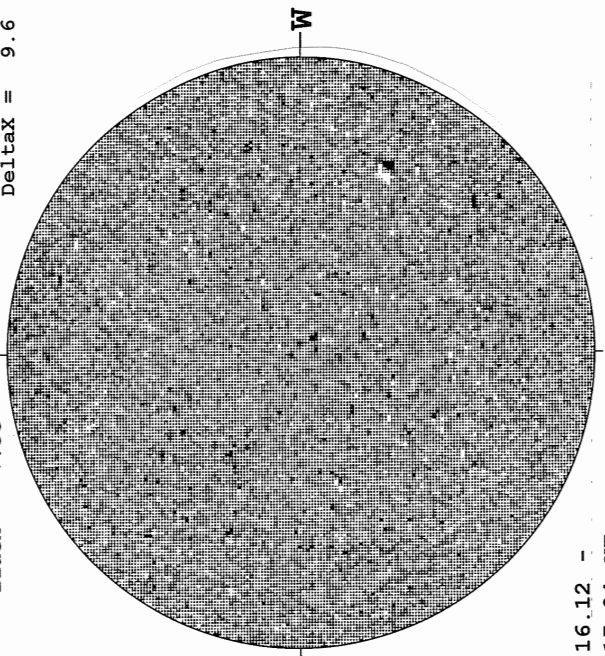
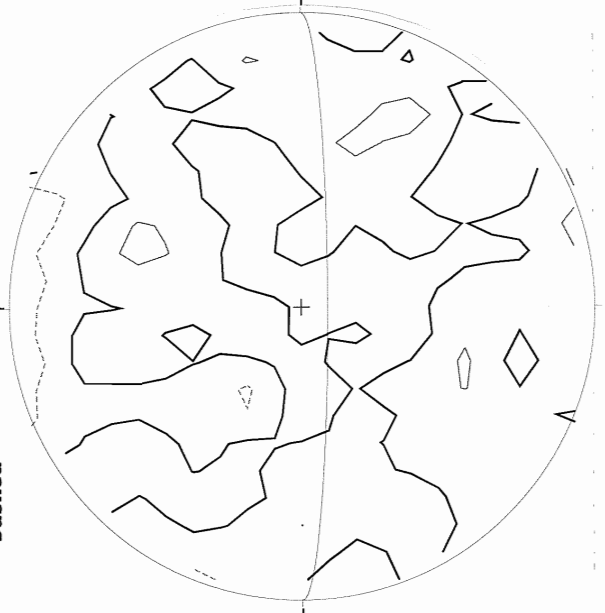
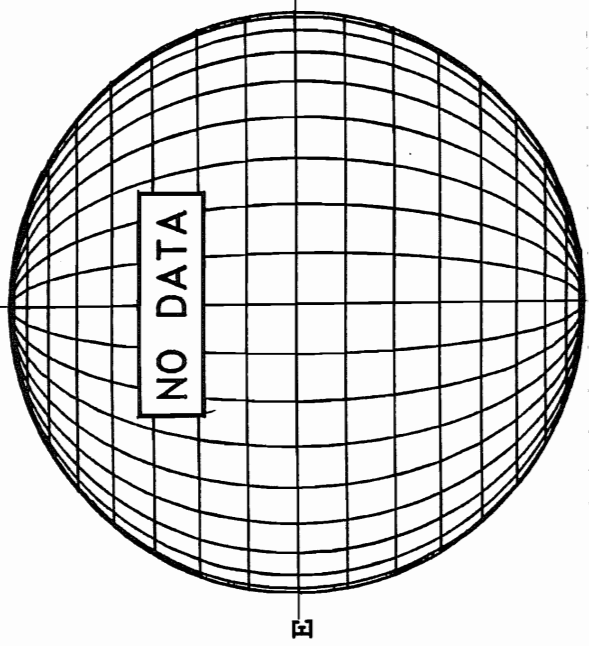
Jul 23 08

July 23, 2008 (P= 7.24, Bo= 5.09, Lo= 148.06)

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

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

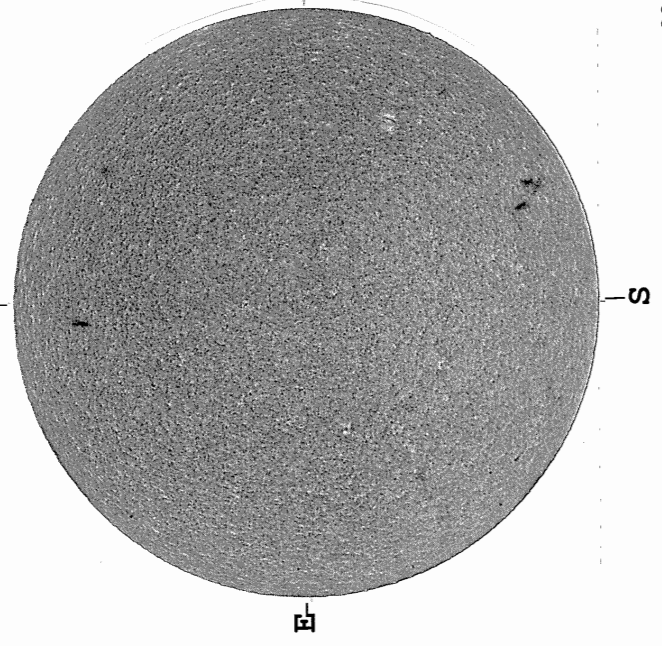
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



16.12 -
17.04 UT

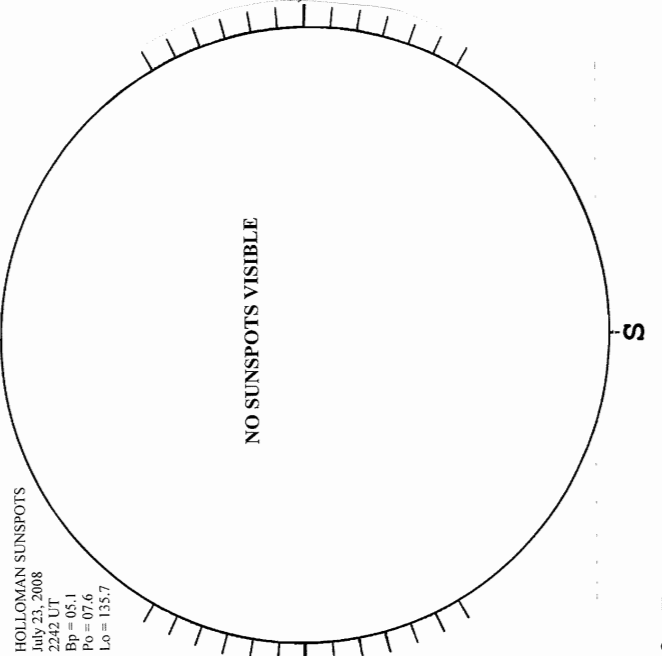
1940 UT

BIG BEAR H-ALPHA



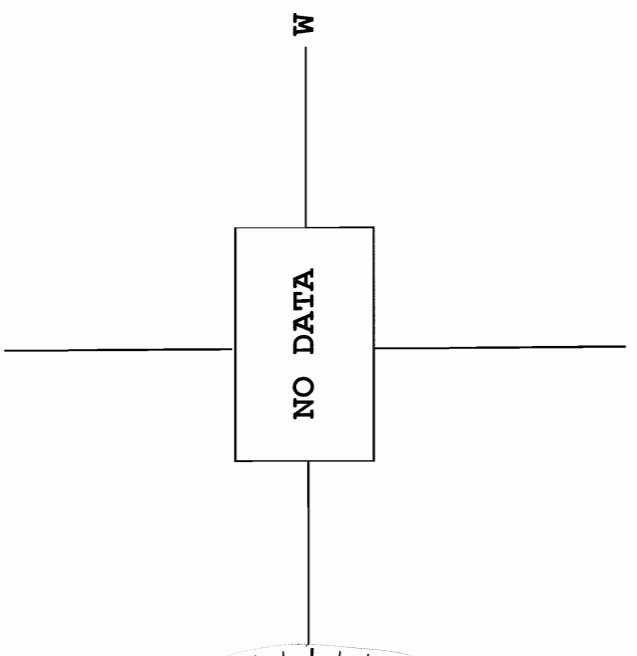
1538 UT

HOLLOMAN SUNSPOTS



2242 UT

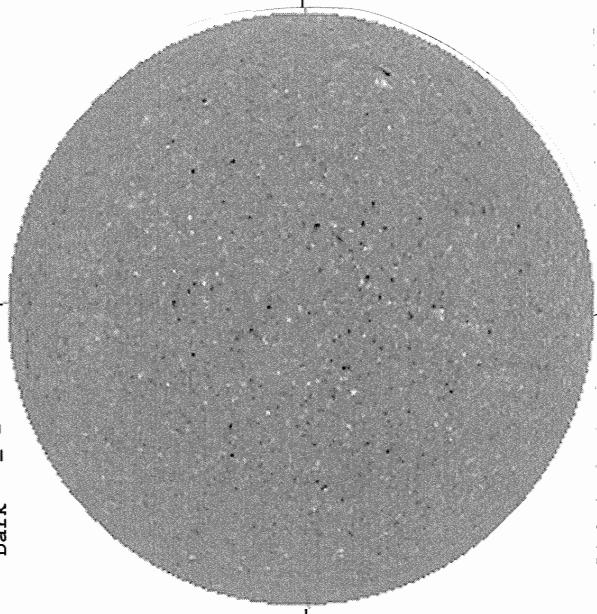
SACRAMENTO PEAK CORONA (1.15 Radii) -----



1538 UT

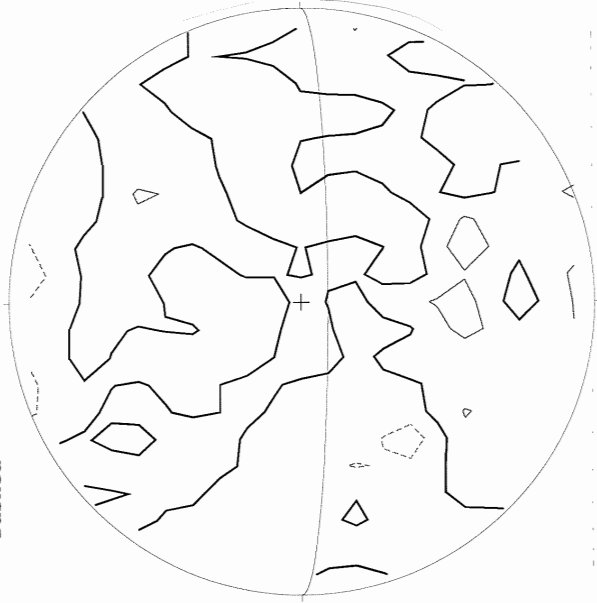
July 24, 2008 (P= 7.67, Bo= 5.17, Lo= 134.84)

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



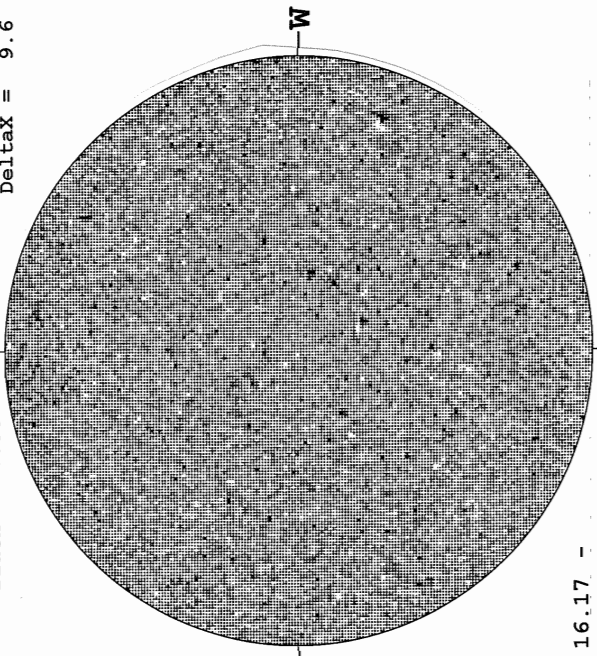
1712 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N



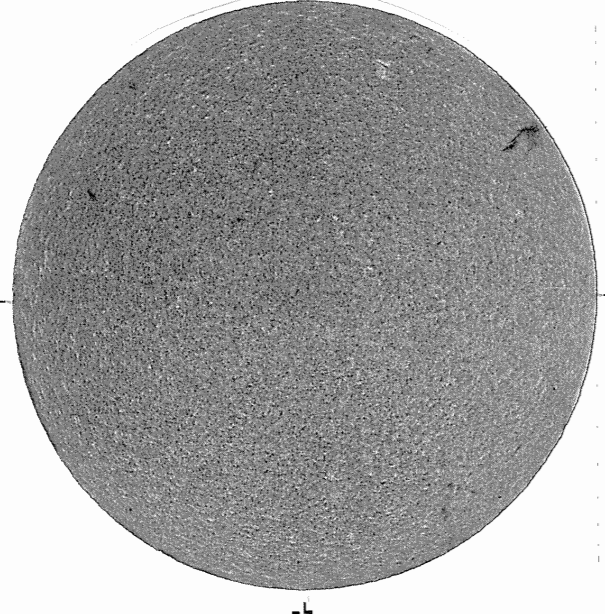
2059 UT

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



16.17 -
17.10 UT

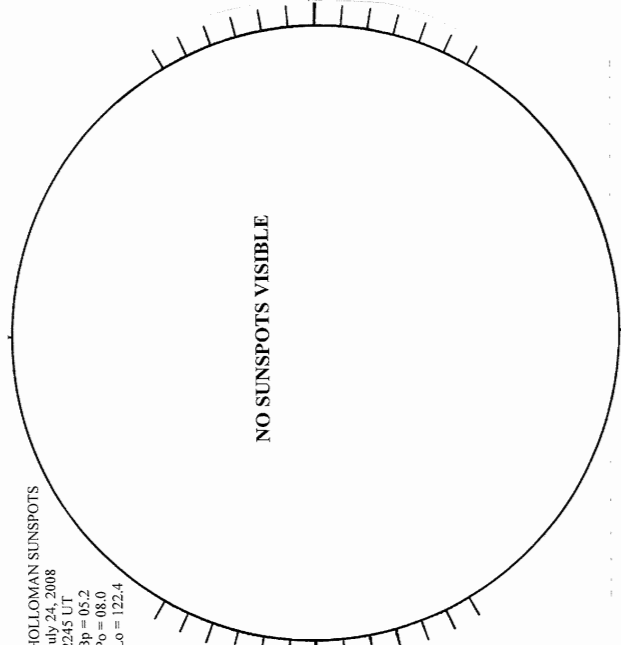
--- BIG BEAR H-ALPHA



1516 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 24, 2008
2245 UT
Bp = 05.2
Po = 08.0
Lo = 122.4



2245 UT

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

NO DATA

W

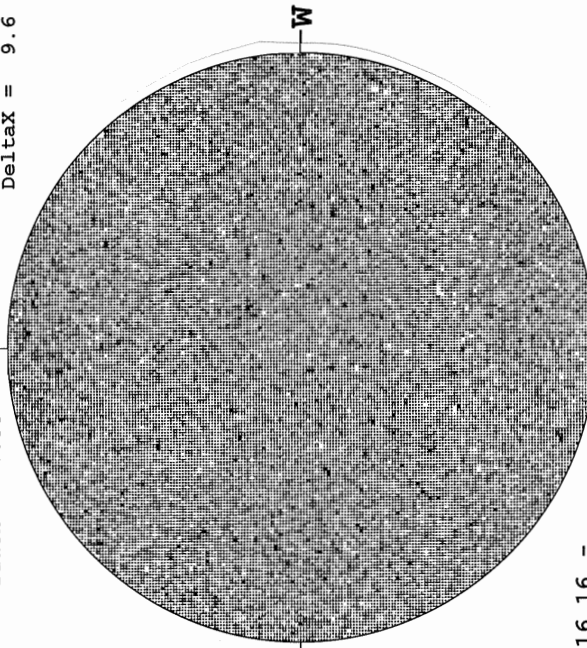
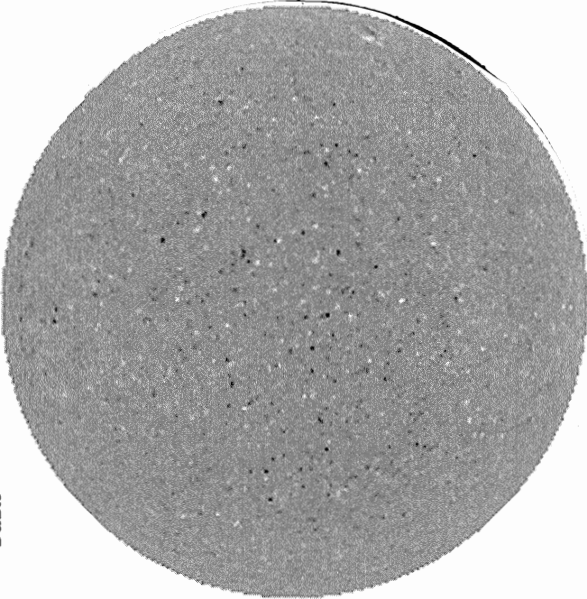
Jul 64
08

July 25, 2008 (P= 8.09, Bo= 5.26, Lo= 121.61)

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

STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

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



1809 UT

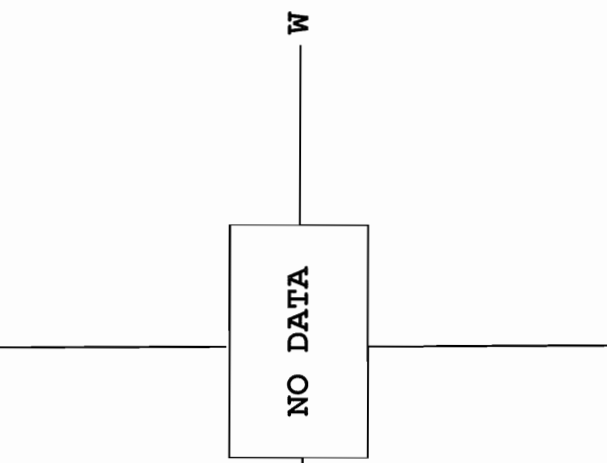
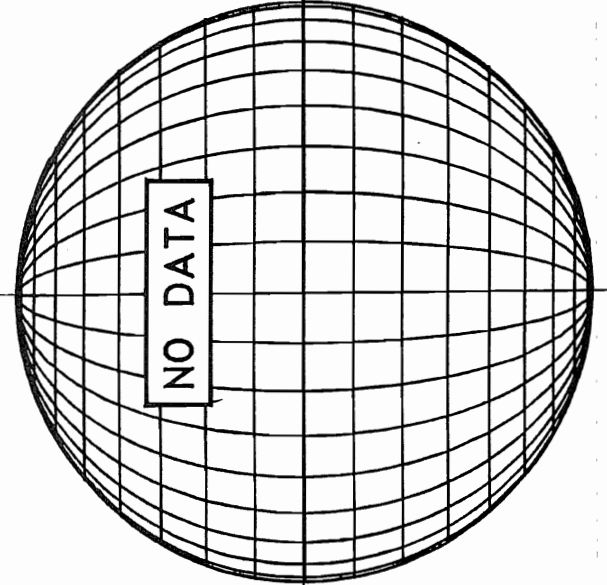
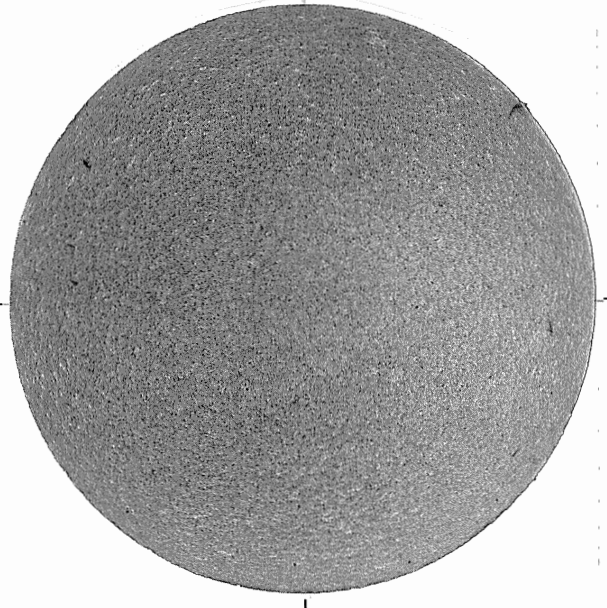
2229 UT

16.16 -
17.08 UT

BIG BEAR H-ALPHA

HOLLOMAN SUNSPOTS

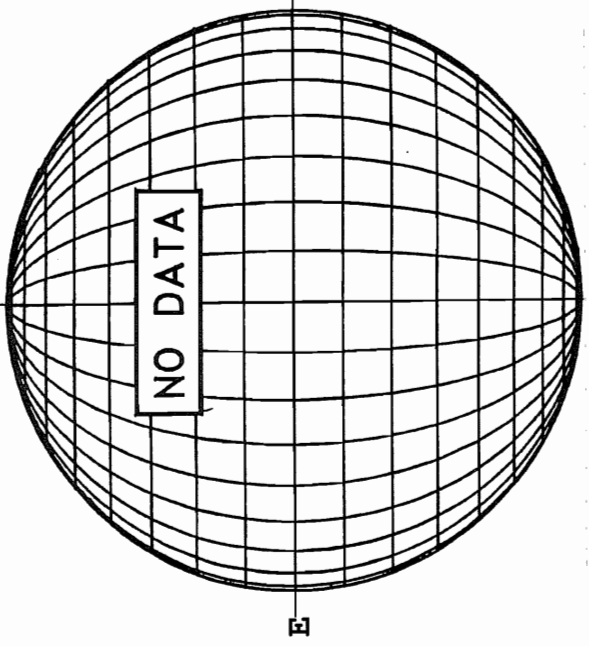
SACRAMENTO PEAK CORONA (1.15 Radii) -----



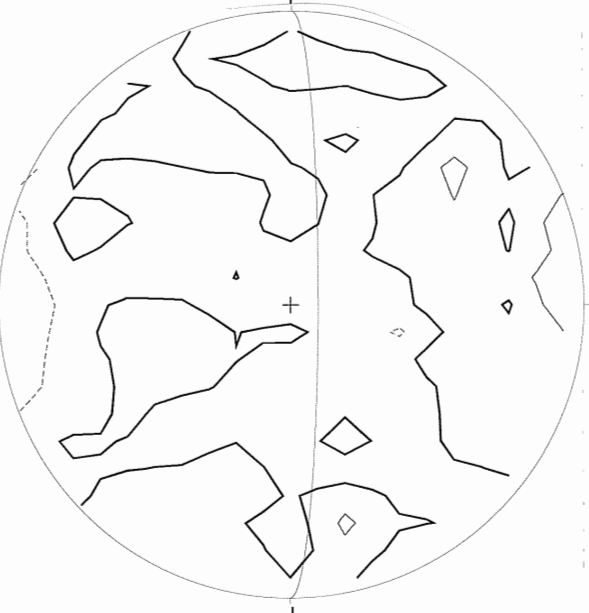
1545 UT

July 26, 2008 (P= 8.51, Bo= 5.34, Lo= 108.38)

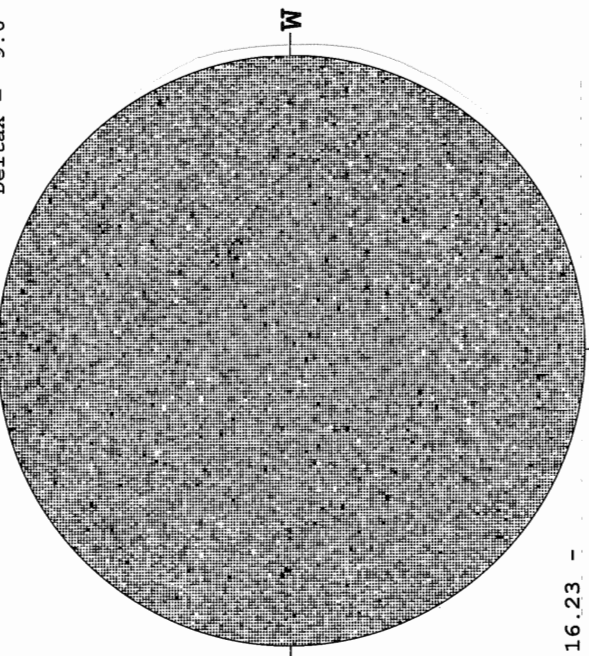
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = + ** 854.2NM **
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



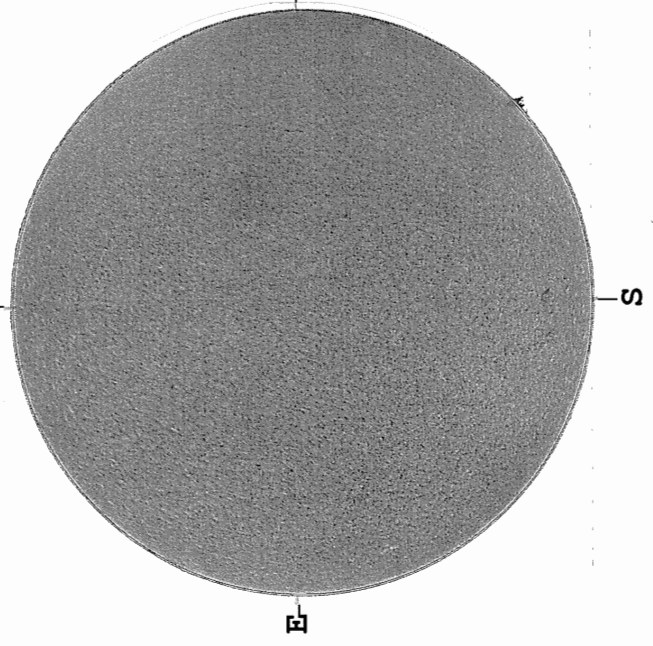
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



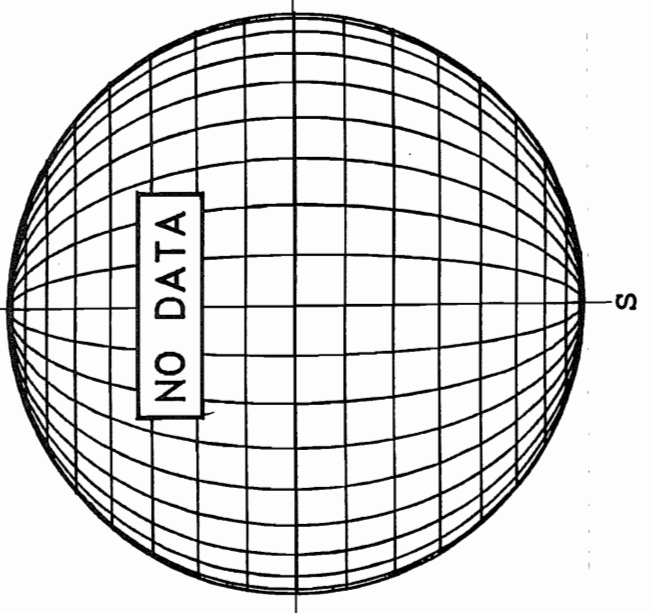
16.23 -
17.15 UT

0645 UT

KANZELHOHE H-ALPHA



HOLLOMAN SUNSPOTS



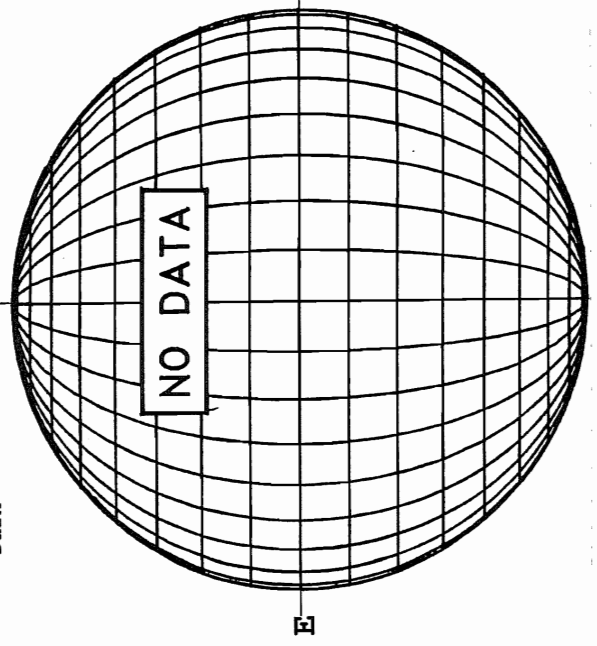
SACRAMENTO PEAK CORONA (1.15 Radii) -----

NO DATA

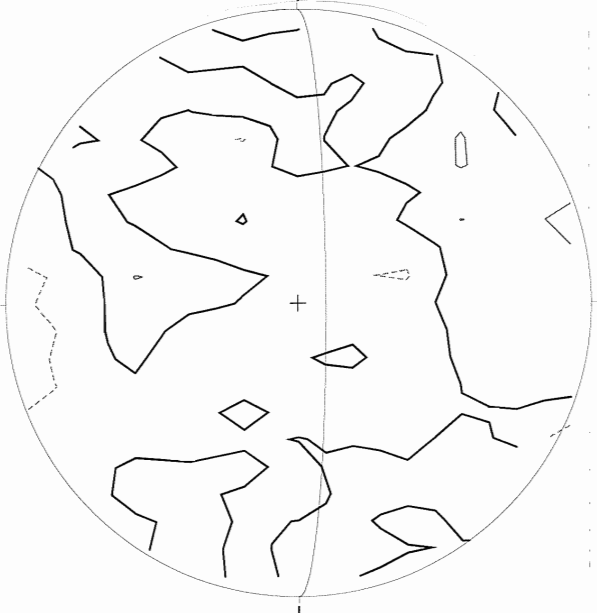
51 06
08

July 27, 2008 (P= 8.92, Bo= 5.42, Lo= 95.15)

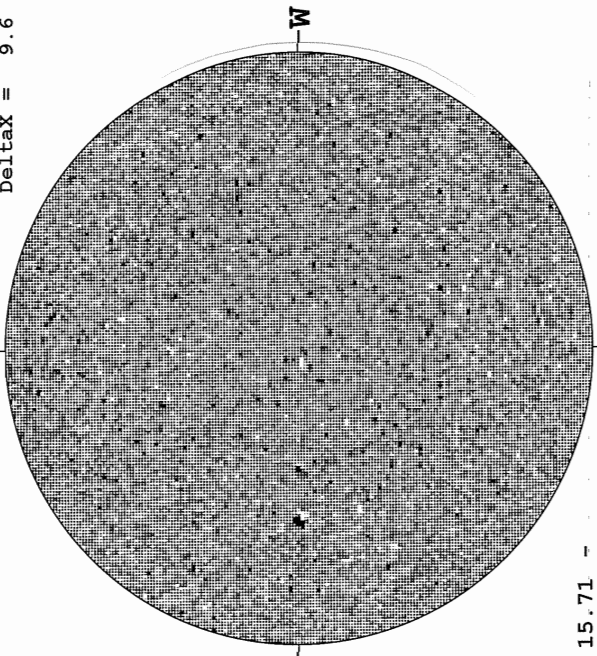
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -
N ** 854.2NM **



STANFORD MAGNETOGRAM
Solid = +
Dashed = -
N

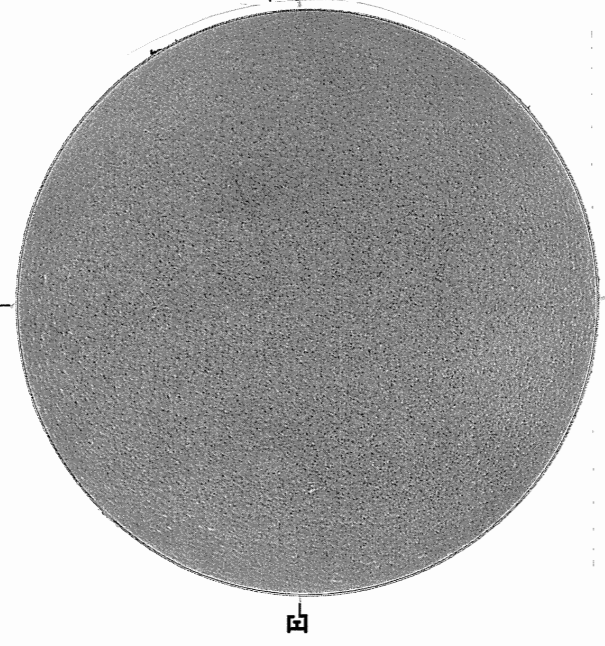


MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6
N



15.71 -
16.63 UT

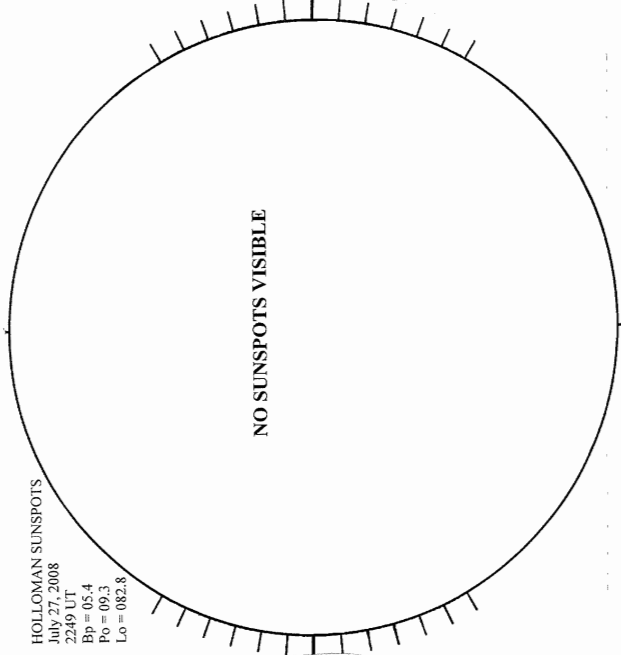
--- KANZELHOHE H-ALPHA



0711 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 27, 2008
2249 UT
Bp = 05.4
Po = 09.3
Lo = 082.8



2249 UT

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

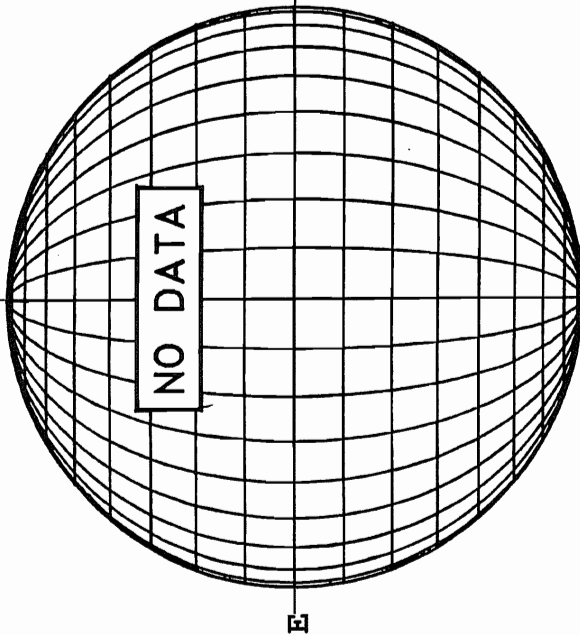
NO DATA

NO DATA

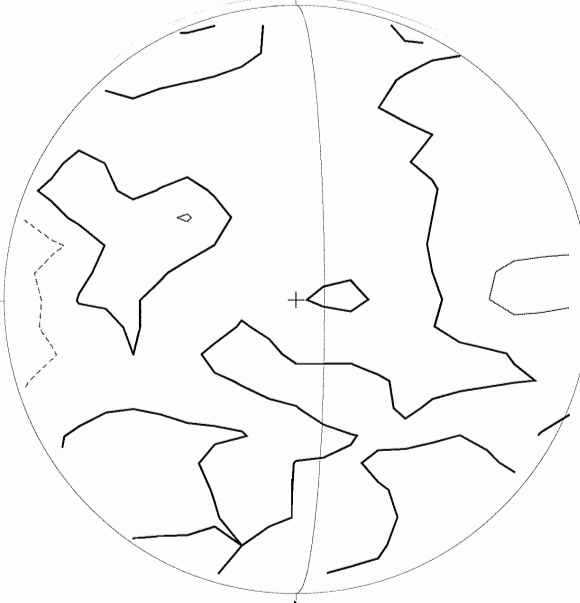
W

July 28, 2008 (P= 9.33, Bo= 5.50, Lo= 81.92)

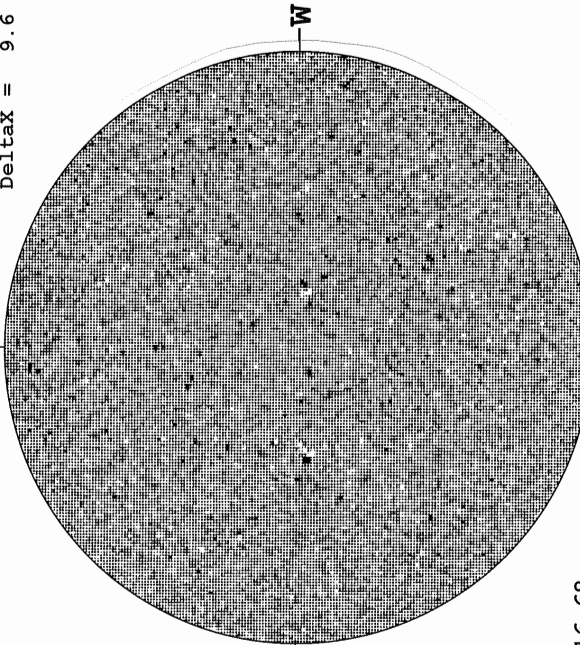
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -



STANFORD MAGNETOGRAM
Solid = +
Dashed = -



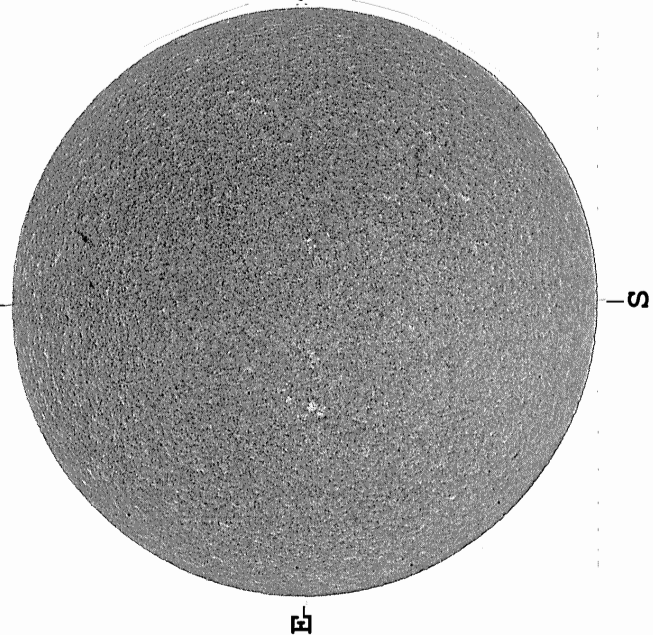
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



16.68 -
17.60 UT

1535 UT

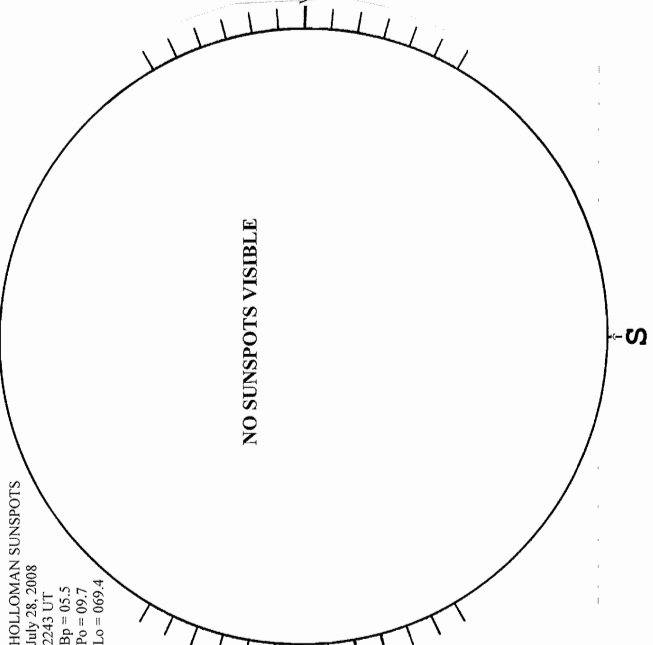
BIG BEAR H-ALPHA



1535 UT

HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
July 28, 2008
2243 UT
Bp = 05.5
Po = 09.7
Lo = 069.4



2243 UT

SACRAMENTO PEAK CORONA (1.15 Radii) ----

NO DATA

Jul 08

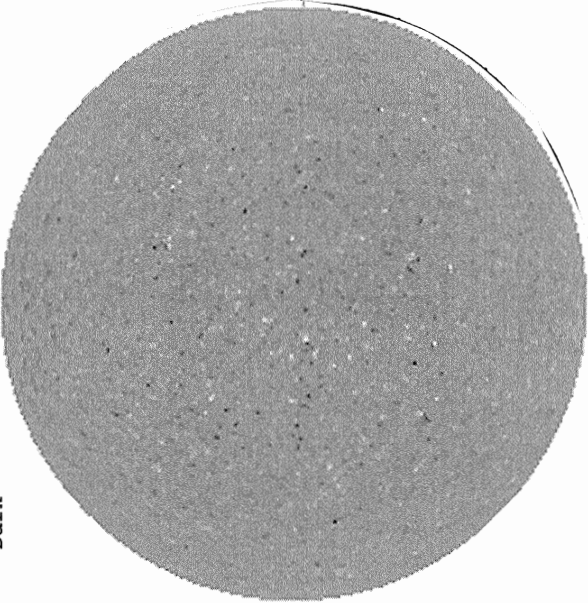
July 29, 2008 (P= 9.74, Bo= 5.58, Lo= 68.69)

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

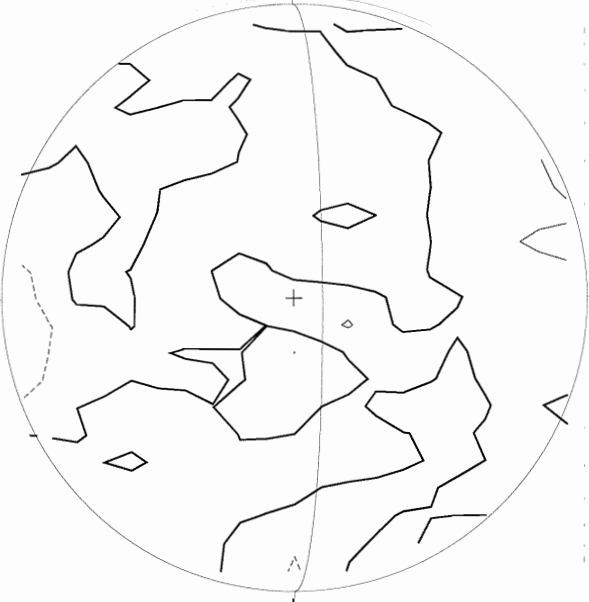
STANFORD MAGNETOGRAM
Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G

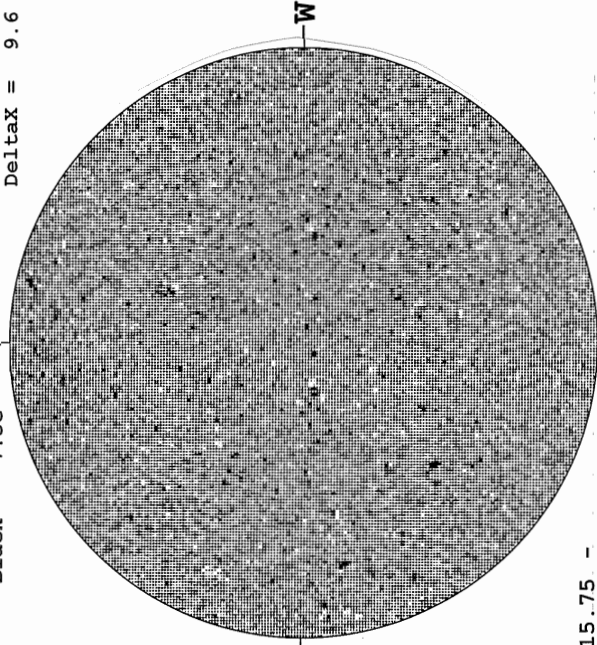
Delta τ = 13.1
Delta α = 9.6



1745 UT

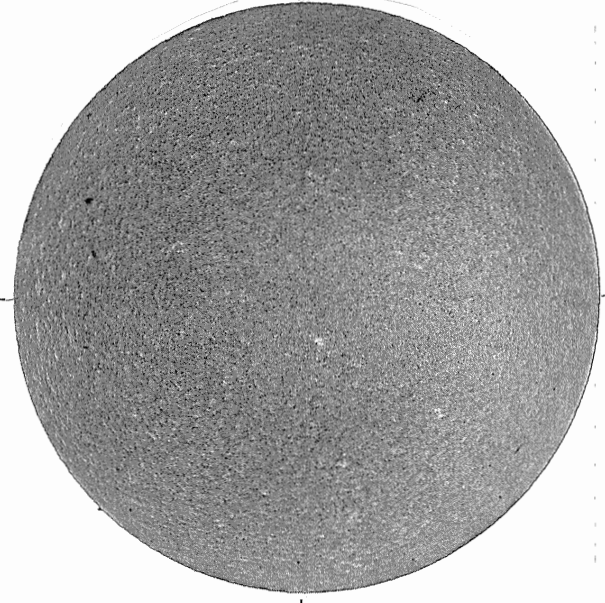


2323 UT



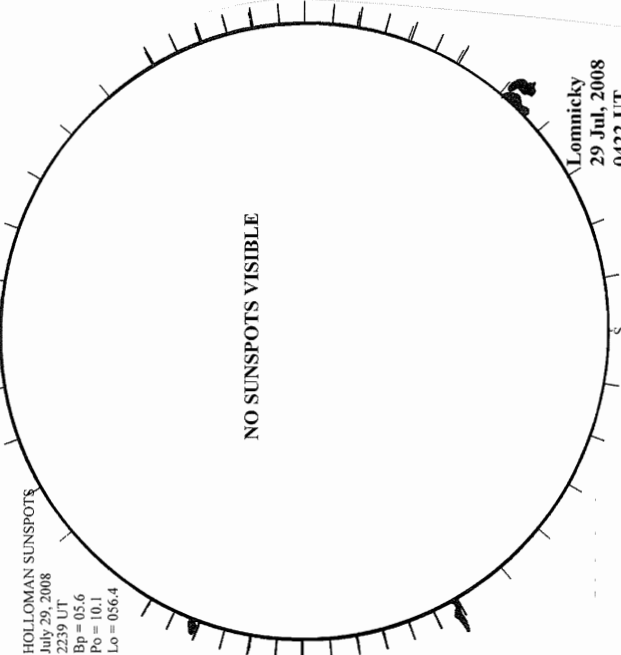
15.75 -
16.66 UT

--- BIG BEAR H-ALPHA



1529 UT

HOLLOWAY SUNSPOTS



2239 UT
0422 UT LOMN PROM

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

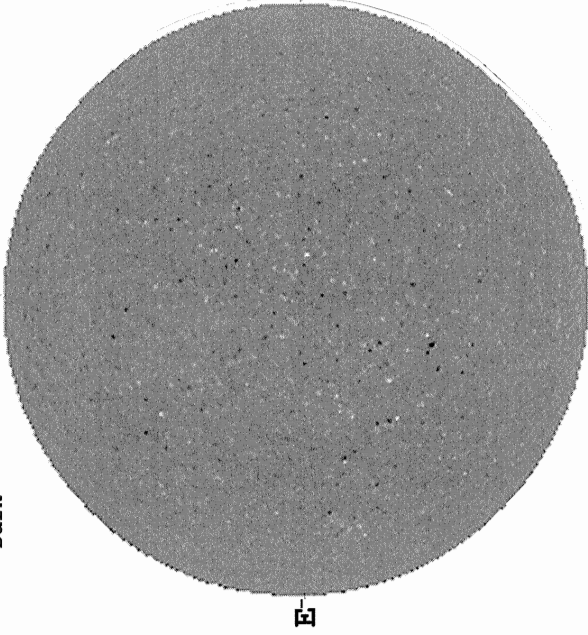
NO DATA

W

Lomnický
29 Jul, 2008
0422 UT

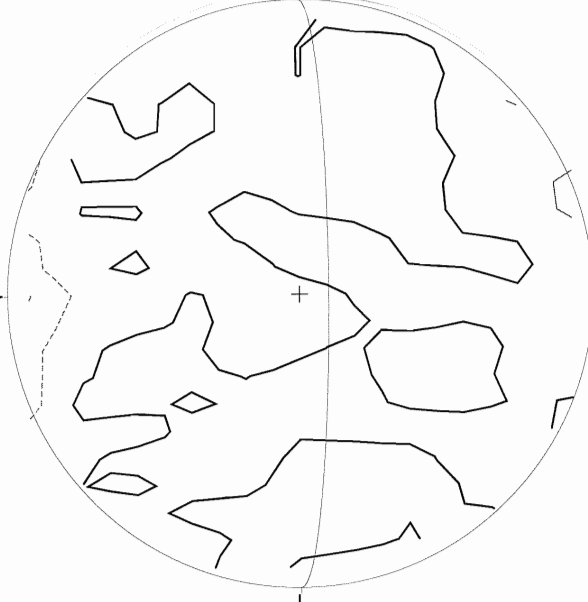
July 30, 2008 (P= 10.15, Bo= 5.66, Lo= 55.47)

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



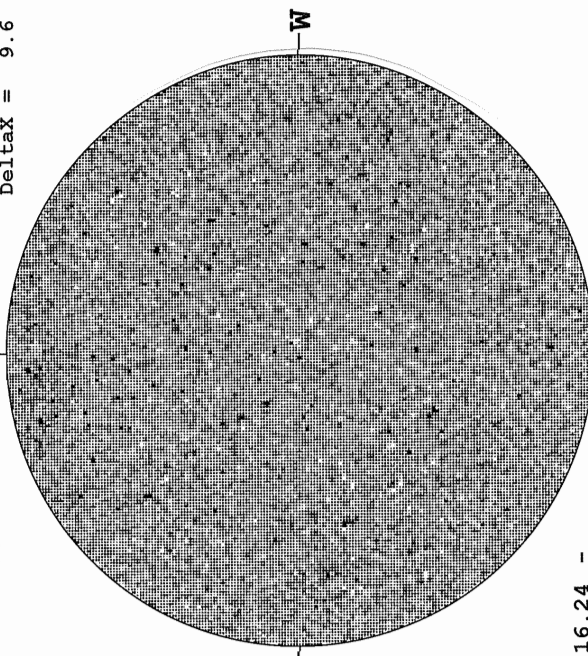
2058 UT

STANFORD MAGNETOGRAM
Solid = +
Dashed = -



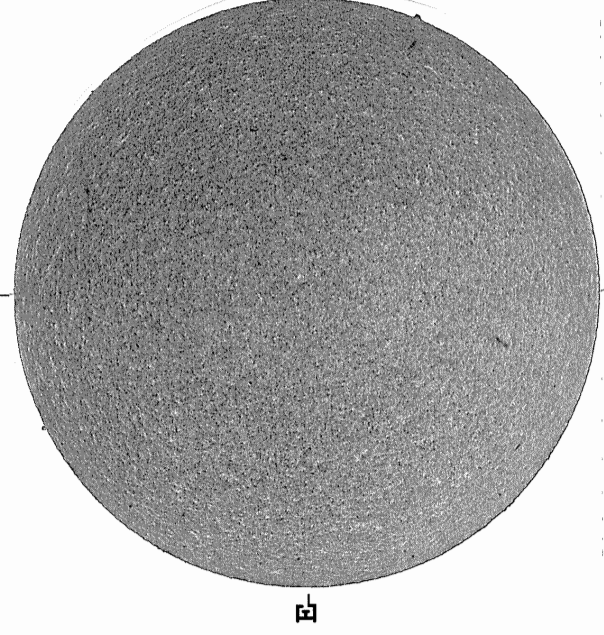
2022 UT

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



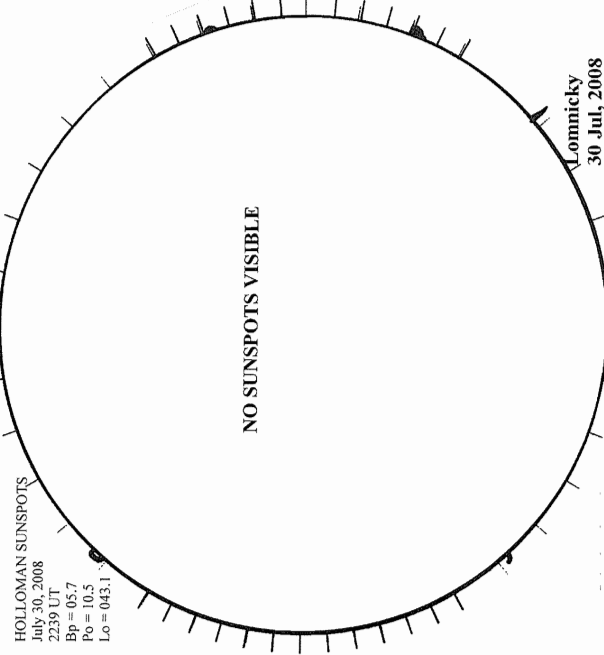
16.24 -
17.16 UT

--- BIG BEAR H-ALPHA



1821 UT

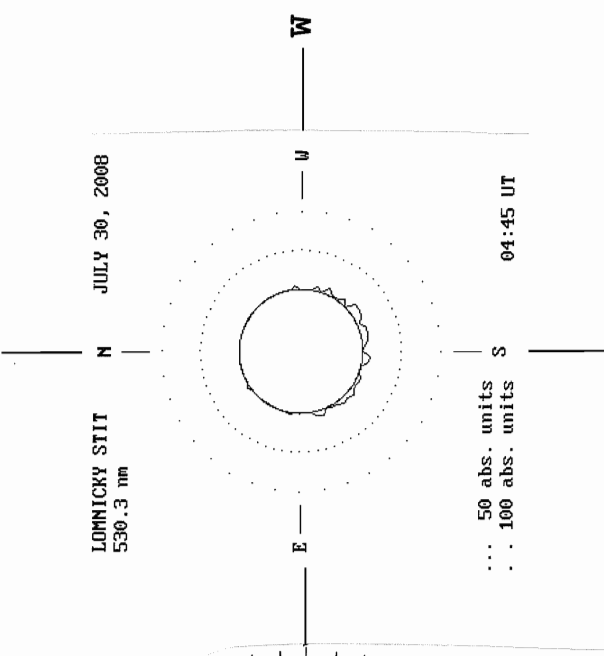
HOT SPOTS



HOLLOMAN SUNSPOTS
July 30, 2008
2239 UT
Bp = 05.7
Po = 10.5
Lo = 043.1

2239 UT
0417 UT LOMN PROM

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



LOMNICKY STIT
530.3 nm

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

04:45 UT

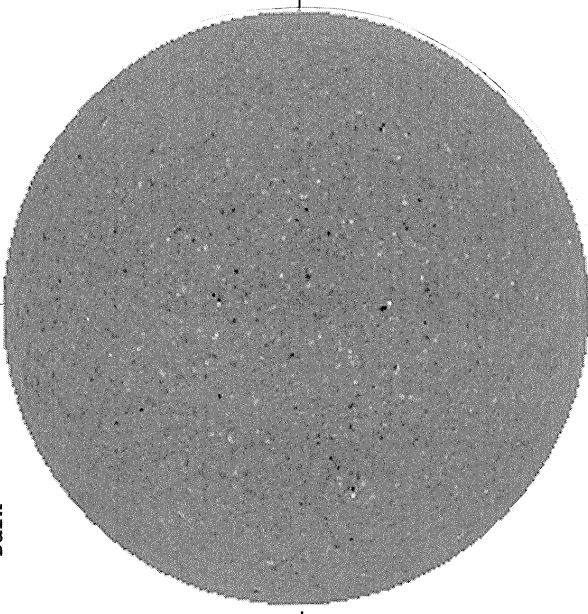
Jul 70
08

July 31, 2008 (P= 10.55, Bo= 5.73, Lo= 42.24)

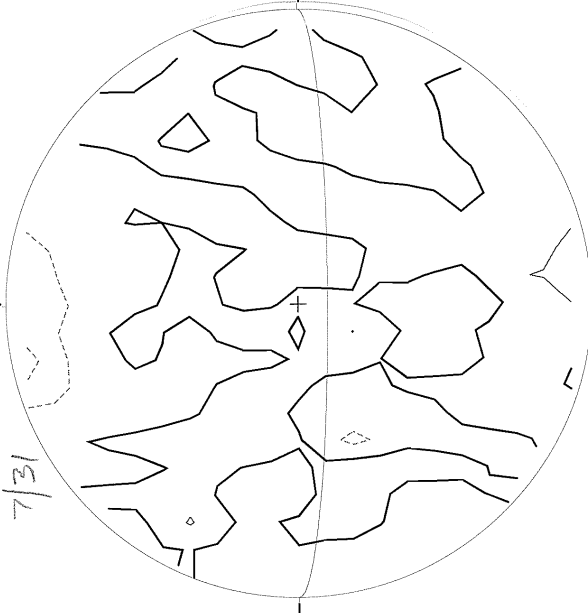
KITT PEAK MAGNETOGRAM -- SOLIS
Bright = +
Dark = -

STANFORD MAGNETOGRAM
Solid = +
Dashed = -

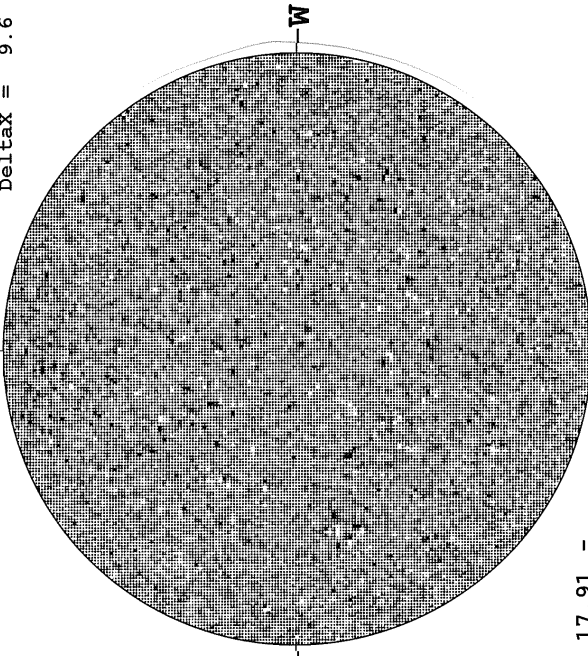
MT. WILSON MAGNETOGRAM
White = +7.5G
Black = -7.5G
DeltaY = 13.1
DeltaX = 9.6



2037 UT

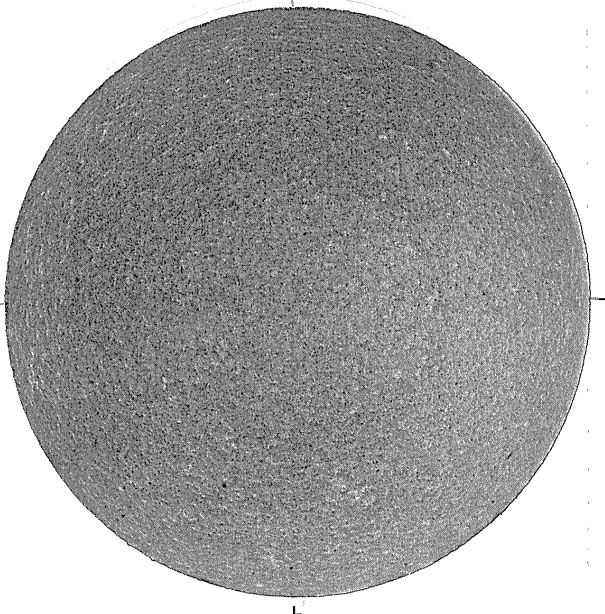


2325 UT



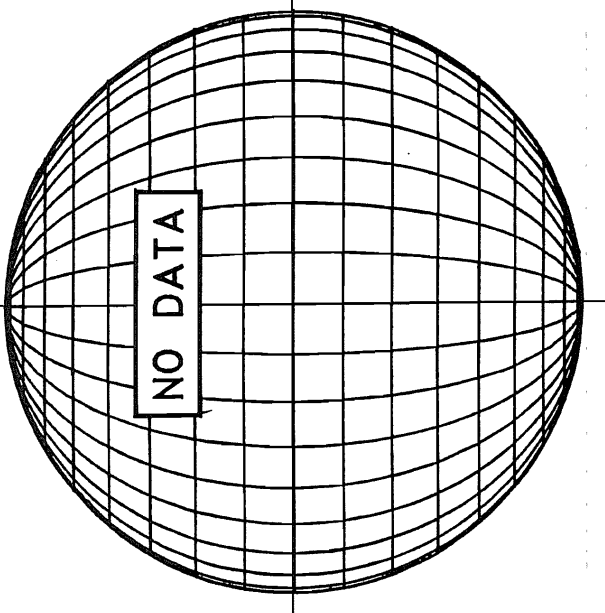
17.91 -
18.83 UT

BIG BEAR H-ALPHA



1527 UT

HOLLOMAN SUNSPOTS

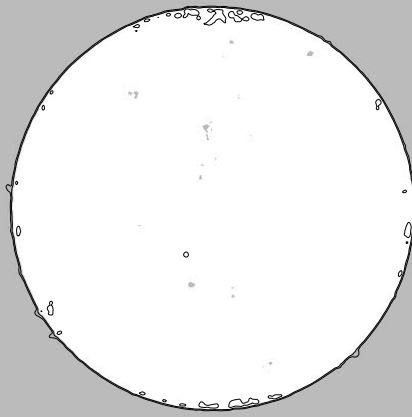


SACRAMENTO PEAK CORONA (1.15 Radii) -----

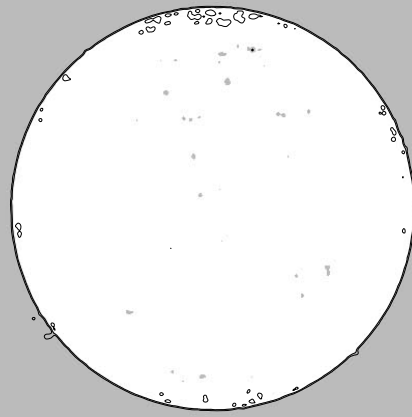
NO DATA

W

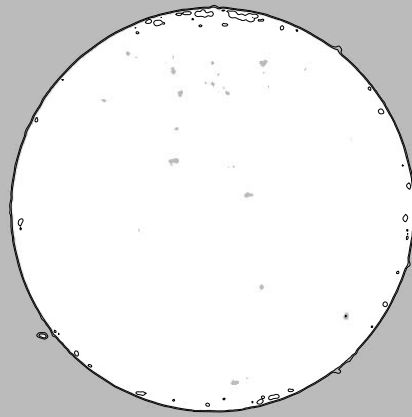
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 July



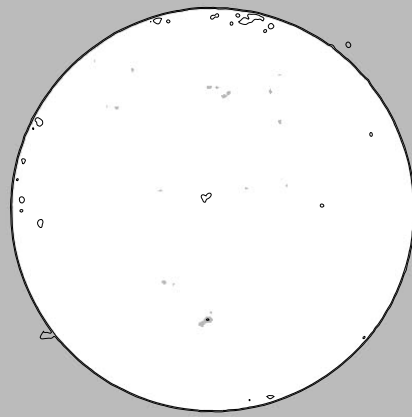
01 02:44 UT



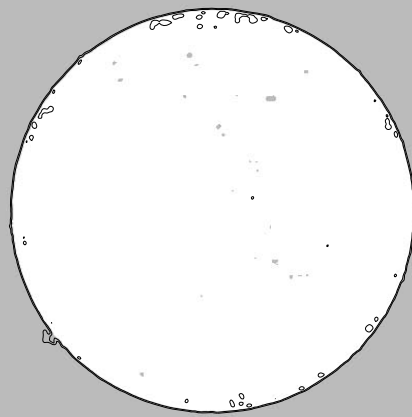
02 02:44 UT



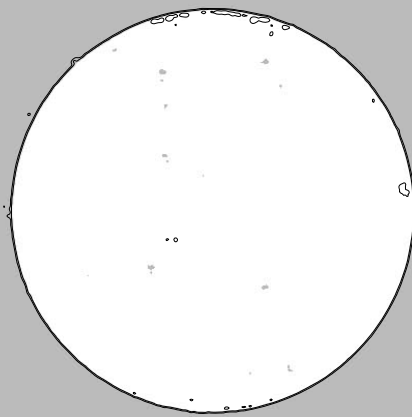
03 02:44 UT



04 02:44 UT



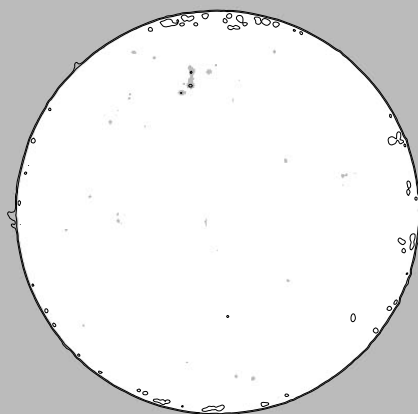
05 02:44 UT



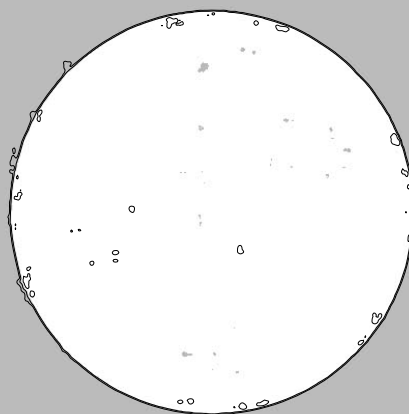
06 02:44 UT

Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

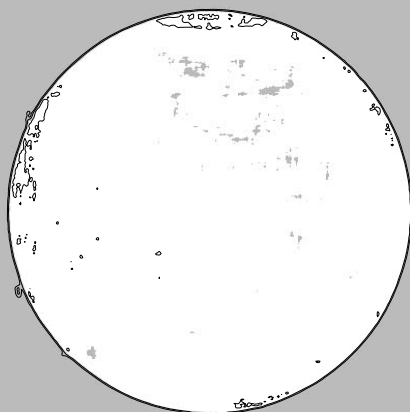
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 July



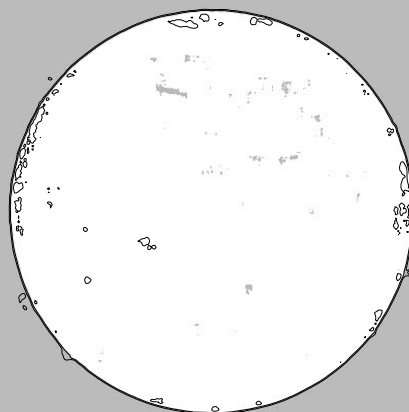
07 02:44 UT



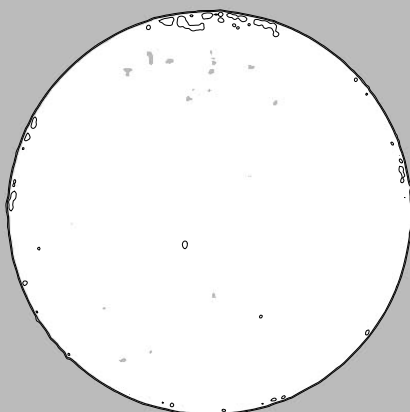
08 02:44 UT



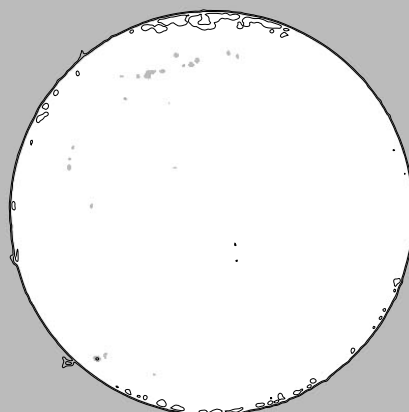
09 02:44 UT



10 02:44 UT



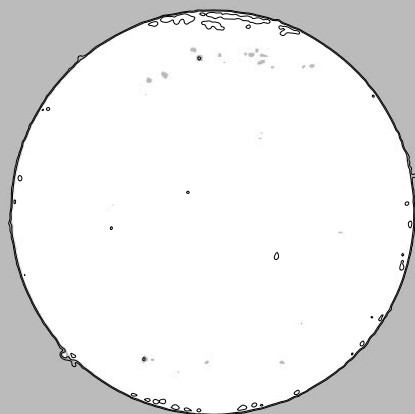
11 02:44 UT



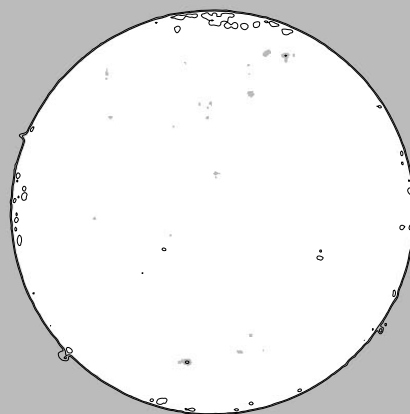
12 02:44 UT

Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

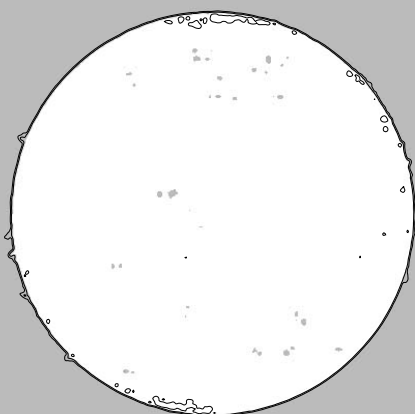
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 July



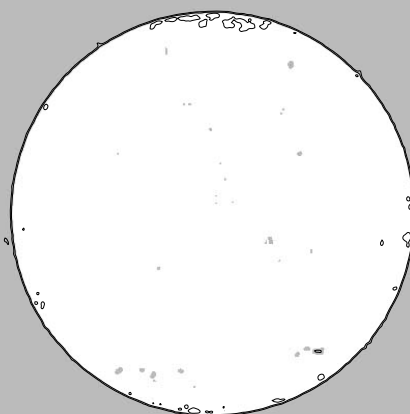
13 02:44 UT



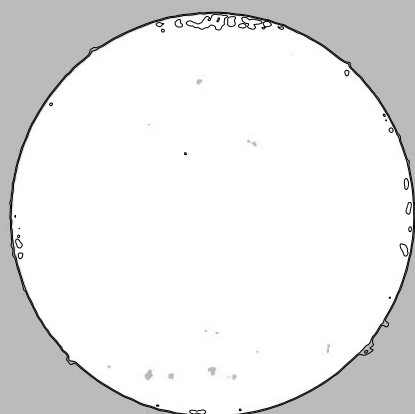
14 02:44 UT



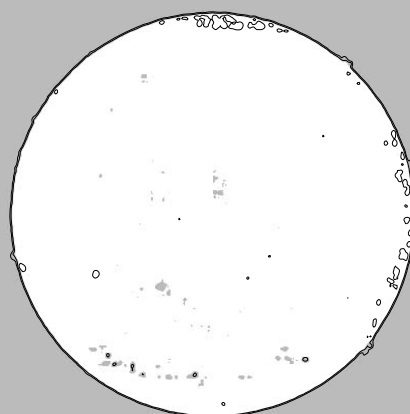
15 02:44 UT



16 02:44 UT



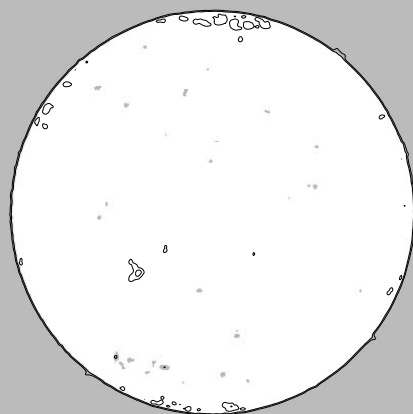
17 02:44 UT



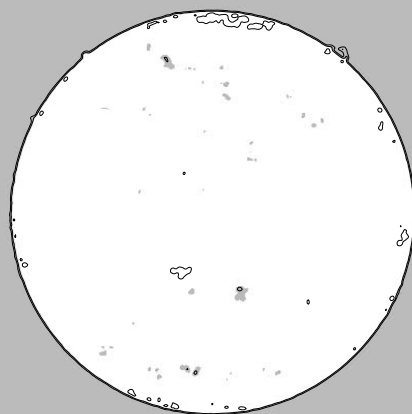
18 02:44 UT

Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

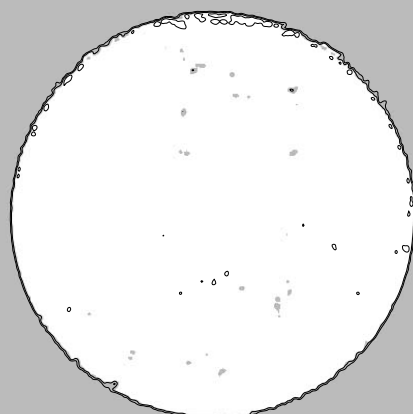
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 July



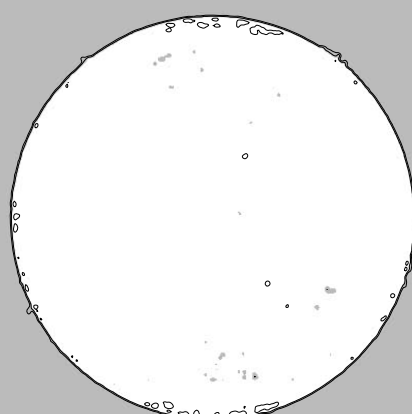
19 02:44 UT



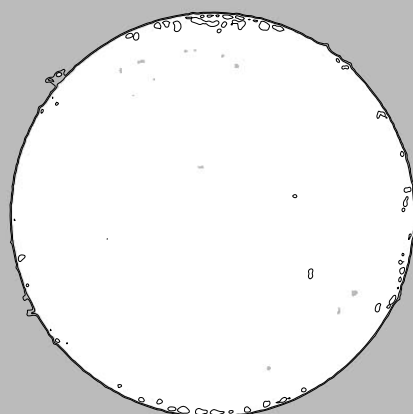
20 02:44 UT



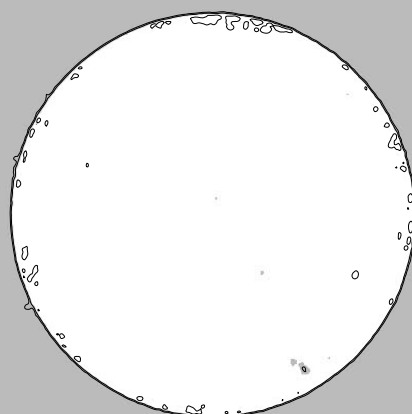
21 02:44 UT



22 02:44 UT



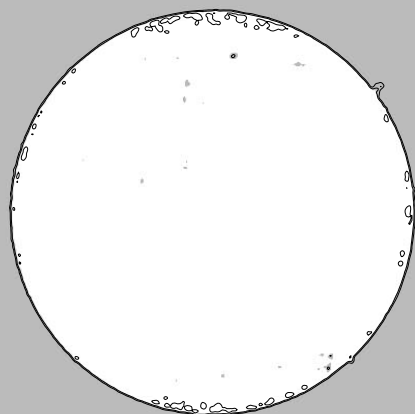
23 02:44 UT



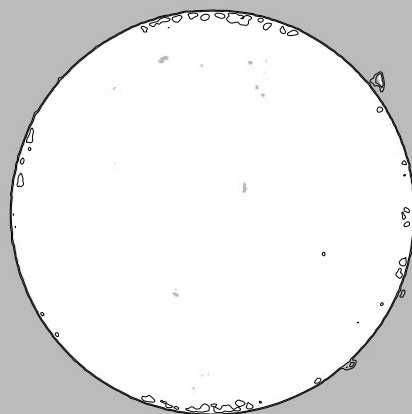
24 02:45 UT

Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

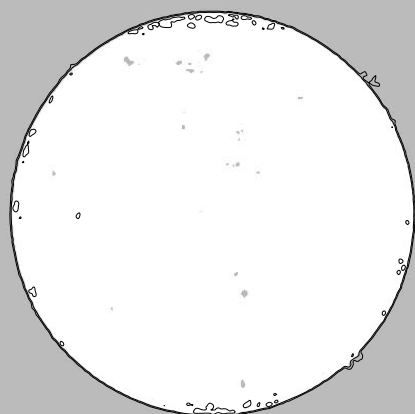
Nobeyama Radio Heliograph 17 GHz (Tb) 2008 July



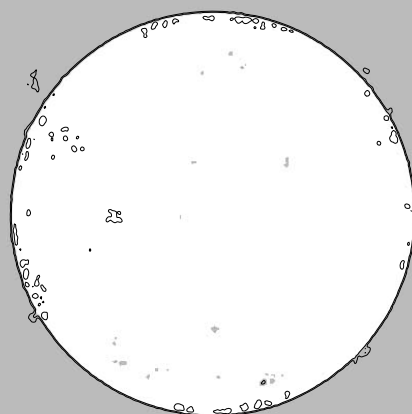
25 02:44 UT



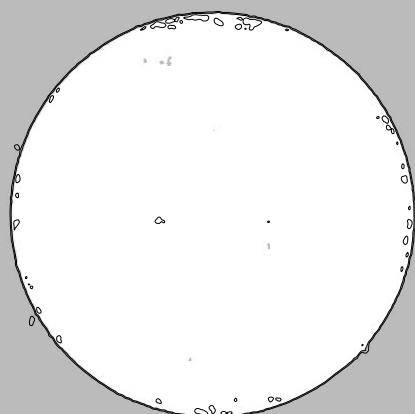
26 02:44 UT



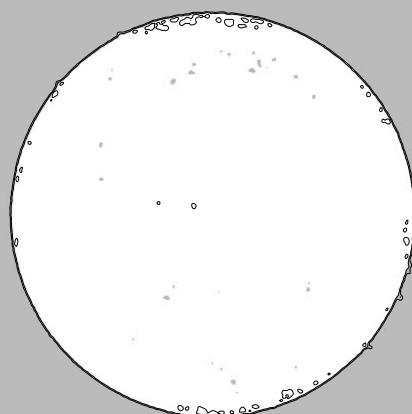
27 02:44 UT



28 02:44 UT



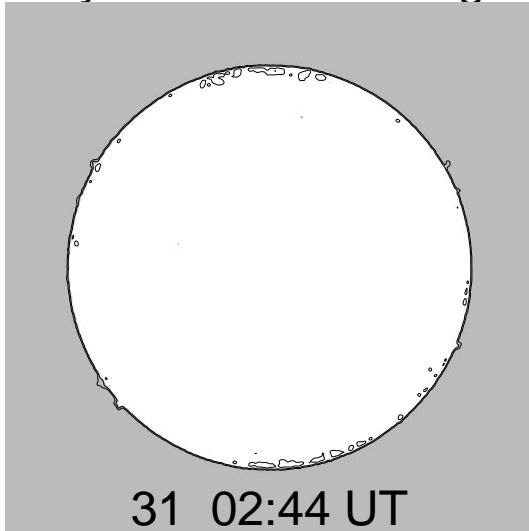
29 02:44 UT



30 02:44 UT

Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

Nobeyama Radio Heliograph 17 GHz (Tb) 2008 July



Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

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

Jul 08

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation			CMP Mo Day	Max H	Mag Class	Spot Class	Corrected		Spot Count	Long. Extent (Deg)	Qual	
			Mo	Day	Time (UT)					Lat	CMD				Area (10-6 Hemi)
11000		VORO	07	18	0515	S13	E34	07	20.8		AXX	3	1		2
11000		LEAR	07	18	0731	S14	E33	07	20.8		A	10	1	1	2
11000		KAND	07	18	0750	S13	E33	07	20.8		BXO		3	3	5
11000		TACH	07	18	0849	S12	E30	07	20.6		AXX	6	1	1	4
11000		SVTO	07	18	0914	S12	E32	07	20.8		A	10	1	1	3
11000		LEAR	07	19	0150	S13	E22	07	20.7		B	20	2	2	2
11000		TACH	07	19	0637	S11	E20	07	20.8		BXO	4	2	2	5
11000		SVTO	07	19	0720	S12	E18	07	20.7		A	20	2	2	3
11000		KAND	07	19	0725	S13	E18	07	20.7		AX		1	1	5
11000		LEAR	07	20	0158	S12	E07	07	20.6		A	10	1	1	2
11000		PURP	07	20	0210	S12	E09	07	20.8		BXO	4	2	2	3

Stations reporting:

HOLL = Holloman
 KAND = Kandilli

LEAR = Learmonth
 PALE = Palehua

PURP = Purple Mountain
 SVTO = San Vito

TACH = Tashkent
 VORO = Voroshilov

78
Jul 08

SUDDEN IONOSPHERIC DISTURBANCES
JULY 2008

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Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
09	1420	1424	1448	1	1						No flare		
16	1633	1638	1704	1	1						No flare		

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OBSERVATORIES REPORTING FOR JULY 2008

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Upice, Czech Republic SEA

Observations are not necessarily continuous.
* = No Flare Patrol

82
Jul 08

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

OBSERVATION			EVENT				FREQUENCY			Remarks	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)		Upper (MHz)
30	1936	2400	HIRA								
	2050	2400	CULG								
31	0000	0720	CULG								
	0000	0949	HIRA								
	0500	1731	ONDR								
	0505	1800	BLEN								
	1937	2400	HIRA								
	2050	2400	CULG								

Event Remarks:

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

Frequency qualifiers:

X = Extends beyond instrument range U = Uncertain frequency

Remarks:

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

Stations Reporting:

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

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

SOLAR RADIO NOISE STORM AT 150.9 MHZ

FROM NANÇAY RADIOHELIOGRAPH

JULY 2008

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

SOLAR RADIO NOISE STORM AT 327 MHZ

FROM NANÇAY RADIOHELIOGRAPH

JULY 2008

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

OTHERS DAYS: NO DETECTABLE NOISE STORM

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

** Following a large burst

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

**** no flux measurements available

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

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

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

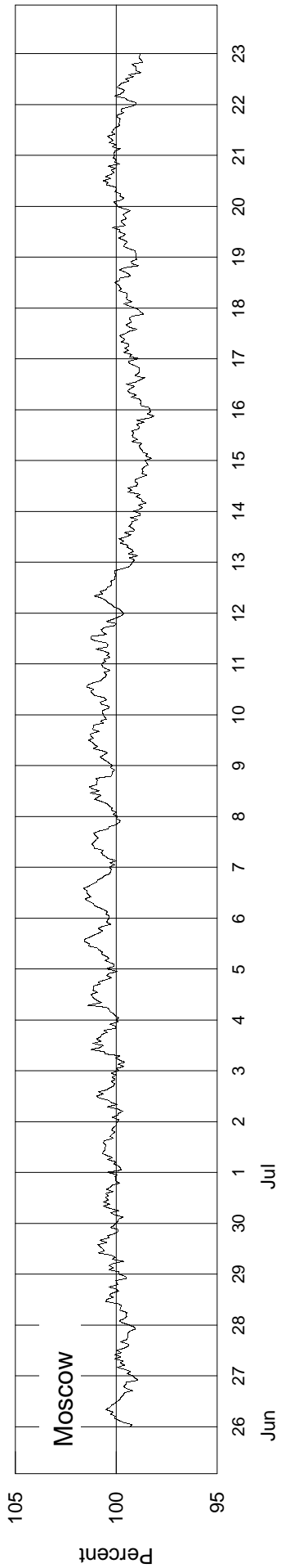
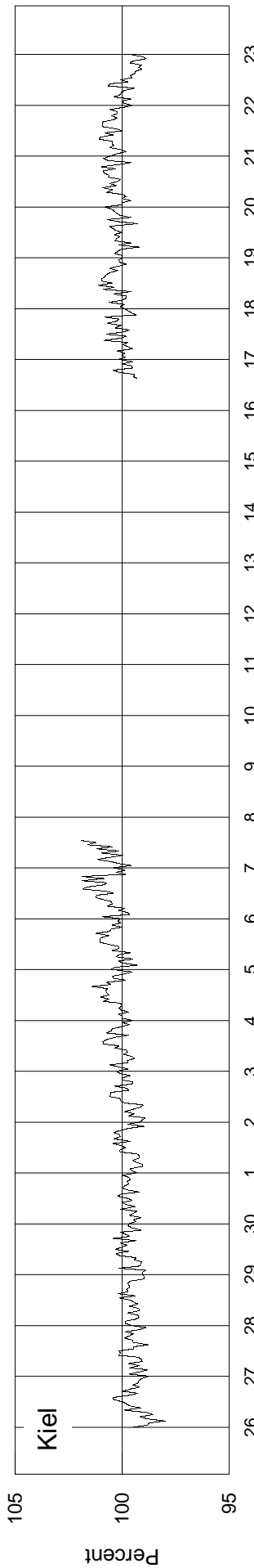
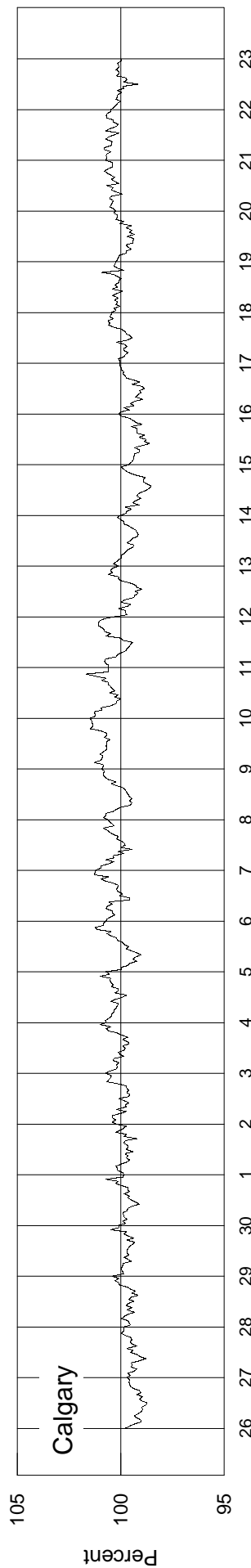
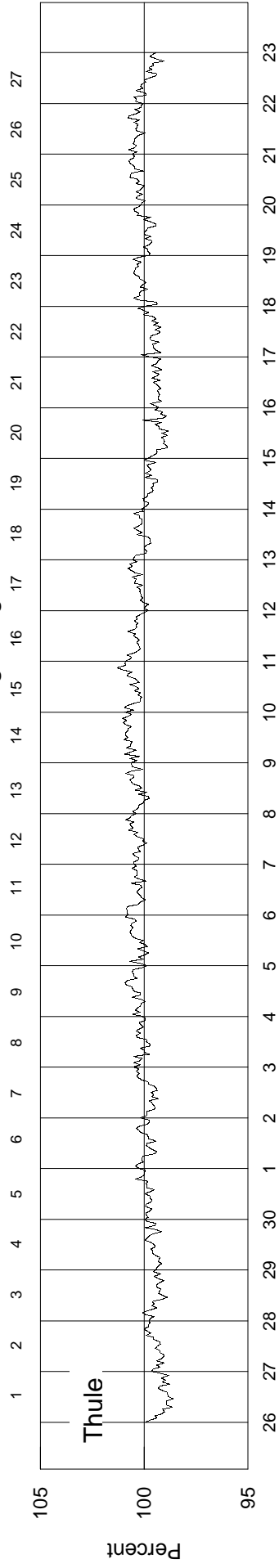
COSMIC RAY INDICES
(Neutron Monitor)
JULY 2008

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	4566.0	3984.5		9538.7		2012.6	
2	4560.1	3993.5		9535.2		2008.8	
3	4574.5	3998.3		9545.8		1998.0	
4	4587.2	4006.7		9574.0		1988.0	
5	4583.4	3993.0		9585.5		1998.5	
6	4586.1	4008.8		9600.4		1999.2	
7	4587.3	4006.0		9566.9		1995.3	
8	4584.1	3999.7	data	9569.9	data	1988.6	data
9	4602.0	4029.5	not	9594.0	not	2004.9	not
10	4595.2	4020.3	available	9587.1	available	2004.6	available
11	4587.9	4007.7		9562.3		2006.2	
12	4580.9	3983.3		9529.6		2007.6	
13	4574.2	3980.7		9445.3		1998.0	
14	4557.5	3963.2		9404.2		2001.0	
15	4533.7	3961.5		9395.0		2007.0	
16	4540.0	3972.3		9417.1		2000.3	
17	4550.3	3992.7		9449.1		2001.2	
18	4576.4	4001.0		9466.9		2004.2	
19	4564.5	3984.0		9469.7		2016.4	
20	4584.8	4008.3		9523.5		2012.1	
21	4586.8	4013.0		9511.8		2007.9	
22	4562.4	3993.7		9447.5		2014.7	
23	4541.8	3976.5		9398.0		2015.7	
24	4556.6	3967.7		9430.5		2003.7	
25	4558.8	3986.2		9467.5		2007.7	
26	4559.6	3998.8		9489.7		2003.2	
27	4557.8	3983.8		9517.1		2011.4	
28	4559.2	3975.8		9526.5		1999.8	
29	4576.9	4010.3		9574.3		2007.1	
30	4573.6	4032.0		9572.8		2000.4	
31	4588.5	4023.0		9561.5		2002.8	
Mean	4570.0	3995.3		9511.5		2004.1	

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.

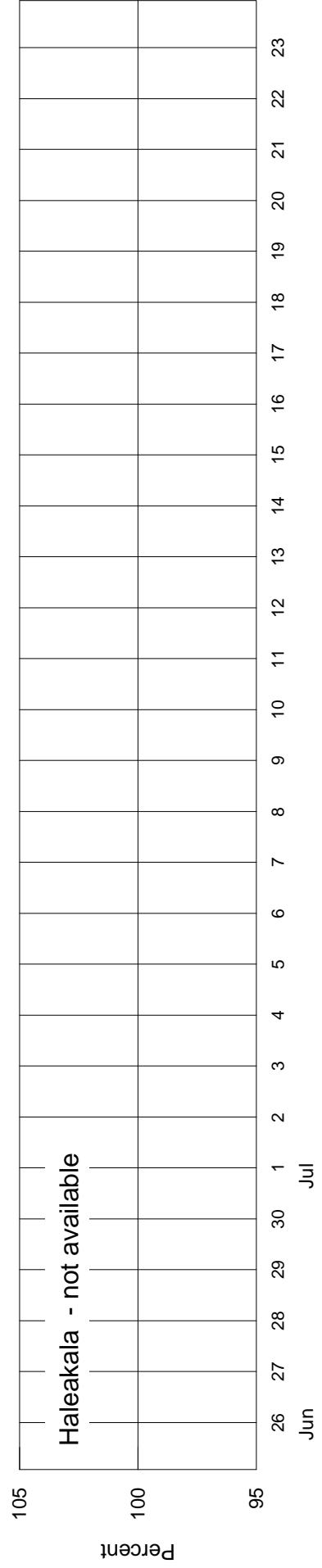
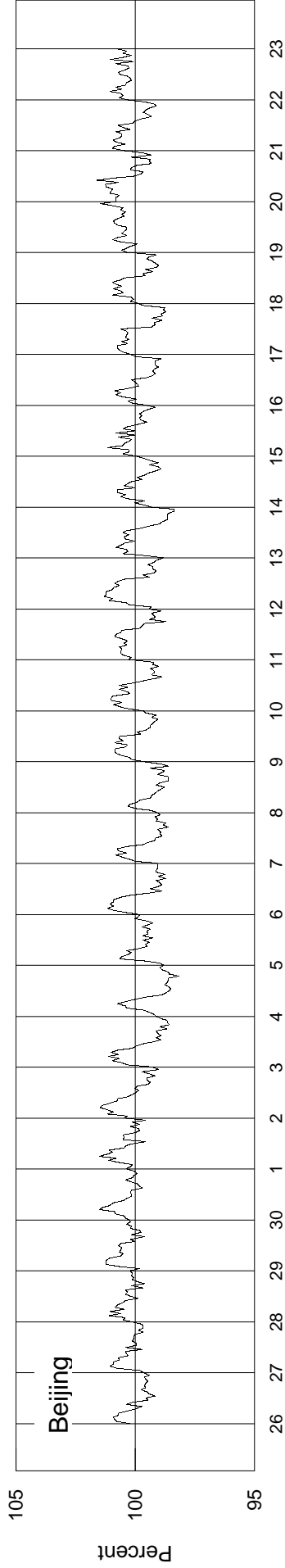
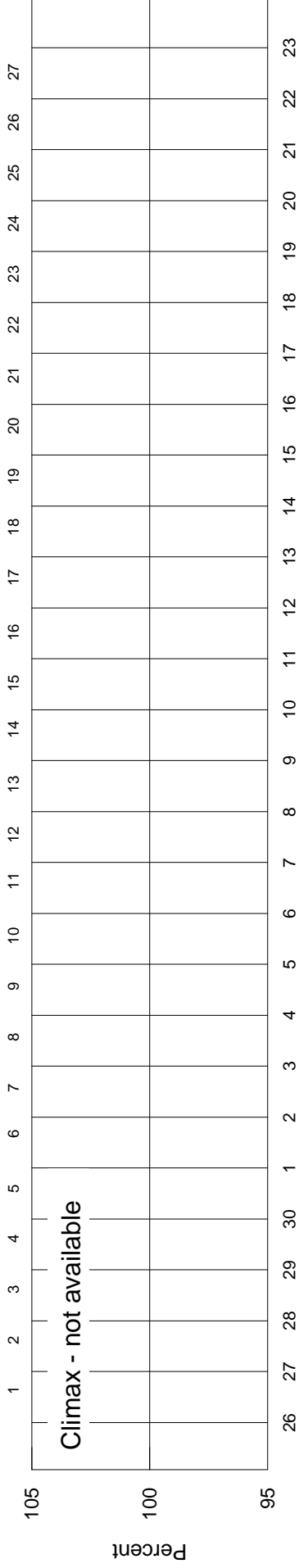
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2387 - Beginning 26 Jun 2008



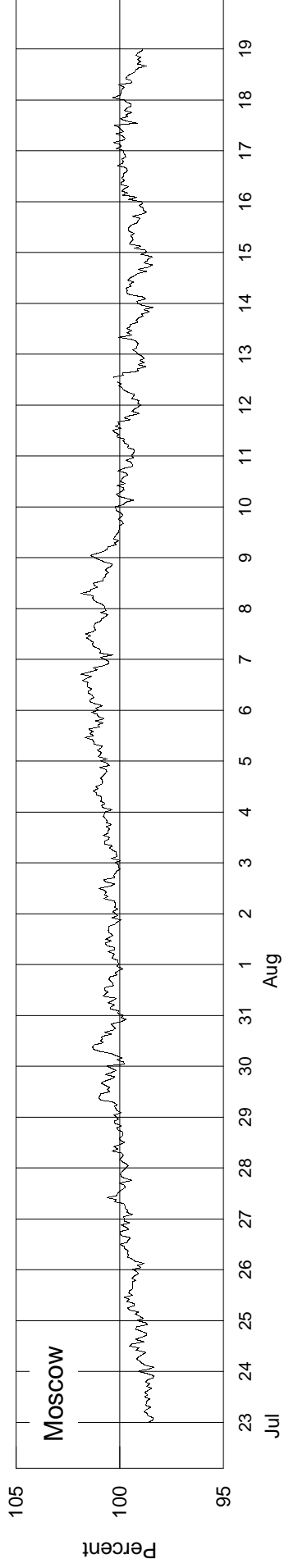
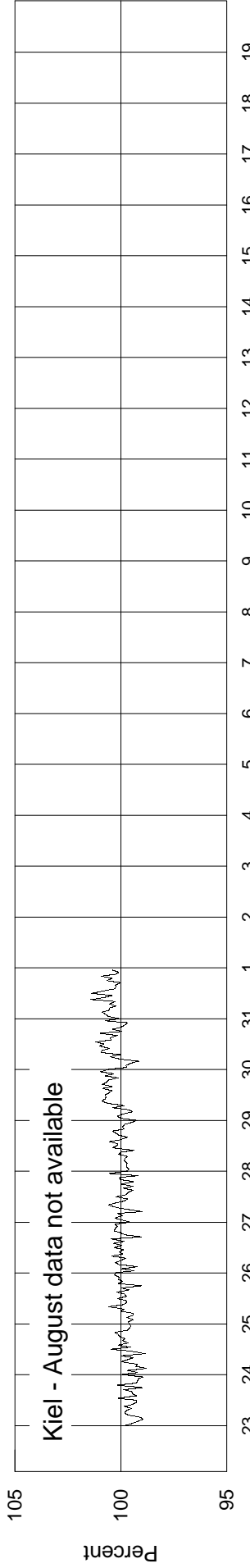
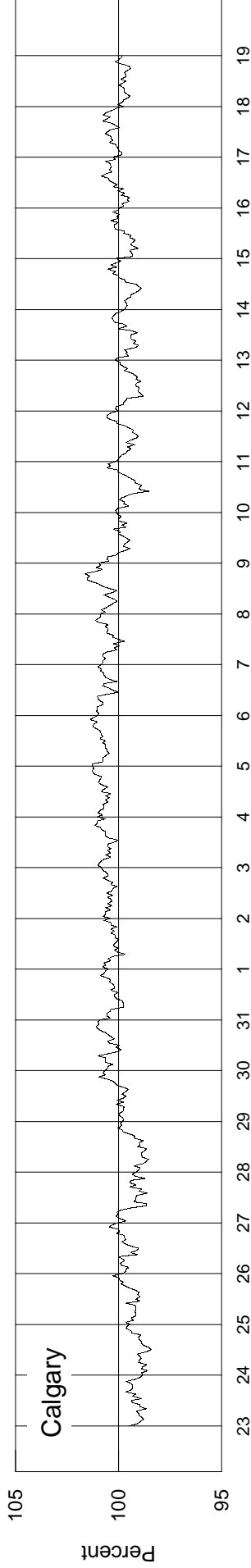
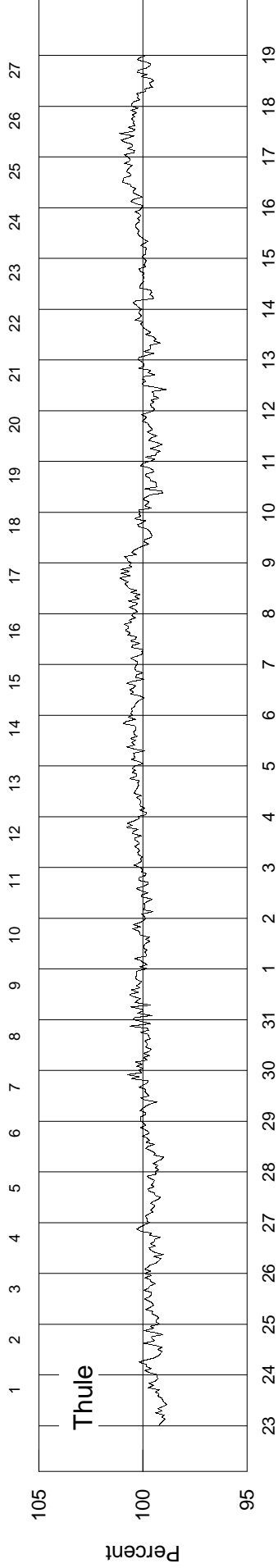
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2387 - Beginning 26 Jun 2008



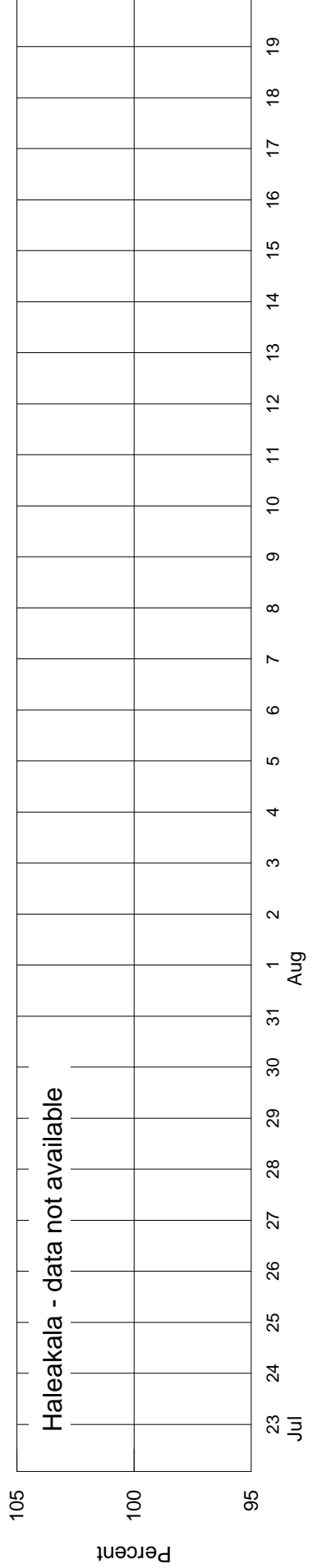
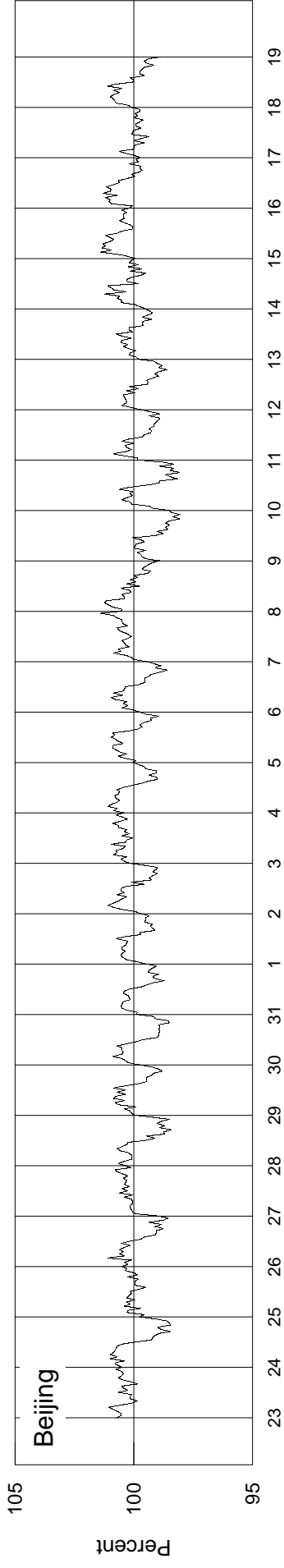
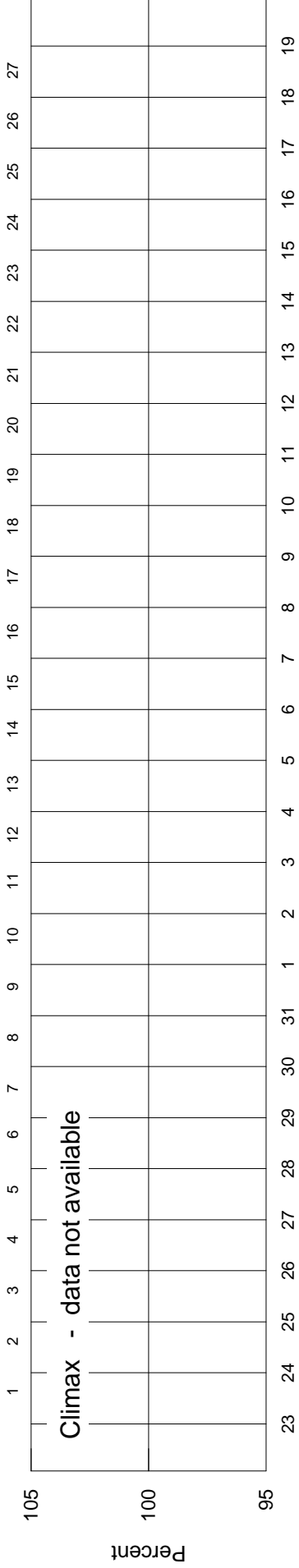
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2388 - Beginning 23 Jul 2008

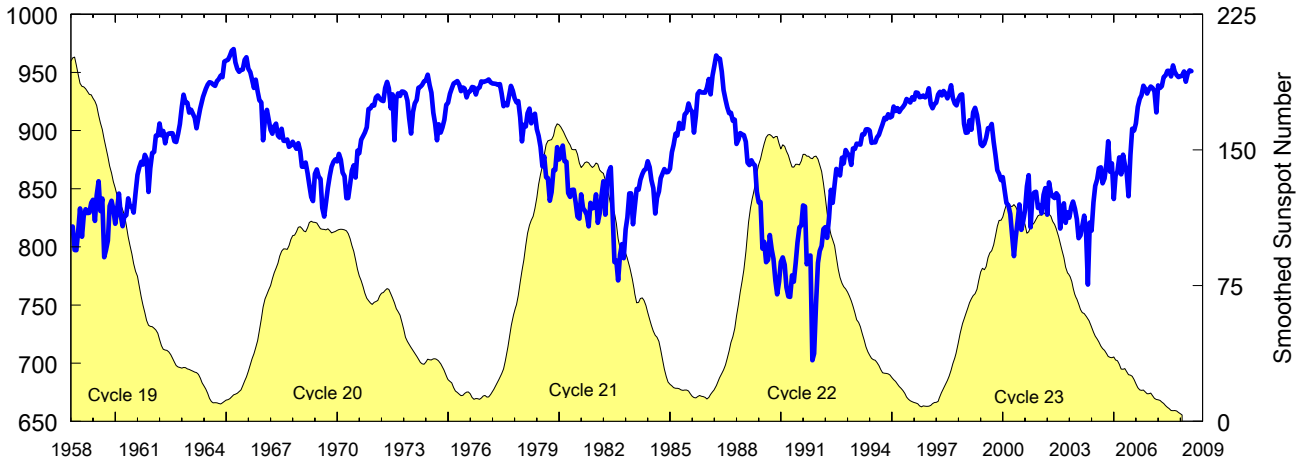


COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2388 - Beginning 23 Jul 2008



Moscow Neutron Monitor Pressure-Corrected Values Jan 1958 - Jul 2008



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1958	8171*	8175*	7973*	7971*	8145*	8330*	8087*	8266*	8324*	8291*	8294*	8378*	8200*
1959	8405	8223	8443	8565	8309	8416	7911	7972	8054	8351	8397	8325	8281
1960	8199	8313	8459	8264*	8178*	8272*	8272*	8417	8348	8348	8295	8464	8319*
1961	8619	8682	8731*	8708*	8791*	8759*	8472	8676	8808	8816	8957	8956	8748*
1962	9061	8959	8996	8891	8964*	8974	8977	8977	8908	8902	8973	9056	8940*
1963	9201	9308	9243	9239	9154	9180	9147	9109	9020	9110	9194	9259	9180
1964	9321	9353	9395	9416	9410	9396	9384	9425	9442	9473	9458	9594	9422
1965	9602	9608	9642	9685	9701	9586	9530	9505	9520	9525	9608	9630	9595
1966	9531	9502	9439	9367	9438	9336	9261	9242*	8916	9105*	9178	9094	9284*
1967	9006	8973	9038	9059	8956	8940	9015	8913	8911	8924	8860	8873	8956
1968	8904	8875*	8844*	8892*	8825*	8690*	8689	8725	8635*	8533*	8428	8394	8703*
1969	8628	8666	8606	8584	8334	8261	8378	8510	8612	8689	8731	8751	8562
1970	8735	8799	8749	8639	8608	8418	8420	8540	8656	8702	8596	8827	8641
1971	8805	8921	8952	8982	9028	9185	9190	9219	9215	9285	9302	9276	9113
1972	9260	9254	9367	9419	9364	9192	9311	8916	9275	9319	9298	9336	9275
1973	9333	9321	9258	9107	8975	9160	9233	9263	9368	9376	9392	9423	9267
1974	9431	9481	9390	9327	9153	9062	8916	9054	8983	9027	9092	9222	9178
1975	9238	9317	9361	9405	9415	9425	9395	9339	9370	9361	9285*	9330	9353*
1976	9339	9375	9370	9310	9363	9371	9423	9418	9423	9428	9440	9415	9380
1977	9405	9404	9401	9392	9399	9318	9209	9236	9216	9302	9384*	9341	9334*
1978	9279	9243	9254	9113	8907	9050	9035	9149	9189	9062	9118	9145	9216
1979	9012	8955	8860	8693	8778	8599	8592	8396	8470	8662	8661	8857	8740
1980	8752	8776	8871	8737	8732	8463	8430	8490	8491	8379	8259	8242	8552
1981	8451	8330	8311	8277	8176	8379	8332	8338	8452	8206	8289	8439	8332
1982	8565	8277	8565	8649	8686	8279	7870	7882	7712	7931	8023	7902	8195
1983	8150	8253	8460	8460	8194	8343	8498	8492	8575	8625	8658	8670	8448
1984	8736	8686	8574	8505	8286	8421	8476	8590	8632	8669	8641	8644	8575
1985	8671	8813	8878	8973	8958	9066	9018	9017	9140	9155	9233	9183	9009
1986	9162	8982	9125	9316	9339	9328	9326	9327	9368	9444	9312	9472	9292
1987	9553	9646	9619	9618	9505	9349	9268	9202	9149	9153	9085	9094	9353
1988	8885	8922	8979	8968	8961	8904	8724	8704	8745	8716	8699	8474	8807
1989	8381	8385	7985	8043	7868	7888	8102	7977	7897	7709	7592	7701	7961
1990	7871	7910	7846	7652	7574	7569	7755	7701	7864	8037	8168	8185	7844
1991	8356	8347	7850	7915	7926	7025	7082	7510	7863	7964	8008	8153	7833
1992	8169	8078	8247	8490	8378	8535	8670	8649	8614	8767	8717	8833	8512
1993	8804	8784	8705	8846	8842	8888	8884	8880	8968	8968	9010	9011	8882
1994	9001	8895	8899	8898	8942	8963	9013	9055	9110	9098	9141	9112	9011
1995	9122	9206	9169	9193	9159	9186	9203	9228	9272	9257	9241	9286	9210
1996	9266	9328	9324	9287	9291	9302	9295	9302	9364	9226	9192	9227	9284
1997	9240	9311	9334	9302	9340	9318	9277	9322	9390	9281	9233	9217	9297
1998	9273	9306	9312	9057	8981	8983	9088	9007	9157	9196	9133	9036	9127
1999	8883	8867	8887	8937	9021	9018	9058	8904	8794	8660	8627	8574	8853
2000	8600	8481	8377	8358	8283	8107	7921	8081	8224	8365	8146	8215	8263
2001	8314	8521	8617	8168	8428	8468	8473	8334	8359	8289	8447	8505	8410
2002	8277	8555	8462	8434	8420	8462	8438	8157	8289	8374	8207	8297	8364
2003	8251	8344	8398	8329	8238	8075	8099	8178	8268	8150	7675	8209	8185
2004	8139	8385	8525	8580	8676	8684	8546	8589	8715	8909	8646	8718	8593
2005	8411	8614	8649	8770	8624	8792	8707	8632	8436	8793	9015	9001	8704
2006	9061	9204	9273	9303	9385	9361	9318	9353	9379	9367	9339	9156	9292
2007	9389	9367	9381	9461	9473	9513	9514	9465	9561	9506	9477	9460	9464
2008	9467	9472	9508	9420	9490	9518	9512						9484

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

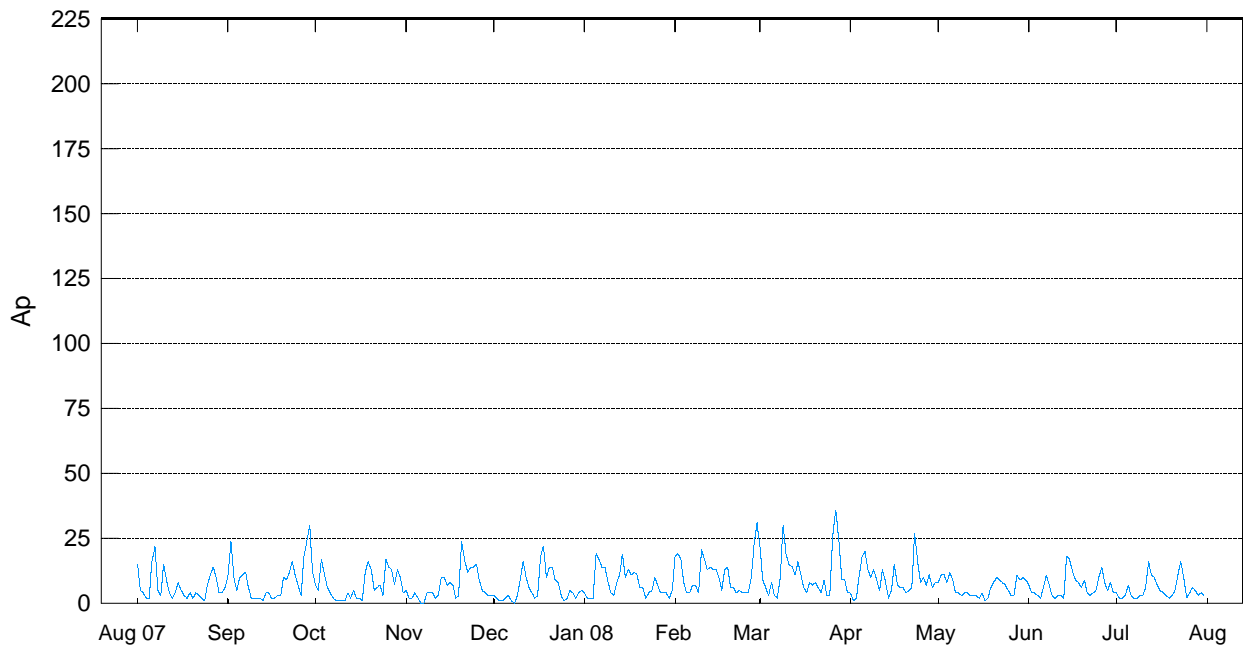
NOTE: * Indicates data have been restored using the corresponding data of other cosmic ray stations.

Geomagnetic Activity Indices JULY 2008

Jul 08

Day	Kp Three-Hourly Indices								Sum	Ap	Cp	Km Three-Hourly Indices								aa Provisional						
	1	2	3	4	5	6	7	8				1	2	3	4	5	6	7	8	Am	N	S	M			
1		2	1+	2-	1-	2	1-	0	0+	9-	4	0.1	2o	2-	2-	1+	2o	0+	0o	1-	9	13	11	14	10	CC
2	Q5	1+	1-	0+	1-	0+	0+	0+	0	4	2	0.0	1+	1-	0+	1-	0+	0o	0+	0o	3	8	2	6	4	CC
3	Q7	0+	0+	0	0+	1	1+	0+	1-	4+	2	0.0	0o	0o	0o	0+	1o	1o	0+	1-	3	7	3	4	7	CC
4		0+	1-	0+	0+	1+	2-	1-	1-	6	3	0.1	0o	1-	0o	0+	1o	1+	1-	0+	4	9	5	4	11	CC
5		1+	1+	1-	2	3-	2+	2	2+	15-	7	0.4	1+	1o	0+	2+	2+	2o	2o	2o	12	22	12	12	23	K
6		1+	1	1+	0+	1	0+	1-	0	6	3	0.1	1+	1+	2-	0+	1-	0+	1o	0o	6	6	5	5	5	CK
7	Q3	1-	1-	1-	0+	0+	0	0	1	4-	2	0.0	1-	1o	0+	0+	0o	0o	0o	1o	3	5	2	4	3	CC
8	Q2	0+	0	0+	0+	0+	0+	0+	1	3	2	0.0	0o	0o	0o	0+	0+	0o	0+	1o	2	4	2	2	4	CC
9	Q4	0+	1-	0+	1-	0+	1-	1-	1-	4+	3	0.0	0o	1-	0+	1o	0+	0+	1-	1-	3	6	4	5	5	CC
10		0+	0	0	1	1+	1	1	1+	6	3	0.1	0+	0o	0+	1+	1+	1-	1-	2o	6	9	6	4	11	CC
11		1	1-	1+	2-	2+	1	1+	3	12+	6	0.3	1+	0+	1+	2-	2+	1o	1+	2+	11	17	12	9	20	
12	D2*	3	4+	4	3+	3+	2	2+	2-	24	16	0.9	3-	4o	4+	4-	3o	2o	2+	2-	33	38	30	42	27	
13	D3*	2-	2	3-	3-	2+	3	3	3-	20	11	0.6	2o	2o	3o	3+	2+	3o	3o	3-	25	24	28	24	28	
14	D5*	2	2	3-	3-	2+	3	2-	2+	19-	10	0.5	2o	2+	3o	3o	2+	3-	1+	3-	21	23	17	19	21	
15		3-	2-	2-	2-	1+	1+	2-	2	14	7	0.3	3-	2o	2-	2o	1o	1+	1+	2o	13	19	12	18	13	
16		1+	2-	1	1	1	1+	1-	2-	10-	5	0.2	1+	2+	2-	1o	1-	1o	1+	2o	10	10	7	8	9	CC
17		2+	1	1-	1-	1-	1-	1	0	7	4	0.1	3-	1+	1o	1o	0+	1o	1o	0o	8	10	7	10	8	CC
18		0+	1	1+	1-	1+	1-	0+	0+	6	3	0.1	1-	1+	2-	1-	1+	0+	0+	0+	6	8	6	7	7	CC
19	Q1	0	0	0	0+	1-	0+	0+	1-	2+	2	0.0	0o	0o	0o	1-	0+	0o	0o	1-	2	6	3	4	5	CC
20	Q9	1+	0+	0	0+	0+	0+	1+	1-	5-	3	0.0	1+	1-	0+	0+	0+	0o	1o	1o	4	8	2	5	5	CC
21		1	1+	1+	1+	1+	1+	1+	2-	11-	5	0.2	1+	1o	2o	2+	1+	1+	1+	1+	10	12	11	10	12	CC
22	D4*	1-	1	1+	2	3+	3	3-	4-	18-	11	0.6	1-	1o	1+	2+	3-	2+	3-	4-	19	24	17	12	29	
23	D1*	3	4-	3	2	4	3	3	3	25-	16	0.9	3+	4-	3o	3-	4-	3+	3o	3+	35	30	29	25	34	
24		4-	3-	3-	2	2	1+	2-	2	18	10	0.5	4o	3+	3+	3o	3o	2+	2+	2+	31	18	18	24	12	
25	Q6	0+	1	0+	1+	0+	0	0	1-	4	2	0.0	0+	1+	0+	2-	0+	0o	0o	0+	4	6	5	6	4	CC
26		2-	1	1-	1	1	1	2-	1-	9-	4	0.1	1+	1-	1o	1o	0+	1o	1+	1-	6	11	6	8	9	CC
27		0	0	0+	2-	1	1	2	4-	10-	6	0.3	0o	0o	0+	2-	1-	1-	2-	3+	9	14	8	5	16	KK
28		2	2	2	1+	1	1	0+	0+	10	5	0.2	2-	3-	2+	2-	1-	1o	0+	0+	10	10	10	14	6	CK
29	Q10	0	0+	1-	1-	1-	1	1+	1	6-	3	0.1	0o	1-	0+	1-	1-	1-	1-	1o	4	8	5	4	9	CC
30		1	2	1-	1	0+	0+	1	1	7+	4	0.1	1o	2+	1-	1+	0+	0+	1+	1-	7	8	5	8	5	CC
31	Q8	0	0+	1-	1	1-	1	1-	1-	5	3	0.0	0+	0+	1-	1+	1-	0+	1-	1-	4	7	5	7	5	CC
Mean											5	0.22									10.4	13.0	9.6	11.2		
Day	Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								Prov								
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	As	Sa	Ri	Ra	Rs	IMF			
1	2o	2-	2-	1+	2+	1-	0o	1o	10	2o	1+	1+	1+	2-	0o	0o	0+	8	67.8	0	0	11				
2	1+	1-	1-	1+	1-	0+	0+	0o	5	2-	0+	0o	0o	0o	0o	0o	0o	2	68.2	0	0	12				
3	0+	0o	0o	1-	2-	1+	1-	1+	5	0o	0o	0o	0o	0o	0o	0o	0	67.7	0	0	11					
4	0+	1-	0o	1-	2-	2o	1+	1-	6	0o	0o	0o	0o	0+	1-	0+	0o	2	67.6	0	0	11				
5	2o	1+	1-	2+	3-	2+	2o	2o	15	1o	1o	0+	2+	2-	1+	2-	2+	10	67.3	0	0	11				
6	2-	1+	2-	1-	1o	1-	1+	0o	7	1-	1+	1+	0o	0+	0o	1-	0o	4	68.3	0	0	12				
7	1o	1o	1-	0+	0+	0o	0o	1o	4	0+	1o	0o	0o	0o	0o	0o	1o	2	67.7	0	0	11				
8	0o	0o	0+	1-	0+	0+	1-	1o	3	0o	0o	0o	0o	0o	0o	0o	1o	1	67.8	0	0	11				
9	0+	1o	1-	1o	1-	1-	1o	1o	5	0o	0+	0+	1-	0o	0o	0o	0o	1	68.3	0	0	12				
10	1-	0o	0+	1+	1+	1+	1o	1+	6	0o	0o	0o	1o	1o	0+	0+	2+	5	67.6	0	0	11				
11	1o	1o	2-	2o	3-	1+	2o	3o	15	2-	0o	1+	1+	2o	1-	1-	2-	8	67.9	0	0	11				
12	3o	4o	4o	4-	3o	2+	2+	2o	34	2+	4o	5-	4-	3o	2-	2o	1+	32	67.1	0	0	10				
13	2o	3-	3o	3o	3-	3o	3o	3-	25	2o	2-	3+	4-	2o	3o	3o	3-	25	67.4	0	0	11				
14	2-	3-	3-	3o	3-	3-	1+	2+	21	2o	2-	3+	3-	2o	3-	1+	3o	20	67.8	0	0	11				
15	3-	2+	2o	2+	2-	1+	2-	2o	15	3o	2-	1+	2-	1-	1-	1o	2-	12	67.9	0	0	11				
16	1+	2+	2-	1+	1o	1+	1o	2-	10	2-	2o	2-	0+	0+	1-	2-	2+	10	66.7	0	0	10				
17	3-	1+	1+	1+	1-	1+	1+	0o	9	3-	1o	1o	0+	0o	1-	1o	0o	6	67.1	0	0	10				
18	1-	1+	2-	1o	1+	1o	0+	0+	7	1-	1+	1+	0+	1+	0o	0o	0+	5	67.4	8	6	11				
19	0o	0o	0+	1o	1-	0+	0o	1o	3	0o	0o	0o	0o	0o	0o	0o	0o	1	68.5	0	7	12				
20	1+	1-	0+	0+	1-	0o	1+	1+	5	1o	0+	0o	0o	0o	0o	0+	0+	2	68.0	8	1	11				
21	1+	1o	2o	2+	2-	1+	1+	2-	11	1+	1o	2-	2o	1+	1o	1o	1-	8	68.4	0	0	12				
22	1-	1o	2-	2+	3+	3o	3o	4-	23	1-	1-	1+	2o	2o	2-	3-	3+	15	68.0	0	0	11				
23	3-	4-	3o	3-	4-	3o	3-	3-	31	4-	4-	3o	3o	4-	3+	3+	4o	40	67.6	0	0	11				
24	3o	2+	3-	2+	2o	1+	1+	2-	18	5-	4-	4o	4-	4-	3o	3o	3-	45	67.5	0	0	11				
25	1-	1+	0+	2-	1-	0+	0o	1o	5	0o	1+	0+	1+	0o	0o	0o	0o	3	67.9	0	0	11				
26	2-	1o	1+	1+	1o	1+	2-	1-	8	1o	1-	1-	1-	0o	0+	1-	0+	4	68.1	0	0	12				
27	0o	0o	1-	2o	1o	1-	2o	3+	11	0o	0o	0o	2-	0+	0+	1+	3+	8	68.4	0	0	12				
28	2o	3-	3-	2-	1-	1+	1-	1-	12	2-	2+	2+	1+	0+	1o	0+	0o	9	68.3	0	0	12				
29	0o	1-	1-	1o	1o	1+	1o	1o	6	0o	0+	0o	0+	0+	0+	0+	1o	3	68.1	0	0	12				
30	1o	2+	1o	2-	1-	1-	1+	1o	8	1o	2o	1-	1o	0o	0o	1o	0+	5	68.5	0	0	12				
31	1-	1-	1o	2-	1+	1-	1o	1o	7	0o	0+	0+	1o	0o	0o	0+	0+	2	67.5	0	0	11				
Mean									11.3									9.6	67.8	0.5	0.4	11.2				

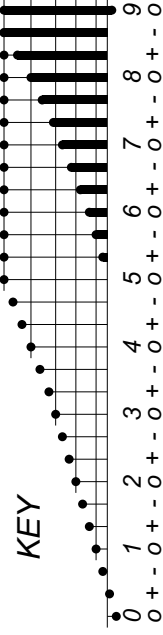
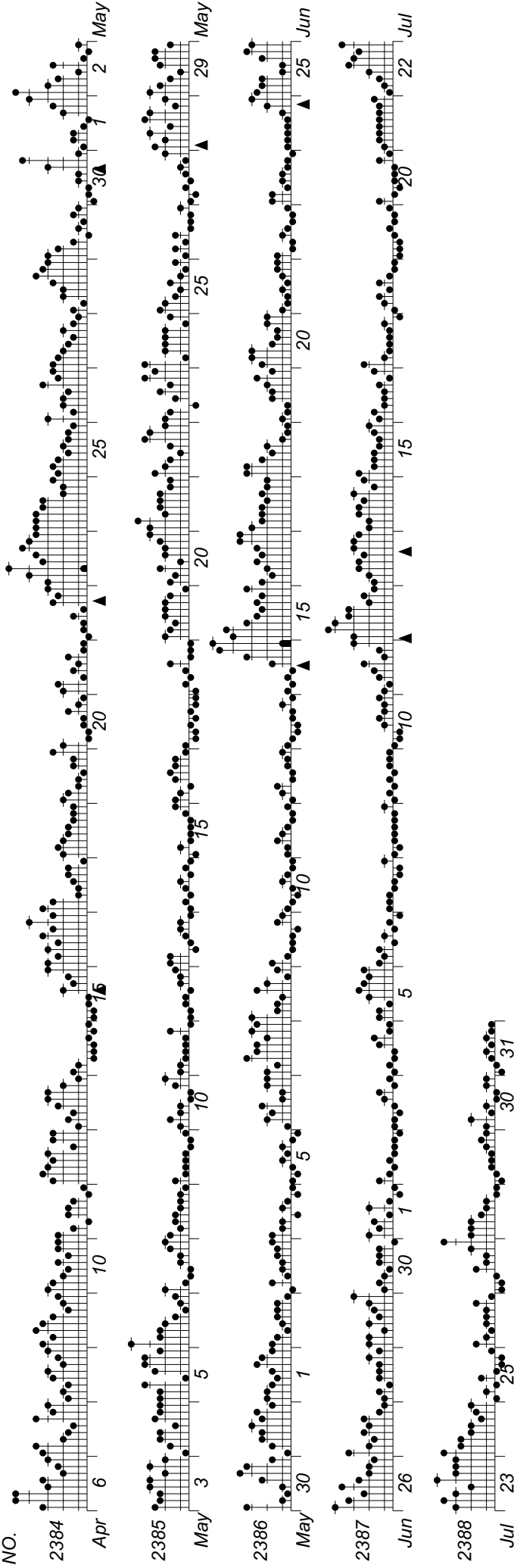
Daily Average Indices Ap Aug 2007 - Jul 2008



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

DAYS IN SOLAR ROTATION INTERVAL

ROT.-
NO.

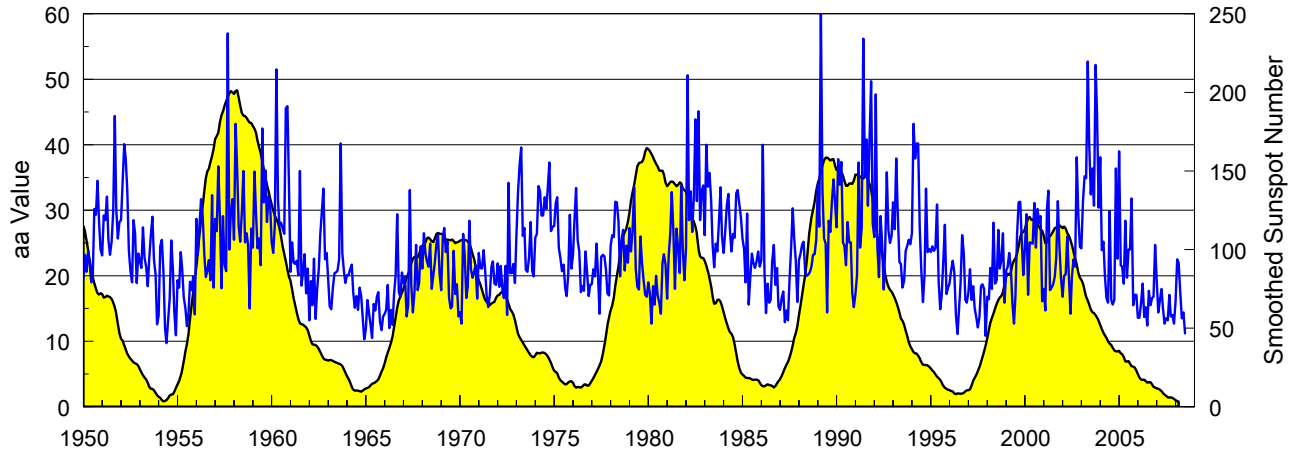


▲ = sudden
commencement

PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES

Kp till 2008 Jul 31

Monthly Mean aa Index Jan 1950 - Jul 2008

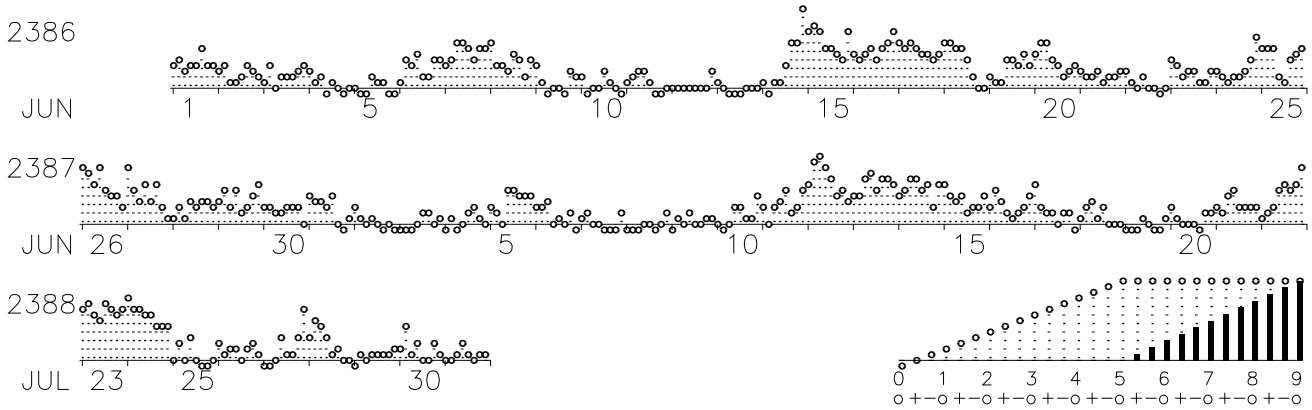


Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	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						16.8

PLANETARY GEOMAGNETIC ACTIVITY

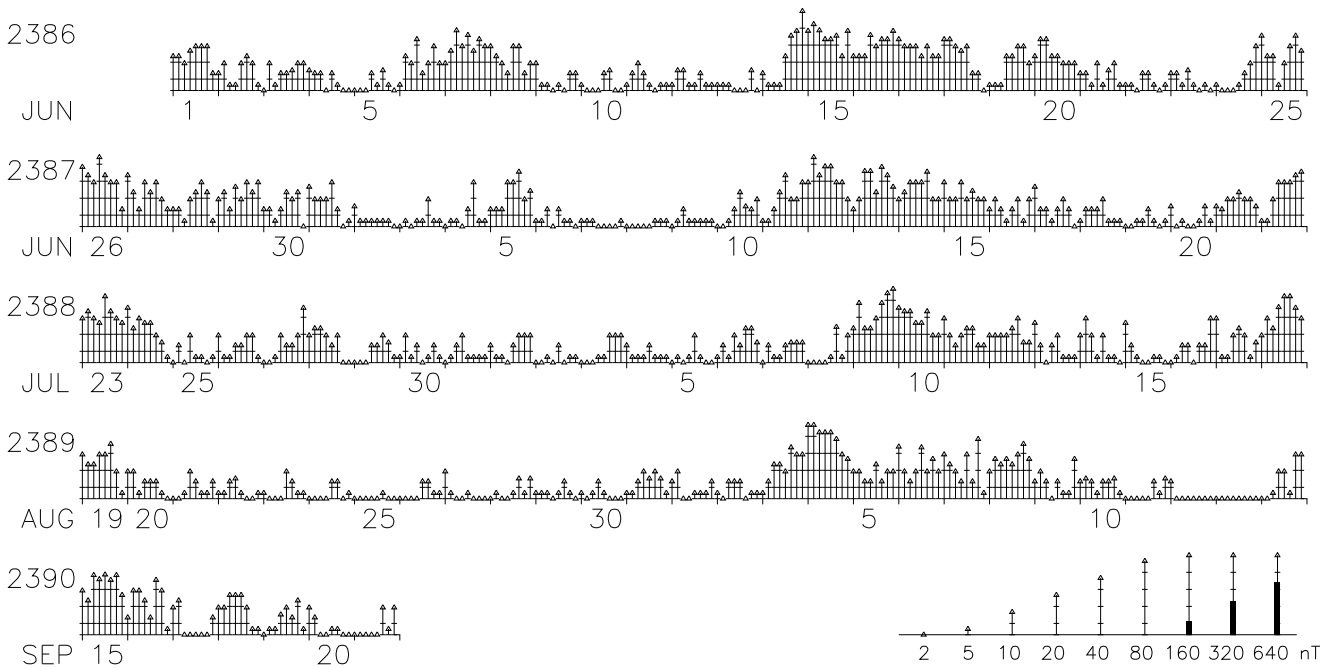
3-HOUR-RANGE INDICES K_m AND a_a BY 27-DAY SOLAR ROTATION INTERVAL
 ISGI PUBLICATION OFFICE – EMAIL : ISGI.PUBOFF@cetp.ipsl.fr
 CETP, 4 Avenue de Neptune, F-94107 Saint Maur des Fosses CEDEX – FRANCE

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices K_m (provisional) JUN-JUL 2008
 No 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



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

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices a_a (logscale) JUN-SEP 2008
 No 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

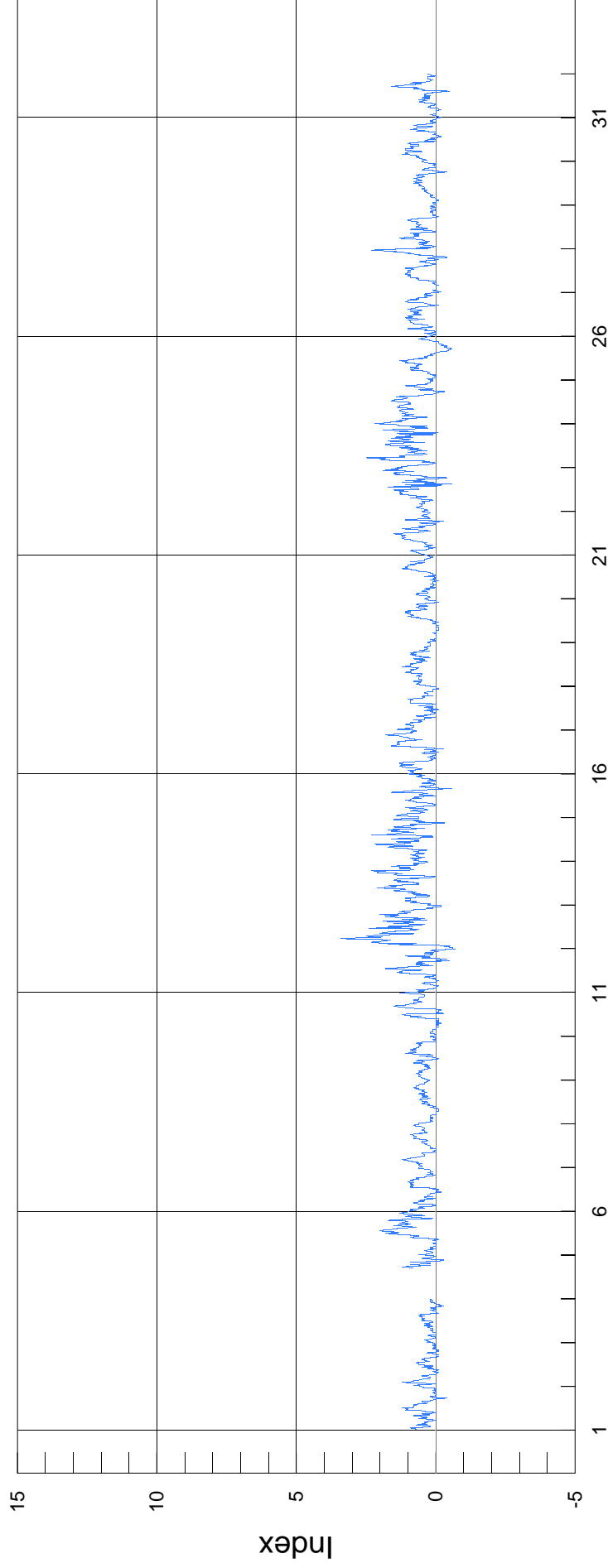


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

Polar Cap Index

Qaanaaq - Thule

WDC C1 for Geomagnetism, Copenhagen



JULY 2008

Data Source: Geomagnetism and Space Physics
Danish Meteorological Institute

PRINCIPAL MAGNETIC STORMS
JULY 2008

Sta	Geomag		Commencement		SC Amplitudes			Maximum 3-Hour K Index			Ranges			End	
	Lat	Day	Time (UT)	Type	D (Min)	H (Gamma)	Z (Gamma)	Day(3-Hour Periods)			D (Min)	H (Gamma)	Z (Gamma)	Day	Hour (UT)
HYB	07.6N	04	1000	..	..	..	..	4 (6)	5 (5,6)		3	5	102	23	06 13
JAI	17.4N	11	0700	..	..	..	..				-	7	81	36	14 18
NGP	11.3N	11	0700	..	..	..	..				-	6	94	25	14 18
ABG	09.4N	11	0700	..	..	..	..	11 (3)	12 (3)		4	6	99	44	14 18
HYB	07.6N	11	0500	..	..	..	..	12 (3)			5	6	79	23	15 21
PND	02.0N	11	0700	..	..	..	..				-	4	106	33	14 18
TIR	00.6S	11	0700	..	..	..	..				-	5	151	44	14 18
JAI	17.4N	22	0700	..	..	..	..				-	7	72	29	23 21
NGP	11.3N	22	0700	..	..	..	..				-	5	80	22	23 21
ABG	09.4N	22	0700	..	..	..	..	22 (2,3)	23 (2,3,5)		4	6	81	35	23 21
HYB	07.6N	22	0600	..	..	..	..	22 (4)	23 (2,5)		4	6	86	20	23 23
PND	02.0N	22	0700	..	..	..	..				-	4	83	54	23 21
TIR	00.6S	22	0700	..	..	..	..				-	4	100	60	23 21

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

JULY 2008

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
12	0038	B: LER* ESK* HAD* C: NGK*	04	1332-1341	NAG

REPORTING OBSERVATORIES (up to 01/09/2008):

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

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

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

Criterion on Provisional SSC data

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